

MEGANE

1 Engine and peripherals

13B

DIESEL INJECTION

DCM 1.2 Injection

Program No.: 4D

Vdiag No.: 48, 4C, 50, 54, 58, 5C

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V9

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): CLIO III, MODUS, MEGANE II / SCENIC II, New Twingo, Kangoo 2.	Name of computer: DCM1.2 injection
Engines: K9K 718, 724, 740, 750, 752, 766, 768, 800, 802, 812	<i>Program No.:</i> 4D
Function concerned: Direct diesel injection, DELPHI, COMMON RAIL, MULTI INJECTION.	Vdiag No.: 48, 4C, 50, 54, 58, 5C

2. PREREQUISITES FOR FAULT FINDING

Documentation type

Fault finding procedures (this document):

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

Wiring Diagrams:

- Visu-Schéma.

Type of diagnostic tools

- CLIP

Special tooling required

Special tooling required	
Diagnostic tool	
Multimeter	
Elé. 1590	112-track computer bornier
Elé. 1681	Universal bornier
Mot 1711	Injector flow measuring kit

3. REMINDERS

Procedure

To run fault finding on the vehicle computers, switch on the ignition.

Depending on the type of vehicle equipment, proceed as follows:

For vehicles with radio frequency remote control/key,
switch on the ignition with the key.

For vehicles with a Renault card,
With the vehicle card in the card reader,
Press and hold the start button (**+ 5 seconds**) with starting conditions not met,
Connect the **diagnostic tool** and perform the required operations.

Note:

the left and right-hand xenon bulb computers are powered when the dipped headlights are lit. Therefore fault finding can only be carried out on them after the ignition has been switched on in fault finding mode (forced + after ignition feed) and the dipped headlights have been switched on.

To cut off + after ignition feed, proceed as follows:

For vehicles with a radio frequency remote control - key, use the key to switch off the ignition.

For vehicles with a Renault card,

press the Start button twice briefly (less than **3 seconds**), check that the forced + after ignition feed has been cut off by checking that the computer warning lights on the instrument panel have extinguished.

Faults

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

The **present** or **stored** status of faults should be taken into consideration when using the **diagnostic tool** after switching on 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 **Notes** section.

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

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

- the electrical connections that correspond to the fault,
- the connectors for this connection,
- the resistance of the component detected as defective,
- the condition of the wires.

Refer to paragraphs 4.1 Checking wiring and 4.2 Checking connectors

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.

This section gives the fault finding procedures for statuses and parameters and the conditions for checking them.

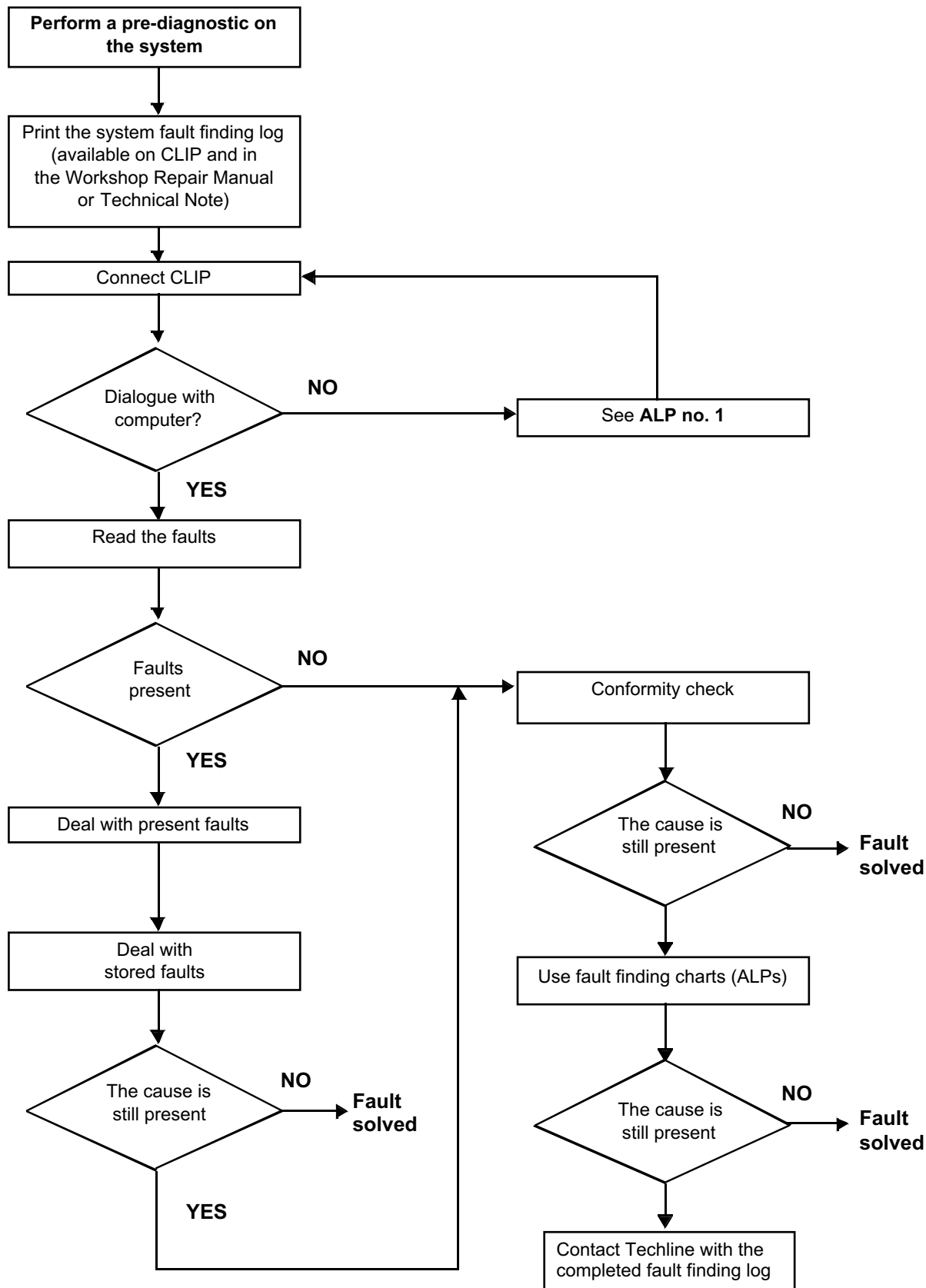
If a status is not behaving normally or a parameter is outside the permitted tolerance values, consult the corresponding fault finding page.

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)

4.1 Wiring check

Fault finding problems

Disconnecting the connectors and/or handling the wiring harness may temporarily remove, the cause of a fault.

Visual inspection

Look for damage under the bonnet and in the passenger compartment.

Carefully check the protectors, insulation, and routing of the wiring, as well as the mountings.

Physical inspection

While manipulating the wiring, use either the **diagnostic tool** to detect a change in status from "stored" to "present", or use the multimeter to view the status changes.

Make sure that the connectors are properly locked.

Apply light pressure to the connectors.

Twist the wiring harness.

Checking earth insulation

This check is carried out by measuring the voltage (multimeter in voltmeter mode) between the suspect connection and the **12 V** or **5 V**. The correct measured value is **0 V**.

Checking insulation against + 12 V or + 5 V

This check is carried out by measuring the voltage (multimeter in voltmeter mode) between the suspect connection and the earth. In the first instance, the earth may be taken on the chassis. The correct measured value should be **0 V**.

Continuity check

A continuity check is carried out by measuring the resistance (multimeter in ohmmeter mode), with the connectors disconnected at both ends. The expected result is: **1 Ω \pm 1 Ω** for each connection. The line must be fully checked, and the intermediate connections are only included in the method if this saves time during the fault finding procedure. The continuity check on the multiplex lines must be carried out on both wires. The measured value should be **1 Ω \pm 1 Ω**

Checking the supply

This check may be carried out using a test light (**21 W** or **5 W** depending on the maximum authorised load).

4.2 Connector check

Note:

Carry out each requested check visually. Do not remove a connector if it is not required.

Note:

Repeated connections and disconnections alter the functionality of the connectors and increase the risk of poor electrical contact. Limit the number of connections/disconnections as much as possible.

Note:

The check is carried out on the 2 parts of the connection. There may be 2 types of connections:

- Connector/Connector.
- Connector/Device.

1. Visual inspection of the connection:

- Check that the connector is connected correctly and that the male and female parts of the connection are correctly coupled.

2. Visual inspection of the area around the connection:

- Check the condition of the mounting (pin, strap, adhesive tape, etc.) if the connectors are attached to the vehicle.
- Check that there is no damage to the wiring trim (sheath, foam, adhesive tape, etc.) near the wiring.
- Check that there is no damage to the electrical wires at the connector outputs, in particular on the insulating material (wear, cuts, burns, etc.).

Disconnect the connector to continue the checks.

3. Visual inspection of the plastic casing:

- Check that there is no mechanical damage (casing crushed, split, broken, etc.), in particular to the fragile components (lever, lock, sockets, etc.).
- Check that there is no heat damage (casing melted, darker, deformed, etc.).
- Check that there are no stains (grease, mud, liquid, etc.).

4. Visual inspection of the metal contacts:

(The female contact is called CLIP. The male contact is called TAB.)

- Check that there are no bent contacts (the contact is not inserted correctly and can come out of the back of the connector). The spring contact of the connector when the wire is pulled slightly.
- Check that there is no damage (folded tabs, clips open too wide, blackened or melted contact, etc.).
- Check that there is no oxidation on the metal contacts.

5. Visual inspection of the sealing:

(Only for watertight connectors)

- Check for the seal on the connection (between the 2 parts of the connection).
- Check the seal at the back of the connectors:
- For unit seals (1 for each wire), check that the unit seals are present on each electrical wire and that they are correctly positioned in the opening (level with the housing). Check that plugs are present on openings which are not used.
- For a grommet seal (one seal which covers the entire internal surface of the connector), check that the seal is present.
- For gel seals, check for gel in all of the sockets without removing the excess or any protruding sections (it does not matter if there is gel on the contacts).
- For hotmelt sealing (heat-shrink sheath with glue), check that the sheath has contracted correctly on the rear of the connectors and the electrical wires, and that the hardened glue comes out of the side of the wire.
- Check that there is no damage to any of the seals (cuts, burns, significant deformation, etc.).

If a fault is detected, consult **Technical Note 6015A, Repairing electrical wiring**.

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 INSTRUCTIONS

Safety rules must be observed during any work on a component to prevent any material damage or personal injury:

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

I. HAZARDS 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. ADVICE 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 surface, to prevent any diesel from running onto the clutch friction plate.

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 also 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 single-use only. Once used, they must be thrown out.

Use lint-free cleaning cloths (cloth part reference **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.

High and low pressure pump:

This pump is located upstream of the common rail.

Solenoid injectors:

The injectors are fitted on the cylinder head after the common rail.

Turbocharger:

The turbocharger is located after the exhaust manifold.

Turbocharger control solenoid valve (K9K 724, 766, 802, and 812 only):

This solenoid valve is located close to the turbocharger, its position depends on the vehicle.

Air flowmeter:

The air mass flow meter is located at the air circuit inlet and integrates the air temperature sensor.

EGR valve:

The EGR valve is located between the inlet manifold and the exhaust manifold.

Accelerator pedal potentiometer:

The potentiometer is located on the accelerator pedal.

Clutch pedal switch:

The switch is located on the clutch pedal.

Catalytic converter:

The catalytic converter is located downstream of the turbocharger on the exhaust system.

Cruise control/speed limiter on/off switch:

This switch is located in the passenger compartment to the left of the steering wheel near the lighting dimmer.

Heater plugs:

The heater plugs are located on the cylinder head.

Inlet manifold pressure sensor:

The inlet manifold pressure sensor is located upstream of the turbocharger.

Air temperature sensor:

The air temperature sensor is located at the air circuit inlet, in place of the air flowmeter or integrated into it if the flowmeter is present, and/or in the inlet manifold.

Water in diesel fuel sensor (New Twingo and Kangoo 2 only):

This sensor is located in the diesel filter.

Fuel temperature sensor:

This sensor is positioned on the injection pump.

Rail pressure sensor:

This sensor is fitted to the common rail.

Atmospheric pressure sensor:

This sensor is incorporated in the computer.

TDC sensor:

This sensor is located on the flywheel.

Camshaft sensor:

This sensor is located at the end of the camshaft.

Refrigerant pressure sensor:

This sensor is located on the coolant circuit.

Engine coolant temperature sensor:

This sensor is located on the cylinder head near the engine water chamber.

Accelerometer:

This sensor is located on the cylinder block.

Passenger compartment heating resistor relay:

These relays are located in the engine compartment relay unit.

Air conditioning compressor relays:

These relays are located in the engine compartment relay unit.

Fan unit relay:

These relays are located in the engine compartment relay unit.

System outline

The **DCM1.2** injection system used on the **K9K** engine is an electronically-managed high pressure injection system. The fuel is compressed by a high pressure pump then stored in a rail that feeds the injectors. Injection takes place when a current pulse is applied to the injector holders. The amount injected is proportional to the rail pressure and the applied pulse length, and the start of injection is synchronised with the start of the pulse.

The system includes two subsystems, which have different fuel pressure levels:

- The low pressure circuit contains the tank, the diesel fuel filter, the transfer pump and the injector holder return pipes,
- the high-pressure system includes the high-pressure pump, rail, injector holders and high-pressure pipes.

Finally, there are a certain number of sensors and regulating actuators for controlling and monitoring the entire system.

Functions performed:

Function: Fuel supply management (timing, flow and pressure).

Quantity of fuel injected and injection timing setting

The injection checking parameters are the quantities to be injected and their respective timing.

These are calculated by the computer using signals from the following sensors:

- engine speed sensor (Crankshaft + Cam lobe for synchronisation),
- accelerator pedal sensor,
- coolant temperature sensor,
- rail pressure sensor,
- atmospheric pressure sensor,
- accelerometer,
- inlet manifold pressure sensor.

Specific vehicle / engine suffix details:

Modus	
K9K 750 752 (Euro 3)	Inlet manifold temperature and pressure sensor (a sensor which has two functions), management by the turbocharger control solenoid valve inlet pressure.
K9K 766 (Euro 4)	Either a flow sensor with an integrated temperature sensor or a temperature sensor instead of a flow sensor with inlet manifold temperature sensor, inlet manifold pressure sensor, management by turbocharger control solenoid valve programming.
K9K 768 (Euro 4)	Flow sensor with integrated temperature sensor, inlet manifold pressure sensor, management by the turbocharger control solenoid valve inlet pressure.

Clio III	
K9K 750 752 (Euro 3)	Inlet manifold temperature and pressure sensor (a sensor which has two functions), management by the turbocharger control solenoid valve inlet pressure.
K9K 766 (Euro 4)	Either a flow sensor with an integrated temperature sensor or a temperature sensor instead of a flow sensor with inlet manifold temperature sensor, inlet manifold pressure sensor, management by turbocharger control solenoid valve programming.
K9K 768 (Euro 4)	Flow sensor with integrated temperature sensor, inlet manifold pressure sensor, management by the turbocharger control solenoid valve inlet pressure.

Megane II / Scenic II	
K9K 724 (Euro 4)	Either a flow sensor with an integrated temperature sensor or a temperature sensor instead of a flow sensor with inlet manifold temperature sensor, inlet manifold pressure sensor, management by turbocharger control solenoid valve programming.

New Twingo	No UPC (Protection and Switching Unit).
K9K 740 (Euro 4)	Temperature sensor instead of the flow sensor with inlet manifold pressure and temperature sensor, management by the turbocharger control solenoid valve inlet pressure, water in diesel fuel sensor depending on target export countries.

Kangoo 2	
K9K 800 802 (Euro 4)	The flow of fresh air entering the engine is given by a hot wire ratiometric sensor. This flow sensor facilitates control of the amount of exhaust gas sent for recirculation, thus ensuring the best possible recirculation rates. An air temperature sensor is integrated into the flow sensor. Air flow measurement facilitates closed-loop control via the EGR valve.
K9K 812 (Euro 3)	Temperature sensor instead of the flow sensor with inlet manifold pressure and temperature sensor, management by the turbocharger control solenoid valve inlet pressure.

The quantities to be injected and their respective timing are converted into:

- a reference tooth,
- the time between this tooth and the start of the pulse,
- the time during which the supply to the injector holder is on.

An electrical current (pulse) is sent to each injector holder according to previously calculated data. The system carries out one to four injections (one pilot injection, one pre-injection, one main injection, one post-injection). The general principle is to calculate the total injection flow which is then divided between the injection stages to promote correct combustion and reduce pollutant emissions.

An accelerometer checks some of the fuel injection deviation. This has several functions:

- Protecting the engine by detection of injection system leaks.
- Checking the quantity injected by measuring deviations and variations.

By changing both the injection duration and advance, the system readjusts the quantity of fuel injected and the mixture's moment of ignition.

Rail pressure check

The quality of combustion is influenced by the size of the atomised droplets in the cylinder.

In the combustion chamber, smaller fuel droplets will have time to burn fully, and will not produce smoke or unburned particles. To meet emission control requirements, the droplet size must be reduced and therefore the injection holes must be smaller.

With smaller holes, less fuel will be able to be introduced at a given pressure, which limits the power. To offset this disadvantage, the quantity of fuel injected must be increased, which means increased pressure (and more holes in the injector nozzles). In the Delphi Common Rail injection system, the pressure in the rail can reach **1600 bar** and must be constantly controlled. The measuring circuit comprises an active pressure sensor on the rail connected to an analogue port on the computer.

The High Pressure pump is supplied at low pressure (**5 bar**) by a built-in transfer pump. This pump supplies the rail. The rail filling pressure is controlled by the filling valve (**IMV**) and the discharge pressure is controlled by the injector valves. This compensates for pressure drops. The filling actuator enables the high pressure pump to supply the exact quantity of diesel fuel required to maintain the rail pressure. This mechanism minimises the heat generated and improves engine output.

In order to discharge the rail using the injector valves, the valves are actuated by short electrical pulses which are:

- short enough not to open the injector (fuel passes through the return circuit from the injectors),
- long enough to open the valves and discharge the rail.

The fuel surplus is sent back to the fuel filter or the tank, according to its flow. If there is no **IMV*** control, the rail pressure is limited by a discharge valve on the pump.

IMV*: Filling actuator.

Idling speed regulation

The computer handles the calculation of idling speed. This has to take account of the instantaneous power level to be supplied, according to the following factors:

- engine coolant temperature,
- gear ratio engaged,
- battery charge,
- electrical consumers (Additional heating, Air conditioning, Fan assembly, heated windscreen, etc.) active or inactive,
- system faults detected.

Individual injector correction (C2I)

The DCM1.2 system injectors must be calibrated with corrective values so that their flow may be adjusted precisely. Each injector is calibrated for different pressures on a test bench, and its specifications are shown on a label attached to the body of the injector holders. These individual correction values are then entered into the computer memory, which can control the injectors, taking their manufacturing variations into account.

Angular position measurement

Engine speed sensor:

The angular position is measured using a magneto-inductive sensor triggered by machined teeth on the shaft flywheel. This flywheel has sixty teeth, six degrees apart, minus two missing teeth that form a notch.

Cylinder reference sensor:

A second sensor (Hall effect) triggered by a machined tooth on the high pressure pump drive pulley (synchronised with the camshaft), turning at half the engine speed, supplies a signal about the progress of the injection cycle. By comparing the signals from these two sensors, the computer's APS module (Angular Position Subsystem) can supply the entire system with the synchronisation factors, which are: the angular position of the flywheel, the engine speed, the number of the active injector and the injection cycle timing. This module also supplies the system with the engine speed signal.

New pump chamber filling procedure (pump boosting)

The pump lubrication goes through a booster cycle during which the pump is filled and pressurised before "transferring" the diesel fuel to the rail.

This lubrication goes through a procedure called **new pump chamber filling**, which prevents starting for approximately **10 seconds**, which is the time required for filling the pump and starting. For vehicles with keys, if the key is released before the end of this "initial starting" phase there is no need for a power latch phase to be completed before a fresh attempt to start the vehicle.

This procedure is run after the first start in the factory, after a **computer is replaced** if the parameters relating to the rail pressure have not been copied into the new computer, and also after reprogramming of the injection computer.

Variable Low Capacity (VLC) output function

Because of the combination of several parameters such as the diesel fuel temperature, part wear, clogging of the diesel filter etc., the system limit may be reached during its service life. If this happens, the rail pressure cannot be maintained because the pump lacks the necessary capacity. If the pump lacks the necessary capacity, this programming will therefore reduce the requested flow to a value that will enable the pressure monitoring system to control the pressure again.

The customer may have noticed a loss of vehicle performance when this program is activated (depending on the vehicle, this programming can be confirmed by **ET563 Flow capacity function**). This is normal operation of the injection system.

Function: Air flow management

EGR valve control

K9K 766 and 768 (Euro 4) engines (fitted on Clio III and Modus) and K9K 724 (Euro 4) engines (fitted on Mégane II and Scénic II) and K9K 740 engines (fitted on New Twingo) and K9K 800, 802 and 812 engines (fitted on Kangoo 2):

The **EGR** (Exhaust Gas Recirculation) system consists of a **DC proportional EGR valve**, which incorporates a valve position feedback potentiometer. The **EGR valve** is closed-loop controlled based on its position via the potentiometer and/or based on changes in the estimated air flow.

K9K 750 and 752 (Euro 3) engines (fitted on Clio III and Modus):

The **EGR** system (Exhaust Gas Recirculation) consists of an **EGR solenoid valve**, which incorporates a valve position feedback potentiometer. The **EGR valve** is closed-loop controlled based on its position via the potentiometer and/or based on changes in the estimated air flow.

Calculating the air flow

K9K 768 (Euro 4) engines (fitted on Clio III and Modus) and K9K 800, 802, and 812 engines (fitted on Kangoo 2):

The flow of fresh air entering the engine is measured by a hot wire ratiometric sensor. This flow sensor is used to manage the amount of exhaust gas to be recirculated to ensure optimum recirculation rates. A fresh air temperature sensor is integrated into the flowmeter.

Air flow measurement allows closed-loop control via the EGR valve.

Note:

The **K9K 812** does not have a flow sensor.

K9K 750 and 752 (Euro 3) engines (fitted on Clio III and Modus) and K9K 740 Euro 4 engines (fitted on New Twingo):

Some models are not fitted with air flow sensors. In this case the amount of fresh inlet air must be evaluated, based on the values supplied by the surrounding systems.

The (theoretical) amount of air is calculated with a computer model using the following parameters:

- the inlet air temperature measured by a sensor located after the turbocharger and/or after the intercooler (if fitted),
- the **inlet** pressure,
- the atmospheric pressure (external air),
- the **EGR valve** position,
- the fuel flow,
- the engine speed.

K9K 766 (Euro 4) engines (fitted to Clio III and Modus) and K9K 724 (Euro 4) engines (fitted on Mégane II and Scénic II):

These engines are fitted with one of the two systems.

Turbocharger control

The turbocharger system includes a solenoid valve that controls the wastegate to create an overpressure or a vacuum pressure in the inlet circuit.

K9K 750 (Euro 3) and K9K 766 (Euro 4) engines (fitted on Clio III and Modus), K9K 724 engines (fitted on Mégane II and Scénic II), and K9K 802 and 812 engines (fitted on Kangoo 2):

The solenoid valve is controlled by a computer program.

K9K 752 (Euro 3) and 768 (Euro 4) engines (fitted on Clio III and Modus), K9K 740 engines (fitted on New Twingo), and K9K 800 engines (fitted on Kangoo 2):

The solenoid valve is controlled by the pressure in the inlet ducts.

Function: Hosted functions

Air conditioning management assistance

On models with air conditioning, the DCM1.2 system allows the air conditioning to be deactivated under certain operating conditions:

- 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:

- managing demand for cold air according to the passenger compartment commands and the pressure value,
- determining the power absorbed by the compressor from the pressure,
- determining the fan unit commands according to vehicle speed and pressure.

The driver requests the instrument panel to switch on the air conditioning. The signal is sent to the injection computer via the multiplex line network. 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.

Note:

Fan unit actuation requests can be sent by the injection computer, but these are sent via the multiplex line. These requests depend on the air conditioning, but also on the engine coolant temperature and vehicle speed.

Thermal regulation of the passenger compartment heating circuit

In a direct injection engine, fuel is injected directly into the combustion chamber. This leads to heat being lost through the upper part of the engine and consequently, the cylinder head cooling system is smaller in size.

The effect of this is that the temperature of the coolant which flows through this circuit rises more slowly. This coolant is also used by the passenger compartment heating system. In very cold conditions, it is therefore difficult to achieve a comfortable passenger compartment temperature quickly.

To reduce the time taken to produce heat, air heating elements, called passenger compartment heating resistors, are fitted in the passenger compartment heating circuit. The UCH decides whether or not to switch on the passenger compartment heating resistors, and the UPC or the injection physically controls the heating elements. The injection computer determines whether to reduce the power supplied to the passenger compartment heating resistors according to the alternator load and also whether to inhibit the operation of the passenger compartment heating resistors according to the engine speed, the load, and the vehicle speed.

Cruise control - speed limiter (CC / SL) management

When activated, the cruise control function maintains the vehicle at a preselected speed, regardless of the driving conditions encountered. Using the control buttons, the driver can increase or reduce the speed of the vehicle.

The **cruise control** function can be deactivated either using the control buttons, or by switching off the cruise control function selector switch or when system events are detected such as the brake or clutch pedal being depressed, or when system errors are detected such as an inconsistent vehicle speed or excessive vehicle deceleration.

The **cruise control function** can also be temporarily overridden when the driver wants to resume control of the vehicle and exceed the selected cruising speed by pressing the accelerator pedal, which causes the controlled fuel flow to be exceeded. The cruising speed is resumed when the driver releases the accelerator pedal.

It is possible to reactivate cruise control and to return to the last cruising speed after the function has been deactivated for whatever reason, during the same cycle of use (computer supply voltage not cut off). The vehicle will then attempt to return to the cruising speed using a controlled vehicle acceleration rate.

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 an attempt is made to exceed this speed, the system will ignore the pedal request and will limit the vehicle speed, provided that the driver continues to depress the accelerator pedal.

As with the cruise control function, the limit speed can be altered using the control buttons by pressing briefly or by pressing and holding (pressing and holding not active on Kangoo 2).

For safety reasons, the limit speed can be exceeded by depressing the accelerator pedal beyond the pedal position limit value. The vehicle speed will then be totally controlled by the pedal until the speed falls back below the cruising speed when the speed limiter function will once again be reactivated.

The driver has the following controls for the **cruise control - speed limiter** function:

- accelerator pedal,
- brake pedal,
- clutch pedal (not for sequential gearbox),
- function selector switch, used to select **cruise control or speed limiter** operating mode,
- activation switch on the steering wheel,
- required speed adjustment switch on the steering wheel.

Instrument panel display

The computer manages the data display on the instrument panel relating to engine operation. This covers five functions: the OBD warning light for European On Board Diagnostics (EOBD), pre-postheating, coolant temperature, and Level 1 (non critical fault) and Level 2 (emergency stop) engine faults. These five functions are represented by five warning lights or messages displayed by the trip computer.

Pre-postheating warning light

This warning light indicates that preheating is active.

Engine coolant temperature warning light

This warning light is used as an engine overheating indicator.

- In the event of overheating, it is up to the driver whether to stop the vehicle or continue driving.

OBD warning light

The **OBD** fault warning light is used to warn the driver of the presence of injection faults producing excessive pollution or that the **EOBD** system is deactivated.

The injection computer requests illumination of the **OBD** warning light for a present fault only after three consecutive driving cycles.

The visual check of the warning light when the power is switched on (automatic test procedure managed by the instrument panel) is carried out by the injection computer. It lasts **3 seconds** or until the engine starts for the New Twingo and Kangoo 2.

If a confirmed **OBD** fault causes the **OBD** warning light to come on, there should be no flashing after the warning light illumination test. The instrument panel will also display the message: **Check emission control**.

The gearbox computer, if fitted, may also request the illumination of this warning light.

Note:

This warning light comes on only if the vehicle is **EOBD** approved.

Level 1 warning

If there is a minor fault, the computer may request a level 1 warning to be displayed. Usually, the instrument panel switches on the SERVICE warning light and sends out a "Check the injection" message. Refer to the operation of the instrument panel (see **83A, instrument panel**).

Note:

The **SERVICE** warning light will come on if the instrument panel is configured as cruise control - speed limiter present, but the function has not yet been detected by the injection computer.

Level 2 warning

If there is a major fault, the computer requests a level 2 warning to be displayed. Usually, the instrument panel switches on the STOP warning light and sends out an "Injection fault" message. Refer to the operation of the instrument panel (see **83A, instrument panel**).

Faults that activate the OBD warning light

Tool fault	Diagnostic tool title	Specification
DF026	Cylinder 1 injector control circuit	CO - CC
DF027	Cylinder 2 injector control circuit	CO - CC
DF028	Cylinder 3 injector control circuit	CO - CC
DF029	Cylinder 4 injector control circuit	CO - CC
DF648	Computer	1.DEF - 2.DEF
DF114	EGR solenoid valve circuit (EGR valve jammed open)	4.DEF
DF209	EGR valve position sensor circuit (Minimum and maximum positions)	CO - CC.1
DF099*	AT* or sequential gearbox connection via the multiplex network*	1.DEF
DF016	EGR control circuit	CO – CC.1 – CC.0

* AT: Automatic transmission (automatic gearbox)

High and low pressure pump:

The pump draws in fuel from the tank, which passes through a fuel filter and supplies the fuel injectors.

Injector rail:

The injector rail receives and redistributes fuel under high pressure to the injectors.

Solenoid injectors:

These injectors enable rapid, precise metering of the quantity of fuel injected, with excellent injection process repetitiveness.

Catalytic converter:

Its role is to convert pollutant gases into harmless gases.

Heater plugs:

The heater plugs create a hot point in the combustion chamber to improve starting in low temperature conditions. They are also used to improve idle speed stability under some conditions.

Turbocharger:

The turbocharger is used to supply the engine with more air.

Turbocharger control solenoid valve (K9K 724, 766, 802, and 812 only):

This solenoid valve controls the turbocharger wastegate.

Air flowmeter (if present on the vehicle):

The flowmeter measures the amount of fresh air which goes back into the engine.

EGR valve:

The exhaust gas recirculation enables nitrogen oxide (NOx) emissions to be reduced significantly.

Cruise control - speed limiter on - off switch:

This switch turns the cruise control/speed limiter on or off.

Accelerator pedal potentiometer:

The accelerator potentiometer informs the computer about the position of the accelerator pedal (engine load).

Clutch pedal switch:

The clutch pedal switch informs the computer about the pedal status.

TDC sensor:

The angular position is measured using a magneto-inductive sensor triggered by machined teeth on the flywheel. This sensor gives the engine speed as well as the position of the crankshaft for injection.

Camshaft sensor:

This sensor gives a signal to perform the injection cycle.

When the piston of cylinder 1 is at top dead centre (TDC), it can be either at the end of the compression stroke or at the end of the exhaust stroke. The camshaft sensor enables a distinction to be made between these two states.

Refrigerant pressure sensor:

Its role is to measure the refrigerant pressure in the air conditioning circuit.

Engine coolant temperature sensor:

The engine coolant temperature sensor informs the computer about the engine coolant temperature.

Water in diesel fuel sensor (New Twingo and Kangoo 2 only):

This sensor determines if there is water present in the diesel fuel.

Air temperature sensor:

The air temperature sensor informs the computer about the temperature of air used by the engine. It will calculate the fresh air flow if the flow sensor is not fitted to the vehicle.

Atmospheric pressure sensor:

This sensor allows the atmospheric pressure to be supplied to the computer.

Inlet manifold pressure sensor:

This sensor indicates the pressure in the inlet circuit.

Rail pressure sensor:

This sensor is fitted to the rail and shows the pressure inside the rail.

Fuel temperature sensor:

This sensor measures the fuel return temperature from the pump and injector return.

Accelerometer:

This sensor measures vibrations and allows injector deviation compensation terms to be calculated.

Passenger compartment heating resistor relay:

This relay allows the passenger compartment heating resistors to be controlled during their activation.

Air conditioning compressor relays:

This relay allows the air conditioning compressor clutch to be controlled during its activation.

Fan unit relay:

This relay actuates the motor-driven fan assemblies when a temperature threshold has been exceeded.

COMPUTER REPLACEMENT OR REPROGRAMMING OPERATIONS

IMPORTANT

- Switch on the diagnostic tool (mains or cigarette lighter supply).
 - Connect a battery charger.
 - Switch off all electrical consumers (lights, interior lights, air conditioning, radio/CD, etc.).
- Wait for the engine to cool (engine coolant temperature less than 60°C and air temperature less than 50°C).

IMPORTANT

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.

Main switch in rest position (the computer then detects the rest position).

Switch in the **Cruise control** position to activate the Cruise control function.

Switch in the **Speed limiter** position to activate the Speed limiter function.

Before removing any old computer as an After-Sales operation, save the following data using the diagnostic tool:

- The **C2I (individual injector correction) parameters and the engine adaptives** using command **SC003 Save computer data**.

The system can be programmed by the diagnostic socket using the **RENAULT CLIP diagnostic tool** (refer to **Technical Note 3585A, Computer programming and reprogramming procedure**, and follow the instructions provided by the diagnostic tool).

After replacing or reprogramming the computer

- **Switch the ignition off and then on again.**
- Use the diagnostic tool command **SC001 Enter saved data** to restore the **C2I** and the engine adaptives.
- On Kangoo 2, use the **diagnostic tool command SC040 Speed limiter, if necessary**.
- Use command **AC028 Static test** to reinitialise the computer (fan assembly, etc.).
- **Switch the ignition off and then on again.**
- When changing the pump, refer to the high pressure pump replacement procedure (**consult Technical Note 5011A, Repriming Delphi high pressure pumps on K9K engines**).
- **Activate the starter without releasing the key until the engine starts (the engine start time can be up to 20 seconds).**
- **Stop the engine (to initialise the computer) and wait 30 seconds.**
- **Switch the ignition back on and use the diagnostic tool to carry out the following steps:**
- Run command **VP010 Enter VIN**.
- After injection system programming, stored faults may appear on other computers. Clear the memory of these computers.
- **Switch the ignition off and then on again.**

IMPORTANT

AFTER A PROGRAMMING OPERATION, DO NOT CONNECT THE BATTERY FOR AT LEAST 30 minutes (to carry out other work on the vehicle).

Note:

If commands **SC001 Enter saved data** and **SC003 Save computer data** have been lost or if they are not operating after programming the computer:

- Save the **C2I** of each injector manually by reading the **C2I** on each injector and use command **SC002 Enter injector codes** (see **injector replacement**).
- Use command **AC028 Static test** to reinitialise the computer (fan assembly, etc.).
- Switch the ignition off and then on again.

Clear the engine management computer faults.

For Clio III, Modus, and New Twingo only:**After programming a new injection computer:**

- Switch the ignition off and then on again.
- Select the UCH domain using the diagnostic tool.
- In repair mode, run command SC017 Injection immobiliser code programming, and follow the instructions given by the diagnostic tool.
- Switch the ignition off and then on again.
- Select the INJECTION subgroup and check that status ET006 is Code programmed.

If ET006 Code programmed = YES, go on to the next steps; if ET006 = NO, run command SC017 Injection immobiliser code programming again, and follow the instructions given by the diagnostic tool.

Note:

If commands **SC001 Enter saved data** and **SC003 Save computer data** have been lost or if they are not operating after programming the computer:

- Save the **C2I** of each injector manually by reading the **C2I** on each injector and use command **SC002 Enter injector codes** (see **injector replacement**).
- Use command **AC028 Static test** to reinitialise the computer (fan assembly, etc.).
- Switch the ignition off and then on again.
- Clear the engine management computer faults.

IMPORTANT

It is not possible to try an injection computer from the Parts Department as it will not be possible to fit it on another vehicle afterwards.

REPLACING THE INJECTORS:

Note:

C2I (individual injector correction) is a calibration carried out in the factory on **each injector** to **adjust the flow** of each injector precisely.

The correction values are written on **a label** affixed to each injector and then are entered in the computer, which can then actuate each injector by taking account of their **manufacturing variation**.

The system can be set up using the diagnostic socket with the **RENAULT CLIP** diagnostic tool.

The **C2I** parameters must be replaced after replacing an injector or injectors.

To do this, reprogram **C2I** into the computer using the following commands:

Cylinder 1 injector: command **VP001 Cylinder 1 injector code (cylinder at flywheel end)**

Cylinder 2 injector: command **VP002 Cylinder 2 injector code**

Cylinder 3 injector: command **VP003 Cylinder 3 injector code**

Cylinder 4 injector: command **VP004 Cylinder 4 injector code**

The four **C2I** can be entered using command **SC002 Enter injector codes**.

The technician can use the appropriate command to **re-enter the new C2I** for the replaced injector and to **erase the old C2I**.

Only after simultaneously replacing at least three injectors, reset the injector adaptives, using command **RZ004 Pressure regulation adaptives**.

HIGH PRESSURE PUMP REPLACEMENT

IMPORTANT

When reprogramming the computer, only carry out the following procedure after command **AC028 Static test** has been run (see Computer reprogramming operation).

PROCEDURE

Refer to Technical Note 5011A, Repriming Delphi high pressure pumps on K9K engines.

EGR VALVE REPLACEMENT:

If replacing the **EGR valve**, it is essential to program the new valve's offset position. To do this, clear the old offset using the EGR programming clearing procedure and run command **RZ002 EGR adaptives**.

CONFIGURATION READING

Index	Title	Display comment
LC120	Cruise control	With or Without
LC121	Speed limiter	With or Without
LC172	Flowmeter	With or Without

SETTINGS

VP001: Cylinder 1 injector code.

VP002: Cylinder 2 injector code.

VP003: Cylinder 3 injector code.

VP004: Cylinder 4 injector code.

These commands enable you to manually write the calibration code marked on the injector. Use these commands after replacing the injector or replacing or (re)programming the computer, when command **SC001 Enter saved data** does not work.

VP010: Enter VIN.

This command permits manual entry of the vehicle's VIN into the computer.
Use this command each time the computer is replaced or (re)programmed.

VP013: Lock injector control.

This command disables electrical actuation of the injectors, for carrying out the compression test.

SPECIAL COMMANDS

SC001: Enter saved data.

Use this command after replacing or (re)programming the computer (if the data were saved using command **SC003 Save computer data**).

SC002: Enter injector codes.

This command enables you to manually write the calibration code marked on the injectors. Run this command after replacing the injectors.

SC003: Save computer data.

This command saves the computer's operating data, C2I (individual injector correction) parameters and engine adaptives. Run this command before replacing or (re)programming.

SC040: Speed limiter.

This command is used to change the vehicle restriction speed. Run this command after replacing or (re)programming.

SC041: Modification of CV* idle speed.

This command is used to change the idle speed. Run this command after replacing or (re)programming.

* CV: Commercial vehicle

DIESEL INJECTION

Fault finding – Fault summary table

13B

Tool fault	DTC code	Diagnostic tool title
DF001	0115	Coolant temperature sensor circuit
DF002	0070	Air temperature sensor circuit
DF003	2226	Atmospheric pressure sensor circuit
DF005	0335	Engine speed sensor circuit
DF007	0190	Rail pressure sensor circuit
DF008	0225	Pedal potentiometer circuit gang 1
DF009	2120	Pedal potentiometer circuit gang 2
DF010	0409	EGR position sensor circuit
DF014	0500	Vehicle speed information circuit
DF015	0685	Main relay control circuit
DF016	0403	EGR control circuit
DF017	0382	Preheating unit control circuit
DF018	0480	Low-speed fan unit control circuit
DF019	0481	High-speed fan unit control circuit
DF024	0231	Low pressure actuator control circuit
DF025	0380	Pre-postheating unit diagnostic line
DF026	0201	Cylinder 1 injector control circuit
DF027	0202	Cylinder 2 injector control circuit
DF028	0203	Cylinder 3 injector control circuit
DF029	0204	Cylinder 4 injector control circuit
DF032	1641	Thermoplunger 1 relay control circuit
DF033	1642	Thermoplunger 2 relay control circuit
DF034	1643	Thermoplunger 3 relay control circuit
DF037	0513	Engine immobiliser
DF038	0606	Computer
DF039	0110	Inlet air temperature sensor circuit
DF047	0560	Computer feed voltage
DF049	0530	Refrigerant sensor circuit
DF050	0571	Brake switch circuit
DF051	0575	Cruise control/speed limiter function
DF052	0200	Injector control circuit

DIESEL INJECTION

Fault finding – Fault summary table

13B

Tool fault	DTC code	Diagnostic tool title
DF053	0089	Rail pressure regulation function
DF056	0100	Air flow sensor circuit
DF057	2264	Water in diesel fuel detector circuit
DF059	0263	Misfires in cylinder 1
DF060	0266	Misfires in cylinder 2
DF061	0269	Misfires in cylinder 3
DF062	0272	Misfires in cylinder 4
DF089	0235	Inlet manifold pressure sensor circuit
DF098	0180	Fuel temperature sensor circuit
DF099	C101	Automatic or sequential gearbox connection via the multiplex network
DF107	0604	Computer memory
DF112	0340	Cylinder reference sensor circuit
DF113	0641	Sensor feed voltage
DF114	0400	EGR solenoid valve circuit
DF121	0325	Accelerometer circuit
DF122	0651	Pedal potentiometer gang 2 supply voltage
DF130	0087	Flow capacity function
DF195	0016	Camshaft sensor / engine speed consistency
DF209	0487	EGR valve position sensor circuit
DF221	0830	Clutch switch signal
DF242	0654	Engine speed signal output
DF261	0045	Turbocharger actuator circuit
DF427	2263	Turbocharger actuator control
DF489	0645	Air conditioning compressor control
DF631	0703	Brake light switch signal
DF648	062F	Computer
DF859	0170	Injector programming cycle not done
DF886	2269	Presence of water in the diesel fuel
DF1070	0534	Cold loop

*supply: supply

DF001 PRESENT OR STORED	<u>COOLANT TEMPERATURE SENSOR CIRCUIT</u> CO.1: Open circuit or short circuit to +12 V CC.0: Short circuit to earth
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NOTES	<p>Special notes: If fault DF001 is present, the preheating time is greater than 10 seconds and the engine fan switches on at low speed (Fan assembly 1). If there is a fault on Fan assembly 1, then on vehicles fitted with air conditioning, Fan assembly 2 switches on.</p>
	<p>See the Technical Note Wiring Diagrams for the vehicle.</p>

<p>Check the connection and condition of the coolant temperature sensor connector, component code 244. Check the connection and condition of connector B (brown 48-track) of the injection computer, component code 120. If the connector(s) is 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>Measure the resistance of component 244 between connections 3JK and 3C. If the resistance of the coolant temperature sensor is not:</p> <p style="padding-left: 40px;"> at -40°C: 68780 Ω < X < 82780 Ω at -10°C: 11332 Ω < X < 13588 Ω at 25°C: 2140 Ω < X < 2364 Ω at 50°C: 772 Ω < X < 850 Ω at 80°C: 275 Ω < X < 291 Ω at 110°C: 112 Ω < X < 118 Ω at 120°C: 86 Ω < X < 90 Ω, </p> <p>replace the coolant temperature sensor, component code 244 (see MR 364 (Mégane II), MR 370 (Scénic II), MR 385 (Modus), MR 392 (Clio III), MR 411 (New Twingo), MR 417 (Kangoo 2) Mechanical, 19A, Cooling, Coolant temperature sensor: Removal - Refitting).</p>
<p>Check the insulation and continuity of the following connections:</p> <ul style="list-style-type: none"> – 3JK between components 120 and 244, – 3C between components 120 and 244. <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 the wiring.</p>
<p>If the fault is still present, replace the coolant temperature sensor, component code 244 (see MR 364 (Mégane II), MR 370 (Scénic II), MR 385 (Modus), MR 392 (Clio III), MR 411 (New Twingo), MR 417 (Kangoo 2) Mechanical, 19A, Cooling, Coolant temperature sensor: Removal - Refitting).</p>
<p>If the fault is still present, contact the Techline.</p>

AFTER REPAIR	<p>Deal with any faults displayed by the diagnostic tool. Clear the computer fault memory. Carry out a road test followed by another check with the diagnostic tool.</p>
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DF002 PRESENT OR STORED	<u>AIR TEMPERATURE SENSOR CIRCUIT</u> CO.1: Open circuit or short circuit to +12 V CC.0: Short circuit to earth 1.DEF: inconsistency
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NOTES	Depending on the engine type, the air temperature is given by the air temperature sensor, which is either on the air flowmeter or in place of the air flowmeter on K9K 724, 740, 766, 768, and 812 engines only.
	See the Technical Note Wiring Diagrams for the vehicle.

The air temperature sensor in the flow sensor has a separate electrical circuit.	
Move the wiring between the computer and the air temperature sensor to see if a change of status occurs (present ↔ stored). Look for any wiring damage and check the connection and condition of the air temperature sensor and its connections. Check the connection and condition of the injection computer connector. If the connector(s) is 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.	
Measure the resistance of component 272 between connections 3JQ and 3B . If the resistance of the air temperature sensor is not: (theoretical values for engines with flowmeter) at -10°C: 8716 Ω < X < 9688 Ω at 0°C: 5497 Ω < X < 6051 Ω at 10°C: 3553 Ω < X < 3875 Ω at 20°C: 2353 Ω < X < 2543 Ω at 30°C: 1613 Ω < X < 1729 Ω (theoretical values for engines without flowmeter) at -10°C: 8623 Ω < X < 10454 Ω at 25°C: 1928 Ω < X < 2174 Ω at 50°C: 763 Ω < X < 857 Ω, replace the air temperature sensor.	

AFTER REPAIR	Deal with any faults displayed by the diagnostic tool . Clear the computer fault memory. Carry out a road test followed by another check with the diagnostic tool .
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DF002
CONTINUED

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

- **3JQ** between components **120** and **272**,
- **3B** between components **120** and **272**.

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 the wiring.

If the fault is still present, replace the air flowmeter or the air temperature sensor, component code **272** (see **MR 364 (Mégane II)**, **MR 370 (Scénic II)**, **MR 385 (Modus)**, **MR 392 (Clio III)**, **MR 411 (New Twingo)**, **MR 417 (Kangoo 2) Mechanical, 12A, Fuel mixture, Air flowmeter: Removal - Refitting**).

If the fault is still present, contact the Techline.

AFTER REPAIR

Deal with any faults displayed by the **diagnostic tool**.
Clear the computer fault memory.
Carry out a road test followed by another check with the **diagnostic tool**.

DF003 PRESENT OR STORED	<u>ATMOSPHERIC PRESSURE SENSOR CIRCUIT</u> CO.0: Open circuit or short circuit to earth CC.1: Short circuit to +12 volts
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NOTES	Special note: The atmospheric pressure sensor is incorporated in the computer.
	See the Technical Note Wiring Diagrams for the vehicle.

<p>Look for any wiring damage and check the condition and connection of the injection computer connectors, component code 120.</p> <p>Move the wiring between the injection computer, component code 120 and the battery, component code 107 to see if a change of status occurs (Present ↔ Stored).</p> <p>Look for any wiring damage and check the connection and condition of the battery, component code 107 and its connections.</p> <p>If the connector(s) are faulty and if there is a repair procedure (see Technical Note 6015A, Repairing electrical wiring, Wiring: Precautions for repair) repair the connector(s), otherwise replace the wiring.</p>
<p>Measure the battery voltage when the ignition is switched on.</p> <p>If the battery voltage is less than 11 V, recharge the battery.</p>
<p>Check the connection and condition of the battery terminals and posts, component code 107.</p>
<p>Check the connection and condition of connector A (black 32-track) of the injection computer, component code 120.</p> <p>Check the connection and condition of the connector of the injection locking relay or of the UPC, according to the vehicle.</p> <p>If the connector(s) are faulty and if there is a repair procedure (see Technical Note 6015A, Repairing electrical wiring, Wiring: Precautions for repair) repair the connector(s), otherwise replace the wiring.</p>

AFTER REPAIR	<p>Deal with any faults displayed by the diagnostic tool.</p> <p>Clear the computer fault memory.</p> <p>Carry out a road test followed by another check with the diagnostic tool.</p>
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DF003
CONTINUED

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

On K9K 740 engines only:

- **AP29** between components **120** and **1016**,
- **NH** between component **120** and **earth**,
- **3FB** between components **120** and **238**.

For the other engine suffixes:

- **AP15** between components **120** and **1337**,
- **NH** or **N** between component **120** and **earth**,
- **3FB** between components **120** and **1337**,
- **3FB1** between components **120** and **1337**,
- **3FB2** between components **120** and **1337**.

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 the wiring.

If the fault is still present, contact the Techline.

AFTER REPAIR

Deal with any faults displayed by the **diagnostic tool**.
Clear the computer fault memory.
Carry out a road test followed by another check with the **diagnostic tool**.

DF005 PRESENT OR STORED	ENGINE SPEED SENSOR CIRCUIT 1.DEF: Inconsistency 2.DEF: No signal 3.DEF: Too many additional teeth 4.DEF: Teeth missing 5.DEF: Additional teeth 6.DEF: Too many teeth missing
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NOTES	<p>Special note: If 1.DEF, 2.DEF, 3.DEF, or 6.DEF is present: the engine stops and the level 2 warning light illuminates, with the message Faulty injection displayed on the instrument panel. If 4.DEF or 5.DEF is present: the engine performance is reduced to 75% and the level 1 warning light illuminates.</p> <p>Conditions for applying fault finding procedures to stored faults: The fault is present when the starter motor is operating or the engine is running at idle speed.</p> <p>See the Technical Note Wiring Diagrams for the vehicle.</p>
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<p>Check the connection and condition of the engine speed sensor connector, component code 149. Check the connection and condition of connector B of the injection computer, component code 120. If the connector(s) is 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>Measure the resistance of the engine speed sensor, component code 149 between connections 3BL and 3BG. If the resistance of the engine speed sensor, component code 149 is not between 510 Ω et 850 Ω (at 20°C), replace the engine speed sensor (see MR 364 (Mégane II), MR 370 (Scénic II), MR 385 (Modus), MR 392 (Clio III), MR 411 (New Twingo), MR 417 (Kangoo 2) Mechanical, 13B Diesel injection, Crankshaft position sensor: Removal - Refitting).</p>
<p>Check the insulation and continuity of the following connections: – 3BG between components 149 and 120, – 3BL between components 149 and 120. 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 the wiring.</p>
<p>If the fault is still present, replace the engine speed sensor, component code 149 (see MR 364 (Mégane II), MR 370 (Scénic II), MR 385 (Modus), MR 392 (Clio III), MR 411 (New Twingo), MR 417 (Kangoo 2) Mechanical, 13B Diesel injection, Crankshaft position sensor: Removal - Refitting).</p>
<p>If the fault is still present, contact the Techline.</p>

AFTER REPAIR	<p>Deal with any faults displayed by the diagnostic tool. Clear the computer fault memory. Carry out a road test followed by another check with the diagnostic tool.</p>
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DF007 PRESENT OR STORED	<u>RAIL PRESSURE SENSOR CIRCUIT</u> CC.0: Short circuit to earth C0.1: Open circuit or short circuit to +12 V 1.DEF: Inconsistency 2.DEF: Below minimum threshold 3.DEF: Above maximum threshold 4.DEF: Value outside permitted tolerance
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NOTES	Priority for dealing with a combination of faults: – DF113 Sensor supply voltage.
	Conditions for applying fault finding procedures to stored faults: The fault is declared present after the engine starts.
	Special note: If fault DF007 is present : the engine stops and cannot be restarted and the level 2 warning light illuminates, with the message Faulty injection displayed on the instrument panel.
	See the Technical Note Wiring Diagrams for the vehicle.

Check the connection and condition of the rail pressure sensor connector, component code 1032 . Check the connection and condition of connector B (brown 48-track) of the injection computer , component code 120 . If the connector(s) is 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.
Check for +5 V on connection 3LX of component 1032 . Check for earth on connection 3LZ of component 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 the wiring.
Check the insulation and continuity of the following connections: – 3LX between components 1032 and 120 , – 3LY between components 1032 and 120 , – 3LZ between components 1032 and 120 . 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 the wiring.

AFTER REPAIR	Deal with any faults displayed by the diagnostic tool . Clear the computer fault memory. Carry out a road test followed by another check with the diagnostic tool .
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DF007 CONTINUED	
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Check the sealing of the low pressure and high pressure diesel fuel circuits (visual inspections): on the pump casing, overpressure valve, pipes, rail and injector unions, injector wells, etc., run **TEST 1 Low pressure circuit check** and **TEST 7 High pressure circuit sealing check**.

If all the above checks are correct:

With the vehicle ignition on and the engine stopped for over **1 minute**:

Display **PR038 Rail pressure**, if the value is **less than 30 bar**, the sensor is correct.

Otherwise, use commands **AC005 Cylinder 1 injector**, **AC006 Cylinder 2 injector**, **AC007 Cylinder 3 injector**, **AC008 Cylinder 4 injector** in order to release any residual pressure.

Check that the value of **PR038** decreases. If **PR038** becomes less than **30 bar**, the sensor is correct.

If the fault is still present, replace the **rail pressure sensor**, component code **1032** (see **MR 364 (Mégane II)**, **MR 370 (Scénic II)**, **MR 385 (Modus)**, **MR 392 (Clio III)**, **MR 411 (New Twingo)**, **MR 417 (Kangoo 2) Mechanical**, **13B, Diesel injection, Rail pressure sensor: Removal - Refitting**).

Note: the rail pressure sensor is built into the rail.

If the fault is still present, contact the Techline.

AFTER REPAIR	<p>Deal with any faults displayed by the diagnostic tool.</p> <p>Clear the computer fault memory.</p> <p>Carry out a road test followed by another check with the diagnostic tool.</p>
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<p>DF008 PRESENT OR STORED</p>	<p>PEDAL POTENTIOMETER CIRCUIT GANGED CIRCUIT 1 CO.0: Open circuit or short circuit to earth CC.1: Short circuit to +12 volts 1.DEF: Inconsistency between pedal gangs 1 and 2 2.DEF: No signal 3.DEF: Jammed component</p>
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<p>NOTES</p>	<p>Priority for dealing with a combination of faults: – DF113 Sensor supply voltage.</p>
	<p>Special note: If fault DF008 is present: the idle speed is fast (1000 rpm), the engine performance is reduced to 75%, and the level 1 warning light illuminates with the message Check injection displayed on the instrument panel. If DF008 and DF009 Pedal potentiometer circuit gang 2 are present: the engine speed increases to 1300 rpm or 1700 rpm if the vehicle is fitted with a sequential gearbox (fault on gangs 1 and 2), and the level 1 warning light illuminates with the message Check injection displayed on the instrument panel. Note: possible risk of the engine speed racing with no load for 1 second.</p>
	<p>See the Technical Note Wiring Diagrams for the vehicle.</p>

<p>1.DEF 3.DEF</p>	<p>NOTES</p>	<p>None.</p>
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<p>Disconnect connector A (black) of the injection computer, component code 120 and the connector of the pedal potentiometer, component code 921. Check the insulation between connections 3LS and 3LW of component 120. 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 the wiring. If the fault is still present, replace the accelerator pedal potentiometer, component code 921 (see MR 364 (Mégane II), MR 370 (Scénic II), MR 385 (Modus), MR 392 (Clio III), MR 411 (New Twingo), MR 417 (Kangoo 2), Mechanical, 13B, Diesel injection, Accelerator pedal potentiometer: Removal - Refitting). If the fault is still present, contact the Techline.</p>

<p>AFTER REPAIR</p>	<p>Deal with any faults displayed by the diagnostic tool. Clear the computer fault memory. Carry out a road test followed by another check with the diagnostic tool.</p>
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DF008 CONTINUED 1	
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CO.0 CC.1 2.DEF	NOTES	Special note: None.
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<p>Check the connection and condition of the pedal potentiometer connector, component code 921.</p> <p>Check the connection and condition of connector A (black 32-track) of the injection computer, component code 120.</p> <p>If the connector(s) is 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>Check for + 5 V on connection 3LR of component 921.</p> <p>Check for earth on connection 3LT of component 921.</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 the wiring.</p>
<p>Check the insulation and continuity of the following connections:</p> <ul style="list-style-type: none"> – 3LR between components 921 and 120, – 3LS between components 921 and 120, – 3LT between components 921 and 120. <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 the wiring.</p>
<p>Disconnect connector A of the injection computer, component code 120 and the connector of the pedal potentiometer, component code 921.</p> <p>Check the insulation between connections 3LS and 3LW of component 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 the wiring.</p>

AFTER REPAIR	<p>Deal with any faults displayed by the diagnostic tool.</p> <p>Clear the computer fault memory.</p> <p>Carry out a road test followed by another check with the diagnostic tool.</p>
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DF008
CONTINUED 2

Measure the resistance between connections **3LR** and **3LT** of component **921**.

If the pedal potentiometer resistance is not between **800 Ω** and **2600 Ω** , replace the pedal potentiometer, component code **921** (see **MR 364 (Mégane II)**, **MR 370 (Scénic II)**, **MR 385 (Modus)**, **MR 392 (Clio III)**, **MR 411 (New Twingo)**, **MR 417 (Kangoo 2)**, **Mechanical**, **13B**, **Diesel injection**, **Accelerator pedal potentiometer: Removal - Refitting**).

If the fault is still present, replace the **accelerator pedal potentiometer**, component code **921** (see **MR 364 (Mégane II)**, **MR 370 (Scénic II)**, **MR 385 (Modus)**, **MR 392 (Clio III)**, **MR 411 (New Twingo)**, **MR 417 (Kangoo 2)**, **Mechanical**, **13B**, **Diesel injection**, **Accelerator pedal potentiometer: Removal - Refitting**).

If the fault is still present, contact the Techline.

AFTER REPAIR

Deal with any faults displayed by the **diagnostic tool**.

Clear the computer fault memory.

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

DF009 PRESENT OR STORED	<u>PEDAL POTENTIOMETER TRACK 2 CIRCUIT</u> CO.0: Open circuit or short circuit to earth CC.1: Short circuit to +12 volts
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NOTES	Priority for dealing with a combination of faults: – DF122 Pedal potentiometer gang 2 supply voltage.
	Special note: If fault DF009 is present : the idle speed is fast (1000 rpm), the engine performance is reduced to 75% , and the level 1 warning light illuminates with the message Check injector displayed on the instrument panel. If DF009 and DF008 Pedal potentiometer circuit gang 1 are present : the engine speed increases to 1300 rpm or 1700 rpm if the vehicle is fitted with a sequential gearbox (fault on gangs 1 and 2), and the level 1 warning light illuminates with the message Check injection displayed on the instrument panel. Note: possible risk of the engine speed racing with no load for 1 second.
	See the Technical Note Wiring Diagrams for the vehicle.

CO.0	NOTES	Special note: None.
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Check the connection and condition of the pedal potentiometer connector, component code 921 . Check the connection and condition of connector A (black 32-track) of the computer, component code 120 . If the connector(s) is 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.
Check for + 5 V on connection 3LU of component 921 . Check for earth on connection 3LV of component 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 the wiring.
Disconnect connector A of the computer , component code 120 and the connector of the pedal potentiometer , component code 921 . Check the insulation against earth of connection 3LW on component 120 . If the connection is faulty and if 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 faults displayed by the diagnostic tool . Clear the computer fault memory. Carry out a road test followed by another check with the diagnostic tool .
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DF009
CONTINUED 1

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

– **3LW** between components **921** and **120**.

If the connection is faulty and if 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 **3LU** and **3LV** of component **921**.

If the resistance of the **pedal potentiometer**, component code **921** is not between **850 Ω** and **4900 Ω**, replace the pedal potentiometer, component code **921** (see **MR 364 (Mégane II)**, **MR 370 (Scénic II)**, **MR 385 (Modus)**, **MR 392 (Clio III)**, **MR 411 (New Twingo)**, **MR 417 (Kangoo 2)**, **Mechanical, 13B, Diesel injection, Accelerator pedal potentiometer: Removal - Refitting**).

If the fault is still present, replace the **accelerator pedal potentiometer**, component code **921** (see **MR 364 (Mégane II)**, **MR 370 (Scénic II)**, **MR 385 (Modus)**, **MR 392 (Clio III)**, **MR 411 (New Twingo)**, **MR 417 (Kangoo 2)**, **Mechanical, 13B, Diesel injection, Accelerator pedal potentiometer: Removal - Refitting**).

AFTER REPAIR

Deal with any faults displayed by the **diagnostic tool**.

Clear the computer fault memory.

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

DF009 CONTINUED 2	
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CC.1	NOTES	Special note: None.
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<p>Check the connection and condition of the pedal potentiometer connector, component code 921. Check the connection and condition of connector A (black 32-track) of the computer, component code 120. If the connector(s) is 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>Check for +5 V on connection 3LU of component 921. Check for earth on connection 3LV of component 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 the wiring.</p>
<p>Check the insulation and continuity of the following connections:</p> <ul style="list-style-type: none"> – 3LU between components 921 and 120, – 3LV between components 921 and 120, – 3LW between components 921 and 120. <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 the wiring.</p>
<p>Disconnect connector A of the computer, component code 120 and the connector of the pedal potentiometer, component code 921. Check the insulation between connections 3LU and 3LW of component 120. If the connector is 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>Measure the resistance between connections 3LU and 3LV of component 921. If the resistance of the pedal potentiometer, component code 921 is not between 850 Ω and 4900 Ω, replace the pedal potentiometer, component code 921 (see MR 364 (Mégane II), MR 370 (Scénic II), MR 385 (Modus), MR 392 (Clio III), MR 411 (New Twingo), MR 417 (Kangoo 2), Mechanical, 13B, Diesel injection, Accelerator pedal potentiometer: Removal - Refitting).</p>
<p>If the fault is still present, replace the accelerator pedal potentiometer, component code 921 (see MR 364 (Mégane II), MR 370 (Scénic II), MR 385 (Modus), MR 392 (Clio III), MR 411 (New Twingo), MR 417 (Kangoo 2), Mechanical, 13B, Diesel injection, Accelerator pedal potentiometer: Removal - Refitting).</p>

AFTER REPAIR	<p>Deal with any faults displayed by the diagnostic tool. Clear the computer fault memory. Carry out a road test followed by another check with the diagnostic tool.</p>
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DF010 PRESENT OR STORED	<u>EGR POSITION SENSOR CIRCUIT</u> 1.DEF: Above maximum threshold 2.DEF: Below minimum threshold
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NOTES	Priority for dealing with a combination of faults: – DF113 Sensor supply voltage.
	See the Technical Note Wiring Diagrams for the vehicle.

K9K 724, 740, 766, 768, 800, 802, and 812 ENGINES (Euro 4):	
Check the connection and condition of the EGR valve connector, component code 1460 . Check the connection and condition of connector B (brown 48-track) of the computer, component code 120 . If the connector(s) is 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.	
Check the insulation and continuity of the following connections: – 3GC between components 1460 and 120 , – 3EL between components 1460 and 120 , – 3JM between components 1460 and 120 . 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 the wiring.	
Check for + 5 V on connection 3GC of component 1460 . Check for earth on connection 3JM of component 1460 . 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 the wiring.	
Measure the resistance of the EGR valve , component code 1460 : – with the engine stopped, the exhaust gas recirculation valve will be closed (unless there is a fault), – wait for the ambient temperature around the valve to stabilise (approximately 20°C), measure the resistance between connections 3VP and 3VQ of component 1460 . The resistance must be between 0.5 Ω < R < 50 Ω (while running command AC002 EGR solenoid valve). If the value is not correct, replace the EGR valve (see MR 364 (Mégane II) , MR 370 (Scénic II) , MR 385 (Modus) , MR 392 (Clio III) , MR 411 (New Twingo) , MR 417 (Kangoo 2) , Mechanical, 14A, Emission control, Exhaust gas recirculation solenoid valve: Removal - Refitting). After replacing the EGR valve, use command RZ002 EGR Adaptives to reinitialise the EGR valve offsets.	
If the fault is still present, contact the Techline.	

AFTER REPAIR	Deal with any faults displayed by the diagnostic tool . Clear the computer fault memory. Carry out a road test followed by another check with the diagnostic tool .
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DF010 CONTINUED	
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K9K 750 and 752 ENGINES (Euro 3):

Check the connection and condition of the **EGR valve** connector, component code **1460**.
 Check the connection and condition of **connector B** (brown 48-track) of the computer, component code **120**.
 If the connector(s) is 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.

Check **the insulation and continuity** of the following connections:
 – **3GC** between components **1460** and **120**,
 – **3EL** between components **1460** and **120**,
 – **3JM** between components **1460** and **120**.
 If the connection(s) are faulty and if there is a repair procedure (see **Technical Note 6015A, Electrical wiring repair, Wiring: Precautions for repair**), repair the wiring, otherwise replace it.

Check for **+ 5 V** on connection **3GC** of component **1460**.
 Check for **earth** on connection **3JM** of component **1460**.
 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 the wiring.

Measure the resistance of the **EGR valve**, component code **1460**:
 – with the engine stopped, the exhaust gas recirculation valve will be closed (unless there is a fault),
 – wait for the ambient temperature around the valve to stabilise (approximately **20°C**),
 – measure the resistance between connections **3FB2** and **122B**. The resistance must be between **7.54 Ω < R < 8.5 Ω** (at **20°C**),
 – measure the resistance between connections **3GC** and **3JM**. The resistance must be between **2.4 KΩ < R < 5.6 KΩ** (at **20°C**),
 – measure the resistance between connections **3JM** and **3EL**. The resistance must be between **800 Ω < R < 3.6 KΩ** (at **20°C**),
 if the value is not correct, replace the **EGR valve**, component code **1460** (see **MR 385 (Modus), MR 392 (Clio III), Mechanical, 14A, Emission control, Exhaust gas recirculation solenoid valve: Removal - Refitting**).
 After replacing the EGR valve, use command **RZ002 EGR Adaptives** to reinitialise the EGR valve offsets.

If the fault is still present, contact the Techline.

AFTER REPAIR	Deal with any faults displayed by the diagnostic tool . Clear the computer fault memory. Carry out a road test followed by another check with the diagnostic tool .
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DF014 PRESENT OR STORED	<u>VEHICLE SPEED SIGNAL CIRCUIT</u>
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NOTES	Special note: None.
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On this type of vehicle, the **ABS** or the **VSU*** (if the vehicle is not fitted with **ABS**) transmits the vehicle speed information via the multiplex network.

Run the **multiplex network test** (see **88B, Multiplexing**) to be able to work on the **CAN** network (Fault on **CAN H** and **CAN L** lines between the **injection** and the **ABS**). Also check that there are no faults in the **ABS** computer (see **38C, Anti-lock braking system**) or in the system delivering the vehicle speed (**VSU**, see **38G, Vehicle speed computer**).

* VSU: Vehicle Speed Unit

AFTER REPAIR	Deal with any faults displayed by the diagnostic tool . Clear the computer fault memory. Carry out a road test followed by another check with the diagnostic tool .
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DF015 PRESENT OR STORED	<u>MAIN RELAY CONTROL CIRCUIT</u> 1.DEF: Permanent low level 2.DEF: Permanent high signal
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NOTES	Conditions for applying fault finding procedures to stored faults: Apply the fault finding procedure below if the fault is present or stored .
	See the Technical Note Wiring Diagrams for the vehicle.

<p>For Clio III, Modus, Mégane II, Scénic II, and Kangoo 2: Check the connection and condition of the UPC connectors; component code 1337. If the connector(s) is 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>For New Twingo: Check the connection and condition of the injection locking relay connector, component code 238. If the connector is 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>
Check the connection and condition of connector C (grey 32-track) of the injection computer , component code 120 . If the connector is 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.
Check the insulation and continuity of the following connections: – 3AA between components 1337 and 120 , – 3FB2 between components 1337 and 120 , – 3FB1 between components 1337 and 120 . K9K 740 engines only: – 3FB between components 238 and 120 , – 3AA between components 238 and 120 . 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 the wiring.
If the fault is still present, run a test of the Engine compartment connection unit (see 87G, Engine compartment connection unit) or replace the main relay, component code 238 .
If the fault is still present, contact the Techline.

AFTER REPAIR	Deal with any faults displayed by the diagnostic tool . Clear the computer fault memory. Carry out a road test followed by another check with the diagnostic tool .
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DF016 PRESENT OR STORED	<u>EGR VALVE CONTROL CIRCUIT</u> CC.0: Short circuit to earth CC.1: Short circuit to +12 volts 1.DEF: Detection of overheating CO.0: Open circuit or short circuit to earth CO.1: Open circuit or short circuit to +12 V CO: Open circuit
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NOTES	Conditions for applying fault finding procedures to stored faults: The fault is present with the engine idling.
	Special notes: If fault DF016 is present : unstable engine speed and even stalling. Starting difficult or even impossible when cold.
	See the Technical Note Wiring Diagrams for the vehicle.

K9K 724, 740, 766, 768, 800, 802, and 812 ENGINES (Euro 4):
Check the connection and condition of the exhaust gas recirculation valve connector, component code 1460 . Check the connection and condition of connector B (brown 48-track) of the injection computer , component code 120 . If the connector(s) is 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.
Check the insulation and continuity of the following connections: – 3VP between components 1460 and 120 , – 3VQ between components 1460 and 120 . 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 the wiring.
Check for the supply 13 V < X < 14 V (with the engine running) , 11.5 V < X < 12.5 V (with the ignition on and the engine stopped) on connection 3VP of component 1460 . Check for earth on connection 3VQ of component 1460 .

AFTER REPAIR	Deal with any faults displayed by the diagnostic tool . Clear the computer fault memory. Carry out a road test followed by another check with the diagnostic tool .
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DF016
CONTINUED 1

Measure the resistance of the **EGR valve**, component code **1460**:

- with the engine stopped, the exhaust gas recirculation valve will be closed (unless there is a fault),
 - wait for the ambient temperature around the valve to stabilise (approximately **20°C**),
- measure the resistance between connections **3VP** and **3VQ** of component **1460**. The resistance must be between **0.5 Ω < R < 50 Ω** (while running command **AC002 EGR solenoid valve**).

If the value is not correct, replace the **EGR valve**, component code **1460** (see **MR 364 (Mégane II)**, **MR 370 (Scénic II)**, **MR 385 (Modus)**, **MR 392 (Clio III)**, **MR 411 (New Twingo)**, **MR 417 (Kangoo 2)**, **Mechanical, 14A, Emission control, Exhaust gas recirculation solenoid valve: Removal - Refitting**).

After replacing the EGR valve, use command **RZ002 EGR Adaptives** to reinitialise the EGR valve offsets.

If the fault is still present, contact the Techline.

AFTER REPAIR

Deal with any faults displayed by the **diagnostic tool**.

Clear the computer fault memory.

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

DF016 CONTINUED 2

K9K 750 and 752 ENGINES (Euro 3):

Check the connection and condition of the **exhaust gas recirculation solenoid valve** connector, component code **1460**.

Check the connection and condition of **connector B** (brown 48-track) of the **injection computer**, component code **1260**.

If the connector(s) is 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.

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

- **122B** between components **1460** and **120**,
- **3FB2** between components **1460** and **120**.

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 the wiring.

Check for the supply **13 V < X < 14 V (with the engine running)**, **11.5 V < X < 12.5 V (with the ignition on and the engine stopped)** on connection **3FB2** of component **1460**.

Measure the resistance of the **EGR valve**, component code **1460**:

- with the engine stopped, the exhaust gas recirculation valve will be closed (unless there is a fault),
- wait for the ambient temperature around the valve to stabilise (approximately **20°C**),
- measure the resistance between connections **3FB2** and **122B** of component **1460**. The resistance must be between **7.5 Ω < R < 8.5 Ω** (at **20°C**),
- measure the resistance between connections **3GC** and **3JM** of component **1460**. The resistance must be between **2.4 KΩ < R < 5.6 KΩ** (at **20°C**),
- measure the resistance between connections **3JM** and **3EL** of component **1460**. The resistance must be between **800 Ω < R < 3.6 KΩ** (at **20°C**),

if the value is not correct, replace the **EGR valve** (see **MR 385 (Modus)**, **MR 392 (Clio III)**, **Mechanical, 14A, Emission control, Exhaust gas recirculation solenoid valve: Removal - Refitting**).

After replacing the EGR valve, use command **RZ002 EGR Adaptives** to reinitialise the EGR valve offsets.

If the fault is still present, contact the Techline.

AFTER REPAIR

Deal with any faults displayed by the **diagnostic tool**.

Clear the computer fault memory.

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

DF017 PRESENT OR STORED	<u>PREHEATING UNIT CONTROL CIRCUIT</u> C0.0: Open circuit or short circuit to earth CC.1: Short circuit to +12 volts
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NOTES	Special notes: If fault DF017 is present: starting is difficult (even impossible when cold). If CC.1: heater plugs are permanently switched on with risk of engine damage or even failure.
	See the Technical Note Wiring Diagrams for the vehicle.

Check the connection and condition of the preheating unit connector, component code 257 or 980 . Check the connection and condition of connector C (grey 32-track) of the injection computer , component code 120 . If the connector(s) is 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.
Check the insulation and continuity of the following connections: – BP35 between components 777 (or 597 for New Twingo) and 257 (or 980) , – 3FY between connections 257 (or 980) and 120 , – 3FF between components 257 (or 980) and 120 . 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 the wiring.

AFTER REPAIR	Deal with any faults displayed by the diagnostic tool . Clear the computer fault memory. Carry out a road test followed by another check with the diagnostic tool .
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<p>DF018 PRESENT OR STORED</p>	<p><u>LOW SPEED FAN ASSEMBLY CONTROL CIRCUIT</u> CC.1: Short-circuit to +12 volts CO.0: Open circuit or short circuit to earth</p>
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<p>NOTES</p>	<p>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 actuated using command AC154 Low speed fan assembly.</p>
	<p>Special notes: – high-speed fan assembly constantly actuated, – the level 1 warning light is illuminated.</p>
	<p>– Use bornier Elé. 1681 for all operations on the connector of the engine management computer.</p>
	<p>– See the Technical Note Wiring Diagrams for the vehicle.</p>

<p>Check the connections of the low-speed fan assembly relay mounting, component code 700. Check the connections of the engine management computer, component code 120. If the connector(s) is 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>Run command AC154 Low-speed fan assembly. If the command does not work, with the ignition on, check for +12 V on connection 3FB of component 700 and the earth of connection 3JN of component 700.</p>
<p>Remove the low speed relay and check the continuity of the following connections: – 3FB between components 238 and 700, – 3JN between components 700 and 120.</p>
<p>If the fault is still present, check the relay and replace it if necessary.</p>
<p>If the fault is still present, contact the Techline.</p>

<p>AFTER REPAIR</p>	<p>Deal with any faults displayed by the diagnostic tool. Clear the computer fault memory. Carry out a road test followed by another check with the diagnostic tool.</p>
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DF019 PRESENT OR STORED	HIGH SPEED FAN ASSEMBLY CONTROL CIRCUIT CC.1: Short circuit to +12 volts CO.0: Open circuit or short circuit to earth
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NOTES	Conditions for applying the fault finding procedure to stored faults: The fault reappears after: <ul style="list-style-type: none">– the ignition is switched on,– clearing the fault from the memory,– relay actuated using command AC153 High speed fan assembly.
	Special notes: <ul style="list-style-type: none">– the level 1 warning light is illuminated,– risk of overheating and air conditioning cut-off.
	<ul style="list-style-type: none">– Use bornier Elé. 1681 for all operations on the connector of the engine management computer.
	<ul style="list-style-type: none">– See the Technical Note Wiring Diagrams for the vehicle.

Check the connections of the high-speed fan assembly relay mounting, component code 234 . Check the connections of the engine management computer, component code 120 . If the connector(s) are faulty and if there is a repair procedure (see Technical Note 6015A, Repairing electrical wiring, Wiring: Precautions for repair) repair the connector(s), otherwise replace the wiring.
Run command AC153 High speed fan assembly . If the command does not work, with the ignition on, check for + 12 V on connection 3FB of component 234 and the earth of connection 3JP of component 234 .
Remove the high speed relay and check the continuity of the following connections: <ul style="list-style-type: none">– 3FB between components 238 and 234,– 3JP between components 120 and 234.
If the fault is still present, check the relay and replace it if necessary.
If the fault is still present, contact the Techline.

AFTER REPAIR	Deal with any faults displayed by the diagnostic tool . Clear the computer fault memory. Carry out a road test followed by another check with the diagnostic tool .
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DF024 PRESENT OR STORED	<u>LOW-PRESSURE ACTUATOR CONTROL CIRCUIT</u> CO.0: Open circuit or short circuit to earth CC.1: Short circuit to +12 volts
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NOTES	<p>Special notes: If fault DF024 is present with a C0 or CC.1: the level 2 warning light illuminates and, depending on the vehicle, the level 1 warning light illuminates with the message Faulty injection displayed on the instrument panel. The fuel flow actuator is fully open, there is a clicking, and the engine is stopped to prevent it from racing.</p>
	See the Technical Note Wiring Diagrams for the vehicle.

<p>Check the connection and condition of the flow actuator connector, component code 1105. Check the connection and condition of connector B (brown 48-track) of the injection computer, component code 120. If the connector(s) is 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>
Check for + 12 V after ignition feed on connection 3FB1 or 3FB2 for New Twingo or 3FB3 for Kangoo 2 of component 1105 .
<p>Check the insulation and continuity of the following connection: – 3HI between components 1105 and 120. 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 the wiring.</p>
<p>Measure the resistance between connections 3HI and 3FB1 or 3FB2 for New Twingo or 3FB3 for Kangoo 2 of component 1105. If the resistance of the flow actuator is not between 4.8 Ω and 5.8 Ω at 20°C, replace the flow actuator (see MR 364 (Mégane II), MR 370 (Scénic II), MR 385 (Modus), MR 392 (Clio III), MR 411 (New Twingo), MR 417 (Kangoo 2), Mechanical, 13B, Diesel injection, Flow actuator: Removal - Refitting).</p>
If the fault is still present, replace the low pressure actuator (see MR 364 (Mégane II), MR 370 (Scénic II), MR 385 (Modus), MR 392 (Clio III), MR 411 (New Twingo), MR 417 (Kangoo 2), Mechanical, 13B, Diesel injection, Flow actuator: Removal - Refitting).
If the fault is still present, contact the Techline.

AFTER REPAIR	<p>Deal with any faults displayed by the diagnostic tool. Clear the computer fault memory. Carry out a road test followed by another check with the diagnostic tool.</p>
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DF025 PRESENT OR STORED	<p>PRE-POSTHEATING UNIT DIAGNOSTIC LINE C0: Open circuit</p>
NOTES	<p>Special notes: This fault only directs the fault finding with an open circuit.</p> <p>See the Technical Note Wiring Diagrams for the vehicle.</p>
<p>Check the connection and condition of the heater plug connectors, component codes 680, 681, 682, and 683. Check the connection and condition of the preheating unit connector, component code 257 or 980. If the connector(s) is 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>Measure the resistance of each heater plug, component code 680, 681, 682, or 683. The resistance must be less than 2 Ω. Replace the faulty plugs, component codes 680, 681, 682, and 683 (see MR 364 (Mégane II), MR 370 (Scénic II), MR 385 (Modus), MR 392 (Clio III), MR 411 (New Twingo), MR 417 (Kangoo 2), Mechanical, 13C, Preheating, Heater plugs: Removal - Refitting).</p>	
<p>Check the connection and condition of connector C (grey 32-track) of the injection computer, component code 120. If the connector is 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>Check for +12 V battery on connection BP35 of component 257 (or 980). Check for the control of the preheating unit on connection 3FF component 257 (or 980).</p>	
<p>Check the insulation and continuity of the following connections: – 3FY between connections 257 (or 980) and 120, – 3FF between connections 257 (or 980) and 120. 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 the wiring.</p>	
<p>If the fault is still present, replace the preheating unit, component code 257 or 980 (see MR 364 (Mégane II), MR 370 (Scénic II), MR 385 (Modus), MR 392 (Clio III), MR 411 (New Twingo), MR 417 (Kangoo 2), Mechanical, 13C, Preheating, Pre-postheating unit: Removal - Refitting).</p>	
<p>If the fault is still present, contact the Techline.</p>	

AFTER REPAIR	<p>Deal with any faults displayed by the diagnostic tool. Clear the computer fault memory. Carry out a road test followed by another check with the diagnostic tool.</p>
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DF026 PRESENT OR STORED	<u>CYLINDER 1 INJECTOR CONTROL CIRCUIT</u> C0: Open circuit CC: Short circuit 1.DEF: At minimum stop 2.DEF: At maximum stop
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NOTES	Conditions for applying fault finding procedures to stored faults: The fault is present with the engine idling.
	Special notes: When fault DF026 occurs, the idle speed is locked at 1000 rpm , there is engine noise, the engine speed is unstable, the engine performance is reduced to 75% , the level 1 warning light illuminates, and the message Check injector is displayed until the next time the ignition is switched off.
	See the Technical Note Wiring Diagrams for the vehicle.

C0 - CC	NOTES	None.
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<p>Switch off the ignition and wait 15 seconds.</p> <p>Check the connection and condition of the cylinder 1 injector connector, component code 193.</p> <p>Check the connection and condition of connector B (brown 48-track) of the injection computer, component code 120.</p> <p>If the connector(s) is 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>Run command AC005 Cylinder 1 injector.</p> <p>If injector 1 cannot be heard operating five times in a cycle, connect the wire of the cylinder 2 injector to the cylinder 1 injector and run command AC006 Cylinder 2 injector.</p> <p>Does this injector actuation cycle work?</p> <p>Note: If the wires cannot be swapped, continue the procedure by replying YES to the previous question.</p>

AFTER REPAIR	<p>Deal with any faults displayed by the diagnostic tool.</p> <p>Clear the computer fault memory.</p> <p>Carry out a road test followed by another check with the diagnostic tool.</p>
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<p>DF026 CONTINUED 1</p>	
<p>YES</p>	<p>Injector 1 is not faulty, the fault is in the injector 1 control circuit.</p> <p>Check the insulation and continuity of the following connections:</p> <ul style="list-style-type: none"> – 3L between components 193 and 120, – 3KW between components 193 and 120. <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 the wiring.</p> <p>If the fault is still present, contact the Techline.</p>
<p>NO</p>	<p>Injector 1 is faulty, replace the cylinder 1 injector, component code 193 (see MR 364 (Mégane II), MR 370 (Scénic II), MR 385 (Modus), MR 392 (Clio III), MR 411 (New Twingo), MR 417 (Kangoo 2), Mechanical, 13B, Diesel injection, Diesel injector: Removal - Refitting).</p>
<p>AFTER REPAIR</p>	<p>Deal with any faults displayed by the diagnostic tool. Clear the computer fault memory. Carry out a road test followed by another check with the diagnostic tool.</p>

DF026 CONTINUED 2	
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1.DEF 2.DEF	NOTES	None.
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Check the conformity of the injectors fitted to the vehicle in relation to the type of vehicle and engine number (low, high or very high pressure injector).
Check that the C2I* is entered correctly in the injection computer .
Check the accelerometer shielding on connection TB1 of component 120 .
Check that the accelerometer is secured on the engine.
After retightening the accelerometer, be sure to clear the pressure regulation adaptives using command RZ004 Pressure regulation adaptives .
Disconnect and reconnect the accelerometer sensor to accomplish fast programming.
Carry out a road test to check if the fault is still present.
If the fault is still present, replace the cylinder 1 injector, component code 193 (see MR 364 (Mégane II) , MR 370 (Scénic II) , MR 385 (Modus) , MR 392 (Clio III) , MR 411 (New Twingo) , MR 417 (Kangoo 2) , Mechanical, 13B, Diesel injection, Diesel injector: Removal - Refitting).

* C2I: Individual injector correction

AFTER REPAIR	<p>Deal with any faults displayed by the diagnostic tool.</p> <p>Clear the computer fault memory.</p> <p>Carry out a road test followed by another check with the diagnostic tool.</p>
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DF027 PRESENT OR STORED	<u>INJECTOR CYLINDER 2 CONTROL CIRCUIT</u> C0: Open circuit CC: Short circuit 1.DEF: At minimum stop 2.DEF: At maximum stop
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NOTES	Conditions for applying fault finding procedures to stored faults: The fault is present with the engine idling.
	Special notes: When fault DF027 occurs, the idle speed is locked at 1000 rpm , there is engine noise, the engine speed is unstable, the engine performance is reduced to 75% , the level 1 warning light illuminates, and the message Check injector is displayed until the next time the ignition is switched off.
	See the Technical Note Wiring Diagrams for the vehicle.

C0 - CC	NOTES	None.
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<p>Switch off the ignition and wait 15 seconds.</p> <p>Check the connection and condition of the cylinder 2 injector connector, component code 194.</p> <p>Check the connection and condition of connector B (brown 48-track) of the injection computer, component code 120.</p> <p>If the connector(s) is 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>Run command AC006 Cylinder 2 injector.</p> <p>If injector 2 cannot be heard operating five times in a cycle, connect the wire of the cylinder 3 injector to the cylinder 2 injector and run command AC007 Cylinder 3 injector.</p> <p>Does this injector actuation cycle work?</p> <p>Note: If the wires cannot be swapped, continue the procedure by replying YES to the previous question.</p>

AFTER REPAIR	<p>Deal with any faults displayed by the diagnostic tool.</p> <p>Clear the computer fault memory.</p> <p>Carry out a road test followed by another check with the diagnostic tool.</p>
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DF027 CONTINUED 1	
YES	<p>Injector 2 is not defective; the fault is in the injector 2 control circuit.</p> <p>Check the insulation and continuity of the following connections:</p> <ul style="list-style-type: none">– 3LA between components 194 and 120,– 3KX between components 194 and 120. <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 the wiring.</p> <p>If the fault is still present, contact the Techline.</p>
NO	<p>Injector 2 is faulty, replace the cylinder 2 injector, component code 194 (see MR 364 (Mégane II), MR 370 (Scénic II), MR 385 (Modus), MR 392 (Clio III), MR 411 (New Twingo), MR 417 (Kangoo 2), Mechanical, 13B, Diesel injection, Diesel injector: Removal - Refitting).</p>
AFTER REPAIR	<p>Deal with any faults displayed by the diagnostic tool.</p> <p>Clear the computer fault memory.</p> <p>Carry out a road test followed by another check with the diagnostic tool.</p>

DF027 CONTINUED 2	
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1.DEF 2.DEF	NOTES	None.
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Check the conformity of the injectors fitted to the vehicle in relation to the type of vehicle and engine number (low, high or very high pressure injector).
Check that the C2I* is entered correctly in the injection computer .
Check the accelerometer shielding on connection TB1 of component 120 .
Check that the accelerometer is secured on the engine.
After retightening the accelerometer, be sure to clear the pressure regulation adaptives using command RZ004 Pressure regulation adaptives .
Disconnect and reconnect the accelerometer sensor to accomplish fast programming.
Carry out a road test to check if the fault is still present.
If the fault is still present, replace the cylinder 2 injector, component code 194 (see MR 364 (Mégane II) , MR 370 (Scénic II) , MR 385 (Modus) , MR 392 (Clio III) , MR 411 (New Twingo) , MR 417 (Kangoo 2) , Mechanical, 13B, Diesel injection, Diesel injector: Removal - Refitting).

* C2I: Individual injector correction

AFTER REPAIR	Deal with any faults displayed by the diagnostic tool . Clear the computer fault memory. Carry out a road test followed by another check with the diagnostic tool .
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DF028 PRESENT OR STORED	<u>CYLINDER 3 INJECTOR CONTROL CIRCUIT</u> C0: Open circuit CC: Short circuit 1.DEF: At minimum stop 2.DEF: At maximum stop
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NOTES	Conditions for applying fault finding procedures to stored faults: The fault is present with the engine idling.
	Special notes: When fault DF028 occurs, the idle speed is locked at 1000 rpm , there is engine noise, the engine speed is unstable, the engine performance is reduced to 75% , the level 1 warning light illuminates, and the message Check injector is displayed until the next time the ignition is switched off.
	See the Technical Note Wiring Diagrams for the vehicle.

C0 - CC	NOTES	None.
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<p>Switch off the ignition and wait 15 seconds.</p> <p>Check the connection and condition of the cylinder 3 injector connector, component code 1954.</p> <p>Check the connection and condition of connector B (48-track) of the injection computer, component code 120.</p> <p>If the connector(s) is 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>Run command AC007 Cylinder 3 injector.</p> <p>If injector 3 cannot be heard operating five times in a cycle, connect the wire of the cylinder 4 injector to the cylinder 3 injector and run command AC008 Cylinder 4 injector.</p> <p>Does this injector actuation cycle work?</p> <p>Note:</p> <p>If the wires cannot be swapped, continue the procedure by replying YES to the previous question.</p>

AFTER REPAIR	<p>Deal with any faults displayed by the diagnostic tool.</p> <p>Clear the computer fault memory.</p> <p>Carry out a road test followed by another check with the diagnostic tool.</p>
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DF028 CONTINUED 1	
YES	<p>Injector 3 is not defective; the fault is in the injector 3 control circuit.</p> <p>Check the insulation and continuity of the following connections:</p> <ul style="list-style-type: none">– 3LB between components 195 and 120,– 3KY between components 195 and 120. <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 the wiring.</p> <p>If the fault is still present, contact the Techline.</p>
NO	<p>Injector 3 is faulty, replace the cylinder 3 injector, component code 195 (see MR 364 (Mégane II), MR 370 (Scénic II), MR 385 (Modus), MR 392 (Clio III), MR 411 (New Twingo), MR 417 (Kangoo 2), Mechanical, 13B, Diesel injection, Diesel injector: Removal - Refitting).</p>
AFTER REPAIR	<p>Deal with any faults displayed by the diagnostic tool.</p> <p>Clear the computer fault memory.</p> <p>Carry out a road test followed by another check with the diagnostic tool.</p>

DF028 CONTINUED 2	
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1.DEF 2.DEF	NOTES	None.
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Check the conformity of the injectors fitted to the vehicle in relation to the type of vehicle and engine number (low, high or very high pressure injector).
Check that the C2I* is entered correctly in the injection computer .
Check the accelerometer shielding on connection TB1 of component 120 .
Check that the accelerometer is secured on the engine.
After retightening the accelerometer, be sure to clear the pressure regulation adaptives using command RZ004 Pressure regulation adaptives .
Disconnect and reconnect the accelerometer sensor to accomplish fast programming.
Carry out a road test to check if the fault is still present.
If the fault is still present, replace the cylinder 3 injector, component code 195 (see MR 364 (Mégane II) , MR 370 (Scénic II) , MR 385 (Modus) , MR 392 (Clio III) , MR 411 (New Twingo) , MR 417 (Kangoo 2) , Mechanical, 13B, Diesel injection, Diesel injector: Removal - Refitting).

* C2I: Individual injector correction

AFTER REPAIR	<p>Deal with any faults displayed by the diagnostic tool.</p> <p>Clear the computer fault memory.</p> <p>Carry out a road test followed by another check with the diagnostic tool.</p>
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DF029 PRESENT OR STORED	<u>INJECTOR CYLINDER 4 CONTROL CIRCUIT</u> C0: Open circuit CC: Short circuit 1.DEF: At minimum limit 2.DEF: At maximum limit
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NOTES	Conditions for applying fault finding procedures to stored faults: The fault is present with the engine idling.
	Special notes: When fault DF029 occurs, the idle speed is locked at 1000 rpm , there is engine noise, the engine speed is unstable, the engine performance is reduced to 75% , the level 1 warning light illuminates, and the message Check injector is displayed until the next time the ignition is switched off.
	See the Technical Note Wiring Diagrams for the vehicle.

C0 - CC	NOTES	None.
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<p>Switch off the ignition and wait 15 seconds.</p> <p>Check the connection and condition of the cylinder 4 injector connector, component code 196.</p> <p>Check the connection and condition of connector B (48-track) of the injection computer, component code 120.</p> <p>If the connector(s) is 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>Run command AC008 Cylinder 4 injector.</p> <p>If injector 4 cannot be heard operating five times in a cycle, connect the wire of the cylinder 3 injector to the cylinder 4 injector and use command AC007 Cylinder 3 injector.</p> <p>Does this injector actuation cycle work?</p> <p>Note: If the wires cannot be swapped, continue the procedure by replying YES to the previous question.</p>

AFTER REPAIR	<p>Deal with any faults displayed by the diagnostic tool.</p> <p>Clear the computer fault memory.</p> <p>Carry out a road test followed by another check with the diagnostic tool.</p>
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DF029 CONTINUED 1	
YES	<p>Injector 4 is not defective; the fault is in the injector 4 control circuit.</p> <p>Check the insulation and continuity of the following connections:</p> <ul style="list-style-type: none">– 3LC between components 196 and 120,– 3KZ between components 196 and 120. <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 the wiring.</p> <p>If the fault is still present, contact the Techline.</p>
NO	<p>Injector 4 is faulty, replace the cylinder 3 injector, component code 195 (see MR 364 (Mégane II), MR 370 (Scénic II), MR 385 (Modus), MR 392 (Clio III), MR 411 (New Twingo), MR 417 (Kangoo 2), Mechanical, 13B, Diesel injection, Diesel injector: Removal - Refitting).</p>
AFTER REPAIR	<p>Deal with any faults displayed by the diagnostic tool.</p> <p>Clear the computer fault memory.</p> <p>Carry out a road test followed by another check with the diagnostic tool.</p>

DF029 CONTINUED 2	
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1.DEF 2.DEF	NOTES	None.
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Check the conformity of the injectors fitted to the vehicle in relation to the type of vehicle and engine number (low, high or very high pressure injector).
Check that the C2I* is entered correctly in the injection computer .
Check the accelerometer shielding on connection TB1 of component 120 .
Check that the accelerometer is secured on the engine.
After retightening the accelerometer, be sure to clear the pressure regulation adaptives using command RZ004 Pressure regulation adaptives .
Disconnect and reconnect the accelerometer sensor to accomplish fast programming.
Carry out a road test to check if the fault is still present.
If the fault is still present, replace the cylinder 4 injector, component code 196 (see MR 364 (Mégane II) , MR 370 (Scénic II) , MR 385 (Modus) , MR 392 (Clio III) , MR 411 (New Twingo) , MR 417 (Kangoo 2) , Mechanical, 13B, Diesel injection, Diesel injector: Removal - Refitting).

* C2I: Individual injector correction

AFTER REPAIR	Deal with any faults displayed by the diagnostic tool . Clear the computer fault memory. Carry out a road test followed by another check with the diagnostic tool .
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DF032 PRESENT OR STORED	<u>THERMOPLUNGER 1 RELAY CONTROL CIRCUIT</u>
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NOTES	Conditions for applying the fault finding procedure to stored faults: The fault is present when the ignition is switched on.
	See the Technical Note Wiring Diagrams for the vehicle.

For New Twingo

Check the connection and condition of the additional heater 1 relay connector, component code **1067** and the **80 A** maxi fuse in the engine fuse and relay box.
Check the connection and condition of the **injection computer** connector, component code **120**.
If the connector(s) is 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.

Run command **AC250 Heating resistor 1 relay**.
If the command does not run, check, with the ignition on, for earth on connection **3JA** of component **1067**.
Check for **+ 12 V** on 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 the wiring.

Check **the insulation and continuity** of the following connections:
– **3JA** between components **1067** and **120**,
– **3FB** between components **1067** and **238**,
– **38LL** between components **1067** and **1113**,
– **BP9** between components **1067** and **597**.
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 the wiring.

If the fault is still present, check the relay and replace it if necessary.

If the fault is still present, contact the Techline.

AFTER REPAIR	Deal with any faults displayed by the diagnostic tool . Clear the computer fault memory. Carry out a road test followed by another check with the diagnostic tool .
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DF032
CONTINUED

For Mégane II
and Scénic II:

Check the connection and condition of the connector of the additional heater interface unit, component code **1550** and the **70 A** maxi fuses on the power supply fuse board.

Check the connection and condition of the **injection computer** connector, component code **120**.

If the connector(s) is 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.

Run command **AC250 Heating resistor 1 relay**.

If the command does not run, check for **+ 12 V** on connections **BP27** and **BP35** of component **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 the wiring.

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

- **3JA** between components **1550** and **120**,
- **3JAA** between components **1550** and **120**,
- **3JAB** between components **1550** and **120**.

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 the wiring.

If the fault is still present, check the relay and replace it if necessary.

If the fault is still present, contact the Techline.

AFTER REPAIR

Deal with any faults displayed by the **diagnostic tool**.

Clear the computer fault memory.

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

DF033 PRESENT OR STORED	<u>THERMOPLUNGER 2 RELAY CONTROL CIRCUIT</u>
NOTES	Conditions for applying the fault finding procedure to stored faults: The fault is present when the ignition is switched on.
	See the Technical Note Wiring Diagrams for the vehicle.
<p>Check the connection and condition of the additional heater 2 relay connector, component code 1068 and the 80 A maxi fuse in the engine fuse and relay box.</p> <p>Check the connection and condition of the injection computer connector, component code 120.</p> <p>If the connector(s) 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>Run command AC251 Heating resistor 2 relay.</p> <p>If the command does not run, check, with the ignition on, for earth on connection 3JAA of component 1068.</p> <p>Check for + 12 V on connection 3FB of component 1068.</p> <p>If the connector is 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>Check the insulation and continuity of the following connections:</p> <ul style="list-style-type: none">– 3JAA between components 1068 and 120,– 3FB between components 1068 and 238,– 38LM between components 1068 and 1113,– BP9 between components 1068 and 597. <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 the wiring.</p>	
If the fault is still present, check the relay and replace it if necessary.	
If the fault is still present, contact the Techline.	

AFTER REPAIR	<p>Deal with any faults displayed by the diagnostic tool.</p> <p>Clear the computer fault memory.</p> <p>Carry out a road test followed by another check with the diagnostic tool.</p>
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DF034 PRESENT OR STORED	<u>THERMOPLUNGER 3 RELAY CONTROL CIRCUIT</u>
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NOTES	Conditions for applying the fault finding procedure to stored faults: The fault is present when the ignition is switched on.
	See the Technical Note Wiring Diagrams for the vehicle.

<p>Check the connection and condition of the additional heater 2 relay connector, component code 1068 and the 80 A maxi fuse in the engine fuse and relay box.</p> <p>Check the connection and condition of the injection computer connector, component code 120.</p> <p>If the connector(s) 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>Run command AC251 Heating resistor 2 relay.</p> <p>If the command does not run, check, with the ignition on, for earth on connection 3JAA of component 1068.</p> <p>Check for + 12 V on connection 3FB of component 1068.</p> <p>If the connector is 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>Check the insulation and continuity of the following connections:</p> <ul style="list-style-type: none">– 3JAA between components 1068 and 120,– 3FB between components 1068 and 238,– 38LM between components 1068 and 1113,– BP9 between components 1068 and 597. <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 the wiring.</p>
<p>If the fault is still present, check the relay and replace it if necessary.</p>
<p>If the fault is still present, contact the Techline.</p>

AFTER REPAIR	<p>Deal with any faults displayed by the diagnostic tool.</p> <p>Clear the computer fault memory.</p> <p>Carry out a road test followed by another check with the diagnostic tool.</p>
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DF037 PRESENT OR STORED	<u>ENGINE IMMOBILISER</u>
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NOTES	None.
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Run a multiplex network test (see 88B, Multiplex).
If the fault is still present, see 82A Engine immobiliser .

AFTER REPAIR	Deal with any faults displayed by the diagnostic tool . Clear the computer fault memory. Carry out a road test followed by another check with the diagnostic tool .
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DF038 PRESENT OR STORED	COMPUTER 1.DEF: Analogue - digital converter 2.DEF: Enter injector codes 3.DEF: Memory self-test 4.DEF: Watchdog not refreshed 5.DEF: Interference on the injector control line 6.DEF: Watchdog activation
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NOTES	Special notes: When this fault appears: either: the engine speed is locked at 1300 rpm , the engine is noisy, and the level 1 warning light illuminates with the message Check injection displayed on the instrument panel, or: the engine stops and the level 2 warning light illuminates with the message Faulty injection displayed on the instrument panel.
	See the Technical Note Wiring Diagrams for the vehicle.

1.DEF 3.DEF 4.DEF 6.DEF	NOTES	None.
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Contact Techline.

2.DEF	NOTES	None.
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Check that the individual injector correction (C2I*) matches the injectors; if not, enter the C2I* (see Configurations and programming).
If the C2I* does match the injectors, contact the Techline.

* C2I: Individual injector correction

AFTER REPAIR	Deal with any faults displayed by the diagnostic tool . Clear the computer fault memory. Carry out a road test followed by another check with the diagnostic tool .
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DF038 CONTINUED	
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5.DEF	NOTES	None.
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Check the connection and condition of **connector B** (brown 48-track) of the **injection computer**, component code **120**.

If the connector is 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.

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

- **3L** between components **193** and **120**,
- **3KW** between components **193** and **120**,
- **3LA** between components **194** and **120**,
- **3KX** between components **194** and **120**,
- **3LB** between components **195** and **120**,
- **3KY** between components **195** and **120**,
- **3LC** between components **196** and **120**,
- **3KZ** between components **196** and **120**.

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 the wiring.

If the fault is still present, contact the Techline.

AFTER REPAIR	Deal with any faults displayed by the diagnostic tool . Clear the computer fault memory. Carry out a road test followed by another check with the diagnostic tool .
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DF039 PRESENT OR STORED	<u>INLET AIR TEMPERATURE SENSOR CIRCUIT</u> CO.1: Open circuit or short circuit to +12 V CC.0: Short circuit to earth
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NOTES	Special notes: When this fault arises, the engine is noisy and a light smoke appears.
	See the Technical Note Wiring Diagrams for the vehicle.

IMPORTANT

The Inlet air temperature sensor is absent when the engine is fitted with a flow sensor. In this case, its value is not a true representation and is fixed on the following engines: **K9K766, K9K724 in Vdiag 4C and 50**. It will always be absent on **K9K 766, 768, 724 in Vdiag 48, as well as on K9K 768 Vdiag 4C and 50**.

ENGINE: K9K 750

Move the wiring between the **computer**, component code **120** and the **injection air temperature and pressure sensor**, component code **1474** to see if the status changes (**present** ↔ **stored**).

Look for any wiring damage and check the **connection and condition** of the **inlet air temperature and pressure sensor**, component code **1474** and its connections.

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

If the resistance of the air temperature sensor is not:

15614 Ω ± 828 Ω at -20°C

5887 Ω ± 283 Ω at 0°C

2511 Ω ± 108 Ω at 20°C

1200 Ω ± 47 Ω at 40°C

612 Ω ± 22 Ω at 60°C,

replace the air temperature sensor.

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

- **3KQ** between components **1474** and **120**,
- **3LQ** between components **1474** and **120**,
- **3LN** between components **1474** and **120**.

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 the wiring.

If the fault is still present, replace the **inlet air temperature and pressure sensor**, component code **1474**.

If the fault is still present, contact the Techline.

AFTER REPAIR	Deal with any faults displayed by the diagnostic tool . Clear the computer fault memory. Carry out a road test followed by another check with the diagnostic tool .
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DF039 CONTINUED	
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NOTES	None.
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ENGINE: K9K 752, 740, 766, and 724

<p>Move the wiring between the computer, component code 120 and the inlet air temperature sensor, component code 272 to see if the status changes (present ↔ stored).</p> <p>Look for any wiring damage and check the connection and condition of the inlet air temperature sensor, component code 272 and its connections.</p> <p>If the connector is faulty and 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 resistance of the air temperature sensor is not:</p> <p>49933 Ω ± 6791 Ω at -40°C 9539 Ω ± 916 Ω at -10°C 2051Ω ± 123 Ω at 25°C 810 Ω ± 47 Ω at 50°C 309 Ω ± 17 Ω at 80°C</p> <p>replace the air temperature sensor.</p>
<p>Check the insulation and continuity of the following connections:</p> <ul style="list-style-type: none">– 3KQ between components 120 and 272,– 3SH between components 120 and 272. <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 the wiring.</p>
<p>If the fault is still present, replace the inlet air temperature sensor, component code 272.</p>
<p>If the fault is still present, contact the Techline.</p>

AFTER REPAIR	<p>Deal with any faults displayed by the diagnostic tool.</p> <p>Clear the computer fault memory.</p> <p>Carry out a road test followed by another check with the diagnostic tool.</p>
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DF047 PRESENT OR STORED	COMPUTER SUPPLY VOLTAGE 1.DEF: Above maximum threshold 2.DEF: Below minimum threshold
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NOTES	Conditions for applying fault finding procedures to stored faults: The fault is present when the engine speed is greater than 1000 rpm .
	See the Technical Note Wiring Diagrams for the vehicle.

<p>Move the wiring harness between the injection computer, component code 120 and the battery, component code 107 to see if the status changes (Present ↔ Stored).</p> <p>Look for any wiring damage and check the connection and condition of the battery, component code 107 and its connections.</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 the wiring.</p>
<p>Measure the battery voltage when the ignition is switched on.</p> <p>If the battery voltage is less than 11 V, recharge the battery.</p>
<p>Check the condition and connection of the battery terminals and posts, component code 107.</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 the wiring.</p>
<p>Check the vehicle's charge circuit (see 87B, Passenger compartment connection unit for the New Twingo or see 87G, Engine compartment connection unit for Clio III, Modus, Mégane II, Scénic II, and Kangoo 2).</p>
<p>Check the connection and condition of connector A (black 32-track) of the injection computer, component code 120.</p> <p>Check the connection and condition of the injection locking relay connector, component code 238.</p> <p>Check the connection and condition of the UPC connectors, component code 1337.</p> <p>If the connector(s) is 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>

AFTER REPAIR	<p>Deal with any faults displayed by the diagnostic tool.</p> <p>Clear the computer fault memory.</p> <p>Carry out a road test followed by another check with the diagnostic tool.</p>
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DF047
CONTINUED

Check **the insulation and continuity** of the following connections:
(except K9K 740 engines)

- **AP15** between components **120** and **1337**,
- **NH** or **N** between component **120** and **earth**,
- **3FB1** between components **120** and **1337**,
- **3FB2** between components **120** and **1337**.

(K9K 740 engines only)

- **AP29** between components **120** and **1016**,
- **NH** between component **120** and **earth**,
- **3FB** between components **120** and **238**.

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 the wiring.

If the fault is still present, contact the Techline.

AFTER REPAIR

Deal with any faults displayed by the **diagnostic tool**.
Clear the computer fault memory.
Carry out a road test followed by another check with the **diagnostic tool**.

DF049 PRESENT OR STORED	<u>REFRIGERANT SENSOR CIRCUIT</u> C0.1: Open circuit or short circuit to +12 V CC.0: Short circuit to earth
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NOTES	Conditions for applying fault finding procedures to stored faults: Apply the fault finding procedure below if the fault is present or stored .
	Priority when dealing with a number of faults: – DF113 Sensor supply voltage.
	See the Technical Note Wiring Diagrams for the vehicle.

Display PR037 Refrigerant pressure . If the value is less than 2 bar, top up the refrigerant (see MR 364 (Mégane II) , MR 370 (Scénic II) , MR 385 (Modus) , MR 392 (Clio III) , MR 411 (New Twingo) , MR 417 (Kangoo 2) , Mechanical , 62A , Air conditioning , Refrigerant circuit: Draining - Filling).
Move the wiring between the computer , component code 120 and the refrigerant pressure sensor , component code 1202 to see if the status changes (present ↔ stored). Look for any wiring damage and check the connection and condition of the refrigerant pressure sensor , component code 1202 and its connections. If the connector is faulty and there is a repair procedure (see Technical Note 6015A, Repairing electrical wiring, Wiring: Precautions for repair), repair the connector, otherwise replace the wiring.
Check the connection and condition of the connector of the refrigerant pressure sensor , component code 1202 . Check the connection and condition of connector C (grey 32-track) of the injection computer , component code 120 . If the connector(s) is 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.
Check for + 5 V on connection 38Y of component 1202 . Check for earth on connection 38W of component 1202 .

AFTER REPAIR	Deal with any faults displayed by the diagnostic tool . Clear the computer fault memory. Carry out a road test followed by another check with the diagnostic tool .
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DF049 CONTINUED	
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Check the insulation and the continuity of the following connections:

- **38Y** between components **1202** and **120**,
- **38X** between components **1202** and **120**,
- **38W** between components **1202** and **120**.

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 the wiring.

If the fault is still present, replace the **refrigerant pressure sensor**, component code **1202**.

If the fault is still present, contact the Techline.

AFTER REPAIR	Deal with any faults displayed by the diagnostic tool . Clear the computer fault memory. Carry out a road test followed by another check with the diagnostic tool .
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DF050 PRESENT OR STORED	<u>BRAKE SWITCH CIRCUIT</u> C0.0: Open circuit or short circuit to earth 1.DEF: No signal
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NOTES	Special notes: The cruise control function is inhibited. The fault is declared present when decelerating, when the brake pedal is depressed.
	Conditions for applying fault finding procedures to stored faults: Apply the fault finding procedure below if the fault is present or stored .
	See the Technical Note Wiring Diagrams for the vehicle.

Check the connection and condition of the brake light switch connector, component code 160 . If the connector is faulty and there is a repair procedure (see Technical Note 6015A, Repairing electrical wiring, Wiring: Precautions for repair), repair the connector, otherwise replace the wiring.
Check for + 12 V on connection AP10 (for New Twingo) or BPT (for Mégane II, Scénic II, Modus, and Clio III) or BPT2 and SP17 (for Kangoo 2) of component 160 . 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 the wiring.
Check the connection and condition of connector A (black 32-track) of the injection computer , component code 160 . Check the connection and condition of the injection locking relay connector , component code 238 . If the connector(s) are faulty and there is a repair procedure (see Technical Note 6015A, Repairing electrical wiring, Wiring: Precautions for repair) repair the connector(s), otherwise replace the wiring.
Check the operation of the brake light switch .

AFTER REPAIR	Deal with any faults displayed by the diagnostic tool . Clear the computer fault memory. Carry out a road test followed by another check with the diagnostic tool .
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DF050
CONTINUED

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

- **5A** between components **160** and **120**,
- **BPT** between components **160** and **645** (for Mégane II, Scénic II, Modus, and Clio III),
- **BPT2** between components **160** and **645** (for Kangoo 2),
- **SP17** between components **160** and **260** (for Kangoo 2),
- **AP10** between components **160** and **1016** (for New Twingo),
- **65A** between components **160** and **645** (vehicle without ESP),
- **65G** between components **160** and **645** (vehicle with ESP).

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 the wiring.

If the fault is still present, replace the brake switch, component code **160** (see **MR 364 (Mégane II)**, **MR 370 (Scénic II)**, **MR 385 (Modus)**, **MR 392 (Clio III)**, **MR 411 (New Twingo)**, **MR 417 (Kangoo 2)**, **Mechanical, 37A, Mechanical component controls, Brake light switch: Removal - Refitting**).

If the fault is still present, contact the Techline.

AFTER REPAIR

Deal with any faults displayed by the **diagnostic tool**.
Clear the computer fault memory.
Carry out a road test followed by another check with the **diagnostic tool**.

DF051 PRESENT OR STORED	<u>CRUISE CONTROL/SPEED LIMITER FUNCTION</u> 1.DEF: Inconsistency 2.DEF: On - off switch
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NOTES	Special notes: The cruise control function is inhibited.
	See the Technical Note Wiring Diagrams for the vehicle.

<p>Check the connection and condition of connector A (black 32-track) of the injection computer, component code 160.</p> <p>Check the connection and condition of the cruise control On - Off switch connections, component code 1081. If the connector(s) is 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>Check the insulation and continuity of the following connections:</p> <ul style="list-style-type: none">– 3FX between components 1081 and 120,– 3PD between components 1081 and 120. <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 the wiring.</p>
<p>Check that the cruise control - speed limiter on - off switch is working (refer to the interpretation of ET042 Cruise control - speed limiter).</p> <p>If the fault is still present, contact the Techline.</p>

AFTER REPAIR	Deal with any faults displayed by the diagnostic tool . Clear the computer fault memory. Carry out a road test followed by another check with the diagnostic tool .
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DF052 PRESENT OR STORED	<u>INJECTORS CONTROL CIRCUIT</u> CC.1: short circuit to +12 volts. CC.0: short circuit to earth
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NOTES	<p>Priorities when dealing with a number of faults:</p> <ul style="list-style-type: none"> – DF026 Cylinder 1 injector control circuit, – DF027 Cylinder 2 injector control circuit, – DF028 Cylinder 3 injector control circuit, – DF029 Cylinder 4 injector control circuit, <p>the fault finding procedure remains the same, but the combination of faults makes it possible to identify the defective injector(s).</p>
	<p>Special notes:</p> <p>When the fault occurs: there is engine noise, the engine speed is unstable, the engine performance is reduced, and the level 2 warning light comes on with the message Faulty injection displayed on the instrument panel.</p>
	<p>See the Technical Note Wiring Diagrams for the vehicle.</p>

<p>Switch off the ignition, check the condition and connection of the injector connectors, component codes 193, 194, 195, and 196.</p> <p>If the connector(s) are faulty and there is a repair procedure (see Technical Note 6015A, Repairing electrical wiring, Wiring: Precautions for repair) repair the connector(s), otherwise replace the wiring.</p>
<p>Switch off the ignition, disconnect the injectors (or the injector identified by faults DF026 Cylinder 1 injector control circuit, DF027 Cylinder 2 injector control circuit, DF028 Cylinder 3 injector control circuit, DF029 Cylinder 4 injector control circuit) and switch on the ignition again.</p> <p>Using the diagnostic tool, check for changes to fault DF052.</p> <p>Is DF052 present or stored?</p>

AFTER REPAIR	<p>Deal with any faults displayed by the diagnostic tool.</p> <p>Clear the computer fault memory.</p> <p>Carry out a road test followed by another check with the diagnostic tool.</p>
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DF052 CONTINUED	
DF052 PRESENT	<p>The injectors are not defective.</p> <p>Check the condition and connection of the injection computer (brown 48-track) connector B. If the connector is faulty and there is a repair procedure (see Technical Note 6015A, Repairing electrical wiring, Wiring: Precautions for repair), repair the connector(s), otherwise replace the wiring.</p> <p>Check the insulation, the continuity and the absence of interference resistance on the following connections:</p> <ul style="list-style-type: none"> – 3L between components 193 and 120, – 3KW between components 193 and 120, – 3LA between components 194 and 120, – 3KX between components 194 and 120, – 3LB between components 195 and 120, – 3KY between components 195 and 120, – 3LC between components 196 and 120, – 3KZ between components 196 and 120. <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 the wiring.</p> <p>If the fault is still present, contact the Techline.</p>
DF052 STORED	<p>Injector(s) defective. Replace the injector identified by faults DF026 Cylinder 1 injector control circuit to DF029 Cylinder 4 injector control circuit if any are present. If none of the faults identifying the defective injector circuit are present:</p> <ul style="list-style-type: none"> – switch off the ignition, – reconnect one of the four injectors, – switch on the ignition again. <p>If the fault recurs as present, replace the reconnected injector, component code 193, 194, 195, or 196 (see MR 364 (Mégane II), MR 370 (Scénic II), MR 385 (Modus), MR 392 (Clio III), MR 411 (New Twingo), MR 417 (Kangoo 2), Mechanical, 13B, Diesel injection, Diesel injector: Removal - Refitting). Follow the same procedure for the other injectors.</p>
AFTER REPAIR	<p>Deal with any faults displayed by the diagnostic tool. Clear the computer fault memory. Carry out a road test followed by another check with the diagnostic tool.</p>

DF053 PRESENT OR STORED	<u>RAIL PRESSURE REGULATION FUNCTION</u> 1.DEF: at minimum stop 2.DEF: at maximum stop 3.DEF: below minimum threshold 4.DEF: above maximum threshold 5.DEF: high flow current < minimum 6.DEF: high flow current > maximum 7.DEF: low flow current < minimum 8.DEF: low flow current > maximum
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NOTES	Priorities when dealing with a number of faults: – DF098 Fuel temperature sensor circuit, – DF007 Rail pressure sensor circuit.
	Special note. If DF053 , the engine may stop with the level 2 warning light illuminated with the message Faulty injection displayed on the instrument panel.
	Conditions for applying fault finding procedures to stored faults: The fault is present with the engine running .
	See the Technical Note Wiring Diagrams for the vehicle.

Check the presence and conformity of the fuel, run TEST 13: Diesel fuel conformity check .
Check the connection and condition of the flow actuator connector, component code 1105 . If the connector is faulty and there is a repair procedure (see Technical Note 6015A, Repairing electrical wiring, Wiring: Precautions for repair), repair the connector, otherwise replace the wiring.
Check for + 12 V (after relay) on connection 3FB1 or 3FB2 (for New Twingo) or 3FB3 (for Kangoo 2) of component 1105 .
Check the connection and condition of connector B (brown 48-track) of the injection computer , component code 120 . If the connector is faulty and there is a repair procedure (see Technical Note 6015A, Repairing electrical wiring, Wiring: Precautions for repair), repair the connector, otherwise replace the wiring.
Measure the resistance between connections 3HI and 3FB1 or 3FB2 (for New Twingo) or 3FB3 (for Kangoo 2) of component 1105 . If the resistance of the flow actuator is not between 4.8 Ω and 5.8 Ω at 20°C , replace the flow actuator, component code 1105 (see MR 364 (Mégane II) , MR 370 (Scénic II) , MR 385 (Modus) , MR 392 (Clio III) , MR 411 (New Twingo) , MR 417 (Kangoo 2) , Mechanical, 13B, Diesel injection, Flow actuator: Removal - Refitting).

AFTER REPAIR	Deal with any faults displayed by the diagnostic tool . Clear the computer fault memory. Carry out a road test followed by another check with the diagnostic tool .
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DF053 CONTINUED	
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Check the **insulation and continuity** of the following connection:

– **3HI** between components **1105** and **120**.

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 the wiring.

Run **Test 1: Low pressure circuit check**.

Run **Test 6: High pressure system check**.

Run **Test 8: Injector return flow**.

If the fault is still present contact Techline.

AFTER REPAIR	Deal with any faults displayed by the diagnostic tool . Clear the computer fault memory. Carry out a road test followed by another check with the diagnostic tool .
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DF056 PRESENT OR STORED	<u>AIR FLOWMETER CIRCUIT</u> 1.DEF: Permanent low level 2.DEF: Permanent high level 3.DEF: Below minimum threshold 4.DEF: Above maximum threshold 5.DEF: At minimum stop 6.DEF: At maximum stop
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NOTES	Special notes: If fault DF056 is present : air flow regulation stops and the EGR valve is closed.
	See the Technical Note Wiring Diagrams for the vehicle.

Check that the air filter is not blocked. Check that the air filter is not clogged and that the air inlet system is not blocked between the air filter outlet and the inlet manifold. Run TEST 5: Inlet circuit check . Run TEST 11: Air line at the turbocharger .
Check the connection and condition of the air flowmeter connector, component code 799 . Check the connection and condition of connector B (brown 48-track) of the injection computer , component code 120 . If the connector(s) is 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.
Check for + 5 V on connection 3KJ of component 799 .
Check for earth on connection 3DW of component 799 .
Check the insulation and continuity of the following connections: – 3KJ between components 799 and 120 , – 3DW between components 799 and 120 , – 3DV between components 799 and 120 . 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 the wiring.
If the fault is still present, replace the air flowmeter, component code 799 (see MR 364 (Mégane II) , MR 370 (Scénic II) , MR 385 (Modus) , MR 392 (Clio III) , MR 411 (New Twingo) , MR 417 (Kangoo 2) , Mechanical, 12A, Fuel mixture, Air flowmeter: Removal - Refitting).
If the fault is still present, contact the Techline.

AFTER REPAIR	Deal with any faults displayed by the diagnostic tool . Clear the computer fault memory. Carry out a road test followed by another check with the diagnostic tool .
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DF057 PRESENT OR STORED	<u>WATER IN DIESEL FUEL DETECTOR CIRCUIT</u> CO.1: Open circuit or short circuit to + 12 V CC.0: Short circuit to earth 1.DEF: above maximum threshold
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NOTES	Special notes: – If water is detected downstream of the diesel filter, the high pressure pump and the injectors may be damaged.
	Use bornier Elé. 1681 for all operations on the connector of the engine management computer.
	See the Technical Note Wiring Diagrams for the vehicle.

Check the connections of the water in diesel fuel sensor, component code 414 . Check the connections of the engine management computer, component code 120 . If the connector(s) are faulty and there is a repair procedure (see Technical Note 6015A, Repairing electrical wiring, Wiring: Precautions for repair) repair the connector(s), otherwise replace the wiring.
With the ignition on, check for +12 V on connections 3FB1 and 3FB2 (for New Twingo) or AP15 (for Kangoo 2) of component 414 . Check for earth on the following connections: – M or 3WU (for New Twingo) of component 120 . – MH and MW (for Kangoo 2) of component 414 .
Check the continuity of the following connections: – 3WT between components 414 and 120 , – M between components 414 and 120 , – 3FB1 between components 414 and 1337 . (only for New Twingo): – 3WT between components 414 and 120 , – 3WU between components 414 and 120 , – 3FB2 between components 414 and 238 . (only for Kangoo 2): – AP15 between components 414 and 1337 , – 3WT between components 414 and 1337 , – MH and MW between earth and component 414 . 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 the wiring.

AFTER REPAIR	Deal with any faults displayed by the diagnostic tool . Clear the computer fault memory. Carry out a road test followed by another check with the diagnostic tool .
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DF057 CONTINUED	
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If the fault is still present, replace the diesel filter (see **MR 364 (Mégane II)**, **MR 370 (Scénic II)**, **MR 385 (Modus)**, **MR 392 (Clio III)**, **MR 411 (New Twingo)**, **MR 417 (Kangoo 2)**, **Mechanical, 13A**, Fuel supply, Fuel filter: **Removal - Refitting**).

If the fault is still present, contact the Techline.

AFTER REPAIR	Deal with any faults displayed by the diagnostic tool . Clear the computer fault memory. Carry out a road test followed by another check with the diagnostic tool .
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DF059 PRESENT OR STORED	<u>COMBUSTION MISFIRES ON CYLINDER 1</u>
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NOTES	Special notes: If fault DF059 is present : there is engine noise and jerking, the engine runs on three cylinders, the engine speed is held at 1000 rpm , the engine performance is reduced to 75% , and the level 1 warning light illuminates.
	Conditions for applying fault finding procedures to stored faults: The fault is present with the engine idling .
	Priorities when dealing with a number of faults: <ul style="list-style-type: none"> – DF026 Cylinder 1 injector control circuit (CC or CO), – DF053 Rail pressure regulation function.

Check the presence and conformity of the fuel. Run TEST 13: Diesel fuel conformity check .
Run TEST 3 Injector check . Run TEST 7 High pressure circuit sealing check .
Check the engine compression. Repair if necessary.
Check the valve clearance and adjust if necessary.
Check the inlet ducts , as well as the EGR valve , and clean them if necessary (see Technical Note 3916 Cleaning the EGR solenoid valve).
If the fault is still present, replace the injector, component code 193 (see MR 364 (Mégane II) , MR 370 (Scénic II) , MR 385 (Modus) , MR 392 (Clio III) , MR 411 (New Twingo) , MR 417 (Kangoo 2) , Mechanical, 13B, Diesel injection, Diesel injector: Removal - Refitting).

AFTER REPAIR	Deal with any faults displayed by the diagnostic tool . Clear the computer fault memory. Carry out a road test followed by another check with the diagnostic tool .
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DF060 PRESENT OR STORED	<u>MISFIRING ON CYLINDER 2</u>
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NOTES	Special notes: If fault DF060 is present : there is engine noise and jerking, the engine runs on three cylinders, the engine speed is held at 1000 rpm , the engine performance is reduced to 75% , and the level 1 warning light illuminates.
	Conditions for applying fault finding procedures to stored faults: The fault is present with the engine idling .
	Priorities when dealing with a number of faults: <ul style="list-style-type: none"> – DF027 Cylinder 2 injector control circuit (CC or CO), – DF053 Rail pressure regulation function.

Check the presence and conformity of the fuel. Run TEST 13: Diesel fuel conformity check .
Run TEST 3 Injector check . Run TEST 7 High pressure circuit sealing check .
Check the engine compression. Repair if necessary.
Check the valve clearance and adjust if necessary.
Check the inlet ducts , as well as the EGR valve , and clean them if necessary (see Technical Note 3916 Cleaning the EGR solenoid valve).
If the fault is still present, replace the injector, component code 194 (see MR 364 (Mégane II) , MR 370 (Scénic II) , MR 385 (Modus) , MR 392 (Clio III) , MR 411 (New Twingo) , MR 417 (Kangoo 2) , Mechanical , 13B , Diesel injection , Diesel injector: Removal - Refitting).

AFTER REPAIR	Deal with any faults displayed by the diagnostic tool . Clear the computer fault memory. Carry out a road test followed by another check with the diagnostic tool .
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DF061 PRESENT OR STORED	<u>MISFIRING ON CYLINDER 3</u>
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NOTES	Special notes: If fault DF061 is present : there is engine noise and jerking, the engine runs on three cylinders, the engine speed is held at 1000 rpm , the engine performance is reduced to 75% , and the level 1 warning light illuminates.
	Conditions for applying fault finding procedures to stored faults: The fault is present with the engine idling .
	Priorities when dealing with a number of faults: – DF028 Cylinder 3 injector control circuit (CC or CO) , – DF053 Rail pressure regulation function .

Check the presence and conformity of the fuel. Run TEST 13: Diesel fuel conformity check .
Run TEST 3 Injector check . Run TEST 7 High pressure circuit sealing check .
Check the engine compression. Repair if necessary.
Check the valve clearance and adjust if necessary.
Check the inlet ducts , as well as the EGR valve , and clean them if necessary (see Technical Note 3916 Cleaning the EGR solenoid valve).
If the fault is still present, replace the injector, component code 195 (see MR 364 (Mégane II) , MR 370 (Scénic II) , MR 385 (Modus) , MR 392 (Clio III) , MR 411 (New Twingo) , MR 417 (Kangoo 2) , Mechanical, 13B, Diesel injection, Diesel injector: Removal - Refitting).

AFTER REPAIR	Deal with any faults displayed by the diagnostic tool . Clear the computer fault memory. Carry out a road test followed by another check with the diagnostic tool .
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DF062 PRESENT OR STORED	<u>MISFIRING ON CYLINDER 4</u>
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NOTES	Special notes: If fault DF062 is present : there is engine noise and jerking, the engine runs on three cylinders, the engine speed is held at 1000 rpm , the engine performance is reduced to 75% , and the level 1 warning light illuminates.
	Conditions for applying fault finding procedures to stored faults: The fault is present with the engine idling .
	Priorities when dealing with a number of faults: <ul style="list-style-type: none"> – DF029 Cylinder 4 injector control circuit (CC or CO), – DF053 Rail pressure regulation function.

Check the presence and conformity of the fuel. Run TEST 13: Diesel fuel conformity check .
Run TEST 3 Injector check . Run TEST 7 High pressure circuit sealing check .
Check the engine compression. Repair if necessary.
Check the valve clearance and adjust if necessary.
Check the inlet ducts , as well as the EGR valve , and clean them if necessary (see Technical Note 3916 Cleaning the EGR solenoid valve).
If the fault is still present, replace the injector, component code 196 (see MR 364 (Mégane II) , MR 370 (Scénic II) , MR 385 (Modus) , MR 392 (Clio III) , MR 411 (New Twingo) , MR 417 (Kangoo 2) , Mechanical, 13B, Diesel injection, Diesel injector: Removal - Refitting).

AFTER REPAIR	Deal with any faults displayed by the diagnostic tool . Clear the computer fault memory. Carry out a road test followed by another check with the diagnostic tool .
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DF089 PRESENT OR STORED	<u>INLET MANIFOLD PRESSURE SENSOR CIRCUIT</u> 1.DEF: Permanent low level 2.DEF: Permanent high level 3.DEF: Below minimum threshold 4.DEF: Above maximum threshold 5.DEF: Inconsistency 6.DEF: At maximum stop 7.DEF: At minimum stop
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NOTES	Priority in dealing with a number of faults: – DF113 Sensor supply voltage.
	Special notes: The level 1 warning light illuminates accompanied by the message Check injection .
	See Technical Note Wiring Diagrams of the vehicle concerned.

1.DEF 2.DEF 3.DEF 4.DEF	NOTES	None.
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Check the connection and condition of the inlet pressure sensor connector, component code 1071 . Check the connection and condition of connector B (brown 48-track) of the injection computer, component code 120 . If the connector(s) is 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.
Check for + 5 V on connection 3LQ of component 1071 (or 1474 for the K9K750).
Check for earth on connection 3LN of component 1071 (or 1474 for the K9K750).
Check the insulation, the continuity and the absence of interference resistance on the following connections: – 3LQ between components 120 and 1071 (or 1474 for the K9K750). – 3LP between components 120 and 1071 (or 1474 for the K9K750). – 3LN between components 120 and 1071 (or 1474 for the K9K750). 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 the wiring.
If the fault is still present, contact the Techline.

AFTER REPAIR	Deal with any faults displayed by the diagnostic tool . Clear the computer fault memory. Carry out a road test followed by another check with the diagnostic tool .
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DF089 CONTINUED	
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5.DEF 6.DEF 7.DEF	NOTES	None.
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<p>Visually check the sealing of the inlet and exhaust ducts. Repair if necessary.</p>
<p>Remove the exhaust and inlet ducts. Check that the ducts are not blocked. Repair if necessary.</p>
<p>Check for consistency between the atmospheric pressure and the inlet pressure (PR035 Atmospheric pressure = PR032 Inlet pressure). Engine stopped (cold), the pressure read by the two sensors must be nearly the same. If the values are very different, replace the inlet pressure sensor.</p>
<p>Run Test 12 Turbocharger. Repair if necessary.</p>

AFTER REPAIR	<p>Deal with any faults displayed by the diagnostic tool. Clear the computer fault memory. Carry out a road test followed by another check with the diagnostic tool.</p>
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DF098 PRESENT OR STORED	<u>FUEL TEMPERATURE SENSOR CIRCUIT</u> CO.1: Open circuit or short circuit to + 12 V CC.0: Short circuit to earth
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NOTES	None.
	See Technical Note Wiring Diagrams of the vehicle concerned.

Check the connection and condition of the **fuel temperature sensor** connector, component code **1066**.
Check the connection and condition of **connector B** (brown 48-track) of the **injection computer**, component code **120**.
If the connector(s) is 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.

Check **the insulation, the continuity and the absence of interference resistance** on the following connections:
– **3FAB** between components **1066** and **120**,
– **3LD** between components **1066** and **120**.
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 the wiring.

Measure the resistance at the **fuel temperature sensor** terminals.
If the resistance of the **fuel temperature sensor** is not approximately **2.2 kΩ** at **25°C**, replace the fuel temperature sensor, component code **1066** (see **MR 364 (Mégane II)**, **MR 370 (Scénic II)**, **MR 385 (Modus)**, **MR 392 (Clio III)**, **MR 411 (Nouvelle Twingo)**, **MR 417 (Kangoo 2)**, **Mechanical, 13B, Diesel injection, Fuel temperature sensor, Removal - Refitting**).

AFTER REPAIR	Deal with any faults displayed by the diagnostic tool . Clear the computer fault memory. Carry out a road test followed by another check with the diagnostic tool .
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DF099 PRESENT OR STORED	<u>AUTOMATIC TRANSMISSION OR SEQUENTIAL GEARBOX CONNECTION VIA THE MULTIPLEX NETWORK</u> 1.DEF: No signal
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NOTES	Special notes: <ul style="list-style-type: none">– Gearbox does not change gear in automatic mode.– OBD warning light illuminated.
	See Technical Note Wiring Diagrams of the vehicle concerned.

Run a multiplex network test (see 88B, Multiplex).
Check the connection and condition of connector A (black 52-track) of the sequential gearbox computer , component code 119 . Check the connection and condition of connector C (brown 48-track) of the injection computer , component code 120 . If the connector(s) is 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.
Check the insulation, the continuity and the absence of interference resistance on the following connections: <ul style="list-style-type: none">– 3MT between components 119 and 120,– 3MS between components 119 and 120. 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 the wiring.

AFTER REPAIR	Deal with any faults displayed by the diagnostic tool . Clear the computer fault memory. Carry out a road test followed by another check with the diagnostic tool .
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DF107 PRESENT OR STORED	<u>COMPUTER MEMORY</u>
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NOTES	Conditions for applying fault finding procedures to stored faults: The fault is present with the engine running .
	Special notes: If fault DF107 is present : the engine stops and cannot be restarted and the level 2 warning light illuminates, with the message Faulty injection displayed on the instrument panel.

Enter the individual injector corrections (C2I*) using the diagnostic tool (command SC002 Enter injector codes) .
If the fault is still present, contact the Techline.

* C2I: Individual injector correction

AFTER REPAIR	Deal with any faults displayed by the diagnostic tool . Clear the computer fault memory. Carry out a road test followed by another check with the diagnostic tool .
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DF112 PRESENT OR STORED	<u>CYLINDER REFERENCE SENSOR CIRCUIT</u> 1.DEF: No signal
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NOTES	<p>Conditions for applying fault finding procedures to stored faults: The fault is present when the starter motor is operating or the engine is running at idle speed.</p> <p>See Technical Note Wiring Diagrams of the vehicle concerned.</p>
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<p>Check the connection and condition of the cylinder reference sensor connector, component code 746. If the connector is faulty and 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>Check for +12 V after ignition feed on connection 3FB2 or 3FB3 of component 746. 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 the wiring.</p>
<p>Check the connection and condition of connector B (brown 48-track) of the injection computer, component code 120. Check the connection and condition of the connector of the injection locking relay, component code 238 or the UPC, component code 1337. If the connector(s) are faulty and there is a repair procedure (see Technical Note 6015A, Repairing electrical wiring, Wiring: Precautions for repair) repair the connector(s), otherwise replace the wiring.</p>
<p>Check for earth on connection 3PL of component 746.</p>
<p>Check the insulation, continuity and the absence of interference resistance on the following connections:</p> <ul style="list-style-type: none"> – 3CQ between components 746 and 120, – For Clio and Modus: 3FB2 between components 1337 and 746, – For Mégane II and Scénic II: 3FB1 and 3FB2 between components 746 and 1337, – For New Twingo: 3FB and 3FB2 between components 746 and 238, – For Kangoo 2: 3FB3 between components 1337 and 746. <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 the wiring.</p>
<p>Check the timing setting.</p>

AFTER REPAIR	<p>Deal with any faults displayed by the diagnostic tool. Clear the computer fault memory. Carry out a road test followed by another check with the diagnostic tool.</p>
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DF113 PRESENT OR STORED	<u>SENSOR SUPPLY VOLTAGE</u> 1.DEF: At minimum limit 2.DEF: At maximum limit
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NOTES	Special notes: If fault DF113 is present : the engine stops immediately and cannot be restarted. The level 2 warning light illuminates with the message Faulty injection displayed on the instrument panel.
	See Technical Note Wiring Diagrams of the vehicle concerned.

<p>Check the condition and connection of the connectors on all sensors with a + 5 V supply.</p> <ul style="list-style-type: none">– Refrigerant pressure sensor.– Cylinder reference sensor.– Turbocharger inlet pressure sensor.– Rail pressure sensor.– Pedal sensor, gangs 1 and 2.– EGR valve position sensor.– Flow sensor. <p>If the connector(s) are faulty and there is a repair procedure (see Technical Note 6015A, Repairing electrical wiring, Wiring: Precautions for repair) repair the connector(s), otherwise replace the wiring.</p>
<p>Check the condition and connection of the injection computer connectors, component code 120. If the connector(s) are faulty and there is a repair procedure (see Technical Note 6015A, Repairing electrical wiring, Wiring: Precautions for repair) repair the connector(s), otherwise replace the wiring.</p>
<p>To locate a possible internal fault on one of the sensors with a + 5 V supply (short circuit), disconnect each of the sensors on the above list in turn, checking after each disconnection whether the fault changes status from present to stored. If the faulty sensor is located, check its connections and that it is in order. If necessary replace the sensor.</p>

AFTER REPAIR	Deal with any faults displayed by the diagnostic tool . Clear the computer fault memory. Carry out a road test followed by another check with the diagnostic tool .
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**DF113
CONTINUED**

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

- **38Y** between components **1202** and **120**,
- **3LQ**, between components **1071** and **120**,
- **3LX** between components **1032** and **120**,
- **3LR** between components **921** and **120**,
- **3LU** between components **921** and **120**,
- **3GC** between components **1460** and **120**,
- **3KJ** between components **799** and **120 (vehicle with flowmeter)**,
- **3B** between components **245** and **120 (K9K 740 engine)**.

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

AFTER REPAIR

Deal with any faults displayed by the **diagnostic tool**.
Clear the computer fault memory.
Carry out a road test followed by another check with the **diagnostic tool**.

DF114 PRESENT OR STORED	<u>EGR SOLENOID VALVE CIRCUIT</u> 1.DEF: At minimum limit 2.DEF: At maximum limit 3.DEF: Inconsistency 4.DEF: Valve jammed 5.DEF: Valve clogged
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NOTES	Priority when dealing with a number of faults: – DF113 Sensor supply voltage.
	Special notes: If fault DF114 is present : unstable engine speed and even stalling. Starting difficult or even impossible when cold, smoke emissions and loss of performance possible. On status 4.DEF , the level 1 warning light illuminates with the message Faulty injection displayed on the instrument panel.
	Conditions for applying fault finding procedures to stored faults: The fault is present with the engine running .
	See Technical Note Wiring Diagrams of the vehicle concerned.

K9K 766, 768, 724, 740, 800, 802, and 812 ENGINES (Euro 4):
Check the connection and condition of the EGR valve connector, component code 1460 . Check the connection and condition of connector B (brown 48-track) of the injection computer , component code 120 . If the connector(s) is 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.
Check the insulation and continuity of the following connections: – 3VP between components 1460 and 120 , – 3VQ between components 1460 and 120 . 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 the wiring.
Check for +5 V on connection 3GC of component 1460 . 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 the wiring.

AFTER REPAIR	Deal with any faults displayed by the diagnostic tool . Clear the computer fault memory. Carry out a road test followed by another check with the diagnostic tool .
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DF114
CONTINUED 1

Check the resistance of the **EGR valve**:

- with the engine stopped, the **EGR valve** will be closed (unless there is a fault),
- wait for the ambient temperature around the valve to stabilise (approximately **20°C**),
- measure the resistance between connections **3VP** and **3VQ** of component **1460**. The resistance should be between **0.5 Ω < R < 50 Ω** (while running command **AC002 EGR solenoid valve**).

If the value is not correct, replace the **EGR valve**, component code **1460** (see **MR 364 (Mégane II)**, **MR 370 (Scénic II)**, **MR 385 (Modus)**, **MR 392 (Clio III)**, **MR 411 (New Twingo)**, **MR 417 (Kangoo 2)**, **Mechanical, 14A, Emission control, Exhaust gas recirculation solenoid valve: Removal - Refitting**).

After replacing the EGR valve, use command **RZ002 EGR adaptives** to reinitialise the EGR valve offsets.

Also if a **3.DEF, 4.DEF, or 5.DEF** fault is present:

- Remove the EGR valve.
- Check that there are no foreign bodies (scale, etc.) that could jam the valve.
- Remove the foreign matter and clean the EGR valve (see **Technical Note 3916A, Cleaning the EGR solenoid valve**).
- Refit the EGR valve.
- use command **RZ002 EGR adaptives** to reinitialise the EGR valve offsets.
- Clear the faults from the **computer** memory. Carry out a road test followed by another check with the **diagnostic tool**.

If the fault is still present, contact the Techline.

AFTER REPAIR

Deal with any faults displayed by the **diagnostic tool**.
Clear the computer fault memory.
Carry out a road test followed by another check with the **diagnostic tool**.

DF114 CONTINUED 2

K9K 750 and 752 ENGINES (Euro 3):

Check the connection and condition of the **EGR valve** connector, component code **1460**.

Check the connection and condition of **connector B** (brown 48-track) of the **injection computer**, component code **120**.

If the connector(s) is 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.

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

- **122B** between components **1460** and **120**,
- **3FB2** between components **1460** and **1337**.

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 the wiring.

Check for **+ 12 V** on connection **3GC** of component **1460**.

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 the wiring.

Check the resistance of the **EGR valve**, component code **1460**:

- with the engine stopped, the exhaust gas recirculation valve will be closed (unless there is a fault),
- wait for the ambient temperature around the valve to stabilise (approximately **20°C**),
- measure the resistance between connections **3FB2** and **122B**. The resistance must be between **7.5 Ω < R < 8.5 Ω** (at **20°C**),
- measure the resistance between connections **3GC** and **3JM**. The resistance must be between **2.4 kΩ < R < 5.6 kΩ** (at **20°C**),
- measure the resistance between connections **3JM** and **3EL**. The resistance must be between **800 Ω < R < 3.6 kΩ** (at **20°C**).

If the value is not correct, replace the **EGR valve**, component code **1460** (see **MR 364 (Mégane II)**, **MR 370 (Scénic II)**, **MR 385 (Modus)**, **MR 392 (Clio III)**, **MR 411 (New Twingo)**, **MR 417 (Kangoo 2)**, **Mechanical, 14A, Emission control, Exhaust gas recirculation solenoid valve: Removal - Refitting**).

After replacing the EGR valve, use command **RZ002 EGR adaptives** to reinitialise the EGR valve offsets.

AFTER REPAIR

Deal with any faults displayed by the **diagnostic tool**.

Clear the computer fault memory.

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

DF114
CONTINUED 3

Also if a **3.DEF**, **4.DEF**, or **5.DEF** fault is present:

- Remove the EGR valve.
- Check that there are no foreign bodies (scale, etc.) that could jam the valve.
- Remove the foreign matter and clean the EGR valve (see **Technical Note 3916A, Cleaning the EGR solenoid valve**).
- Refit the EGR valve.
- use command **RZ002 EGR adaptives** to reinitialise the EGR valve offsets.
- Clear the faults from the **computer** memory. Carry out a road test followed by another check with the **diagnostic tool**.

If the fault is still present, contact the Techline.

AFTER REPAIR

Deal with any faults displayed by the **diagnostic tool**.
Clear the computer fault memory.
Carry out a road test followed by another check with the **diagnostic tool**.

DF121 PRESENT OR STORED	<u>ACCELEROMETER CIRCUIT</u> 1.DEF: No signal
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NOTES	<p>Priority when dealing with a number of faults: If there is a combination of the following faults:</p> <ul style="list-style-type: none"> – DF121 Accelerometer sensor circuit, – DF001 Coolant temperature sensor circuit, – DF002 Air temperature sensor circuit, – DF003 Atmospheric pressure sensor circuit, – DF098 Fuel temperature sensor circuit, – DF026 Cylinder 1 injector control circuit, – DF027 Cylinder 2 injector control circuit, – DF028 Cylinder 3 injector control circuit, – DF029 Cylinder 4 injector control circuit, <p>Deal first with faults DF026, DF027, DF028, and DF029 (1.DEF - 2.DEF). A fault on these sensors could lead to incorrect fault finding on the accelerometer.</p>
	<p>Conditions for applying the fault finding procedure to a stored fault: The fault is present with the engine running.</p>
	<p>See Technical Note Wiring Diagrams of the vehicle concerned</p>

<p>Check the conformity of the injectors fitted to the vehicle in relation to the type of vehicle and engine number (low, high or very high pressure injector).</p>
<p>Check the connection and condition of the accelerometer connector, component code 146. Check the connection and condition of connector B (brown 48-track) of the injection computer, component code 120 and the sensor shielding on connection TB1. If the connector(s) is 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>Check the insulation and continuity of the following connections:</p> <ul style="list-style-type: none"> – 3DQ between components 146 and 120, – 3S between components 146 and 120. <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 the wiring.</p>

AFTER REPAIR	<p>Deal with any faults displayed by the diagnostic tool. Clear the computer fault memory. Carry out a road test followed by another check with the diagnostic tool.</p>
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DF121 CONTINUED	
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Check that the **C2I*** is entered correctly in the computer.
Check that the accelerometer is secured on the engine, component code **146** (see **MR 364 (Mégane II)**, **MR 370 (Scénic II)**, **MR 385 (Modus)**, **MR 392 (Clio III)**, **MR 411 (New Twingo)**, **MR 417 (Kangoo 2)**, **Mechanical**, **13B**, **Diesel injection**, **Accelerometer: Removal - Refitting**).
Disconnect and reconnect the accelerometer sensor to accomplish fast programming.
Carry out a road test followed by another check with the **diagnostic tool**.
If the fault is still present, replace the accelerometer, component code **146** (see **MR 364 (Mégane II)**, **MR 370 (Scénic II)**, **MR 385 (Modus)**, **MR 392 (Clio III)**, **MR 411 (New Twingo)**, **MR 417 (Kangoo 2)**, **Mechanical**, **13B**, **Diesel injection**, **Accelerometer: Removal - Refitting**).

If the fault is still present, contact the Techline.

C2I*: Individual injector correction

AFTER REPAIR	Deal with any faults displayed by the diagnostic tool . Clear the computer fault memory. Carry out a road test followed by another check with the diagnostic tool .
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DF122 PRESENT OR STORED	<u>PEDAL POTENTIOMETER GANG 2 SUPPLY VOLTAGE</u> CO.1: open circuit or short circuit to +12 V. CC.0: short circuit to earth.
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NOTES	Special notes: If fault DF122 is present : the idle speed is locked at 1000 rpm , the engine performance is reduced to 75% , and the level 1 warning light illuminates with the message Check injection displayed on the instrument panel.
	See Technical Note Wiring Diagrams of the vehicle concerned

CC.0	NOTES	None.
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Check the connection and condition of the pedal potentiometer connector, component code 921 . Check the connection and condition of connector A (black 32-track) of the injection computer , component code 120 . If the connector(s) is 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.
Run test 14 Accelerator pedal check .
Check for earth on connection 3LV of component 921 . 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.
Check the insulation and continuity of the following connection: – 3LU between components 921 and 120 . 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.
Disconnect connector A of the injection computer and the connector of the pedal potentiometer , component code 921 . Check the insulation against earth of connection 3LU of component 120 . 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	Deal with any faults displayed by the diagnostic tool . Clear the computer fault memory. Carry out a road test followed by another check with the diagnostic tool .
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DF122 CONTINUED	
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CO.1	NOTES	None.
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<p>Check the connection and condition of the pedal potentiometer connector, component code 921. Check the connection and condition of connector A (black 32-track) of the injection computer, component code 120. If the connector(s) is 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>Measure the resistance between connections 3LV and 3LU of component 921. If the pedal potentiometer resistance is not between 0.35 KΩ and 5.35 KΩ, replace the pedal potentiometer, component code 921 (see MR 364 (Mégane II), MR 370 (Scénic II), MR 385 (Modus), MR 392 (Clio III), MR 411 (New Twingo), MR 417 (Kangoo 2), Mechanical, 13B, Diesel injection, Accelerator pedal potentiometer: Removal - Refitting).</p>
<p>Check for +5 V on connection 3LU of component 921. Check for earth on connection 3LV of component 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 the wiring.</p>
<p>Disconnect connector A of the injection computer and the pedal potentiometer connector. – Check the insulation of connections 3LU and 3LV of component 120. – Check the insulation against +12 V of connection 3LU of component 120. 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 the wiring.</p>
<p>Check the insulation and continuity of the following connections: – 3LU between components 921 and 120, – 3LV between components 921 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 the wiring.</p>
<p>If the fault is still present, replace the pedal potentiometer, component code 921 (see MR 364 (Mégane II), MR 370 (Scénic II), MR 385 (Modus), MR 392 (Clio III), MR 411 (New Twingo), MR 417 (Kangoo 2), Mechanical, 13B, Diesel injection, Accelerator pedal potentiometer: Removal - Refitting).</p>
<p>If the fault is still present, contact the Techline.</p>

AFTER REPAIR	<p>Deal with any faults displayed by the diagnostic tool. Clear the computer fault memory. Carry out a road test followed by another check with the diagnostic tool.</p>
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DF130 PRESENT OR STORED	<u>FLOW CAPACITY FUNCTION</u> 1.DEF: High flow current < minimum 2.DEF: High flow current > maximum
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NOTES	Conditions for applying the fault finding procedure to a stored fault: The fault is present with the engine running .
	Special notes: If fault DF130 is present : the engine may stop with the level 2 warning light illuminated and the message Faulty injection displayed on the instrument panel.
	See Technical Note Wiring Diagrams of the vehicle concerned

Check the connection and condition of the flow actuator (IMV) connector , component code 1105 . Check the connection and condition of connector B (brown 48-track) of the injection computer , component code 120 . If the connector(s) are faulty and there is a repair procedure (see Technical Note 6015A, Repairing electrical wiring, Wiring: Precautions for repair) repair the connector(s), otherwise replace the wiring.
Check the insulation and continuity of the following connection: – 3HI between components 1105 and 120 . 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.
Measure the resistance between connections 3HI and 3FB1 or 3FB2 (for New Twingo) or 3FB3 (for Kangoo 2) of component 1105 . If the resistance of the flow actuator is not between 4.8 Ω and 5.8 Ω at 20°C , replace the flow actuator, component code 1105 (see MR 364 (Mégane II) , MR 370 (Scénic II) , MR 385 (Modus) , MR 392 (Clio III) , MR 411 (New Twingo) , MR 417 (Kangoo 2) , Mechanical, 13B, Diesel injection, Flow actuator: Removal - Refitting).
Check the presence and conformity of the fuel in the tank. Run Test 13: Diesel fuel conformity check .
Run Test 1 Low pressure circuit check and repair if necessary.
Run Test 6: High pressure system check .
If the fault is still present, contact the Techline.

AFTER REPAIR	Deal with any faults displayed by the diagnostic tool . Clear the computer fault memory. Carry out a road test followed by another check with the diagnostic tool .
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DF195 PRESENT OR STORED	<u>ENGINE SPEED/CAMSHAFT SENSOR CONSISTENCY</u>
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NOTES	Conditions for applying the fault finding procedure to a stored fault: The fault is present when the starter motor is operating or the engine is running at idle speed .
	See Technical Note Wiring Diagrams of the vehicle concerned

Check the connection and condition of the cylinder reference sensor connector , component code 746 . Check the connection and condition of connector B (brown 48-track) of the injection computer , component code 120 . Check the connection and condition of the connector of the injection locking relay , component code 238 or the UPC , component code 1337 . If the connector(s) are faulty and there is a repair procedure (see Technical Note 6015A, Repairing electrical wiring, Wiring: Precautions for repair) repair the connector(s), otherwise replace the wiring.
Check for +12 V after ignition feed on connection 3FB2 or 3FB3 (for Kangoo 2) of component 746 . 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.
Check for earth on connection 3PL of component 746 .
Check the insulation, continuity and the absence of interference resistance on the following connections: – 3CQ between components 746 and 120 , – 3PL between components 746 and 120 , – For Clio and Modus : 3FB2 between components 1337 and 746 , – For Mégane II and Scénic II : 3FB1 and 3FB2 between components 746 and 1337 , – For New Twingo : 3FB and 3FB2 between components 746 and 238 , – For Kangoo 2 : 3FB3 between components 1337 and 746 . 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 the wiring.
Check the timing setting.

AFTER REPAIR	Deal with any faults displayed by the diagnostic tool . Clear the computer fault memory. Carry out a road test followed by another check with the diagnostic tool .
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DF209 PRESENT OR STORED	<u>EGR VALVE POSITION SENSOR CIRCUIT</u> CO.0: Open circuit or short circuit to earth. CC.1: Short circuit to +12 V.
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NOTES	Priority when dealing with a number of faults: – DF113 Sensor supply voltage.
	Special note: If fault DF209 is present , the message Faulty injection is displayed on the instrument panel.
	See Technical Note Wiring Diagrams of the vehicle concerned

<p>Check the connection and condition of the EGR valve connector, component code 1460. Check the connection and condition of connector B of the injection computer, component code 120. If the connector(s) is 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>Check the insulation and continuity of the following connections:</p> <ul style="list-style-type: none"> – 3GC between components 1460 and 120, – 3EL between components 1460 and 120, – 3JM between components 1460 and 120. <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 the wiring.</p>
<p>Check for +5 V on connection 3GC of component 1460. Check for earth on connection 3JM of component 1460. 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 the wiring.</p>
<p>If the fault is still present, replace the EGR valve, component code 1460 (see MR 364 (Mégane II), MR 370 (Scénic II), MR 385 (Modus), MR 392 (Clio III), MR 411 (New Twingo), MR 417 (Kangoo 2), Mechanical, 14A, Emission control, Exhaust gas recirculation solenoid valve: Removal - Refitting). After replacing the EGR valve, use command RZ002 EGR adaptives to reinitialise the EGR valve offsets.</p>
<p>If the fault is still present, contact the Techline.</p>

AFTER REPAIR	<p>Deal with any faults displayed by the diagnostic tool. Clear the computer fault memory. Carry out a road test followed by another check with the diagnostic tool.</p>
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DF221 PRESENT OR STORED	<u>CLUTCH CONTACT SIGNAL</u> 1.DEF: Inconsistency
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NOTES	None.
	See Technical Note Wiring Diagrams of the vehicle concerned

<p>Check the connection and condition of the clutch pedal switch connector, component code 675. Check the connection and condition of connector A of the injection computer, component code 120. If the connector(s) are faulty and there is a repair procedure (see Technical Note 6015A, Repairing electrical wiring, Wiring: Precautions for repair) repair the connector(s), otherwise replace the wiring.</p>
<p>With the switch in the rest position, check the continuity between:</p> <ul style="list-style-type: none"> – connections MAS and 86D of component 675 (for Modus, Clio III, New Twingo, and Kangoo 2). – connections MAM and 26X of component 675 (for Mégane II and Scénic II). <p>If not correct, replace the clutch pedal switch, component code 675 (see MR 364 (Mégane II), MR 370 (Scénic II), MR 385 (Modus), MR 392 (Clio III), MR 411 (New Twingo), MR 417 (Kangoo 2), Mechanical, 37A, Mechanical component controls, Clutch pedal position sensor: Removal - Refitting).</p>
<p>Check for earth on</p> <ul style="list-style-type: none"> – connection MAS of component 675 (for Modus, Clio III, New Twingo, and Kangoo 2). – connection MAM of component 675 (for Mégane II and Scénic II). <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>
<p>Check the insulation and continuity of the following connection:</p> <ul style="list-style-type: none"> – 86D between components 675 and 120. <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>
<p>If the fault is still present, replace the clutch pedal switch, component code 675 (see MR 364 (Mégane II), MR 370 (Scénic II), MR 385 (Modus), MR 392 (Clio III), MR 411 (New Twingo), MR 417 (Kangoo 2), Mechanical, 37A, Mechanical component controls, Clutch pedal position sensor: Removal - Refitting).</p>
<p>If the fault is still present, contact the Techline.</p>

AFTER REPAIR	<p>Deal with any faults displayed by the diagnostic tool. Clear the computer fault memory. Carry out a road test followed by another check with the diagnostic tool.</p>
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DF242 PRESENT OR STORED	ENGINE SPEED SIGNAL OUTPUT CC.1: Short circuit to + 12 volts CO.0: Open circuit or short circuit to earth
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NOTES	Special note: The operation of the power-assisted steering is not correct.
	See Technical Note Wiring Diagrams of the vehicle concerned

Check the connection and condition of the variable power-assisted steering connector, component code 502 . Check the connection and condition of connector B (brown 48-track) of the injection computer , component code 120 . If the connector(s) is 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.
Check the insulation and continuity of the following connection: – H7 between components 120 and 502 . 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, run fault finding on the power-assisted steering and the sequential gearbox (see 36B, Power-assisted steering) and (see 21B, Sequential gearbox).
If the fault is still present, contact the Techline.

AFTER REPAIR	Deal with any faults displayed by the diagnostic tool . Clear the computer fault memory. Carry out a road test followed by another check with the diagnostic tool .
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DF261 PRESENT OR STORED	<u>TURBOCHARGER ACTUATOR CIRCUIT</u> CO.0: Open circuit or short circuit to earth CC.1: Short circuit to + 12 volts
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NOTES	Special note: If fault DF261 is present , the air flow regulation is switched off, the EGR valve is closed , and the turbocharging regulation is switched off. The level 1 warning light illuminates with the message Faulty injection displayed on the instrument panel, and the performance is reduced.
	See Technical Note Wiring Diagrams of the vehicle concerned

Run TEST 11 Air line at the turbocharger . Run TEST 5 Inlet circuit check . Run TEST 10 Turbocharger control solenoid valve check . Run TEST 12 Turbocharger . Check the inlet pressure signal, check the gear number when changing gear.
If the fault is still present, contact the Techline.

AFTER REPAIR	Deal with any faults displayed by the diagnostic tool . Clear the computer fault memory. Carry out a road test followed by another check with the diagnostic tool .
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DF427 PRESENT OR STORED	<u>TURBO ACTUATOR CONTROL</u> 1.DEF: At minimum limit 2.DEF: At maximum limit
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NOTES	Special note: If fault DF427 is present , the air flow regulation is switched off, the EGR valve is closed, and the turbocharging regulation is switched off. On status 2.DEF, the level 1 warning light illuminates and the performance is reduced.
	Priority when dealing with a number of faults: – DF261 Turbocharger actuator circuit.
	See Technical Note Wiring Diagrams of the vehicle concerned

Run TEST 11 Air line at the turbocharger. Run TEST 5 Inlet circuit check. Run TEST 10 Turbocharger control solenoid valve check. Run TEST 12 Turbocharger. Check the turbocharging pressure signal, check the gear number when changing gear.
If the fault is still present, contact the Techline.

AFTER REPAIR	Deal with any faults displayed by the diagnostic tool . Clear the computer fault memory. Carry out a road test followed by another check with the diagnostic tool .
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DF489 PRESENT OR STORED	<u>AIR CONDITIONING COMPRESSOR CONTROL</u> CC.1: Short circuit to + 12 volts C0.0: Open circuit or short circuit to earth
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NOTES	Conditions for applying the fault finding procedure to stored faults The fault is considered present when the engine is running.
	Special notes: The heating and air conditioning system request is not longer possible. The compressor is still active, risk of irreparable damage to the compressor (loss of capacity). The customer is complaining that the air conditioning is operating continuously.
	See Technical Note Wiring Diagrams of the vehicle concerned

Check the connection and condition of the injection computer connector , component code 120 . Check the connection and condition of the air conditioning compressor relay connector , component code 5845 . If the connector(s) is 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.
Run command AC180 Air conditioning compressor relay control . If the command does not work, check, with the ignition on, for +12 V on connection 3FB of component 584 and for earth on connection 38K of component 584 .
Check the insulation and continuity of the following connections: – 38K between components 584 and 120 , – 3FB between components 584 and 238 . 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 the wiring.
If the fault is still present, run fault finding on the climate control computer (see 62B, Climate control).
If the fault is still present, check the relay and replace it if necessary.
If the fault is still present, contact the Techline.

AFTER REPAIR	Deal with any faults displayed by the diagnostic tool . Clear the computer fault memory. Carry out a road test followed by another check with the diagnostic tool .
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DF631 PRESENT OR STORED	<u>BRAKE LIGHT SWITCH SIGNAL</u> 1.DEF: No signal 2.DEF: Inconsistency
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NOTES	Conditions for applying the fault finding procedure to stored faults Apply the fault finding procedure below if the fault is present or stored .
	Special notes: The fault is declared present when decelerating, when the brake pedal is depressed. The cruise control function is inhibited.
	See Technical Note Wiring Diagrams of the vehicle concerned

Check the connection and condition of the brake light switch connector, component code 160 . Check the connection and condition of the injection computer connector , component code 120 . If the connector(s) is 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.
Check for +12 V on connection AP10 (for New Twingo) or BPT (for Mégane II, Scénic II, Modus, and Clio III) or BPT2 (for Kangoo 2) and SP17 (for Mégane II, Scénic II, Modus, Kangoo 2, and Clio III) of component 160 . 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.
Check the operation of the brake light switch , component code 160 . Repair if necessary.

AFTER REPAIR	Deal with any faults displayed by the diagnostic tool . Clear the computer fault memory. Carry out a road test followed by another check with the diagnostic tool .
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**DF631
CONTINUED**

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

- **5A** between components **160** and **120**,
- **BPT** between components **160** and **645** (for Mégane II, Scénic II, Modus and Clio III),
- **AP10** between components **160** and **1016** (for New Twingo),
- **BPT2** between components **160** and **645** (for Kangoo 2),
- **SP17** between components **160** and **260** (for Kangoo 2),
- **65A** between components **160** and **645** (vehicle without ESP),
- **65G** between components **160** and **645** (vehicle with ESP).

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 the wiring.

If the fault is still present, replace the brake light switch, component code **160** (see **MR 364 (Mégane II)**, **MR 370 (Scénic II)**, **MR 385 (Modus)**, **MR 392 (Clio III)**, **MR 411 (New Twingo)**, **MR 417 (Kangoo 2)**, **Mechanical, 37A, Mechanical component controls, Brake light switch: Removal - Refitting**).

If the fault is still present, contact the Techline.

AFTER REPAIR

Deal with any faults displayed by the **diagnostic tool**.
Clear the computer fault memory.
Carry out a road test followed by another check with the **diagnostic tool**.

DF648 PRESENT OR STORED	<u>COMPUTER</u> 1.DEF: Enter EEPROM memory 2.DEF: Read EEPROM memory
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NOTES	Special notes: When this fault appears: the engine speed is locked at 1300 rpm , the engine is noisy, and the level 1 warning light illuminates with the message Check injection displayed on the instrument panel,
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Contact Techline.

AFTER REPAIR	Deal with any faults displayed by the diagnostic tool . Clear the computer fault memory. Carry out a road test followed by another check with the diagnostic tool .
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DF859 PRESENT OR STORED	<u>INJECTOR PROGRAMMING CYCLE NOT DONE</u>
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NOTES	Conditions for applying fault finding procedures to stored faults: The fault is considered present when the engine is running.
	Priorities when dealing with a number of faults: – Deal with all the other faults before fault DF859
	Special notes: This fault is activated if the injector recalibration has not been carried out since 1800 miles (3000 km) .

Leave the vehicle to run at idle speed until the engine is warm.
When the engine is warm (PR064 COOLANT TEMPERATURE above 77°C), carry out the following test drive: <ul style="list-style-type: none"> – Drive at a speed of up to 30 mph (50 km/h) and change into 5th gear. – Stay in this gear and perform 8 accelerations from 30 mph (50 Km/h) to 54 mph (90 Km/h). – At the end of driving: without switching off the ignition, allow the vehicle to run at idle speed for at least 10 minutes. – Switch off the ignition, and wait 30 seconds. – switch on the ignition, check that the fault is stored and clear the fault.

AFTER REPAIR	Deal with any faults displayed by the diagnostic tool . Clear the computer fault memory. Carry out a road test followed by another check with the diagnostic tool .
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DF886 PRESENT OR STORED	<u>PRESENCE OF WATER IN THE DIESEL FUEL</u>
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NOTES	Priorities when dealing with a number of faults: – DF057 Water in diesel fuel detector circuit,
	Special notes: If water is detected downstream of the diesel filter, the high pressure pump and the injectors may be damaged. The level 1 warning light is illuminated.
	Use bornier Elé. 1681 for all operations on the engine management computer connector.
	See the Technical Note Wiring Diagrams for the vehicle.

If there is water present, bleed the diesel filter. If there is a great amount of water, run the first part of Test 13: Diesel fuel conformity check (Is the fuel cloudy or does it separate into 2 parts?)
Check the connections of the water in diesel fuel sensor, component code 414 . Check the connections of the engine management computer grey connector, component code 120 . If the connector(s) are faulty and there is a repair procedure (see Technical Note 6015A, Repairing electrical wiring, Wiring: Precautions for repair), repair the connector(s), otherwise replace the wiring.
With the ignition on, check for +12 V on connections 3FB1 or 3FB2 (for New Twingo) or AP15 (for Kangoo 2) of component 414 . Check for earth on connections M or 3WU (only for New Twingo) of component 120 . 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 the wiring.

AFTER REPAIR	Deal with any faults displayed by the diagnostic tool . Clear the computer fault memory. Carry out a road test followed by another check with the diagnostic tool .
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**DF886
CONTINUED**

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

- **3WT** between components **414** and **120**,
- **M** between components **414** and **120**,
- **3FB1** between components **414** and **1337**.

(only for New Twingo):

- **3WT** between components **414** and **120**,
- **3WU** between components **414** and **120**,
- **3FB2** between components **414** and **238**.

(only for Kangoo 2):

- **3WT** between components **414** and **1337**,
- **AP15** between components **414** and **1337**,
- **MH** and **MW** between earth and component **414**.

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 the wiring.

If the fault is still present, replace the diesel filter.

If the fault is still present, contact the Techline

AFTER REPAIR

Deal with any faults displayed by the **diagnostic tool**.
Clear the computer fault memory.
Carry out a road test followed by another check with the **diagnostic tool**.

DF1070 PRESENT OR STORED	<u>COLD LOOP</u> 1.DEF: Jammed component
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NOTES	Conditions for applying the fault finding procedure to a stored fault: The fault is declared present with the engine running and with a heating and air conditioning system request.
	Priorities when dealing with a number of faults: – DF049 Refrigerant sensor circuit if it is present or stored.

When the fault is present or stored, the heating and air conditioning system is inhibited. There is no longer any air conditioning.
Check fuse F22 (10 A) of the UPC, component code 1337 .
Check the connector of the air conditioning compressor, component code 171 . If the connector 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 air conditioning compressor wiring. If the wiring is faulty and there is a repair procedure (see Technical Note 6015A, Repairing electrical wiring, Wiring: Precautions for repair), repair the wiring, otherwise replace the wiring.
Manually check if the compressor is jammed (turn the clutch plate manually to check that there is no point of resistance). In the event of jamming, replace the air conditioning compressor (see MR 364 (Mégane II), MR 370 (Scénic II), MR 385 (Modus), MR 392 (Clio III), MR 411 (New Twingo), MR 417 (Kangoo 2), Mechanical, 62A, Air conditioning, Compressor: Removal - Refitting).
Top up the refrigerant, check for any leaks, and repair if necessary (see MR 364 (Mégane II), MR 370 (Scénic II), MR 385 (Modus), MR 392 (Clio III), MR 411 (New Twingo), MR 417 (Kangoo 2), Mechanical, 62A, Air conditioning, Refrigerant circuit: Draining - Filling).

AFTER REPAIR	Deal with any faults displayed by the diagnostic tool . Clear the computer fault memory. Carry out a road test followed by another check with 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. Instead, all information available in the functions and sub-functions can be found in the following sections:

For **STATUSES**, refer to **INTERPRETATION OF STATUSES**.

For **PARAMETERS**, refer to **INTERPRETATION OF PARAMETERS**.

For **COMMANDS**, refer to **INTERPRETATION OF COMMANDS**.

DIESEL INJECTION

Fault finding – Status summary table

13B

Tool status	Diagnostic tool title
ET001	+ After ignition computer feed
ET003	Engine immobiliser
ET004	Air conditioning authorisation
ET006	Code programmed
ET007	Pre-postheating control
ET008	EGR solenoid valve control
ET021	High speed fan assembly request
ET022	Low speed fan assembly request
ET023	Fast idle speed request
ET038	Engine
ET042	Cruise control/Speed limiter
ET076	Starting
ET077	Impact detected
ET079	Air conditioning present
ET088	Compressor actuation request
ET111	RCH* number set
ET112	RCH* cut-off
ET405	Clutch pedal switch
ET415	Deactivation of cruise control/speed limiter
ET563	Flow capacity function
ET637	New pump chamber filling
ET703	Cruise control - speed limiter button
ET704	Brakecontact No 1
ET705	Brakecontact No 2
ET741	Optional vehicle speed restriction
ET800	Fast idle function

* RCH: Passenger compartment heating resistor.

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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Conformity check: Engine stopped, ignition on or engine running.

"ABSENT"	NOTES	Ignition on
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Check the supply fuse from the injection computer main supply relay, component code **120**.

- **F18 (5A)** (Kangoo 2),
- **313 (10A)** (Modus and Clio III),
- **F5D (5A)** (Mégane II and Scénic II),
- **F9 (15A)** (New Twingo)

Use a multimeter to check for a **+ 12 V feed** on the fuse holder with the ignition on.

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 the wiring.

Check the continuity and insulation against earth of the following connection:

- **AP15** between components **1337** and **120**
- **AP29** between components **1337** and **120** (for New Twingo)

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

- **N** between the earth and component **120** (for Kangoo 2),
- **NH** between the earth and component **120** (for Modus, Clio III and New Twingo),
- **M** between the earth and component **120** (for Mégane II and Scénic II).

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 the wiring.

"PRESENT"	NOTES	Ignition on
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Normal operating condition:

Check, using a multimeter, the absence of a **+ 12 V** ignition off on the connection **AP15** or **AP29** of component **120**. 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 the wiring.

AFTER REPAIR	<p>Carry out another fault finding check on the system.</p> <p>Deal with any other faults.</p> <p>Clear the stored faults.</p>
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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 inactive.</p>
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NOTES	<p>ACTIVE: ET003 "ENGINE IMMOBILISER" shows the vehicle protection status. This Verlog 4 type immobiliser function is managed by the UCH computer and the injection computer.</p> <p>Before any starting request, the computer is protected.</p> <p>When a starting request is made, the injection computer and the UCH exchange authentication data via the multiplex network. This determines whether the engine start is authorised or denied.</p> <p>After more than 5 consecutive failed authentication attempts, the injection computer goes into protection (anti-scanning) mode and no longer tries to authenticate the UCH computer.</p> <p>It only leaves this mode when the following sequence of operations is carried out:</p> <ul style="list-style-type: none"> – The ignition is left on for at least 5 seconds, – The ignition is switched off, – The injection computer self-supply cuts out when it should (the time varies according to engine coolant temperature).
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Conformity check: Engine stopped, ignition on or engine running.

"ACTIVE"	If status ET003 is ACTIVE see 82A, Engine immobiliser .
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"INACTIVE"	When the ignition is switched on and when driving, status ET003 should be INACTIVE , if this is not the case, see 82A, Engine immobiliser .
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AFTER REPAIR	<p>Carry out another fault finding check on the system.</p> <p>Deal with any other faults.</p> <p>Clear the stored faults.</p>
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ET004	<u>AC AUTHORISED</u>
STATUS DEFINITION	<p>YES: This status indicates that the air conditioning is active.</p> <p>NO: This status indicates that the air conditioning is inactive.</p>
<p>Conformity check: Engine stopped and ignition on, or engine running and engine coolant temperature > 80°C</p>	
YES	<p>The air conditioning authorisation only changes to YES if:</p> <ul style="list-style-type: none"> – the air conditioning request has been made by the driver (air conditioning switch in AC position with minimum ventilation), – the engine is not under full load, – the air conditioning system is not faulty.
NO	<p>Status ET004 remains at NO under the following conditions:</p> <ul style="list-style-type: none"> – Vehicle stopped with the ignition on, – faults present in the air conditioning circuit, – no air conditioning request made by the driver, – engine under full load. <p>If status ET004 remains NO then the air conditioning should be authorised; check:</p> <ul style="list-style-type: none"> – that the air conditioning compressor is activated correctly, – the air conditioning system feed fuses, – the presence of refrigerant in the air conditioning circuit.

AFTER REPAIR	<p>Deal with any faults. Clear the faults from the computer memory.</p> <p>Switch off the ignition and carry out a road test followed by a test with the diagnostic tool.</p>
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ET006	<u>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>The injection immobiliser code is not written in the injection computer. The programming of this code in the injection computer is managed by the UCH. To carry out programming:</p> <ul style="list-style-type: none"> – establish communication with the UCH see 87B, Passenger compartment connection unit. – run command SC017 Program injection immobiliser code, – follow the instructions for the procedure. <p>As long as this phase has not been completed, ET006 "Code programmed" is "NO".</p>
	<p>IMPORTANT:</p> <p>the immobiliser code is written in the injection computer memory at the end of the computer auto-feed phase. Do not disconnect the battery before the end of this phase.</p>

Conformity check: Engine stopped, ignition on or engine running.

YES	<p>Status ET006 is YES if dialogue is possible between the UCH computer and the injection computer and the key code is recognised.</p> <p>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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AFTER REPAIR	<p>Deal with any faults. Clear the faults from the computer memory.</p> <p>Switch off the ignition and carry out a road test followed by a test with the diagnostic tool.</p>
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ET006 CONTINUED	
NO	<p>Status ET006 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.</p> <p>If the key programming is not the cause, run a multiplex network test (see 88B, Multiplexing) and check that dialogue between the UCH and the injection computer is possible.</p> <p>If dialogue is not established, contact the Techline.</p>

AFTER REPAIR	<p>Deal with any faults. Clear the faults from the computer memory.</p> <p>Switch off the ignition and carry out a road test followed by a test with the diagnostic tool.</p>
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ET007	<u>PRE-POSTHEATING UNIT CONTROL</u>
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STATUS DEFINITION	<p>ACTIVE: the status is active when the heater plugs are activated according to the engine coolant temperature.</p> <p>INACTIVE: the status is inactive after the engine has been running for a certain period. In the event of a fault, consult the interpretation of fault DF017 Preheating unit control circuit.</p>
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Conformity check: Engine running and the engine coolant temperature > 80°C
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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 time that varies depending on the engine coolant temperature. This is postheating.</p> <p>If ET007 is INACTIVE when the ignition is switched on, check:</p> <ul style="list-style-type: none"> – The supply fuse FB1 (70A) of the engine fuse and relay box or F2 (70A) on the power feed fuse board, according to the vehicle. – The feed to the heater plugs following relay actuation, and the heater plugs connections. – The continuity and the absence of interference resistance between the following connections: <ul style="list-style-type: none"> ● Connection code 37Z between components 257 (or 980) and 680. ● Connection code 37AA between components 257 (or 980) and 681. ● Connection code 37AB between components 257 (or 980) and 682. ● Connection code 37AC between components 257 (or 980) and 683. – That the contacts of the pre-postheating unit connector are in good condition and connected correctly. <p>If the vehicle starts, preheating is completed and status ET007 remains ACTIVE during the engine operating phase, consult the interpretation of faults DF017 Preheating unit control circuit and DF025 Preheating unit fault finding connection.</p>
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INACTIVE	<p>If the vehicle does not start, the status remains INACTIVE and the preheating was not executed when the ignition was switched on or during the starting phase, check the following connections:</p> <ul style="list-style-type: none"> ● connection code 3FY and 3FF between components 120 and 257 (or 980). <p>Check for + 12 V on the preheating unit.</p> <ul style="list-style-type: none"> ● Connection code BP35 of component 257 (or 980). <p>If the connection or connections are faulty and there is a repair procedure (see Technical Note 6015A, Repairing electrical wiring, Wiring: Precautions for repair), repair the wiring, otherwise replace it.</p>
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AFTER REPAIR	<p>Deal with any faults. Clear the faults from the computer memory.</p> <p>Switch off the ignition and carry out a road test followed by a test with the diagnostic tool.</p>
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ET007 CONTINUED	
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Conformity check with engine stopped and ignition on.
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ACTIVE THEN INACTIVE	After a certain period, the ET007 status passes from ACTIVE to INACTIVE
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AFTER REPAIR	Deal with any faults. Clear the faults from the computer memory. Switch off the ignition and carry out a road test followed by a test with the diagnostic tool .
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ET008	<u>EGR SOLENOID VALVE CONTROL</u>
STATUS DEFINITION	" ACTIVE ": the status is active as soon as the EGR valve control is activated. " INACTIVE ": the status is inactive when the EGR valve is not controlled.
Conformity check: Engine stopped, ignition on or engine running.	
ACTIVE OR INACTIVE	In the event of a fault, refer to the interpretation of faults: – DF016 EGR valve control circuit – DF114 EGR solenoid valve circuit.

AFTER REPAIR	Deal with any faults. Clear the faults from the computer memory. Switch off the ignition and carry out a road test followed by a test with the diagnostic tool .
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ET021	<u>HIGH-SPEED FAN REQUEST</u>
STATUS DEFINITION	" ACTIVE ": The high speed fan assembly request is active. " INACTIVE ": The high speed fan assembly request is not active.
Conformity check with engine stopped, ignition on or engine running	
ACTIVE	The injection computer requests the activation of the high speed GMV when: – the engine coolant temperature is above 104°C , – the injection computer has system faults that could lead to the engine overheating. When the high speed fan is supplied: – status ET021 High speed fan request becomes ACTIVE . Fan assembly activation is controlled by the UPC.
INACTIVE	The high-speed fan assembly stops when: – the engine coolant temperature is below 102°C , no fault which could cause engine overheating is present in the injection system. Fan assembly activation is controlled by the UPC.

AFTER REPAIR	Deal with any faults. Clear the faults from the computer memory. Switch off the ignition and carry out a road test followed by a test with the diagnostic tool .
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ET022	<u>LOW-SPEED FAN REQUEST</u>
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STATUS DEFINITION	<p>"ACTIVE": The low speed fan assembly request is active.</p> <p>"INACTIVE": The low speed fan assembly request is not active.</p>
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Conformity check with engine stopped, ignition on or engine running
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ACTIVE	<p>The injection computer requests the activation of the low speed GMV when:</p> <ul style="list-style-type: none"> – the engine coolant temperature is above 96°C, – the injection computer has system faults that could lead to the engine overheating, – the air conditioning is switched on by the driver. <p>When the low-speed fan assembly is supplied:</p> <ul style="list-style-type: none"> – status ET022 Low speed fan request becomes ACTIVE. <p>Fan assembly activation is controlled by the UPC.</p>
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INACTIVE	<p>The low-speed fan assembly stops when:</p> <ul style="list-style-type: none"> – the engine coolant temperature is below 94°C, – no fault which could cause engine overheating is present in the injection system. – the air conditioning is not switched on by the driver. <p>Fan assembly activation is controlled by the UPC.</p>
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AFTER REPAIR	<p>Deal with any faults. Clear the faults from the computer memory.</p> <p>Switch off the ignition and carry out a road test followed by a test with the diagnostic tool.</p>
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ET023	<u>FAST IDLE SPEED REQUEST</u>
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STATUS DEFINITION	<p>"PRESENT": The fast idle speed request is present.</p> <p>"ABSENT": The fast idle speed request is not present.</p>
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NOTES	<p>Special notes:</p> <p>The idle speed setpoint is dependent on:</p> <ul style="list-style-type: none"> – the coolant temperature, – the emission control programs, – air conditioning requirements, – the electrical consumers, – the battery voltage, – the gear engaged. – use of command SC041 "Changing commercial vehicle idle speed" (Kangoo 2)
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Conformity check with engine stopped, ignition on or engine running
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PRESENT	<p>Status is "PRESENT" when there is an engine load:</p> <ul style="list-style-type: none"> – inconsistency between the positions of the brake and accelerator pedals, – coolant temperature < 80 °C or > 89 °C, – heating and air conditioning system deactivated, – with electrical consumers, – the battery voltage is incorrect. – or after running command SC041 "Changing commercial vehicle idle speed" (Kangoo 2)
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ABSENT	<p>Status is "ABSENT" when there is no engine load:</p> <ul style="list-style-type: none"> – coolant temperature = 80°C, – heating and air conditioning system deactivated, – without electrical consumers, – the battery voltage is correct.
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AFTER REPAIR	<p>Deal with any faults. Clear the faults from the computer memory.</p> <p>Switch off the ignition and carry out a road test followed by a test with the diagnostic tool.</p>
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ET038	<u>ENGINE</u>
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STATUS DEFINITION	" RUNNING ": The engine is running. " NOT RUNNING ": The engine is not running.
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Conformity check with engine stopped and ignition on.
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NOT RUNNING	Status ET038 is not running if the engine has stopped.
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Conformity check: Engine running

RUNNING	Status ET038 is running if the engine has started.
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AFTER REPAIR	Deal with any faults. Clear the faults from the computer memory. Switch off the ignition and carry out a road test followed by a test with the diagnostic tool .
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ET042	<u>CRUISE CONTROL/SPEED LIMITER</u>
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 (or neutral) 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>
NOTES	<p>Special notes:</p> <p>Only perform these tests if the statuses do not correspond with the system programming functions.</p>
Conformity check: Engine stopped, ignition on or engine running.	
NOT DETECTED	<p>If the vehicle is not fitted with cruise control/speed limiter function buttons, status ET042 is permanently NOT DETECTED. This confirms that the cruise control/speed limiter function is not present on the vehicle.</p> <p>If the vehicle is fitted with cruise control or speed limiter function buttons, the main switch is in rest (or neutral) position and the injection computer has just been programmed or reprogrammed, then status ET042 is NOT DETECTED.</p> <p>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.</p> <p>Return to rest position.</p> <p>The tool displays status ET042 INACTIVE.</p> <p>If not, several steps must be checked:</p> <ol style="list-style-type: none"> 1. Return to the multiplex network test page on 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	<p>Deal with any faults. Clear the faults from the computer memory.</p> <p>Switch off the ignition and carry out a road test followed by a test with the diagnostic tool.</p>

<p style="text-align: center;">ET042 CONTINUED 1</p>	
<p style="text-align: center;">INACTIVE</p>	<p>When the main switch is in rest position (or neutral), status ET042 is INACTIVE.</p> <p>If CRUISE CONTROL or SPEED LIMITER appears despite the main switch being in the rest (or neutral) position, carry out the following operations:</p> <p>For Mégane II and Scénic II:</p> <p>Check the connections of the cruise control/speed limiter main switch, component code 1081 (Mégane II) or 1546 (Scénic II).</p> <p>If the connector 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 for + 12 V after ignition on the main switch connector.</p> <ul style="list-style-type: none"> ● Connection code AP43, component 1081 (Mégane II) or 1546 (Scénic II). <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> <p>Disconnect the main switch and with it in the rest position, check the insulation between:</p> <ul style="list-style-type: none"> ● Connection codes AP43 and 3FX, component 1081 (Mégane II) or 1546 (Scénic II). ● Connection codes AP43 and 3PD, component 1081 (Mégane II) or 1546 (Scénic II). <p>Check the continuity between connections AP43 and 3PD of component 1081 (Mégane II) or 1546 (Scénic II) at speed limiter position.</p> <p>Check the continuity between connections AP43 and 3FX of component 1081 (Mégane II) or 1546 (Scénic II) at cruise control position.</p> <p>If the checks are incorrect, replace the switch, component code 1081 (Mégane II) or 1546 (Scénic II).</p> <p>Check the insulation, continuity and the absence of interference resistance on the following connections:</p> <ul style="list-style-type: none"> ● 3FX between components 120 and 1081 (Mégane II) or 1546 (Scénic II), ● 3PD between components 120 and 1081 (Mégane II) or 1546 (Scénic II), <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 the wiring.</p> <p>Check the connections of the engine management computer, component code 120.</p> <p>If the connector 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 style="text-align: center;">AFTER REPAIR</p>	<p>Deal with any faults. Clear the faults from the computer memory.</p> <p>Switch off the ignition and carry out a road test followed by a test with the diagnostic tool.</p>

ET042 CONTINUED 2	
INACTIVE CONTINUED	<p>For Clio III, Modus, New Twingo and Kangoo 2:</p> <p>Check the connections on the cruise control/speed limiter on-off control, component code 1081.</p> <p>If the connector 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 for + 12 V after ignition on the main switch connector:</p> <ul style="list-style-type: none"> – Connection code AP10 of component 1081. <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> <p>Disconnect the cruise control speed limiter on/off control connector, component code 1081 and with it in the rest position, check the insulation between the connections:</p> <ul style="list-style-type: none"> – AP10 and 3FX of component 1081 – AP10 and 3PD of component 1081. <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 the wiring.</p> <p>Check on the cruise control speed limiter on/off control connector the continuity between connections AP10 and 3PD of component 1081, in speed limiter position.</p> <p>Check on the cruise control speed limiter on/off control connector the continuity between connections AP10 and 3FX of component 1081, in cruise control position.</p> <p>If the checks are incorrect, replace the switch, component code 1081.</p> <p>Check the insulation, continuity and the absence of interference resistance on the following connections:</p> <ul style="list-style-type: none"> – 3FX between components 1081 and 120, – 3PD between components 1081 and 120. <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 the wiring.</p> <p>Also check the engine management computer connections, component code 120.</p> <p>If the connector(s) is 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>
AFTER REPAIR	<p>Deal with any faults. Clear the faults from the computer memory.</p> <p>Switch off the ignition and carry out a road test followed by a test with the diagnostic tool.</p>

ET042 CONTINUED 3	
SPEED LIMITER	<p>When the driver presses the main speed limiter button, status ET042 becomes SPEED LIMITER.</p> <p>If CRUISE CONTROL or INACTIVE appears although the driver pressed the switch in the speed limiter position, carry out the following operations:</p> <p>For Mégane II and Scénic II:</p> <p>Check the connections of the cruise control/speed limiter main switch, component code 1081 (Mégane II) or 1546 (Scénic II).</p> <p>If the connector 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 for + 12 V after ignition on the AP43 connection of component 1081 (Mégane II) or 1546 (Scénic II).</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> <p>Disconnect the main switch and with it in the rest position, check the insulation between connections:</p> <ul style="list-style-type: none"> ● AP43 and 3FX of component 1081 (Mégane II) or 1546 (Scénic II), ● AP43 and 3PD of component 1081 (Mégane II) or 1546 (Scénic II). <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 the wiring.</p> <p>Check the continuity between connections AP43 and 3PD of component 1081 (Mégane II) or 1546 (Scénic II) at speed limiter position.</p> <p>Check the continuity between connections AP43 and 3FX of component 1081 (Mégane II) or 1546 (Scénic II) at cruise control position.</p> <p>If the checks are incorrect, replace the switch, component code 1081 (Mégane II) or 1546 (Scénic II).</p> <p>Check the insulation, continuity and the absence of interference resistance on the following connections:</p> <ul style="list-style-type: none"> – 3FX between components 120 and 1081 (Mégane II) or 1546 (Scénic II), – 3PD between components 120 and 1081 (Mégane II) or 1546 (Scénic II). <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 the wiring.</p> <p>Also check the engine management computer connections, component code 120.</p> <p>If the connector(s) is 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>
AFTER REPAIR	<p>Deal with any faults. Clear the faults from the computer memory.</p> <p>Switch off the ignition and carry out a road test followed by a test with the diagnostic tool.</p>

ET042 CONTINUED 4	
LIMITATION CONTINUED	<p>For Clio III, Modus, New Twingo and Kangoo 2:</p> <p>Check the connections on the cruise control/speed limiter on-off control, component code 1081.</p> <p>If the connector 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 for + 12 V after ignition feed on connection AP10 of component 1081.</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> <p>Disconnect the connector of the cruise control / speed limiter on-off control, component code 1081 and with it in the rest position, check the insulation between connections AP10 and 3FX component 1081 and between connections AP10 and 3PD component 1081.</p> <p>Check on the cruise control / speed limiter on-off control connector, component code 1081, the continuity between connections AP10 and 3FX component 1081 and between connections AP10 and 3PD component 1081, in the limiter position.</p> <p>Check on the cruise control / speed limiter on-off control connector, component code 1081, the continuity between connections AP10 and 3FX component 1081 and between connections AP10 and 3PD component 1081, in the cruise control position.</p> <p>If the checks are incorrect, replace the switch, component code 1081.</p> <p>Check the insulation, continuity and the absence of interference resistance on the following connections:</p> <ul style="list-style-type: none"> – 3FX between components 1081 and 120, – 3PD between components 1081 and 120. <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 the wiring.</p> <p>Also check the engine management computer connections, component code 120.</p> <p>If the connector(s) is 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>
AFTER REPAIR	<p>Deal with any faults. Clear the faults from the computer memory.</p> <p>Switch off the ignition and carry out a road test followed by a test with the diagnostic tool.</p>

ET042 CONTINUED 5	
CRUISE CONTROL	<p>When the driver presses the main cruise control button, status ET042 becomes CRUISE CONTROL.</p> <p>If CRUISE CONTROL or INACTIVE appears although the driver pressed the switch in the speed limiter position, carry out the following operations:</p> <p>For Mégane II and Scénic II:</p> <p>Check the connections of the cruise control/speed limiter main switch, component code 1081 (Mégane II) or 1546 (Scénic II).</p> <p>If the connector 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 for + 12 V after ignition on the AP43 connection of component 1081 (Mégane II) or 1546 (Scénic II).</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> <p>Disconnect the main switch and with it in the rest position, check the insulation between connections:</p> <ul style="list-style-type: none"> ● AP43 and 3FX of component 1081 (Mégane II) or 1546 (Scénic II), ● AP43 and 3PD of component 1081 (Mégane II) or 1546 (Scénic II). <p>Check the continuity between connections AP43 and 3PD of component 1081 (Mégane II) or 1546 (Scénic II) in the speed limiter position.</p> <p>Check the continuity between connections AP43 and 3FX of component 1081 (Mégane II) or 1546 (Scénic II) in the cruise control position.</p> <p>If the checks are incorrect, replace the switch, component code 1081 (Mégane II) or 1546 (Scénic II).</p> <p>Check the insulation, continuity and the absence of interference resistance on the following connections:</p> <ul style="list-style-type: none"> – 3FX between components 120 and 1081 (Mégane II) or 1546 (Scénic II), – 3PD between components 120 and 1081 (Mégane II) or 1546 (Scénic II). <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 the wiring.</p> <p>Also check the engine management computer connections, component code 120.</p> <p>If the connector(s) is 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>
AFTER REPAIR	<p>Deal with any faults. Clear the faults from the computer memory.</p> <p>Switch off the ignition and carry out a road test followed by a test with the diagnostic tool.</p>

ET042 CONTINUED 6	
CRUISE CONTROL CONTINUED	<p>For Clio III, Modus, New Twingo and Kangoo 2:</p> <p>Check the connections on the cruise control/speed limiter on-off control, component code 1081.</p> <p>If the connector is faulty and there is a repair method (see Technical Note 6015A, Repairing electrical wiring, Wiring: Precautions for repair), repair the connector(s), otherwise replace the wiring.</p> <p>Check for + 12 V after ignition feed on connection AP10 of component 1081.</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> <p>Disconnect the cruise control speed limiter on/off control connector, component code 1081 and with it in the rest position, check the insulation between connections:</p> <ul style="list-style-type: none"> ● AP10 and 3FX of component 1081 ● AP10 and 3PD of component 1081. <p>Check on the cruise control speed limiter on/off control connector component code 1081, the continuity between connections AP10 and 3PD of component 1081, in the speed limiter position.</p> <p>Check on the cruise control speed limiter on/off control connector, component code 1081, the continuity between connections AP10 and 3FX of component 1081, in the cruise control position.</p> <p>If the checks are incorrect, replace the switch, component code 1081</p> <p>Check the insulation, continuity and the absence of interference resistance on the following connections:</p> <ul style="list-style-type: none"> – 3FX between components 1081 and 120, – 3PD between components 1081 and 120. <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 the wiring.</p> <p>Also check the engine management computer connections, component code 120.</p> <p>If the connector(s) is 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>
AFTER REPAIR	<p>Deal with any faults. Clear the faults from the computer memory.</p> <p>Switch off the ignition and carry out a road test followed by a test with the diagnostic tool.</p>

ET076	<u>STARTING</u>
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STATUS DEFINITION	PROHIBITED: This status indicates that starting is not possible. AUTHORISED: This status indicates that starting is possible.
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NOTES	This status only concerns the automatic gearbox .
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Conformity check: Engine stopped, ignition on or engine running.

"PROHIBITED" OR AUTHORISED	Refer to the Automatic gearbox fault finding note (see 23A, Automatic gearbox).
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AFTER REPAIR	Deal with any faults. Clear the faults from the computer memory. Switch off the ignition and carry out a road test followed by a test with the diagnostic tool .
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ET077	<u>IMPACT DETECTED</u>
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STATUS DEFINITION	YES: This status indicates that the airbag computer has detected an impact. NO: This status indicates that the airbag computer has not detected an impact.
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Conformity check: Engine stopped, ignition on or engine running.	
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YES	If an impact has been stored by the injection computer, switch off the ignition for 10 seconds , then switch it back on so that the engine can be started. Then clear any faults.
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NO	Under normal operating conditions, the computer has received no impact signal.
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AFTER REPAIR	Deal with any faults. Clear the faults from the computer memory. Switch off the ignition and carry out a road test followed by a test with the diagnostic tool .
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ET079	<u>AIR CONDITIONING PRESENT</u>
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STATUS DEFINITION	YES: This status indicates that air conditioning is present on the vehicle. NO: This status indicates that air conditioning is not present on the vehicle.
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NOTES	The heating and air conditioning system is present depending on the vehicle's equipment level.
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Conformity check: Engine stopped, ignition on or engine running.

YES or NO , depending on the vehicle equipment.

AFTER REPAIR	Deal with any faults. Clear the faults from the computer memory. Switch off the ignition and carry out a road test followed by a test with the diagnostic tool .
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ET088	<u>REQUEST TO START COMPRESSOR</u>
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STATUS DEFINITION	<p>ACTIVE: the compressor activation request is active.</p> <p>INACTIVE: the compressor activation request is not active.</p>
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Conformity check: Engine stopped and ignition on, or engine running and engine coolant temperature > 80°C

ACTIVE	<p>Status ET088 becomes ACTIVE if there has been a request for air conditioning (press on AC or AUTO button, with maximum cold request) and status ET004 is YES.</p> <p>The selection is made on the air conditioning control panel, the request for air conditioning is transmitted to the UCH which in turn transmits the request to the injection computer which either authorises or does not authorise compressor activation. If the injection computer authorises activation of the compressor, it sends the compressor activation request to the UPC and status ET088 Compressor activation request becomes ACTIVE (Climate control).</p> <p>If the vehicle is equipped with manual air conditioning, the air conditioning request is transmitted from the air conditioning control panel to the UCH which then accepts or does not accept the air conditioning compressor coming on depending on the operating status of the passenger compartment fan. When the request has been accepted, the request to switch on the compressor is transmitted to the injection computer which either authorises or does not authorise the compressor to start.</p> <p>If the injection computer authorises compressor activation, it sends the compressor activation request to the UPC and status ET088 Compressor activation request becomes ACTIVE.</p> <p>If there has been no compressor activation request and status ET088 remains ACTIVE, see 62A, Air conditioning.</p> <p>Note: Compressor operation is only authorised when the engine is running. Compressor activation is commanded by the UPC.</p>
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INACTIVE	<p>Status ET088 is INACTIVE when no air conditioning request has been made. When compressor activation is not authorised (ET004 is NO or when the driver switches the air conditioning off).</p> <p>If a compressor activation request has been made and status ET088 remains INACTIVE see 62A, Air conditioning.</p> <p>Note: Compressor operation is only authorised when the engine is running. Compressor activation is commanded by the UPC.</p>
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AFTER REPAIR	<p>Deal with any faults. Clear the faults from the computer memory.</p> <p>Switch off the ignition and carry out a road test followed by a test with the diagnostic tool.</p>
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ET111	<u>SET NUMBER OF PASSENGER COMPARTMENT HEATING RESISTORS</u>
STATUS DEFINITION	This status indicates that the injection computer is blocking any change to the number of passenger compartment air heating resistors active (active ones are not cut off, but no more can be added). This freeze in the number of heating resistors is in response to vehicle needs (availability of power, need for torque etc.).
Conformity check: Engine stopped and ignition on, or engine running and engine coolant temperature > 80°C	
YES	Depending on the requirements of the injection system (e.g. torque reduction, power requirements), the injection computer sets the number of activated passenger compartment heating resistors (no more or no fewer than required). Status ET111 becomes YES when the number of activated passenger compartment heating resistors is set by the injection computer.
NO	Depending on the requirements of the injection system (e.g. torque reduction, power requirements), the injection computer sets the number of activated passenger compartment heating resistors (no more or no fewer than required). Status ET111 becomes NO if the number of passenger compartment heating resistors engaged can be freely controlled by the UCH.

*RCH = Passenger Compartment Heating Resistors

AFTER REPAIR	Deal with any faults. Clear the faults from the computer memory. Switch off the ignition and carry out a road test followed by a test with the diagnostic tool .
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ET112	<u>PASSENGER COMPARTMENT HEATING RESISTOR CUT-OFF</u>
STATUS DEFINITION	This status indicates that the injection computer is blocking activation of all passenger compartment air heating resistors due to vehicle needs (availability of power, need for torque, injection defect mode or heating and ventilation etc.).
Conformity check: Engine stopped and ignition on, or engine running and engine coolant temperature > 80°C	
YES	Depending on the requirements of the injection system (e.g. torque reduction, power requirements), the injection computer cuts off the passenger compartment heating resistors. Status ET112 becomes YES when the passenger compartment heating resistors are cut off by the injection computer.
NO	Depending on the requirements of the injection system (e.g. torque reduction, power requirements), the injection computer cuts off the passenger compartment heating resistors. Status ET112 becomes NO when the passenger compartment heating resistors can be freely controlled by the UCH.

*RCH = Passenger Compartment Heating Resistors

AFTER REPAIR	Deal with any faults. Clear the faults from the computer memory. Switch off the ignition and carry out a road test followed by a test with the diagnostic tool .
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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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NOTES	<p>Special note:</p> <p>Only apply the checks if the INACTIVE and ACTIVE statuses are not consistent with the pedal position.</p>
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Conformity check: Engine stopped, ignition on or engine running.

STATUS INACTIVE with clutch pedal depressed.	<ul style="list-style-type: none"> – Check the condition and the fitting of the clutch switch, component code 675. – Check and ensure continuity on connection 86D between components 675 and 120. – Check and ensure the presence of earth on connection MAS of component 675 (for Clio III, Modus, New Twingo, Mégane II and Scénic II) and on the connection MAN of component 675 (for Kangoo 2). – Repair if necessary. <p>Remove the clutch switch and test its operation:</p>	
	Switch pressed (Clutch pedal released)	Continuity between connections 86D and MAS or MAN
	Switch released (Clutch pedal depressed)	Insulation between connections - 86D and MAS or MAN
	<p>If necessary, replace the clutch pedal switch, component code 675 (see MR 364 (Mégane II), MR 370 (Scénic II), MR 385 (Modus), MR 392 (Clio III), MR 411 (New Twingo), MR 417 (Kangoo 2), Mechanical, 37A, Mechanical component controls, Clutch pedal position sensor: Removal - Refitting).</p>	

AFTER REPAIR	<p>Deal with any faults. Clear the faults from the computer memory.</p> <p>Switch off the ignition and carry out a road test followed by a test with the diagnostic tool.</p>
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ET405 CONTINUED	
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STATUS ACTIVE with clutch pedal released.	<ul style="list-style-type: none"> – Check the condition and the fitting of the clutch switch, component code 675. – Remove the clutch switch and check that it is operating correctly: 		
		Continuity between connections	Insulation between connections
	Switch pressed (Clutch pedal released)	86D and MAS or MAN	-
	Switch released (Clutch pedal depressed)	-	86D and MAS or MAN
	<p>If necessary, replace the clutch pedal switch (see MR 364 (Mégane II), MR 370 (Scénic II), MR 385 (Modus), MR 392 (Clio III), MR 411 (New Twingo), MR 417 (Kangoo 2), Mechanical, 37A, Mechanical component controls, Clutch pedal position sensor: Removal - Refitting).</p> <p>Check and ensure the earth insulation of the connection</p> <ul style="list-style-type: none"> ● MAS or MAN between components 675 and 120. <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 the wiring.</p>		

AFTER REPAIR	<p>Deal with any faults. Clear the faults from the computer memory.</p> <p>Switch off the ignition and carry out a road test followed by a test 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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Note:

Cruise control can be activated when the vehicle speed exceeds **18 mph (30 km/h)**.

Status **ET415** shows various reasons for 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"** to reset this status to **"NONE"**.

Conformity check: Engine stopped, ignition on or engine running.

WITHOUT	This status is present on the diagnostic tool when: – the computer has been reinitialised. – the computer has been reprogrammed.
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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.</p> <p>Status ET415 becomes STATUS 1 when driving with the cruise control active (ET042 Cruise control/Speed limiter: CRUISE CONTROL) and traction control is requested. 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 1 with no traction control request (see 38C, Anti-lock braking system).</p>
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AFTER REPAIR	Deal with any faults. Clear the faults from the computer memory. Switch off the ignition and carry out a road test followed by a test with the diagnostic tool .
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ET415 CONTINUED 1	
STATUS 2	<p>Brake pedal depressed</p> <p>The cruise control function is deactivated when the brake pedal is depressed.</p> <p>Status ET415 becomes STATUS 2 when driving with cruise control active (ET042 Cruise control / Speed limiter: CRUISE CONTROL) and the brake pedal is depressed. 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 2 without pressing the brake pedal, consult the interpretation of statuses ET704 and ET705 Brake contact No. 1 and No. 2.</p>
STATUS 3	<p>Clutch pedal depressed</p> <p>Manual gearbox ONLY.</p> <p>The cruise control function is deactivated when the gearbox is not coupled to the engine (clutch pedal depressed).</p> <p>Status ET415 becomes STATUS 3 when driving with cruise control active (ET042 Cruise control/speed limiter: CRUISE CONTROL) and the clutch pedal is depressed. 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 3 without the clutch pedal being depressed, consult the interpretation of status ET405 Clutch pedal.</p> <p>If the vehicle is fitted with automatic transmission:</p> <p>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>
AFTER REPAIR	<p>Deal with any faults. Clear the faults from the computer memory.</p> <p>Switch off the ignition and carry out a road test followed by a test with the diagnostic tool.</p>

<p>ET415 CONTINUED 2</p>	
<p>STATUS 4</p>	<p>Cancel button pressed</p> <p>The cruise control/speed limiter function is deactivated each time the suspend button is pressed.</p> <p>Status ET415 becomes STATUS 4, when driving if:</p> <ul style="list-style-type: none"> – either the cruise control is active or – the speed limiter is active, – and the driver presses the 0 button. <p>This action deactivates the Cruise control/Speed limiter.</p> <p>Reinitialise status ET415 on the injection computer by running command RZ001 "Fault memory".</p> <p>If status ET415 becomes STATUS 4 without pressing the 0 button, consult the interpretation of status ET703 Cruise control / speed limiter buttons and run fault finding on the R/0 control button located on the right-hand side of the steering wheel.</p>
<p>STATUS 5</p>	<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.</p> <p>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 switch no. 1, – and status ET705 Brake switch no. 2, <p>to test the cruise control/speed limiter system components and find the defective component.</p> <p>Also check the operation of the accelerator pedal, and check for any faults on the diagnostic tool relating to this component. Deal with them if necessary.</p> <p>Reinitialise status ET415 on the injection computer by running command RZ001 "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 the Techline.</p>
<p>AFTER REPAIR</p>	<p>Deal with any faults. Clear the faults from the computer memory.</p> <p>Switch off the ignition and carry out a road test followed by a test with the diagnostic tool.</p>

ET415 CONTINUED 3	
STATUS 6	<p>Gear lever in neutral (manual gearbox) or the neutral position (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 fault finding 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>
STATUS 7	<p>Lack of correlation 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.</p> <p>Reinitialise status ET415 on the injection computer by running command RZ001 "Fault memory".</p> <p>If status ET415 becomes STATUS 7 on flat terrain, contact the Techline.</p>
AFTER REPAIR	<p>Deal with any faults. Clear the faults from the computer memory.</p> <p>Switch off the ignition and carry out a road test followed by a test with the diagnostic tool.</p>

ET415 CONTINUED 4	
STATUS 8	<p>Automatic gearbox in defect mode.</p> <p>Status ET415 becomes STATUS 8 when driving with the cruise control active (ET042 Cruise control/speed limiter: CRUISE CONTROL) and the automatic gearbox is in defect mode.</p> <p>This signal is conveyed on the multiplex line and deactivates the cruise control.</p> <p>Carry out a multiplex network test (see 88B, Multiplexing), then run fault finding on the automatic gearbox computer.</p> <p>Deal with any present or stored faults (see 23A, Automatic gearbox).</p> <p>Clear the fault memory of the automatic gearbox computer by applying command RZ001 Fault memory.</p> <p>Reinitialise status ET415 on the injection computer by running command RZ001 "Fault memory".</p> <p>If the specification STATUS 8 is still present, contact Techline.</p>
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.</p> <p>Test the multiplex network (see 88B, Multiplexing), then run fault finding on the ABS computer.</p> <p>Deal with any present or stored faults (see 38C, Anti-lock braking system).</p> <p>Reinitialise status ET415 on the injection computer by running command RZ001 "Fault memory".</p> <p>If the specification STATUS 9 is still present, contact Techline.</p>
AFTER REPAIR	<p>Deal with any faults. Clear the faults from the computer memory.</p> <p>Switch off the ignition and carry out a road test followed by a test with the diagnostic tool.</p>

ET415 CONTINUED 5	
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STATUS 10	Monitoring by injection computer
	<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 anywhere in the engine management system, or an engine speed that is too high or too low.</p> <p>This signal is conveyed on the multiplex line and deactivates the cruise control.</p> <p>Test the multiplex network (see 88B, Multiplexing), then run fault finding on the injection computer.</p> <p>Deal with present or stored faults.</p> <p>Reinitialise status ET415 on the injection computer by running command RZ001 "Fault memory".</p>

AFTER REPAIR	<p>Deal with any faults. Clear the faults from the computer memory.</p> <p>Switch off the ignition and carry out a road test followed by a test with the diagnostic tool.</p>
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ET563

FLOW CAPACITY FUNCTION

STATUS DEFINITION

ACTIVE: This status indicates that the flow capacity function is active.
INACTIVE: This status indicates that the flow capacity function is inactive.

Conformity check: Engine stopped and ignition on, or engine running, and engine coolant temperature > 80°C

**INACTIVE
OR ACTIVE**

If there is a fault, use the interpretation of fault **DF130 "Flow capacity function"**.

AFTER REPAIR

Deal with any faults displayed by the **diagnostic tool**.
Clear the computer fault memory.
Carry out a road test followed by another check with the **diagnostic tool**.

ET637	<u>NEW PUMP CHAMBER FILLING</u>
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STATUS DEFINITION	<p>COMPLETED: This status indicates that the new pump chamber filling has been completed.</p> <p>NOT COMPLETED: This status indicates that the new pump chamber filling has not been completed.</p>
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Conformity check: Engine stopped, ignition on or engine running.

COMPLETED OR NO COMPLETED	The actuator AC212 "New pump chamber filling" must be controlled before the engine start following the replacement of the high pressure pump (see NT5011A "Repriming Delphi high pressure pumps on K9K engines").
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AFTER REPAIR	Deal with any faults. Clear the faults from the computer memory. Switch off the ignition and carry out a road test followed by a test with the diagnostic tool .
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ET703	<u>CRUISE CONTROL/SPEED LIMITER BUTTONS</u>
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STATUS DEFINITION	<p>INACTIVE: This status indicates that no button has been pressed.</p> <p>INCREASE: This status indicates that the increase button is pressed.</p> <p>DECREASE: This status indicates that the decrease button is pressed.</p> <p>SUSPEND: This status indicates that the 0 is pressed.</p> <p>RESUME: This status indicates that the R button is pressed.</p>
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Conformity check: Engine stopped, ignition on or engine running.

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>To be able to remove the driver's airbag and carry out the measurements safely (see 88C, Airbag and pretensioners).</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 \pm 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>To be able to remove the driver's airbag and carry out the measurements safely (see 88C, Airbag and pretensioners).</p> <p>If status ET703 does not display INCREASE, check the condition of the cruise control/speed limiter \pm button, and the condition of its connector. Repair if necessary.</p> <p>Measure the resistance of the button between connections 86M and 86G while pressing on the + button.</p> <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 \pm control button (see MR 364 (Mégane II), MR 370 (Scénic II), MR 385 (Modus), MR 392 (Clio III), MR 411 (New Twingo), MR 417 (Kangoo 2), Mechanical, 83D, Cruise control, Steering wheel switch: Removal - Refitting).</p>
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AFTER REPAIR	<p>Deal with any faults. Clear the faults from the computer memory.</p> <p>Switch off the ignition and carry out a road test followed by a test with the diagnostic tool.</p>
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ET703 CONTINUED 1	
DECREASE	<p>Status ET703 becomes DECREASE when the - button of the cruise control/speed limiter is pressed. This button is on the steering wheel, on the left-hand side.</p> <p>To be able to remove the driver's airbag and carry out the measurements safely (see 88C, Airbag and pretensioners).</p> <p>If status ET703 does not display DECREASE, check the condition of the cruise control/speed limiter \pm button, and the condition of its connector.</p> <p>If there is a repair method (see Technical Note 6015A, Repairing electrical wiring, Wiring: Precautions for repair), repair the wiring, otherwise replace it.</p> <p>Measure the resistance of the button between connections 86M and 86G while pressing on the - button.</p> <p>If the resistance is not approximately 100 Ω, check the continuity of the connection when the button is not pressed.</p> <p>If there is continuity, replace the \pm control button (see MR 364 (Mégane II), MR 370 (Scénic II), MR 385 (Modus), MR 392 (Clio III), MR 411 (New Twingo), MR 417 (Kangoo 2), Mechanical, 83D, Cruise control, Steering wheel switch: Removal - Refitting).</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>To be able to remove the driver's airbag and carry out the measurements safely (see 88C, Airbag and pretensioners).</p> <p>If status ET703 does not become SUSPEND, check the condition of the cruise control/speed limiter "R/0" button and the condition of its connector.</p> <p>If there is a repair method (see Technical Note 6015A, Repairing electrical wiring, Wiring: Precautions for repair), repair the wiring, otherwise replace it.</p> <p>Measure the resistance of the button between connections 86M and 86G while pressing on the 0 button.</p> <p>If the resistance is not about 0 Ω, replace the R/0 control button (see MR 364 (Mégane II), MR 370 (Scénic II), MR 385 (Modus), MR 392 (Clio III), MR 411 (New Twingo), MR 417 (Kangoo 2), Mechanical, 83D, Cruise control, Steering wheel switch: Removal - Refitting).</p> <p>If there is continuity, replace the R/0 control button (see MR 364 (Mégane II), MR 370 (Scénic II), MR 385 (Modus), MR 392 (Clio III), MR 411 (New Twingo), MR 417 (Kangoo 2), Mechanical, 83D, Cruise control, Steering wheel switch: Removal - Refitting).</p>
AFTER REPAIR	<p>Deal with any faults. Clear the faults from the computer memory.</p> <p>Switch off the ignition and carry out a road test followed by a test with the diagnostic tool.</p>

ET703 CONTINUED 2	
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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>To be able to remove the driver's airbag and carry out the measurements safely (see 88C, Airbag and pretensioners).</p> <p>If status ET703 does not change to RESUME, check the condition of the cruise control/speed limiter R/0 button, and the condition of its connector.</p> <p>If there is a repair method (see Technical Note 6015A, Repairing electrical wiring, Wiring: Precautions for repair), repair the wiring, otherwise replace it.</p> <p>Measure the resistance of the button between connections 86M and 86G while pressing on the R button.</p> <p>If the resistance is not approximately 900 Ω, check the continuity of the connection when the button is not pressed.</p> <p>If there is continuity, replace the R/0 control button (see MR 364 (Mégane II), MR 370 (Scénic II), MR 385 (Modus), MR 392 (Clio III), MR 411 (New Twingo), MR 417 (Kangoo 2), Mechanical, 83D, Cruise control, Steering wheel switch: Removal - Refitting).</p>
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AFTER REPAIR	<p>Deal with any faults. Clear the faults from the computer memory.</p> <p>Switch off the ignition and carry out a road test followed by a test with the diagnostic tool.</p>
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ET704 ET705	<u>BRAKE SWITCH NO. 1</u> <u>BRAKE SWITCH NO. 2</u>
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STATUS DEFINITION	ACTIVE: This status indicates that the brake pedal is depressed. INACTIVE: This status indicates that the brake pedal is released.
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Note:
Statuses **ET704** and **ET705** should change status at the same time. In the event of inconsistency, refer to the interpretation of fault **DF050 Brake switch circuit**.

Conformity check: Engine stopped, ignition on or engine running.

ACTIVE OR INACTIVE	<p>If the brake lights are working, check the continuity and the absence of interference resistance between the following connections:</p> <ul style="list-style-type: none"> – 5A between components 160 and 120, – BPT between components 160 and 645 (for Mégane II, Scénic II, Modus and Clio III), – BPT2 between components 160 and 645 (for Kangoo 2), – AP10 between components 160 and 1016 (for New Twingo), – 65A between components 160 and 645 (vehicle without ESP), – 65G between components 160 and 645 (vehicle with ESP).
	<p>If 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 brake lights are not operational, check:</p> <ul style="list-style-type: none"> – the condition and fitting of the brake switch, – the condition and conformity of the brake lights fuse, <p>the conformity of the values in the following table:</p>

AFTER REPAIR	<p>Deal with any faults. Clear the faults from the computer memory.</p> <p>Switch off the ignition and carry out a road test followed by a test with the diagnostic tool.</p>
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DCM1.2_V48_ET704/DCM1.2_V4C_ET704/DCM1.2_V50_ET704/DCM1.2_V54_ET704/DCM1.2_V58_ET704/DCM1.2_V5C_ET704/
DCM1.2_V48_ET705/DCM1.2_V4C_ET705/DCM1.2_V50_ET705/DCM1.2_V54_ET705/DCM1.2_V58_ET705/DCM1.2_V5C_ET705

ET704 ET705 CONTINUED	
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ACTIVE OR INACTIVE CONTINUED		Continuity between connections	Insulation between connections
	Switch pressed (Brake pedal released)	5A and BPT or BPT2	SP17 and 65G (with ESP) SP17 and 65A (without ESP)
	Switch released (Brake pedal depressed)	SP17 and 65G (with ESP) SP17 and 65A (without ESP)	5A and BPT or BPT2
	Only for New Twingo	Continuity between connections	Insulation between connections
	Switch pressed (Brake pedal released)	5A and AP10	65A and AP10
	Switch released (Brake pedal depressed)	65A and AP10	5A and AP10
	If the values obtained are not correct, replace the brake switch (see MR 417 Mechanics, 37A, Mechanical component controls, Brake light Switch: Removal - Refitting).		

AFTER REPAIR	Deal with any faults. Clear the faults from the computer memory. Switch off the ignition and carry out a road test followed by a test with the diagnostic tool .
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ET741	<u>OPTIONAL VEHICLE SPEED RESTRICTION</u>
STATUS DEFINITION	ACTIVE: This status indicates that the optional speed limiting function is active. INACTIVE: This status indicates that the optional speed limiting function is inactive.
NOTES	Special note: This status indicates whether the vehicle speed restriction is a customer option, using command SC040 Speed limiter . This status is valid only on Kangoo 2
Conformity check: Engine stopped, ignition on or engine running.	
"ACTIVE"	Vehicle speed restricted using command SC040 Speed limiter . See the interpretation of parameter PR879 Maximum speed authorized to find the configured speed restriction.
"INACTIVE"	The vehicle has no optional speed restriction.

AFTER REPAIR	Deal with any faults. Clear the faults from the computer memory. Switch off the ignition and carry out a road test followed by a test with the diagnostic tool .
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ET800	<u>FAST IDLE SPEED FUNCTION</u>
STATUS DEFINITION	ACTIVE: This status indicates that the fast idle speed function is active. INACTIVE: This status indicates that the fast idle speed function is inactive.
NOTES	Special note: This status indicates if the fast idle speed function is activated after use of the command SC041 Changing commercial vehicle idle speed . This status is valid only on Kangoo 2.
Conformity check: Engine stopped, ignition on or engine running.	
ACTIVE	Is the fast idle speed function active? See the interpretation of parameter PR878 Fast idle speed to find the configured idle speed.
INACTIVE	The fast idle speed function is inactive.

*VU: Commercial vehicle

AFTER REPAIR	Deal with any faults. Clear the faults from the computer memory. Switch off the ignition and carry out a road test followed by a test with the diagnostic tool .
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DIESEL INJECTION

Fault finding – Parameter summary table

13B

Tool parameter	Diagnostic tool title
PR005	EGR valve opening setpoint
PR008	Rail reference pressure
PR010	Idle speed regulation setpoint
PR017	Fuel flow
PR030	Accelerator pedal position
PR032	Inlet pressure
PR035	Atmospheric pressure
PR037	Refrigerant pressure
PR038	Rail pressure
PR051	EGR valve position feedback
PR055	Engine speed
PR059	Inlet air temperature
PR063	Fuel temperature
PR064	Coolant temperature
PR074	Battery voltage
PR077	EGR valve position sensor voltage
PR078	Inlet pressure sensor voltage
PR080	Rail pressure sensor voltage
PR086	Pedal potentiometer voltage gang 1
PR088	Pedal potentiometer gang 2 voltage
PR089	Vehicle speed
PR125	Power consumed by the air conditioning compressor
PR130	Cruise control setpoint
PR132	Air flow
PR147	Pedal potentiometer voltage gang 1
PR148	Pedal potentiometer voltage gang 2
PR568	Pedal position gang 1
PR569	Pedal position gang 2

DIESEL INJECTION

Fault finding – Parameter summary table

13B

Tool parameter	Diagnostic tool title
PR730	Air flow sensor temperature
PR873	Oil oxidation signal
PR878	Increased idle speed
PR879	Maximum authorised speed
PR932	Rate of engine oil dilution
PR1015	Oil service interval

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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Conformity check with engine stopped and ignition on

The EGR valve theoretical opening value for operation with the engine stopped and ignition on is: - 10% < PR005 < 0%
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Conformity check: Engine running, engine coolant temperature > 80°C

The EGR valve theoretical opening value for operation with the engine running and the engine coolant temperature > 80°C is: 10% < PR005 < 40%

AFTER REPAIR	Deal with any faults displayed by the diagnostic tool . Clear the computer fault memory. Carry out a road test followed by another check with the diagnostic tool .
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PR008	<u>RAIL REFERENCE PRESSURES</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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Conformity check: Engine stopped and ignition on, or engine running and engine coolant temperature > 80°C

The theoretical rail pressure value is a setpoint of: 200 bar < PR008 < 400 bar

AFTER REPAIR	Deal with any faults displayed by the diagnostic tool . Clear the computer fault memory. Carry out a road test followed by another check with the diagnostic tool .
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PR010	<u>IDLE SPEED REGULATION SETPOINT</u>
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PARAMETER DEFINITION	This parameter indicates the speed of rotation setpoint before last engine stop in rpm .
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Conformity check: Engine stopped and ignition on, or engine running and engine coolant temperature > 80°C

At idle speed, the engine rotation speed must be between: 700 rpm < PR010 < 1300 rpm. In the event of a fault, consult the interpretation of faults DF053 Rail pressure regulation function , DF007 Rail pressure sensor circuit and DF024 Low pressure actuator control circuit .
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AFTER REPAIR	Deal with any faults displayed by the diagnostic tool . Clear the computer fault memory. Carry out a road test followed by another check with the diagnostic tool .
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PR017	<u>FUEL FLOW</u>
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PARAMETER DEFINITION	This parameter indicates the fuel flow in mg/st.
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Conformity check with engine stopped and ignition on.
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PR017 = 0.0 mg/st. In the event of a fault, consult the interpretation of fault DF007 Rail pressure sensor circuit.
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Conformity check: Engine running, engine coolant temperature > 80°C

PR017 = 5 mg/st. In the event of a fault, consult the interpretation of fault DF007 Rail pressure sensor circuit.
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AFTER REPAIR	Deal with any faults displayed by the diagnostic tool . Clear the computer fault memory. Carry out a road test followed by another check with the diagnostic tool .
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PR030	<u>ACCELERATOR PEDAL POSITION</u>
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PARAMETER DEFINITION	This parameter indicates the accelerator pedal position as a percentage.
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NOTES	<p>There must be no present or stored faults.</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). <p>See the Wiring diagrams Technical Note for the vehicle.</p>
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Conformity check: Engine stopped and ignition on, or engine running and engine coolant temperature > 80°C

<p>If no pressure is being applied to the pedal PR030 = 0%</p> <p>In the event of a fault, refer to the interpretation of fault DF008 Pedal potentiometer circuit gang 1 or DF009 Pedal potentiometer circuit gang 2.</p>
--

Sensor electrical conformity

<p>Check the continuity and absence of interference resistance of the following connections:</p> <ul style="list-style-type: none"> ● connection code 3LR, ● connection code 3LS, ● connection code 3LT, ● connection code 3LU, ● connection code 3LW, ● connection code 3LV, ● between components 120 and 921. <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>Pedal sensor connected, vehicle with ignition on and engine stopped:</p> <ul style="list-style-type: none"> – check the value of PR030: ● 0% no load, ● 100% full load, ● 138% full load after kickdown point on pedal. <p>If the value is not correct, replace the accelerator pedal sensor, component code 921 (see MR 364 (Mégane II), MR 370 (Scénic II), MR 385 (Modus), MR 392 (Clio III), MR 411 (New Twingo), MR 417 (Kangoo 2), Mechanical, 37A, Mechanical component controls, Accelerator pedal: Removal - Refitting).</p>

AFTER REPAIR	<p>Deal with any faults displayed by the diagnostic tool. Clear the computer fault memory.</p> <p>Carry out a road test followed by another check with the diagnostic tool.</p>
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PR032	<u>INLET PRESSURE</u>
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PARAMETER DEFINITION	This parameter indicates the inlet pressure in bar .
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Conformity check: Engine stopped and ignition on, or engine running and engine coolant temperature > 80°C

900 mbar < PR032 < 1100 mbar. Local atmospheric pressure. If the values are inconsistent, check with the engine stopped and ignition switched on that PR032 = PR035 Atmospheric pressure = local atmospheric pressure.
--

AFTER REPAIR	Deal with any faults displayed by the diagnostic tool . Clear the computer fault memory. Carry out a road test followed by another check with the diagnostic tool .
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PR035	<u>ATMOSPHERIC PRESSURE</u>
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PARAMETER DEFINITION	This parameter indicates the atmospheric pressure in mbar .
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NOTES	Special notes: the sensor is built into the computer.
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Conformity check: Engine stopped and the ignition on, or the engine running and the engine coolant temperature > 80°C

The atmospheric pressure value is: 800 mbar < PR035 < 1200 mbar. In the event of a fault, consult the interpretation of DF003 Atmospheric pressure sensor circuit .

AFTER REPAIR	Deal with any faults displayed by the diagnostic tool . Clear the computer fault memory. Carry out a road test followed by another check with the diagnostic tool .
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PR037	<u>REFRIGERANT PRESSURE</u>
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PARAMETER DEFINITION	This parameter indicates the refrigerant fluid pressure in bar; it varies according to the operating mode.
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NOTES	Special notes: Defect value: 0 bar .
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Conformity check: Engine running, engine coolant temperature > 80°C

The value should be between: 1 bar < PR037 < 32.4 bar In the event of a fault, consult the interpretation of fault DF049 Refrigerant sensor circuit .

AFTER REPAIR	Deal with any faults displayed by the diagnostic tool . Clear the computer fault memory. Carry out a road test followed by another check with the diagnostic tool .
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PR038	<u>RAIL PRESSURE</u>
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PARAMETER DEFINITION	This parameter indicates the fuel pressure in the rail in bars .
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NOTES	<p>There must be no present or stored faults. Perform this fault finding procedure:</p> <ul style="list-style-type: none"> – after an inconsistency appears on the Parameter screen, – following a customer complaint (starting problems, poor performance, stalling, etc.).
	<p>Special note: Default value: 2000 bar.</p>
	<p>See the Wiring diagrams Technical Note for the vehicle.</p>

<p>Conformity check: Engine stopped and ignition on, or engine running and engine coolant temperature > 80°C</p>
--

<p>Cold, PR038 = 1 bar.</p>
<p>In the event of a fault, consult the interpretation of fault DF007 Rail pressure sensor circuit.</p>

AFTER REPAIR	<p>Deal with any faults displayed by the diagnostic tool. Clear the computer fault memory.</p> <p>Carry out a road test followed by another check with the diagnostic tool.</p>
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PR051	<u>EGR VALVE POSITION FEEDBACK</u>
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PARAMETER DEFINITION	This parameter indicates the EGR valve opening ratio.
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NOTES	<p>There must be no present or stored faults. Perform this fault finding procedure:</p> <ul style="list-style-type: none"> – after finding an inconsistency in the parameter, – after a customer complaint (loss of power, smoke etc.).
	<p>Special note: Default value: 0%.</p>
	<p>See the Wiring diagrams Technical Note for the vehicle.</p>

Conformity check: Engine stopped and ignition on, or engine running and engine coolant temperature > 80°C

<p>This parameter indicates the EGR valve opening ratio. In the event of a fault, consult the interpretation of fault DF209 EGR valve position sensor circuit.</p>

Sensor electrical conformity

<p>Check for continuity and absence of interference resistance of the following connections:</p> <ul style="list-style-type: none"> ● connection code 3JM, ● connection code 3EL, ● connection code 3GC, ● between components 120 and 1460. <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 faults displayed by the diagnostic tool. Clear the computer fault memory.</p> <p>Carry out a road test followed by another check with the diagnostic tool.</p>
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PR055	<u>ENGINE SPEED</u>
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PARAMETER DEFINITION	This parameter indicates the engine's rotational speed in rpm .
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Conformity check with engine stopped and ignition on.
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PR055 = 0 rpm. In the event of a fault, consult the interpretation of faults DF195 Camshaft/engine speed sensor consistency and DF005 Engine speed sensor circuit .

Conformity check: Engine running, engine coolant temperature > 80°C

PR055 = 800 rpm (approx.). In the event of a fault, consult the interpretation of faults DF195 Camshaft/engine speed sensor consistency and DF005 Engine speed sensor circuit .

AFTER REPAIR	Deal with any faults displayed by the diagnostic tool . Clear the computer fault memory. Carry out a road test followed by another check with the diagnostic tool .
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PR059	<u>INLET AIR TEMPERATURE</u>
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PARAMETER DEFINITION	This parameter indicates the inlet air temperature in °C.
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NOTES	See the Wiring diagrams Technical Note for the vehicle.
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Conformity check: Engine stopped, ignition on or engine running.

Check the condition of the air temperature/pressure sensor connectors (flowmeter).
If the connector 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 **3B** and **3DW** of the air flowmeter.
If the resistance of the air temperature / pressure sensor is not:
(theoretical values)
3553 Ω < R < 3875 Ω at 10°C
2353 Ω < R < 2543 Ω at 20°C
1613 Ω < R < 1729 Ω at 30°C,
replace the air temperature/pressure sensor (see **MR 364 (Mégane II), MR 370 (Scénic II), MR 385 (Modus), MR 392 (Clio III), MR 411 (New Twingo), MR 417 (Kangoo 2), Mechanical, 12A, Fuel mixture, Air flowmeter: Removal - Refitting**).

AFTER REPAIR	Deal with any faults displayed by the diagnostic tool . Clear the computer fault memory. Carry out a road test followed by another check with the diagnostic tool .
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PR063	<u>FUEL TEMPERATURE</u>
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PARAMETER DEFINITION	This parameter indicates the fuel temperature in °C.
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NOTES	Special notes: Default value: 40 °C .
	There must be no present or stored faults. Perform this fault finding procedure: – after finding an inconsistency in the parameter, – after a customer complaint (e.g. lack of power).
	See the Wiring diagrams Technical Note for the vehicle.

Conformity check: Engine stopped and the ignition on, or the engine running and the engine coolant temperature > 80°C

- 30°C < PR063 < 90°C. In the event of a fault, consult the interpretation of fault DF098 Fuel temperature sensor circuit .
--

Sensor electrical conformity

Check the 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 . If its resistance is not: 3538 Ω < R < 4102 Ω at + 10°C 1950 Ω < R < 2150 Ω at + 25°C 763 Ω < R < 857 Ω at + 50°C , replace the fuel temperature sensor, component code 1066 (see MR 364 (Mégane II) , MR 370 (Scénic II) , MR 385 (Modus) , MR 392 (Clio III) , MR 411 (New Twingo) , MR 417 (Kangoo 2) , Mechanical, 13B, Diesel Injection, Fuel temperature sensor: Removal - Refitting).

AFTER REPAIR	Deal with any faults displayed by the diagnostic tool . Clear the computer fault memory. Carry out a road test followed by another check with the diagnostic tool .
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PR064	<u>COOLANT TEMPERATURE</u>
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PARAMETER DEFINITION	This parameter indicates the engine coolant temperature in °C.
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NOTES	Special note: Default value: 80 °C .
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Conformity check: Engine stopped and ignition on, or engine running and engine coolant temperature > 80°C

<p>Cold, PR064 = ambient temperature.</p> <p>Check the condition of the coolant temperature sensor connections. If the connector 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 necessary, replace the coolant temperature sensor (see MR 417 Mechanical systems, 19A, Cooling, Coolant temperature sensor: Removal - Refitting). Measure the resistance between connections 3C and 3JK of component 244. If the resistance of the coolant temperature sensor is not: (theoretical values)</p> <ul style="list-style-type: none"> at – 40°C: 68780 Ω < X < 82780 Ω at – 10°C: 11332 Ω < X < 13588 Ω at 25°C: 2140 Ω < X < 2364 Ω at 50°C: 772 Ω < X < 850 Ω at 80°C: 275 Ω < X < 291 Ω at 110°C: 112 Ω < X < 118 Ω at 120°C: 86 Ω < X < 90 Ω, <p>Replace the coolant temperature sensor, component code 244 (see MR 364 (Mégane II), MR 370 (Scénic II), MR 385 (Modus), MR 392 (Clio III), MR 411 (New Twingo), MR 417 (Kangoo 2), Mechanical, 19A, Cooling, Coolant temperature sensor: Removal - Refitting).</p>
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AFTER REPAIR	Deal with any faults displayed by the diagnostic tool . Clear the computer fault memory. Carry out a road test followed by another check with the diagnostic tool .
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PR074	<u>BATTERY VOLTAGE</u>
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PARAMETER DEFINITION	This parameter indicates the battery voltage in Volts .
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NOTES	There must be no present or stored faults. Without electrical consumers (radio, air conditioning, fan assemblies, headlights, etc.).
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Conformity check: Engine stopped and ignition on, or engine running and engine coolant temperature > 80°C

12 V < PR074 < 14.4 V.	
Ignition on then at idle speed	<p>If the voltage is at minimum: Check the battery and the charge circuit (see 87B, Passenger compartment connection unit for the New Twingo or see 87G, Engine compartment connection unit for Clio III, Modus, Mégane II, Scénic II and Kangoo 2).</p> <p>If the voltage is at maximum: Check that the charging voltage is correct with and without electrical consumers switched on.</p>

AFTER REPAIR	<p>Deal with any faults displayed by the diagnostic tool. Clear the computer fault memory.</p> <p>Carry out a road test followed by another check with the diagnostic tool.</p>
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PR077	<u>EGR VALVE POSITION SENSOR VOLTAGE</u>
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PARAMETER DEFINITION	This parameter indicates the EGR valve position sensor voltage in volts .
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Conformity check with engine stopped and ignition on.
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0 < PR077 < 1.5 V. Default value: 0 V . In the event of a fault, refer to the interpretation of fault DF113 Sensor supply voltage .
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Conformity check: Engine running, engine coolant temperature > 80°C

0 V < PR077 < 5 V. Default value: 0 V . In the event of a fault, refer to the interpretation of fault DF113 Sensor supply voltage .
--

AFTER REPAIR	Deal with any faults displayed by the diagnostic tool . Clear the computer fault memory. Carry out a road test followed by another check with the diagnostic tool .
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PR078	<u>INLET PRESSURE SENSOR VOLTAGE</u>
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PARAMETER DEFINITION	This parameter indicates the inlet pressure sensor voltage in volts .
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Conformity check: Engine stopped and ignition on, engine running and engine coolant temperature > 80°C

0.2 V < PR078 < 4.9 V

If there is a problem, consult the interpretation for fault **DF089 Inlet manifold pressure sensor circuit**.

AFTER REPAIR	Deal with any faults displayed by the diagnostic tool . Clear the computer fault memory. Carry out a road test followed by another 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 .
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NOTES	Special notes: Default value: 4.5 V .
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Conformity check: Engine stopped and ignition on, or engine running and engine coolant temperature > 80°C

0 V <PR080 <5 V In the event of a fault, consult the interpretation of parameter DF056 Air flow sensor circuit .

AFTER REPAIR	Deal with any faults displayed by the diagnostic tool . Clear the computer fault memory. Carry out a road test followed by another check with the diagnostic tool .
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PR089	<u>VEHICLE SPEED</u>
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PARAMETER DEFINITION	This parameter indicates the vehicle speed in mph (km/h) .
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NOTES	Special notes: This parameter is transmitted by the ABS computer or by the wheel speed computer. This signal is transmitted to the injection on the multiplex network.
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Conformity check: 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) Then a complete fault finding procedure of the ABS computer (see 38C, Antilock braking system) or VSU (see 38G, Wheel speed computer).
--

AFTER REPAIR	Deal with any faults displayed by the diagnostic tool . Clear the computer fault memory. Carry out a road test followed by another check with the diagnostic tool .
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PR125	<u>POWER ABSORBED BY THE AIR CONDITIONING COMPRESSOR*</u>
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PARAMETER DEFINITION	This parameter indicates the power absorbed by the air conditioning compressor in W .
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Conformity check: Engine stopped and ignition on, or engine running without electrical consumer, and engine coolant temperature > 80°C
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PR125 = 0 W

Conformity check: With engine running and compressor activation request active

PR125 = 1200 W

AFTER REPAIR	Deal with any faults displayed by the diagnostic tool . Clear the computer fault memory. Carry out a road test followed by another check with the diagnostic tool .
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PR130	<u>CRUISE CONTROL SETPOINT</u>
PARAMETER DEFINITION	This parameter indicates the cruise control speed setpoint in mph (km/h) .
NOTES	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: 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 greater than 18 mph (30 km/h) .	

AFTER REPAIR	Deal with any faults displayed by the diagnostic tool . Clear the computer fault memory. Carry out a road test followed by another check with the diagnostic tool .
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PR132	<u>AIR FLOW</u>
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PARAMETER DEFINITION	This parameter indicates the inlet air flow in mg/st.
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NOTES	Special notes: For vehicles that are not equipped with a flowmeter, the air flow is estimated using the following parameters: <ul style="list-style-type: none">– Inlet air temperature,– The atmospheric pressure,– The EGR valve position,– The fuel flow,– The engine speed.
	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.).
	See the Wiring diagrams Technical Note for the vehicle.

Conformity check with engine stopped and ignition on.
--

Indicates the inlet air flow PR132 \approx 0 mg/st.

Conformity check: Engine running at idle speed and engine coolant temperature > 80°C
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Indicates the inlet air flow PR132 \approx 200 mg/st.

AFTER REPAIR	Deal with any faults displayed by the diagnostic tool . Clear the computer fault memory. Carry out a road test followed by another check with the diagnostic tool .
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PR132 CONTINUED	
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Sensor electrical conformity

Test the air inlet circuit (from the air filter inlet to the inlet manifold tracts, run **test 5 Inlet circuit check**):

- air filter unit inlet not blocked and filter not clogged,
- oil vapour recirculation circuit connected correctly,
- **low** and **high pressure** air circuit **sealed** and **not obstructed**: ducts, mounting clamps present and tightened, turbocharging pressure sensor fitted, exchanger, etc., run **TEST 1 Low pressure circuit check** and **TEST 7 High pressure circuit sealing check**
- check that the damper valve is not jammed closed.

Carry out the necessary repairs.

Check **the electrical conformity of the air flowmeter**:

Check the **+ 5 V supply** of the air flowmeter on the following connection:

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

Check the **+ 12 V** after relay **supply** of the air flowmeter on the following connection:

- **3FB (or 3FB3)** of component **799**.

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

- **3DV**,
- **3DW**, between components **120** and **799**.

Flowmeter **connected, vehicle ignition on and engine stopped**:

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

If the voltage is not between **0.3 V** and **0.7 V**, replace the air flowmeter, component code **799** (see **MR 364 (Mégane II)**, **MR 370 (Scénic II)**, **MR 385 (Modus)**, **MR 392 (Clio III)**, **MR 411 (New Twingo)**, **MR 417 (Kangoo 2)**, **Mechanical, 12A, Fuel Mixture, Air Flowmeter: Removal - Refitting**).

AFTER REPAIR	<p>Deal with any faults displayed by the diagnostic tool. Clear the computer fault memory.</p> <p>Carry out a road test followed by another check with the diagnostic tool.</p>
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PR147	<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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Conformity check: Engine stopped, ignition on or engine running.

PR147 \approx 0.72 V and varies depending on the pedal status. In the event of a fault, apply the interpretation of DF008 Pedal sensor circuit gang 1 .

AFTER REPAIR	Deal with any faults displayed by the diagnostic tool . Clear the computer fault memory. Carry out a road test followed by another check with the diagnostic tool .
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PR148	<u>PEDAL POTENTIOMETER GANG 2 VOLTAGE</u>
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PARAMETER DEFINITION	This parameter indicates the pedal potentiometer gang 2 voltage in volts .
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Conformity check: Engine stopped, ignition on or engine running.

PR148 \approx 0.72 V and varies depending on the pedal status. In the event of a fault, apply the interpretation of DF009 Pedal sensor circuit gang 2 .

AFTER REPAIR	Deal with any faults displayed by the diagnostic tool . Clear the computer fault memory. Carry out a road test followed by another check with the diagnostic tool .
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PR568	<u>PEDAL POSITION (GANG 1)</u>
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PARAMETER DEFINITION	This parameter indicates the accelerator pedal position gang 1 as a %.
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Conformity check: Engine stopped, ignition on or engine running.

PR568 ≈ 16%. In the event of a fault, apply the interpretation of DF008 Pedal sensor circuit gang 1 .
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AFTER REPAIR	Deal with any faults displayed by the diagnostic tool . Clear the computer fault memory. Carry out a road test followed by another check with the diagnostic tool .
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PR569	<u>PEDAL POSITION GANG 2</u>
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PARAMETER DEFINITION	This parameter indicates the accelerator pedal position gang 2 as a %.
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Conformity check: Engine stopped, ignition on or engine running.

PR569 \approx 7%. In the event of a fault, apply the interpretation of DF009 Pedal sensor circuit gang 2 .
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AFTER REPAIR	Deal with any faults displayed by the diagnostic tool . Clear the computer fault memory. Carry out a road test followed by another check with the diagnostic tool .
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PR730	<u>AIR FLOW SENSOR TEMPERATURE</u>
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PARAMETER DEFINITION	This parameter indicates the air temperature of the flowmeter in °C.
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NOTES	Special notes: Depending on the engine type, the air temperature is given by the air flowmeter or the exterior air temperature sensor.
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Conformity check: Engine stopped and ignition on, or engine running and engine coolant temperature > 80°C

<p>Check the condition of the air flow sensor connections.</p> <p>If the connector 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 necessary, replace the sensor (see MR 364 (Mégane II), MR 370 (Scénic II), MR 385 (Modus), MR 392 (Clio III), MR 411 (New Twingo), MR 417 (Kangoo 2), Mechanical, 12A, Fuel mixture, Air flowmeter: Removal - Refitting).</p> <p>Measure the resistance between the following connections:</p> <p>(vehicle with flowmeter)</p> <ul style="list-style-type: none"> – 3B and 3DW of component 799; <p>(vehicle without flowmeter)</p> <ul style="list-style-type: none"> – 3PB and 3KQ of component 272, – 3SH and 3KQ of component 272, – 3JQ and 3KQ of component 272. <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 the wiring.</p>

AFTER REPAIR	Deal with any faults displayed by the diagnostic tool . Clear the computer fault memory. Carry out a road test followed by another check with the diagnostic tool .
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PR730 CONTINUED

If the resistance of the air flowmeter or the exterior air temperature sensor is not:
(theoretical values for flowmeter K9K 724, 766, 768, 800 and 802)

at -10°C: $8716 \Omega < X < 9688 \Omega$

at 0°C: $5497 \Omega < X < 6051 \Omega$

at 10°C: $3553 \Omega < X < 3875 \Omega$

at 20°C: $2353 \Omega < X < 2543 \Omega$

at 30°C: $1613 \Omega < X < 1729 \Omega$

(theoretical values for exterior air temperature sensor K9K 750, 752, 740 and 812)

at -10°C: $8623 \Omega < X < 10454 \Omega$

at 25°C: $1928 \Omega < X < 2174 \Omega$

at 50°C: $763 \Omega < X < 857 \Omega$,

replace the air temperature/pressure sensor or the exterior air temperature sensor, component code **272** (see MR 364 (Mégane II), MR 370 (Scénic II), MR 385 (Modus), MR 392 (Clio III), MR 411 (New Twingo), MR 417 (Kangoo 2), Mechanical, 12A, Fuel mixture, Air flowmeter: Removal - Refitting).

AFTER REPAIR

Deal with any faults displayed by the **diagnostic tool**. Clear the computer fault memory.
Carry out a road test followed by another check with the **diagnostic tool**.

PR873

OIL OXIDATION SIGNAL

PARAMETER DEFINITION

This parameter indicates the vehicle distance in **km** when the warning requesting the oil change was displayed on the instrument panel.

NOTES

This parameter is not to be interpreted:

- on the **K9K812** engine,
- if **PR873 = 0** (Vdiag 58 only).

Conformity check: Engine stopped, ignition on or engine running.

The oil status is calculated by the oxidation program in the injection computer, depending on the engine revs. When this count reaches a certain threshold before the end of the oil change period, the injection computer sends a signal to the instrument panel, which will display "**service required soon**". **PR873** corresponds to the vehicle distance at the time this signal is sent. The instrument panel computer will then count **900 miles (1500 km)** before displaying the message "**service required**".

IMPORTANT

When the message **Service required** appears on the instrument panel, the customer must arrange an oil change within the remaining **900 miles (1500 km)**.

AFTER REPAIR

Deal with any faults displayed by the **diagnostic tool**. Clear the computer fault memory.
Carry out a road test followed by another check with the **diagnostic tool**.

PR878	<u>FAST IDLE SPEED</u>
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PARAMETER DEFINITION	This parameter indicates the fast idle speed in rpm .
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NOTES	Special notes: It is possible to modify the value of the PR878 using the command SC041 Modification of the commercial vehicle idle speed . This parameter is valid only on Kangoo 2.
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Conformity check: Engine stopped, ignition on or engine running.

If the function was activated (ET800 Fast idle function ACTIVE status), PR878 shows the value of fast idle speed in rpm. It is possible to modify the value using command SC041 Changing VU idle speed . The idle speed values that can be modified are: 1000, 1100, 1200, 1300 rpm .
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*VU: Commercial vehicle

AFTER REPAIR	Deal with any faults. Clear the faults from the computer memory. Switch off the ignition and carry out a road test followed by a test with the diagnostic tool .
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PR879	<u>MAXIMUM AUTHORISED SPEED</u>
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PARAMETER DEFINITION	This parameter indicates the maximum authorised speed in mph (km/h) requested by the customer using command SC040 Speed limiter .
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NOTES	Special notes: It is possible to modify the value of PR879 using command SC040 Speed limiter . This parameter is valid only on Kangoo 2.
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Conformity check: Engine stopped and ignition on, or engine running and engine coolant temperature > 80°C

If ET741 "Optional vehicle speed restriction" is ACTIVE , the value of PR879 is between 18 mph (30 km/h) and 150 mph (250 km/h) . In the event of a fault or modification of this speed, use command SC040 Speed limiter .

AFTER REPAIR	Deal with any faults displayed by the diagnostic tool . Clear the computer fault memory. Carry out a road test followed by another check with the diagnostic tool .
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PR932

DEGREE OF ENGINE OIL DILUTION

PARAMETER DEFINITION

This parameter gives the value for the degree of oil wear in %.

NOTES

This parameter is not to be interpreted:
– on the **K9K812** engine,
– if **PR932 = 0** (Vdiag 58 only).

Conformity check: Engine stopped, ignition on or engine running.

PR932 = 0% for the first **900 miles (1500 km)**, beyond this value the **PR932** changes regularly until it reaches **100%**.

If **PR932 = 100%** it means that the oil should be changed.

AFTER REPAIR

Deal with any faults displayed by the **diagnostic tool**. Clear the computer fault memory.
Carry out a road test followed by another check with the **diagnostic tool**.

PR1015

OIL SERVICE INTERVAL

PARAMETER DEFINITION

This parameter indicates the vehicle distance before the next oil change in **miles (km)**.

NOTES

- This parameter is not to be interpreted:
- on the **K9K812** engine,
- if **PR1015 = 50000 (Vdiag 58 only)**.

Conformity check: Engine stopped, ignition on or engine running.

20000 km < PR1015 < 0 km.

This parameter decreases to **0** according to the vehicle distance and the degree of oil wear.

AFTER REPAIR

Deal with any faults displayed by the **diagnostic tool**. Clear the computer fault memory.
Carry out a road test followed by another check with the **diagnostic tool**.

DIESEL INJECTION

Fault finding – Command summary table

13B

Tool command	Diagnostic tool title	Comments
RZ001	Fault memory	This command is used for clearing the computer's stored faults.
RZ002	EGR programming adaptives	Use this command when replacing the EGR valve or after it has been cleaned.
RZ004	Pressure regulation adaptives	Use this command when replacing all four injectors at once. It enables you to reset the injector adaptive programs.
RZ005	Programming	This command enables you to reinitialise the entire computer configuration according to the vehicle.

AC001	Preheating unit	Activating this actuates the preheating unit to test the heater plug supply. In the event of a fault, refer to the interpretation of DF017 Preheating unit control circuit .
AC002	EGR solenoid valve	This command actuates the EGR valve. In the event of a fault, refer to the interpretation of faults DF016 "EGR control circuit" and DF114 "EGR solenoid valve circuit" .
AC004	Turbocharging solenoid valve	This command actuates the turbocharging solenoid valve. In the event of a fault, refer to the interpretation of faults DF261 "Turbocharger actuator circuit" and DF427 "Turbo actuator control" .
AC005	Cylinder 1 injector	This activation makes it possible to check injector 1 by listening. In the event of a fault, refer to the interpretation of fault DF026 Cylinder 1 injector control circuit .
AC006	Cylinder 2 injector	This activation makes it possible to check injector 2 by listening. In the event of a fault, refer to the interpretation of fault DF027 Cylinder 2 injector control circuit .
AC007	Cylinder 3 injector	This activation makes it possible to check injector 3 by listening. In the event of a fault, refer to the interpretation of fault DF028 Cylinder 3 injector control circuit .
AC008	Cylinder 4 injector	This activation makes it possible to check injector 4 by listening. In the event of a fault, refer to the interpretation of fault DF029 Cylinder 4 injector control circuit .
AC010	High pressure pump	Activating this lets you listen to the operation of the high pressure pump.
AC028	Static test	This activation allows systems to be detected and starts the diagnostic check of the EGR and high pressure pump circuits (Ignition switched on, engine stopped).
AC029	High pressure circuit sealing test	This activation allows the high pressure circuit sealing to be checked after an operation has been carried out (Engine running vehicle stopped).

DIESEL INJECTION

Fault finding – Command summary table

13B

Tool command	Diagnostic tool title	Comments
AC153*	High-speed fan assembly	This command enables the high-speed fan assembly to be controlled. In the event of a fault, consult the interpretation of fault DF019 High speed fan assembly control circuit . Except Vdiag48 and 4C.
AC154*	Low-speed fan assembly	This command enables the low-speed fan assembly to be controlled. In the event of a fault, consult the interpretation of fault DF018 Low speed fan assembly control circuit . Except Vdiag48 and 4C.
AC180*	Air conditioning compressor relay control	This activation allows the air conditioning compressor clutch relay to be controlled. In the event of a fault, refer to the interpretation of DF489 Air conditioning compressor control .
AC212	New pump chamber filling	Activates New pump chamber filling next time the vehicle is started.
AC250	Heating resistor 1 relay	This activation enables the heating resistor 1 relay to be controlled. If there is a fault, refer to the interpretation of fault DF032 Thermoplunger 1 relay control circuit . Only for Vdiag 50.
AC251	Heating resistor 2 relay	This activation enables the heating resistor 2 relay to be controlled. If there is a fault, refer to the interpretation of fault DF033 Thermoplunger 2 relay control circuit . Only for Vdiag 50.

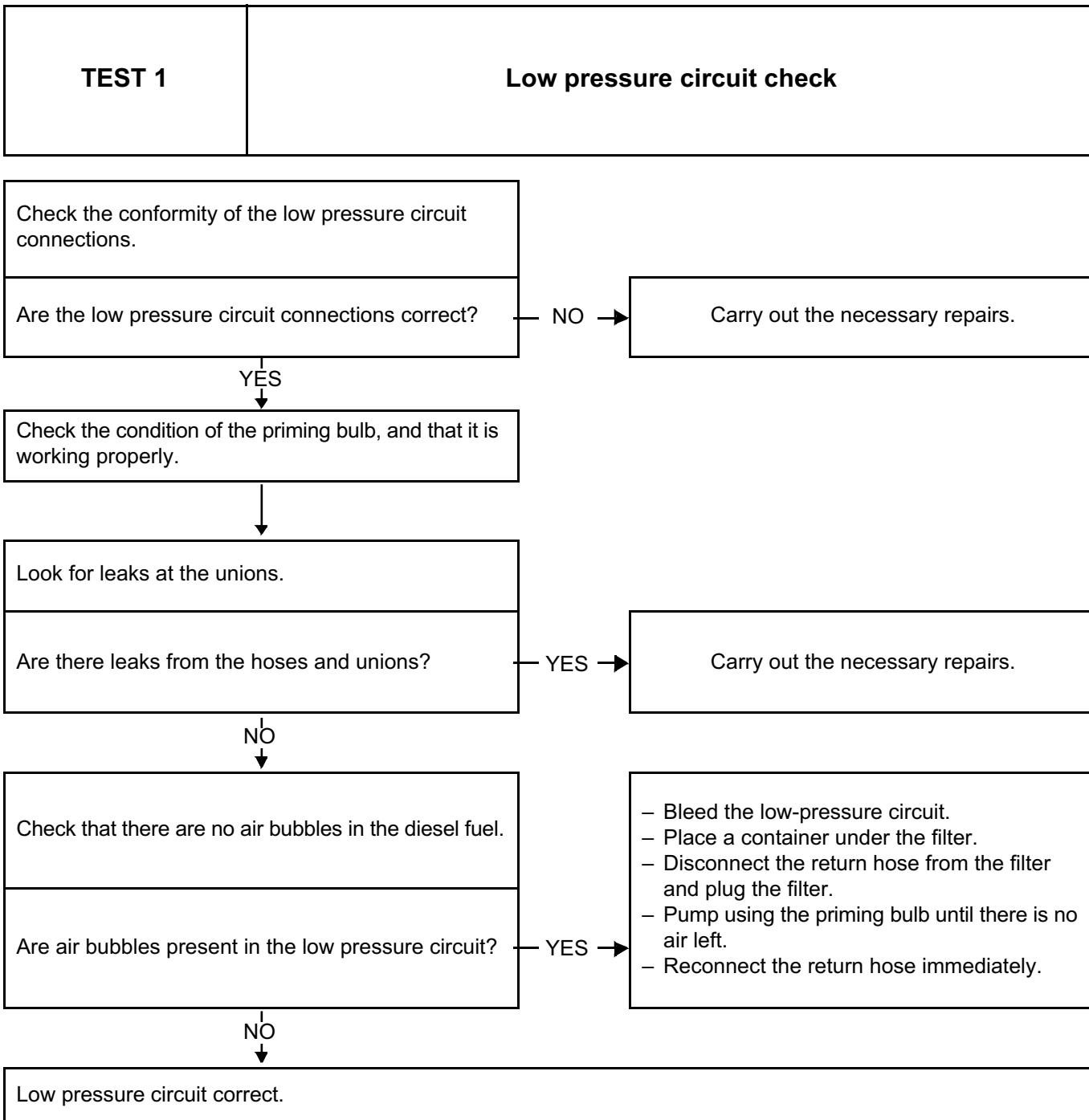
SC001	Write saved data	Use this command after replacing or (re)programming the computer (if the data has been saved using command SC003).
SC002	Enter injector codes	This command enables you to manually write the calibration code marked on the injectors. Run this command after replacing the injectors.
SC003	Save computer data	This command enables the computer operating data and the engine adaptives to be recorded.
SC040	Speed limiter	This command enables the vehicle speed restriction to be modified. Run this command after replacing or (re)programming. This command applies only on Kangoo 2
SC041	Changing commercial vehicle idle speed	This command enables the idle speed to be modified. Run this command after replacing or (re)programming. This command applies only on Kangoo 2

NOTES

Only consult these tests when dealing with a fault finding chart (ALP) or when interpreting faults.

Some specific checks are grouped together into tests and are used as required in various fault finding charts (ALPs) or fault interpretations.

Low pressure circuit check	→	TEST 1
Electrical circuit check	→	TEST 2
Injector check	→	TEST 3
Inlet circuit check	→	TEST 5
High pressure system check	→	TEST 6
High pressure circuit sealing check	→	TEST 7
Injector return flow	→	TEST 8
Diesel filter check	→	TEST 9
Turbocharger solenoid valve check	→	TEST 10
Air line at the turbocharger	→	TEST 11
Turbocharger	→	TEST 12
Diesel fuel conformity check	→	TEST 13
Accelerator pedal check	→	TEST 14



TEST 2

Electrical circuit check

Check the battery charge and that the alternator is operating correctly (see **87B, Passenger compartment connection unit** for the New Twingo or see **87G, Engine compartment connection unit** for Clio III, Modus, Mégane II, Scénic II and Kangoo 2).

Is the charging circuit in good order?

NO

Carry out the necessary repairs.

YES

Check the fuses.

Are the fuses correct?

NO

Carry out the necessary repairs.

YES

Check that the injection locking relay is operating correctly.

Is the injection locking relay working properly?

NO

Carry out the necessary repairs.

YES

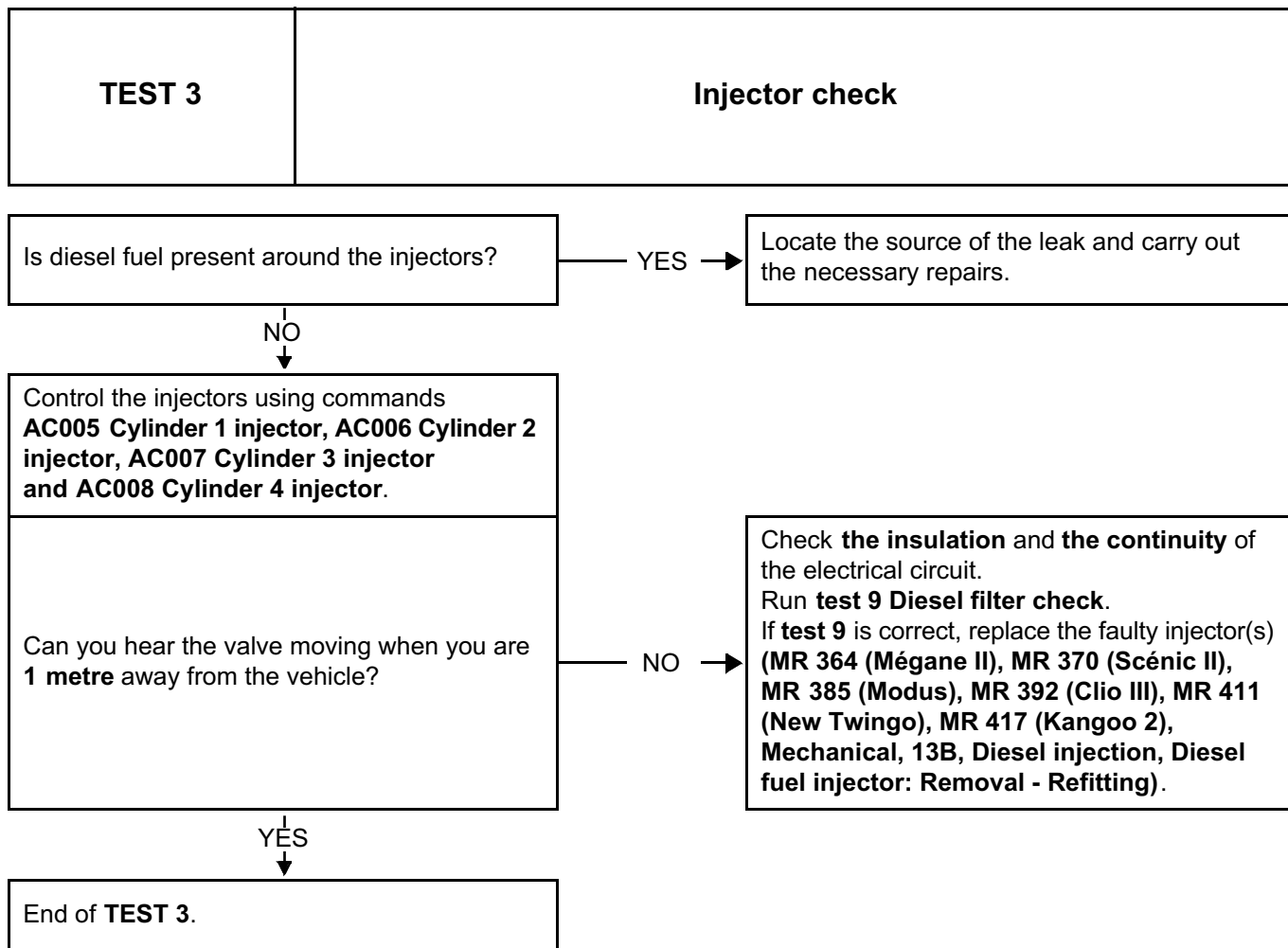
Check the engine earths.

Are the engine earths correct?

NO

Carry out the necessary repairs.

The electrical circuit is in good order.



TEST 5

Inlet circuit check

Check for air leaking in or out.

Is air leaking in or out?

YES →

Carry out the necessary repairs.

NO
↓

Check the condition of the air filter.

Is the air filter correct?

NO →

Replace the air filter (see **MR 364 (Mégane II)**, **MR 370 (Scénic II)**, **MR 385 (Modus)**, **MR 392 (Clio III)**, **MR 411 (New Twingo)**, **MR 417 (Kangoo 2)**, **Mechanical, 12A, Fuel mixture, Air filter: Removal - Refitting**).

YES
↓

Check that the inlet manifold is not obstructed (clogged).

Is the inlet manifold blocked?

YES →

Clean the inlet manifold.

NO
↓

Air system in good order.

TEST 6	High pressure system check
---------------	-----------------------------------

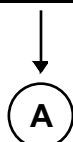
NOTES	<p>Special note: Certain faults make it impossible to carry out this test - deal with these first.</p> <p>WARNING Running the starter motor for more than 5 seconds is dangerous and serves no useful purpose.</p>
--------------	--

Preliminary checks:

- Check for the presence of fuel
- Check that there is no air in the low pressure circuit. Run **TEST 1 Low pressure circuit check**.
- Ensure that the correct fuel is being used. Run **test 13 Diesel fuel conformity check**.

The pump's capacity to produce high pressure can be checked by the following procedure:

- **With the ignition off, disconnect** the low pressure actuator from the pump (**IMV brown connector**) and connect a **test IMV** or the adapter of **MOT. 1711**.
- Electrically disconnect the four injectors.
- Switch on the ignition, connect the diagnostic tool and re-establish dialogue with the injection system.
- Go to the **Main computer statuses and parameters** screen.
- Run the test cold, **PR064 "Coolant temperature" < 30°C** or equal to ambient temperature.
- Engage **the starter for 5 seconds**.
- Read the maximum rail pressure value **PR038 Rail pressure** during the test on the diagnostic tool.



TEST 6 CONTINUED



PR038 > 1050 bar?

NO
↓

- Switch off the ignition, reconnect the electrical connections to the four injectors and the low-pressure actuator.
 - Switch on the ignition again, and clear the injection faults using the **diagnostic tool**.
 - Check if there is no fuel leak in the high pressure circuit. Run **TEST 7 High pressure circuit sealing check**.
 - Check the conformity of the diesel filter. Run **TEST 9 Diesel filter check**.
 - Carry out fault finding on the injectors by checking the return flow volume of the four injectors, run **TEST 8 Injector return flow**.
- Is **TEST 8** OK?

NO
↓

Replace the faulty injector(s) (see **MR 364 (Mégane II)**, **MR 370 (Scénic II)**, **MR 385 (Modus)**, **MR 392 (Clio III)**, **MR 411 (New Twingo)**, **MR 417 (Kangoo 2)**, **Mechanical, 13B, Diesel injection, Diesel fuel injector: Removal - Refitting**).

YES
↓

- The pump can supply the operating pressure. Switch off the ignition, reconnect the electrical connections to the four injectors and the low pressure actuator. Switch on the ignition again, and clear the injection faults using the **diagnostic tool**.
- Check if there is no fuel leak in the high pressure circuit. Run **TEST 7 "High pressure circuit sealing check"**.
 - Carry out fault finding on the injectors by checking the return flow volume of the four injectors, run **TEST 8 Injector return flow**. If **TEST 8** is correct, the high pressure fuel circuit is correct.

YES
↓

Replace the high pressure pump (see **MR 364 (Mégane II)**, **MR 370 (Scénic II)**, **MR 385 (Modus)**, **MR 392 (Clio III)**, **MR 411 (New Twingo)**, **MR 417 (Kangoo 2)**, **Mechanical, 13B, Diesel injection, High pressure pump: Removal - Refitting**).

IMV = fuel flow actuator

TEST 7	High pressure circuit sealing check
---------------	--

NOTES	Special note: Certain faults make it impossible to carry out this test - deal with these first.
--------------	---

The command AC029 High pressure circuit sealing test enables a high pressure circuit sealing test to be carried out when the engine is running.

This command can locate a leak in the high pressure circuit if a union is incorrectly fitted or screwed on. This test does not identify a minor leak due to a union not being tightened to torque.

This command can only be used if the engine temperature is **above 60°C**.

Watch out for any objects (tools or others) on the sides of the engine housing during the 4 accelerations (possible vibrations).

Use command **AC029 High-pressure circuit sealing test**; the engine will automatically carry out a cycle of four accelerations to increase the rail pressure and check for leaks in the high pressure circuit.

TEST 8

Injector return flow

NOTES

Special note:

Certain faults make it impossible to carry out this test - deal with these first.

Does the engine start?

NO

A

YES
↓

Command AC029 High pressure circuit sealing also checks the return volume of each injector to detect any leaks inside the injectors.

Be careful with any objects (tool or other) on the engine housing during the four cycles of the operation (possible vibrations).

Tooling required

– **Mot. 1711 Injector flow measuring kit.**

Or: Use four tubes of internal diameter **4 mm** and approximately **50 cm** long, and four graduated measuring cylinders.

Procedure

- Check that the engine coolant temperature is **above 60°C**,
- switch off the ignition,
- disconnect the return pipes from the four injectors,
- cap the pump venturi tube to prevent the low-pressure circuit from depriming,
- connect the four transparent tubes in place of the return pipes,
- put the other ends of the four pipes into four graduated measuring cylinders.

When all the preparations are complete, start the engine and leave it running:

30 seconds

for **Euro 4** engines: **K9K 766 - 768** (Clio III and Modus); **K9K 724** (Mégane II and Scénic II); **K9K 740 - 718** (New Twingo); **K9K 800 - 802 - 812** (Kangoo 2).

Let it idle for **2 minutes**

for **Euro 3** type engines: **K9K 750 - 752** (Clio III and Modus).

Note:

These time periods must be respected for the test results to be interpreted correctly.

– **Run command AC029 High pressure circuit sealing check.**

The engine will carry out automatically a cycle of four accelerations to increase the rail pressure and measure internal injector leaks under these conditions.

– **When the cycle has finished, run command AC029 High pressure circuit sealing test a second time to obtain the correct return volume reading for each injector.**

– **Switch off the engine at the end of the cycle.**

TEST 8 CONTINUED 1

At the end of the idling phase and these two cycles, the return volume of each injector must be:

45 ml (maximum)	for Euro 4 type engines: K9K 766 - 768 (Clio III and Modus); K9K 724 (Mégane II and Scénic II) K9K 740 - 718 (New Twingo); K9K 800 - 802 - 812 (Kangoo 2).
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35 ml maximum	for Euro 3 type engines: K9K 750 - 752 (Clio III and Modus),
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If the back-leakage volume of any of the injectors is more than the values above, only replace the faulty injector (see **MR 364 (Mégane II)**, **MR 370 (Scénic II)**, **MR 385 (Modus)**, **MR 392 (Clio III)**, **MR 411 (New Twingo)**, **MR 417 (Kangoo 2)**, **Mechanical, 13B, Diesel injection, Diesel fuel injector: Removal - Refitting**).

Disconnect the 4 transparent pipes and reconnect the injector return circuit.

Carry out the following test to confirm the repair:

- With the ignition off, disconnect the low pressure actuator from the pump (**brown IMV connector**) and connect the test adapter (**test IMV, Mot. 1711**),
- electrically disconnect the 4 injectors,
- switch on the ignition, connect the **diagnostic tool** and re-establish dialogue with the injection system,
- go to the **Main computer statuses and parameters** screen,
- run the starter for **5 seconds**,
- read the maximum rail pressure value **PR038 Rail pressure** during the test on the diagnostic tool.

If the rail pressure (PR038 Rail pressure) is lower than 1050 bar, run test 6: High pressure system check.

- **Switch off the ignition, and reconnect the four injectors electrically,**
- disconnect the test filling actuator (test IMV) and reconnect the low-pressure actuator connector (IMV) to the pump,
- switch on the ignition again, and clear the injection faults using the **diagnostic tool**.

If the rail pressure (PR038) is greater than 1050 bar, the repair is correct.

End of **TEST8**.

**TEST 8
CONTINUED 2**



If the engine does not start, only the static leakage can be measured, i.e. the leakage with the injector closed, not actuated and under high pressure.

Make sure that the ignition circuit is working correctly (minimum engine speed **200 rpm**).

Tooling required

– **Mot. 1711 Injector flow measuring kit.**

Or: Use four tubes of internal diameter 4 mm and approximately **50 cm long** and a test adapter (**TEST IMV**).

Procedure

- **Switch off the ignition,**
- disconnect the return pipes from the four injectors,
- cap the pump venturi tube to prevent the low-pressure circuit from depriming,
- connect the four transparent pipes in place of the return pipes (**Mot. 1711**),
- disconnect the low pressure actuator from the pump (**brown IMV connector**) and connect a test IMV or the **Mot. 1711** adapter,
- **disconnect the four injectors electrically,**
- switch on the ignition and engage **the starter for 5 seconds**,
- measure the amount of diesel fuel in each pipe.

If the return leakage is greater than 10 cm, replace the injector(s) (see MR 364 (Mégane II), MR 370 (Scénic II), MR 385 (Modus), MR 392 (Clio III), MR 411 (New Twingo), MR 417 (Kangoo 2), Mechanical, 13B, Diesel injection, Diesel fuel injector: Removal - Refitting).

Switch off the ignition, and reconnect the four injectors electrically.

Disconnect the test low pressure actuator and reconnect the low pressure actuator connector to the pump. Disconnect the four transparent tubes and reconnect the injectors return circuit. Switch on the ignition again, and clear the injection faults using the diagnostic tool.

Carry out the following test to confirm the repair:

- **With the ignition off, disconnect** the low pressure actuator from the pump (**brown IMV connector**) and connect the test adapter (**test IMV, Mot. 1711**),
- disconnect the four injectors electrically,
- switch on the ignition, connect the **diagnostic tool** and re-establish dialogue with the injection system,
- go to the **Main computer statuses and parameters** screen,
- run the starter for **5 seconds**,
- read the maximum rail pressure value **PR038 Rail pressure** during the test on the **diagnostic tool**.

If the rail pressure (PR038 Rail pressure) is lower than 1050 bar, run test 6: High pressure system check.

- **Switch off the ignition, and reconnect the four injectors electrically,**
- disconnect the test IMV and reconnect the low-pressure actuator connector to the pump,
- switch on the ignition again, and clear the injection faults using the **diagnostic tool**.

End of **TEST 8**.

TEST 9

Diesel filter check

Check the conformity of the diesel filter.

Is the diesel filter in order?

NO

Replace the air filter with an original part (see MR 364 (Mégane II), MR 370 (Scénic II), MR 385 (Modus), MR 392 (Clio III), MR 411 (New Twingo), MR 417 (Kangoo 2), Mechanical, 13A, Fuel mixture, Air filter: Removal - Refitting).

YES

- Switch off the ignition and analyse the diesel fuel in the diesel filter.
- Disconnect the diesel supply and return hoses from the filter.
- Block the filter inlets and outlets straight away with appropriate plugs.
- Remove the filter from its holder and shake it firmly while holding the caps in place. Tap the edge of the filter with a screwdriver handle to detach any contamination. Empty the contents of the filter into a glass container by lifting a protective plug, then loosening and completely removing the bleed screw.

Are black particles present on the bottom of the container?

YES

Pass a magnet beneath the container to collect all the metal particles. Take the magnet away from the container.

Do the particles collected using the magnet cover a surface area greater than 1 cm²?

YES

Replace the entire injection system.

NO

Diesel filter in good order.

NO

Diesel filter in good order.

TEST 10

Turbocharger solenoid valve check

Note:

No turbocharger control solenoid valve present on the K9K 740 engine for New Twingo and the K9K 800 engine for Kangoo 2.

Checking the vacuum at the pressure regulator inlet

Run the engine at idle speed.

Check the engine temperature using the CLIP parameter **PR064 Coolant temperature**.

Let the engine warm up until the temperature reaches **80°C**.

Disconnect the vacuum pipe from the end piece of the pressure regulator.

Connect a vacuum pressure gauge **to the end of the disconnected pipe** and put it in the **vacuum measurement** position.

Perform a quick acceleration by depressing the accelerator pedal completely and then releasing it immediately.

The total duration of pressing and holding in the full load position must not exceed **1 second**.

During this acceleration, the engine speed must reach a value between **3000 and 4000 rpm**.

Repeat the operation 3 times.

Read the maximum vacuum posted by the pressure gauge during the increase and decrease in the speed and after the return to idle speed.

Tolerance intervals for the vacuum are:

– **1 bar < CORRECT vacuum value < - 0.6 bar**

– **0.6 bar < INCORRECT vacuum value < 0 bar**

Is the vacuum at the turbocharging pressure regulator inlet displayed on the vacuum gauge within the tolerance interval?

NO



YES

The solenoid valve is in order.

TEST 10
CONTINUED 1

A

Reconnect the vacuum pipe on the turbocharging pressure regulator

Checking the vacuum at the solenoid valve outlet

Leave the engine running at idle speed.

Disconnect the vacuum pipe from the end piece of the solenoid valve outlet.

This pipe connects the solenoid valve to the turbocharging pressure regulator.

Connect a vacuum pressure gauge to the solenoid valve outlet and put it in the **vacuum measurement** position.

Perform a quick acceleration by depressing the accelerator pedal completely and then releasing it immediately.

The total duration of pressing and holding in the full load position must not exceed **1 second**.

During this acceleration, the engine speed must reach a value between **3000 and 4000 rpm**.

Repeat the operation 3 times.

Read the maximum vacuum posted by the pressure gauge during the increase and decrease in the speed and after the return to idle speed.

Tolerance intervals for the vacuum are:

- **1 bar** < CORRECT vacuum value < - **0.6 bar**
- **0.6 bar** < INCORRECT vacuum value < **0 bar**

Is the vacuum displayed by the pressure gauge at the solenoid valve outlet within the tolerance interval?

NO

Reconnect the vacuum pipe on
the turbocharging pressure regulator

B

YES

Replace the vacuum pipe between the solenoid valve
and the turbocharging pressure regulator (see
Mechanical MR of the vehicle, 12B turbocharging).

TEST 10
CONTINUED 2

B

Visual inspection of the electrical connector of the solenoid valve

Switch off the engine.

Note:

The requested checks are only visual.

1. Check that the connector is correctly connected and locked.
2. Check the absence of damage to the electric wires where they leave the insulation.
Disconnect the connector to continue the checks.
3. Check the absence of thermal damage to the unit and mechanical damage to the lock.
4. Check the absence of deformations of the contacts (clips and tabs).
5. Check the sealing of the connector.

Do the visual inspections show any damage?

NO

C

YES

Refer to **Technical Note 6015A, Repairing electrical wiring.**

A

TEST 10
CONTINUED 3

C

Checking the vacuum at the solenoid valve inlet

Run the engine at idle speed.

Disconnect the vacuum pipe from the end piece of the solenoid valve inlet.
This pipe connects the vacuum pump to the turbocharger solenoid valve.

Connect a vacuum pressure gauge **to the end of the disconnected pipe** and put it in the **vacuum measurement** position.

Read the vacuum posted by the pressure gauge.

Tolerance intervals for the vacuum are:

- **1 bar** < CORRECT vacuum value < **-0.85 bar**
- **0.85 bar** < INCORRECT vacuum value < **0 bar**

Is the vacuum displayed by the pressure gauge at the solenoid valve inlet within the tolerance interval?

NO

YES

Carry out the following operations.

- reconnect the vacuum pipe to the turbocharger solenoid valve.
- Check the conformity of the vacuum pipe connections.
- visually check the condition of the vacuum pipes leaving the vacuum pump to the different supplied components.

Refer to the repair manual (see **Mechanical MR of the vehicle, 12B turbocharging**).

Replace the solenoid valve
(see **Mechanical MR of the corresponding vehicle 12B turbocharging**).

TEST 11

Air line at the turbocharger

Check that the air filter is present.
Check the replacement interval of the air filter on the maintenance booklet.
Compare the part nos. of the fitted air filter on the vehicle and of the air filter recommended by the manufacturer.
Check the direction of fitting of the air filter.

Is the air filter correctly fitted on the vehicle?

YES

NO

Check the condition of the air filter

Visually inspect the condition of the filtering section of the air filter.

Is the air filter or its seal damaged?

Is the air filter fouled (does it contain a lot of impurities)?

YES →

Replace the air filter (see **MR 364 (Mégane II), 370 (Scénic II), 392 (Clio III), 385 (Modus), 411 (New Twingo) or 417 (Kangoo II) Mechanical, 12A, Fuel mixture, Air filter, Removal - Refitting).**

NO

Low pressure circuit check

Note:

Depending on the vehicle type, the best visual access will be either from above or from below.

Visually inspect the condition of the following components:

- fresh air inlet scoop on the front panel of the vehicle,
- air inlet pipe to the air filter,
- air pipe of the filter up to the compressor inlet,
- air flowmeter mountings.

Is one of these components incorrect (pipes dislodged, torn, bent, pierced or kinked)?

YES →

Replace the faulty parts (see **MR 364 (Mégane II), 370 (Scénic II) 392 (Clio III), 385 (Modus), 411 (New Twingo) or 417 (Kangoo II), Mechanical, 12B, Turbocharging).**

NO



**TEST 11
CONTINUED**

A

High pressure circuit check

Note:

Depending on the vehicle type, the best visual access will be either from above or from below.

Visually inspect the condition of the following components:

- compressor outlet pipe to the turbocharging air cooler (on some engines, the turbocharging air cooler does not exist),
- outlet pipe of the turbocharging air cooler to the inlet manifold,
- inlet manifold,
- pressure and temperature sensors.

Is one of these components incorrect (pipes dislodged, torn, bent, pierced or kinked)?

YES →

Replace the faulty parts (see **MR 364** (Mégane II), 370 (Scénic II), 392 (Clio III), 385 (Modus), 411 (New Twingo) or 417 (Kangoo II), Mechanical, 12B Turbocharging).

NO

Exhaust circuit check

Visually inspect the condition of the following engine sections:

- from the exhaust manifold circuit to the turbocharger turbine,
- from the turbine outlet pipe to the end of the exhaust pipe,
- from the inlet manifold to the EGR valve,
- pressure and temperature sensors connected.

Do certain of these components have blackish or whitish traces?

YES →

NO

Run **test 10 Turbocharger solenoid valve check**.

TEST 12

Turbocharger

IMPORTANT

Perform these checks without removing the turbocharger and with the vehicle ignition switched off.

Checking the turbocharger shaft

WARNING

Observe the following safety precautions:

- wear high temperature protective gloves when the engine is hot,
- do not wear oversize or baggy clothing or hanging jewellery,
- watch out for possible triggering of the motor-driven cooling fan unit and the operation of the accessories belt or belts.

Note:

The turbocharger shaft is the shaft that connects the compressor wheel and the turbine wheel.

Depending on the vehicle type, the best visual access will be either from above or from below.

Disconnect the air pipe located between the turbocharger and the air filter.

Wearing gloves, check the operation of the turbocharger shaft by turning the vanes manually without forcing.

Does the shaft have a kickdown point in rotation?

Does the compressor wheel touch the casing of the turbocharger?

If for these 2
questions the
response is **NO**

If **YES** for one of these 2 questions

Replace the turbocharger (see **MR 364 (Mégane II)**, **370 (Scénic II)** **392 (Clio III)**, **385 (Modus)**, **411 (New Twingo)** or **417 (Kangoo II)**, **Mechanical, 12B, Turbocharging, Turbocharger: Removal - Refitting and Technical Note 3938A, Broken turbocharger: Replacement instructions**).

A

TEST 12 CONTINUED 1

A

Checking the condition of the turbocharger vanes.

Note:

This check is facilitated by using a mirror and a bulb.

Depending on the vehicle type, the best visual access will be either from above or from below.

Visually check that the compressor vanes are in good condition.

Are the vanes damaged or twisted?

YES

NO

Replace the turbocharger (see **MR 364 (Mégane II)**, **370 (Scénic II)**, **392 (Clio III)**, **385 (Modus)**, **411 (New Twingo)** or **417 (Kangoo II)**, Mechanical, 12B turbocharging, Turbocharger: Removal - Refitting and Technical Note 3938A, Broken turbocharger: Replacement instructions).

Which type of turbocharger is it?

Variable geometry
turbocharger

Fixed geometry
turbocharger

B

C

TEST 12
CONTINUED 2

B

Checking the turbocharging pressure regulator to determine if it is a variable geometry turbocharger

Note:

The pressure regulator rod of a variable geometry turbocharger is orthogonal to the turbocharger shaft.

Variable geometry turbochargers are controlled by a solenoid valve.

Depending on the vehicle type, the best visual access will be either from above or from below.

Note:

If necessary, according to the vehicle type and the accessibility of the pressure regulator, connect the vacuum pump to the end of the pressure regulator pipe at the solenoid valve outlet.

Using a **manual vacuum pump**, apply a vacuum on the turbocharging pressure regulator of approximately **650 mbar**.

1. Check that the fitting is completely leaktight.
2. Check that the control rod **is resting against its stop**.
3. Lock the **vacuum device** and check that the pressure variation is not greater than **100 mbar in 10 seconds**.
4. Release the pressure and check that the control rod comes back to its initial position without jerking.

Repeat the complete sequence 3 times.

Is the pressure regulator leaktight and is the rod movement correct?

YES
↓

The turbocharger is correct.
End of procedure.

NO
↓

Replace the turbocharger (see **MR 364 (Mégane II)**, **370 (Scénic II)**, **392 (Clio III)**, **385 (Modus)**, **411 (New Twingo)** or **417 (Kangoo II)**, **Mechanical, 12B turbocharging, Turbocharger: Removal - Refitting and Technical Note 3938A**, **Broken turbocharger: Replacement instructions**).

TEST 12
CONTINUED 3

C

Checking the turbocharging pressure regulator to determine if it is a fixed geometry turbocharger

Note:

The pressure regulator rod of a fixed geometry turbocharger is aligned with the turbocharger shaft.

Fixed geometry turbochargers are controlled by a solenoid valve.

Depending on the vehicle type, the best visual access will be either from above or from below.

Note:

If necessary, according to the vehicle type and the accessibility of the pressure regulator, connect the vacuum pump to the end of the pressure regulator pipe at the solenoid valve outlet.

Using a **manual vacuum pump**, apply a vacuum on the turbocharging pressure regulator of approximately **650 mbar**.

1. Check that the fitting is completely leaktight.
2. Check that the control rod **moved several millimetres**.
3. Lock the **vacuum device** and check that the pressure variation is not greater than **100 mbar in 10 seconds**.
4. Release the pressure and check that the control rod comes back to its initial position without jerking.

Repeat the complete sequence 3 times.

Is the pressure regulator leaktight and is the rod movement correct?

YES

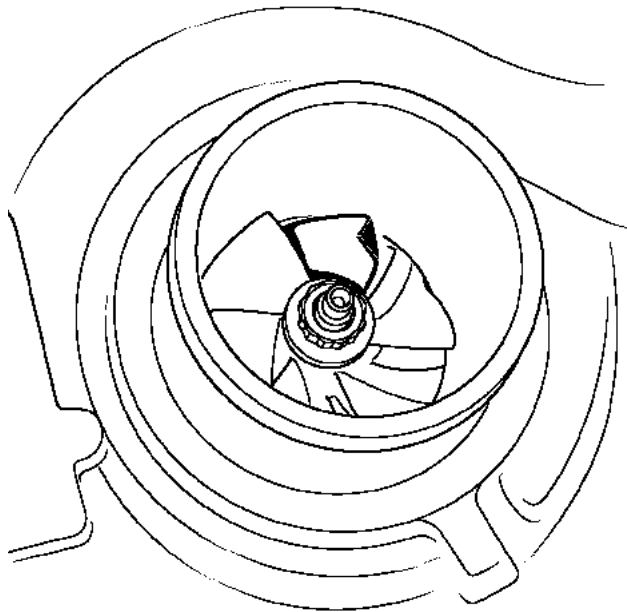
The turbocharger is correct.
End of procedure.

NO

Replace the turbocharger (see **MR 364 (Mégane II)**, **370 (Scénic II)**, **392 (Clio III)**, **385 (Modus)**, **411 (New Twingo)** or **417 (Kangoo II)**, **Mechanical, 12B turbocharging, Turbocharger: Removal - Refitting and Technical Note 3938A**, **Broken turbocharger: Replacement instructions**).

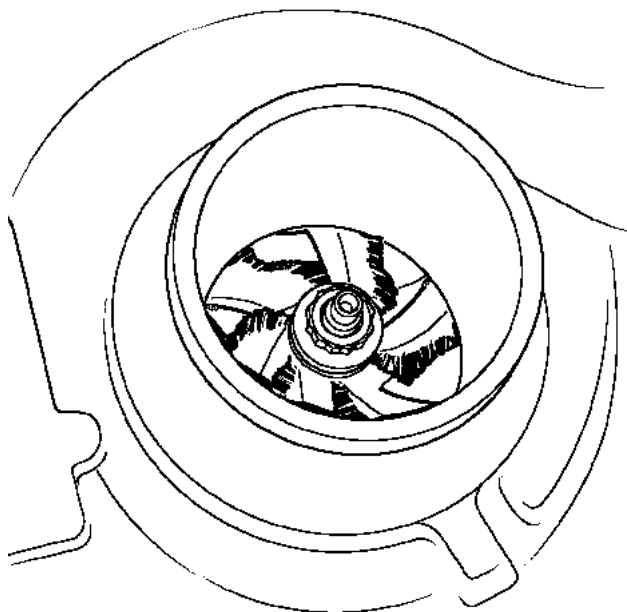
**TEST 12
CONTINUED 4**

Deformed, twisted blade ("soft" foreign body)



110737

Broken blades ("hard" foreign body)



110738

End of TEST 12

TEST 13

Diesel fuel conformity check

WARNING

During this operation, it is essential to:

- refrain from smoking or bringing incandescent objects close to the work area,
- protect yourself against fuel splashes due to residual pressure in the pipes,
- wear safety goggles with side guards,
- wear leaktight gloves (Nitrile type).

IMPORTANT

- To avoid any corrosion or damage, protect the areas on which fuel is likely to run.
- To prevent impurities from entering the circuit, place protective plugs on all fuel circuit components exposed to the open air.

Preparations:

Weigh an empty **1300 ml** plastic cup (**part no. 77 11 171 413**) with its cover (**part no. 77 11 171 416**) using an electronic scale similar to those used in body paint workshops (for example: **PANDA part no. 77 11 224 995**).

Record the weight of the empty cup.

This type of plastic cup is used to prepare paint.

Take a **1 l** fuel sample from the **diesel fuel filter outlet** (see **MR 364 (Mégane II)** or **MR 370 (Scénic II)**, **MR 385 (Modus)**, **MR 392 (Clio III)**, **MR 411 (New Twingo)**, **MR 417 (Kangoo 2)**, **Mechanical, 19C, Tank, Fuel tank draining**), using a pneumatic transfer pump (**part no. 634-200**) and place it in the **1300 ml** plastic cup. Cover the plastic cup with its cover and let it settle for approximately **2 minutes**.

Is the fuel cloudy or does it
separate into two parts?

– YES ➔

The diesel fuel contains water and is not compliant.
Drain the fuel circuit, including the tank (see **MR 364 (Mégane II)** or **MR 370 (Scénic II)**, **MR 385 (Modus)**, **MR 392 (Clio III)**, **MR 411 (New Twingo)**, **MR 417 (Kangoo 2)**, **Mechanical, 19C, Tank, Fuel tank drain**).

NO



TEST 13 CONTINUED 1

A

Weigh the diesel fuel and note the fuel weight after subtracting the weight of the empty plastic cup and its cover. Does the fuel weight fall between the minimum and maximum weights given in the table below?

Calculated weight (g.)		Fuel temperature (°C)
Min. weight	Max. weight	
821	846	13
821	846	14
820	845	15
819	844	16
819	844	17
818	843	18
817	842	19
816	841	20
816	841	21
815	840	22
814	839	23
814	839	24
813	838	25

Check the fuel temperature by immersing a thermometer in the plastic cup.

YES

End of test.

NO

The fuel is not correct.
If the fuel weight is less than the minimum value then there is petrol in the diesel fuel.
If the fuel weight is greater than the maximum value then there is oil in the diesel fuel.
Drain the fuel circuit, including the tank (see **MR 364 (Mégane II)** or **MR 370 (Scénic II)**, **MR 385 (Modus)**, **MR 392 (Clio III)**, **MR 411 (New Twingo)**, **MR 417 (Kangoo 2)**, **Mechanical, 19C, Tank, Fuel tank drain**).

TEST 13
CONTINUED 2

Note:

If the weight measured hits the upper and lower limits, the measurement can be performed with a **2230 ml** plastic cup (**part no. 77 11 171 414**) and its cover (**part no. 77 11 171 417**):

- Carry out a quick test drive in order to mix the fuel, then remove 2 l of fuel.
- Perform the test again and check the results by multiplying the limit values by 2.

Contact the Techline if you have doubts or problems with the customer.

TEST 14

Accelerator pedal check

Can the accelerator pedal be fully depressed and does it return fully?

NO →

Check that there are no obstructions between the floor and the accelerator pedal, and check that the latter has no points of resistance.

YES ↓

Vehicle under + after ignition feed.
Measure the voltage between connections 3LR and 3LT of component 921.

Expected result:
 $4.75\text{ V} < X < 5.25\text{ V}$

NO →

Check the continuity and insulation of connections 3LR and 3LT between components 921 and 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.

YES ↓

Vehicle under + after ignition feed.
Fully depress the accelerator pedal and measure the voltage between connections 3LS and 3LT of component 921.

Expected result:
 $3.94 < X < 4.56\text{ V}$

NO →

Check the continuity and insulation of connection 3LS between components 921 and 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.
If these checks are correct, replace the accelerator pedal sensor (see **MR 392 (Clio III), MR 364 (Mégane II), MR 370 (Scénic II), MR 417 (Kangoo 2), Mechanical, 37A, Mechanical component controls, Accelerator pedal: Removal – Refitting**) or (see **MR 385 (Modus), MR 411 (New Twingo), Mechanical, 37A, Mechanical component controls, Accelerator brake pedal assembly: Removal – Refitting**).

YES ↓

Vehicle under + after ignition feed.
Accelerator pedal in no load position, measure the voltage between connections 3LS and 3LT of component 921.

Expected result:
 $0.66\text{ V} < X < 0.84\text{ V}$

NO →

Replace the accelerator pedal sensor (see **MR 392 (Clio III), MR 364 (Mégane II), MR 370 (Scénic II), MR 417 (Kangoo 2), Mechanical, 37A, Mechanical component controls, Accelerator pedal: Removal – Refitting**) or (see **MR 385 (Modus), MR 411 (New Twingo), Mechanical, 37A, Mechanical component controls, Accelerator brake pedal assembly: Removal – Refitting**).

YES ↓

A

TEST 14 CONTINUED

A

Vehicle under + after ignition feed.
Measure the voltage between
connections **3LU** and **3LV** of
component **921**.

Expected result:
4.75 V < X < 5.25 V

NO →

Check the continuity and insulation of connections **3LU** and **3LV** between components **921** and **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.

YES

Vehicle under + after ignition feed. Fully
depress the accelerator pedal
and measure the voltage between
connections **3LW** and **3LV** of
component **921**.

Expected result:
2.16 < X < 2.38 V

NO →

Check the continuity and insulation of connection **3LW** between components **921** and **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.
If these checks are correct, replace the accelerator pedal sensor (see **MR 392 (Clio III), MR 364 (Mégane II), MR 370 (Scénic II), MR 417 (Kangoo 2), Mechanical, 37A, Mechanical component controls, Accelerator pedal: Removal – Refitting**) or (see **MR 385 (Modus), MR 411 (New Twingo), Mechanical, 37A, Mechanical component controls, Accelerator brake pedal assembly: Removal – Refitting**).

YES

Vehicle under + after ignition feed.
Accelerator pedal in no load position,
measure the voltage between
connections **3LW** and **3LV** of
component **921**.

Expected result:
0.32 < X < 0.42 V

NO →

Replace the accelerator pedal sensor (see **MR 392 (Clio III), MR 364 (Mégane II), MR 370 (Scénic II), MR 417 (Kangoo 2), Mechanical, 37A, Mechanical component controls, Accelerator pedal: Removal – Refitting**) or (see **MR 385 (Modus), MR 411 (New Twingo), Mechanical, 37A, Mechanical component controls, Accelerator brake pedal assembly: Removal – Refitting**).

YES

Contact the Techline

DIESEL INJECTION

Fault finding – Customer complaints

13B

NOTES

Special note:

Only consult this customer complaint after a full check with the **diagnostic tool**.

No dialogue with the computer

ALP1

Starting fault:

The engine will not start

ALP2

The engine starts with difficulty, or starts then stalls

ALP3

Starting difficult with warm engine

ALP4

Rough idle (pumping)

ALP5

Idling speed too high or too low

ALP6

Behaviour while driving:

Erratic acceleration/deceleration and engine racing

ALP7

Acceleration gap

ALP8

Engine cut-out (stalling)

ALP9

Engine bucking

ALP10

Loss of power

ALP11

Too much power

ALP12

Excessive consumption

ALP13

Overspeed when releasing accelerator or changing gear

ALP14

Engine dies on pulling away

ALP15

Noise, odours or smoke:

Knocking engine, noisy engine, noise from the turbocharger

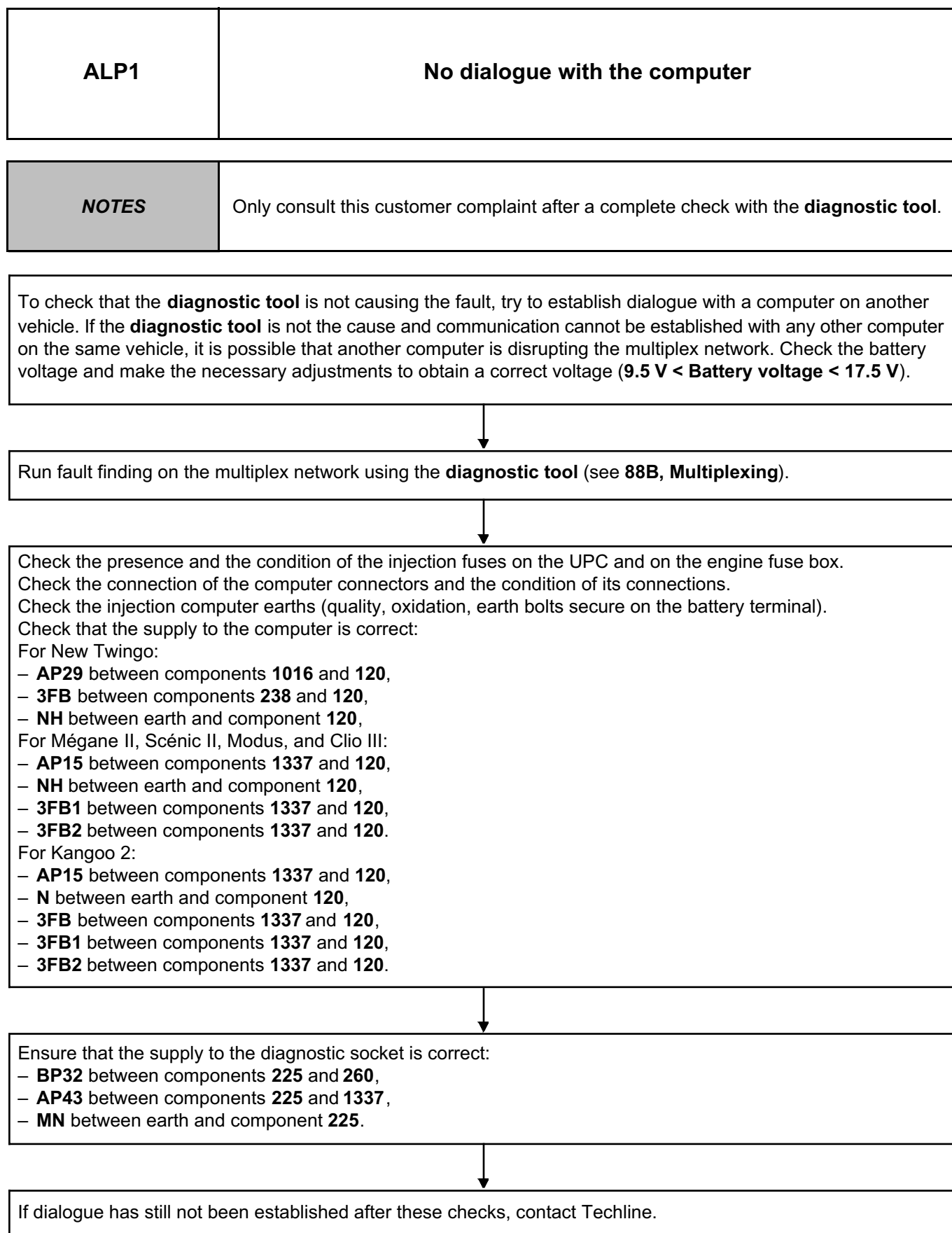
ALP16

Blue, white or black smoke

ALP17

Oil leaks from the turbocharger

ALP18



ALP2

The engine will not start

NOTES

Only consult this customer complaint after a complete check with the **diagnostic tool**.

Check that the fuel tank is correctly filled and that the fuel is correct: run **TEST 13 Diesel fuel conformity check**.

Check the levels of engine oil and coolant.

Check the air inlet circuit: run **TEST 5 Air inlet circuit check**.

Is the catalytic converter clogged or damaged?

— YES —>

Replace the catalytic converter (see MR 364 (Mégane II), MR 370 (Scénic II), MR 385 (Modus), MR 392 (Clio III), MR 411 (New Twingo), MR 417 (Kangoo 2), Mechanical, 19B, Exhaust, Catalytic converter: Removal - Refitting).

NO

Check the electrical circuit: run **TEST 2 Electrical circuit check**.

Check the electrical conformity of the **heater plugs** (the **resistance** value of the heater plug must be **less than 2 Ω**).

Is the timing set correctly?

— NO —>

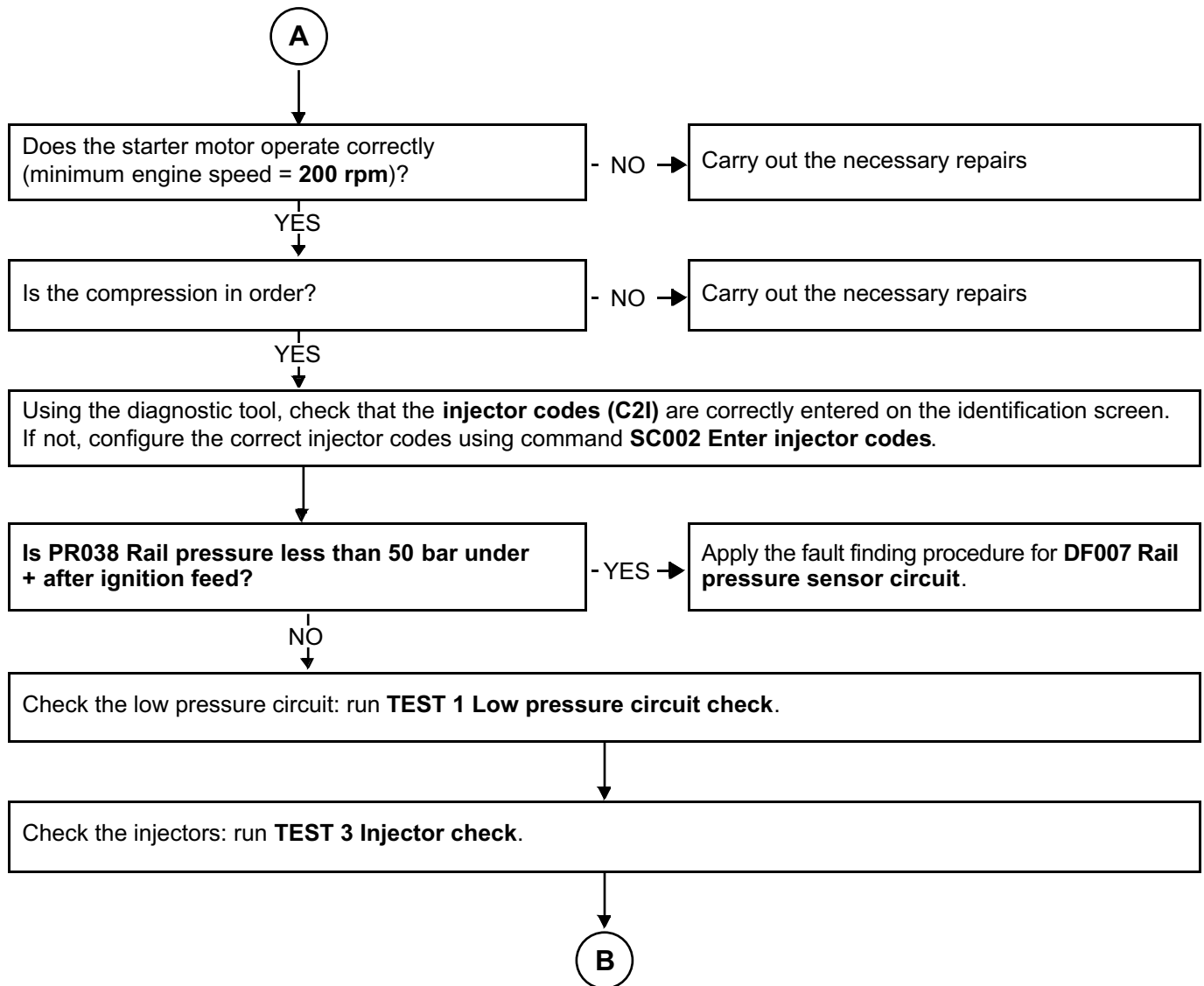
Carry out the necessary repairs.

YES

Visually check the condition of the engine wiring harness.

A

**ALP2
CONTINUED 1**



**ALP2
CONTINUED 2**

B

Visually check that there are no leaks on the high pressure circuit: run **TEST 7 High pressure circuit sealing check**.

Check the high pressure system: run **TEST 6 High pressure system check**.

Check the computer:

Check that the computer connectors are properly locked.

Check the condition of the computer connections (bent pin, signs of corrosion, silicone, etc.).

If the connector(s) is 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.

Contact the Techline if the customer complaint is still present.

ALP3

The engine starts with difficulty, or starts then stalls

NOTES

Only consult this customer complaint after a complete check with the **diagnostic tool**.

Check that the fuel tank is correctly filled and that the fuel is correct: run **TEST 13 Diesel fuel conformity check**.

Check the levels of engine oil and coolant.

Check the air inlet circuit: run **test 5 Air inlet circuit check**.

Is the catalytic converter clogged or damaged?

— YES →

Replace the catalytic converter (see **MR 364** (Mégane II), **MR 370** (Scénic II), **MR 385** (Modus), **MR 392** (Clio III), **MR 411** (New Twingo), **MR 417** (Kangoo 2), **Mechanical, 19B, Exhaust, Catalytic converter: Removal - Refitting**).

NO
↓

Check the electrical conformity of the **heater plugs** (the **resistance** value of the heater plug must be **less than 2 Ω**).

Is the timing set correctly?

— NO →

Carry out the necessary repairs.

YES
↓

Is the compression in order?

— NO →

Carry out the necessary repairs.

YES
↓

Visually check the condition of the engine wiring harness.



**ALP3
CONTINUED**

A

Check the electrical circuit: run **TEST 2 Electrical circuit check**.

Using the diagnostic tool, check that the **injector codes (C2I)** are correctly entered on the identification screen. If not, configure the correct injector codes using command **SC002 Enter injector codes**.

Check the low pressure circuit: run **TEST 1 Low pressure circuit check**.

Visually check that there are no leaks on the high pressure circuit: run **TEST 7 High pressure circuit sealing check**.

Check the high pressure system: run **TEST 6 High pressure system check**.

Check the computer:

Check that the computer connectors are properly locked.

Check the condition of the computer connections (bent pin, signs of corrosion, silicone, etc.).

If the connector(s) is 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.

Contact the Techline if the customer complaint is still present.

ALP4

Starting difficult with warm engine

NOTES

Only consult this customer complaint after a full check with the **diagnostic tool**.

Check that the fuel tank is correctly filled and that the fuel is correct: run **TEST 13 Diesel fuel conformity check**.

Check the air inlet circuit: run **TEST 5 Air inlet circuit check**.

Is the compression in order?

NO

Carry out the necessary repairs.

YES

Is the timing set correctly?

NO

Carry out the necessary repairs.

YES

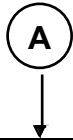
Using the diagnostic tool, check that the **injector codes (C2I)** are correctly entered on the identification screen. If not, configure the correct injector codes using command **SC002 Enter injector codes**.

Visually check the condition of the engine wiring harness.

Check the low pressure circuit: run **TEST 1 Low pressure circuit check**.

A

**ALP4
CONTINUED**



Control the injectors using the commands:

- AC005 Cylinder 1 injector,
- AC006 Cylinder 2 injector,
- AC007 Cylinder 3 injector,
- AC008 Cylinder 4 injector.

Can you hear the valve moving when you are 1 metre from the vehicle?

– NO →

Run Test 9 Diesel filter check.
If test 9 is correct, replace only the faulty injector(s) (see MR 364 (Mégane II), MR 370 (Scénic II), MR 385 (Modus), MR 392 (Clio III), MR 411 (New Twingo), MR 417 (Kangoo 2), Mechanical, 13B, Diesel injection, Diesel injector: Removal - Refitting).

YES
↓

Check the high pressure system: run **TEST 6 High pressure system check**.

Check the computer:

Check that the computer connectors are properly locked.

Check the condition of the computer connections (bent pin, signs of corrosion, silicone, etc.).

If the connector(s) is 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.

Contact the Techline if the customer complaint is still present.

ALP5

Rough idle (pumping)

NOTES

Only consult this customer complaint after a full check with the **diagnostic tool**.

Check that the fuel tank is correctly filled and that the fuel is correct: run **TEST 13 Diesel fuel conformity check**.

Check the low pressure circuit: run **TEST 1 Low pressure circuit check**.

Using the diagnostic tool, check that the **injector codes (C2I)** are correctly entered on the identification screen. If not, configure the correct injector codes using command **SC002 Enter injector codes**.

Visually check the condition of the engine wiring harness.

Visually check that there are no leaks on the high pressure circuit: run **TEST 7 High pressure circuit sealing check**.

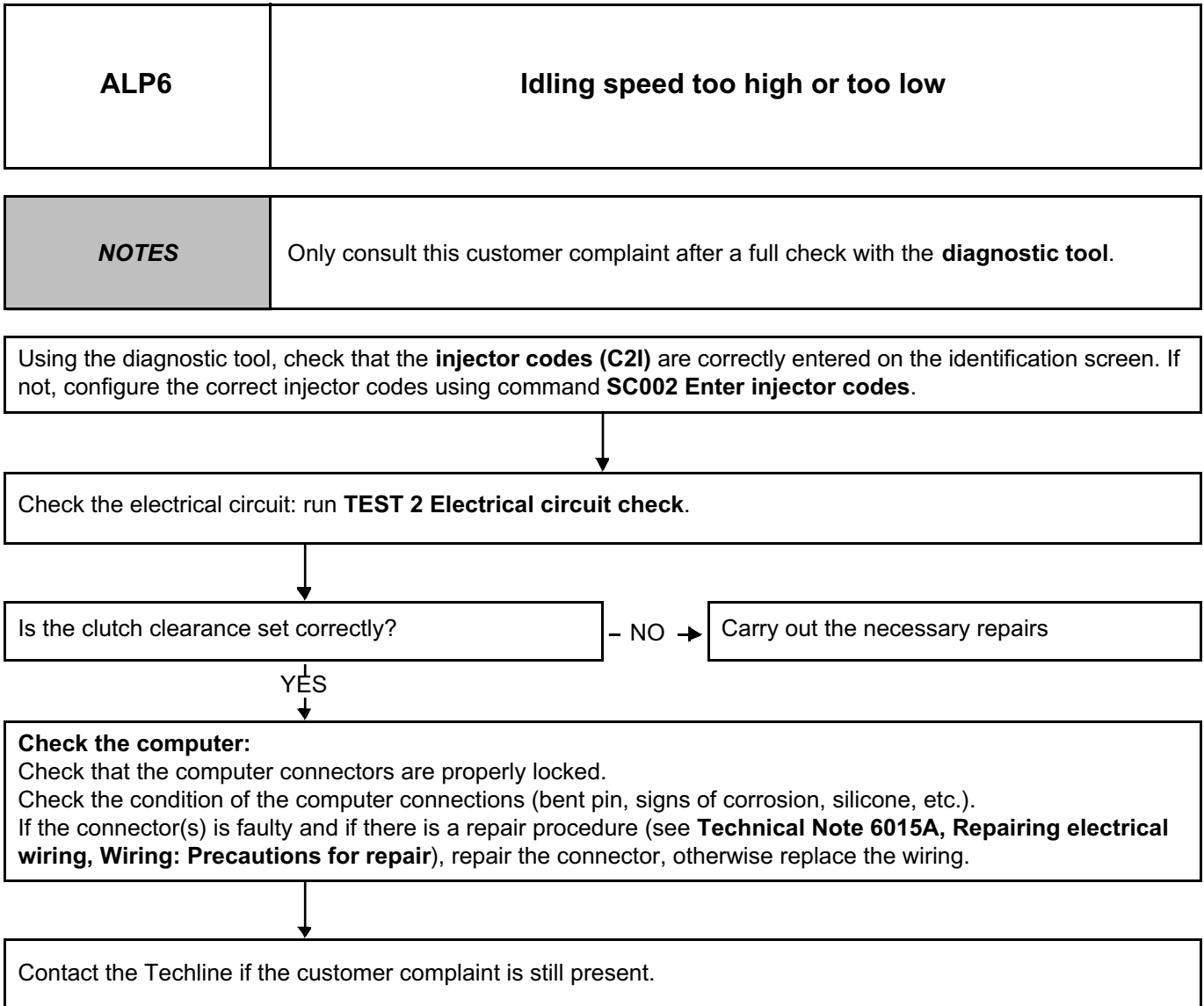
Is the compression in order?

NO → Carry out the necessary repairs.

YES

Check the electrical conformity of the **heater plugs** (the **resistance** value of the heater plug must be **less than 2 Ω**).

Contact the Techline if the customer complaint is still present.



ALP7

Unexpected acceleration/deceleration and engine racing

NOTES

Only consult this customer complaint after a full check with the **diagnostic tool**.

Check that the engine has not sucked up its oil (engine racing).



Check the air inlet circuit: run **TEST 5 Air inlet circuit check**.



Using the diagnostic tool, check that the **injector codes (C2I)** are correctly entered on the identification screen. If not, configure the correct injector codes using command **SC002 Enter injector codes**.



Visually check the condition of the engine wiring harness.



Check the injectors: run **TEST 3 Injector check**.



Check the computer:

Check that the computer connectors are properly locked.

Check the condition of the computer connections (bent pin, signs of corrosion, silicone, etc.).

If the connector(s) is 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.

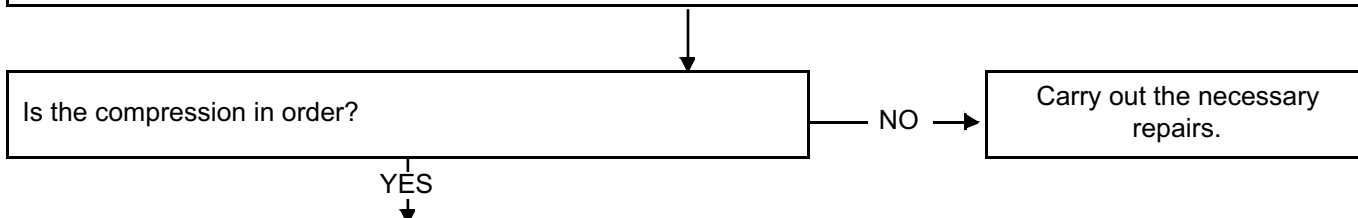


Contact the Techline if the customer complaint is still present.

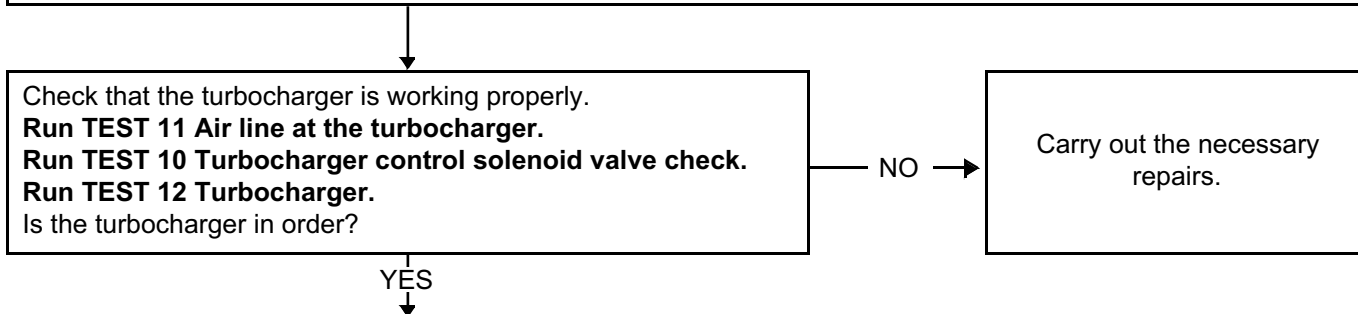
ALP8	Acceleration gap
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NOTES	Only consult this customer complaint after a full check with the diagnostic tool .
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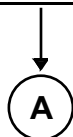
Check the air inlet circuit: run **TEST 5 Air inlet circuit check**.



Using the diagnostic tool, check that the **injector codes (C2I)** are correctly entered on the identification screen. If not, configure the correct injector codes using command **SC002 Enter injector codes**.



Check the low pressure circuit: run **TEST 1 Low pressure circuit check**.



**ALP8
CONTINUED**

A

Visually check that there are no leaks on the high pressure circuit: run **TEST 7 High pressure circuit sealing check**.

Check the computer:

Check that the computer connectors are properly locked.

Check the condition of the computer connections (bent pin, signs of corrosion, silicone, etc.).

If the connector(s) is 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.

Contact the Techline if the customer complaint is still present.

ALP9

Engine cut-out (stalling)

NOTES

Only consult this customer complaint after a full check with the **diagnostic tool**.

Check that the fuel tank is correctly filled and that the fuel is correct: run **TEST 13 Diesel fuel conformity check**.

Check the levels of engine oil and coolant.

Check that the engine has not sucked up its oil (engine racing).

Check the air inlet circuit: run **TEST 5 Air inlet circuit check**.

Is the catalytic converter clogged or damaged?

YES →

Replace the catalytic converter (see **MR 364 (Mégane II)**, **MR 370 (Scénic II)**, **MR 385 (Modus)**, **MR 392 (Clio III)**, **MR 411 (New Twingo)**, **MR 417 (Kangoo 2)**, **Mechanical, 19B, Exhaust, Catalytic converter: Removal - Refitting**).

NO

Visually check the condition of the engine wiring harness.

Check the electrical circuit: run **TEST 2 Electrical circuit check**.

Check the low pressure circuit: run **TEST 1 Low pressure circuit check**.

Visually check that there are no leaks on the high pressure circuit: run **TEST 7 High pressure circuit sealing check**.

A

**ALP9
CONTINUED**

A

Check the injectors: run **TEST 3 Injector check**.

Check the high pressure system: run **TEST 6 High pressure system check**.

Check that the computer connectors are properly locked.
Check the condition of the computer connections (bent pin, signs of corrosion, silicone, etc.).
If the connector(s) is 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.

Contact the Techline if the customer complaint is still present.

ALP10	Engine bucking
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NOTES	<p>Special note: Only consult this customer complaint after a full check with the diagnostic tool. See Feature, Function: Fuel supply management (timing, flow rate and pressure), Flow capacity function (VLC) section.</p>
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Check that the fuel tank is correctly filled and that the fuel is correct: run **TEST 13 Diesel fuel conformity check**.



Check the low pressure circuit: run **TEST 1 Low pressure circuit check**.



Using the diagnostic tool, check that the **injector codes (C2I)** are correctly entered on the identification screen. If not, configure the correct injector codes using command **SC002 Enter injector codes**.



Is the engine wiring harness cut or pinched?	— YES —>	Carry out the necessary repairs.
--	----------	----------------------------------



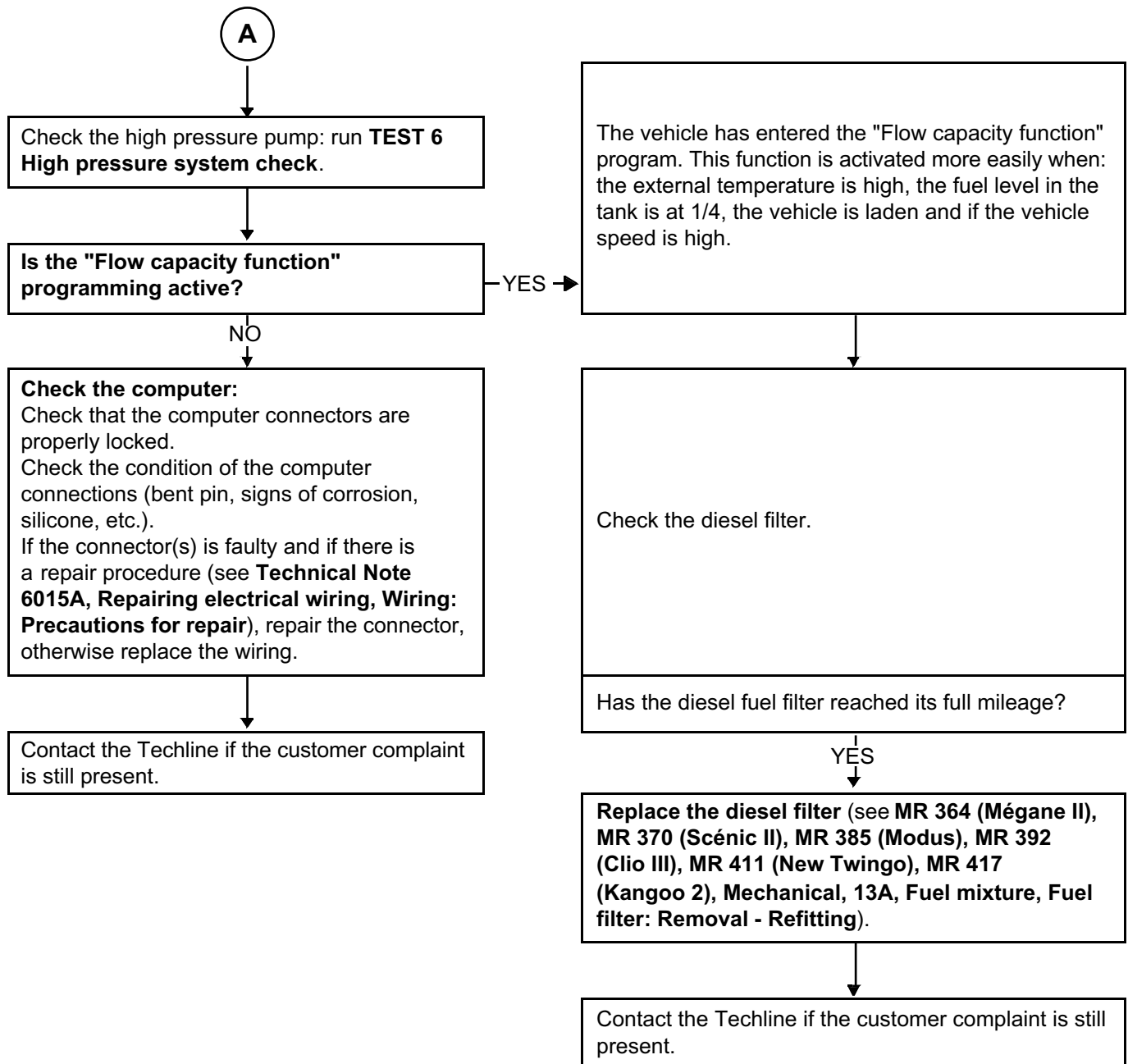
Is the compression in order?	— NO —>	Carry out the necessary repairs.
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Is the valve clearance set correctly?	— NO —>	Carry out the necessary repairs.
---------------------------------------	---------	----------------------------------

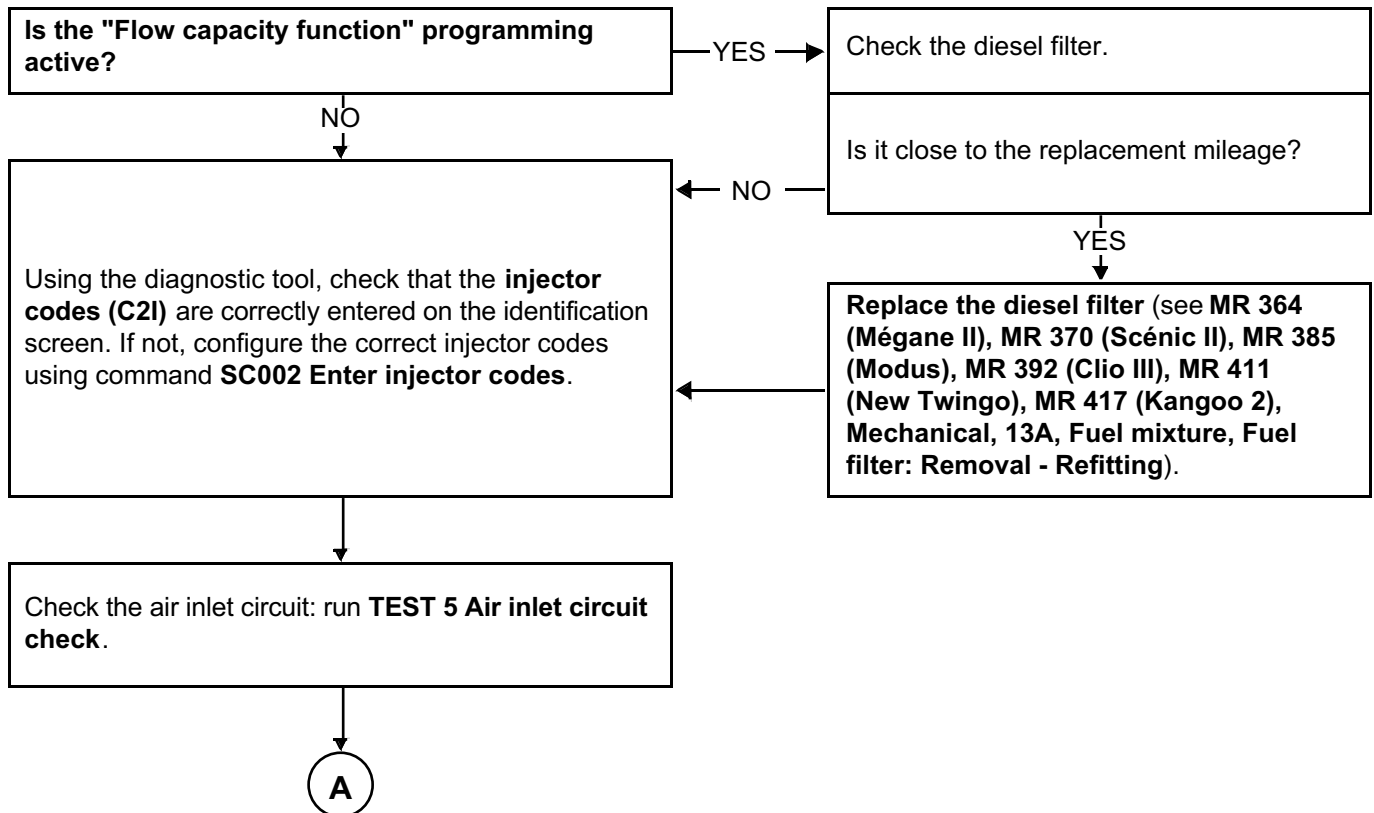


ALP10 CONTINUED

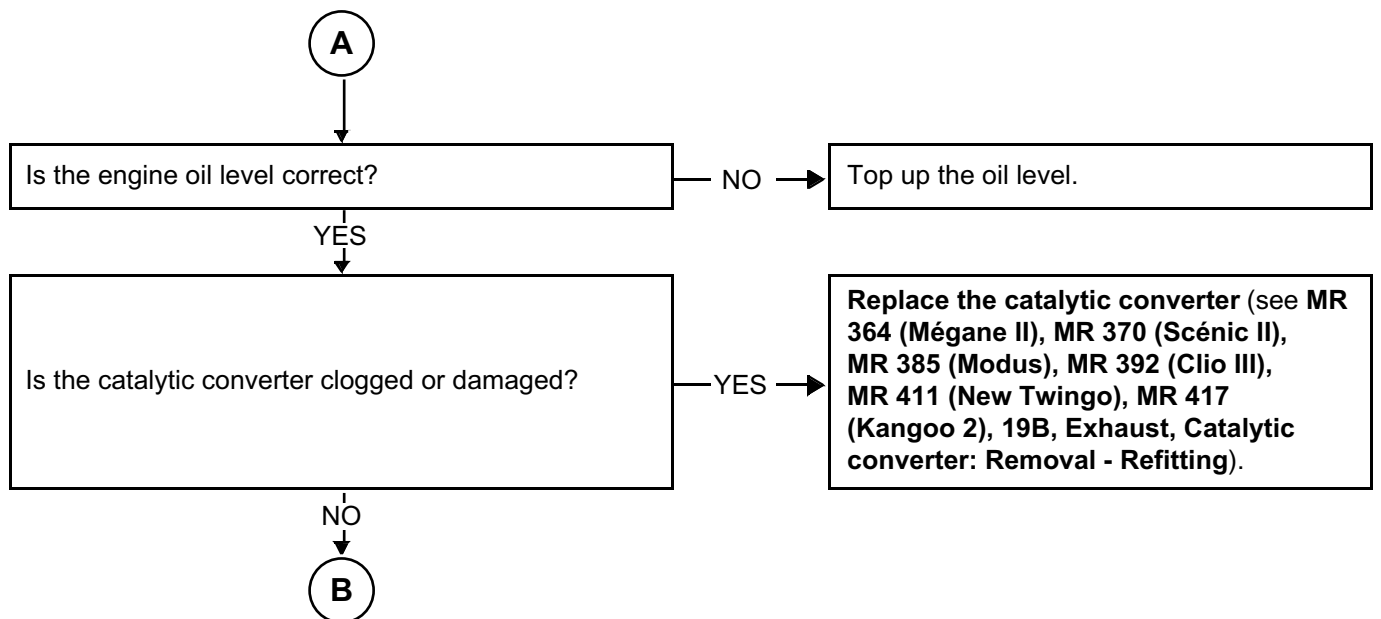


ALP11	Loss of power
NOTES	Special note: Only consult this customer complaint after a complete check with the diagnostic tool . See explanation for flow capacity function in system operation.
	There is no turbocharging control solenoid valve on New Twingo K9K 740 engines or on Kangoo 2 K9K 800 engines.

In this case, the lack of power is due to insufficient vacuum for the OCR * setpoint given.



**ALP11
CONTINUED 1**



* OCR: opening cyclic ratio

**ALP11
CONTINUED 2**

B

Check that the turbocharger is working properly.
Run TEST 11 Air line at the turbocharger.
Run TEST 10 Turbocharger control solenoid valve check.
Run TEST 12 Turbocharger.

Are the components in good condition?

NO →

Carry out the necessary repairs.

YES
↓

Check the low pressure circuit: run **TEST 1 Low pressure circuit check.**

Check the injectors: run **TEST 3 Injector check.**

Check the high pressure system: run **TEST 6 High pressure system check.**

Is the compression in order?

NO →

Carry out the necessary repairs.

YES
↓

Is the valve clearance set correctly?

NO →

Carry out the necessary repairs.

YES
↓

Contact the Techline if the customer complaint is still present.

ALP12	Too much power
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NOTES	Only consult this customer complaint after a complete check with the diagnostic tool .
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In this case, the control solenoid valve is jammed: the vacuum can increase, but it cannot then be decreased.

Using the diagnostic tool, check that the **injector codes (C2I)** are correctly entered on the identification screen. If not, configure the correct injector codes using command **SC002 Enter injector codes**.



Check the air inlet circuit: run **TEST 5 Air inlet circuit check**.



Check that the engine has not sucked up its oil (engine racing).



Check that the electrical and pneumatic connections of the turbocharger control solenoid valve are correct.
See TEST 10 Turbocharger control solenoid valve check.



Are all the electrical and pneumatic connections of the turbocharger control solenoid valve correct?

NO →

Reconnect the hoses and electrical cables correctly, if necessary.

YES ↓

Are the solenoid valve pipes connected the wrong way round?

YES →

Reconnect the pipes correctly.

NO ↓



**ALP12
CONTINUED 1**

A

Check the turbocharger regulation control.
Is the turbocharger regulation control jammed?

—YES→

Carry out the necessary repairs.

NO
↓

Replace the solenoid valve.

Check the computer:

Check that the computer connectors are properly locked.

Check the condition of the computer connections (bent pin, signs of corrosion, silicone, etc.).

If the connector(s) is 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.

Contact the Techline if the customer complaint is still present.

ALP12 CONTINUED 2

NOTES

Only consult this customer complaint after a full check with the **diagnostic tool**.

In this case, it may be the solenoid valve dynamic specification which is at fault (atmospheric pressure resetting time). Final fault finding is carried out by measuring this specification on a special bench.

Check that solenoid valve casing does not have any splashes of fluid on it which may impede the breather (water, engine oil, gearbox oil, brake fluid, coolant, mud, dust, or any other substance).

Instructions:

- The solenoid valve must be set up **450 mm** above the ground, in an area free from water, mud, or any other fluid.
- **Cleaning with a high pressure jet is forbidden.**

Is there coolant present?

– YES → Follow the recommendations below.

NO

Is the solenoid valve subjected to significant fluctuations or impacts?

Instructions:

- The solenoid valve must be correctly secured to its mounting.
- Contact with the engine environment is forbidden.

– YES → Follow the recommendations below.

NO

Check the turbocharger regulation control (no partial jamming, etc.).

Does the turbocharger control work?

– NO → Carry out the necessary repairs.

YES

Replace the solenoid valve.

If the fault is still present, contact the Techline.

ALP13

Excessive consumption

NOTES

Only consult this customer complaint after a full check with the **diagnostic tool**.

Check that the fuel tank is correctly filled and that the fuel is correct: run **TEST 13 Diesel fuel conformity check**.

Check the levels of engine oil and coolant.

Is the fuel temperature sensor leaking?

YES

Replace the fuel temperature sensor, (see MR 364 (Mégane II), MR 370 (Scénic II), MR 385 (Modus), MR 392 (Clio III), MR 411 (New Twingo), MR 417 (Kangoo 2), Mechanical, 13B, Diesel injection, Rail pressure sensor: Removal - Refitting).

NO

Check the low pressure circuit: run **TEST 1 Low pressure circuit check**.

Visually check that there are no leaks on the high pressure circuit: run **TEST 7 High pressure circuit sealing check**.

Check the air inlet circuit: run **TEST 5 Air inlet circuit check**.

Using the diagnostic tool, check that the **injector codes (C2I)** are correctly entered on the identification screen. If not, configure the correct injector codes using command **SC002 Enter injector codes**.

A

ALP 13 CONTINUED

A

Is the compression in order?

NO →

Carry out the necessary repairs.

YES

Is the catalytic converter clogged or damaged?

YES →

Replace the catalytic converter (see **MR 364** (Mégane II), **MR 370** (Scénic II), **MR 385** (Modus), **MR 392** (Clio III), **MR 411** (New Twingo), **MR 417** (Kangoo 2), **Mechanical, 19B, Exhaust, Catalytic converter: Removal - Refitting**).

NO

Check that the turbocharger is working properly.
Run TEST 11 Air line at the turbocharger.
Run TEST 10 Turbocharger control solenoid valve check.
Run TEST 12 Turbocharger.

YES

Is the turbocharger in order?

NO →

Carry out the necessary repairs.

Check the computer:

Check that the computer connectors are properly locked.
Check the condition of the computer connections (bent pin, signs of corrosion, silicone, etc.).
If the connector(s) is 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.

Contact the Techline if the customer complaint is still present.

ALP14

Engine races when accelerator is released or when changing gear

NOTES

Only consult this customer complaint after a full check with the **diagnostic tool**.

Check that there are no obstacles that might impede the accelerator pedal travel (carpet, point of resistance, etc.).

Using the diagnostic tool, check that the **injector codes (C2I)** are correctly entered on the identification screen. If not, configure the correct injector codes using command **SC002 Enter injector codes**.

Visually check the condition of the engine wiring harness.

Is the clutch clearance set correctly?

— NO → Carry out the necessary repairs.

YES

Check that the engine has not sucked up its oil (engine racing).

Is the compression in order?

— NO → Carry out the necessary repairs.

YES

Check that the turbocharger is working properly.
Run TEST 11 Air line at the turbocharger.
Run TEST 10 Turbocharger control solenoid valve check.
Run TEST 12 Turbocharger.
Is the turbocharger in order?

— NO → Carry out the necessary repairs.

YES

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**ALP14
CONTINUED**



Check the computer:

Check that the computer connectors are properly locked.

Check the condition of the computer connections (bent pin, signs of corrosion, silicone, etc.).

If the connector(s) is 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.



Contact the Techline if the customer complaint is still present.

ALP15

Engine dies on pulling away

NOTES

Only consult this customer complaint after a full check with the **diagnostic tool**.

Is the clutch clearance set correctly?

NO

Carry out the necessary repairs.

Using the diagnostic tool, check that the **injector codes (C2I)** are correctly entered on the identification screen. If not, configure the correct injector codes using command **SC002 Enter injector codes**.

Check the air inlet circuit: run **TEST 5 Air inlet circuit check**.

Is the catalytic converter clogged or damaged?

YES

Replace the catalytic converter (see **MR 364 (Mégane II)**, **MR 370 (Scénic II)**, **MR 385 (Modus)**, **MR 392 (Clio III)**, **MR 411 (New Twingo)**, **MR 417 (Kangoo 2)**, **Mechanical, 19B, Exhaust, Catalytic converter: Removal - Refitting**).

NO

Check the low pressure circuit: run **TEST 1 Low pressure circuit check**.

Visually check the condition of the engine wiring harness.

Check the computer:

Check that the computer connectors are properly locked.

Check the condition of the computer connections (bent pin, signs of corrosion, silicone, etc.).

If the connector(s) is 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.

Contact the Techline if the customer complaint is still present.

ALP16

Engine rattling, noisy engine, turbocharger noise

NOTES

Only consult this customer complaint after a full check with the **diagnostic tool**.

If the noise arises from the turbocharger, apply **Technical Note 5164A, Noise fault finding**.

Note:

Pay close attention to faulty components that might result in unjustified replacement of the turbocharger. For example, whistling does not necessarily indicate damage to the turbocharger (this could be coming from the exhaust, the timing, the gearbox, etc.).

Check that the fuel tank is correctly filled and that the fuel is correct: run **TEST 13 Diesel fuel conformity check**.

Check the levels of engine oil and coolant.

Is the compression in order?

NO →

Carry out the necessary repairs.

YES ↓

Check the electrical conformity of the **heater plugs** (the **resistance** value of the heater plug must be **less than 2 Ω**).

Using the diagnostic tool, check that the **injector codes (C2I)** are correctly entered on the identification screen. If not, configure the correct injector codes using command **SC002 Enter injector codes**.

Check the air inlet circuit: run **TEST 5 Air inlet circuit check**.

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**ALP16
CONTINUED**

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Check the low pressure circuit: run **TEST 1 Low pressure circuit check**.

Check the injectors: run **TEST 3 Injector check**.

Check the high pressure system: run **TEST 6 High pressure system check**.

Contact the Techline if the customer complaint is still present.

ALP17

Blue, white or black smoke

NOTES

Only consult this customer complaint after a full check with the **diagnostic tool**.

Check that the fuel tank is correctly filled and that the fuel is correct: run **TEST 13 Diesel fuel conformity check**.

Check the levels of engine oil and coolant.

Is the compression in order?

NO

Carry out the necessary repairs.

YES

Check the electrical conformity of the **heater plugs** (the **resistance** value of the heater plug must be less than 2 Ω).

Is the catalytic converter clogged or damaged?

YES

Replace the catalytic converter (see **MR 364** (Mégane II), **MR 370** (Scénic II), **MR 385** (Modus), **MR 392** (Clio III), **MR 411** (New Twingo), **MR 417** (Kangoo 2), **Mechanical, 19B, Exhaust, Catalytic converter: Removal - Refitting**).

NO

Run TEST 5 Inlet circuit check.
Run TEST 11 Air line at the turbocharger.
Run TEST 10 Turbocharger control solenoid valve check.

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**ALP17
CONTINUED**

A

Run **TEST 12 Turbocharger**.
Is the turbocharger in order?

– NO →

Carry out the necessary repairs.

YES
↓

Visually check the condition of the engine wiring harness.

Using the diagnostic tool, check that the **injector codes (C2I)** are correctly entered on the identification screen. If not, configure the correct injector codes using command **SC002 Enter injector codes**.

Check the low pressure circuit: run **TEST 1 Low pressure circuit check**.

Check the computer:

Check that the computer connectors are properly locked.

Check the condition of the computer connections (bent pin, signs of corrosion, silicone, etc.).

If the connector(s) is 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.

Contact the Techline if the customer complaint is still present.

ALP18	Oil leaks from the turbocharger
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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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Check the area around the turbocharger

Note:

An oil leak does not correspond always to a turbocharger fault, the oil leak can arise from the area around the turbocharger.

Depending on the vehicle type, the best visual access will be either from above or from below.

1. Do not start the engine.
Check the area around the turbocharger and identify the origin of the leaks.
Clean the oil traces on the turbocharger.
2. Start the engine and let it warm up several minutes.

IMPORTANT

If the air filter was removed previously, refit it before starting the engine (risks foreign matter entering the air inlet circuit).

Accelerate with no load several times, progressively increasing the duration before releasing the accelerator pedal.

Visually inspect the exterior condition of the fuel supply pipes and the turbocharger oil return and the area around it. Identify the origin of the leaks.

Is an oil leak present at the air compressor inlet or outlet?

YES

NO

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Check the air compressor inlet or outlet

Check for a loose interface (inlet or outlet) that is the cause of the air leak.

Note:

It is normal to find oil traces inside the pipes at the turbocharger inlet or outlet, because the air entering the compressor is laden with oil from the engine rebreathing circuit.

Is the suspected interface properly tightened?

— NO →

Tighten the interface
or the concerned pipe.
End of procedure.

YES

Replace the pipe concerned (see **MR 364 (Mégane II)**, **370 (Scénic II)**, **392 (Clio III)**, **385 (Modus)**, **411 (New Twingo)**, or **417 (Kangoo II)**, **Mechanical**, **12B Turbocharging**).

ALP18 CONTINUED

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Is an oil leak present only at the casing of the compressor section?

YES

The turbocharger is not faulty. The oil leak is from another engine component and the oil is flowing onto the turbocharger.
End of procedure.

NO

Is an oil leak present at the turbocharger oil supply inlet or outlet?

YES

Check the turbocharger oil supply inlet and outlet
Check for a loose interface (inlet or outlet) that is the cause of the oil leak.
Is the suspected interface properly tightened?

NO

Tighten the pipe concerned.
End of procedure.

YES

Replace only the seal or the pipe of the section concerned (see **MR 364 (Mégane II)**, **370 (Scénic II)**, **392 (Clio III)**, **385 (Modus)**, **411 (New Twingo)**, or **417 (Kangoo II)**, Mechanical, 12B, Turbocharging).

NO

Is an oil leak present at the interfaces of the turbine casing and the exhaust pipes?

YES

NO

End of procedure.

The turbocharger is not faulty. Another engine fault is probably present. Identify the component that is the source of the leak and refer to the repair manual (see **MR 364 (Mégane II)**, **370 (Scénic II)**, **392 (Clio III)**, **385 (Modus)**, **411 (New Twingo)**, or **417 (Kangoo II)**, 10A, Engine and peripherals).