YELLOW TECHNICAL NOTE
EDITION ANGLAISE

JUNE 2005
77 11 340 262

4557A
Service 00429

RENAULT CONFIDENTIAL

ESPACE

Type	Fabrication cut-offs
JE0 K	**K 000001 to K 004528**
	T 000001 to T 999045
JE0 S	**K 000001 to K 008343**
	T 000001 to T 089762

fitted with a G9T 710 engine

13B **ENGINE STALLS WHEN HOT, STARTING IS DIFFICULT OR IMPOSSIBLE**
OTS: 0AEL MARK.: E2

Other sub-section concerned: **999**

- Engine: **G9T 710**
- Gearbox: **XXX**

Basic manual:
Technical Note: **3502A or 3919A (coming soon), 3736A, 4505A**

The vehicle fabrication cut-offs are given as examples only.
ESSENTIAL: before carrying out any work in relation to one of the following customer complaints:

– The engine stalls when hot during long acceleration periods.
– The red injection warning light comes on followed by the STOP warning light.
– Starting is difficult or impossible.

– **Refer to the application conditions.**

APPLICATION CONDITIONS

Using the fault finding tool, check that fault code **DF072 Fuel pressure signal 6.def Pressure drop in the rail** is present or is stored in the injection computer.

Check that the vehicle is affected by **OTS OAEL**.

- **Countries with PGCS**

Network with ICM:	Refer to the list of yellow OTS operations to be performed out in ICM.
Network without ICM:	Check, on the blue label, box: **E2**. • If the box is not marked with a cross Contact your primary network to consult the list of yellow OTS operations to be performed in ICM.

- **Countries without PGCS**

All networks:	Check, on the blue label, box: **E2**. • If the box is not marked with a cross, The vehicle is affected.

Read the part number (A) on each of the injectors (see Part number and injector codes).

Does one of the injectors display the part number (A) 82 00 010 074 ?

NO → The vehicle is not affected by cracks on the injector's internal valve.

Issue a warranty reimbursement request or an individual claim.

YES

Read the code (B) on the injector or injectors displaying the part number 82 00 010 074 (see Part numbers and injector codes).

Does one of the injectors have a code (B) falling within the following ranges of numbers:
From 00001 to 28131
From 28815 to 38101

NO → **Issue a warranty reimbursement request or an individual claim.**

YES

Measure the fuel return flows of the injectors (see Measuring the injector fuel return flows).

Are the injector fuel return flows correct?

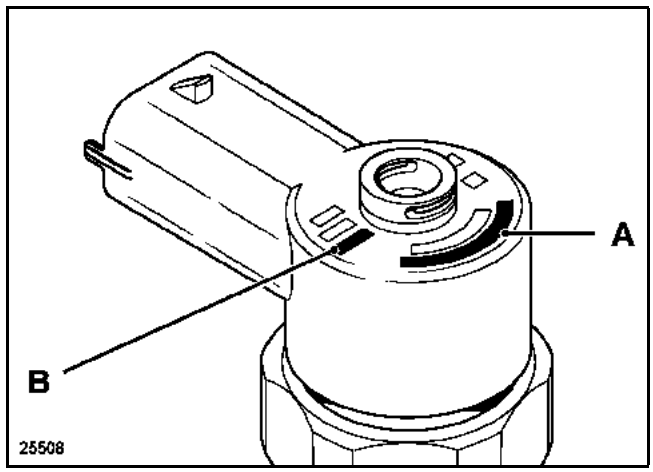
YES → The internal valves in the injector are not cracked.
The vehicle is not affected by the OTS.

Run the fault finding procedure (see Technical Note 3502A or 3919A). Do not issue a warranty reimbursement request (DRG) or an individual warranty claim with OTS 0AEL invoicing (to enable the OTS to be applied at a later stage).

NO

Replace the 4 injectors.

INJECTOR PART NUMBER AND CODES



A – Part number
B – Code

Part number and codes for the affected injectors

Part number (A)	Code (B)	
	From	to
82 00 010 074	00001	28131
82 00 010 074	28815	38101

Description of the operation

IMPORTANT
If it is impossible to remove the injectors with **Mot. 1549**, use the Pichler tool (see **Technical Note 4505A**).

– Clean the injector wells.
– Replace the 4 injectors (see **Technical Note 3736A**).

IMPORTANT
The injector well must be clean when the injectors are refitted.
It is ESSENTIAL to comply with the tightening procedure and tightening order of the injector mounting nuts.
If this procedure is not respected, leakage may result between the sealing washer and the injector.
The injector well will fill up with scale.

– Refit the high-pressure pipes and position the high-pressure pipe switch in the centre of the nut.
– Tighten the nuts completely using a manual thread before tightening them to torque.

IMPORTANT
Make sure that the positioning of the pipe and the tightening torque is respected.
The re-using or re-tightening of used or badly-mounted high-pressure pipes is prohibited.

– Now refit the components that were removed in the reverse order to removal (see **Technical Note 3736A**).
– Clear the fault codes present on the diagnostic tool as a result of disconnecting the camshaft sensor.
– Carry out a basic road test with full load phases to make sure that there are no leakages from the high-pressure pipe unions.

Marking the vehicle after work has been carried out

– Affix a blue label: **Part No. 49 39 031 070** to the driver's side front shock absorber turret.
– Using a marker, mark a cross in box: **E2**.

CLAIM COMPLETION AND CODING

When to take action

– Upon receipt of a customer complaint.

Parts required

Quantity and description of parts		Part no.
1	Injector kit, consisting of: – 4 injectors – 4 mounting kits – 4 high-pressure pipes – 1 fuel return pipe – 1 anti-contamination kit	**77 01 475 782**

Tooling required

– Conventional.
– Torque wrench.

Description	Part no.
Injector extractor Mot. 1549	**00 00 154 900**
Wrench for removing high-pressure pipes	**00 00 157 000**
"CROWFOOT" socket for tightening high-pressure pipes to torque	

Time required

Without replacing the 4 injectors

Code	Description	Time
0096	Application of OTS	0.2
	TOTAL	**0.2**

Replacing the 4 injectors

Code	Description	Time
0096	Application of OTS	0.2
0311	Complete check 1 computer	0.3
7607 7617	OTS checking the fuel return flow Removing and refitting the injector	0.7 2.5
0129	Basic road test	0.5
	TOTAL	**4.2**

Destination of removed parts

– In accordance with warranty directives.

Accounts procedure

– In accordance with warranty directives.

OTS code: **0AEL** (0 = Zero)
– Closure date: **31/12/2010**

Measuring the injector fuel return flow

Special tooling required	
Mot. 1760	Flow rate measuring pipe
Mot. 1711	Flow rate measuring tool

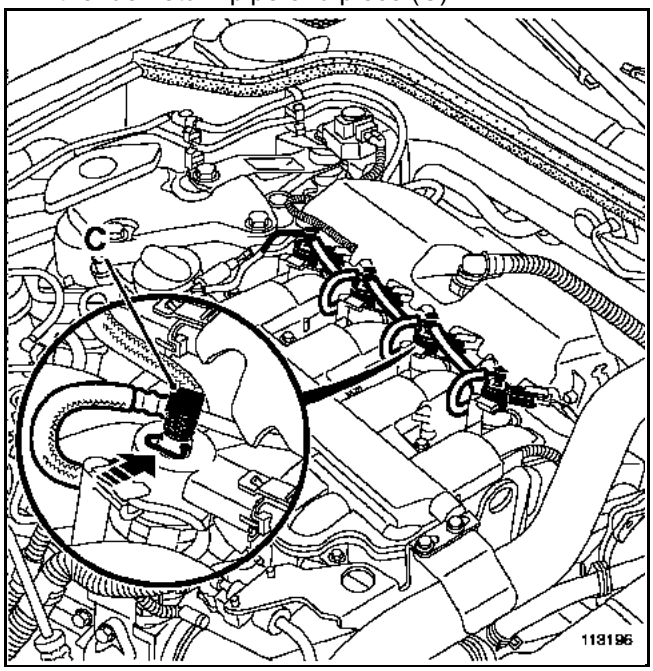
The vehicle does not start
– Position the measuring tool.

The vehicle starts
– Run the engine in order to trigger the fan at least twice.
– Set the diagnostic tool to parameter reader:
  – The diesel temperature must be greater than **50°C**.

> **Note:**
> If necessary, carry out a road test to bring the temperature to **50°C**.

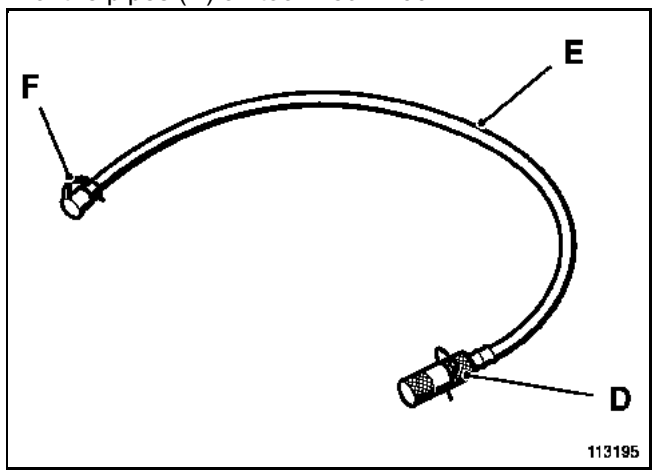
– Turn the engine off.
– Position the measuring tool.

POSITIONING THE MEASURING TOOL
– Disconnect the fuel return pipe on each injector:
  – Press down on the injector clip and pull down on the fuel return pipe end piece (**C**).



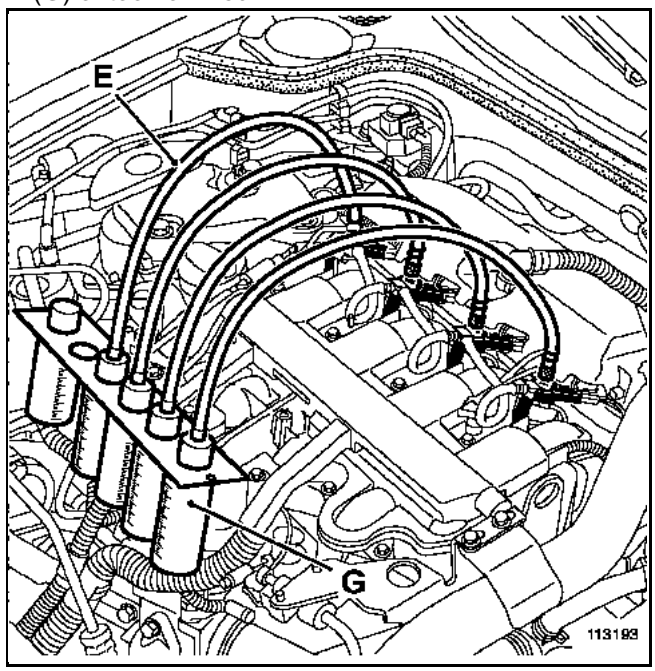
C – Fuel return pipe end piece

– Pull the clips and the plugs off of the end pieces (**D**) of the pipes (**E**) on tool **Mot. 1760**.



D – End piece plug and clip
E – Pipe
F – Plug

– Connect the pipes (**E**) from **Mot. 1760** onto the injectors:
  – Press down on the injector clip and insert the end piece (**D**) into the injector fuel return orifice.
– Position the end piece plugs (**D**) onto the fuel return pipe end pieces.
– Remove the plugs (**F**).
– Guide the pipe ends (**E**) into the measuring cylinders (**G**) of tool for **Mot. 1711**.



E – Pipes from **Mot. 1760**
G – Measuring cylinder from **Mot. 1711**

MEASURING THE INJECTOR RETURN FLOW

The vehicle does not start

– Carry out a start-up sequence (15 seconds using the engine starter).
– Measure the level of fuel in the pipe (E).

- If the fuel level in one of the pipes is higher than 10 cm in relation to the average of the three other pipes:
  The injector fuel return flow rate **is not correct.**
- Otherwise:
  The injector fuel return flow rate **is correct**.

The vehicle starts

– Set the diagnostic tool to parameter reader to check PR 083 Rail pressure.

IMPORTANT
A measuring cylinder can quickly become full if the injector has a major leak.
Ask a technician to check the flow rate during the measuring.

– Start the engine and the chronometer.
– Increase the engine speed until the pressure inside the rail is as close as possible to 550 bars without exceeding an engine speed of 3000 rpm
– Release the accelerator pedal after a period of **60 seconds**.
– Let the engine idle for **10 seconds**.
– Turn the engine off.
– Measure the quantity of fuel contained in each measuring cylinder.

- If the quantity of diesel in a measuring cylinder exceeds 50 ml:
  The injector fuel return flow **is not correct**.
- If the quantity of diesel in each measuring cylinder is less than 50 ml:
  The injector fuel return flow **is correct**.

REMOVING THE MEASURING TOOL

IMPORTANT
Use a cleaning cloth (part number: **77 11 211 707**) to absorb any fuel that has flowed out.

– Disconnect the injector (**E**) pipes one by one:
  – Press down on the injector clip.
  – Pull the end piece (**D**) of the pipe (**E**) on the tool whilst placing a cleaning cloth on the end piece (**D**) to prevent any outflow.
  – Push the end piece (**D**) upwards again and let the fuel in the pipes flow into the measuring cylinders.
  – Remove the end piece plug (**D**) and reposition the fuel return pipe on the injector.
– Wipe off any fuel that has escaped using a cleaning cloth.