

MEGANE

1 Engine and peripherals

13B DIESEL INJECTION

EDC16CP33

Program No: C4

Vdiag no: 18, 1C, 54, 20, 58, 5C, 24

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V3

Edition Anglaise

"The repair procedures given by the manufacturer in this document are based on the technical specifications current when it was prepared.

The procedures may be modified as a result of changes introduced by the manufacturer in the production of the various component units and accessories from which his vehicles are constructed."

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1. SCOPE OF THIS DOCUMENT

This document presents the fault finding procedure applicable to all computers with the following specifications:

Vehicle(s): **Laguna II Phase 2/Vel Satis Phase 2/
Espace IV Phase 2/Mégane II phase 2/
Scénic II phase 2**
Engine: **M9R 760 - 761 - 721 - 722 - 724**
Function concerned: **Bosch diesel injection**

Computer name: **BOSCH EDC16CP33**
Program No.: **C4**
Vdiag No: **18, 1C, 54, 20, 58, 5C, 24**

2. PREREQUISITES FOR FAULT FINDING

Documentation type

Fault finding procedures (this manual):

- Assisted fault finding (integrated into the **diagnostic tool**), Dialogys.

Wiring Diagrams:

- Visu-Schéma (CD-ROM), paper.

Type of diagnostic tools

- **CLIP**

Special tooling required

Special tooling required
Multimeter
Elé. 1681 Universal bornier

3. RECAP

Procedure

To save energy, the UCH of the vehicle interrupts the **+ after ignition feed** after **3 minutes**.

To run fault finding on a computer, it is possible to force the **+ after ignition feed** on for **1 hour** by applying the following procedure:

- Press the card unlocking button,
- insert the card in the reader,
- press the Start button (interrupts timed **+ after ignition feed**),
- press and hold the Start button for more than **5 seconds** until the immobiliser light starts flashing rapidly (4 Hz).

This forced **+ after ignition feed** mode remains on for **1 hour**.

Pressing the Start button or removing the card from the card reader interrupts the forced **+ after ignition feed** but does not interrupt the forced **+ after ignition feed** mode timer. As long as one hour has not elapsed the **+ after ignition feed** function restarts the **forced + after ignition feed** for the remaining time.

Faults

Faults are declared as either present or stored (depending on whether they appeared in a certain context and have disappeared since, or whether they remain present but have not been diagnosed within the current context).

The **present** or **stored** status of faults should be taken into consideration when the **diagnostic tool** is switched on after the + after ignition feed (without any system components being active).

For a **present fault**, apply the procedure described in the **Interpretation of faults** section.

For a **stored fault**, note the faults displayed and apply the instructions in the **Notes** section.

If the fault is **confirmed** when the instructions in the Notes section are applied, the fault is present. Deal with the fault

If the fault is **not confirmed**, check:

- the electrical lines which correspond to the fault,
- the connectors on these lines (corrosion, bent pins, etc.),
- the resistance of the component detected as faulty,
- the condition of the wires (melted or split insulation, wear).

WARNING

Deal first with instrument panel faults (e.g. "Particle filter" warning light).
Then carry out scheduled maintenance on the vehicle.

Conformity check

The aim of the conformity check is to check data that does not produce a fault on the **diagnostic tool** because the data is inconsistent. Therefore, this stage is used to:

- carry out fault finding on faults that do not have a fault display, and which may correspond to a customer complaint.
- check that the system is operating correctly and that there is no risk of a fault recurring after repairs.

The conformity check is a fault finding procedure carried out using the interpretation of status and parameters.

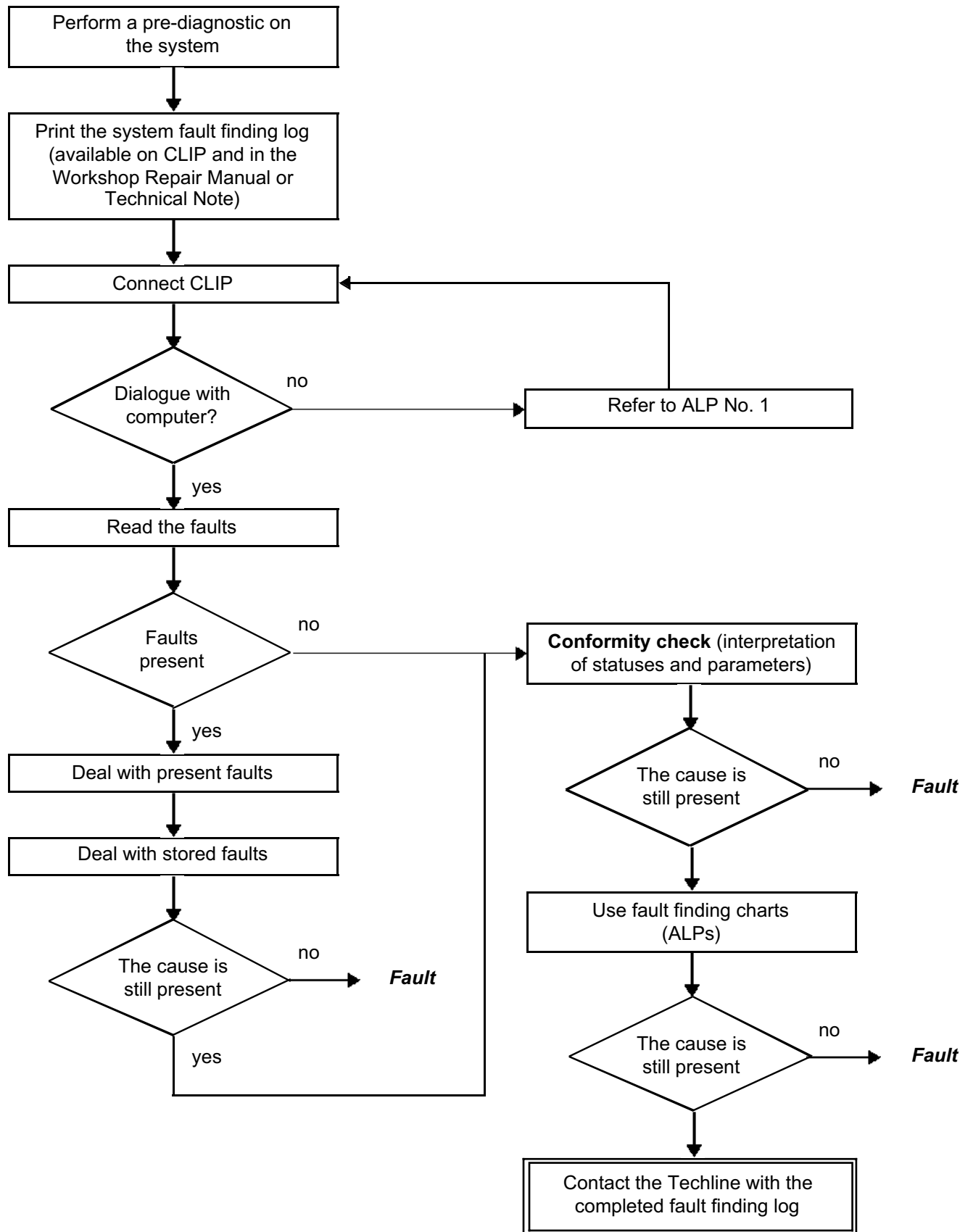
If a status does not function normally or a parameter is outside the permitted tolerance values, consult the corresponding fault finding pages (see interpretation of statuses and parameters).

Customer complaints - Fault finding chart

If the test with the **diagnostic tool** is OK but the customer complaint is still present, the fault should be processed by **customer complaints**.

A synopsis of the general procedure to follow is provided on the following page in the form of a flow chart.

4. FAULT FINDING PROCEDURE



4. FAULT FINDING PROCEDURE (continued)

Wiring check

Fault finding problems

Disconnecting the connectors and/or manipulating the wiring harness may temporarily remove the cause of a fault. Electrical measurements of voltage, resistance and insulation are generally correct, especially if the fault is not present when the analysis is made (stored fault).

Visual inspection

Look for damage under the bonnet and in the passenger compartment.
Carefully check the fuses, insulators and wiring harness routing.
Look for signs of oxidation.

Tactile inspection

While manipulating the wiring harness, use the **diagnostic tool** to note any change in fault status from **stored** to **present**.

Make sure that the connectors are properly locked.

Apply light pressure to the connectors.

Twist the wiring harness.

If there is a change in status, try to locate the source of the fault.

Inspection of each component

Disconnect the connectors and check the appearance of the clips and tabs, as well as the crimping (no crimping on the insulating section).

Make sure that the clips and tabs are properly locked in the sockets.

Check that no clips or tabs have been dislodged during connection.

Check the clip contact pressure using an appropriate model of tab.

Resistance check

Check the continuity of entire lines, then section by section.

Look for a short circuit to earth, to **+ 12 V** or to another wire.

If a fault is detected, repair or replace the wiring harness.

5. FAULT FINDING LOG



IMPORTANT

IMPORTANT

Any fault on a complex system requires thorough fault finding with the appropriate tools. The **FAULT FINDING LOG**, which should be completed during the procedure, enables you to keep track of the procedure which is carried out. It is an essential document when consulting the manufacturer.

IT IS THEREFORE MANDATORY TO FILL OUT A FAULT FINDING LOG EACH TIME FAULT FINDING IS CARRIED OUT.

You will always be asked for this log:

- when requesting technical assistance from Techline,
- for approval requests when replacing parts for which approval is mandatory,
- to be attached to monitored parts for which reimbursement is requested. The log is needed for warranty reimbursement, and enables better analysis of the parts removed.

6. SAFETY ADVICE

The safety instructions must be followed at all times when working on components, to avoid damage or injury:

- check the battery voltage to avoid incorrect operation of computer functions,
- Use the proper tools.

I - RISKS ASSOCIATED WITH CONTAMINATION

The high pressure direct injection system is highly sensitive to contamination. The risks associated with contamination are:

- damage to or destruction of the high pressure injection system,
- components jamming,
- components losing seal integrity.

All After-Sales operations must be performed under very clean conditions. This means that no impurities (particles a few microns in size) should have entered the system during dismantling.

The cleanliness principle must be applied from the filter to the injectors.

What are the sources of contamination?

- metal or plastic swarf,
- paint,
- fibres:
 - from cardboard,
 - from brushes,
 - from paper,
 - from clothing,
 - from cloths,
- foreign bodies such as hair,
- ambient air
- etc.

IMPORTANT

Cleaning the engine using a high pressure washer is prohibited because of the risk of damaging connections. In addition, moisture may collect in the connectors and create electrical connection faults.

II - NOTES TO BE FOLLOWED BEFORE ANY OPERATION

IMPORTANT

Before any work is carried out on the high pressure injection system, protect:

- the accessories and timing belts,
- the electrical accessories, (starter, alternator, electric power-assisted steering pump),
- the flywheel face, to prevent any diesel fuel spilling onto the clutch disc,
- timing chain.

Check that you have plugs for the unions to be opened (set of plugs available from the Parts Department). The plugs are single-use only. After use, they must be discarded (once used they are soiled and cleaning is not sufficient to make them reusable). Unused plugs must be discarded.

Check that you have hermetically resealable plastic bags for storing removed parts. Parts stored in this way will be less susceptible to the risk of contamination. The bags are to be used once only, and discarded after use.

Use lint-free cleaning cloths (cloth part number **77 11 211 707**). Using normal cloth or paper is prohibited. They are not lint-free and could contaminate the fuel circuit. Each cloth should only be used once.

Use fresh cleaning agent for each operation (used cleaning agent is contaminated). Pour it into an uncontaminated container.

For each operation, use a clean brush in good condition (the brush must not shed its bristles).

Use a brush and cleaning agent to clean the unions to be opened.

Blast compressed air over the cleaned parts (tools, workbench, the parts, unions and injection system zones). Check that no bristles remain.

Wash your hands before and during the operation if necessary.

When wearing leather protective gloves cover them with latex gloves to prevent contamination.

III - INSTRUCTIONS TO BE FOLLOWED DURING THE OPERATION

As soon as the circuit is open, all openings must be plugged to prevent impurities from entering the system. The plugs to be used are available from the Parts Department. The plugs must not be reused under any circumstances.

Seal the pouch shut, even if it has to be opened shortly afterwards. Ambient air carries contamination.

All components removed from the injection system must be stored in a hermetically sealed plastic bag once they have been plugged.

Using a brush, cleaning agent, air gun, sponge or normal cloth is strictly prohibited once the circuit has been opened. These items could allow contamination to enter the system.

A new component replacing an old one must not be removed from its packaging until it is to be fitted to the vehicle.

System outline

The high pressure injection system is designed to deliver a precise quantity of diesel fuel to the engine at a set moment.

It is fitted with a **BOSCH 128-track** computer, **type EDC16CP33**.

The system comprises:

- a priming bulb,
- a diesel filter,
- a high pressure pump,
- a fuel pressure regulator (or actuator) on the high pressure pump (MPROP),
- a fuel pressure regulator (or actuator) mounted on the injector rail (DRV),
- an injector rail,
- a fuel pressure sensor,
- four piezoelectric injectors,
- a diesel temperature sensor,
- a coolant temperature sensor,
- an upstream air temperature sensor,
- a cylinder reference sensor,
- an engine speed sensor,
- a turbocharger pressure sensor,
- an exhaust gas recirculation valve,
- a recycled gas cooling solenoid valve,
- an accelerator pedal potentiometer,
- an atmospheric pressure sensor integrated into the injection computer,
- a flow sensor,
- a turbocharging limiter solenoid valve,
- a damper valve,
- a particle filter,
- a turbo upstream temperature sensor,
- a turbo upstream pressure sensor,
- a particle filter differential pressure sensor,
- a particle filter upstream temperature sensor,
- a particle filter downstream temperature sensor,
- an electric coolant pump (turbocharger),
- four heating elements.

The **Common rail** direct high pressure injection system works sequentially (based on the petrol engine multipoint injection function).

This system uses piezoelectric injectors which enable a more precise injection since opening and closing times are shorter compared to conventional solenoid injectors.

This injection system reduces operating noise, reduces the volume of pollutant gases and particles and produces high engine torque at low engine speeds thanks to a pre-injection procedure.

The high pressure pump generates the high pressure and transmits it to the injector rail. The actuator located on the pump controls the quantity of diesel fuel supplied, according to the requirement determined by the computer.

The rail supplies each injector through a steel pipe. The actuator located on the injector rail controls the pressure of diesel fuel in the rail according to the demand determined by the computer.

a) The computer:

Determines the injection pressure value necessary for the correct operation of the engine; the pressure can reach 1600 bar in the rail and it must be constantly regulated.

Checks that the pressure value is correct by analysing the value transmitted by the pressure sensor located on the rail.

Determines the injection duration required to deliver the right quantity of diesel fuel and the moment when injection should start. Controls each injector electrically and individually after determining these two values.

The quantity of fuel injected is determined by:

- Engine speed (Crankshaft + Cam for synchronisation).
- Accelerator pedal.
- Turbocharging pressure.
- Coolant temperature.
- Inlet air temperature.
- Air flow
- Pressure in the rail.
- Vehicle speed.

The computer manages:

- idling regulation,
- exhaust gas flow reinjection to the inlet,
- fuel supply check (advance, flow and rail pressure),
- the fan assembly control,
- the air conditioning (cold loop function),
- cruise control/speed limiter function,
- pre-post heating control,
- indicator lights control via the multiplex network,
- the operation of the catalysed particle filter,
- turbocharging pressure.

The high pressure pump is supplied at low pressure by an integrated low pressure pump (transfer pump).

It supplies the rail, the pressure in which is regulated by:

- **the pressure regulator on the rail (DRV)** for starting phases, starting the engine when cold (increase in temperature to heat the diesel circuit) and when throttling-off,
- **the pressure regulator on the pump (MPROP)** for all other phases (90 % of cases).

As natural leaks in piezoelectric injectors are very low, opening the pressure regulator (DRV) is the only quick method of dumping the rail pressure, and it prevents overpressure when injection is restarted.

The pressure regulator on the pump (MPROP) enables the high pressure pump to supply just the exact quantity of diesel fuel required to maintain the rail pressure. This component minimises the heat generated and improves engine output.

Note:

Each piezoelectric injector is connected to the return rail. The injector return rail is kept pressurised by a mechanical valve at the end of the return rail with a 10 bar calibration (by comparison, solenoid injectors returned directly into the common return circuit). This feature is linked to the operation of piezoelectric injectors.

Fuel surplus from the pump, injector return rail or rail is collected in a low pressure "octopus manifold" and is then sent to the fuel filter, providing that the fuel is cold (recirculation), and then to the tank.

Note: for the M9R 724 (**Vdiag 5C and 58**):

The engine is secured at **3000 rpm** if the vehicle is stopped or if the vehicle speed is lower than **4 mph (7 km/h)** and if the engine is warm.

b) Multiplex connection between the different vehicle computers.

The electronic system fitted in this vehicle is multiplexed.

This enables dialogue between the various vehicle computers. As a result:

- the fault warning lights on the instrument panel are lit by the multiplex network,
- vehicle faults are displayed by the multiplex network,
- the vehicle speed sensor on the gearbox is not needed.

The vehicle speed signal on the instrument panel is sent by the ABS computer via the multiplex network. The vehicle speed signal is mainly used by the injection computer, the airbag computer and the automatic transmission computer (if the vehicle is fitted with this).

Some vehicles have a presence sensor mounted in the filter for detecting water in the diesel. If there is water in the diesel fuel, the orange "Injection and pre-post heating" warning light will come on.

WARNING

The engine must not operate with:

- Diesel fuel containing more than **10 %** diester,
- petrol, even in tiny quantities.

The system can inject diesel fuel into the engine at a pressure of up to **1600 bar**. Before each operation, check that the injector rail is depressurised and that the fuel temperature is not too high.

You must respect the cleanliness guidelines and safety advice specified in this document for any work on the high pressure injection system.

Removal of the internal parts of the pump and injectors is prohibited. Only the fuel pressure regulator (or actuator) on the high pressure pump (MPROP), the fuel pressure regulator (or actuator) on the injector rail (DRV) or the diesel temperature sensor can be replaced.

For safety reasons, it is strictly prohibited to undo a high pressure pipe union when the engine is running.

It is not possible to remove the pressure sensor from the fuel rail because this may cause circuit contamination faults. If the pressure sensor fails, replace the pressure sensor, the rail and the high pressure pipes. Supplying **+ 12 V** directly to any component in the system is prohibited.

Ultrasonic decoking and cleaning are prohibited.

Never start the engine unless the battery is connected correctly.

Disconnect the injection computer when carrying out any welding work on the vehicle.

c) Hosted functions:

Air conditioning management assistance:

For vehicles fitted with AC, the EDC16CP33 system has the option of deactivating the air conditioning through the UCH, under certain conditions of use:

- when requested by the driver,
- when starting the engine,
- if the engine overheats (in order to reduce the power the engine has to supply),
- when the engine speed is kept at a very high level (to protect the compressor),
- during transition phases (e.g. high acceleration demand for overtaking, anti-stalling and moving off). These conditions are only taken into account if they do not occur repeatedly, so as to prevent system instabilities (erratic deactivation),
- when certain faults appear.

Cold loop air conditioning management:

The air conditioning is the cold loop type and its management shared between several computers.

The injection computer is responsible for:

- authorising requests for cold air depending on the engine coolant temperature and the engine speed,
- calculating the power absorbed by the compressor from the refrigerant pressure.
- **Controlling** actuation of the fan assemblies, according to the vehicle speed, the refrigerant pressure and the engine coolant temperature.

The driver requests the air conditioning to be switched on by means of the ventilation selector coupled to a switch. The cold air request is authorised or denied depending on the pressure measured. If this pressure is outside the operating limits, the cold loop program is not activated.

The air conditioning system is authorised by the injection computer **2 to 8 seconds** after the engine is started.

Management of the heating elements:

To improve cold starting, the vehicle is fitted with heating elements. These heating elements are managed and controlled by the injection computer, according to the operating phases, primarily to accelerate the increase in engine coolant temperature.

The maximum number of heating elements that can be actuated is four and their actuation depends essentially on the coolant temperature and the air temperature.

See configuration reading **LC056 Heating elements: WITH or WITHOUT**.

When necessary, they are actuated by the injection system only during particle filter regeneration by means of a special unit.

The maximum number of heating elements that can be managed is four; their actuation depends mainly on the coolant temperature (**< 15 °C**) and ambient air temperature (**< 5 °C**).

Cruise control/speed limiter management:

The vehicle cruise control function, when activated, allows you to keep the vehicle speed at a selected value regardless of the driving conditions encountered.

Using the control buttons, the driver can increase or reduce the speed of the vehicle.

If the driver wishes to exceed the cruising speed, he may:

- depress the accelerator pedal and exceed the cruising speed (the vehicle will return to the initial cruising speed once the driver takes his foot off the pedal),
- press the system control buttons.

The cruise control function can be deselected either by:

- the system control buttons,
- deactivating the cruise control switch,
- when system events are detected, such as the brake pedal or clutch being depressed,
- when system errors are detected such as an inconsistent vehicle speed.

The cruise function can also be temporarily disabled when the driver wants to increase speed by depressing the accelerator pedal. The cruising speed is resumed when the driver releases the accelerator pedal. The vehicle will then attempt to reach the cruising speed at a controlled acceleration rate.

It is possible to reactivate the vehicle speed control and resume the last cruising speed after deactivation (computer feed not cut off).

When activated (using the selection switch) **the vehicle speed limiter function** limits the vehicle speed to a preselected value. The driver controls the vehicle in the normal way using the accelerator pedal until the limit speed is reached.

If the driver attempts to exceed this speed, the system ignores the pedal request and controls the vehicle speed in the same way as the cruise control function, as long as the accelerator pedal is kept sufficiently depressed. As with cruise control, the limit speed can be altered using the one-touch control buttons or by pressing and holding.

For safety reasons, it is possible to exceed the limit speed by depressing the accelerator pedal and exceeding the pedal position limit value. The vehicle speed is fully controlled through pedal position, until the vehicle speed falls back below the limit speed when the speed limiter function will once again be reactivated.

If the driver wishes to exceed the cruising speed, he may:

- exceed the accelerator pedal's kickdown point,
- increase it by pressing or pressing and holding the switch.

The speed limiter function can be deselected either:

- the system control buttons,
- by switching off the speed limiter switch,
- when system events are detected, such as the brake pedal or clutch being depressed,
- when system errors are detected such as an inconsistent vehicle speed.

III Management of the damper valve

The damper valve is now responsible for two functions:

- Damping: when the engine is switched off, the flap closes in order to block the passage of air towards the cylinders. The aim of this is to stop the engine as quickly as possible and to reduce instabilities as the engine is switched off.
- 'Valving' function depending on the engine operation: the damper valve closes by a few % to create a 'venturi' effect at the EGR valve passage section.

The aim of this is to accelerate the air flow of EGR gases and to reduce the emission of pollutants.

IV Management of exhaust gas recirculation

The EGR (Exhaust Gas Recirculation) system involves removing exhaust gases and reintroducing them at the inlet. This system plays a major role in reducing diesel engine emissions. The EGR system is cooled by a gas-water heat exchanger, as on most Euro IV engines. This cooler has a dual position by-pass valve, allowing the gases to be cooled or otherwise depending on the emission control requirements. The by-pass circuit is inside the cooler (not visible from the outside). The valve control rod is visible from the outside.

The exhaust gases are collected in the exhaust manifold (before the turbocharger), then directed to the EGR cooler and then the EGR valve. The EGR valve connects the air circuit between the damper valve and the inlet manifold; the EGR valve is positioned next to the damper valve.

The EGR valve is actuated each time the engine is stopped, opening and closing **10** times. This programming activates the EGR valve in order to prevent it from clogging. The program is deactivated if there are system faults.

The EGR system does not operate below **5 °C** (air flowmeter temperature).

– The controlled EGR cooler bypass

The EGR cooler by-pass is controlled by an all-or-nothing solenoid valve, connected on one side to the vacuum pump, and on the other side to the by-pass control diaphragm. It is actuated according to the coolant temperature and the engine operating status. Roughly, gas passes into the cooler in the EGR area except when the engine is cold, otherwise gas passes through the valve (by-pass). There is also a regular actuation function for the by-pass valve to prevent clogging.

– EGR valve

The EGR valve is supplied by direct current and connected to a potentiometer copying the position of the valve. The opening of the valve is actuated (**H bridge**) by a positive command **0 to 100%**.

The valve is actuated by a double regulation loop.

The first loop (fastest) is a position loop. It allows the valve to be set in the desired position via loopback based on the signal from the position sensor.

The second loop, which is slower, is an air flow loop. For a given operating point, the air flow setpoint is reached by adjusting the amount of exhaust gas passing through the EGR valve and the flow of fresh air passing through the damper valve. At full constant flow, the more exhaust gas recirculation, the less clean air and vice-versa. The air flow is measured by the flow sensor, and the setpoint is reached by playing with the EGR valve position setpoint and the damper valve position setpoint.

The potentiometer serves to control and run fault finding on the valve. The very first time the engine is started, then each subsequent engine start, the "valve closed" position is programmed (offset). This value is compared to the very first offset or last programmed offset, for the purposes of fault finding. It is also used to readjust the valve control function. It is therefore important to associate the EGR valve with the computer that controls it.

Important: the EGR valve offsets must be reinitialised when replacing the valve or reprogramming/replacing the computer.

V Management of catalysed particle filter

The particle filter prevents the escape of carbon particles emitted by the engine but not yet removed from the exhaust gases.

The Particle filter is a microporous structure containing channels in order to force filter the exhaust gas.

The exhaust system consists of several components:

- an oxidation catalytic converter mounted after the turbocharger. This catalytic converter ensures that HC/CO levels meet current standards by generating the heat (rise in exhaust temperature caused by catalysis) required for particle filter regeneration;
- a catalysed particle filter located under the bodywork,
- a differential pressure sensor to tell the computer the pressure upstream and downstream of the particle filter,
- a particle filter upstream and downstream temperature sensor,
- a turbine upstream temperature sensor (TAVT).

As the vehicle is driven, the particle filter is loaded with particles (soot). Using a given weight of soot determined via mapping in the computer, regeneration mode can be triggered if the maximum weight of soot in the Particle filter is reached and the engine operating conditions are all met (Coolant temperature, etc.).

Particle filter regeneration consists of burning the particles of soot accumulated in the filter.

The differential pressure sensor measures the particle filter inlet/outlet differential pressure; this measurement is used to estimate the weight of soot present in the Particle filter by mapping in the *computer*:
(*Weight of soot = pressure differential as a function of exhaust volume flow rate*).

If all the criteria are met, the computer enters regeneration mode. The injection programming is then adjusted in order to raise the exhaust gas temperature between **550 and 650 °C** inclusive.

This temperature allows the particles accumulated in the filter to be partially or completely burnt (regeneration). Regeneration efficiency depends on the particle filter inlet temperature and the time spent in regeneration mode.

Regeneration may be carried out automatically when driving if:

- the **mass of soot is below** the threshold for **DF308 "clogged particle filter"**
- the **number of failed regenerations when driving is below** the threshold for **DF311 "Failed regenerations limit exceeded"**.

VI Pre-postheating actuation

Pre/postheating control involves actuating the heater plugs and the preheating indicator light on the instrument panel (multiplex signal).

The heater plugs are actuated by a static relay.

After the ignition is switched on, a preheating delay is activated. The indicator light is lit for a period depending on the coolant temperature, the air temperature, the atmospheric pressure and the battery voltage. When the coolant temperature is below a certain threshold, a postheating function enables combustion stability, and thereby engine operation, to be improved (reduction in unburnt fuel and pollutant emissions). Postheating can last up to **5 minutes**.

IMPORTANT

There are two types of heater plugs **SLOW** and **QUICK**:

SLOW plugs are identified by a **black ring**.

QUICK plugs are identified by a **white ring**.

Always replace the heater plugs fitted on the vehicle with plugs of the same type; otherwise there is a risk of the heater plugs deteriorating which could irreparably damage the engine.

Vdiag 20 and 24 only:

if the heater plugs are replaced with plugs of a different type to those fitted on the vehicle, the computer must be configured (see **Replacement of components, Replacement heater plugs**).

Warning light management:

Instrument panel display

The computer manages the data display on the instrument panel relating to engine operation. This concerns five functions:

- the pre-postheating warning light,
- the coolant temperature warning light,
- the fault **level 1** warning light (non-critical fault),
- the fault **level 2** warning light (emergency stop),
- the OBD warning light (European On Board Diagnostic),

These five functions are represented by 3 warning lights and/or messages transmitted by the trip computer.

Orange pre-post heating/non-critical fault SERVICE warning light (severity 1)

This light is used both as an in-operation indicator light and as a system fault indicator:

- Continuously lit with + after ignition feed:

Indicates preheating of the spark plugs.

- Continuously lit with the **Check injection** message:

Indicates a level 1 fault (implies operation of the injection system in defect mode).

The driver should carry out repairs as soon as possible.

Temperature warning light/red EMERGENCY STOP (level 2)

This indicator light is used both as an in-operation indicator light and as a system fault warning light. Lights up for **3 seconds** when the ignition is switched on (automatic test procedure managed by the instrument panel):

- Continuously lit:

Indicates engine overheating (the driver is free to choose whether or not to stop the vehicle).

- Continuously lit with the **Defective injection** message:

Indicates a **level 2** fault (In this case, the injection is automatically cut after a few seconds).

The driver should carry out repairs as soon as possible.

ORANGE OBD excess pollution warning light

Symbolised by an engine, it lights up for approximately **3 seconds** when the ignition is switched on.

This warning light comes on if the system has one or more OBD faults.

This warning light is used to alert the driver to injection faults that could lead to excessive pollution, or if the EOBD system (European On Board Diagnostic) has been deactivated.

The injection computer requests activation of the OBD warning light for a present fault only after three successive driving cycles.

The **3 second** visual inspection when the ignition is switched on (automatic test procedure managed by the instrument panel) is carried out by the injection computer.

Special particle filter ORANGE warning light or warning message (according to instrument panel)

This warning light or message is used to warn the driver that the particle filter is loaded with particles, (see the weight of soot thresholds for illumination of the **DF312 "speed request"** fault warning light) due to driving conditions not being favourable for regeneration). The driver must then drive as soon as possible at an average speed of **48 mph (80 km/h)** in accordance with the traffic conditions and within the authorised speed limits until the warning light goes out.

EOBD management (European On Board Diagnostic):

The **OBD (On Board Diagnostic)** system enables the detection of any faults relating to the vehicle emission control system (OBD EURO IV emission control standards exceeded).

This system should be active for the entire life of the vehicle.

1. Conditions causing an OBD fault

An OBD fault will be detected after **3 cycles**.

It allows the driver to know whether the vehicle has a fault directly linked to the emission control system.

2. System faults indicated by the OBD

Only a few faults are indicated by the OBD system:

- **DF004 Turbocharging pressure sensor circuit.**
- **DF011 Sensor supply voltage no. 1.**
- **DF012 Sensor feed voltage no. 2.**
- **DF013 Sensor feed voltage no. 3.**
- **DF026 Cylinder 1 injector control circuit.**
- **DF027 Cylinder 2 injector control circuit.**
- **DF028 Cylinder 3 injector control circuit.**
- **DF029 Cylinder 4 injector control circuit.**
- **DF054 Turbocharging solenoid valve control circuit.**
- **DF056 Air flow sensor circuit.**
- **DF107 Computer memory.**
- **DF200 Atmospheric pressure sensor.**
- **DF209 EGR position sensor circuit.**
- **DF272 EGR valve control circuit.**
- **DF569 Turbocharging circuit.**

Some repair operations require programming to ensure that certain engine components function correctly. Follow the programming procedures (see Replacement of components), if replacing the exhaust gas recirculation valve or an injector.

3. Conditions for clearing an OBD fault

An OBD fault is cleared in several steps.

The **present** fault on the **diagnostic tool** will only become **stored** (after a repair operation) after the vehicle has been driven 3 times.

The OBD warning light will only light up after these 3 driving cycles.

The warning light coming on does not always mean that there is a fault on the system.

In order that the OBD fault and the display parameters are cleared from the computer, the system needs to go through 40 engine heating cycles.

An engine heating cycle is a driving cycle during which:

- the engine coolant temperature reaches at least 71.1 °C,
- the engine coolant temperature varies by 22.2 °C in relation to the engine starting temperature.

If one of these conditions is not fulfilled, the OBD fault will still be present or stored in the injection computer.

COMPUTER REPLACEMENT OR REPROGRAMMING

Operations to be carried out before the injection computer is reprogrammed:

Before reprogramming the injection computer, move the main Cruise control/Speed limiter switch to the rest position. The information about the cruise control or the speed limiter displayed on the instrument panel disappears.

Otherwise, if the main switch remains in the cruise control or speed limiter position during and after reprogramming, the Cruise control/Speed limiter function will not be operational.

The procedure for resetting the function is as follows:

Vehicle ignition on.

- Move the cruise control/speed limiter switch to the **rest** position (the computer detects the rest position at that moment).
- Move the cruise control/speed limiter switch to the **Cruise control** position to activate the Cruise control function.
- Move the cruise control/speed limiter switch to the **Speed limiter** position to activate the Speed limiter function.

There are two steps that must be carried out when the computer is replaced or reprogrammed: **SC003 Save computer data** and **SC001 Write saved data**.

- Use **SC003** before the computer is **replaced or reprogrammed**. This enables certain data to be saved in **the diagnostic tool** so that the new computer* can be reconfigured like the old one. The saved data includes: injector codes, EGR programming, specific data for particle filter operation and vehicle options.
- Run **SC001 after the computer is replaced or reprogrammed**. It enables you to rewrite the data (saved by command **SC003**) to the new computer*.

Only in **Vdiag 20 and 24**:

- Run **SC036 Reinitialise programming** and select **Heater plugs (see Interpretation of commands)**; it will allow you to configure the correct type of heater plugs fitted on the vehicle if necessary.

If you cannot establish dialogue with the computer being replaced: you will not be able to save anything.

After replacing the computer:

- Write the **IMA codes** for each injector manually by reading the code on each injector; run command **SC002: Enter injector codes**.
- Carry out an After-Sales regeneration, follow the procedure for command **SC017 "Particle filter regeneration"** (see **Interpretation of commands**)
- The **engine oil** and the **oil filter** must be changed.
- Enter the data specific to particle filter operation by running **SC036 Reinitialise programming** and select **After replacing injection computer with no save option**.

Exhaust gas recirculation valve data is programmed automatically the 1st time the new computer is switched on*.

* *New computer or reprogrammed computer.*

Only in **Vdiag 20 and 24**:

- Configure the type of **heater plugs** fitted on the vehicle by running **SC036 Reinitialise programming** and select **Heater plugs (see Interpretation of commands)**,

PROCEDURE

- **Before replacing or reprogramming the computer:**

- Select **SC003 Save computer data**;
- if the following message appears: "**A saved file exists. Overwrite?:** *(this file corresponds to the last save made on the tool)*"
- select **YES**,

When the backup is complete, replace the computer or reprogram, then proceed to the next step.

- **After replacing or reprogramming the computer:**

Select **SC001 Write saved data**.

Follow the instructions,

When the command is finished, switch off the ignition,

Wait for the **diagnostic tool** message (maximum wait **8 min**): "**Loss of dialogue with the computer: EDC16 CP33, check the tool connection and the computer supply voltage**".

Establish dialogue and clear the fault memory.

End of procedure.

REPLACING THE EXHAUST GAS RECIRCULATION VALVE (EGR valve)

After the EGR valve has been replaced, the computer must store the new valve offset, and the offset measured from the last time the ignition was switched off (in power latch phase), which corresponds to the valve closing. Using this data, the computer can detect whether the valve is clogged or seized.

When the valve is replaced, clear the stored offsets so that the program uses the new valve's offset value.

The data linked to this program is compiled in the **Emission control/OBD** sub-function.

- **PR128**: FIRST EGR VALVE OFFSET.
- **PR129**: LAST EGR VALVE OFFSET > or = **PR128** if the valve is new.

Programming **PR128** and **PR129** must be cleared every time the exhaust gas recirculation valve is replaced.

➡ **PROCEDURE** to be followed **after replacing** the exhaust gas recirculation valve:

- Run command **SC036 Reinitialise programming**.
- Select EGR valve as the operation type, then follow the instructions given by the **diagnostic tool**.

Note:

When the reinitialisation is completed, the **Emission control/OBD** sub-function displays:
PR128 = PR129 = 0 %

- When the command is finished,
- **switch off the ignition**;
- wait for the **diagnostic tool** message (maximum wait 8 min): "**Loss of dialogue with the computer: EDC16 CP33, check the tool connection and the computer supply voltage**".

When the ignition is next switched on again the new EGR valve offset is automatically reprogrammed.

Note:

When the new EGR valve offset has been reprogrammed, the **Emission control/OBD** sub-function displays:
10 % < PR128 < 40 %
PR129 = 0 %

- start the vehicle to enable the latest EGR valve offset to be programmed,
 - **switch off the ignition**;
- Wait for the **diagnostic tool** message (maximum wait 8 min): **Loss of dialogue with the computer: EDC16 CP33, check the tool connection and the computer supply voltage** before switching on the ignition again.

Fault finding - Replacement of components

The last EGR valve offset reprogrammed is stored on the computer.

Note:

When the reprogramming of the last EGR valve offset has been done, then the **Emission control/OBD** sub-function displays:

10 % < PR128 < 40 %

10 % < PR129 < 40 %

- then check the system faults, and clear any stored faults;
- if there are no stored faults, deal with present faults;
- clear the faults from the computer memory.

Carry out a road test followed by a complete check with the diagnostic tool.

End of operation.

REPLACING THE INJECTORS

Note:

The **“IMA” code (individual correction of the injector)** is a calibration with corrective values unique to each injector, and is used to adjust their flow accurately (injector classification). This correction takes into account mechanical variances and the variances of the **piezo** actuator. An injector's class is determined by measurements taken at different pressures on a test bench. The **IMA** class identification (**7-character alphanumeric code**) is then engraved on the collar of the injector.

The **IMA** codes are read from left to right:

- Foolproofing for reading the **IMA** codes is carried out using the low pressure return connector and/or the electrical connector on the injector.
- This reading direction is valid when these connectors are located to the left of the cotech.

The IMA codes must be read from left to right (see illustration in **MR 402 (VelSatis ph2)**, **MR 395 (Laguna II ph2)**, **MR 364 (Mégane II ph2)**, **MR 370 (Scénic II ph2)**, **MR 361 (Espace IV ph2)**, **Mechanical, 13B Diesel injection, Diesel injector, Removal - Refitting**)

Note: it is possible to confuse the following characters:

- Figure "1" with the letter "I" and "L"
- Figure "2" with the letter "Z"
- Figure "5" with the letter "S"
- Figure "6" with the letter "G"
- Figure "8" with the letter "B"

After programming or reprogramming the computer, it is essential to enter the 4 injector codes before confirming the entry.

These individual correction classes are then written to the computer EEPROM, which can then control the injectors taking into account their manufacturing variation.

Fault finding - Replacement of components

After one or more injectors have been changed, enter the IMA codes again and then run command **SC036 Reset programming**.

To do this, note the **IMA** code(s) engraved on the injector bodies, and save the codes in the computer using command **SC002 Enter injector codes**, and follow the instructions given by the **diagnostic tool**. Use **SC036 Reinitialise programming** and select **injectors** then follow the procedure.

IMPORTANT

Engines can only operate correctly if the correct IMA codes have been entered. If no code has been entered, or if an implausible code has been entered, fault DF066 Injector Code(s) will be present and the engine will run in defect mode (engine speed limited significantly). If another injector's code has been entered, the system will accept it but will make an incorrect correction. This could lead to engine damage, loss of performance and pollution.

Always use the correct injector codes for the engine cylinder/computer.

Note:

On the M9R engine (Renault - Nissan partnership engine), cylinder no. 1 is located at the timing end.

IMPORTANT

- When the command is complete, switch off the ignition and exit fault finding mode.
- Wait for the **diagnostic tool** message (maximum wait 8 min): "**Loss of dialogue with the computer: EDC16 CP33, check the tool connection and the computer supply voltage**".
- Return to fault finding mode.
- Select the **Identify computer** function from the main screen.
- Check that the injector codes entered into the computer correspond to those on the injector bodies.
- If the codes do not match, restart the command **SC002 Enter injector codes** procedure.
- Then check the system faults, and clear any stored faults.
- If the computer does not have any faults, the operation is complete.
- If there are faults, deal with the present faults.

REPLACING THE DAMPER VALVE

After replacing the damper valve, run command **SC036 Reinitialise programming** and select **damper valve**.

When the command is complete, switch off the ignition and exit fault finding mode.

Wait for the **diagnostic tool** message (maximum wait 8 min) : **Loss of dialogue with the computer: EDC16 CP33, check the tool connection and the computer supply voltage** before switching on the ignition again.

Note:

When the reinitialisation is completed, the **Emission control/OBD** sub-function displays:
PR858 = 0 %, PR859 = 0 %, PR860 = 0 % and PR861 = 0 %.

REPLACING THE PARTICLE FILTER:

After replacing the particle filter, reconfigure the computer.

The system must be configured via the diagnostic socket using the RENAULT CLIP tool.

Carry out the following steps:

- switch on the ignition,
- run command **SC036 Reinitialise programming**;
- select **After particle filter replacement** as the operation type and follow the instructions,
- **switch off the ignition and wait for the message to appear on the diagnostic tool (maximum time 8 min): "Loss of communication with the computer: EDC16 CP33, check the connection of the tool and the computer supply voltage"**,
- **then switch on the ignition again**,
- deal with any faults detected by the **diagnostic tool**,
- **clear the faults from the computer memory (operation to be carried out within 3 minutes of switching on the ignition)**

Carry out a road test followed by a complete check with the **diagnostic tool**.

REPLACING HEATER PLUGS (Vdiag 20 and 24 only)

SLOW plugs are identified by a **black ring**.

QUICK plugs are identified by a **white ring**.

After replacing the heater plugs with plugs of a different type, reconfigure the type of plugs fitted on the vehicle.

Carry out the following steps:

- switch on the ignition,
- run command **SC036 Reinitialise programming**;
- select **Heater plugs** as the operation type and follow the instructions,
- **switch off the ignition and wait for the message to appear on the diagnostic tool (maximum time 8 min): "Loss of communication with the computer: EDC16 CP33, check the connection of the tool and the computer supply voltage"**,
- **then switch on the ignition again**,
- clear the faults from the computer memory.

Carry out a road test followed by a complete check with the **diagnostic tool**.

Summary of available configuration readings

NOTES

Configuration readings are used to check the status of configurations performed.
The configuration readings cannot be changed.

- LC009: Air conditioning
 WITH OR WITHOUT
- LC056: Heating elements
 WITH OR WITHOUT
- LC065: Water in diesel fuel sensor
 WITH OR WITHOUT
- LC120: Cruise control
 WITH OR WITHOUT
- LC121: Speed limiter
 WITH OR WITHOUT

DIESEL INJECTION

Fault finding - Fault summary table

13B

WARNING LIGHT MANAGEMENT

Management of instrument panel warning lights according to the faults notified.

Fault	DTC code in hexadecimal	Severity 1 fault warning light (Orange warning light)	Severity 2 fault warning light (Red warning light) STOP	No warning light on	EOBD warning light on
DF001 Coolant temperature sensor circuit	115	CC.0/CO.1	-	-	CC.0/CO.1 (except Vdiag 18, 1C, 54)
DF002 Air temperature sensor circuit	110	-	-	-	CC.0/CO.1
DF004 Turbocharging pressure sensor circuit	235	CO.0/CC.1/ 1.DEF	-	-	CO.0/CC.1/ 1.DEF
DF007 Rail pressure sensor circuit	190	CC.0/CO.1/ 1.DEF/2.DEF	-	-	-
DF011 Sensor feed voltage no. 1	641	1.DEF/2.DEF	-	-	1.DEF/2.DEF
DF012 Sensor feed voltage no. 2	651	1.DEF/2.DEF	-	-	1.DEF/2.DEF
DF013 Sensor feed voltage no. 3	697	1.DEF/2.DEF	-	-	1.DEF/2.DEF
DF017 Pre-postheating unit control circuit	670	-	-	CC.0/CO/ CC.1/1.DEF	-
DF018 Low-speed fan assembly control circuit	480	CC.0/CO/ CC.1/1.DEF	-	-	-
DF019 High-speed fan assembly control circuit	481	CC.0/CO/ CC.1/1.DEF	-	-	-
DF025 Pre-postheating unit fault finding connection	380	-	-	CO.1/CC.0	-
DF026 Cylinder 1 injector control circuit	201	CO	CC/1.DEF	-	CO/CC/ 1.DEF
DF027 Cylinder 2 injector control circuit	202	CO	CC/1.DEF	-	CO/CC/ 1.DEF
DF028 Cylinder 3 injector control circuit	203	CO	CC/1.DEF	-	CO/CC/ 1.DEF
DF029 Cylinder 4 injector control circuit	204	CO	CC/1.DEF	-	CO/CC/ 1.DEF

*EOBD: European On Board Diagnostic.

DIESEL INJECTION

Fault finding - Fault summary table

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WARNING LIGHT MANAGEMENT

Management of instrument panel warning lights according to the faults notified.

Fault	DTC code in hexadecimal	Severity 1 fault warning light (Orange warning light)	Level 2 fault warning light (Red warning light) STOP	No warning light on	EOBD warning light on
DF032 Heating element 1 relay control circuit	1641	-	-	CC.1/CC.0/CO/1.DEF	-
DF033 Heating element 2 relay control circuit	1642	-	-	CC.1/CC.0/CO/1.DEF	-
DF034 Heating element 3 relay control circuit	1643	-	-	CC.1/CC.0/CO/1.DEF	-
DF038 Computer	606	1.DEF/2.DEF	1.DEF/3.DEF	-	-
DF046 Battery voltage	560	-	-	1.DEF/ 2.DEF/ 3.DEF	-
DF047 Computer supply voltage	2505	-	-	1.DEF	-
DF051 Cruise control/speed limiter function	575	-	-	1.DEF	-
DF052 Injector control circuit	200	-	CC.0/CC.1/CC	-	-
DF054 Turbocharging solenoid valve control circuit	45	CC.1/CC.0/CO/1.DEF	-	-	CC.1/CC.0/CO/1.DEF
DF056 Air flow sensor circuit	100	CO.0/CC.1/ (1.DEF except Vdiag 18, 1C, 54)	-	-	1.DEF/CO.0/CC.1
DF059 Misfires on cylinder 1	301	-	-	X	-
DF060 Misfires on cylinder 2	302	-	-	X	-
DF061 Misfires on cylinder 3	303	-	-	X	-
DF062 Misfires on cylinder 4	304	-	-	X	-
DF065 Misfiring	300	-	-	1.DEF	-
DF066 Injector code(s)	611	1.DEF/2.DEF	-	-	-
DF086 Coolant pump relay control circuit	2600	-	-	CC.0/CO/CC.1/1.DEF	-

DIESEL INJECTION

Fault finding - Fault summary table

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WARNING LIGHT MANAGEMENT

Management of instrument panel warning lights according to the faults notified.

Fault	DTC code in hexadecimal	Severity 1 fault warning light (Orange warning light)	Level 2 fault warning light (Red warning light) STOP	No warning light on	EOBD warning light on
DF091 Vehicle speed signal	500	-	-	1.DEF	-
DF098 Fuel temperature sensor circuit	180	-	-	CC.0/CO.1	-
DF107 Computer memory	62F	1.DEF	-	-	1.DEF
DF119 Camshaft sensor signal	340	1.DEF/2.DEF	-	-	-
DF120 Engine speed sensor signal	335	-	1.DEF/2.DEF	-	-
DF151 Main relay circuit	685	1.DEF/2.DEF	-	-	-
DF165 Accelerator pedal position sensor circuit	2299	1.DEF/3.DEF	-	2.DEF	-
DF195 Camshaft/engine speed sensor consistency	16	-	-	1.DEF	-
DF196 Pedal sensor circuit gang 1	225	CO.0/CC.1/ 1.DEF	-	-	-
DF198 Pedal sensor circuit gang 2	2120	CO.0/CC.1/ 1.DEF	-	-	-
DF200 Atmospheric pressure sensor	2226	-	-	-	1.DEF/2.DEF
DF209 EGR valve position sensor circuit	409	-	-	-	CC.0/CO.0/ CO.11.DEF
DF221 Clutch contact signal	830	-	-	1.DEF	-
DF228 Brake signal	571	-	-	1.DEF/ 2.DEF	-
DF249 Injector control	62B	-	1.DEF	-	-
DF265 Injector no. 1	1201	-	-	1.DEF	-

DIESEL INJECTION

Fault finding - Fault summary table

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WARNING LIGHT MANAGEMENT

Management of instrument panel warning lights according to the faults notified.

Fault	DTC code in hexadecimal	Severity 1 fault warning light (Orange warning light)	Level 2 fault warning light (Red warning light) STOP	No warning light on	EOBD warning light on
DF266 Injector no. 2	1202	-	-	1.DEF	-
DF267 Injector no. 3	1203	-	-	1.DEF	-
DF268 Injector no. 4	1204	-	-	1.DEF	-
DF272 EGR valve control circuit	487	-	-	-	CO/CC.1/ CC.0/CC/ 1.DEF
DF293 Water in diesel fuel sensor	2269	-	-	1.DEF	-
DF297 Particle filter	2002	1.DEF (except Vdiag 18, 1C, 54)	-	-	1.DEF
DF304 EGR by-pass circuit	2425	-	-	CO/CC.0/ CC.1/1.DEF	-
DF308 Clogged particle filter	242F	1.DEF	-	-	1.DEF (except Vdiag 18, 1C, 54)
DF309 Particle filter downstream temp.* sensor	242A	-	-	CC.0/CO.1	-
DF310 Particle filter upstream temp.* sensor	2031	CC.0/CO.1	-	-	CC.0/CO.1
DF311 Failed regenerations limit exceeded	1435	X	-	-	-
DF312 Speed request	1436	-	-	X	-
DF315 Particle filter diff.* pressure sensor	2452	CO/CC.1/CO.0	-	-	CO/CC.1/ CO.0
DF323 Damper valve	2100	CC.0/CC.1/ 1.DEF/CC/CO	-	CC.0/CC.1/ 1.DEF/CC/ CO (Vdiag 18, 1C, 54 only)	-
DF333 Injection → automatic transmission connection	C101	-	-	-	1.DEF

*temp: Temperature

*diff: Differential

DIESEL INJECTION

Fault finding - Fault summary table

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WARNING LIGHT MANAGEMENT

Management of instrument panel warning lights according to the faults notified.

Fault	DTC code in hexadecimal	Severity 1 fault warning light (Orange warning light)	Level 2 fault warning light (Red warning light) STOP	No warning light on	EOBD warning light on
DF364 Climate control	530	-	-	CO.1/CC.0	-
DF502 Cruise control or speed limiter button	565	-	-	1.DEF	-
DF532 Alternator charge signal	2502	-	-	1.DEF/ 2.DEF	-
DF569 Turbocharging circuit	2263	1.DEF/2.DEF	-	-	1.DEF/2.DEF
DF645 Damper valve position regulation	2101	1.DEF/2.DEF/ 3.DEF (except Vdiag 18, 1C, 54)	-	1.DEF/ 2.DEF/ 3.DEF (Vdiag 18, 1C, 54 only)	-
DF646 Damper valve position sensor	120	CC.0/CO.0/ CO.1/1.DEF (except Vdiag 18, 1C, 54)	-	CO.0/CO.1 (Vdiag 18, 1C, 54 only)	-
DF647 EGR valve position regulation	488	1.DEF/2.DEF/ 3.DEF	-	-	1.DEF/2.DEF 3.DEF/4.DEF
DF651 Turbine upstream pressure sensor circuit	470	1.DEF/CO.0/ CC.1	-	-	1.DEF/CO.0/ CC.1 (except Vdiag 18, 1C, 54)
DF652 Turbine upstream temperature sensor circuit	544	CC.0/CO.1	-	CC.0/CO.1	CC.0/ CO.1 (except Vdiag 18, 1C, 54)
DF717 Particle filter upstream pressure	2453	1.DEF	-	-	1.DEF
DF890 Movement during particle filter regen.*	297	-	-	1.DEF	-

* regen.: Regeneration

DIESEL INJECTION

Fault finding - Fault summary table

13B

WARNING LIGHT MANAGEMENT

Management of instrument panel warning lights according to the faults notified.

Fault	DTC code in hexadecimal	Severity 1 fault warning light (Orange warning light)	Level 2 fault warning light (Red warning light) STOP	No warning light on	EOBD warning light on
DF891 Group 1 injectors supply	2146	-	CC.0/1.DEF	-	-
DF892 Group 2 injectors supply	2149	-	CC.0/1.DEF	-	-
DF895 Pressure regulation on rail	2293	2.DEF/3.DEF/4.DEF	1.DEF/4.DEF	-	-
DF896 Pressure regulation on pump	89	2.DEF/3.DEF/4.DEF	1.DEF	-	-
DF897 Pressure regulation circuit on pump	90	CO.CC.1/1.DFE	C.C.O	-	-
DF898 Pressure regulation circuit on rail	2294	-	CO/CC.1 CC.0/1.DEF	-	-
DF899 Regeneration temperature threshold limit exceeded	3031	-	-	X	-
DF997 Control unit → heating elements connection	1640	-	-	1.DEF	-
DF1069 Heater plugs not configured	1670	1.DEF	-	-	-

DF001 PRESENT OR STORED	<p><u>COOLANT TEMPERATURE SENSOR CIRCUIT</u></p> <p>CC.0 : Short circuit to earth CO.1 : Short circuit or open circuit to + 12 V</p>
NOTES	<p>Priorities when dealing with a number of faults: Deal with fault DF046 Battery voltage first if it is present or stored.</p> <p>Conditions for applying the fault finding procedure to stored faults: If the fault is declared present after:</p> <ul style="list-style-type: none"> – the ignition is switched on, – starting the engine, – a road test. <p>Special notes: If the fault is present:</p> <ul style="list-style-type: none"> – the heating elements are no longer controlled, – the coolant temperature: PR064 Coolant temperature is fixed at 119 °C, – the preheating time lasts longer than 4 seconds, – the low speed fan assembly is continuously supplied. – the high-speed fan assembly is continuously supplied (for Vdiag 20, 24, 58 and 5C), – smoke may be emitted from the exhaust, – noise may be heard when hot starting. <p>The level 1 warning light is lit. The OBD warning light is on (for Vdiag 20, 24, 58 and 5C). Use bornier Elé. 1681 for any work on the computer connectors.</p> <p>Use the Wiring Diagram Technical Note, Laguna II ph2, Vel Satis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2.</p>

AFTER REPAIR	<p>Deal with any other faults. Clear the fault memory. Switch off the ignition until the end of the power-latch phase, and carry out a road test followed by a check using the diagnostic tool.</p>
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DF001 CONTINUED 1	
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CC.0	NOTES	None
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<p>Check the condition of the coolant temperature sensor connector (see Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2, Component code 244).</p> <p>Check the condition of the engine management computer connector (see Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2, Component code 120).</p> <p>If one or more connectors is faulty and there is a repair procedure (see Technical Note 6015A, Electrical wiring repair, wiring: precautions for repair), repair the connector, otherwise replace the wiring.</p>
<p>Measure the resistance between connections 3C and 3JK of component 244.</p> <p>Replace the sensor if the resistance is less than 87 Ω.</p>
<p>Check the insulation from earth of the following connections:</p> <ul style="list-style-type: none"> – connection code 3C and 3JK, between components 120 and 244. <p>If the connection or connections are faulty and there is a repair method (see Technical Note 6015A, Repairing electrical wiring, wiring: precautions for repair), repair the wiring, otherwise replace it.</p>
<p>If the fault is still present, contact the Techline.</p>

AFTER REPAIR	<p>Deal with any other faults. Clear the fault memory.</p> <p>Switch off the ignition until the end of the power-latch phase, and carry out a road test followed by a check using the diagnostic tool.</p>
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DF001 CONTINUED 2	
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CO.1	NOTES	None
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<p>Check the condition of the coolant temperature sensor connector (see Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2, Component code 244).</p> <p>Check the condition of the engine management computer connector (see Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2, Component code 120).</p> <p>If one of the connectors is faulty and there is a repair procedure (see Technical Note 6015A, Electrical wiring repair, wiring: precautions for repair), repair the connector, otherwise replace the wiring.</p>
<p>Measure the resistance between connections 3C and 3JK of component 244.</p> <p>Replace the sensor if the resistance is greater than 83 kΩ.</p>
<p>Check the insulation from + 12 V of the following connections:</p> <ul style="list-style-type: none"> – connection code 3C and 3JK, <p>between components 120 and 244.</p> <p>Check the continuity of the following connections:</p> <ul style="list-style-type: none"> – connection code 3C, – connection code 3JK. <p>between components 120 and 244.</p> <p>If the connection or connections are faulty and there is a repair method (see Technical Note 6015A, Repairing electrical wiring, wiring: precautions for repair), repair the wiring, otherwise replace it.</p>
<p>If the fault is still present, contact the Techline.</p>

AFTER REPAIR	<p>Deal with any other faults. Clear the fault memory.</p> <p>Switch off the ignition until the end of the power-latch phase, and carry out a road test followed by a check using the diagnostic tool.</p>
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DF002 PRESENT OR STORED	<u>AIR TEMPERATURE SENSOR CIRCUIT</u> CC.0 : Short circuit to earth CO.1 : Short circuit or open circuit to + 12 V
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NOTES	Priorities when dealing with a number of faults: Deal with fault DF046 Battery voltage first if it is present or stored.
	Conditions for applying the fault finding procedure to stored faults: If the fault is declared present after: <ul style="list-style-type: none"> – the ignition is switched on, – starting the engine, – a road test.
	Special notes: If the fault is present: <ul style="list-style-type: none"> – The OBD warning light is on, – the heating elements are disabled, – the inlet air temperature is in defect mode, PR059 Inlet air temperature = 20 °C. The air temperature sensor is integrated into the air flowmeter. Use bornier Elé. 1681 for all operations on the engine management computer connectors.
	Use the Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2.

CC.0	NOTES	None
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Check the condition of the air flowmeter connector (see Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2, Component code 799). Check the condition of the engine management computer connector (see Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2, Component code 120). If one of the connectors is faulty and there is a repair procedure (see Technical Note 6015A, Electrical wiring repair, wiring: precautions for repair), repair the connector, otherwise replace the wiring.
Measure the resistance between connections 3ABQ and 3DW of component 799 . Replace the air flow sensor if the resistance is less than 87 Ω .

AFTER REPAIR	Deal with any other faults. Clear the fault memory. Switch off the ignition until the end of the power-latch phase, and carry out a road test followed by a check using the diagnostic tool .
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DF002 CONTINUED	
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With the flowmeter disconnected, check **the insulation** against **earth** of the following connections:
 – connection code **3ABQ and 3DW**, between components **120** and **799**.
 If the connection is faulty and there is a repair procedure (**see Technical Note 6015A, Electrical wiring repair, wiring: precautions for repair**), repair the wiring, otherwise replace it.

If the fault is still present, contact the Techline.

CO.1	NOTES	None
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Check the condition of the air flowmeter connector (**see Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2, Component code 799**).
 Check the condition of the engine management computer connector (**see Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2, Component code 120**).
 If one of the connectors is faulty and there is a repair procedure (**see Technical Note 6015A, Electrical wiring repair, wiring: precautions for repair**), repair the connector, otherwise replace the wiring.

Measure **the resistance** between connections **3ABQ** and **3DW** of component **799**.
 Replace the air flow sensor if the resistance is **more than 50 kΩ**.

Check the **insulation** from **+ 12 V** of the following connections:
 – connection code **3ABQ**,
 – connection code **3DW**,
 between components **120** and **799**.
 Check **the continuity** of the following connections:
 – connection code **3ABQ**,
 – connection code **3DW**,
 between components **120** and **799**.
 If the connection or connections are faulty and there is a repair method (**see Technical Note 6015A, Repairing electrical wiring, wiring: precautions for repair**), repair the wiring, otherwise replace it.

If the fault is still present, contact the Techline.

AFTER REPAIR	Deal with any other faults. Clear the fault memory. Switch off the ignition until the end of the power-latch phase, and carry out a road test followed by a check using the diagnostic tool .
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DF004 PRESENT OR STORED	<u>TURBOCHARGING PRESSURE SENSOR CIRCUIT</u> CO.0 : Open circuit or short circuit to earth CC.1 : Short circuit to + 12 V 1.DEF : Consistency between the turbocharging pressure and the atmospheric pressure
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NOTES	<p>Priorities when dealing with a number of faults: Deal with faults DF011 Sensor feed voltage no. 1, DF046 Battery voltage first, if they are present or stored.</p> <p>Conditions for applying the fault finding procedure to stored faults: If the fault is declared present after: – the ignition is switched on, – starting the engine, – a road test.</p> <p>Special notes: Use bornier Elé. 1681 for all operations on the injection computer connectors. If the fault is present: – engine torque limited, – turbocharging pressure is in defect mode, PR041 Turbocharging pressure = 0.75 bar, – the level 1 and EOBD (European On Board Diagnostic) warning lights are lit.</p> <p>Use the Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2.</p>
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AFTER REPAIR	Deal with any other faults. Clear the fault memory. Switch off the ignition until the end of the power-latch phase, and carry out a road test followed by a check using the diagnostic tool .
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DF004 CONTINUED 1	
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CO.0	NOTES	None
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Check the condition of the turbocharging pressure sensor connector (**see Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2, Component code 1071**).

Check the condition of the engine management computer connector (**see Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2, Component code 120**).

If one of the connectors is faulty and there is a repair procedure (**see Technical Note 6015A, Electrical wiring repair, wiring: precautions for repair**), repair the connector, otherwise replace the wiring.

Check the **insulation** from **earth** of the following connections:

- connection code **3LP and 3LN**,
between components **120** and **1071**.

Check the **continuity** of the following connections:

- connection code **3LQ**,
- connection code **3LP and 3LN**,
between components **120** and **1071**.

If the connection or connections are faulty and there is a repair method (**see Technical Note 6015A, Repairing electrical wiring, wiring: precautions for repair**), repair the wiring, otherwise replace it.

If the fault is still present, replace the turbocharger pressure sensor.

AFTER REPAIR	<p>Deal with any other faults. Clear the fault memory.</p> <p>Switch off the ignition until the end of the power-latch phase, and carry out a road test followed by a check using the diagnostic tool.</p>
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DF004 CONTINUED 2	
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CC.1	NOTES	None
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Check the condition of the turbocharging pressure sensor connector (see **Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2, Component code 1071**).

Check the condition of the engine management computer connector (see **Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2, Component code 120**).

If one of the connectors is faulty and there is a repair procedure (see **Technical Note 6015A, Electrical wiring repair, wiring: precautions for repair**), repair the connector, otherwise replace the wiring.

Check the **insulation** against + 12 V and + 5 V (computer feed) of the following connections:

- connection code **3LP and 3LQ**,
between components **120** and **1071**.

Check the **continuity** of the following connection:

- connection code **3LN**,
between components **120** and **1071**.

If the connection or connections are faulty and there is a repair method (see **Technical Note 6015A, Repairing electrical wiring, wiring: precautions for repair**), repair the wiring, otherwise replace it.

If the fault is still present, replace the turbocharger pressure sensor.

1.DEF	NOTES	None
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Check the condition of the turbocharging pressure sensor connector (see **Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2, Component code 1071**).

Check the condition of the engine management computer connector (see **Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2, Component code 120**).

If one of the connectors is faulty and there is a repair procedure (see **Technical Note 6015A, Electrical wiring repair, wiring: precautions for repair**), repair the connector, otherwise replace the wiring.

Perform fault finding procedure on parameter **PR041 Turbocharging pressure**.

AFTER REPAIR	<p>Deal with any other faults. Clear the fault memory.</p> <p>Switch off the ignition until the end of the power-latch phase, and carry out a road test followed by a check using the diagnostic tool.</p>
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DF007 PRESENT OR STORED	<u>RAIL PRESSURE SENSOR CIRCUIT</u> CC.0 : Short circuit to earth CO.1 : Open circuit or short circuit to + 12 V 1.DEF : Below minimum threshold 2.DEF : Above maximum threshold
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NOTES	Priorities when dealing with a number of faults: Deal with fault DF013 Sensor supply voltage no. 3 first, if it is present or stored.
	Conditions for applying the fault finding procedure to stored faults: If the fault is declared present after: <ul style="list-style-type: none"> – the ignition is switched on, – starting the engine, – a road test.
	Special notes: If the fault is present: <ul style="list-style-type: none"> – the rail pressure is in defect mode, PR038 Rail pressure ≤ 1150 bar, – the level 1 warning light is lit, – particle filter regeneration is inhibited. Use bornier Elé. 1681 for all operations on the injection computer connectors.
	Use the Wiring Diagram Technical Note, Laguna II ph2, Vel Satis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2 .

CC.0	NOTES	None
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Check the condition of the rail pressure sensor connector (see **Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2, Component code 1032**).

Check the condition of the engine management computer connector (see **Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2, Component code 120**).

If one of the connectors is faulty and there is a repair procedure (see **Technical Note 6015A, Electrical wiring repair, wiring: precautions for repair**), repair the connector, otherwise replace the wiring.

AFTER REPAIR	Deal with any other faults. Clear the fault memory. Switch off the ignition until the end of the power-latch phase, and carry out a road test followed by a check using the diagnostic tool .
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DF007 CONTINUED 1	
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Check the **continuity** of the following connection:

- connection code **3LX**,
between components **120** and **1032**.

Check **insulation** against earth
of the following connection:

- connection code **3LY**,
between components **120** and **1032**.

If the connection or connections are faulty and there is a repair method (**see Technical Note 6015A, Repairing electrical wiring, wiring: precautions for repair**), repair the wiring, otherwise replace it.

If the fault is still present, contact the Techline.

CO.1	NOTES	None
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Check the condition of the rail pressure sensor connector (**see Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2, Component code 1032**).

Check the condition of the engine management computer connector (**see Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2, Component code 120**).

If one of the connectors is faulty and there is a repair procedure (**see Technical Note 6015A, Electrical wiring repair, wiring: precautions for repair**), repair the connector, otherwise replace the wiring.

Check the **continuity** of the following connections:

- connection code **3LX**,
 - connection code **3LY**,
- between components **120** and **1032**.

Check the **insulation** from **+ 12 V** and **+ 5 V** (computer feed) of the following connection:

- connection code **3LY**,
- between components **120** and **1032**.

If the connection or connections are faulty and there is a repair method (**see Technical Note 6015A, Repairing electrical wiring, wiring: precautions for repair**), repair the wiring, otherwise replace it.

If the fault is still present, contact the Techline.

AFTER REPAIR	<p>Deal with any other faults. Clear the fault memory.</p> <p>Switch off the ignition until the end of the power-latch phase, and carry out a road test followed by a check using the diagnostic tool.</p>
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DF007 CONTINUED 2	
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1.DEF 2.DEF	NOTES	Special notes: The fault is declared present or stored after an attempt to start or after starting, with the engine cold, several hours after the vehicle was last driven (the difference in the coolant temperature when the engine was previously stopped and the present attempt to start must be at least 60 °C).
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Check the condition of the rail pressure sensor connector (see Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2, Component code 1032). Check the condition of the engine management computer connector (see Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2, Component code 120). If one of the connectors is faulty and there is a repair procedure (see Technical Note 6015A, Electrical wiring repair, wiring: precautions for repair), repair the connector, otherwise replace the wiring.
Check that there are no external diesel leaks from the high pressure fuel circuit.
Check for continuity and absence of interference resistance of the following connections: – connection code 3LX , – connection code 3LY , – connection code 3LZ , between components 120 and 1032 . If the connection or connections are faulty and there is a repair method (see Technical Note 6015A, Repairing electrical wiring, wiring: precautions for repair), repair the wiring, otherwise replace it.
With the ignition on and the engine switched off for over 1 minute: View parameter PR038 Rail pressure . – If the pressure is below 90 bar , the sensor is in order. – If the pressure is above 90 bar , contact the Techline.
If the fault is still present, contact the Techline.

AFTER REPAIR	Deal with any other faults. Clear the fault memory. Switch off the ignition until the end of the power-latch phase, and carry out a road test followed by a check using the diagnostic tool .
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DF011 PRESENT OR STORED	<p><u>SENSOR FEED NO. 1 VOLTAGE</u></p> <p>1.DEF : Above maximum threshold 2.DEF : Below minimum threshold</p>
NOTES	<p>Conditions for applying the fault finding procedure to stored faults: If the fault is declared present after:</p> <ul style="list-style-type: none"> – the ignition is switched on, – starting the engine, – a road test. <p>Special notes: If the fault is present:</p> <ul style="list-style-type: none"> – air conditioning is switched off, – engine torque limited, – the cruise control/speed limiter function is switched off, – the heating elements are switched off, – the EGR function is disabled by the engine management computer. – Safe mode on the accelerator pedal sensor: gang 2 value used instead of gang 1. – particle filter regenerations when driving are inhibited <p>The level 1 and EOBD (European On Board Diagnostic) warning lights are lit. Use bornier Elé. 1681 for all operations on the engine management computer connectors.</p> <p>Use the Wiring Diagram Technical Note, Laguna II ph2, Vel Satis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2.</p>

AFTER REPAIR	<p>Deal with any other faults. Clear the fault memory. Switch off the ignition until the end of the power-latch phase, and carry out a road test followed by a check using the diagnostic tool.</p>
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DF011 CONTINUED 1	
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1.DEF	NOTES	None
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Note:

Feed no. 1 is for the following components:

- accelerator pedal sensor (gang 1),
- turbocharger pressure sensor,
- turbine upstream pressure sensor.

– Measure the feed voltage on the following sensors:

- connection **3LR** of component **921**,
- connection **3LQ** of component **1071**,
- connection **3MX** of component **1299**.

if at least one of the three voltages is greater than **+ 5.1 V**, disconnect the sensor connectors one by one.

If, after disconnecting the turbocharging pressure sensor, the voltage returns to normal,

- Check **the insulation from + 12 V** on the following connection:

– connection code **3LQ**,

between components **120** and **1071**.

If, after disconnecting the accelerator pedal sensor, the voltage returns to normal,

- Check **the insulation from + 12 V** on the following connection:

– connection code **3LR**,

between components **120** and **921**.

If the voltage returns to normal after the turbine upstream pressure sensor is disconnected,

- Check **the insulation from + 12 V** on the following connection:

– connection code **3MX**,

between components **120** and **1299**.

If the connectors is faulty and there is a repair method (**see Technical Note 6015A, Repairing electrical wiring, Wiring: Precautions for repair**), repair the connector, otherwise replace the wiring.

Clear the faults created by the multiple disconnections.

Check the condition of the engine management computer connector (**see Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2, Component code 120**).

If the connectors is faulty and there is a repair method (**see Technical Note 6015A, Repairing electrical wiring, Wiring: Precautions for repair**), repair the connector, otherwise replace the wiring.

If the fault is still present, contact the Techline.

AFTER REPAIR	<p>Deal with any other faults. Clear the fault memory.</p> <p>Switch off the ignition until the end of the power-latch phase, and carry out a road test followed by a check using the diagnostic tool.</p>
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DF011 CONTINUED 2	
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2.DEF	NOTES	None
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Note:

Feed no. 1 is for the following components:

- accelerator pedal sensor (gang 1),
- turbocharger pressure sensor,
- turbine upstream pressure sensor.

– Measure the feed voltage on the following sensors:

- connection **3LR** of component **921**,
- connection **3LQ** of component **1071**,

if at least one of the three voltages is less than **+ 4.9 V**, disconnect the sensor connectors one by one.

If after disconnecting the turbocharging pressure sensor, the voltage returns to normal,

- Check insulation against **earth** of the following connection:

– connection code **3LQ**,

between components **120** and **1071**.

If, after disconnecting the accelerator pedal sensor, the voltage returns to normal,

- Check insulation against **earth** of the following connection:

– connection code **3LR**,

between components **120** and **921**.

If the voltage returns to normal after the turbine upstream pressure sensor is disconnected,

- Check insulation against **earth** of the following connection:

– connection code **3MX**,

between components **120** and **1299**.

If the connection or connections are faulty and there is a repair method (**see Technical Note 6015A, Repairing electrical wiring, wiring: precautions for repair**), repair the wiring, otherwise replace it.

Clear the faults created by the multiple disconnections.

Check the condition of the engine management computer connector (**see Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2, Component code 120**).

If the connectors is faulty and there is a repair method (**see Technical Note 6015A, Repairing electrical wiring, Wiring: Precautions for repair**), repair the connector, otherwise replace the wiring.

If the fault is still present, contact the Techline.

AFTER REPAIR	<p>Deal with any other faults. Clear the fault memory.</p> <p>Switch off the ignition until the end of the power-latch phase, and carry out a road test followed by a check using the diagnostic tool.</p>
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DF012 PRESENT OR STORED	SENSOR FEED VOLTAGE NO. 2 1.DEF : Above maximum threshold 2.DEF : Below minimum threshold
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NOTES	<p>Conditions for applying the fault finding procedure to stored faults: If the fault is declared present after:</p> <ul style="list-style-type: none"> – the ignition is switched on, – starting the engine, – a road test. <p>Special notes: If the fault is present:</p> <ul style="list-style-type: none"> – engine torque limited, – the cruise control/speed limiter function is switched off, – the heating elements are switched off, – air conditioning is switched off, – the low speed fan assembly is continuously supplied. – Safe mode on the accelerator pedal sensor: gang 1 value used. – particle filter regenerations when driving are inhibited <p>The level 1 and EOBD (European On Board Diagnostic) warning lights are lit. Use bornier Elé. 1681 for all operations on the engine management computer connectors.</p> <p>Use the Wiring Diagram Technical Note, Laguna II ph2, Vel Satis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2.</p>
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1.DEF	NOTES	None
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<p>Note: Feed no. 2 is for the following components:</p> <ul style="list-style-type: none"> – accelerator pedal sensor (gang 2), – EGR valve position sensor, – damper valve position sensor, – cruise control/speed limiter button (on steering wheel), – particle filter differential pressure sensor. <p>– Measure the feed voltage on the following sensors:</p> <ul style="list-style-type: none"> – connection 3LU of component 921, – connection 86G of component 689, – connection 38KQ of component 1461, – connection 3AAQ of component 1290, – connection 3GC of component 1460 or 169. <p>If at least one of the five voltages is greater than + 5.1 V, disconnect these connectors one by one.</p>

AFTER REPAIR	<p>Deal with any other faults. Clear the fault memory. Switch off the ignition until the end of the power-latch phase, and carry out a road test followed by a check using the diagnostic tool.</p>
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DF012
CONTINUED 1

If, after disconnecting the damper valve, the voltage returns to normal,
 – Check **the insulation from + 12 V** on the following connection:
 – connection code **38KQ**,
 between components **120** and **1461**.
 If after disconnecting the accelerator pedal sensor the voltage returns to normal,
 – Check **the insulation from + 12 V** on the following connection:
 – connection code **3LU**,
 between components **120** and **921**.
 If, after disconnecting the EGR valve the voltage returns to normal,
 – Check **the insulation from + 12 V** on the following connection:
 – connection code **3GC**,
 between components **120** and **1460 or 169**.
 If the voltage returns to normal after the particle filter differential pressure sensor is disconnected,
 – Check **the insulation from + 12 V** on the following connection:
 – connection code **3AAQ**,
 between components **120** and **1290**.
 If the voltage returns to normal after the cruise control/speed limiter button is disconnected,
 – Check **the insulation from + 12 V** on the following connection:
 – connection code **86G**,
 between components **120** and **689**.
 If the connection or connections are faulty and there is a repair method (**see Technical Note 6015A, Repairing electrical wiring, wiring: precautions for repair**), repair the wiring, otherwise replace it.
 Clear the faults created by the multiple disconnections.

Check the condition of the engine management computer connector (**see Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2, Component code 120**).
 If the connectors is faulty and there is a repair method (**see Technical Note 6015A, Repairing electrical wiring, Wiring: Precautions for repair**), repair the connector, otherwise replace the wiring.

If the fault is still present, contact the Techline.

AFTER REPAIR

Deal with any other faults. Clear the fault memory.
 Switch off the ignition until the end of the power-latch phase, and carry out a road test followed by a check using the **diagnostic tool**.

DF012 CONTINUED 2	
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2.DEF	NOTES	None
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Note:

Feed no. 2 is for the following components:

- accelerator pedal sensor (gang 2),
- EGR valve position sensor,
- damper valve position sensor,
- cruise control/speed limiter button (on steering wheel),
- particle filter differential pressure sensor.

– Measure the feed voltage on the following sensors:

- connection **3LU** of component **921**,
- connection **86G** of component **689**,
- connection **38KQ** of component **1461**,
- connection **3AAQ** of component **1290**,
- connection **3GC** of component **1460 or 169**.

If at least one of the three voltages is less than **4.9 V**, disconnect these connectors one by one.

If the voltage returns to normal after disconnecting the damper valve,

- check the insulation against **earth** on the following connection:

– connection code **38KQ**,

between components **120** and **1461**.

If, after disconnecting the accelerator pedal sensor, the voltage returns to normal,

- check the insulation against **earth** on the following connection:

– connection code **3LU**,

between components **120** and **921**.

If, after disconnecting the EGR valve the voltage returns to normal,

- check the insulation against **earth** on the following connection:

– connection code **3GC**,

between components **120** and **1460 or 169**.

If the voltage returns to normal after the particle filter differential pressure sensor is disconnected,

- Check **the insulation from + 12 V** on the following connection:

– connection code **3AAQ**,

between components **120** and **1290**.

If the voltage returns to normal after the cruise control/speed limiter button is disconnected,

- Check **the insulation from + 12 V** on the following connection:

– connection code **86G**,

between components **120** and **689**.

If the connection or connections are faulty and there is a repair method (**see Technical Note 6015A, Repairing electrical wiring, wiring: precautions for repair**), repair the wiring, otherwise replace it.

Clear the faults created by the multiple disconnections.

AFTER REPAIR	<p>Deal with any other faults. Clear the fault memory.</p> <p>Switch off the ignition until the end of the power-latch phase, and carry out a road test followed by a check using the diagnostic tool.</p>
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DF012
CONTINUED 3

Check the condition of the engine management computer connector (**see Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2, Component code 120**).
If the connectors is faulty and there is a repair method (**see Technical Note 6015A, Repairing electrical wiring, Wiring: Precautions for repair**), repair the connector, otherwise replace the wiring.

If the fault is still present, contact the Techline.

AFTER REPAIR

Deal with any other faults. Clear the fault memory.
Switch off the ignition until the end of the power-latch phase, and carry out a road test followed by a check using the **diagnostic tool**.

DF013 PRESENT OR STORED	SENSOR FEED VOLTAGE No. 3 1.DEF : Above maximum threshold 2.DEF : Below minimum threshold
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NOTES	Conditions for applying the fault finding procedure to stored faults: If the fault is declared present after: <ul style="list-style-type: none"> – the ignition is switched on. – starting the engine, – a road test.
	Special notes: If the fault is present: <ul style="list-style-type: none"> – engine torque limited, – inhibition of test SC031 Operational fault finding of cylinders, – particle filter regenerations when driving are inhibited, – particle filter fault finding is inhibited. The level 1 and EOBD (European On Board Diagnostic) warning lights are lit. Use bornier Elé. 1681 for all operations on the engine management computer connectors.
	Use the Wiring Diagram Technical Note, Laguna II ph2, Vel Satis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2 .

1.DEF	NOTES	None
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<p>Note: Power supply 3 serves the following components:</p> <ul style="list-style-type: none"> – air flow sensor, – rail pressure sensor.
<ul style="list-style-type: none"> – Measure the feed voltage on the following sensors: <ul style="list-style-type: none"> – connection 3KJ of component 799, – connection 3LX of component 1032. <p>if at least one of the two voltages is greater than + 5.1 V, disconnect the sensor connectors one by one.</p> <p>If, after disconnecting the air flow sensor, the voltage returns to normal,</p> <ul style="list-style-type: none"> – Check the insulation from + 12 V on the following connection: <ul style="list-style-type: none"> – connection code 3KJ, <p>between components 120 and 799.</p> <p>If, after disconnecting the rail pressure sensor, the voltage returns to normal,</p> <ul style="list-style-type: none"> – Check the insulation from + 12 V on the following connection: <ul style="list-style-type: none"> – connection code 3LX, <p>between components 120 and 1032.</p> <p>If the connection or connections are faulty and there is a repair method (see Technical Note 6015A, Repairing electrical wiring, wiring: precautions for repair), repair the wiring, otherwise replace it.</p> <p>Clear the faults created by the multiple disconnections.</p>

AFTER REPAIR	Deal with any other faults. Clear the fault memory. Switch off the ignition until the end of the power-latch phase, and carry out a road test followed by a check using the diagnostic tool .
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DF013 CONTINUED	
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Check the condition of the engine management computer connector (**see Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2, Component code 120**).
If the connectors is faulty and there is a repair method (**see Technical Note 6015A, Repairing electrical wiring, Wiring: Precautions for repair**), repair the connector, otherwise replace the wiring.

If the fault is still present, contact the Techline.

2.DEF	NOTES	None
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Note:

Feed no. 3 is for the following components:

- flow sensor,
- rail pressure sensor.

– Measure the feed voltage on the following sensors:

- connection **3KJ** of component **799**,
- connection **3LX** of component **1032**.

If at least one of the two voltages is less than **4.9 V**, disconnect the sensor connectors one by one.

If, after disconnecting the air flow sensor, the voltage returns to normal,

- check the insulation against **earth** on the following connection:

– connection code **3KJ**,
between components **120** and **799**.

If, after disconnecting the rail pressure sensor, the voltage returns to normal,

- check the insulation against **earth** on the following connection:

– connection code **3LX**,
between components **120** and **1032**.

If the connection or connections are faulty and there is a repair method (**see Technical Note 6015A, Repairing electrical wiring, wiring: precautions for repair**), repair the wiring, otherwise replace it.

Clear the faults created by the multiple disconnections.

Check the condition of the engine management computer connector (**see Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2, Component code 120**).

If the connectors is faulty and there is a repair method (**see Technical Note 6015A, Repairing electrical wiring, Wiring: Precautions for repair**), repair the connector, otherwise replace the wiring.

If the fault is still present, contact the Techline.

AFTER REPAIR	<p>Deal with any other faults. Clear the fault memory.</p> <p>Switch off the ignition until the end of the power-latch phase, and carry out a road test followed by a check using the diagnostic tool.</p>
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DF017 PRESENT OR STORED	<u>PRE-POSTHEATING UNIT CONTROL CIRCUIT</u> CO : Open circuit CC.1 : Short circuit to + 12 V CC.0 : Short circuit to earth 1.DEF : Internal electronic fault
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NOTES	Conditions for applying the fault finding procedure to stored faults: If the fault is declared present after: – the ignition is switched on – starting the engine, – a road test, – relay actuation using command AC037 Preheating relay , – if DF025: Pre-postheating unit diagnostic line is present, disregard it.
	Special notes: – preheating inhibited. Use bornier Elé. 1681 for all operations on the engine management computer connectors.
	Use the Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2.

CO	NOTES	None
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Check the condition of the preheating unit connector (see Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2, Component code 257). Check the condition of the engine management computer connector (see Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2, Component code 120). If one of the connectors is faulty and there is a repair procedure (see Technical Note 6015A, Electrical wiring repair, wiring: precautions for repair), repair the connector, otherwise replace the wiring.
Measure the resistance between connections 3FF and BP35 of component 257 . Replace the pre-postheating unit , if the resistance is greater than 2 kΩ .
Check the continuity of the following connection: – connection code 3FF , between components 120 and 257 . Check the + 12 V battery feed to the pre-postheating unit. – connection BP35 of component 257 . If the connection or connections are faulty and there is a repair method (see Technical Note 6015A, Repairing electrical wiring, wiring: precautions for repair), repair the wiring, otherwise replace it.
If the fault is still present, replace the pre-postheating unit.

AFTER REPAIR	Deal with any other faults. Clear the fault memory. Switch off the ignition until the end of the power-latch phase, and carry out a road test followed by a check using the diagnostic tool .
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DF017 CONTINUED 1	
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CC.1	NOTES	None
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Check the condition of the preheating unit connector (see **Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2, Component code 257**).

Check the condition of the engine management computer connector (see **Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2, Component code 120**).

If one of the connectors is faulty and there is a repair procedure (see **Technical Note 6015A, Electrical wiring repair, wiring: precautions for repair**), repair the connector, otherwise replace the wiring.

Measure the resistance between connections **3FF** and **BP35** of component **257**.
Replace **the pre-postheating unit**, if the resistance is greater than **1 kΩ**.

Check **the insulation** from the **+ 12 V feed** of the following connection:
– connection code **3FF**,
between components **120** and **257**.
If the connection is faulty and there is a repair procedure (see **Technical Note 6015A, Electrical wiring repair, wiring: precautions for repair**), repair the wiring, otherwise replace it.

If the fault is still present, replace the pre-postheating unit.

CC.0	NOTES	None
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Check the condition of the preheating unit connector (see **Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2, Component code 257**).

Check the condition of the engine management computer connector (see **Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2, Component code 120**).

If one of the connectors is faulty and there is a repair procedure (see **Technical Note 6015A, Electrical wiring repair, wiring: precautions for repair**), repair the connector, otherwise replace the wiring.

Measure the resistance between connections **3FF** and **BP35** of component **257**.
Replace **the pre-postheating unit**, if the resistance is greater than **450 Ω**.

AFTER REPAIR	<p>Deal with any other faults. Clear the fault memory.</p> <p>Switch off the ignition until the end of the power-latch phase, and carry out a road test followed by a check using the diagnostic tool.</p>
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DF017 CONTINUED 2	
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Check **insulation** against **earth** of the following connection:

- connection code **3FF**,
between components **120** and **257**.

Check the **+ 12 V battery** supply to the preheating unit:

- connection **BP35** of component **257**,

If the connection or connections are faulty and there is a repair method (**see Technical Note 6015A, Repairing electrical wiring, wiring: precautions for repair**), repair the wiring, otherwise replace it.

If the fault is still present, replace the pre-postheating unit.

1.DEF	NOTES	Special notes: This fault occurs if the computer's control section overheats when command AC037: Preheating relay is run or during normal operation of the pre-postheating unit .
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Check the condition of the preheating unit connector (**see Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2, Component code 257**).

Check the condition of the engine management computer connector (**see Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2, Component code 120**).

If one of the connectors is faulty and there is a repair procedure (**see Technical Note 6015A, Electrical wiring repair, wiring: precautions for repair**), repair the connector, otherwise replace the wiring.

Check **the continuity and absence of interference resistance** on the following connection:

- connection code **3FF**,
between components **120** and **257**.

Check the **+ 12 V battery** supply to the preheating unit:

- connection **BP35** of component **257**.

If the connection or connections are faulty and there is a repair method (**see Technical Note 6015A, Repairing electrical wiring, wiring: precautions for repair**), repair the wiring, otherwise replace it.

If the fault is still present, contact the Techline.

AFTER REPAIR	Deal with any other faults. Clear the fault memory. Switch off the ignition until the end of the power-latch phase, and carry out a road test followed by a check using the diagnostic tool .
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DF018 PRESENT OR STORED	<u>LOW SPEED FAN ASSEMBLY CONTROL CIRCUIT</u> CO : Open circuit CC.1 : Short circuit to + 12 V CC.0 : Short circuit to earth 1.DEF: Internal electronic fault
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NOTES	Conditions for applying the fault finding procedure to stored faults: The fault reappears after: – the ignition is switched on. – clearing the fault from the memory, – the relay is controlled using command AC154 Low-speed fan unit .
	Special notes: – high speed fan assembly actuated at the same time as the low speed fan assembly, – the level 1 warning light is lit.
	Use bornier Elé. 1681 for all operations on the engine management computer connector.
	Use the Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2.

CO	NOTES	No the high-speed fan assembly control.
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<p>Check the condition of the low-speed fan assembly relay mounting connector (see Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2, Component code 700 or 336).</p> <p>Check the condition of the engine management computer connector (see Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2, Component code 120).</p> <p>If one of the connectors is faulty and there is a repair procedure (see Technical Note 6015A, Electrical wiring repair, wiring: precautions for repair), repair the connector, otherwise replace the wiring.</p>
<p>Measure the resistance of the low-speed fan unit relay coil.</p> <p>Take care to measure the right way round; there is a protective diode.</p> <p>Replace the relay if its resistance is greater than 1 kΩ or less than 6 Ω.</p>
<p>Remove the low speed relay and check the continuity of the following connection:</p> <p>– connection code 3JN, between components 120 and 700 or 336.</p> <p>Check the + 12 V after relay feed to the low speed fan assembly relay.</p> <p>– connection code 3FB of component 700 or 336.</p> <p>If the connection or connections are faulty and there is a repair method (see Technical Note 6015A, Repairing electrical wiring, wiring: precautions for repair), repair the wiring, otherwise replace it.</p>

AFTER REPAIR	Deal with any other faults. Clear the fault memory. Switch off the ignition until the end of the power-latch phase, and carry out a road test followed by a check using the diagnostic tool .
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DF018 CONTINUED 1	
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CC.1	NOTES	No low speed fan assembly control.
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Check the condition of the low-speed fan assembly relay mounting connector (**see Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2, Component code 700 or 336**).

Check the condition of the engine management computer connector (**see Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2, Component code 120**).

If one of the connectors is faulty and there is a repair procedure (**see Technical Note 6015A, Electrical wiring repair, wiring: precautions for repair**), repair the connector, otherwise replace the wiring.

Measure **the resistance** of the low-speed fan unit relay coil.

Take care to measure the right way round; there is a protective diode.

Replace the relay if its resistance is **greater than 1 kΩ or less than 6 Ω**.

Remove the low speed relay and check **the insulation** from **+ 12 V** of the following connection:

– connection code **3JN**,

between components **120** and **700 or 336**.

If the connection is faulty and there is a repair procedure (**see Technical Note 6015A, Electrical wiring repair, wiring: precautions for repair**), repair the wiring, otherwise replace it.

CC.0	NOTES	Low speed fan assembly constantly activated.
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Check the condition of the low-speed fan assembly relay mounting connector (**see Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2, Component code 700 or 336**).

Check the condition of the engine management computer connector (**see Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2, Component code 120**).

If one of the connectors is faulty and there is a repair procedure (**see Technical Note 6015A, Electrical wiring repair, wiring: precautions for repair**), repair the connector, otherwise replace the wiring.

Measure **the resistance** of the low-speed fan unit relay coil.

Take care to measure the right way round; there is a protective diode.

Replace the relay if its resistance is **greater than 1 kΩ or less than 6 Ω**.

AFTER REPAIR	Deal with any other faults. Clear the fault memory. Switch off the ignition until the end of the power-latch phase, and carry out a road test followed by a check using the diagnostic tool .
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DF018 CONTINUED 2	
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Remove the low speed relay and check the **insulation** from earth of the following connection:

- connection code **3JN**,
between components **120** and **700 or 336**.

Check the **+ 12 V after relay feed** to the low speed fan assembly relay.

- connection code **3FB** of component **700 or 336**.

If the connection or connections are faulty and there is a repair method (**see Technical Note 6015A, Repairing electrical wiring, wiring: precautions for repair**), repair the wiring, otherwise replace it.

1.DEF	NOTES	Special notes: This fault occurs if the computer's control section overheats when command AC154: Low speed fan assembly is run or during normal operation of the fan assembly relay .
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Check the condition of the low-speed fan assembly relay mounting connector (**see Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2, Component code 700 or 336**).

Check the condition of the engine management computer connector (**see Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2, Component code 120**).

If one of the connectors is faulty and there is a repair procedure (**see Technical Note 6015A, Electrical wiring repair, wiring: precautions for repair**), repair the connector, otherwise replace the wiring.

Measure **the resistance** of the low-speed fan unit relay coil.

Take care to measure the right way round; there is a protective diode.

Replace the relay if the resistance is **more than 200 Ω or less than 20 Ω**.

Remove the low-speed relay and check the **insulation** and **continuity** of the following connection:

- connection code **3JN**,
between components **120** and **700 or 336**.

Check the **+ 12 V after relay feed** to the low speed fan assembly relay.

- connection code **3FB** of component **700 or 336**.

If the connection or connections are faulty and there is a repair method (**see Technical Note 6015A, Repairing electrical wiring, wiring: precautions for repair**), repair the wiring, otherwise replace it.

If the fault is still present, contact the Techline.

AFTER REPAIR	Deal with any other faults. Clear the fault memory. Switch off the ignition until the end of the power-latch phase, and carry out a road test followed by a check using the diagnostic tool .
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DF019 PRESENT OR STORED	<u>HIGH SPEED FAN ASSEMBLY CONTROL CIRCUIT</u> CO : Open circuit CC.1 : Short circuit to + 12 V CC.0 : Short circuit to earth 1.DEF: Internal electronic fault
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NOTES	Conditions for applying the fault finding procedure to stored faults: The fault reappears after: – the ignition is switched on – clearing the fault from the memory, – relay actuated using command AC153 High speed fan assembly .
	Special notes: – the level 1 warning light is lit.
	Use bornier Elé. 1681 for all operations on the engine management computer connector.
	Use the Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2.

CO	NOTES	No low speed fan assembly control.
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<p>Check the condition of the high-speed fan assembly relay mounting connector (see Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2, Component code 234 or 335).</p> <p>Check the condition of the engine management computer connector (see Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2, Component code 120).</p> <p>If one of the connectors is faulty and there is a repair procedure (see Technical Note 6015A, Electrical wiring repair, wiring: precautions for repair), repair the connector, otherwise replace the wiring.</p>
<p>Measure the resistance of the “high-speed fan assembly” relay coil. Take care to measure the right way round; there is a protective diode. Replace the relay if its resistance is greater than 1 kΩ or less than 6 Ω.</p>
<p>Remove the high-speed relay and check the continuity of the following connection:</p> <ul style="list-style-type: none"> – connection code 3JP, between components 120 and 234 or 335. <p>Check the + 12 V after relay feed to the “high speed fan assembly” relay:</p> <ul style="list-style-type: none"> – connection code 3FB of component 234 or 335. <p>If the connection or connections are faulty and there is a repair method (see Technical Note 6015A, Repairing electrical wiring, wiring: precautions for repair), repair the wiring, otherwise replace it.</p>

AFTER REPAIR	Deal with any other faults. Clear the fault memory. Switch off the ignition until the end of the power-latch phase, and carry out a road test followed by a check using the diagnostic tool .
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DF019 CONTINUED 1	
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CC.1	NOTES	No the high-speed fan assembly control.
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Check the condition of the high-speed fan assembly relay mounting connector (see **Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2, Component code 234 or 335**).

Check the condition of the engine management computer connector (see **Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2, Component code 120**).

If one of the connectors is faulty and there is a repair procedure (see **Technical Note 6015A, Electrical wiring repair, wiring: precautions for repair**), repair the connector, otherwise replace the wiring.

Measure **the resistance** of the “high-speed fan assembly” relay coil.
Take care to measure the right way round; there is a protective diode.
Replace the relay if its resistance is **greater than 1 kΩ or less than 6 Ω**.

Remove the high-speed relay and check **the insulation** from + 12 V of the following connection:

– connection code **3JP**,

between components **120** and **234 or 335**.

If the connection is faulty and there is a repair procedure (see **Technical Note 6015A, Electrical wiring repair, wiring: precautions for repair**), repair the wiring, otherwise replace it.

CO.0	NOTES	Low speed fan assembly constantly activated.
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Check the condition of the high-speed fan assembly relay mounting connector (see **Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2, Component code 234 or 335**).

Check the condition of the engine management computer connector (see **Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2, Component code 120**).

If one of the connectors is faulty and there is a repair procedure (see **Technical Note 6015A, Electrical wiring repair, wiring: precautions for repair**), repair the connector, otherwise replace the wiring.

Measure **the resistance** of the “high-speed fan assembly” relay coil.
Take care to measure the right way round; there is a protective diode.
Replace the relay if its resistance is **greater than 1 kΩ or less than 6 Ω**.

AFTER REPAIR	Deal with any other faults. Clear the fault memory. Switch off the ignition until the end of the power-latch phase, and carry out a road test followed by a check using the diagnostic tool .
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DF019 CONTINUED 2	
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Remove the high-speed relay and check the **insulation** from earth of the following connection:

- connection code **3JP**,
between components **120** and **234 or 335**.

Check the **+ 12 V after relay feed** to the “high speed fan assembly” relay:

- connection code **3FB** of component **234 or 335**.

If the connection or connections are faulty and there is a repair method (**see Technical Note 6015A, Repairing electrical wiring, wiring: precautions for repair**), repair the wiring, otherwise replace it.

1.DEF	NOTES	<p>Special notes: This fault occurs if the computer's control section overheats when command AC153: High-speed fan assembly is run or during normal operation of the fan assembly relay.</p>
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Check the condition of the high-speed fan assembly relay mounting connector (**see Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2, Component code 234 or 335**).

Check the condition of the engine management computer connector (**see Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2, Component code 120**).

If one of the connectors is faulty and there is a repair procedure (**see Technical Note 6015A, Electrical wiring repair, wiring: precautions for repair**), repair the connector, otherwise replace the wiring.

Measure the **resistance** of the “high-speed fan assembly” relay coil.
Take care to measure the right way round; there is a protective diode.
Replace the relay if the resistance is **more than 200 Ω or less than 20 Ω**.

Remove the high-speed relay and check the **insulation** and **continuity** of the following connection:

- connection code **3JP**,
between components **120** and **234 or 335**.

Check the **+ 12 V after relay feed** to the “high speed fan assembly” relay:

- connection code **3FB** of component **234 or 335**.

If the connection or connections are faulty and there is a repair method (**see Technical Note 6015A, Repairing electrical wiring, wiring: precautions for repair**), repair the wiring, otherwise replace it.

If the fault is still present, contact the Techline.

AFTER REPAIR	<p>Deal with any other faults. Clear the fault memory. Switch off the ignition until the end of the power-latch phase, and carry out a road test followed by a check using the diagnostic tool.</p>
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DF025 PRESENT OR STORED	<p><u>PREHEATING UNIT DIAGNOSTIC LINE</u></p> <p>CC.0 : Short circuit to earth CO.1 : Open circuit or short circuit to + 12 V</p>
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NOTES	<p>Priorities when dealing with a number of faults: Deal with fault DF017 Pre-postheating control circuit first if it is present or stored.</p> <hr/> <p>Conditions for applying the fault finding procedure to stored faults: The fault reappears after:</p> <ul style="list-style-type: none"> – the ignition is switched on in the preheating phase, – engine running in postheating phase, – controlling the heater plugs using command AC037 Preheating relay. <hr/> <p>IMPORTANT</p> <ul style="list-style-type: none"> – Please observe the cleanliness guidelines and safety advice. – Make sure the correct type of plug is fitted on the vehicle, slow or quick: slow plugs have a black ring quick plugs have a white ring. <p>In Vdiag 20 and 24, if the heater plugs are being replaced with plugs of a different type, see Replacement of components, Replacing heater plugs.</p> <hr/> <p>Use bornier Elé. 1681 for all operations on the engine management computer connectors.</p> <hr/> <p>Use the Wiring Diagram Technical Note, Laguna II ph2, Vel Satis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2.</p>
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AFTER REPAIR	<p>Deal with any other faults. Clear the fault memory. Switch off the ignition until the end of the power-latch phase, and carry out a road test followed by a check using the diagnostic tool.</p>
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DF025 CONTINUED	
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CC.0 CO.1	NOTES	None
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Check the condition of the preheating unit connector (see **Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2, Component code 257**).

Check the condition of the connectors for all the heater plugs (see **Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2, Component codes 680, 681, 682, 683**).

If one or more connectors is faulty and there is a repair procedure (see **Technical Note 6015A, Electrical wiring repair, wiring: precautions for repair**), repair the connector, otherwise replace the wiring.

During a phase where the heater plugs are activated by command **AC037 Preheating relay**, measure **the current across** the heater plugs

Replace heater plugs with currents which are **less than 1A** or **greater than 6A** after 5 seconds' actuation.

Check **the continuity** of the following connections:

- connection code **37AB** between components **257** and **682**,
- connection code **37AA** between components **257** and **681**,
- connection code **37Z** between components **257** and **680**,
- connection code **37AC** between components **257** and **683**.

Check the **+ 12 V battery** feed to the pre-postheating unit.

- connection **BP35** of component **257**.

Check the engine earthing.

If the connection or connections are faulty and there is a repair method (see **Technical Note 6015A, Repairing electrical wiring, wiring: precautions for repair**), repair the wiring, otherwise replace it.

- Interpret command **AC037: Preheating relay**.

Check the condition of the engine management computer connector (see **Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2, Component code 120**).

If the connectors is faulty and there is a repair method (see **Technical Note 6015A, Repairing electrical wiring, Wiring: Precautions for repair**), repair the connector, otherwise replace the wiring.

Check **the continuity and absence of interference resistance** on the following connection (preheating relay unit diagnostic line):

- connection code **3FY**,
between components **120** and **257**.

If the connection is faulty and there is a repair procedure (see **Technical Note 6015A, Electrical wiring repair, wiring: precautions for repair**), repair the wiring, otherwise replace it.

If the fault is still present, replace the preheating unit.

AFTER REPAIR	Deal with any other faults. Clear the fault memory. Switch off the ignition until the end of the power-latch phase, and carry out a road test followed by a check using the diagnostic tool .
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DIESEL INJECTION

Fault finding - Interpretation of faults

13B

DF026 PRESENT OR STORED	<p><u>CYLINDER 1 INJECTOR CONTROL CIRCUIT</u></p> <p>CO : Open circuit CC : Short circuit 1.DEF: Internal electronic fault</p>
NOTES	<p>Conditions for applying the fault finding procedure to stored faults: If the fault recurs as present after:</p> <ul style="list-style-type: none"> – the ignition is switched on. – starting the engine, – a road test. <p>Special notes: If the fault is present:</p> <ul style="list-style-type: none"> – the EOBD (European On Board Diagnostic) warning light is lit, – the level 2 warning light is lit for CC and 1.DEF, – the level 1 warning light is lit for CO. <p>Use bornier Elé. 1681 for all operations on the engine management computer connectors.</p> <p>Following replacement of an injector, run commands SC002 Enter injector codes and SC036 Reinitialise programming and follow the procedure.</p> <p>IMPORTANT</p> <ul style="list-style-type: none"> – Cylinder no. 1 is located at the timing end. – Please observe the cleanliness guidelines and safety advice. – Do not disconnect the injector connections with the engine running as this may damage the engine. <p>Use the Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2.</p>

AFTER REPAIR	<p>Deal with any other faults. Clear the fault memory.</p> <p>Switch off the ignition until the end of the power-latch phase, and carry out a road test followed by a check using the diagnostic tool.</p>
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DIESEL INJECTION

Fault finding - Interpretation of faults

13B

DF026 CONTINUED 1	
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CO	NOTES	None
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<p>Check the condition of the connector for injector no.1 (see Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Scénic II ph2, Mégane II or Espace IV ph2, Component code 193).</p> <p>Check the condition of the engine management computer connector (see Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Scénic II ph2, Mégane II or Espace IV ph2, Component code 120).</p> <p>If one or more connectors is faulty and there is a repair procedure (see Technical Note 6015A, Electrical wiring repair, wiring: precautions for repair), repair the connector, otherwise replace the wiring.</p>
<p>Measure the resistance between connections 3CR and 3KW of component 193.</p> <p>Replace the injector, if the resistance is not 180 kΩ ± 30 kΩ.</p>
<p>Check the continuity of the following connections:</p> <ul style="list-style-type: none"> – connection code 3KW, – connection code 3CR, <p>between components 120 and 193.</p> <p>If the connection or connections are faulty and there is a repair procedure (see Technical Note 6015A, Electrical wiring repair, wiring: precautions for repair), repair the wiring, otherwise replace it.</p>
<p>If the fault is still present, contact the Techline.</p>

CC	NOTES	<p>Special notes: The engine stops when the fault appears.</p>
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<p>Check the condition of the connector for injector no.1 (see Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Scénic II ph2, Mégane II or Espace IV ph2, Component code 193).</p> <p>Check the condition of the engine management computer connector (see Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Scénic II ph2, Mégane II or Espace IV ph2, Component code 120).</p> <p>If one of the connectors is faulty and there is a repair method (see Technical Note 6015A, Repairing electrical wiring, wiring: precautions for repair), repair the connector, otherwise replace the wiring.</p>
<p>Check the insulation between the following two connections:</p> <ul style="list-style-type: none"> – connection code 3KW, – connection code 3CR. <p>between components 120 and 193.</p> <p>If the connection or connections are faulty and there is a repair procedure (see Technical Note 6015A, Electrical wiring repair, wiring: precautions for repair), repair the wiring, otherwise replace it.</p>
<p>If the fault is still present, contact the Techline.</p>

AFTER REPAIR	<p>Deal with any other faults. Clear the fault memory.</p> <p>Switch off the ignition until the end of the power-latch phase, and carry out a road test followed by a check using the diagnostic tool.</p>
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DIESEL INJECTION

Fault finding - Interpretation of faults

13B

DF026 CONTINUED 2	
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1.DEF	NOTES	Special notes: The engine stops when the fault appears.
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Check the condition of the connector for injector no.1 (see **Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Scénic II ph2, Mégane II or Espace IV ph2, Component code 193**).

Check the condition of the engine management computer connector (see **Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Scénic II ph2, Mégane II or Espace IV ph2, Component code 120**).

If one of the connectors is faulty and there is a repair method (see **Technical Note 6015A, Repairing electrical wiring, Wiring: Precautions for repair**), repair the connector, otherwise replace the wiring.

Check for **continuity and the absence of interference resistance** of the following connections:

- connection code **3KW**,
- connection code **3CR**,

between components **120** and **193**.

If the connection or connections are faulty and there is a repair procedure (see **Technical Note 6015A, Electrical wiring repair, wiring: precautions for repair**), repair the wiring, otherwise replace it.

If the fault is still present, contact the Techline.

AFTER REPAIR	Deal with any other faults. Clear the fault memory. Switch off the ignition until the end of the power-latch phase, and carry out a road test followed by a check using the diagnostic tool .
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DF027 PRESENT OR STORED	<u>CYLINDER 2 INJECTOR CONTROL CIRCUIT</u> CO : Open circuit CC : Short circuit 1.DEF: Internal electronic fault
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NOTES	<p>Conditions for applying the fault finding procedure to stored faults: If the fault recurs as present after:</p> <ul style="list-style-type: none"> – the ignition is switched on. – starting the engine, – a road test. <p>Special notes: If the fault is present:</p> <ul style="list-style-type: none"> – the EOBD (European On Board Diagnostic) warning light is lit, – the level 2 warning light is lit for CC and 1.DEF, – the level 1 warning light is lit for CO. <p>Use bornier Elé. 1681 for all operations on the engine management computer connectors.</p> <p>Following replacement of an injector, run commands SC002 Enter injector codes and SC036 Reinitialise programming and follow the procedure.</p> <p>IMPORTANT</p> <ul style="list-style-type: none"> – Cylinder no. 1 is located at the timing end. – Please observe the cleanliness guidelines and safety advice. – Do not disconnect the injector connections with the engine running as this may damage the engine. <p>Use the Wiring Diagram Technical Note, Laguna II ph2, Vel Satis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2.</p>
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AFTER REPAIR	<p>Deal with any other faults. Clear the fault memory.</p> <p>Switch off the ignition until the end of the power-latch phase, and carry out a road test followed by a check using the diagnostic tool.</p>
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DIESEL INJECTION

Fault finding - Interpretation of faults

13B

DF027 CONTINUED 1	
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CO	NOTES	None
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<p>Check the condition of the connector for injector no.2 (see Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Scénic II ph2, Mégane II or Espace IV ph2, Component code 194).</p> <p>Check the condition of the engine management computer connector (see Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Scénic II ph2, Mégane II or Espace IV ph2, Component code 120).</p> <p>If one or more connectors is faulty and there is a repair procedure (see Technical Note 6015A, Electrical wiring repair, wiring: precautions for repair), repair the connector, otherwise replace the wiring.</p>		
<p>Measure the resistance between connections 3KX and 3CS of component 194. Replace the injector, if the resistance is not 180 kΩ ± 30 kΩ.</p>		
<p>Check the continuity of the following connections:</p> <ul style="list-style-type: none"> – connection code 3KX, – connection code 3CS, <p>between components 120 and 194. If the connection or connections are faulty and there is a repair procedure (see Technical Note 6015A, Electrical wiring repair, wiring: precautions for repair), repair the wiring, otherwise replace it.</p>		
<p>If the fault is still present, contact the Techline.</p>		

CC	NOTES	Special notes: The engine stops when the fault appears.
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<p>Check the condition of the connector for injector no.2 (see Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Scénic II ph2, Mégane II or Espace IV ph2, Component code 194).</p> <p>Check the condition of the engine management computer connector (see Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Scénic II ph2, Mégane II or Espace IV ph2, Component code 120).</p> <p>If one of the connectors is faulty and there is a repair method (see Technical Note 6015A, Repairing electrical wiring, Wiring: Precautions for repair), repair the connector, otherwise replace the wiring.</p>		
<p>Check the insulation between the following two connections:</p> <ul style="list-style-type: none"> – connection code 3KX, – connection code 3CS, <p>between components 120 and 194. If the connection or connections are faulty and there is a repair procedure (see Technical Note 6015A, Electrical wiring repair, wiring: precautions for repair), repair the wiring, otherwise replace it.</p>		
<p>If the fault is still present, contact the Techline.</p>		

AFTER REPAIR	<p>Deal with any other faults. Clear the fault memory. Switch off the ignition until the end of the power-latch phase, and carry out a road test followed by a check using the diagnostic tool.</p>	
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DIESEL INJECTION

Fault finding - Interpretation of faults

13B

DF027 CONTINUED 2	
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1.DEF	NOTES	Special notes: The engine stops when the fault appears.
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Check the condition of the connector for injector no.2 (see **Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Scénic II ph2, Mégane II or Espace IV ph2, Component code 194**).

Check the condition of the engine management computer connector (see **Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Scénic II ph2, Mégane II or Espace IV ph2, Component code 120**).

If one of the connectors is faulty and there is a repair method (see **Technical Note 6015A, Repairing electrical wiring, wiring: precautions for repair**), repair the connector, otherwise replace the wiring.

Check for **continuity and the absence of interference resistance** of the following connections:

- connection code **3KX**,
- connection code **3CS**,

between components **120** and **194**.

If the connection or connections are faulty and there is a repair procedure (see **Technical Note 6015A, Electrical wiring repair, wiring: precautions for repair**), repair the wiring, otherwise replace it.

If the fault is still present, contact the Techline.

AFTER REPAIR	Deal with any other faults. Clear the fault memory. Switch off the ignition until the end of the power-latch phase, and carry out a road test followed by a check using the diagnostic tool .
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DIESEL INJECTION

Fault finding - Interpretation of faults

13B

DF028 PRESENT OR STORED	<u>INJECTOR CYLINDER 3 CONTROL CIRCUIT</u> CO : Open circuit CC : Short circuit 1.DEF: Internal electronic fault
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NOTES	<p>Conditions for applying the fault finding procedure to stored faults: If the fault recurs as present after:</p> <ul style="list-style-type: none"> – the ignition is switched on. – starting the engine, – a road test. <p>Special notes: If the fault is present:</p> <ul style="list-style-type: none"> – the EOBD (European On Board Diagnostic) warning light is lit, – the level 2 warning light is lit for CC and 1.DEF, – the level 1 warning light is lit for CO. <p>Use bornier Elé. 1681 for all operations on the engine management computer connectors.</p> <p>Following replacement of an injector, run commands SC002 Enter injector codes and SC036 Reinitialise programming and follow the procedure.</p> <p>IMPORTANT</p> <ul style="list-style-type: none"> – Cylinder no. 1 is located at the timing end. – Please observe the cleanliness guidelines and safety advice. – Do not disconnect the injector connections with the engine running as this may damage the engine. <p>Use the Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2.</p>
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AFTER REPAIR	<p>Deal with any other faults. Clear the fault memory.</p> <p>Switch off the ignition until the end of the power-latch phase, and carry out a road test followed by a check using the diagnostic tool.</p>
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EDC16CP33_V18_DF028/EDC16CP33_V1C_DF028/EDC16CP33_V54_DF028
/EDC16CP33_V20_DF028/EDC16CP33_V58_DF028/EDC16CP33_V5C_DF028/EDC16CP33_V24_DF028

DIESEL INJECTION

Fault finding - Interpretation of faults

13B

DF028 CONTINUED 1	
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CO	NOTES	None
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<p>Check the condition of the connector for injector no.3 (see Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Scénic II ph2, Mégane II or Espace IV ph2, Component code 195).</p> <p>Check the condition of the engine management computer connector (see Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Scénic II ph2, Mégane II or Espace IV ph2, Component code 120).</p> <p>If one of the connectors is faulty and there is a repair method (see Technical Note 6015A, Repairing electrical wiring, wiring: precautions for repair), repair the connector, otherwise replace the wiring.</p>
<p>Measure the resistance between connections 3CT and 3KY of component 195.</p> <p>Replace the injector, if the resistance is not 180 kΩ ± 30 kΩ.</p>
<p>Check the continuity of the following connections:</p> <ul style="list-style-type: none"> – connection code 3KY, – connection code 3CT, <p>between components 120 and 195.</p> <p>If the connection or connections are faulty and there is a repair procedure (see Technical Note 6015A, Electrical wiring repair, wiring: precautions for repair), repair the wiring, otherwise replace it.</p>
<p>If the fault is still present, contact the Techline.</p>

CC	NOTES	<p>Special notes: The engine stops when the fault appears.</p>
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<p>Check the condition of the connector for injector no.3 (see Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Scénic II ph2, Mégane II or Espace IV ph2, Component code 195).</p> <p>Check the condition of the engine management computer connector (see Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Scénic II ph2, Mégane II or Espace IV ph2, Component code 120).</p> <p>If one of the connectors is faulty and there is a repair method (see Technical Note 6015A, Repairing electrical wiring, wiring: precautions for repair), repair the connector, otherwise replace the wiring.</p>
<p>Check the insulation between the following two connections:</p> <ul style="list-style-type: none"> – connection code 3KY, – connection code 3CT. <p>between components 120 and 195.</p> <p>If the connection or connections are faulty and there is a repair procedure (see Technical Note 6015A, Electrical wiring repair, wiring: precautions for repair), repair the wiring, otherwise replace it.</p>
<p>If the fault is still present, contact the Techline.</p>

AFTER REPAIR	<p>Deal with any other faults. Clear the fault memory.</p> <p>Switch off the ignition until the end of the power-latch phase, and carry out a road test followed by a check using the diagnostic tool.</p>
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DIESEL INJECTION

Fault finding - Interpretation of faults

13B

DF028 CONTINUED 2	
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1.DEF	NOTES	Special notes: The engine stops when the fault appears.
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Check the condition of the connector for injector no.3 (see **Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Scénic II ph2, Mégane II or Espace IV ph2, Component code 195**).

Check the condition of the engine management computer connector (see **Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Scénic II ph2, Mégane II or Espace IV ph2, Component code 120**).

If one of the connectors is faulty and there is a repair method (see **Technical Note 6015A, Repairing electrical wiring, wiring: precautions for repair**), repair the connector, otherwise replace the wiring.

Check for **continuity and the absence of interference resistance** of the following connections:

- connection code **3KY**,
- connection code **3CT**.

between components **120** and **195**.

If the connection or connections are faulty and there is a repair procedure (see **Technical Note 6015A, Electrical wiring repair, wiring: precautions for repair**), repair the wiring, otherwise replace it.

If the fault is still present, contact the Techline.

AFTER REPAIR	Deal with any other faults. Clear the fault memory. Switch off the ignition until the end of the power-latch phase, and carry out a road test followed by a check using the diagnostic tool .
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DIESEL INJECTION

Fault finding - Interpretation of faults

13B

DF029 PRESENT OR STORED	<p><u>INJECTOR CYLINDER 4 CONTROL CIRCUIT</u></p> <p>CO : Open circuit CC.1 : Short circuit 1.DEF: Internal electronic fault</p>
NOTES	<p>Conditions for applying the fault finding procedure to stored faults: If the fault recurs as present after:</p> <ul style="list-style-type: none"> – the ignition is switched on. – starting the engine, – a road test. <p>Special notes: If the fault is present:</p> <ul style="list-style-type: none"> – the EOBD (European On Board Diagnostic) warning light is lit, – the level 2 warning light is lit for CC and 1.DEF, – the level 1 warning light is lit for CO. <p>Use bornier Elé. 1681 for all operations on the engine management computer connectors.</p> <p>Following replacement of an injector, run commands SC002 Enter injector codes and SC036 Reinitialise programming and follow the procedure.</p> <p>IMPORTANT</p> <ul style="list-style-type: none"> – Cylinder no. 1 is located at the timing end. – Please observe the cleanliness guidelines and safety advice. – Do not disconnect the injector connections with the engine running as this may damage the engine. <p>Use the Wiring Diagram Technical Note, Laguna II ph2, Vel Satis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2.</p>

AFTER REPAIR	<p>Deal with any other faults. Clear the fault memory.</p> <p>Switch off the ignition until the end of the power-latch phase, and carry out a road test followed by a check using the diagnostic tool.</p>
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DIESEL INJECTION

Fault finding - Interpretation of faults

13B

DF029 CONTINUED 1	
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CO	NOTES	None
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<p>Check the condition of the connector for injector no.4 (see Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Scénic II ph2, Mégane II or Espace IV ph2, Component code 196).</p> <p>Check the condition of the engine management computer connector (see Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Scénic II ph2, Mégane II or Espace IV ph2, Component code 120).</p> <p>If one or more connectors is faulty and there is a repair procedure (see Technical Note 6015A, Electrical wiring repair, wiring: precautions for repair), repair the connector, otherwise replace the wiring.</p>
<p>Measure the resistance between connections 3CU and 3KZ of component 196.</p> <p>Replace the injector, if the resistance is not 180 kΩ ± 30 kΩ.</p>
<p>Check the continuity of the following connections:</p> <ul style="list-style-type: none"> – connection code 3KZ, – connection code 3CU, <p>between components 120 and 196.</p> <p>If the connection or connections are faulty and there is a repair procedure (see Technical Note 6015A, Electrical wiring repair, wiring: precautions for repair), repair the wiring, otherwise replace it.</p>
<p>If the fault is still present, contact the Techline.</p>

CC	NOTES	<p>Special notes: The engine stops when the fault appears.</p>
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<p>Check the condition of the connector for injector no.4 (see Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Scénic II ph2, Mégane II or Espace IV ph2, Component code 196).</p> <p>Check the condition of the engine management computer connector (see Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Scénic II ph2, Mégane II or Espace IV ph2, Component code 120).</p> <p>If one of the connectors is faulty and there is a repair method (see Technical Note 6015A, Repairing electrical wiring, wiring: precautions for repair), repair the connector, otherwise replace the wiring.</p>
<p>Check the insulation between the following two connections:</p> <ul style="list-style-type: none"> – connection code 3KZ, – connection code 3CU, <p>between components 120 and 196.</p> <p>If the connection or connections are faulty and there is a repair procedure (see Technical Note 6015A, Electrical wiring repair, wiring: precautions for repair), repair the wiring, otherwise replace it.</p>
<p>If the fault is still present, contact the Techline.</p>

AFTER REPAIR	<p>Deal with any other faults. Clear the fault memory.</p> <p>Switch off the ignition until the end of the power-latch phase, and carry out a road test followed by a check using the diagnostic tool.</p>
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DIESEL INJECTION

Fault finding - Interpretation of faults

13B

DF029 CONTINUED 2	
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1.DEF	NOTES	Special notes: The engine stops when the fault appears.
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Check the condition of the connector for injector no.4 (see **Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Scénic II ph2, Mégane II or Espace IV ph2, Component code 196**).

Check the condition of the engine management computer connector (see **Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Scénic II ph2, Mégane II or Espace IV ph2, Component code 120**).

If one of the connectors is faulty and there is a repair method (see **Technical Note 6015A, Repairing electrical wiring, wiring: precautions for repair**), repair the connector, otherwise replace the wiring.

Check for **continuity and the absence of interference resistance** of the following connections:

- connection code **3KZ**,
- connection code **3CU**,

between components **120** and **196**.

If the connection or connections are faulty and there is a repair procedure (see **Technical Note 6015A, Electrical wiring repair, wiring: precautions for repair**), repair the wiring, otherwise replace it.

If the fault is still present, contact the Techline.

AFTER REPAIR	Deal with any other faults. Clear the fault memory. Switch off the ignition until the end of the power-latch phase, and carry out a road test followed by a check using the diagnostic tool .
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DIESEL INJECTION

Fault finding - Interpretation of faults

13B

DF032 PRESENT OR STORED	HEATING ELEMENT 1 RELAY CONTROL CIRCUIT CO : Open circuit CC.1 : Short circuit to + 12 V CC.0 : Short circuit to earth 1.DEF: Internal electronic fault
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NOTES	Conditions for applying the fault finding procedure to stored faults: If the fault becomes present following an actuator command AC063: Heating element no. 1 relay .
	Special notes: Use bornier Elé. 1681 for all operations on the engine management computer connectors.
	Use the Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2.

CO	NOTES	None
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<p>Check the conformity of fuse: FM14 (70A) or FM3 (30A), and replace it if necessary.</p> <p>Check the condition of the "heating element 1" relay mounting connector on the engine fuse box or additional heater interface unit (see Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Scénic II ph2, Mégane II or Espace IV ph2, Component code 1067 or 1550).</p> <p>Check the condition of the engine management computer connector (see Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Scénic II ph2, Mégane II or Espace IV ph2, Component code 120).</p> <p>If one of the connectors is faulty and there is a repair method (see Technical Note 6015A, Repairing electrical wiring, wiring: precautions for repair), repair the connector, otherwise replace the wiring.</p>
<p>Check the conformity of the "heating element 1" relay (relay removed) or the additional heater interface unit:</p> <ul style="list-style-type: none"> – Insulation between connections BP9 and 3JB of component 1067 or 1550. – Measure the resistance between connections 3FB and 3JA of component 1067 or 1550. <p>Replace the relay if its resistance is greater than 1 kΩ or less than 6 Ω.</p> <p>Replace the unit if its resistance is greater than 2 kΩ (M9R721).</p>
<p>Check the continuity of the following connection:</p> <ul style="list-style-type: none"> – connection code 3JA, between components 120 and 1067 or 1550. <p>Check the + 12 V after relay feed to the "heating element 1" relay mounting or the additional heater interface unit.</p> <ul style="list-style-type: none"> – connection code 3FB of component 1067 or 1550. <p>If the connection or connections are faulty and there is a repair procedure (see Technical Note 6015A, Electrical wiring repair, wiring: precautions for repair), repair the wiring, otherwise replace it.</p>

AFTER REPAIR	<p>Deal with any other faults. Clear the fault memory.</p> <p>Switch off the ignition until the end of the power-latch phase, and carry out a road test followed by a check using the diagnostic tool.</p>
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EDC16CP33_V18_DF032/EDC16CP33_V1C_DF032/EDC16CP33_V54_DF032
/EDC16CP33_V20_DF032/EDC16CP33_V58_DF032/EDC16CP33_V5C_DF032/EDC16CP33_V24_DF032

DF032 CONTINUED 1	
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CC.1	NOTES	None
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Check the conformity of fuse: **FM14 (70A) or FM3 (30A)**, and replace it if necessary.
 Check the condition of the "heating element 1" relay mounting on the engine fuse box or the additional heater interface unit (**see Wiring Diagram Technical Note, vehicle, Component code 1067 or 1550**).
 Check the condition of the engine management computer connector (**see Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Scénic II ph2, Mégane II or Espace IV ph2, Component code 120**).
 If one of the connectors is faulty and there is a repair method (**see Technical Note 6015A, Repairing electrical wiring, wiring: precautions for repair**), repair the connector, otherwise replace the wiring.

Check the conformity of the "heating element 1" relay (relay removed) or the additional heater interface unit:
 – **Insulation** between connections **BP9** and **3JB** of component **1067 or 1550**.
 – Measure **the resistance** between connections **3FB** and **3JA** of component **1067 or 1550**.
 Replace the relay if its resistance is **greater than 1 kΩ or less than 6 Ω**.
 Replace the unit if its resistance is **less than 1 kΩ (M9R721)**.

Check **the insulation** from the **+ 12 V feed** of the following connection:
 – connection code **3JA**,
 between components **120** and **1067 or 1550**.
 If the connection is faulty and there is a repair method (**see Technical Note 6015A, Repairing electrical wiring, wiring: precautions for repair**), repair the wiring, otherwise replace it.

CC.0	NOTES	None
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Check the conformity of fuse: **FM14 (70A) or FM3 (30A)**, and replace it if necessary.
 Check the condition of the "heating element 1" relay mounting connector on the engine fuse box or additional heater interface unit (**see Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Scénic II ph2, Mégane II or Espace IV ph2, Component code 1067 or 1550**).
 Check the condition of the engine management computer connector (**see Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Scénic II ph2, Mégane II or Espace IV ph2, Component code 120**).
 If one of the connectors is faulty and there is a repair method (**see Technical Note 6015A, Repairing electrical wiring, wiring: precautions for repair**), repair the connector, otherwise replace the wiring.

Check the conformity of the "heating element 1" relay (relay removed) or the additional heater interface unit:
 – **Insulation** between connections **BP9** and **3JB** of component **1067 or 1550**.
 – Measure **the resistance** between connections **3FB** and **3JA** of component **1067 or 1550**.
 Replace the relay if its resistance is **greater than 1 kΩ or less than 6 Ω**.
 Replace the unit if its resistance is **less than 450 Ω (M9R721)**.

AFTER REPAIR	Deal with any other faults. Clear the fault memory. Switch off the ignition until the end of the power-latch phase, and carry out a road test followed by a check using the diagnostic tool .
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DF032 CONTINUED 2	
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Check **insulation** against **earth** of the following connection:

- connection code **3JA**,
between components **120** and **1067**.

Check the **+ 12 V after relay** supply to the Heating element **1** relay mounting.

- connection **3FB** of component **1067**.

If the connection or connections are faulty and there is a repair procedure (see **Technical Note 6015A, Electrical wiring repair, wiring: precautions for repair**), repair the wiring, otherwise replace it.

1.DEF	NOTES	Special notes: This fault occurs if the computer control section overheats or when command AC063: Heating element no.1 relay is run.
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Check the conformity of fuse: **FM14 (70A) or FM3 (30A)**, and replace it if necessary.

Check the condition of the "heating element **1**" relay mounting connector on the engine fuse box or additional heater interface unit (see **Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Scénic II ph2, Mégane II or Espace IV ph2, Component code 1067 or 1550**).

Check the condition of the engine management computer connector (see **Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Scénic II ph2, Mégane II or Espace IV ph2, Component code 120**).

If one of the connectors is faulty and there is a repair method (see **Technical Note 6015A, Repairing electrical wiring, wiring: precautions for repair**), repair the connector, otherwise replace the wiring.

Check the conformity of the "heating element **1**" relay (relay removed) or the additional heater interface unit:

- **Insulation** between connections **BP9** and **3JB** of component **1067 or 1550**.
- Measure **the resistance** between connections **3FB** and **3JA** of component **1067 or 1550**.

Replace the relay if the resistance is **more than 200 Ω or less than 20 Ω**.

Replace the unit if its resistance is **less than 450 Ω (M9R721)**.

Check **the absence of interference resistance** of the following connection:

- connection code **3JA**,
between components **120** and **1067 or 1550**.

Check **the + 12 V after relay feed** to the Heating element **1** relay mounting.

- connection code **3FB** of component **1067 or 1550**.

Check **the + 12 V battery after fuse supply** to the Heating element **1** relay mounting.

- connection **BP9** of component **1067 or 1550**.

If the connection or connections are faulty and there is a repair procedure (see **Technical Note 6015A, Electrical wiring repair, wiring: precautions for repair**), repair the wiring, otherwise replace it.

If the fault is still present, contact the Techline.

AFTER REPAIR	Deal with any other faults. Clear the fault memory. Switch off the ignition until the end of the power-latch phase, and carry out a road test followed by a check using the diagnostic tool .
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DIESEL INJECTION

Fault finding - Interpretation of faults

13B

DF033 PRESENT OR STORED	<u>HEATING ELEMENT 2 RELAY CONTROL CIRCUIT</u> CO : Open circuit CC.1 : Short circuit to + 12 V CC.0 : Short circuit to earth 1.DEF: Internal electronic fault
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NOTES	Conditions for applying the fault finding procedure to stored faults: If the fault recurs as present after: – actuator command AC064: Heating element no. 2 relay .
	Special notes: Use bornier Elé. 1681 for all operations on the engine management computer connectors.
	Use the Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2.

CO	NOTES	None
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<p>Check the conformity of fuse: FM13 (70A) or FM3 (30A), and replace it if necessary.</p> <p>Check the condition of the "heating element 2" relay mounting connector on the engine fuse box or additional heater interface unit (see Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Scénic II ph2, Mégane II or Espace IV ph2, Component code 1068 or 1550).</p> <p>Check the condition of the engine management computer connector (see Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Scénic II ph2, Mégane II or Espace IV ph2, Component code 120).</p> <p>If one of the connectors is faulty and there is a repair method (see Technical Note 6015A, Repairing electrical wiring, wiring: precautions for repair), repair the connector, otherwise replace the wiring.</p>
<p>Check the conformity of the heating element 2 relay (relay removed):</p> <ul style="list-style-type: none"> – Insulation between connections BP91 and 3JAD or 3JD and 3JAC of component 1068 or 1550. – Measure the resistance between connections 3FB and 3JAA of component 1068 or 1550. <p>Replace the relay if its resistance is greater than 1 kΩ or less than 6 Ω.</p> <p>Replace the unit if its resistance is less than 2 kΩ (M9R721).</p>
<p>Check the continuity of the following connection:</p> <ul style="list-style-type: none"> – connection code 3JAA, between components 120 and 1068 or 1550. <p>Check the + 12 V after relay feed to the Heating element 2 relay mounting.</p> <ul style="list-style-type: none"> – connection code 3FB of component 1068 or 1550. <p>If the connection or connections are faulty and there is a repair procedure (see Technical Note 6015A, Electrical wiring repair, wiring: precautions for repair), repair the wiring, otherwise replace it.</p>

AFTER REPAIR	<p>Deal with any other faults. Clear the fault memory.</p> <p>Switch off the ignition until the end of the power-latch phase, and carry out a road test followed by a check using the diagnostic tool.</p>
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EDC16CP33_V18_DF033/EDC16CP33_V1C_DF033/EDC16CP33_V54_DF033
/EDC16CP33_V20_DF033/EDC16CP33_V58_DF033/EDC16CP33_V5C_DF033/EDC16CP33_V24_DF033

DIESEL INJECTION

Fault finding - Interpretation of faults

13B

DF033 CONTINUED 1	
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CC.1	NOTES	None
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Check the conformity of fuse: **FM13 (70A) or FM3 (30A)**, and replace it if necessary.
 Check the condition of the "heating element 2" relay mounting connector on the engine fuse box or additional heater interface unit (see **Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Scénic II ph2, Mégane II or Espace IV ph2, Component code 1068 or 1550**).
 Check the condition of the engine management computer connector (see **Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Scénic II ph2, Mégane II or Espace IV ph2, Component code 120**).
 If one of the connectors is faulty and there is a repair method (see **Technical Note 6015A, Repairing electrical wiring, wiring: precautions for repair**), repair the connector, otherwise replace the wiring.

Check the conformity of the heating element 2 relay (relay removed):
 – **Insulation** between connections **BP91 and 3JAD or 3JD and 3JAC** of component **1068 or 1550**.
 – Measure **the resistance** between connections **3FB and 3JAA** of component **1068 or 1550**.
 Replace the relay if its resistance is **greater than 1 kΩ or less than 6 Ω**.
 Replace the unit if its resistance is **less than 1 kΩ (M9R721)**.

Check **the insulation** from the **+ 12 V feed** of the following connection:
 – connection code **3JAA**,
 between components **120 and 1068 or 1550**.
 If the connection is faulty and there is a repair method (see **Technical Note 6015A, Repairing electrical wiring, wiring: precautions for repair**), repair the wiring, otherwise replace it.

CC.0	NOTES	None
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Check the conformity of fuse: **FM13 (70A) or FM3 (30A)**, and replace it if necessary.
 Check the condition of the "heating element 2" relay mounting connector on the engine fuse box or additional heater interface unit (see **Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Scénic II ph2, Mégane II or Espace IV ph2, Component code 1068 or 1550**).
 Check the condition of the engine management computer connector (see **Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Scénic II ph2, Mégane II or Espace IV ph2, Component code 120**).
 If one of the connectors is faulty and there is a repair method (see **Technical Note 6015A, Repairing electrical wiring, wiring: precautions for repair**), repair the connector, otherwise replace the wiring.

Check the conformity of the heating element 2 relay (relay removed):
 – **Insulation** between connections **BP91 and 3JAD or 3JD and 3JAC** of component **1068 or 1550**.
 – Measure **the resistance** between connections **3FB and 3JAA** of component **1068 or 1550**.
 Replace the relay if its resistance is **greater than 1 kΩ or less than 6 Ω**.
 Replace the unit if its resistance is **less than 450 Ω (M9R721)**.

AFTER REPAIR	Deal with any other faults. Clear the fault memory. Switch off the ignition until the end of the power-latch phase, and carry out a road test followed by a check using the diagnostic tool .
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DF033
CONTINUED 2

Check **the insulation** from **earth** of the connection:

- connection code **3JAA**,
between components **120** and **1068 or 1550**.

Check the **+ 12 V after relay feed** to the Heating element **2** relay mounting.

- connection code **3FB** of component **1068 or 1550**.

If the connection or connections are faulty and there is a repair procedure (**see Technical Note 6015A, Electrical wiring repair, wiring: precautions for repair**), repair the wiring, otherwise replace it.

1.DEF

NOTES

Special notes:

This fault appears when the computer control section has overheated.

Check the conformity of fuse: **FM13 (70A) or FM3 (30A)**, and replace it if necessary.

Check the condition of the "heating element **2**" relay mounting connector on the engine fuse box or additional heater interface unit (**see Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Scénic II ph2, Mégane II or Espace IV ph2, Component code 1068 or 1550**).

Check the condition of the engine management computer connector (**see Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Scénic II ph2, Mégane II or Espace IV ph2, Component code 120**).

If one of the connectors is faulty and there is a repair method (**see Technical Note 6015A, Repairing electrical wiring, wiring: precautions for repair**), repair the connector, otherwise replace the wiring.

Check the conformity of the heating element **2** relay (relay removed):

- **Insulation** between connections **BP91** and **3JAD or 3JD and 3JAC** of component **1068 or 1550**.
- Measure **the resistance** between connections **3FB** and **3JAA** of component **1068 or 1550**.

Replace the relay if the resistance is **more than 200 Ω or less than 20 Ω**.

Check **the absence of interference resistance** of the following connection:

- connection code **3JAA**,
between components **120** and **1068 or 1550**.

Also check the **insulation** on the following connections:

Check the **+ 12 V after relay feed** to the Heating element **2** relay mounting.

- connection code **3FB** of component **1068 or 1550**.

Check the **+ 12 V battery after fuse supply** to the Heating element **2** relay mounting.

- connection **BP91** of component **1068 or 1550**.

If the connection or connections are faulty and there is a repair procedure (**see Technical Note 6015A, Electrical wiring repair, wiring: precautions for repair**), repair the wiring, otherwise replace it.

If the fault is still present, contact the Techline.

AFTER REPAIR

Deal with any other faults. Clear the fault memory.

Switch off the ignition until the end of the power-latch phase, and carry out a road test followed by a check using the **diagnostic tool**.

DIESEL INJECTION

Fault finding - Interpretation of faults

13B

DF034 PRESENT OR STORED	HEATING ELEMENT 3 RELAY CONTROL CIRCUIT CO : Open circuit CC.1 : Short circuit to + 12 V CC.0 : Short circuit to earth 1.DEF: Internal electronic fault
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NOTES	Conditions for applying the fault finding procedure to stored faults: If the fault recurs as present after: – actuator command AC031: Heating element no. 3 relay.
	Special notes: Use bornier Elé. 1681 for all operations on the engine management computer connectors.
	Use the Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2.

CO	NOTES	None
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<p>Check the conformity of fuse: FM13 (70A) or FM3 (30A), and replace it if necessary.</p> <p>Check the condition of the "heating element 2" relay mounting connector on the engine fuse box or additional heater interface unit (see Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Scénic II ph2, Mégane II or Espace IV ph2, Component code 1069 or 1550).</p> <p>Check the condition of the engine management computer connector (see Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Scénic II ph2, Mégane II or Espace IV ph2, Component code 120).</p> <p>If one of the connectors is faulty and there is a repair method (see Technical Note 6015A, Repairing electrical wiring, wiring: precautions for repair), repair the connector, otherwise replace the wiring.</p>
<p>Check the conformity of the heating element 3 relay (relay removed):</p> <ul style="list-style-type: none"> – Insulation between components BP9 and 3JAC or 3JC of component 1069 or 1550. – Measure the resistance between connections 3FB and 3JAB of component 1069 or 1550. <p>Replace the relay if its resistance is greater than 1 kΩ or less than 6 Ω.</p> <p>Replace the unit if its resistance is less than 2 kΩ (M9R721).</p>
<p>Check the continuity of the following connection:</p> <ul style="list-style-type: none"> – connection code 3JAB, between components 120 and 1069 or 1550. <p>Check the + 12 V after relay feed to the Heating element 3 relay mounting.</p> <ul style="list-style-type: none"> – connection 3FB of component 1069 or 1550. <p>If the connection or connections are faulty and there is a repair procedure (see Technical Note 6015A, Electrical wiring repair, wiring: precautions for repair), repair the wiring, otherwise replace it.</p>

AFTER REPAIR	<p>Deal with any other faults. Clear the fault memory.</p> <p>Switch off the ignition until the end of the power-latch phase, and carry out a road test followed by a check using the diagnostic tool.</p>
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EDC16CP33_V18_DF034/EDC16CP33_V1C_DF034/EDC16CP33_V54_DF034
/EDC16CP33_V20_DF034/EDC16CP33_V58_DF034/EDC16CP33_V5C_DF034/EDC16CP33_V24_DF034

DIESEL INJECTION

Fault finding - Interpretation of faults

13B

DF034 CONTINUED 1	
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CC.1	NOTES	None
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Check the conformity of fuse: **FM13 (70A) or FM3 (30A)**, and replace it if necessary.
 Check the condition of the "heating element 2" relay mounting connector on the engine fuse box or additional heater interface unit (see **Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Scénic II ph2, Mégane II or Espace IV ph2, Component code 1069 or 1550**).
 Check the condition of the engine management computer connector (see **Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Scénic II ph2, Mégane II or Espace IV ph2, Component code 120**).
 If one of the connectors is faulty and there is a repair method (see **Technical Note 6015A, Repairing electrical wiring, wiring: precautions for repair**), repair the connector, otherwise replace the wiring.

Check the conformity of the heating element 3 relay (relay removed):
 – **Insulation** between components **BP9** and **3JAC or 3JC** of component **1069 or 1550**.
 – Measure **the resistance** between connections **3FB** and **3JAB** of component **1069 or 1550**.
 Replace the relay if its resistance is **greater than 1 kΩ or less than 6 Ω**.
 Replace the unit if its resistance is **less than 1 kΩ (M9R721)**.

Check **the insulation** from the **+ 12 V feed** of the following connection:
 – connection code **3JAB**,
 between components **120** and **1069 or 1550**.
 If the connection is faulty and there is a repair method (see **Technical Note 6015A, Repairing electrical wiring, wiring: precautions for repair**), repair the wiring, otherwise replace it.

CC.0	NOTES	None
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Check the conformity of fuse: **FM13 (70A) or FM3 (30A)**, and replace it if necessary.
 Check the condition of the "heating element 2" relay mounting connector on the engine fuse box or additional heater interface unit (see **Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Scénic II ph2, Mégane II or Espace IV ph2, Component code 1069 or 1550**).
 Check the condition of the engine management computer connector (see **Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Scénic II ph2, Mégane II or Espace IV ph2, Component code 120**).
 If one of the connectors is faulty and there is a repair method (see **Technical Note 6015A, Repairing electrical wiring, wiring: precautions for repair**), repair the connector, otherwise replace the wiring.

Check the conformity of the heating element 3 relay (relay removed):
 – **Insulation** between components **BP9** and **3JAC or 3JC** of component **1069 or 1550**.
 – Measure **the resistance** between connections **3FB** and **3JAB** of component **1069 or 1550**.
 Replace the relay if its resistance is **greater than 1 kΩ or less than 6 Ω**.
 Replace the unit if its resistance is **less than 450 Ω (M9R721)**.

AFTER REPAIR	Deal with any other faults. Clear the fault memory. Switch off the ignition until the end of the power-latch phase, and carry out a road test followed by a check using the diagnostic tool .
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DIESEL INJECTION

Fault finding - Interpretation of faults

13B

DF034 CONTINUED 2	
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Check **the insulation** from **earth** of the connection:

– connection code **3JAB**,

between components **120** and **1069 or 1550**.

Check the **+ 12 V after relay feed** to the Heating element **3** relay mounting.

– connection **3FB** of component **1069 or 1550**.

If the connections are defective, refer to the wiring repair method (see **Technical Note 6015A, Repairing electrical wiring, wiring: precautions for repair**).

1.DEF	NOTES	Special notes: This fault appears when the computer control section has overheated.
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Check the conformity of fuse: **FM13 (70A) or FM3 (30A)**, and replace it if necessary.

Check the condition of the "heating element **2**" relay mounting connector on the engine fuse box or additional heater interface unit (see **Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Scénic II ph2, Mégane II or Espace IV ph2, Component code 1069 or 1550**).

Check the condition of the engine management computer connector (see **Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Scénic II ph2, Mégane II or Espace IV ph2, Component code 120**).

If one of the connectors is faulty and there is a repair method (see **Technical Note 6015A, Repairing electrical wiring, wiring: precautions for repair**), repair the connector, otherwise replace the wiring.

Check the conformity of the heating element **3** relay (relay removed):

– **Insulation** between components **BP9** and **3JAC or 3JC** of component **1069 or 1550**.

– Measure **the resistance** between connections **3FB** and **3JAB** of component **1069 or 1550**.

Replace the relay if the resistance is **more than 200 Ω or less than 20 Ω**.

Check **the absence of interference resistance** of the following connection:

– connection code **3JAB**,
between components **120** and **1069 or 1550**.

Also check the **insulation** on the following connections:

Check **the + 12 V after relay feed** to the Heating element **3** relay mounting.

– connection **3FB** of component **1069 or 1550**.

Check **the + 12 V battery after fuse supply** to the Heating element **3** relay mounting.

– connection **BP9** of component **1069 or 1550**.

If the connection or connections are faulty and there is a repair procedure (see **Technical Note 6015A, Electrical wiring repair, wiring: precautions for repair**), repair the wiring, otherwise replace it.

If the fault is still present, contact the Techline.

AFTER REPAIR	Deal with any other faults. Clear the fault memory. Switch off the ignition until the end of the power-latch phase, and carry out a road test followed by a check using the diagnostic tool .
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DIESEL INJECTION

Fault finding - Interpretation of faults

13B

DF038 PRESENT OR STORED	COMPUTER 1.DEF: Internal electronic fault 2.DEF: Data inconsistency 3.DEF: Computer feed voltage
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NOTES	Conditions for applying the fault finding procedure to stored faults: If the fault is declared present after: – starting the engine, – a road test.
	Special notes: If the fault is present: – depending on the situation, the level 1 or 2 warning light comes on for 1.DEF , – the level 1 warning light comes on for 2.DEF . – the level 2 warning light comes on for 3.DEF . – engine torque limited, – the engine stops.

1.DEF	NOTES	None
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Check the condition of the engine management computer connector (see **Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Scénic II ph2, Mégane II or Espace IV ph2, Component code 120**).

If the fault is **stored**, clear the fault from the computer memory.

Switch off the ignition and wait for the **diagnostic tool** message (maximum wait **8 min**): **Loss of dialogue with the computer: EDC16 CP33, check the tool connection and the computer supply voltage.**

Start the engine and re-establish dialogue.

If the fault recurs, contact the Techline.

2.DEF	NOTES	None
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Check the condition of the engine management computer connector (see **Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Scénic II ph2, Mégane II or Espace IV ph2, Component code 120**).

Contact the Techline.

AFTER REPAIR	Deal with any other faults. Clear the fault memory. Switch off the ignition until the end of the power-latch phase, and carry out a road test followed by a check using the diagnostic tool .
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DIESEL INJECTION

Fault finding - Interpretation of faults

13B

DF038 CONTINUED	
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3.DEF	NOTES	Priorities when dealing with a number of faults: Deal with faults DF047: Computer supply voltage or DF046: Battery voltage first, if they are present or stored.
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If either of faults **DF047 Computer feed voltage** or **DF046 Battery voltage** is present or stored, clear the fault after dealing with **DF046** or **DF047**.

If the fault recurs, contact the Techline.

AFTER REPAIR	Deal with any other faults. Clear the fault memory. Switch off the ignition until the end of the power-latch phase, and carry out a road test followed by a check using the diagnostic tool .
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DIESEL INJECTION

Fault finding - Interpretation of faults

13B

DF046 PRESENT OR STORED	BATTERY VOLTAGE 1.DEF: Above maximum threshold 2.DEF: Below minimum threshold 3.DEF: Initialisation not done.
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NOTES	Conditions for applying the fault finding procedure to stored faults: If the fault is declared present after: – starting the engine, – a road test.
	Special notes: Computer operating voltage: 6 V < operating voltage < 16.5 V. It is then not possible to start the engine. Use bornier Elé. 1681 for all operations on the injection computer connectors.
	Use the Wiring Diagram Technical Note, Laguna II ph2, Vel Satis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2.

1.DEF	NOTES	None
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Check the charge circuit, apply **Technical Note 6014A Checking the charge circuit.**
Carry out the necessary repairs.

2.DEF	NOTES	Use the Wiring Diagram Technical Note.
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– Using a voltmeter, take a reading of the battery voltage at its terminals.
– Compare this value with the value displayed by the **diagnostic tool PR074 Battery voltage.**
If there is no difference (**less than 1 V**):
 Recharge and test the battery. If it is faulty, replace it.
 Check the charge circuit: **Technical Note 6014A Checking the charge circuit.**
If there is a difference (**greater than 1 V**):
– Check the tightness and the condition of the battery terminals.
– Using the appropriate wiring diagram:
Check **for continuity and absence of interference resistance** on the following connection:
– connection code **3FB**,
between components **120** and **983**.
Check the conformity of the earths on the **NT** connections of component **120**.
If the connection or connections are faulty and there is a repair method (**see Technical Note 6015A, Repairing electrical wiring, wiring: precautions for repair**), repair the wiring, otherwise replace it.

AFTER REPAIR	Deal with any other faults. Clear the fault memory. Switch off the ignition until the end of the power-latch phase, and carry out a road test followed by a check using the diagnostic tool.
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DIESEL INJECTION

Fault finding - Interpretation of faults

13B

DF046 CONTINUED	
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3.DEF	NOTES	Only deal with this fault when it is present.
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Switch off the ignition, wait for the **diagnostic tool** message (maximum wait **8 min**): **Loss of dialogue with the computer: EDC16 CP33, check the tool connection and the computer supply voltage** then switch on the ignition again and check whether the fault is still present.
If the fault is still present, contact the Techline.

AFTER REPAIR	Deal with any other faults. Clear the fault memory. Switch off the ignition until the end of the power-latch phase, and carry out a road test followed by a check using the diagnostic tool .
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DF047 PRESENT OR STORED	<u>COMPUTER SUPPLY VOLTAGE</u> 1.DEF: Voltage outside permitted range of values
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NOTES	Conditions for applying the fault finding procedure to stored faults: If the fault is declared present after: – starting the engine, – a road test.
	Special notes: Use bornier Elé. 1681 for all operations on the injection computer connectors.
	Use the Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2.

- Check the tightness and the condition of the battery terminals.
- Using the appropriate wiring diagram:
Check **for continuity and absence of interference resistance** on the following connection:
 - connection code **3FB**,
between components **120** and **983**.
- Check the conformity of the earths on the **NT** connections of component **120**.
- If the connection is faulty and there is a repair method (**see Technical Note 6015A, Repairing electrical wiring, wiring: precautions for repair**), repair the wiring, otherwise replace it.

AFTER REPAIR	Deal with any other faults. Clear the fault memory. Switch off the ignition until the end of the power-latch phase, and carry out a road test followed by a check using the diagnostic tool .
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DF051 STORED	<u>CRUISE CONTROL/SPEED LIMITER FUNCTION</u> 1.DEF: Cruise control/Speed limiter steering wheel control
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NOTES	Priority when dealing with a number of faults: Deal with faults DF196 Pedal sensor circuit gang 1 , DF198 Pedal sensor circuit gang 2 first, if either of the two is present or stored.
	Conditions for applying the fault finding procedure to stored faults: If the fault is declared present after: – a road test with activation of the cruise control/speed limiter function, – the engine is started.
	Special notes: If the fault is present: – the cruise control/speed limiter function is switched off. Use bornier Elé. 1681 for all operations on the injection computer connectors.
	Use the Wiring Diagram Technical Note, Laguna II ph2, Vel Satis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2 .

<p>Check the conformity of the steering wheel controls as follows: disconnect connector 689 under the centre cover of the steering wheel (ohmmeter connected on the steering wheel control side). The measurement should read:</p> <ul style="list-style-type: none"> ● 900 Ω (± 10 Ω) when the Resume switch is pressed. (or the one-touch switch R on the right of the steering wheel) ● 0 Ω (0.8 Ω max) when the Suspend switch is pressed. (or the one touch switch O on the right of the steering wheel) ● 300 Ω (± 10 Ω) when the Set + switch is pressed. (or the one-touch switch on the left of the steering wheel) ● 100 Ω (± 10 Ω) when the Set - switch is pressed. (or the one-touch switch on the left of the steering wheel) ● Infinite resistance in rest position. <p>– If the values are not correct, replace the steering wheel switches. – If the values are correct, take the same measurements on connections 86G and 86M from component 120 (steering wheel control connector connected).</p> <p>If the connection or connections are faulty and there is a repair procedure (see Technical Note 6015A, Electrical wiring repair, wiring: precautions for repair), repair the wiring, otherwise replace it.</p> <p>– If the values are correct, clear the fault, switch off the ignition, wait for the diagnostic tool message (maximum wait 8 min): Loss of dialogue with the computer: EDC16 CP33, check the tool connection and the computer supply voltage and switch on the ignition again.</p> <p>If the fault is still present (after pressing the steering wheel controls), contact the Techline.</p>

AFTER REPAIR	Deal with any other faults. Clear the fault memory. Switch off the ignition until the end of the power-latch phase, and carry out a road test followed by a check using the diagnostic tool .
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EDC16CP33_V18_DF051M/EDC16CP33_V1C_DF051M/EDC16CP33_V54_DF051M
/EDC16CP33_V20_DF051M/EDC16CP33_V58_DF051M/EDC16CP33_V5C_DF051M/EDC16CP33_V24_DF051M

DF052 PRESENT OR STORED	<u>INJECTORS CONTROL CIRCUIT</u> CC.0 : Short circuit to earth CC.1 : Short circuit to + 12 V CC : Short circuit
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NOTES	Conditions for applying the fault finding procedure to stored faults: If the fault recurs as present after: <ul style="list-style-type: none"> – the ignition is switched on. – starting the engine, – a road test.
	Special notes: If the fault is present: <ul style="list-style-type: none"> – the level 2 warning light is lit, – the engine stops. Use bornier Elé. 1681 for all operations on the engine management computer connectors.
	Use the Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2.
	IMPORTANT <ul style="list-style-type: none"> – Cylinder no. 1 is located at the timing end. – Do not disconnect the injectors when the engine is running. – Please observe the cleanliness guidelines and safety advice.

CC.0	NOTES	None
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Check the condition of the injector connectors (see Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Scénic II ph2, Mégane II or Espace IV ph2, Component codes 193, 194, 195, 196). Check the condition of the engine management computer connector (see Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Scénic II ph2, Mégane II or Espace IV ph2, Component code 120). If one of the connectors is faulty and there is a repair method (see Technical Note 6015A, Repairing electrical wiring, wiring: precautions for repair), repair the connector, otherwise replace the wiring.

AFTER REPAIR	Deal with any other faults. Clear the fault memory. Switch off the ignition until the end of the power-latch phase, and carry out a road test followed by a check using the diagnostic tool .
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DIESEL INJECTION

Fault finding - Interpretation of faults

13B

DF052 CONTINUED 1	
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Check the **continuity** and **insulation** from earth of the following connections:

- connection code **3KW** between components **120** and **193**,
- connection code **3CR** between components **120** and **193**,
- connection code **3KX** between components **120** and **194**,
- connection code **3CS** between components **120** and **194**,
- connection code **3KY** between components **120** and **195**,
- connection code **3CT** between components **120** and **195**,
- connection code **3KZ** between components **120** and **196**,
- connection code **3CU** between components **120** and **196**.

If the connection or connections are faulty and there is a repair procedure (**see Technical Note 6015A, Electrical wiring repair, wiring: precautions for repair**), repair the wiring, otherwise replace it.

If the fault is still present, contact the Techline.

CC.1	NOTES	None
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Check the condition of the injector connectors (**see Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Scénic II ph2, Mégane II or Espace IV ph2, Component codes 193, 194, 195, 196**).

Check the condition of the engine management computer connector (**see Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Scénic II ph2, Mégane II or Espace IV ph2, Component code 120**).

If one of the connectors is faulty and there is a repair method (**see Technical Note 6015A, Repairing electrical wiring, wiring: precautions for repair**), repair the connector, otherwise replace the wiring.

Check the **continuity** and **insulation** from **+ 12 V** of the following connections:

- connection code **3KW** between components **120** and **193**,
- connection code **3CR** between components **120** and **193**,
- connection code **3KX** between components **120** and **194**,
- connection code **3CS** between components **120** and **194**,
- connection code **3KY** between components **120** and **195**,
- connection code **3CT** between components **120** and **195**,
- connection code **3KZ** between components **120** and **196**,
- connection code **3CU** between components **120** and **196**.

If the connection or connections are faulty and there is a repair procedure (**see Technical Note 6015A, Electrical wiring repair, wiring: precautions for repair**), repair the wiring, otherwise replace it.

If the fault is still present, contact the Techline.

AFTER REPAIR	<p>Deal with any other faults. Clear the fault memory.</p> <p>Switch off the ignition until the end of the power-latch phase, and carry out a road test followed by a check using the diagnostic tool.</p>
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DIESEL INJECTION

Fault finding - Interpretation of faults

13B

DF052 CONTINUED 2	
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CC	NOTES	None
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Check the condition of the injector connectors (see **Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Scénic II ph2, Mégane II or Espace IV ph2, Component codes 193, 194, 195, 196**).

Check the condition of the engine management computer connector (see **Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Scénic II ph2, Mégane II or Espace IV ph2, Component code 120**).

If one of the connectors is faulty and there is a repair method (see **Technical Note 6015A, Repairing electrical wiring, wiring: precautions for repair**), repair the connector, otherwise replace the wiring.

Check the **continuity** and **insulation** of the following connections:

- connection code **3KW** between components **120** and **193**,
- connection code **3CR** between components **120** and **193**,
- connection code **3KX** between components **120** and **194**,
- connection code **3CS** between components **120** and **194**,
- connection code **3KY** between components **120** and **195**,
- connection code **3CT** between components **120** and **195**,
- connection code **3KZ** between components **120** and **196**,
- connection code **3CU** between components **120** and **196**.

If the connection or connections are faulty and there is a repair procedure (see **Technical Note 6015A, Electrical wiring repair, wiring: precautions for repair**), repair the wiring, otherwise replace it.

If the fault is still present, contact the Techline.

AFTER REPAIR	<p>Deal with any other faults. Clear the fault memory.</p> <p>Switch off the ignition until the end of the power-latch phase, and carry out a road test followed by a check using the diagnostic tool.</p>
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DIESEL INJECTION

Fault finding - Interpretation of faults

13B

DF054 PRESENT OR STORED	<u>TURBOCHARGING SOLENOID VALVE CONTROL CIRCUIT</u> CO : Open circuit CC.1 : Short circuit to + 12 V CC.0 : Short circuit to earth 1.DEF: Internal electronic fault
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NOTES	Priorities when dealing with a number of faults: Deal with fault DF046 Battery voltage first if it is present or stored.
	Conditions for applying the fault finding procedure to stored faults: If the fault is declared present after: <ul style="list-style-type: none"> – the ignition is switched on. – starting the engine, – a road test, – actuator command AC004 Turbocharging solenoid valve.
	Special notes: If the fault is present: <ul style="list-style-type: none"> – turbocharging is no longer authorised, – the EGR function is inhibited, – the level 1 and EOBD (European On Board Diagnostic) warning lights are lit. Use bornier Elé. 1681 for all operations on the injection computer connectors.
	Use the Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2.

CO	NOTES	None
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Check the condition of the turbocharging solenoid valve connector (see Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II, Scénic II ph2, Component code 1475). Check the condition of the engine management computer connector (see Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II, Scénic II ph2, Component code 120). If one of the connectors is faulty and there is a repair method (see Technical Note 6015A, Repairing electrical wiring, wiring: precautions for repair), repair the connector, otherwise replace the wiring.
Measure the resistance between connections 3FB and 3MG of component 1475 . If the resistance measured is greater than 1 kΩ or less than 6 Ω , replace the turbocharging solenoid valve.

AFTER REPAIR	Deal with any other faults. Clear the fault memory. Switch off the ignition until the end of the power-latch phase, and carry out a road test followed by a check using the diagnostic tool .
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EDC16CP33_V18_DF054/EDC16CP33_V1C_DF054/EDC16CP33_V54_DF054
/EDC16CP33_V20_DF054/EDC16CP33_V58_DF054/EDC16CP33_V5C_DF054/EDC16CP33_V24_DF054

DF054 CONTINUED 1	
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<p>Check the continuity of the following connection:</p> <ul style="list-style-type: none"> – connection code 3MG, – between components 120 and 1475. <p>Check the + 12 V after relay feed to the turbocharging solenoid valve:</p> <ul style="list-style-type: none"> – connection 3FB of component 1475. <p>If the connection or connections are faulty and there is a repair method (see Technical Note 6015A, Repairing electrical wiring, wiring: precautions for repair), repair the wiring, otherwise replace it.</p> <p>If the fault is still present, replace the turbocharging solenoid valve.</p>
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CC.1	NOTES	None
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<p>Check the condition of the turbocharging solenoid valve connector (see Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II, Scénic II ph2, Component code 1475).</p> <p>Check the condition of the engine management computer connector (see Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II, Scénic II ph2, Component code 120).</p> <p>If one of the connectors is faulty and there is a repair method (see Technical Note 6015A, Repairing electrical wiring, wiring: precautions for repair), repair the connector, otherwise replace the wiring.</p> <p>Measure the resistance between connections 3FB and 3MG of component 1475.</p> <p>If the resistance measured is greater than 1 kΩ or less than 6 Ω, replace the turbocharging solenoid valve.</p> <p>Check the insulation from the + 12 V feed of the following connection:</p> <ul style="list-style-type: none"> – connection code 3MG, between components 120 and 1475. <p>If the connections are defective, refer to the wiring repair method (see Technical Note 6015A, Repairing electrical wiring, wiring: precautions for repair).</p> <p>If the fault is still present, replace the turbocharging solenoid valve.</p>

AFTER REPAIR	<p>Deal with any other faults. Clear the fault memory.</p> <p>Switch off the ignition until the end of the power-latch phase, and carry out a road test followed by a check using the diagnostic tool.</p>
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DIESEL INJECTION

Fault finding - Interpretation of faults

13B

DF054 CONTINUED 2	
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CC.0	NOTES	None
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<p>Check the condition of the turbocharging solenoid valve connector (see Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II, Scénic II ph2, Component code 1475).</p> <p>Check the condition of the engine management computer connector (see Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II, Scénic II ph2, Component code 120).</p> <p>If one of the connectors is faulty and there is a repair method (see Technical Note 6015A, Repairing electrical wiring, wiring: precautions for repair), repair the connector, otherwise replace the wiring.</p>
<p>Measure the resistance between connections 3FB and 3MG of component 1475.</p> <p>If the resistance measured is greater than 1 kΩ or less than 6 Ω, replace the turbocharging solenoid valve.</p>
<p>Check the insulation in relation to earth of the following connection:</p> <ul style="list-style-type: none"> – connection code 3MG, <p>between components 120 and 1475.</p> <p>Check the + 12 V after relay feed to the turbocharging solenoid valve:</p> <ul style="list-style-type: none"> – connection 3FB of component 1475. <p>If the connection or connections are faulty and there is a repair method (see Technical Note 6015A, Repairing electrical wiring, wiring: precautions for repair), repair the wiring, otherwise replace it.</p>
<p>If the fault is still present, replace the turbocharging solenoid valve.</p>

AFTER REPAIR	<p>Deal with any other faults. Clear the fault memory.</p> <p>Switch off the ignition until the end of the power-latch phase, and carry out a road test followed by a check using the diagnostic tool.</p>
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DF054 CONTINUED 3	
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1.DEF	NOTES	Special notes: This fault appears when the computer control section overheats or when command AC004: Turbocharging solenoid valve is run.
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<p>Check the condition of the turbocharging solenoid valve connector (see Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II, Scénic II ph2, Component code 1475).</p> <p>Check the condition of the engine management computer connector (see Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II, Scénic II ph2, Component code 120).</p> <p>If one of the connectors is faulty and there is a repair method (see Technical Note 6015A, Repairing electrical wiring, wiring: precautions for repair), repair the connector, otherwise replace the wiring.</p>
<p>Measure the resistance between connections 3FB and 3MG of component 1475.</p> <p>If the resistance measured is not 20 Ω ± 4 Ω, replace the turbocharging solenoid valve.</p>
<p>Check continuity and make sure there is no interference resistance on the following connection:</p> <ul style="list-style-type: none"> – connection code 3MG, between components 120 and 1475. <p>Check the + 12 V after relay feed to the turbocharging solenoid valve:</p> <ul style="list-style-type: none"> – connection 3FB of component 1475. <p>If the connection or connections are faulty and there is a repair method (see Technical Note 6015A, Repairing electrical wiring, wiring: precautions for repair), repair the wiring, otherwise replace it.</p>
<ul style="list-style-type: none"> – If the fault is stored, clear the fault using AC004 Turbocharging solenoid valve. – If, when command AC004 Turbocharging solenoid valve is running, DF054 Turbocharging solenoid valve control circuit 1.DEF is present or stored, contact the Techline.

AFTER REPAIR	<p>Deal with any other faults. Clear the fault memory.</p> <p>Switch off the ignition until the end of the power-latch phase, and carry out a road test followed by a check using the diagnostic tool.</p>
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DIESEL INJECTION

Fault finding - Interpretation of faults

13B

DF056 PRESENT OR STORED	AIR FLOWMETER CIRCUIT CO.0 : Open circuit or short circuit to earth CC.1 : Short circuit to + 12 V 1.DEF: Consistent after switching the ignition off
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NOTES	<p>Conditions for applying the fault finding procedure to stored faults: If the fault is declared present after:</p> <ul style="list-style-type: none"> – the ignition is switched on. – starting the engine, – a road test, – the ignition is switched off: 1.DEF. <p>Special notes: If the fault is present:</p> <ul style="list-style-type: none"> – the EOBD (European On Board Diagnostic) warning light is lit, – the level 1 warning light comes on and turbocharging is no longer authorised for CO.0 and CC.1, – the level 1 warning light is lit for 1.DEF (for Vdiag 20, 24, 58 and 5C). – the EGR function is inhibited by the engine management computer, – engine torque limited, – safe value PR132 "Air flow" = 90 kg/h at idle speed. – particle filter regeneration is inhibited, <p>Use bornier Elé. 1681 for all operations on the engine management computer connectors.</p> <p>Use the Wiring Diagram Technical Note, Laguna II ph2, Vel Satis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2.</p>
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CO.0	NOTES	<p>Priorities when dealing with a number of faults: In the event of the simultaneous presence of fault DF002 Air temperature sensor circuit, check that the air flowmeter connector is connected correctly. Deal with fault DF013 Sensor feed voltage no. 3 1.DEF first, if it is present or stored.</p>
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Check the condition of the air flowmeter connector (see **Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II, Scénic II ph2, Component code 799**).

Check the condition of the engine management computer connector (see **Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II, Scénic II ph2, Component code 120**).

If the connectors are faulty and if there is a repair procedure (see **Technical Note 6015A, Repairing electrical wiring, Wiring: Precautions for repair**), repair the connector, otherwise replace the wiring.

AFTER REPAIR	<p>Deal with any other faults. Clear the fault memory.</p> <p>Switch off the ignition until the end of the power-latch phase, and carry out a road test followed by a check using the diagnostic tool.</p>
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EDC16CP33_V18_DF056/EDC16CP33_V1C_DF056/EDC16CP33_V54_DF056
/EDC16CP33_V20_DF056/EDC16CP33_V58_DF056/EDC16CP33_V5C_DF056/EDC16CP33_V24_DF056

DF056 CONTINUED 1	
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Check the **continuity and insulation** from **earth** of the following connections:

- connection code **3DV**,
- connection code **3KJ**,
- connection code **3DW**,

between components **120** and **799**.

Check **the + 5 V feed** to the air flowmeter.

- connection **3KJ** of component **799**.

Check **the + 12 V after relay feed** to the air flowmeter.

- connection **3FB** of component **799**.

If the connection or connections are faulty and there is a repair method (**see Technical Note 6015A, Repairing electrical wiring, wiring: precautions for repair**), repair the wiring, otherwise replace it.

Apply **test 5 Air flowmeter**.

With the flow sensor **connected, the vehicle ignition on and the engine stopped**:

Measure the voltage between connections **3DW** and **3DV** of component **799**.

- If the voltage is not approximately **0.3 V ± 0.1 V**, replace the air flow sensor.

If the fault is still present, replace the air flowmeter.

CC.1	NOTES	Priorities when dealing with a number of faults: Deal with fault DF013 Sensor feed voltage no. 3 1.DEF first, if it is present or stored.
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Check the condition of the air flowmeter connector (**see Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II, Scénic II ph2, Component code 799**).

Check the condition of the engine management computer connector (**see Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II, Scénic II ph2, Component code 120**).

If one of the connectors is faulty and there is a repair method (**see Technical Note 6015A, Repairing electrical wiring, wiring: precautions for repair**), repair the connector, otherwise replace the wiring.

AFTER REPAIR	Deal with any other faults. Clear the fault memory. Switch off the ignition until the end of the power-latch phase, and carry out a road test followed by a check using the diagnostic tool .
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DF056 CONTINUED 2	
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Check the **insulation** from **+ 12 V** of the following connections:

- connection code **3DV**,
- connection code **3KJ**,
- connection code **3DW**.

between components **120** and **799**.

Check **the + 5 V feed** to the air flowmeter.

- connection **3KJ** of component **799**.

Check **the + 12 V after relay feed** to the air flowmeter.

- connection **3FB** of component **799**.

If the connection or connections are faulty and there is a repair procedure (**see Technical Note 6015A, Electrical wiring repair, wiring: precautions for repair**), repair the wiring, otherwise replace it.

With the flow sensor **connected**, the vehicle **ignition on** and **engine stopped**:

Measure the voltage between connections **3DW** and **3DV** of component **799**.

- If the voltage is not approximately **0.3 V ± 0.1 V**, replace the air flow sensor.

If the fault is still present, replace the air flowmeter.

1.DEF	NOTES	Priorities when dealing with a number of faults: Deal with fault DF013 Sensor feed voltage no. 3 1.DEF first, if it is present or stored.
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Check the condition of the air flowmeter connector (**see Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II, Scénic II ph2, Component code 799**).

Check the condition of the engine management computer connector (**see Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II, Scénic II ph2, Component code 120**).

If one of the connectors is faulty and there is a repair method (**see Technical Note 6015A, Repairing electrical wiring, wiring: precautions for repair**), repair the connector, otherwise replace the wiring.

Check **for continuity** and **absence of interference resistance** of the following connections:

- connection code **3DV**,
- connection code **3KJ**,
- connection code **3DW**,

between components **120** and **799**.

If the connection or connections are faulty and there is a repair method (**see Technical Note 6015A, Repairing electrical wiring, wiring: precautions for repair**), repair the wiring, otherwise replace it.

Check the condition of the flow sensor: no visible damage to the sensing element of the flow sensor.

If the fault is still present, replace the air flowmeter.

AFTER REPAIR	Deal with any other faults. Clear the fault memory. Switch off the ignition until the end of the power-latch phase, and carry out a road test followed by a check using the diagnostic tool .
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DF059 PRESENT OR STORED	<u>COMBUSTION MISFIRES ON CYLINDER 1</u>
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NOTES	<p>Conditions for applying the fault finding procedure to stored faults: The fault reappears after:</p> <ul style="list-style-type: none"> – engine speed PR055 "Engine speed" between idling speed and 1050 rpm, – a coolant temperature PR064 "Coolant temperature" ≥ 20 °C.
	<p>Priorities when dealing with a number of faults: Apply the interpretation of faults DF026 "Cylinder 1 injector control circuit" and DF052 "Injectors control circuit" first, present or stored.</p>
	<p>Special notes:</p> <ul style="list-style-type: none"> – Check that the stored injector codes are consistent with those engraved on each injector. If not, run command SC002 Enter injector codes and follow the procedure. – After an injector has been replaced, run commands SC002 Enter injector codes and SC036 Reinitialise programming and follow the procedure.
	<p>IMPORTANT Cylinder no. 1 is located at the timing end. Do not disconnect the injectors when the engine is running. When removing/refitting an injector, respect the cleanliness guidelines and safety advice (see MR364 (Mégane II ph2), MR370 (Scénic II ph2), MR 395 (Laguna II ph2), 353 (VelSatis ph2), 361 (Espace IV ph2), Mechanical 13B Diesel injection, Diesel injectors: Removal and refitting).</p>

<p>DF059 Misfiring on cylinder 1 appears on the diagnostic tool when the engine management computer detects a fault during the combustion phase several times in succession. Several components may be responsible:</p> <ul style="list-style-type: none"> – the piston rings, – the piston, – the valves, – the injector, – the heater plug sealing.
<p>Check the cylinder compressions: use a compression gauge, M9R hose end piece, part no. Mot. 1772 and apply command VP036 "Fuel supply inhibition" (see Interpretation of commands).</p>

AFTER REPAIR	<p>Deal with any other faults. Clear the fault memory. Switch off the ignition until the end of the power-latch phase, and carry out a road test followed by a check using the diagnostic tool.</p>
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EDC16CP33_V18_DF059/EDC16CP33_V1C_DF059/EDC16CP33_V54_DF059
/EDC16CP33_V20_DF059/EDC16CP33_V58_DF059/EDC16CP33_V5C_DF059/EDC16CP33_V24_DF059

DF059 CONTINUED	
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If the fault is stored, start the engine and allow it to run at idle speed for more than a minute with a temperature **PR064 "Coolant temperature" > 30 °C**.

If the fault becomes present, remove the injector concerned following the procedures and safety advice (see **MR 402 (VelSatis ph2)**, **MR 395 (Laguna II ph2)**, **MR 364 (Mégane II ph2)**, **MR 370 (Scénic II ph2)** or **MR 361 (Espace IV ph2)**, **Mechanical**, **13B Diesel injection**, **Diesel injectors: removal/refitting**).

If no fault can be found in the injector fitting fault (especially the injector washer):

- change the injector concerned,
- modify the **IMA code** for the injector using command **SC002 "Enter injector codes"** (the **IMA codes** must be read from left to right),
- run command **SC036 "Reinitialise programming"**, select **"injector"**, select **"YES"** only for the replaced injector and follow the procedure.

If the injector fitting is not correct, refit the injector in accordance with the fitting instructions specified in the mechanical MR, ensuring that a new washer is fitted.

Clear the fault and carry out a road test. Check that the fault is not present again.

If the fault is still present, contact the Techline.

AFTER REPAIR	<p>Deal with any other faults. Clear the fault memory.</p> <p>Switch off the ignition until the end of the power-latch phase, and carry out a road test followed by a check using the diagnostic tool.</p>
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DF060 PRESENT OR STORED	<u>COMBUSTION MISFIRES ON CYLINDER 2</u>
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NOTES	<p>Conditions for applying the fault finding procedure to stored faults: The fault reappears after:</p> <ul style="list-style-type: none"> – engine speed PR055 "Engine speed" between idling speed and 1050 rpm, – a coolant temperature PR064 "Coolant temperature" ≥ 20 °C.
	<p>Priorities when dealing with a number of faults: Apply the interpretation of faults: DF027 Cylinder 2 injector control circuit and DF052 Injectors control circuit first, present or stored.</p>
	<p>Special notes:</p> <ul style="list-style-type: none"> – Check that the stored injector codes are consistent with those engraved on each injector. If not, run command SC002 Enter injector codes and follow the procedure. – Following replacement of an injector, run commands SC002 Enter injector codes and SC036 Reinitialise programming and follow the procedure.
	<p>IMPORTANT Cylinder no. 1 is located at the timing end. Do not disconnect the injectors when the engine is running. When removing/refitting an injector, respect the cleanliness guidelines and safety advice (see MR364 (Mégane II ph2), MR370 (Scénic II ph2), MR 395 (Laguna II ph2), 353 (VelSatis ph2), 361 (Espace IV ph2), Mechanical 13B Diesel injection, Diesel injectors: Removal and refitting).</p>

<p>DF060 appears on the diagnostic tool when the engine management computer has detected a fault during the combustion phase several times in succession. Several components may be responsible:</p> <ul style="list-style-type: none"> – the piston rings, – the piston, – the valves, – the injector, – the heater plug sealing.
<p>Check the cylinder compressions: use a compression gauge, M9R hose end piece, part no. Mot. 1772 and apply command VP036 "Fuel supply inhibition" (see Interpretation of commands).</p>

AFTER REPAIR	<p>Deal with any other faults. Clear the fault memory. Switch off the ignition until the end of the power-latch phase, and carry out a road test followed by a check using the diagnostic tool.</p>
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EDC16CP33_V18_DF060/EDC16CP33_V1C_DF060/EDC16CP33_V54_DF060
/EDC16CP33_V20_DF060/EDC16CP33_V58_DF060/EDC16CP33_V5C_DF060/EDC16CP33_V24_DF060

DF060
CONTINUED

If the fault is stored, start the engine and allow it to run at idle speed for more than a minute with a temperature **PR064 "Coolant temperature" > 30 °C**.

If the fault becomes present, remove the injector concerned following the procedures and safety advice (see **MR 402 (VelSatis ph2)**, **MR 395 (Laguna II ph2)**, **MR 364 (Mégane II ph2)**, **MR 370 (Scénic II ph2)** or **MR 361 (Espace IV ph2)**, **Mechanical**, **13B Diesel injection**, **Diesel injectors: removal/refitting**).

If no fault can be found in the injector fitting fault (especially the injector washer):

- change the injector concerned,
- modify the **IMA code** for the injector using command **SC002 "Enter injector codes"** (the **IMA codes** must be read from left to right),
- run command **SC036 "Reinitialise programming"**, select **"injector"**, select **"YES"** only for the replaced injector and follow the procedure.

If the injector fitting is not correct, refit the injector in accordance with the fitting instructions specified in the mechanical MR, ensuring that a new washer is fitted.

- Clear the fault and carry out a road test. Check that the fault is not present again.

If the fault is still present, contact the Techline.

AFTER REPAIR

Deal with any other faults. Clear the fault memory.
Switch off the ignition until the end of the power-latch phase, and carry out a road test followed by a check using the **diagnostic tool**.

DF061 PRESENT OR STORED	<u>COMBUSTION MISFIRES ON CYLINDER 3</u>
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NOTES	<p>Conditions for applying the fault finding procedure to stored faults: The fault reappears after:</p> <ul style="list-style-type: none"> – engine speed PR055 "Engine speed" between idling speed and 1050 rpm, – a coolant temperature PR064 "Coolant temperature" ≥ 20 °C.
	<p>Priorities when dealing with a number of faults: Apply the interpretation of faults: DF028 Cylinder 3 injector control circuit and DF052 Injectors control circuit first, present or stored.</p>
	<p>Special notes:</p> <ul style="list-style-type: none"> – Check that the stored injector codes are consistent with those engraved on each injector. If not, run command SC002 Enter injector codes and follow the procedure. – Following replacement of an injector, run commands SC002 Enter injector codes and SC036 Reinitialise programming and follow the procedure.
	<p>IMPORTANT Cylinder no. 1 is located at the timing end. Do not disconnect the injectors when the engine is running. When removing/refitting an injector, respect the cleanliness guidelines and safety advice (see MR364 (Mégane II ph2), MR370 (Scénic II ph2), MR 395 (Laguna II ph2), 353 (VelSatis ph2), 361 (Espace IV ph2), Mechanical 13B Diesel injection, Diesel injectors: Removal and refitting).</p>

<p>DF061 appears on the diagnostic tool when the engine management computer has detected a fault during the combustion phase several times in succession. Several components may be responsible:</p> <ul style="list-style-type: none"> – the piston rings, – the piston, – the valves, – the injector, – the heater plug sealing.
<p>Check the cylinder compressions: use a compression gauge, M9R hose end piece, part no. Mot. 1772 and apply command VP036 "Fuel supply inhibition" (see Interpretation of commands).</p>

AFTER REPAIR	<p>Deal with any other faults. Clear the fault memory. Switch off the ignition until the end of the power-latch phase, and carry out a road test followed by a check using the diagnostic tool.</p>
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DF061 CONTINUED	
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If the fault is stored, start the engine and allow it to run at idle speed for more than a minute with a temperature **PR064 "Coolant temperature" > 30 °C**.

If the fault becomes present, remove the injector concerned following the procedures and safety advice (see **MR 402 (VelSatis ph2)**, **MR 395 (Laguna II ph2)**, **MR 364 (Mégane II ph2)**, **MR 370 (Scénic II ph2)** or **MR 361 (Espace IV ph2)**, **Mechanical**, **13B Diesel injection**, **Diesel injectors: removal/refitting**).

If no fault can be found in the injector fitting fault (especially the injector washer):

- change the injector concerned,
- modify the **IMA code** for the injector using command **SC002 "Enter injector codes"** (the **IMA codes** must be read from left to right),
- run command **SC036 "Reinitialise programming"**, select **"injector"**, select **"YES"** only for the replaced injector and follow the procedure.

If the injector fitting is not correct, refit the injector in accordance with the fitting instructions specified in the mechanical MR, ensuring that a new washer is fitted.

- Clear the fault and carry out a road test. Check that the fault is not present again.

If the fault is still present, contact the Techline.

AFTER REPAIR	<p>Deal with any other faults. Clear the fault memory.</p> <p>Switch off the ignition until the end of the power-latch phase, and carry out a road test followed by a check using the diagnostic tool.</p>
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DF062 PRESENT OR STORED	<u>COMBUSTION MISFIRES ON CYLINDER 4</u>
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NOTES	<p>Conditions for applying the fault finding procedure to stored faults: The fault reappears after:</p> <ul style="list-style-type: none"> – engine speed PR055 "Engine speed" between idling speed and 1050 rpm, – a coolant temperature PR064 "Coolant temperature" ≥ 20 °C.
	<p>Priorities when dealing with a number of faults: Apply the interpretation of faults: DF029 Cylinder 4 injector control circuit and DF052 Injectors control circuit first, present or stored.</p>
	<p>Special notes:</p> <ul style="list-style-type: none"> – Check that the stored injector codes are consistent with those engraved on each injector. If not, run command SC002 Enter injector codes and follow the procedure. – Following replacement of an injector, run commands SC002 Enter injector codes and SC036 Reinitialise programming and follow the procedure.
	<p>IMPORTANT Cylinder no. 1 is located at the timing end. Do not disconnect the injectors when the engine is running. When removing/refitting an injector, respect the cleanliness guidelines and safety advice (see MR364 (Mégane II ph2), MR370 (Scénic II ph2), MR 395 (Laguna II ph2), 353 (VelSatis ph2), 361 (Espace IV ph2), Mechanical 13B Diesel injection, Diesel injectors: Removal and refitting).</p>

<p>DF062 appears on the diagnostic tool when the engine management computer has detected a fault during the combustion phase several times in succession. Several components may be responsible:</p> <ul style="list-style-type: none"> – the piston rings, – the piston, – the valves, – the injector, – the heater plug sealing.
<p>Check the cylinder compressions: use a compression gauge, M9R hose end piece, part no. Mot. 1772 and apply command VP036 "Fuel supply inhibition" (see Interpretation of commands).</p>

AFTER REPAIR	<p>Deal with any other faults. Clear the fault memory. Switch off the ignition until the end of the power-latch phase, and carry out a road test followed by a check using the diagnostic tool.</p>
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DF062 CONTINUED	
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If the fault is stored, start the engine and allow it to run at idle speed for more than a minute with a temperature **PR064 "Coolant temperature" > 30 °C**.

If the fault becomes present, remove the injector concerned following the procedures and safety advice (see **MR 402 (VelSatis ph2)**, **MR 395 (Laguna II ph2)**, **MR 364 (Mégane II ph2)**, **MR 370 (Scénic II ph2)** or **MR 361 (Espace IV ph2)**, **Mechanical**, **13B Diesel injection**, **Diesel injectors: removal/refitting**).

If no fault can be found in the injector fitting fault (especially the injector washer):

- change the injector concerned,
- modify the **IMA code** for the injector using command **SC002 "Enter injector codes"** (the **IMA codes** must be read from left to right),
- run command **SC036 "Reinitialise programming"**, select **"injector"**, select **"YES"** only for the replaced injector and follow the procedure.

If the injector fitting is not correct, refit the injector in accordance with the fitting instructions specified in the mechanical MR, ensuring that a new washer is fitted.

- Clear the fault and carry out a road test. Check that the fault is not present again.

If the fault is still present, contact the Techline.

AFTER REPAIR	<p>Deal with any other faults. Clear the fault memory.</p> <p>Switch off the ignition until the end of the power-latch phase, and carry out a road test followed by a check using the diagnostic tool.</p>
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DF065 PRESENT OR STORED	<u>COMBUSTION MISFIRES</u> 1.DEF: Combustion misfires detected on several cylinders
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NOTES	<p>Conditions for applying the fault finding procedure to stored faults: The fault reappears after:</p> <ul style="list-style-type: none"> – engine speed PR055 "Engine speed" between idling speed and 1050 rpm, – a coolant temperature PR064 "Coolant temperature" ≥ 20 °C. <p>Priorities when dealing with a number of faults: Apply the interpretation of these faults first:</p> <p>DF052 Injectors control circuit, present or stored. DF026 Cylinder 1 injector control circuit, present or stored. DF027 Cylinder 2 injector control circuit, present or stored. DF028 Cylinder 3 injector control circuit, present or stored. DF029 Cylinder 4 injector control circuit, present or stored.</p> <p>Special notes:</p> <ul style="list-style-type: none"> – Check that the stored injector codes correspond to those etched on each injector. If not, run command SC002 Enter injector codes and follow the procedure. <p>IMPORTANT When removing/refitting an injector, respect the cleanliness guidelines and safety advice (see MR364 (Mégane II ph2), MR370 (Scénic II ph2), MR 395 (Laguna II ph2), 353 (VelSatis ph2), 361 (Espace IV ph2), Mechanical 13B Diesel injection, Diesel injectors: Removal and refitting).</p>
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<p>DF065 appears on the diagnostic tool when the engine management computer has detected a fault during the combustion phase several times in succession. Several components may be responsible:</p> <ul style="list-style-type: none"> – the piston rings, – the piston, – the valves, – the injector, – the heater plug sealing. <p>Check the cylinder compressions: use a compression gauge, M9R hose end piece, part no. Mot. 1772 and apply command VP036 "Fuel supply inhibition" (see Interpretation of commands).</p> <p>If the fault is still present, contact the Techline.</p>
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AFTER REPAIR	<p>Deal with any other faults. Clear the fault memory. Switch off the ignition until the end of the power-latch phase, and carry out a road test followed by a check using the diagnostic tool.</p>
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DF066 PRESENT OR STORED	INJECTOR CODE(S) 1.DEF: No code in memory 2.DEF: Configuration/Initialisation
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NOTES	Special notes: If the fault is present, – the injection flow will be limited, – engine torque limited, resulting in a maximum engine speed of 1500 rpm , – the level 1 warning light is lit.
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1.DEF	NOTES	This fault appears when an incorrect injector code is entered from command SC002 Enter injector codes .
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<p>Check the injector codes and reprogram the correct codes using command SC002 Enter injector codes. (Consult the procedures defined in the Interpretation of commands section).</p> <ul style="list-style-type: none"> – After the codes have been written: <ul style="list-style-type: none"> – Switch off the ignition. – Wait for the diagnostic tool message (maximum wait 8 min): Loss of dialogue with the computer: EDC16 CP33, check the tool connection and the computer supply voltage and switch on the ignition again. – Establish dialogue and clear the fault memory. – End of operation. <p>WARNING If fault DF066 is still present after the injector codes have been entered, check that power latch occurs each time the ignition is switched off.</p> <ul style="list-style-type: none"> – Switch off the ignition. – Wait for the diagnostic tool message (maximum wait 8 min): Loss of dialogue with the computer: EDC16 CP33, check the tool connection and the computer supply voltage and switch on the ignition again. – Establish dialogue. <p>If the fault has become stored, clear the fault memory and end the operation.</p> <p>If the fault is present, contact Techline.</p>		
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AFTER REPAIR	Deal with any other faults. Clear the fault memory. Switch off the ignition until the end of the power-latch phase, and carry out a road test followed by a check using the diagnostic tool .
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DF066 CONTINUED	
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2.DEF	NOTES	Conditions for applying the fault finding procedure to stored faults: The fault is declared present after: <ul style="list-style-type: none"> – the injection computer is replaced, – reprogramming.
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<p>This fault is present on all blank computers (new or after reprogramming).</p> <ul style="list-style-type: none"> – Program the injector codes using: either command SC001 Enter saved data, or, command SC002 Enter injector codes. <p>(Consult the procedures defined in the Interpretation of commands section).</p> <ul style="list-style-type: none"> – After the codes have been written: <ul style="list-style-type: none"> – Switch off the ignition. – Wait for the diagnostic tool message (maximum wait 8 min): Loss of dialogue with the computer: EDC16 CP33, check the tool connection and the computer supply voltage and switch on the ignition again. – Establish dialogue and clear the fault memory. – End of operation. <p>WARNING</p> <p>If fault DF066 is still present after the injector codes have been entered, check that power latch occurs each time the ignition is switched off:</p> <ul style="list-style-type: none"> – Switch off the ignition. – Wait for the diagnostic tool message (maximum wait 8 min): Loss of dialogue with the computer: EDC16 CP33, check the tool connection and the computer supply voltage and switch on the ignition again. – Establish dialogue. <p>If the fault has become stored, clear the fault memory and end the operation.</p> <p>If the fault is present, contact the Techline.</p>		
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AFTER REPAIR	Deal with any other faults. Clear the fault memory. Switch off the ignition until the end of the power-latch phase, and carry out a road test followed by a check using the diagnostic tool .
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DF086 PRESENT OR STORED	<u>COOLANT PUMP RELAY CONTROL CIRCUIT</u> CO : Open circuit CC.0 : Short circuit to earth CC.1 : Short circuit to +12 volts 1.DEF: Internal electronic fault
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NOTES	<p>Conditions for applying the fault finding procedure to stored faults: If the fault recurs as present after:</p> <ul style="list-style-type: none"> – the ignition is switched on. – starting the engine, – a road test. <p>Special notes: The control relay is located in the engine connection unit. If the fault is present:</p> <ul style="list-style-type: none"> – the level 1 warning light is lit. <p>Use bornier Elé. 1681 for all operations on the engine management computer connectors.</p>
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CO	NOTES	None
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<p>Check the condition of the water pump relay mounting connector on the engine fuse box (see Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2, Component code 597).</p> <p>Check the condition of the engine management computer connector (see Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2, Component code 120).</p> <p>If one of the connectors is faulty and there is a repair method (see Technical Note 6015A, Repairing electrical wiring, wiring: precautions for repair), repair the connector, otherwise replace the wiring.</p>
<p>Check the conformity of the coolant pump relay (relay removed):</p> <ul style="list-style-type: none"> – Insulation between connections 3FB and 3VH of component 573. – Measure the resistance between connections 3AAZ and 3FB of component 573. <p>Replace the relay if its resistance is greater than 1 kΩ or less than 6 Ω.</p>
<p>Check the continuity of the following connections:</p> <ul style="list-style-type: none"> – connection code 3AAZ between components 120 and 573. – connection code 3VH between components 573 and 369. – connection code M between component 369 and the vehicle earth. <p>Check the + 12 V after relay supply to the coolant pump relay:</p> <ul style="list-style-type: none"> – connection code 3FB of component 573. <p>If the connection or connections are faulty and there is a repair method (see Technical Note 6015A, Repairing electrical wiring, wiring: precautions for repair), repair the wiring, otherwise replace it.</p>

AFTER REPAIR	<p>Deal with any other faults. Clear the fault memory.</p> <p>Switch off the ignition until the end of the power-latch phase, and carry out a road test followed by a check using the diagnostic tool.</p>
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DIESEL INJECTION

Fault finding - Interpretation of faults

13B

DF086 CONTINUED 1	
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CC.1	NOTES	None
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Check the condition of the water pump relay mounting connector on the engine fuse box (see **Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II, Scénic II ph2, Component code 597**).
Check the condition of the engine management computer connector (see **Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II, Scénic II ph2, Component code 120**).
If one of the connectors is faulty and there is a repair method (see **Technical Note 6015A, Repairing electrical wiring, wiring: precautions for repair**), repair the connector, otherwise replace the wiring.

Check the conformity of the coolant pump relay (relay removed):

- **Insulation** between connections **3FB** and **3VH** of component **573**.
- Measure **the resistance** between connections **3AAZ** and **3FB** of component **573**.

Replace the relay if its resistance is **greater than 1 kΩ or less than 6 Ω**.

Check the **insulation** from **+ 12 V** of the following connections:

- connection code **3AAZ**,
between components **120** and **573**.
- connection code **3VH**,
between components **573** and **369**.

If the connection is faulty and there is a repair procedure (see **Technical Note 6015A, Electrical wiring repair, wiring: precautions for repair**), repair the wiring, otherwise replace it.

AFTER REPAIR	<p>Deal with any other faults. Clear the fault memory.</p> <p>Switch off the ignition until the end of the power-latch phase, and carry out a road test followed by a check using the diagnostic tool.</p>
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DIESEL INJECTION

Fault finding - Interpretation of faults

13B

DF086 CONTINUED 2	
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CC.0	NOTES	None
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Check the condition of the water pump relay mounting connector on the engine fuse box (see **Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II, Scénic II ph2, Component code 597**).
Check the condition of the engine management computer connector (see **Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II, Scénic II ph2, Component code 120**).
If one of the connectors is faulty and there is a repair method (see **Technical Note 6015A, Repairing electrical wiring, wiring: precautions for repair**), repair the connector, otherwise replace the wiring.

Check the conformity of the coolant pump relay (relay removed):
– **Insulation** between connections **3FB** and **3VH** of component **573**.
– Measure **the resistance** between connections **3AAZ** and **3FB** of component **573**.
Replace the relay if its resistance is **greater than 1 kΩ or less than 6 Ω**.

Check the **insulation** from **earth** of the following connections:
– connection code **3AAZ**,
between components **120** and **573**.
– connection code **3VH**,
between components **573** and **369**.
Check the **+ 12 V after relay** supply to the coolant pump relay
– connection code **3FB** of component **573**.
If the connection or connections are faulty and there is a repair method (see **Technical Note 6015A, Repairing electrical wiring, wiring: precautions for repair**), repair the wiring, otherwise replace it.

AFTER REPAIR	<p>Deal with any other faults. Clear the fault memory. Switch off the ignition until the end of the power-latch phase, and carry out a road test followed by a check using the diagnostic tool.</p>
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DIESEL INJECTION

Fault finding - Interpretation of faults

13B

DF086 CONTINUED 3	
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1.DEF	NOTES	Special note: This fault appears when the computer control section has overheated.
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Check the condition of the water pump relay mounting connector on the engine fuse box (see Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II, Scénic II ph2, Component code 597). Check the condition of the engine management computer connector (see Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II, Scénic II ph2, Component code 120). If one of the connectors is faulty and there is a repair method (see Technical Note 6015A, Repairing electrical wiring, wiring: precautions for repair), repair the connector, otherwise replace the wiring.	
Check the conformity of the coolant pump relay (relay removed): – Insulation between connections B3FB and 3VH of component 573 . – Measure the resistance between connections 3AAZ and 3FB of component 573 . Replace the relay if the resistance is more than 200 Ω or less than 20 Ω .	
Check the absence of interference resistance of the following connection: – connection code 3AAZ , between components 120 and 573 . Check the + 12 V after relay supply to the coolant pump relay – connection code 3FB of component 573 . Check the + 12 V battery supply to the coolant pump relay – connection code 3FB of component 573 . If the connection or connections are faulty and there is a repair method (see Technical Note 6015A, Repairing electrical wiring, wiring: precautions for repair), repair the wiring, otherwise replace it.	
If the fault is still present, contact the Techline.	

AFTER REPAIR	Deal with any other faults. Clear the fault memory. Switch off the ignition until the end of the power-latch phase, and carry out a road test followed by a check using the diagnostic tool .
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DF091 STORED	<u>VEHICLE SPEED SIGNAL</u> 1.DEF: Vehicle speed too high
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NOTES	<p>Conditions for applying the fault finding procedure to stored faults: If the fault is declared present after a road test.</p> <p>Special notes:</p> <ul style="list-style-type: none"> – the vehicle speed signal sent by the ABS computer to the injection computer is greater than the threshold defined in the calibration, – use bornier Elé. 1681 for all operations on the injection computer connectors. <p>Use the Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2.</p>
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<p>Check the condition of the ABS computer connector (see Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II, Scénic II ph2, Component code 1094).</p> <p>Check the condition of the engine management computer connector (see Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II, Scénic II ph2, Component code 120).</p> <p>If one of the connectors is faulty and there is a repair method (see Technical Note 6015A, Repairing electrical wiring, wiring: precautions for repair), repair the connector, otherwise replace the wiring.</p>
<p>Run full fault finding on the ABS computer (see 38C, Anti-lock braking system).</p> <p>Repair if necessary.</p>
<p>Run complete fault finding on the multiplex network (see 88B, Multiplex).</p> <p>Repair if necessary.</p>
<p>If the fault is still present, contact the Techline.</p>

AFTER REPAIR	<p>Deal with any other faults. Clear the fault memory.</p> <p>Switch off the ignition until the end of the power-latch phase, and carry out a road test followed by a check using the diagnostic tool.</p>
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DIESEL INJECTION

Fault finding - Interpretation of faults

13B

DF098 PRESENT OR STORED	<u>FUEL TEMPERATURE SENSOR CIRCUIT</u> CC.0 : Short circuit to earth CO.1 : Open circuit or short circuit to + 12 V
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NOTES	Conditions for applying the fault finding procedure to stored faults: If the fault is declared present when ignition is switched on.
	Special notes: If the fault is present, – fuel temperature safe value PR063 Fuel temperature = 100 °C , – use bornier Elé. 1681 for all operations on the engine management computer connectors.
	Use the Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2.

CC.0	NOTES	None
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<p>Check the condition of the fuel temperature sensor connector (see Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II, Scénic II ph2, Component code 1066).</p> <p>Check the condition of the engine management computer connector (see Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II, Scénic II ph2, Component code 120).</p> <p>If one of the connectors is faulty and there is a repair method (see Technical Note 6015A, Repairing electrical wiring, wiring: precautions for repair), repair the connector, otherwise replace the wiring.</p>
<p>Measure the resistance between connections 3FAB and 3LD of component 1066.</p> <p>Replace the sensor if the resistance is less than 85 Ω.</p>
<p>Check insulation against earth of the following connection:</p> <p>– connection code 3FAB, between components 120 and 1066.</p> <p>If the connection is faulty and there is a repair procedure (see Technical Note 6015A, Electrical wiring repair, wiring: precautions for repair), repair the wiring, otherwise replace it.</p>

AFTER REPAIR	Deal with any other faults. Clear the fault memory. Switch off the ignition until the end of the power-latch phase, and carry out a road test followed by a check using the diagnostic tool .
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EDC16CP33_V18_DF098/EDC16CP33_V1C_DF098/EDC16CP33_V54_DF098
 /EDC16CP33_V20_DF098/EDC16CP33_V58_DF098/EDC16CP33_V5C_DF098/EDC16CP33_V24_DF098

DIESEL INJECTION

Fault finding - Interpretation of faults

13B

DF098 CONTINUED	
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CO.1	NOTES	None
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Check the condition of the fuel temperature sensor connector (see **Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II, Scénic II ph2, Component code 1066**).

Check the condition of the engine management computer connector (see **Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II, Scénic II ph2, Component code 120**).

If one of the connectors is faulty and there is a repair method (see **Technical Note 6015A, Repairing electrical wiring, wiring: precautions for repair**), repair the connector, otherwise replace the wiring.

Measure **the resistance** between connections **3FAB** and **3LD** of component **1066**.
Replace the sensor if the resistance is **greater than 50 kΩ**.

Check **the continuity** of the following connections:

- connection code **3FAB**,
 - connection code **3LD**,
- between components **120** and **1066**.

Check **the insulation** from the **+ 12 V feed** of the following connection:

- connection code **3FAB**,
- between components **120** and **1066**.

If the connection or connections are faulty and there is a repair method (see **Technical Note 6015A, Repairing electrical wiring, wiring: precautions for repair**), repair the wiring, otherwise replace it.

AFTER REPAIR	<p>Deal with any other faults. Clear the fault memory.</p> <p>Switch off the ignition until the end of the power-latch phase, and carry out a road test followed by a check using the diagnostic tool.</p>
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DF107 PRESENT OR STORED	<u>COMPUTER MEMORY</u> 1.DEF: Internal electronic fault
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NOTES	Conditions for applying the fault finding procedure to stored faults: If the fault is declared present after: – starting the engine, – a road test.
	Special notes: The Level 1 and EOBD (European On Board Diagnostic) warning lights are lit.

<p>If the fault is stored, clear the fault from the computer memory. Switch off the ignition, wait for the diagnostic tool message (maximum wait 8 min): Loss of dialogue with the computer: EDC16 CP33, check the tool connection and the computer supply voltage then switch on the ignition again. Start the engine and re-establish dialogue. This fault may be linked a write error following disconnection of the battery when the computer was in a write to EEPROM* phase. If this is the case, loading a new calibration will clear the fault. If a more recent calibration is available, load this calibration on to the computer.</p> <p>If the fault recurs, contact the Techline.</p>

*EEPROM: Electrically Erasable Programmable read Only Memory.

AFTER REPAIR	Deal with any other faults. Clear the fault memory. Switch off the ignition until the end of the power-latch phase, and carry out a road test followed by a check using the diagnostic tool .
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EDC16CP33_V18_DF107/EDC16CP33_V1C_DF107/EDC16CP33_V54_DF107
/EDC16CP33_V20_DF107/EDC16CP33_V58_DF107/EDC16CP33_V5C_DF107/EDC16CP33_V24_DF107

DF119 PRESENT OR STORED	<u>CAMSHAFT SENSOR SIGNAL</u> 1.DEF : No camshaft signal or timing fault (tension or setting) 2.DEF : Supply fault, signal interference, camshaft sensor internal fault
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NOTES	Conditions for applying the fault finding procedure to stored faults: If the fault is declared present after: – starting the engine, – a road test.
	Special notes: Use bornier Elé. 1681 for all operations on the injection computer connectors.
	Use the Wiring Diagram Technical Note, Laguna II ph2, Vel Satis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2.

1.DEF	NOTES	None
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<p>Check the condition of the camshaft sensor connector (see Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II, Scénic II ph2, Component code 746).</p> <p>Check the condition of the engine management computer connector (see Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II, Scénic II ph2, Component code 120).</p> <p>If one of the connectors is faulty and there is a repair method (see Technical Note 6015A, Repairing electrical wiring, wiring: precautions for repair), repair the connector, otherwise replace the wiring.</p>
<p>If the fault is stored:</p> <p>Visually check the condition of the surrounding area.</p> <p>If, on detection of the fault, the engine speed is well below idling speed (less than 150 rpm) and the customer complaint is not declared (warning light not indicated by the customer as coming on, and vehicle can be started), the fault was detected because the engine had stalled. Clear the fault and carry out a road test.</p>
<p>Note:</p> <p>Measure the resistance between the indicated tracks without producing a short circuit between the tracks.</p> <p>1/ Disconnect the sensor before measuring the resistance with an Ohmmeter or multimeter.</p> <p>2/ The resistance between connections 3CQ and 3FB of component 746 (signal and feed) should be between 7.2 kΩ and 13.4 kΩ (10.2 kΩ nominal).</p> <p>3/ Resistance between connections 3PL and 3FB of component 746 (earth and supply) must be greater than 100 kΩ.</p> <p>4/ The resistance between connections 3PL and 3CQ of component 746 (earth and signal) should be greater than 100 kΩ.</p> <p>If the values are incorrect, replace the camshaft sensor.</p>

AFTER REPAIR	Deal with any other faults. Clear the fault memory. Switch off the ignition until the end of the power-latch phase, and carry out a road test followed by a check using the diagnostic tool .
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DF119 CONTINUED	
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Check **the continuity** of the following connections:

- connection code **3PL**,
 - connection code **3CQ**,
- between components **120** and **746**.

Check **the + 12 V after relay feed** to the camshaft sensor.

- connection **3FB** of component **746**.

If the connection or connections are faulty and there is a repair method (**see Technical Note 6015A, Repairing electrical wiring, wiring: precautions for repair**), repair the wiring, otherwise replace it.

If the fault is still present, replace the camshaft sensor.

2.DEF	NOTES	Priorities when dealing with a number of faults: Deal with fault DF120 Engine speed sensor signal first if it is present or stored.
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Check the condition of the camshaft sensor connector (**see Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II, Scénic II ph2, Component code 746**).

Check the condition of the engine management computer connector (**see Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II, Scénic II ph2, Component code 120**).

If one of the connectors is faulty and there is a repair method (**see Technical Note 6015A, Repairing electrical wiring, wiring: precautions for repair**), repair the connector, otherwise replace the wiring.

Check **the continuity** of the following connections:

- connection code **3PL**,
 - connection code **3CQ**,
- between components **120** and **746**.

Check **the + 12 V after relay feed** to the camshaft sensor.

- connection **3FB** of component **746**.

If the connection or connections are faulty and there is a repair method (**see Technical Note 6015A, Repairing electrical wiring, wiring: precautions for repair**), repair the wiring, otherwise replace it.

- Check the conformity of the camshaft sprocket/camshaft assembly.

- Check the timing adjustment.

Carry out the necessary repairs.

If the fault is still present, contact the Techline.

AFTER REPAIR	Deal with any other faults. Clear the fault memory. Switch off the ignition until the end of the power-latch phase, and carry out a road test followed by a check using the diagnostic tool .
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DF120 PRESENT OR STORED	<u>ENGINE SPEED SENSOR SIGNAL</u> 1.DEF : Engine speed signal interference, broken tooth on flywheel or engine speed sensor internal fault 2.DEF : No engine speed signal, or interference affecting engine speed signal
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NOTES	<p>Conditions for applying the fault finding procedure to stored faults: If the fault is declared present after:</p> <ul style="list-style-type: none"> – starting the engine, – a road test, – attempting to start the engine. <p>Special notes: The engine speed sensor is consistent with the camshaft sensor. If the fault is present:</p> <ul style="list-style-type: none"> – particle filter regeneration is inhibited. – the level 2 warning light is lit. <p>Use bornier Elé. 1681 for all operations on the injection computer connectors.</p> <p>Use the Wiring Diagram Technical Note, Laguna II ph2, Vel Satis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2.</p>
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<p>Check the condition of the engine speed sensor connector (see Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II, Scénic II ph2, Component code 149).</p> <p>Check the condition of the engine management computer connector (see Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II, Scénic II ph2, Component code 120).</p> <p>If one of the connectors is faulty and there is a repair method (see Technical Note 6015A, Repairing electrical wiring, wiring: precautions for repair), repair the connector, otherwise replace the wiring.</p>
<p>Check that the sensor is securely attached.</p> <p>Measure the resistance between connections 3BG and 3BL of component 149.</p> <p>If the winding resistance is not between 600 Ω and 1000 Ω, replace the engine speed sensor.</p>
<p>Check the continuity, insulation from + 12 V and absence of interference resistance on the following connections:</p> <ul style="list-style-type: none"> – connection code 3BG, – connection code 3BL, <p>between components 120 and 149.</p> <p>If the connection or connections are faulty and there is a repair method (see Technical Note 6015A, Repairing electrical wiring, wiring: precautions for repair), repair the wiring, otherwise replace it.</p>
<p>If the fault is still present, replace the engine speed sensor.</p>

AFTER REPAIR	<p>Deal with any other faults. Clear the fault memory.</p> <p>Switch off the ignition until the end of the power-latch phase, and carry out a road test followed by a check using the diagnostic tool.</p>
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EDC16CP33_V18_DF120/EDC16CP33_V1C_DF120/EDC16CP33_V54_DF120
/EDC16CP33_V20_DF120/EDC16CP33_V58_DF120/EDC16CP33_V5C_DF120/EDC16CP33_V24_DF120

DIESEL INJECTION

Fault finding - Interpretation of faults

13B

DF151 STORED	<u>MAIN RELAY CIRCUIT</u> 1.DEF: Relay cut off too soon 2.DEF: Relay cut off too late
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NOTES	Special notes: The level 1 warning light is lit. Use the Wiring Diagram Technical Note, Laguna II ph2, Vel Satis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2.
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1.DEF	NOTES	None
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<p>Check the condition of the injection supply relay mounting connector (see Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2, Component code 983).</p> <p>Check the condition of the engine management computer connector (see Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2, Component code 120).</p> <p>If one of the connectors is faulty and there is a repair procedure (see Technical Note 6015A, Electrical wiring repair, wiring: precautions for repair), repair the connector, otherwise replace the wiring.</p>
<p>Check the tightness and the condition of the + and - battery terminals.</p>
<p>Check the conformity of the main relay (relay removed):</p> <ul style="list-style-type: none"> – Insulation between connections 3FB and BP37 of component 983. – Measure the resistance between connections 3AA and BP37 of component 983. <p>(see Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2, Component code 983).</p> <p>Replace the relay if its resistance is less than 6 Ω or greater than 1 kΩ.</p>
<p>Check the + 12 V battery supply to the injection supply relay.</p> <ul style="list-style-type: none"> – connection BP37 or 3MV of component 983, <p>Check the + 12 V after relay feed to the injection supply relay.</p> <ul style="list-style-type: none"> – connection 3FB of component 983, <p>Check the continuity and insulation from + 12 V of the following connection:</p> <ul style="list-style-type: none"> – connection code 3AA, <p>between components 120 and 983.</p> <p>If the connection or connections are faulty and there is a repair method (see Technical Note 6015A, Repairing electrical wiring, wiring: precautions for repair), repair the wiring, otherwise replace it.</p>

AFTER REPAIR	Deal with any other faults. Clear the fault memory. Switch off the ignition until the end of the power-latch phase, and carry out a road test followed by a check using the diagnostic tool .
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DF151 CONTINUED	
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Check **the + 12 V after relay feed** to the engine management computer:
– connection code **3FB** of component **120**.
Check the conformity of the earths on the **NT** connections of component **120**.
If the connection or connections are faulty and there is a repair method (**see Technical Note 6015A, Repairing electrical wiring, wiring: precautions for repair**), repair the wiring, otherwise replace it.

If the fault is still present, replace the injection feed relay.

2.DEF	NOTES	None
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Check the condition of the injection supply relay mounting connector (**see Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2, Component code 983**).
Check the condition of the engine management computer connector (**see Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2, Component code 120**).
If one of the connectors is faulty and there is a repair procedure (**see Technical Note 6015A, Electrical wiring repair, wiring: precautions for repair**), repair the connector, otherwise replace the wiring.

Check the conformity of the main relay (relay removed):
– **Insulation** between connections **3FB** and **BP37** of component **983**.
– Measure **the resistance** between connections **3AA** and **BP37** of component **983**.
(**see Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2, Component code 983**).
Replace the relay if its resistance is **less than 6 Ω** or **greater than 1 kΩ**.

Check the **insulation to earth** of the following connection:
– connection code **3AA**,
between components **120** and **983**.
If the connection is faulty and there is a repair procedure (**see Technical Note 6015A, Electrical wiring repair, wiring: precautions for repair**), repair the wiring, otherwise replace it.

If the fault is still present, replace the injection feed relay.

AFTER REPAIR	Deal with any other faults. Clear the fault memory. Switch off the ignition until the end of the power-latch phase, and carry out a road test followed by a check using the diagnostic tool .
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DF165 PRESENT OR STORED	<u>ACCELERATOR PEDAL POSITION SENSOR CIRCUIT</u> 1.DEF: Signal incoherence 2.DEF: Accelerator pedal sensor locked 3.DEF: Pedal error
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NOTES	<p>Priorities when dealing with a number of faults: Deal with fault DF012 Sensor feed no. 2 voltage first, if it is present or stored.</p> <p>Conditions for applying the fault finding procedure to stored faults: The fault is declared present when the brake pedal and accelerator pedal are depressed simultaneously.</p> <p>Special notes: Turbocharging and cruise control are not authorised. Engine speed is fixed at 1400 rpm. Use bornier Elé. 1681 for any work on the computer connectors.</p> <p>Use the Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2.</p>
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<p>Check the condition of the pedal sensor connector (see Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2, Component code 921).</p> <p>Check the condition of the engine management computer connector (see Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2, Component code 120).</p> <p>If one of the connectors is faulty and there is a repair procedure (see Technical Note 6015A, Electrical wiring repair, wiring: precautions for repair), repair the connector, otherwise replace the wiring.</p>
<p>Measure the resistance between connections 3LT and 3LR of component 921. Replace the sensor if the resistance is not: 1.2 kΩ ± 0.50 kΩ or 1.7 kΩ ± 0.79 kΩ (M9R721).</p>
<p>Measure the resistance between connections 3LU and 3LV of component 921. Replace the sensor if the resistance is not: 1.7 kΩ ± 0.70 kΩ or 387 kΩ ± 1.03 kΩ (M9R721).</p>
<p>Check the continuity and absence of interference resistance of the following connections:</p> <ul style="list-style-type: none"> – connection code 3LR between components 120 and 921. – connection code 3LS between components 120 and 921. – connection code 3LT between components 120 and 921. – connection code 3LU, between components 120 and 921. – connection code 3LW between components 120 and 921. – connection code 3LV between components 120 and 921. <p>If the connection or connections are faulty and there is a repair method (see Technical Note 6015A, Repairing electrical wiring, wiring: precautions for repair), repair the wiring, otherwise replace it.</p>
<p>If the fault is still present, contact the Techline.</p>

AFTER REPAIR	<p>Deal with any other faults. Clear the fault memory.</p> <p>Switch off the ignition until the end of the power-latch phase, and carry out a road test followed by a check using the diagnostic tool.</p>
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DIESEL INJECTION

Fault finding - Interpretation of faults

13B

DF195 PRESENT OR STORED	<u>ENGINE SPEED/CAMSHAFT SENSOR CONSISTENCY</u> 1.DEF: No engine speed signal, or interference affecting engine speed signal
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NOTES	Priorities when dealing with a number of faults: Firstly, deal with the following faults: DF119: Camshaft sensor signal and DF120: Engine speed sensor signal if they are present or stored.
	Conditions for applying the fault finding procedure to stored faults: The fault is declared present after the starter has been running for 10 seconds or a 1 min delay with the engine running.
	Special notes: Use bornier Elé. 1681 for any work on the computer connectors.
	Use the Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2.

Check the sensor mounting and the conformity of the camshaft target.
Check the condition of the engine speed sensor connector (see Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2, Component code 149). Check the condition of the camshaft sensor connector (see Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2, Component code 746). Check the condition of the engine management computer connector (see Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2, Component code 120). If one of the connectors is faulty and there is a repair procedure (see Technical Note 6015A, Electrical wiring repair, wiring: precautions for repair), repair the connector, otherwise replace the wiring.
<ul style="list-style-type: none"> – Check the conformity of the camshaft sprocket/camshaft assembly. – Check the timing adjustment. Carry out the necessary repairs.
If the fault is still present, contact the Techline.

AFTER REPAIR	Deal with any other faults. Clear the fault memory. Switch off the ignition until the end of the power-latch phase, and carry out a road test followed by a check using the diagnostic tool .
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EDC16CP33_V18_DF195/EDC16CP33_V1C_DF195/EDC16CP33_V54_DF195
/EDC16CP33_V20_DF195/EDC16CP33_V58_DF195/EDC16CP33_V5C_DF195/EDC16CP33_V24_DF195

DIESEL INJECTION

Fault finding - Interpretation of faults

13B

DF196 PRESENT OR STORED	PEDAL SENSOR CIRCUIT GANG 1 CO.0 : Open circuit or short circuit to earth CC.1 : Short circuit to + 12 V 1.DEF: Consistency between gang 1 and gang 2
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NOTES	<p>Priorities when dealing with a number of faults: Deal with fault DF011 Sensor supply voltage no. 1 first if it is present or stored.</p> <p>Conditions for applying the fault finding procedure to stored faults: The fault is declared present after a series of full load/no load actions on the accelerator pedal.</p> <p>Special notes:</p> <ul style="list-style-type: none"> – engine torque limited, – cruise control disabled, – the level 1 warning light is lit, – idling speed is 1400 rpm, – use bornier Elé. 1681 for any work on the computer connectors. <p>Use the Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2.</p>
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CO.0	NOTES	<p>Dealing with a number of faults: If there is a simultaneous occurrence of fault DF198 Pedal sensor circuit gang 2, check that the pedal sensor connector is connected correctly.</p>
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<p>Check the condition of the pedal sensor connector (see Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2, Component code 921).</p> <p>Check the condition of the engine management computer connector (see Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2, Component code 120).</p> <p>If one of the connectors is faulty and there is a repair procedure (see Technical Note 6015A, Electrical wiring repair, wiring: precautions for repair), repair the connector, otherwise replace the wiring.</p>
<p>Measure the resistance between connections 3LT and 3LR of component 921. Replace the sensor if the resistance is less than 500 Ω or greater than 2 kΩ. Measure the resistance between connections 3LT and 3LS of component 921. Replace the sensor if the resistance is less than 500 Ω or greater than 10 kΩ.</p>

AFTER REPAIR	<p>Deal with any other faults. Clear the fault memory. Switch off the ignition until the end of the power-latch phase, and carry out a road test followed by a check using the diagnostic tool.</p>
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DF196 CONTINUED 1	
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Check **the continuity** of the following connections:

- connection code **3LS**,
 - connection code **3LR**,
- between components **120** and **921**.

Check **insulation** against **earth** of the following connection:

- connection code **3LS**,
- between components **120** and **921**.

If the connection or connections are faulty and there is a repair method (**see Technical Note 6015A, Repairing electrical wiring, wiring: precautions for repair**), repair the wiring, otherwise replace it.

CC.1	NOTES	None
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Check the condition of the pedal sensor connector (**see Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2, Component code 921**).

Check the condition of the engine management computer connector (**see Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2, Component code 120**).

If one of the connectors is faulty and there is a repair procedure (**see Technical Note 6015A, Electrical wiring repair, wiring: precautions for repair**), repair the connector, otherwise replace the wiring.

Measure **the resistance** between connections **3LT** and **3LR** of component **921**.

Replace the sensor if the resistance is **less than 500 Ω** or **greater than 2 kΩ**.

Measure **the resistance** between connections **3LT** and **3LS** of component **921**.

Replace the sensor if the resistance is **less than 500 Ω** or **greater than 10 kΩ**.

Check the **insulation** from **+ 12 V** and **+ 5 V** (computer feeds) of the following connection:

- connection code **3LS**,
- between components **120** and **921**.

Check **the continuity** of the following connection:

- connection code **3LT**,
- between components **120** and **921**.

If the connection or connections are faulty and there is a repair method (**see Technical Note 6015A, Repairing electrical wiring, wiring: precautions for repair**), repair the wiring, otherwise replace it.

AFTER REPAIR	<p>Deal with any other faults. Clear the fault memory.</p> <p>Switch off the ignition until the end of the power-latch phase, and carry out a road test followed by a check using the diagnostic tool.</p>
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DIESEL INJECTION

Fault finding - Interpretation of faults

13B

DF196 CONTINUED 2	
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1.DEF	NOTES	None
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<p>Check the condition of the pedal sensor connector (see Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2, Component code 921).</p> <p>Check the condition of the engine management computer connector (see Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2, Component code 120).</p> <p>If one of the connectors is faulty and there is a repair procedure (see Technical Note 6015A, Electrical wiring repair, wiring: precautions for repair), repair the connector, otherwise replace the wiring.</p>
<p>Measure the resistance between connections 3LT and 3LR of component 921. Replace the sensor if the resistance is less than 500 Ω or greater than 2 kΩ.</p> <p>Measure the resistance between connections 3LT and 3LS of component 921. Replace the sensor if the resistance is less than 500 Ω or greater than 10 kΩ.</p> <p>Measure the resistance between connections 3LU and 3LV of component 921. Replace the sensor if the resistance is less than 500 Ω or greater than 3 kΩ.</p> <p>Measure the resistance between connections 3LV and 3LW of component 921. Replace the sensor if the resistance is less than 500 Ω or greater than 10 kΩ.</p>
<p>Check for continuity and absence of interference resistance of the following connections:</p> <ul style="list-style-type: none"> – connection code 3LR between components 120 and 921, – connection code 3LS between components 120 and 921, – connection code 3LT between components 120 and 921, – connection code 3LU between components 120 and 921, – connection code 3LW between components 120 and 921, – connection code 3LV between components 120 and 921. <p>Check the insulation between the following connections:</p> <ul style="list-style-type: none"> – connection code 3LS between components 120 and 921, – connection code 3LW between components 120 and 921. <p>If the connection or connections are faulty and there is a repair method (see Technical Note 6015A, Repairing electrical wiring, wiring: precautions for repair), repair the wiring, otherwise replace it.</p>
<p>If the fault is still present, vary the pedal position and refer to the interpretation of parameter PR086: Pedal potentiometer gang 1 voltage to check the accelerator pedal sensor operating values. If the values displayed are inconsistent, replace the accelerator pedal sensor.</p>

AFTER REPAIR	<p>Deal with any other faults. Clear the fault memory.</p> <p>Switch off the ignition until the end of the power-latch phase, and carry out a road test followed by a check using the diagnostic tool.</p>
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DIESEL INJECTION

Fault finding - Interpretation of faults

13B

DF198 PRESENT OR STORED	<u>PEDAL SENSOR CIRCUIT GANG 2</u> CO.0 : Open circuit or short circuit to earth CC.1 : Short circuit to + 12 V 1.DEF: Consistency between gang 1 and gang 2
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NOTES	<p>Priorities when dealing with a number of faults: Deal with fault DF012 Sensor feed no. 2 voltage first, if it is present or stored.</p> <p>Conditions for applying the fault finding procedure to stored faults: The fault is declared present after a series of full load/no load actions on the accelerator pedal.</p> <p>Special notes:</p> <ul style="list-style-type: none"> – engine torque limited, – cruise control disabled, – the level 1 warning light is lit, – idling speed is 1400 rpm, – use bornier Elé. 1681 for any work on the computer connectors. <p>Use the Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2.</p>
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CO.0	NOTES	<p>Dealing with a number of faults: If there is a simultaneous occurrence of fault DF196 Pedal sensor circuit gang 1, check that the pedal sensor connector is connected correctly.</p>
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<p>Check the condition of the pedal sensor connector (see Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2, Component code 921).</p> <p>Check the condition of the engine management computer connector (see Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2, Component code 120).</p> <p>If one of the connectors is faulty and there is a repair procedure (see Technical Note 6015A, Electrical wiring repair, wiring: precautions for repair), repair the connector, otherwise replace the wiring.</p>	
<p>Measure the resistance between connections 3LV and 3LU of component 921. Replace the sensor if the resistance is less than 500 Ω or greater than 3 kΩ. Measure the resistance between connections 3LV and 3LW of component 921. Replace the sensor if the resistance is less than 500 Ω or greater than 10 kΩ.</p>	

AFTER REPAIR	<p>Deal with any other faults. Clear the fault memory. Switch off the ignition until the end of the power-latch phase, and carry out a road test followed by a check using the diagnostic tool.</p>
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EDC16CP33_V18_DF198/EDC16CP33_V1C_DF198/EDC16CP33_V54_DF198
/EDC16CP33_V20_DF198/EDC16CP33_V58_DF198/EDC16CP33_V5C_DF198/EDC16CP33_V24_DF198

DF198 CONTINUED 1	
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Check **the continuity** of the following connections:

- connection code **3LU**, between components **120** and **921**.
- connection code **3LW** between components **120** and **921**.

Check **insulation** against **earth** of the following connection:

- connection code **3LW** between components **120** and **921**.

If the connection or connections are faulty and there is a repair method (**see Technical Note 6015A, Repairing electrical wiring, wiring: precautions for repair**), repair the wiring, otherwise replace it.

CC.1	NOTES	None
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Check the condition of the pedal sensor connector (**see Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2, Component code 921**).

Check the condition of the engine management computer connector (**see Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2, Component code 120**).

If one of the connectors is faulty and there is a repair procedure (**see Technical Note 6015A, Electrical wiring repair, wiring: precautions for repair**), repair the connector, otherwise replace the wiring.

Measure **the resistance** between connections **3LV** and **3LU** of component **921**.

Replace the sensor if the resistance is **less than 500 Ω** or **greater than 3 kΩ**.

Measure **the resistance** between connections **3LV** and **3LW** of component **921**.

Replace the sensor if the resistance is **less than 500 Ω** or **greater than 10 kΩ**.

Check the **insulation** from **+ 12 V** and **+ 5 V** (computer feeds) of the following connection:

- connection code **3LW** between components **120** and **921**.

Check **the continuity** of the following connection:

- connection code **3LV** between components **120** and **921**.

If the connection or connections are faulty and there is a repair method (**see Technical Note 6015A, Repairing electrical wiring, wiring: precautions for repair**), repair the wiring, otherwise replace it.

AFTER REPAIR	<p>Deal with any other faults. Clear the fault memory.</p> <p>Switch off the ignition until the end of the power-latch phase, and carry out a road test followed by a check using the diagnostic tool.</p>
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DF198 CONTINUED 2	
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1.DEF	NOTES	None
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<p>Check the condition of the pedal sensor connector (see Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2, Component code 921).</p> <p>Check the condition of the engine management computer connector (see Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2, Component code 120).</p> <p>If one of the connectors is faulty and there is a repair procedure (see Technical Note 6015A, Electrical wiring repair, wiring: precautions for repair), repair the connector, otherwise replace the wiring.</p>
<p>Measure the resistance between connections 3LR and 3LT of component 921. Replace the sensor if the resistance is less than 500 Ω or greater than 2 kΩ.</p> <p>Measure the resistance between connections 3LS and 3LT of component 921. Replace the sensor if the resistance is less than 500 Ω or greater than 10 kΩ.</p> <p>Measure the resistance between connections 3LV and 3LU of component 921. Replace the sensor if the resistance is less than 500 Ω or greater than 3 kΩ.</p> <p>Measure the resistance between connections 3LV and 3LW of component 921. Replace the sensor if the resistance is less than 500 Ω or greater than 10 kΩ.</p>
<p>Check for continuity and absence of interference resistance of the following connections:</p> <ul style="list-style-type: none"> – connection code 3LR between components 120 and 921. – connection code 3LS between components 120 and 921. – connection code 3LT between components 120 and 921. – connection code 3LU, between components 120 and 921. – connection code 3LW between components 120 and 921. – connection code 3LV between components 120 and 921. <p>Check the insulation between the following connections:</p> <ul style="list-style-type: none"> – connection code 3LW between components 120 and 921, – connection code 3LS between components 120 and 921. <p>If the connection or connections are faulty and there is a repair method (see Technical Note 6015A, Repairing electrical wiring, wiring: precautions for repair), repair the wiring, otherwise replace it.</p>
<p>If the fault is still present, vary the pedal position and refer to the interpretation of parameter PR088: Pedal potentiometer gang 2 voltage to check the accelerator pedal sensor operating values. If the values displayed are inconsistent, replace the accelerator pedal sensor.</p>

AFTER REPAIR	<p>Deal with any other faults. Clear the fault memory.</p> <p>Switch off the ignition until the end of the power-latch phase, and carry out a road test followed by a check using the diagnostic tool.</p>
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DF200 PRESENT OR STORED	<u>ATMOSPHERIC PRESSURE SENSOR</u> 1.DEF: Above maximum threshold 2.DEF: Below minimum threshold
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NOTES	<p>Conditions for applying the fault finding procedure to stored faults: The fault appears after: – the ignition is switched on. – the engine is started, – a road test.</p> <p>Special notes: The EOBD (European On Board Diagnostic) warning light is lit. The atmospheric pressure sensor is integrated into the injection computer, and cannot be separated.</p> <p>If the fault is present: – there is light smoke, – the atmospheric pressure value changes to defect mode, PR035 Atmospheric pressure = 0.75 bar. Use bornier Elé. 1681 for any work on the computer connectors.</p> <p>Use the Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2.</p>
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Disconnect the injection computer and check the condition of the engine management computer connector (**see Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2, Component code 120**).

If one of the connectors is faulty and there is a repair procedure (**see Technical Note 6015A, Electrical wiring repair, wiring: precautions for repair**), repair the connector, otherwise replace the wiring.

Check the value of **PR035 Atmospheric pressure** by comparing it with the reading on a conforming vehicle in the workshop.

If the **PR035 Atmospheric pressure** value is not correct (difference greater than 0.1 bar between the 2 vehicles), contact the Techline.

AFTER REPAIR	Deal with any other faults. Clear the fault memory. Switch off the ignition until the end of the power-latch phase, and carry out a road test followed by a check using the diagnostic tool .
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DIESEL INJECTION

Fault finding - Interpretation of faults

13B

DF209 PRESENT OR STORED	<u>EGR VALVE POSITION SENSOR CIRCUIT</u> CC.0 : Short circuit to earth CO.0 : Open circuit or short circuit to earth CO.1 : Open circuit or short circuit to + 12 V. 1.DEF : Open circuit or short circuit.
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NOTES	Priorities when dealing with a number of faults: Deal with faults DF046 Battery voltage or DF012 Sensor feed voltage no. 2 first if they are present or stored.
	Conditions for applying the fault finding procedure to stored faults: The fault appears after: <ul style="list-style-type: none"> – the ignition is switched on. – the engine is started, – a road test.
	Special notes: If the fault is present: <ul style="list-style-type: none"> – the EOBD (European On Board Diagnostic) warning light is lit, – EGR programming cut-off: valve in the closed position, – particle filter regeneration is inhibited, Use the Elé. 1681 bornier for all operations on the engine management computer connector.
	Use the Wiring Diagram Technical Note, Laguna II ph2, Vel Satis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2.

CO.1/ 1.DEF	NOTES	None
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<p>Check the condition of the EGR valve connector (see Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2, Component code 1460 or 169).</p> <p>Check the condition of the engine management computer connector (see Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2, Component code 120).</p> <p>If one of the connectors is faulty and there is a repair procedure (see Technical Note 6015A, Electrical wiring repair, wiring: precautions for repair), repair the connector, otherwise replace the wiring.</p>
<p>Measure the resistance between connections 3GC and 3JM (sensor feed and sensor earth), and between connections 3EL and 3JM (sensor signal and sensor earth) of component 1460 or 169.</p> <p>Replace the valve if the resistances are less than 1 kΩ.</p> <p>After replacement, run command SC036 Reinitialise programming and select EGR VALVE to reinitialise the EGR valve offsets.</p>

AFTER REPAIR	Deal with any other faults. Clear the fault memory. Switch off the ignition until the end of the power-latch phase, and carry out a road test followed by a check using the diagnostic tool .
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EDC16CP33_V18_DF209/EDC16CP33_V1C_DF209/EDC16CP33_V54_DF209
/EDC16CP33_V20_DF209/EDC16CP33_V58_DF209/EDC16CP33_V5C_DF209/EDC16CP33_V24_DF209

DF209 CONTINUED 1	
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<p>Check the insulation from + 12 V and + 5 V (computer feeds) of the following connection:</p> <ul style="list-style-type: none"> – connection code 3EL, between components 120 and 1460 or 169. <p>Check the continuity of the following connection:</p> <ul style="list-style-type: none"> – connection code 3JM, between components 120 and 1460 or 169. <p>Check the insulation between the following connections:</p> <ul style="list-style-type: none"> – connection code 3EL, between components 120 and 1460 or 169. – connection code 3VP, between components 120 and 1460 or 169. <p>If the connection or connections are faulty and there is a repair method (see Technical Note 6015A, Repairing electrical wiring, wiring: precautions for repair), repair the wiring, otherwise replace it.</p> <p>If the fault is still present, contact the Techline.</p>
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CO.0/ CC.0	NOTES	None
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<p>Check the condition of the EGR valve connector (see Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2, Component code 1460 or 169).</p> <p>Check the condition of the engine management computer connector (see Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2, Component code 120).</p> <p>If one of the connectors is faulty and there is a repair procedure (see Technical Note 6015A, Electrical wiring repair, wiring: precautions for repair), repair the connector, otherwise replace the wiring.</p> <p>Measure the resistance between connections 3GC and 3JM (sensor feed and sensor earth), and between connections 3EL and 3JM (sensor signal and sensor earth) of component 1460 or 169.</p> <p>Replace the valve if the resistances are greater than 15 kΩ.</p> <p>After replacement, run command SC036 Reinitialise programming and select EGR valve to reinitialise the EGR valve offsets.</p> <p>Check the continuity of the following connections:</p> <ul style="list-style-type: none"> – connection code 3EL, between components 120 and 1460 or 169. – connection code 3GC between components 120 and 1460 or 169. <p>Check insulation against earth of the following connection:</p> <ul style="list-style-type: none"> – connection code 3EL, between components 120 and 1460 or 169. <p>Check the insulation between the following connections:</p> <ul style="list-style-type: none"> – connection code 3EL, between components 120 and 1460 or 169. – connection code 3VQ, between components 120 and 1460 or 169. <p>If the connection or connections are faulty and there is a repair method (see Technical Note 6015A, Repairing electrical wiring, wiring: precautions for repair), repair the wiring, otherwise replace it.</p> <p>If the fault is still present, contact the Techline.</p>
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AFTER REPAIR	<p>Deal with any other faults. Clear the fault memory.</p> <p>Switch off the ignition until the end of the power-latch phase, and carry out a road test followed by a check using the diagnostic tool.</p>
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DF221 STORED	<p><u>CLUTCH CONTACT SIGNAL</u></p> <p>1.DEF: Clutch inconsistency upon gear change</p>
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NOTES	<p>Conditions for applying the fault finding procedure to stored faults: If the fault becomes present during a road test at speeds higher than 21 mph (35 km/h).</p> <p>Special notes: – the cruise control/speed limiter function is switched off. Use the Elé. 1681 bornier for all operations on the engine management computer connector.</p> <p>Use the Wiring Diagram Technical Note, Laguna II ph2, Vel Satis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2.</p>
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<p>Check the condition of the clutch switch connector (see Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2, Component code 675).</p> <p>Check the condition of the engine management computer connector (see Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2, Component code 120).</p> <p>If one of the connectors is faulty and there is a repair procedure (see Technical Note 6015A, Electrical wiring repair, wiring: precautions for repair), repair the connector, otherwise replace the wiring.</p>	
<p>– View status ET405 Clutch pedal switch, normally INACTIVE if the pedal is not depressed.</p> <p>– Depress the clutch pedal and note whether this status becomes ACTIVE.</p>	
<p>If it changes to ACTIVE, when the clutch pedal is in the rest position.</p> <p>Clear the fault, switch off the ignition, wait for the end of the power-latch (wait for the message to appear on the diagnostic tool (maximum time 8 min): "Loss of communication with the computer: EDC16 CP33 Injection, check the connection of the tool and the computer supply voltage") and switch the ignition back on.</p> <p>Carry out a road test and then take a fault reading. If the fault recurs, contact the Techline.</p>	
<p>If it does not change to ACTIVE when the clutch pedal is depressed.</p> <p>– Remove the clutch pedal switch, check the insulation with the switch in the rest position between connections M and 86D of component 675.</p> <p>– Press the clutch switch and check the continuity between connections M and 86D of component 675.</p> <p>If these 2 checks are not in order, replace the switch.</p> <p>Then check the continuity and absence of interference resistance of the following connection:</p> <p>– Connection code 86D between components 120 and 675.</p> <p>– Make sure that the earth is in order on connection M of component 675.</p> <p>If the connection or connections are faulty and there is a repair method (see Technical Note 6015A, Repairing electrical wiring, wiring: precautions for repair), repair the wiring, otherwise replace it.</p>	

AFTER REPAIR	<p>Deal with any other faults. Clear the fault memory.</p> <p>Switch off the ignition until the end of the power-latch phase, and carry out a road test followed by a check using the diagnostic tool.</p>
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DIESEL INJECTION

Fault finding - Interpretation of faults

13B

DF228 PRESENT OR STORED	<u>BRAKE SIGNAL</u> 1.DEF: Consistency with redundant brakes 2.DEF: Engine deceleration too high
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NOTES	Conditions for applying the fault finding procedure to stored faults: The fault is declared present after the brake pedal is depressed.
	Special notes: If the fault is present: – cruise control/speed limiter function switched off. Use the Elé. 1681 bornier for all operations on the engine management computer connector.
	Use the Wiring Diagram Technical Note, Laguna II ph2, Vel Satis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2.

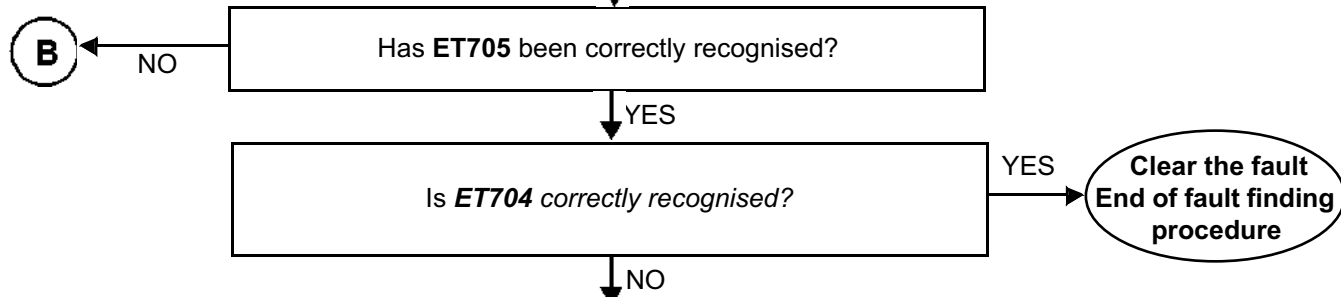
AFTER REPAIR	Deal with any other faults. Clear the fault memory. Switch off the ignition until the end of the power-latch phase, and carry out a road test followed by a check using the diagnostic tool .
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EDC16CP33_V18_DF228/EDC16CP33_V1C_DF228/EDC16CP33_V54_DF228
/EDC16CP33_V20_DF228/EDC16CP33_V58_DF228/EDC16CP33_V5C_DF228/EDC16CP33_V24_DF228

DF228
CONTINUED 1

From the List of statuses menu, check **ET704 Brake contact no. 1** and **ET705 Brake contact no. 2** and check:

- | | | | |
|--------------------------------|-------------------------|-----|-------------------------|
| – brake pedal in rest position | ET704 = INACTIVE | and | ET705 = INACTIVE |
| – brake pedal depressed | ET704 = ACTIVE | and | ET705 = ACTIVE |



Check the condition of the brake pedal switch connector (see **Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2, Component code 160**).
Check the condition of the anti-lock braking system computer connector (see **Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2, Component code 1094**).

Check the condition of the engine management computer connector (see **Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2, Component code 120**).

If one of the connectors is faulty and there is a repair procedure (see **Technical Note 6015A, Electrical wiring repair, wiring: precautions for repair**), repair the connector, otherwise replace the wiring.

Check the **+ 12 V after relay feed** to the brake pedal switch:

- connection code **SP13** of component **160**,
- connection code **AP10** of component **160**.

Disconnect the ABS - ESP and check the **continuity and insulation** against **+ 12 V** and against **earth** of the following connection:

- Connection code **65A**,
between components **1094** and **160**.

If the connection or connections are faulty and there is a repair method (see **Technical Note 6015A, Repairing electrical wiring, wiring: precautions for repair**), repair the wiring, otherwise replace it.

Remove the brake pedal switch and check that it is working correctly:

- in rest position: infinite resistance between connections **SP13** and **5A** of component **160**.
- engaged: continuity between connections **SP13** and **5A** of component **160**.

Replace the switch if necessary.

If the fault is still present, run fault finding on the **Anti-lock Braking System - electronic stability program**; if no irregularity is detected, then run **multiplexed network fault finding**.

AFTER REPAIR

Deal with any other faults. Clear the fault memory.
Switch off the ignition until the end of the power-latch phase, and carry out a road test followed by a check using the **diagnostic tool**.

DF228
CONTINUED 2

B

Check the condition of the brake pedal switch connector (see **Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2, Component code 160**).

Check the condition of the engine management computer connector (see **Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2, Component code 120**).

If one of the connectors is faulty and there is a repair procedure (see **Technical Note 6015A, Electrical wiring repair, wiring: precautions for repair**), repair the connector, otherwise replace the wiring.

Remove and check the condition and setting of the brake pedal switch. Repair if necessary.

Check **the + 12 V after relay feed** to the brake pedal switch:

- connection code **SP13** of component **160**,
- connection code **AP10** of component **160**.

If the connection or connections are faulty and there is a repair method (see **Technical Note 6015A, Repairing electrical wiring, wiring: precautions for repair**), repair the wiring, otherwise replace it.

Disconnect the ABS/ESP computer and check the **continuity and insulation** from **+ 12 V** and **earth insulation** of the following connection:

- connection code **5A** between components **120** and **160**.

If the connection or connections are faulty and there is a repair method (see **Technical Note 6015A, Repairing electrical wiring, wiring: precautions for repair**), repair the wiring, otherwise replace it.

Check that the brake pedal switch is working correctly:

- in rest position: infinite resistance between connections **SP13** and **5A** of component **160**.
- engaged: continuity between connections **SP13** and **5A** of component **160**.

Replace the switch if necessary.

If the fault is still present, repeat the procedure from the start.

AFTER REPAIR

Deal with any other faults. Clear the fault memory.

Switch off the ignition until the end of the power-latch phase, and carry out a road test followed by a check using the **diagnostic tool**.

DIESEL INJECTION

Fault finding - Interpretation of faults

13B

DF228 CONTINUED 3	
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2.DEF	NOTES	Conditions for applying the fault finding procedure to stored faults: The fault is declared present after the brake pedal is depressed.
		Special notes: If the fault is present: – cruise control/speed limiter function switched off. Use bornier Elé. 1681 for all operations on the engine management computer connectors.

<p>Check the condition of the anti-lock braking system computer connector (see Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2, Component code 1094).</p> <p>Check the condition of the engine management computer connector (see Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2, Component code 120).</p> <p>If one of the connectors is faulty and there is a repair procedure (see Technical Note 6015A, Electrical wiring repair, wiring: precautions for repair), repair the connector, otherwise replace the wiring.</p>
<p>Carry out a full fault finding check on the ABS (see 38C Anti-lock braking system).</p> <p>Repair if necessary.</p>
<p>Run complete fault finding on the multiplex network (see 88B, Multiplex).</p> <p>Repair if necessary.</p>
<p>If the fault is still present, contact the Techline.</p>

AFTER REPAIR	<p>Deal with any other faults. Clear the fault memory.</p> <p>Switch off the ignition until the end of the power-latch phase, and carry out a road test followed by a check using the diagnostic tool.</p>
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DIESEL INJECTION

Fault finding - Interpretation of faults

13B

DF249 PRESENT OR STORED	<u>INJECTOR CONTROL</u> 1.DEF: Internal electronic fault
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NOTES	Conditions for applying the fault finding procedure to stored faults: If the fault recurs as present after: – the ignition is switched on, – the engine is started.
	Priority when dealing with a number of faults: Deal with faults DF046 Battery voltage , DF026 Injector cylinder 1 control circuit , DF027 Injector cylinder 2 control circuit , DF028 Injector cylinder 3 control circuit and DF029 Injector cylinder 4 control circuit first if they are present or stored.
	Special notes: If the fault is present: – in certain cases, the level 2 warning light is lit and the engine is stopped. Use bornier Elé. 1681 for all operations on the engine management computer connectors.
	Use the Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2.

This fault appears when the computer detects a fault on the injector control section.
Check the condition of the injector connectors (see Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2, Component codes 193, 194, 195, 196). Check the condition of the engine management computer connector (see Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2, Component code 120). If one of the connectors is faulty and there is a repair procedure (see Technical Note 6015A, Electrical wiring repair, wiring: precautions for repair), repair the connector, otherwise replace the wiring.
Check the continuity and insulation of the following connections: – connection code 3KW , between components 120 and 193 , – connection code 3CR , between components 120 and 193 , – connection code 3KX , between components 120 and 194 , – connection code 3CS , between components 120 and 194 , – connection code 3KY , between components 120 and 195 , – connection code 3CT , between components 120 and 195 , – connection code 3KZ , between components 120 and 196 , – connection code 3CU , between components 120 and 196 . If the connection or connections are faulty and there is a repair method (see Technical Note 6015A, Repairing electrical wiring, wiring: precautions for repair), repair the wiring, otherwise replace it.
If the fault is still present, contact the Techline.

AFTER REPAIR	Deal with any other faults. Clear the fault memory. Switch off the ignition until the end of the power-latch phase, and carry out a road test followed by a check using the diagnostic tool .
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EDC16CP33_V18_DF249/EDC16CP33_V1C_DF249/EDC16CP33_V54_DF249
/EDC16CP33_V20_DF249/EDC16CP33_V58_DF249/EDC16CP33_V5C_DF249/EDC16CP33_V24_DF249

DIESEL INJECTION

Fault finding - Interpretation of faults

13B

DF265 PRESENT OR STORED	<u>INJECTOR NO. 1</u> 1.DEF: Internal electronic fault
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NOTES	Priority when dealing with a number of faults: Deal with fault DF026 Cylinder 1 injector control circuit first, if it is present or stored.
	Conditions for applying the fault finding procedure to stored faults: If the fault recurs as present after: <ul style="list-style-type: none"> – the engine is started, – a road test.
	IMPORTANT <ul style="list-style-type: none"> – cylinder no. 1 is located at the timing end, – observe the cleanliness guidelines and safety advice, – do not disconnect the injector connections with the engine running as this may damage the engine.
	Special notes: If the fault is present: <ul style="list-style-type: none"> – reduced driving pleasure, – injector is not controlled or incorrectly controlled. Use bornier Elé. 1681 for all operations on the engine management computer connectors.
	Use the Wiring Diagram Technical Note, Laguna II ph2, Vel Satis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2.

Run test 10 Poor operation of injectors.
Check the condition of the connector for injector no.1 (see Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2, Component code 193). Check the condition of the engine management computer connector (see Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2, Component code 120). If one of the connectors is faulty and there is a repair procedure (see Technical Note 6015A, Electrical wiring repair, wiring: precautions for repair), repair the connector, otherwise replace the wiring.
Check the following connections for continuity and make sure there is no interference resistance : <ul style="list-style-type: none"> – connection code 3KW, between components 120 and 193. – connection code 3CR, between components 120 and 193. If the connection or connections are faulty and there is a repair method (see Technical Note 6015A, Repairing electrical wiring, wiring: precautions for repair), repair the wiring, otherwise replace it.
If the fault is still present, contact the Techline.

AFTER REPAIR	Deal with any other faults. Clear the fault memory. Switch off the ignition until the end of the power-latch phase, and carry out a road test followed by a check using the diagnostic tool .
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DIESEL INJECTION

Fault finding - Interpretation of faults

13B

DF266 PRESENT OR STORED	<u>INJECTOR NO. 2</u> 1.DEF: Internal electronic fault
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NOTES	Priority when dealing with a number of faults: Deal with fault DF027 Cylinder 2 injector control circuit first, if it is present or stored.
	Conditions for applying the fault finding procedure to stored faults: If the fault recurs as present after: <ul style="list-style-type: none"> – the engine is started, – a road test.
	IMPORTANT <ul style="list-style-type: none"> – cylinder no. 1 is located at the timing end, – observe the cleanliness guidelines and safety advice, – do not disconnect the injector connections with the engine running as this may damage the engine.
	Special notes: If the fault is present: <ul style="list-style-type: none"> – reduced driving pleasure, – injector is not controlled or incorrectly controlled. Use bornier Elé. 1681 for all operations on the engine management computer connectors.
	Use the Wiring Diagram Technical Note, Laguna II ph2, Vel Satis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2.

Run test 10 Poor operation of injectors.
Check the condition of the connector for injector no.2 (see Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2, Component code 194). Check the condition of the engine management computer connector (see Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2, Component code 120). If one of the connectors is faulty and there is a repair procedure (see Technical Note 6015A, Electrical wiring repair, wiring: precautions for repair), repair the connector, otherwise replace the wiring.
Check the following connections for continuity and make sure there is no interference resistance : <ul style="list-style-type: none"> – connection code 3KX, between components 120 and 194. – connection code 3CS, between components 120 and 194. If the connection or connections are faulty and there is a repair method (see Technical Note 6015A, Repairing electrical wiring, wiring: precautions for repair), repair the wiring, otherwise replace it.
If the fault is still present, contact the Techline.

AFTER REPAIR	Deal with any other faults. Clear the fault memory. Switch off the ignition until the end of the power-latch phase, and carry out a road test followed by a check using the diagnostic tool .
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DIESEL INJECTION

Fault finding - Interpretation of faults

13B

DF267 PRESENT OR STORED	INJECTOR NO. 3 1.DEF: Internal electronic fault
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NOTES	Priority when dealing with a number of faults: Deal with fault DF028 Injector 3 control circuit first, if it is present or stored.
	Conditions for applying the fault finding procedure to stored faults: If the fault recurs as present after: <ul style="list-style-type: none"> – the engine is started, – a road test.
	IMPORTANT <ul style="list-style-type: none"> – cylinder no. 1 is located at the timing end, – observe the cleanliness guidelines and safety advice, – do not disconnect the injector connections with the engine running as this may damage the engine.
	Special notes: If the fault is present: <ul style="list-style-type: none"> – reduced driving pleasure, – injector is not controlled or incorrectly controlled. Use bornier Elé. 1681 for all operations on the engine management computer connectors.
	Use the Wiring Diagram Technical Note, Laguna II ph2, Vel Satis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2.

Run test 10 Poor operation of injectors.
Check the condition of the connector for injector no.3 (see Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2, Component code 195). Check the condition of the engine management computer connector (see Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2, Component code 120). If one of the connectors is faulty and there is a repair procedure (see Technical Note 6015A, Electrical wiring repair, wiring: precautions for repair), repair the connector, otherwise replace the wiring.
Check the following connections for continuity and make sure there is no interference resistance : <ul style="list-style-type: none"> – connection code 3KY, between components 120 and 195. – connection code 3CT, between components 120 and 195. If the connection or connections are faulty and there is a repair method (see Technical Note 6015A, Repairing electrical wiring, wiring: precautions for repair), repair the wiring, otherwise replace it.
If the fault is still present, contact the Techline.

AFTER REPAIR	Deal with any other faults. Clear the fault memory. Switch off the ignition until the end of the power-latch phase, and carry out a road test followed by a check using the diagnostic tool .
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DIESEL INJECTION

Fault finding - Interpretation of faults

13B

DF268 PRESENT OR STORED	INJECTOR NO. 4 1.DEF: Internal electronic fault
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NOTES	Priority when dealing with a number of faults: Deal with fault DF029 Cylinder 4 injector control circuit first, if it is present or stored.
	Conditions for applying the fault finding procedure to stored faults: If the fault recurs as present after: <ul style="list-style-type: none"> – the engine is started, – a road test.
	IMPORTANT <ul style="list-style-type: none"> – cylinder no. 1 is located at the timing end, – observe the cleanliness guidelines and safety advice, – do not disconnect the injector connections with the engine running as this may damage the engine.
	Special notes: If the fault is present: <ul style="list-style-type: none"> – reduced driving pleasure, – injector is not controlled or incorrectly controlled. Use bornier Elé. 1681 for all operations on the engine management computer connectors.
	Use the Wiring Diagram Technical Note, Laguna II ph2, Vel Satis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2.

Run test 10 Poor operation of injectors.
Check the condition of the connector for injector no.4 (see Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2, Component code 196). Check the condition of the engine management computer connector (see Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2, Component code 120). If one of the connectors is faulty and there is a repair procedure (see Technical Note 6015A, Electrical wiring repair, wiring: precautions for repair), repair the connector, otherwise replace the wiring.
Check the following connections for continuity and make sure there is no interference resistance : <ul style="list-style-type: none"> – connection code 3KZ, between components 120 and 196. – connection code 3CU, between components 120 and 196. If the connection or connections are faulty and there is a repair method (see Technical Note 6015A, Repairing electrical wiring, wiring: precautions for repair), repair the wiring, otherwise replace it.
If the fault is still present, contact the Techline.

AFTER REPAIR	Deal with any other faults. Clear the fault memory. Switch off the ignition until the end of the power-latch phase, and carry out a road test followed by a check using the diagnostic tool .
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DF272 PRESENT OR STORED	<u>EGR VALVE CONTROL CIRCUIT</u> CO : Open circuit CC.0 : Short circuit to earth CC.1 : Short circuit to + 12 V CC : Short circuit 1.DEF: Internal electronic fault
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NOTES	Conditions for applying the fault finding procedure to stored faults: The fault appears after: – the ignition is switched on, – the engine is started, – a road test.
	Special notes: If the fault is present: – The EOBD (European On Board Diagnostic) warning light is lit. – the EGR function is inhibited, Use the Elé. 1681 bornier for all operations on the engine management computer connector.
	Use the Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2.

CO	NOTES	None
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Check the condition of the EGR valve connector (see Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2, Component code 1460 or 169). Check the condition of the engine management computer connector (see Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2, Component code 120). If one of the connectors is faulty and there is a repair procedure (see Technical Note 6015A, Electrical wiring repair, wiring: precautions for repair), repair the connector, otherwise replace the wiring.
Measure the resistance between connections 3VP and 3VQ of component 1460 or 169 . Replace the EGR valve if the resistance is greater than 400 Ω . After replacement, run command SC036 Reinitialise programming and select EGR valve to reinitialise the EGR valve offsets.
Check the continuity of the following connections: – connection code 3VP , between components 120 and 1460 or 169 . – connection code 3VQ , between components 120 and 1460 or 169 . If the connection or connections are faulty and there is a repair method (see Technical Note 6015A, Repairing electrical wiring, wiring: precautions for repair), repair the wiring, otherwise replace it.
If the fault is still present, contact the Techline.

AFTER REPAIR	Deal with any other faults. Clear the fault memory. Switch off the ignition until the end of the power-latch phase, and carry out a road test followed by a check using the diagnostic tool .
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DIESEL INJECTION

Fault finding - Interpretation of faults

13B

DF272 CONTINUED 1	
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CC.0 CC.1	NOTES	None
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<p>Check the condition of the EGR valve connector (see Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2, Component code 1460 or 169).</p> <p>Check the condition of the engine management computer connector (see Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2, Component code 120).</p> <p>If one of the connectors is faulty and there is a repair procedure (see Technical Note 6015A, Electrical wiring repair, wiring: precautions for repair), repair the connector, otherwise replace the wiring.</p>
<p>Measure the resistance between connections 3VP and 3VQ of components 1460 or 169.</p> <p>Replace the valve if the resistance is less than 1 Ω or more than 400 Ω.</p> <p>After replacement, run command SC036 Reinitialise programming and select EGR valve to reinitialise the EGR valve offsets.</p>
<p>Check the insulation from + 12 V of the following connections:</p> <ul style="list-style-type: none"> – connection code 3VP, between components 120 and 1460 or 169. – connection code 3VQ, between components 120 and 1460 or 169. <p>Check the insulation from earth of the following connections:</p> <ul style="list-style-type: none"> – connection code 3VP, between components 120 and 1460 or 169. – connection code 3VQ, between components 120 and 1460 or 169. <p>If the connection or connections are faulty and there is a repair method (see Technical Note 6015A, Repairing electrical wiring, wiring: precautions for repair), repair the wiring, otherwise replace it.</p>
<p>If the fault is still present, contact the Techline.</p>

AFTER REPAIR	<p>Deal with any other faults. Clear the fault memory.</p> <p>Switch off the ignition until the end of the power-latch phase, and carry out a road test followed by a check using the diagnostic tool.</p>
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DIESEL INJECTION

Fault finding - Interpretation of faults

13B

DF272 CONTINUED 2	
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CC	NOTES	None
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<p>Check the condition of the EGR valve connector (see Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2, Component code 1460 or 169).</p> <p>Check the condition of the engine management computer connector (see Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2, Component code 120).</p> <p>If one of the connectors is faulty and there is a repair procedure (see Technical Note 6015A, Electrical wiring repair, wiring: precautions for repair), repair the connector, otherwise replace the wiring.</p>		
<p>Measure the resistance between connections 3VP and 3VQ of component 1460 or 169.</p> <p>Replace the valve if the resistance is less than 1 Ω or more than 400 Ω.</p> <p>After replacement, run command SC036 Reinitialise programming and select EGR valve to reinitialise the EGR valve offsets.</p>		
<p>Check the insulation between the following connections:</p> <ul style="list-style-type: none"> – connection code 3VP, between components 120 and 1460 or 169. – connection code 3VQ, between components 120 and 1460 or 169. <p>If the connection or connections are faulty and there is a repair method (see Technical Note 6015A, Repairing electrical wiring, wiring: precautions for repair), repair the wiring, otherwise replace it.</p>		
<p>If the fault is still present, contact the Techline.</p>		

1.DEF	NOTES	<p>Special notes:</p> <p>This fault appears when the computer control section has overheated.</p>
		<p>Priority when dealing with a number of faults:</p> <p>Deal with CO, CC.O, CC.1 and CC first if they are present or stored.</p>

<p>If the fault is still present, contact the Techline.</p>

AFTER REPAIR	<p>Deal with any other faults. Clear the fault memory.</p> <p>Switch off the ignition until the end of the power-latch phase, and carry out a road test followed by a check using the diagnostic tool.</p>
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DF293 PRESENT OR STORED	<u>WATER IN DIESEL FUEL DETECTOR</u> 1.DEF: Open circuit on the line or water in diesel fuel
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NOTES	Fault finding procedure application conditions: Present or stored fault. IMPORTANT Please observe the cleanliness guidelines and safety advice.
	Use the Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2.

<p>Make sure there is no water in the fuel filter. Bleed the fuel filter and the low pressure diesel circuit if necessary. Start the engine and wait at least 1 minute to confirm the repair. If the fault was stored but not present, carry out a road test (see Note). If the fault does not recur, end of fault finding procedure. Check for continuity and the absence of interference resistance on the following connection: – connection code 3WT, between components 120 and 414. Check the + 12 V after relay feed to the water detection sensor: – connection code 3FB of component 414, Check for complete earthing on connection NT or M of component 414. If the connection or connections are faulty and there is a repair method (see Technical Note 6015A, Repairing electrical wiring, wiring: precautions for repair), repair the wiring, otherwise replace it. – Start the engine and wait at least 1 minute to confirm the repair. Ensure that the correct fuel is being used: – Check that the fuel tank is correctly filled and that the appropriate fuel is used. If the diesel fuel is not correct: – Replace the diesel fuel. – Change the diesel filter. – Bleed the low pressure diesel circuit.</p> <p>If none of these checks reveal any faults: – Replace the water detection sensor. – Clear the fault. – Start the engine and wait at least 1 minute to confirm the repair.</p> <p>Note: <i>When the water level in the fuel filter unit is below the sensor's electrodes, some driving conditions (cornering, gradients) may result in water being detected (in fact, the sensor's off-centre position in the fuel filter unit, combined with the driving conditions, causes water to be detected).</i></p>
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AFTER REPAIR	Deal with any other faults. Clear the fault memory. Switch off the ignition until the end of the power-latch phase, and carry out a road test followed by a check using the diagnostic tool .
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DIESEL INJECTION

Fault finding - Interpretation of faults

13B

DF297 PRESENT OR STORED	<u>PRESSURE DIFFERENCE</u> 1.DEF: ABSENT
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NOTES	Conditions for applying fault finding procedures to stored faults: The fault is declared present after the engine is started or following a road test.
	Special notes: If the fault is present: – particle filter regeneration is inhibited, – blue/white smoke and black particles coming from the exhaust, – the OBD warning light will come on after three consecutive trips (start + 5 seconds + switch off the ignition and wait 40 seconds). – the level 1 warning light is lit (for Vdiag 20, 24, 58 and 5C).
	Priorities when dealing with a number of faults: ● DF315 Particle filter differential pressure sensor if is present or stored ● DF717 Particle filter upstream pressure if it is present or stored.
	IMPORTANT In the long term, this fault may lead to premature wear and a greater risk of turbocharger damage.

Check the condition of the differential pressure sensor connector (see **Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2, Component code 1290**).

Check the condition of the engine management computer connector (see **Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2, Component code 120**).

If one of the connectors is faulty and there is a repair procedure (see **Technical Note 6015A, Electrical wiring repair, wiring: precautions for repair**), repair the connector, otherwise replace the wiring.

AFTER REPAIR	Deal with any other faults. Clear the fault memory. Switch off the ignition until the end of the power-latch phase, and carry out a road test followed by a check using the diagnostic tool .
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DF297 CONTINUED	
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Check the particle filter is present.

If it is present:

Visually check that the particle filter is in good condition by positioning the vehicle on a lift:

- not damaged (no abnormal welds, if necessary compare it with another vehicle fitted with particle filter),
- if there are After-Sales sleeves, as a result of a previous operation, check that the particle filter's contents does not lose its contents when removing it.

If the particle filter is not working correctly or is absent:

- replace it
- run command **SC036 Reinitialise programming** and select **After particle filter replacement** (see **Interpretation of commands**).
- **switch off the ignition and wait for** the message to appear on the **diagnostic tool** (maximum time **8 min**): **"Loss of communication with the computer: EDC16 CP33, check the connection of the tool and the computer supply voltage"**,
- then switch on the ignition again,
- **clear** the faults from the computer memory (**operation to be carried out within 3 minutes of switching on the ignition**)

If the fault is still present, contact the Techline.

AFTER REPAIR	<p>Deal with any other faults. Clear the fault memory.</p> <p>Switch off the ignition until the end of the power-latch phase, and carry out a road test followed by a check using the diagnostic tool.</p>
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DIESEL INJECTION

Fault finding - Interpretation of faults

13B

DF304 PRESENT OR STORED	<u>EGR BY-PASS CIRCUIT</u> CO : Open circuit CC.0 : Short circuit to earth CC.1 : Short circuit to + 12 V 1.DEF: Internal electronic fault
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NOTES	Conditions for applying the fault finding procedure to stored faults: The fault reappears when the ignition is switched on.
	Special notes: Use bornier Elé. 1681 for all operations on the engine management computer connectors.
	Use the Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2.

CO	NOTES	None
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<p>Check the condition of the EGR bypass solenoid valve connector (see Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2, Component code 1301).</p> <p>Check the condition of the engine management computer connector (see Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2, Component code 120).</p> <p>If one of the connectors is faulty and there is a repair procedure (see Technical Note 6015A, Electrical wiring repair, wiring: precautions for repair), repair the connector, otherwise replace the wiring.</p>
<p>Measure the resistance between connections 3FB and 3TP of component 1301.</p> <p>If the resistance measured is greater than 1 kΩ or less than 6 Ω, replace the EGR by-pass solenoid valve.</p>
<p>Check the continuity of the following connection:</p> <ul style="list-style-type: none"> – connection code 3TP, between components 120 and 1301. <p>Check the + 12 V after relay feed to the EGR by-pass solenoid valve:</p> <ul style="list-style-type: none"> – connection code 3FB of component 1301. <p>If the connection or connections are faulty and there is a repair method (see Technical Note 6015A, Repairing electrical wiring, wiring: precautions for repair), repair the wiring, otherwise replace it.</p>
<p>If the fault is still present, replace the EGR by-pass solenoid valve.</p>

AFTER REPAIR	<p>Deal with any other faults. Clear the fault memory.</p> <p>Switch off the ignition until the end of the power-latch phase, and carry out a road test followed by a check using the diagnostic tool.</p>
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DIESEL INJECTION

Fault finding - Interpretation of faults

13B

DF304 CONTINUED 1	
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CC.0	NOTES	None
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<p>Check the condition of the EGR bypass solenoid valve connector (see Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2, Component code 1301).</p> <p>Check the condition of the engine management computer connector (see Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2, Component code 120).</p> <p>If one of the connectors is faulty and there is a repair procedure (see Technical Note 6015A, Electrical wiring repair, wiring: precautions for repair), repair the connector, otherwise replace the wiring.</p>
<p>Measure the resistance between connections 3FB and 3TP of component 1301.</p> <p>If the resistance measured is greater than 1 kΩ or less than 6 Ω, replace the EGR by-pass solenoid valve.</p>
<p>Check the continuity and insulation against earth of the following connection:</p> <ul style="list-style-type: none"> – connection code 3TP, <p>between components 120 and 1301.</p> <p>Check the + 12 V after relay feed to the EGR by-pass solenoid valve:</p> <ul style="list-style-type: none"> – connection code 3FB of component 1301. <p>If the connection or connections are faulty and there is a repair method (see Technical Note 6015A, Repairing electrical wiring, wiring: precautions for repair), repair the wiring, otherwise replace it.</p>
<p>If the fault is still present, replace the EGR by-pass solenoid valve.</p>

AFTER REPAIR	<p>Deal with any other faults. Clear the fault memory.</p> <p>Switch off the ignition until the end of the power-latch phase, and carry out a road test followed by a check using the diagnostic tool.</p>
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DIESEL INJECTION

Fault finding - Interpretation of faults

13B

DF304 CONTINUED 2	
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CC.1	NOTES	None
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<p>Check the condition of the EGR bypass solenoid valve connector (see Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2, Component code 1301).</p> <p>Check the condition of the engine management computer connector (see Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2, Component code 120).</p> <p>If one of the connectors is faulty and there is a repair procedure (see Technical Note 6015A, Electrical wiring repair, wiring: precautions for repair), repair the connector, otherwise replace the wiring.</p>
<p>Measure the resistance between connections 3FB and 3TP of component 1301.</p> <p>If the resistance measured is greater than 1 kΩ or less than 6 Ω, replace the EGR by-pass solenoid valve.</p>
<p>Check the continuity and insulation from + 12 V of the following connection:</p> <ul style="list-style-type: none"> – connection code 3TP, <p>between components 120 and 1301.</p> <p>If the connection or connections are faulty and there is a repair method (see Technical Note 6015A, Repairing electrical wiring, wiring: precautions for repair), repair the wiring, otherwise replace it.</p>
<p>If the fault is still present, replace the EGR by-pass solenoid valve.</p>

AFTER REPAIR	<p>Deal with any other faults. Clear the fault memory.</p> <p>Switch off the ignition until the end of the power-latch phase, and carry out a road test followed by a check using the diagnostic tool.</p>
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DIESEL INJECTION

Fault finding - Interpretation of faults

13B

DF304 CONTINUED 3	
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1.DEF	NOTES	Special notes: This fault appears when the computer control section has overheated. A road test may be necessary to reveal this fault.
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<p>Check the condition of the EGR bypass solenoid valve connector (see Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2, Component code 1301).</p> <p>Check the condition of the engine management computer connector (see Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2, Component code 120).</p> <p>If one of the connectors is faulty and there is a repair procedure (see Technical Note 6015A, Electrical wiring repair, wiring: precautions for repair), repair the connector, otherwise replace the wiring.</p>
<p>Measure the resistance between connections 3FB and 3TP of component 1301.</p> <p>If the resistance found is not 46 Ω ± 14 Ω, replace the EGR by-pass solenoid valve.</p>
<p>Check for continuity and the absence of interference resistance on the following connection:</p> <ul style="list-style-type: none"> – connection code 3TP, <p>between components 120 and 1301.</p> <p>Check the + 12 V after relay feed to the EGR by-pass solenoid valve:</p> <ul style="list-style-type: none"> – connection code 3FB of component 1301. <p>If the connection or connections are faulty and there is a repair method (see Technical Note 6015A, Repairing electrical wiring, wiring: precautions for repair), repair the wiring, otherwise replace it.</p>
<p>If the fault is still present, contact the Techline.</p>

AFTER REPAIR	<p>Deal with any other faults. Clear the fault memory.</p> <p>Switch off the ignition until the end of the power-latch phase, and carry out a road test followed by a check using the diagnostic tool.</p>
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DIESEL INJECTION

Fault finding - Interpretation of faults

13B

DF308 PRESENT OR STORED	<u>CLOGGED PARTICLE FILTER</u> 1.DEF: Maximum limit
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NOTES	Conditions for applying the fault finding procedure to stored faults: The fault is declared present after the engine is started or following a road test.
	Special notes: If the fault is present: <ul style="list-style-type: none"> – particle filter regeneration is inhibited, – the EGR function is inhibited, – the vehicle performance is reduced, – the level 1 warning light is lit and a warning message (or light) is displayed on the instrument panel. – the OBD warning light is on (for Vdiag 20, 24, 58 and 5C).
	Priorities when dealing with a number of faults: Firstly, deal with the following faults: <ul style="list-style-type: none"> – DF315 "Particle filter diff.* pressure sensor" if it is present. – DF308 if DF315 "Particle filter diff.* pressure sensor" is stored. – DF717 Particle filter upstream pressure if it is present or stored. – DF645 Damper valve position regulation if it is present or stored

AFTER REPAIR	Deal with any other faults. Clear the fault memory. Switch off the ignition until the end of the power-latch phase, and carry out a road test followed by a check using the diagnostic tool .
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DF308 CONTINUED	
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1.DEF	NOTES	None
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<p>The fault appears if the weight of soot contained in the particle filter is:</p> <ul style="list-style-type: none"> – Vdiag 18 and 54: above 56 g. – Vdiag 1C, 20, 24, 5C, 58: above 58 g <p>If Vdiag 18: Reprogram the computer in Vdiag 1C. Then apply the procedure corresponding to Vdiag 1C.</p> <p>If Vdiag 1C, 20, 5C, 58, 54 and 24: Carry out an After-Sales regeneration. Run command SC017 Regenerate particle filter (see Interpretation of commands).</p> <p>switch off the ignition and wait for the diagnostic tool message (maximum wait 8 min): Loss of dialogue with the computer: EDC16 CP33, check the tool connection and the computer supply voltage then switch on the ignition again, clear the faults from the computer memory. (carry out operation within 3 minutes after switching on the ignition)</p> <p>Erase fault DF308 Present or Stored.</p> <p>If the fault is still present, contact the Techline.</p>

*Diff: Differential

AFTER REPAIR	<p>Deal with any other faults. Clear the fault memory. Switch off the ignition until the end of the power-latch phase, and carry out a road test followed by a check using the diagnostic tool.</p>
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DIESEL INJECTION

Fault finding - Interpretation of faults

13B

DF309 PRESENT OR STORED	<u>PARTICLE FILTER DOWNSTREAM TEMP. SENSOR</u> CC.0 : Short circuit to earth CO.1 : Open circuit or short circuit to + 12 V
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NOTES	Conditions for applying fault finding procedures to stored faults: The fault becomes present if: <ul style="list-style-type: none"> – ignition is on (CC.0), – following a road test, engine warm (CO.1).
	IMPORTANT The particle filter downstream temperature sensor only measures temperatures greater than 50 °C.
	Special notes: If the fault is present: <ul style="list-style-type: none"> – After-Sales particle filter regeneration is inhibited. – particle filter fault finding inhibited (for Vdiag 18, 1C and 54).

CC.0	NOTES	None
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<p>Check the condition of the particle filter downstream temperature sensor connector (see Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2, Component code 1288).</p> <p>Check the condition of the engine management computer connector (see Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2, Component code 120).</p> <p>If one of the connectors is faulty and there is a repair procedure (see Technical Note 6015A, Electrical wiring repair, wiring: precautions for repair), repair the connector, otherwise replace the wiring.</p>
<p>Check the insulation from earth of the following connections:</p> <ul style="list-style-type: none"> – connection code 3TG, – connection code 3XU, <p>between components 120 and 1288.</p> <p>If the connection or connections are faulty and there is a repair procedure (see Technical Note 6015A, Electrical wiring repair, wiring: precautions for repair), repair the wiring, otherwise replace it.</p>
<p>If the fault is still present, replace the particle filter downstream temperature sensor.</p>

AFTER REPAIR	Deal with any other faults. Clear the fault memory. Switch off the ignition until the end of the power-latch phase, and carry out a road test followed by a check using the diagnostic tool .
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DIESEL INJECTION

Fault finding - Interpretation of faults

13B

DF309 CONTINUED	
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CO.1	NOTES	None
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Check the condition of the particle filter downstream temperature sensor connector (see **Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2, Component code 1288**).

Check the condition of the engine management computer connector (see **Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2, Component code 120**).

If one of the connectors is faulty and there is a repair procedure (see **Technical Note 6015A, Electrical wiring repair, wiring: precautions for repair**), repair the connector, otherwise replace the wiring.

Check **the continuity and insulation** from **+ 12 V** of the following connections:

- connection code **3TG**,
- connection code **3XU**,

between components **120** and **1288**.

If the connection or connections are faulty and there is a repair procedure (see **Technical Note 6015A, Electrical wiring repair, wiring: precautions for repair**), repair the wiring, otherwise replace it.

If the fault is still present, replace the particle filter downstream temperature sensor.

AFTER REPAIR	<p>Deal with any other faults. Clear the fault memory.</p> <p>Switch off the ignition until the end of the power-latch phase, and carry out a road test followed by a check using the diagnostic tool.</p>
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DF310 PRESENT OR STORED	<u>PARTICLE FILTER UPSTREAM TEMP. SENSOR</u> CC.0 : Short circuit to earth CO.1 : Open circuit or short circuit to + 12 V
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NOTES	Conditions for applying fault finding procedures to stored faults: The fault becomes present if: – ignition is on (CC.0), – following a road test, engine warm (CO.1).
	Special notes: If the fault is present: – particle filter regeneration is inhibited, – the level 1 warning light is lit, – the OBD warning light will come on after three consecutive driving cycles (starting + 5 seconds + switching off the ignition and waiting 1 minute).
	IMPORTANT The particle filter upstream temperature sensor only measures temperatures above 50 °C.

CC.0	NOTES	None
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<p>Check the condition of the particle filter upstream temperature sensor connector (see Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2, Component code 1287).</p> <p>Check the condition of the engine management computer connector (see Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2, Component code 120).</p> <p>If one of the connectors is faulty and there is a repair procedure (see Technical Note 6015A, Electrical wiring repair, wiring: precautions for repair), repair the connector, otherwise replace the wiring.</p>
<p>Check the insulation from earth of the following connections:</p> <ul style="list-style-type: none"> – connection code 3XT, – connection code 3TD, <p>between components 120 and 1287.</p> <p>If the connection or connections are faulty and there is a repair procedure (see Technical Note 6015A, Electrical wiring repair, wiring: precautions for repair), repair the wiring, otherwise replace it.</p>
<p>If the fault is still present, replace the particle filter upstream temperature sensor.</p>

AFTER REPAIR	<p>Deal with any other faults. Clear the fault memory.</p> <p>Switch off the ignition until the end of the power-latch phase, and carry out a road test followed by a check using the diagnostic tool.</p>
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DIESEL INJECTION

Fault finding - Interpretation of faults

13B

DF310 CONTINUED	
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CO.1	NOTES	None
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Check the condition of the particle filter upstream temperature sensor connector (see **Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2, Component code 1287**).
Check the condition of the engine management computer connector (see **Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2, Component code 120**).
If one of the connectors is faulty and there is a repair procedure (see **Technical Note 6015A, Electrical wiring repair, wiring: precautions for repair**), repair the connector, otherwise replace the wiring.

Check **the continuity and insulation** from **+ 12 V** of the following connections:
– connection code **3XT**,
– connection code **3TD**,
between components **120** and **1287**.
If the connection or connections are faulty and there is a repair procedure (see **Technical Note 6015A, Electrical wiring repair, wiring: precautions for repair**), repair the wiring, otherwise replace it.

If the fault is still present, replace the particle filter upstream temperature sensor.

AFTER REPAIR	<p>Deal with any other faults. Clear the fault memory. Switch off the ignition until the end of the power-latch phase, and carry out a road test followed by a check using the diagnostic tool.</p>
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DF311 PRESENT OR STORED	<u>FAILED REGENERATIONS LIMIT EXCEEDED</u>
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NOTES	Conditions for applying fault finding procedures to stored faults: The fault is declared present after the engine is started or following a road test.
	Special notes: If the fault is present: <ul style="list-style-type: none"> – the level 1 warning light is lit, – particle filter regenerations when driving are inhibited.
	Priorities when dealing with a number of faults: Firstly, deal with the following faults: <ul style="list-style-type: none"> – DF308 Particle filter clogged if it is present or stored. – DF315 Particle filter differential pressure sensor if it is present or stored. – DF717 Particle filter upstream pressure if it is present or stored.

<p>The fault appears following:</p> <ul style="list-style-type: none"> – Vdiag 18 and 1C: 9 failed regenerations when driving (for Vel-Satis ph2 and Espace IV ph2). 7 failed regenerations when driving (for Laguna II ph2). – Vdiag 54: 9 failed regenerations when driving (for Mégane II ph2). – Vdiag 20 and 24: 7 failed regenerations when driving (for Laguna II ph2) 9 failed regenerations when driving (for Vel-Satis ph2 and Espace IV ph2). 11 failed regenerations when driving (for Espace IV ph2, M9R 761 only). – Vdiag 58 and 5C: 9 failed regenerations when driving (for Mégane II ph2, M9R 722/724 only). 11 failed regenerations when driving (for Mégane II ph2, M9R 721 only) <p>If Vdiag 18: Reprogram the computer in Vdiag 1C. Then apply the procedure corresponding to Vdiag 1C.</p> <p>If Vdiag 1C, 5C, 20, 24, 54, 58:</p> <ul style="list-style-type: none"> – Carry out an After-Sales regeneration. – Follow the procedure for command SC017 Particle filter regeneration (see Interpretation of commands). <p>Explain to the customer the procedure for regeneration when driving to avoid unnecessary repairs: see SECTION D in the interpretation of DF312: Speed request.</p> <p>If the fault is still present, contact the Techline.</p>
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* diff: Differential*

AFTER REPAIR	Deal with any other faults. Clear the fault memory. Switch off the ignition until the end of the power-latch phase, and carry out a road test followed by a check using the diagnostic tool .
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DF312 PRESENT OR STORED	<u>SPEED REQUEST</u>
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NOTES	Conditions for applying fault finding procedures to stored faults: The fault is declared present after the engine is started or following a road test.
	Special notes: If the fault is present: <ul style="list-style-type: none"> – the special Regenerate particle filter warning light is lit or a warning message is displayed on the instrument panel. – The vehicle needs to be driven specially to activate particle filter regeneration during driving.
	Priorities when dealing with a number of faults: Firstly, deal with the following faults: <ul style="list-style-type: none"> – DF308 Particle filter clogged if it is present or stored. – DF315 Particle filter differential pressure sensor if it is present or stored. – DF717 Particle filter upstream pressure if it is present or stored.

<p>The fault appears:</p> <ul style="list-style-type: none"> – Vdiag 18 and 1C: 4 failed regeneration attempts (for Laguna II ph2) and 5 failed regeneration attempts (for Vel-Satis ph2 and Espace IV ph2) when driving and a weight of soot in the particle filter greater than 20 g. – Vdiag 54: 5 failed regeneration attempts (for Mégane ph2) when driving and a weight of soot in the particle filter greater than 20 g. – Vdiag 20 and 24: 4 failed regeneration attempts (for Laguna II ph2) and 5 failed regeneration attempts (for Vel-Satis ph2 and Espace IV ph2) and 7 failed regeneration attempts (for Espace IV ph2 M9R 761 only) when driving and a weight of soot in the particle filter greater than 20 g for M9R760 or 36 g for M9R 761. – Vdiag 5C and 58: 5 failed regeneration attempts (for Mégane II ph2 M9R 722/724 only) and 7 failed regeneration attempts (for Mégane II ph2 M9R 721 only) when driving and a weight of soot in the particle filter greater than 20 g for M9R 722/724 or 36 g for M9R 721. <p>PART A The flow chart on the following page allows analysis of the driving profile and the causes for the warning to come on.</p>
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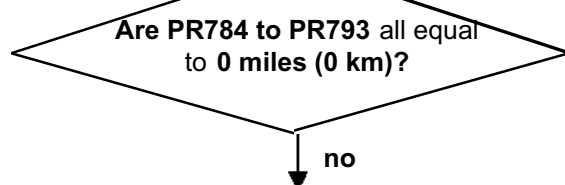
* diff: Differential*

AFTER REPAIR	Deal with any other faults. Clear the fault memory. Switch off the ignition until the end of the power-latch phase, and carry out a road test followed by a check using the diagnostic tool .
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DF312
CONTINUED 1

Repair request with DF312 Speed Request present or stored ONLY.

Read the information from the **Particle filter history sub-function: PR784 to PR793 Stored DF312 No. 1 to No. 10**



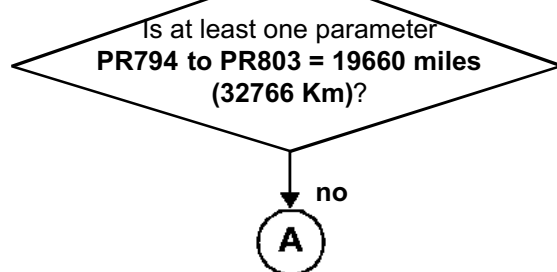
Within these parameters (**PR784 to PR793**):

- Find the parameter with the highest mileage: it is the **Mileage of the last DF312**.
- Note the parameter index on the order of repair with the relevant mileage value.
E.g.: PR787 = 2,794 miles (4,657 km)

Read the information from the **Particle filter history sub-function: PR794 to PR803 Stored regeneration failure No. 1 to No. 10**

Vdiag 20, 58, 5C, 24

Vdiag 18, 1C, 54



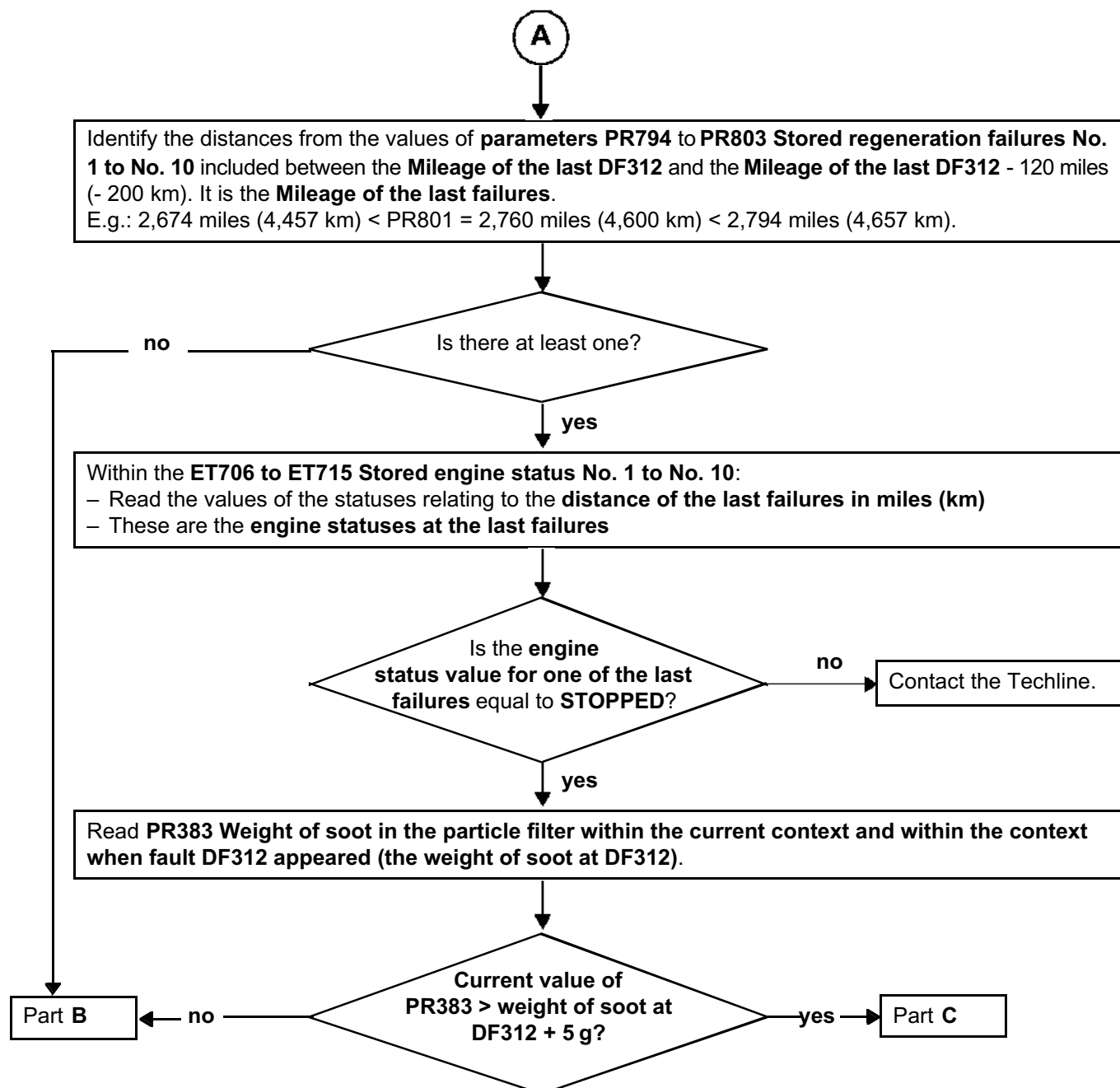
Contact the Techline.

A

AFTER REPAIR

Deal with any other faults. Clear the fault memory.
Switch off the ignition until the end of the power-latch phase, and carry out a road test followed by a check using the **diagnostic tool**.

DF312
CONTINUED 2



AFTER REPAIR

Deal with any other faults. Clear the fault memory.
Switch off the ignition until the end of the power-latch phase, and carry out a road test followed by a check using the **diagnostic tool**.

DF312 CONTINUED 3	
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PART B

1 - No particle filter regeneration.

2 - Write on the order of repair the parameter and status relating to the last failure:

– **Mileage of the last DF312.**

– **Mileage of the last failures.**

– **Engine statuses of the last failures.**

E.g.: PR 787 = 2794 miles (4657 km); PR801 = 2760 miles (4600 km); engine status = STOPPED

3 - Interpretation of the values written on the order of repair by the service advisor for the customer:

Before the last time the **Particle filter warning light or message** came on (appeared at the **Mileage of the last DF312**), the customer did not adhere to the driving recommendations: the failure that occurred at the **Mileage of the last failure** is due to the engine being switched off.

4 - Explain to the customer the procedure for switching off the light, referring to the parameters noted in the Order of repair as an argument: see **PART D**.

PART C

If Vdiag 18:

Reprogram the computer in **Vdiag 1C**. Then apply the procedure corresponding to **Vdiag 1C**.

If Vdiag 1C, 54, 58 and 20 and 24:

– Carry out an After-Sales regeneration with the **agreement of Techline**.

– Follow the procedure for command **SC017 Particle filter regeneration** (see **Interpretation of commands**).

– Explain to the customer the procedure for regeneration when driving to avoid unnecessary repairs: see **PART D**.

PART D

Procedure for switching off the Particle filter message or warning light on the instrument panel

Certain driving styles may trigger the warning light or the "particle filter" message, activating fault **DF312**. The customer has to drive in a specific way (refer to vehicle's user manual) which entails:

1. When the engine is warm, drive at a speed greater than **48 mph** (80 km/h) for **2 minutes** to initiate the regeneration process.

2. Continue to drive at an average speed of **48 mph** (80 km/h), until the "Particle filter" message or warning light goes out on the instrument panel. In order for the procedure to succeed, it is necessary to drive without stopping, without stopping the engine or to leave the engine running at idle speed for an extended period of time. **The regeneration time depends on the vehicle and driving conditions but should last for 20 minutes maximum.**

3. If regeneration fails when driving (the warning light does not go out or the service warning light comes on), carry out an After-Sales regeneration. Run command **SC017 Regenerate particle filter** (see **Interpretation of commands**).

If the fault is still present, contact the Techline.

AFTER REPAIR	<p>Deal with any other faults. Clear the fault memory.</p> <p>Switch off the ignition until the end of the power-latch phase, and carry out a road test followed by a check using the diagnostic tool.</p>
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DIESEL INJECTION

Fault finding - Interpretation of faults

13B

DF315 PRESENT OR STORED	<u>PARTICLE FILTER DIFFERENTIAL PRESSURE SENSOR</u> CO : Open circuit CO.0 : Open circuit or short circuit to earth CC.1 : Short circuit to + 12 V
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NOTES	Conditions for applying fault finding procedures to stored faults: The fault is declared present after the engine is started or following a road test.
	Special notes: If the fault is present: <ul style="list-style-type: none"> – the level 1 warning light is lit, – the OBD warning light will illuminate after three consecutive driving cycles (starting + 5 seconds + switching off the ignition and waiting 1 minute). – the particle filter fault finding procedure is inhibited, – particle filter regeneration is inhibited,
	Priorities when dealing with a number of faults: DF315 if it is present. DF308 Clogged particle filter if DF315 is stored, and DF308 is present. DF011 “Sensor feed voltage no. 1” if it is present or stored.

CC.1	NOTES	None.
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<p>Check the condition of the differential pressure sensor connector (see Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2, Component code 1290).</p> <p>Check the condition of the engine management computer connector (see Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2, Component code 120).</p> <p>If one of the connectors is faulty and there is a repair procedure (see Technical Note 6015A, Electrical wiring repair, wiring: precautions for repair), repair the connector, otherwise replace the wiring.</p>
<p>Check the continuity and insulation from + 12 V of the following connections:</p> <ul style="list-style-type: none"> – connection code 3TL, – connection code 3TM, <p>between components 120 and 1290.</p> <p>If the connection or connections are faulty and there is a repair procedure (see Technical Note 6015A, Electrical wiring repair, wiring: precautions for repair), repair the wiring, otherwise replace it.</p>
<p>If the fault is still present, replace the differential pressure sensor.</p>

AFTER REPAIR	<p>Deal with any other faults. Clear the fault memory.</p> <p>Switch off the ignition until the end of the power-latch phase, and carry out a road test followed by a check using the diagnostic tool.</p>
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DIESEL INJECTION

Fault finding - Interpretation of faults

13B

DF315 CONTINUED	
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CO.0 CO	NOTES	None.
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Check the condition of the differential pressure sensor connector (**see Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2, Component code 1290**).

Check the condition of the engine management computer connector (**see Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2, Component code 120**).

If one of the connectors is faulty and there is a repair procedure (**see Technical Note 6015A, Electrical wiring repair, wiring: precautions for repair**), repair the connector, otherwise replace the wiring.

Check the **continuity and insulation** from **earth** of the following connections:

- connection code **3TL**,
- connection code **3TM**,

between components **120** and **1290**.

If the connection or connections are faulty and there is a repair procedure (**see Technical Note 6015A, Electrical wiring repair, wiring: precautions for repair**), repair the wiring, otherwise replace it.

If the fault is still present, replace the differential pressure sensor.

AFTER REPAIR	<p>Deal with any other faults. Clear the fault memory.</p> <p>Switch off the ignition until the end of the power-latch phase, and carry out a road test followed by a check using the diagnostic tool.</p>
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DIESEL INJECTION

Fault finding - Interpretation of faults

13B

DF323 PRESENT OR STORED	<u>DAMPER VALVE</u> CC.0 : Short circuit to earth CC.1 : Short circuit to + 12 V CC : Short circuit CO : Open circuit 1.DEF: Internal electronic fault
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NOTES	Conditions for applying the fault finding procedure to stored faults: The fault appears after the ignition has been switched on.
	Special notes: If the fault is present: – the level 1 warning light is on (for Vdiag 20, 58, 24 and 5C), – particle filter regeneration is inhibited, Use the Elé. 1681 bornier for all operations on the engine management computer connector.
	Use the Wiring Diagram Technical Note, Laguna II ph2, Vel Satis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2.

CC.0 CC.1	NOTES	None.
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<p>Check the condition of the damper valve connector (see Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2, Component code 1461). Check the condition of the engine management computer connector (see Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2, Component code 120).</p> <p>If one of the connectors is faulty and there is a repair procedure (see Technical Note 6015A, Electrical wiring repair, wiring: precautions for repair), repair the connector, otherwise replace the wiring.</p>
<p>Measure the resistance between connections 3AAX and 3AAY of component 1461. Replace the damper valve if the resistance is less than 0.5 Ω or more than 400 Ω. Then run command SC036 Reset programming and select Damper valve to reset the valve's opening and closing stops.</p>
<p>Check the insulation against earth of the following connections:</p> <ul style="list-style-type: none"> – connection code 3AAX, – connection code 3AAY, <p>between components 120 and 1461.</p> <p>Check the insulation against + 12 V of the following connections:</p> <ul style="list-style-type: none"> – connection code 3AAX, – connection code 3AAY, <p>between components 120 and 1461.</p> <p>If the connection or connections are faulty and there is a repair procedure (see Technical Note 6015A, Electrical wiring repair, wiring: precautions for repair), repair the wiring, otherwise replace it.</p>
<p>If the fault is still present, contact the Techline.</p>

AFTER REPAIR	<p>Deal with any other faults. Clear the fault memory.</p> <p>Switch off the ignition until the end of the power-latch phase, and carry out a road test followed by a check using the diagnostic tool.</p>
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EDC16CP33_V18_DF323/EDC16CP33_V1C_DF323/EDC16CP33_V54_DF323
 /EDC16CP33_V20_DF323/EDC16CP33_V58_DF323/EDC16CP33_V5C_DF323/EDC16CP33_V24_DF323

DIESEL INJECTION

Fault finding - Interpretation of faults

13B

DF323 CONTINUED 1	
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CC	NOTES	None.
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<p>Check the condition of the damper valve connector (see Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2, Component code 1461).</p> <p>Check the condition of the engine management computer connector (see Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2, Component code 120).</p> <p>If one of the connectors is faulty and there is a repair procedure (see Technical Note 6015A, Electrical wiring repair, wiring: precautions for repair), repair the connector, otherwise replace the wiring.</p>
<p>Measure the resistance between connections 3AAX and 3AAY of component 1461.</p> <p>Replace the damper valve if the resistance is less than 0.5 Ω or more than 400 Ω.</p> <p>Then run command SC036 Reset programming and select Damper valve to reset the valve's opening and closing stops.</p>
<p>Check the insulation between the following connections:</p> <ul style="list-style-type: none"> – connection code 3AAX, – connection code 3AAY, <p>between components 120 and 1461.</p> <p>If the connection or connections are faulty and there is a repair procedure (see Technical Note 6015A, Electrical wiring repair, wiring: precautions for repair), repair the wiring, otherwise replace it.</p>
<p>If the fault is still present, contact the Techline.</p>

AFTER REPAIR	<p>Deal with any other faults. Clear the fault memory.</p> <p>Switch off the ignition until the end of the power-latch phase, and carry out a road test followed by a check using the diagnostic tool.</p>
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DIESEL INJECTION

Fault finding - Interpretation of faults

13B

DF323 CONTINUED 2	
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CO	NOTES	None.
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<p>Check the condition of the damper valve connector (see Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2, Component code 1461).</p> <p>Check the condition of the engine management computer connector (see Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2, Component code 120).</p> <p>If one of the connectors is faulty and there is a repair procedure (see Technical Note 6015A, Electrical wiring repair, wiring: precautions for repair), repair the connector, otherwise replace the wiring.</p>
<p>Measure the resistance between connections 3AAX and 3AAY of component 1461.</p> <p>Replace the damper valve if the resistance is less than 0.5 Ω or more than 400 Ω.</p> <p>Then run command SC036 Reset programming and select Damper valve to reset the valve's opening and closing stops.</p>
<p>Check the continuity of the following connections:</p> <ul style="list-style-type: none"> – connection code 3AAX, – connection code 3AAY, <p>between components 120 and 1461.</p> <p>If the connection or connections are faulty and there is a repair procedure (see Technical Note 6015A, Electrical wiring repair, wiring: precautions for repair), repair the wiring, otherwise replace it.</p>
<p>If the fault is still present, contact the Techline.</p>

AFTER REPAIR	<p>Deal with any other faults. Clear the fault memory.</p> <p>Switch off the ignition until the end of the power-latch phase, and carry out a road test followed by a check using the diagnostic tool.</p>
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DIESEL INJECTION

Fault finding - Interpretation of faults

13B

DF323 CONTINUED 3	
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1.DEF	NOTES	<p>Special notes: This fault appears when the computer control section has overheated. – a road test may be necessary.</p> <p>Priority when dealing with a number of faults: Deal with CO, CC.0, CC.1 and CO first if they are present or stored.</p>
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<p>Check the condition of the damper valve connector (see Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2, Component code 1461).</p> <p>Check the condition of the engine management computer connector (see Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2, Component code 120).</p> <p>If one of the connectors is faulty and there is a repair procedure (see Technical Note 6015A, Electrical wiring repair, wiring: precautions for repair), repair the connector, otherwise replace the wiring.</p>
<p>Check the continuity of the following connections:</p> <ul style="list-style-type: none"> – connection code 3AAX, – connection code 3AAY, <p>between components 120 and 1461.</p> <p>Check the insulation from + 5 V (computer feeds) of the following connections:</p> <ul style="list-style-type: none"> – connection code 3AAX, – connection code 3AAY, <p>between components 120 and 1461.</p> <p>If the connection or connections are faulty and there is a repair procedure (see Technical Note 6015A, Electrical wiring repair, wiring: precautions for repair), repair the wiring, otherwise replace it.</p>
<p>If the fault is still present, contact the Techline.</p>

AFTER REPAIR	<p>Deal with any other faults. Clear the fault memory.</p> <p>Switch off the ignition until the end of the power-latch phase, and carry out a road test followed by a check using the diagnostic tool.</p>
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DIESEL INJECTION

Fault finding - Interpretation of faults

13B

DF333 PRESENT OR STORED	<u>INJECTION → AUTOMATIC TRANSMISSION CONNECTION</u> 1.DEF: Multiplex network
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NOTES	Special notes: <ul style="list-style-type: none">– Use bornier Elé. 1681 for all operations on the engine management computer connectors.– Do not clear the fault before reading the contexts of the fault. (see Wiring diagram Technical Note for Mégane II ph2, Mégane II ph2, Espace IV ph2)
	Conditions for applying the fault finding procedure to stored faults: The fault is declared present if the OBD warning light is on.

Check the multiplex network.

Check for **insulation against earth, continuity and absence of interference resistance** on the following connections:

- connection code **3MT**,
- connection code **3MS**,

between the automatic transmission computer, **component code 119** and the engine management computer, **component code 120**.

If the connections are faulty and there is a repair method (see **Technical Note 6015A, Repairing electrical wiring, wiring: precautions for repairs**) repair the wiring, otherwise change the wiring.

If the fault is still present, check that the automatic transmission computer is recognised by the CLIP **diagnostic tool**.

If dialogue is not established (see **MR 366, 372, 407, 23A, Automatic transmission**).

AFTER REPAIR	Deal with any other faults. Clear the fault memory. Switch off the ignition until the end of the power-latch phase, and carry out a road test followed by a check using the diagnostic tool .
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Only Mégane II ph2 and Scénic II ph2

DF364 PRESENT OR STORED	<u>HEATING AND AIR CONDITIONING SYSTEM</u> CC.0 : Short circuit to earth CO.1 : Open circuit or short circuit to + 12 V
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NOTES	Special notes: Use bornier Elé. 1681 for all operations on the engine management computer connectors. Use the Wiring Diagram Technical Note for Mégane II ph2 or Scénic II ph2.
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Check the heating and air conditioning system circuit (see MR 364 (Mégane II ph2), 370 (Scénic II ph2), Mechanical, 62A, Air conditioning).
Check the condition of the refrigerant pressure sensor connector (see Wiring Diagram Technical Note, Mégane II ph2 or Scénic II ph2, Component code 1202). Check the condition of the engine management computer connector (see Wiring Diagram Technical Note, Mégane II ph2 or Scénic II ph2, Component code 120). If one of the connectors is faulty and there is a repair procedure (see Technical Note 6015A, Electrical wiring repair, wiring: precautions for repair), repair the connector, otherwise replace the wiring.
Disconnect the battery and the injection computer. Check the insulation and the continuity of the following connections: – connection code 38Y , – connection code 38X , – connection code 38U , between components 120 and 1202 . If the connection or connections are faulty and there is a repair procedure (see Technical Note 6015A, Electrical wiring repair, wiring: precautions for repair), repair the wiring, otherwise replace it.
If the fault is still present, replace the refrigerant pressure sensor.

AFTER REPAIR	Deal with any other faults. Clear the fault memory. Switch off the ignition until the end of the power-latch phase, and carry out a road test followed by a check using the diagnostic tool .
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DF502 PRESENT OR STORED	<u>CRUISE CONTROL OR SPEED LIMITER BUTTON</u> 1.DEF: Cruise control/Speed limiter on/off button inconsistency
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NOTES	<p>Conditions for applying the fault finding procedure to stored faults: If the fault is declared present after:</p> <ul style="list-style-type: none"> – a road test with activation of the cruise control/speed limiter function, – the engine is started.
	<p>Special notes: If the fault is present:</p> <ul style="list-style-type: none"> – the cruise control/speed limiter function is switched off. <p>Use bornier Elé. 1681 for all operations on the injection computer connectors.</p>
	<p>Use the Wiring Diagram Technical Note, Laguna II ph2, Vel Satis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2.</p>

<p>Check the condition of the Cruise control/Speed limiter on/off button connector (see Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2, Component code 1081 or Component code 1546 for Scénic).</p> <p>Check the condition of the engine management computer connector (see Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2, Component code 120). If one of the connectors is faulty and there is a repair procedure (see Technical Note 6015A, Electrical wiring repair, wiring: precautions for repair), repair the connector, otherwise replace the wiring.</p>
<p>With the button in the rest position, check the insulation:</p> <p>Connection code AP10 and 3FX, for component 1081 (for Vel Satis, Laguna and Espace).</p> <p>Connection code AP10 and 3PD, for component 1081 (for Vel Satis, Laguna and Espace).</p> <p>Connection code AP43 and 3FX, for component 1081 (for Mégane).</p> <p>Connection code AP43 and 3PD, for component 1081 (for Mégane).</p> <p>Connection code AP43 and 3FX, for component 1546 (for Scénic).</p> <p>Connection code AP43 and 3PD, for component 1546 (for Scénic).</p> <p>– With speed limiter selected, check the continuity between connections: AP10 and 3PD, for component 1081 (for Vel Satis, Laguna and Espace). AP43 and 3PD, for component 1081 (for Mégane). AP43 and 3PD, for component 1546 (for Scénic).</p> <p>– With cruise control selected, check the continuity between connections: AP10 and 3FX, for component 1081 (for Vel Satis, Laguna and Espace). AP43 and 3FX, for component 1081 (for Mégane). AP43 and 3FX, for component 1546 (for Scénic).</p> <p>Replace the Cruise control/Speed limiter On/Off button if necessary.</p>

AFTER REPAIR	<p>Deal with any other faults. Clear the fault memory.</p> <p>Switch off the ignition until the end of the power-latch phase, and carry out a road test followed by a check using the diagnostic tool.</p>
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DF502
CONTINUED

Check **the continuity** and absence of interference **resistance** of the following connections:

– connection code **3FX**,

– connection code **3PD**,

between components **120** and **1081** (for **Vel Satis, Laguna, Espace and Mégane**) or between components **1546** and **120** (for **Scénic**).

If the connection or connections are faulty and there is a repair procedure (**see Technical Note 6015A, Electrical wiring repair, wiring: precautions for repair**), repair the wiring, otherwise replace it.

If the fault is still present, contact the Techline.

DIESEL INJECTION

Fault finding - Interpretation of faults

13B

DF532 PRESENT OR STORED	<u>ALTERNATOR CHARGE SIGNAL</u> 1.DEF: Internal electronic fault 2.DEF: Signal incoherence
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NOTES	Priorities when dealing with a number of faults: Deal with fault DF046 Battery voltage first if it is present or stored.
	Conditions for applying the fault finding procedure to stored faults: If the fault is declared present after: – starting the engine, – a road test.
	Special notes: Computer operating voltage: 6 V < operating voltage < 16.5 V. Use bornier Elé. 1681 for all operations on the injection computer connectors.
	Use the Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2.

Check the condition of the alternator connector (see Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2, Component code 103). Check the condition of the engine management computer connector (see Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2, Component code 120). If one of the connectors is faulty and there is a repair procedure (see Technical Note 6015A, Electrical wiring repair, wiring: precautions for repair), repair the connector, otherwise replace the wiring.
Check for continuity and the absence of interference resistance on the following connection: – connection code 2K , between components 120 and 103 . If the connection or connections are faulty and there is a repair procedure (see Technical Note 6015A, Electrical wiring repair, wiring: precautions for repair), repair the wiring, otherwise replace it.
Check the charge circuit; apply Technical Note 6014A Checking the charge circuit . Carry out the necessary repairs.
If the fault is still present, contact the Techline.

AFTER REPAIR	Deal with any other faults. Clear the fault memory. Switch off the ignition until the end of the power-latch phase, and carry out a road test followed by a check using the diagnostic tool .
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DF569 PRESENT OR STORED	<u>TURBOCHARGING CIRCUIT</u> 1.DEF: Turbocharging pressure too high 2.DEF: Turbocharging pressure too low
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NOTES	Priorities when dealing with a number of faults: Deal with faults DF054 Turbocharger solenoid valve control circuit and DF004 Turbocharging pressure sensor circuit first, if they are present or stored.
	Conditions for applying the fault finding procedure to stored faults: If the fault is declared present after: <ul style="list-style-type: none"> – the ignition is switched on, – starting for 2.DEF, – a road test, – in turbo regulation phase for 1.DEF, – engine speed > 3000 rpm for 1.DEF, – system flow > 20 mg/st for 1.DEF.
	Special notes: Use bornier Elé. 1681 for all operations on the injection computer connectors. If the fault is present: <ul style="list-style-type: none"> – particle filter regeneration is inhibited, – engine torque limited, – turbocharging regulation is inhibited, – the EGR function is inhibited, – the level 1 and EObD (European On Board Diagnostic) warning lights are lit.
	Use the Wiring Diagram Technical Note, Laguna II ph2, Vel Satis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2 .

1.DEF 2.DEF	NOTES	None.
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Check the condition of the turbocharging pressure sensor connector (see Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2, Component code 1071). Check the condition of the engine management computer connector (see Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2, Component code 120). If one of the connectors is faulty and there is a repair procedure (see Technical Note 6015A, Electrical wiring repair, wiring: precautions for repair), repair the connector, otherwise replace the wiring.
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AFTER REPAIR	Deal with any other faults. Clear the fault memory. Switch off the ignition until the end of the power-latch phase, and carry out a road test followed by a check using the diagnostic tool .
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DF569 CONTINUED	
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Fault mode:

- Injector is switched off while charging, then injection is restarted when the charge drops.
- The **Diesel** return rail is faulty (injector outlet to **10 bar** valve), and is no longer able to correctly provide the counter pressure required for injector operation.
- The injector's hydraulic amplifier drains and the injectors no longer open, even though they conform electrically and the rail pressure is correct.
- However, when the charges are smaller, the hydraulic amplifier starts again and the injectors operate again.
- After a high charge, there is the possibility of stalling at idle speed.

Cause:

- The **Diesel** return rail is leaking (injector outlet to **10 bar** valve).

Action:

Replace the return rail.

Test the high pressure fuel circuit:

Run scenario **SC035 High pressure fuel circuit fault finding**.

To interpret the result, apply the interpretation of command **SC035** (see **Interpretation of commands**).

With the engine switched off and ignition on, view parameters **PR035 Atmospheric pressure** and **PR041 Turbocharging pressure**.

If there is a difference of > **100 mbar**, check that the atmospheric pressure reading is consistent (by comparison with another vehicle for example).

If atmospheric pressure is consistent, replace the turbocharging sensor.

If not, contact the Techline.

Apply **test 4: Turbocharged air inlet circuit check**.

Apply **test 7: Variable geometry turbocharger command**.

If the fault is still present, refer to the interpretation of parameter **PR041 Turbocharging pressure**.

AFTER REPAIR

Deal with any other faults. Clear the fault memory.

Switch off the ignition until the end of the power-latch phase, and carry out a road test followed by a check using the **diagnostic tool**.

DIESEL INJECTION

Fault finding - Interpretation of faults

13B

DF645 PRESENT OR STORED	<u>DAMPER VALVE POSITION REGULATION</u> 1.DEF: Data inconsistency 2.DEF: Value outside permitted tolerance 3.DEF: Damper valve jammed open
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NOTES	Conditions for applying the fault finding procedure to stored faults: The fault is declared present after the engine has been started.
	Priorities when dealing with a number of faults: Deal with faults DF323 Damper valve , DF012 Sensor feed voltage no. 2 and DF646 Damper valve position sensor first, if they are present or stored.
	Special notes: If the fault is present: - the level 1 warning light is on (for Vdiag 20, 58, 24 and 5C), - particle filter regeneration is inhibited. Use the Elé. 1681 bornier for all operations on the engine management computer connector.
	Use the Wiring Diagram Technical Note, Laguna II ph2, Vel Satis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2 .

1.DEF 2.DEF 3.DEF	NOTES	None.
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Check that the valve is not mechanically jammed : With the engine switched off, disconnect the air inlet hose from the damper valve. Check that the valve is in the open position. Start, then switch off the engine. Check that the valve closes when the engine is switched off and then opens again when the engine has stopped. If this does not happen, replace the damper valve. Then run command SC036 Reset programming and select Damper valve to reset the valve's opening and closing stops.
Ensure that the valve is clean. Clean if necessary.
Check the condition of the damper valve connector (see Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2, Component code 1461). Check the condition of the engine management computer connector (see Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2, Component code 120). If one or more connectors is faulty and there is a repair procedure (see Technical Note 6015A, Electrical wiring repair, wiring: precautions for repair), repair the connector, otherwise replace the wiring.

AFTER REPAIR	Deal with any other faults. Clear the fault memory. Switch off the ignition until the end of the power-latch phase, and carry out a road test followed by a check using the diagnostic tool .
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DF645
CONTINUED

Measure the **resistances** between connections **38KQ** and **38KP (potentiometer feed and potentiometer earth)** and between **38KS** and **38KP (potentiometer signal and potentiometer earth)** of component **1461**. Replace the damper valve if the resistances are not **between 290 Ω and 6 k Ω** .

Then run command **SC036: Reinitialise programming** and select **Damper valve** to reinitialise the valve's opening and closing stops.

Check for the absence of **interference resistance** on the following connections:

- connection code **38KQ**,
 - connection code **38KS**,
 - connection code **38KP**,
- between components **120** and **1461**.

Check the **insulation** from **+ 12 V** (computer supplies) of the following connections:

- connection code **3AAX**,
 - connection code **3AAY**,
- between components **120** and **1461**.

If the connection or connections are faulty and there is a repair procedure (see **Technical Note 6015A, Electrical wiring repair, wiring: precautions for repair**), repair the wiring, otherwise replace it.

If the fault is still present, contact the Techline.

AFTER REPAIR

Deal with any other faults. Clear the fault memory.
Switch off the ignition until the end of the power-latch phase, and carry out a road test followed by a check using the **diagnostic tool**.

DIESEL INJECTION

Fault finding - Interpretation of faults

13B

DF646 PRESENT OR STORED	<u>DAMPER VALVE POSITION SENSOR</u> CC.0 : Short circuit to earth CO.0 : Open circuit or short circuit to earth CO.1 : Short circuit or open circuit to + 12 V 1.DEF: Open circuit or short circuit
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NOTES	Conditions for applying the fault finding procedure to stored faults: The fault appears after: – the engine is started, – a road test.
	Priorities when dealing with a number of faults: Deal with fault DF012 Sensor feed no. 2 voltage first, if it is present or stored.
	Special notes: If the fault is present: - the level 1 warning light is on (for Vdiag 20, 58, 24 and 5C), - particle filter regeneration is inhibited. Use the Elé. 1681 bornier for all operations on the engine management computer connector.
	Use the Wiring Diagram Technical Note, Laguna II ph2, Vel Satis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2.

CO.1/ 1.DEF	NOTES	None
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<p>Check the condition of the damper valve connector (see Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2, Component code 1461). Check the condition of the engine management computer connector (see Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2, Component code 120). If one of the connectors is faulty and there is a repair procedure (see Technical Note 6015A, Electrical wiring repair, wiring: precautions for repair), repair the connector, otherwise replace the wiring.</p> <p>Measure the resistances between connections 38KQ and 38KP (potentiometer feed and potentiometer earth) and between 38KS and 38KP (potentiometer signal and potentiometer earth) of component 1461. Replace the damper valve if the resistances are not between 290 Ω and 6 kΩ. Then run command SC036 Reinitialise programming and select Damper valve to reinitialise the valve's opening and closing stops.</p>
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AFTER REPAIR	Deal with any other faults. Clear the fault memory. Switch off the ignition until the end of the power-latch phase, and carry out a road test followed by a check using the diagnostic tool .
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DF646 CONTINUED	
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Check the **insulation** from + 12 V and + 5 V between the following connections:

- connection code **38KP**,
- connection code **38KQ**,
- connection code **38KS**,

between components **120** and **1461**.

If the connection or connections are faulty and there is a repair procedure (see **Technical Note 6015A, Electrical wiring repair, wiring: precautions for repair**), repair the wiring, otherwise replace it.

If the fault is still present, contact the Techline.

CC.0/ CO.0	NOTES	None
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Check the condition of the damper valve connector (see **Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2, Component code 1461**).

Check the condition of the engine management computer connector (see **Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2, Component code 120**).

If one of the connectors is faulty and there is a repair procedure (see **Technical Note 6015A, Electrical wiring repair, wiring: precautions for repair**), repair the connector, otherwise replace the wiring.

Measure **the resistances** between connections **38KQ** and **38KP** (potentiometer feed and potentiometer earth) and between **38KS** and **38KP** (potentiometer signal and potentiometer earth) of component **1461**. Replace the damper valve if the resistances are not **between 290 Ω and 6 kΩ**.

Then run command **SC036 Reset programming** and select **Damper valve** to reset the valve's opening and closing stops.

Check **insulation** against **earth** of the following connection:

- connection code **38KS**,
- between components **120** and **1461**.

Check **the continuity** of the following connections:

- connection code **38KS**,
- connection code **38KQ**,

between components **120** and **1461**.

If the connection or connections are faulty and there is a repair procedure (see **Technical Note 6015A, Electrical wiring repair, wiring: precautions for repair**), repair the wiring, otherwise replace it.

If the fault is still present, contact the Techline.

AFTER REPAIR	<p>Deal with any other faults. Clear the fault memory.</p> <p>Switch off the ignition until the end of the power-latch phase, and carry out a road test followed by a check using the diagnostic tool.</p>
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DIESEL INJECTION

Fault finding - Interpretation of faults

13B

DF647 PRESENT OR STORED	<u>EGR VALVE POSITION REGULATION</u> 1.DEF: EGR 1 offset inconsistency 2.DEF: EGR 2 offset inconsistency 3.DEF: Valve jammed closed 4.DEF: Valve jammed open
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NOTES	<p>Conditions for applying the fault finding procedure to stored faults: The fault appears after:</p> <ul style="list-style-type: none"> – the ignition is switched on. – the engine is started, – a road test, – if the air flowmeter temperature > 5 °C. <p>Special notes:</p> <ul style="list-style-type: none"> – the level 1 and EOBD (European On Board Diagnostic) warning lights are lit for 1.DEF, 2.DEF and 4.DEF, – only the EOBD (European On Board Diagnostic) warning light is lit for 3.DEF, – the EGR function is inhibited by the engine management computer, – use bornier Elé. 1681 for all operations on the engine management computer connector, – loss of performance for 2.DEF and 3.DEF or 1.DEF and 2.DEF (for Vdiag 5C, 58, 24 and 20). <p>Use the Wiring Diagram Technical Note, Laguna II ph2, Vel Satis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2.</p>
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1.DEF 2.DEF	NOTES	<p>Priorities when dealing with a number of faults: Deal with faults DF209 EGR valve position sensor circuit, DF046 Battery voltage, DF012 Sensor feed voltage no. 2 or DF272 EGR valve control circuit first if they are present or stored.</p>
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Check the condition of the EGR valve connector (see **Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2, Component code 1460 or 169**). Check the condition of the engine management computer connector (see **Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2, Component code 120**).

If one of the connectors is faulty and there is a repair procedure (see **Technical Note 6015A, Electrical wiring repair, wiring: precautions for repair**), repair the connector, otherwise replace the wiring.

AFTER REPAIR	<p>Deal with any other faults. Clear the fault memory.</p> <p>Switch off the ignition until the end of the power-latch phase, and carry out a road test followed by a check using the diagnostic tool.</p>
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DF647 CONTINUED	
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Measure **the resistance** between connections **3EL** and **3JM** of component **1460 or 169**.
Replace the valve if the resistance is not between **1 kΩ and 7.5 kΩ**.
Measure **the resistance** between connections **3EL** and **3GC** of component **1460 or 169**.
Replace the valve if the resistance is not between **3.9 kΩ and 12.6 kΩ**.
After replacement, run command **SC036 Reinitialise programming** and select **EGR valve** to reinitialise the EGR valve offsets.

Check the **continuity** and **absence of interference resistance** of the following connections:
 – connection code **3GC**,
 – connection code **3EL**,
 – connection code **3JM**,
 between components **120** and **1460 or 169**.
 If the connection or connections are faulty and there is a repair procedure (see **Technical Note 6015A, Electrical wiring repair, wiring: precautions for repair**), repair the wiring, otherwise replace it.

Remove and clean the EGR valve, then refit the EGR valve and start the engine (see **MR364 (Mégane II ph2)**, **MR370 (Scénic II ph2)**, **MR 395 (Laguna II ph2)**, **353 (Vel-Satis ph2)**, **361 (Espace IV ph2)**, **Mechanical, 14A Antipollution, Exhaust gas recirculation solenoid valve, Removal-Refitting**).
 If the fault is still present, replace the EGR valve then run command **SC036 Reinitialise programming** and select **EGR valve** to reinitialise the EGR valve offsets.

3.DEF 4.DEF	NOTES	Priorities when dealing with a number of faults: Deal with faults DF209 EGR valve position sensor circuit , DF046 Battery voltage , DF012 Sensor feed voltage no. 2 or DF272 EGR valve control circuit first if they are present or stored.
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Remove and clean the EGR valve, then refit the EGR valve and start the engine (see **MR364 (Mégane II ph2)**, **MR370 (Scénic II ph2)**, **MR 395 (Laguna II ph2)**, **353 (Vel-Satis ph2)**, **361 (Espace IV ph2)**, **Mechanical, 14A Antipollution, Exhaust gas recirculation solenoid valve, Removal-Refitting**).
 If the fault is still present, replace the EGR valve then run command **SC036 Reinitialise programming** and select **EGR valve** to reinitialise the EGR valve offsets.

AFTER REPAIR	Deal with any other faults. Clear the fault memory. Switch off the ignition until the end of the power-latch phase, and carry out a road test followed by a check using the diagnostic tool .
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DIESEL INJECTION

Fault finding - Interpretation of faults

13B

DF651 PRESENT OR STORED	<u>TURBINE UPSTREAM PRESSURE SENSOR CIRCUIT</u> CO.0 : Open circuit or short circuit to earth CC.1 : Short circuit to + 12 V 1.DEF: Inconsistency
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NOTES	<p>Conditions for applying the fault finding procedure to stored faults: If the fault is declared present after:</p> <ul style="list-style-type: none"> – With the ignition on, – when the engine is running.
	<p>Special notes: If the fault is present:</p> <ul style="list-style-type: none"> – engine torque limited, – the EGR function is inhibited by the engine management computer, – vehicle performance is reduced. – particle filter regeneration is inhibited. <p>The level 1 warning light is lit. The OBD level warning light is on (for Vdiag 5C, 58, 24 and 20 (only for M9R761, M9R722 and M9R724)).</p>
	<p>Priorities when dealing with a number of faults:</p> <ul style="list-style-type: none"> – Deal first with fault DF011 Sensor feed voltage no. 1, if it is present or stored.

CO.0	NOTES	None
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<p>Check the condition of the turbine upstream pressure sensor connector (see Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2, Component code 1299).</p> <p>Check the condition of the engine management computer connector (see Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2, Component code 120).</p> <p>If one of the connectors is faulty and there is a repair procedure (see Technical Note 6015A, Electrical wiring repair, wiring: precautions for repair), repair the connector, otherwise replace the wiring.</p>
<p>Check the continuity and insulation from earth of the following connections:</p> <ul style="list-style-type: none"> – connection code 3MX, – connection code 3MY, – connection code 3MZ, <p>between components 120 and 1299.</p> <p>If the connection or connections are faulty and there is a repair procedure (see Technical Note 6015A, Electrical wiring repair, wiring: precautions for repair), repair the wiring, otherwise replace it.</p>
<p>If the fault is still present, replace the turbine upstream pressure sensor.</p>

AFTER REPAIR	<p>Deal with any other faults. Clear the fault memory.</p> <p>Switch off the ignition until the end of the power-latch phase, and carry out a road test followed by a check using the diagnostic tool.</p>
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DIESEL INJECTION

Fault finding - Interpretation of faults

13B

DF651 CONTINUED	
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CC.1	NOTES	None
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Check the condition of the turbine upstream pressure sensor connector (see **Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2, Component code 1299**).

Check the condition of the engine management computer connector (see **Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2, Component code 120**).

If one of the connectors is faulty and there is a repair procedure (see **Technical Note 6015A, Electrical wiring repair, wiring: precautions for repair**), repair the connector, otherwise replace the wiring.

Check **the continuity and insulation** from **+ 12 V** of the following connections:

- connection code **3MX**,
- connection code **3MY**,
- connection code **3MZ**,

between components **120** and **1299**.

If the connection or connections are faulty and there is a repair procedure (see **Technical Note 6015A, Electrical wiring repair, wiring: precautions for repair**), repair the wiring, otherwise replace it.

If the fault is still present, replace the turbine upstream pressure sensor.

1.DEF	NOTES	None
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Check the condition of the turbine upstream pressure sensor connector (see **Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2, Component code 1299**).

If one of the connectors is faulty and there is a repair procedure (see **Technical Note 6015A, Electrical wiring repair, wiring: precautions for repair**), repair the connector, otherwise replace the wiring. Check the condition of the engine management computer connector (see **Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2, Component code 120**).

Check **for continuity and absence of interference resistance** on the following connection:

- connection code **3MY**,

between components **120** and **1299**.

If the connection is faulty and there is a repair method (see **Technical Note 6015A, Repairing electrical wiring, wiring: precautions for repair**), repair the wiring, otherwise replace it.

Replace the turbine upstream pressure sensor if necessary.

If the fault is still present, contact the Techline.

AFTER REPAIR	<p>Deal with any other faults. Clear the fault memory.</p> <p>Switch off the ignition until the end of the power-latch phase, and carry out a road test followed by a check using the diagnostic tool.</p>
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DF652 PRESENT OR STORED	<u>TURBINE UPSTREAM TEMPERATURE SENSOR CIRCUIT</u> CC.0 : Short circuit to earth CO.1 : Open circuit or short circuit to + 12 V
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NOTES	Conditions for applying fault finding procedures to stored faults: The fault becomes present if: – with ignition on (CC.0) or after a road test, warm engine (CO.1).
	Special notes: If the fault is present: particle filter regeneration is inhibited, – the vehicle performance is reduced, – temperature regulation before the particle filter is inhibited. The level 1 warning light is lit. The OBD level warning light is on (for Vdiag 5C, 58, 24 and 20).

CC.0	NOTES	None
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<p>Check the condition of the turbine upstream temperature sensor connector (see Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2, Component code 1589).</p> <p>Check the condition of the engine management computer connector (see Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2, Component code 120).</p> <p>If one of the connectors is faulty and there is a repair procedure (see Technical Note 6015A, Electrical wiring repair, wiring: precautions for repair), repair the connector, otherwise replace the wiring.</p>
<p>Check the insulation from earth of the following connections:</p> <ul style="list-style-type: none"> – connection code 3ABS, – connection code 3ABT, <p>between components 120 and 1589.</p> <p>If the connection or connections are faulty and there is a repair procedure (see Technical Note 6015A, Electrical wiring repair, wiring: precautions for repair), repair the wiring, otherwise replace it.</p> <p>If fault is still present, replace the turbine upstream temperature sensor.</p>

AFTER REPAIR	<p>Deal with any other faults. Clear the fault memory.</p> <p>Switch off the ignition until the end of the power-latch phase, and carry out a road test followed by a check using the diagnostic tool.</p>
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DIESEL INJECTION

Fault finding - Interpretation of faults

13B

DF652 CONTINUED	
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CO.1	NOTES	None
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Check the condition of the turbine upstream temperature sensor connector (**see Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2, Component code 1589**).

Check the condition of the engine management computer connector (**see Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2, Component code 120**).

If one of the connectors is faulty and there is a repair procedure (**see Technical Note 6015A, Electrical wiring repair, wiring: precautions for repair**), repair the connector, otherwise replace the wiring.

Check **the continuity and insulation** from **+ 12 V** of the following connections:

- connection code **3ABS**,
- connection code **3ABT**,

between components **120** and **1589**.

If the connection or connections are faulty and there is a repair procedure (**see Technical Note 6015A, Electrical wiring repair, wiring: precautions for repair**), repair the wiring, otherwise replace it.

If fault is still present, replace the turbine upstream temperature sensor.

AFTER REPAIR	<p>Deal with any other faults. Clear the fault memory.</p> <p>Switch off the ignition until the end of the power-latch phase, and carry out a road test followed by a check using the diagnostic tool.</p>
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DF717 PRESENT OR STORED	<u>PARTICLE FILTER UPSTREAM PRESSURE</u> 1.DEF: Inconsistency
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NOTES	Conditions for applying fault finding procedures to stored faults: The fault is declared present after the engine is started or following a road test.
	Special notes: If the fault is present: <ul style="list-style-type: none"> – the level 1 warning light is lit, – the OBD warning light will illuminate after three consecutive driving cycles (starting + 5 seconds + switching off the ignition and waiting 1 minute). – the particle filter fault finding procedure is inhibited, – particle filter regeneration is inhibited,

Check the condition of the pressure pipe between the particle filter upstream take-off point and the differential pressure sensor.
Check that the pipe is not crushed, blocked or pierced.
Check that the differential pressure sensor is correctly positioned and connected (**see MR 395, 402, 405, 364, 370, Mechanical, 19B Exhaust, Particle filter pressure sensor: Removal - Refitting**).
Replace the pressure pipe if necessary.

AFTER REPAIR	Deal with any other faults. Clear the fault memory. Switch off the ignition until the end of the power-latch phase, and carry out a road test followed by a check using the diagnostic tool .
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DF890 PRESENT OR STORED	<u>MOVEMENT DURING PARTICLE FILTER REGENERATION</u> 1.DEF: Above maximum threshold
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NOTES	Conditions for applying fault finding procedures to stored faults: The fault becomes present during an After-Sales regeneration carried out using the diagnostic tool at a speed above zero.
	Special notes: If the fault is present, the particle filter regeneration in progress stops.

IMPORTANT The fault is present because the vehicle was driven while the After-Sales regeneration was in progress. The vehicle must remain stationary throughout regeneration. Carry out another After-Sales regeneration. DO NOT DRIVE THE VEHICLE. CHECK THAT THE VEHICLE IS CORRECTLY IMMOBILISED. <ul style="list-style-type: none"> – Switch off the ignition and wait for the diagnostic tool message (maximum wait 8 min): Loss of dialogue with the computer: EDC16 CP33, check the tool connection and the computer supply voltage, – switch on the ignition again, – establish dialogue with the injection computer, clear the faults from the computer memory, – carry out another After-Sales regeneration, – use command SC017 Regenerate particle filter and follow the procedure described in the section Interpretation of commands. If the fault is still present, contact the Techline.
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AFTER REPAIR	Deal with any other faults. Clear the fault memory. Switch off the ignition until the end of the power-latch phase, and carry out a road test followed by a check using the diagnostic tool .
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EDC16CP33_V18_DF890/EDC16CP33_V1C_DF890/EDC16CP33_V54_DF890
/EDC16CP33_V20_DF890/EDC16CP33_V58_DF890/EDC16CP33_V5C_DF890/EDC16CP33_V24_DF890

DIESEL INJECTION

Fault finding - Interpretation of faults

13B

DF891 PRESENT OR STORED	<u>GROUP 1 INJECTORS FEED</u> CC.0 : Short circuit to earth 1.DEF: Faulty connections
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NOTES	Group 1 corresponds to injectors 1 and 2.
	Conditions for applying fault finding procedures to stored faults: If the fault recurs as present after: <ul style="list-style-type: none"> – the ignition is switched on, – the engine is started.
	Priority when dealing with a number of faults: Deal with faults DF026 Cylinder 1 injector control circuit, DF027 Cylinder 2 injector control circuit first, whether they are present or stored.
	Special notes: If the fault is present: <ul style="list-style-type: none"> – particle filter regeneration is inhibited, – the level 2 warning light is lit, – the engine stops. Use bornier Elé. 1681 for all operations on the engine management computer connectors.
	Use the Wiring Diagram Technical Note, Laguna II ph2, Vel Satis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2.

<p>Check the condition of the injector connectors (see Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2, Component codes 193, 194, 195, 196). Check the condition of the engine management computer connector (see Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2, Component code 120). If one of the connectors is faulty and there is a repair procedure (see Technical Note 6015A, Electrical wiring repair, wiring: precautions for repair), repair the connector, otherwise replace the wiring.</p>
<p>Check the continuity and insulation of the following connections:</p> <ul style="list-style-type: none"> – connection code 3KW between components 120 and 193, – connection code 3CR between components 120 and 193, – connection code 3KX between components 120 and 194, – connection code 3CS between components 120 and 194, <p>If the connection or connections are faulty and there is a repair procedure (see Technical Note 6015A, Electrical wiring repair, wiring: precautions for repair), repair the wiring, otherwise replace it.</p>
<p>If the fault is still present, contact the Techline.</p>

AFTER REPAIR	Deal with any other faults. Clear the fault memory. Switch off the ignition until the end of the power-latch phase, and carry out a road test followed by a check using the diagnostic tool .
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EDC16CP33_V18_DF891/EDC16CP33_V1C_DF891/EDC16CP33_V54_DF891
 /EDC16CP33_V20_DF891/EDC16CP33_V58_DF891/EDC16CP33_V5C_DF891/EDC16CP33_V24_DF891

DIESEL INJECTION

Fault finding - Interpretation of faults

13B

DF892 PRESENT OR STORED	<u>GROUP 2 INJECTORS SUPPLY</u> CC.0 : Short circuit to earth 1.DEF: Faulty connections
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NOTES	Group 2 corresponds to injectors 3 and 4.
	Conditions for applying the fault finding procedure to stored faults: If the fault recurs as present after: <ul style="list-style-type: none"> – the ignition is switched on, – the engine is started.
	Priority when dealing with a number of faults: Deal with faults DF028 Cylinder 3 injector control circuit and DF029 Cylinder 4 injector control circuit first, whether they are present or stored.
	Special notes: If the fault is present: <ul style="list-style-type: none"> – particle filter regeneration is inhibited, – the level 2 warning light is lit, – the engine stops. Use bornier Elé. 1681 for all operations on the engine management computer connectors.
	Use the Wiring Diagram Technical Note, Laguna II ph2, Vel Satis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2.

<p>Check the condition of the injector connectors (see Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2, Component codes 195, 196). Check the condition of the engine management computer connector (see Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2, Component code 120). If one of the connectors is faulty and there is a repair procedure (see Technical Note 6015A, Electrical wiring repair, wiring: precautions for repair), repair the connector, otherwise replace the wiring.</p>
<p>Check the continuity and insulation of the following connections:</p> <ul style="list-style-type: none"> – connection code 3KY between components 120 and 195, – connection code 3CT between components 120 and 195, – connection code 3KZ between components 120 and 196, – connection code 3CU, between components 120 and 196, <p>If the connection or connections are faulty and there is a repair procedure (see Technical Note 6015A, Electrical wiring repair, wiring: precautions for repair), repair the wiring, otherwise replace it.</p>
<p>If the fault is still present, contact the Techline.</p>

AFTER REPAIR	Deal with any other faults. Clear the fault memory. Switch off the ignition until the end of the power-latch phase, and carry out a road test followed by a check using the diagnostic tool .
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EDC16CP33_V18_DF892/EDC16CP33_V1C_DF892/EDC16CP33_V54_DF892
 /EDC16CP33_V20_DF892/EDC16CP33_V58_DF892/EDC16CP33_V5C_DF892/EDC16CP33_V24_DF892

DIESEL INJECTION

Fault finding - Interpretation of faults

13B

DF895 PRESENT OR STORED	<u>PRESSURE REGULATION ON RAIL</u> 1.DEF: Below minimum threshold 2.DEF: Above maximum threshold 3.DEF: Negative loop deviation 4.DEF: Positive loop deviation
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NOTES	<p>Conditions for applying the fault finding procedure to stored faults: The fault is declared present after:</p> <ul style="list-style-type: none"> – the ignition is switched on, – with the engine running, – road test. <p>Special notes: DF895 depends on the pressure regulator integrated into the rail (DRV). Fault DF896 Pressure regulation on pump depends on the pressure regulator integrated in the pump (MPROP). The fuel pressure regulator built into the rail (DRV) and the fuel pressure regulator built into the pump (MPROP) are never actuated at the same time. If the fault is present:</p> <ul style="list-style-type: none"> – particle filter regeneration is inhibited, – the engine stops and the level 2 warning light comes on: 1.DEF, 4.DEF, – the level 1 warning light comes on: 2.DEF, 3.DEF, 4.DEF, – engine torque is limited 2.DEF, 3.DEF, 4.DEF, – the rail pressure is regulated by a regulator built into the pump (MPROP): 2.DEF, 3.DEF, 4.DEF. <p>Use bornier Elé. 1681 for all operations on the engine management computer connectors.</p> <p>Use the Wiring Diagram Technical Note, Laguna II ph2, Vel Satis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2.</p>
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1.DEF 2.DEF 3.DEF 4.DEF	NOTES	<p>Priorities when dealing with a number of faults: Deal with fault DF898 Rail pressure regulator circuit, DF897 Pump pressure regulator circuit or DF896 Pump pressure regulator first, if it is present or stored.</p>
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Check that there are no leaks on the high pressure diesel fuel circuit. Repair if necessary.
– Check the fuel level in the tank: If there is a fault with the fuel sender sensor, deal with this first. Check the low pressure circuit by running test 3 Low pressure circuit test and check that there is no exterior and air leaks in the low pressure fuel circuit.

AFTER REPAIR	Deal with any other faults. Clear the fault memory. Switch off the ignition until the end of the power-latch phase, and carry out a road test followed by a check using the diagnostic tool .
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EDC16CP33_V18_DF895/EDC16CP33_V1C_DF895/EDC16CP33_V54_DF895
 /EDC16CP33_V20_DF895/EDC16CP33_V58_DF895/EDC16CP33_V5C_DF895/EDC16CP33_V24_DF895

DF895 CONTINUED	
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Test the high pressure fuel circuit:

Apply scenario **SC035 "High pressure fuel circuit fault finding"** (see **Interpretation of commands**).

- If the **SC035** is correct: The high pressure pump and all of the high pressure and low pressure pipes and injector rail are correct
- If **SC035** is not correct: Apply **ALP6 "Fuel circuit leaks"**.

If the fault is still present, check the rail pressure regulator connections (**DRV**).

Check the engine management computer connections.

Repair if necessary.

Check the seal on the rail pressure regulator (**DRV**):

Disconnect the low-pressure return pipe from the rail pressure regulator (**DRV**). In its place, connect a transparent pipe, with the other end leading to a container of some sort in order to collect the drained diesel fuel. Start the engine and let the engine idle.

When the engine is started, no diesel should flow into the transparent pipe as the rail pressure regulator (**DRV**) is closed so that the pressure in the hydraulic system can rise.

Diesel fuel should flow into the transparent pipe a few seconds after the engine is started, provided that the diesel is cold (less than 15 °C), as the regulation is provided by the rail pressure regulator (**DRV**).

If the diesel is warm (above 15 °C), regulation is controlled by the pump pressure regulator (**MPROP**). No diesel should flow into the pipe.

If the diesel does not behave in accordance with this description, replace the rail (removing the rail pressure regulator (**DRV**) is not permitted).

Note: the above description no longer applies if faults **DF898 Rail pressure regulator circuit**, **DF897 Pump pressure regulator circuit** and **DF896 Pump pressure regulation** are present.

Check the condition of the pressure regulator connector on the pump (**MPROP**) (see **Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2, Component code 1105**).

Check the condition of the engine management computer connector (see **Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2, Component code 120**).

If one of the connectors is faulty and there is a repair procedure (see **Technical Note 6015A, Electrical wiring repair, wiring: precautions for repair**), repair the connector, otherwise replace the wiring.

Measure **the resistance** between connections **3FB** and **3HI** of component **1105**.

Contact Techline if the resistance is not between: **2 Ω and 6 Ω at 20 °C**.

If the fault is still present, contact the Techline.

AFTER REPAIR	<p>Deal with any other faults. Clear the fault memory.</p> <p>Switch off the ignition until the end of the power-latch phase, and carry out a road test followed by a check using the diagnostic tool.</p>
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DIESEL INJECTION

Fault finding - Interpretation of faults

13B

DF896 PRESENT OR STORED	<u>PRESSURE REGULATOR ON PUMP</u> 1.DEF: Below minimum threshold 2.DEF: Above maximum threshold 3.DEF: Negative loop deviation 4.DEF: Positive loop deviation
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NOTES	<p>Conditions for applying the fault finding procedure to stored faults: The fault is declared present after:</p> <ul style="list-style-type: none"> – the ignition is switched on. – engine running. <p>Special notes: If the fault is present:</p> <ul style="list-style-type: none"> – particle filter regeneration is inhibited, – the engine stops and the level 2 warning light comes on: 1.DEF, – the level 1 warning light comes on: 2.DEF, 3.DEF, 4.DEF, – engine torque is limited: 2.DEF, 3.DEF, 4.DEF, – the rail pressure is regulated by a regulator built into the rail (DRV): 2.DEF, 3.DEF, 4.DEF.
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1.DEF 2.DEF 3.DEF 4.DEF	NOTES	<p>Priorities when dealing with a number of faults: Deal with faults DF897 Pump pressure regulator circuit and DF898 Rail pressure regulator circuit first, if they are present or stored.</p>
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<p>Check that there are no leaks on the high pressure diesel fuel circuit. Repair if necessary.</p>
<p>– Check the level of fuel in the tank: Check the low pressure circuit by running test 3 Low pressure circuit test and check that there is no exterior and air leaks in the low pressure fuel circuit.</p>
<p>Test the high pressure fuel circuit: Apply scenario SC035 "High pressure fuel circuit fault finding" (see Interpretation of commands).</p>
<p>Check the condition of the pressure regulator connector on the pump (MPROP) (see Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2, Component code 1105). Check the condition of the engine management computer connector (see Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2, Component code 120). If one of the connectors is faulty and there is a repair procedure (see Technical Note 6015A, Electrical wiring repair, wiring: precautions for repair), repair the connector, otherwise replace the wiring.</p>

AFTER REPAIR	<p>Deal with any other faults. Clear the fault memory. Switch off the ignition until the end of the power-latch phase, and carry out a road test followed by a check using the diagnostic tool.</p>
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EDC16CP33_V18_DF896/EDC16CP33_V1C_DF896/EDC16CP33_V54_DF896
 /EDC16CP33_V20_DF896/EDC16CP33_V58_DF896/EDC16CP33_V5C_DF896/EDC16CP33_V24_DF896

DF896 CONTINUED	
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Check the condition of the pressure regulator connector on the rail (DRV) (see **Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2, Component code 1198**).
Check the condition of the engine management computer connector (see **Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2, Component code 120**).
If one of the connectors is faulty and there is a repair procedure (see **Technical Note 6015A, Electrical wiring repair, wiring: precautions for repair**), repair the connector, otherwise replace the wiring.

If the fault is still present, contact the Techline.

AFTER REPAIR	Deal with any other faults. Clear the fault memory. Switch off the ignition until the end of the power-latch phase, and carry out a road test followed by a check using the diagnostic tool .
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DIESEL INJECTION

Fault finding - Interpretation of faults

13B

DF897 PRESENT OR STORED	<u>PUMP PRESSURE REGULATOR CIRCUIT</u> CO : Open circuit CC.0 : Short circuit to earth CC.1 : Short circuit to + 12 V 1.DEF: Internal electronic fault
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NOTES	<p>Conditions for applying the fault finding procedure to stored faults: The fault reappears after:</p> <ul style="list-style-type: none"> – the ignition is switched on, – the regulator is controlled using command AC226: Pump pressure regulator. <p>Special notes: The fuel flow regulator is built into the high pressure pump. If the fault is present:</p> <ul style="list-style-type: none"> – particle filter regeneration is inhibited, – the quantity of fuel injected is limited and the engine speed is limited to 3000 rpm: CO, CC.1, 1.DEF, – regulation with open loop for fuel flow, – the level 2 warning light comes on: CC.0: engine stop, – the level 1 warning light comes on: CO, CC.1, 1.DEF, – pressure is regulated by the pump pressure regulator (MPROP). – Use bornier Elé. 1681 for all operations on the engine management computer connectors. <p>Use the Wiring Diagram Technical Note, Laguna II ph2, Vel Satis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2.</p>
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CO	NOTES	None
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<p>Check the condition of the pressure regulator connector on the pump (MPROP) (see Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2, Component code 1105).</p> <p>Check the condition of the engine management computer connector (see Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2, Component code 120).</p> <p>If one of the connectors is faulty and there is a repair procedure (see Technical Note 6015A, Electrical wiring repair, wiring: precautions for repair), repair the connector, otherwise replace the wiring.</p>
<p>Measure the resistance between connections 3FB and 3HI of component 1105. Contact the Techline if the resistance is less than 1.5 Ω or greater than 1 kΩ.</p>

AFTER REPAIR	<p>Deal with any other faults. Clear the fault memory.</p> <p>Switch off the ignition until the end of the power-latch phase, and carry out a road test followed by a check using the diagnostic tool.</p>
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DF897 CONTINUED 1	
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<p>Check the continuity of the connection between:</p> <ul style="list-style-type: none"> – connection code 3HI, between components 120 and 1105. <p>Check the + 12 V after relay feed to the pump pressure regulator (MPROP):</p> <ul style="list-style-type: none"> – connection code 3FB of component 1105. <p>If the connection or connections are faulty and there is a repair procedure (see Technical Note 6015A, Electrical wiring repair, wiring: precautions for repair), repair the wiring, otherwise replace it.</p> <p>If the fault is still present, contact the Techline.</p>

CC.0	NOTES	None
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<p>Check the condition of the pressure regulator connector on the pump (MPROP) (see Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2, Component code 1105).</p> <p>Check the condition of the engine management computer connector (see Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2, Component code 120).</p> <p>If one of the connectors is faulty and there is a repair procedure (see Technical Note 6015A, Electrical wiring repair, wiring: precautions for repair), repair the connector, otherwise replace the wiring.</p> <p>Measure the resistance between connections 3FB and 3HI of component 1105. Contact the Techline if the resistance is less than 1.5 Ω or greater than 1 kΩ.</p> <p>Check the continuity and insulation from earth of the following connection:</p> <ul style="list-style-type: none"> – connection code 3HI, between components 120 and 1105. <p>Check the + 12 V after relay feed to the pump pressure regulator (MPROP):</p> <ul style="list-style-type: none"> – connection code 3FB of component 1105. <p>If the connection or connections are faulty and there is a repair procedure (see Technical Note 6015A, Electrical wiring repair, wiring: precautions for repair), repair the wiring, otherwise replace it.</p> <p>If the fault is still present, contact the Techline.</p>
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AFTER REPAIR	<p>Deal with any other faults. Clear the fault memory.</p> <p>Switch off the ignition until the end of the power-latch phase, and carry out a road test followed by a check using the diagnostic tool.</p>
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DIESEL INJECTION

Fault finding - Interpretation of faults

13B

DF897 CONTINUED 2	
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CC.1	NOTES	None
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<p>Check the condition of the pressure regulator connector on the pump (MPROP) (see Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2, Component code 1105).</p> <p>Check the condition of the engine management computer connector (see Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2, Component code 120).</p> <p>If one of the connectors is faulty and there is a repair procedure (see Technical Note 6015A, Electrical wiring repair, wiring: precautions for repair), repair the connector, otherwise replace the wiring.</p>
<p>Measure the resistance between connections 3FB and 3HI of component 1105. Contact the Techline if the resistance is less than 1.5 Ω or greater than 1 kΩ.</p>
<p>Check the continuity and insulation from + 12 V of the following connection:</p> <ul style="list-style-type: none"> – connection code 3HI, between components 120 and 1105. <p>Check the + 12 V after relay feed to the pump pressure regulator (MPROP):</p> <ul style="list-style-type: none"> – connection code 3FB of component 1105. <p>If the connection or connections are faulty and there is a repair procedure (see Technical Note 6015A, Electrical wiring repair, wiring: precautions for repair), repair the wiring, otherwise replace it.</p>
<p>If the fault is still present, contact the Techline.</p>

AFTER REPAIR	<p>Deal with any other faults. Clear the fault memory.</p> <p>Switch off the ignition until the end of the power-latch phase, and carry out a road test followed by a check using the diagnostic tool.</p>
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DIESEL INJECTION

Fault finding - Interpretation of faults

13B

DF897 CONTINUED 3	
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1.DEF	NOTES	Special notes: This fault appears when the computer control section has overheated.
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<p>Check the condition of the pressure regulator connector on the pump (MPROP) (see Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2, Component code 1105).</p> <p>Check the condition of the engine management computer connector (see Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2, Component code 120).</p> <p>If one of the connectors is faulty and there is a repair procedure (see Technical Note 6015A, Electrical wiring repair, wiring: precautions for repair), repair the connector, otherwise replace the wiring.</p>
<p>Measure the resistance between connections 3FB and 3HI of component 1105.</p> <p>Contact the Techline if the resistance is less than 2 Ω or greater than 6 Ω.</p>
<p>Check for continuity and the absence of interference resistance on the following connection:</p> <ul style="list-style-type: none"> – connection code 3HI, <p>between components 120 and 1105.</p> <p>Check the + 12 V after relay feed to the pump pressure regulator (MPROP):</p> <ul style="list-style-type: none"> – connection code 3FB of component 1105. <p>If the connection or connections are faulty and there is a repair procedure (see Technical Note 6015A, Electrical wiring repair, wiring: precautions for repair), repair the wiring, otherwise replace it.</p>
<p>If the fault is still present, contact the Techline.</p>

AFTER REPAIR	<p>Deal with any other faults. Clear the fault memory.</p> <p>Switch off the ignition until the end of the power-latch phase, and carry out a road test followed by a check using the diagnostic tool.</p>
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DIESEL INJECTION

Fault finding - Interpretation of faults

13B

DF898 PRESENT OR STORED	<u>PRESSURE REGULATOR CIRCUIT ON RAIL</u> CO : Open circuit CC.0 : Short circuit to earth CC.1 : Short circuit to + 12 V 1.DEF: Internal electronic fault
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NOTES	<p>Conditions for applying the fault finding procedure to stored faults: The fault reappears after:</p> <ul style="list-style-type: none"> – the ignition is switched on, – the regulator is controlled using command AC225 Rail pressure regulator. <p>Special notes: The rail pressure regulator (DRV) is built into the high-pressure rail. The DF898 Rail pressure regulator circuit depends on the pressure regulator on the rail (DRV). If the fault is present:</p> <ul style="list-style-type: none"> – the quantity of fuel injected limited and the engine speed limited to 3000 rpm: CO, CC.1, 1.DEF, – the level 2 warning light is lit, – the engine stops immediately for CO, CC.1, 1.DEF, – the engine stops after a few minutes for CC.0, – the rail pressure is regulated by a regulator built into the pump (MPROP). – Use bornier Elé. 1681 for all operations on the engine management computer connectors. <p>Use the Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2.</p>
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CO	NOTES	None
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<p>Check the condition of the pressure regulator connector on the rail (DRV) (see Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2, Component code 1198).</p> <p>Check the condition of the engine management computer connector (see Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2, Component code 120).</p> <p>If one of the connectors is faulty and there is a repair procedure (see Technical Note 6015A, Electrical wiring repair, wiring: precautions for repair), repair the connector, otherwise replace the wiring.</p>
<p>Measure the resistance between connections 3FB and 3RG of component 1198. Contact the Techline if the Resistance is less than 2 Ω or greater than 1 kΩ.</p>

AFTER REPAIR	<p>Deal with any other faults. Clear the fault memory.</p> <p>Switch off the ignition until the end of the power-latch phase, and carry out a road test followed by a check using the diagnostic tool.</p>
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EDC16CP33_V18_DF898/EDC16CP33_V1C_DF898/EDC16CP33_V54_DF898
/EDC16CP33_V20_DF898/EDC16CP33_V58_DF898/EDC16CP33_V5C_DF898/EDC16CP33_V24_DF898

DIESEL INJECTION

Fault finding - Interpretation of faults

13B

DF898 CONTINUED 1	
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<p>Check the continuity of the following connection:</p> <ul style="list-style-type: none"> – connection code 3RG, between components 120 and 1198. <p>Check the + 12 V after relay feed to the rail pressure regulator (DRV):</p> <ul style="list-style-type: none"> – connection code 3FB of component 1198. <p>If the connection or connections are faulty and there is a repair procedure (see Technical Note 6015A, Electrical wiring repair, wiring: precautions for repair), repair the wiring, otherwise replace it.</p> <p>If the fault is still present, contact the Techline.</p>

CC.0	NOTES	None
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<p>Check the condition of the pressure regulator connector on the rail (DRV) (see Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2, Component code 1198).</p> <p>Check the condition of the engine management computer connector (see Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2, Component code 120).</p> <p>If one of the connectors is faulty and there is a repair procedure (see Technical Note 6015A, Electrical wiring repair, wiring: precautions for repair), repair the connector, otherwise replace the wiring.</p> <p>Measure the resistance between connections 3FB and 3RG of component 1198. Contact the Techline if the resistance is less than 2 Ω or greater than 1 kΩ.</p> <p>Check the continuity and insulation against earth of the following connection:</p> <ul style="list-style-type: none"> – connection code 3RG, between components 120 and 1198. <p>Check the + 12 V after relay feed to the rail pressure regulator (DRV).</p> <ul style="list-style-type: none"> – connection code 3FB of component 1198. <p>If the connection or connections are faulty and there is a repair procedure (see Technical Note 6015A, Electrical wiring repair, wiring: precautions for repair), repair the wiring, otherwise replace it.</p> <p>If the fault is still present, contact the Techline.</p>

AFTER REPAIR	<p>Deal with any other faults. Clear the fault memory.</p> <p>Switch off the ignition until the end of the power-latch phase, and carry out a road test followed by a check using the diagnostic tool.</p>
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DIESEL INJECTION

Fault finding - Interpretation of faults

13B

DF898 CONTINUED 2	
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CC.1	NOTES	None
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<p>Check the condition of the pressure regulator connector on the rail (DRV) (see Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2, Component code 1198).</p> <p>Check the condition of the engine management computer connector (see Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2, Component code 120).</p> <p>If one of the connectors is faulty and there is a repair procedure (see Technical Note 6015A, Electrical wiring repair, wiring: precautions for repair), repair the connector, otherwise replace the wiring.</p>
<p>Measure the resistance between connections 3FB and 3RG of component 1198. Contact the Techline if the resistance is less than 2 Ω or greater than 1 kΩ.</p>
<p>Check the continuity and insulation from + 12 V of the following connection:</p> <ul style="list-style-type: none"> – connection code 3RG, between components 120 and 1198. <p>Check the + 12 V after relay feed to the rail pressure regulator (DRV).</p> <ul style="list-style-type: none"> – connection code 3FB of component 1198. <p>If the connection or connections are faulty and there is a repair procedure (see Technical Note 6015A, Electrical wiring repair, wiring: precautions for repair), repair the wiring, otherwise replace it.</p>
<p>If the fault is still present, contact the Techline.</p>

AFTER REPAIR	<p>Deal with any other faults. Clear the fault memory.</p> <p>Switch off the ignition until the end of the power-latch phase, and carry out a road test followed by a check using the diagnostic tool.</p>
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DIESEL INJECTION

Fault finding - Interpretation of faults

13B

DF898 CONTINUED 3	
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1.DEF	NOTES	Special notes: This fault appears when the computer control section has overheated.
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<p>Check the condition of the pressure regulator connector on the rail (DRV) (see Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2, Component code 1198).</p> <p>Check the condition of the engine management computer connector (see Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2, Component code 120).</p> <p>If one of the connectors is faulty and there is a repair procedure (see Technical Note 6015A, Electrical wiring repair, wiring: precautions for repair), repair the connector, otherwise replace the wiring.</p>
<p>Measure the resistance between connections 3FB and 3RG of component 1198.</p> <p>Contact the Techline if the resistance is less than 2 Ω or greater than 6 Ω.</p>
<p>Check for continuity and the absence of interference resistance on the following connection:</p> <ul style="list-style-type: none"> – connection code 3RG, <p>between components 120 and 1198.</p> <p>Check the + 12 V after relay feed to the rail pressure regulator (DRV).</p> <ul style="list-style-type: none"> – connection code 3FB of component 1198. <p>If the connection or connections are faulty and there is a repair procedure (see Technical Note 6015A, Electrical wiring repair, wiring: precautions for repair), repair the wiring, otherwise replace it.</p>
<p>If the fault is still present, contact the Techline.</p>

AFTER REPAIR	<p>Deal with any other faults. Clear the fault memory.</p> <p>Switch off the ignition until the end of the power-latch phase, and carry out a road test followed by a check using the diagnostic tool.</p>
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DF899 PRESENT OR STORED	<u>REGENERATION TEMPERATURE LIMIT EXCEEDED</u>
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NOTES	Conditions for applying the fault finding procedure to stored faults: The fault is declared present during an After-Sales regeneration, if the temperature threshold is exceeded.
	Special notes: If the fault is present: – regeneration in progress is stopped.
	IMPORTANT The fault occurs if the temperature threshold is exceeded during the After-Sales regeneration phase.

<ul style="list-style-type: none"> – Carry out particle filter replacement – run command SC036 Reinitialise programming (see Interpretation of commands) and select After particle filter replacement. – switch off the ignition and wait for the diagnostic tool message (maximum wait 8 min): Loss of dialogue with the computer: EDC16 CP33, check the tool connection and the computer supply voltage, – then switch on the ignition again, – clear the Present or Stored faults from the computer memory. (carry out operation within 3 minutes after switching on the ignition) <p>If the fault is still present, contact the Techline.</p>

AFTER REPAIR	Deal with any other faults. Clear the fault memory. Switch off the ignition until the end of the power-latch phase, and carry out a road test followed by a check using the diagnostic tool .
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DIESEL INJECTION

Fault finding - Interpretation of faults

13B

DF997 PRESENT OR STORED	<u>CONTROL UNIT → HEATING ELEMENTS CONNECTION</u> 1.DEF: Signal incoherence
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NOTES	Conditions for applying the fault finding procedure to stored faults: The fault is declared present after the engine starts.
	Special notes: If the fault is present: The engine performance is impaired during the particle filter regeneration phase.

Check the condition of the "heating element 1, 2, 3" relay mounting connector on the engine fuse box or additional heater interface unit (see **Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2, Component code 1067, 1068, 1069 or 1550**).

Check the condition of the engine management computer connector (see **Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2, Component code 120**).

If one of the connectors is faulty and there is a repair procedure (see **Technical Note 6015A, Electrical wiring repair, wiring: precautions for repair**), repair the connector, otherwise replace the wiring.

Check the conformity of the "heating elements 1, 2, 3" relay (relay removed) or the additional heater interface unit:

- **Insulation** between connections **BP9** and **3JB** of component **1067 or 1550**.
- **Insulation** between connections **BP91** and **3JAD or 3JD and 3JAC** of component **1068 or 1550**.
- **Insulation** between components **BP9** and **3JAC or 3JC** of component **1069 or 1550**.

Check the **continuity** of the following connections:

- **3JAC or 3JC** between component **1069 or 1550**,
- **3JAD or 3JD and 3JAC** between component **1068 or 1550**,
- **3JA** between component **1067 or 1550**.

If the connection or connections are faulty and there is a repair procedure (see **Technical Note 6015A, Electrical wiring repair, wiring: precautions for repair**), repair the wiring, otherwise replace it.

AFTER REPAIR	Deal with any other faults. Clear the fault memory. Switch off the ignition until the end of the power-latch phase, and carry out a road test followed by a check using the diagnostic tool .
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DF997
CONTINUED

Check **the absence of interference resistance** of the following connection:

- connection code **3JA**, between components **120** and **1067 or 1550**,
- connection code **3JAA**, between components **120** and **1068 or 1550**,
- connection code **3JAB**, between components **120** and **1069 or 1550**.

Check the **+ 12 V after relay feed** to the “heating element 1”, “heating element 2”, “heating element 3 relay mounting”.

- connection **3FB** of component **1067 or 1550**.
- connection **BP91** of component **1068 or 1550**.
- connection **BP9** of component **1069 or 1550**.

If the connection is faulty and there is a repair procedure (see **Technical Note 6015A, Electrical wiring repair, wiring: precautions for repair**), repair the wiring, otherwise replace it.

If the fault is still present, contact Techline.

AFTER REPAIR

Deal with any other faults. Clear the fault memory.
Switch off the ignition until the end of the power-latch phase, and carry out a road test followed by a check using the **diagnostic tool**.

DF1069 PRESENT OR STORED	<u>HEATER PLUGS NOT CONFIGURED</u> 1.DEF: Configuration/Initialisation
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NOTES	<p>Special notes: If the fault is present:</p> <ul style="list-style-type: none">– engine torque limited,– an engine speed below 1500 rpm. <p>The level 1 warning light is lit.</p> <p>Note: This fault is specific to engine type: 760 (Vdiag 20, 24).</p>
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If the fault is present, display status **ET781 Heater plugs** in the sub-function **Ignition/Preheating**, if status **ET781** is **STATUS 3**.

The heater plugs are not configured on the injection computer.

To determine the heater plugs fitted to the engine, visually check the colour of the plug rings, then run command **SC036 Reinitialise programming** and select **HEATER PLUGS** (see **Interpretation of commands**).

If the fault is stored, clear the fault.

End of fault finding.

If the fault persists or status **ET781** is not **STATUS 3**, contact Techline.

AFTER REPAIR	Deal with any other faults. Clear the fault memory. Switch off the ignition until the end of the power-latch phase, and carry out a road test followed by a check using the diagnostic tool .
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The global **conformity check** for the functions and sub-functions of this system is no longer interpreted in the conformity check section. Instead, all the information available in **the Clip diagnostic tool** functions and sub-functions is detailed in the following sections:

For **STATUSES**, refer to the **INTERPRETATION OF STATUSES** section.

For **PARAMETERS**, refer to the **INTERPRETATION OF PARAMETERS** section.

For **COMMANDS**, refer to the **INTERPRETATION OF COMMANDS** section.

DIESEL INJECTION

Fault finding - Status summary table

13B

Tool status	Diagnostic tool title
ET001	+ After ignition computer feed
ET003	Engine immobiliser
ET007	Pre-postheating control
ET024	Heating element no. 1 request
ET025	Heating element no. 2 request
ET026	Heating element no. 3 request
ET034	Clutch signal registered
ET038	Engine
ET042	Cruise control/speed limiter
ET076	Starting
ET077	Impact detected
ET079	Air conditioning present
ET104	Injector code use
ET120	Pre-postheating signal
ET143	Low-speed fan assembly relay control
ET144	High-speed fan assembly relay control
ET238	Synchronisation
ET285	Injection -> automatic transmission connection (not used for Vdiag 18)
ET341	Immobiliser code programmed
ET405	Clutch pedal switch
ET415	Cruise control/Speed limiter deactivation
ET587	Cooling of recirculated exhaust gas
ET589	Electric coolant pump control (turbocharger)
ET615	Automatic transmission lever position (not used for Vdiag 18)
ET651	EGR programming cut-off
ET703	Cruise control/speed limiter buttons
ET704	Brake switch no. 1
ET705	Brake switch no. 2
ET706	Stored engine status no.1
ET707	Stored engine status no.2
ET708	Stored engine status no.3
ET709	Stored engine status no.4

DIESEL INJECTION

Fault finding - Status summary table

13B

Tool status	Diagnostic tool title
ET710	Stored engine status no.5
ET711	Stored engine status no.6
ET712	Stored engine status no.7
ET713	Stored engine status no.8
ET714	Stored engine status no.9
ET715	Stored engine status no.10
ET742	Saved regen.* request status No. 1
ET743	Saved regen.* request status No. 2
ET744	Saved regen.* request status No. 3
ET745	Saved regen.* request status No. 4
ET746	Saved regen.* request status No. 5
ET747	Saved regen.* request status No. 6
ET748	Saved regen.* request status No. 7
ET749	Saved regen.* request status No. 8
ET750	Saved regen.* request status No. 9
ET751	Saved regen.* request status No. 10
ET776	Recirculated exhaust gas cool.* setpoint
ET781	Heater plugs

* regen.: Regeneration

* cool.: Cooling

DIESEL INJECTION

Fault finding - Interpretation of statuses

13B

ET001	<u>COMPUTER + AFTER IGNITION FEED</u>
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STATUS DEFINITION	<p>"PRESENT": This status indicates that the + after ignition feed is active.</p> <p>"ABSENT": This status indicates that the + after ignition feed is not active.</p>
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NOTES	<p>Special notes:</p> <p>Only perform these tests if the parameters do not correspond with the system operation programming.</p>
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Conformity check with engine stopped and ignition on, or engine running, and engine coolant temperature > 80 °C

PRESENT	<p>Ignition on and engine running warm at idle speed, + after ignition feed is activated.</p> <p>In the event of a fault, apply the interpretation of DF046 Battery voltage or DF151 Main relay circuit.</p>
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Sensor electrical conformity

ABSENT	NOTES	Ignition on
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<p>If the ignition is not switched on, status ET001 should be ABSENT.</p> <p>As soon as the ignition is switched on, the computer should be supplied with power. Status ET001 becomes PRESENT.</p> <p>If this status remains locked on ABSENT, follow the procedure below:</p> <ul style="list-style-type: none"> – Check the condition of fuse FM3 (30A) in the engine fuse and relay box. <p>Check for continuity and the absence of interference resistance on the following connection:</p> <ul style="list-style-type: none"> – connection code 3AA, between components 120 and 983. <p>If the connection or connections are faulty and there is a repair procedure (see Technical Note 6015A, Electrical wiring repair, wiring: precautions for repair), repair the wiring, otherwise replace it.</p> <p>Check the condition of the engine management computer connector (see Wiring Diagram Technical Note, Vehicle, Component code 120).</p> <p>If one of the connectors is faulty and there is a repair procedure (see Technical Note 6015A, Electrical wiring repair, wiring: precautions for repair), repair the connector, otherwise replace the wiring.</p> <p>If the fault is still present, contact the Techline.</p>

AFTER REPAIR	Carry out a road test, then check with the diagnostic tool .
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EDC16CP33_V18_ET001/EDC16CP33_V1C_ET001/EDC16CP33_V54_ET001
/EDC16CP33_V20_ET001/EDC16CP33_V58_ET001/EDC16CP33_V5C_ET001/EDC16CP33_V24_ET001

DIESEL INJECTION

Fault finding - Interpretation of statuses

13B

ET001 CONTINUED	
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PRESENT	NOTES	Ignition on
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Normal operating condition.
The computer is correctly supplied after the ignition has been switched on.

AFTER REPAIR	Carry out a road test, then check with the diagnostic tool .
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DIESEL INJECTION

Fault finding - Interpretation of statuses

13B

ET003	<u>ENGINE IMMOBILISER</u>
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STATUS DEFINITION	<p>"ACTIVE": This status indicates that the immobiliser is active.</p> <p>"INACTIVE": This status indicates that the immobiliser is not active.</p>
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NOTES	<p>Special notes: Only perform these tests if the parameters do not correspond with the system operation programming.</p>
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<p>Conformity check with engine stopped and ignition on, or engine running, and engine coolant temperature > 80 °C</p>

ACTIVE	Refer to the fault finding note for the UCH (see 87B, Passenger compartment connection unit).
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INACTIVE	Refer to the fault finding note for the UCH (see 87B, Passenger compartment connection unit).
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AFTER REPAIR	Carry out a road test, then check with the diagnostic tool .
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ET007	<u>PRE-POSTHEATING UNIT CONTROL</u>
STATUS DEFINITION	<p>"ACTIVE" : when the heater plugs are activated according to the engine coolant temperature.</p> <p>"INACTIVE": after the engine has been running for a certain period.</p> <p>In the event of a fault, consult the interpretation of fault DF017: Pre-postheating control circuit.</p>
NOTES	<p>Special notes:</p> <p>This status is specific to slow heater plugs (black ring).</p>
Conformity check with engine stopped and ignition on	
ACTIVE	<p>When the ignition is switched on, status ET007 should be ACTIVE for a time that varies according to the engine coolant temperature. Both the relay and the heater plugs are supplied.</p> <p>After starting the status should remain ACTIVE for a variable period according to the engine coolant temperature; this is the postheating phase.</p> <p>If ET007 is INACTIVE when the ignition is switched on, check:</p> <ul style="list-style-type: none"> – Supply fuse FM12 (70A) in (597) the engine fuse and relay box. – The feed to the heater plugs following relay actuation, and the heater plugs connections. <p>Important: The plugs feed voltage varies on this engine.</p> <ul style="list-style-type: none"> – The continuity and absence of interference resistance on the following connections: – connection code 37AB between components 257 and 683, – connection code 37AA between components 257 and 680, – connection code 37Z between components 257 and 681, – connection code 37AC between components 257 and 682. <p>If the connection or connections are faulty and there is a repair procedure (see Technical Note 6015A, Electrical wiring repair, wiring: precautions for repair), repair the wiring, otherwise replace it.</p> <ul style="list-style-type: none"> – Check the condition and correct connection of the preheating unit (see Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2, Component code 257). <p>If the connectors are faulty and if there is a repair procedure (see Technical Note 6015A, Repairing electrical wiring, Wiring: Precautions for repair), repair the connector, otherwise replace the wiring.</p> <p>If the vehicle starts, postheating is ended and status ET007 remains ACTIVE during the engine operating phase, consult the interpretation of faults DF017: Pre-postheating control circuit and DF025: Pre-postheating diagnostic line.</p>
AFTER REPAIR	Carry out a road test, then check with the diagnostic tool .

ET007 CONTINUED	
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INACTIVE	<p>If the vehicle does not start, the status remains INACTIVE and preheating was not executed when the ignition was switched on or during the starting phase.</p> <p>Check the continuity and for the absence of interference resistance on the following connections:</p> <ul style="list-style-type: none">– connection code 3FY,– connection code 3FF, <p>between components 120 and 257.</p> <p>Check the + 12 V battery feed to the pre-postheating unit.</p> <ul style="list-style-type: none">– connection BP35 of component 257. <p>If the connection or connections are faulty and there is a repair procedure (see Technical Note 6015A, Electrical wiring repair, wiring: precautions for repair), repair the wiring, otherwise replace it.</p>
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Conformity check with engine running, engine coolant temperature > 80 °C
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“ACTIVE” then “INACTIVE”	<p>After the engine has been running for a certain period, the status changes from “ACTIVE” to “INACTIVE”.</p> <p>In the event of a fault, consult the interpretation of fault DF017: Pre-postheating control circuit.</p>
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AFTER REPAIR	Carry out a road test, then check with the diagnostic tool .
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ET024 ET025 ET026	<u>HEATING ELEMENT NO. 1 REQUEST</u> <u>HEATING ELEMENT NO. 2 REQUEST</u> <u>HEATING ELEMENT NO. 3 REQUEST</u>
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STATUS DEFINITION	<p>“ACTIVE”: These statuses indicate that the heating elements are active.</p> <p>“INACTIVE”: These statuses indicate that the heating elements are inactive.</p>
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NOTES	<p>Special notes:</p> <p>Only perform these tests if the parameters do not correspond with the system operation programming.</p>
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Conformity check with engine stopped and ignition on, or engine running, and engine coolant temperature > 80 °C

INACTIVE	<p>Statuses ET024, ET025 and ET026 are INACTIVE when the ignition is on with the engine stopped, or when the engine is warm.</p>
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ACTIVE	<p>Statuses ET024, ET025 and ET026 are ACTIVE when:</p> <ul style="list-style-type: none"> – the engine has been started, – and the engine coolant temperature is low (< 15), – and the air temperature is low (< 5). <p>This program allows the engine coolant to be heated and to enable the passenger compartment to be heated.</p> <p>To control the operation of the heating element relay, run the following commands:</p> <p>AC063 Heating element no. 1 relay AC064 Heating element no. 2 relay AC031 Heating element no. 3 relay</p> <p>In the event of a fault, refer to the interpretation of the fault:</p> <p>DF032: Heating element no. 1 relay control circuit DF033: Heating element no. 2 relay control circuit DF034: Heating element no. 3 relay control circuit</p>
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AFTER REPAIR	<p>Carry out a road test, then check with the diagnostic tool.</p>
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EDC16CP33_V18_ET024/EDC16CP33_V1C_ET024/EDC16CP33_V54_ET024
/EDC16CP33_V18_ET025/EDC16CP33_V1C_ET025/EDC16CP33_V54_ET025
/EDC16CP33_V18_ET026/EDC16CP33_V1C_ET026/EDC16CP33_V54_ET026
/EDC16CP33_V20_ET024/EDC16CP33_V58_ET024/EDC16CP33_V5C_ET024
/EDC16CP33_V20_ET025/EDC16CP33_V58_ET025/EDC16CP33_V5C_ET025
/EDC16CP33_V20_ET026/EDC16CP33_V58_ET026/EDC16CP33_V5C_ET026
/EDC16CP33_V24_ET024/EDC16CP33_V24_ET025/EDC16CP33_V24_ET026

ET034	<u>CLUTCH SIGNAL DETECTED</u>
STATUS DEFINITION	<p>"NO": This status indicates that the clutch pedal has not been depressed since the ignition was switched on.</p> <p>"YES": This status indicates that the clutch pedal has been depressed since the ignition was switched on.</p>
NOTES	<p>Special notes:</p> <p>Only perform these tests if the parameters do not correspond with the system operation programming.</p>
Conformity check with engine stopped and ignition on, or engine running, and engine coolant temperature > 80 °C	
NO	<p>When the vehicle ignition is switched on without the clutch pedal being depressed, status ET034 is NO.</p>
YES	<p>When the driver depresses the clutch pedal, status ET034 becomes YES until the ignition is next switched off.</p> <p>If NO appears despite the clutch pedal being depressed, carry out the following operations:</p> <ul style="list-style-type: none"> – Remove the clutch pedal switch, check the insulation between connections M and 86D of component 675, with the switch in the rest position. – Repeat this operation with the switch engaged and check the continuity between the two connections. <p>If these 2 checks are not in order, replace the switch.</p> <p>Check the condition of the clutch switch connector (see Wiring Diagram Technical Note, Vehicle, Component code 675).</p> <p>Check the condition of the engine management computer connector (see Wiring Diagram Technical Note, Vehicle, Component code 120).</p> <p>If one of the connectors is faulty and there is a repair procedure (see Technical Note 6015A, Electrical wiring repair, wiring: precautions for repair), repair the connector, otherwise replace the wiring.</p> <p>Then check the continuity and absence of interference resistance of the connection:</p> <ul style="list-style-type: none"> – connection code 86D, <p>between components 120 and 675.</p> <ul style="list-style-type: none"> – Check for complete earthing on connection M of component 675. <p>If the connection or connections are faulty and there is a repair procedure (see Technical Note 6015A, Electrical wiring repair, wiring: precautions for repair), repair the wiring, otherwise replace it.</p>
AFTER REPAIR	<p>Carry out a road test, then check with the diagnostic tool.</p>

ET038	<u>Engine</u>
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STATUS DEFINITION	<p>“+ AFTER IGNITION”: This status indicates that the engine is in + after ignition feed.</p> <p>“RUNNING”: This status indicates that the engine is running.</p> <p>“STOPPED”: This status indicates that the engine is stopped.</p>
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Conformity check with engine stopped and ignition on

+ APC	<p>This status indicates that the engine is in + after ignition feed.</p> <p>In the event of a fault, wait for the diagnostic tool message (maximum wait 8 min): Loss of dialogue with the computer: EDC16 CP33, check the tool connection and the computer supply voltage.</p> <p>If the fault is still present, contact the Techline.</p>
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Conformity check with engine running, engine coolant temperature > 80 °C
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RUNNING	<p>This status indicates that the engine is running.</p> <p>In the event of a fault, wait for the diagnostic tool message (maximum wait 8 min): Loss of dialogue with the computer: EDC16 CP33, check the tool connection and the computer supply voltage.</p> <p>If the fault is still present, contact the Techline.</p>
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STOPPED	<p>This status indicates that the engine has just stopped without the ignition having been switched off.</p>
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AFTER REPAIR	<p>Carry out a road test, then check with the diagnostic tool.</p>
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ET042	<u>CRUISE CONTROL/SPEED LIMITER</u>
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STATUS DEFINITION	<p>“NOT DETECTED”: This status indicates that the cruise control or speed limiter function is not present on the vehicle.</p> <p>“INACTIVE”: This status indicates that the cruise control/speed limiter main On/Off switch is in the rest position.</p> <p>“LIMITER”: This status indicates that the driver has used the main switch to select the speed limiter.</p> <p>“CRUISE CONTROL”: This status indicates that the driver has used the main switch to select the cruise control.</p>
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NOTES	<p>Special notes: Only perform these tests if the parameters do not correspond with the system operation programming.</p>
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Conformity check with engine stopped and ignition on, or engine running, and engine coolant temperature > 80 °C

NOT DETECTED	The cruise control or speed limiter function is not present on the vehicle.
INACTIVE	No button has been pressed.
LIMITER	The speed limiter ON/OFF button has been pressed. Lights the orange warning light on the instrument panel.
CRUISE CONTROL	The cruise control ON/OFF button has been pressed. Lights the green warning light on the instrument panel.

AFTER REPAIR	Carry out a road test, then check with the diagnostic tool .
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ET042
CONTINUED 1

Sensor electrical conformity

NOT DETECTED

If the vehicle is not fitted with cruise control/speed limiter function buttons, status **ET042** is permanently "**NOT DETECTED**". Confirmation of the absence of cruise control or speed limiter function on the vehicle.

If the vehicle is fitted with cruise control/speed limiter function buttons and the main switch is in the rest position, and following programming/reprogramming of the injection computer, status **ET042** is "**NOT DETECTED**".

To activate the cruise control or speed limiter function, press the main switch in the cruise control position and then in the speed limiter position.

Return to rest position.

The tool displays status **ET042: "INACTIVE"**.

If not, several steps must be checked:

1. Return to the multiplex network test page with the Clip application. Repeat the multiplex network test. Re-establish dialogue with the injection computer. Check status **ET042**. If **ET042** is **INACTIVE**, the injection computer has detected the various positions of the main switch. The cruise control/speed limiter is active.
2. If status **ET042** is still **NOT DETECTED**, check that the vehicle's owner has not had the cruise control/speed limiter function disabled in the past. Contact the Techline.

AFTER REPAIR

Carry out a road test, then check with the **diagnostic tool**.

ET042 CONTINUED 2	
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INACTIVE	<p>When the main button is in rest position (or Neutral), status ET042 Cruise control/speed limiter is INACTIVE.</p> <p>If "CRUISE CONTROL" or "SPEED LIMITER" appears despite the main button being in the rest position (or neutral), carry out the following operations: Check the connections of the cruise control/speed limiter main switch.</p> <p>Check for + 12 V APC on the switch connector.</p> <ul style="list-style-type: none"> ● Connection code AP10, for component 1081 (for Vel Satis, Laguna and Espace). ● Connection code AP43, for component 1081 (for Mégane). ● Connection code AP43, for component 1546 (for Scénic). <p>Disconnect the switch and when it is in the rest position, check the insulation between:</p> <ul style="list-style-type: none"> ● Connection code AP10 and 3FX, for component 1081 (for Vel Satis, Laguna and Espace). ● Connection code AP10 and 3PD, for component 1081 (for Vel Satis, Laguna and Espace). ● Connection code AP43 and 3FX, for component 1081 (for Mégane). ● Connection code AP43 and 3PD, for component 1081 (for Mégane). ● Connection code AP43 and 3FX, for component 1546 (for Scénic). ● Connection code AP43 and 3PD, for component 1546 (for Scénic). <p>– With speed limiter selected, check the continuity between the connections: AP10 and 3PD, for component 1081 (for Vel Satis, Laguna and Espace). AP43 and 3PD, for component 1081 (for Mégane). AP43 and 3PD, for component 1546 (for Scénic).</p> <p>– With cruise control selected, check the continuity between the connections: AP10 and 3FX, for component 1081 (for Vel Satis, Laguna and Espace). AP43 and 3FX, for component 1081 (for Mégane). AP43 and 3FX, for component 1546 (for Scénic).</p> <p>If these checks are not in order, replace the switch.</p> <p>Check the insulation, continuity and the absence of interference resistance on the following connections:</p> <ul style="list-style-type: none"> ● Connection code 3FX, ● Connection code 3PD, <p>between components 1081 and 120 (for Vel Satis, Laguna, Espace and Mégane) or between components 1546 and 120 (for Scénic).</p> <p>Also check: The engine management computer connections. If there is a repair procedure (See Technical Note 6015A, Repairing electrical wiring, Wiring: Precautions for repair), repair the wiring, otherwise replace the wiring.</p>
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AFTER REPAIR	<p>Carry out a road test, then check with the diagnostic tool.</p>
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<p style="text-align: center;">ET042</p> <p style="text-align: center;">CONTINUED 3</p>	
<p style="text-align: center;">LIMITER</p>	<p>When the driver presses the speed limiter switch, status ET042 Cruise control/speed limiter becomes SPEED LIMITER.</p> <p>If CRUISE CONTROL appears when the driver presses the speed limiter switch, carry out the following operations:</p> <p>Check the connections of the cruise control/speed limiter main switch.</p> <p>Check for + 12 V APC on the switch connector.</p> <ul style="list-style-type: none"> ● Connection code AP10, for component 1081 (for Vel Satis, Laguna and Espace). ● Connection code AP43, for component 1081 (for Mégane). ● Connection code AP43, for component 1546 (for Scénic). <p>Disconnect the switch and when it is in the rest position, check the insulation between:</p> <ul style="list-style-type: none"> ● Connection code AP10 and 3FX, for component 1081 (for Vel Satis, Laguna and Espace). ● Connection code AP10 and 3PD, for component 1081 (for Vel Satis, Laguna and Espace). ● Connection code AP43 and 3FX, for component 1081 (for Mégane). ● Connection code AP43 and 3PD, for component 1081 (for Mégane). ● Connection code AP43 and 3FX, for component 1546 (for Scénic). ● Connection code AP43 and 3PD, for component 1546 (for Scénic). <p>- With speed limiter selected, check the continuity between connections: AP10 and 3PD, for component 1081 (for Vel Satis, Laguna and Espace). AP43 and 3PD, for component 1081 (for Mégane). AP43 and 3PD, for component 1546 (for Scénic).</p> <p>- With cruise control selected, check the continuity between the connections: AP10 and 3FX, for component 1081 (for Vel Satis, Laguna and Espace). AP43 and 3FX, for component 1081 (for Mégane). AP43 and 3FX, for component 1546 (for Scénic).</p> <p>If these checks are not in order, replace the switch.</p> <p>Check the insulation, continuity and the absence of interference resistance on the following connections:</p> <ul style="list-style-type: none"> ● Connection code 3FX, ● Connection code 3PD, <p>between components 1081 and 120 (for Vel Satis, Laguna, Espace and Mégane) or between components 1546 and 120 (for Scénic).</p> <p>Also check:</p> <p>The engine management computer connections.</p> <p>If there is a repair procedure (see Technical Note 6015A, Repairing electrical wiring, Wiring: Precautions for repair), repair the wiring, otherwise replace it.</p>
<p style="text-align: center;">AFTER REPAIR</p>	<p>Carry out a road test, then check with the diagnostic tool.</p>

ET042 CONTINUED 4	
CRUISE CONTROL	<p>When the driver presses the cruise control switch, status ET042 Cruise control/speed limiter becomes CRUISE CONTROL.</p> <p>If LIMITER appears when the driver presses the cruise control button, carry out the following operations:</p> <p>Check the connections of the cruise control/speed limiter main switch.</p> <p>Check for + 12 V APC on the switch connector.</p> <ul style="list-style-type: none"> ● Connection code AP10, for component 1081 (for Vel Satis, Laguna and Espace). ● Connection code AP43, for component 1081 (for Mégane). ● Connection code AP43, for component 1546 (for Scénic). <p>Disconnect the switch and when it is in the rest position, check the insulation between:</p> <ul style="list-style-type: none"> ● Connection code AP10 and 3FX, for component 1081 (for Vel Satis, Laguna and Espace). ● Connection code AP10 and 3PD, for component 1081 (for Vel Satis, Laguna and Espace). ● Connection code AP43 and 3FX, for component 1081 (for Mégane). ● Connection code AP43 and 3PD, for component 1081 (for Mégane). ● Connection code AP43 and 3FX, for component 1546 (for Scénic). ● Connection code AP43 and 3PD, for component 1546 (for Scénic). <p>With speed limiter selected, check the continuity between the connections: AP10 and 3PD, for component 1081 (for Vel Satis, Laguna and Espace). AP43 and 3PD, for component 1081 (for Mégane). AP43 and 3PD, for component 1546 (for Scénic).</p> <p>- With cruise control selected, check the continuity between the connections: AP10 and 3FX, for component 1081 (for Vel Satis, Laguna and Espace). AP43 and 3FX, for component 1081 (for Mégane). AP43 and 3FX, for component 1546 (for Scénic).</p> <p>If these checks are not in order, replace the switch.</p> <p>Check the insulation, continuity and the absence of interference resistance on the following connections:</p> <ul style="list-style-type: none"> ● Connection code 3FX, ● Connection code 3PD, <p>between components 1081 and 120 (for Vel Satis, Laguna, Espace and Mégane) or between components 1546 and 120 (for Scénic).</p> <p>Also check:</p> <p>The engine management computer connections.</p> <p>If there is a repair procedure (see Technical Note 6015A, Repairing electrical wiring, Wiring: Precautions for repair), repair the wiring, otherwise replace it.</p>
AFTER REPAIR	<p>Carry out a road test, then check with the diagnostic tool.</p>

DIESEL INJECTION

Fault finding - Interpretation of statuses

13B

ET076	<u>STARTING</u>
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STATUS DEFINITION	<p>“PROHIBITED”: This status indicates that starting is not possible.</p> <p>“AUTHORISED”: This status indicates that starting is possible.</p>
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NOTES	<p>Special notes: Only perform these tests if the parameters do not correspond with the system operation programming.</p>
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<p>Conformity check with engine stopped and ignition on, or engine running, and engine coolant temperature > 80 °C</p>

PROHIBITED	Refer to the fault finding note for the UCH (see 87B, Passenger compartment connection unit).
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AUTHORISED	Refer to the fault finding note for the UCH (see 87B, Passenger compartment connection unit).
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AFTER REPAIR	Carry out a road test, then check with the diagnostic tool .
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EDC16CP33_V18_ET076/EDC16CP33_V1C_ET076/EDC16CP33_V54_ET076
/EDC16CP33_V20_ET076/EDC16CP33_V58_ET076/EDC16CP33_V5C_ET076/EDC16CP33_V24_ET076

ET077	<u>IMPACT DETECTED</u>
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STATUS DEFINITION	<p>“NO”: This status indicates that the airbag computer has not detected an impact.</p> <p>“YES”: This status indicates that the airbag computer has detected an impact.</p>
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NOTES	<p>Special notes: Only perform these tests if the parameters do not correspond with the system operation programming.</p> <p>This signal is transmitted by the airbag computer via the multiplex network.</p>
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Conformity check with engine stopped and ignition on, or engine running, and engine coolant temperature > 80 °C

NO	<p>The status is usually “NO” as no impact has been detected.</p> <p>Otherwise, check the airbag computer (see 88C, Airbags and pretensioners).</p>
YES	<p>If “YES” an impact must be present.</p> <p>Otherwise, check the airbag computer (see 88C, Airbags and pretensioners).</p>

AFTER REPAIR	Carry out a road test, then check with the diagnostic tool .
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EDC16CP33_V18_ET077/EDC16CP33_V1C_ET077/EDC16CP33_V54_ET077
/EDC16CP33_V20_ET077/EDC16CP33_V58_ET077/EDC16CP33_V5C_ET077/EDC16CP33_V24_ET077

ET079	<u>AIR CONDITIONING PRESENT</u>
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STATUS DEFINITION	<p>“YES”: This status indicates that heating and air conditioning is present on the vehicle.</p> <p>“NO”: This status indicates that heating and air conditioning is not present on the vehicle.</p>
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NOTES	<p>Special notes: Only perform these tests if the parameters do not correspond with the system operation programming.</p> <hr/> <p>Heating and air conditioning is present depending on the vehicle's equipment level.</p>
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Conformity check with engine stopped and ignition on, or engine running, and engine coolant temperature > 80 °C

YES or NO, depending on the vehicle's equipment level.

AFTER REPAIR	Carry out a road test, then check with the diagnostic tool .
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ET104	<u>INJECTOR CODE USE</u>
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STATUS DEFINITION	<p>“NO”: This status indicates that the injector codes have not been entered.</p> <p>“YES”: This status indicates that the injector codes have been entered.</p> <p>“FAULT”: This status indicates that there has been an injector code entry fault.</p>
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NOTES	<p>Special notes:</p> <p>Only perform these tests if the parameters do not correspond with the system operation programming.</p>
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Conformity check with engine stopped and ignition on, or engine running, and engine coolant temperature > 80 °C

NO	<p>Program the injector codes using: either command SC002 Enter injector codes, or command SC001 Write saved data when replacing with a blank computer or after reprogramming (Consult the procedures defined in the Interpretation of commands section).</p>
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YES	<p>When the injector codes are programmed.</p>
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FAULTY	<p>Program the injector codes using: either command SC002 Enter injector codes, or command SC001 Write saved data when replacing with a new computer or after reprogramming. (Consult the procedures defined in the Interpretation of commands section).</p>
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AFTER REPAIR	<p>Carry out a road test, then check with the diagnostic tool.</p>
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ET120	<u>PRE-POSTHEATING SIGNAL</u>
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STATUS DEFINITION	<p>“PRESENT”: This status indicates that the pre-postheating signal is still active.</p> <p>“ABSENT”: This status indicates that the pre-postheating signal is not active.</p>
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NOTES	Test the battery and run fault finding on the charge circuit (see Technical Note 6014A, Checking the charge circuit).
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Conformity check with engine stopped and ignition on, or engine running, and engine coolant temperature > 80 °C

PRESENT	Status ET120 is PRESENT when preheating is complete.
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ABSENT	<p>Status ET120 is ABSENT when pre-postheating is inactive.</p> <p>Consult the interpretation of faults DF025 Pre-postheating diagnostic line and DF017 Pre-postheating control circuit if status ET120 is PRESENT instead of ABSENT.</p>
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AFTER REPAIR	Carry out a road test, then check with the diagnostic tool .
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ET143	<u>LOW-SPEED FAN ASSEMBLY RELAY CONTROL</u>
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STATUS DEFINITION	This status indicates whether the low speed fan assembly is active.
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NOTES	Special notes: <ul style="list-style-type: none"> – Only perform these tests if the parameters do not correspond with the system operation programming. – If the vehicle is equipped with air conditioning, the engine cooling fan will run at 1st speed as soon as the air conditioning compressor is activated.
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Conformity check with engine stopped and ignition on

INACTIVE	Engine cold and air conditioning switched off In the event of a fault, consult the interpretation of DF018 Low-speed fan unit control circuit .
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Conformity check with engine running, engine coolant temperature > 80 °C
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(heating and air conditioning off) INACTIVE OR ACTIVE , depending on the engine temperature. In the event of a fault, consult the interpretation of DF018 Low-speed fan unit control circuit .
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AFTER REPAIR	Carry out a road test, then check with the diagnostic tool .
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ET143 CONTINUED	
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Sensor electrical conformity

ACTIVE	<p>When the coolant reaches 99 °C, the injection computer actuates the low speed fan assembly relay, and status ET143 becomes ACTIVE. The relay then supplies the fan assembly and the cooling fan begins to turn.</p> <p>If status ET143 is ACTIVE, but the cooling fan is not running, perform the following operations:</p> <ul style="list-style-type: none"> – Check the condition of fuse FM15 (60 A) in the engine fuse and relay box. <p>Disconnect the low speed and high speed relays, check their operation and the condition of the relay mounting connectors (see Wiring Diagram Technical Note, Vehicle, Component code 597).</p> <p>If one of the connectors is faulty and there is a repair procedure (see Technical Note 6015A, Electrical wiring repair, wiring: precautions for repair), repair the connector, otherwise replace the wiring.</p> <p>Check the + 12 V after relay feed to the Low speed fan assembly relay:</p> <ul style="list-style-type: none"> – connection 3FB of component 700. <p>Check continuity and make sure there is no interference resistance on the following connection:</p> <ul style="list-style-type: none"> – connection code 49L, <p>between components 700 and 321.</p> <p>Check continuity and make sure there is no interference resistance on the following connection:</p> <ul style="list-style-type: none"> – connection code 49B, <p>between components 262 and 321.</p> <p>Check continuity and make sure there is no interference resistance on the following connection:</p> <ul style="list-style-type: none"> – connection code 3JN, <p>between components 700 and 120.</p> <ul style="list-style-type: none"> – Check that the earth is in order on connection MAS of component 262. <p>If the connection or connections are faulty and there is a repair procedure (see Technical Note 6015A, Electrical wiring repair, wiring: precautions for repair), repair the wiring, otherwise replace it.</p>
INACTIVE	<p>If the engine temperature is lower than 99 °C, the engine cooling fan cannot switch on and the low speed fan relay of the cannot be run.</p> <p>Status ET143 must therefore be INACTIVE when the control relay and the engine cooling fan are not supplied.</p>

AFTER REPAIR	<p>Carry out a road test, then check with the diagnostic tool.</p>
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ET144	<u>HIGH-SPEED FAN ASSEMBLY RELAY CONTROL</u>
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STATUS DEFINITION	This status indicates whether the high speed fan assembly is active.
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NOTES	Special notes: Only perform these tests if the parameters do not correspond with the system operation programming.
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Conformity check with engine stopped and ignition on

INACTIVE	Engine cold and air conditioning switched off In the event of a fault, consult the interpretation of DF019 High-speed fan unit control circuit .
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Conformity check with engine running, engine coolant temperature > 80 °C
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(heating and air conditioning off) INACTIVE OR ACTIVE , depending on the engine temperature. In the event of a fault, consult the interpretation of DF019 High-speed fan unit control circuit .

AFTER REPAIR	Carry out a road test, then check with the diagnostic tool .
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ET144 CONTINUED	
ACTIVE	<p>When the coolant reaches 102°C, the injection computer actuates the fan assembly relay, and status ET144 becomes ACTIVE. The relay then supplies the cooling fan. If status ET144 is ACTIVE, but the cooling fan is not running, perform the following operations:</p> <ul style="list-style-type: none"> – Check the condition of fuse FM15 (60 A) in the engine fuse and relay box. – Disconnect the high speed fan assembly relay, check its operation and the condition of the relay mounting connectors (see Wiring Diagram Technical Note, Vehicle, Component code 597). <p>If one of the connectors is faulty and there is a repair procedure (see Technical Note 6015A, Electrical wiring repair, wiring: precautions for repair), repair the connector, otherwise replace the wiring.</p> <p>Check the + 12 V after relay feed to the High speed fan assembly relay:</p> <ul style="list-style-type: none"> – connection 3FB of component 234. <p>Check for continuity and the absence of interference resistance on the following connection:</p> <ul style="list-style-type: none"> – connection code 3JP, <p>between components 234 and 120.</p> <p>Check for continuity and the absence of interference resistance on the following connection:</p> <ul style="list-style-type: none"> – connection code 49B, <p>between components 234 and 262.</p> <ul style="list-style-type: none"> – Check that the earth is in order on connection MAS of component 262. <p>If the connection or connections are faulty and there is a repair procedure (see Technical Note 6015A, Electrical wiring repair, wiring: precautions for repair), repair the wiring, otherwise replace it.</p>
INACTIVE	<p>When the cooling request is no longer executed by the injection computer, status ET144 becomes INACTIVE. The fan assembly should then switch off.</p>
AFTER REPAIR	<p>Carry out a road test, then check with the diagnostic tool.</p>

ET238	<u>SYNCHRONISATION</u>
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STATUS DEFINITION	<p>Synchronisation is carried out during the engine starting phase. The camshaft position sensor and the TDC sensor are synchronised. This synchronisation, once performed, allows the computer to identify cylinder no. 1, and to recognise the exact top dead centre position of this cylinder.</p> <p>Synchronisation also allows the computer to determine the injection programming.</p>
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NOTES	<p>Special notes:</p> <p>Only perform these tests if the parameters do not correspond with the system operation programming.</p>
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Conformity check with engine stopped and ignition on, or engine running, and engine coolant temperature > 80 °C

COMPLETED	<p>Status ET238 is DONE when the engine is started. The computer has identified cylinder no. 1 and has identified the exact top dead centre position. Injection phasing and engine management are now possible, and the engine should be working properly.</p>
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NOT COMPLETED	<p>Status ET238 is NOT DONE if the engine has been stopped with the + after ignition feed on.</p> <p>If status ET238 remains NOT COMPLETED after an attempt at starting, consult the interpretation of fault DF195 Camshaft/engine speed consistency.</p>
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AFTER REPAIR	<p>Carry out a road test, then check with the diagnostic tool.</p>
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ET285	<u>INJECTION -> AUTOMATIC TRANSMISSION CONNECTION</u>
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STATUS DEFINITION	PRESENT ABSENT
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NOTES	Special notes: Only perform these tests if the statuses do not correspond with the system programming functions.
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Conformity check with engine stopped and ignition on, or engine running, and engine coolant temperature > 80 °C

PRESENT	There is a multiplex connection between the injection computer and the automatic transmission computer.
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ABSENT	<p>There is no multiplex connection between the injection computer and the automatic transmission computer, as there is a manual gearbox.</p> <p>If automatic transmission computer present and message "ABSENT": Run a multiplex network test (see 88B, Multiplex).</p> <p>Check the continuity and insulation against earth of the following connections:</p> <ul style="list-style-type: none"> ● Connection code 3MS, ● Connection code 3MT. <p>Between components 119 and 120.</p> <p>If the connection or connections are faulty and there is a repair procedure (see Technical Note 6015A, Electrical wiring repair, Wiring: Precautions for repair), repair the wiring, otherwise replace it.</p>
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AFTER REPAIR	Carry out a road test, then check with the diagnostic tool .
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ET341	<u>IMMOBILISER CODE PROGRAMMED</u>
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STATUS DEFINITION	<p>“YES”: This status indicates that the immobiliser code has been programmed.</p> <p>“NO”: This status indicates that the immobiliser code has not been programmed.</p>
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NOTES	<p>Special notes:</p> <p>Only perform these tests if the parameters do not correspond with the system operation programming.</p>
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Conformity check with engine stopped and ignition on, or engine running, and engine coolant temperature > 80 °C

YES	<p>Status ET341 is YES if dialogue is possible between the UCH computer and the injection computer and the key code is recognised. The engine is only authorised to start if the code is recognised by the UCH computer and if status ET003: Immobiliser is INACTIVE.</p> <p>In the event of a fault, (see 87B, Passenger compartment connection unit, Conformity check).</p>
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NO	<p>Status ET341 is NO if dialogue is not possible between the UCH computer and the injection computer (status ET003 Immobiliser remains ACTIVE).</p> <p>This fault may be caused by incorrect key programming or a lack of key programming. In this case, refer to the UCH fault finding note (see 87B, passenger compartment connection unit) and follow the key programming procedure. If the key programming is not the cause, run a multiplex network test (see 88B, multiplex) and check that dialogue between the UCH and the injection computer is possible.</p> <p>If dialogue is not established, contact the Techline.</p>
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AFTER REPAIR	Carry out a road test, then check with the diagnostic tool .
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EDC16CP33_V18_ET341/EDC16CP33_V1C_ET341/EDC16CP33_V54_ET341
/EDC16CP33_V20_ET341/EDC16CP33_V58_ET341/EDC16CP33_V5C_ET341/EDC16CP33_V24_ET341

DIESEL INJECTION

Fault finding - Interpretation of statuses

13B

ET405	<u>CLUTCH PEDAL SWITCH</u>
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STATUS DEFINITION	<p>“ACTIVE”: This status indicates that the clutch pedal is depressed.</p> <p>“INACTIVE”: This status indicates that the clutch pedal is released.</p>
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<p>Conformity check with engine stopped and ignition on, or engine running, and engine coolant temperature > 80 °C</p>

ACTIVE	<p>Clutch pedal depressed.</p> <p>Non-conformity of the brake signals and or the clutch switch signals can cause the engine to race during gear changes.</p> <p>In the event of a fault, check the electrical conformity of the sensor.</p>
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INACTIVE	<p>Clutch pedal released.</p> <p>Non-conformity of the brake signals and or the clutch switch signals can cause the engine to race during gear changes.</p> <p>In the event of a fault, check the electrical conformity of the sensor.</p>
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AFTER REPAIR	Carry out a road test, then check with the diagnostic tool .
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EDC16CP33_V18_ET405/EDC16CP33_V1C_ET405/EDC16CP33_V54_ET405
/EDC16CP33_V20_ET405/EDC16CP33_V58_ET405/EDC16CP33_V5C_ET405/EDC16CP33_V24_ET405

ET405 CONTINUED	
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Sensor electrical conformity

INACTIVE	<p>Check the condition and fitting of the clutch pedal switch. Remove the clutch pedal switch, check the insulation between connections M and 86D of component 675, with the switch in the rest position.</p> <ul style="list-style-type: none"> – Repeat this operation with the switch engaged, and check the continuity between the two connections. <p>If these 2 checks are not in order, replace the switch. Then check the continuity and absence of interference resistance of the following connection:</p> <ul style="list-style-type: none"> – connection code 86D, between components 120 and 675. – Make sure that the earth is in order on connection M of component 675. <p>If the connection or connections are faulty and there is a repair procedure (see Technical Note 6015A, Electrical wiring repair, wiring: precautions for repair), repair the wiring, otherwise replace it.</p>
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ACTIVE	<p>Check the condition and fitting of the clutch pedal switch. Remove the clutch pedal switch, check the insulation between connections M and 86D of component 675, with the switch in the rest position.</p> <ul style="list-style-type: none"> – Repeat this operation with the switch engaged, and check the continuity between the two connections. <p>If these 2 checks are not in order, replace the switch.</p>
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AFTER REPAIR	<p>Carry out a road test, then check with the diagnostic tool.</p>
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ET415	<u>CRUISE CONTROL/SPEED LIMITER DEACTIVATION</u>
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STATUS DEFINITION	This status varies according to engine specifications.
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Conformity check with engine stopped and ignition on, or engine running, and engine coolant temperature > 80 °C

STATUS 1	Traction control request.
STATUS 2	Brake pedal depressed.
STATUS 3	Clutch pedal depressed.
STATUS 4	Suspend button pressed.
STATE 5:	Cruise control or speed limiter monitoring.
STATE 6:	Gear lever in neutral (manual gearbox) or the N position (automatic gearbox).
STATUS 7	Inconsistency between the request and the vehicle speed.
STATUS 8	Automatic transmission in defect mode.
STATUS 9	Vehicle speed monitoring.
STATUS 10	Monitoring by injection computer.

AFTER REPAIR	Carry out a road test, then check with the diagnostic tool .
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ET415 CONTINUED 1	
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Sensor electrical conformity

Note:

Cruise control can be activated when the vehicle speed exceeds **18 mph (30 km/h)**.

Status **ET415** shows various factors that cause deactivation of the cruise control/speed limiter function, due to a driver request or the external environment (e.g.. STATUS 1).

IMPORTANT

Clear the fault memory by running command **RZ001: Fault memory** or **RZ007: Fault memory** to reset this status to "WITHOUT".

NONE	<p>This status is present on the diagnostic tool if: the computer has been reinitialised. the computer has been reprogrammed.</p>
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STATUS 1	<p>Traction control request</p> <p>If the vehicle is fitted with a traction control system, the cruise control function is deactivated every time the ABS computer calls for traction control. Status ET415 becomes "STATUS 1" when driving, with cruise control active (ET042 "Cruise control/Speed limiter": CRUISE CONTROL) and upon a traction control request. This deactivates cruise control. Reinitialise status ET415 on the injection computer by running command RZ001 Fault memory or RZ007 Fault memory. If status ET415 becomes STATUS 1 with no traction control request (see 38C, Anti-lock Braking System).</p>
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STATUS 2	<p>Brake pedal depressed</p> <p>The cruise control function is deactivated when the brake pedal is depressed. Status ET415 becomes "STATUS 2", when driving, with cruise control active (ET042 "Cruise control/Speed limiter": CRUISE CONTROL) and brake pedal depressed. This deactivates cruise control. Reinitialise status ET415 on the injection computer by running command RZ001 Fault memory or RZ007 Fault memory. If status ET415 becomes STATUS 2 without depressing the brake pedal, consult the interpretation of statuses ET704 and ET705: Brake contact no.1 and no. 2.</p>
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AFTER REPAIR	<p>Carry out a road test, then check with the diagnostic tool.</p>
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ET415 CONTINUED 2	
STATUS 3	<p>Clutch pedal depressed</p> <p>Manual gearbox ONLY The cruise control function is deactivated when the gearbox is not coupled to the engine (clutch pedal depressed). Status ET415 becomes "STATUS 3", when driving, with cruise control active (ET042 "Cruise control/Speed limiter": CRUISE CONTROL) and clutch pedal depressed. This deactivates cruise control. Reinitialise status ET415 on the injection computer by running command RZ001 Fault memory or RZ007 Fault memory. If status ET415 becomes STATUS 3 without the clutch pedal being depressed, consult the interpretation of status ET405 Clutch pedal switch. If the vehicle is fitted with automatic transmission: Test the multiplex network: check the configuration of the multiplex network in relation to the vehicle's technical specification, especially the configuration of the automatic transmission computer (see 88B, MULTIPLEXING).</p>
STATUS 4	<p>Cancel button pressed</p> <p>The cruise control/speed limiter function is deactivated each time the suspend button is pressed. Status ET415 becomes "STATUS 4" when driving when: – Either the cruise control is active, or – the speed limiter is active – and the driver presses the "0" button. This action deactivates the Cruise control/Speed limiter. Reinitialise status ET415 on the injection computer by running command RZ001 Fault memory. If status ET415 becomes "STATUS 4" without pressing the "0" button, refer to the interpretation of status ET703 "Cruise control/speed limiter" buttons and run diagnostics on the "R/0" control button located on the steering wheel, to the right.</p>
AFTER REPAIR	<p>Carry out a road test, then check with the diagnostic tool.</p>

ET415 CONTINUED 3	
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STATUS 5	<p>Cruise control or speed limiter monitoring</p> <p>This status appears when the vehicle brakes or decelerates sharply without the injection computer receiving a signal indicating that the brake pedal switch has been pressed. If status ET415 is "STATUS 5", consult the interpretation:</p> <ul style="list-style-type: none"> – of status ET042 Cruise control/speed limiter, – of status ET703 "Cruise control/speed limiter buttons", – of status ET704 Brake contact no. 1, – of status ET705: Brake contact no. 2 <p>to test the cruise control/speed limiter system components and identify the faulty component.</p> <p>Also check the operation of the accelerator pedal, and check with the diagnostic tool the presence of a fault connected with the accelerator pedal. Deal with them if necessary.</p> <p>Reinitialise status ET415 on the injection computer by running command RZ001 Fault memory or RZ007 Fault memory.</p> <p>If status ET415 becomes "STATUS 5", deal with the present or stored faults in the injection computer.</p> <p>If the fault is still present, contact Techline.</p>
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STATUS 6	<p>Gear lever in neutral (manual gearbox) or neutral (automatic gearbox)</p> <p>Status ET415 becomes "STATUS 6", when driving with cruise control active (ET042 "Cruise control/speed limiter": CRUISE CONTROL) and:</p> <ul style="list-style-type: none"> – If the driver puts the gear lever in neutral position on a manual gearbox without declutching or, – if the gear lever is put in neutral on an automatic transmission. <p>This deactivates cruise control.</p> <p>Reinitialise status ET415 on the injection computer by running command RZ001 Fault memory.</p> <p>If status ET415 becomes "STATUS 6" without shifting the gear lever into neutral on a manual gearbox without declutching, or into the neutral position on an automatic transmission, run diagnostics on the ABS computer and check the configuration of the tyre size stored in the computer. If the configuration is correct, contact the Techline.</p>
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AFTER REPAIR	<p>Carry out a road test, then check with the diagnostic tool.</p>
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DIESEL INJECTION

Fault finding - Interpretation of statuses

13B

<p>ET415 CONTINUED 4</p>	
<p>STATUS 7</p>	<p>Inconsistency between the request and the vehicle speed</p> <p>Status ET415 becomes "STATUS 7" if the computer detects too great a difference between the speed requested by the driver and the vehicle speed. This could occur when driving with cruise control active (ET042 "Cruise control/ speed limiter": CRUISE CONTROL) and when there is a significant difference. This inconsistency deactivates cruise control. Reinitialise status ET415 on the injection computer by running command RZ001 Fault memory. If status ET415 becomes "STATUS 7" without a great difference in the speeds, contact the Techline.</p>
<p>STATUS 8</p>	<p>Automatic transmission in defect mode.</p> <p>Status ET415 becomes STATUS 8, when driving with cruise control active (ET042: Cruise control/speed limiter: CRUISE CONTROL) and if the automatic transmission is in defect mode. This signal is conveyed on the multiplex line and deactivates the cruise control. Carry out a multiplex network test, then run fault finding on the automatic transmission computer. Deal with any present or stored faults (see 23A, Automatic transmission). Clear the automatic transmission computer memory by running command RZ001 Fault memory. Reinitialise status ET415 on the injection computer by running command RZ001 Fault memory. If "STATUS 8" is still present, contact the Techline.</p>
<p>AFTER REPAIR</p>	<p>Carry out a road test, then check with the diagnostic tool.</p>

ET415 CONTINUED 5	
STATUS 9	<p>Vehicle speed monitoring.</p> <p>Status ET415 becomes "STATUS 9" if the vehicle speed received by the computer is invalid or absent.</p> <p>This signal is conveyed on the multiplex line and deactivates the cruise control. Carry out a multiplex network test, then run fault finding on the ABS computer. Deal with any present or stored faults (see 38C, ABS, Interpretation of faults).</p> <p>Reinitialise status ET415 on the injection computer by running command RZ001 Fault memory or RZ007 Fault memory.</p> <p>If STATUS 9 continues, contact Techline.</p>
STATUS 10	<p>Monitoring by the injection computer.</p> <p>Status ET415 becomes "STATUS 10" when driving, with cruise control active (ET042 "Cruise control/Speed limiter": CRUISE CONTROL) and if the injection computer detects a fault on the engine management system, or excessive or insufficient speed.</p> <p>This signal is conveyed on the multiplex line and deactivates the cruise control.</p> <p>Carry out a multiplex network test, then run fault finding on the injection computer. Deal with any present or stored faults (see Interpretation of faults).</p> <p>Reinitialise status ET415 on the injection computer by running command RZ001 "Fault memory".</p> <p>If STATUS 10 continues, contact Techline.</p>
AFTER REPAIR	<p>Carry out a road test, then check with the diagnostic tool.</p>

ET587	<u>RECIRCULATED EXHAUST GAS COOLING</u>
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STATUS DEFINITION	<p>“ACTIVE”: This status indicates that exhaust gas cooling is recirculated.</p> <p>“INACTIVE”: This status indicates that exhaust gas cooling is not recirculated.</p>
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NOTES	<p>Special notes: Only perform these tests if the parameters do not correspond with the system operation programming.</p>
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Conformity check with engine stopped and ignition on, or engine running, and engine coolant temperature > 80 °C

<p>INACTIVE According to computer programming. In the event of a fault, consult the interpretation of faults DF209 EGR valve position sensor circuit and DF647 EGR valve position regulation.</p>
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AFTER REPAIR	Carry out a road test, then check with the diagnostic tool .
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ET615	<u>AUTOMATIC GEARBOX LEVER POSITION</u>
STATUS DEFINITION	Neutral, 1, 2, 3, 4, 5, 6, reverse.
NOTES	<p>Special notes: Only perform these tests if the statuses do not correspond with the system programming functions.</p> <p>Note: This status is specific to engine types 721 and 761.</p>
Conformity check with engine stopped and ignition on, or engine running, and engine coolant temperature > 80 °C	
NEUTRAL	<p>This status indicates that the gear lever is in neutral. If this status is incorrect, carry out a multiplex network test (see 88B, Multiplexing). Run fault finding on the automatic transmission computer (see MR 372 (Scénic II ph 2), 407 (Espace IV ph 2), 23A, Automatic transmission).</p>
1	<p>This status indicates that the gearbox is in 1st gear. If this status is incorrect, carry out a multiplex network test (see 88B, Multiplexing). Run fault finding on the automatic transmission computer (see MR 372 (Scénic II ph 2), 407 (Espace IV ph 2), 23A, Automatic transmission).</p>
2	<p>This status indicates that the gearbox is in 2nd gear. If this status is incorrect, carry out a multiplex network test (see 88B, Multiplexing). Run fault finding on the automatic transmission computer (see MR 372 (Scénic II ph 2), 407 (Espace IV ph 2), 23A, Automatic transmission).</p>
3	<p>This status indicates that the gearbox is in 3rd gear. If this status is incorrect, carry out a multiplex network test (see 88B, Multiplexing). Run fault finding on the automatic transmission computer (see MR 372 (Scénic II ph 2), 407 (Espace IV ph 2), 23A, Automatic transmission).</p>
AFTER REPAIR	Carry out a road test, then check with the diagnostic tool .

ET615 CONTINUED	
4	<p>This status indicates that the gearbox is in 4th gear.</p> <p>If this status is incorrect, carry out a multiplex network test (see 88B, Multiplexing).</p> <p>Run fault finding on the automatic transmission computer (see MR 372 (Scénic II ph 2), 407 (Espace IV ph 2), 23A, Automatic transmission).</p>
5	<p>This status indicates that the gearbox is in 5th gear.</p> <p>If this status is incorrect, carry out a multiplex network test (see 88B, Multiplexing).</p> <p>Run fault finding on the automatic transmission computer (see MR 372 (Scénic II ph 2), 407 (Espace IV ph 2), 23A, Automatic transmission).</p>
6	<p>This status indicates that the gearbox is in 6th gear.</p> <p>If this status is incorrect, carry out a multiplex network test (see 88B, Multiplexing).</p> <p>Run fault finding on the automatic transmission computer (see MR 372 (Scénic II ph 2), 407 (Espace IV ph 2), 23A, Automatic transmission).</p>
REVERSE	<p>This status indicates that the gear lever is in reverse.</p> <p>If this status is incorrect, carry out a multiplex network test (see 88B, Multiplexing).</p> <p>Run fault finding on the automatic transmission computer (see MR 372 (Scénic II ph 2), 407 (Espace IV ph 2), 23A, Automatic transmission).</p>
AFTER REPAIR	<p>Carry out a road test, then check with the diagnostic tool.</p>

ET651	<u>EGR PROGRAMMING CUT-OFF</u>
STATUS DEFINITION	This status indicates the operating mode for the EGR valve and has 25 different definitions: STATUS 1 to 24 or "NONE" .
NOTES	None
NONE	No EGR cut-off, the EGR valve is working properly in accordance with the computer programs.
STATUSES 1, 5, 6, 7, 9, 10, 12, 13, 15, 19, 23, 24	Switch off the engine and wait for the diagnostic tool message (maximum time 8 minutes): " Communication lost with computer: EDC16CP33, check the tool connection and computer power supply ". Switch the ignition on and check for faults. Check the battery voltage with the engine switched off and the engine running. If no faults are present or stored, restart the vehicle and test at idle speed. Do not accelerate too much or reach an engine speed that is too high.
STATUSES 3, 14, 16	Accelerate above idle speed for a few seconds.
STATUS 2	Check that the clutch pedal status (ET405 "Clutch pedal switch") is not " ACTIVE ", and that the vehicle is completely stationary.
STATUS 4, 17	Test the present and stored faults and repair.

AFTER REPAIR	Carry out a road test, then check with the diagnostic tool .
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EDC16CP33_V18_ET651/EDC16CP33_V1C_ET651/EDC16CP33_V54_ET651
/EDC16CP33_V20_ET651/EDC16CP33_V58_ET651/EDC16CP33_V5C_ET651/EDC16CP33_V24_ET651

ET651 CONTINUED	
STATUS 8	Reset the EGR offsets, consulting the interpretation of command SC036 "Reinitialise programming" and selecting "EGR valve" .
STATUS 11, 22	Allow the engine to heat up until this cut-off disappears.
STATUS 18	Check that the regeneration of the particle filter in progress has completely finished.
STATUS 20	Allow the engine to cool until this cut-off disappears.
STATUS 21	Too low atmospheric pressure, the EGR valve is disabled.

AFTER REPAIR	Carry out a road test, then check with the diagnostic tool .
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ET703	<u>CRUISE CONTROL/SPEED LIMITER BUTTONS</u>
STATUS DEFINITION	<p>"RESUME": "R" button pressed.</p> <p>"SUSPEND": "0" button pressed.</p> <p>"INCREASE": increase button pressed</p> <p>"DECREASE": decrease button pressed</p> <p>"INACTIVE": This status indicates that no button has been pressed.</p>
NOTES	<p>Special notes:</p> <p>Only perform these tests if the parameters do not correspond with the system operation programming.</p>
<p>Conformity check with engine stopped and ignition on, or engine running, and engine coolant temperature > 80 °C</p>	
INACTIVE	<p>When no button has been pressed.</p> <p>In the event of a fault, consult the interpretation of status ET703 Cruise control/speed limiter buttons.</p>
SUSPEND	<p>'0' button pressed.</p> <p>In the event of a fault, consult the interpretation of status ET703 Cruise control/speed limiter buttons.</p>
RESUME	<p>'R' button pressed.</p> <p>In the event of a fault, consult the interpretation of status ET703 Cruise control/speed limiter buttons.</p>
DECREASE	<p>Decrease button pressed.</p> <p>In the event of a fault, consult the interpretation of status ET703 Cruise control/speed limiter buttons.</p>
INCREASE	<p>Increase button pressed.</p> <p>In the event of a fault, consult the interpretation of status ET703 Cruise control/speed limiter buttons.</p>
AFTER REPAIR	<p>Carry out a road test, then check with the diagnostic tool.</p>

ET703 CONTINUED 1	
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Sensor electrical conformity

INACTIVE	<p>Status ET703 becomes INACTIVE when none of the cruise control/speed limiter buttons is pressed. These buttons are located on the steering wheel.</p> <p>Refer to the Airbag Technical Note for the vehicle (see section 8, 88C) to be able to remove the driver's airbag and carry out the tests in complete safety.</p> <p>If status ET703 does not display INACTIVE,</p> <ul style="list-style-type: none"> ● check the condition of the cruise control/speed limiter "+/-" button, and the condition of its connector. ● check the condition of the cruise control/speed limiter "R/0" button, and the condition of its connector. <p>Repair if necessary.</p>
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INCREASE	<p>Status ET703 becomes "INCREASE" when the cruise control/speed limiter "+" button is pressed. This button is on the steering wheel, on the left-hand side.</p> <p>If status ET703 does not display "INCREASE", check the condition of the cruise control/speed limiter "+/-" button, and the condition of its connector. Repair if necessary.</p> <p>To carry out these checks and measurements in complete safety, observe the recommendations for removing the driver's front airbag (see MR Mechanical, 88C, Airbag and pretensioners, Driver's front airbag, Removal - Refitting).</p> <p>Measure the resistance on the following connections while pressing the "+" button (on the button tracks):</p> <ul style="list-style-type: none"> ● Connection code 86G, of component 331. ● Connection code 86M of component 331. <p>If the resistance is not approximately 300 Ω, check the continuity of the connection when the button is in the rest position.</p> <p>If there is continuity, replace the "+/-" control button.</p> <p>If there is a repair method (see Technical Note 6015A, Repairing electrical wiring, Wiring: Repair precautions), repair the wiring, otherwise replace it.</p>
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AFTER REPAIR	<p>Carry out a road test, then check with the diagnostic tool.</p>
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ET703 CONTINUED 2	
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DECREASE	<p>Status ET703 becomes "DECREASE" when the cruise control/speed limiter "-" button is pressed. This button is on the steering wheel, on the left-hand side.</p> <p>If status ET703 does not display "DECREASE", check the condition of the cruise control/speed limiter "+/-" button, and the condition of its connector. Repair if necessary.</p> <p>To carry out these checks and measurements in complete safety, observe the recommendations for removing the driver's front airbag (see MR Mechanical, 88C, Airbag and pretensioners, Driver's front airbag, Removal - Refitting).</p> <p>Measure the resistance of the following connection whilst pressing the - button (on the button tracks):</p> <ul style="list-style-type: none"> ● Connection code 86G, of component 331. ● Connection code 86M of component 331. <p>If the resistance is not approximately 100 Ω, check the continuity of the connection when the button is in the rest position.</p> <p>If there is continuity, replace the "+/-" control button.</p> <p>If there is a repair method (see Technical Note 6015A, Repairing electrical wiring, Wiring: Repair precautions), repair the wiring, otherwise replace it.</p>
-----------------	--

SUSPEND	<p>Status ET703 becomes "SUSPEND" when the cruise control/speed limiter "0" button is pressed. This button is located on the steering wheel, to the right.</p> <p>If status ET703 does not change to SUSPEND, check the condition of the cruise control/speed limiter R/0 button, and the condition of its connector.</p> <p>To carry out these checks and measurements in complete safety, observe the recommendations for removing the driver's front airbag (see MR Mechanical, 88C, Airbag and pretensioners, Driver's front airbag, Removal - Refitting).</p> <p>Measure the resistance on the following connection while pressing the "0" button (on the button tracks):</p> <ul style="list-style-type: none"> ● Connection code 86G, of component 331. ● Connection code 86M of component 331. <p>If the resistance is not approximately 0 Ω, replace the R/0 control button.</p> <p>If there is continuity, replace the "R/0" control button.</p> <p>If there is a repair method (see Technical Note 6015A, Repairing electrical wiring, Wiring: Repair precautions), repair the wiring, otherwise replace it.</p>
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AFTER REPAIR	<p>Carry out a road test, then check with the diagnostic tool.</p>
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ET703 CONTINUED 3	
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RESUME	<p>Status ET703 becomes "RESUME" when the cruise control/speed limiter "R" button is pressed. This button is located on the steering wheel, to the right.</p> <p>If status ET703 does not become "RESUME", check the condition of the cruise control/speed limiter "R/0" button, and the condition of its connector. Repair if necessary.</p> <p>To carry out these checks and measurements in complete safety, observe the recommendations for removing the driver's front airbag (see MR Mechanical, 88C, Airbag and pretensioners, Driver's front airbag, Removal - Refitting).</p> <p>Measure the resistance on the following connection while pressing the "R" button (on the button tracks):</p> <ul style="list-style-type: none">● Connection code 86G, of component 331.● Connection code 86M of component 331. <p>If the resistance is not approximately 900 Ω, check the continuity of the connection when the button is in the rest position.</p> <p>If there is continuity, replace the "R/0" control button.</p> <p>If there is a repair method (see Technical Note 6015A, Repairing electrical wiring, Wiring: Repair precautions), repair the wiring, otherwise replace it.</p>
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AFTER REPAIR	Carry out a road test, then check with the diagnostic tool .
---------------------	---

DIESEL INJECTION

Fault finding - Interpretation of statuses

13B

ET704 ET705	<u>BRAKE CONTACT NO. 1</u> <u>BRAKE CONTACT NO. 2</u>
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STATUS DEFINITION	<p>"ACTIVE": This status indicates that the brake pedal is depressed.</p> <p>"INACTIVE": This status indicates that the brake pedal is released.</p>
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NOTES	<p>Note: Statuses ET704 and ET705 should change specification at the same time. If they are inconsistent, consult the interpretation of fault DF228 Brake signal.</p>
--------------	---

Conformity check with engine stopped and ignition on, or engine running, and engine coolant temperature > 80 °C

ACTIVE	<p>Brake pedal depressed. A brake signal non-conformity may cause the engine to race during gear changes. In the event of a fault, apply the interpretation of statuses ET704 Brake contact no.1 and ET705 Brake contact no. 2.</p>
---------------	--

INACTIVE	<p>Brake pedal released. A brake signal non-conformity may cause the engine to race during gear changes. In the event of a fault, apply the interpretation of statuses ET704 Brake contact no.1 and ET705 Brake contact no. 2.</p>
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AFTER REPAIR	Carry out a road test, then check with the diagnostic tool .
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EDC16CP33_V18_ET704/EDC16CP33_V1C_ET704/EDC16CP33_V54_ET704
/EDC16CP33_V18_ET705/EDC16CP33_V1C_ET705/EDC16CP33_V54_ET705
/EDC16CP33_V20_ET704/EDC16CP33_V58_ET704/EDC16CP33_V5C_ET704
/EDC16CP33_V20_ET705/EDC16CP33_V58_ET705/EDC16CP33_V5C_ET705
/EDC16CP33_V24_ET704/EDC16CP33_V24_ET705

ET704 ET705 CONTINUED 1	
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Sensor electrical conformity

ACTIVE
or
INACTIVE

If the brake lights are working:

- check the **continuity** and make sure there is **no interference resistance** on the following connection:
 - connection code **5A**,

between components 160 and 120/645/119.

If there is a repair procedure (see **Technical Note 6015A, Repairing electrical wiring, Wiring: Precautions for repair**), repair the wiring, otherwise replace it.

If the brake lights are not operational, check:

- the condition and fitting of the brake switch,
- the condition and conformity of the brake light fuse,
- the conformity of the values in the following table:

	Continuity between connections	Insulation between connections
Switch depressed (Brake pedal released)	5A and SP13	65G and AP10
Switch released (Brake pedal depressed)	65G and AP10	5A and SP13

Replace the switch if the values obtained are not correct.

AFTER REPAIR	Carry out a road test, then check with the diagnostic tool .
---------------------	---

ET706	<u>STORED ENGINE STATUS NO. 1</u>
ET707	<u>STORED ENGINE STATUS NO. 2</u>
ET708	<u>STORED ENGINE STATUS NO. 3</u>
ET709	<u>STORED ENGINE STATUS NO. 4</u>
ET710	<u>STORED ENGINE STATUS NO. 5</u>
ET711	<u>STORED ENGINE STATUS NO. 6</u>
ET712	<u>STORED ENGINE STATUS NO. 7</u>
ET713	<u>STORED ENGINE STATUS NO. 8</u>
ET714	<u>STORED ENGINE STATUS NO. 9</u>
ET715	<u>STORED ENGINE STATUS NO. 10</u>

STATUS DEFINITION	These statuses indicate the recorded engine status for failed regenerations when driving.
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NOTES	<p>Special notes:</p> <ul style="list-style-type: none"> – Only perform these tests if the parameters do not correspond with the system operation programming. <p>These parameters must only be interpreted for DF312 Speed request if it is present or stored.</p>
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Conformity check with engine stopped and ignition on, or engine running, and engine coolant temperature > 80 °C

<p>This status shows the stored engine status during a regeneration failure when driving: NONE, + AFTER IGNITION, RUNNING, STOPPED.</p>

<p>Each STATUS between ET706 and ET715 corresponds to regeneration failures for which the mileage is recorded from PR794 Stored regeneration failure no. 1 to PR803 Stored regeneration failure no. 10 (for example, PR797 Stored regeneration failure no. 4 is related to ET709 Stored engine status no. 4).</p>
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AFTER REPAIR	Carry out a road test, then check with the diagnostic tool .
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EDC16CP33_V18_ET706/EDC16CP33_V1C_ET706/EDC16CP33_V54_ET706/EDC16CP33_V18_ET707/EDC16CP33_V1C_ET707/EDC16CP33_V54_ET707/EDC16CP33_V18_ET708/EDC16CP33_V1C_ET708/EDC16CP33_V54_ET708/EDC16CP33_V18_ET709/EDC16CP33_V1C_ET709/EDC16CP33_V54_ET709/EDC16CP33_V18_ET710/EDC16CP33_V1C_ET710/EDC16CP33_V54_ET710/EDC16CP33_V18_ET711/EDC16CP33_V1C_ET711/EDC16CP33_V54_ET711/EDC16CP33_V18_ET712/EDC16CP33_V1C_ET712/EDC16CP33_V54_ET712/EDC16CP33_V18_ET713/EDC16CP33_V1C_ET713/EDC16CP33_V54_ET713/EDC16CP33_V18_ET714/EDC16CP33_V1C_ET714/EDC16CP33_V54_ET714/EDC16CP33_V18_ET715/EDC16CP33_V1C_ET715/EDC16CP33_V54_ET715/EDC16CP33_V20_ET706/EDC16CP33_V58_ET706/EDC16CP33_V5C_ET706/EDC16CP33_V20_ET707/EDC16CP33_V58_ET707/EDC16CP33_V5C_ET707/EDC16CP33_V20_ET708/EDC16CP33_V58_ET708/EDC16CP33_V5C_ET708/EDC16CP33_V20_ET709/EDC16CP33_V58_ET709/EDC16CP33_V5C_ET709/EDC16CP33_V20_ET710/EDC16CP33_V58_ET710/EDC16CP33_V5C_ET710/EDC16CP33_V20_ET711/EDC16CP33_V58_ET711/EDC16CP33_V5C_ET711/EDC16CP33_V20_ET712/EDC16CP33_V58_ET712/EDC16CP33_V5C_ET712/EDC16CP33_V20_ET713/EDC16CP33_V58_ET713/EDC16CP33_V5C_ET713/EDC16CP33_V20_ET7014/EDC16CP33_V58_ET714/EDC16CP33_V5C_ET714/EDC16CP33_V20_ET715/EDC16CP33_V58_ET715/EDC16CP33_V5C_ET715/EDC16CP33_V24_ET706/EDC16CP33_V24_ET707/EDC16CP33_V24_ET708/EDC16CP33_V24_ET709/EDC16CP33_V24_ET7010/EDC16CP33_V24_ET711/EDC16CP33_V24_ET712/EDC16CP33_V24_ET713/EDC16CP33_V24_ET714/EDC16CP33_V24_ET715

ET706 ET707 ET708 ET709 ET710 ET711 ET712 ET713 ET714 ET715 CONTINUED 1	
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RUNNING	If the STATUS is " RUNNING ", the regeneration failed because: <ul style="list-style-type: none"> – the customer's driving did not generate enough heat, – an engine management system component is faulty.
STOPPED	If the STATUS is STOPPED , regeneration has failed due to engine cut-off.
+ APC	POWER LATCH
NONE	No failed regeneration is present.

AFTER REPAIR	Carry out a road test, then check with the diagnostic tool .
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ET742 ET743 ET744 ET745 ET746 ET747 ET748 ET749 ET750 ET751	<u>STORED REGENERATION START STATUS No. 1</u> <u>STORED REGENERATION START STATUS No. 2</u> <u>STORED REGENERATION START STATUS No. 3</u> <u>STORED REGENERATION START STATUS No. 4</u> <u>STORED REGENERATION START STATUS No. 5</u> <u>STORED REGENERATION START STATUS No. 6</u> <u>STORED REGENERATION START STATUS No. 7</u> <u>STORED REGENERATION START STATUS No. 8</u> <u>STORED REGENERATION START STATUS No. 9</u> <u>STORED REGENERATION START STATUS No. 10</u>
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STATUS DEFINITION	Statuses ET742 to ET751 correspond to the causes of the regeneration request. They are associated with the parameters PR816 Stored regeneration start No.1 to PR825 Stored regeneration start No. 10 which contain the record of the vehicle mileage at the start of regeneration (e.g. PR745 Stored regeneration start No. 4 is associated with ET709 Stored regeneration request status no. 4).
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NOTES	Special notes: These statuses should only be interpreted for ALP9: Particle filter warning light comes on too frequently .
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Conformity check with engine stopped and ignition on, or engine running, and engine coolant temperature > 80 °C

AFTER REPAIR	Carry out a road test, then check with the diagnostic tool .
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EDC16CP33_V18_ET742/EDC16CP33_V1C_ET742/EDC16CP33_V54_ET742/EDC16CP33_V18_ET743/EDC16CP33_V1C_ET743/EDC16CP33_V54_ET743/EDC16CP33_V18_ET744/EDC16CP33_V1C_ET744/EDC16CP33_V54_ET744/EDC16CP33_V18_ET745/EDC16CP33_V1C_ET745/EDC16CP33_V54_ET745/EDC16CP33_V18_ET746/EDC16CP33_V1C_ET746/EDC16CP33_V54_ET746/EDC16CP33_V18_ET747/EDC16CP33_V1C_ET747/EDC16CP33_V54_ET747/EDC16CP33_V18_ET748/EDC16CP33_V1C_ET748/EDC16CP33_V54_ET748/EDC16CP33_V18_ET749/EDC16CP33_V1C_ET749/EDC16CP33_V54_ET749/EDC16CP33_V18_ET750/EDC16CP33_V1C_ET750/EDC16CP33_V54_ET750/EDC16CP33_V18_ET751/EDC16CP33_V1C_ET751/EDC16CP33_V54_ET751/EDC16CP33_V20_ET742/EDC16CP33_V58_ET742/EDC16CP33_V5C_ET742/EDC16CP33_V20_ET743/EDC16CP33_V58_ET743/EDC16CP33_V5C_ET743/EDC16CP33_V20_ET744/EDC16CP33_V58_ET744/EDC16CP33_V5C_ET744/EDC16CP33_V20_ET745/EDC16CP33_V58_ET745/EDC16CP33_V5C_ET745/EDC16CP33_V20_ET746/EDC16CP33_V58_ET747/EDC16CP33_V5C_ET748/EDC16CP33_V20_ET749/EDC16CP33_V58_ET749/EDC16CP33_V5C_ET749/EDC16CP33_V20_ET750/EDC16CP33_V58_ET750/EDC16CP33_V5C_ET750/EDC16CP33_V20_ET751/EDC16CP33_V58_ET751/EDC16CP33_V5C_ET751/EDC16CP33_V24_ET742/EDC16CP33_V24_ET743/EDC16CP33_V24_ET744/EDC16CP33_V24_ET745/EDC16CP33_V24_ET746/EDC16CP33_V24_ET747/EDC16CP33_V24_ET748/EDC16CP33_V24_ET749/EDC16CP33_V24_ET750/EDC16CP33_V24_ET751

<p>ET742 ET743 ET744 ET745 ET746 ET747 ET748 ET749 ET750 ET751</p> <p>CONTINUED 1</p>	
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STATUS 1:	<p>Request by weight of soot Regeneration has been requested after the maximum soot weight has been reached and measured in the particle filter without the particle filter warning light coming on.</p>
STATUS 2	<p>Request by estimated weight of soot Regeneration has been requested after it has been estimated that the maximum soot weight has been reached in the particle filter without the particle filter warning light coming on.</p>
STATUS 3	<p>Request by distance travelled Regeneration has been requested after a maximum distance has been travelled since the last successful regeneration without the particle filter warning light coming on.</p>
STATUS 4:	<p>Request by number of regeneration failures or weight of soot This status corresponds to the appearance of DF312: Speed request. This corresponds to the maximum number of failed regenerations or to the maximum weight of soot in the particle filter, with the particle filter warning light coming on.</p>

AFTER REPAIR	<p>Carry out a road test, then check with the diagnostic tool.</p>
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DIESEL INJECTION

Fault finding - Interpretation of statuses

13B

ET781

HEATER PLUGS

Note:
This status is specific to engine type: **760 (Vdiag 20, 24)**.

STATUS DEFINITION

This status indicates what types of heater plugs are fitted to the engine.

Conformity check with engine stopped and ignition on, or engine running, and engine coolant temperature > 80 °C

STATUS 1:

Slow spark plugs

STATUS 2

Quick spark plugs

STATUS 3

NON DEFINED

AFTER REPAIR

Carry out a road test, then check with the **diagnostic tool**.

**ET781
(CONTINUED)**

Electrical conformity

STATUS 1:

Slow spark plugs

Status **ET781** is **STATUS 1** if the heater plugs fitted to the engine have black rings, otherwise run command **SC036 Reinitialise programming** and select **HEATER PLUGS** (see **Interpretation of commands**).

STATUS 2

Quick spark plugs

Status **ET781** is **STATUS 2** if the heater plugs fitted to the engine have white rings, otherwise run command **SC036 Reinitialise programming** and select **HEATER PLUGS** (see **Interpretation of commands**).

STATUS 3

NON DEFINED

Status **ET781** is **STATUS 3** when the heater plugs are not configured on the injection computer.
To determine the heater plugs fitted to the engine, visually check the colour of the plug rings, then run command **SC036 Reinitialise programming** and select **HEATER PLUGS** (see **Interpretation of commands**).

AFTER REPAIR

Carry out a road test, then check with the **diagnostic tool**.

DIESEL INJECTION

Fault finding - Parameter summary table

13B

Tool parameter	Diagnostic tool title
PR002	Alternator charge
PR005	EGR valve opening setpoint
PR006	Rail pressure regulator current
PR007	Rail pressure regulator current setpoint
PR008	Rail pressure setpoint
PR009	Turbocharging pressure setpoint
PR017	Fuel flow
PR022	EGR valve position feedback loop difference
PR023	Air flow difference
PR030	Accelerator pedal position
PR035	Atmospheric pressure
PR037	Refrigerant pressure
PR038	Rail pressure
PR041	Turbocharging pressure
PR048	OCR for rail pressure regulation valve*
PR051	EGR valve position feedback
PR053	Engine speed requested by air conditioning
PR055	Engine speed
PR059	Inlet air temperature
PR061	External air temperature
PR063	Fuel temperature
PR064	Coolant temperature
PR074	Battery voltage
PR077	EGR valve position sensor voltage
PR079	Atmospheric pressure sensor voltage
PR080	Rail pressure sensor voltage
PR082	Fuel temperature sensor voltage
PR083	Air temperature sensor voltage
PR084	Coolant temperature sensor voltage
PR086	Pedal potentiometer gang 1 voltage
PR088	Pedal potentiometer gang 2 voltage
PR089	Vehicle speed
PR104	Turbocharging SV OCR setpoint*

DIESEL INJECTION

Fault finding - Parameter summary table

13B

Tool parameter	Diagnostic tool title
PR128	First EGR valve offset
PR129	Last EGR valve offset
PR130	Cruise control setpoint
PR132	Air flow
PR157	Fuel flow setpoint
PR171	Air flow setpoint for EGR
PR190	Engine idle speed setpoint.
PR209	Turbocharging pressure loop difference
PR213	Rail pressure loop difference
PR224	Turbocharging pressure sensor voltage
PR225	Air flow sensor voltage
PR290	Air conditioning refrigerant pressure sensor voltage
PR364	Cylinder no. 1 fuel correction
PR365	Cylinder no. 4 fuel flow correction
PR381	Particle filter downstream temperature
PR382	Particle filter upstream temperature
PR383	Weight of soot in the particle filter
PR385	Exhaust pipe flow
PR391	Mileage since particle filter replacmnt*
PR405	Cylinder no. 2 fuel flow correction
PR406	Cylinder no. 3 fuel flow correction
PR412	Mileage at last successful regeneration
PR414	Particle filter pressure difference*
PR415	Time since last regeneration
PR484	Fuel regulation solenoid valve OCR
PR490	Engine air flow
PR636	Turbine upstream pressure
PR667	Turbine upstream temperature
PR668	Turbine upstream temperature sensor voltage
PR672	Damper valve position setpoint
PR739	Fuel flow solenoid valve current
PR747	Damper valve position

DIESEL INJECTION

Fault finding - Parameter summary table

13B

Tool parameter	Diagnostic tool title
PR754	Supplier no. 1 signal
PR755	Supplier no. 2 signal
PR756	Supplier no. 3 signal
PR757	Supplier no. 4 signal
PR758	Supplier no. 5 signal
PR759	Supplier no. 6 signal
PR760	Supplier no. 7 signal
PR761	Supplier no. 8 signal
PR762	Supplier no. 9 signal
PR763	Supplier no. 10 signal
PR782	Turbine upstream pressure sensor voltage
PR784	DF312 recording No. 1
PR785	DF312 recording No. 2
PR786	DF312 recording No. 3
PR787	DF312 recording No. 4
PR788	DF312 recording No. 5
PR789	DF312 recording No. 6
PR790	DF312 recording No. 7
PR791	DF312 recording No. 8
PR792	DF312 recording No. 9
PR793	DF312 recording No. 10
PR794	Stored regeneration failure no. 1
PR795	Stored regeneration failure no. 2
PR796	Stored regeneration failure no. 3
PR797	Stored regeneration failure no. 4
PR798	Stored regeneration failure no. 5
PR799	Stored regeneration failure no. 6
PR800	Stored regeneration failure no. 7
PR801	Stored regeneration failure no. 8
PR802	Stored regeneration failure no. 9
PR803	Stored regeneration failure no. 10

DIESEL INJECTION

Fault finding - Parameter summary table

13B

Tool parameter	Diagnostic tool title
PR808	Supplier 1-0 signal
PR816	Stored regeneration start no. 1
PR817	Stored regeneration start no. 2
PR818	Stored regeneration start no. 3
PR819	Stored regeneration start no. 4
PR820	Stored regeneration start no. 5
PR821	Stored regeneration start no. 6
PR822	Stored regeneration start no. 7
PR823	Stored regeneration start no. 8
PR824	Stored regeneration start no. 9
PR825	Stored regeneration start no. 10
PR846	Turbocharging SV* OCR*
PR850	Fuel flow solenoid valve current setpoints*
PR858	First open damper valve offset
PR859	First closed damper valve offset
PR860	Last closed damper valve offset
PR861	Last open damper valve offset
PR863	Damper valve position feedback
PR873	Oil oxidation signal
PR874	Last service
PR875	Oil dilution signal

- * OCR: opening cycle ratio
- * SV: solenoid valve
- * replacmnt: replacement
- * diff.: differential
- * sol. valve : solenoid valve

PR002	<u>ALTERNATOR CHARGE</u>
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PARAMETER DEFINITION	This parameter indicates the alternator charge value in %.
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NOTES	None.
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Conformity check with engine stopped and ignition on, or engine running, and engine coolant temperature > 80 °C

The alternator load value changes depending on the battery voltage and the electrical consumers.

AFTER REPAIR	Carry out a road test, then check with the diagnostic tool .
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PR005	<u>EGR VALVE OPENING VALUE REQUIRED</u>
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PARAMETER DEFINITION	This parameter indicates a theoretical opening value for the EGR valve giving optimum engine performance.
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NOTES	Special notes: Only perform these tests if the parameters do not correspond with the system operation programming.
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Conformity check with engine stopped and ignition on

The EGR valve theoretical opening value for operation with engine stopped and ignition on is: - 10 < X < 0 %

Conformity check with engine running, engine coolant temperature > 80 °C
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The EGR valve theoretical opening value for operation with the engine running and the engine coolant temperature > 80 °C is: 10 < X < 40 %

AFTER REPAIR	Carry out a road test, then check with the diagnostic tool .
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Fault finding - Interpretation of parameters

PR006	<u>RAIL PRESSURE REGULATOR CURRENT</u>
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PARAMETER DEFINITION	This parameter indicates the current absorbed by the rail pressure regulator.
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NOTES	Special notes: Only perform these tests if the parameters do not correspond with the system operation programming.
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Conformity check with engine stopped and ignition on, or engine running, and engine coolant temperature > 80 °C

This parameter indicates the current absorbed by the rail pressure regulator **PR006 ≈ PR007: Rail pressure regulator current setpoint.**
In the event of a fault, consult the interpretation of **DF898 Rail pressure regulator circuit.**

AFTER REPAIR	Carry out a road test, then check with the diagnostic tool.
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PR007	<u>RAIL PRESSURE REGULATOR CURRENT SETPOINT</u>
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PARAMETER DEFINITION	This parameter indicates the theoretical setpoint for the current absorbed by the rail pressure regulator.
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NOTES	Special notes: Only perform these tests if the parameters do not correspond with the system operation programming.
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Conformity check with engine stopped and ignition on, or engine running, and engine coolant temperature > 80 °C

This parameter indicates the theoretical current absorbed by the rail pressure regulator.

AFTER REPAIR	Carry out a road test, then check with the diagnostic tool .
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Fault finding - Interpretation of parameters

PR008	<u>RAIL PRESSURE SETPOINTS</u>
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PARAMETER DEFINITION	This parameter indicates the theoretical rail pressure value for optimum engine operation in bar.
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NOTES	Special notes: Only perform these tests if the parameters do not correspond with the system operation programming.
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Conformity check with engine stopped and ignition on, or engine running, and engine coolant temperature > 80 °C

The theoretical rail pressure value is a setpoint of:
X = 250 ± 50 bar

AFTER REPAIR	Carry out a road test, then check with the diagnostic tool .
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EDC16CP33_V18_PR008/EDC16CP33_V1C_PR008/EDC16CP33_V54_PR008
/EDC16CP33_V20_PR008/EDC16CP33_V58_PR008/EDC16CP33_V5C_PR008/EDC16CP33_V24_PR008

PR009	<u>TURBOCHARGING PRESSURE SETPOINTS</u>
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PARAMETER DEFINITION	This parameter indicates the theoretical turbocharging pressure reference value in bar .
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NOTES	Special notes: Only perform these tests if the parameters do not correspond with the system operation programming.
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Conformity check with engine stopped and ignition on, or engine running, and engine coolant temperature > 80 °C

The theoretical turbocharging pressure value is a setpoint of: Pressure ≈ 1 bar

AFTER REPAIR	Carry out a road test, then check with the diagnostic tool .
---------------------	---

PR017	<u>CURRENT SETPOINT</u>
--------------	-------------------------

PARAMETER DEFINITION	This parameter indicates the fuel flow in mg/st.
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NOTES	Special notes: Only perform these tests if the parameters do not correspond with the system operation programming.
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Conformity check with engine stopped and ignition on

Ignition on: 0.0 mg/st. In the event of a fault, consult the interpretation of DF897 Pump pressure regulator circuit.
--

Conformity check with engine running, engine coolant temperature > 80 °C
--

Engine running: PR017 = PR157: Fuel flow setpoint. In the event of a fault, consult the interpretation of DF897 Pump pressure regulator circuit.

AFTER REPAIR	Carry out a road test, then check with the diagnostic tool.
---------------------	--

Fault finding - Interpretation of parameters

PR022	<u>EGR VALVE POSITION FEEDBACK LOOP DIFFERENCE</u>
--------------	--

PARAMETER DEFINITION	This parameter indicates the percentage difference between the setpoint and the EGR valve position.
-----------------------------	---

NOTES	Special notes: Only perform these tests if the parameters do not correspond with the system operation programming.
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Conformity check with engine stopped and ignition on

This parameter indicates the percentage difference between the setpoint and the EGR valve position. In the event of a fault, consult the interpretation of faults DF209 EGR valve position sensor circuit and DF647 EGR valve position regulation .
--

Conformity check with engine running, engine coolant temperature > 80 °C
--

± 5 % In the event of a fault, consult the interpretation of faults DF209 EGR valve position sensor circuit and DF647 EGR valve position regulation .

AFTER REPAIR	Carry out a road test, then check with the diagnostic tool .
---------------------	---

PR030	<u>ACCELERATOR PEDAL POSITION</u>
--------------	-----------------------------------

PARAMETER DEFINITION	This parameter indicates the accelerator pedal position as a percentage.
-----------------------------	--

NOTES	<p>No faults should be present or stored.</p> <p>Perform this fault finding procedure:</p> <ul style="list-style-type: none"> – after finding an inconsistency in the parameter, – after a customer complaint (e.g. lack of power).
--------------	--

Conformity check with engine stopped and ignition on, or engine running, and engine coolant temperature > 80 °C

If no pressure is being applied to the pedal PR030 = 0 %
In the event of a fault, consult the interpretation of **DF196 Pedal sensor circuit gang 1** or **DF198 Pedal sensor circuit gang 2**.

Sensor electrical conformity

Check **the continuity and absence of interference resistance** of the following connections:

- connection code **3LR**,
- connection code **3LS**,
- connection code **3LT**,
- connection code **3LU**,
- connection code **3LW**,
- connection code **3LV**,

between components **120** and **921**.

If the connection or connections are faulty and there is a repair procedure (**see Technical Note 6015A, Electrical wiring repair, wiring: precautions for repair**), repair the wiring, otherwise replace it.

Pedal sensor **connected**, vehicle with **ignition on** and **engine stopped**:

- check the value of **PR030**:
- 0 %**: no load,
- 110 % ± 10**: full load,
- 145 % ± 10**: full load after pedal kickdown point.
- if the value is not correct, replace the pedal sensor.

AFTER REPAIR	Carry out a road test, then check with the diagnostic tool .
---------------------	---

Fault finding - Interpretation of parameters

PR035	<u>ATMOSPHERIC PRESSURE</u>
--------------	-----------------------------

PARAMETER DEFINITION	This parameter indicates the atmospheric pressure in bar ; the sensor is integrated in the computer.
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NOTES	Special notes: Only perform these tests if the parameters do not correspond with the system operation programming.
--------------	--

Conformity check with engine stopped and ignition on, or engine running, and engine coolant temperature > 80 °C

The atmospheric pressure value is:

PR035 ≈ 1 bar ± 0.20 bar

In the event of a fault, consult the interpretation of fault **DF004: Turbocharging pressure sensor circuit** and **DF200: Atmospheric pressure sensor**.

AFTER REPAIR	Carry out a road test, then check with the diagnostic tool .
---------------------	---

Fault finding - Interpretation of parameters

PR038	<u>RAIL PRESSURE</u>
--------------	----------------------

PARAMETER DEFINITION	This parameter indicates the rail pressure in bar.
-----------------------------	--

NOTES	<p>No faults should be present or stored. Perform this fault finding procedure:</p> <ul style="list-style-type: none"> – after finding an inconsistency in the parameter, – after a customer complaint (starting faults, poor performance, stalling etc.), – after interpretation of command AC225 Rail pressure regulator.
	<p>Special notes: Only perform these tests if the parameters do not correspond with the system operation programming.</p>

Conformity check with engine stopped and ignition on

<p>The rail pressure value is: 0 bar < X < 90 bar if the coolant temperature < 30 °C. In the event of a fault, consult the interpretation of fault DF007 Rail pressure sensor circuit.</p>

Conformity check with engine running, engine coolant temperature > 80 °C
--

<p>The rail pressure value is: At idle speed: 270 bar ± 20 bar Full load: 1700 bar ± 20 bar In the event of a fault, consult the interpretation of fault DF007 Rail pressure sensor circuit.</p>

AFTER REPAIR	Carry out a road test, then check with the diagnostic tool .
---------------------	---

Fault finding - Interpretation of parameters

PR038
CONTINUED

Sensor electrical conformity

Check the condition of the rail pressure sensor connector (see **Wiring Diagram Technical Note, Vehicle, Component code 1032**).

Check the condition of the engine management computer connector (see **Wiring Diagram Technical Note, Vehicle, Component code 120**).

If one of the connectors is faulty and there is a repair procedure (see **Technical Note 6015A, Electrical wiring repair, wiring: precautions for repair**), repair the connector, otherwise replace the wiring.

Check for **continuity** and absence of **interference resistance** of the following connections:

- connection code **3LX**,
- connection code **3LY**,
- connection code **3LZ**,

between components **120** and **1032**.

If the connection or connections are faulty and there is a repair procedure (see **Technical Note 6015A, Electrical wiring repair, wiring: precautions for repair**), repair the wiring, otherwise replace it.

Check that there are no external diesel leaks from the high pressure fuel circuit.

With the ignition on, and engine switched off for over **1 minute**:

View parameter **PR038 Rail pressure**.

- If the pressure is below **90 bar**, the sensor is in order.
- If the pressure is above **90 bar**, contact the Techline.

AFTER REPAIR

Carry out a road test, then check with the **diagnostic tool**.

PR041	<u>TURBOCHARGING PRESSURE</u>
--------------	-------------------------------

PARAMETER DEFINITION	This parameter indicates the turbocharging pressure in bar .
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NOTES	None.
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Conformity check with engine stopped and ignition on, or engine running, and engine coolant temperature > 80 °C

The turbocharging pressure value is:

PR041 = PR035 ± 0.20 bar

In the event of a fault, consult the interpretation of **DF004 Turbocharging pressure sensor circuit**.

Sensor electrical conformity

Check for **continuity** and absence of **interference resistance** of the following connections:

- connection code **3LQ**,
- connection code **3LP**,
- connection code **3LN**.

between components **120** and **1071**.

If the connection or connections are faulty and there is a repair procedure (**see Technical Note 6015A, Electrical wiring repair, wiring: precautions for repair**), repair the wiring, otherwise replace it.

AFTER REPAIR	Carry out a road test, then check with the diagnostic tool .
---------------------	---

<p>PR041</p> <p>CONTINUED</p>	
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Vehicle with ignition on, and the engine stopped for over 1 minute:

Compare the values of **PR041: Turbocharging pressure** and **PR035: Atmospheric pressure**.

If the difference between **PR041** and **PR035** is greater than **0.1 bar**, check the value of **PR035 Atmospheric pressure** by comparing it with the reading on a conforming vehicle in the workshop.

If the value of **PR035 Atmospheric pressure** is not correct (difference greater than **0.1 bar** between the 2 vehicles), contact the Techline.

Otherwise (when the value **PR035 Atmospheric pressure** is correct), change the turbocharging pressure sensor.

If the difference between **PR041** and **PR035** is less than **0.1 bar**,

Start the engine, with the engine idling:

Compare the values of **PR041 Turbocharging pressure** and **PR035 Atmospheric pressure**.

If the difference between **PR041** and **PR035** is greater than **0.2 bar**,

Check the air inlet circuit:

Apply **test 4: Turbocharged air inlet circuit check**.

Low and high pressure air circuit **sealed** and **not obstructed**: ducts, mounting clamps present and tightened, turbocharging pressure sensor fitted, heat exchanger etc.

Check that the damper valve is not jammed closed.

Repair if necessary.

<p>AFTER REPAIR</p>	<p>Carry out a road test, then check with the diagnostic tool.</p>
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PR051	<u>EGR VALVE POSITION FEEDBACK</u>
--------------	------------------------------------

PARAMETER DEFINITION	This parameter indicates the EGR valve opening ratio.
-----------------------------	---

NOTES	Special notes: Only perform these tests if the parameters do not correspond with the system operation programming.
	No faults should be present or stored. Perform this fault finding procedure: <ul style="list-style-type: none"> – after finding an inconsistency in the parameter, – after a customer complaint (loss of power, smoke etc.). – after the interpretation of command AC103 EGR by-pass.

Conformity check with engine stopped and ignition on, or engine running, and engine coolant temperature > 80 °C

This parameter indicates the EGR valve opening ratio.
In the event of a fault, consult the interpretation of faults **DF209 EGR valve position sensor circuit** and **DF647 EGR valve position regulation**.

Sensor electrical conformity

Check for **continuity** and absence of **interference resistance** of the following connections:

- connection code **3JM**,
- connection code **3EL**,
- connection code **3GC**,

between components **120** and **1460** or **169**.

If the connection or connections are faulty and there is a repair procedure (**see Technical Note 6015A, Electrical wiring repair, wiring: precautions for repair**), repair the wiring, otherwise replace it.

If the fault is still present, contact the Techline.

AFTER REPAIR	Carry out a road test, then check with the diagnostic tool .
---------------------	---

PR053	<u>SPEED REQUESTED BY HEATING/AIR CONDITIONING</u>
--------------	--

PARAMETER DEFINITION	This parameter indicates the engine's speed of rotation with air conditioning in rpm.
-----------------------------	---

NOTES	<p>Special notes: Only perform these tests if the parameters do not correspond with the system operation programming.</p> <p>Note: Use the parameter PR053 only if PR037 "Refrigerant pressure" > 12 bar.</p>
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Conformity check with engine stopped and ignition on

Indicates the engine's speed of rotation with air conditioning in rpm . Ignition on at 0 rpm

Conformity check with engine running, engine coolant temperature > 80 °C
--

The speed requested by the air conditioning is increased and varies around 850 rpm .

AFTER REPAIR	Carry out a road test, then check with the diagnostic tool .
---------------------	---

Fault finding - Interpretation of parameters

PR055	<u>ENGINE SPEED</u>
--------------	---------------------

PARAMETER DEFINITION	This parameter indicates the engine's speed of rotation in rpm .
-----------------------------	---

NOTES	None.
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Conformity check with engine stopped and ignition on

With the ignition on the value is 0 rpm . In the event of a fault, consult the interpretation of faults DF195: Engine speed/camshaft sensor consistency , DF119: Camshaft sensor signal and DF120: Engine speed sensor signal .
--

Conformity check with engine running, engine coolant temperature > 80 °C
--

With the engine running at idle speed the value is approximately 800 rpm ± 50 . In the event of a fault, consult the interpretation of faults DF195: Engine speed/camshaft sensor consistency , DF119: Camshaft sensor signal and DF120: Engine speed sensor signal .
--

AFTER REPAIR	Carry out a road test, then check with the diagnostic tool .
---------------------	---

Fault finding - Interpretation of parameters

PR059	<u>INLET AIR TEMPERATURE</u>
--------------	------------------------------

PARAMETER DEFINITION	This parameter indicates the inlet air temperature in °C.
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NOTES	Special notes: Only perform these tests if the parameters do not correspond with the system operation programming.
	No faults should be present or stored. Perform this fault finding procedure: <ul style="list-style-type: none"> – after finding an inconsistency in the parameter, – after a customer complaint (e.g. lack of power).

Conformity check with engine stopped and ignition on

With the ignition on the inlet air temperature varies according to the exterior temperature. In the event of a fault, consult the interpretation of fault DF002 Air temperature sensor circuit . Parameter PR059 ~ PR064: Coolant temperature cold engine.
--

Conformity check with engine running, engine coolant temperature > 80 °C
--

With the engine running at idle speed the inlet air temperature varies according to the engine coolant temperature. In the event of a fault, consult the interpretation of fault DF002 Air temperature sensor circuit .

AFTER REPAIR	Carry out a road test, then check with the diagnostic tool .
---------------------	---

Fault finding - Interpretation of parameters

PR059
CONTINUED

Sensor electrical conformity

With the flow sensor disconnected, check **the insulation** from **earth** of the following connection:

– connection code **3ABQ**,
between components **120** and **799**.

Check **the + 12 V after relay feed** to the air flowmeter.

– connection **3FB** of component **799**.

If the connection or connections are faulty and there is a repair procedure (see **Technical Note 6015A, Electrical wiring repair, wiring: precautions for repair**), repair the wiring, otherwise replace it.

Measure **the resistance** between connections **3ABQ** and **3DW** of component **799**.

Replace the air flow sensor if the resistance is not:

3202 Ω ± 486 Ω at - 10 °C

2448 Ω ± 90 Ω at + 20 °C

817 Ω ± 22 Ω at + 50 °C

316 Ω ± 05 Ω at + 80 °C

5774 Ω ± 277 Ω at + 0 °C

1671 Ω ± 59 Ω at + 30 °C

583 Ω ± 15 Ω at + 60 °C

238 Ω ± 04 Ω at + 90 °C

3714 Ω ± 161 Ω at + 10 °C

1150 Ω ± 36 Ω at + 40 °C

427 Ω ± 09 Ω at + 70 °C

AFTER REPAIR

Carry out a road test, then check with the **diagnostic tool**.

Fault finding - Interpretation of parameters

PR063	<u>FUEL TEMPERATURE</u>
-------	-------------------------

PARAMETER DEFINITION	This parameter indicates the fuel temperature in °C.
-----------------------------	--

NOTES	Special notes: Only perform these tests if the parameters do not correspond with the system operation programming.
	No faults should be present or stored. Perform this fault finding procedure: – after finding an inconsistency in the parameter, – after a customer complaint (e.g. lack of power).

Conformity check with engine stopped and ignition on, or engine running, and engine coolant temperature > 80 °C

This parameter indicates the fuel temperature: - 30 °C < X < 90 °C

Default value: 100 °C

In the event of a fault, consult the interpretation of fault **DF098 Fuel temperature sensor circuit**.

Sensor electrical conformity

Check for **continuity** and absence of **interference resistance** of the following connections:

- connection code **3FAB**,
 - connection code **3LD**,
- between components **120** and **1066**.

If the connection or connections are faulty and there is a repair procedure (see **Technical Note 6015A, Electrical wiring repair, wiring: precautions for repair**), repair the wiring, otherwise replace it.

Measure the **resistance** between connections **3FAB** and **3LD** of component **1066**.

Replace the sensor if its resistance is not:

3820 Ω ± 282 at + 10 °C

2050 Ω ± 100 at + 25 °C

810 Ω ± 47 at + 50 °C

AFTER REPAIR	Carry out a road test, then check with the diagnostic tool .
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PR064	<u>COOLANT TEMPERATURE</u>
-------	----------------------------

PARAMETER DEFINITION	This parameter indicates the engine coolant temperature in °C.
-------------------------	--

NOTES	<p>No faults should be present or stored.</p> <p>Perform this fault finding procedure:</p> <ul style="list-style-type: none">– after finding an inconsistency in the parameter,– after a customer complaint (e.g. lack of power).
-------	---

Conformity check with engine stopped and ignition on

With the ignition on the coolant temperature varies according to the exterior temperature. In the event of a fault, refer to the interpretation of DF001 Coolant temperature sensor circuit . Parameter PR059: Inlet air temperature ≈ PR064 cold engine.
--

Conformity check with engine running, engine coolant temperature > 80 °C
--

With the engine running at idle speed the coolant temperature varies according to the engine temperature. In the event of a fault, refer to the interpretation of DF001 Coolant temperature sensor circuit .
--

AFTER REPAIR	Carry out a road test, then check with the diagnostic tool .
--------------	---

PR064
CONTINUED

Sensor electrical conformity

Check for **continuity** and absence of **interference resistance** of the following connections:

- connection code **3C**,
- connection code **3JK**,

between components **120** and **244**.

If the connection or connections are faulty and there is a repair procedure (see **Technical Note 6015A, Electrical wiring repair, wiring: precautions for repair**), repair the wiring, otherwise replace it.

Measure **the resistance** between connections **3C** and **3JK** of component **244**.

Replace the sensor if the resistance is not:

12,460 Ω ± 1128 Ω at - 10 °C

2252 Ω ± 112 Ω at + 25 °C

811 Ω ± 39 Ω at + 50 °C

283 Ω ± 8 Ω at + 80 °C

115 Ω ± 3 Ω at + 110 °C

AFTER REPAIR

Carry out a road test, then check with the **diagnostic tool**.

PR074	<u>BATTERY VOLTAGE</u>
-------	------------------------

PARAMETER DEFINITION	This parameter indicates the battery voltage.
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NOTES	Special notes: Only perform these tests if the parameters do not correspond with the system operation programming.
--------------	--

Conformity check with engine stopped and ignition on, or engine running, and engine coolant temperature > 80 °C

8.5 V < X < 15 V

Test the battery and run fault finding on the charge circuit (see **Technical Note 6014A, Checking the charge circuit**).

AFTER REPAIR	Carry out a road test, then check with the diagnostic tool .
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Fault finding - Interpretation of parameters

PR079	<u>ATMOSPHERIC PRESSURE SENSOR VOLTAGE</u>
-------	--

PARAMETER DEFINITION	This parameter indicates the atmospheric pressure sensor voltage in volts.
-----------------------------	--

NOTES	Special notes: Only perform these tests if the parameters do not correspond with the system operation programming.
--------------	--

Conformity check with engine stopped and ignition on, or engine running, and engine coolant temperature > 80 °C

0 V < X < 5 V

In the event of a fault, consult the interpretation of faults **DF011 Sensor feed no. 1 voltage**, **DF012 Sensor feed no. 2 voltage** and **DF013 Sensor feed no. 3 voltage**.

AFTER REPAIR	Carry out a road test, then check with the diagnostic tool .
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PR080	<u>RAIL PRESSURE SENSOR VOLTAGE</u>
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PARAMETER DEFINITION	This parameter indicates the rail pressure sensor voltage in volts.
---------------------------------	---

NOTES	Special notes: Only perform these tests if the parameters do not correspond with the system operation programming.
--------------	--

Conformity check with engine stopped and ignition on, or engine running, and engine coolant temperature > 80 °C

0 V < X < 5 V

In the event of a fault, refer to the interpretation of fault **DF013 Sensor feed voltage no. 3**.

AFTER REPAIR	Carry out a road test, then check with the diagnostic tool .
---------------------	---

EDC16CP33_V18_PR080/EDC16CP33_V1C_PR080/EDC16CP33_V54_PR080
/EDC16CP33_V20_PR080/EDC16CP33_V58_PR080/EDC16CP33_V5C_PR080/EDC16CP33_V24_PR080

PR083	<u>AIR TEMPERATURE SENSOR VOLTAGE</u>
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PARAMETER DEFINITION	This parameter indicates the air temperature sensor voltage in volts.
---------------------------------	---

NOTES	Special notes: Only perform these tests if the parameters do not correspond with the system operation programming.
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Conformity check with engine stopped and ignition on, or engine running, and engine coolant temperature > 80 °C

0 V < X < 5 V

In the event of a fault, consult the interpretation of faults **DF011 Sensor feed no. 1 voltage**, **DF012 Sensor feed no. 2 voltage** and **DF013 Sensor feed no. 3 voltage**.

AFTER REPAIR	Carry out a road test, then check with the diagnostic tool .
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PR084	<u>COOLANT TEMPERATURE SENSOR VOLTAGE</u>
--------------	---

PARAMETER DEFINITION	This parameter indicates the coolant temperature sensor voltage in volts.
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NOTES	Special notes: Only perform these tests if the parameters do not correspond with the system operation programming.
--------------	--

Conformity check with engine stopped and ignition on, or engine running, and engine coolant temperature > 80 °C

0 V < X < 5 V In the event of a fault, refer to the interpretation of DF001 Coolant temperature sensor circuit .

AFTER REPAIR	Carry out a road test, then check with the diagnostic tool .
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EDC16CP33_V18_PR084/EDC16CP33_V1C_PR084/EDC16CP33_V54_PR084
/EDC16CP33_V20_PR084/EDC16CP33_V58_PR084/EDC16CP33_V5C_PR084/EDC16CP33_V24_PR084

Fault finding - Interpretation of parameters

PR086	<u>PEDAL POTENTIOMETER GANG 1 VOLTAGE</u>
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PARAMETER DEFINITION	This parameter indicates the pedal potentiometer gang 1 voltage in volts.
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NOTES	Special notes: Only perform these tests if the parameters do not correspond with the system operation programming.
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Conformity check with engine stopped and ignition on, or engine running, and engine coolant temperature > 80 °C

Accelerator pedal released: **0.70 V < X < 0.80 V**

IMPORTANT

This corresponds to normal operation.

AFTER REPAIR	Carry out a road test, then check with the diagnostic tool .
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PR088	<u>PEDAL POTENTIOMETER GANG 2 VOLTAGE</u>
-------	---

PARAMETER DEFINITION	This parameter indicates the pedal potentiometer gang 2 voltage in volts.
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NOTES	Special notes: Only perform these tests if the parameters do not correspond with the system operation programming.
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Conformity check with engine stopped and ignition on, or engine running, and engine coolant temperature > 80 °C

Accelerator pedal released: **0.30 V < X < 0.40 V**

IMPORTANT

This corresponds to normal operation.

AFTER REPAIR	Carry out a road test, then check with the diagnostic tool .
---------------------	---

Fault finding - Interpretation of parameters

PR089	<u>VEHICLE SPEED</u>
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PARAMETER DEFINITION	Gives the vehicle speed in mph.
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NOTES	Special notes: Only perform these tests if the parameters do not correspond with the system operation programming.
	This parameter is transmitted by the ABS computer. This signal is transmitted to the injection on the multiplex network.

Conformity check with engine stopped and ignition on, or engine running, and engine coolant temperature > 80 °C

In the event of a fault, carry out a multiplex network test (see **88B, Multiplexing**).
And then complete fault finding on the ABS computer (see **38C, Anti-lock braking system**).

AFTER REPAIR	Carry out a road test, then check with the diagnostic tool .
---------------------	---

Fault finding - Interpretation of parameters

PR128	<u>FIRST EGR VALVE OFFSET</u>
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PARAMETER DEFINITION	This parameter indicates the EGR valve closing ratio for the first EGR valve offset.
---------------------------------	--

NOTES	None.
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Conformity check with engine stopped and ignition on, or engine running, and engine coolant temperature > 80 °C

Indicates the percentage $\approx 20 \% \pm 5$.

PR128 \approx PR129: Last EGR valve offset, These 2 values should be similar.

In the event of a fault, consult the interpretation of faults **DF209 EGR valve position sensor circuit** and **DF647 EGR valve position regulation**.

AFTER REPAIR	Carry out a road test, then check with the diagnostic tool .
---------------------	---

PR129	<u>LAST EGR VALVE OFFSET</u>
-------	------------------------------

PARAMETER DEFINITION	This parameter indicates the EGR valve closing ratio for the last EGR valve offset.
---------------------------------	---

NOTES	None.
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Conformity check with engine stopped and ignition on, or engine running, and engine coolant temperature > 80 °C

Indicates the percentage $\approx 20 \% \pm 5$.

PR128: First EGR valve offset \approx PR129; these 2 values should be similar.

In the event of a fault, consult the interpretation of faults **DF209 EGR valve position sensor circuit** and **DF647 EGR valve position regulation**.

AFTER REPAIR	Carry out a road test, then check with the diagnostic tool .
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Fault finding - Interpretation of parameters

PR130	<u>CRUISE CONTROL SETPOINT</u>
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PARAMETER DEFINITION	This parameter indicates the cruise control setpoint.
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NOTES	Special notes: Only perform these tests if the parameters do not correspond with the system operation programming.
	There must be no faults present. Perform this fault finding procedure: <ul style="list-style-type: none">– after finding an inconsistency in the parameter,– or after a customer complaint (lack of power, smoke etc.).

Conformity check with engine stopped and ignition on, or engine running, and engine coolant temperature > 80 °C

Indicates the cruise control cruising speed
Cruise control can only be activated for a speed.
V > 18 mph (30 km/h)

AFTER REPAIR	Carry out a road test, then check with the diagnostic tool .
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EDC16CP33_V18_PR130/EDC16CP33_V1C_PR130/EDC16CP33_V54_PR130
/EDC16CP33_V20_PR130/EDC16CP33_V58_PR130/EDC16CP33_V5C_PR130/EDC16CP33_V24_PR130

PR132	<u>AIR FLOW</u>
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PARAMETER DEFINITION	This parameter indicates the inlet air flow in kg/h .
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NOTES	<p>There must be no faults present.</p> <p>Perform this fault finding procedure:</p> <ul style="list-style-type: none"> – after finding an inconsistency in the parameter, – or after a customer complaint (lack of power, smoke etc.).
--------------	--

Conformity check with engine stopped and ignition on

Indicates the inlet air flow in kg/h : 0 kg/h .

Conformity check with engine running, engine coolant temperature > 80 °C
--

Indicates the inlet air flow in kg/h : ≈ 25 kg/h ± 5 .
--

AFTER REPAIR	Carry out a road test, then check with the diagnostic tool .
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PR132
CONTINUED

Sensor electrical conformity

Check the air inlet circuit (from the air filter inlet to the inlet manifold tracts, run **test 4 Turbocharged air inlet circuit check**):

- air filter unit inlet not blocked and filter not clogged,
- **visual inspection only, apply test 4 of ALP2: Starting fault or starting impossible**,
- oil vapour recirculation circuit connected correctly,
- **tightness and not blocked low and high-pressure** air circuit: ducts, presence and tightness of the mounting clips, turbocharger pressure sensor mounting, intercooler, etc...,
- check that the damper valve is not jammed closed.

Carry out the necessary repairs.

Check **the electrical conformity of the air flow sensor**:

Check **the + 5 V feed** to the air flowmeter.

- connection **3KJ** of component **799**.

Check **the + 12 V after relay feed** to the air flowmeter.

- connection **3FB** of component **799**.

Check **for continuity and absence of interference resistance** of the following connections:

- connection code **3DV**,
- connection code **3DW**,

between components **120** and **799**.

With the flow sensor **connected, the vehicle ignition on and the engine stopped**:

Check the voltage between connections **3DW** and **3DV** of component **799**.

- If the voltage is not approximately **0.3 V ± 0.1**, replace the air flowmeter.

AFTER REPAIR

Carry out a road test, then check with the **diagnostic tool**.

PR157	<u>FUEL FLOW SETPOINT</u>
--------------	---------------------------

PARAMETER DEFINITION	This parameter indicates the fuel flow setpoint in mg/st.
---------------------------------	--

NOTES	Special notes: Only perform these tests if the parameters do not correspond with the system operation programming.
--------------	--

Conformity check with engine stopped and ignition on

Ignition on: 0.0 mg/st. In the event of a fault, consult the interpretation of DF897 Pump pressure regulator circuit.
--

Conformity check with engine running, engine coolant temperature > 80 °C
--

Engine running: PR017: Fuel flow = PR157. In the event of a fault, consult the interpretation of DF897 Pump pressure regulator circuit.
--

AFTER REPAIR	Carry out a road test, then check with the diagnostic tool.
---------------------	--

Fault finding - Interpretation of parameters

PR171	<u>AIR FLOW SETPOINT FOR EGR</u>
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PARAMETER DEFINITION	This parameter indicates the flow of air required by the EGR valve in mg/st .
---------------------------------	--

NOTES	Special notes: Only perform these tests if the parameters do not correspond with the system operation programming.
--------------	--

Conformity check with engine stopped and ignition on, or engine running, and engine coolant temperature > 80 °C

Indicates the air flow required by the EGR valve

AFTER REPAIR	Carry out a road test, then check with the diagnostic tool .
---------------------	---

EDC16CP33_V18_PR171/EDC16CP33_V1C_PR171/EDC16CP33_V54_PR171
/EDC16CP33_V20_PR171/EDC16CP33_V58_PR171/EDC16CP33_V5C_PR171/EDC16CP33_V24_PR171

PR190	<u>IDLE SPEED SETPOINT</u>
--------------	----------------------------

PARAMETER DEFINITION	This parameter indicates the engine's speed of rotation in rpm .
-----------------------------	---

NOTES	None.
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Conformity check with engine stopped and ignition on

With the ignition on, the value is 800 rpm or 850 rpm (depending on the vehicle) . In the event of a fault, consult the interpretation of faults DF195: Engine speed/camshaft sensor consistency , DF119: Camshaft sensor signal and DF120: Engine speed sensor signal .

Conformity check with engine running, engine coolant temperature > 80 °C
--

With the engine running at idling speed, the value is approximately 800 rpm or 850 rpm (depending on the vehicle) . In the event of a fault, consult the interpretation of faults DF195: Engine speed/camshaft sensor consistency , DF119: Camshaft sensor signal and DF120: Engine speed sensor signal . The difference between the engine idle speed setpoint should be less than 50 rpm .

AFTER REPAIR	Carry out a road test, then check with the diagnostic tool .
---------------------	---

Fault finding - Interpretation of parameters

PR213	<u>RAIL PRESSURE LOOP DIFFERENCE</u>
--------------	--------------------------------------

PARAMETER DEFINITION	This parameter indicates the rail pressure loop difference in bar.
-----------------------------	--

NOTES	Special notes: Only perform these tests if the parameters do not correspond with the system operation programming.
--------------	--

Conformity check with engine stopped and ignition on, or engine running, and engine coolant temperature > 80 °C

X = PR008 - PR038

In the event of a fault, consult the interpretation of fault **DF007 Rail pressure sensor circuit**.

AFTER REPAIR	Carry out a road test, then check with the diagnostic tool .
---------------------	---

EDC16CP33_V18_PR213/EDC16CP33_V1C_PR213/EDC16CP33_V54_PR213
/EDC16CP33_V20_PR213/EDC16CP33_V58_PR213/EDC16CP33_V5C_PR213/EDC16CP33_V24_PR213

Fault finding - Interpretation of parameters

PR224	<u>TURBOCHARGING PRESSURE SENSOR VOLTAGE</u>
-------	--

PARAMETER DEFINITION	This parameter indicates the turbocharging pressure sensor voltage in volts.
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NOTES	Special notes: Only perform these tests if the parameters do not correspond with the system operation programming.
--------------	--

Conformity check with engine stopped and ignition on, or engine running, and engine coolant temperature > 80 °C

0 V < X < 5 V

In the event of a fault, consult the interpretation of faults **DF011 Sensor feed no. 1 voltage**, **DF012 Sensor feed no. 2 voltage** and **DF013 Sensor feed no. 3 voltage**.

AFTER REPAIR	Carry out a road test, then check with the diagnostic tool .
---------------------	---

EDC16CP33_V18_PR224/EDC16CP33_V1C_PR224/EDC16CP33_V54_PR224
/EDC16CP33_V20_PR224/EDC16CP33_V58_PR224/EDC16CP33_V5C_PR224/EDC16CP33_V24_PR224

Fault finding - Interpretation of parameters

PR225	<u>AIR FLOW SENSOR VOLTAGE</u>
-------	--------------------------------

PARAMETER DEFINITION	This parameter indicates the air flow sensor voltage in volts.
---------------------------------	--

NOTES	Special notes: Only perform these tests if the parameters do not correspond with the system operation programming.
	There must be no faults present. Perform this fault finding procedure: <ul style="list-style-type: none"> – after finding an inconsistency in the parameter, – or after a customer complaint (lack of power, smoke etc.).

Conformity check with engine stopped and ignition on, or engine running, and engine coolant temperature > 80 °C

0 V < X < 5 V

In the event of a fault, consult the interpretation of parameter **DF056 Air flow sensor circuit**.

AFTER REPAIR	Carry out a road test, then check with the diagnostic tool .
---------------------	---

EDC16CP33_V18_PR225/EDC16CP33_V1C_PR225/EDC16CP33_V54_PR225
/EDC16CP33_V20_PR225/EDC16CP33_V58_PR225/EDC16CP33_V5C_PR225/EDC16CP33_V24_PR225

PR290	<u>AC REFRIGERANT PRESSURE SENSOR VOLTAGE</u>
-------	---

PARAMETER DEFINITION	This parameter indicates the refrigerant pressure sensor voltage.
---------------------------------	---

NOTES	None.
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Conformity check with engine stopped and ignition on, or engine running, and engine coolant temperature > 80 °C

0 V ≤ PR290 ≤ 5 V

Carry out fault finding on the climate control computer (see **62B, Climate control**).

AFTER REPAIR	Carry out a road test, then check with the diagnostic tool .
---------------------	---

Fault finding - Interpretation of parameters

PR364	<u>CYLINDER NO. 1 FUEL FLOW CORRECTION</u>
-------	--

PARAMETER DEFINITION	This parameter indicates the cylinder's fuel flow correction in mg/st.
---------------------------------	---

NOTES	Special notes: Only perform these tests if the parameters do not correspond with the system operation programming.
--------------	--

Conformity check with engine stopped and ignition on

X = 0.0 mg/st. In the event of a fault, consult test 10 Poor injector operation.

Conformity check with engine running, engine coolant temperature > 80 °C
--

- 6 mg/st < X < 6 mg/st. In the event of a fault, consult test 10 Poor injector operation.

AFTER REPAIR	Carry out a road test, then check with the diagnostic tool.
---------------------	--

PR365	<u>CYLINDER NO. 4 FUEL FLOW CORRECTION</u>
--------------	--

PARAMETER DEFINITION	This parameter indicates the cylinder's fuel flow correction in mg/st.
---------------------------------	---

NOTES	Special notes: Only perform these tests if the parameters do not correspond with the system operation programming.
--------------	--

Conformity check with engine stopped and ignition on

X = 0.0 mg/st. In the event of a fault, consult test 10 Poor injector operation.

Conformity check with engine running, engine coolant temperature > 80 °C
--

- 6 mg/st < X < 6 mg/st. In the event of a fault, consult test 10 Poor injector operation.

AFTER REPAIR	Carry out a road test, then check with the diagnostic tool.
---------------------	--

PR381	<u>PARTICLE FILTER DOWNSTREAM TEMPERATURE</u>
-------	---

PARAMETER DEFINITION	This parameter indicates the particle filter downstream temperature in °C.
---------------------------------	--

NOTES	None
--------------	------

Conformity check with engine stopped and ignition on, or engine running, and engine coolant temperature > 80 °C

Indicates the **particle filter** downstream air temperature in °C.

PR381 ≈ PR382 Particle filter upstream temperature ≈ ± 200 °C

In the event of a fault, consult the interpretation of faults **DF309 Particle filter downstream temperature sensor** and **DF310 Particle filter upstream temperature sensor**.

AFTER REPAIR	Carry out a road test, then check with the diagnostic tool .
---------------------	---

EDC16CP33_V18_PR381/EDC16CP33_V1C_PR381/EDC16CP33_V54_PR381

/EDC16CP33_V20_PR381/EDC16CP33_V58_PR381/EDC16CP33_V5C_PR381/EDC16CP33_V24_PR381

PR382	<u>PARTICLE FILTER UPSTREAM TEMPERATURE</u>
--------------	---

PARAMETER DEFINITION	This parameter indicates the exhaust gas air temperature upstream of the particle filter in °C.
---------------------------------	---

NOTES	None
--------------	------

Conformity check with engine stopped and ignition on, or engine running, and engine coolant temperature > 80 °C

PR382 ≈ 200 °C

In the event of a fault, consult the interpretation of faults **DF309 Particle filter downstream temperature sensor** and **DF310 Particle filter upstream temperature sensor**.

AFTER REPAIR	Carry out a road test, then check with the diagnostic tool .
---------------------	---

EDC16CP33_V18_PR382/EDC16CP33_V1C_PR382/EDC16CP33_V54_PR382
/EDC16CP33_V20_PR382/EDC16CP33_V58_PR382/EDC16CP33_V5C_PR382/EDC16CP33_V24_PR382

Fault finding - Interpretation of parameters

PR383	<u>WEIGHT OF SOOT IN PARTICLE FILTER</u>
--------------	--

PARAMETER DEFINITION	This parameter indicates the weight of soot in the particle filter in g .
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NOTES	None
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Conformity check with engine stopped and ignition on, or engine running, and engine coolant temperature > 80 °C

PR383 < 56 g.

If the weight is greater than 56 g:

For all Vdiag (except 18): carry out an After-Sales regeneration. Run command **SC017 Particle filter regeneration** and follow the procedure given (see **Interpretation of commands**).

For Vdiag 18:

Reprogram the computer in **Vdiag 1C**.

Then apply the procedure corresponding to **Vdiag 1C**.

If there is a fault, refer to the interpretation of fault **DF315 Particle filter diff.* pressure sensor**.

*Diff: Differential

AFTER REPAIR	Carry out a road test, then check with the diagnostic tool .
---------------------	---

EDC16CP33_V18_PR383/EDC16CP33_V1C_PR383/EDC16CP33_V54_PR383

/EDC16CP33_V20_PR383/EDC16CP33_V58_PR383/EDC16CP33_V5C_PR383/EDC16CP33_V24_PR383

PR385	<u>EXHAUST SYSTEM FLOW</u>
-------	----------------------------

PARAMETER DEFINITION	This parameter indicates the exhaust pipe flow in m³/h .
---------------------------------	--

NOTES	None
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Conformity check with engine stopped and ignition on

When stationary **0 m³/h**

Conformity check with engine running, engine coolant temperature > 80 °C

20 m³/h < PR385 < 80 m³/h

AFTER REPAIR	Carry out a road test, then check with the diagnostic tool .
---------------------	---

PR391	<u>MILEAGE SINCE PARTICLE FILTER REPLACEMENT*</u>
--------------	---

PARAMETER DEFINITION	This parameter indicates the distance since the particle filter was last replaced in km .
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NOTES	None
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Conformity check with engine stopped and ignition on, or engine running, and engine coolant temperature > 80 °C

Indicates the mileage since the particle filter was replaced.

*REPLACMNT: REPLACEMENT

AFTER REPAIR	Carry out a road test, then check with the diagnostic tool .
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PR405	<u>CYLINDER NO. 2 FUEL FLOW CORRECTION</u>
--------------	--

PARAMETER DEFINITION	This parameter indicates the cylinder's fuel flow correction in mg/st.
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NOTES	None.
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Conformity check with engine stopped and ignition on

PR405 = 0.0 mg/st.
In the event of a fault, consult **test 10 Poor injector operation.**

Conformity check with engine running, engine coolant temperature > 80 °C

- 6 mg/st < PR405 < 6 mg/st.
In the event of a fault, consult **test 10 Poor injector operation.**

AFTER REPAIR	Carry out a road test, then check with the diagnostic tool.
---------------------	--

PR406	<u>CYLINDER NO. 3 FUEL FLOW CORRECTION</u>
-------	--

PARAMETER DEFINITION	This parameter indicates the cylinder's fuel flow correction in mg/st.
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NOTES	None.
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Conformity check with engine stopped and ignition on
--

PR406 = 0.0 mg/st. In the event of a fault, consult test 10 Poor injector operation.

Conformity check with engine running, engine coolant temperature > 80 °C
--

- 6 mg/st < PR406 < 6 mg/st. In the event of a fault, consult test 10 Poor injector operation.

AFTER REPAIR	Carry out a road test, then check with the diagnostic tool.
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PR412	<u>DISTANCE VALUE AT LAST SUCCESSFUL REGENERATION</u>
--------------	---

PARAMETER DEFINITION	This parameter indicates the distance value at the last successful regeneration in km .
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NOTES	None
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Conformity check with engine stopped and ignition on, or engine running, and engine coolant temperature > 80 °C

This parameter indicates the vehicle mileage at the last successful regeneration.

AFTER REPAIR	Carry out a road test, then check with the diagnostic tool .
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Fault finding - Interpretation of parameters

PR414	<u>PARTICLE FILTER DIFF. PRESSURE*</u>
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PARAMETER DEFINITION	This parameter indicates the particle filter differential pressure in mbar .
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NOTES	None
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Conformity check with engine stopped and ignition on

PR414 = 0 ± 1 mbar
If there is a fault, refer to the interpretation of fault **DF315 Particle filter differential pressure sensor**.

Conformity check with engine running, engine coolant temperature > 80 °C

10 mbar <PR 414 < 100 mbar
If there is a fault, refer to the interpretation of fault **DF315 Particle filter differential pressure sensor**.

*DIFF.: differential

AFTER REPAIR	Carry out a road test, then check with the diagnostic tool .
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PR415	<u>TIME SINCE LAST REGENERATION</u>
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PARAMETER DEFINITION	This parameter indicates the time since the last regeneration (in hours).
-----------------------------	---

NOTES	None
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Conformity check with engine stopped and ignition on, or engine running, and engine coolant temperature > 80 °C

Counter for time since last successful regeneration (in hours).

AFTER REPAIR	Carry out a road test, then check with the diagnostic tool .
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EDC16CP33_V18_PR415/EDC16CP33_V1C_PR415/EDC16CP33_V54_PR415
/EDC16CP33_V20_PR415/EDC16CP33_V58_PR415/EDC16CP33_V5C_PR415/EDC16CP33_V24_PR415

PR484	<u>FUEL REGULATION SOLENOID VALVE OCR*</u>
-------	--

PARAMETER DEFINITION	This parameter indicates the solenoid valve opening ratio as a percentage.
---------------------------------	--

Conformity check with engine stopped and ignition on

This parameter indicates the solenoid valve opening ratio as a percentage: 0 % . In the event of a fault, consult the interpretation of DF897 Pump pressure regulator circuit .
--

Conformity check with engine running, engine coolant temperature > 80 °C
--

This parameter indicates the solenoid valve opening ratio as a percentage: 35 % ± 5 . In the event of a fault, consult the interpretation of DF897 Pump pressure regulator circuit .

* Opening cyclic ratio signal

AFTER REPAIR	Carry out a road test, then check with the diagnostic tool .
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PR490	<u>ENGINE AIR FLOW</u>
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PARAMETER DEFINITION	This parameter indicates the flow of air entering the engine in mg/st .
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NOTES	None.
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Conformity check with engine stopped and ignition on

The inlet air flow is ± 0 mg/st .
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Conformity check with engine running, engine coolant temperature > 80 °C
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The inlet air flow is ± 500 mg/st .
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AFTER REPAIR	Carry out a road test, then check with the diagnostic tool .
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PR667	<u>TURBINE UPSTREAM TEMPERATURE</u>
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PARAMETER DEFINITION	This parameter indicates the turbine upstream temperature in °C.
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NOTES	None
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Conformity check with engine stopped and ignition on, or engine running, and engine coolant temperature > 80 °C

Indicates the turbine upstream air temperature in °C, **PR667 ≈ 200 °C**.
In the event of a fault, refer to the interpretation of fault **DF652 Turbine upstream temperature sensor circuit**.

AFTER REPAIR	Carry out a road test, then check with the diagnostic tool .
---------------------	---

EDC16CP33_V18_PR667/EDC16CP33_V1C_PR667/EDC16CP33_V54_PR667
/EDC16CP33_V20_PR667/EDC16CP33_V58_PR667/EDC16CP33_V5C_PR667/EDC16CP33_V24_PR667

PR668	<u>TURBINE UPSTREAM TEMPERATURE SENSOR VOLTAGE</u>
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PARAMETER DEFINITION	This parameter indicates the turbine upstream temperature sensor voltage in volts .
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NOTES	None
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Conformity check with engine stopped and ignition on, or engine running, and engine coolant temperature > 80 °C

PR668 ≈ 5 V In the event of a fault, refer to the interpretation of fault DF652 Turbine upstream temperature sensor circuit .
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AFTER REPAIR	Carry out a road test, then check with the diagnostic tool .
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EDC16CP33_V18_PR668/EDC16CP33_V1C_PR668/EDC16CP33_V54_PR668
/EDC16CP33_V20_PR668/EDC16CP33_V58_PR668/EDC16CP33_V5C_PR668/EDC16CP33_V24_PR668

PR739	<u>FUEL FLOW SOLENOID VALVE CURRENT</u>
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PARAMETER DEFINITION	This parameter indicates the current absorbed by the fuel flow solenoid valve.
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NOTES	Special notes: Only perform these tests if the parameters do not correspond with the system operation programming.
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Conformity check with engine stopped and ignition on

This parameter indicates the current absorbed by the fuel flow solenoid valve \approx 200 mA . In the event of a fault, consult the interpretation of DF897 Pump pressure regulator circuit .
--

Conformity check with engine running, engine coolant temperature > 80 °C
--

Indicates the current absorbed by the fuel flow solenoid valve \approx 300 mA . In the event of a fault, consult the interpretation of DF897 Pump pressure regulator circuit .

AFTER REPAIR	Carry out a road test, then check with the diagnostic tool .
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Fault finding - Interpretation of parameters

PR747	<u>DAMPER VALVE POSITION</u>
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PARAMETER DEFINITION	This parameter indicates the damper valve position as a percentage.
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NOTES	None.
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Conformity check with engine stopped and ignition on

When the engine is stopped PR747 = 0 % or when the ignition is on PR747 ≈ 5 %
In the event of a fault, consult the interpretation of faults **DF645 Damper valve position regulation, DF646 Damper valve position sensor and DF323 Damper valve.**

Conformity check with engine running, engine coolant temperature > 80 °C

At idle speed PR747 ≈ 5 %
In the event of a fault, consult the interpretation of faults **DF645 Damper valve position regulation, DF646 Damper valve position sensor and DF323 Damper valve.**

AFTER REPAIR	Carry out a road test, then check with the diagnostic tool .
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EDC16CP33_V18_PR747/EDC16CP33_V1C_PR747/EDC16CP33_V54_PR747
/EDC16CP33_V20_PR747/EDC16CP33_V58_PR747/EDC16CP33_V5C_PR747/EDC16CP33_V24_PR747

PR782	<u>TURBINE UPSTREAM PRESSURE SENSOR VOLTAGE</u>
-------	---

PARAMETER DEFINITION	This parameter indicates the turbine upstream pressure sensor voltage in volts .
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NOTES	Special notes: Only perform these tests if the parameters do not correspond with the system operation programming.
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Conformity check with engine stopped and ignition on, or engine running, and engine coolant temperature > 80 °C

X ≈ 5 V In the event of a fault consult the interpretation of fault DF651 Turbine upstream pressure sensor circuit .

AFTER REPAIR	Carry out a road test, then check with the diagnostic tool .
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PR784	<u>STORED DF312 No. 1</u>
PR785	<u>STORED DF312 No. 2</u>
PR786	<u>STORED DF312 No. 3</u>
PR787	<u>STORED DF312 No. 4</u>
PR788	<u>STORED DF312 No. 5</u>
PR789	<u>STORED DF312 No. 6</u>
PR790	<u>STORED DF312 No. 7</u>
PR791	<u>STORED DF312 No. 8</u>
PR792	<u>STORED DF312 No. 9</u>
PR793	<u>STORED DF312 No. 10</u>

PARAMETER DEFINITION	These parameters are shown in km .
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NOTES	Special notes: – These parameters must only be interpreted for DF312 Speed request if it is present or stored.
--------------	---

Conformity check with engine stopped and ignition on, or engine running, and engine coolant temperature > 80 °C

In the event of a fault, consult the interpretation of fault **DF312: Speed request**.

These parameters are used so that the history of the last ten illuminations of the particle filter warning light are known.

In **Vdiag 18, 1C, 54**:

Each parameter from **PR784 to PR793** records the distance when the particle filter warning light comes on which is associated with **DF312 Speed request**.

Each time the particle filter warning light comes on, the vehicle mileage is stored in the following parameter (PR+1). When all ten parameters have a value other than zero, and the particle filter warning light comes on again, the mileage for **PR784 Stored DF312 no. 1** is cleared and replaced by the new value.

AFTER REPAIR	Carry out a road test, then check with the diagnostic tool .
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EDC16CP33_V18_PR784/EDC16CP33_V18_PR785/EDC16CP33_V18_PR786/EDC16CP33_V18_PR787/EDC16CP33_V18_PR788
 /EDC16CP33_V18_PR789/EDC16CP33_V18_PR790/EDC16CP33_V18_PR791/EDC16CP33_V18_PR792/EDC16CP33_V18_PR793
 /EDC16CP33_V1C_PR784/EDC16CP33_V1C_PR785/EDC16CP33_V1C_PR786/EDC16CP33_V1C_PR787/EDC16CP33_V1C_PR788
 /EDC16CP33_V1C_PR789/EDC16CP33_V1C_PR790/EDC16CP33_V1C_PR791/EDC16CP33_V1C_PR792/EDC16CP33_V1C_PR793
 /EDC16CP33_V54_PR784/EDC16CP33_V54_PR785/EDC16CP33_V54_PR786/EDC16CP33_V54_PR787/EDC16CP33_V54_PR788
 /EDC16CP33_V54_PR789/EDC16CP33_V54_PR790/EDC16CP33_V54_PR791/EDC16CP33_V54_PR792/EDC16CP33_V54_PR793
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 /EDC16CP33_V58_PR787/EDC16CP33_V5C_PR787/EDC16CP33_V20_PR788/EDC16CP33_V58_PR788/EDC16CP33_V5C_PR788
 /EDC16CP33_V20_PR789/EDC16CP33_V58_PR789/EDC16CP33_V5C_PR789/EDC16CP33_V20_PR790/EDC16CP33_V58_PR790
 /EDC16CP33_V5C_PR790/EDC16CP33_V20_PR791/EDC16CP33_V58_PR791/EDC16CP33_V5C_PR791/EDC16CP33_V20_PR792
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 /EDC16CP33_V24_PR784/EDC16CP33_V24_PR785/EDC16CP33_V24_PR786/EDC16CP33_V24_PR787/EDC16CP33_V24_PR788
 /EDC16CP33_V24_PR789/EDC16CP33_V24_PR790/EDC16CP33_V24_PR791/EDC16CP33_V24_PR792/EDC16CP33_V24_PR793

Fault finding - Interpretation of parameters

PR784 PR785 PR786 PR787 PR788 PR789 PR790 PR791 PR792 PR793 CONTINUED	
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For the other Vdiag:

Each parameter from **PR784 to PR793** contains a record of the vehicle distance when the particle filter warning light illuminates. For each parameter there is an associated fault: **DF312 "Speed request"**

PR784 to PR793 operate through successive copying (when the particle filter warning light comes on, the value of **PR784** is copied to **PR785**, the value of **PR785** is copied to **PR786** and so on).

When there are more than ten records, the value of **PR793 Stored DF312 no. 10** is overwritten. The new mileage is assigned to **PR784**.

If none of the parameters between **PR784** and **PR793** is available in the sub-function, this means than no data has been saved. The parameters appear in the sub-function when they have a value above zero.

AFTER REPAIR

Carry out a road test, then check with the **diagnostic tool**.

PR794 PR795 PR796 PR797 PR798 PR799 PR800 PR801 PR802 PR803	<u>STORED REGENERATION FAILURE No. 1</u> <u>STORED REGENERATION FAILURE No. 2</u> <u>STORED REGENERATION FAILURE No. 3</u> <u>STORED REGENERATION FAILURE No. 4</u> <u>STORED REGENERATION FAILURE No. 5</u> <u>STORED REGENERATION FAILURE No. 6</u> <u>STORED REGENERATION FAILURE No. 7</u> <u>STORED REGENERATION FAILURE No. 8</u> <u>STORED REGENERATION FAILURE No. 9</u> <u>STORED REGENERATION FAILURE No. 10</u>
--	---

PARAMETER DEFINITION	These parameters are shown in km .
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NOTES	Special notes: – These parameters must only be interpreted for DF312 Speed request if it is present or stored.
--------------	---

Conformity check with engine stopped and ignition on, or engine running, and engine coolant temperature > 80 °C

<p>These parameters are used so that the history of the last ten failed regenerations when driving is known.</p> <p>In Vdiag 18, 1C, 54: Each one of these parameters contains the vehicle mileage for a failed particle filter regeneration when driving. Each parameter relates to an engine status. The STATUSES and associated PARAMETERS are recorded simultaneously (for example PR797 Stored regeneration failure no. 4 is associated with ET709 Stored engine status no. 4).</p> <p>Each new recorded value is stored under the following PR (PR+1).</p> <p>When all ten parameters have a value other than zero, and a regeneration failure when driving occurs, the mileage for PR794 Stored regeneration failure No. 1 is cleared and replaced by the new value.</p>

AFTER REPAIR	Carry out a road test, then check with the diagnostic tool .
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EDC16CP33_V18_PR794/EDC16CP33_V18_PR795/EDC16CP33_V18_PR796/EDC16CP33_V18_PR797/EDC16CP33_V18_PR798
 /EDC16CP33_V18_PR799/EDC16CP33_V18_PR800/EDC16CP33_V18_PR801/EDC16CP33_V18_PR802/EDC16CP33_V18_PR803
 /EDC16CP33_V1C_PR794/EDC16CP33_V1C_PR795/EDC16CP33_V1C_PR796/EDC16CP33_V1C_PR797/EDC16CP33_V1C_PR798
 /EDC16CP33_V1C_PR799/EDC16CP33_V1C_PR800/EDC16CP33_V1C_PR801/EDC16CP33_V1C_PR802/EDC16CP33_V1C_PR803
 /EDC16CP33_V54_PR804/EDC16CP33_V54_PR795/EDC16CP33_V54_PR796/EDC16CP33_V54_PR797/EDC16CP33_V54_PR798
 /EDC16CP33_V54_PR799/EDC16CP33_V54_PR800/EDC16CP33_V54_PR801/EDC16CP33_V54_PR802/EDC16CP33_V54_PR803
 /EDC16CP33_V20_PR794/EDC16CP33_V58_PR794/EDC16CP33_V5C_PR794/EDC16CP33_V20_PR795/EDC16CP33_V58_PR795
 /EDC16CP33_V5C_PR795/EDC16CP33_V20_PR796/EDC16CP33_V58_PR796/EDC16CP33_V5C_PR796/EDC16CP33_V20_PR797
 /EDC16CP33_V58_PR797/EDC16CP33_V5C_PR797/EDC16CP33_V20_PR798/EDC16CP33_V58_PR798/EDC16CP33_V5C_PR798
 /EDC16CP33_V20_PR799/EDC16CP33_V58_PR799/EDC16CP33_V5C_PR799/EDC16CP33_V20_PR800/EDC16CP33_V58_PR800
 /EDC16CP33_V5C_PR800/EDC16CP33_V20_PR801/EDC16CP33_V58_PR801/EDC16CP33_V5C_PR801/EDC16CP33_V20_PR802
 /EDC16CP33_V58_PR802/EDC16CP33_V5C_PR802/EDC16CP33_V20_PR803/EDC16CP33_V58_PR803/EDC16CP33_V5C_PR803
 /EDC16CP33_V24_PR794/EDC16CP33_V24_PR795/EDC16CP33_V24_PR796/EDC16CP33_V24_PR797/EDC16CP33_V24_PR798
 /EDC16CP33_V24_PR799/EDC16CP33_V24_PR800/EDC16CP33_V24_PR801/EDC16CP33_V24_PR802/EDC16CP33_V24_PR803

Fault finding - Interpretation of parameters

<p>PR794 PR795 PR796 PR797 PR798 PR799 PR800 PR801 PR802 PR803 CONTINUED</p>	
--	--

For the other Vdiag:

Each parameter between **PR794** and **PR803** contains the vehicle distance when particle filter regeneration fails when driving. Each parameter relates to an engine status. They are recorded simultaneously (for example **PR797** is associated with ET709 "Stored engine status no. 4").

PR794 to **PR803** operate through successive copying (when regeneration fails whilst driving, the value of **PR794** is copied to **PR795**, the value of **PR795** is copied to **PR796** and so on).

When there are more than ten stored records, the value of **PR803** is deleted. The new mileage is assigned to **PR794**.

AFTER REPAIR

Carry out a road test, then check with the **diagnostic tool**.

PR816 PR817 PR818 PR819 PR820 PR821 PR822 PR823 PR824 PR825	<u>STORED REGENERATION START No. 1</u> <u>STORED REGENERATION START No. 2</u> <u>STORED REGENERATION START No. 3</u> <u>STORED REGENERATION START No. 4</u> <u>STORED REGENERATION START No. 5</u> <u>STORED REGENERATION START No. 6</u> <u>STORED REGENERATION START No. 7</u> <u>STORED REGENERATION START No. 8</u> <u>STORED REGENERATION START No. 9</u> <u>STORED REGENERATION START No. 10</u>
--	---

PARAMETER DEFINITION	These parameters are shown in km .
-----------------------------	---

NOTES	Special notes: The interpretation of these statuses must only be carried out on ALP9: Particle filter warning light comes on too frequently .
--------------	--

Conformity check with engine stopped and ignition on, or engine running, and engine coolant temperature > 80 °C

These parameters are used so that the history of the last ten illuminations of the particle filter warning light are known.

In Vdiag 18, 1C, 54: Each parameter between PR816 and PR825 contains the mileage of the vehicle at the start of particle filter regeneration when driving. Each parameter is associated with a status for "Stored regeneration request status". They are recorded at the same time (for example PR819 "Saved regeneration start No. 4" is associated with ET745 "Regeneration request status record No. 4").
--

Each new recorded value is stored under the following PR (PR+1). When all ten parameters have a value other than zero, and a new regeneration when driving starts, the mileage for PR816 Stored regeneration start No. 1 is cleared and replaced by the new value.
--

AFTER REPAIR	Carry out a road test, then check with the diagnostic tool .
---------------------	---

EDC16CP33_V18_PR816/EDC16CP33_V18_PR817/EDC16CP33_V18_PR818/EDC16CP33_V18_PR819/EDC16CP33_V18_PR820/EDC16CP33_V18_PR821/EDC16CP33_V18_PR822/EDC16CP33_V18_PR823/EDC16CP33_V18_PR824/EDC16CP33_V18_PR825/EDC16CP33_V1C_PR816/EDC16CP33_V1C_PR817/EDC16CP33_V1C_PR818/EDC16CP33_V1C_PR819/EDC16CP33_V1C_PR820/EDC16CP33_V1C_PR821/EDC16CP33_V1C_PR822/EDC16CP33_V1C_PR823/EDC16CP33_V1C_PR824/EDC16CP33_V1C_PR825/EDC16CP33_V54_PR816/EDC16CP33_V54_PR817/EDC16CP33_V54_PR818/EDC16CP33_V54_PR819/EDC16CP33_V54_PR820/EDC16CP33_V54_PR821/EDC16CP33_V54_PR822/EDC16CP33_V54_PR823/EDC16CP33_V54_PR824/EDC16CP33_V54_PR825/EDC16CP33_V20_PR816/EDC16CP33_V58_PR816/EDC16CP33_V5C_PR816/EDC16CP33_V20_PR817/EDC16CP33_V58_PR817/EDC16CP33_V5C_PR817/EDC16CP33_V20_PR818/EDC16CP33_V58_PR818/EDC16CP33_V5C_PR818/EDC16CP33_V20_PR819/EDC16CP33_V58_PR819/EDC16CP33_V5C_PR819/EDC16CP33_V20_PR820/EDC16CP33_V58_PR820/EDC16CP33_V5C_PR820/EDC16CP33_V20_PR821/EDC16CP33_V58_PR821/EDC16CP33_V5C_PR821/EDC16CP33_V20_PR822/EDC16CP33_V58_PR823/EDC16CP33_V5C_PR823/EDC16CP33_V20_PR824/EDC16CP33_V58_PR824/EDC16CP33_V5C_PR824/EDC16CP33_V20_PR825/EDC16CP33_V58_PR825/EDC16CP33_V5C_PR825/EDC16CP33_V24_PR816/EDC16CP33_V24_PR817/EDC16CP33_V24_PR818/EDC16CP33_V24_PR819/EDC16CP33_V24_PR820/EDC16CP33_V24_PR821/EDC16CP33_V24_PR822/EDC16CP33_V24_PR823/EDC16CP33_V24_PR824/EDC16CP33_V24_PR825

<p>PR816 PR817 PR818 PR819 PR820 PR821 PR822 PR823 PR824 PR825 CONTINUED</p>	
---	--

For the other Vdiag:

Each parameter from **PR816 to PR825** stores the distances for the start of particle filter regenerations for which the request status is stored by **ET742 "Stored regen.* request status No.1" to ET751 "Stored regen.* request status No.10"** (e.g. **PR819 "Stored regeneration start No. 4"** is related to **ET745 "Stored regen.* request status No.4"**).

Each time a new regeneration is started when driving, the vehicle mileage is recorded in **PR816**, as well as its status in **ET742 "Stored regen.* request status No.1"**.

PR816 to PR825 operate through successive copying (when regeneration starts, the value of **PR816** is copied to **PR817**, the value of **PR817** is copied to **PR818** and so on).

*regen.: Regeneration

<p>AFTER REPAIR</p>	<p>Carry out a road test, then check with the diagnostic tool.</p>
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PR850	<u>FUEL FLOW SOLENOID VALVE CURRENT SETPOINTS</u>
--------------	---

PARAMETER DEFINITION	This parameter indicates the setpoint for the current absorbed by the fuel flow solenoid valve.
-----------------------------	---

NOTES	None.
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Conformity check with engine stopped and ignition on, or engine running, and engine coolant temperature > 80 °C

This parameter indicates the setpoint for the current absorbed by the fuel flow solenoid valve.

*SOLENOID VALVE: solenoid valve

AFTER REPAIR	Carry out a road test, then check with the diagnostic tool .
---------------------	---

EDC16CP33_V18_PR850/EDC16CP33_V1C_PR850/EDC16CP33_V54_PR850
/EDC16CP33_V20_PR850/EDC16CP33_V58_PR850/EDC16CP33_V5C_PR850/EDC16CP33_V24_PR850

PR858	<u>FIRST OPEN DAMPER VALVE OFFSET</u>
-------	---------------------------------------

PARAMETER DEFINITION	This parameter indicates the damper valve opening ratio during the first damper valve offset.
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NOTES	None.
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Conformity check with engine stopped and ignition on, or engine running, and engine coolant temperature > 80 °C

Indicates the **damper valve opening offset ratio**.

PR858 ≈ PR861 Last open damper valve offset, these two values should be similar.

In the event of a fault, consult the interpretation of faults **DF645 Damper valve position regulation**, **DF646 Damper valve position sensor** and **DF323 Damper valve**.

AFTER REPAIR	Carry out a road test, then check with the diagnostic tool .
---------------------	---

PR859	<u>FIRST CLOSED DAMPER VALVE OFFSET</u>
--------------	---

PARAMETER DEFINITION	This parameter indicates the damper valve closing ratio for the first damper valve offset.
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NOTES	None.
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Conformity check with engine stopped and ignition on, or engine running, and engine coolant temperature > 80 °C

Indicates the **damper valve closing offset ratio**

PR859 ≈ PR860 Last closed damper valve offset, these two values should be similar.

In the event of a fault, consult the interpretation of faults **DF645 Damper valve position regulation**, **DF646 Damper valve position sensor** and **DF323 Damper valve**.

AFTER REPAIR	Carry out a road test, then check with the diagnostic tool .
---------------------	---

PR860	<u>LAST CLOSED DAMPER VALVE OFFSET</u>
--------------	--

PARAMETER DEFINITION	This parameter indicates the damper valve closing ratio for the last damper valve offset.
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NOTES	None.
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Conformity check with engine stopped and ignition on, or engine running, and engine coolant temperature > 80 °C

Indicates the **damper valve closing offset ratio**

PR860 ≈ **PR859 First closed damper valve offset**, these two values should be similar.

In the event of a fault, consult the interpretation of faults **DF645 Damper valve position regulation**, **DF646 Damper valve position sensor** and **DF323 Damper valve**.

AFTER REPAIR	Carry out a road test, then check with the diagnostic tool .
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Fault finding - Interpretation of parameters

PR861	<u>LAST OPEN DAMPER VALVE OFFSET</u>
-------	--------------------------------------

PARAMETER DEFINITION	This parameter indicates the damper valve opening ratio for the last damper valve offset.
-----------------------------	---

NOTES	None.
--------------	-------

Conformity check with engine stopped and ignition on, or engine running, and engine coolant temperature > 80 °C

Indicates the **damper valve opening offset ratio**.

PR861 ≈ PR858 First open damper valve offset, these two values should be similar.

In the event of a fault, consult the interpretation of faults **DF645 Damper valve position regulation**, **DF646 Damper valve position sensor** and **DF323 Damper valve**.

AFTER REPAIR	Carry out a road test, then check with the diagnostic tool .
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Fault finding - Interpretation of parameters

PR873	<u>OIL OXIDATION SIGNAL</u>
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PARAMETER DEFINITION	This parameter indicates the vehicle mileage when the oil oxidation threshold is reached.
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NOTES	The interpretation of this parameter should only be applied if the OCS (oil control system) program is activated on the instrument panel. From the instrument panel computer, check the configuration reading LC106 O.C.S. is "WITH" .
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Conformity check with engine stopped and ignition on, or engine running, and engine coolant temperature > 80 °C, without electrical consumer

The oil status is calculated by the oxidation program in the injection computer, depending on the engine revs.

When this calculation reaches a certain threshold before the end of the oil service interval, the injection computer sends a signal to the instrument panel which then displays **Schedule service**. **PR873** corresponds to the vehicle mileage when this signal is sent.

Then the instrument panel computer deducts **900 miles (1500 km)** before displaying the message **Carry out service**.

IMPORTANT

When the message **Schedule service** appears on the instrument panel, the customer must have the oil changed within the remaining **900 miles (1500 km)**.

AFTER REPAIR	Carry out a road test, then check with the diagnostic tool .
--------------	---

Fault finding - Interpretation of parameters

PR874	<u>LAST SERVICE</u>
PARAMETER DEFINITION	This parameter indicates the vehicle mileage the last time a service was carried out. It is updated when the oil service parameters are reinitialised in the instrument panel.
NOTES	None

AFTER REPAIR	Carry out a road test, then check with the diagnostic tool .
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Fault finding - Interpretation of parameters

PR875	<u>OIL DILUTION SIGNAL</u>
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PARAMETER DEFINITION	This parameter indicates the vehicle mileage when the oil dilution threshold is reached.
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NOTES	The interpretation of this parameter should only be applied if the OCS (oil control system) program is activated on the instrument panel. From the instrument panel computer, check the configuration reading LC106 O.C.S. is "WITH" .
--------------	--

Conformity check with engine stopped and ignition on, or engine running, and engine coolant temperature > 80 °C, without electrical consumer

The injection computer assesses the dilution rate of the engine oil according to the customer's driving style.

When this dilution rate reaches a certain threshold before the end of the oil service interval, the injection computer sends a signal to the instrument panel which then displays **Schedule service**. **PR875** corresponds to the vehicle mileage when this signal is sent.

IMPORTANT

When the message **Schedule service** appears in the instrument panel, the customer must have the oil changed, in order not to damage the engine.

AFTER REPAIR	Carry out a road test, then check with the diagnostic tool .
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DIESEL INJECTION

Fault finding - Command summary table

13B

NOTES	The commands are run to check the correct operation of certain components or to replace parts.
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Tool command	Diagnostic tool title
SC001	Write saved data
SC002	Enter injector codes
SC003	Save computer data
SC017	Regenerate particle filter (Except Vdiag 18)
SC031	Operational fault finding of cylinders (except Vdiag 18)
SC035	High pressure fuel circuit fault finding
SC036	Reinitialise programming
RZ001	Fault memory
RZ005	Programming
AC004	Turbocharging solenoid valve
AC012	Damper valve
AC031	Heating element no. 3 relay
AC037	Preheating relay
AC063	Heating element no. 1 relay
AC064	Heating element relay no. 2
AC103	EGR by-pass
AC153	High-speed fan assembly (except Mégane II ph2 and Scénic II ph2).
AC154	Low-speed fan assembly (except Mégane II ph2 and Scénic II ph2).
AC195	Electric coolant pump
AC225	Rail pressure regulator
AC226	Pump pressure regulator
VP010	Enter VIN
VP036	Inhibit fuel supply.

SC001	<u>WRITE SAVED DATA</u>
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NOTES	<p>To use this command, first save the data with the SC003 Save computer data command.</p> <p>Writing is carried out after the computer has been reprogrammed or replaced.</p> <p>Engine stopped.</p>
-------	--

Select application **SC001 Write saved data** from the **diagnostic tool**.

Note:

If no files have been saved beforehand, a write error will appear when command **SC001 Write saved data** is run. Validating this command writes the data saved using command **SC003 Save computer data**.

The data is as follows:

- vehicle-specific idling,
- injector codes,
- various offsets for components, EGR, damper valve,
- options available on the vehicle and generated by the computer.

This data will configure the computer and will prevent:

- engine malfunction after reprogramming or replacing the computer,
- incorrect interpretation of the information provided by the **diagnostic tool**.

AFTER REPAIR	Carry out a road test, then check with the diagnostic tool .
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SC002	<u>ENTER INJECTOR CODES</u>
--------------	-----------------------------

NOTES	This command is carried out after the replacement of one or more injectors. Engine stopped.
--------------	--

To enter this data, select command **SC002 Enter injector codes** on the **diagnostic tool**.

Procedure to be followed:

- Read the 7 character alphanumeric codes engraved on the upper section of the injector bodies. **The IMA codes must be read from left to right** (see illustration in **MR 402 (Vel-Satis ph2)**, **MR 395 (Laguna II ph2)**, **MR 364 (Mégane II ph2)**, **MR 370 (Scénic II ph2)**, **MR 361 (Espace IV ph2)**, **Mechanical, 13B Diesel injection, Diesel injector, Removal - Refitting**)

Note: it is possible to confuse the following characters:

- Figure "1" for the letter "I" and "L"
- Figure "2" for the letter "Z"
- Figure "5" with the letter "S"
- Figure "6" with the letter "G"
- Figure "8" with the letter "B"

AFTER REPAIR	Carry out a road test, then check with the diagnostic tool .
---------------------	---

SC002 CONTINUED

After programming or reprogramming the computer, it is essential to enter the 4 injector codes before confirming the entry.

- Enter each injector code for the associated cylinder.
- **Important:** cylinder no. 1 located at timing end.
- Confirm the change of injector code configuration.
- When the command is completed, the modified codes appear in the current column.
- Check that the codes correspond to those read earlier.

If the codes entered appear in neither the current column nor the desired column, check the codes read and make sure the data has been entered correctly.

- Exit fault finding mode.
- Switch off the ignition and **wait** for the message to appear on the **diagnostic tool** (maximum time **8 min**): **"Loss of communication with the computer: EDC16 CP33, check the connection of the tool and the computer supply voltage"**.
- Switch the ignition back on and check for faults.
- The **DF066 Injector code(s)** should be stored.

If **DF066 Injector code(s)** is still present, the command has not been performed correctly.

Start the procedure again and follow the instructions.

If this is still not effective, follow the procedure below:

A fault could cause the **DF066 Injector code(s)** to be reported and also incorrect confirmation of command **SC002**.

If power latch does not occur after switching the ignition off, the injection computer will not store the new injector codes.

- Switch off the ignition and wait for **the message to appear on the diagnostic tool (maximum time 8 min): "Loss of communication with the computer: EDC16 CP33 Injection, check the connection of the tool and the computer supply voltage"**.

If all these checks do not enable the command to be confirmed, contact the Techline.

AFTER REPAIR

Carry out a road test, then check with the **diagnostic tool**.

Fault finding - Interpretation of commands

SC003	<u>SAVE COMPUTER DATA</u>
--------------	---------------------------

NOTES	This save is performed before reprogramming or replacing the computer. Engine stopped.
--------------	---

Select application SC003 Save computer data on the **diagnostic tool**.

Confirming this command saves the following vehicle-specific data:

- Vehicle-specific idling.
- Injector code(s).
- Options available on the vehicle and managed by the computer.
- Various offsets for components, EGR, damper valve.

This information will be saved in the diagnostic tool.

After saving has finished, use the command **SC001 Enter saved data** to be able to set the new computer parameters, after programming and reprogramming.

AFTER REPAIR	Carry out a road test, then check with the diagnostic tool .
---------------------	---

SC017	<u>PARTICLE FILTER REGENERATION</u> <u>(Except Vdiag 18)</u>
-------	---

NOTES	Only run this command after interpretation of the following faults: <ul style="list-style-type: none">– DF308 Clogged particle filter,– DF311: Failed regenerations limit exceeded– DF312: Speed request.
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WARNING

- **Respect the cleanliness guidelines and safety advice (see MR364 (Mégane II ph2), MR370 (Scénic II ph2), MR 395 (Laguna II ph2), 353 (VelSatis ph2), 361 (Espace IV ph2), Mechanical 19B Exhaust, Particle filter: Cleaning) and follow the procedure given.**

SAFETY INSTRUCTIONS TO BE FOLLOWED:

The regeneration causes exhaust fumes and high temperatures.

It is strongly recommended that you put the vehicle outside during regeneration.

If it is not possible to carry out regeneration outside, check that the extractor fan can withstand the very high regeneration temperatures (**400 °C at the exhaust outlet**).

Perform regeneration on a surface free from fire risks (oil, dry leaves, etc.). **Nothing should be left in the vicinity of the exhaust pipe.**

WARNING:

Check the engine oil level before running the command to avoid any engine racing. The oil level should be between the minimum and maximum levels.

Before carrying out regeneration of the particle filter, always switch off all electrical consumers.

IF NECESSARY:

The regeneration can be stopped by pressing the engine Start button twice briefly (less than 3 seconds).

Switch off the ignition and wait for the message to appear on the **diagnostic tool** (maximum time **8 min**): **"Loss of communication with the computer: EDC16 CP33, check the connection of the tool and the computer supply voltage"**. before switching on the ignition again.

PROCEDURE TO BE FOLLOWED:

To run this command, select the command mode on the **diagnostic tool**, and select command **SC017 Regenerate particle filter**.

At the end of regeneration, a message appears to indicate whether the regeneration was successful and the operations which are to be carried out (**filter replacement, oil service mandatory or not, etc.**).

AFTER REPAIR	Carry out a road test, then check with the diagnostic tool .
--------------	---

SC017 CONTINUED 1

DESCRIPTION OF THE PROCESS

Particle filter regeneration takes place in 3 stages (values given as a guide only):

- **Heating phase:** the speed is fixed or varies around **3000 rpm**.
This phase lasts at least **6 minutes**, until the coolant temperature is above **80 °C**.
- **Regeneration phase:** the speed is fixed or varies around **2000 rpm**. Engine injection is retarded. The exhaust fumes rise in temperature and burn the soot retained in the particle filter. The **particle filter downstream temperature** starts to rise after the **particle filter upstream temperature** due to the volume of the particle filter. Then the combustion of the soot stored in the particle filter causes the **particle filter downstream temperature** to increase, possibly reaching more than **700 °C** depending on the amount of soot in the filter (with a **particle filter upstream temperature** of approximately **600 °C**). This phase lasts about **30 minutes**.
- **Cooling phase:** the engine speed is fixed or varies around **2000 rpm**.
Engine injection returns to normal and the exhaust gases cool the particle filter.
This phase lasts **3 minutes**. At the end of this period, the engine speed returns to idle speed or remains fixed at **2000 rpm**.

The process lasts at least 40 minutes (the regeneration time will be increased depending on how long it takes for the coolant to heat up to **80 °C**).

CONFIRMING THE REGENERATION PROCESS

At the end of regeneration, a message appears to announce whether the regeneration was successful:

- **particle filter regeneration successful:** regeneration proceeded correctly. Change the engine oil if a message on the **CLIP diagnostic tool** requests it.
- **Particle filter too full - replace the particle filter:** regeneration has failed. The weight of soot in the particle filter is so great that it is creating back-pressure. Deal with any faults that appear or replace the particle filter. Run command **SC036: Reinitialise programming** and select **After particle filter replacement**.
- **Failed particle filter regeneration:** the procedure has failed because there is insufficient heat upstream of the turbine. Apply **test 11 "Temperature upstream of turbine too low"**.

In all cases, carry out the following operations:

- switch off the ignition and wait for the message to appear on the **diagnostic tool** (maximum time **8 min**): **"Loss of communication with the computer: EDC16 CP33, check the connection of the tool and the computer supply voltage"**,
- switch on the ignition and establish dialogue with the injection computer,
- run command **SC036 Reinitialise programming**;
- depending on the operation carried out, select **After particle filter regeneration with the diagnostic tool** or **After particle filter replacement**,

AFTER REPAIR

Carry out a road test, then check with the **diagnostic tool**.

SC017
CONTINUED 2

CONFIRMING THE REGENERATION PROCESS (continued):

- **switch off the ignition and wait for** the message to appear on the **diagnostic tool** (maximum time **8 min**):
"Loss of communication with the computer: EDC16 CP33, check the connection of the tool and the computer supply voltage",
- then switch on the ignition again,
- **clear the Present or Stored** faults from the computer memory (**operation to be carried out within 3 minutes of switching on the ignition**).

If **DF308** or **DF312** are still present, contact Techline.

Note:

The engine oil must be changed and the oil filter replaced in the following cases:

- following After-Sales regeneration **only** if a message on the **CLIP diagnostic tool** requests it.
- After changing the particle filter after **DF311 "Failed regenerations limit exceeded"**,
- after a second regeneration (when two successive regenerations).

AFTER REPAIR

Carry out a road test, then check with the **diagnostic tool**.

SC031	<u>OPERATIONAL FAULT FINDING OF CYLINDERS</u>
--------------	---

NOTES	<p>This command is used to perform fault finding on the output of each cylinder and each injector, and is applied to all of the Vdiags except Vdiag 18.</p> <p>Note: For Vdiag 18, check that the fuel flow correction value for parameters PR364 "Cylinder no.1 fuel flow correction", PR365 "Cylinder no.4 fuel flow correction", PR405 "Cylinder no.2 fuel flow correction" and PR406 "Cylinder no.3 fuel flow correction" is between -5 and +5 mg/st.</p>
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Reminder: cylinder no. 1 is located at the timing end.

Procedure to be followed:

- select scenario **SC031: Cylinder operational fault finding**,
- once the conditions have been met, press the **Enter** button; the test will take approximately **5 minutes**,
- the tool displays "**cylinder no. 1 cut-off**", and the engine speed alters when the cylinder cuts off; then the procedure is the same as for the other three cylinders,
- the **diagnostic tool** displays the results,
- end of test.

Interpretation of correct results:

- If the displayed results are "**VALID**", all the cylinders and injectors are correct. There is no need for any operation.

	Results	Interpretation of results
Cylinder 1	VALID	No operation
Cylinder 2	VALID	No operation
Cylinder 3	VALID	No operation
Cylinder 4	VALID	No operation

- If a displayed result is "**INVALID**", the cylinder or injector is not correct.

	Difference compared to average	Results	Interpretation of results
Cylinder X	Negative number or Positive number	INVALID	Carry out the checks described below.

Apply **part B of test 10 "Poor injector operation"** to continue fault finding.

AFTER REPAIR	Carry out a road test, then check with the diagnostic tool .
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SC031 CONTINUED

If the result of application **SC031** is invalid, run command **SC037 Compression test** in **automatic mode**.

Check whether the cylinder indicated as not operating correctly by application **SC031** is also indicated by application **SC037**.

- If application **SC037** indicates the same cylinder faulty or no cylinder faulty, check all the cylinders using a compression gauge, running application **SC037** in **manual mode**.
- If application **SC037** does not indicate any faulty cylinder, replace the injector concerned

AFTER REPAIR

Carry out a road test, then check with the **diagnostic tool**.

SC035	<u>HIGH PRESSURE FUEL CIRCUIT FAULT FINDING</u>
--------------	---

NOTES	This command is used to interpret the state of the high pressure fuel circuit (high pressure pump, rail, injectors and high pressure supply pipes).
--------------	---

To run this command, select application **SC035 High pressure fuel circuit fault finding** on the **diagnostic tool**.

Procedure to be followed:

- select scenario **SC035 High-pressure fuel circuit fault finding**,
- once conditions are met, select **confirm**,
- with the command in progress: do not operate on the vehicle,
- switch off the engine at the end of the test,
- the tool displays the results,
- end of test.

Interpretation of correct results:

- If the results displayed are **OK**, the entire high pressure fuel circuit is in order. There is no need for any operation.

Stage X (X is the variable from 1 to 4)	Rail pressure raise time	Rail pressure dump time	Interpretation of results
Stage X	OK	OK	No operation
Step 5		OK	No operation

Interpretation of incorrect results:

- Is one of the value definitions for the various displayed stages is "**TOO SLOW**" or "**TOO FAST**", see the following table:

Stage X (X is the variable from 1 to 4)	Rail pressure raise time	Rail pressure dump time	Interpretation of results
Stage X	TOO SLOW	TOO SLOW	Checking 1
Stage X	TOO SLOW	TOO FAST	Checking 2
Stage X	TOO SLOW	OK	Checking 3
Stage X	OK	TOO SLOW	Checking 4
Stage X	OK	TOO FAST	Checking 5
Step 5		TOO FAST	Checking 5

AFTER REPAIR	Carry out a road test, then check with the diagnostic tool .
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SC035
CONTINUED

Explanation of results interpretation:

Check 1:

- Run **test: 10 Incorrect injector operation**.
- Apply **ALP6 Fuel circuit leaks**.
- Apply **test 3: Low pressure circuit check**.
- Replace the high pressure pump.

Check 2:

- Run **test: 10 Incorrect injector operation**.
- Apply **ALP6 Fuel circuit leaks**.
- Run the part of **test 3 Low pressure circuit test** which relates to the fuel filter.
- Replace the high pressure pump.
- Check the injector return flow and the injectors.
- Check the rail pressure regulator by activating command **AC225 "Rail pressure regulator"**.

Check 3:

- Run **test: 10 Incorrect injector operation**.
- Apply **test 3: Low pressure circuit check**.
- Replace the high pressure pump.

Check 4:

- Replace the high pressure pump.

Check 5:

- Check the injector return flow and the injectors.
- Check the rail pressure regulator by activating command **AC225 "Rail pressure regulator"**.

Consult the Repair Manual according to the various checks (from 1 to 5), see **MR 395 (Laguna II ph2)**, **MR 364 (Mégane II ph2)**, **MR 370 (Scénic II ph2)**, **MR 405 (Espace IV ph2)**, **MR 402 (Vel-Satis ph2)**, **Mechanical 13B Diesel injection, Injector rail, Removal - Refitting**.
Repair if necessary.

AFTER REPAIR

Carry out a road test, then check with the **diagnostic tool**.

Fault finding - Interpretation of commands

SC036	<u>REINITIALISE PROGRAMMING</u>
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NOTES	<p>This command is used to reset the computer parameters according to the type of operation or component repaired or replaced from the following list:</p> <ul style="list-style-type: none">– Injector(s)– the EGR valve,– damper valve;– after particle filter replacement,– after particle filter regeneration using the CLIP diagnostic tool,– after replacing the injection computer without the possibility of saving.– heater plug(s). <p>Ignition on, engine stopped.</p>
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To run this command, in the **CLIP diagnostic tool**, select scenario **SC036 Reinitialise programming**.

Procedure to be followed:

- on the main screen, select the component to reinitialise after an operation (removal/refitting, regeneration or replacement of component),
- select **YES** then **OK** to begin reinitialisation,
- select **Finish** on the **Configuration done** screen to return to the main screen,
- end of operation.

AFTER REPAIR	Carry out a road test, then check with the diagnostic tool .
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Fault finding - Interpretation of commands

RZ005	<u>PROGRAMMING</u>
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NOTES	This command enables you to reinitialise the entire computer configuration according to the vehicle.
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Command **RZ005** reconfigures the computer.
If the computer does not have any configuration data, use command **RZ005** to enter the vehicle options:

- air conditioning,
- Passenger compartment heating resistor,
- cruise control/speed limiter.

These options are detected by the computer even if command **RZ005** is not used.
The computer is configured as soon as the one of the vehicle's optional system components is operated.

AFTER REPAIR	Carry out a road test, then check with the diagnostic tool .
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AC004	<u>TURBOCHARGING SOLENOID VALVE</u>
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NOTES	<p>Perform this fault finding procedure:</p> <ul style="list-style-type: none"> – following interpretation of an unresolved fault or, – following application of the interpretation of PR041 Turbocharging pressure or, – after a customer complaint (loss of power, smoke etc.).
	<p>Use the Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2.</p>

1 - The following procedure is for checking that the turbocharger and its control circuit are working correctly.

Preliminary operation

Check the seal of the high pressure air inlet circuit: apply **test 4 Turbocharged air inlet circuit check**.

Pipe not joined or pierced, pressure sensor disconnected or poorly fitted (seal present), exchanger pierced.

To test the intercooler: stabilise the engine speed between **3500 and 4000 rpm** with the vehicle stopped and check that there are no leaks.

Measure **the resistance** between connections **3FB** and **3MG** of component **1475**.

Replace the solenoid valve if its resistance is not: **20 $\Omega \pm 2$ at + 23 °C**.

Check **the continuity** of the following connection:

- connection code **3MG**,
between components **120** and **1475**.

Check **the + 12 V after relay feed** to the turbocharging solenoid valve.

- connection **3FB** of component **1475**.

If the connection or connections are faulty and there is a repair procedure (**see Technical Note 6015A, Electrical wiring repair, wiring: precautions for repair**), repair the wiring, otherwise replace it.

Run command **AC004 Turbocharging solenoid valve**; if a faint whistling noise is heard along with a clicking from the solenoid valve, go to **stage 2**, otherwise check the operation of the computer output stage:

Vehicle with + after ignition, clear the faults displayed by the diagnostic tool.

With the voltmeter in the direct current position:

With the turbocharging solenoid valve connected, connect the voltmeter earth lead to connection **3MG** of component **1475** and the positive lead to connection **3FB** of component **1475**. Run command **AC004**

Turbocharging solenoid valve, the voltmeter should display four successive voltages of **2.4 V \pm 0.2 V**.

If the measurement is not correct, contact the Techline.

AFTER REPAIR	Carry out a road test, then check with the diagnostic tool .
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AC004
CONTINUED

2 - Turbocharger control circuit check

- Apply **test 7: Variable geometry turbocharger command**.
 - With the engine stopped, make sure that the control rod is in the resting position.
 - Start the engine and make sure that the control rod actuates to the upper stop.
(when the engine is switched off, the control rod should return to the rest position)
- If the control rod does not move correctly, carry out the following checks:

1) Control vacuum check:

- Disconnect the solenoid valve inlet **hose** and connect it to a pressure gauge.
- Start the engine and run it at a stable idle speed.
- If the vacuum pressure does not reach **0.400 mbar ± 0.150**: check the vacuum pressure circuit from the vacuum pump.
- Stop the engine, reconnect the intake hose and go to step 2.

2) Solenoid valve control check:

- Disconnect the solenoid valve outlet **hose**.
- Start the engine and run it at a stable idle speed.
- Place your hand on the solenoid valve and block the outlet **union** with your thumb.
- If there is no perceptible vibration of the solenoid valve, contact the Techline.

3) Solenoid valve operation check:

- Connect the pressure gauge to the solenoid valve outlet **union**.
 - Start the engine and run it at a stable idle speed.
- If the vacuum does not reach **0.400 mbar ± 0.150**, replace the solenoid valve.

AFTER REPAIR

Carry out a road test, then check with the **diagnostic tool**.

AC012	<u>DAMPER VALVE</u>
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NOTES	Carry out this interpretation: <ul style="list-style-type: none">– after DF645 Damper valve position regulation, DF646 Damper valve position sensor,– or after a customer complaint (starting faults, poor performance).
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Measure **the resistance** between connections **38KQ** and **38KP** of component **1461**.
Replace the valve if the resistance is not **1250 $\Omega \pm 375 \Omega$** .
Check **the continuity and absence of interference resistance** of the following connections:
– connection code **38KQ**,
– connection code **38KP**,
between components **120** and **1461**.
If the connection or connections are faulty and there is a repair procedure (**see Technical Note 6015A, Electrical wiring repair, wiring: precautions for repair**), repair the wiring, otherwise replace it.

B) With the vehicle ignition on, engine stopped:

Make sure the **damper valve** is **open**,
If not, clean or replace the damper valve.
Actuate the valve using command **AC012 Damper valve** and check the valve's movement and its rest position.
Check the operation of the computer output stage with a voltmeter in the alternating current position:
Actuate the valve with command **AC012**:
Connect the voltmeter earth lead to connection **8KS** of component **1461** and the positive lead to connection **38KQ** of component **1461**.
The voltmeter should display **three cycles** of ON-OFF (**12.5 V** then return to **0 V**).
If the measurement is correct, replace the damper valve.
If the measurement shows is not controlled, contact the Techline.

AFTER REPAIR	Carry out a road test, then check with the diagnostic tool .
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AC031	<u>HEATING ELEMENT No. 3 RELAY</u>
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NOTES	<p>Check that the computer is correctly configured using command LC056 Heating elements.</p> <p>No fault should be present or stored:</p> <p>Perform this fault finding procedure if there is a fault with the passenger compartment heating - demisting.</p>
	<p>Use the Wiring Diagram Technical Note, Laguna II ph2, Vel Satis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2.</p>

If the "Heating element no. 3 relay" or the additional heater interface unit does not function when command **AC031: Heating element no. 3 relay** is run.

Check the condition of the "heating element 3" relay mounting on the engine fuse box or the additional heater interface unit (**see Wiring Diagram Technical Note, Vehicle, Component code 1069 or 1550**).

Check the condition of the engine management computer connector (**see Wiring Diagram Technical Note, Vehicle, Component code 120**).

If one of the connectors is faulty and there is a repair procedure (**see Technical Note 6015A, Electrical wiring repair, wiring: precautions for repair**), repair the connector, otherwise replace the wiring.

If the fault is still present, check that the relay is being controlled by the engine management computer as follows:
Disconnect the heating element no. 3 relay, place a resistor of **50 to 100 Ω** on the mounting in place of the coil and connect a voltmeter as follows:

- positive terminal to **+ 12 V** battery,
- negative terminal to connection **3JAB** of component **1069 or 1550**.

Run command **AC031**.

If the voltmeter indicates the battery voltage (4 ON-OFF cycles of **10 seconds**), replace heating element no. 3 relay.

If the voltmeter does not show the battery voltage (4 ON-OFF cycles of **10 seconds**), contact the Techline.

If the "Heating element no. 3 relay" or the additional heater interface unit functions via command AC031, but there is still a passenger compartment heating/demisting problem, check using the wiring diagram:

The conformity of the heating elements Maxi-fuse.

Check for **+ 12 V battery feed** on connection **BP9** of component **1069 or 1550**.

Check the conformity of heating element no. 3 relay.

Check the **continuity** on connection **3JAC or 3JC** between components **1069 or 1550** and **1074**.

Measure the resistance of the heating element*.

The presence of the earth on the water chamber (heating element mounting).

Also check the level of the cooling circuit and that there are no leaks.

Carry out the necessary repairs.

* supplier: **Champion**: load resistance: **608 mΩ ± 61**

AFTER REPAIR	Carry out a road test, then check with the diagnostic tool .
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AC037	<u>PREHEATING RELAY</u>
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NOTES	This command is only run if fault DF025: Pre-postheating diagnostic line or DF017: Pre-postheating control circuit is present or stored and if no other fault is present.
	Use the Wiring Diagram Technical Note, Laguna II ph2, Vel Satis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2.
	IMPORTANT – Please observe the cleanliness guidelines and safety advice. – Make sure the correct type of plug is fitted on the vehicle, slow or quick : Slow plugs have a black ring. Quick plugs have a white ring. In Vdiag 20 and 24 , if the heater plugs are being replaced with plugs of a different type, see Replacement of components, Replacing heater plugs.

Before applying the following fault finding procedure, check that the battery voltage is not below 12 V. Otherwise, recharge the battery.

Step 1:

Using a multimeter fitted with an Amps clamp, group together the 4 supply wires for the heater plugs. Run command **AC037 Preheating relay** and measure the current consumed by the 4 heater plugs. If the current consumed is not between **60 and 80 A** inclusive, go to Step 2, otherwise end of procedure.

AFTER REPAIR	Carry out a road test, then check with the diagnostic tool .
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AC037 CONTINUED

Step 2:

Check the connections on the pre-postheating unit, heater plugs and injection computer.

Repair if necessary.

Measure **the resistance** of the heater plugs. If this resistance is **> 2 Ω** , replace the faulty plugs, making sure the correct plug type, **slow** or **quick**, is fitted on the vehicle.

Check **the continuity and absence of interference resistance** of the following connections:

- connection code **37AB** between components **257** and **683**,
- connection code **37AA** between components **257** and **680**,
- connection code **37Z** between components **257** and **681**,
- connection code **37AC** between components **257** and **682**.

If the connection or connections are faulty and there is a repair procedure (**see Technical Note 6015A, Electrical wiring repair, wiring: precautions for repair**), repair the wiring, otherwise replace it.

Check **the condition** of the preheating unit supply fuse (**70 A**). Replace it if necessary. Check the **+ 12 V battery** feed to the pre-postheating unit.

- connection **BP35** of component **257**.

Check the **continuity and for the absence of interference resistance** on the following connections:

- connection code **3FY**,
 - connection code **3FF**,
- between components **120** and **257**.

If the connection or connections are faulty and there is a repair procedure (**see Technical Note 6015A, Electrical wiring repair, wiring: precautions for repair**), repair the wiring, otherwise replace it.

If the fault is still present, replace the preheating unit.

AFTER REPAIR

Carry out a road test, then check with the **diagnostic tool**.

AC063	<u>HEATING ELEMENT NO. 1 RELAY</u>
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NOTES	<p>No fault should be present or stored: Perform this fault finding procedure if there is a fault with the passenger compartment heating - demisting.</p> <p>Use the Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2.</p>
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<p>If the “heating element no. 1 relay” or the additional heater interface unit does not function via command AC063: Heating element no. 1 relay: Check the condition of the heating element 1 relay mounting connector on the engine fuse box (see Wiring Diagram Technical Note, Vehicle, Component code 1550 or 1067). Check the condition of the engine management computer connector (see Wiring Diagram Technical Note, Vehicle, Component code 120). If one of the connectors is faulty and there is a repair procedure (see Technical Note 6015A, Electrical wiring repair, wiring: precautions for repair), repair the connector, otherwise replace the wiring.</p>
<p>If the fault is still present, check as follows that this relay is controlled by the engine management computer: Disconnect the heating element no. 1 relay, and fit a 50 to 100 Ω resistor on its mounting instead of the coil and connect a voltmeter as follows:</p> <ul style="list-style-type: none"> – positive terminal to + 12 V battery, – negative terminal on connection 3JA of component 1067 or 1550. <p>Run command AC063. If the voltmeter shows the battery voltage (4 ON-OFF cycles of 10 seconds), replace heating element relay no. 1. If the voltmeter does not show the battery voltage (4 ON-OFF cycles of 10 seconds), contact the Techline.</p>
<p>If the “Heating element no. 1 relay” or the additional heater interface unit functions via command AC063, but there is still a passenger compartment heating/demisting problem, check using the wiring diagram: the conformity of the heating element maxi-fuse; Check for + 12 V battery feed on connection BP9 of component 1067 or 1550. Check the conformity of the “heating element no. 1” relay or the additional heater interface unit. Check the continuity of connection 3JB between components 1067 or 1550 and 998. Measure the resistance of the heating element*. The presence of the earth on the water chamber (heating element mounting). Also check the level of the cooling circuit and that there are no leaks. Carry out the necessary repairs.</p>

* supplier: **Champion**: load resistance: **608 mΩ ± 61**

AFTER REPAIR	Carry out a road test, then check with the diagnostic tool .
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AC064	<u>HEATING ELEMENT no. 2 RELAY</u>
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NOTES	<p>No faults should be present or stored. Perform this fault finding procedure if there is a fault with the passenger compartment heating - demisting. Consult the "Wiring diagrams" Technical Note to locate the relevant fuses and relays.</p>
	<p>Special notes: The "heating element no. 2 relay " or the additional heater interface unit, feeds heating elements 2 and 3 in parallel.</p>
	<p>Use the Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2.</p>

<p>If the "Heating element no. 2 relay" does not operate, when command AC064: Heating element no. 2 relay is run: Check the condition of the "heating element 2" relay mounting on the engine fuse box or the additional heater interface unit (see Wiring Diagram Technical Note, vehicle, Component code 1068 or 1550). Check the condition of the engine management computer connector (see Wiring Diagram Technical Note, Vehicle, Component code 120). If one of the connectors is faulty and there is a repair procedure (see Technical Note 6015A, Electrical wiring repair, wiring: precautions for repair), repair the connector, otherwise replace the wiring.</p>
<p>If the fault is still present, check as follows that this relay is controlled by the engine management computer: Disconnect heating element no. 2 relay, and fit a 50 to 100 Ω resistor on its mounting instead of the coil and connect a voltmeter as follows: - positive terminal to + 12 V battery feed, - negative terminal to connection 3JAA of component 1068 or 1550. Run command AC064. If the voltmeter shows the battery voltage (4 ON-OFF cycles of 10 seconds), replace heating element relay no. 2. If the voltmeter does not show the battery voltage (4 ON-OFF cycles of 10 seconds), contact the Techline.</p>
<p>If the heating element relay no. 2 operates with command AC064, but there is still a passenger compartment heating/demisting fault, Check using the wiring diagram: the conformity of the heating elements maxi-fuse. Check for + 12 V battery feed on connection BP91 of component 1068 or 1550. Check the conformity of heating element no. 2 relay. Check the continuity on connection 3JAD or 3JD and 3JAC between components 1068 or 1550 and (1072 and 1073). Measure the resistance of the heating elements.* The presence of the earth on the water chamber (heating element mounting). Also check the level of the cooling circuit and that there are no leaks. Carry out the necessary repairs.</p>

* supplier: **Champion**: load resistance: **608 mΩ ± 61**

AFTER REPAIR	Carry out a road test, then check with the diagnostic tool .
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EDC16CP33_V18_AC064/EDC16CP33_V1C_AC064/EDC16CP33_V54_AC064
/EDC16CP33_V20_AC064/EDC16CP33_V58_AC064/EDC16CP33_V5C_AC064/EDC16CP33_V24_AC064

Fault finding - Interpretation of commands

AC103	<u>EGR BY-PASS</u>
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NOTES	Carry out this fault finding procedure when the interpretation of fault DF304 EGR by-pass circuit has not been resolved.
	Use the Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2.

Measure **the resistance** between connections **3FB** and **3TP** of component **1301**: **43 Ω to 49 Ω at + 25 °C**
32 Ω to 37 Ω at - 40 °C

If the resistance is not correct, replace the EGR by-pass solenoid valve.

Check for **continuity and the absence of interference resistance** on the following connection:

- connection code **3TP**,
between components **120** and **1301**.

Check **the + 12 V after relay feed** to the EGR by-pass solenoid valve:

- connection code **3FB** of component **1301**.

If the connection or connections are faulty and there is a repair procedure (**see Technical Note 6015A, Electrical wiring repair, wiring: precautions for repair**), repair the wiring, otherwise replace it.

If, when running command **AC103 EGR BY-PASS**, no valve movement is perceptible, check the operation of the computer output stage:

Vehicle with + after ignition, clear the faults displayed by the diagnostic tool.

With the voltmeter in the direct current position:

With the EGR BY-PASS solenoid valve connected, connect the voltmeter earth lead to connection **3TP** of component **1301** and the positive lead to connection **3FB** of component **1301**.

Run command **AC103 EGR BY-PASS**, the voltmeter should display four successive voltages which are approximately equal to the 12 V battery voltage.

If the voltmeter indicates no control or a continuous voltage, contact the Techline.

If activation has run correctly, check the control vacuum:

- Disconnect the solenoid valve inlet **hose** and connect it to a pressure gauge.
- Start the engine and run it at a stable idle speed.
- If the vacuum pressure does not reach **400 mbar ± 150**: check the vacuum pressure circuit from the vacuum pump.

Repair if necessary.

AFTER REPAIR	Carry out a road test, then check with the diagnostic tool .
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AC153	<u>HIGH SPEED FAN ASSEMBLY</u> (Not used on Mégane II ph2, Scénic II ph2)
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NOTES	No fault should be present or stored: Perform this fault finding after an engine cooling fault. Engine stopped.
	Use the Wiring diagram Technical Note for Laguna II ph2, Vel satis ph2, Espace IV ph2.

If, when command **AC153 High-speed fan assembly** is run, the **high-speed fan assembly relay** is not actuated. Check the condition of the **high speed fan assembly relay mounting connectors (see Wiring Diagram Technical Note, Vehicle, Component code 597).**

If the fault is still present, check that the relay is actuated by the engine management computer as follows:
 Disconnect the high-speed fan unit relay, fit a **50 to 100 Ω** resistor to its mounting in place of the coil and connect a voltmeter as follows:

- positive terminal to **+ 12 V** battery,
- negative terminal to connection **3JP** of component **234**.

Run command **AC153**.

If the voltmeter shows the battery voltage (4 ON-OFF cycles of **10 seconds**), replace the relay.

If the voltmeter does not show the battery voltage (4 ON-OFF cycles of **10 seconds**), contact the Techline.

If the **high-speed fan unit** relay is supplied using command **AC153**, but there is still a fan unit activation fault, check using the wiring diagram:

The conformity of the fan assembly maxi-fuse.

Check the **+ 12 V battery feed** to connection **BP71** of component **234**.

Check the conformity of the **high speed fan assembly** relay.

Check the continuity of connection **49B** between components **234** and **362**.

Check the conformity of the fan assembly.

Check for complete earthing on connection **MAS** of component **162**.

If the connection or connections are faulty and there is a repair procedure (**see Technical Note 6015A, Electrical wiring repair, wiring: precautions for repair**), repair the wiring, otherwise replace it.

AFTER REPAIR	Carry out a road test, then check with the diagnostic tool .
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AC154	<u>LOW-SPEED FAN ASSEMBLY</u> (Not used on Mégane II ph2, Scénic II ph2)
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NOTES	No faults should be present or stored. Perform this fault finding after an engine cooling fault or air conditioning fault. Engine stopped.
	Use the Wiring diagram Technical Note for Laguna II ph2, Vel satis ph2, Espace IV ph2.

If, when command **AC154 Low speed fan assembly** is run, the **low speed fan assembly** relay does not operate: Check the condition of the **high speed fan assembly** relay mounting connectors (see **Wiring Diagram Technical Note, Vehicle, Component code 597**).

If the fault is still present, check that the relay is actuated by the engine management computer as follows: Disconnect the **low-speed fan assembly** relay, and fit a **50 to 100 Ω** resistor on the relay mounting in place of the coil, and connect a voltmeter as follows:

- positive terminal to **+ 12 V** battery,
- negative terminal on connection **3JN** of component **700**.

Run command **AC154**.

If the voltmeter shows the battery voltage (4 ON-OFF cycles of **10 seconds**), replace the relay.

If the voltmeter does not show the battery voltage (4 ON-OFF cycles of **10 seconds**), contact the Techline.

If the **low-speed fan unit** relay is supplied using command **AC154**, but there is still a fan unit activation fault, check using the wiring diagram: The conformity of the fan assembly maxi-fuse.

Check the continuity of connection **49L** between components **700** and **321**.

Check the low speed resistor (resistance and connections).

Check the continuity of connection **49B** between components **262** and **321**.

Check for complete earthing on connection **MAS** of component **162**.

If the connection or connections are faulty and there is a repair procedure (see **Technical Note 6015A, Electrical wiring repair, wiring: precautions for repair**), repair the wiring, otherwise replace it.

AFTER REPAIR	Carry out a road test, then check with the diagnostic tool .
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AC195	<u>ELECTRIC COOLANT PUMP</u>
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NOTES	This command allows you to check the operation of the electric coolant pump.
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Check the connection and condition of the coolant pump relay connector **component code 573** and injection computer connector **B, (component code 120)**.

If there is a repair method (see **Technical Note 6015A, Repairing electrical wiring, Wiring: Precautions for repair**), repair the connector, otherwise replace it.

Check **the insulation, continuity and the absence of interference resistance** on the following connections:

- **3AAZ**, between components **573** and **120**,
- **3VH**, between components **573** and **369**,
- **3FB**, between components **573** and **983**,
- **3FB1**, between components **573** and **983**.

If there is a repair method (see **Technical Note 6015A, Repairing electrical wiring, wiring: Precautions for repair**), repair the wiring, otherwise replace it.

If the fault is still present, contact the Techline.

AFTER REPAIR	Carry out a road test, then check with the diagnostic tool .
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AC225	<u>RAIL PRESSURE REGULATOR</u>
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NOTES	<p>Perform this fault finding procedure:</p> <ul style="list-style-type: none">– following interpretation of an unresolved fault– following an inconsistency recorded in the parameters,– following a customer complaint (starting problems, engine speed instability, injection noise).
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Step 1

Check for **continuity and the absence of interference resistance** on the following connection:

– connection code **3RG**,
between components **120** and **1198**.

Check **the + 12 V after relay feed** to the rail pressure regulator (**DRV**).

– connection code **3FB** of component **1198**.

If the connection or connections are faulty and there is a repair procedure (**see Technical Note 6015A, Electrical wiring repair, wiring: precautions for repair**), repair the wiring, otherwise replace it.

Run command **AC225 Rail pressure regulator**; if a light whistling along with a clicking from the pressure regulator can be heard, go to **step 2** otherwise, check the operation of the computer output stage:

Vehicle with + after ignition, clear the faults displayed by the diagnostic tool.

With the voltmeter in the direct current position:

With the rail pressure regulator connected, connect the voltmeter earth lead to connection **3RG** of component **1198** and the positive lead to connection **3FB** of component **1198**. Run command **AC225: Rail pressure regulator**; the voltmeter should display four successive voltages of **2.2 V ± 0.2 V**.

If the measurement is not correct, contact the Techline.

STEP 2

AFTER REPAIR	Carry out a road test, then check with the diagnostic tool .
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AC225 CONTINUED

Step 2

In the event of rail overpressure:

Check that there are no air bubbles in the diesel fuel low pressure circuit.

Check that the rail pressure sensor is working, and then interpret parameter **PR038 Rail pressure**.

If these checks do not reveal any faults, replace the rail regulator.

In the event of rail underpressure:

Check that the rail pressure sensor is working, and then interpret parameter **PR038 Rail pressure**.

Check the low pressure diesel circuit priming.

Check the conformity of the diesel filter connections.

Check the condition of the filter (clogging and water saturation).

Check that there are no air bubbles between the filter and the high pressure pump.

Check the sealing of the low and high-pressure diesel fuel systems: use **ALP6 Fuel circuit leaks** (visual inspections, touch tests, odours, etc.) on:

pump body, pressure release valve, pipes, rail and injectors unions, injector wells, etc.

Check the conformity of the seal fitting on the pressure regulator.

Check the operation of the injectors: run **Test 10: Poor injector operation**.

Carry out the necessary repairs.

If the engine starts:

Clear any faults.

Check the rail pressure regulator using **ALP7 Rough idling**.

With the engine warm, leave it to idle for a few minutes (**3 to 5 minutes**):

- If it stalls and the fault reappears, replace the rail pressure regulator.
- If it does not stall, stabilise the engine speed at **2000 rpm (1 minute)** then accelerate under full load until it cuts out.

If the engine stalls, contact the Techline.

If the engine does not start or there is no timing:

replace, in the first instance, the rail pressure regulator and if the fault is still present, contact the Techline.

AFTER REPAIR

Carry out a road test, then check with the **diagnostic tool**.

AC226	<u>PUMP PRESSURE REGULATOR</u>
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NOTES	Perform this fault finding procedure: <ul style="list-style-type: none">– following interpretation of an unresolved fault– following an inconsistency recorded in the parameters,– following a customer complaint (starting problems, engine speed instability, injection noise).
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Step 1

Check for **continuity and the absence of interference resistance** on the following connection:

- connection code **3HI**,
between components **120** and **1105**.

Check **the + 12 V after relay feed** to the pump pressure regulator (**MPROP**):

- connection code **3FB** of component **1105**.

If the connection or connections are faulty and there is a repair procedure (**see Technical Note 6015A, Electrical wiring repair, wiring: precautions for repair**), repair the wiring, otherwise replace it.

Run command **AC226 Pump pressure regulator**; if a light whistling along with a clicking from the pressure regulator can be heard, go to **step 2** otherwise, check the operation of the computer output stage:

Vehicle with + after ignition, clear the faults displayed by the diagnostic tool.

With the voltmeter in the direct current position:

With the pump pressure regulator connected, connect the voltmeter earth lead to connection **3HI** of component **1105** and the positive lead to connection **3FB** of component **1105**. Run command **AC226: Pump pressure regulator**; the voltmeter should display four successive voltages of **2.2 V ± 0.2 V**.

If the measurement is not correct, contact the Techline.

STEP 2

AFTER REPAIR	Carry out a road test, then check with the diagnostic tool .
---------------------	---

AC226 CONTINUED

Step 2

In the event of rail overpressure:

Check that there are no air bubbles in the diesel fuel low pressure circuit.

Check that the rail pressure sensor is working, and then interpret parameter **PR038 Rail pressure**.

If these checks do not reveal any faults, replace the pump regulator.

In the event of rail underpressure:

Check that the rail pressure sensor is working, and then interpret parameter **PR038 Rail pressure**.

Check the low pressure diesel circuit priming.

Check the conformity of the diesel filter connections.

Check the condition of the filter (clogging and water saturation).

Check that there are no air bubbles between the filter and the high pressure pump.

Check the sealing of the low and high-pressure diesel fuel systems: use **ALP6 Fuel circuit leaks** (visual inspections, touch tests, odours, etc.) on:

pump body, pressure release valve, pipes, rail and injectors unions, injector wells, etc.

Check the conformity of the seal fitting on the pressure regulator.

Check the operation of the injectors: run **Test 10: Poor injector operation** in this document.

Carry out the necessary repairs.

If the engine starts:

Clear any faults.

Check the pump pressure regulator by applying (see **ALP7 Rough idle**).

With the engine warm, leave it to idle for a few minutes (**3 to 5 minutes**):

- If it stalls and the fault reappears, replace the pump regulator.
- If it does not stall, stabilise the engine speed at **2000 rpm (1 minute)** then accelerate under full load until it cuts out.

If the engine stalls, contact the Techline.

If the engine does not start or there is no timing:

replace, in the first instance, the pump regulator and if the fault is still present, contact the Techline.

AFTER REPAIR

Carry out a road test, then check with the **diagnostic tool**.

VP036	<u>INHIBIT FUEL SUPPLY</u>
-------	----------------------------

NOTES	<p>This command enables you to disable the supply to the injectors.</p> <p>This command is carried out with the engine switched off, and ignition on.</p>
-------	---

This command allows the injectors to be locked, so that starting is not possible.
Command **VP036** enables the cylinder compressions to be checked in complete safety **without disconnecting the injector connectors or the Top Dead Centre sensor**.

Procedure to be followed: (cylinder no.1 is located on the timing end)

- Remove **all heater plugs**, connect the **compression gauge** with the M9R flexible end piece, part no. **Mot.1772** to a cylinder.
- Position the gear lever in neutral (manual gearbox) or on position P (automatic gearbox).
- **Depress the brake pedal and keep it in this position throughout the test.**
- Run command **VP036**.
- Try to start the vehicle (in **10 seconds** after running command **VP036**).

If the vehicle does not start, check the cylinder compressions.

Start the procedure again on another cylinder.

This command is automatically inhibited after **10 seconds**.

AFTER REPAIR	Carry out a road test, then check with the diagnostic tool .
--------------	---

DIESEL INJECTION

Fault finding - Customer complaints

13B

NOTES

Only consult customer complaints after a complete check with the diagnostic tool.

NO DIALOGUE WITH ENGINE MANAGEMENT COMPUTER

ALP1

STARTING FAULT OR STARTING IMPOSSIBLE

ALP2

POOR PERFORMANCE

ALP4

IRREGULAR ENGINE OPERATION

ALP5

EXTERNAL LEAKS FROM THE FUEL CIRCUIT

ALP6

ROUGH IDLE

ALP7

ENGINE STALLING

ALP8

PARTICLE FILTER WARNING LIGHT COMES ON TOO FREQUENTLY

ALP9

ALP1	No dialogue with engine management computer
-------------	--

Use the Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2.

STEP 1

Check the conformity of the vehicle type and the domain selected on the tool.

Check that the tool is not faulty by trying to establish dialogue with a computer on another vehicle.

Check the supply to the diagnostic socket:

- ➡ + Before ignition.
- ➡ + After ignition.
- ➡ Earth.

Check the conformity of the After ignition fuse.

- The conformity of the injection relay mounting feeds.

Check the conformity of the main relay (relay removed):

- **Insulation** between connections **3FB** and **BP37** of component **983**.
- Measure **the resistance** between connections **3AA** and **BP37** of component **983**.

Replace the relay if its resistance is not: **65 $\Omega \pm 5$** .

Disconnect the engine management computer and check that there are no conducting components on the computer pins. If its removal reveals any kind of contamination, clean it and try to establish dialogue.

If the fault is still present, fit bornier **Elé. 1681** on the engine harness:

Check **for continuity and absence of interference resistance** on the following multiplex connections:

- Connection code **133B**,
 - Connection code **133C**,
- between components **120** and **225**.

Check **the + 12 V after relay feed** to the engine management computer:

- connection code **3FB** of component **120**,
- connection code **3FB1** of component **120**,
- connection code **3FB2** of component **120**.

Check for complete earthing on connections **NT** of component **120**.

When shunting the “normally open” contact of the supply relay i.e. connections **BP37** and **3FB** of component **983**:

- connection code **3FB** of component **120**, (with test shunt),
- connection code **3FB1** of component **120**, (with test shunt),
- connection code **3FB2** of component **120**, (with test shunt).

Check **the continuity and absence of interference resistance** of the following connection:

- connection code **3AA**,
- between components **120** and **983**.

If the connection or connections are faulty and there is a repair procedure (**see Technical Note 6015A, Electrical wiring repair, wiring: precautions for repair**), repair the wiring, otherwise replace it.



AFTER REPAIR	Carry out a road test followed by a complete check with the diagnostic tool .
---------------------	--

ALP1 CONTINUED	
---------------------------------	--



Try to establish dialogue with another computer on the same vehicle.

➡ If dialogue is established with **another computer on the same vehicle** go to **step 2**.

If dialogue is not established **with any other computer on the same vehicle**, (see 88B, Multiplexing, ALP).

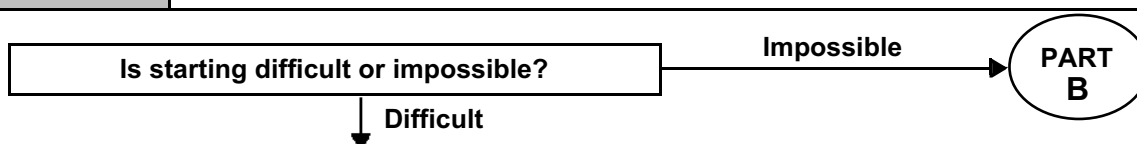
STEP 2

Contact the Techline.

AFTER REPAIR	Carry out a road test followed by a complete check with the diagnostic tool .
---------------------	--

ALP2	Starting difficult or impossible
-------------	---

NOTES	<p>Before dealing with this customer complaint, check that there are no faults, and the conformity (or otherwise) of the parameters and statuses using the diagnostic tool.</p> <p>If the customer complaint is not eliminated, perform the following checks.</p> <p>Use the Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2.</p>
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PART A:

If fault **DF308 Clogged particle filter** is present, consult the interpretation of **DF308**

Check the engine earths.

If the engine speed is less than **200 rpm**, refer to **Technical Note 6014A, Checking the charge circuit, Starter fault finding, starter (formerly Technical Note 3632A)**.

If an engine speed of **200 rpm** is achieved under the starter, **PR055 Engine speed**.

If engine speed zero for **diagnostic tool**:

Measure **the resistance** between connections **3BG** and **3BL** of component **149**.

Replace the sensor if its resistance is not between **600 Ω** and **1,000 Ω**.

Check **the continuity and absence of interference resistance** of the following connections:

- connection code **3BG**,

- connection code **3BL**,

between components **120** and **149**.

If the connection or connections are faulty and there is a repair procedure (see **Technical Note 6015A, Electrical wiring repair, wiring: precautions for repair**), repair the wiring, otherwise replace it.

Check that the engine earthing is in order (oxidation, tightness, etc.).

Check the mounting and condition (overheating) of the sensor.

Replace if necessary.

Check the synchronisation of the camshaft sensors and the engine speed sensors with the display of **ET238 Synchronisation**. If synchronisation is not active, refer to the checks described in **DF195 Camshaft/engine speed consistency**.

Check the fuel circuit sealing: run **test 3: Check low pressure circuit**.

If **test 3: low pressure circuit check** is correct:

AFTER REPAIR	Carry out a road test followed by a complete check with the diagnostic tool .
---------------------	--

EDC16CP33_V18_ALP02/EDC16CP33_V1C_ALP02/EDC16CP33_V54_ALP02

/EDC16CP33_V20_ALP02/EDC16CP33_V58_ALP02/EDC16CP33_V5C_ALP02/EDC16CP33_V24_ALP02

DIESEL INJECTION

Fault finding - Fault Finding Chart

13B

ALP2 CONTINUED 1	
---------------------	--

Test the high pressure fuel circuit:

Run scenario **SC035 High pressure fuel circuit fault finding**.

To interpret the result, apply the interpretation of command **SC035** (see **Interpretation of commands**).

Check the conformity of the type of heater plugs configured:

For Vdiag 20 and 24: consult **ET781 "Heater plugs"** in the **"Ignition/Preheating"** subfunction and check the conformity with the type of plugs installed:

- **Slow plugs have a black ring.**
- **Fast plugs have a white ring.**

If the heater plugs are being replaced with plugs of a different type, (see **Replacement of components, Replacing heater plugs**).

For all Vdiags, check that all **4 plugs have the same colour ring**.

Check that the heater plugs are actuated using the **AC037 Preheating relay** command. Check the sealing and the condition of the inlet circuit: apply **test 4 "Turbocharged air inlet circuit check"**, and follow the related fault finding procedure (see **test 4 "Turbocharged air inlet circuit check"**).

Check the exhaust is not blocked: apply **test 1 "Exhaust system check"**, and follow the related fault finding procedure (see **test 4 "Turbocharged air inlet circuit check"**).

Check the consistency of the signal from the engine coolant temperature sensor.

Check the operation of the rail pressure regulator (**DRV**) using command **AC225 Rail pressure regulator** and then the operation of the pump pressure regulator (**MPROP**) using command **AC226 Pump pressure regulator**.

Check the timing setting.

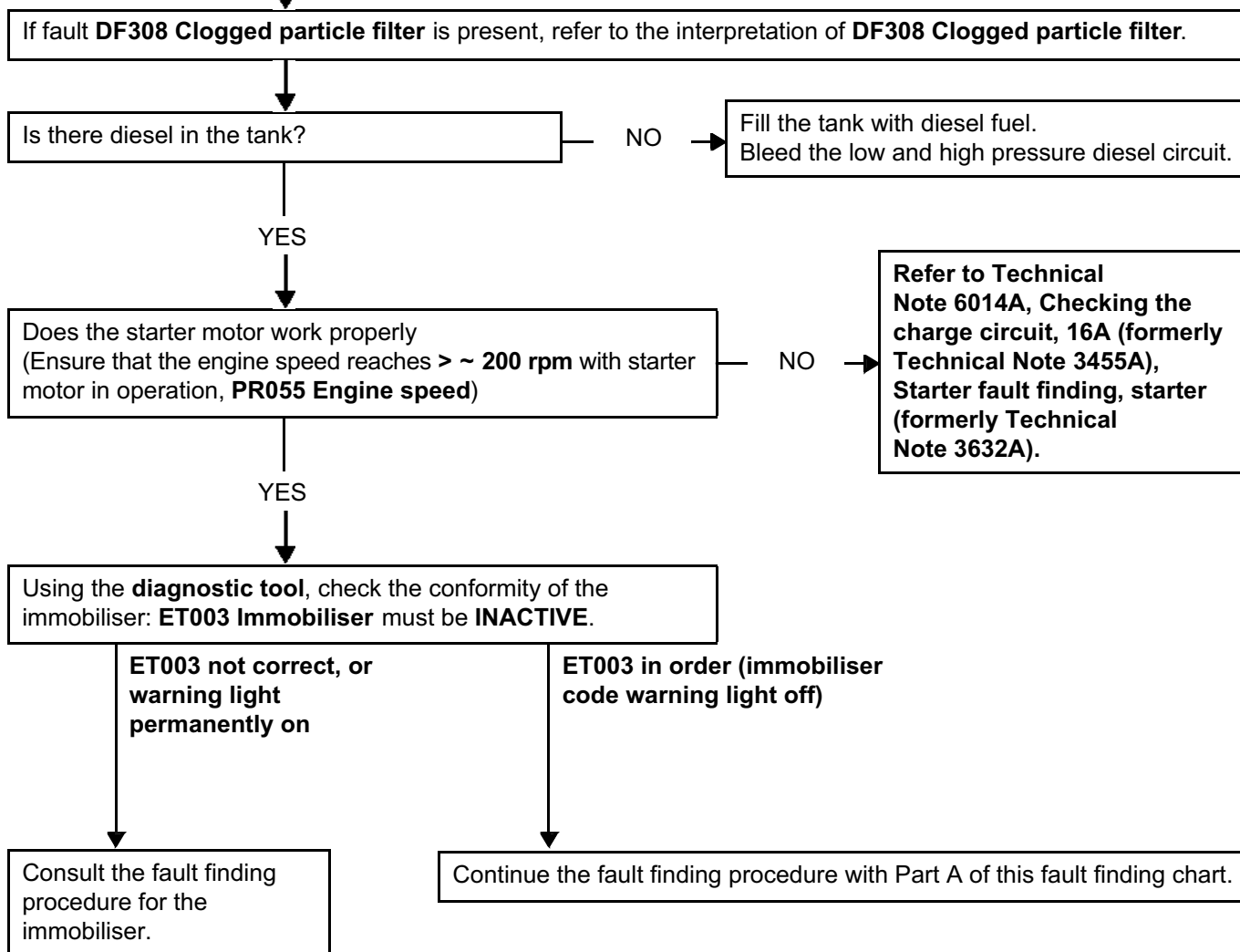
Apply **part B** of **test 10 Poor injector operation**.

End of part A

AFTER REPAIR	Carry out a road test followed by a complete check with the diagnostic tool .
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ALP2 CONTINUED 2	
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PART
B



AFTER REPAIR	Carry out a road test followed by a complete check with the diagnostic tool .
---------------------	--

DIESEL INJECTION

Fault finding - Fault Finding Chart

13B

ALP4	Poor performance
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NOTES	<p>Before dealing with this customer complaint, check that there are no faults, and the conformity (or otherwise) of the parameters and statuses using the diagnostic tool.</p> <p>If the customer complaint is not eliminated, perform the following checks.</p>
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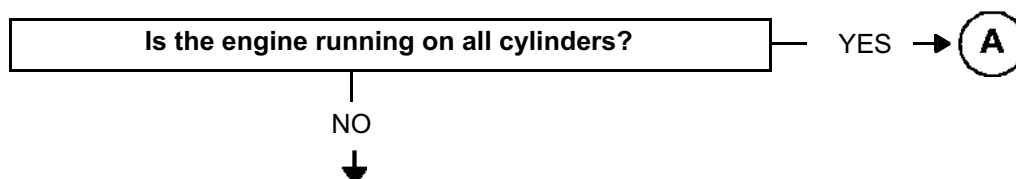
IMPORTANT

In the event of the engine overheating to above **118 °C**, the computer deliberately limits the fuel flow (overheating warning light comes on from **115 °C**).

– Please observe the cleanliness guidelines and safety advice.

Note: For the **M9R 724 (Vdiag 5C and 58)**:

The engine is limited to **3000 rpm** if the vehicle is stopped or if the vehicle speed is lower than **4 mph (7 km/h)** and if the engine is warm.



Test the high pressure fuel circuit:

Apply scenario **SC035 "High pressure fuel circuit fault finding"** (see **Interpretation of commands**).

Check that the fuel tank is correctly filled and that the appropriate fuel is used.

If the fuel (Diesel fuel) used is not correct:

- Replace the fuel (diesel fuel).
- Replace the fuel filter (diesel fuel).
- Bleed the low and high pressure fuel circuit (diesel fuel).

Check the conformity of the assembly of the injectors (presence and **conformity of the sealing washer**).

Checking procedure:

- Take a straightedge approximately 40 cm long and place it on the 4 injectors. The straightedge should rest on the 4 injectors.
- If one or more injector(s) are not in order, remove and check the conformity of the washer.
- If one injector does not touch the straight edge (clearance above 1 mm), remove the injector and check for the washer.
- Clean the injector well and the injector, refit the injector and its correct sealing washer.

Check the sealing and the condition of the inlet circuit: run **test 4: Turbocharged air inlet circuit check**.

Check the condition of the air flow sensor: run **test 5: Air flow sensor**.

Check the turbocharger: run **test 7 Variable geometry turbocharger control** then **test 8 Turbocharger rotating part**.

AFTER REPAIR	Carry out a road test followed by a complete check with the diagnostic tool .
---------------------	--

ALP4 CONTINUED	
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Check the differential pressure sensor is correctly positioned and connected (see MR 395 (Laguna II ph2), 402 (VelSatis Ph2), 405 (Espace IV ph2), 364 (Mégane II ph2), 370 (Scénic II ph2), Mechanical 19B Exhaust, **Particle filter pressure sensor: Removal - Refitting**).

Carry out a conformity check on the accelerator pedal position sensor, the brake pedal sensor, the atmospheric pressure sensor, the exhaust gas recirculation valve and the damper valve (see **interpretation of statuses and parameters**).

– Check the consistency of the signal: from air flow sensor, engine coolant temperature sensor, fuel temperature sensor and engine speed sensor.

Check the connections, the continuity and the absence of interference resistance of the air flow sensor (apply **DF056 "Air flow sensor circuit"**), of the engine coolant temperature sensor (apply **DF001 "Coolant temperature circuit"**), of the fuel temperature sensor (apply **DF098 "Fuel temperature sensor circuit"**), and of the engine speed sensor (apply **DF195 "Engine speed/camshaft sensor consistency"**).

Check: – That the diesel filter is not clogged.
– That there are no leaks on the high and low pressure diesel circuits: run **test 3: Low pressure circuit test**.

– **Test the high pressure fuel circuit:**

Apply scenario **SC035 "High pressure fuel circuit fault finding"** (see **Interpretation of commands**).

Continue by checking the following:

- That the oil vapour rebreathing system is connected,
- The pump pressure regulator (**MPROP**), (jamming - sticking); apply the interpretation of command **AC226 Pump pressure regulator**.
- The rail pressure regulator (**DRV**), (jamming - sticking); apply the interpretation of command **AC225 Rail pressure regulator**.

– Check the engine timing (and the position of the high pressure pump sprocket).

– Check the cylinder compressions: use a compression gauge, M9R hose end piece, part no. **Mot. 1772** and apply command **VP036 "Fuel supply inhibition"** (see **Interpretation of commands**).

If the fault is still present, contact Techline.

AFTER REPAIR	Carry out a road test followed by a complete check with the diagnostic tool .
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DIESEL INJECTION

Fault finding - Fault Finding Chart

13B

ALP5	Irregular engine operation
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NOTES	<p>Before dealing with this customer complaint, check that there are no faults, and the conformity (or otherwise) of the parameters and statuses using the diagnostic tool.</p> <p>If the customer complaint is not eliminated, perform the following checks.</p>
	<p>Use the Wiring Diagram Technical Note, Laguna II ph2, VelSatis ph2, Espace IV ph2, Mégane II ph2, Scénic II ph2.</p>

<p>If the engine races during gear changes, check, if there is a floor carpet, that this is not blocking the accelerator pedal, the brake pedal and the clutch pedal, then check the conformity of the clutch switch and the conformity of the accelerator pedal sensor when the pedal is released.</p> <p>Measure the resistance between connections 3BG and 3BL of component 149.</p> <p>Replace the sensor if its resistance is not: 823 Ω ± 82 Ω at + 20 °C.</p>
<p>Check the continuity and absence of interference resistance of the following connections:</p> <ul style="list-style-type: none"> – connection code 3BG, – connection code 3BL, <p>between components 120 and 149.</p> <p>If the connection or connections are faulty and there is a repair procedure (see Technical Note 6015A, Electrical wiring repair, wiring: precautions for repair), repair the wiring, otherwise replace it.</p>
<p>Check that the engine earthing is in order (oxidation, tightness, etc.).</p> <p>Check the mounting and condition (overheating) of the sensor.</p> <p>Replace if necessary.</p> <p>Check the low pressure circuit: run test 3: Low pressure circuit test.</p> <ul style="list-style-type: none"> – Apply the air flow checking procedure (see conformity in the interpretation of statuses and parameters). – Check the turbocharger: apply test 7 "Variable geometry turbocharger control".
<p>If the effect is still present, test the high pressure fuel circuit:</p> <p>Run scenario SC035 High pressure fuel circuit fault finding.</p> <p>To interpret the result, apply the interpretation of command SC035 (see Interpretation of commands).</p>

AFTER REPAIR	Carry out a road test followed by a complete check with the diagnostic tool .
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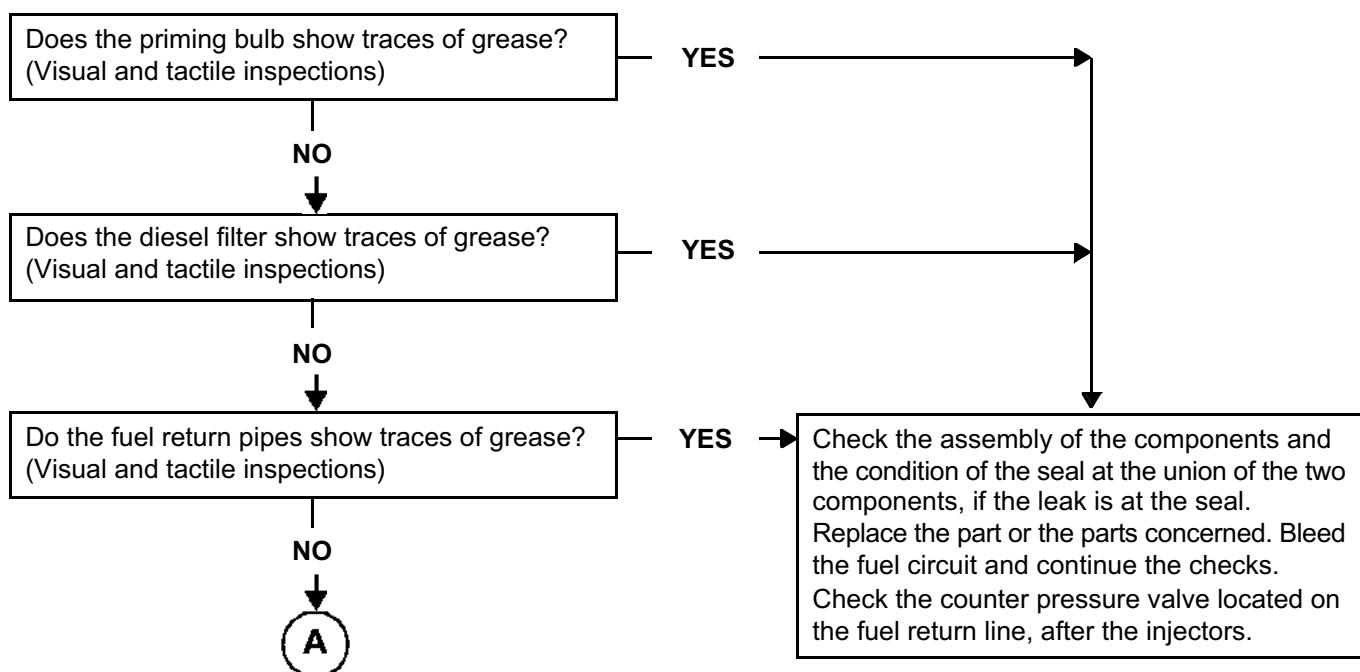
EDC16CP33_V18_ALP05/EDC16CP33_V1C_ALP05/EDC16CP33_V54_ALP05
/EDC16CP33_V20_ALP05/EDC16CP33_V58_ALP05/EDC16CP33_V5C_ALP05/EDC16CP33_V24_ALP05

ALP6	Fuel system leaks
-------------	--------------------------

NOTES	<p>Before dealing with this customer complaint, check that there are no faults, and the conformity (or otherwise) of the parameters and statuses using the diagnostic tool.</p> <p>If the customer complaint is not eliminated, perform the following checks.</p> <p>IMPORTANT</p> <p>Please observe the cleanliness guidelines and safety advice.</p>
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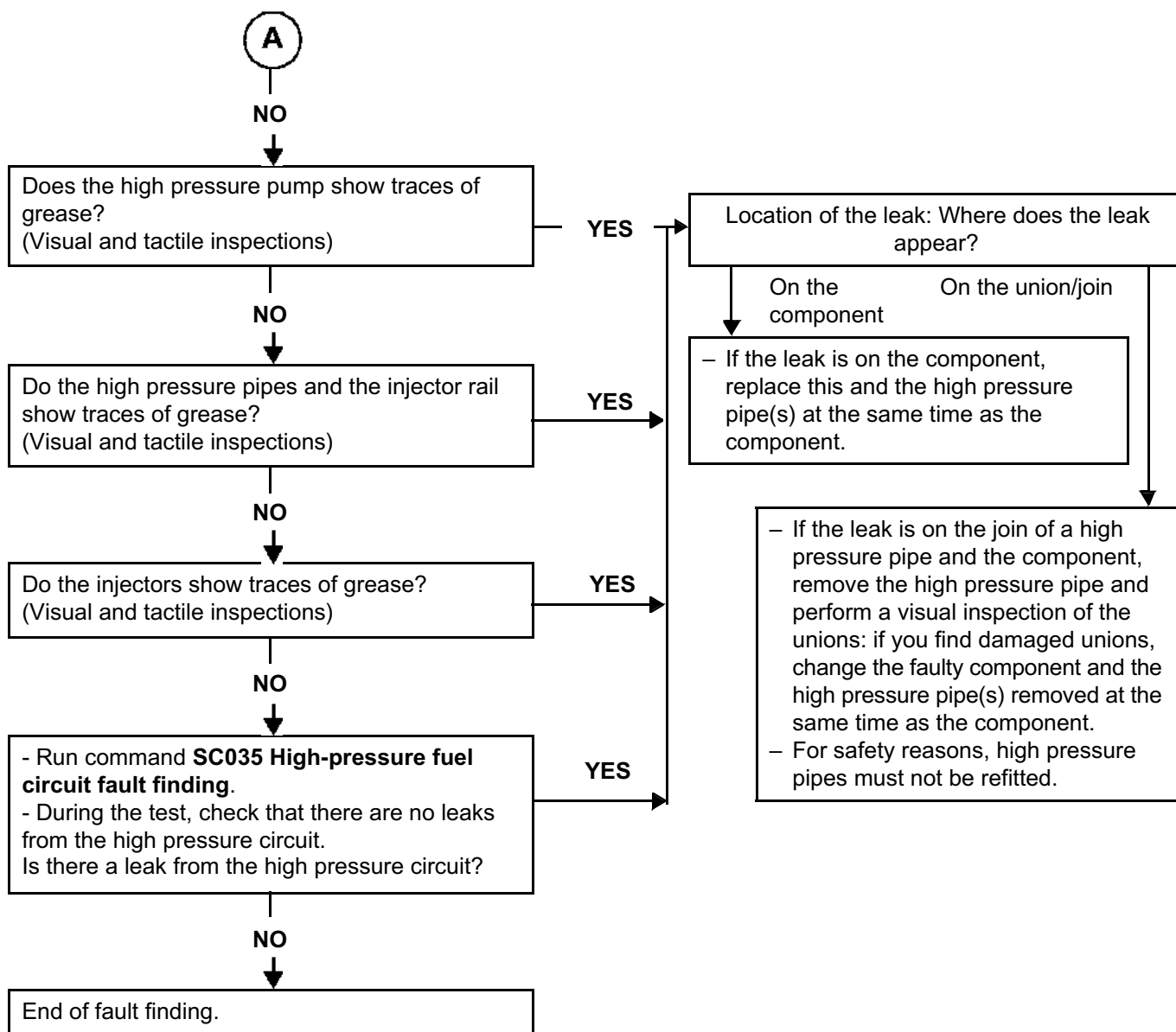
Procedure for checking for an external leak on the fuel circuit:

Clean away traces of grease with clean thinner and wipe the part or parts concerned with cleaning cloths. Start the engine and increase the engine temperature until the diesel fuel reaches **40/50 °C**. Stop the engine and check for traces of grease on the part or parts concerned. If this is the case, replace the part or parts concerned.



AFTER REPAIR	Carry out a road test followed by a complete check with the diagnostic tool .
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ALP6 CONTINUED	
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Reminder:

Only replace the rail, pump or injector if there is damage to the union and this damage is visible during checks.
Bleed the fuel circuit and continue the checks.

AFTER REPAIR	Carry out a road test followed by a complete check with the diagnostic tool .
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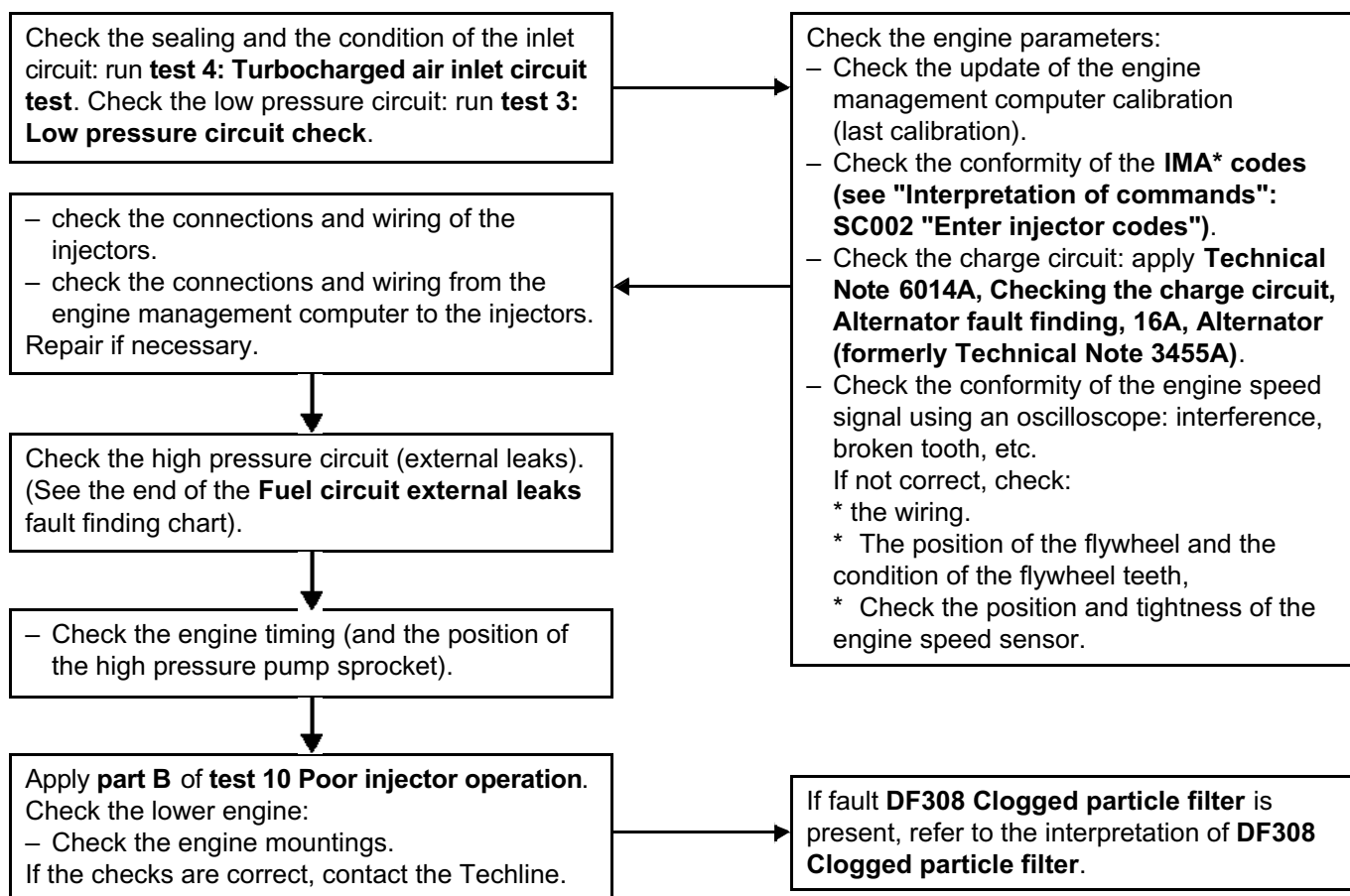
DIESEL INJECTION

Fault finding - Fault Finding Chart

13B

ALP7	Rough idle
-------------	-------------------

NOTES	<p>Before dealing with this customer complaint, check that there are no faults, and the conformity (or otherwise) of the parameters and statuses using the diagnostic tool.</p> <p>If the customer complaint is not eliminated, perform the following checks.</p>
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IMA*: Individual injector correction

AFTER REPAIR	Carry out a road test followed by a complete check with the diagnostic tool .
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DIESEL INJECTION

Fault finding - Fault Finding Chart

13B

ALP8	Engine stalling
-------------	------------------------

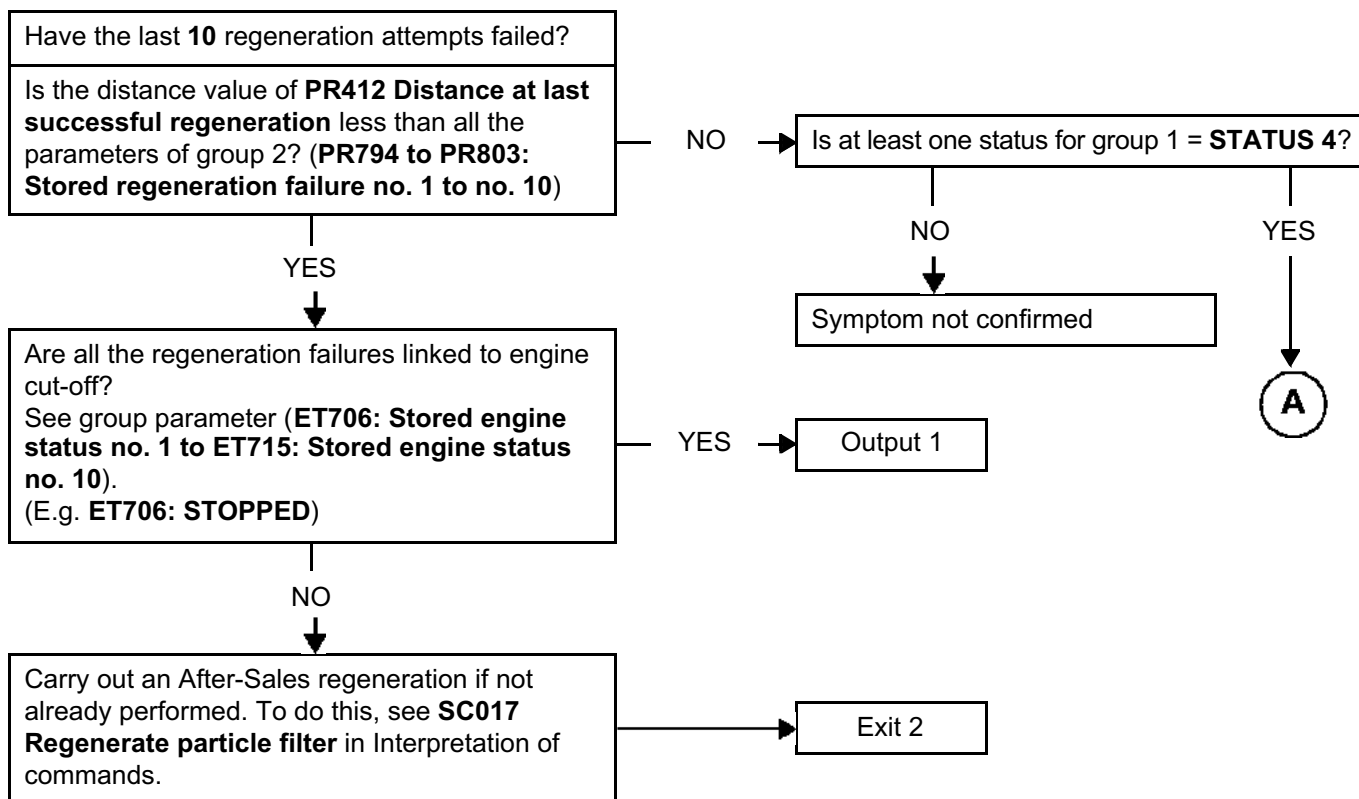
NOTES	<p>Before dealing with this customer complaint, check that there are no faults, and the conformity (or otherwise) of the parameters and statuses using the diagnostic tool.</p> <p>If the customer complaint is not eliminated, perform the following checks.</p>
--------------	---

Apply the interpretation of fault **DF569 Turbocharging circuit** to deal with **ALP8**.

AFTER REPAIR	Carry out a road test followed by a complete check with the diagnostic tool .
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ALP9	Particle filter warning light comes on too often
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NOTES	<p>Before dealing with this customer complaint, check that there are no faults except DF312: Speed request, and the conformity (or otherwise) of the “parameters” and “statuses” using the diagnostic tool.</p> <p>Deal with the other faults first.</p> <p>If the customer complaint is not resolved, perform the following checks:</p>
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ALP9 CONTINUED 1	
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Recognition of parameters corresponding to the start of successful regenerations.
Make adjustments to align the parameter groups.

Group 1: No.1 to 10 regeneration start recording
and

Group 2: No.1 to 10 regeneration failure recording

For each parameter of **group 1**, if there is no parameter for **group 2** in the following 30 miles (50 km), this corresponds to a successful regeneration (S). If there is one, this means a failure (E).

Note down **group 1** here:

PR816:	_____	ET742	_____
PR817:	_____	ET743	_____
PR818:	_____	ET744	_____
PR819:	_____	ET745	_____
PR820:	_____	ET746	_____
PR821:	_____	ET747	_____
PR822:	_____	ET748	_____
PR823:	_____	ET749	_____
PR824:	_____	ET750	_____
PR825:	_____	ET751	_____

Note down **group 2** here:

PR794:	_____
PR795:	_____
PR796:	_____
PR797:	_____
PR798:	_____
PR799:	_____
PR800:	_____
PR801:	_____
PR802:	_____
PR803:	_____

Type of regeneration:

PR816:	R	<input type="checkbox"/>	E	<input type="checkbox"/>
PR817:	R	<input type="checkbox"/>	E	<input type="checkbox"/>
PR818:	R	<input type="checkbox"/>	E	<input type="checkbox"/>
PR819:	R	<input type="checkbox"/>	E	<input type="checkbox"/>
PR820:	R	<input type="checkbox"/>	E	<input type="checkbox"/>
PR821:	R	<input type="checkbox"/>	E	<input type="checkbox"/>
PR822:	R	<input type="checkbox"/>	E	<input type="checkbox"/>
PR823:	R	<input type="checkbox"/>	E	<input type="checkbox"/>
PR824:	R	<input type="checkbox"/>	E	<input type="checkbox"/>
PR825:	R	<input type="checkbox"/>	E	<input type="checkbox"/>

↓ Vdiag 54, 18, 1C

Has a parameter for group 1 reached **19,660 miles (32,766 km)**?

YES →



NO

↓ Vdiag 20, 5C, 24 and 58

For each successful regeneration (S) look in group 1 for the next parameter in order of distance whose status is **STATUS 4**. Is there at least one status?

NO →

Exit 3

YES

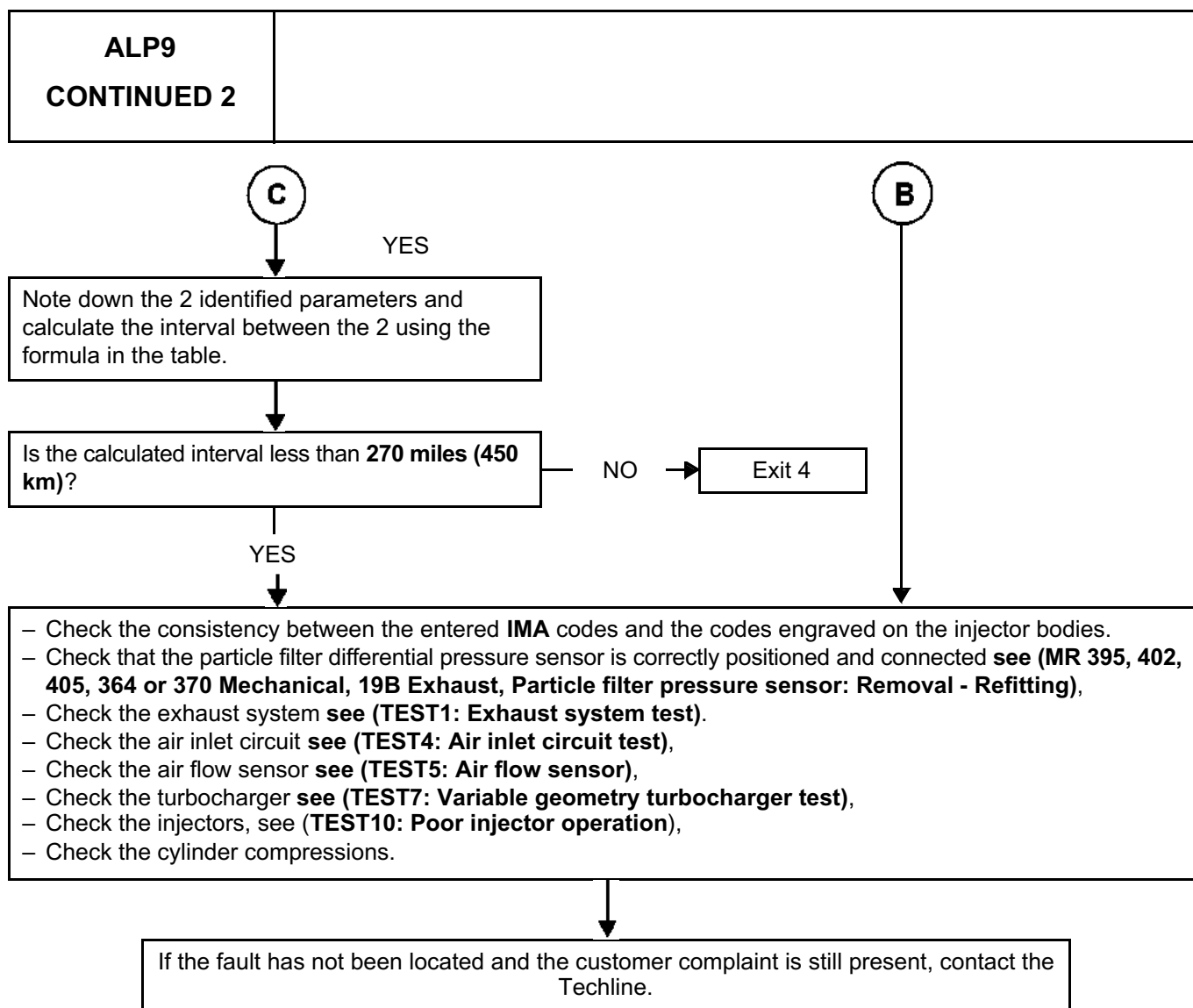


(To be calculated for each successful regeneration)

Successful regeneration parameter= _____

Next parameter at STATUS 4 = _____

Interval = Next parameter at STATUS 4 - Successful regeneration parameter
= _____ - _____
= _____



DIESEL INJECTION

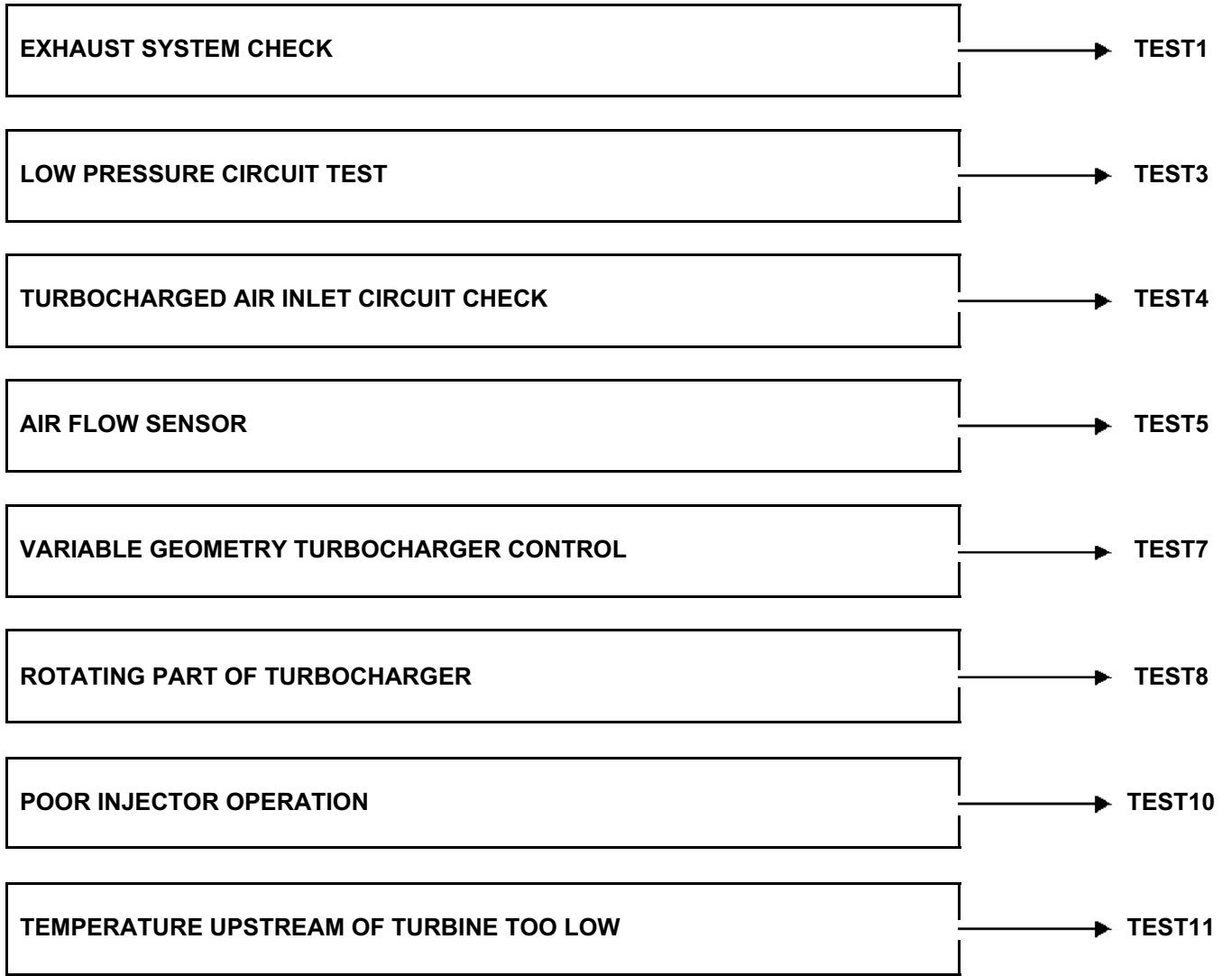
Fault finding - Fault Finding Chart

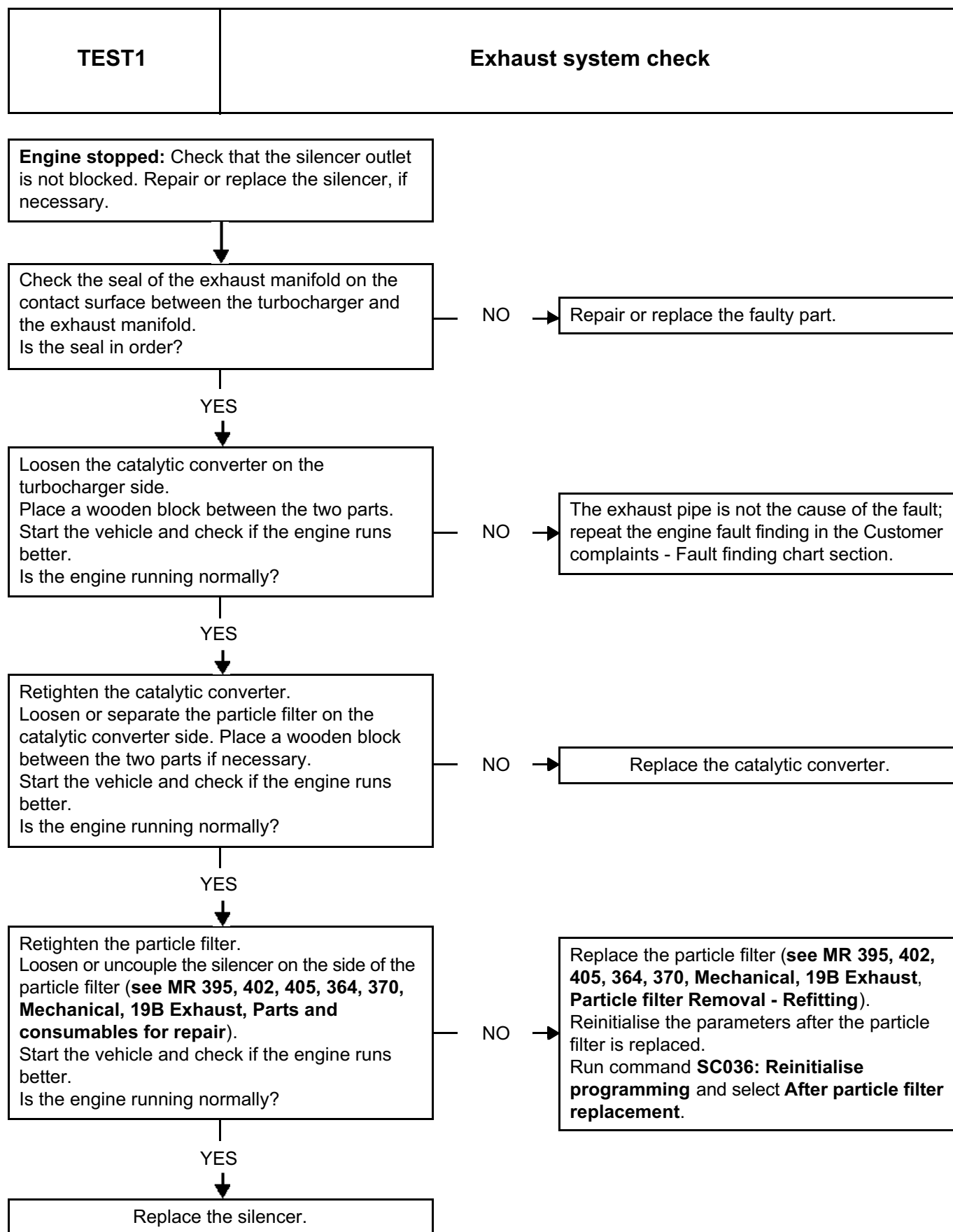
13B

ALP9 CONTINUED 3	
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Outcome analysis for **ALP9 Particle filter warning light comes on too frequently**

No. of ALP exit	Output conditions for ALP9	Cause - type of driving	Regeneration frequency	What to tell the customer?
Output 1	The last 10 regeneration attempts have failed due to the engine cutting out.	Regeneration failures caused by engine cut-off .	No regeneration frequency analysis.	Explain to the customer the need to wait until the end of regeneration (warning light goes out) before switching off the engine.
Output 2	The last 10 regeneration attempts have failed but not because of the engine cutting out.	Unsuitable driving conditions...	No regeneration frequency analysis.	Explain again to the customer the driving criteria for when the warning light comes on.
Output 3	Following the successful regenerations saved in the memory, the customer has not noticed the warning light coming on. No interval can be calculated.	Since the last successful stored regenerations, the driving conditions have not allowed the warning light to come on.	Should be normal	Vehicle correct
Output 4	The interval between a successful regeneration and the particle filter warning light coming on is correct (above the lowest possible values). The system does not have any irregular components.	Unsuitable driving (urban, low speed, etc.)	Normal	Vehicle correct





TEST3

Low pressure circuit check

CP33 HIGH PRESSURE PUMP, M9R Engine

Check the fuel filter:

- Conformity of the fuel filter (correct part number and RENAULT filter).
- Positioning and amount of clogging in the filter element.
- Positioning and condition of the seals.
- **If there is metal swarf in the filter:**
Replace the fuel filter, bleed the circuit and **continue the fault finding procedure.**

Supplying the injection system with fuel from an additional tank.

This operation aims to detect possible faults in the low pressure supply system of a vehicle by replacing it entirely with an additional tank.

Mode:

- Disconnect the diesel fuel supply pipe at the fuel filter inlet and seal it with a plug.
- Connect a pipe to the fuel filter inlet and insert the other end into a **clean** container which is approximately 5 litres in volume.
- Disconnect the diesel fuel return pipe at the diesel fuel temperature sensor (pump return and injector leak-off junction) and seal it with a plug.
- Connect a transparent tube to the diesel fuel temperature sensor union and insert the other end in the container.
- Fill the container with **clean** diesel fuel.
- Start the engine and let the system drain itself of its air (there must not be any air bubbles in the return pipe).

Is the customer complaint still present?

YES

If the low pressure circuit is in order, reconnect the various low pressure circuit pipes, and repeat the fault finding chart procedure or the procedure for the fault that referred you to this test.

NO

Are the low pressure circuit connections in order and in good condition?

NO

Carry out the necessary repairs.

YES



TEST3 CONTINUED

A

Check the condition of the priming bulb, and that it is working properly. Perform repairs if necessary and continue the test.

Check the condition of all the low pressure diesel pipes from the tank to the injection pump (in particular, that the pipes are not being crushed).

If the fault is still present with a low fuel level, check the consistency of the actual fuel level and that indicated on the instrument panel.

- The transfer pump is supplied via a venturi pipe mounted underneath it.

Check that the opening of the venturi (6 to 8 mm in diameter) is not blocked by dirt contained in the fuel tank.
Check the priming of the low pressure diesel circuit.

Check that the fuel tank is correctly filled and that the appropriate fuel is used.

If the diesel fuel is not correct:

- Replace the fuel (diesel fuel).
- Replace the fuel filter (diesel fuel).
- Bleed the low and high pressure fuel circuit (diesel fuel).

Low pressure circuit correct.

TEST4

Checking the turbocharged air inlet circuit

Engine stopped: Check the **sealing** of the low and high pressure air circuits (air leaks in or out, upstream/downstream of the turbocharger).

Check the parts that are abnormally greasy of the circuit and reveal a lack of tightness.

Check:

- the condition and fitting of the ducts (foreign bodies, clogged, disconnected, pinched, broken, holed, cut, tightness of the mounting bolts, etc.).
- the presence, condition and fitting of the seals.
- the present and tightening of the clamps.
- The fitting of the turbocharging pressure sensor.
- the pipes and the take-off point between the air duct and the turbocharging sensor.

Carry out the necessary repairs.

Checking the air filter.

Check:

- That the air filter unit inlet and outlet are not blocked.
- The condition and fitting of the air filter unit (disconnected, broken, perforated, etc.).
- The cleanliness, conformity and the absence of deformation of the filter element.
- The air flowmeter: run **test 5: Air flowmeter**.

Carry out the necessary repairs.

Check:

- the condition of the damper valve,
- the tightening of the mounting bolts,
- cracks in the damper valve.

Carry out the necessary repairs.

Replace if necessary.

Check that there is no leak at the exhaust manifold, in particular at the exhaust manifold/turbocharger connection.

Check the exhaust: run **test 1: Exhaust system check**.

Carry out the necessary repairs.

Carry out a visual inspection of the EGR circuit sealing.

Note: the operational clearance of the EGR exchanger flap shaft leaves slight traces of a black substance due to inconsequential leakage. Do not replace this part.

Replace if necessary.

Check the condition of the intercooler:

- clogging,
- leaks (vehicle stationary, stabilise the engine speed between 3500 rpm and 4000 rpm and check that there are no leaks).

Replace if necessary.

Check that the turbocharging pressure sensor take-off point is not blocked.

Replace if necessary.

END OF TEST.

TEST5	Air flowmeter
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Damage to electrical components

Visual inspection: remove the flow sensor - the components should not be broken.
Replace the air flowmeter if necessary.



Oxidation of the electrical components

Visual inspection: remove the air flowmeter, there should not be any green deposits on the electrical components.
Replace the air flowmeter if necessary.



Clogging of the air flowmeter

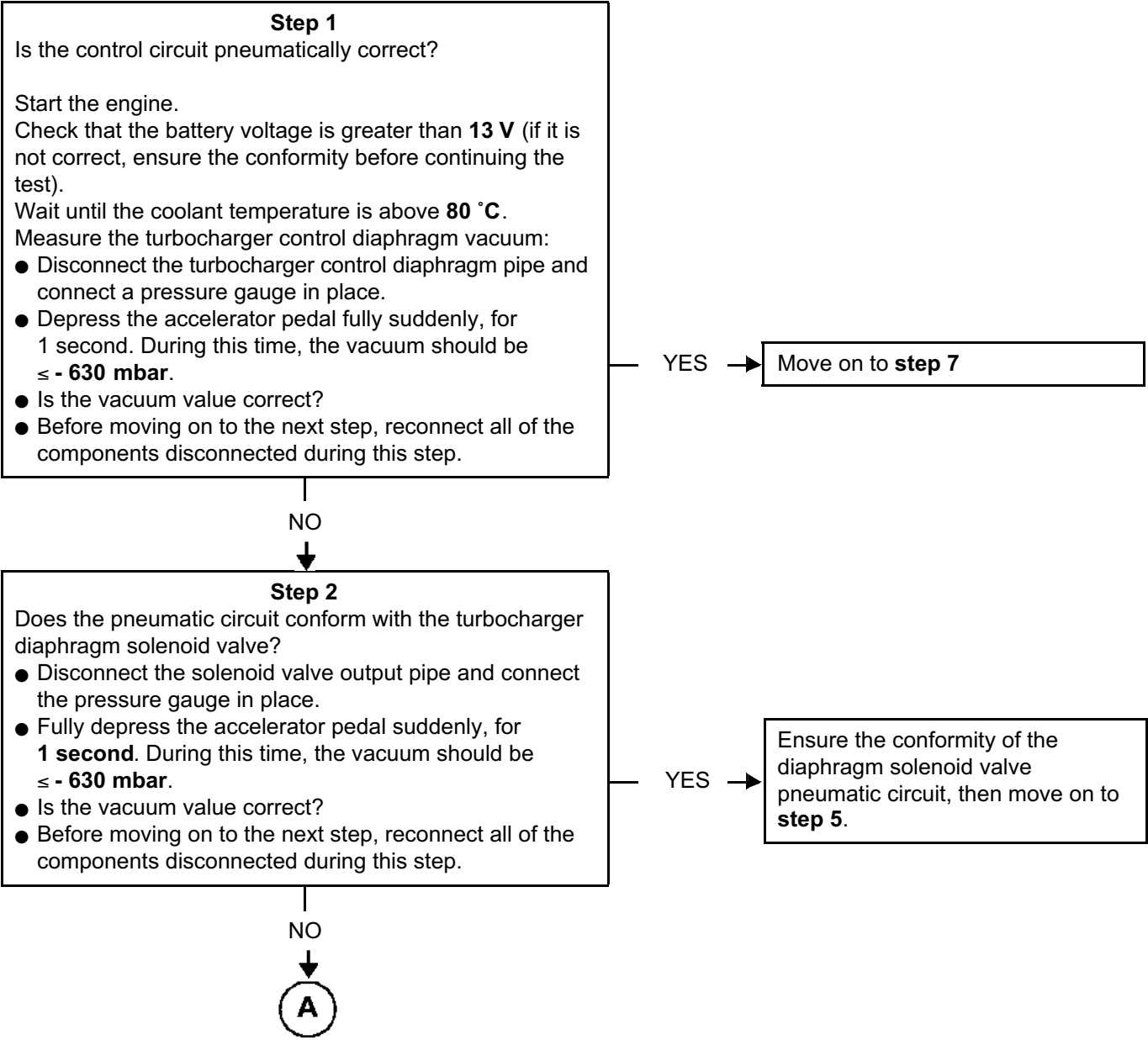
Test:

- Check the values for conformity:
 - During the first 5 seconds after starting,
 - **PR064 Coolant temperature: 80 °C.**
 - **PR055: Engine speed:** idle speed.
 - **PR059: Air temperature** between 30 and 70 °C.
 - **PR132 Flow of air: 24 ± 4 kg/h.**
 - **PR051 EGR valve position feedback: 26 ± 4 %.**
 - **PR023 Air flow difference** between - 50 and + 50 mg.
- Deal with **DF056: Air flowmeter circuit** for the checks on the air flowmeter.

Replace the air flowmeter if necessary.

END OF TEST.

TEST7	Variable geometry turbocharger control
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TEST7 CONTINUED 1

A

Step 3

is the solenoid valve electrically correct?

Check the condition of the connectors of the turbocharging solenoid valve (connection, oxidation, bent pin etc.).
Measure **the resistance** between connections **3FB** and **3MG** of component **1475**.

The resistance should be **$20 \pm 2 \Omega$** (value at **23 °C**).

Before moving on to the next step, reconnect all of the components disconnected during this step.

NO → Replace the turbocharging solenoid valve, then move on to **step 5**.

YES

Step 4

Is the vacuum circuit correct?

- Disconnect the solenoid valve input pipe and connect the pressure gauge in place.
- Measure the vacuum with the engine at idle speed. The vacuum should be **$\leq - 850 \text{ mbar}$** .
- Is the vacuum value correct?
- Before moving on to the next step, reconnect all of the components disconnected during this step.

NO → Ensure the conformity of the vacuum circuit, then move on to **step 5**.

YES

Replace the turbocharging solenoid valve,
then move on to **step 5**

TEST7 CONTINUED 1

Step 5

Is the control circuit pneumatically correct again?
Wait until the coolant temperature is above **80 °C**.

Measure the turbocharger control diaphragm vacuum:

- Disconnect the turbocharger control diaphragm pipe and connect a pressure gauge in place.
- Depress the accelerator pedal fully suddenly, for 1 second. During this time, the vacuum should be ≤ -630 mbar.
- Is the vacuum value correct?
- Before moving on to the next step, reconnect all of the components disconnected during this step.

NO → Return to **step 3** of the test

YES

Step 6

Carry out a road test to check that the customer complaint is resolved

NO →

YES

End of test7

Step 7

Is the control circuit mechanically correct?

Engine stopped:

Place a vacuum pump on the diaphragm, create a vacuum and check that the turbocharger control rod moves at least **10 mm** for a vacuum of **-600 mbar**.
Is the rod jammed or does it have a resistance point?

YES

Replace the turbocharger

NO

Step 8

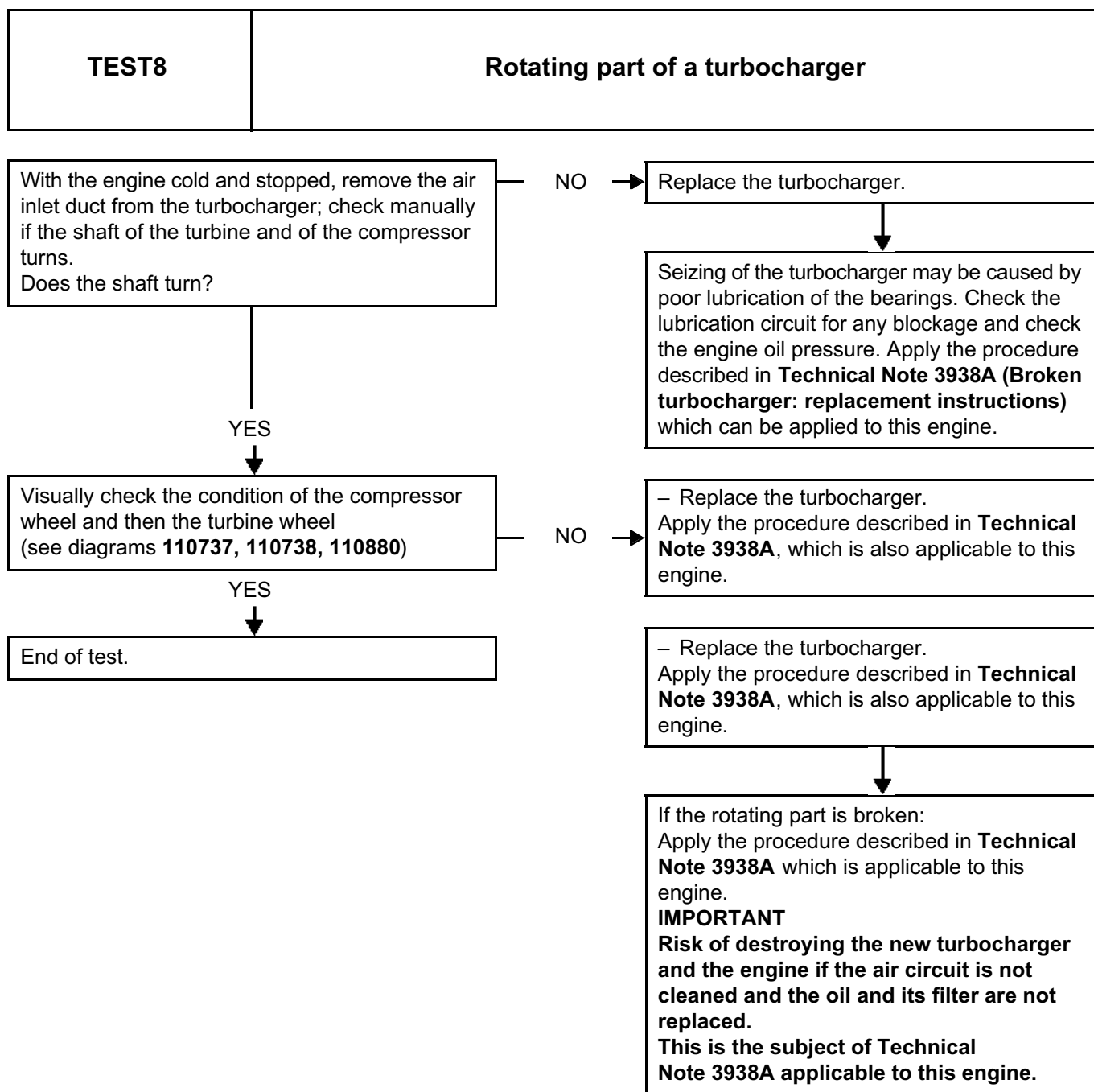
Does the rod stay in the same position for **30 seconds**?

NO

YES

Step 9

Apply **test 8: Turbocharger rotating part**.
End of test7



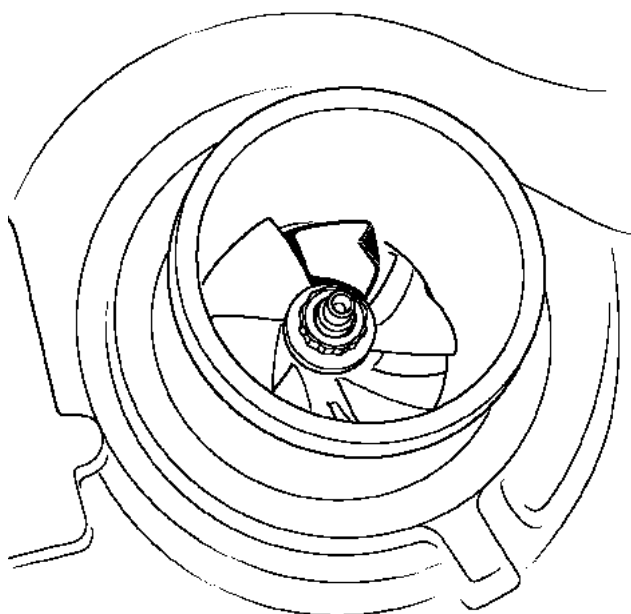
Risks:

In the event of destruction of the turbocharger bearings, the steel and bronze swarf from this destruction are evacuated through the turbocharger oil to the engine's oil sump. The swarf can, consequently, be returned to the oil circuit via the oil pump, then cause widespread contamination of the engine oil circuit. This causes abnormal wear on the crankshaft bearing bushings, the con rod bearing shells and the camshafts, etc.

In the event of the compressor wheel breaking, parts of the blades may be found in the intercooler or in the air circuit ducts. The turbine wheel could easily be found in the catalytic converter.

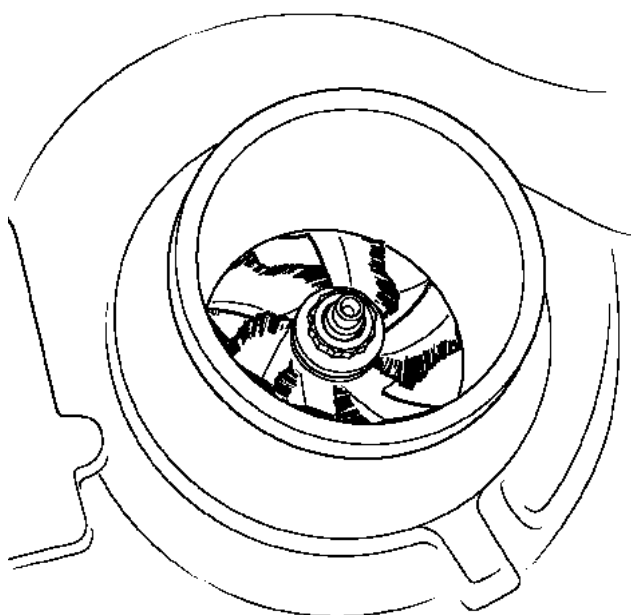
TEST8
CONTINUED 1

Deformed, twisted blade ("soft" foreign body)



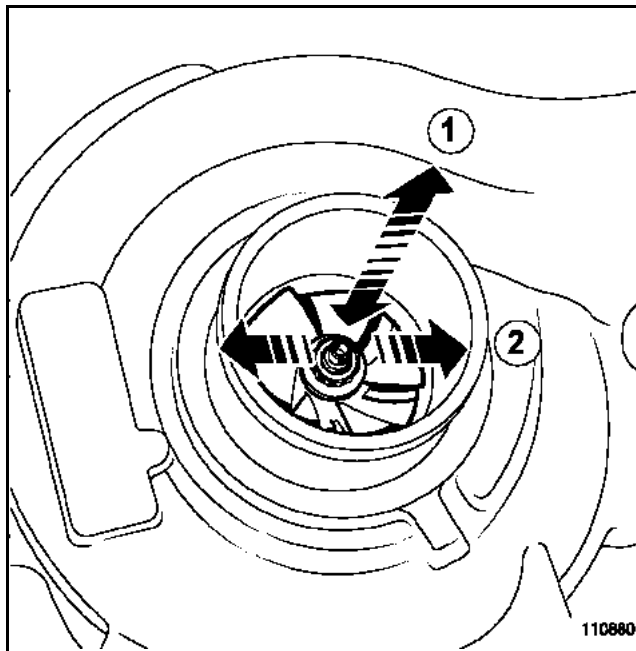
110737

Broken blades ("hard" foreign body)



110738

TEST8
CONTINUED 2



- 1 End float
- 2 Radial play

TEST10	Poor injector operation
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Part A (for Vdiag 18)

Fuel regulation balance check for each injector: (individual correction)

- In CLIP, select the **Fuel circuit** sub-function.
- With the engine idling and the fuel temperature > 50 °C, view the flow correction values of each injector (individual correction), i.e.:

PR364 Cylinder no. 1 fuel flow correction.

PR405 Cylinder no. 2 fuel flow correction.

PR406 Cylinder no. 3 fuel flow correction.

PR365 Cylinder no. 4 fuel flow correction.

The **normal** value for flow correction for an injector is approximately $\pm 1.5 \text{ mg/stroke}$. This tolerance value may increase with time, but indicates an injector/cylinder fault if it exceeds $\pm 5 \text{ mg/st}$.

Check the **IMA** injector codes, comparing the **IMA** codes engraved on the injectors (the **IMA** codes must be read from left to right) and the **IMA** codes read in the **diagnostic tool**. If the **IMA** codes are correct, continue the fault finding procedure, if not, change the incorrect IMA codes using command **SC002 "Enter injector codes"** (see **Interpretation of commands**).

1 If at least one of these values is > + 5 mg/st

- Check the valve clearance.
- Check the condition of the engine and test the compressions. Use a compression gauge, M9R hose end piece, part no. **Mot. 1772** and apply command **VP036 "Fuel supply inhibition"** (see **Interpretation of commands**).
- If the compression test reveals a cylinder fault, carry out the necessary repairs.
- If the compression is correct, check the conformity of the injector assembly according to the procedure (see **MR 402 (Vel-Satis ph2)**, **MR 395 (Laguna II ph2)**, **MR 364 (Mégane II ph2)**, **MR 370 (Scénic II ph2)** or **MR 361 (Espace IV ph2)**, **Mechanical 13B Diesel injection, Diesel injectors: Removal - Refitting**).
- Check the fuel regulation again for each injector (individual correction).
- If the customer complaint is still present, replace the injector* concerned.
- See paragraph **"Part C: Confirmation of flow correction fault finding for each injector"**, to confirm fault finding.

2 If at least one of these values is < - 5 mg/st:

- Check the valve clearance.
- Check the level and condition of the engine oil.
- Remove the injector with the largest adjustment.
- If there is contamination via the diesel, check the condition of the cylinder concerned (cylinder, piston, valves).
- Replace the faulty injector*.
- See paragraph **"Part C: Confirmation of flow correction fault finding for each injector"**, to confirm fault finding.

3 If at least one of these values does not stabilise (20 seconds after starting):

- Check the low pressure circuit with **test 3: Low pressure circuit test**
- Ensure that the correct fuel is being used.
- See paragraph **"Part C: Confirmation of flow correction fault finding for each injector" of test 10**, to confirm fault finding.

EDC16CP33_V18_TEST10/EDC16CP33_V1C_TEST10/EDC16CP33_V54_TEST10
/EDC16CP33_V20_TEST10/EDC16CP33_V58_TEST10/EDC16CP33_V5C_TEST10/EDC16CP33_V24_TEST10

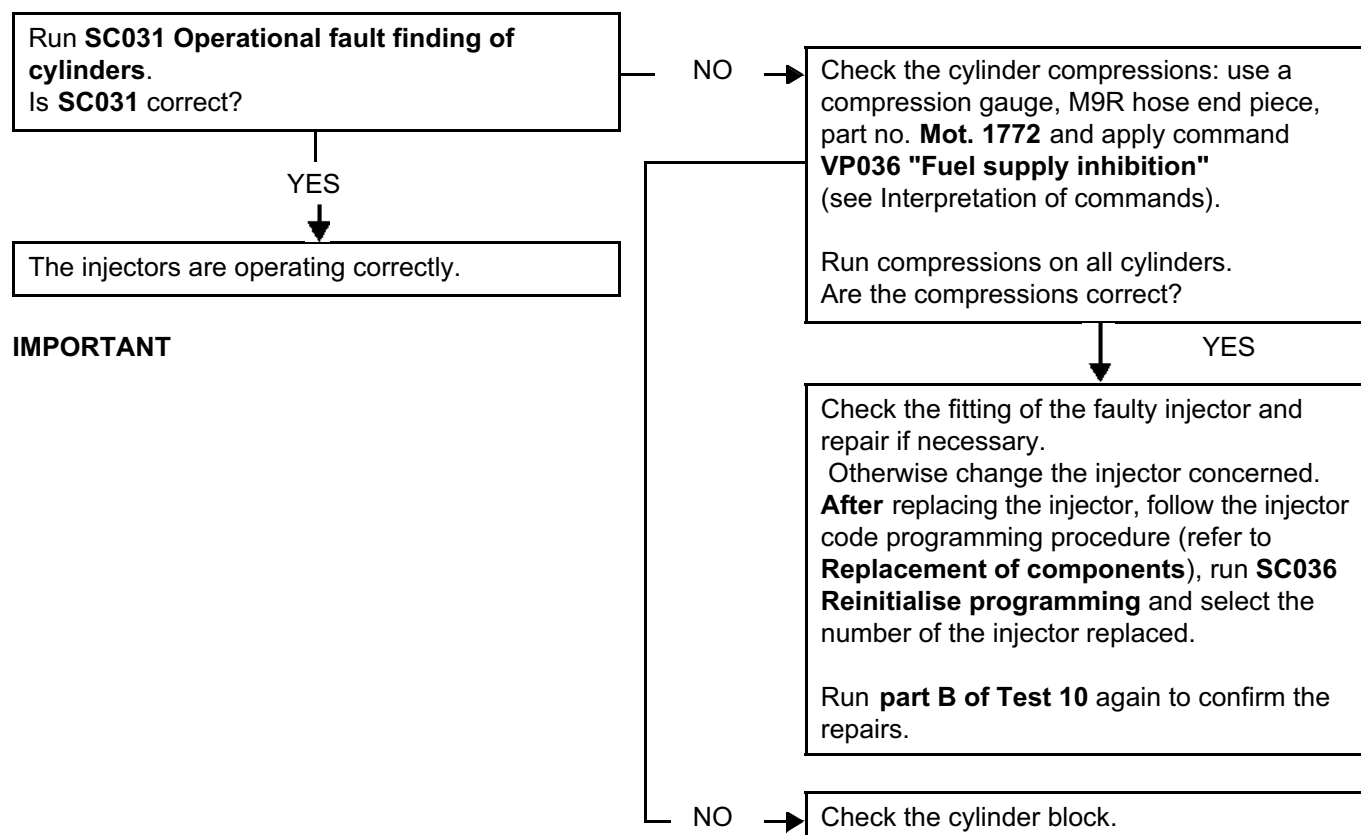
TEST10 CONTINUED 1

* **After** replacing an injector, follow the injector code programming procedure (see **Replacement of components**), run **SC036 "Reinitialise programming"** and select the number of the injector replaced.

IMPORTANT

When removing/refitting an injector, respect the cleanliness guidelines and safety advice (see **MR 395 (Laguna II ph2), 402 (VelSatis), 361 (Espace IV Ph2), 364 (Megane II ph2), 370 (Scenic II ph2), Mechanical 13B Diesel injection, Diesel injectors: Removal and refitting**).

Part B (except Vdiag 18)



When removing/refitting an injector, respect the cleanliness guidelines and safety advice (see **MR 395 (Laguna II ph2), 402 (VelSatis), 361 (Espace IV Ph2), 364 (Megane II ph2), 370 (Scenic II ph2), Mechanical 13B Diesel injection, Diesel injectors: Removal and refitting**).

TEST10 CONTINUED 2

Part C

Confirmation of flow correction fault finding for each injector: (individual correction)

Clear the faults and carry out a test with the **engine at idle speed**, fuel temperature > 50 °C, and confirm the repair by checking that no faults appear on the diagnostic tool and that the correction values do not reach **± 5 mg/st**.

- If one or more cylinders have flow correction values per injector which exceed **± 5 mg/st**, follow the fault finding procedure shown in "**Part A: Check the fuel flow regulation balance injector by injector (individually)**" of **test 10**.
- Otherwise, follow the fault finding procedure given in "**Part D: Injector nozzle sealing test**" of **Test 10**.

Part D

Injector nozzle sealing test:

- Check the level and condition of the engine oil:
- If there is contamination from the diesel oil, the injector nozzle which is leaking will be greasy.
- Disconnect the preheating relay.
- Check that this is not caused by rising engine oil by checking the engine compression values.
- Check the condition of the heater plug: this must not be wet. If it is, change the defective injector.
- If the engine compression values are correct, locate the faulty injector by looking at the condition of the cylinders and the pistons across the heater plug wells (greasy cylinder, overheating, incipient breakage, etc.).
- If the cylinder - piston examination is not conclusive, remove the injectors and change the one with the greasy nozzle.
- If the fault finding checks do not enable the engine to be repaired, contact the Techline.

After replacing the injector, follow the injector code programming procedure (refer to **Replacement of components**), run **SC036 Reinitialise programming** and select the number of the injector replaced.

*Note:

Before replacing an injector, check for the sealing washer and its conformity (see the Fault finding chart **ALP4 Poor performance**).

IMPORTANT

When removing/refitting an injector, respect the cleanliness guidelines and safety advice (see **MR 395 (Laguna II ph2), 402 (VelSatis), 361 (Espace IV Ph2), 364 (Megane II ph2), 370 (Scenic II ph2), Mechanical 13B Diesel injection, Diesel injectors: Removal - Refitting**).

TEST11	Temperature upstream of turbine too low
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