

DUSTER

8 Equipement électrique

83A

INSTRUMENT PANEL INSTRUMENTS

Fault finding – Introduction	83A - 2
Fault finding – System operation	83A - 8
Fault finding – Replacement of components	83A - 14
Fault finding – Customer complaints	83A - 15
Fault finding – Fault Finding Chart	83A - 20

V1

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 method applicable to all computers with the following specifications:

Vehicle(s): **H79**

Function concerned: **Instrument panel**

2. PREREQUISITES FOR FAULT FINDING

Documentation type

Fault finding procedures (this manual):

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

Wiring Diagrams:

- Visu-Schéma.

Type of diagnostic tools

- CLIP

Special tooling required

Special tooling required:
Diagnostic tool
Multimeter

3. REMINDERS

Procedure

To run fault finding on the instrument panel, switch on the ignition in fault finding mode (+ after ignition).

Customer complaints - Fault finding chart

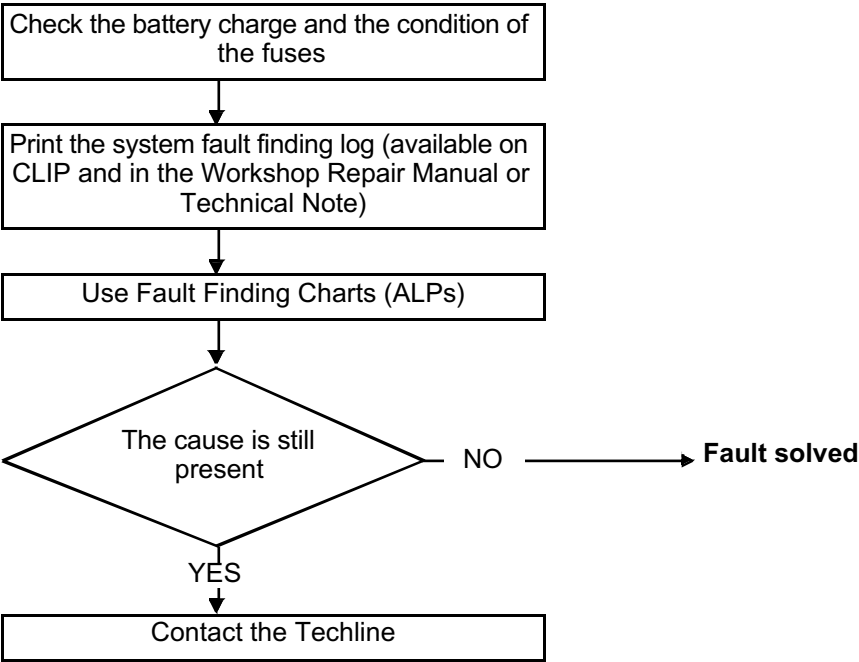
As the RENAULT diagnostic tool cannot be used to carry out fault finding on the instrument panel, fault finding is carried out by means of customer complaints and fault finding charts

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

AFTER REPAIR

Check for correct operation.

4. FAULT FINDING PROCEDURE



AFTER REPAIR	Check for correct operation.
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FAULT FINDING PROCEDURE (continued)

Wiring check

Fault finding problems

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

Visual inspection

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

Physical inspection

While manipulating the wiring, use the diagnostic tool to note any change in fault status from stored to present. Make sure that the connectors are properly locked.
Apply light pressure to the connectors.
Twist the wiring harness.
If there is a change in status, try to locate the source of the fault.

Inspection of each component

Disconnect the connectors and check the appearance of the clips and tabs, as well as their crimping (no crimping on the insulating section).
Make sure that the clips and tabs are properly locked in the sockets.
Check that no clips or tabs have been dislodged during connection.
Check the clip contact pressure using an appropriate model of tab.

Resistance check

Check the continuity of entire lines, then section by section.
Look for a short circuit to earth, to + 12 V or with another wire.
If a fault is detected, repair or replace the wiring harness.

AFTER REPAIR	Check for correct operation.
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5. 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.

6. SELF-TEST FUNCTION

Testing the various display devices consists of:

- activating the needle indicators and the LCD numerical indicators.

IMPORTANT

The warning lights are controlled via a wire connection (conventional control by means of a wire connecting the warning light to the computer). They are not tested via the instrument panel.

To test the warning lights, use a diagnostic tool (CLIP or NXR) in **warning light fault test** command mode for the computers controlling the warning light to be checked, except the low fuel level warning light, which is tested via the instrument panel.

Failure of any of the warning lights requires the instrument panel to be replaced.

AFTER REPAIR	Check for correct operation.
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ACCESS TO FAULT FINDING MODE AND CHANGE OF PAGES

This function is viewed:

Version with and without trip computer

Input:

- By pressing and holding the odometer Reset button for **5 seconds** when switching on the **APC**.

Scrolling:

- To scroll the trip computer information, press the odometer Reset button repeatedly.

Output:

- The fault finding phase ends automatically after **5 minutes**.
- The fault finding phase ends after the ignition is switched off.
- The fault finding phase can be ended by pressing and holding the mileage counter reset button, which clears the stored faults.

DESCRIPTION OF THE NEEDLE INDICATOR TEST SEQUENCE

The needle indicators are activated at the same time.
The speedometer displays, for **1 second** in **24 mph (40 km/h)** stages, speeds ranging from **0 to 102 mph (170 km/h)**.
The rev counter displays, for **1 second** in **1000 rpm** stages, values ranging from **0 to 7000 rpm**.

AFTER REPAIR	Check for correct operation.
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DISPLAYING THE TRIP COMPUTER PAGES AND FAULT FINDING HELP

First page: all the warning lights are illuminated with software version + clock on the trip computer page.

Second page: all the segments are illuminated on the trip computer.

Third page: **Number of litres display**
If an "open circuit or short circuit" fault is present, "- - -" is displayed.

Fourth page: **Fuel flow in litres/hour** information with the engine running.
If an "open circuit or short circuit" fault is present, "- -" is displayed.

Fifth page: **Stored sensor faults**, no present or stored fault displayed as "- - - -".
– The stored and present "coolant temperature" faults are displayed as "- - -TO" for open circuit and "- - -TC" for short circuit.

The "coolant temperature" faults are not significant, the "TO" fault must not be taken into account when the engine is cold.

- The stored and present "fuel gauge" faults are displayed as "-JO- -" for open circuit and "-JC- -" for short circuit.
- The stored and present "fuel flow" faults are displayed as "D- - -" for no fuel flow signal.

The "fuel flow" faults are to be taken into account only on the versions with the trip computer.

All the displayed faults of the "stored sensor faults" page are faults that were detected, but no longer confirmed as present.

In case of several stored or present faults, they are all displayed on a single line.

To clear the stored faults and end the self-test procedure sequence, press and hold the odometer Reset button.

AFTER REPAIR	Check for correct operation.
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1. OPERATION OF THE NEEDLE INDICATORS

Speedometer

The vehicle speed signal is transmitted to the instrument panel by a wire link.

The vehicle speed signal can be supplied by:

- the vehicle speed sensor located on the gearbox (for a 4x2 vehicle without ABS or ESP),
- the ETC torque distribution computer (for a 4x4 vehicle without ABS, without ESP),
- the ABS computer (for a vehicle with ABS),
- the ESP computer (for a vehicle with ESP).

Engine speed indicator

The engine speed signal is transmitted to the instrument panel by a wire connection (signal provided by the injection computer).

2. OPERATION OF THE TRIP COMPUTER

Coolant temperature bargraph

The coolant temperature signal is transmitted to the instrument panel by a wire connection.

The signal is produced by the coolant temperature sensor.

Above **115°C (inclusive)**, all the segments are illuminated with the warning light.

From **105°C (inclusive)** to **115°C (not inclusive)**, nine segments are illuminated.

From **80°C (inclusive)** to **105°C (not inclusive)**, six segments are illuminated.

From **50°C (not inclusive)** to **80°C (not inclusive)**, three segments are illuminated.

No segments are illuminated when the temperature is below **50°C**.

Fuel level bargraph and low fuel level warning light

The separate "**low fuel level**" warning light comes on when the reserve level is reached and nine segments of the bargraph are extinguished.

The wire signal from the fuel sender is processed to calculate the fuel level and manage the warning light.

SPECIAL NOTE ABOUT OPERATION WHEN THE IGNITION IS SWITCHED ON:

A **3 second** self-test is run on the "low fuel level" warning light when the ignition is switched on.

Case 1: if the fuel sender is connected but the fuel level in the tank is lower than the reserve threshold, the continued illumination of the warning light after **3 seconds** depends on the fuel level signal (smoothed and taking into account recalibrations).

AFTER REPAIR	Check for correct operation.
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Case 2: if the fuel sender is not connected and it is the first time the fault appears when switching on the ignition, the **low fuel level warning light** first flashes quickly for **2 seconds**, then after **1 minute 40 seconds maximum** (fault detection time), the fuel level bargraph goes out, then the low fuel level warning light is illuminated continuously.

Case 3: if the fuel sender is not connected and the warning light had been illuminated before the ignition was switched on this time, the **low fuel level** warning light stays illuminated, then after **1 minute 40 seconds**, all the bargraph segments go out.

AFTER REPAIR	Check for correct operation.
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Oil pressure warning light

When the ignition is switched on, the oil pressure warning light illuminates.

When the engine is running and the oil pressure is sufficient, the warning light goes out.

The oil pressure signal is transmitted to the instrument panel by a wire connection.

The signal is produced by the oil pressure switch.

3. ODOMETER**Total mileage**

The total mileage is displayed as soon as the ignition is switched on.

Press the **Trip computer** scroll button or the **Reset** button to move to the next page.

Trip mileage

The trip mileage is displayed instead of the total mileage when the **Trip computer** or the **Reset** button is pressed briefly.

Except in the following cases:

- it is reset by a long press of the instrument panel **Reset** button,
- resetting the trip mileage is different from resetting the **trip computer** (distance travelled).

Trip computer

The various sequences of the trip computer can be displayed instead of the mileage by pressing the button at the end of the wiper stalk (**Trip computer** button). It is reset by a long press of the **Reset** button.

The signals from the trip computer are displayed after the trip mileage as follows:

- **Fuel consumed** (in litres per 100 km) since the last reset,
- **Average consumption** (in litres per 100 km) since the last reset.

This is only displayed after the vehicle has travelled **400 m**.

This takes into consideration the distance covered and the fuel consumption since the last time the reset button was pressed.

AFTER REPAIR

Check for correct operation.

Estimated range with remaining fuel (in km).

This is only displayed after the vehicle has travelled approximately **400 m**. This is the potential distance remaining calculated on the basis of distance travelled, amount of fuel remaining in the tank and fuel consumption.

Note:

The range is no longer displayed **3 minutes after** the low fuel level warning light illuminates.

- **Distance travelled** since the last reset.
- **Average speed** since the last reset.

This is displayed after the vehicle has travelled **400 m**. It is obtained by dividing the distance travelled by the time elapsed since the last reset. The time base is internal to the on-board computer.

HANDBRAKE APPLIED AND BRAKING CIRCUIT FAULT DETECTED WARNING LIGHT

- Handbrake switch.
- Low brake fluid switch.
- Electronic braking distribution fault (**ONLY WITH ABS OR ESP**).
- Electronic front - rear torque distribution (**ETC**) fault.

AFTER REPAIR	Check for correct operation.
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INSTRUMENT PANEL INSTRUMENTS

Fault finding – System operation

83A

Warning light		Control	Tested	Signal transmitter
1	Opening elements	Earth	NO	UCH
2	Dipped headlights	+ 12 V	NO	Lighting stalk
3	Main beam headlights	+ 12 V	NO	Lighting stalk
4	Rear fog lights	+ 12 V	NO	Lighting stalk
5	Front fog lights	+ 12 V	NO	Lighting stalk
6	Left-hand and right-hand direction indicator lights	+ 12 V	NO	UCH
7	Battery charge fault	Earth	NO (but illuminated when engine stopped)	Alternator
8	Coolant temperature	Earth	3 seconds by injection	Injection computer
9	Oil pressure alert	Earth	NO (but illuminated when engine stopped)	Oil pressure sensor
10	Handbrake applied + low brake fluid (without ABS, without ESP, without ETC)	Earth	NO	Handbrake switch Low brake fluid switch
	Handbrake applied + low brake fluid + electronic braking distribution (with ABS OR ESP OR ETC)		3 seconds by ABS OR ESP OR ETC	Handbrake switch + Low brake fluid switch + ABS OR ESP OR ETC computer
11	ESP	Earth	3 seconds by ESP	ESP computer
12	ABS system (active)	Earth	3 seconds by ABS OR ESP	ABS OR ESP computer
13	Airbag	Earth	3 seconds by Airbag	Airbag computer
14	Airbag Off	Earth	3 seconds by Airbag	Airbag computer
15	Heated rear screen	Earth	NO (but illuminated when engine stopped)	Relay plate
16	Minimum fuel level alert	Earth	3 seconds Instrument panel	Instrument panel management (sender unit signal)
18	OBD	Earth	3 seconds by injection	Injection computer
19	Safety reminder	Earth	NO (but illuminated when engine stopped)	Seat belt switch
20	Injection fault level 2	Earth	3 seconds by injection	Injection computer

AFTER REPAIR

Check for correct operation.

INSTRUMENT PANEL INSTRUMENTS

Fault finding – System operation

83A

Warning light		Control	Tested	Signal transmitter
21	4x4	Earth	3 seconds by the front - rear torque distribution (ETC) computer	Front - rear torque distribution (ETC)
22	4X2	Earth	3 seconds by the front - rear torque distribution (ETC) computer	Front - rear torque distribution (ETC)
23	IVP	Earth	3 seconds by injection	Injection computer
24	PARTICLE FILTER REGEN.	Earth	3 seconds by injection	Injection computer
25	Water in diesel fuel	Earth	3 seconds by injection	Injection computer
26	Diesel preheating Electronic fault level 1	Earth	3 seconds by injection	Injection computer
27	Software lock	Earth	3 seconds by UCH	UCH computer

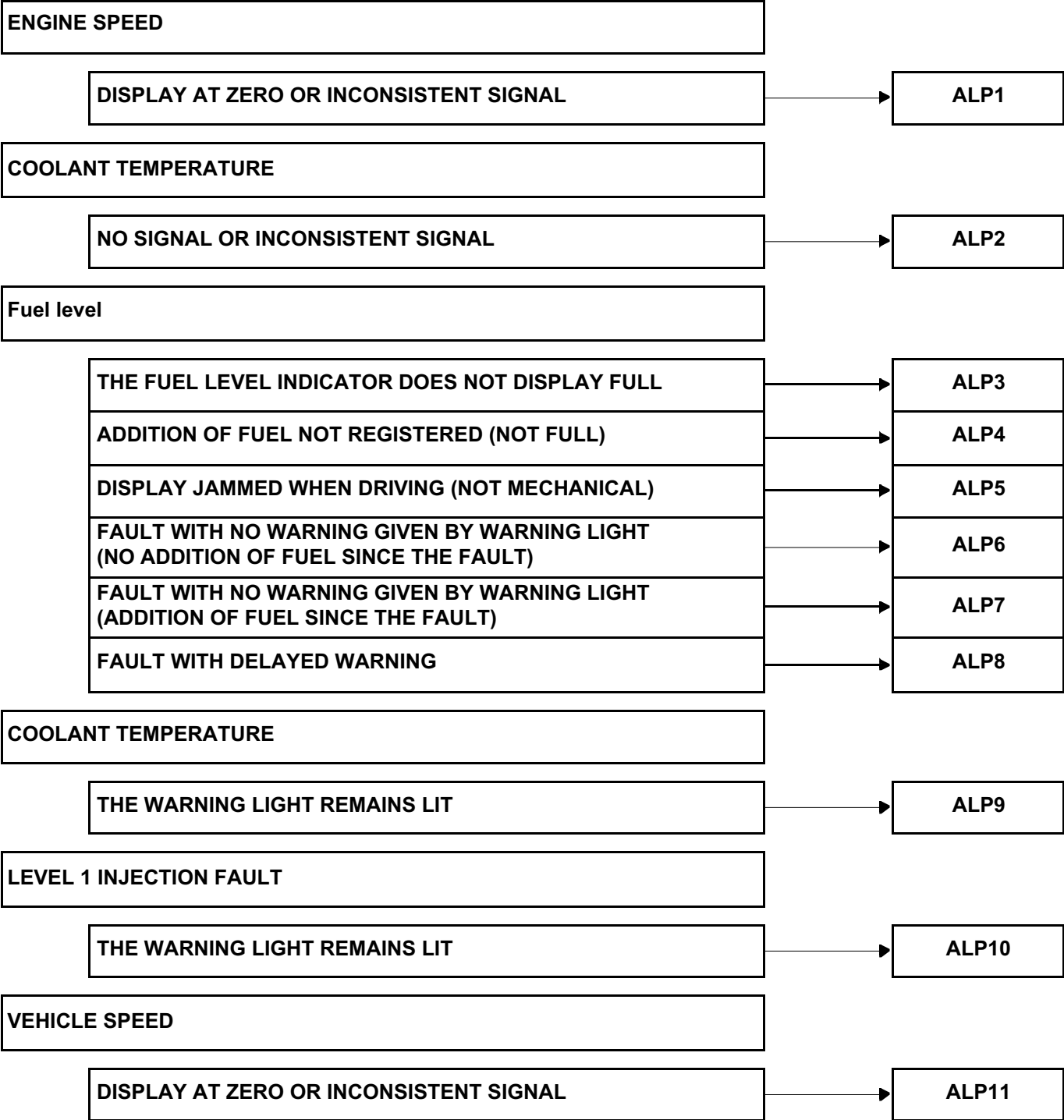
AFTER REPAIR

Check for correct operation.

Replacement operation

- Carry out fault finding before replacing the instrument panel.
- Operation of removing and refitting the instrument panel: see **Mechanical, 83A, Instrument panel instruments, Instrument panel: Removal - Refitting.**
- The instrument panel may be replaced when the Techline has given its approval.

AFTER REPAIR	Check for correct operation.
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AIRBAG FAULT

THE WARNING LIGHT REMAINS LIT

ALP12

OIL PRESSURE WARNING

THE WARNING LIGHT REMAINS LIT

ALP13

DIPPED HEADLIGHTS

THE WARNING LIGHT OPERATES INCONSISTENTLY

ALP14

MAIN BEAM HEADLIGHTS

THE WARNING LIGHT OPERATES INCONSISTENTLY

ALP15

REAR FOG LIGHTS

THE WARNING LIGHT OPERATES INCONSISTENTLY

ALP16

FRONT FOG LIGHTS

THE WARNING LIGHT OPERATES INCONSISTENTLY

ALP17

ABS FAULT

THE WARNING LIGHT OPERATES INCONSISTENTLY

ALP18

DIRECTION INDICATOR LIGHTS

THE WARNING LIGHT OPERATES INCONSISTENTLY

ALP19

ENGINE IMMOBILISER

THE ENGINE IMMOBILISER WARNING LIGHT REMAINS LIT OR
FLASHES WHEN DRIVING

ALP20

WARNING LIGHT REMAINS NOT LIT WHEN NOT UNDER AFTER
IGNITION FEED

ALP21

BATTERY CHARGE FAULT

THE WARNING LIGHT REMAINS LIT (ENGINE RUNNING)

ALP22

HANDBRAKE APPLIED AND FAULT DETECTED ON BRAKING CIRCUIT

THE WARNING LIGHT OPERATES INCONSISTENTLY (WITHOUT
ABS, WITHOUT ESP, WITHOUT ETC)

ALP23

THE WARNING LIGHT OPERATES INCONSISTENTLY (WITH ABS
OR WITH ESP OR WITH ETC)

ALP24

HEATED REAR SCREEN

THE WARNING LIGHT DOES NOT LIGHT UP

ALP25

INSTRUMENT PANEL

NO DISPLAY WHEN IGNITION IS SWITCHED ON

ALP26

TRIP COMPUTER OR TRIP METER OR CLOCK

RESET WHENEVER THE IGNITION IS SWITCHED OFF

ALP27

DOOR OPEN WARNING LIGHT

THE WARNING LIGHT DOES NOT LIGHT UP

ALP28

INJECTION FAULT WARNING LIGHTS

THE OBD INJECTION FAULT WARNING LIGHT REMAINS LIT

ALP29

THE LEVEL 2 INJECTION FAULT WARNING LIGHT REMAINS LIT

ALP30

SEAT BELT REMINDER WARNING LIGHT

THE WARNING LIGHT OPERATES INCONSISTENTLY

ALP31

PARTICLE FILTER WARNING LIGHT

THE WARNING LIGHT REMAINS LIT

ALP32

IVP WARNING LIGHT

THE WARNING LIGHT REMAINS LIT

ALP33

4X2 AND 4X4 WARNING LIGHTS

THE 4X2 WARNING LIGHT REMAINS LIT

ALP34

THE 4X4 WARNING LIGHT REMAINS LIT

ALP35

WATER IN DIESEL FUEL WARNING LIGHT

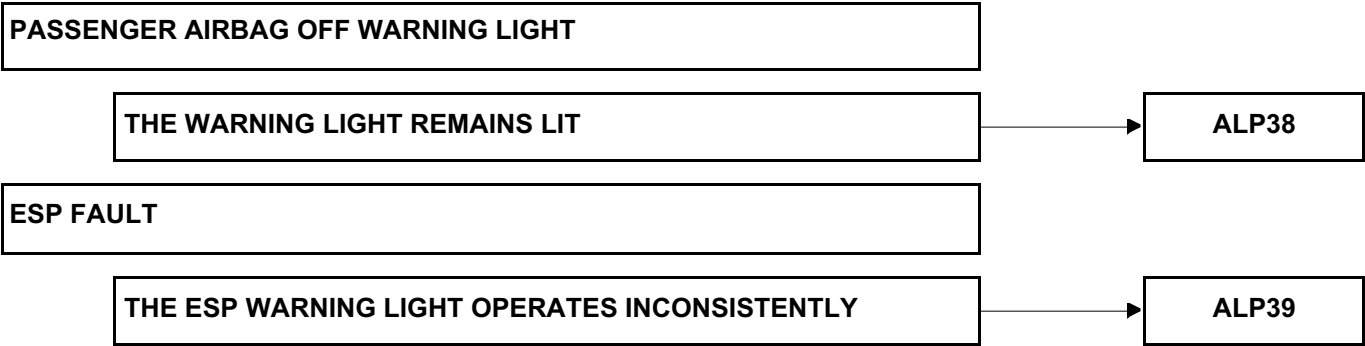
THE WARNING LIGHT REMAINS LIT

ALP36

GEAR ENGAGED INDICATOR

GEAR ENGAGED INDICATOR INOPERATIVE

ALP37



ALP 1	Engine speed display at zero or inconsistent signal Message from: Injection computer
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NOTES	Use the Technical Note Wiring Diagrams for H79.
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Establish dialogue with the **injection computer**.

Check that the engine speed signal is present and consistent.

If the engine speed signal is absent or inconsistent, run fault finding on the injection (see **13B, Diesel injection** or **17B, Petrol injection**).

Deal with any other faults.

Check the **condition** and **connection** of the connectors of the **injection computer**, component code **120** and the **instrument panel**, component code **247**.

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

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

– **H7** between components **120** and **247**.

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, activate a self-test sequence for the instrument panel.

If the self-test sequence is not correct, contact the Techline.

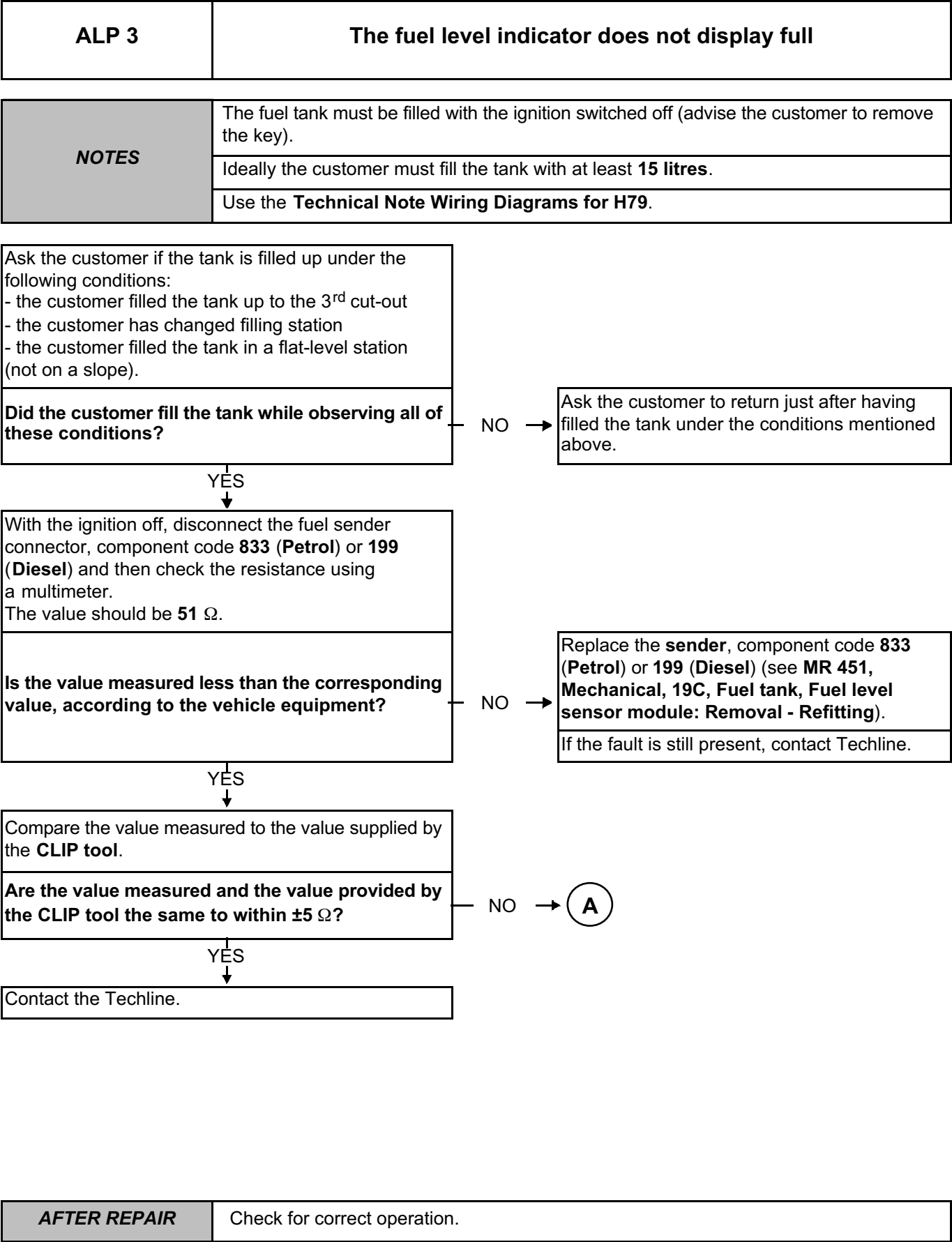
AFTER REPAIR	Check for correct operation.
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ALP 2	No coolant temperature signal or inconsistent signal Signal from the coolant temperature sensor
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NOTES	Use the Technical Note Wiring Diagrams for H79.
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<p>Check the condition and connection of the connectors of the coolant temperature sensor, component code 244 and the instrument panel, component code 247. If the connectors are faulty and if there is a repair procedure (see Technical Note 6015A, Repairing electrical wiring, Wiring: Precautions for repair), repair the connector, otherwise replace the wiring.</p>	
<p>Check the resistance of the coolant temperature sensor, component code 244 between connection 42A and earth. For diesel injection check the resistance of the coolant temperature sensor, component code 244 between connection 42A and connection NH. Replace the coolant temperature sensor, component code 244 (see MR451, Mechanical, 19A Cooling, Coolant temperature sensor: Removal – Refitting) if the resistance is not:</p> <ul style="list-style-type: none"> – 50 to 80°C = 825 Ω < X < 927 Ω – 80 to 105°C = 273 Ω < X < 300 Ω – 105 to 115°C = 124 Ω < X < 136 Ω <p>Warning temperature +115°C = 103 Ω</p>	
<p>Check the insulation, continuity, and the absence of interference resistance on the following connection: – 42A between components 247 and 244. For diesel injection check the insulation, continuity, and the absence of interference resistance on the following connection: – NH between component 244 and earth. If the connections are faulty and if there is a repair procedure (see Technical Note 6015A, Electrical wiring repair, Wiring: Precautions for repair), repair the wiring, otherwise change the wiring.</p>	
<p>If the fault is still present, contact the Techline.</p>	

AFTER REPAIR	Check for correct operation.
---------------------	------------------------------



ALP 3
CONTINUED 1

A

Check the **condition** and **connection** of the connectors of the **instrument panel**, component code **247** and the **fuel sender**, component code **833** (**Petrol**) or **199** (**Diesel**).

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

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

- **41A** between components **247** and **833** (**Petrol**) or **199** (**Diesel**),
- **47A** between components **247** and **833** (**Petrol**) or **199** (**Diesel**).

Are the checks correct?

NO

B

YES

Measure the resistance of the sender and the wiring using a multimeter via the connector, on the instrument panel side.

Are the value measured and the value provided by the CLIP tool the same to within $\pm 5 \Omega$?

YES

Contact the Techline.

NO

Replace the instrument panel, component code **247** (see **MR 451, Mechanical, 83A, Instrument panel, Instrument panel: Removal - Refitting**).

Is the fault still present?

NO

The problem disappears.

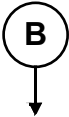
YES

Contact the Techline.

AFTER REPAIR

Check for correct operation.

ALP 3 CONTINUED 2	
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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.

Is the fault still present?

YES → Contact the Techline.



The problem disappears.

AFTER REPAIR	Check for correct operation.
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INSTRUMENT PANEL INSTRUMENTS

Fault finding – Fault Finding Chart

83A

ALP 4	Addition of fuel not registered (not full)
NOTES	None.
Consult the interpretation of ALP3 The fuel level indicator does not display full.	

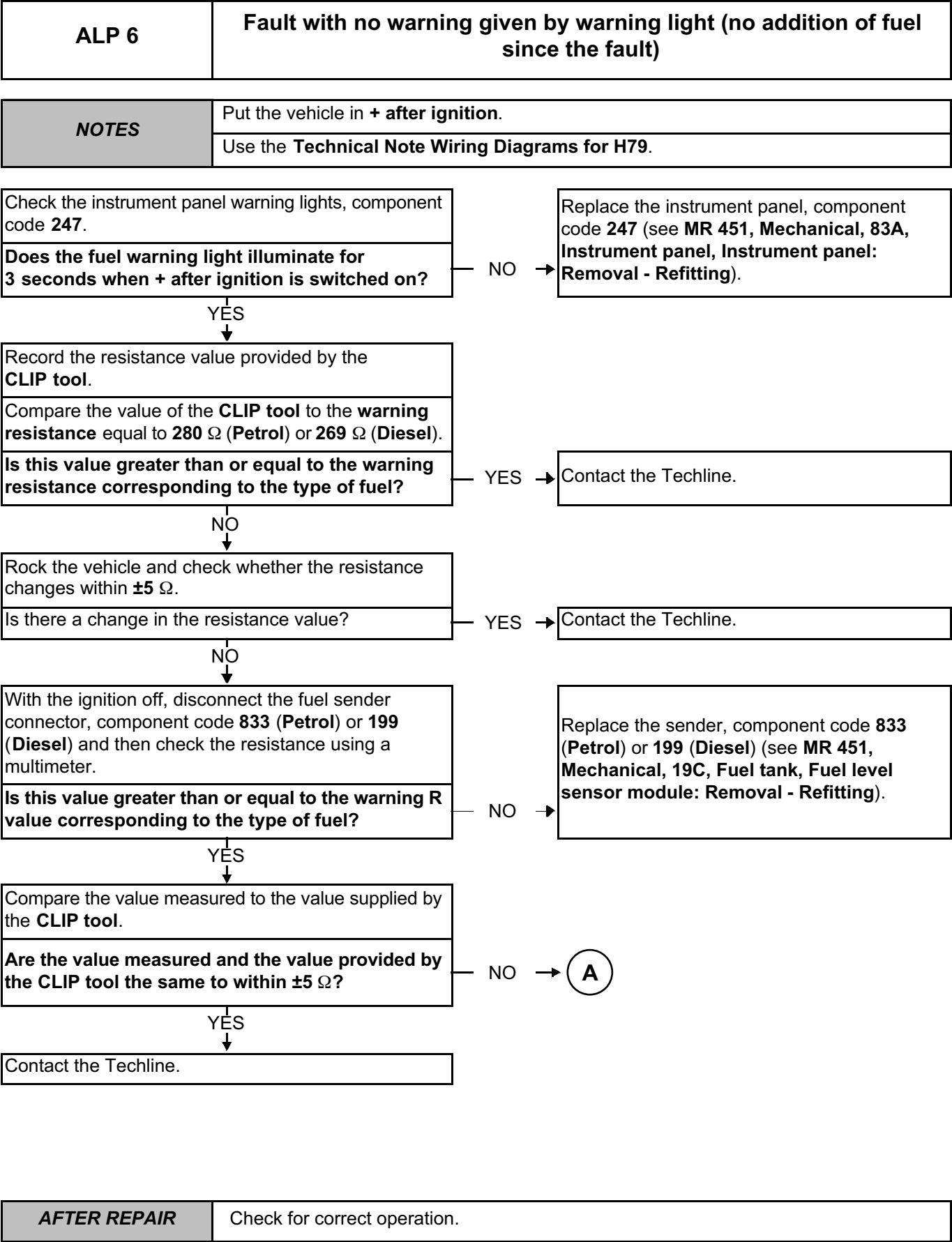
AFTER REPAIR	Check for correct operation.
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ALP 5	Display jammed when driving (not mechanical)
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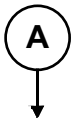
NOTES	For economical driving, the blocks on the display may remain illuminated or the needle may remain jammed up to 120 miles (200 km) .
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Check that there is no mechanical jamming.
If the fault is on the block at the top of the display or the needle is jammed at full: check that the customer has travelled a sufficient amount of miles (km) for the block at the top of the display to go out or for the needle to move from the full section.
Check that the customer has not exceeded 3 filler cut-outs when filling the tank with fuel.
If the fault is still present or if the needle or the display is jammed in any position other than full, contact the Techline.

AFTER REPAIR	Check for correct operation.
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ALP 6
CONTINUED 1



Check the **condition** and **connection** of the connectors of the **instrument panel**, component code **247** and the **fuel sender**, component code **833** (**Petrol**) or **199** (**Diesel**).

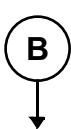
If the connectors are faulty and if there is a repair procedure (see **Technical Note 6015A, Repairing electrical wiring, Wiring: Precautions for repair**), repair the connector, otherwise replace the wiring.

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

- **41A** between components **247** and **833** (**Petrol**) or **199** (**Diesel**),
- **47A** between components **247** and **833** (**Petrol**) or **199** (**Diesel**).

Are the checks correct?

NO → B



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.

Is the fault still present?

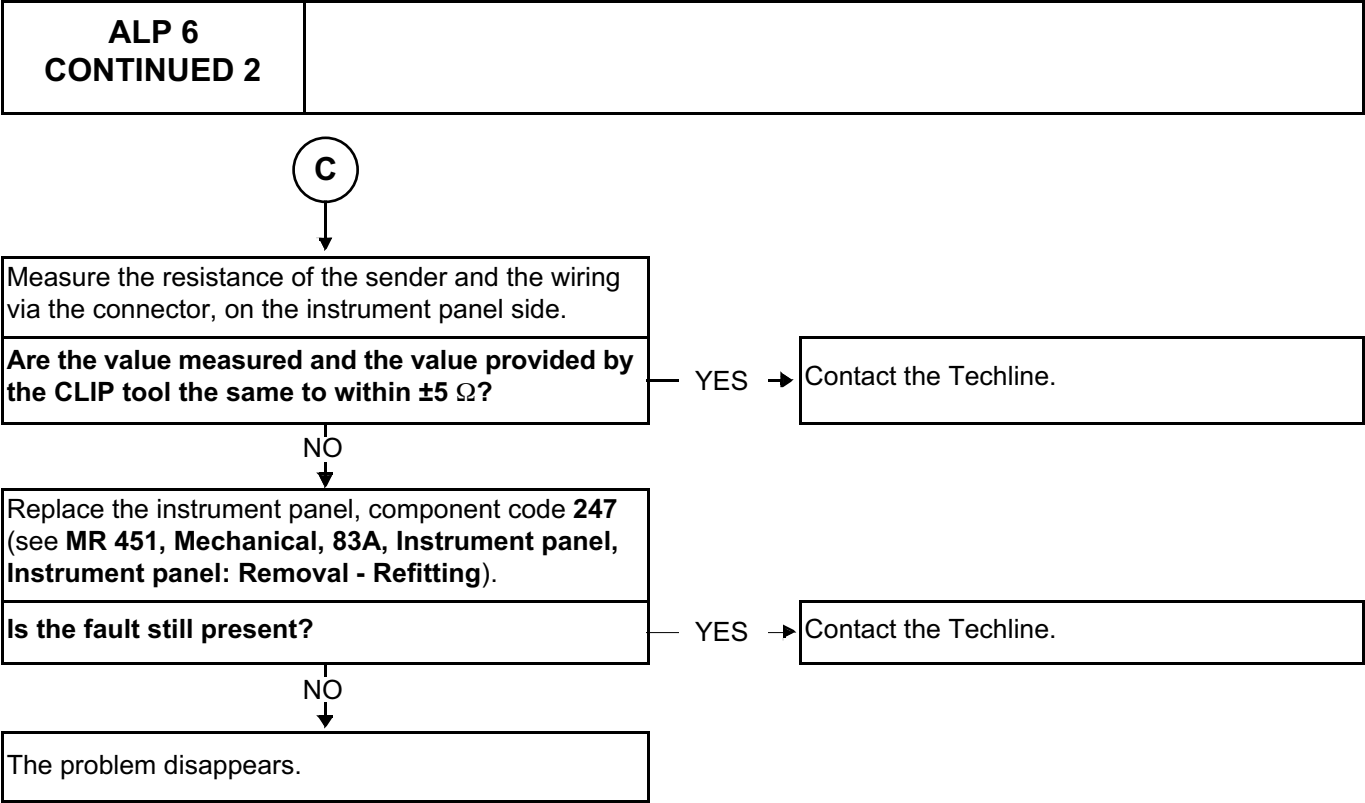
YES → C



The problem disappears.

AFTER REPAIR

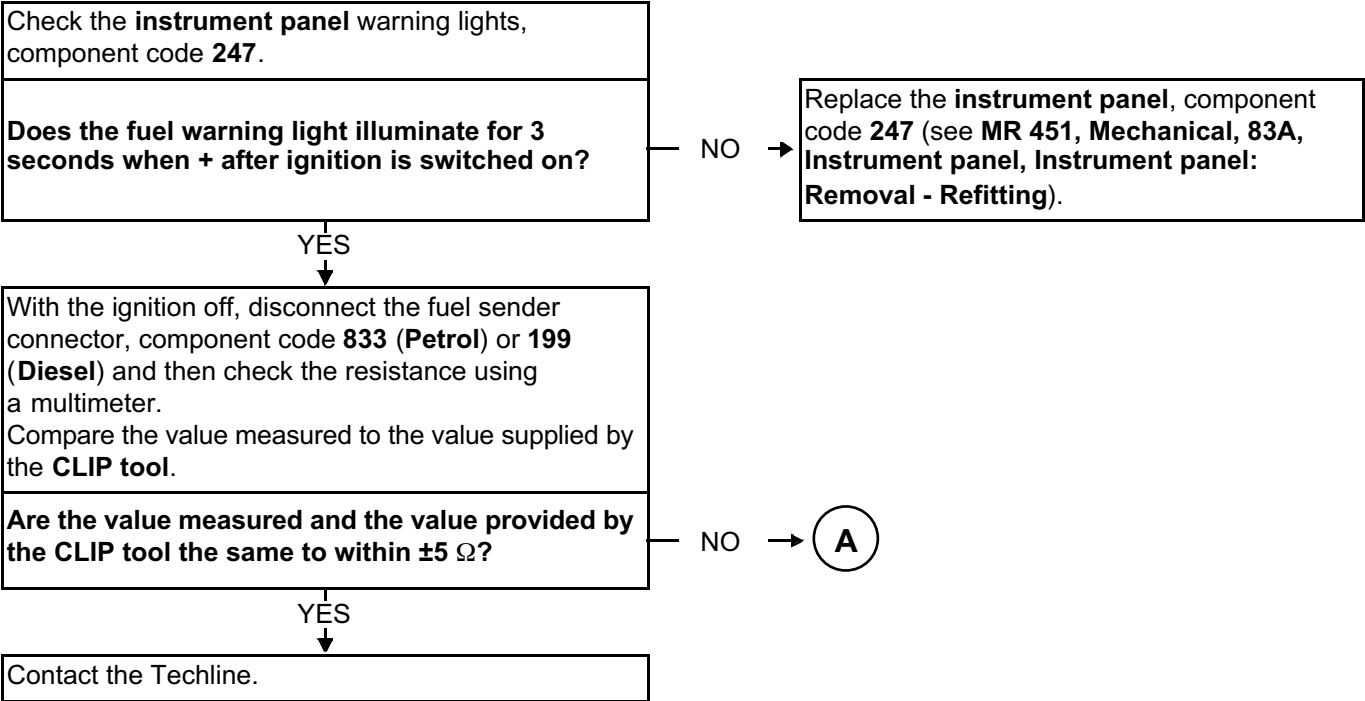
Check for correct operation.



AFTER REPAIR	Check for correct operation.
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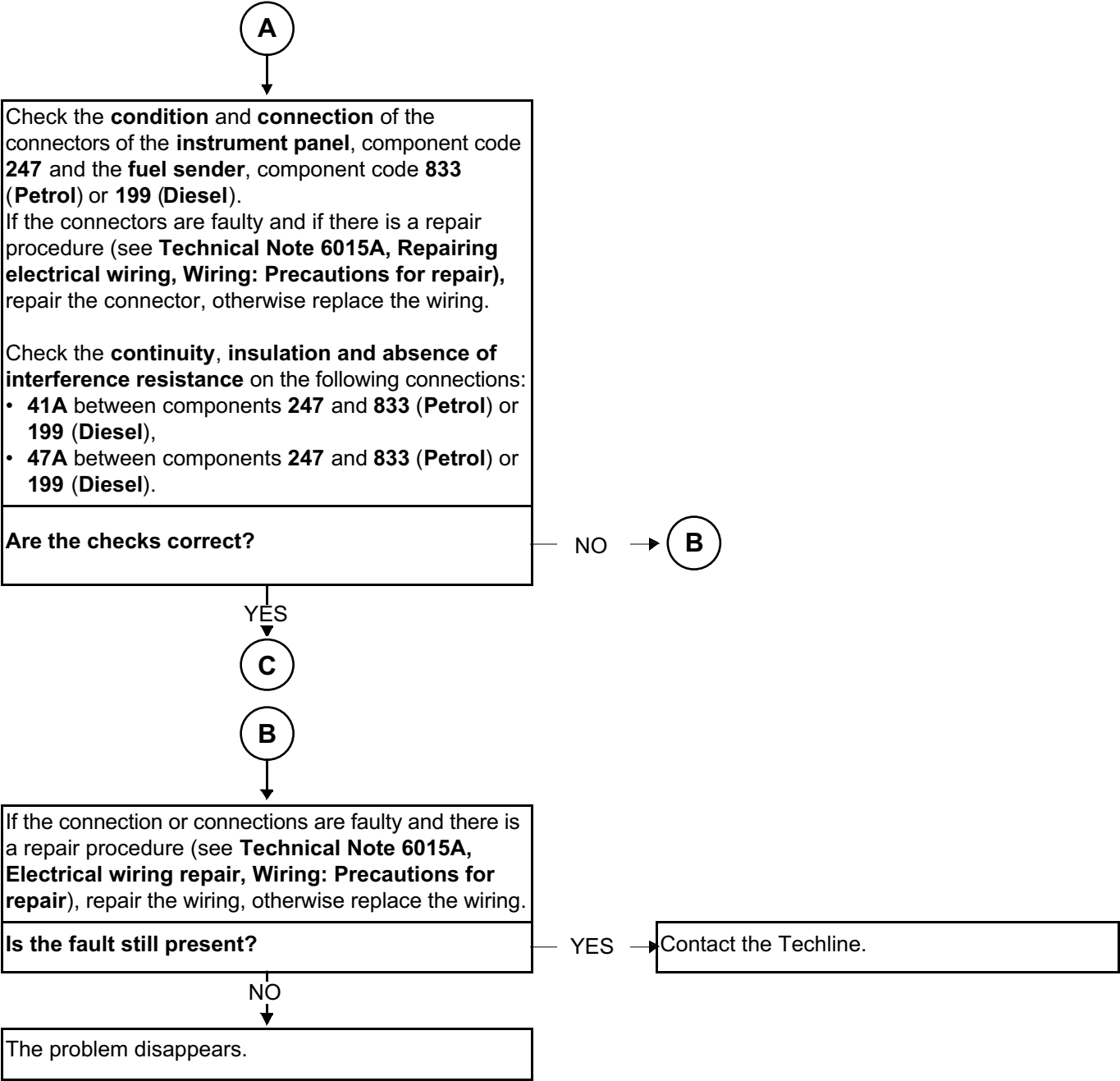
ALP 7	Fault with no warning given by warning light (addition of fuel since the fault)
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NOTES	Put the vehicle in + after ignition.
	Use the Technical Note Wiring Diagrams for H79.

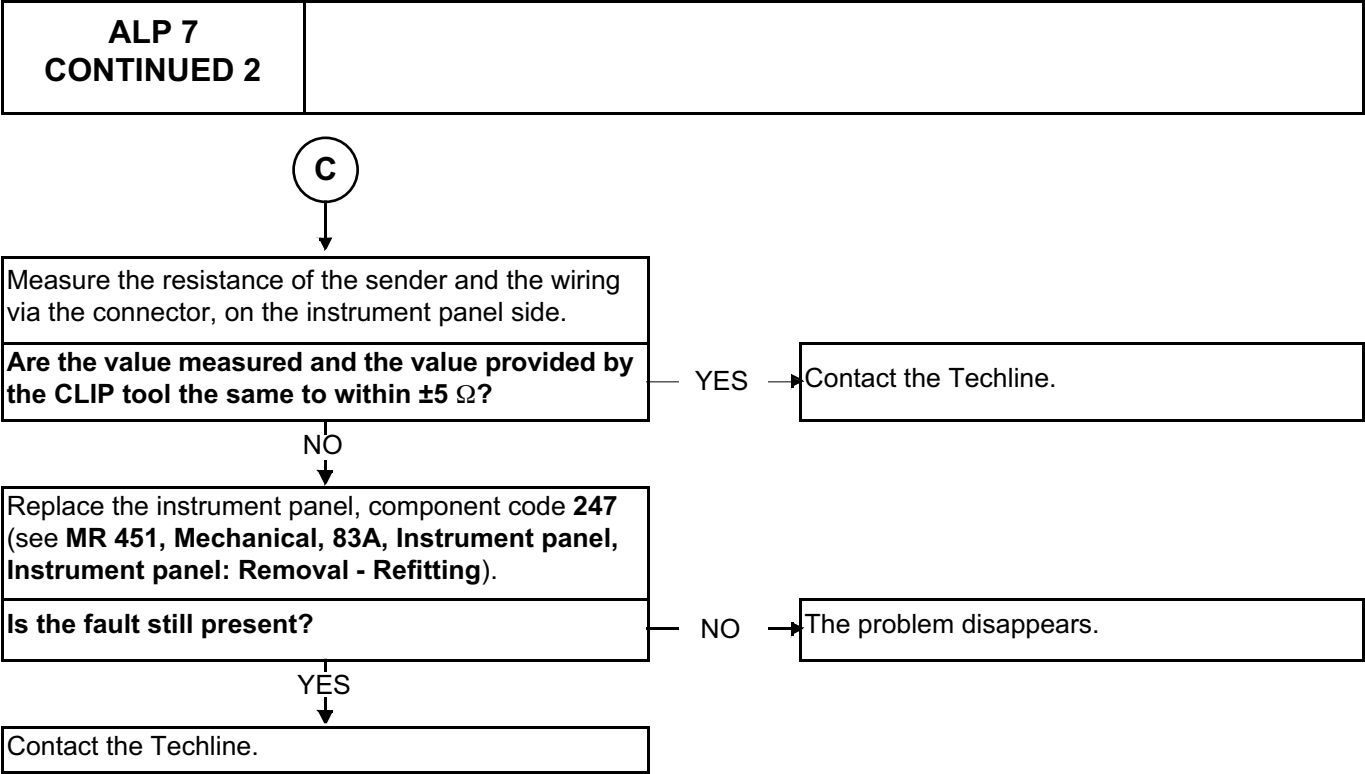


AFTER REPAIR	Check for correct operation.
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ALP 7 CONTINUED 1	
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AFTER REPAIR	Check for correct operation.
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AFTER REPAIR	Check for correct operation.
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ALP 8	Fault with delayed warning
NOTES	None.
<div>Ask the customer the distance travelled since the warning appeared until the fault occurred.</div> <div>Did the fault take place after travelling more than 30 miles (50 km)?</div> <div>YES → Explain to the customer that the guaranteed distance is 30 miles (50 km) from the warning.</div> <div>NO ↓</div> <div>Has the customer added any fuel since the fault?</div> <div>YES → See ALP7 Fault with no warning given by warning light (addition of fuel since the fault).</div> <div>NO ↓</div> <div>See ALP6 Fault with no warning given by warning light (no addition of fuel since the fault).</div>	
AFTER REPAIR	Check for correct operation.

ALP 9	The warning light remains illuminated Message from: injection computer
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NOTES	Use the Technical Note Wiring Diagrams for H79.
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Run fault finding on the injection system.
Deal with any other faults.

Check the **condition** and **connection** of the connectors of the **injection computer**, component code **120** and the **instrument panel**, component code **247**.
If the connectors are faulty and if there is a repair procedure (see **Technical Note 6015A, Repairing electrical wiring, Wiring: Precautions for repair**), repair the connector, otherwise replace the wiring.

Check the **insulation, continuity, and the absence of interference resistance** on the following connection:
– **31A** between components **120** and **247**.
If the connection is faulty and there is a repair procedure (see **Technical Note 6015A, Electrical wiring repair, Wiring: Precautions for repair**), repair the wiring, otherwise replace it.

If the fault is still present, contact the Techline.

AFTER REPAIR	Check for correct operation.
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ALP 10	The OBD injection fault warning light remains illuminated Message from: injection computer
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NOTES	Use the Technical Note Wiring Diagrams for H79.
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Run fault finding on the injection system.
Deal with any other faults.

Check the **condition** and **connection** of the connectors of the **injection computer**, component code **120** and the **instrument panel**, component code **247**.
If the connectors are faulty and if there is a repair procedure (see **Technical Note 6015A, Repairing electrical wiring, Wiring: Precautions for repair**), repair the connector, otherwise replace the wiring.

Check the **insulation**, **continuity**, and the **absence of interference resistance** on the following connections:
– **137C** between components **120** and **247**.
If the connection is faulty and there is a repair procedure (see **Technical Note 6015A, Electrical wiring repair, Wiring: Precautions for repair**), repair the wiring, otherwise replace it.

If the fault is still present, contact the Techline.

AFTER REPAIR	Check for correct operation.
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ALP 11	Vehicle speedometer at zero or inconsistent signal
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NOTES	Use the Technical Note Wiring Diagrams for H79.
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<p>If the vehicle speed signal is delivered by the speed sensor, for vehicles that are not equipped with an ABS, ESP or ETC.</p> <p>Check the condition and connection of the connectors of the instrument panel, component code 247 and the speed sensor, component code 250. If the connectors are faulty and if there is a repair procedure (see Technical Note 6015A, Repairing electrical wiring, Wiring: Precautions for repair), repair the connector, otherwise replace the wiring.</p> <p>Check the insulation, continuity and the absence of interference resistance on the following connections: – 47F between components 247 and 250. 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>
--

<p>If the vehicle speed signal is delivered to the other computers by the ABS computer, activate a self-test sequence for the instrument panel.</p> <p>Check the correct operation of the needle in all the speed ranges. If the self-test sequence is not correct, contact the Techline.</p> <p>If there is no vehicle speed signal on the ABS, deal with all the faults (see 38 C, Anti-lock braking system).</p> <p>If there is a vehicle speed signal on the ABS, check the condition and connection of the connectors of the instrument panel, component code 247 and the ABS computer, component code 118. If the connectors are faulty and if there is a repair procedure (see Technical Note 6015A, Repairing electrical wiring, Wiring: Precautions for repair), repair the connector, otherwise replace the wiring. Check the insulation, continuity and the absence of interference resistance on the following connections: – 47F between components 247 and 118, If the connection or connections are faulty and there is a repair procedure (see Technical Note 6015A, Electrical wiring repair, Wiring: Precautions for repair), repair the wiring, otherwise replace it.</p> <p>If the fault is still present, contact the Techline.</p>
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AFTER REPAIR	Check for correct operation.
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ALP 11 CONTINUED 1

If the vehicle speed signal is delivered to the other computers by the ESP computer Check that the ESP computer is in good condition.
If the fault is still present, use the diagnostic tool to check that the ESP correctly receives the vehicle speed signal during a road test.
Deal with any faults (see **38C, Anti-lock braking system**).

If the fault is not resolved, check the connection and condition of the connectors of the **ESP computer**, component code **1094** and the **instrument panel**, component code **247**.
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 continuity, insulation and the absence of interference resistance** of the following connection:
– **47F** between components **247** and **1094**.
If the connection or connections are faulty and there is a repair procedure (see **Technical Note 6015A, Electrical wiring repair, Wiring: Precautions for repair**), repair the wiring, otherwise replace it.

If the fault is still present, contact the Techline.

If the vehicle speed signal is delivered to the other computers by the ETC front - rear torque distribution computer

Check that the ETC front - rear torque distribution computer is in good condition.
If the fault is still present, use the diagnostic tool to check that the ETC front - rear torque distribution computer correctly receives the vehicle speed signal during a road test.
Deal with any faults (see **26A, Rear final drive**).

If the fault is not resolved, check the connection and condition of the connectors of the **front - rear torque distribution ETC computer**, component code **2017** and the **instrument panel**, component code **247**.
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 continuity, insulation and the absence of interference resistance** of the following connection:
– **47F** between components **247** and **2017**.
If the connection or connections are faulty and there is a repair procedure (see **Technical Note 6015A, Electrical wiring repair, Wiring: Precautions for repair**), repair the wiring, otherwise replace it.

If the fault is still present, contact the Techline.

AFTER REPAIR

Check for correct operation.

ALP 12	The airbag fault warning light remains illuminated Signal from the airbag computer
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NOTES	Use the Technical Note Wiring Diagrams for H79.
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Run fault finding on the **airbags and pretensioners** function (see **88C, Airbags and pretensioners**). Deal with any other faults.

Check the **condition** and **connection** of the connectors of the **airbag computer**, component code **756** and the **instrument panel**, component code **247**.

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

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

– **60A** between components **756** and **247**.

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

If the fault is still present, contact the Techline.

AFTER REPAIR	Check for correct operation.
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ALP 13	The oil pressure warning light remains illuminated Signal from the oil pressure sensor
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NOTES	Use the Technical Note Wiring Diagrams for H79 .
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Check the general level of engine wear (oil level, oil pressure, oil circuit, etc.).
Check there is no major external oil leakage.
Repair if necessary.

With the engine running, move the wiring harness between the oil pressure sensor and the instrument panel to note whether the warning light goes out.
Look for possible damage to the wiring harness.

Check the **condition** and **connection** of the connectors of the **oil pressure sensor**, component code **205** and the **instrument panel**, component code **247**.

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

With the engine running, check the **insulation**, **continuity**, and the **absence of interference resistance** on the following connection:

– **28A** between components **205** and **247**.

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 there is an **earth**, replace the **oil pressure sensor**, component code **205** (see **10A, Engine and cylinder block assembly, Oil pressure: Check**).

If the fault is still present, contact the Techline.

AFTER REPAIR	Check for correct operation.
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ALP 14

The dipped headlight indicator light operates inconsistently

NOTESUse the **Technical Note Wiring Diagrams** for H79.

Follow this fault finding procedure only if:

- the dipped headlights are illuminated and the warning light remains off,
- the dipped headlights are off and the warning light remains illuminated.

The dipped headlights are illuminated but the warning light remains off.

Check the **condition** and **connection** of the connectors of the **instrument panel**, component code **247** and the **passenger compartment fuse box**, component code **1016**.

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

Lighting stalk in the dipped headlights on position.

Check for **+12 V** on connection **CPG** between components **247** and **1016**.

If there is +12 V, replace the **instrument panel**, component code **247** (see **MR 451, 83A, Instrument panel, Instrument panel: Removal - Refitting**).

If there is no +12 V, check the **insulation**, **continuity** and the **absence of interference resistance** on the following connection:

- **CPG** between components **1016** and **247**.

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.

The dipped headlights are off but the warning light remains illuminated.

Check the **condition** and **connection** of the connectors of the **instrument panel**, component code **247** and the **passenger compartment fuse box**, component code **1016**.

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

AFTER REPAIR

Check for correct operation.

ALP 14
CONTINUED

Lighting stalk in the rest position.
Check for **+12 V** of connection **CPG** between components **247** and **1016**.
– **If there is no +12 V**, replace the **instrument panel**, component code **247** (see **MR 451, 83A, Instrument panel, Instrument panel: Removal - Refitting**).
– **If there is +12 V**, check the **insulation, continuity**, and the **absence of interference resistance** on connection:
CPG between components **1016** and **247**.
If the connection is faulty and there is a repair procedure (see **Technical Note 6015A, Electrical wiring repair, Wiring: Precautions for repair**), repair the wiring, otherwise replace it.

If the fault is still present, contact the Techline.

AFTER REPAIR

Check for correct operation.

ALP 15	The main beam indicator light operates inconsistently
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NOTES	Use the Technical Note Wiring Diagrams for H79.
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Follow this fault finding procedure only if:

- the dipped headlights are illuminated and the warning light remains off,
- the dipped headlights are off and the warning light remains illuminated.

The main beam headlights are illuminated but the warning light remains off.

Check the **condition** and **connection** of the connectors of the **instrument panel**, component code **247** and the **passenger compartment fuse box**, component code **1016**.

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

Lighting stalk in the main beam headlights on position.

Check for **+12 V** on connection **RPG** between components **1016** and **247**.

- **If there is +12 V**, replace the **instrument panel**, component code **247** (see **MR 451, 83A, Instrument panel, Instrument panel: Removal - Refitting**).
- **If there is no +12 V**, check the **insulation, continuity**, and the **absence of interference resistance** on the following connection

RPG between components **1016** and **247**.

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.

The main beam headlights are off but the warning light remains illuminated.

Check the **condition** and **connection** of the connectors of the **instrument panel**, component code **247** and the **passenger compartment fuse box**, component code **1016**.

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

AFTER REPAIR	Check for correct operation.
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ALP 15
CONTINUED

Lighting stalk in the rest position.
Check for **+12 V** on connection **RPG** between components **1016** and **247**.
– **If there is no +12 V**, replace the **instrument panel**, component code **247** (see **MR 451, 83A, Instrument panel, Instrument panel: Removal - Refitting**).
– **If there is +12 V**, check the **insulation, continuity**, and the **absence of interference resistance** on the following connection:
– **RPG** between components **1016** and **247**.
If the connection is faulty and there is a repair procedure (see **Technical Note 6015A, Electrical wiring repair, Wiring: Precautions for repair**), repair the wiring, otherwise replace it.

If the fault is still present, contact the Techline.

AFTER REPAIR

Check for correct operation.

ALP 16

The rear fog light warning light operates inconsistently

NOTESUse the **Technical Note Wiring Diagrams** for H79.

Follow this fault finding procedure only if:

- the rear fog lights are on and the indicator light remains off,
- the rear fog lights are off and the indicator light remains on.

The rear fog lights are on but the indicator light remains off.

Check the connection and condition of the connectors of the **instrument panel**, component code **247** and the **passenger compartment fuse box**, component code **1016**.

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

Lighting stalk in rear fog lights on position.

Check for **+12 V** on connection **9P** of component **247**.

- **If there is +12 V**, replace the **instrument panel**, component code **247** (see **MR 451, 83A, Instrument panel, Instrument panel: Removal - Refitting**).
- **If there is no +12 V**, check the **insulation, continuity** and the **absence of interference resistance** on the following connection:
- **9P** between components **1016** and **247**.

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.

The rear fog lights are off but the indicator light remains on.

Check the connection and condition of the connectors of the **instrument panel**, component code **247** and the **passenger compartment fuse box**, component code **1016**.

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

AFTER REPAIR

Check for correct operation.

ALP 16
CONTINUED

Lighting stalk in the rest position.
Check for **+12 V** on connection **9P** of component **247**.
If there is no +12 V, replace the **instrument panel**, component code **247** (see **MR 451, 83A, Instrument panel, Instrument panel: Removal - Refitting**).
If there is +12 V, check the **insulation, continuity**, and the **absence of interference resistance** on the following connection:
– **9P** between components **1016** and **247**.
If the connection is faulty and there is a repair procedure (see **Technical Note 6015A, Electrical wiring repair, Wiring: Precautions for repair**), repair the wiring, otherwise replace it.

If the fault is still present, contact the Techline.

AFTER REPAIR

Check for correct operation.

ALP 17

The front fog light warning light operates inconsistently

NOTESUse the **Technical Note Wiring Diagrams** for H79.

Follow this fault finding procedure only if:

- the rear fog lights are on and the indicator light remains off,
- the rear fog lights are off and the indicator light remains on.

The rear fog lights are on but the indicator light remains off.

Check the connection and condition of the connectors of the **instrument panel**, component code **247** and the **front fog relay**, component code **231**.

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

Lighting stalk in front fog lights on position.

Check for **+12 V** on connection **8B** of component **247**.

- **If there is +12 V**, replace the **instrument panel**, component code **247** (see **MR 451, 83A, Instrument panel, Instrument panel: Removal - Refitting**).
- **If there is no +12 V**, check the **insulation, continuity** and the **absence of interference resistance** on the following connection:
- **8B** between components **231** and **247**.

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.

The front fog lights are off but the warning light remains illuminated.

Check the connection and condition of the connectors of the **instrument panel**, component code **247** and the **front fog relay**, component code **231**.

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

AFTER REPAIR

Check for correct operation.

INSTRUMENT PANEL INSTRUMENTS

Fault finding – Fault Finding Chart

83A

ALP 17
CONTINUED

Lighting stalk in the rest position.
Check for **+12 V** on connection **8B** of component **247**.
If there is no +12 V, replace the **instrument panel**, component code **247** (see **MR 451, 83A, Instrument panel, Instrument panel: Removal - Refitting**).
If there is +12 V, check the **insulation, continuity**, and the **absence of interference resistance** on the following connection:
– **8B** between components **231** and **247**.
If the connection is faulty and there is a repair procedure (see **Technical Note 6015A, Electrical wiring repair, Wiring: Precautions for repair**), repair the wiring, otherwise replace it.

If the fault is still present, contact the Techline.

AFTER REPAIR

Check for correct operation.

ALP 18	The ABS warning light operates inconsistently Message from: ABS/ESP computer
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NOTES	Use the Technical Note Wiring Diagrams for H79.
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The ABS warning light remains constantly off even when the ignition is switched on.

Run fault finding on the ABS or the ESP. Deal with any faults (see 38C, Anti-lock braking system).
Check the connection and condition of the connectors of the instrument panel , component code 247 and the ABS computer , component code 118 or the ESP computer , component code 1094 . If the connectors are faulty and if there is a repair procedure (see Technical Note 6015A, Repairing electrical wiring, Wiring: Precautions for repair), repair the connector, otherwise replace the wiring.
Disconnect the ABS computer , component code 118 or the ESP computer , component code 1094 and check that the instrument panel warning light illuminates. If the warning light does not illuminate, check the insulation from earth , the continuity , and the absence of interference resistance on the following connection: – 4Z between components 118 or 1094 and 247 . If the connection is faulty and there is a repair procedure (see Technical Note 6015A, Electrical wiring repair, Wiring: Precautions for repair), repair the wiring, otherwise replace it.
If the fault is still present, contact the Techline.

The ABS warning light remains constantly illuminated.

Run fault finding on the ABS or the ESP. Deal with any faults (see 38C, Anti-lock braking system).
Check the connection and condition of the connectors of the instrument panel , component code 247 and the ABS computer , component code 118 or the ESP computer , component code 1094 . If the connectors are faulty and if there is a repair procedure (see Technical Note 6015A, Repairing electrical wiring, Wiring: Precautions for repair), repair the connector, otherwise replace the wiring.
Check the insulation to +12 V , the continuity , and the absence of interference resistance of the following connection: – 4Z between components 118 or 1094 and 247 . 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	Check for correct operation.
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**ALP 18
CONTINUED**

With the **ABS** or **ESP computer**, component code **118** or **1094** connected, the ignition switched on, and the **instrument panel**, component code **247** disconnected.

Check the **insulation** to **earth**, the **continuity**, and **absence of interference resistance** on the following connection:

– **4Z** between components **118** or **1094** and **247**.

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

If the fault is still present, contact the Techline.

AFTER REPAIR

Check for correct operation.

ALP 19	The direction indicator signal light operates erratically Message transmitted by: UCH
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NOTES	Use the Technical Note Wiring Diagrams for H79.
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If the direction indicators are not operating normally, run fault finding on the UCH (see 87B, Passenger compartment connection unit).

Left-hand drive

Check the connection and condition of the connectors of the **instrument panel**, component code **247** and the **UCH**, component code **645**.
If the connectors are faulty and if there is a repair procedure (see **Technical Note 6015A, Repairing electrical wiring, Wiring: Precautions for repair**), repair the connector, otherwise replace the wiring.

Disconnect the connectors of the instrument panel, component code **247** and the **UCH**, component code **645**.
Check the **insulation, continuity** and the **absence of interference resistance** on the following connection:
– **64E** between components **645** and **247**.
If the connection is faulty and there is a repair procedure (see **Technical Note 6015A, Electrical wiring repair, Wiring: Precautions for repair**), repair the wiring, otherwise replace it.

If the fault is still present, contact the Techline.

Right-hand drive

Check the connection and condition of the connectors of the **instrument panel**, component code **247** and the **UCH**, component code **645**.
If the connectors are faulty and if there is a repair procedure (see **Technical Note 6015A, Repairing electrical wiring, Wiring: Precautions for repair**), repair the connector, otherwise replace the wiring.

Disconnect the connectors of the instrument panel, component code **247** and the **UCH**, component code **645**.
Check the **insulation, continuity** and the **absence of interference resistance** on the following connection:
– **64C** between components **645** and **247** for the left-hand warning light,
– **64D** between components **645** and **247** for the right-hand warning light.
If the connection is faulty and there is a repair procedure (see **Technical Note 6015A, Electrical wiring repair, Wiring: Precautions for repair**), repair the wiring, otherwise replace it.

If the fault is still present, contact the Techline.

AFTER REPAIR	Check for correct operation.
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ALP 20	The immobiliser warning light remains lit or flashes when the vehicle is driven Message from: UCH
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NOTES	Use the Technical Note Wiring Diagrams for H79.
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The immobiliser warning light is only for left-hand drive
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The immobiliser warning light remains illuminated.

<p>Run fault finding on the immobiliser.</p> <p>Check that when command AC003 is run, the immobiliser warning light goes off and then comes on again.</p>
<p>Switch off the ignition, then disconnect the UCH connector.</p> <p>If the indicator light is not illuminated, the UCH could be faulty, contact the Techline.</p>
<p>Check the condition and connection of the connectors of the instrument panel, component code 247 and the UCH, component code 645.</p> <p>If the connectors are faulty and if there is a repair procedure (see Technical Note 6015A, Repairing electrical wiring, Wiring: Precautions for repair), repair the connector, otherwise replace the wiring.</p> <p>If the warning light is still illuminated, check the insulation to +12V, the continuity, and the absence of interference resistance of the following connection:</p> <p>80T between components 645 and 247.</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>If the fault is still present, contact the Techline.</p>

The immobiliser warning light flashes when driving.
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<p>Run fault finding on the immobiliser.</p> <p>Check that the index ET127 becomes OFF with the engine running.</p> <p>If this is not the case (see 82A, Engine immobiliser, System operation).</p>
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AFTER REPAIR	Check for correct operation.
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**ALP 20
CONTINUED**

Switch off the ignition, then disconnect the UCH connector.

If the indicator light is not illuminated, the UCH could be faulty, contact the Techline.

Check the **condition** and **connection** of the connectors of the **instrument panel**, component code **247** and the **UCH**, component code **645**.

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

If the warning light is still illuminated, check the **insulation** to **+12V**, the **continuity**, and the **absence of interference resistance** of the following connection:

– **80T** between components **645** and **247**.

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

If the fault is still present, contact the Techline.

AFTER REPAIR

Check for correct operation.

ALP 21	The immobiliser warning light remains lit when not under an after ignition feed Message transmitted by: UCH
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NOTES	Use the Technical Note Wiring Diagrams for H79.
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The immobiliser warning light is only for left-hand drive

Run fault finding on the immobiliser.

Check that when command **AC003** is run, the immobiliser warning light goes off and then comes on again.

Check the **condition** and **connection** of the connectors of the **instrument panel**, component code **247** and the **UCH**, component code **645**.

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

If the warning light is still off, check the **insulation**, the **continuity**, and the **absence of interference resistance** of the following connection:

– **80T** between components **645** and **247**.

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

If the fault is still present, contact the Techline.

AFTER REPAIR	Check for correct operation.
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ALP 22	The battery charge fault warning light remains lit (engine running) Signal from the alternator
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NOTES	Use the Technical Note Wiring Diagrams for H79.
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Check the charging circuit.
Repair if necessary.

Manipulate the wiring harness between the alternator and the instrument panel to note whether the warning light goes out.
Look for possible damage to the wiring harness.

If the fault is still present, disconnect the connector of the **instrument panel**, component code **247**.

Check the **condition** and **connection** of the connectors of the **instrument panel**, component code **247** and the **alternator**, component code **103**.

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

Check the **insulation**, **continuity** and the **absence of interference resistance** on the following connection:
– **2A** between components **103** and **247**.

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

If the fault is still present, contact the Techline.

AFTER REPAIR	Check for correct operation.
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ALP 23	The handbrake applied and fault detected on braking circuit warning light operates inconsistently (WITHOUT ABS, WITHOUT ESP, WITHOUT ETC)
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NOTES	Use the Technical Note Wiring Diagrams for H79.
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The brake warning light remains illuminated even with the handbrake released.
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<p>Check the brake fluid level. Top up if necessary. Check that there are no leaks in the brake circuit:</p>
<p>Disconnect the brake fluid MINIMUM level switch. Make sure that the brake fluid minimum level switch is working correctly.</p> <ul style="list-style-type: none"> – With the switch inserted in the fluid, no continuity between connections H1 and MB. – With the switch out of the fluid, continuity between connections H1 and MB. <p>Replace the switch if necessary.</p>
<p>Check the condition and connection of the instrument panel connectors, component code 247. If the connectors are faulty and if there is a repair procedure (see Technical Note 6015A, Repairing electrical wiring, Wiring: Precautions for repair), repair the connector, otherwise replace the wiring. Check for earth on the instrument panel, component code 247 between the following connection:</p> <ul style="list-style-type: none"> – 4Z of component 247, – 4DB of component 247. <p>Check the insulation, continuity and the absence of interference resistance on the following connection:</p> <ul style="list-style-type: none"> – 4Z between component 247 and earth, – 4DB between component 247 and earth. <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 handbrake switch connector. Check that there is no earth with the switch in the rest position, and check for earth with the switch depressed. Replace the switch if necessary.</p>
<p>Check the condition and connection of the handbrake switch connectors, component code 156. If the connectors are faulty and if there is a repair procedure (see Technical Note 6015A, Repairing electrical wiring, Wiring: Precautions for repair), repair the connector, otherwise replace the wiring. Check the insulation to earth, the continuity, and the absence of interference resistance on the following connection:</p> <ul style="list-style-type: none"> – H1 between components 247 and 156. <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, contact the Techline.</p>

AFTER REPAIR	Check for correct operation.
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**ALP 23
CONTINUED**

The brake warning light remains off even with the handbrake applied.

Disconnect the handbrake switch connector.

Check that there is no **earth** with the switch in the rest position, and check for **earth** with the switch depressed.

Replace the switch if necessary.

Check the condition and connection of the connectors of the **handbrake switch**, component code **156** and the **instrument panel**, component code **247**.

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

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

– **H1** between components **247** and **156**.

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

If the fault is still present, contact the Techline.

AFTER REPAIR

Check for correct operation.

ALP 24	The handbrake applied and fault detected on braking circuit warning light and the electronic braking distribution fault warning light operate inconsistently (WITH ABS/ESP/ETC)
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NOTES	Use the Technical Note Wiring Diagrams for H79.
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The brake warning light remains illuminated even with the handbrake released.
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<p>Run fault finding on the ABS, the ESP (see 38C, Anti-lock braking system), or the ETC (see 26A, Rear final drive).</p> <p>Deal with any other faults.</p>
<p>Check the brake fluid level.</p> <p>Top up if necessary.</p> <p>Check that there are no leaks in the brake circuit:</p>
<p>Disconnect the brake fluid MINIMUM level switch.</p> <p>Make sure that the brake fluid minimum level switch is working correctly.</p> <ul style="list-style-type: none"> – With the switch inserted in the fluid, no continuity between connections MB and H1. – With the switch out of the fluid, continuity between connections MB and H1. <p>Replace the switch if necessary.</p>
<p>Check the condition and connection of the connectors of the instrument panel, component code 247 and the brake fluid minimum level switch, component code 207.</p> <p>If the connectors are faulty and if there is a repair procedure (see Technical Note 6015A, Repairing electrical wiring, Wiring: Precautions for repair), repair the connector, otherwise replace the wiring.</p> <p>Check the continuity, insulation and absence of interference resistance on the following connections:</p> <ul style="list-style-type: none"> – H1 between components 247 and 207, – MB between components 207 and earth. <p>If the connection or connections are faulty and there is a repair procedure (see Technical Note 6015A, Electrical wiring repair, Wiring: Precautions for repair), repair the wiring, otherwise replace it.</p>
<p>Check the condition and connection of the connectors of the brake fluid minimum level switch, component code 207, the ABS computer, component code 118 or the ESP computer, component code 1094 or the front - rear torque distribution ETC computer, component code 2017 and the handbrake switch, component code 156.</p> <p>If the connectors are faulty and if there is a repair procedure (see Technical Note 6015A, Repairing electrical wiring, Wiring: Precautions for repair), repair the connector, otherwise replace the wiring.</p> <p>Check the insulation, continuity and the absence of interference resistance on the following connection:</p> <ul style="list-style-type: none"> – 4DB between components 247 and 118 or 1094. <p>If the connection is faulty and there is a repair procedure (see Technical Note 6015A, Electrical wiring repair, Wiring: Precautions for repair), repair the wiring, otherwise replace it.</p>

AFTER REPAIR	Check for correct operation.
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ALP 24 CONTINUED

Disconnect the connector of the **handbrake switch**, component code **156**.
Check that there is no **earth** with the switch in the rest position, and check for **earth** with the switch depressed.
Replace the switch if necessary.

Check the **insulation, continuity** and the **absence of interference resistance** on the following connection:
– **H1** between components **247** and **156**.
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, continuity** and the **absence of interference resistance** on the following connection:
– **H1** between components **156** and **2017**.
If the connection is faulty and there is a repair procedure (see **Technical Note 6015A, Electrical wiring repair, Wiring: Precautions for repair**), repair the wiring, otherwise replace it.

If the fault is still present, contact the Techline.

The brake warning light remains off even with the handbrake applied.

Disconnect the handbrake switch connector.
Check that there is no **earth** with the switch in the rest position, and check for **earth** with the switch depressed.
Replace the switch if necessary.

Check the condition and connection of the connectors of the **instrument panel**, component code **247** and the **handbrake switch**, component code **156**.
If the connectors are faulty and if there is a repair procedure (see **Technical Note 6015A, Repairing electrical wiring, Wiring: Precautions for repair**), repair the connector, otherwise replace the wiring.

Check the **insulation, continuity** and the **absence of interference resistance** on the following connection:
– **H1** between components **247** and **156**.
If the connection is faulty and there is a repair procedure (see **Technical Note 6015A, Electrical wiring repair, Wiring: Precautions for repair**), repair the wiring, otherwise replace it.

If the fault is still present, contact the Techline.

AFTER REPAIR

Check for correct operation.

ALP 25	The heated rear screen warning light does not light up Message transmitted by: UCH
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NOTES	Use the Technical Note Wiring Diagrams for H79.
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Run fault finding on the **UCH**, component code **645** (see **87B, Passenger compartment connection unit**).
Deal with any other faults.

Check the **condition** and **connection** of the connectors of the **instrument panel**, component code **247** and the **heated rear screen relay**, component code **235**.

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

Check for **+12 V** on connection **15LP** of the **instrument panel**, component code **247**, with the **switch depressed**.
If there is no **+12 V**, check the **insulation, continuity** and the **absence of interference resistance** on the following connection:

– **15LP** between components **247** and **235**.

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

If the fault is still present, contact the Techline.

AFTER REPAIR	Check for correct operation.
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ALP 26	There is no instrument panel display when the ignition is switched on
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NOTES	Use the Technical Note Wiring Diagrams for H79 .
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Check the **condition** and **connection** of the connectors of the **instrument panel**, component code **247** and the **passenger compartment fuse box**, component code **1016**.

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

Check the condition of fuses **F02 (5 A)** and **F28 (15 A)** in the **passenger compartment fuse box** (component code **1016**).

Replace the fuses if the checks are not correct.

Check for **+12 V** on connection **BC** and for **+ after ignition** on connection **AP29** of the **instrument panel**, component code **247**.

Check for earth on connection **NC** of the **instrument panel**, component code **247**.

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

- **BC** between components **247** and **1016**,
- **AP29** between components **247** and **1016**,
- **NC** between component **247** and **earth**.

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

If the fault is still present, contact the Techline.

AFTER REPAIR	Check for correct operation.
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ALP 27	The trip computer or the trip meter or the clock reset to zero each time the ignition is switched off
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NOTES	Use the Technical Note Wiring Diagrams for H79.
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Check the **condition** and **connection** of the connectors of the **instrument panel**, component code **247** and the **passenger compartment fuse box**, component code **1016**.

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

Check the condition of fuses **F02 (5 A)** and **F28 (15 A)** in the **passenger compartment fuse box** (component code **1016**).

Replace the fuses if the checks are not correct.

Check for **+12 V** on connection **BC** and for **+ after ignition** on connection **AP29** of the **instrument panel**, component code **247**.

Check for earth on connection **NC** of the instrument panel, component code **247**.

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

- **BC** between components **247** and **1016**,
- **AP29** between components **247** and **1016**,
- **NC** between component **247** and **earth**.

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

If the fault is still present, contact the Techline.

AFTER REPAIR	Check for correct operation.
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ALP 28	Door open warning light does not light up Message transmitted by: UCH
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NOTES	Use the Technical Note Wiring Diagrams for H79.
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Run fault finding on the **UCH**, component code **645** (see **87B, Passenger compartment connection unit**).
Deal with any other faults.

Check that when the rear doors or the luggage compartment are opened, status **ET551** is **OPEN** and that, with the rear doors or the luggage compartment closed, status **ET489** is **CLOSED**.

Check that when each front door is opened, status **ET489** is **OPEN**, and that with the front doors closed, status **ET551** is **CLOSED**.

If this is not the case, see **87B, Passenger compartment connection unit, Interpretation of statuses**.

Check the condition and connection of the connectors of the **instrument panel**, component code **247** and the **UCH**, component code **645**.

If the connector or connectors are faulty and there is a repair procedure (see **Technical Note 6015A, Electrical wiring repair, Wiring: Precautions for repair**), repair the connector, otherwise replace the wiring. If the fault is still present, check the **insulation**, the **continuity** and the **absence of interference resistance** of connection:
– **87H** between components **247** and **645**.

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

If the fault is still present, contact the Techline.

AFTER REPAIR	Check for correct operation.
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ALP 29	The OBD injection fault warning light remains illuminated Message from: injection computer
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NOTES	Use the Technical Note Wiring Diagrams for H79.
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Run fault finding on the petrol injection (see **17B, Petrol injection**) or the diesel injection (see **13B, Diesel injection**).

Deal with any other faults.

Check the **condition** and **connection** of the connectors of the **injection computer**, component code **120** and the **instrument panel**, component code **247**.

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

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

– **137C** between components **120** and **247**.

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

If the fault is still present, contact the Techline.

AFTER REPAIR	Check for correct operation.
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ALP 30	The injection fault severity level 2 warning light remains illuminated Message from: injection computer
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NOTES	Use the Technical Note Wiring Diagrams for H79.
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Run fault finding on the petrol injection (see **17B, Petrol injection**) or the diesel injection (see **13B, Diesel injection**).
Deal with any other faults.

Check the **condition** and **connection** of the connectors of the **injection computer**, component code **120** and the **instrument panel**, component code **247**.
If the connectors are faulty and if there is a repair procedure (see **Technical Note 6015A, Repairing electrical wiring, Wiring: Precautions for repair**), repair the connector, otherwise replace the wiring.

Check the **continuity, insulation** and the **absence of interference resistance** of the following connection:
– **3NY** between components **120** and **247**.
If the connection or connections are faulty and there is a repair procedure (see **Technical Note 6015A, Electrical wiring repair, Wiring: Precautions for repair**), repair the wiring, otherwise replace it.

If the fault is still present, contact the Techline.

AFTER REPAIR	Check for correct operation.
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ALP 31	The fasten seat belt reminder warning light operates inconsistently
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NOTES	Use the Technical Note Wiring Diagrams for H79.
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Disconnect the seat belt switch connector.

Check that the switch is open when the seat belt is fastened and that the switch is closed when the seat belt is not fastened.

Replace the switch if necessary.

Activate a self-test sequence for the instrument panel (see **Fault finding - Introduction**)

If the diagnostic sequence is incorrect, contact the Techline.

If the self-test sequence reveals no faults, move the wiring harness between the **seat belt switch** and the **instrument panel** to note any change in the status of the warning light.

Look for possible damage to the wiring harness.

Check the **condition** and **connection** of the connectors of the **seat belt switch**, component code **333** and the **seat belt warning module**, component code **1601**.

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

Check for **earth** on the **seat belt switch**, component code **333** between the following connection:

– **MAM** of component **333**.

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

– **MAM** between component **333** and **earth**.

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

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

– **96A** between components **1601** and **333**.

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

If the fault is still present, contact the Techline.

AFTER REPAIR	Check for correct operation.
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ALP 32	The particle filter warning light remains illuminated Message from: injection computer
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NOTES	Use the Technical Note Wiring Diagrams for H79.
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Carry out fault finding on the injection (see **13B, Diesel injection**).
Deal with any other faults.

Check the **condition** and **connection** of the connectors of the **injection computer**, component code **120** and the **instrument panel**, component code **247**.
If the connectors are faulty and if there is a repair procedure (see **Technical Note 6015A, Repairing electrical wiring, Wiring: Precautions for repair**), repair the connector, otherwise replace the wiring.

Check **the continuity, insulation** and **the absence of interference resistance** of the following connection:
– **3TE** between components **120** and **247**.
If the connection or connections are faulty and there is a repair procedure (see **Technical Note 6015A, Electrical wiring repair, Wiring: Precautions for repair**), repair the wiring, otherwise replace it.

If the fault is still present, contact the Techline.

AFTER REPAIR	Check for correct operation.
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ALP 33	The IVP warning light remains illuminated Message from: injection computer
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NOTES	Use the Technical Note Wiring Diagrams for H79.
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Run fault finding on the diesel injection (see **13B, Diesel injection**) or the petrol injection (see **17B, Petrol injection**).

Deal with any other faults.

Check the **condition** and **connection** of the connectors of the **injection computer**, component code **120** and the **instrument panel**, component code **247**.

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

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

– **3TJ** between components **120** and **247**.

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

If the fault is still present, contact the Techline.

AFTER REPAIR	Check for correct operation.
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ALP 34	The 4X2 warning light remains illuminated Message from: ETC torque distribution computer
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NOTES	Use the Technical Note Wiring Diagrams for H79.
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Check if the 4X4 mode control is positioned on **AUTO** mode.
If not, put it on **AUTO** mode.

If the fault is still present, run fault finding on the ETC front - rear torque distributor (see **26A, Rear final drive**).
Deal with any other faults.

Check the **condition** and **connection** of the connectors of the **ETC front - rear torque distribution computer**, component code **2017** and the **instrument panel**, component code **247**.

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

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

– **85M** between components **2017** and **247**.

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

If the fault is still present, contact the Techline.

AFTER REPAIR	Check for correct operation.
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ALP 35	The 4X4 warning light remains illuminated Message from: ETC torque distribution computer
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NOTES	Use the Technical Note Wiring Diagrams for H79.
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Run fault finding on the ETC front - rear torque distributor (see **26A, Rear final drive**).
Deal with any other faults.

Check the **condition** and **connection** of the connectors of the **ETC front - rear torque distribution computer**, component code **2017** and the **instrument panel**, component code **247**.

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

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

– **85L** between components **2017** and **247**.

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

If the fault is still present, contact the Techline.

AFTER REPAIR	Check for correct operation.
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ALP 36	The water in diesel fuel warning light remains illuminated Message from: injection computer
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NOTES	Use the Technical Note Wiring Diagrams for H79.
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Carry out fault finding on the injection (see **13B, Diesel injection**).
Deal with any other faults.

Check the **condition** and **connection** of the connectors of the **injection computer**, component code **120** and the **instrument panel**, component code **247**.
If the connectors are faulty and if there is a repair procedure (see **Technical Note 6015A, Repairing electrical wiring, Wiring: Precautions for repair**), repair the connector, otherwise replace the wiring.

Check the **continuity, insulation** and the **absence of interference resistance** of the following connection:
– **3WTA** between components **120** and **247**.
If the connection or connections are faulty and there is a repair procedure (see **Technical Note 6015A, Electrical wiring repair, Wiring: Precautions for repair**), repair the wiring, otherwise replace it.

If the fault is still present, contact the Techline.

AFTER REPAIR	Check for correct operation.
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ALP 37	Gear engaged indicator inoperative Message from: automatic transmission computer
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NOTES	Use the Technical Note Wiring Diagrams for H79.
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Run fault finding on the **automatic transmission computer** (see **23A, Automatic gearbox**).
Deal with any other faults.

Check the **condition** and **connection** of the connectors of the **instrument panel**, component code **247** and the **automatic transmission computer**, component code **119**.

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

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

– **5CQ** between components **119** and **247**.

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

If the fault is still present, contact the Techline.

AFTER REPAIR	Check for correct operation.
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ALP 38	The passenger airbag off warning light remains illuminated
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NOTES	Use the Technical Note Wiring Diagrams for H79.
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Check if the passenger airbag inhibition key is in the **ON** position.
If not, put the passenger airbag inhibition key in the **ON** position.

Run fault finding on the "airbags and pretensioners" function (see **88C, Airbags and pretensioners**).
Deal with any other faults.

If the self-test sequence reveals no faults, move the wiring harness between the **seat belt warning module**, the **airbag computer**, and the **passenger airbag inhibition key** to note any change in the warning light status.
Look for possible damage to the wiring harness.

Check the **condition** and **connection** of the connectors of the **seat belt warning module**, component code **1601**, the **airbag computer**, component code **756**, and the **instrument panel**, component code **247**.
If the connectors are faulty and if there is a repair procedure (see **Technical Note 6015A, Repairing electrical wiring, Wiring: Precautions for repair**), repair the connector, otherwise replace the wiring.

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

- **60CD** between components **1601** and **756**,
- **60A** between components **756** and **247**.

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

If the fault is still present, contact the Techline.

AFTER REPAIR	Check for correct operation.
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ALP 39	The ESP warning light operates inconsistently
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NOTES	Use the Technical Note Wiring Diagrams for H79.
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The ESP warning light remains constantly off even when the ignition is switched on.
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<p>Carry out fault finding on the ESP (see 38C, Anti-lock braking system). Deal with any other faults.</p> <p>Check the condition and connection of the connectors of the ESP computer, component code 1094 and the instrument panel, component code 247. If the connectors are faulty and if there is a repair procedure (see Technical Note 6015A, Repairing electrical wiring, Wiring: Precautions for repair), repair the connector, otherwise replace the wiring.</p> <p>Disconnect the ESP computer, component code 1094 and check that the instrument panel warning light illuminates. If the warning light does not illuminate, check the insulation to earth, the continuity, and the absence of interference resistance of connection 4DA between the ESP computer, component code 1094 and the instrument panel, component code 247.</p> <p>If the fault is still present, contact the Techline.</p>
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The ESP warning light remains constantly illuminated.
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<p>Carry out fault finding on the ESP (see 38C, Anti-lock braking system). Deal with any other faults.</p> <p>Check the condition and connection of the connectors of the ESP computer, component code 1094 and the instrument panel, component code 247. If the connectors are faulty and if there is a repair procedure (see Technical Note 6015A, Repairing electrical wiring, Wiring: Precautions for repair), repair the connector, otherwise replace the wiring.</p> <p>Check the insulation to +12V, the continuity, and the absence of interference resistance of connection 4DA between the ESP computer, component code 1094 and the instrument panel, component code 247. 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>With the ESP computer connected, the ignition switched on, and the instrument panel disconnected, check the insulation to earth of connection 4DA between the ESP computer, component code 1094 and the instrument panel, component code 247. If there is earth, contact the Techline.</p>
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AFTER REPAIR	Check for correct operation.
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