

MEGANE

8 Electrical equipment

80C DISCHARGE BULB

N°Vdiag: 04

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1. DOCUMENT SCOPE

This document describes the fault finding procedures applicable to all ECU with the following specifications:

Vehicle(s): MEGANE II

Function concerned: discharge bulb

Computer name: Discharge bulb

Program no.:

Vdiag No.: 04

2. PREREQUISITES FOR FAULT FINDING

Documentation type

Fault finding procedures (this manual):

- Assisted diagnostics (built into the fault finding tool), paper version (Workshop Repair Manual or Technical Note) and Dialogys.

Wiring Diagrams:

- Visu-Diagram (CD-ROM), paper.

Type of diagnostic tools:

- CLIP

Special tooling required:

SPECIAL TOOLING REQUIRED
Multimeter

3. REMINDERS

Fault finding:

Faults are declared to be either present or stored, which have appeared in a certain context and have disappeared since, or are still present but have not had fault finding applied to them in the current context.

The **present** or **stored** state of faults should be taken into consideration when the fault finding tool is used after the + after ignition feed (without acting on the system components).

Deal with **present faults** according to the procedure specified in the section on **Interpretation of faults**

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

If the Notes section **confirms** the fault, the fault is again present. In this case, deal with the fault.

If the fault is **not confirmed**, carry out basic checks. Check:

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

Check conformity

The conformity check is designed to check the statuses and parameters that do not produce a fault display on the fault finding tool when they are inconsistent. Therefore, this phase allows:

- diagnosis of 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.

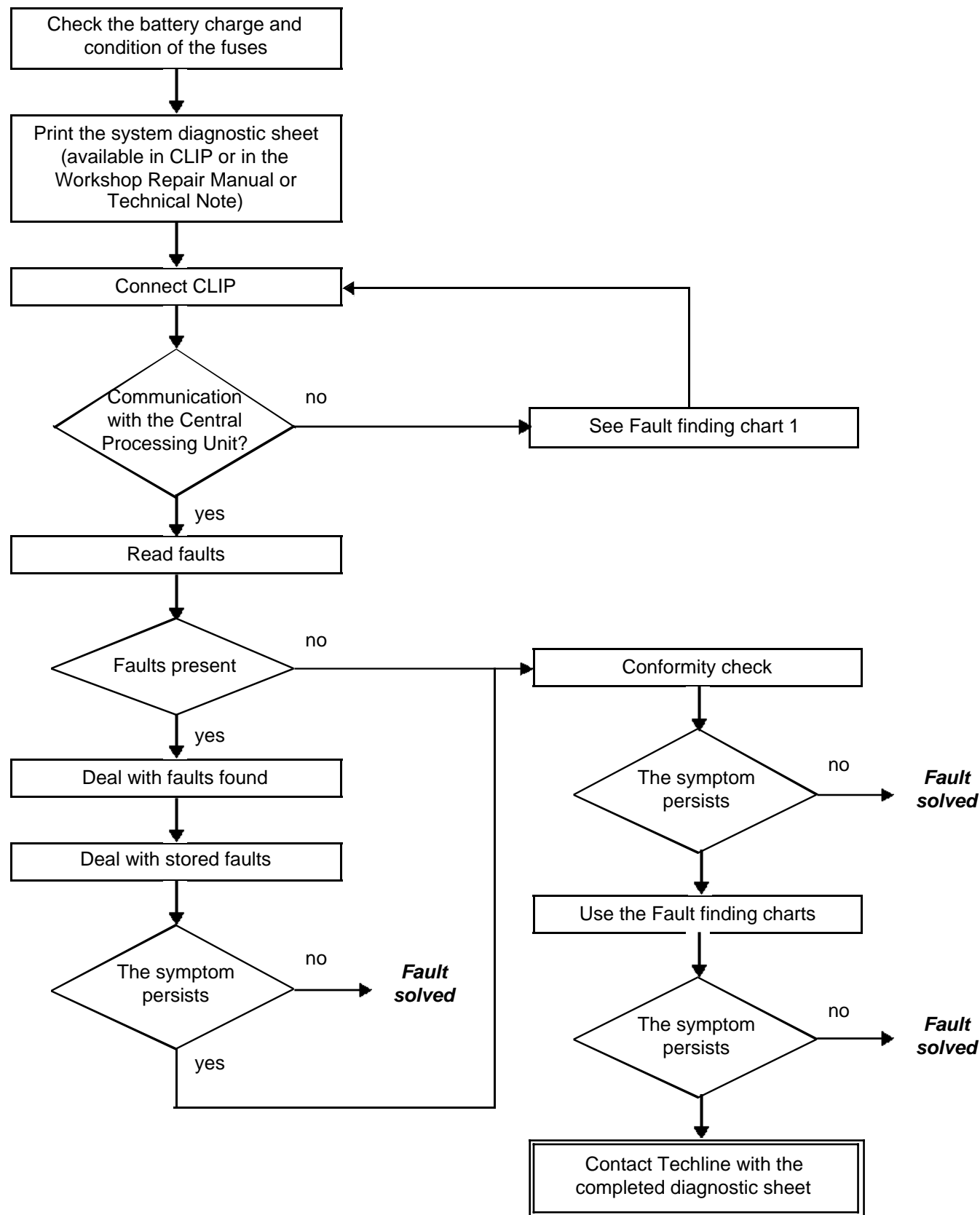
If a status is not behaving normally or a parameter is outside the permitted tolerance values, consult the corresponding fault finding page.

Customer complaints - Fault finding chart

If the test with the fault finding tool is OK, but the customer complaint persists, the fault should be treated 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



5. DIAGNOSTIC SHEET

**WARNING:**

A full fault finding procedure must be carried out for all faults on a complex system using suitable tools. The DIAGNOSTIC SHEET, which should be completed during the fault finding procedure, ensures a record is kept of the diagnostic carried out. It is an essential item for communication with the manufacturer.

IT IS THEREFORE MANDATORY TO FILL OUT A DIAGNOSTIC SHEET EACH TIME FAULT FINDING IS DONE.

You will always be asked for this report:

- when requesting technical assistance from the Techline.
- when requesting approval before replacing parts for which approval is compulsory.
- to be enclosed when returning "monitored parts" on request. The sheet is needed for warranty compensation, and enables better analysis of the removed parts.

6. SAFETY INSTRUCTIONS

All work on components requires compliance with safety regulations to prevent physical damage or human injury:

- Make sure the battery is properly charged to avoid damaging the computers with a low load.
- Use the proper tools.
- Do not touch the discharge bulbs.
- Do not work on the COSLAD system when it is in operation, the voltage is above or equal to 20 000 V.

DIAGNOSTIC SHEET

System: Discharge bulb

Page 1 / 2

List of monitored parts: **Computer**

● Administrative identification

Date

				2	0		
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Sheet completed by

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VIN

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Engine

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Fault finding tool

	CLIP
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Update version

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● Customer complaint

1079	No automatic adjustment of main beam headlights	1081	Untimely automatic adjustment	1082	Main beam headlights do not switch on
1080	Main beam headlights do not switch off	1083	Main beam headlights come on intermittently		

Other

Your comments

● Conditions under which the customer observation occurs

005	While driving	011	When ignition is switched on	009	Sudden fault
003	When stationary	004	Intermittently	999	When switching on the main beam headlights

Other

Your comments

● Documentation used in fault finding

Diagnostic method used	
Type of diagnostic manual:	Workshop Repair Manual <input type="checkbox"/> Technical Note <input type="checkbox"/> Assisted diagnostic <input type="checkbox"/>
Diagnostic Manual No.:	
Wiring diagram used	
Wiring Diagram Technical Note No.:	
Other documentation	
Title and/or part number:	



RENAULT

FD 19
Diagnostic Sheet

DIAGNOSTIC SHEET

System: Discharge bulb

Page 2 / 2

● Computer identification and system parts replaced

Part 1 part no.	
Part 2 part no.	
Part 3 part no.	
Part 4 part no.	
Part 5 part no.	

To be read with the fault finding tool (Identification screen):

Computer part no.	
Supplier no.	
Program no.	
Software version	
Calibration no.	
VDIAG	

● Faults found with the fault finding tool

Fault no.	Present	Stored	Fault name	Specification

● Conditions when fault occurs

Status or parameter no.	Parameter name	Value	Unit

● System-specific information

Description:

● Additional information

What factors led you to replace the computer?
What other parts were replaced?
Other faulty functions?
Please specify:



RENAULT

FD 19
Diagnostic Sheet

1. GENERAL OPERATION

The discharge bulb system performs front lighting for the dipped headlights and corrects the height of the light beam according to the vehicle level when the dipped headlights are turned on. This operation makes remote adjustment control unnecessary. Discharge bulb fault finding is done with the fault finding tool.

1.1 FUNCTION ARCHITECTURE

The system consists of the following separate components:

- front height sensor,
- rear height sensor,
- two on-site adjustment assemblies (front right and front left) containing (in the headlight):
 - discharge bulb,
 - computer,
 - high voltage power unit (integrated in the computer).

1.2 SYSTEM OPERATION

By moving the light switch, the user requests lighting of the dipped headlights.

The switch sends the request to the UCH, which transmits it to the Protection and Switching Unit via the multiplexed network.

The Protection and Switching Unit supplies the discharge bulb computers, rather than the traditional dipped headlights supply.

These computers:

- supply the high voltage units that will produce the voltage needed to light the bulbs.
- control the beam orientation according to the vehicle level.

When the lights are lit, each headlight moves in three positions (high limit, low limit and initial position), unless vehicle speed is greater than **10 km/h (6 mph)** (in this case, the headlights light up and move to the initial position).

1.3 SYSTEM FAULT FINDING

There are three separate kinds of discharge bulb problems:

- Right-hand bulb
- Left-hand bulb
- Discharge bulb: specific when replacing the computer in After Sales.

The conditions required for system fault finding are:

- the vehicle connected to the battery charger (recommendations),
- the dipped headlights lit (discharge bulb system power supplies).

SYSTEM CONFIGURATION/CALIBRATION

These operations should be performed after replacing one or more system components (computer, sensor, etc.).

To ensure proper configuration and calibration, follow this procedure:

Computer address (CF004)**Notes:**

If both computers are being replaced, connect only one new computer at a time.

If the new computers are connected simultaneously, communication with the tool is not possible.

Strictly follow the procedure described below:

- 1 if both computers are being replaced, connect only one computer,
- 2 after the multiplexed network test, select the "Configuration" icon (for the multiplexed network),
- 3 select the "computer accepts fault finding" tab,
- 4 type "YES" on the "discharge bulb" line in the AIR BAG and UCH computers,
- 5 test the multiplex network,
- 6 start a dialogue with the discharge bulb computer ("result of multiplex network test" appears on the screen),
- 7 select Repair mode,
- 8 perform configuration "**CF004: Computer address**" for the side in question (right side or left side allocation),
- 9 confirm the configuration,
- 10 exit fault finding mode,
- 11 turn off the dipped headlights and wait for a few seconds,
- 12 if replacing both computers, connect the second, light the headlights and repeat from step 5,
- 13 if replacing only one computer or after replacing the second, light the headlights,
- 14 select the "Configuration" icon (for the multiplexed network), select the "computer accepts fault finding" tab, type "NO" on the "discharge bulb" line in the AIR BAG and UCH computers,
- 15 re-launch the multiplex network test,
- 16 both computers are displayed as addressed,
- 17 start a dialogue with each computer and perform the configurations and calibrations described below.

Vehicle type (CF003)

This configuration activates the adjustment rules based on the vehicle's body type and equipment level. The new rules take effect after the dipped headlights have been turned off and on again.

Do the configuration as follows:

- start a dialogue with the BULB domain (right or left),
- enter into Repair mode,
- perform configuration "**CF003: Vehicle type**",
- B/C 84: MEGANE saloon 3- and 5-door,
L/K 84: MEGANE saloon 4-door and estate,
E 84: MEGANE cabriolet,
- exit fault finding mode,
- turn the dipped headlights off and on again,
- verify that parameters **PR032**: Reference front height and **PR033**: Reference rear height are between $30\% < X < 70\%$

Computer calibration (CF001)

This configuration makes it possible to store the vehicle's reference base and position the headlights in their nominal position.

This operation must be performed when work is carried out on the body height sensors or when replacing a computer.

Application conditions to be followed before performing the configuration

- Verify that the status, connections and mounting of the height sensors and linkages on these sensors are correct.
- Position the vehicle on a horizontal surface.
- Luggage compartment empty.
- Vehicle not moving (no change in level).
- Driver aboard.
- Fuel tank full.

Do the configuration as follows:

- start a dialogue with the bulb domain (right or left),
- enter into Repair mode,
- perform configuration "**CF001: Computer calibration**".
- verify that parameters **PR032**: Reference front height and **PR033**: Reference rear height are between $30\% < X < 70\%$,
- exit fault finding mode,
- turn the dipped headlights off and on again.

Manual headlight adjustment

To make the manual adjustment, follow the same application conditions described above.

Note:

When replacing the computer, also enter the vehicle identification number (VP001).

Fault finding - Allocation of tracks

CONNECTION

Headlight 10-track connector

Track	Description
1	Not used
2	Diagnostic line K
3	Code
4	Earth
5	Main beam
6	Sensor signal
7	Vehicle speed signal
8	Indicator
9	Side light
10	Earth

Actuator 5-track connector

Track	Description
1	Motor winding (actuator)
2	Motor winding (actuator)
3	Motor winding (actuator)
4	Motor winding (actuator)
5	Motor shielding

Ballast 12-track connector

Track	Description
1	Vdiag
2	Diagnostic line K
3	Speed signal input
4	Sensor signal input
5	Not used
6	Motor winding (actuator)
7	Dipped headlights raised signal
8	Earth
9	Motor winding (actuator)
10	Motor winding (actuator)
11	Motor winding (actuator)
12	Motor winding

DISCHARGE BULB

Fault finding - Interpretation of faults

80C

DF001 PRESENT	<u>COMPUTER</u> 1.DEF: Internal electronic fault. 2.DEF: Computer not calibrated: defective component during procedure 3.DEF: Configuration 4.DEF: Computer address not entered
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NOTES	None.
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1.DEF	NOTES	None.
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If the fault occurs, **contact your Techline.**

2.DEF	NOTES	Priority in the event of a number of faults: First deal with faults DF008 and DF009 "Sensor circuits" if present or stored.
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Re-calibrate the computer with command **CF001 "Computer calibration"**.

The preconditions for calibration are:

No sensor or actuator faults.

- Front and rear sensors within the correct height range.
- Configuration completed.
- Sensor functioning.

Repair if necessary.

The computer launches initialisation:
It stores the reference heights and positions the actuators.

If the fault recurs, contact the **Techline.**

AFTER REPAIR	Deal with any other possible faults. Clear any faults stored and adjust the height of the headlights following the method described in the help notes. The height of the headlights should be adjusted before computer calibration. Switch off the lights and do a road test followed by a test with the fault finding tool.
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DF001 CONTINUED 1	
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3.DEF	NOTES	None.
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"Vehicle type" configuration not entered.

Check the computer configuration through the configuration reading menu **LC001 "Vehicle type"**.
No fault present (stored faults: clear faults)

Calibrate the computer with command CF003 "Vehicle type".

The computer launches initialisation: it stores the reference height and positions the actuators at maximum rod position.

If the fault recurs, **contact the Techline**.

4.DEF	NOTES	None.
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"Computer address" C configuration not done.

Check the computer configuration through the configuration reading menu **LC009 "Computer address"**.
The fault occurs after replacing a computer. Configure the computer address with command **CF004**

"Computer address" (left or right allocation).

AFTER REPAIR	<p>Deal with any other possible faults.</p> <p>Clear any faults stored and adjust the height of the headlights following the method described in the help notes.</p> <p>The height of the headlights should be adjusted before computer calibration.</p> <p>Switch off the lights and do a road test followed by a test with the fault finding tool.</p>
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DISCHARGE BULB

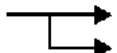
Fault finding - Interpretation of faults

80C

DF008 PRESENT OR STORED	<u>FRONT HEIGHT SENSOR CIRCUIT</u> 1.DEF: Permanent low signal 2.DEF: Inconsistent signal 3.DEF: Signal absent 4.DEF: Permanent high signal
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NOTES	Conditions for applying the fault finding procedure to stored faults: The fault reappears as present after: – the fault has been cleared,
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1.DEF	NOTES	None.
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Check the discharge bulb computer connections. Repair if necessary.
Check the front sensor connections. Repair if necessary.
Check the condition of the front sensor connection harness (pinching, breaks, etc.). Repair if necessary.
Check the continuity and insulation against the earth of the connection between: Front height sensor track 4 <div style="display: inline-block; vertical-align: middle;">  </div> Track 6 of the left headlight connector Track 6 of the right headlight connector If necessary replace the sensor.
If the fault persists, contact the Techline .

AFTER REPAIR	Deal with any other possible faults. Clear any faults stored and adjust the height of the headlights following the method described in the help notes. The height of the headlights should be adjusted before computer calibration. Switch off the lights and do a road test followed by a test with the fault finding tool.
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DISCHARGE BULB

Fault finding - Interpretation of faults

80C

DF008 CONTINUED 1	
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2.DEF	NOTES	None.
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Check the condition of the mechanical connection between the sensor and the rear axle via the lever arm and the control lever. Repair if necessary.
Check that the control lever is in good condition. Replace if necessary.
Check the condition of the rear sensor mounting and its upper and lower stops. Replace if necessary.
Check the front PR002 "Sensor signal" for consistency. Check the condition of the connections, wiring, front sensor sheathing, repair if necessary.
If the sensor has no mechanical defects, contact the Techline .

AFTER REPAIR	Deal with any other possible faults. Clear any faults stored and adjust the height of the headlights following the method described in the help notes. The height of the headlights should be adjusted before computer calibration. Switch off the lights and do a road test followed by a test with the fault finding tool.
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DISCHARGE BULB

Fault finding - Interpretation of faults

DF008 CONTINUED 2	
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3.DEF	NOTES	None.
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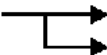
Read the faults on the other computer (if shared fault).												
Check the condition and connection of the discharge bulb computer connector. Repair if necessary.												
Check the condition and connections of the front sensor. Repair if necessary.												
Check the condition of the front sensor connection harness (pinching, breaks, etc.). Repair if necessary.												
<p>Check PR031 "Sensor power feed voltage". Check that there is a +12 V F7 (7.5 A) fuse on track 5 of the front height sensor power supply. Check the continuity and insulation of the connections between:</p> <table><tr><td>Front height sensor track 5</td><td>————→</td><td>Track 5 of the brown connector of the Protection and Switching Unit</td></tr><tr><td>Front height sensor track 4</td><td>———┐——→</td><td>Track 6 of the left headlight black connector</td></tr><tr><td></td><td>———┘——→</td><td>Track 6 of the right headlight black connector</td></tr><tr><td>Track 6 of the headlight black connector</td><td>————→</td><td>Track 4 of the computer connector</td></tr></table> <p>Check the continuity between the body earth and track 1 of the front height sensor connector. Repair if necessary.</p>	Front height sensor track 5	————→	Track 5 of the brown connector of the Protection and Switching Unit	Front height sensor track 4	———┐——→	Track 6 of the left headlight black connector		———┘——→	Track 6 of the right headlight black connector	Track 6 of the headlight black connector	————→	Track 4 of the computer connector
Front height sensor track 5	————→	Track 5 of the brown connector of the Protection and Switching Unit										
Front height sensor track 4	———┐——→	Track 6 of the left headlight black connector										
	———┘——→	Track 6 of the right headlight black connector										
Track 6 of the headlight black connector	————→	Track 4 of the computer connector										

AFTER REPAIR	<p>Deal with any other possible faults. Clear any faults stored and adjust the height of the headlights following the method described in the help notes. The height of the headlights should be adjusted before computer calibration. Switch off the lights and do a road test followed by a test with the fault finding tool.</p>
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DF009 PRESENT OR STORED	<u>REAR HEIGHT SENSOR CIRCUIT</u> 1.DEF: Permanent low signal 2.DEF: Inconsistent signal 3.DEF: Signal absent 4.DEF: Permanent high signal
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NOTES	Conditions for applying the fault finding procedure to stored faults: If the fault reappears stored after: – the fault has been cleared,
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1.DEF	NOTES	None.
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Read the faults on the other computer (if shared fault).
Check the discharge bulb computer connections. Repair if necessary.
Check the front sensor connections. Repair if necessary.
Check the condition of the front sensor connection harness (pinching, breaks, etc.). Repair if necessary.
Check the continuity and insulation against the earth of the connection between: Rear height sensor track 4 <div style="display: inline-block; vertical-align: middle;">  </div> Track 6 of the left headlight computer Track 6 of the right headlight computer If necessary replace the sensor.
If the fault persists, contact the Techline .

AFTER REPAIR	Deal with any other possible faults. Clear any faults stored and adjust the height of the headlights following the method described in the help notes. The height of the headlights should be adjusted before computer calibration. Switch off the lights and do a road test followed by a test with the fault finding tool.
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DISCHARGE BULB

Fault finding - Interpretation of faults

80C

DF009 CONTINUED 1	
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2.DEF	NOTES	None.
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Check the mechanical connection between the sensor and the rear axle via the lever arm and the control lever. Repair if necessary.
Check that the control lever is in good condition. Replace if necessary.
Check the condition of the rear sensor mounting and its upper and lower stops. Replace if necessary.
Check the PR002 "Rear sensor signal" for consistency. Check the condition of the connections, wiring, rear sensor sheathing, repair if necessary.
If the sensor has no mechanical defects, contact the Techline .

AFTER REPAIR	Deal with any other possible faults. Clear any faults stored and adjust the height of the headlights following the method described in the help notes. The height of the headlights should be adjusted before computer calibration. Switch off the lights and do a road test followed by a test with the fault finding tool.
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DISCHARGE BULB

Fault finding - Interpretation of faults

DF009 CONTINUED 2	
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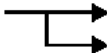
3.DEF	NOTES	None.
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<p>Check the discharge bulb computer connections. Repair if necessary.</p>												
<p>Check the rear sensor connections. Repair if necessary.</p>												
<p>Check the condition of the rear sensor junction harness (pinching/kinking, continuity, etc.). Repair if necessary.</p>												
<p>Check PR031 "Sensor power feed voltage". Check that there is a +12 V F7 (7.5 A) fuse on track 5 of the rear height sensor power supply. Check the continuity and insulation of the connections between:</p> <table><tr><td>Rear height sensor track 5</td><td>————→</td><td>Track 5 of the brown connector of the Protection and Switching Unit</td></tr><tr><td>Rear height sensor track 4</td><td>————→</td><td>Track 6 of the left headlight black connector</td></tr><tr><td></td><td>————→</td><td>Track 6 of the right headlight black connector</td></tr><tr><td>Track 6 of the headlight black connector</td><td>————→</td><td>Track 4 of the computer connector</td></tr></table> <p>Check the continuity between the body earth and track 1 of the rear height sensor connector. Repair if necessary.</p>	Rear height sensor track 5	————→	Track 5 of the brown connector of the Protection and Switching Unit	Rear height sensor track 4	————→	Track 6 of the left headlight black connector		————→	Track 6 of the right headlight black connector	Track 6 of the headlight black connector	————→	Track 4 of the computer connector
Rear height sensor track 5	————→	Track 5 of the brown connector of the Protection and Switching Unit										
Rear height sensor track 4	————→	Track 6 of the left headlight black connector										
	————→	Track 6 of the right headlight black connector										
Track 6 of the headlight black connector	————→	Track 4 of the computer connector										

AFTER REPAIR	<p>Deal with any other possible faults. Clear any faults stored and adjust the height of the headlights following the method described in the help notes. The height of the headlights should be adjusted before computer calibration. Switch off the lights and do a road test followed by a test with the fault finding tool.</p>
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DF009 CONTINUED 3	
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4.DEF	NOTES	None.
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Read the faults on the other computer (if shared fault).
Check the discharge bulb computer connections. Repair if necessary.
Check the rear sensor connections. Repair if necessary.
Check the condition of the rear sensor junction harness (pinching/kinking, continuity, etc.). Repair if necessary. Check the continuity and insulation against +12 V of the connection between: Rear height sensor track 4  Track 6 of the left headlight computer connector Track 6 of the right headlight computer connector If necessary replace the sensor.
If the fault persists, contact the Techline .

<p><i>AFTER REPAIR</i></p>	<p>Deal with any other possible faults. Clear any faults stored and adjust the height of the headlights following the method described in the help notes. The height of the headlights should be adjusted before computer calibration. Switch off the lights and do a road test followed by a test with the fault finding tool.</p>
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DISCHARGE BULB

Fault finding - Interpretation of faults

80C

DF013 PRESENT OR STORED	<u>VEHICLE SPEED SIGNAL</u> DEF : Inconsistent sensor signal CC.0 : Short circuit to earth CC.1 : Short circuit to + 12 V															
NOTES	Conditions for applying the fault finding strategy to the stored fault If the fault reappears stored after: – the fault has been cleared. Move the switch to the dipped headlights position.															
<p>This fault will be shown as present if there is an excessive frequency on the speed signal line. Check the continuity and insulation against +12 V and earth of the speed signal line:</p> <p>Vehicle speed between:</p> <table><tr><td>Track 7 of the left headlight black connector</td><td>—————▶</td><td>Track 23 of the ABS computer</td></tr><tr><td>Track 7 of the right headlight black connector</td><td>—————▶</td><td>Track 23 of the ABS computer</td></tr><tr><td>Track 7 of the left headlight black connector</td><td>—————▶</td><td>Track 33 of the electronic stability program computer</td></tr><tr><td>Track 7 of the right headlight black connector</td><td>—————▶</td><td>Track 33 of the electronic stability program computer</td></tr><tr><td>Track 7 of the left headlight black connector</td><td>—————▶</td><td>Track 3 of the computer connector</td></tr></table> <p>If necessary replace the sensor.</p>		Track 7 of the left headlight black connector	—————▶	Track 23 of the ABS computer	Track 7 of the right headlight black connector	—————▶	Track 23 of the ABS computer	Track 7 of the left headlight black connector	—————▶	Track 33 of the electronic stability program computer	Track 7 of the right headlight black connector	—————▶	Track 33 of the electronic stability program computer	Track 7 of the left headlight black connector	—————▶	Track 3 of the computer connector
Track 7 of the left headlight black connector	—————▶	Track 23 of the ABS computer														
Track 7 of the right headlight black connector	—————▶	Track 23 of the ABS computer														
Track 7 of the left headlight black connector	—————▶	Track 33 of the electronic stability program computer														
Track 7 of the right headlight black connector	—————▶	Track 33 of the electronic stability program computer														
Track 7 of the left headlight black connector	—————▶	Track 3 of the computer connector														
<p>If the speed signal line is in working order, carry out a complete fault finding procedure on the anti-lock braking system - electronic stability program.</p>																
<p>If the fault is still present, contact the Techline.</p>																

AFTER REPAIR	Deal with any other possible faults. Clear any faults stored and adjust the height of the headlights following the method described in the help notes. The height of the headlights should be adjusted before computer calibration. Switch off the lights and do a road test followed by a test with the fault finding tool.
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DISCHARGE BULB

Fault finding - Interpretation of faults

80C**DF018
PRESENT
OR
STORED****ACTUATORS**

DEF: Open circuit, short circuit to earth or + 12 V

NOTES**Conditions for applying the fault finding procedure to stored faults:**

If the fault appears as present after:

- the fault has been cleared,
- the ignition is switched off and on again, then the dipped headlights are switched on.

Park the vehicle facing a wall. Switch off the engine. Switch on the ignition and turn on the dipped headlights.
Use command **AC011 "Headlight actuator control"** to check that it is working properly.

Left lens unit

Check the non-calibrating lens unit by carrying out the following checks:

- Ensure the continuity of the computer connections and those of the actuator in the headlight.
- Check the **insulation and continuity** of the connections:
 - of the computer connector **track 11** —————> **Track 1** of the actuator connector
 - of the computer connector **track 9** —————> **Track 2** of the actuator connector
 - of the computer connector **track 6** —————> **Track 3** of the actuator connector
 - of the computer connector **track 10** —————> **Track 4** of the actuator connector
 - of the computer connector **track 8** —————> **Track 5** of the actuator connector

If everything is correct, replace the headlight.

If the fault is still present, **contact the Techline**.**AFTER REPAIR**

Deal with any other possible faults.

Clear any faults stored and adjust the height of the headlights following the method described in the help notes.

The height of the headlights should be adjusted before computer calibration.

Switch off the lights and do a road test followed by a test with the fault finding tool.

DF018
CONTINUED

Right lens unit

Check the non-calibrating lens unit by carrying out the following checks.
Ensure the continuity of the computer connections and those of the actuator in the headlight.

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

of the computer connector track 11	————→	Track 1 of the actuator connector
of the computer connector track 9	————→	Track 2 of the actuator connector
of the computer connector track 6	————→	Track 3 of the actuator connector
of the computer connector track 10	————→	Track 4 of the actuator connector
of the computer connector track 8	————→	Track 5 of the actuator connector

If everything is correct, replace the headlight.

If the fault is still present, **contact the Techline**.

AFTER REPAIR

Deal with any other possible faults.

Clear any faults stored and adjust the height of the headlights following the method described in the help notes.

The height of the headlights should be adjusted before computer calibration.

Switch off the lights and do a road test followed by a test with the fault finding tool.

DISCHARGE BULB

Fault finding - Interpretation of faults

80C

DF020 PRESENT OR STORED	<u>DISCHARGE BULB POWER UNIT</u> DEF: Open circuit, short circuit to earth or + 12 V
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NOTES	Conditions for applying the fault finding procedure to stored faults: Where the fault reappears as present following: <ul style="list-style-type: none"> – the fault has been cleared,
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Left lens unit	Check the light plug and connections. Replace the light if necessary.
	Check the high voltage wiring harness connections. Repair if necessary.
	Check the insulation and continuity of the harness connections: Black connector track 1 —————> Track 1 brown connector Black connector track 2 —————> Track 2 brown connector Black connector track 4 —————> Track 4 brown connector Repair if necessary. Replace the wiring harness if necessary.
	If the fault is still present, contact the Techline.

Right lens unit	Check the light plug and connections. Replace the light if necessary.
	Check the high voltage wiring harness connections. Repair if necessary.
	Check the insulation and continuity of the harness connections: Black connector track 1 —————> Track 1 brown connector Black connector track 2 —————> Track 2 brown connector Black connector track 4 —————> Track 4 brown connector Repair if necessary. Replace if necessary.
	If the fault is still present, contact the Techline.

AFTER REPAIR	Deal with any other possible faults. The height of the headlights should be adjusted before computer calibration. Switch off the lights and do a road test followed by a test with the fault finding tool.
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DISCHARGE BULB

Fault finding - Conformity check

80C**NOTES**

Only perform this conformity check after a complete check with the fault finding tool.
Prerequisite: dipped headlights on.

Order	Function	Parameter or Status checked or Action	Display and notes	Fault finding
1	Computer calibration	ET001	Not entered (*)	If a problem occurs, use CF001
	Vehicle speed	ET006	ABSENT Vehicle stationary	In the event of a problem, refer to DF013
	Faulty sensor	ET007	NO	If a problem occurs, use CF001
	Sensor signal	ET009	PRESENT	If a problem occurs, see fault finding procedures PR002 and PR003

(*) The type of fault that does not allow calibration in the event of a failure is defined by **ET006** to **ET010**.

DISCHARGE BULB

Fault finding - Conformity check

80C**NOTES**

Only perform this conformity check after a complete check with the fault finding tool.
Prerequisite: dipped headlights on.

Lighting Management sub-function

Order	Function	Parameter or Status checked or Action	Display and notes	Fault finding
1	Computer configuration	ET010	Not input	If a problem occurs, use CF004
2	Sensor signal	PR002 PR003	$0.8 < X < 11.6 \text{ V}$	If a problem occurs, use PR031
3	Initial front and rear height	PR004 PR005	$30\% < X < 70\%$ approximately 50% at initialisation	If a problem occurs, use DF008 and DF009
4	Level	PR021	Reference level - load < level variation < + load	If a problem occurs, use DF008 and DF009
5	Sensor supply voltage	PR031	$11.8 < X < 13.2 \text{ V}$	If a problem occurs, use DF008 and DF009

NOTES	Only consult the customer complaints after a complete check using the fault finding tool.
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NO COMMUNICATION WITH THE COMPUTER	FAULT FINDING CHART 1
NO HEIGHT ADJUSTMENT ON ONE OR BOTH HEADLIGHTS WHATEVER THE VEHICLE'S LOAD	FAULT FINDING CHART 2
DIPPED HEADLIGHT BEAMS TOO HIGH	FAULT FINDING CHART 3
ONE OR BOTH HEADLIGHTS SUDDENLY FOLD IN	FAULT FINDING CHART 4
THE LEFT AND RIGHT DIPPED BEAM HEADLIGHTS DO NOT LIGHT AT THE SAME HEIGHT	FAULT FINDING CHART 5

DISCHARGE BULB

Fault finding - Fault finding chart

80C

FAULT FINDING CHART 1	No dialogue with the computer
NOTES	None.
<p>Make sure the fault finding tool is not the cause of the problem by trying to communicate with another computer on another vehicle.</p>	
<p>Check the "dipped headlights" parameter in the UCH. Is it active? If yes: Perform fault finding on the Protection and Switching Unit. If no: Check the switch.</p>	
<p>Check the battery voltage and carry out the operations necessary to obtain a correct voltage (9.5 V < correct battery voltage < 17.5 V). Check for the presence of a +12 V before ignition feed on track 16, for a +12 V after ignition feed on track 1 and for an earth on tracks 4 and 5 of the diagnostic socket. Repair if necessary.</p>	
<p>Check the insulation and continuity of the connections:</p> <ul style="list-style-type: none"> Headlight computer track 5 —————> +12 V (switch in dipped headlights position) Headlight computer track 3 —————> +12 V (switch in dipped headlights position) Headlight computer track 10 —————> Earth Headlight computer track 4 —————> Earth Headlight computer track 2 —————> Track 7 of the diagnostic socket (line K) 	
<p>If the tool is not at fault and dialogue cannot be established with any other computer on the same vehicle, it may be that a faulty computer is disrupting diagnostic line K. Disconnect the computers one at a time to locate the fault.</p>	
<p>If the fault is still present, contact the Techline.</p>	

AFTER REPAIR	Carry out a check using the fault finding tool. Deal with any faults found.
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DISCHARGE BULB

Fault finding - Fault finding chart

80C

FAULT FINDING CHART 2	No height adjustment on either or both headlights, regardless of vehicle load
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NOTES	Only consult this customer complaint after a complete check using the fault finding tool.
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Check headlight initialisation when the dipped headlights are turned on.
Use command AC011 Headlight actuator control to identify the faulty headlight. On the faulty computer, check whether the front and rear sensor parameters PR002 and PR003 "Initial front and rear height" are between 30% < X < 70% .
Check whether the headlight is jammed mechanically (ball joint out of place, reflector stuck, actuator locked).
Carry out a test by switching the right and left-hand computers. If the problem headlight is corrected, contact the Techline . If the problem headlight is not corrected: Replace the headlight.

AFTER REPAIR	Carry out a check using the fault finding tool. Deal with any faults found.
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**FAULT FINDING
CHART 3****The dipped headlight beams are too high****NOTES**

Only consult this customer complaint after a complete check using the fault finding tool.

Check that headlights are mounted correctly.

Check that right and left front lens units light at the same level.
If the heights of the lens units differ, reinitialise the two computers.Make sure the parameter **PR021 "Vehicle level"** matches the type of vehicle **LC010**.
Check whether the initial front and rear heights are correct with vehicle type **PR004** and **PR005 Initial front and rear heights between 30% < X < 70%**.Check the condition of system mechanical components (sensor mounting, linkages).
Use command **AC011 "Headlight actuator control"** and manual headlight adjustment.**AFTER REPAIR**Carry out a check using the fault finding tool.
Deal with any faults found.

**FAULT FINDING
CHART 4****Sudden fold in of either headlight****NOTES**

Only consult this customer complaint after a complete check using the fault finding tool.

Check front and rear sensor parameter **PR002** and **PR003 "Sensor signals"**: it should be between **0.8** and **11.6 V**.

Check actuator position (**PR020 "Actuator position"**). Check whether the positions are the same on both sides.

Check the mechanical connections of the sensors:

- linkages,
- mounting.

Repair if necessary.

Conduct a test by switching the right and left computers.

Does the problem persist on the same headlight?

NO

Does the problem occur on the other lens unit?

Yes

Contact the Techline.

No

Check the computer connections
Repair if necessary

YES

Replace the headlight.

AFTER REPAIR

Carry out a check using the fault finding tool.
Deal with any faults found.

DISCHARGE BULB

Fault finding - Fault finding chart

80C**FAULT FINDING
CHART 5**

The left and right dipped headlight beams are not at the same height

NOTES

Only consult this customer complaint after a complete check using the fault finding tool.

Check the vehicle configuration.

Check that lens units are properly mounted.

Check sensor parameters **PR002 and PR003 Sensor signal**.

Check the condition of system mechanical components (sensor mounting, linkages).
Repair if necessary.

Check actuator position (**PR020 "Actuator position"**).

Use command **AC011 "Headlight actuator control"** and manual lens unit adjustment.

AFTER REPAIR

Carry out a check using the fault finding tool.
Deal with any faults found.