

# RENAULT

## TECHNICAL NOTE 3294A

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### FAULT FINDING SIEMENS PETROL INJECTION

COMPUTER TYPE: SIRIUS 3H  
N° PROGRAMME: E3  
N° VDIAG: 04

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Along with this basic document, it is vital to use  
Technical Note "Special Features" which corresponds to your vehicle

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77 11 292 702

JANUARY 2000

EDITION ANGLAISE

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

The methods 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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# Contents

Page

## **17** INJECTION

Introduction	17-1
Fault interpretation	17-3
Conformity check	17-46
Status interpretation	17-56
Parameter interpretation	17-70
Interpreting the controls	17-80
Help	17-87
Customer complaints	17-88
Fault finding chart	17-89

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**This generic diagnostic test is valid for all SIRIUS 3H computers, whose programme N° is: E3 and whose VDIAG is: 04.**

**The values given in this Technical Note are only indications.**

**It is therefore vital to use:**

- The vehicle's wiring diagram.
- The note dealing with the special features of the diagnostic test relating to your vehicle.
- The note dealing with the method part relating to your vehicle.

## DESCRIPTION OF THE FAULT-FINDING PHASES

### FAULT CHECKING

This phase is the essential starting point for any intervention on the vehicle.

#### 1 - Order of priority

You should start dealing with the present electrical faults, then the memorised electrical faults. Other priorities are dealt with in the "INSTRUCTIONS" section in the diagnostic test for the fault in question. In any case, it is vital to check the status of the battery before starting the diagnostic test as a low battery voltage risks disturbing the computer.

#### 2 - Fault

##### a) Present:

Deal with the fault as described in the chapter "FAULT INTERPRETATION".

##### b) Memorised:

Note the faults displayed.

Follow the instructions in the "INSTRUCTIONS" section of the fault in question.

*If the fault is confirmed in the Instructions section:*

The fault is present once again. In this case, deal with the fault.

*If the fault is not confirmed by the Instructions section:*

Carry out basic checks. Check:

- the electrical lines which correspond to the fault,
- the connectors for these lines (for rust, bent pins...),
- the resistance of the faulty component,
- the cleanliness of the wires (insulation melted or cut, friction..).

#### 3 - Absence of faults:

If no more faults are indicated by the diagnostic tool, you should carry out a conformity check. This may help in detecting a problem.

### CHECKING CONFORMITY

The conformity test is designed to check the statuses and parameters which do not display any faults on the diagnostic tool when they are outside the permitted tolerance values. This phase allows:

- Breakdowns to be diagnosed without fault display which may correspond to a customer complaint.
- The correct operation of the injection to be checked and the risk of faults appearing shortly after the repair to be eliminated.

In this chapter there is a diagnostic test of the status and parameters in the conditions of their test.

If a status is not operating normally or a parameter is outside permitted tolerance values, you should consult the corresponding diagnostic page.

### TESTING USING THE CORRECT DIAGNOSTIC TOOL

If the diagnostic tool test is correct, but the customer complaint is still present, the problem should be dealt with by customer complaint.

**DF002**  
**PRESENT**  
or  
**MEMORISED**

### THROTTLE POTENTIOMETER CIRCUIT

DEF = Unidentified electrical fault

#### NOTES

**Conditions for the application of the diagnostic on the fault stored.**

The fault is declared present after switching the ignition on without pressing the accelerator pedal for the first 10 seconds.

OR

The fault is declared present when there is a slight variation of the throttle position potentiometer from no load to full load.

OR

The fault is declared present when there is a full load for 10 seconds.

Check the **connection and he status of the connector** of the throttle position potentiometer.  
Change the connector if necessary.

Check the **throttle position potentiometer resistance** (the resistance is **zero or equal to infinity** in the event of a permanent fault).

Check that resistance of the potentiometer correctly follows its curve, by pressing the throttle from no load to full load.

Check that the throttle carries the potentiometer.

Correct or change the throttle position potentiometer if necessary.

Connect the bornier in place of the computer and check **the insulation, continuity and interference resistance** of the line:

Computer	75	→	Throttle potentiometer
Computer	74	→	Throttle potentiometer
Computer	43	→	Throttle potentiometer

Repair if necessary.

**If the problem has still not been solved, deal with the other faults and then proceed to the conformity check.**

#### **AFTER REPAIR**

Erase fault memory.  
Follow the instructions to confirm repair.  
Deal with any other possible faults.

**DF003  
PRESENT  
or  
MEMORISED**

### AIR TEMPERATURE SENSOR CIRCUIT

DEF = Unidentified electrical fault

#### **NOTES**

**Conditions for the application of the diagnostic on the fault stored.**

The fault is declared present following ignition of the engine running fan unit.

Check **connection and status** of the air temperature sensor connector.  
Change the connector if necessary.

Check that the **air temperature sensor resistance** is not **zero or equal to infinity** (sensor permanent fault).  
Change the air temperature sensor if necessary.

Connect the bornier in place of the computer and check **the insulation, continuity and interference resistance** of the line:

<b>Computer</b>	<b>77</b>	————→	<b>Air temperature sensor</b>
<b>Computer</b>	<b>49</b>	————→	<b>Air temperature sensor</b>

Repair if necessary.

Check the **sensor resistance at various temperatures**.  
Replace the sensor if necessary.

**If the problem has still not been solved, deal with the other faults and then proceed to the conformity check.**

#### **AFTER REPAIR**

Erase fault memory.  
Follow the instructions to confirm repair.  
Deal with any other possible faults.

**DF004**  
**PRESENT**  
**or**  
**MEMORISED**

### COOLANT TEMPERATURE SENSOR CIRCUIT

DEF = Unidentified electrical fault

#### **NOTES**

**Conditions for the application of the diagnostic on the fault stored.**

The fault is declared present following ignition of the engine running fan unit.

Check **connection and status** of the coolant temperature sensor connector.  
Change the connector if necessary.

Check that the **coolant temperature sensor resistance** is not **zero or equal to infinity** (sensor permanent fault).  
Change the coolant temperature sensor if necessary.

Connect the bornier in place of the computer and check **the insulation, continuity and interference resistance** of the line:

<b>Computer</b>	<b>73</b>	————→	<b>Coolant temperature sensor</b>
<b>Computer</b>	<b>13</b>	————→	<b>Coolant temperature sensor</b>

Repair if necessary.

Check the **sensor resistance at various temperatures**.  
Replace the sensor if necessary.

**If the problem has still not been solved, deal with the other faults and then proceed to the conformity check.**

#### **AFTER REPAIR**

Erase fault memory.  
Follow the instructions to confirm repair.  
Deal with any other possible faults.

**DF006**  
**PRESENT**  
**or**  
**MEMORISED**

### PINKING SENSOR CIRCUIT

DEF = Unidentified electrical fault

#### NOTES

**Conditions for the application of the diagnostic on the fault stored.**

The fault is declared present during a road test when the engine is warm and with a high engine speed.

Check the **connection and status** of the pinking sensor connector.  
Change the connector if necessary.

Check **clamping of the pinking sensor** on the engine block.  
Repair if necessary.

Connect the bornier in place of the computer and check **the insulation, continuity and interference resistance** of the line:

Computer	20	→	Pinking sensor
Computer	79	→	Pinking sensor
Computer	19	→	Pinking sensor screening

Repair if necessary.

**Check the average pinking signal: PR013.**

If PR013 is close to zero, change the pinking sensor (if in doubt, consult the conformity check).

**If the problem has still not been solved, deal with the other faults and then proceed to the conformity check.**

#### AFTER REPAIR

Erase fault memory.  
Follow the instructions to confirm repair.  
Deal with any other possible faults.

**DF008**  
**PRESENT**  
**or**  
**MEMORISED**

### FUEL PUMP CONTROL RELAY CIRCUIT

CO0 = Open circuit or short circuit to earth  
CC1 = Short circuit at +12 V  
DEF = Memorised fault

#### **NOTES**

**Conditions for the application of the diagnostic on the fault stored.**

The fault is declared present following a one minute timed period with the engine running.

Check the **connection and status of the fuel pump relay connector**.  
Change the connector if necessary.

Disconnect the relay.  
Check, ignition on, for **+12 V on track 1 of the fuel pump relay**  
Repair if necessary.

**Check the fuel pump relay coil.**  
Change the fuel pump relay if necessary.

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

**Computer      68      —————>      2      Fuel pump relay**

Repair if necessary.

**If the problem has still not been solved, deal with the other faults and then proceed to the conformity check.**

#### **AFTER REPAIR**

Erase fault memory.  
Follow the instructions to confirm repair.  
Deal with any other possible faults.

**DF009**  
**PRESENT**  
**or**  
**MEMORISED**

### ACTUATOR CONTROL RELAY CIRCUIT

CC0 = Open circuit or short circuit to earth  
CC1 = Short circuit at +12 V  
DEF = Memorised fault

#### NOTES

**Conditions for the application of the diagnostic on the fault stored.**

The fault is declared present following a one minute timed period with the engine running.

Check the **status of the battery and the vehicle earths**.  
Repair if necessary.

Check the **connection and the status of the actuator relay connector**.  
Change the connector if necessary.

**Check the actuator relay coil**.  
Change the actuator relay if necessary.

Check the presence of **12 V on track 1 of the actuator relay**.  
Rectify the line to the fuse.

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

**Injection computer      39      —————>      2      Actuator relay**

Repair if necessary.

**If the problem has still not been solved, deal with the other faults and then proceed to the conformity check.**

#### **AFTER REPAIR**

Erase fault memory.  
Follow the instructions to confirm repair.  
Deal with any other possible faults.

**DF011  
PRESENT**

**FAULT WARNING LIGHT CIRCUIT**

CO0 = Open circuit or short circuit to earth  
CC1 = Short circuit at +12 V  
DEF = Memorised fault

**NOTES**

None

Check **the status of the tell-tale light** (if it is not lit).  
Change if necessary.

Check that there is an input of **12 V into the tell-tale** (if it is not lit).  
Rectify the line to the fuse.

Connect the bornier and check the **insulation and continuity** of the line track 37 of the computer.  
Repair.

**AFTER  
REPAIR**

Erase fault memory.  
Follow the instructions to confirm repair.  
Deal with any other possible faults.

**DF012**  
**PRESENT**  
**or**  
**MEMORISED**

### INJECTION CONNECTION -----▶ AC

DEF = Unidentified electrical fault

#### **NOTES**

#### **Conditions for the application of the diagnostic on the fault stored.**

The fault is declared present following a timed period of 10 seconds, engine running with the heating/ventilation switched on (during the test, the battery voltage should not be lower than 11 V).

Connect the bornier in place of the computer and check the **insulation, continuity and interference resistance of computer line 23**.  
Repair if necessary.

If the fault persists, refer to the air conditioning fault finding.

#### **AFTER REPAIR**

Erase fault memory.  
Follow the instructions to confirm repair.  
Deal with any other possible faults.

**DF014  
PRESENT**

### CANISTER BLEED SOLENOID VALVE CIRCUIT

CO = Open circuit  
CC0 = Short circuit to earth  
CC1 = Short circuit at 12 V  
DEF = Memorised fault

#### **NOTES**

None

Check the **connection and status of canister bleed connector**.  
Change the connector if necessary.

With the ignition on, check for **12 V on the canister bleed valve**.  
Repair if necessary.

Check the resistance of the canister bleed valve.  
Replace the valve if necessary.

Connect the bornier in place of the computer and check **the insulation, continuity and interference resistance** on the line:

**Computer**      4      —————> **Canister bleed valve**

Repair if necessary.

**If the problem has still not been solved, deal with the other faults and then proceed to the conformity check.**

#### **AFTER REPAIR**

Erase fault memory.  
Follow the instructions to confirm repair.  
Deal with any other possible faults.

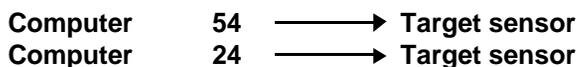
<b>DF017 PRESENT or MEMORISED</b>	<p style="text-align: center;"><u><b>FLYWHEEL SIGNAL INFORMATION</b></u></p> <p>1 DEF = Engine flywheel target fault          2 DEF = Absence of tooth signal</p>
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<b>NOTES</b>	<p><b>The pressure sensor should not be broken down to perform this diagnostic test.</b></p>
	<p><b>Conditions for the application of the diagnostic on the fault stored.</b>          The fault is declared present following starter motor action for 10 seconds.          OR          The fault is declared present following a timed period of 2 minutes with the engine running.</p>

Check the **connection and status** of the target sensor connector.  
 Change the connector if necessary.

Check the **resistance of the target sensor**.  
 Replace the sensor if necessary.

Connect the bornier in place of the computer and check **the insulation, continuity and interference resistance** of the line:



Repair if necessary.

If 1DEF, check the status of the flywheel.

**If the problem has still not been solved, deal with the other faults and then proceed to the conformity check.**

<b>AFTER REPAIR</b>	<p>Erase fault memory.          Follow the instructions to confirm repair.          Deal with any other possible faults.</p>
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**DF018  
PRESENT  
or  
MEMORISED**

### UPSTREAM OXYGEN SENSOR HEATER CIRCUIT

CO = Open circuit  
CC0 = Short circuit to earth  
CC1 = Short circuit at 12 V  
1 DEF = Unidentified electrical fault  
2 DEF = Sensor heating power not conform

#### NOTES

**Conditions for the application of the diagnostic on the fault stored.**

The fault is declared present following a timed period of 10 seconds with the engine running.

Check the **connection and status of the oxygen sensor connector**.  
Change the connector if necessary.

Check the oxygen sensor **heating resistance**.  
Change the oxygen sensor if necessary.

Check that there are **12 V on the oxygen sensor**.  
Rectify the electrical line to the actuator relay.

Connect the bornier in place of the computer and check **the insulation, continuity and interference resistance** of the line:

**Computer      63      —————>      Oxygen sensor**

Repair if necessary.

**If the problem has still not been solved, deal with the other faults and then proceed to the conformity check.**

#### **AFTER REPAIR**

Erase fault memory.  
Follow the instructions to confirm repair.  
Deal with any other possible faults.

<b>DF019 PRESENT or MEMORISED</b>	<p><b><u>SUPPLY</u></b></p> <p>1.DEF = Fault +12 V after ignition                  2.DEF = Fault +12 V after actuator relay                  3.DEF = Supply voltage fault in the injector steering computer</p>
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<b>NOTES</b>	<p><b>Conditions for the application of the diagnostic on the fault stored.</b></p> <p>The fault is declared present after:</p> <ul style="list-style-type: none"> <li>– switching the ignition off and dialogue loss</li> <li style="padding-left: 40px;">AND</li> <li>– switching the ignition on and starting a dialogue.</li> </ul>
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<b>1.DEF</b>	<b>NOTES</b>	<p>The injection computer makes a comparison between the injection computer most after ignition and the most after ignition of the injector steering computer.</p>
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<p>Ensure that the injection computer connector and the injector steering computer are in good condition.</p>												
<p>Check the <b>insulation, continuity and interference resistance</b> on the line:</p> <table style="width: 100%; border: none;"> <tr> <td style="padding: 2px;"><b>Positive fuse after ignition</b></td> <td style="padding: 2px; text-align: center;">→</td> <td style="padding: 2px;"><b>29</b></td> <td style="padding: 2px;"><b>Injection computer</b></td> </tr> <tr> <td style="padding: 2px;"><b>Positive fuse after ignition</b></td> <td style="padding: 2px; text-align: center;">→</td> <td style="padding: 2px;"><b>33</b></td> <td style="padding: 2px;"><b>Injector steering computer</b></td> </tr> <tr> <td style="padding: 2px;"><b>Injection computer 87</b></td> <td style="padding: 2px; text-align: center;">→</td> <td style="padding: 2px;"><b>5</b></td> <td style="padding: 2px;"><b>Injector steering computer</b></td> </tr> </table> <p>Repair if necessary.</p>	<b>Positive fuse after ignition</b>	→	<b>29</b>	<b>Injection computer</b>	<b>Positive fuse after ignition</b>	→	<b>33</b>	<b>Injector steering computer</b>	<b>Injection computer 87</b>	→	<b>5</b>	<b>Injector steering computer</b>
<b>Positive fuse after ignition</b>	→	<b>29</b>	<b>Injection computer</b>									
<b>Positive fuse after ignition</b>	→	<b>33</b>	<b>Injector steering computer</b>									
<b>Injection computer 87</b>	→	<b>5</b>	<b>Injector steering computer</b>									
<p><b>Ensure that the earth is clean:</b></p> <p>Track 3 of the injection computer                  Track 28 of the injection computer                  Track 33 of the injection computer</p> <p>Track 22 of the injector steering computer                  Track 23 of the injector steering computer                  Track 51 of the injector steering computer</p>												

<b>AFTER REPAIR</b>	<p>Erase fault memory.                  Follow the instructions to confirm repair.                  Deal with any other possible faults.</p>
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CONT 1	
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2.DEF	<b>NOTES</b>	The injection computer makes the comparison between its positive after ignition and its positive after actuator relay
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Check the <b>status of the battery and the vehicle earths.</b> Repair if necessary.
Check the <b>connection and the status of the actuator relay connector</b> Change the connector if necessary.
Disconnect the clip on track 5 of the relay-holder. Ignition on, check for <b>12 V on track 5 of the actuator relay</b>

There is not 12 V on track 5	Disconnect the relay and check for <b>12 V on track 3 of the relay-holder.</b> Repair if necessary.
	Change the relay.

There is 12 V on track 5	Check insulation and continuity of the line: <b>Injection computer 66</b> → <b>5 Actuator relay</b> Repair if necessary.
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<b>If the problem has still not been solved, deal with the other faults and then proceed to the conformity check.</b>
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<b>AFTER REPAIR</b>	Erase fault memory. Follow the instructions to confirm repair. Deal with any other possible faults.
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CONT 2

3.DEF

### NOTES

The injection computer makes a comparison between the positive after ignition of the injection computer and the positive after ignition of the injector steering computer.

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

<b>Actuator relay</b>	<b>5</b>	<b>————→</b>	<b>25</b>	<b>Injector steering computer</b>
<b>Actuator relay</b>	<b>5</b>	<b>————→</b>	<b>26</b>	<b>Injector steering computer</b>
<b>Actuator relay</b>	<b>5</b>	<b>————→</b>	<b>27</b>	<b>Injector steering computer</b>
<b>Positive after ignition</b>		<b>————→</b>	<b>33</b>	<b>Injector steering computer</b>
<b>Battery positive</b>		<b>————→</b>	<b>34</b>	<b>Injector steering computer</b>

If necessary, rectify the defective lines.

**Ensure that the earth is clean:**

Track 22 of the injector steering computer  
Track 23 of the injector steering computer  
Track 51 of the injector steering computer

### AFTER REPAIR

Erase fault memory.  
Follow the instructions to confirm repair.  
Deal with any other possible faults.

**DF021  
PRESENT**

**IMMOBILISER**

Electrical problem on the coded line.

**NOTES**

None

Check the **connection and status of the connectors** of the coded line on track 58 of the injection computer.  
Change the defective connector if necessary.

Connect the bornier in the place of the computer and check **the insulation and continuity** of the coded line on track 58 of the injection computer.  
Repair if necessary.

If the fault persists, refer to the immobiliser fault finding.

**AFTER  
REPAIR**

Erase fault memory.  
Deal with any other possible faults.

**DF022  
PRESENT**

### COMPUTER

- 1.DEF = Computer fault
- 2.DEF = Back-up memory zone fault
- 3.DEF = Immobiliser memory zone fault

### **NOTES**

None

### **1.DEF**

Computer defective or not conform.  
Replace the injection computer.

### **2.DEF 3.DEF**

**Do not change the injection computer immediately.**

Carry out the following procedure:

- Switch on and enter into dialogue with the computer.
- Erase the computer memory.
- Switch off and wait for loss of dialogue with the computer.
- Switch on and enter into dialogue with the computer.

If the computer fault is still present, carry out this procedure again.

If the computer fault is still present after the fifth deletion attempt, change the injection computer.

### **AFTER REPAIR**

Erase fault memory.

**DF032  
PRESENT  
or  
MEMORISED**

### COOLANT TEMPERATURE OVERHEAT TELL-TALE CIRCUIT

CO0 = Open circuit or short circuit  
CC1 = Short circuit at 12 V  
DEF = Memorised fault

#### **NOTES**

**Conditions for the application of the diagnostic on the fault stored.**

The fault is declared present following a timed period of 10 second with engine running at a speed greater than **3800 rpm**.

Check the **connection and status if the overheat tell-tale line connector**.  
Change the connector if necessary.

Check **the status of the tell-tale light** (if it is not lit).  
Change it if necessary.

Check that there is an input of **12 V into the tell-tale**.  
Rectify the line to the fuse.

Connect the bornier and check the **insulation and continuity** of the line track 9 of the computer.  
Repair.

#### **AFTER REPAIR**

Erase fault memory.  
Follow the instructions to confirm repair.  
Deal with any other possible faults.

<b>DF034 PRESENT</b>	<p><b><u>EGR SOLENOID VALVE CIRCUIT</u></b></p> <p>CO = Open circuit          CC0 = Short circuit to earth          CC1 = Short circuit at 12 V          DEF = Electrical memorised fault          1DEF= Data incoherence          2DEF= Data incoherence</p>
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<b>NOTES</b>	None
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<b>CO CC0 CC1</b>	<b>NOTES</b>	A fault is present in the EGR solenoid valve control
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Check the <b>connection and status of the EGR solenoid valve connector</b> . Change the connector if necessary.
With the ignition on, check for <b>12 V after actuator relay</b> on the EGR solenoid valve. Repair if necessary.
Check the <b>resistance of the EGR solenoid valve</b> . Change the solenoid valve if necessary.
Connect the bornier in place of the computer and check <b>the insulation, continuity and interference resistance</b> on the line:  <div style="text-align: center; margin: 10px 0;"> <b>Injection computer 62</b>    <math>\longrightarrow</math>    <b>EGR solenoid valve</b> </div> Repair if necessary.
<b>If the problem has still not been solved, deal with the other faults and then proceed to the conformity check.</b>

<b>AFTER REPAIR</b>	Erase fault memory. Follow the instructions to confirm repair. Deal with any other possible faults.
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CONT

1 DEF  
2 DEF

### NOTES

**The EGR valve position sensor should not be broken down, DF088 with 2 DEF, to carry out this diagnostic test.**  
The computer checks the coherence between the EGR solenoid valve control and the value shown on the EGR valve position sensor.

Check the **connection and status of the EGR solenoid valve connector**.  
Change the connector if necessary.

With the ignition on, check for **12 V after actuator relay** on the EGR solenoid valve.  
Repair if necessary.

Check the **resistance of the EGR solenoid valve** .  
Change the solenoid valve if necessary.

Connect the bornier in place of the computer and check **the insulation, continuity and interference resistance** on the line:

Injection computer	62	————→	EGR solenoid valve
Injection computer	18	————→	EGR valve position sensor
Injection computer	82	————→	EGR valve position sensor
Injection computer	83	————→	EGR valve position sensor

Repair if necessary.

If all the tests are successful, change the EGR solenoid valve with its position sensor.

### AFTER REPAIR

Erase fault memory.  
Follow the instructions to confirm repair.  
Deal with any other possible faults.

**DF038  
PRESENT  
or  
MEMORISED**

### DOWNSTREAM OXYGEN SENSOR HEATER CIRCUIT

CO = Open circuit  
CC0 = Short circuit to earth  
CC1 = Short circuit at 12 V  
1DEF = Unidentified electrical fault  
2DEF = Sensor heating power not conform

#### **NOTES**

#### **Conditions for the application of the diagnostic on the fault stored.**

The fault is declared present after:  
– engine running fan unit start-up  
AND  
– one minute timed period with low acceleration

Check the **connection and status of the oxygen sensor connector**.  
Change the connector if necessary.

Check the oxygen sensor **heating resistance**.  
Change the oxygen sensor if necessary.

Check for **12 V (after actuator relay) oxygen sensor**.  
Rectify the electrical line to the actuator relay.

Connect the bornier in place of the computer and check **the insulation, continuity and interference resistance** on the line:

**Computer      65      —————>      Oxygen sensor**

Repair if necessary.

**If the problem has still not been solved, deal with the other faults and then proceed to the conformity check.**

#### **AFTER REPAIR**

Erase fault memory.  
Follow the instructions to confirm repair.  
Deal with any other possible faults.

<b>DF045 PRESENT or MEMORISED</b>	<p style="text-align: center;"><u><b>COLLECTOR PRESSURE SENSOR CIRCUIT</b></u></p> <p>1DEF= Collector pressure not coherent 2DEF= Atmospheric pressure not coherent</p>
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<b>NOTES</b>	<p><b>Conditions for the application of the diagnostic on the fault stored.</b></p> <p>The fault is declared present after:</p> <ul style="list-style-type: none"> <li>- switching the ignition off and dialogue loss AND</li> <li>- switching the ignition on and starting a dialogue. AND</li> <li>- 10 second timed period with minimum speed of <b>608 rpm</b>.</li> </ul>
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<b>1 DEF</b>	<p>Check the coherence of PR017 throttle position parameter in no load position and full throttle. Lightly press the accelerator pedal (from no load to full throttle) and check that position throttle increases regularly.</p>
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Information on throttle position is not conform

Deal with the diagnostic test for parameter PR017.

Information on throttle position is conform

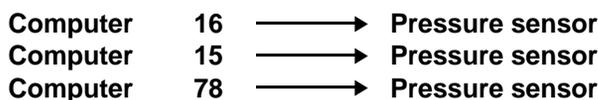
Deal with the diagnostic test for fault: DF045 for 2DEF.

<b>2 DEF</b>	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 20%; text-align: center; vertical-align: middle;"><b>NOTES</b></td> <td style="padding: 5px;"> <p>Check <b>the status of the pressure sensor connector</b>. Change the connector if necessary.</p> </td> </tr> </table>	<b>NOTES</b>	<p>Check <b>the status of the pressure sensor connector</b>. Change the connector if necessary.</p>
<b>NOTES</b>	<p>Check <b>the status of the pressure sensor connector</b>. Change the connector if necessary.</p>		

Check **the status of the pressure sensor connector**.  
Change the connector if necessary.

Check that the pressure sensor is **connected pneumatically**.

Connect the bornier in place of the computer and check **the insulation, continuity and interference resistance** of the line:



Repair if necessary.

Using a vacuum pump, check the coherence of the collector pressure: PR001.  
Replace the sensor if necessary.

**If the problem has still not been solved, deal with the other faults and then proceed to the conformity check.**

<b>AFTER REPAIR</b>	<p>Erase fault memory. Follow the instructions to confirm repair. Deal with any other possible faults.</p>
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**DF050  
PRESENT**

### INJECTOR STEERING COMPUTER

**NOTES**

None

Check the injector steering computer supply voltage:

- Track 25: 12 V actuator relay
- Track 26: 12 V actuator relay
- Track 27: 12 V actuator relay
- Track 33: Positive after ignition
- Track 34: Battery positive

If necessary, rectify the defective lines.

Ensure that the earth is clean:

- Track 22 of the injector steering computer
- Track 23 of the injector steering computer
- Track 51 of the injector steering computer

The injector steering computer is defective:  
Change the injector steering computer

**AFTER  
REPAIR**

Erase fault memory.

**DF051  
PRESENT**

### "CAN" CONNECTION

#### **NOTES**

None

Connect the bornier in place of the computer and check **the insulation and continuity** of the line:

<b>Injection computer</b>	<b>27</b>	————→	<b>Injector steering computer</b>
<b>Injection computer</b>	<b>57</b>	————→	<b>Injector steering computer</b>

Repair if necessary.

Check the injector steering computer supply voltage:

Track 22: Earth	Track 25: Positive after actuator relay
Track 23: Earth	Track 26: Positive after actuator relay
Track 51: Earth	Track 27: Positive after actuator relay
Track 33: Positive after ignition	Track 34: Battery positive

Repair if necessary.

Ensure injection computer supply voltage:

Track 3: Earth	Track 29: Positive after ignition
Track 28: Earth	Track 66: Actuator relay
Track 33: Earth	Track 30: Battery positive

Repair if necessary.

**If the problem has still not been solved, deal with the other faults and then proceed to the conformity check.**

#### **AFTER REPAIR**

Erase fault memory.  
Follow the instructions to confirm repair.  
Deal with any other possible faults.

**DF052  
PRESENT  
or  
MEMORISED**

### CYLINDER 1 INJECTOR CIRCUIT

CO = Open circuit  
CC1 = Short circuit at 12 V  
DEF = Memorised fault

### NOTES

#### Conditions for the application of the diagnostic on the fault stored.

The fault is declared present following a timed period of 10 seconds with the engine running.

Check the **injector 1 resistance**.  
Change the injector if necessary.

Check the **insulation, continuity and interference resistance** on the line:

<b>Injector steering computer</b>	<b>35</b>	→	<b>Injector 1</b>
<b>Injector steering computer</b>	<b>36</b>	→	<b>Injector 1</b>

Repair if necessary.

Check the **injector steering computer supply voltage**:

- Track 22: Earth
- Track 23: Earth
- Track 51: Earth
- Track 25: Positive after actuator relay
- Track 26: Positive after actuator relay
- Track 27: Positive after actuator relay
- Track 34: Battery positive
- Track 33: Positive after ignition

Repair if necessary.

**If the problem has still not been solved, deal with the other faults and then proceed to the conformity check.**

### AFTER REPAIR

Erase fault memory.  
Follow the instructions to confirm repair.  
Deal with any other possible faults.

**DF053  
PRESENT  
or  
MEMORISED**

### CYLINDER 2 INJECTOR CIRCUIT

CO = Open circuit  
CC1 = Short circuit at 12 V  
DEF = Memorised fault

### NOTES

#### Conditions for the application of the diagnostic on the fault stored.

The fault is declared present following a timed period of 10 seconds with the engine running.

Check the **injector 2 resistance**.  
Change the injector if necessary.

Check the **insulation, continuity and interference resistance** on the line:

Injector steering computer	43	→	Injector 2
Injector steering computer	42	→	Injector 2

Repair if necessary.

Check the **injector steering computer supply voltage**:

- Track 22: Earth
- Track 23: Earth
- Track 51: Earth
- Track 25: Positive after actuator relay
- Track 26: Positive after actuator relay
- Track 27: Positive after actuator relay
- Track 34: Battery positive
- Track 33: Positive after ignition

Repair if necessary.

**If the problem has still not been solved, deal with the other faults and then proceed to the conformity check.**

### AFTER REPAIR

Erase fault memory.  
Follow the instructions to confirm repair.  
Deal with any other possible faults.

**DF054  
PRESENT  
or  
MEMORISED**

### CYLINDER 3 INJECTOR CIRCUIT

CO = Open circuit  
CC1 = Short circuit at 12 V  
DEF = Memorised fault

### NOTES

#### Conditions for the application of the diagnostic on the fault stored.

The fault is declared present following a timed period of 10 seconds with the engine running.

Check the **injector 3 resistance**.  
Change the injector if necessary.

Check the **insulation, continuity and interference resistance** on the line:

<b>Injector steering computer</b>	<b>40</b>	————→	<b>Injector 3</b>
<b>Injector steering computer</b>	<b>41</b>	————→	<b>Injector 3</b>

Repair if necessary.

Check the **injector steering computer supply voltage**:

- Track 22: Earth
- Track 23: Earth
- Track 51: Earth
- Track 25: Positive after actuator relay
- Track 26: Positive after actuator relay
- Track 27: Positive after actuator relay
- Track 34: Battery positive
- Track 33: Positive after ignition

Repair if necessary.

**If the problem has still not been solved, deal with the other faults and then proceed to the conformity check.**

### AFTER REPAIR

Erase fault memory.  
Follow the instructions to confirm repair.  
Deal with any other possible faults.

**DF055  
PRESENT  
or  
MEMORISED**

### CYLINDER 4 INJECTOR CIRCUIT

CO = Open circuit  
CC1 = Short circuit at 12 V  
DEF = Memorised fault

### NOTES

#### Conditions for the application of the diagnostic on the fault stored.

The fault is declared present following a timed period of 10 seconds with the engine running.

Check the **injector 4 resistance**.  
Change the injector if necessary.

Check the **insulation, continuity and interference resistance** on the line:

<b>Injector steering computer</b>	<b>38</b>	————→	<b>Injector 4</b>
<b>Injector steering computer</b>	<b>37</b>	————→	<b>Injector 4</b>

Repair if necessary.

Check **the injector steering computer supply voltage**:

- Track 22: Earth
- Track 23: Earth
- Track 51: Earth
- Track 25: Positive after actuator relay
- Track 26: Positive after actuator relay
- Track 27: Positive after actuator relay
- Track 34: Battery positive
- Track 33: Positive after ignition

Repair if necessary.

**If the problem has still not been solved, deal with the other faults and then proceed to the conformity check.**

### AFTER REPAIR

Erase fault memory.  
Follow the instructions to confirm repair.  
Deal with any other possible faults.

**DF057  
PRESENT  
or  
MEMORISED**

### UPSTREAM OXYGEN SENSOR CIRCUIT

DEF = Unidentified electrical fault

#### **NOTES**

**Conditions for the application of the diagnostic on the fault stored.**

The fault is declared present following a 5 minute timed period in ratio regulation (engine running).

Check the **connection and status of the oxygen sensor connector**.  
Change the connector if necessary.

Check that there is **no air leak**.

If the vehicle is used frequently in towns, **carry out a decarbonisation operation**.

With the ignition on, check for **+12 V (after actuator relay) on the oxygen sensor**.  
Repair if necessary.

Connect the bornier in place of the computer and check **the insulation, continuity and interference resistance** of the line:

<b>Computer</b>	<b>45</b>	————→	<b>Oxygen sensor</b>
<b>Computer</b>	<b>80</b>	————→	<b>Oxygen sensor</b>

Repair if necessary.

**If the problem has still not been solved, deal with the other faults and then proceed to the conformity check.**

#### **AFTER REPAIR**

Erase fault memory.  
Follow the instructions to confirm repair.  
Deal with any other possible faults.

**DF058  
PRESENT  
or  
MEMORISED**

### UPSTREAM OXYGEN SENSOR CIRCUIT

DEF = Unidentified electrical fault

#### NOTES

#### Conditions for the application of the diagnostic on the fault stored.

The fault is declared present if:

– gentle road test after fan operation  
AND

– ET027 ratio double loop active.  
OR

The fault is declared present if:

– gentle road test after fan operation  
AND

– ET027 ratio double loop active.  
AND

– immediately followed by a road test on a hill with no load (deceleration phase).

Check the **connection and status of the oxygen sensor connector**.

Change the connector if necessary.

Check that there is **no air leak**.

If the vehicle is used frequently in towns, **carry out a decarbonisation operation**.

With the ignition on, check for **+12 V (after actuator relay) on the oxygen sensor**.

Repair if necessary.

Connect the bornier in place of the computer and check **the insulation, continuity and interference resistance** of the line:

<b>Computer</b>	<b>44</b>	→	<b>Oxygen sensor</b>
<b>Computer</b>	<b>76</b>	→	<b>Oxygen sensor</b>

Repair if necessary.

**If the problem has still not been solved, deal with the other faults and then proceed to the conformity check.**

#### **AFTER REPAIR**

Erase fault memory.

Follow the instructions to confirm repair.

Deal with any other possible faults.

**DF060  
PRESENT**

### IDLE SPEED REGULATION CIRCUIT

DEF = Idle speed regulation fault

### **NOTES**

None

Check the **connection and status of the idle speed regulation stepper motor connector**.  
Change the connector if necessary.

Check the **resistance of the idle speed regulation stepper motor**.  
Change the idle speed regulation stepper motor if necessary.

Check the **insulation, continuity and interference resistance** on the line:

<b>Computer</b>	<b>12</b>	—————▶	<b>Idle speed regulation stepper motor</b>
<b>Computer</b>	<b>41</b>	—————▶	<b>Idle speed regulation stepper motor</b>
<b>Computer</b>	<b>42</b>	—————▶	<b>Idle speed regulation stepper motor</b>
<b>Computer</b>	<b>72</b>	—————▶	<b>Idle speed regulation stepper motor</b>

Repair if necessary.

**If the problem has still not been solved, deal with the other faults and then proceed to the conformity check.**

### **AFTER REPAIR**

Delete the idle speed regulation programming in the event of a change of idle speed regulation stepper motor.  
Erase fault memory. Follow the instructions to confirm repair. Deal with any other possible faults.

**DF061  
PRESENT  
or  
MEMORISED**

### IGNITION COIL 1-4 CIRCUIT

CO0 = Open circuit  
CC1 = Short circuit at 12 V  
DEF = Memorised fault

### **NOTES**

The fuel pump relay fault should not be present: DF008

**Conditions for the application of the diagnostic on the fault stored.**

The fault is declared present following a timed period of 10 seconds with the engine running or at starter speed.

Check the **resistance of the coil**.  
Replace the coil if necessary.

Connect the bornier in place of the computer and check **the insulation and continuity** of the line:

**Computer      32      —————>      Coil**

Repair if necessary.

Check, ignition on, for 12 V on track 3 of the fuel pump relay.  
Repair if necessary.

Check insulation, continuity and interference resistance on line on track C of the coil.  
Repair if necessary.

With the engine running, check for 12 V on track 5 of the fuel pump relay. Change the relay if necessary.

**If the problem has still not been solved, deal with the other faults and then proceed to the conformity check.**

### **AFTER REPAIR**

Erase fault memory.  
Follow the instructions to confirm repair.  
Deal with any other possible faults.

<b>DF062 PRESENT or MEMORISED</b>	<p><b><u>IGNITION COIL 2-3 CIRCUIT</u></b></p> <p>CO0 = Open circuit CC1 = Short circuit at 12 V DEF = Memorised fault</p>
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<b>NOTES</b>	<p><b>The fuel pump relay fault should not be present: DF008</b></p>
	<p><b>Conditions for the application of the diagnostic on the fault stored.</b></p> <p>The fault is declared present following a timed period of 10 seconds with the engine running or at starter speed.</p>

<p>Check the <b>resistance of the coil</b>. Replace the coil if necessary.</p>
<p>Connect the bornier in place of the computer and check <b>the insulation and continuity</b> of the line:</p> <p style="text-align: center;"> <b>Computer</b>      1      <math>\longrightarrow</math>      <b>Coil</b> </p> <p>Repair if necessary.</p>
<p>Check, ignition on, for 12 V on track 3 of the fuel pump relay. Repair if necessary.</p>
<p>Check insulation, continuity and interference resistance on line on track C of the coil. Repair if necessary.</p>
<p>With the engine running, check for 12 V on track 5 of the fuel pump relay. Change the relay if necessary.</p>
<p><b>If the problem has still not been solved, deal with the other faults and then proceed to the conformity check.</b></p>

<b>AFTER REPAIR</b>	<p>Erase fault memory. Follow the instructions to confirm repair. Deal with any other possible faults.</p>
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**DF064  
PRESENT  
or  
MEMORISED**

### VEHICLE SPEED INFORMATION

DEF = Unidentified electrical fault

### **NOTES**

**It is vital that the ABS is not defective when carrying out this test.**

**Conditions for the application of the diagnostic on the fault stored.**

The fault is declared present during: gentle road test

OR

The fault is declared present during: road test on a gradient at a constant speed.

OR

The fault is declared present during: road test when driving on a slope in no load position.

Check the **connection and status** of the vehicle speed line connector.  
Change the connector if necessary.

Connect the bornier in place of the computer and check the **insulation, continuity and interference resistance of the line 53 of the computer**.  
Repair if necessary.

If the fault persists, refer to the **ABS fault finding**.

### **AFTER REPAIR**

Erase fault memory.  
Follow the instructions to confirm repair.  
Deal with any other possible faults.

<b>DF084 PRESENT or MEMORISED</b>	<p><b><u>CYLINDER 1 INJECTOR COMMAND</u></b></p> <p>CO = Open circuit          CC0 = Short circuit to earth          CC1 = Short-circuit at 12 V          1DEF= Memorised electrical fault          2DEF= Interference on injector command line</p>
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<b>NOTES</b>	<p><b>Conditions for the application of the diagnostic on the fault stored.</b></p> <p>The fault is declared present following a timed period of 10 seconds with the engine running.</p>
	<p><b>NOTE:</b> The injection computer only detects a fault when the engine is running. The injector control computer detects a fault with the ignition on. It is therefore possible to see a change in designation when changing from engine running to ignition on.</p>

<p>Connect the bornier in place of the computer and check <b>the insulation, continuity and interference resistance</b> on the line:</p>		
<p><b>Injection computer</b></p>	<p><b>59</b>        <b>3</b></p>	<p><b>Injector steering computer</b></p>
<p>Repair if necessary.</p>		
<p>Check <b>the injector steering computer supply voltage:</b></p>		
<p>Track 22: Earth          Track 23: Earth          Track 51: Earth          Track 33: Positive after ignition</p>	<p>Track 25: Positive after actuator relay          Track 26: Positive after actuator relay          Track 27: Positive after actuator relay          Track 34: Battery positive</p>	
<p>Repair if necessary.</p>		
<p>Check <b>the injection computer supply:</b></p>		
<p>Track 3: Earth          Track 28: Earth          Track 33: Earth</p>	<p>Track 30: Battery positive          Track 66: Actuator actuator relay          Track 29: Positive after ignition</p>	
<p>Repair if necessary.</p>		
<p><b>If the problem has still not been solved, deal with the other faults and then proceed to the conformity check.</b></p>		

<b>AFTER REPAIR</b>	<p>Erase fault memory.          Follow the instructions to confirm repair.          Deal with any other possible faults.</p>
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<b>DF085 PRESENT or MEMORISED</b>	<p style="text-align: center;"><u><b>CYLINDER 2 INJECTOR COMMAND</b></u></p> <p>CO = Open circuit          CC0 = Short circuit to earth          CC1 = Short-circuit at 12 V          1DEF= Memorised electrical fault          2DEF= Interference on injector command line</p>
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<b>NOTES</b>	<p><b>Conditions for the application of the diagnostic on the fault stored.</b></p> <p>The fault is declared present following a timed period of 10 seconds with the engine running.</p>
	<p><b>NOTE:</b> The injection computer only detects a fault when the engine is running. The injector control computer detects a fault with the ignition on. It is therefore possible to see a change in designation when changing from engine running to ignition on.</p>

<p>Connect the bornier in place of the computer and check <b>the insulation, continuity and interference resistance</b> on the line:</p>	
<b>Injection computer</b>	<b>90</b> $\longrightarrow$ <b>30</b> <b>Injector steering computer</b>
<p>Repair if necessary.</p>	
<p>Check <b>the injector steering computer supply voltage:</b></p>	
<p>Track 22: Earth          Track 23: Earth          Track 51: Earth          Track 33: Positive after ignition</p>	<p>Track 25: Positive after actuator relay          Track 26: Positive after actuator relay          Track 27: Positive after actuator relay          Track 34: Battery positive</p>
<p>Repair if necessary.</p>	
<p>Check <b>the injection computer supply:</b></p>	
<p>Track 3: Earth          Track 28: Earth          Track 33: Earth</p>	<p>Track 30: Battery positive          Track 66: Actuator actuator relay          Track 29: Positive after ignition</p>
<p>Repair if necessary.</p>	
<p><b>If the problem has still not been solved, deal with the other faults and then proceed to the conformity check.</b></p>	

<b>AFTER REPAIR</b>	<p>Erase fault memory.          Follow the instructions to confirm repair.          Deal with any other possible faults.</p>
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<b>DF086 PRESENT or MEMORISED</b>	<p style="text-align: center;"><b><u>CYLINDER 3 INJECTOR COMMAND</u></b></p> <p>CO = Open circuit          CC0 = Short circuit to earth          CC1 = Short-circuit at 12 V          1DEF= Memorised electrical fault          2DEF= Interference on injector command line</p>
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<b>NOTES</b>	<p><b>Conditions for the application of the diagnostic on the fault stored.</b></p> <p>The fault is declared present following a timed period of 10 seconds with the engine running.</p> <p><b>NOTE:</b> The injection computer only detects a fault when the engine is running. The injector control computer detects a fault with the ignition on. It is therefore possible to see a change in designation when changing from engine running to ignition on.</p>
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<p>Connect the bornier in place of the computer and check <b>the insulation, continuity and interference resistance</b> on the line:</p>		
<b>Injection computer</b>	<b>60</b> —————> <b>2</b>	<b>Injector steering computer</b>
<p>Repair if necessary.</p>		
<p>Check <b>the injector steering computer supply voltage:</b></p>		
<p>Track 22: Earth          Track 23: Earth          Track 51: Earth          Track 33: Positive after ignition</p>	<p>Track 25: Positive after actuator relay          Track 26: Positive after actuator relay          Track 27: Positive after actuator relay          Track 34: Battery positive</p>	
<p>Repair if necessary.</p>		
<p>Check <b>the injection computer supply:</b></p>		
<p>Track 3: Earth          Track 28: Earth          Track 33: Earth</p>	<p>Track 30: Battery positive          Track 66: Actuator actuator relay          Track 29: Positive after ignition</p>	
<p>Repair if necessary.</p>		
<p><b>If the problem has still not been solved, deal with the other faults and then proceed to the conformity check.</b></p>		

<b>AFTER REPAIR</b>	<p>Erase fault memory.          Follow the instructions to confirm repair.          Deal with any other possible faults.</p>
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<b>DF087 PRESENT or MEMORISED</b>	<p style="text-align: center;"><u><b>CYLINDER 4 INJECTOR COMMAND</b></u></p> <p>CO = Open circuit          CC0 = Short circuit to earth          CC1 = Short-circuit at 12 V          1DEF= Memorised electrical fault          2DEF= Interference on injector command line</p>
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<b>NOTES</b>	<p><b>Conditions for the application of the diagnostic on the fault stored.</b></p> <p>The fault is declared present following a timed period of 10 seconds with the engine running.</p>
	<p><b>NOTE:</b> The injection computer only detects a fault when the engine is running. The injector control computer detects a fault with the ignition on. It is therefore possible to see a change in designation when changing from engine running to ignition on.</p>

<p>Connect the bornier in place of the computer and check <b>the insulation, continuity and interference resistance</b> on the line:</p>	
<b>Injection computer</b>	<b>89</b> $\longrightarrow$ <b>20</b> <b>Injector steering computer</b>
<p>Repair if necessary.</p>	
<p>Check <b>the injector steering computer supply voltage:</b></p>	
<p>Track 22: Earth          Track 23: Earth          Track 51: Earth          Track 33: Positive after ignition</p>	<p>Track 25: Positive after actuator relay          Track 26: Positive after actuator relay          Track 27: Positive after actuator relay          Track 34: Battery positive</p>
<p>Repair if necessary.</p>	
<p>Check <b>the injection computer supply:</b></p>	
<p>Track 3: Earth          Track 28: Earth          Track 33: Earth</p>	<p>Track 30: Battery positive          Track 66: Actuator actuator relay          Track 29: Positive after ignition</p>
<p>Repair if necessary.</p>	
<p><b>If the problem has still not been solved, deal with the other faults and then proceed to the conformity check.</b></p>	

<b>AFTER REPAIR</b>	<p>Erase fault memory.          Follow the instructions to confirm repair.          Deal with any other possible faults.</p>
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**DF088  
PRESENT**

### EGR VALVE POSITION SENSOR CIRCUIT

1DEF= EGR valve mechanically locked  
2DEF= Unidentified electrical fault

### **NOTES**

None

Check **the connection and status of the EGR valve position sensor connector** .  
Change the connector if necessary.

Check **the EGR valve position sensor resistance**.  
Replace the sensor if necessary.

Connect the bornier in place of the computer and check **the insulation, continuity and interference resistance** of the line:

<b>Injection computer</b>	<b>18</b>	→	<b>EGR valve position sensor</b>
<b>Injection computer</b>	<b>82</b>	→	<b>EGR valve position sensor</b>
<b>Injection computer</b>	<b>83</b>	→	<b>EGR valve position sensor</b>

Repair if necessary.

If DEF1, the EGR solenoid valve is mechanically locked.  
Replace the solenoid valve.

**Deal with the other faults then proceed to conformity check.**

### **AFTER REPAIR**

Erase fault memory.  
Follow the instructions to confirm repair.  
Deal with any other possible faults.

<b>DF089 PRESENT or MEMORISED</b>	<p><b><u>FUEL PRESSURE REGULATION</u></b></p> <p>CO = Open circuit          CC0 = Short circuit to earth          CC1 = Short circuit at 12 V          DEF = Memorised electrical fault          1DEF= Fault in fuel pressure regulation          2DEF= Fault in fuel circuit</p>
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<b>NOTES</b>	<p>For <b>SAFETY</b> and <b>CLEANLINESS</b> reasons, it is <b>VITAL TO FOLLOW THE INSTRUCTIONS PROVIDED IN THE "METHOD" SECTION</b> of this vehicle.</p> <p>Depending on the designation of the fault, the instructions which allow the presence of a fault to be confirmed are different.          This fault has two faults, one is electrical and one if functional.</p>
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<b>CO CC0 CC1</b>	<b>NOTES</b>	<p><b>Fault detection conditions by the computer:</b>          Switch on the ignition.</p> <p><b>Condition for carrying out the diagnostic test:</b>          The fault is present.</p>
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	<p>Check the <b>connection and status of the fuel pressure regulation valve connector</b>.          Change the connector if necessary.</p>
	<p>Ignition on, check for <b>12 V on the fuel pressure regulation valve</b>.          Repair if necessary.</p>
	<p>Check the <b>resistance of the fuel pressure regulation valve</b>.          Replace the valve if necessary.</p>
	<p>Connect the bornier in place of the computer and check <b>the insulation, continuity and interference resistance</b> on the line:</p> <p style="text-align: center;"> <b>Injection computer      6      —————&gt;      Fuel pressure regulation valve</b> </p> <p>Repair if necessary.</p>
	<p><b>If the problem has still not been solved, deal with the other faults and then proceed to the conformity check.</b></p>

<b>AFTER REPAIR</b>	<p>Erase fault memory.          Follow the instructions to confirm repair.          Deal with any other possible faults.</p>
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CONT 1

1 DEF

### NOTES

**Conditions for the application of the diagnostic on the fault stored.**

The fault is declared present following a 2 minute timed period engine running at idle speed.

Check the **connection and status of the fuel pressure sensor connector**.  
Change the connector if necessary.

Connect the bornier in place of the computer and check **the insulation, continuity and interference resistance** of the line:

Injection computer	48	→	Fuel pressure sensor
Injection computer	74	→	Fuel pressure sensor
Injection computer	75	→	Fuel pressure sensor

Repair if necessary.

**If the problem has still not been solved, deal with the other faults and then proceed to the conformity check.**

### AFTER REPAIR

Erase fault memory.  
Follow the instructions to confirm repair.  
Deal with any other possible faults.

CONT 2

2 DEF

### NOTES

#### Conditions for the application of the diagnostic on the fault stored.

The fault is declared present after:

– a 2 minute timed period with engine running at idle speed  
OR

The fault is declared present after:

– a 2 minute timed period with engine running at different speeds

For **SAFETY** and **CLEANLINESS** reasons, it is **VITAL TO FOLLOW THE INSTRUCTIONS PROVIDED IN THE "METHOD" SECTION** of this vehicle.

Check that the fuel circuit does not have any leaks.  
Repair if necessary.

Check the status of the fuel filter.  
If it has any impurities, change the filter and check the cleanliness of the tank.

Check the electrical (resistance measure) and mechanical operation of the fuel pump (measure of flow and pressure).  
Change the fuel pump if necessary.

Check that the fuel pressure sensor is operating correctly: refer to vehicle conformity checks to obtain the value for fuel pressure with ignition on (PR074).  
Replace the sensor if necessary.

With the engine running at idle speed, check the value of the fuel pressure (refer to vehicle conformity checking).

PR074 > maximum

The high pressure regulator is defective.

PR074 < minimum

Activate the regulator control to check that the regulator is not seized.  
Change the pressure regulator.

If the problem is still not resolved, the high pressure pump is therefore defective.

### AFTER REPAIR

Erase fault memory.  
Follow the instructions to confirm repair.  
Deal with any other possible faults.

**DF090  
PRESENT  
or  
MEMORISED**

### CAMSHAFT SENSOR

DEF = Unidentified electrical fault

### **NOTES**

**Conditions for the application of the diagnostic on the fault stored.**

The fault is declared present following a 10 second timed period with engine running at idling speed or under starter motor action.

Check the connection and status of the camshaft sensor connector.  
Change the connector if necessary.

Check the camshaft sensor resistance.  
Change the camshaft sensor if necessary.

Connect the bornier in place of the computer and check **the insulation, continuity and interference resistance** of the line:

**Computer      46      —————>      Camshaft sensor**

Repair if necessary.

With the ignition on, check for 12 V on the camshaft sensor.  
Repair if necessary.

Check for earth on the camshaft sensor.  
Repair if necessary.

**If the problem has still not been solved, deal with the other faults and then proceed to the conformity check.**

### **AFTER REPAIR**

Erase fault memory.  
Follow the instructions to confirm repair.  
Deal with any other possible faults.

**DF117  
PRESENT**

IMMOBILISER CODE NOT LEARNT

**NOTES**

None

This fault indicates that the injection computer has not learnt the immobiliser code.  
If necessary, you should refer to the immobiliser method.

**AFTER  
REPAIR**

None

## Fault finding - Conformity check

### NOTES

The values shown in this conformity test are only given as an indication. It is therefore vital to consult the Technical Note which deals with your vehicle.  
**Conditions for performance:** Engine stopped, ignition on.

Order	Function	Abbreviations	Viewing and Notes	Fault finding
<b>Status Window</b>				
1	Battery voltage	<b>ET001:</b> + After ignition <b>PR004:</b> Computer supply voltage	<b>Status CONFIRMED</b>  11.8 < X < 13.2 V	In the event of a problem, consult the diagnostic <b>PR004</b>
2	Immobiliser	<b>ET002:</b> Immobiliser	<b>Status NOT CONFIRMED</b>	In the event of a problem, consult the diagnostic <b>ET002</b>
3	Computer configuration	<b>ET068:</b> Electrical windscreen connection  <b>ET008:</b> Heating/ventilation connection  <b>ET067:</b> Power-assisted steering pressure switch connection  <b>ET069:</b> Vehicle speed sensor connection	<b>Status CONFIRMED</b> If option  <b>Status CONFIRMED</b>  <b>Status CONFIRMED</b>  <b>Status CONFIRMED</b>	In the event of a problem, consult the diagnostic <b>ET068</b>  consult the diagnostic <b>ET008</b>  consult the diagnostic <b>ET067</b>  consult the diagnostic <b>ET069</b>
4	Supply relay	<b>ET020:</b> Fuel pump control relay  <b>ET025:</b> Actuator control relay	<b>Status CONFIRMED</b> a few seconds to switching the ignition on  <b>Status CONFIRMED</b>	None
5	Instrument panel tell-tales	<b>ET007:</b> Overheat tell-tale  <b>ET006:</b> Fault warning light	<b>Status NOT CONFIRMED</b>  <b>Status NOT CONFIRMED</b>	In the event of a problem, consult the fault diagnostic

## Fault finding - Conformity check

### NOTES

The values shown in this conformity test are only given as an indication.  
It is therefore vital to consult the Technical Note which deals with your vehicle.  
**Conditions for performance:** Engine stopped, ignition on.

Order	Function	Abbreviations	Viewing and Notes	Fault finding
6	Throttle position potentiometer	<p><b>Accelerator pedal released</b> ET003: Throttle position: no load</p> <p>PR017: Throttle position</p> <p>PR008: No load position programming value</p> <p>ET005: Throttle position: full load</p> <p><b>Accelerator pedal lightly depressed</b> ET003: Throttle position: no load</p> <p>ET005: Throttle position: full load</p> <p><b>Accelerator pedal depressed</b> ET003: Throttle position: no load</p> <p>ET005: Throttle position: full load</p> <p>PR017: Throttle position</p>	<p><b>Status CONFIRMED</b></p> <p><math>0 &lt; X &lt; 20</math></p> <p><math>0 &lt; X &lt; 20</math></p> <p><b>Status NOT CONFIRMED</b></p> <p><b>Status NOT CONFIRMED</b></p> <p><b>Status NOT CONFIRMED</b></p> <p><b>Status NOT CONFIRMED</b></p> <p><b>Status CONFIRMED</b></p> <p><math>68 &lt; X &lt; 100</math></p>	<p>In the event of a problem, consult the diagnostic PR017</p>
<b>Parameter Window</b>				
7	Coolant temperature sensor	PR002: Coolant temperature	X = Engine temperature $\pm 5$ °C	In the event of a problem, consult the diagnostic PR002
8	Air temperature sensor	PR003: Air temperature	X = Temperature under bonnet $\pm 5$ °C	In the event of a problem, consult the diagnostic PR003

### NOTES

The values shown in this conformity test are only given as an indication.  
It is therefore vital to consult the Technical Note which deals with your vehicle.  
**Conditions for performance:** Engine stopped, ignition on.

Order	Function	Abbreviations	Viewing and Notes	Fault finding
9	Pressure sensor	<b>PR001:</b> Manifold pressure  <b>PR016:</b> Atmospheric pressure	X = Atmospheric pressure  X = Atmospheric pressure	<b>In the event of a problem, consult the diagnostic PR001</b>
10	Ramp pressure	<b>PR074:</b> Fuel pressure  <b>PR102:</b> Fuel regulation solenoid valve RCO signal  <b>ET087:</b> Fuel low pressure injection inhibition	X < 5 bars  X > 70 %  <b>Status NOT CONFIRMED</b>	<b>In the event of a problem, check that there are no faults</b>
11	EGR	<b>PR020:</b> EGR potentiometer	X ≈ 23 %	<b>In the event of a problem, consult the diagnostic PR020</b>
<b>Command Window</b>				
12	Fuel pump	<b>AC010:</b> Fuel pump relay	Fuel pump should be heard to operate	<b>In the event of a problem, consult the diagnostic AC010</b>
13	Idle regulation valve	<b>AC014:</b> Idle regulation valve	Place your hand on it to ensure it is operating	<b>In the event of a problem, consult the diagnostic AC014</b>
14	Canister bleed solenoid valve	<b>AC016:</b> Canister bleed	The canister bleed solenoid valve should operate	<b>In the event of a problem, consult the diagnostic AC016</b>

## Fault finding - Conformity check

### NOTES

The values shown in this conformity test are only given as an indication.  
It is therefore vital to consult the Technical Note which deals with your vehicle.  
**Conditions for performance:** Engine stopped, ignition on.

Order	Function	Abbreviations	Viewing and Notes	Fault finding
15	EGR valve	<b>AC023:</b> EGR solenoid valve	The valve should operate	<b>In the event of a problem, consult the diagnostic AC023</b>
16	Fan assembly	<b>AC271:</b> Low speed fan relay  <b>AC272:</b> High speed fan relay	The fan should be heard when running at low speed  The fan should be heard when running at low speed at high speed	<b>In the event of a problem, consult the diagnostic AC271</b>  <b>In the event of a problem, consult the diagnostic AC272</b>
17	Tell-tale	<b>AC212:</b> Coolant temperature warning tell-tale	The tell-tale should illuminate	<b>In the event of a problem, consult the diagnostic AC212</b>

## Fault finding - Conformity check

### NOTES

The values shown in this conformity test are only given as an indication.  
It is therefore vital to consult the Technical Note which deals with your vehicle.  
**Conditions for performance:** Engine warm at idle speed, without electrical consumer.

Order	Function	Abbreviations	Viewing and Notes	Fault finding
<b>Status Window</b>				
1	Battery voltage	<b>ET001:</b> + After ignition  <b>PR004:</b> Computer supply voltage  If <b>PR004:</b> Computer supply voltage then <b>PR006:</b> Engine speed	<b>Status CONFIRMED</b>  $13 < X < 14.5 \text{ V}$ $X < 12.8 \text{ V}$  $750 < X < 910 \text{ rpm}$	In the event of a problem, consult the diagnostic <b>PR004</b>
2	Fuel pump control	<b>ET020:</b> Fuel pump control relay	<b>Status CONFIRMED</b>	None
3	Flywheel signal/camshaft	<b>ET060:</b> Flywheel signal with engine running  <b>ET084:</b> Camshaft information	<b>Status CONFIRMED</b>  <b>Status CONFIRMED Flashing</b>	In the event of a problem, consult the diagnostic <b>ET060</b>  In the event of a problem, consult the diagnostic <b>ET084</b>
4	Oxygen sensors heater	<b>ET030:</b> Upstream oxygen sensor heater  <b>ET031:</b> Downstream oxygen sensor heater	<b>Status CONFIRMED</b>  <b>Status CONFIRMED</b> (refer to operating conditions)	None

## Fault finding - Conformity check

### NOTES

The values shown in this conformity test are only given as an indication.  
It is therefore vital to consult the Technical Note which deals with your vehicle.  
**Conditions for performance** : Engine warm at idle speed, without electrical consumer.

Order	Function	Abbreviations	Viewing and Notes	Fault finding
5	Fuel pressure regulation	<b>ET089</b> : Fuel pressure regulation <b>PR074</b> : Fuel pressure <b>PR102</b> : Fuel regulation solenoid valve RCO signal <b>PR104</b> : Fuel pressure regulation error	<b>Status CONFIRMED</b>  $45 < X < 100$ bars $20 < X < 30\%$  $X \sim 0$ bar	<b>In the event of a problem, check that there are no faults</b>
6	Idle speed regulation	<b>ET039</b> : Idle speed regulation <b>PR002</b> : Coolant temperature <b>PR006</b> : Engine speed if <b>PR055</b> : After Sales idle speed instruction <b>PR040</b> : Idle speed divergence <b>PR055</b> : Idle speed instruction <b>PR022</b> : RCO signal idling <b>PR021</b> : Idling RCO signal adaptive <b>PR038</b> : Fast idle speed	<b>Status CONFIRMED</b>  $X > 70$ °C $725 < X < 775$ rpm $X = 0$ rpm  $-25 < X < +25$ rpm  $725 < X < 775$ rpm $9 \% < X < 15\%$ $-6 \% < X < 6\%$  <b>Status NOT CONFIRMED</b>	<b>In the event of a problem, consult the diagnostic ET039</b>
7	Ratio regulation	<b>ET037</b> : Ratio regulation <b>PR009</b> : Upstream sensor voltage <b>PR035</b> : Ratio correction value	<b>Status CONFIRMED</b>  $20 < X < 800$ mV  $0 < X < 255$	<b>In the event of a problem, consult the diagnostic ET037</b>

## Fault finding - Conformity check

### NOTES

The values shown in this conformity test are only given as an indication.  
It is therefore vital to consult the Technical Note which deals with your vehicle.  
**Conditions for performance:** Engine warm at idle speed, without electrical consumer.

Order	Function	Abbreviations	Viewing and Notes	Fault finding
8	Canister	<b>ET032:</b> Canister bleed  <b>PR023:</b> Canister bleed solenoid valve RCO signal	<b>Status NOT CONFIRMED</b>  $X < 0.7$	None
9	EGR	<b>ET021:</b> EGR solenoid control  <b>ET086:</b> EGR adaptive  <b>PR020:</b> EGR potentiometer <b>PR049:</b> EGR opening instructions  <b>PR026:</b> EGR programming increase	<b>Status CONFIRMED</b> (depending on the operating conditions)  <b>Status CONFIRMED</b>  $X \approx 22 \%$ $X \approx 22 \%$  $X \approx 52$	<b>In the event of a problem, consult the diagnostic method for programming EGR</b>  } <b>PR020</b>  <b>PR026</b>
<b>Parameter Window</b>				
10	Anti-pinking circuit	<b>PR013:</b> Average pinking signal  <b>PR015:</b> Anti-pinking correction	$75 < X < 180$  $X \leq 5$	<b>In the event of a problem, consult the diagnostic PR013</b>
11	Pressure circuit	<b>PR001:</b> Manifold pressure  <b>PR016:</b> Atmospheric pressure	$270 < X < 350 \text{ mb}$  $X = \text{Atmospheric pressure}$	<b>In the event of a problem, consult the diagnostic PR001</b>



## Fault finding - Conformity check

### NOTES

The values shown in this conformity test are only given as an indication.  
It is therefore vital to consult the Technical Note which deals with your vehicle.  
**Conditions for performance:** Road test.

Order	Function	Abbreviations	Viewing and Notes	Fault finding
<b>Status Window</b>				
1	Canister bleed	<b>ET032:</b> Canister bleed  <b>PR023:</b> Canister bleed RCO	<b>Status CONFIRMED</b>  The canister bleed is authorised X > 1.5 % and variable	<b>None</b>
<b>Parameter Window</b>				
2	Vehicle speed	<b>PR018:</b> Vehicle speed	X = speed read on speedometer in km/h	<b>In the event of a problem, consult the diagnostic PR018</b>
3	Pinking sensor	Vehicle under load <b>PR013:</b> Average pinking signal <b>PR015:</b> Anti-pinking correction	$75 < X < 180$  $X \leq 5$	<b>In the event of a problem, consult the diagnostic in PR013</b>
4	Downstream oxygen sensor	<b>PR010:</b> Downstream oxygen sensor voltage/ tension  in full load operation  decelerating after full load	Do not take into account the voltage at idle speed. Consult the section in question.  Rich sensor detector X increases with a short response time  Poor sensor detection X falls with a short response time	<b>In the event of a problem, consult the diagnostic in PR010</b>

### NOTES

The values shown in this conformity test are only given as an indication.  
 It is therefore vital to consult the Technical Note which deals with your vehicle.  
**Conditions for performance:** Road test.

Order	Function	Abbreviations	Viewing and Notes	Fault finding
5	Adaptive richness	Programming <b>PR035:</b> Richness correction value <b>PR030:</b> Adaptive operation <b>ET031:</b> Idling ration adaptive	$0 < X < 255$ $96 < X < 192$ $32 < X < 224$	<b>In the event of a problem, check that there are no faults</b>
6	Pollutant emissions	2500 rpm after driving  At idle speed, wait for stabilisation	$CO < 0.3 \%$ $CO_2 > 13.5 \%$ $O_2 < 0.8 \%$ $HC < 100 \text{ ppm}$ $0,97 < 1 < 1,03$  $CO < 0.5 \%$ $HC < 100 \text{ ppm}$ $0,97 < 1 < 1,03$	<b>In the event of a problem, consult the Technical Note on Antipollution</b>

**ET002**

**IMMOBILISER**

**NOTES**

No faults should be present or memorised/stored

Check if the immobiliser is faulty.  
If the immobiliser is faulty, repair the fault before carrying out this test.

Check **the insulation and continuity** of the electrical wiring **track 58** on the injection computer.

If the fault persists, refer to the immobiliser fault finding.

**AFTER  
REPAIR**

Restart the conformity check from the beginning.

<b>ET008</b>	<u>HEATING/VENTILATION CONNECTION</u>
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<b>NOTES</b>	No faults should be present or memorised/stored
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Check the <b>insulation and continuity of the line for track 23</b> on the injection computer. Repair if necessary.
If the fault persists, refer to the air conditioning fault finding.

<b>AFTER REPAIR</b>	Restart the conformity check from the beginning.
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**ET009**

HEATING/VENTILATION REQUEST

**NOTES**

No faults should be present or memorised/stored

The injection computer does not register the air conditioning request.

Check the **insulation and continuity of the line for track 23** on the injection computer.  
Repair if necessary.

If the fault persists, refer to the air conditioning fault finding.

**AFTER  
REPAIR**

Restart the conformity check from the beginning.

**ET024**

**AIR CONDITIONING COMPRESSOR**

**NOTES**

No faults should be present or memorised/stored

The compressor clutch does not cut in.

Check the **insulation and continuity of the line for track 10** on the injection computer.  
Repair if necessary.

If the fault persists, refer to the air conditioning fault finding.

**AFTER  
REPAIR**

Restart the conformity check from the beginning.

**ET035**

**LOW SPEED FAN**

**NOTES**

No faults should be present or memorised/stored

Check **insulation and continuity of the line 8**.  
Repair if necessary.

The fault persists. Check using the wiring diagram:  
– fan relay and fan supply,  
– fan earth cleanliness,  
– the status of the fan relay,  
– the fan resistance status,  
– the fan status.  
Repair if necessary.

**AFTER  
REPAIR**

Restart the conformity check from the beginning.

**ET036**

**HIGH SPEED FAN**

**NOTES**

No faults should be present or memorised/stored

Check **insulation and continuity of the line 38**.  
Repair if necessary.

The fault persists. Check using the wiring diagram:  
– fan relay and fan supply,  
– fan earth cleanliness,  
– the status of the fan relay,  
– the fan status.  
Repair if necessary.

**AFTER  
REPAIR**

Restart the conformity check from the beginning.

**ET037**

### RICHNESS REGULATION

#### **NOTES**

No faults should be present or memorised/stored

Check the **connection and status of the downstream oxygen sensor connector**.  
Repair if necessary.

Check that there are **12V** on the upstream oxygen sensor.  
Check **insulation and continuity** of the line:

<b>Computer</b>	<b>45</b>	→	<b>Oxygen sensor</b>
<b>Computer</b>	<b>80</b>	→	<b>Oxygen sensor</b>

Repair if necessary.

Check ignition.  
Check the sealing of the canister bleed valve (a leak can disrupt the richness considerably).  
Check the exhaust system seal.  
Check the sealing of the inlet manifold.  
If the vehicle has only been driven in town, the sensor is contaminated (try driving under load).  
Check the fuel pressure.  
If the idling is unstable, check the valve clearances and distribution.  
If necessary, replace the oxygen sensor.

#### **AFTER REPAIR**

Restart the conformity check from the beginning.

<b>ET039</b>	<u><b>IDLE SPEED REGULATION</b></u>
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<b>NOTES</b>	<p>No faults should be present or memorised</p> <p>Pay particular attention to the instruction value of After Sales idle speed: PR055.</p>
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<p>Check the <b>resistance of the idle speed regulation stepper motor</b>.          Change the idle regulation valve if necessary.</p>																
<p>Check <b>insulation and continuity</b> of the line:</p> <table style="width: 100%; border: none;"> <tr> <td style="padding: 2px 10px 2px 20px;"><b>Computer</b></td> <td style="padding: 2px 10px 2px 20px;"><b>12</b></td> <td style="padding: 2px 10px 2px 20px;">→</td> <td style="padding: 2px 10px 2px 20px;"><b>Idle speed regulation stepper motor</b></td> </tr> <tr> <td style="padding: 2px 10px 2px 20px;"><b>Computer</b></td> <td style="padding: 2px 10px 2px 20px;"><b>41</b></td> <td style="padding: 2px 10px 2px 20px;">→</td> <td style="padding: 2px 10px 2px 20px;"><b>Idle speed regulation stepper motor</b></td> </tr> <tr> <td style="padding: 2px 10px 2px 20px;"><b>Computer</b></td> <td style="padding: 2px 10px 2px 20px;"><b>42</b></td> <td style="padding: 2px 10px 2px 20px;">→</td> <td style="padding: 2px 10px 2px 20px;"><b>Idle speed regulation stepper motor</b></td> </tr> <tr> <td style="padding: 2px 10px 2px 20px;"><b>Computer</b></td> <td style="padding: 2px 10px 2px 20px;"><b>72</b></td> <td style="padding: 2px 10px 2px 20px;">→</td> <td style="padding: 2px 10px 2px 20px;"><b>Idle speed regulation stepper motor</b></td> </tr> </table> <p>Correct if necessary and continue the diagnostic following the idle speed divergence value.</p>	<b>Computer</b>	<b>12</b>	→	<b>Idle speed regulation stepper motor</b>	<b>Computer</b>	<b>41</b>	→	<b>Idle speed regulation stepper motor</b>	<b>Computer</b>	<b>42</b>	→	<b>Idle speed regulation stepper motor</b>	<b>Computer</b>	<b>72</b>	→	<b>Idle speed regulation stepper motor</b>
<b>Computer</b>	<b>12</b>	→	<b>Idle speed regulation stepper motor</b>													
<b>Computer</b>	<b>41</b>	→	<b>Idle speed regulation stepper motor</b>													
<b>Computer</b>	<b>42</b>	→	<b>Idle speed regulation stepper motor</b>													
<b>Computer</b>	<b>72</b>	→	<b>Idle speed regulation stepper motor</b>													

<b>Speed divergence          idle &lt; stop          min.</b>	<b>NOTES</b>	<p>The idle speed is too low</p>
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<ul style="list-style-type: none"> <li>- Check the operation of the ratio regulation.</li> <li>- Clean the air supply circuit (throttle body, idle speed regulation stepper motor), since it is probably contaminated.</li> <li>- Check the engine oil level (too high --&gt; splashing).</li> <li>- Check ignition.</li> <li>- Check the injectors.</li> <li>- Check the engine compression.</li> <li>- Check the valve clearances and the timing.</li> </ul> <p>If all these points are correct, replace the idle regulation motor.</p>
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<b>AFTER REPAIR</b>	<p>Restart the conformity check from the beginning.</p>
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CONT

**Speed divergence  
idle < stop  
min.**

**NOTES**

The idle speed is too high

- Check the engine oil level.
- Check that the pressure sensor is operating correctly.
- Check the cleanliness of the pipes on the manifold.
- Check the pneumatically controlled solenoid valves.
- Check the brake servo sealing.
- Check the restrictions are present in the oil vapour rebreathing circuit.
- Check the manifold gaskets.
- Check the throttle body gaskets.
- Check the valve clearances and the timing.

If all these points are correct, replace the idle regulation motor.

**AFTER  
REPAIR**

Restart the conformity check from the beginning.

**ET060**

### FLYWHEEL SIGNAL

#### **NOTES**

No faults should be present or memorised/stored

Check the **connection and status of the target sensor connector**.  
Change the connector if necessary.

Check the **resistance of the target sensor**.  
Replace the sensor if necessary.

Connect the bornier in place of the computer and check **the insulation, continuity and interference resistance** of the line:

<b>Computer</b>	<b>54</b>	→	<b>Target sensor</b>
<b>Computer</b>	<b>24</b>	→	<b>Target sensor</b>

Repair if necessary.

Check the status of the flywheel.

#### **AFTER REPAIR**

Restart the conformity check from the beginning.

**ET067**

### POWER-ASSISTED STEERING PRESSURE SWITCH CONNECTION

#### **NOTES**

No faults should be present or memorised/stored

Check the **correct operation of the power assisted steering** (oil level, ...).  
Check that the **power-assisted steering pressure switch is correctly connected**.  
Check **insulation and continuity** of the line:

<b>Injection computer</b>	<b>85</b>	→	<b>Power assisted steering pressure switch</b>
<b>Power assisted steering pressure switch</b>		→	<b>Earth</b>

Repair if necessary.

If these points are correct, replace the power assisted steering pressure switch.

#### **AFTER REPAIR**

Restart the conformity check from the beginning.

**ET068**

**ELECTRICAL WINDSCREEN CONNECTION**

**NOTES**

No faults should be present or memorised/stored

Turn the engine on.

Select the electrical windscreen.

If the ET068 status is not active, check **the insulation continuity and interference resistance on line 88** of the injection computer.

If the fault persists, refer to the air conditioning fault finding.

**AFTER  
REPAIR**

Restart the conformity check from the beginning.

**ET069**

**VEHICLE SPEED SENSOR CONNECTION**

**NOTES**

No faults should be present or memorised/stored

You have certainly just changed the injection computer or the vehicle has never been driven at a speed above 40 km/h.

**It is vital that this status is active** before handing the vehicle over to the customer.

To activate this status, carry out a road test (you must drive at speed of greater than 40 km/h).

If this status is not illuminated, consult the vehicle speed parameter diagnostic PR018.

**AFTER  
REPAIR**

Restart the conformity check from the beginning.

**ET084**

**CAMSHAFT INFORMATION**

**NOTES**

No faults should be present or memorised/stored

Check the **connection and status of the camshaft sensor connector**.  
Change the connector if necessary.

Check the camshaft sensor resistance.  
Change the camshaft sensor if necessary.

Connect the bornier in place of the computer and check **the insulation, continuity and interference resistance** on the line:

**Computer    46    —————>    Camshaft sensor**

Repair if necessary.

With the ignition on, check for **12 V on the cam,shaft sensor**.  
Repair if necessary.

Check for **earth on the camshaft sensor**.  
Repair if necessary.

Change the camshaft sensor.

**AFTER  
REPAIR**

Restart the conformity check from the beginning.

**PR001**

**MANIFOLD PRESSURE**

**NOTES**

No faults should be present or memorised

**Manifold pressure not coherent with ignition on PR001**

**Manifold pressure < Min. at idling speed PR001**

**Atmospheric pressure not coherent PR016**

Check the **insulation, continuity and interference resistance** on the line:

<b>Computer</b>	<b>15</b>	<b>—————▶</b>	<b>Pressure sensor</b>
<b>Computer</b>	<b>16</b>	<b>—————▶</b>	<b>Pressure sensor</b>
<b>Computer</b>	<b>78</b>	<b>—————▶</b>	<b>Pressure sensor</b>

Repair if necessary.

If all these points are correct, replace the sensor.

**Manifold pressure > Max. at idle speed PR001**

Check:

- the pipe sealing between the manifold and the sensor.
- the canister bleed valve which should be closed at idle speed.
- cylinder compression.
- the valve clearances,

If all these points are correct, replace the sensor.

**AFTER REPAIR**

Restart the conformity check from the beginning.

**PR002**

COOLANT TEMPERATURE

**NOTES**

No faults should be present or memorised

If the value taken is incoherent, check the sensor is correctly following the calibration curve "resistance according to temperature".

Change the sensor if it drifts (**Note:** a sensor which drifts is often the result of an electric shock).

Check **the insulation, continuity and interference resistance** of the electrical line:

<b>Computer</b>	<b>13</b>	<b>→</b>	<b>Pressure sensor</b>
<b>Computer</b>	<b>73</b>	<b>→</b>	<b>Pressure sensor</b>

Repair.

**AFTER  
REPAIR**

Restart the conformity check from the beginning.

**PR003**

**AIR TEMPERATURE**

**NOTES**

No faults should be present or memorised

If the value taken is incoherent, check the sensor is correctly following the calibration curve "resistance according to temperature".

Change the sensor if it drifts (**Note:** a sensor which drifts is often the result of an electric shock).

Check **the insulation, continuity and interference resistance** of the electrical line:

<b>Computer</b>	<b>49</b>	→	<b>Air temperature sensor</b>
<b>Computer</b>	<b>77</b>	→	<b>Air temperature sensor</b>

Repair.

**AFTER  
REPAIR**

Restart the conformity check from the beginning.

**PR004**

COMPUTER SUPPLY VOLTAGE

**NOTES**

No faults should be present or memorised  
No consumers

**Ignition on**

**If voltage < Min, the battery is discharged:**

Check the charging circuit to determine the cause of this fault.

**If voltage >Max, the battery may be too charged:**

Check that the charging voltage is correct with and without consumers.

**At idle speed**

**If voltage < Minimum, the charging voltage is too low:**

Check the charging circuit to determine the cause of this fault.

**If voltage > Maximum, the charging voltage is too high:**

The alternator regulator is faulty. Repair this fault and check the electrolyte level in the battery.

**AFTER  
REPAIR**

Restart the conformity check from the beginning.

**PR010**

**DOWNSTREAM OXYGEN SENSOR VOLTAGE**

**NOTES**

No faults should be present or memorised

Check the **connection and status of the downstream oxygen sensor connector**.  
Repair if necessary.

Check for **12 V** on the downstream oxygen sensor.  
Check **insulation and continuity** of the line:

<b>Computer</b>	<b>44</b>	→	<b>Oxygen sensor</b>
<b>Computer</b>	<b>76</b>	→	<b>Oxygen sensor</b>

Repair if necessary.

Check the exhaust system seal.

**AFTER  
REPAIR**

Restart the conformity check from the beginning.

**PR013**

**PINKING SIGNAL**

**NOTES**

No faults should be present or memorised

The pinking sensor should give a signal which is not zero, to prove that it is recording the mechanical vibrations of the engine.

If the signal is zero:

- Check that the **sensor is correctly screwed in.**
- Check the **insulation and continuity of the electrical wiring:**

<b>Computer</b>	<b>20</b>	→	<b>Pinking sensor</b>
<b>Computer</b>	<b>79</b>	→	<b>Pinking sensor</b>
<b>Computer</b>	<b>19</b>	→	<b>Pinking sensor screening</b>

If necessary, replace the sensor.

**AFTER  
REPAIR**

Restart the conformity check from the beginning.

**PR017**

### THROTTLE POSITION

#### **NOTES**

No faults should be present or memorised

**Programming at stop  
PR008  
or PL  
ET003 not detected  
or PG  
ET005 not detected**

Check that the **potentiometer mechanical stop has not been altered**.  
Check the accelerator control (friction, ...).

Check the **resistance of the throttle potentiometer**.  
Replace the throttle potentiometer if necessary.

Check the **insulation, continuity and interference resistance** on the line:

<b>Computer</b>	<b>43</b>	<b>—————&gt;</b>	<b>Throttle potentiometer</b>
<b>Computer</b>	<b>74</b>	<b>—————&gt;</b>	<b>Throttle potentiometer</b>
<b>Computer</b>	<b>75</b>	<b>—————&gt;</b>	<b>Throttle potentiometer</b>

Repair if necessary.

**The throttle position  
is fixed/parked PR017**

Check that the sensor is mechanically linked to the throttle.  
If necessary, replace the sensor.

#### **AFTER REPAIR**

Restart the conformity check from the beginning.

**PR018**

VEHICLE SPEED

**NOTES**

No faults should be present or memorised

Check the **insulation, continuity and interference resistance** on the line:

**Computer 53** —————> **ABS**

**NOTE:** Check the various functions using this information.

Repair.

If the fault persists, refer to the ABS fault finding.

**AFTER  
REPAIR**

Restart the conformity check from the beginning.

**PR020**

**EGR POTENTIOMETER**

**NOTES**

No faults should be present or memorised

Check the **resistance of the EGR potentiometer**.  
Change the potentiometer if necessary.

Check the **insulation, continuity and interference resistance** on the line:

<b>Computer</b>	<b>18</b>	————→	<b>EGR potentiometer</b>
<b>Computer</b>	<b>82</b>	————→	<b>EGR potentiometer</b>
<b>Computer</b>	<b>83</b>	————→	<b>EGR potentiometer</b>

Repair if necessary.

**AFTER  
REPAIR**

Restart the conformity check from the beginning.

**PR026**

**EGR PROGRAMMING INCREASE**

**NOTES**

No faults should be present or memorised

Check the **connection and status of the EGR solenoid valve connector EGR**.

Change the connector if necessary.

With the ignition on, check for **12 V after actuator relay** on the EGR solenoid valve.

Repair if necessary.

Check the **resistance of the EGR solenoid valve**.

Change the solenoid valve if necessary.

Connect the bornier in place of the computer and check **the insulation, continuity and interference resistance** on the line:

**Injection computer      62      →      EGR solenoid valve**

Repair if necessary.

Change the solenoid valve if necessary.

**AFTER  
REPAIR**

Restart the conformity check from the beginning.

**AC010**

**FUEL PUMP**

**NOTES**

No faults should be present or memorised

Check that the **impact sensor is switched on**.  
Switch on the impact sensor if necessary.

Check the **continuity between tracks 1 and 3 of the impact sensor**.  
If there is no continuity, change the impact sensor.

With the starter motor on, check for **12 V on track 3 of the impact sensor connector**.  
If there are not 12 V, correct the track 3 line of the impact sensor to track 5 of the fuel pump relay.

Check the hygiene and presence of earth on track **C2 of the fuel pump**.

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

**Impact sensor      1      —————>      C1 Fuel pump**

Repair if necessary.

If the incident persists, change the fuel pump.

**AFTER  
REPAIR**

Restart the conformity check from the beginning.

**AC014**

**IDLE SPEED REGULATION VALVE**

**NOTES**

No faults should be present or memorised

Check the **connection and status of the idle speed regulation** stepper connector.  
Change the connector if necessary.

Check the **resistance of the idle speed regulation stepper motor**.  
Change the idle speed regulation stepper motor if necessary.

Check the **insulation, continuity and interference resistance** on the line:

<b>Computer</b>	<b>12</b>	<b>—————&gt;</b>	<b>Idle speed regulation stepper motor</b>
<b>Computer</b>	<b>41</b>	<b>—————&gt;</b>	<b>Idle speed regulation stepper motor</b>
<b>Computer</b>	<b>42</b>	<b>—————&gt;</b>	<b>Idle speed regulation stepper motor</b>
<b>Computer</b>	<b>72</b>	<b>—————&gt;</b>	<b>Idle speed regulation stepper motor</b>

Repair if necessary.

Change the idle speed regulation stepper motor.

**AFTER  
REPAIR**

Restart the conformity check from the beginning.

**AC016**

**CANISTER BLEED**

**NOTES**

No faults should be present or memorised

Check the **connection and status of canister bleed connector**.  
Change the connector if necessary.

With the ignition on, check for **12 V on the canister bleed valve**.  
Repair if necessary.

Check the **resistance of the canister bleed valve**.  
Replace the valve if necessary.

Connect the bornier in place of the computer and check **the insulation, continuity and interference resistance** on the line:

**Computer**    4     $\longrightarrow$     **Canister bleed valve**

Repair if necessary.

Change the canister bleed valve.

**AFTER  
REPAIR**

Restart the conformity check from the beginning.

**AC023**

### EGR SOLENOID VALVE

#### **NOTES**

No faults should be present or memorised

Check the **connection and status of the EGR solenoid valve connector**.  
Change the connector if necessary.

With the ignition on, check for **12 V after actuator relay** on the EGR solenoid valve.  
Repair if necessary.

Check the **resistance of the EGR solenoid valve**.  
Change the solenoid valve if necessary.

Connect the bornier in place of the computer and check **the insulation, continuity and interference resistance** on the line:

**Injection computer      62      →      EGR solenoid valve**

Repair if necessary.

Change the EGR solenoid valve.

#### **AFTER REPAIR**

Restart the conformity check from the beginning.

**AC212**

**COOLANT TEMPERATURE WARNING TELL-TALE**

**NOTES**

No faults should be present or memorised

Check the **connection and status of the overheat tell-tale line connector**.  
Change the connector if necessary.

Check **the status of the tell-tale light** (if it is not lit).  
Change it if necessary.

Check that there is an input of **12 V into the tell-tale**.  
Rectify the line to the fuse.

Connect the bornier and check the **insulation and continuity of the line track 9** of the computer.  
Repair.

**AFTER  
REPAIR**

Restart the conformity check from the beginning.

**AC271**

**LOW SPEED FAN**

**NOTES**

No faults should be present or memorised

Check **the insulation and continuity of line 8.**  
Repair if necessary.

The fault persists.  
Check using the wiring diagram:  
– fan relay and fan supply.  
– fan earth cleanliness.  
– the status of the fan relay.  
– the fan resistance status.  
– the fan status.  
Repair if necessary.

**AFTER  
REPAIR**

Restart the conformity check from the beginning.

**AC272**

**HIGH SPEED FAN**

**NOTES**

No faults should be present or memorised

Check **the insulation and continuity of line 38**.  
Repair if necessary.

The fault persists.  
Check using the wiring diagram:  
– fan relay and fan supply.  
– fan earth cleanliness.  
– the status of the fan relay.  
– the fan status.  
Repair if necessary.

**AFTER  
REPAIR**

Restart the conformity check from the beginning.

Refer to section 12 of the Technical Note which deals with your vehicle to obtain the exact values.

Injector resistance	=	1.78 $\Omega$
Idle regulation stepper motor resistance	=	53 $\Omega$
Canister bleed valve resistance	=	26 $\Omega$
Ignition coil resistance	: Primary	= 0.5 $\Omega$
	Secondary	= 11 k $\Omega$
Oxygen sensor heater resistance	: Upstream	= 9 $\Omega$
	Downstream	= 3.4 $\Omega$
Throttle potentiometer resistance	: Track	= 1300 $\Omega$
	Cursor	= 1050 $\Omega$
Flywheel signal resistance	=	220 $\Omega$
EGR solenoid valve	: Track	= 5 k $\Omega$
	Valve	= 6 k $\Omega$
Fuel pressure sensor	=	3.8 $\Omega$
Fuel pressure regulator	=	2084 $\Omega$
Manifold pressure sensor	=	50 k $\Omega$
Value for: CO	=	0.5 % max
HC	=	100 ppm maximum
CO2	=	14.5 % min
Lambda	=	0.97 < $\lambda$ < 1.03

Sensor resistance					
Temperature in °C	-10	25	50	80	110
<b>Air temperature sensor</b> Resistance in ohms	10450 to 8585	2120 to 1880	860 to 760	-	-
<b>Coolant temperature sensor</b> Resistance in ohms	-	2360 to 2140	850 to 770	290 to 275	117 to 112

### NOTES

Only consult this customer complaint after a complete check using the diagnostic tool

**NO COMMUNICATION WITH THE COMPUTER**

CHART 1

**FAULTS**

CHART 2

**IDLE SPEED FAULTS**

CHART 3

**PROBLEMS WHEN DRIVING**

CHART 4

### Chart 1

### NO COMMUNICATION WITH THE COMPUTER

#### NOTES

None

Try the diagnostic tool on another vehicle.

Check:

- the connection between the diagnostic tool and the diagnostic test (good wiring status),
- the injection, engine and passenger compartment fuses.

Repair if necessary.

Check for **+ 12 V** on **track 16** and for **earth** on **track 5** of the diagnostic connector.

Repair if necessary.

Connect the bornier in place of the computer and check **the insulation, continuity and interference resistance** on the line:

Injection computer	28	→	Earth
Injection computer	33	→	Earth
Injection computer	3	→	Earth
Injection computer	56	→	7 Diagnostic connector
Injection computer	26	→	15 Diagnostic connector
Injection computer	29	→	Fuse
Injection computer	30	→	Fuse

Repair.

#### AFTER REPAIR

Test using the diagnostic tool.

**Chart 2**

**STARTING FAULTS**

**NOTES**

Only consult this customer complaint after a complete check using the diagnostic tool

Check there is fuel present (fuel gauge faulty).  
Check the fuel is of the correct type.  
Check no hoses are pinched (especially after a removal operation).  
Check the status of the tank.

Check the fuel pump supply.  
Check that the impact sensor is operating correctly.

Check the idle speed regulation valve  
Tap gently to release the valve.

Disconnect the pipe which links the canister bleed solenoid valve to the inlet manifold.  
Plug the pipe to prevent an air leak.  
If there is no other effect, the canister bleed is faulty.

Check the status of the plugs and coils.  
Check that these elements are well adapted to the vehicle.

Check that the exhaust system is not blocked and that the catalytic converter is not plugged.

Check the engine compression

Check the status of the flywheel.

**AFTER  
REPAIR**

Test using the diagnostic tool.

**Chart 3**

**IDLE SPEED FAULTS**

**NOTES**

Only consult this customer complaint after a complete check using the diagnostic tool

Check there is fuel present (fuel gauge faulty).  
Check the fuel is of the correct type.  
Check no hoses are pinched (especially after a removal operation).  
Check the status of the tank.

Check the idle speed regulation valve  
Tap gently to release the valve.

Disconnect the pipe which links the canister bleed solenoid valve to the inlet manifold.  
Plug the pipe to prevent an air leak.  
If there is no other effect, the canister bleed is faulty.

Check the status of the plugs and coils.  
Check that these elements are well adapted to the vehicle.

Check that the exhaust system is not blocked and that the catalytic converter is not plugged.

Use the dipstick to check if the oil level is too high.

Check the status of the inlet manifold gaskets.

Check the throttle body is not contaminated.

Check the brake servo is not leaking (noise).

Check the engine compression

Check the status of the flywheel.

**AFTER  
REPAIR**

Test using the diagnostic tool.

**Chart 4**

**PROBLEMS WHEN DRIVING**

**NOTES**

Only consult this customer complaint after a complete check using the diagnostic tool

Check there is fuel present (fuel gauge faulty).  
Check the fuel is of the correct type.  
Check no hoses are pinched (especially after a removal operation).  
Check the status of the tank.

Disconnect the pipe which links the canister bleed solenoid valve to the inlet manifold.  
Plug the pipe to prevent an air leak.  
If there is no other effect, the canister bleed is faulty.

Check the status of the plugs and coils.  
Check that these elements are well adapted to the vehicle.

Check the exhaust manifold is not leaking.  
Check that the exhaust system is not blocked and that the catalytic converter is not plugged.

Check the air filter is not deformed.  
Check the status of the inlet manifold gaskets.  
Check the brake servo is not leaking (noise).  
Check the throttle body is not contaminated.

Use the dipstick to check if the oil level is too high.  
Check the engine compression  
Check the status of the flywheel.

Check that cooling is not insufficient.

Check that the calipers, drums and bearings are not seized.  
Check that the tyres are not under-inflated.

**AFTER  
REPAIR**

Test using the diagnostic tool.