twingo

N.T. 3022A

X06X

Special electrical notes PHASE II

For the sections not described in this note, refer to M.R. 305

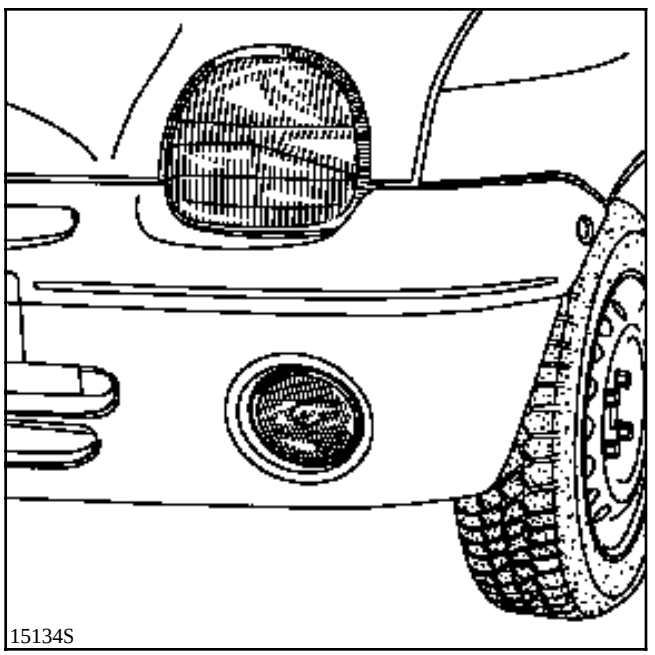
77 11 201 098 **AUGUST 1998** **Edition Anglaise**

Contents

For vehicles fitted with front fog lights.

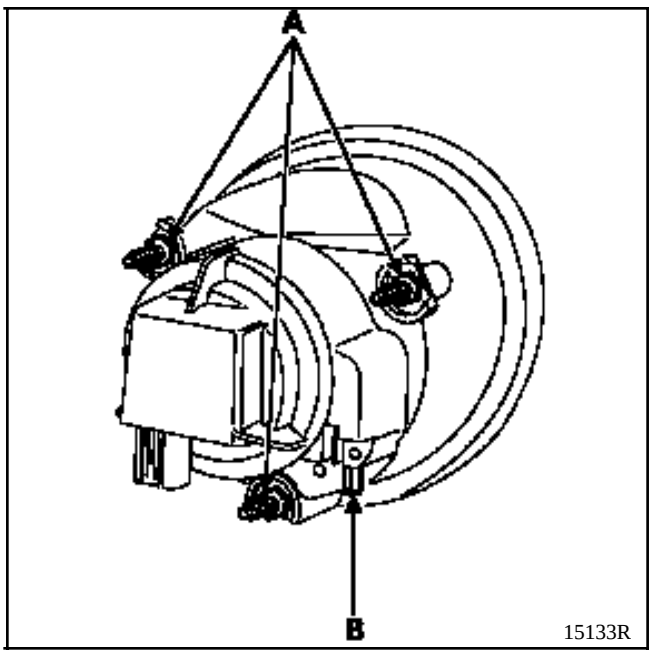
REMOVAL - REFITTING

Remove the three mounting nuts (A) from behind the bumper.


15134S

Then remove the light unit by pushing it forwards.

Disconnect the connector.

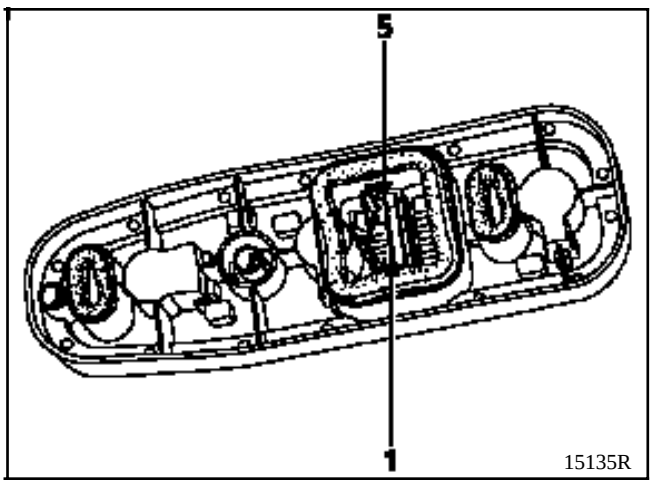


15133R

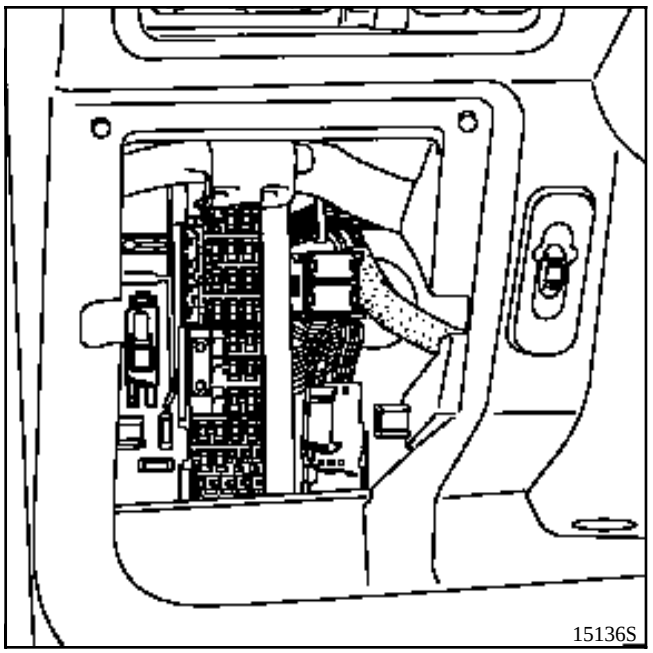
When refitting, adjust the light using screw (B) from below the vehicle.

NEW TRACK ALLOCATIONS

Track	Allocation
1	Earth
2	Reversing light (right hand side) Rear fog light (left hand side)
3	Indicator
4	Side light
5	Stop light



To access the fuses, remove the storage pocket on the driver's side by tilting it completely.



Symbol	Amps	Allocation
	20	Engine cooling fan assembly
	15	Rear screen wiper
	10	Pretensioners / Air bag / Engine immobiliser
	10	Radio
	20	Heated rear screen
INJECT	20	Injection
	20	Heating fan assembly
STOP	15	Stop lights / Central flasher unit
	15	Front windscreen wiper / washer
	10	Front fog lights
	10	ABS
	25	Cigar lighter / Reversing light
	15	LH headlight
	15	RH headlight
	15	LH dipped headlight
	15	RH dipped headlight
	15	LH side lights
	15	RH side lights
	10	Direction indicators / Hazard warning lights
	10	Horn / Immobiliser
	10	Interior lights / Diagnostic socket / consumers cut out
	10	Variable power assisted steering
	10	Rear fog light
	15	Electric door locks / Electric rear view mirror
	2	Automatic clutch / Automatic transmission
	30	Electric windows

NOTE

- On phase II TWINGO vehicles, only the coded key engine immobiliser system has changed.

  The PLIP engine immobiliser system remains identical to the phase I TWINGO with the exception of the shape of the key. For PLIP engine immobiliser fault finding, see Technical Note N° 2330A.

- The injection warning light is not always operational (see NT "Wiring diagram").

GENERAL

On vehicles without the PLIP, the immobiliser is controlled by a key recognition system (known as the coded key engine immobiliser).

An independent coded electronic unit which operates without a battery is integrated in the head of each key for the vehicle.

When the ignition is switched on, an antenna / transponder ring located around the ignition switch interrogates and captures the code emitted by the key head and transmits it to the decoder unit.

If it recognises the code, vehicle starting is authorised.

The immobiliser is activated a few seconds after the key is removed from the ignition switch and is indicated by flashing of the red warning light located on the instrument panel.

If there is a fault in the key recognition system, a security code can be entered using the XR25.

This code will be given to the technician (on request) by the local assistance network (depending on the country, for example **Delta Assistance** on **08 00 05 15 15** for France, NVSR for the UK by fax only).

IMPORTANT: the technician must inform the customer that the immobiliser system starts automatically 10 minutes after the ignition has been switched off.

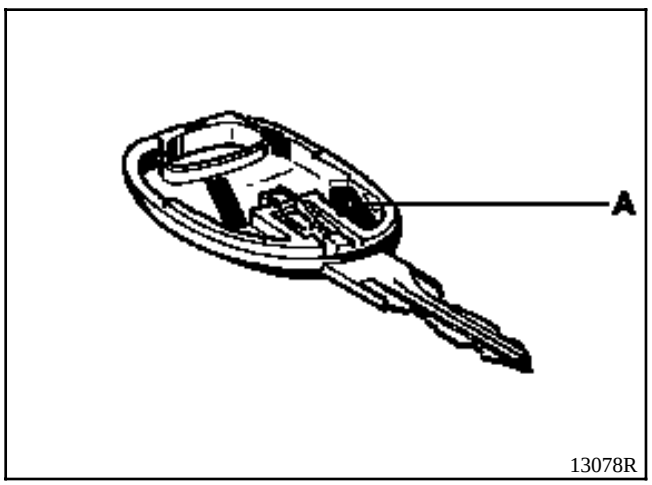
NOTE

On these vehicles, the identification number for the key heads consists of eight numbers and letters beginning with the letter E.

DESCRIPTION

With this system, the engine immobiliser is activated approximately 10 seconds after the ignition is switched off (shown by flashing of the red immobiliser warning light).

It consists of:
- Two key heads equipped with a coded electronic unit (A) allowing the engine immobiliser to be controlled.

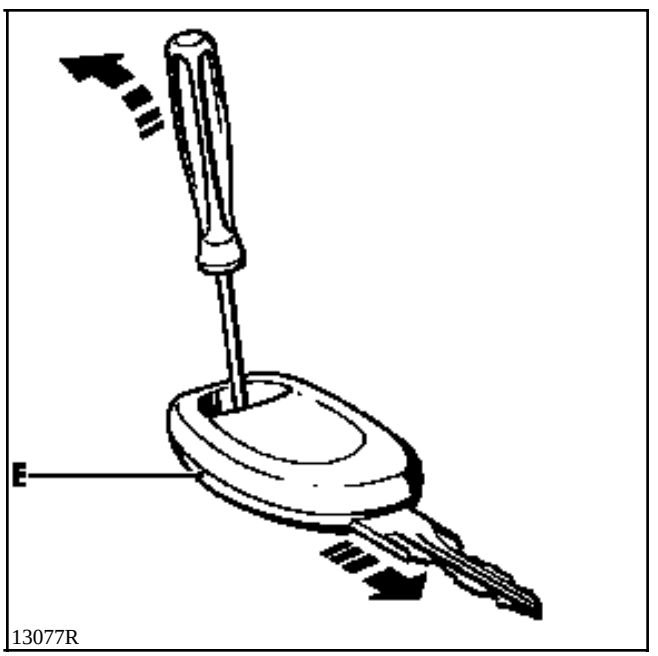


NOTE: to remove the metal insert, move the retaining tab to one side before pulling it out. When refitting, check that the insert is correctly clipped in place.

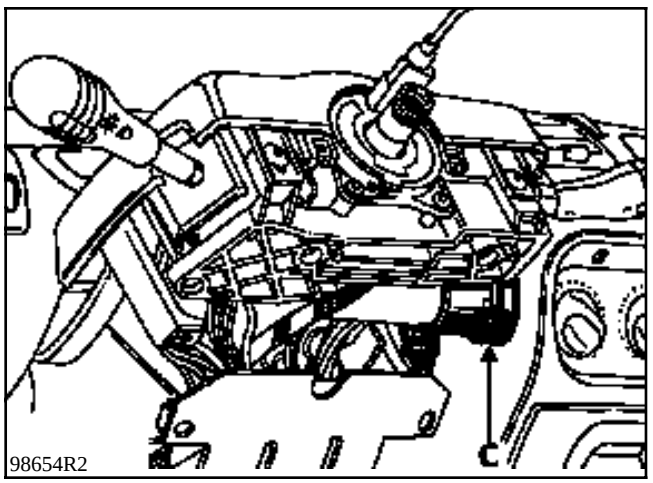
Opening a key head

Place the key head on a table, metal insert facing down.

As indicated below, use a small screwdriver as a lever ensuring that the end is pressed against the lower part (E) of the key head. This allows the upper part to be slid away from the lower part.



- Antenna / transponder ring (C) located around the ignition switch, equipped with a coded electronic unit responsible for sending the code from the keys to the decoder unit (D).



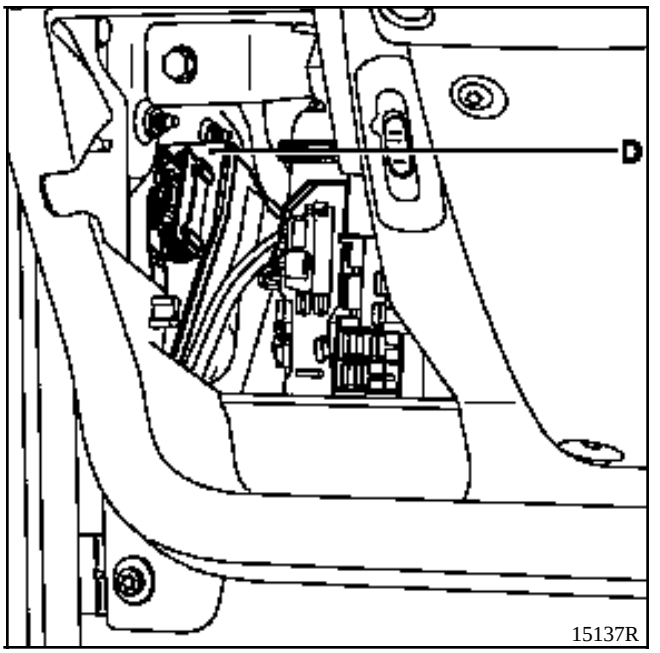
NOTE: this ring is not coded.

Removal - refitting

Remove the half cowlings under the steering wheel, release the antenna / transponder ring from the ignition switch and disconnect its connector.

NOTE: It is not necessary to remove the steering wheel.

- A decoder unit (D) located in the dashboard on the left hand side.



It ensures the following functions:
- decoding of the key signal coming from the antenna / transponder ring,
- management of the engine immobiliser system by sending a code to the injection computer to authorise vehicle starting,
- control of the red immobiliser warning light.

Removal - refitting

Remove the storage pocket on the driver's side by tilting it as far as possible and remove the unit mounting nuts.

- A red immobiliser warning light located on the warning lights strip which is used to signal activation of the engine immobiliser system or non-recognition of the key.

OPERATION

When the engine immobiliser system is operational (approximately 10 seconds after the + after ignition feed is cut off), the red immobiliser warning light flashes (slow flashing: one flash / second).

After the ignition is switched on, the antenna / transponder ring analyses the key code and sends it to the decoder unit.

If the code is not recognised by the decoder unit, the red engine immobiliser warning light flashes (rapid flashing).

If the code is recognised by the decoder unit, it sends a code to the injection computer via a coded connection and extinguishes the red immobiliser warning light (after approximately three seconds).

At this moment, several things may happen:

- the injection computer has no reference code in its memory:
  - the code sent to it is entered into its memory.

- the injection computer has a reference code in its memory:
  - the code sent to it is compared to its reference code,
  - if the two codes match, the computer unlocks the injection and authorises the engine to be started. When the ignition is switched on, the immobiliser warning light illuminates for 3 seconds and extinguishes, indicating that the system is operating correctly,
  - if the two codes do not match, the system remains locked to prevent the engine being started. When the ignition is switched on, the red immobiliser warning light illuminates then extinguishes. Vehicle starting is not authorised.

NOTE: so that the system is able to operate correctly, no object (example: key-rings) should be placed between the key and the antenna / transponder ring.

IMPORTANT: When the battery has a low charge, the drop in voltage caused by operating the starter motor may reactivate the immobiliser. If the voltage is too low, the engine cannot be started, even by pushing the vehicle.

REPLACING A KEY HEAD

The coded electronic unit in the key head is faulty:
- order a replacement coded key head using the number inscribed in the faulty key head (eight numbers and letters beginning with the letter E),

- if the customer requires the fault to be repaired immediately (2nd key unavailable), it is possible to supply a new kit (decoder unit plus two key heads) (see replacing a kit).

The key has been lost:
- order a replacement key head using the number inscribed in the 2nd key head (eight numbers and letters beginning with the letter E) or on a label (usually attached to the keys when the vehicle is delivered).
  In this case, also order the metal insert using the key number.

IMPORTANT: do not touch the key head electronic unit when taking note of the number in the key head. If the key head electronic unit has been touched, the key must be replaced.

NOTE: if the key head number cannot be found (both keys and the label have been lost), the complete kit will have to be replaced (decoder unit plus two PLIPS, plus the injection computer).

REPLACING THE DECODER UNIT ONLY

A new decoder unit is not coded. Once it is fitted to the vehicle, it will have to be programmed with the code from one of the keys so that it is operational (see programming procedure).

NOTE: if the decoder unit alone has to be replaced, there is no need to carry out any operation on the injection computer as it retains the same immobiliser code.

IMPORTANT: when a decoder unit has been programmed with the key code, it cannot be removed from the memory, nor can another code be memorised in its place.

PROGRAMMING PROCEDURE

The procedure is carried out with a single key.

The XR25 must be used to carry out this procedure so that the key programming is locked into the system.

1. Ignition off, connect the XR25 to the vehicle, set the selector knob to S8.

Enter code D 5 6 (fiche n° 56), bargraphs **19 RH side** and **19 LH side** should be illuminated (programming not carried out). If they are not both illuminated, replace the decoder unit (this unit has already been used).

2. Switch on the ignition (without starting the engine) with one of the keys (approximately two seconds). Bargraph **18 LH side** illuminates and bargraph **19 LH side** extinguishes.
The red immobiliser warning light flashes.

3. Switch off the ignition, and enter command G 6 0 * to lock the programming into the system. The red immobiliser warning light should flash (slow flashing). Bargraphs **19 RH side** and **18 LH side** should be extinguished.

4. Switch on the ignition for a few seconds (without starting the engine) to send the code to the injection computer.

5. Check that the engine immobiliser system is working correctly with both keys.

Ignition off, the red immobiliser warning light should flash for 10 seconds after the ignition is switched off (slow flashing). Bargraph **10 LH side** should be illuminated. The vehicle cannot be started with other keys.

NOTE: to simulate starting prevention, before switching on the ignition, wait until the red warning light begins to flash slowly.
Enter command G 0 4 * on the XR25, ignition still switched off (bargraph **9 LH side** illuminates).
Switch on the ignition, the red immobiliser warning light flashes more rapidly and it should be impossible to start the vehicle.

6. The procedure is complete. After switching the ignition off then on again (for more than two seconds), check that the vehicle can be started using both keys.

REPLACING A KIT
(decoder unit plus two key heads)

If a kit has to be replaced, it will be necessary to:
- programme the key code into the decoder unit (supplied uncoded),
- erase the old code memorised in the injection computer using the security procedure (the code number for the old kit can be requested from the local assistance network, for example **DELTA Assistance** for France, NVSR for the UK by fax only).

IMPORTANT: To erase the old code (memorised in the injection computer), the procedure described below MUST be followed, in the order given.

In effect, the injection computer code can only be erased using the security code (with the number from the old kit) if the decoder unit fitted to the vehicle has been programmed with a code (as in the following procedure).

NOTE: if the security code is introduced and the decoder unit has the same code as the injection computer, it will not be decoded.

1. Fit the metal inserts from the old keys into the new key heads.

2. Note the number of one of the old key heads to obtain the security code.

3. Remove the decoder unit when the ignition is switched off.

4. Fit the new decoder unit (ignition switched off).

5. Connect the XR25, set the ISO selector to S8.

Enter code D 5 6

Bargraphs **19 RH side** and **19 LH side** should be illuminated (programming not carried out).

6. Switch on the ignition (without starting the engine) using one of the keys (for approximately two seconds). Bargraph **18 LH side** illuminates and **19 LH side** extinguishes.
The red immobiliser warning light flashes rapidly.

7. Switch off the ignition and start command G 6 0 * to lock programming into the system:
- the red immobiliser warning light should flash (slow flashing),
- bargraphs **19 RH side** and **18 LH side** should be extinguished.

8. Switch on the ignition for more than 10 consecutive seconds.

9. Switch off the ignition and wait until the red warning light starts to flash slowly.

Enter command G 0 4 *

with the ignition still switched off (bargraph **9 LH side** illuminates).

Switch on the ignition, the red immobiliser warning light flashes more rapidly.

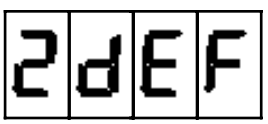
Follow the procedure for entering the security code (see procedure for entering the security code), using the code number corresponding to the old kit. This allows the old code memorised in the injection computer to be erased.

NOTE: it is possible to check that the injection computer has been decoded (in injection fault finding) either:

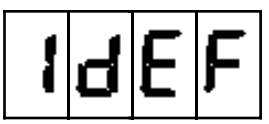
- using the NXR fault finding tool for D7F 702 engines (see the corresponding "injection" Technical Note),
- using the XR25 for D7F 700 and D7F 701 engines (see below),

Connect the XR25 to the diagnostic socket. Set the ISO selector and enter the injection code: bargraph **2 RH side** (immobiliser) should be illuminated.

After entering 

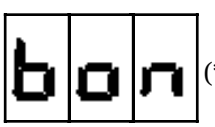
code 

should appear on the fault finding tool display. Erasure has therefore been successful.

- If the display indicates 

  this signals that there is a fault on the coded line. In this case, repair and start the procedure again.

- If bargraph **2 RH side** (immobiliser) is extinguished,

  and the display indicates 

(*22),

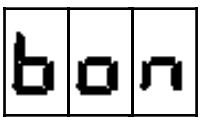
  this indicates that the injection computer code has not been erased. In this case, check that the security code number is correct and carry out the procedure again.

10. Switch the ignition off then on again for several seconds without starting the engine to programme the immobiliser code from the new kit into the injection computer. The red immobiliser warning light should illuminate for 3 seconds then extinguish.

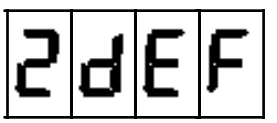
NOTE

- using the XR25, check that the injection computer has been correctly programmed with the code. Bargraph **2 RH side** (immobiliser) should be extinguished.

  After entering 

  the display should indicate 

  Injection computer coding has been carried out.

  If the display indicates 

  the injection computer has still not been coded.

11. Check that the system is operating correctly with both keys.
Switch on the ignition and check that the red warning light illuminates for 3 seconds then extinguishes and that the vehicle starts.

NOTE: it is possible to check that starting is prevented using the XR25.

- Switch off the ignition, wait until the warning light flashes (slow flashing).

Enter G 0 4 *

- Switch on the ignition and check that it is impossible to start the vehicle and that the red warning light flashes (rapid flashing).

12. The procedure is complete. After switching the ignition off then on again (for more than two seconds), check that the vehicle starts and erase all faults present in the decoder unit.

REPLACING THE INJECTION COMPUTER

Injection computers are supplied uncoded. They will have to be programmed with the system code when they are fitted.

Simply carry out the following operations:
- switch on the ignition for several seconds using the vehicle's coded key, without starting the engine,
- switch off the ignition, the immobiliser function will be ensured for approximately 10 seconds afterwards (the red immobiliser warning light flashes).

NOTE: it is possible to check that starting is prevented using the XR25:

- Ignition off, wait until the red warning light starts to flash slowly. Enter command G 0 4 *

  with the ignition still switched off (bargraph **9 LH side** illuminates).

- Switch on the ignition, the red immobiliser warning light flashes more rapidly and it should be impossible to start the vehicle.

SPECIAL NOTES FOR TESTING AN INJECTION COMPUTER (test part)

IMPORTANT: when testing an injection computer borrowed from the store (test part), the decoder unit MUST NOT be fed during the operation.

In effect, when the decoder unit is fed, the ignition being switched on causes a coded signal to be sent from the decoder unit to the injection computer (the code is thereby programmed).

To avoid memorising a code which could disable the injection computer after the test, the fuse (+before ignition feed) will have to be removed from the decoder unit (fuse with the door locking symbol). By doing this, the coded signal will not be sent when the ignition is switched on (the computer therefore remains uncoded).

The computer used for the test MUST have the same part number as the vehicle's original computer (risk of destroying the test computer).

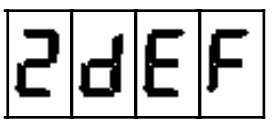
Check

If the test computer must be returned to the store, it is possible (before removing it) to check that it was not coded during the test (example: incorrect operation) either:

- using the NXR fault finding tool for D7F 702 engines (see the corresponding "Injection" Technical Note),
- or using the XR25 for D7F 700 and D7F 701 engines (see below),

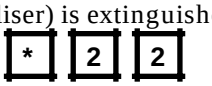
Connect the XR25 to the diagnostic socket. Set the ISO selector and enter the injection code: bargraph **2 RH side** (immobiliser) should be illuminated.

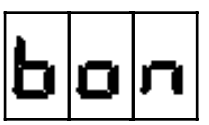
After entering 

code 

should appear on the fault finding tool display.

This indicates that the injection computer is not coded and can be returned to the store.

If bargraph **2 RH side** (immobiliser) is extinguished and after entering 

code 

appears on the fault finding tool display, this indicates that the computer has been programmed with the immobiliser system code (incorrect operation). In this case, the computer should be decoded before being returned to the store.

The decoding procedure involves replacing the vehicle's decoder unit with another decoder unit with a different code (with its key head electronic unit) and entering the vehicle's security code again (security code number to be requested from the local assistance network depending on the country, for example **Delta Assistance** for France, NVSR for the UK by fax only), using the number in the vehicle key head.

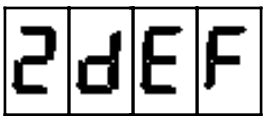
Ignition off, fit a decoder unit coded with a different number in place of the vehicle's original decoder unit (the procedure will not work with an uncoded decoder unit or coded with the same number as the injection).

Switch on the ignition, the red immobiliser warning light flashes (rapid flashing).

Enter the vehicle security code (number corresponding to the number on the original key).

After entering the security code, the red warning light flashes again.

The display on the XR25 should be



(in injection fault finding). This indicates that the injection computer has been correctly decoded.

Switch off the ignition, remove the decoded computer and return it to the store.

Refit the computer and the decoder unit to the vehicle.

NOTE: When checking the injection using the XR25 on a vehicle without immobiliser, it is normal for bargraph **2 RH side** to be illuminated (*22 = 2 def = uncoded computer).

PROCEDURE FOR ENTERING THE SECURITY CODE

With this immobiliser system, the procedure for entering the security code is managed by the decoder unit.

The XR25 is used to enter the security code.

The security code can only be entered if the immobiliser system is active. The red warning light should flash when the ignition is switched on (rapid flashing).

After determining the security code number (from the local assistance network, example : Delta Assistance for France, NVSR for the UK by fax only), carry out the following operations:

1. Ignition off, the red immobiliser warning light should flash (slow flashing).

2. Switch on the ignition, the red immobiliser warning light should flash more rapidly.

3. Connect the XR25 to the vehicle, set the selector knob to S8.

Enter code [D] [5] [6]

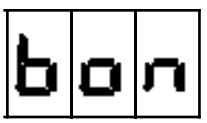
Bargraph **10 LH side** should be illuminated (fault finding fiche n° 56).

4. Enter mode [G] [4] [0] [*]

on the XR25 then the security code number

validate with key [*]

- **If the code is correct**

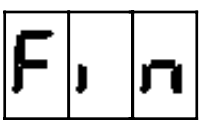


is displayed on the fault finding tool.

Bargraph **10 LH side** extinguishes.
It is possible to start the engine.

The vehicle will be protected again either:
- approximately 10 minutes after the ignition is switched off (starts automatically),
- or after the battery is disconnected.

- **If the code is not correct**



is displayed on the tool.

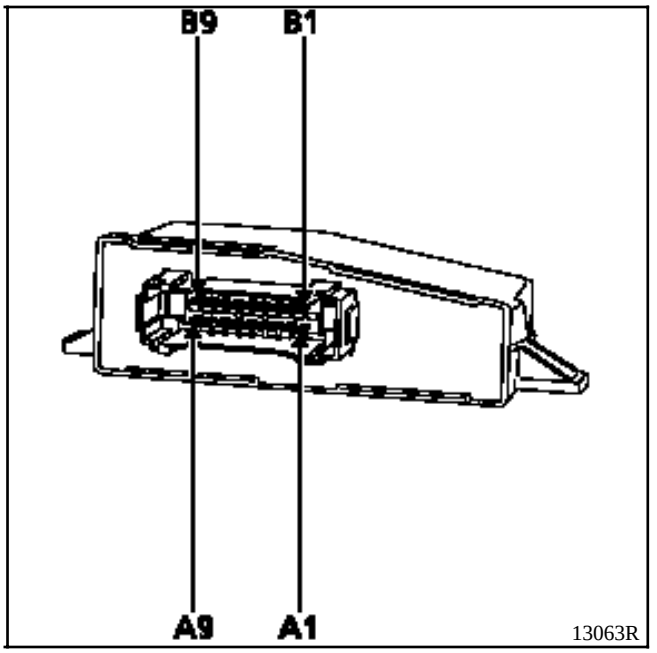
Bargraph **10 LH side** remains illuminated.
It is still impossible to start the engine.
The red immobiliser warning light flashes.
Switch off the ignition, then repeat the procedure for entering the code.

IMPORTANT: You can make three attempts to enter the code. If the code is invalid after the 3rd attempt, you must wait approximately 15 minutes before trying again.
When this time has elapsed, switch the ignition off then on again and you can make three more attempts.

NOTE: this procedure does not decode the injection computer. It only authorises the vehicle to be started.

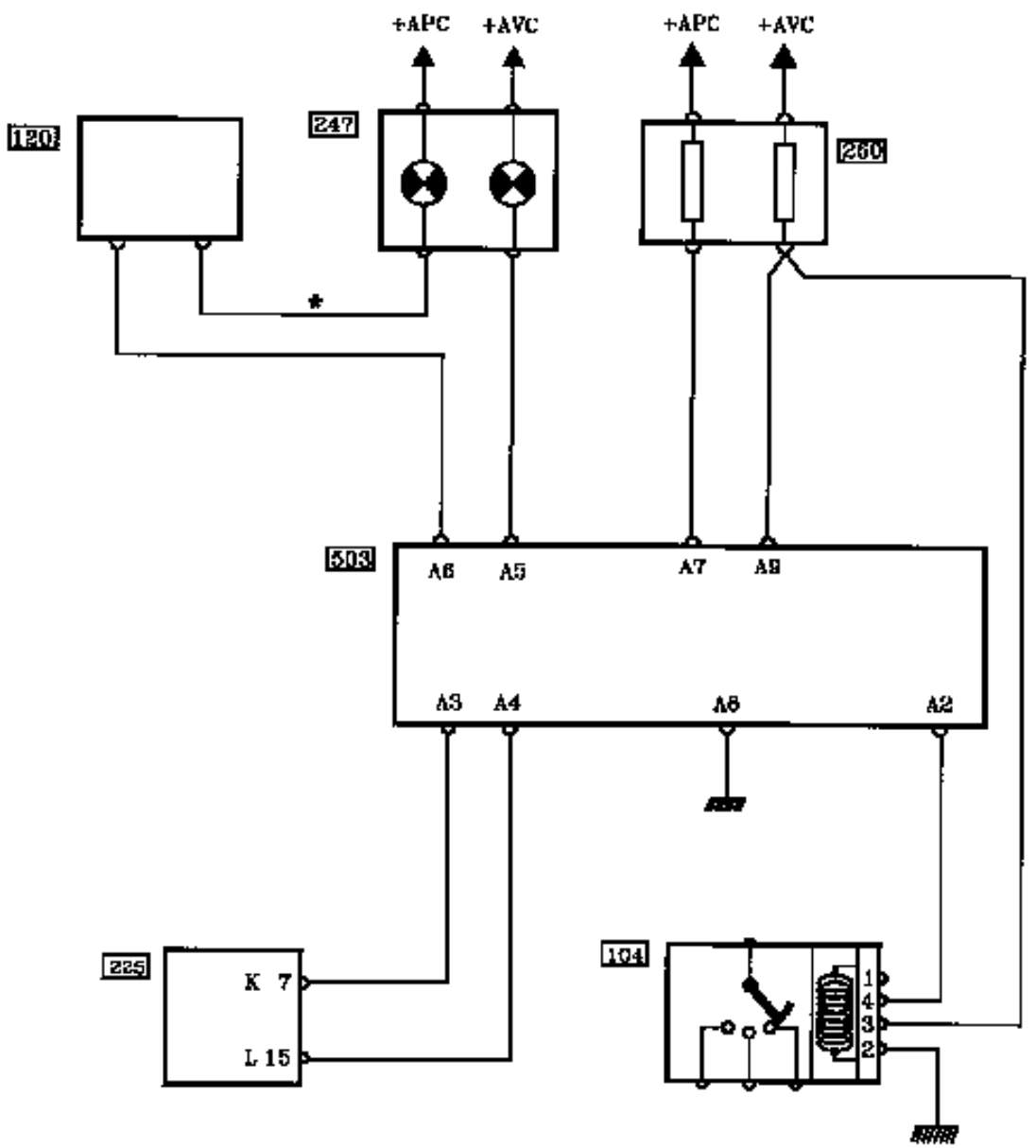
REMINDER: the ignition must be switched off then on again between attempts to enter the code.

DECODER UNIT CONNECTIONS



Track	Allocation
A1	Not used
A2	Antenna / transponder ring coded connection
A3	Diagnostic socket information (line K)
A4	Diagnostic socket information (line L)
A5	Red immobiliser warning light
A6	Coded information to injection computer
A7	+ after ignition feed
A8	Earth
A9	+ before ignition feed

WIRING DIAGRAM



* connection present or not depending on vehicle

PRO15084

KEY TO COMPONENTS

104 Ignition switch

120 Injection computer

225 Diagnostic socket

247 Injection warning light (depending on vehicle) and red immobiliser warning light

260 Passenger compartment fuse box

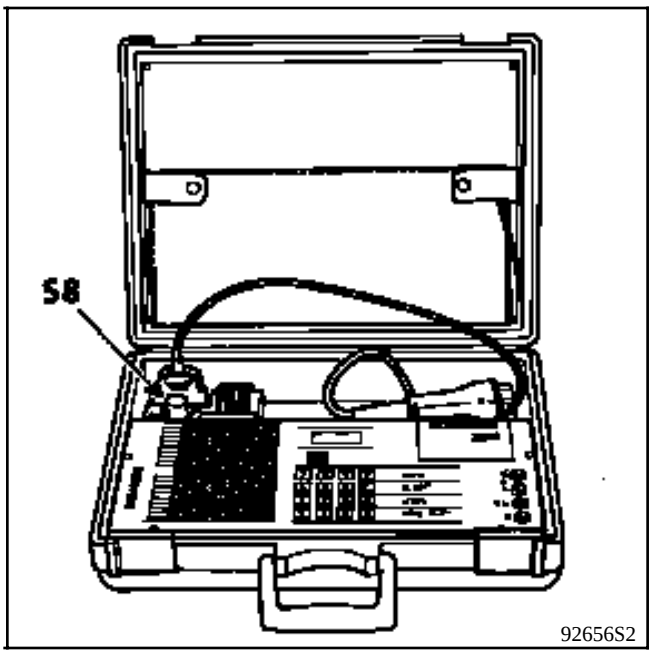
503 Decoder unit

FAULT FINDING

If there is an immobiliser system fault, it is possible to carry out fault finding using the XR25.

CONNECTION

Use cassette n° 18 and the corresponding diagnostic fiche n° 56.



Connect the fault finding tool to the diagnostic socket.

Set the ISO selector to **S8**.

Enter the special immobiliser system code **D56**.

NOTE: for interpretation of bargraphs, fault charts, checking conformity and additional checks, see the fault finding section.

FAULT FINDING - INTRODUCTION

SETTING UP XR25 / DECODER UNIT DIALOGUE

- Connect the XR25 to the diagnostic socket.
- Set the ISO selector to **S8**
- Enter **D56**

n.56

WARNING:

When carrying out checks using a multimeter, avoid using a test pin on connectors where the size of the test pin could damage the terminals and lead to a poor contact.

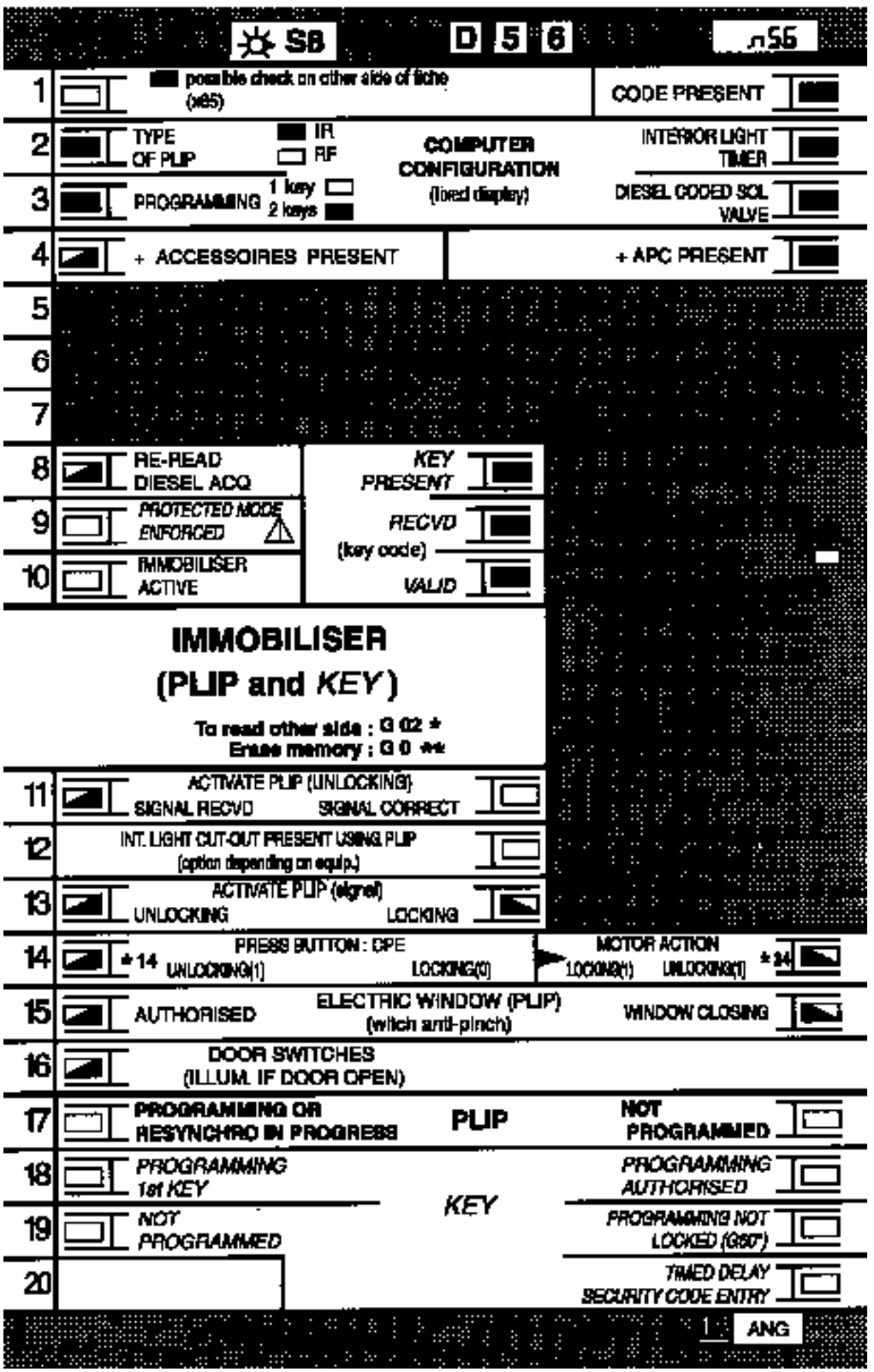
Pay attention to the key head electronic unit part numbers

ERASING THE MEMORY

After repairing the engine immobiliser system, enter G0** on the XR25 to erase the memorised fault.

FAULT FINDING - XR25 FICHE

PRESENTATION OF XR25 FICHE N° 56



FI21856

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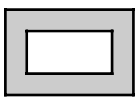
FAULT FINDING - XR25 FICHE

REPRESENTATION OF THE BARGRAPHS

Illuminates when the dialogue is established with the product computer, if it remains extinguished:
- the code does not exist,
- there is a line, XR25 or computer fault.

REPRESENTATION OF FAULTS (always on a coloured background)

Illuminated, indicates a fault on the product tested. The associated text defines the fault.

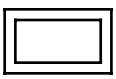
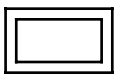


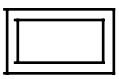
Extinguished, indicates that no fault was detected on the product tested.

REPRESENTATION OF STATUS (always on a white background)

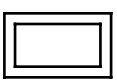
Engine stopped, ignition on, no operator action

The status bargraphs on the fiche are represented in the condition they should be in when the engine is stopped, ignition on, with no operator action.

- If on the fiche the bargraph is shown  should give as information 
- If on the fiche the bargraph is shown  should give as information 
- If on the fiche the bargraph is shown  should give as information

either  or 

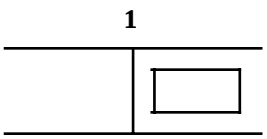
Engine running



Extinguished when the function or condition specified on the fiche is no longer being met.

Illuminated when the function or the condition specified on the fiche is being met.

FAULT FINDING - INTERPRETATION OF XR25 BARGRAPHS

1 	**Bargraph 1 RH side extinguished** Fiche n° 56 XR25 / DECODER UNIT COMMUNICATION

NOTES	Check that lines K and L are not disrupted by another computer.

Check the condition of the **+ before ignition feed** fuse.

Replace the fuse if necessary.

Ensure that the XR25 is not the cause of the fault by trying to communicate with another computer on the vehicle (air conditioning computer, injection computer...).

Check that the ISO selector is in position **S8**, that you are using XR25 cassette 18 and the correct access code (**D 56**).

Check the battery voltage (**U > 10.5 volts**). Recharge the battery if necessary.

Check that the 18 track decoder unit connector is correctly connected.

Check that the decoder unit is correctly fed:
- **earth on track A8** of the decoder unit connector.
- **+ before ignition feed on track A9** of the decoder unit connector.

Ensure that the diagnostic socket is correctly fed.

Check and ensure the continuity and insulation of the wiring for tracks **A3 and A4** of the decoder unit connector.

If there is still no dialogue between the XR25 and the decoder unit, replace the decoder unit.

AFTER REPAIR	When communication has been established, deal with any illuminated fault bargraphs. Carry out a conformity check.

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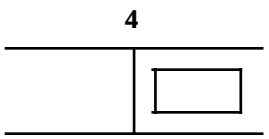
FAULT FINDING - INTERPRETATION OF XR25 BARGRAPHS

	**Bargraph 4 RH side incorrect illumination** Fiche n° 56 + AFTER IGNITION FEED PRESENT

NOTES	Reminder: Under normal operating conditions: - BG 4 RH illuminated when the ignition switch is in + after ignition feed position - BG 4 RH extinguished when the ignition switch is in a position other than + after ignition feed

Check the condition of the **+ after ignition feed** fuse.

Replace the fuse if necessary.

Ignition on, check for a voltage of + **12 volts** on **track A7** of the 18 track decoder unit connector.

Is there 12 Volts?

YES	Replace the decoder unit.
NO	Repair the wiring between track **A7** of the 18 track decoder unit connector and the passenger compartment fuse board.

AFTER REPAIR	Carry out a conformity check. Check that the engine immobiliser system operates correctly.

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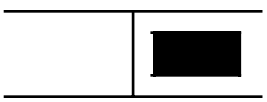
FAULT FINDING - INTERPRETATION OF XR25 BARGRAPHS

6 	**Bargraph 6 RH side illuminated** CODED LINE	Fiche n° 56

NOTES	None.

If **bargraph 6RH side** is illuminated, check the impact switch.

Check the continuity and insulation from earth and 12 volts of the wiring between track **A6** of the 18 track decoder unit connector and the injection computer track.

Repair the wiring if necessary.

Set the XR25 to pulse detection mode (button "**G**", input using terminal "**Vin**").
Ignition on, check for pulses on **track A6** of the decoder unit connector (test with the connectors for the decoder unit and the injection computer connected).

Do you note any pulses?

YES	Replace the injection computer.
NO	Replace the decoder unit.

AFTER REPAIR	Erase the memorised fault by entering G0** on the XR25. Carry out a conformity check. Check that the engine immobiliser system operates correctly.

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FAULT FINDING - INTERPRETATION OF XR25 BARGRAPHS

7 	**Bargraph 7 RH side illuminated or flashing** Fiche n° 56 ANTENNA / TRANSPONDER RING / DECODER UNIT CONNECTION **XR25 aid:** *27 = cc.1 short circuit to+ 12 volts co.0 open circuit

NOTES	None.

Check the continuity and insulation from earth and 12 volts of the wiring between:

18 track decoder unit connector A2 ⟶ 4 antenna/transponder ring

Repair the wiring if necessary.

Check that the antenna / transponder ring is correctly fed with **earth on track 2** and **12 Volts on track 3**.

Ignition switched off, check for a voltage of +**12 volts** on **track A2** of the decoder unit connector, wiring side (decoder connector disconnected and antenna / transponder ring connector connected).

If there is not 12 volts + before ignition feed, replace the + before ignition feed fuse.

If the fault persists, replace the antenna / transponder ring.

Disconnect the 4 track antenna / transponder ring connector.
Set the XR25 to pulse detection mode (button "**G**", input using terminal "**Vin**").
When the ignition is switched on again, check for a pulse on **track A2** of the 18 track decoder unit connector (test with the decoder unit and the antenna / transponder ring connectors connected).

Is there a pulse when the ignition is switched on?

YES	Replace the antenna / transponder ring.
NO	Replace the decoder unit.

AFTER REPAIR	Erase the memorised fault by entering G0** on the XR25. Carry out a conformity check. Check that the engine immobiliser system operates correctly.

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FAULT FINDING - CUSTOMER COMPLAINTS

NOTES	Only consult these customer complaints after a complete check using the XR25.

FAULT FINDING - FAULT CHARTS

Chart 1	NO XR25/DECODER UNIT COMMUNICATION

NOTES	Lines K and L are shared between several computers, which can disrupt them. If the fault persists, check that the computers are not disrupting lines K and L.

Check the condition of the + before ignition feed fuse.
Replace the fuse if necessary.

↓

Ensure that the XR25 is not the cause of the fault by trying to communicate with another computer on the vehicle (air conditioning computer, injection computer...).
Check that the ISO selector is in position **S8**, that you are using XR25 cassette 18 and the correct access code (**D56**).
Check the battery voltage (**U > 10.5 volts**). Recharge the battery if necessary.

↓

Check that the 18 track decoder unit connector is correctly connected.
Check that the decoder unit is correctly fed:
- **earth on track A8** of the decoder unit connector,
- + before ignition feed **on track A9** of the decoder unit connector.

↓

Ensure that the diagnostic socket is correctly fed.
Check and ensure the continuity and insulation of the wiring for tracks **A3** and **A4** of the decoder unit connector.

↓

If there is still no dialogue between the XR25 and the decoder unit, replace the decoder unit.

AFTER REPAIR	When communication has been established, deal with any illuminated fault bargraphs. Carry out a conformity check.

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FAULT FINDING - FAULT CHARTS

Chart 2	IGNITION ON, THE ENGINE IMMOBILISER WARNING LIGHT FLASHES PERMANENTLY (impossible to start the vehicle)

NOTES	None

Switch on the ignition.
Connect the XR25.
Use **fiche n°56**, selector on **S8**.
Enter **D56**.
Is there communication between the XR25 and the decoder unit?

no → See Chart 1.

yes ↓

Check the condition of the antenna / transponder ring fuse.
Is the fuse in good condition?

no → Replace the fuse if necessary.

yes ↓

Switch on the ignition and check that **bargraph 4 RH** is illuminated.
Is **bargraph 4 RH** illuminated ?

no → See information on **bargraph 4 RH** in the "Fault finding - Interpretation of XR25 bargraphs" section.

yes ↓

Switch on the ignition and check that **bargraph 19 RH** is extinguished.
Is **bargraph 19 RH** extinguished ?

no → Programme the unit if it is new, otherwise replace the decoder unit.

yes ↓

A

AFTER REPAIR	Carry out a conformity check. Check that the engine immobiliser system operates correctly. Erase the faults using G0**.

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FAULT FINDING - FAULT CHARTS

Chart 2
CONT 1

A

Switch off the ignition and wait until the immobiliser warning light flashes (immobiliser active).
Switch the ignition on again and check on **fiche n°56** whether **bargraph 7 RH** is illuminated.
Is **bargraph 7 RH** illuminated?

yes → See information on **bargraph 7D** in the "Fault finding - Interpretation of XR25 bargraphs" section.

no

Check the key recognition function.
Try to start the vehicle using the second key.
Is it possible to start the vehicle?

yes → Repair or replace the first key.

no

Test the unit memory by entering #65
If "**0**" is displayed, **test OK**
If "**1**" is displayed, **fault**.
Is "0" displayed on the screen?

no → Replace the decoder unit.

yes

Is the antenna / transponder ring correctly fixed to the ignition switch?

no → Mount the antenna / transponder ring correctly.

yes

B

AFTER REPAIR	Carry out a conformity check. Check that the engine immobiliser system operates correctly. Erase the faults using G0**.

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FAULT FINDING - FAULT CHARTS

Chart 2
CONT 2

B

Check the continuity and insulation from earth and 12 Volts of the wiring between:

antenna/ transponder ring { **2** → **earth**, **3** → **+AVC**, **4** → **A2** } **decoder bornier**

Is the wiring in good condition?

no → Repair the faulty wiring.

yes

Check for a voltage of + **12 Volts** on **track A2** of the decoder unit (decoder connector disconnected and antenna / transponder ring connector connected).
Is this voltage present?

yes → Replace the antenna / transponder ring.

yes

Switch off the ignition and wait until the immobiliser warning light flashes (immobiliser active).
Set the XR25 to pulse detection mode (button "**G**", input using terminal "**Vin**").
When the ignition is switched on again, check for a pulse on **track A2** of the decoder unit (test with the decoder unit and the antenna / transponder ring connectors connected).
Is there a pulse?

no → Replace the decoder unit.

yes

Replace the key.

AFTER REPAIR	Carry out a conformity check. Check that the engine immobiliser system operates correctly. Erase the faults using G0**.

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FAULT FINDING - FAULT CHARTS

Chart 3	THE ENGINE IMMOBILISER WARNING LIGHT REMAINS ILLUMINATED (even with the ignition switched off) OR REMAINS PERMANENTLY EXTINGUISHED

NOTES	Check that the decoder unit has been correctly programmed.

Check the condition of the + before ignition feed fuse.
Is the fuse in good condition?

no → Replace the fuse.

yes ↓

Check the continuity and insulation from earth and 12 Volts of the wiring between track **A5** of the 18 track decoder unit connector and the instrument panel.
Is the wiring in good condition?

no → Repair the wiring.

yes ↓

Carry out the following tests to determine which is the faulty component:
- if the immobiliser warning light is illuminated, disconnect the 18 track decoder unit connector and check that the immobiliser warning light extinguishes,
- if the immobiliser warning light is extinguished, reconnect **track A5** of the decoder unit connector to the vehicle earth and check that the immobiliser warning light illuminates.

Does the immobiliser warning light illuminate during the test?

no → Replace the instrument panel.

yes ↓

Replace the decoder unit.

AFTER REPAIR	Carry out a conformity check. Check that the engine immobiliser system operates correctly. Erase the faults using G0**.

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FAULT FINDING - FAULT CHARTS

Chart 4	THE VEHICLE DOES NOT START

NOTES	None

Check that bargraph 6 RH is illuminated.
Is bargraph 6 RH illuminated ?

no → There is an engine fault.

yes

There is an impact switch fault. Repair.
Does the fault persist?

no → End of fault finding.

yes

Check the condition of the wiring between **track A6** of the decoder unit and the injection computer.
Is this correct?

no → Repair the faulty wiring.

yes

Connect the XR25 and use in its pulse detection mode (button "**G**", input using terminal "**Vin**") and check for pulses on **track A6** of the decoder unit (test with the decoder unit and injection computer connectors connected).
Are there pulses?

yes → Replace the injection computer.

no

Replace the decoder unit or refer to the "Replacing the decoder unit and key set" section.

AFTER REPAIR	Carry out a conformity check. Check that the engine immobiliser system operates correctly. Erase the faults using G0**.

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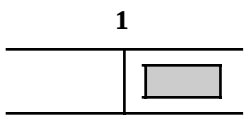
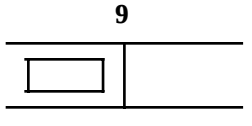
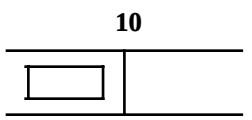
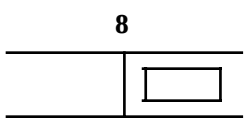
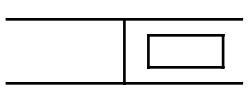
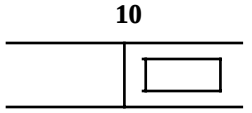
FAULT FINDING - CHECKING CONFORMITY

NOTES	If a fault bargraph illuminates, refer to the corresponding fault chart.

Order of operations	Function to be checked	Action	Bargraph	Display and notes
1	XR25 dialogue	D56 (selector on S8)		**n.56**
2				Code present
3	Decoder unit conformity	G70*		**X X X** Display of Parts Department number in 2 sequences
4	Forced protection mode			Illuminated only after command **G04*** is entered on the XR25. Impossible to start when **BG 9 LH side** is illuminated
5	Immobiliser status			Illuminated if immobiliser is active: switch off the ignition and wait approximately 10 seconds for **BG 10 LH side** to illuminate. Extinguished if immobiliser is inactive.

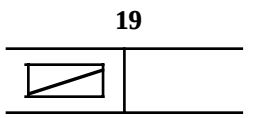
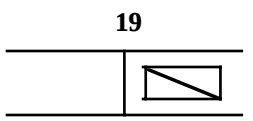
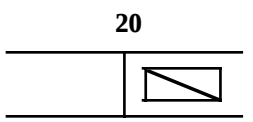
FAULT FINDING - CHECKING CONFORMITY

NOTES	If a fault bargraph illuminates, refer to the corresponding fault chart.

Order of operations	Function to be checked	Action	Bargraph	Display and notes
6	Presence of key			Illuminated when the ignition is switched on if it is a coded key (on condition that the vehicle was protected before the ignition was switched on, immobiliser warning light flashing). **NOTE**: under normal operating conditions, **bargraphs 8 RH side, 9 RH side and 10 RH side** should be illuminated together.
7	Receipt of key code			Illuminated when the ignition is switched on if it is a correctly formatted coded key (on condition that the vehicle was protected before the ignition was switched on, immobiliser warning light flashing). **NOTE**: under normal operating conditions, **bargraphs 8 RH side, 9 RH side and 10 RH side** should be illuminated together.
8	Valid key code			Illuminated when the ignition is switched on if a coded key has the correct format and the correct code (on condition that the vehicle was protected before the ignition was switched on, immobiliser warning light flashing). **NOTE**: under normal operating conditions, **bargraphs 8 RH side, 9 RH side and 10 RH side** should be illuminated together.

FAULT FINDING - CHECKING CONFORMITY

NOTES	If a fault bargraph illuminates, refer to the corresponding fault chart.

Order of operations	Function to be checked	Action	Bargraph	Display and notes
9	Key programming not carried out information			Illuminated if programming not carried out (key).
10	Key programming not locked information			Illuminated if programming not locked (key). G60*: changes to 1 when calibration has been completed.
11	Sending security code entry blocking information			

FAULT FINDING - AID

ADDITIONAL CHECKS

COMMAND MODES G--*

To use this function, enter G on the XR25, then the number of the command chosen, followed by a star.

04 Forced protection mode: activates the engine immobiliser function even if the key is correct, which allows starting prevention to be checked. Bargraph 9 left hand side should illuminate.
This command should be entered when the ignition is switched off and the engine immobiliser is active.
IMPORTANT: switching off the ignition cancels this command.

05 Immobiliser warning light control (illuminates the immobiliser warning light for 3 seconds).

13 End of fault finding.

39 Transponder line.

40 Introduction of security code (bargraph 10 left hand side should be illuminated and the ignition should be on).
This command mode can be used to enter the security code, but does not allow decoding of the injection computer or the coded solenoid valve.
Enter the vehicle's security code number on the XR25 and validate using button "*".
If the code number is correct, "**bon**" is displayed on the XR25 and bargraph 10 left hand side extinguishes.
If the code number is not correct, "**deF**" is displayed on the XR25 and bargraph 10 left hand side remains illuminated.

IMPORTANT: you are entitled to make **3 attempts** to enter the code. If the code is invalid after the 3rd attempt, you must wait for approximately **15 minutes** before trying again (between each attempt to enter the code, the ignition must be switched off then on again).

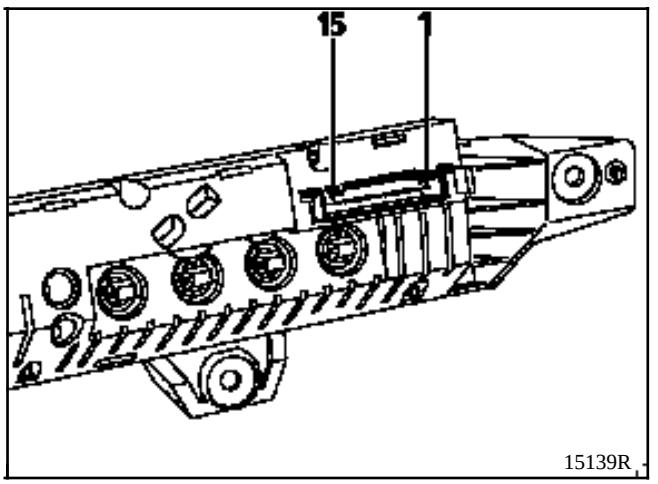
47 Courtesy light timing configuration:
- **G 47 * 0 *** = cancel courtesy light timing.
- **G 47 * 1 *** = activate courtesy light timing.

70 Read Parts Department number (decoder unit part number).

This new instrument panel is different to the previous one as it has a fuel level display using bar-graphs instead of points.

The low fuel level warning light is now located above the "fuel pump" symbol.

CONNECTIONS (new lever connector)

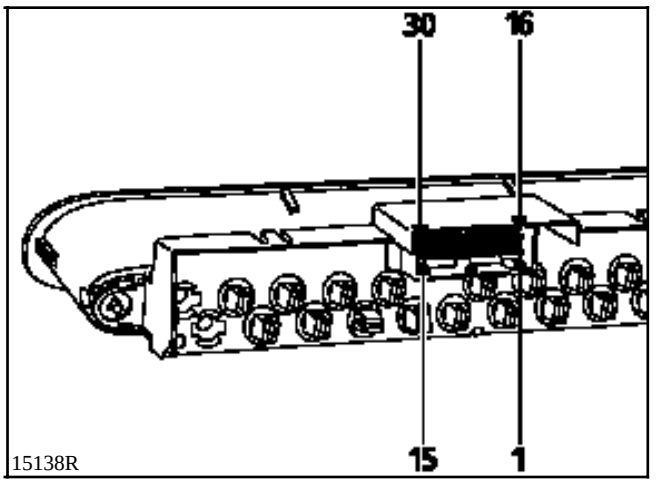


Track	Allocation
1	+ before ignition feed
2	Earth
3	Not used
4	+ side lights
5	Door switch
6	+ after ignition feed
7	Speed information
8	Not used
9	Rear fog light information*
10	Fuel level information
11	Fuel gauge earth
12	ADAC sequence button (at end of windscreen wiper stalk)
13	Not used
14	Not used
15	Not used

* This information activates the lights on reminder buzzer if the rear fog light button is tilted when the door is opened when the ignition is switched on.

This new strip of warning lights has two rows of removable bulbs.

MOST COMPLETE CONNECTIONS (new lever connector)



Track	Allocation
1	Seat belt warning light
2	Brake warning light
3	Air bag warning light
4	ABS warning light
5	Oil pressure warning light
6	Red immobiliser warning light
7	+ before ignition feed
8	Indicator tell-tale light
9	Front fog lights tell-tale light
10	Heated rear screen tell-tale light
11	Coolant temperature warning light
12	Earth
13	Side lights tell-tale light
14	Battery charge warning light
15	Dipped headlight tell-tale light

Track	Allocation
16	Catalytic converter fault warning light
17	Injection warning light (depending on vehicle)
18	Electric power assisted steering tell-tale light
19	Not used
20	Antipollution warning light
21	Not used
22	Not used
23	Not used
24	Not used
25	Main beam headlight tell-tale light
26	Rear fog light tell-tale light
27	Not used
28	+ after ignition feed
29	Not used
30	Not used

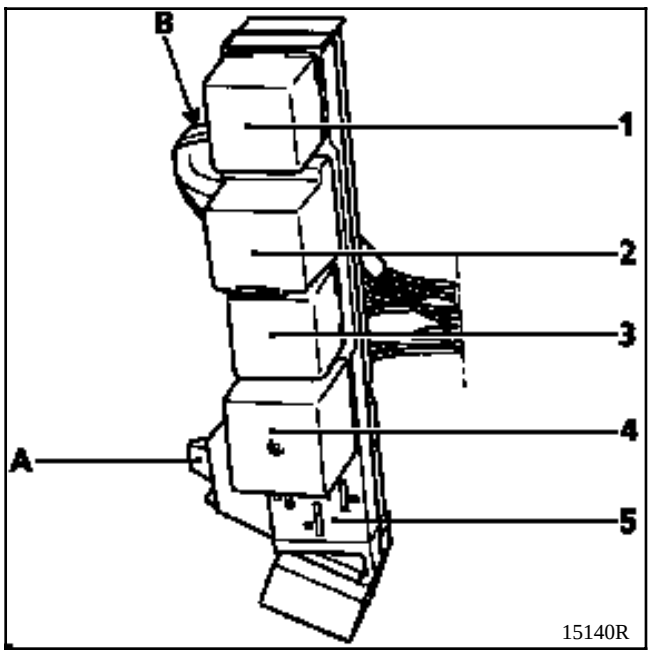
TWINGO phase II vehicles can be equipped with a factory-fitted single CD stereo with four output loudspeakers.

If the vehicle is only equipped with two loudspeakers at the front, only these two outlets are used.

If the front loudspeakers do not work, check that the "Fader" radio function (balance of sound between the front and rear) is oriented to the front.

Relay mounting under steering column

To remove this relay mounting, release the pedal mounting clip (A) and push the assembly upwards to release the pin (B).

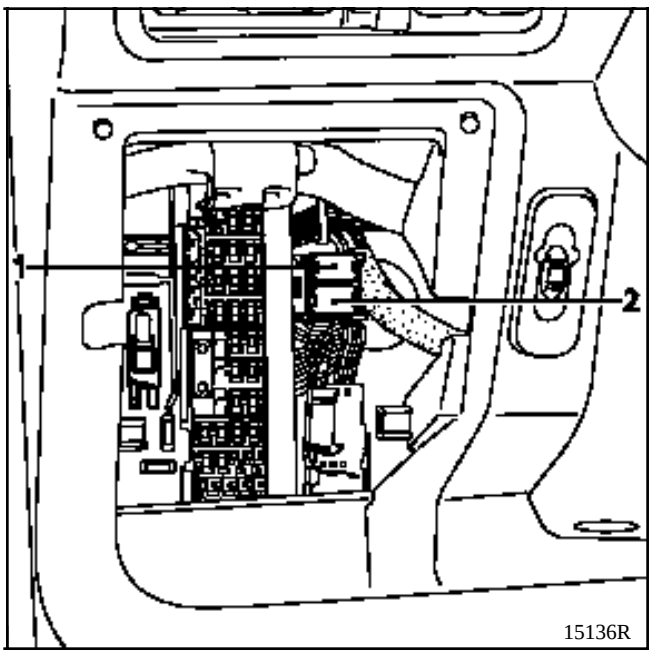


Allocation of relays (depending on equipment)

1 Rear fog light relay
2 Front windscreen wiper timer
3 Starter motor relay (AT)
4 Central flasher unit
5 Automatic clutch buzzer (depending on equipment)

Relay mounting on fuse board

For vehicles equipped with front fog lights, two additional relays connected to this function are located near the fuse board.



Allocation of relays (depending on equipment)

1 Additional rear fog light relay
2 Front fog lights relay

These vehicles are equipped with a new passive safety system consisting of:
- a driver's front air bag with a new inflatable cushion (marked **SRP**),
- a passenger's front air bag (depending on equipment) with a new inflatable cushion (marked **SRP**),
- front pretensioners (unchanged),
- special front seat belts with the new programmed restraint system (**SRP**),
- a special computer for this assembly (30 or 50 tracks depending on equipment),
- a driver's side air bag (depending on equipment) with an impact sensor under the inner sill carpet on the same side,
- a passenger's side air bag (depending on equipment) with an impact sensor under the inner sill carpet on the same side.

IMPORTANT

With this set-up (SRP front air bags), the operation of seat belts is now connected to air bag operation.

The programmed restraint system for the seat belts is not calibrated in the same way whether it is fitted opposite an SRP air bag or not (the part number for each component must be checked before replacement).

The following are strictly forbidden :
- **the fitting of new SRP air bags and / or their associated special seat belts to vehicles originally equipped with the previous system,**
- **the fitting of components corresponding to an old system to vehicles equipped with this new restraint system.**

NOTE: for more details on the new **SRP** seat belts, see the corresponding bodywork Technical Note.

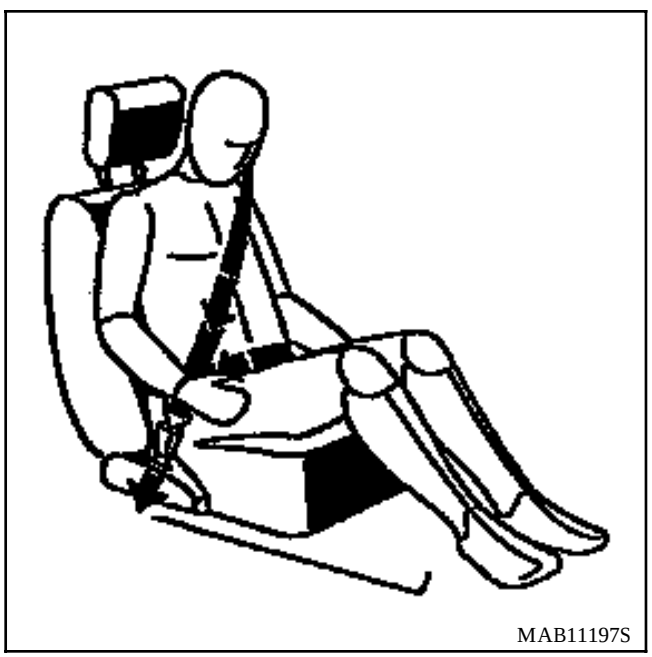
GENERAL

All operations on the air bag and pretensioner systems must be carried out by qualified, trained personnel.

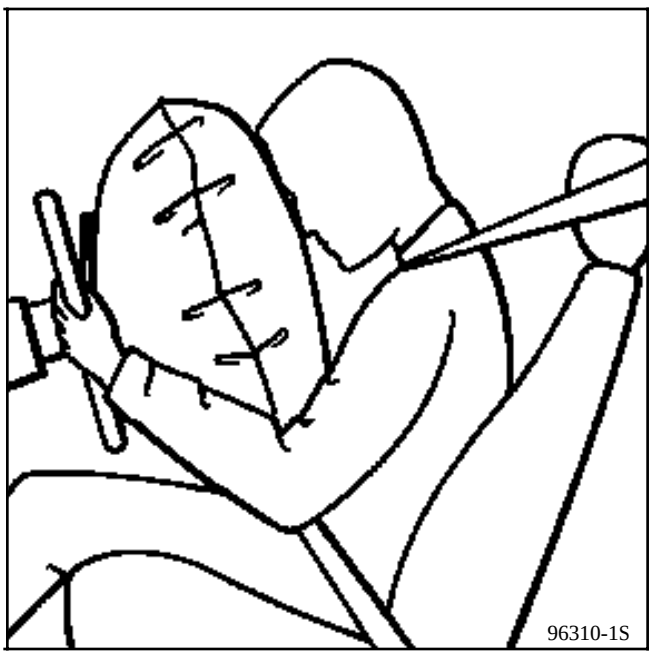
These are additional safety features.

In the event of a frontal impact of sufficient force:

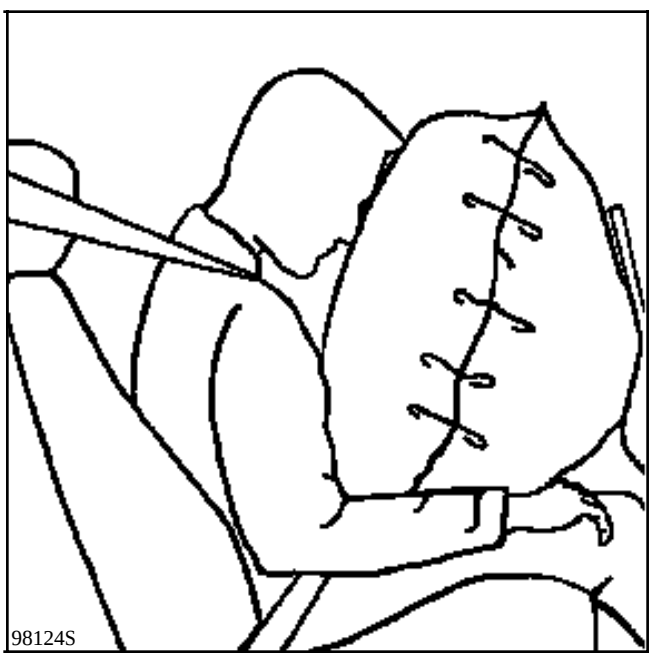
- **The front seat belts** restrain the driver and the passenger.
- **The pretensioners** tighten the front seat belts, so that they are flattened against the body**,**


MAB11197S

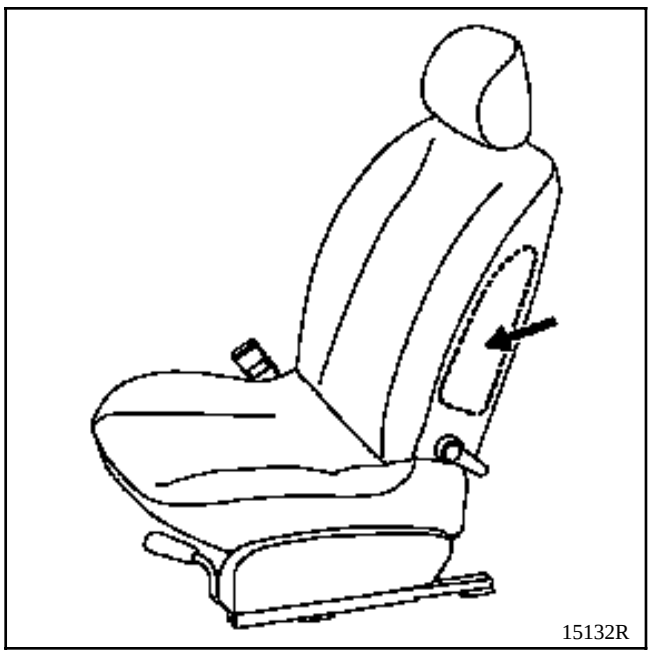
- **The programmed restraint system (SRP**) limits the force of the seat belt against the body.
- **The air bags** inflate:
  - from the centre of the steering wheel to protect the driver's head,


96310-1S

  - from the dashboard to protect the front passenger's head.


98124S

In the event of a side impact of sufficient force, the corresponding air bag (impact side) deploys on the door side to protect the head and thorax of the seat occupant.



IMPORTANT

- Do not fit covers to the front seats.
- Do not place objects in the area in which the air bag deploys.
- When carrying out an operation to the vehicle's sill panel (on the side impact sensor, the bodywork, the seat belt inertia reel, etc...), the air bag computer must be locked using the XR25.
- For special notes on operations to remove and replace the seat trim, you must refer to the corresponding bodywork Technical Note.

NOTE:

- Vehicles equipped with **SRP** front air bags are identified by the labels placed in the lower corners of the windscreen on each side and by the term "**Airbag SRP**" in the centre of the steering wheel and on the dashboard (depending on equipment).
- Vehicles equipped with side air bags are identified by labels placed in the lower corners of the windscreen on each side and by the term "**Airbag**" on the sides of the front seatbacks (depending on equipment).

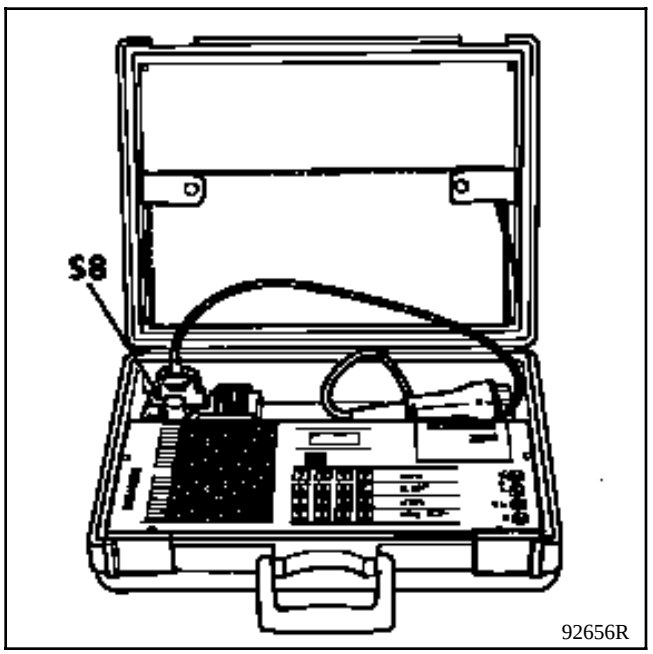
Whenever the windscreen is replaced, remember to attach the labels which identify the vehicle as being equipped with air bag(s).

All of these labels are available as a set under part number: **77 01 205 442**.

SPECIAL TOOLING

PRESENTATION

XR25

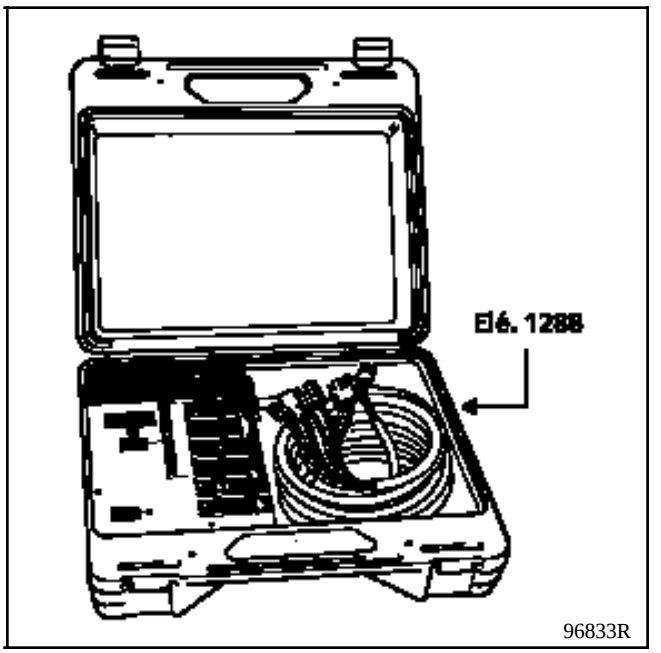


The XR25 is used for fault finding on the computer.

This allows computer faults or faulty system lines to be detected (see the"**Fault finding**" section).

NOTE: before every operation, an additional function **(G80*)** allows the trigger lines to be deactivated, to prevent triggering of the pyrotechnic gas generators.

XRBAG TEST KIT (Elé. 1288)

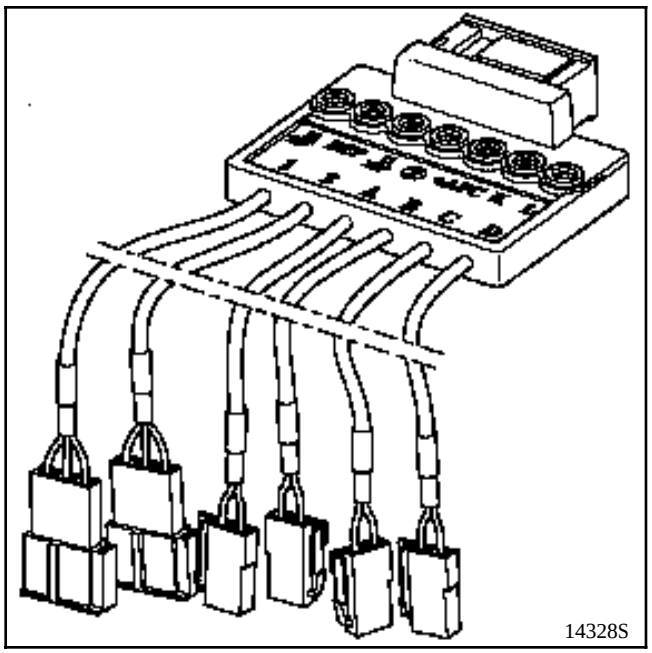


This is a special tool for testing and fault finding of the air bag and seat belt pretensioner equipment.

It allows electrical measurements to be made on the various lines of the systems (see the "**Fault finding**" section).

IMPORTANT: no measurements may be made on these systems using an ohmmeter or any other electrical measuring equipment: the system may be triggered due to the operating current of the measuring equipment.

30 TRACK XRBAG ADAPTOR (B40)
(for vehicles without side air bags)



This bornier is connected in place of the computer.

Using the **XRBAG**, **it** allows all the trigger lines to be checked, computer supply voltage to be measured and forces the air bag warning light on the instrument panel to illuminate.

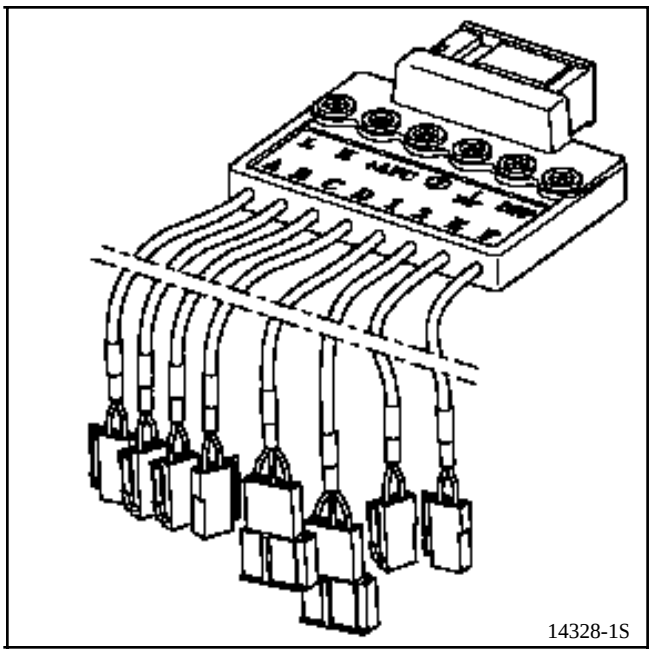
The terminals also allow continuity checks on the fault finding, earth (n° **1**), warning light and computer supply lines to be carried out (see the "**Fault finding**" section).

NOTE: the terminals **DPP** and earth n° **2** are not currently used on this system.

Identification of adaptor output wiring

1 : XRBAG union
2 : Not currently used
A : Driver's air bag lines
B : Passenger's air bag lines (depending on equipment)
C : Passenger pretensioner lines
D : Driver's pretensioner lines

50 TRACK XRBAG ADAPTOR (B50)
(for vehicles with side air bags)



This bornier is connected in place of the computer.

Using the **XRBAG**, **it** allows all the trigger lines to be checked, computer supply voltage to be measured and forces the air bag warning light on the instrument panel to illuminate.

The terminals also allow continuity checks on the fault finding, earth (n° **1**), warning light and computer supply lines to be carried out (see the "**Fault finding**" section).

NOTE: terminal **DPP** is not currently used on this system.

Identification of adaptor output wiring

1 : Not currently used
2 : Supply and warning light
A : Driver's pretensioner lines
B : Passenger pretensioner lines
C : Driver's air bag lines
D : Passenger's air bag lines
E : Driver's side air bag lines
F : Passenger's side air bag lines

DUMMY IGNITION MODULE

A dummy ignition module in a small red box is supplied in the **XRBAG** kit.

It has the same electrical specifications as a real ignition module and is used to replace the air bag cushion or the pretensioner during fault finding.

It is available from:

Consult your Renault After Sales Head Office

DESTRUCTION EQUIPMENT

In order to avoid any risk of an accident the pyrotechnic gas generators for the air bags and pretensioners must be triggered before the vehicle or the part is scrapped.

Special tool **Elé. 1287** must be used.

Refer to the "**Destruction Procedure**" section.

IMPORTANT: do not trigger the pretensioners which must be returned under warranty for a stalk problem. This makes analysis of the component impossible for the supplier.
Return the component in the packaging of the new one.

OPERATION OF PRETENSIONERS AND FRONT AIR BAGS

When the ignition is switched on, the system control warning light illuminates for a few seconds then extinguishes.

The computer is now on stand-by and will take account of vehicle deceleration due to a signal measured by the integrated electronic decelerometer.

In the event of a frontal impact of sufficient force, this simultaneously triggers the pyrotechnic generators for the two seat belt pretensioners after confirmation that an impact has been detected by the electronic safety sensor.

Under the force of the gas generated by the system, a piston moves in its cylinder pulling a cable connected to a corresponding central buckle which retracts the seat belt (see the "**Pretensioners**" section).

If the frontal impact is greater, due to validation of the impact by the electronic safety sensor, the decelerometer triggers the ignition of the pyrotechnic gas generators which inflate the driver and passenger air bags (depending on equipment).

These systems do not trigger in the event of:
- a side impact
- a rear impact.

When triggered, a pyrotechnic gas generator produces an explosion and a small amount of smoke.

OPERATION OF SIDE AIR BAGS

When the ignition is switched on, the air bag and pretensioner system control warning light illuminates for several seconds then extinguishes.

The computer for the air bag and pretensioner systems is now on stand-by, as are the side air bag impact sensors which are located under the inner sill carpet on each side of the vehicle.

In the event of a side impact of sufficient force, the impact sensor located on the side of the impact sends a signal to the computer for the air bag and pretensioner systems, after confirmation that an impact has been detected by the electronic safety sensor (integrated in the computer). The computer then triggers ignition of the pyrotechnic gas generators for the seat, which inflate the air bag (impact side).

The side air bags do not trigger in the event of:
- a frontal impact,
- a rear impact,
- an impact on the opposite side of the vehicle.

When triggered, a pyrotechnic gas generator produces an explosion and a small amount of smoke.

INSTRUMENT PANEL WARNING LIGHT

This warning light is for the pretensioners and the air bags.

It should illuminate for several seconds when the ignition is switched on, then extinguish (and remain extinguished).

If it does not illuminate when the ignition is switched on or illuminates when the vehicle is being driven, this indicates a fault in the system (see the "**Fault finding**" section).

SRP COMPUTER

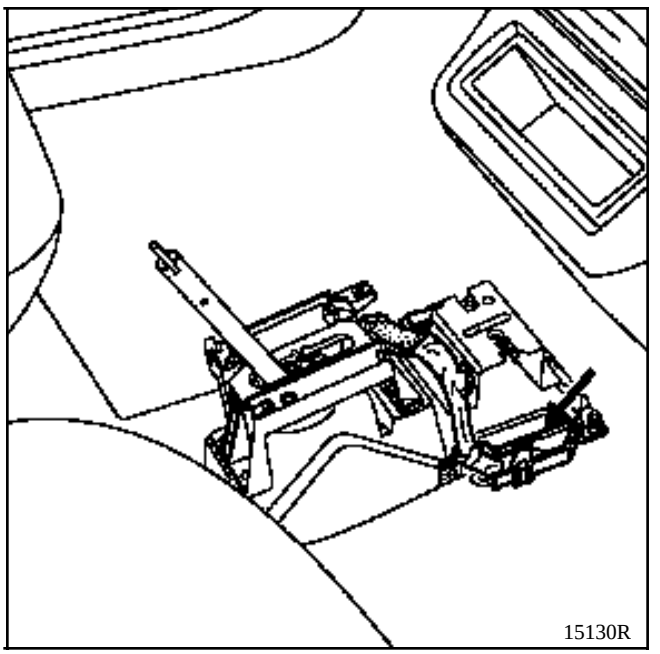
Two types of computer are fitted to these vehicles, depending on their equipment:
- a computer with a 30 track yellow connector for vehicles without side air bags. This must be configured in accordance with the vehicle equipment (see configuration).
- a computer with a 50 track orange connector for vehicles with side air bags.

These computers have:
- an electronic safety sensor for the front air bags and pretensioners,
- an electronic safety sensor for side air bags (computer with 50 track orange connector only),
- an electronic decelerometer for front air bags and pretensioners,
- connections with the side electronic sensors located in the centre pillars (computer with 50 track orange connector only),
- an ignition circuit for the various pyrotechnic systems,
- energy reserves for the various lines,
- a circuit for fault finding and memorising detected faults,
- a control circuit for the warning light on the instrument panel,
- a communication interface for K - L via the diagnostic socket.

IMPORTANT: before removing a computer, lock it using the **XR25** and command **G80***, **ISO** selector on **S8** code **D49** (fiche n° 49 for vehicles without side air bags or fiche n° 66 for vehicles with side air bags).
When this function is activated, all trigger lines are inhibited, the air bag warning light on the instrument panel and bargraph **14 LH side** (for vehicles without side air bags) or **12 LH side** (for vehicles with side air bags) on the **XR25** illuminates (new computers are delivered in this state).

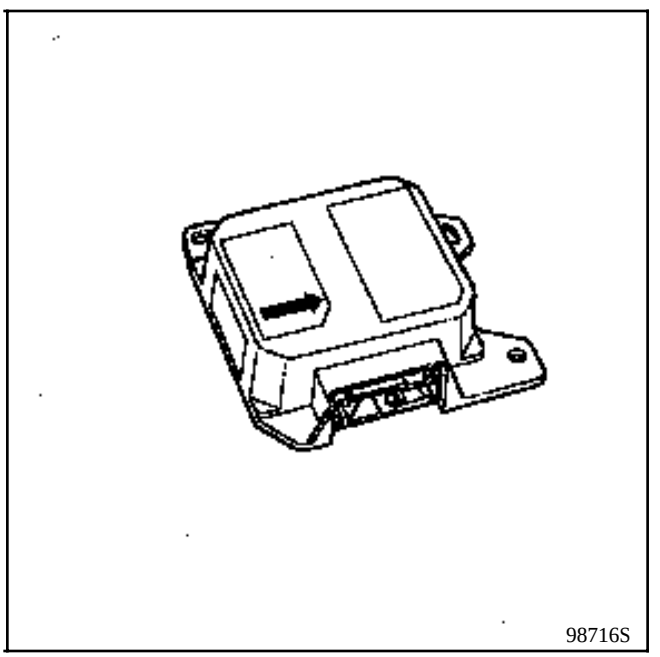
Removal

It is located on the tunnel in the centre console. To access it, remove the centre console.

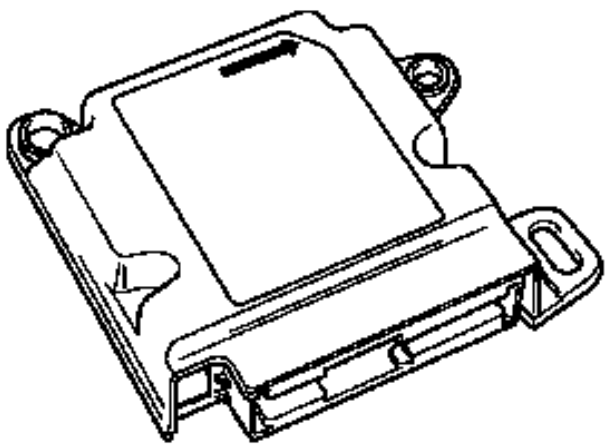

15130R

Computer removed

30 tracks without side air bags


98716S

50 tracks with side air bags



15063S

IMPORTANT

- When the seat belt pretensioners or the air bags trigger, the computer locks itself and illuminates the air bag warning light on the instrument panel. The computer must therefore be replaced (certain components lose their nominal specifications after the trigger energy has passed through them).
- When the computer is replaced, it must be unlocked using the **XR25** before it is used (see the "**Fault finding**" section: Interpretation of bargraph n° **14 LH side** fiche n° 49 or **12 LH side** fiche n° 66).

Removal

For refitting, it must be mounted to the vehicle before the connector is reconnected (tightening torque: **0.8 daN.m**).

The arrow on the computer should point towards the front of the vehicle.

After connecting its connector, carry out a check using the **XR25** and configure it if it does not have a passenger air bag.

If everything is correct, unlock the computer using command **G81*** (bargraph **14 LH side** fiche n° 49 or **12 LH side** fiche n° 66 extinguishes).

Otherwise, see the "**Fault finding**" section.

Configuration (computer has 30 track yellow connector only)

The new computers are delivered configured for "**passenger air bag**".

If the vehicle does not have a passenger air bag, the computer will have to be configured as being without a passenger air bag.

Using the **XR25** (fiche n° **49**), enter command mode **G21*3*** (bargraph **17 LH side** should extinguish after switching the ignition off then on again).

To reconfigure the computer with passenger air bag, enter command mode **G21*4*** (bargraph **17 LH side** should illuminate after the ignition is switched off then on again).

If the computer configuration does not correspond to the vehicle equipment, the air bag warning light remains illuminated.

NOTE: the feed for the computer and the ignition modules is normally supplied by the vehicle's battery. However, the computer has an energy reserve capacity in case the battery is disconnected when an impact takes place.

IMPORTANT

- When carrying out an operation below the vehicle (exhaust, bodywork, etc.), do not use a hammer or transfer impact forces to the floor of the vehicle without having locked the computer using the XR25 and command **G80*** (ISO selector on **S8** code **D49** fiche n° 49 for vehicles without side air bags or fiche n° 66 for vehicles with side air bags.
- When installing an electrical accessory in After Sales (speaker, alarm or other equipment which might generate a magnetic field), this should not be fitted near the computer for the air bag(s) / pretensioners.

Connections

NOTE: The computer connector has a special feature which allows it to short circuit the various trigger lines as soon as it is disconnected. In effect, the shunts located opposite each pretensioner or air bag line prevent incorrect triggering of these systems (by antenna effect for example).

30 track yellow connector without side air bags
(most complete connection)

Track	Allocation
1	+ driver's pretensioner
2	- driver's pretensioner
3	+ passenger's pretensioner
4	- passenger's pretensioner
5	+ after ignition feed
6	Earth
7	Air bag warning light on instrument panel
8	Not used
9	Diagnostic line K
10	+ driver's air bag
11	- driver's air bag
12	Not used
13	+ passenger air bag
14	- passenger air bag
15	Not used
16	Shunt
17	Shunt
18	Shunt
19	Shunt
20	Not used
21	Shunt
22	Shunt
23	Diagnostic line L
24	Not used
25	Shunt
26	Shunt
27	Not used
28	Shunt
29	Shunt
30	Not used

50 track orange connector with side air bags

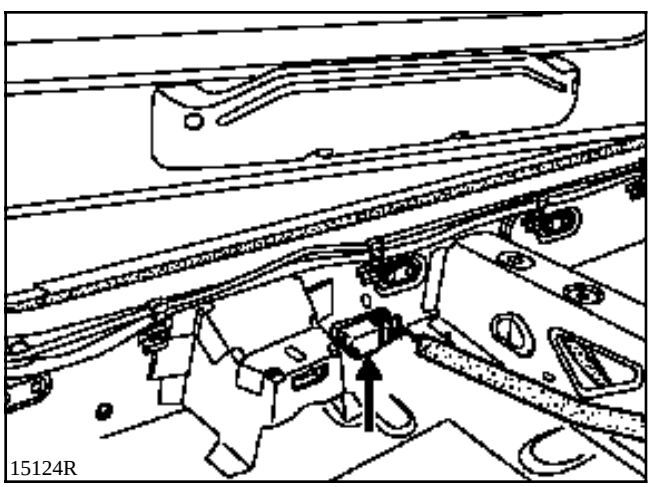
Track	Allocation
1	+ driver's pretensioner
2	- driver's pretensioner
3	+ passenger's pretensioner
4	- passenger's pretensioner
5	+ after ignition feed
6	Earth
7	Air bag warning light on instrument panel
8	Not used
9	Diagnostic line K
10	+ driver's front air bag
11	- driver's front air bag
12	Diagnostic line L
13	+ passenger's front air bag
14	- passenger's front air bag
15	Not used
16	+ driver's side air bag
17	- driver's side air bag
18	+ passenger's side air bag
19	- passenger's side air bag
20	Driver's side sensor signal
21	Passenger's side sensor signal
22	- driver's side sensor
23	- passenger's side sensor
24	Not used
25	Not used
26	Shunt
27	Shunt
28	Shunt
29	Shunt
30	Not used
31	Shunt
32	Shunt
33	Not used
34	Not used
35	Shunt
36	Shunt
37	Not used
38	Shunt
39	Shunt
40	Not used
41	Shunt
42	Shunt
43	Shunt
44	Shunt
45	Not used
46	Not used
47	Not used
48	Not used
49	Not used
50	Not used

SIDE IMPACT SENSORS
(depending on equipment)

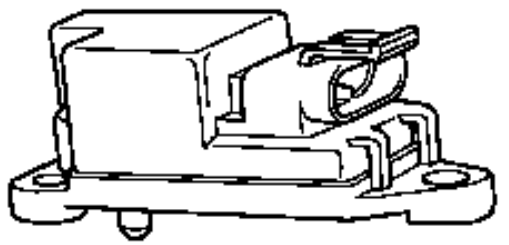
IMPORTANT
Before removing a side impact sensor, lock the computer using the XR25 and command **G80*** (ISO selector on **S8** code **D49** fiche n° 66).
When this function is activated, all trigger lines are inhibited, the air bag warning light on the instrument panel and bargraph **12 LH side** on the XR25 illuminate.

Removal
They are located on each side behind the carpet under the inner sill trim.

To access:
- remove the inner sill trim,
- remove the two seat mounting bolts, door side,
- slide the carpet under the seat runner to release the sensor,
- disconnect the sensor and remove it (two bolts).


15124R

Sensor removed


15061S

IMPORTANT

- When a side air bag triggers, the computer locks and illuminates the air bag warning light on the instrument panel. The side impact sensor and the computer must therefore be replaced (certain components lose their nominal specifications after the trigger energy has passed through them).
- When replacing a computer, it must be unlocked using the XR25 before it is used (see the fault finding section: interpretation of bargraph **12 LH side**).

Refitting

To refit it, position the sensor using its lug and mount it on the vehicle before reconnecting its connector (tightening torque: **0.8 daN.m**).

After connecting its connector, carry out a check using the XR25.

If everything is correct, unlock the computer using command **G81*** (bargraph **12 LH side** extinguishes).

Otherwise, see the "**Fault finding**" section**.**

Connection

Track	Allocation
1	Sensor feed
2	Earth
3	Not used

OPERATIONS ON THE TRIGGER WIRING

If a fault is noted in the wiring, the component must be replaced - no repair may be carried out.

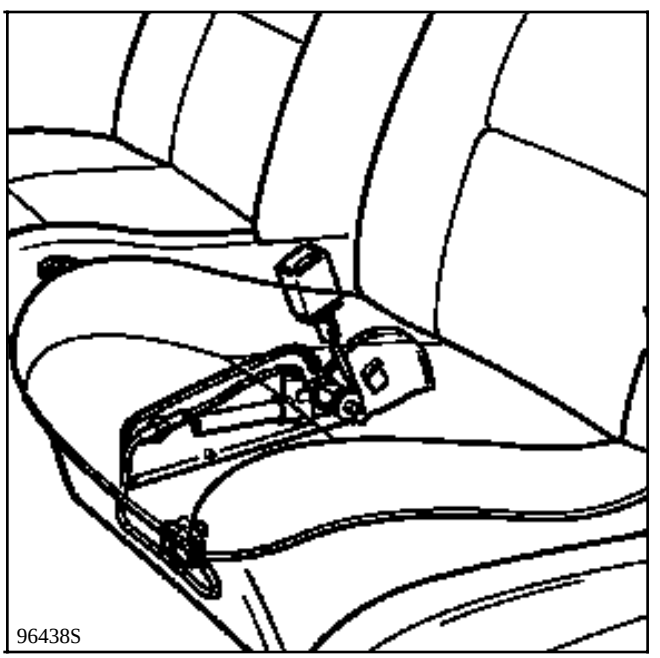
This safety device will not withstand any conventional repair operation to the wiring or connectors.

IMPORTANT: when fitting new wiring, ensure that it is not damaged and that its original cleanliness is observed.

SEAT BELT PRETENSIONERS

Description

They are mounted to the side of the front seats.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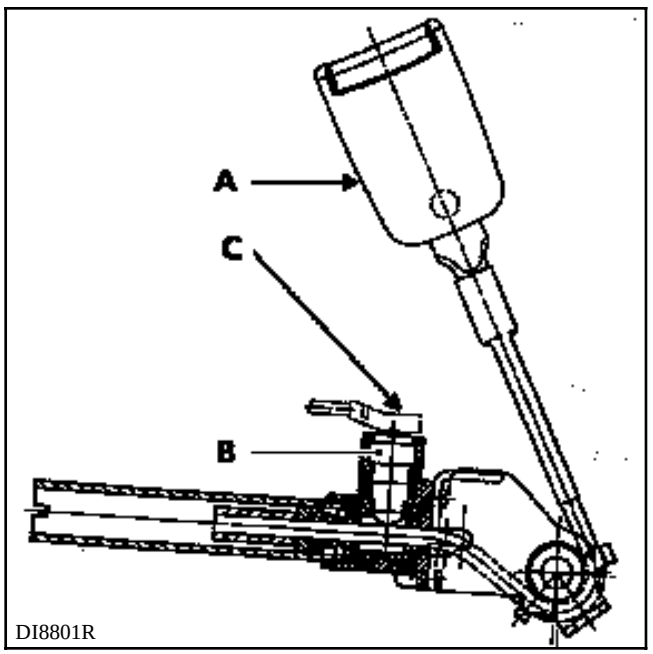
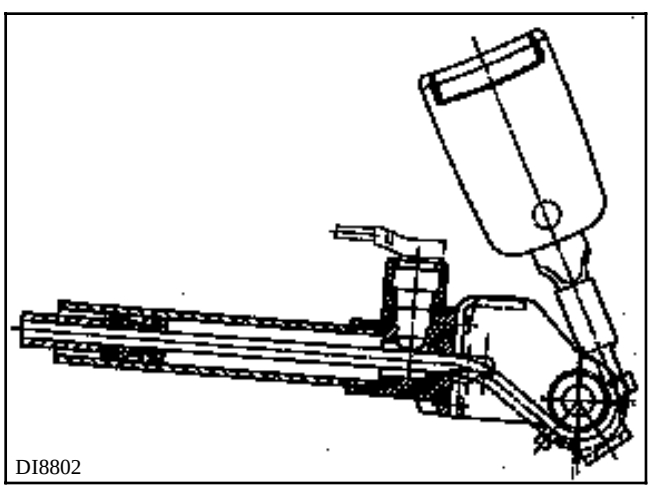
A pretensioner consists of:
- a special seat belt buckle (A),
- a pyrotechnic gas generator with ignition module (B).



When it is triggered, the system can retract the buckle up to **70 mm** (maximum).



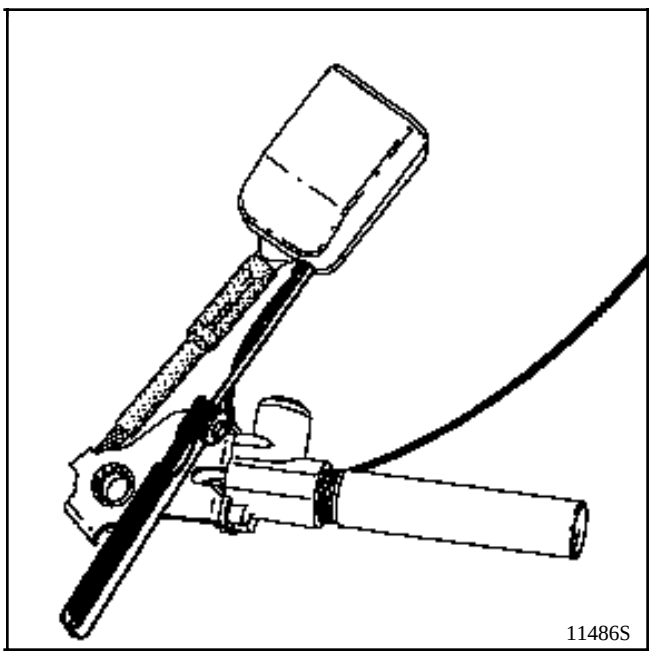
The pretensioner components cannot be separated.

NOTE: this system is operational after the ignition is switched on.

Special notes

The seat belt stalk on the driver's side has an electric switch which signals via the warning light on the instrument panel, that the seat belt is not buckled.

To unclip the connector, insert a **0.25 mm** shim as indicated on the diagram to free the clip from the connector then disconnect it by pulling the cable.



To refit, simply reconnect the wiring to the stalk

Removal

IMPORTANT: it is forbidden to:
- handle the pyrotechnic systems (pretensioner or air bag) near a source of heat or a flame; there is a risk that they may be triggered,
- make measurements on these systems with an ohmmeter or other electrical measuring equipment; the systems may be triggered due to the operating current of the measuring equipment.

IMPORTANT

Before removing a pretensioner, lock the computer using the **XR25** and command **G80*** (ISO selector on **S8** code **D49**) (fiche n° 49 for vehicles without side air bags or fiche n° 66 for vehicles with side air bags).

When this function is activated, all trigger lines are inhibited, the air bag warning light on the instrument panel and bargraph **14 LH side** (fault finding fiche n° **49**) or **12 LH side** (fault finding fiche n° 66) on the **XR25** illuminate.

Remove:
- the pretensioner connector located under the front seat,
- the pretensioner assembly, after removing its protective trim.

IMPORTANT: before scrapping a non-triggered pretensioner, it MUST be destroyed in accordance with the method (except components to be returned under warranty), see the "**Destruction procedure**" section.

REMINDER: when the pretensioners or air bags are triggered, the computer locks and illuminates the air bag warning light on the instrument panel. The computer must therefore be replaced (certain components lose their nominal specifications after the trigger energy has passed through them).

Refitting

Observe the routing and the wiring mounting points under the seat.

On the pretensioner side, firmly snap-fit the connector (C) (stiff connection).

After replacing the faulty components and reconnecting the connectors, carry out a check using the **XR25** (fiche n° 49 for vehicles without side air bags or fiche n° 66 for vehicles with side air bags).

If everything is correct, unlock the computer using command **G81***.

Otherwise, see the "**Fault finding**" section.

SRP SEAT BELTS

The front seat belts are fitted with a new programmed restraint system (**SRP**).

With this set-up, the operation of the seat belts is now linked to the operation of the front air bag.

The programmed restraint system for the seat belts is not calibrated in the same way, whether they are fitted opposite an **SRP** front air bag or not.

IMPORTANT

If the vehicle is fitted with front air bags bearing the term "**SRP**", the opposite seat belt **MUST** have the "**airbag SRP**" symbol on its label.

If the vehicle is not equipped with front air bags bearing the term "**SRP**", the opposite seat belt **MUST NOT** have the "**airbag SRP**" symbol on its label (the part number for each component MUST be checked before replacement).

When the pretensioners are triggered, the front seat belt or belts must be systematically replaced if they were in use when triggering occurred (if there is any doubt about the seat belt it should be replaced).

The physical forces applied to the catch affect the inertia reel and may damage the reel mechanism.

DRIVER'S FRONT AIR BAG SRP

The driver's front air bag is equipped with a new inflatable cushion (air bag marked **SRP**).

With this set-up, the front air bag is connected to the seat belt located opposite it.

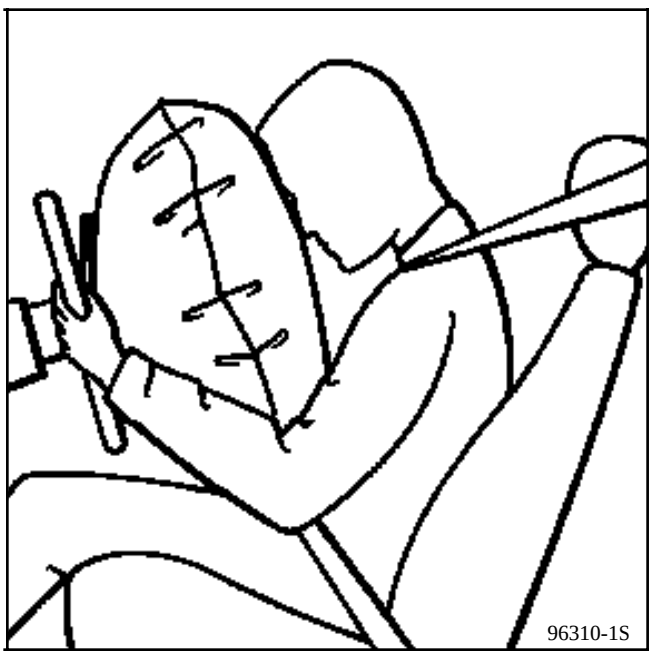
The calibration of the programmed restraint system for the seat belt is special and complementary for this type of air bag.

Description

It is located in the steering wheel boss.

It consists of:
- an air bag,
- a pyrotechnic gas generator and ignition module.

These components cannot be separated.



The steering wheel cover is torn when the air bag deploys.

NOTE : this system is operational after the ignition has been switched on.

Removal

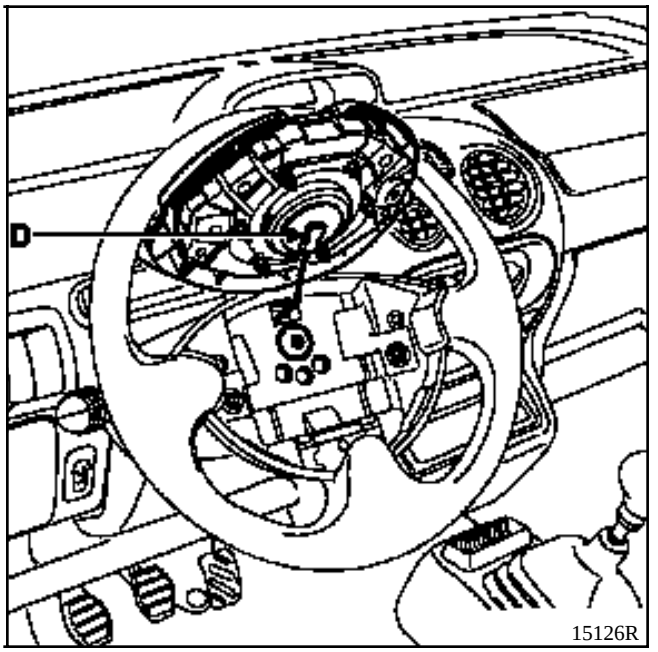
IMPORTANT: it is forbidden to :
- handle the pyrotechnic systems (pretensioner or air bag) near a source of heat or a flame; they may be triggered,
- make measurements on these systems with an ohmmeter or other electrical measuring equipment ; the systems may be triggered due to the operating current of the measuring equipment.

IMPORTANT: Before removing an air bag, lock the computer using the **XR25** and command **G80*** (ISO selector on **S8** code **D49** fiche n° 49 for vehicles without side air bags or fiche n° 66 for vehicles with side air bags). When this function is activated, all trigger lines are inhibited, the air bag warning light on the instrument panel and bargraph **14 LH side** (fault finding fiche n° **49**) or **12 LH side** (fault finding fiche n° 66) on the **XR25** illuminate.

IMPORTANT: before removing the steering wheel, the air bag connector MUST be disconnected (D).

The air bag has a connector which short circuits when it is disconnected to prevent incorrect triggering.

Remove the air bag by removing its two torx bolts behind the steering wheel and disconnect its connector (D).



IMPORTANT: before scrapping an untriggered air bag, it MUST be destroyed in accordance with the method, see the "**Destruction procedure**" section.

REMINDER: when the pretensioners or air bags are triggered, the computer locks and illuminates the air bag warning light on the instrument panel. The computer must therefore be replaced (certain components lose their nominal specifications after the trigger energy has passed through them).

Refitting

IMPORTANT: when replacing an air bag on these vehicles, the spare part MUST bear the term "**air-bag SRP**".

Reconnect the air bag and mount it on the steering wheel (tightening torque: **0.5 daN.m**).

Cushion side, firmly snap-fit the connector (D) (stiff connection).

After replacing the faulty components and reconnecting the connectors, carry out a check using the **XR25** (fiche n° 49 for vehicles without side air bags or fiche n° 66 for vehicles with side air bags).

If everything is correct, unlock the computer using command **G81***.

Otherwise, see the "**Fault finding**" section.

ROTARY SWITCH

The rotary switch ensures the electrical connection between the steering column and the steering wheel.

The switch is a strip with conducting tracks (air bag) which are long enough to allow the steering wheel to be rotated **2.5 times** (full lock plus an extra amount for safety) to each side.

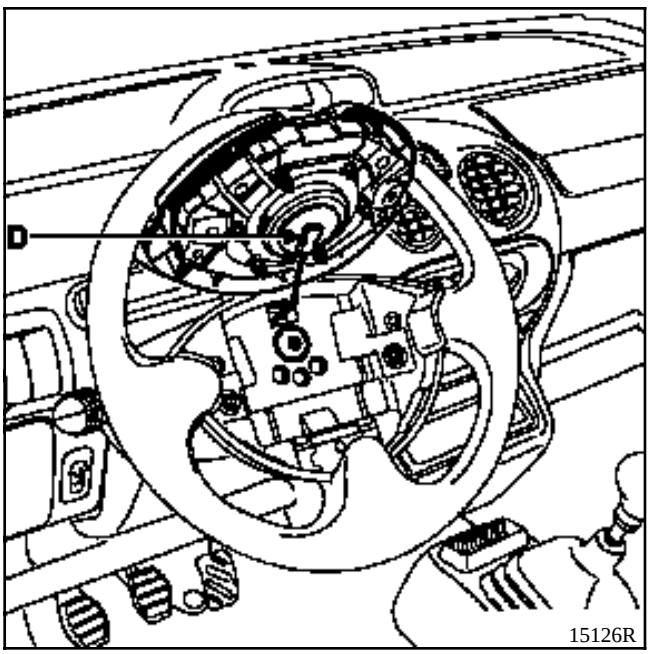
Removal

IMPORTANT: the pyrotechnic systems (pretensioners or air bags) must not be handled near a source of heat or a flame; they may be triggered.

IMPORTANT: when removing the steering wheel, the air bag connector (D) MUST be disconnected. The air bag has a connector which short circuits when it is disconnected to prevent incorrect triggering.

IMPORTANT: Before removing an air bag, lock the computer using the **XR25** and command **G80*** (ISO selector on **S8** code **D49,** fiche n° 49 for vehicles without side air bags or fiche n° 66 for vehicles with side air bags). When this function is activated, all trigger lines are inhibited, the air bag warning light on the instrument panel and bargraph **14 LH side** (fault finding fiche n° **49**) or **12 LH side** (fault finding fiche n° 66) on the **XR25** illuminate.

Remove:
- the air bag cushion by removing the two torx bolts behind the steering wheel and disconnect the connector (D),



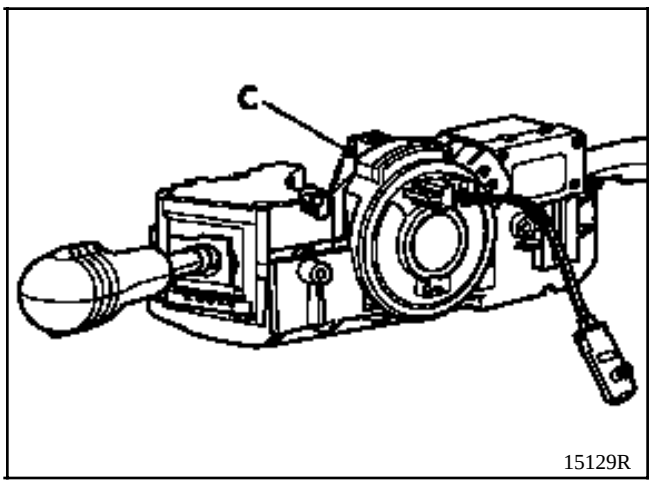
- the steering wheel bolt,
- the steering wheel after straightening the wheels,
- the half-cowlings.

Disconnect the stalks (windscreen wiper and lights) and the rotary switch connector.

Before removal, the position of the rotary switch must be marked:
- by ensuring the wheels are straight when the switch is removed so that the strip is positioned in the centre,
- by immobilising the mobile part of the rotary switch with a piece of tape.

Slacken bolt (C) and detach the assembly from the steering column.

NOTE: the stalks mounting and the rotary switch are a single part (they cannot be separated). When replacing the rotary switch, remove the windscreen wiper and lights stalks.



Refitting

Ensure that the wheels are still straight.

Check that the rotary switch is still immobilised before refitting it (otherwise see the centring method below).

IMPORTANT: If these procedures are not correctly observed the systems may not operate correctly or may be accidentally triggered.

Attach the assembly to the steering column and connect the various connectors.

Complete the refitting procedure.

Replace the steering wheel bolt each time it is removed (prebonded bolt) and observe the correct tightening torque (**4.5 daN.m**).

Reconnect the air bag and mount it on the steering wheel (tightening torque: **0.5 daN.m**).

NOTE: cushion side, firmly connect the connector (D) (stiff connection).

After replacing the faulty components and re-connecting the connectors, carry out a check using the **XR25** (fiche n° 49 for vehicles without side air bags or fiche n° 66 for vehicles with side air bags).

If everything is correct, unlock the computer using command **G81***.

Otherwise, see the "**Fault finding**" section.

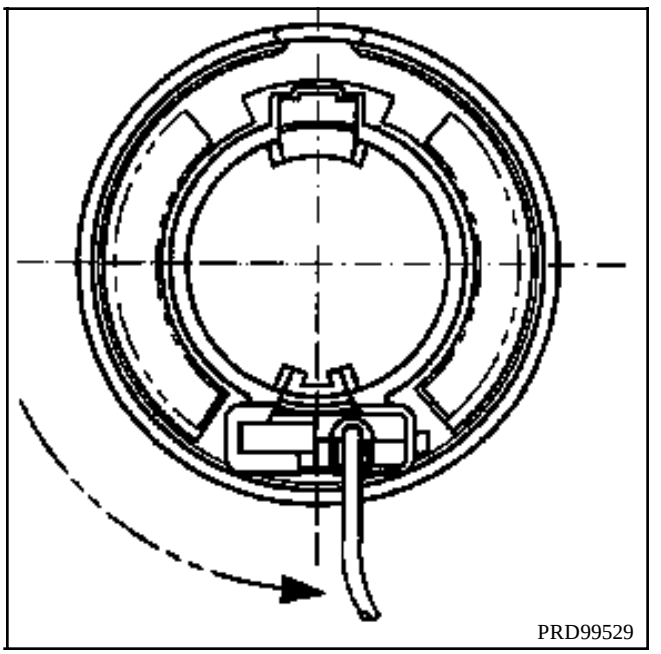
IMPORTANT

- To avoid damaging the rotary switch, the steering wheel must be immobilised during the operation.
- If there is any doubt about correct centring, remove the steering wheel to check.
- During operations for removing the steering assembly, the engine, transmission components..., which require the steering rack and the steering column to be separated, the steering wheel MUST be immobilised using the "**steering wheel lock**" tool.

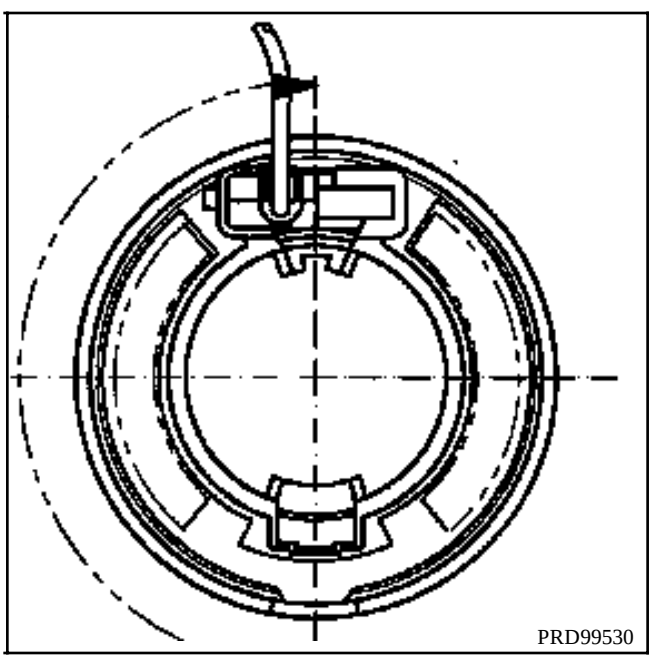
Method for centring the rotary switch

Turn the upper section of the rotary switch counter clockwise.

It becomes hard to turn when it is approaching the extreme position, shown below (do not force).


PRD99529

Then gently turn the upper section of the component clockwise and check that the rotary switch is in the position shown below.


PRD99530

Once again, turn the component clockwise twice and after this, ensure that the rotary switch is in the position described earlier.

PASSENGER'S FRONT AIR BAG MODULE

The passenger's front air bag is equipped with a new inflatable cushion (front module marked **SRP***)*.

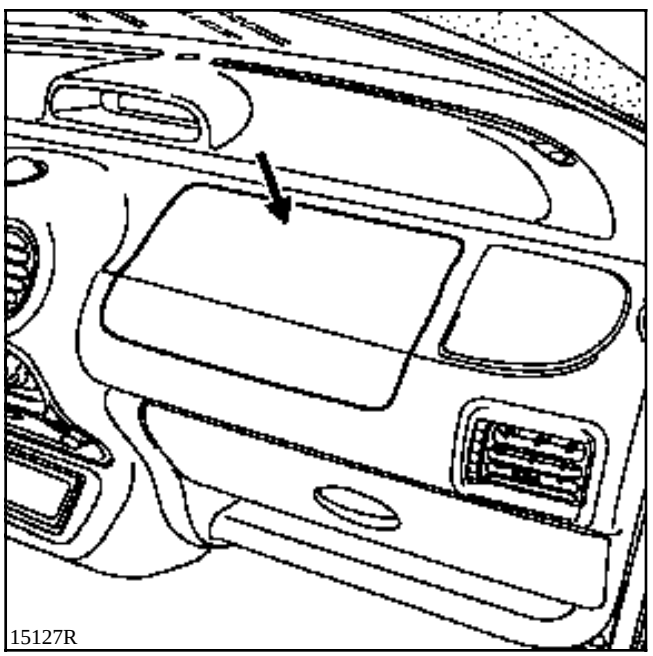
With this set-up, the air bag is connected to the seat belt located opposite it.

The calibration of the programmed restraint system for the seat belt is special and complementary for this type of air bag.

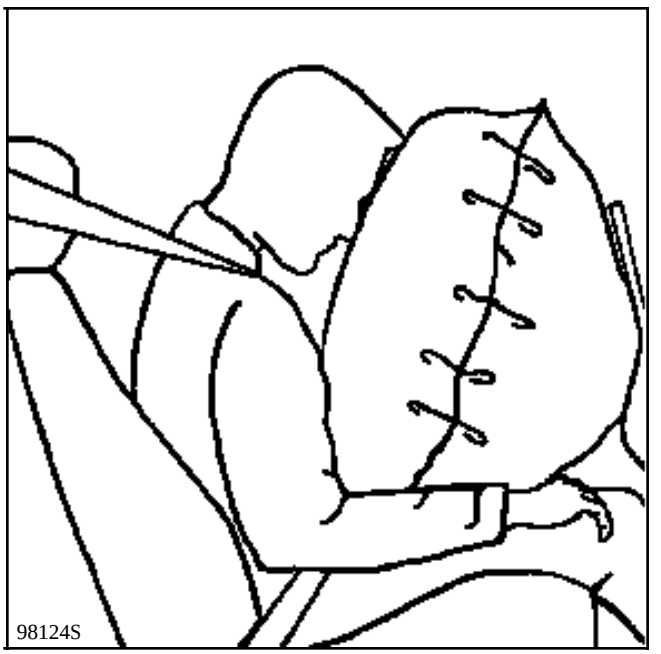
NOTE: the passenger's front air bag module on these vehicles only has one pyrotechnic gas generator.

Description

It is mounted in the dashboard opposite the front passenger.


15127R

It consists of:
- an inflatable cushion,
- a pyrotechnic generator and ignition module.


98124S

The air bag module components cannot be separated.

NOTE: this system is operational after the ignition has been switched on.

Accessing the ignition module

The dashboard must be removed to access the passenger's front air bag ignition module.

REMINDER: the ignition module must be checked using the **XRBAG** as indicated in the "**Fault finding**" section.

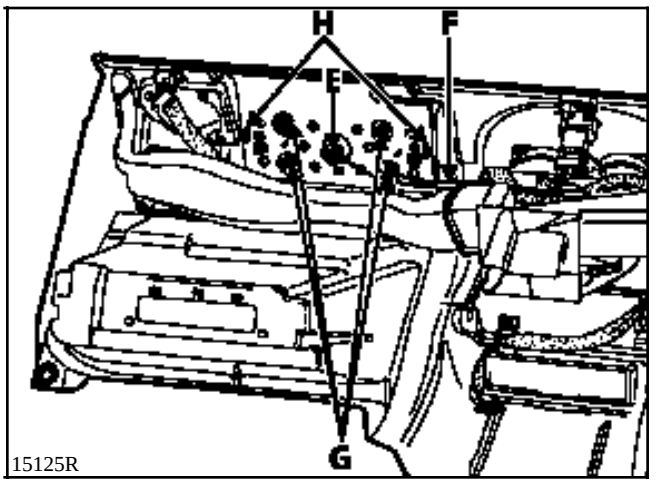
Removal

IMPORTANT: it is forbidden to :
- handle the pyrotechnic systems (pretensioners or air bags) near a source of heat or a flame; they may be triggered,
- make measurements on these systems with an ohmmeter or other electrical measuring equipment ; the systems may be triggered due to the operating current of the measuring equipment.

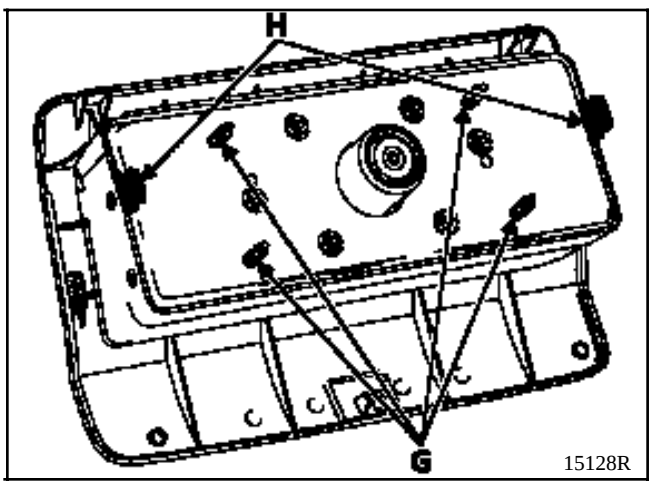
IMPORTANT: before removing a passenger air bag module, lock the computer using the **XR25** and command **G80*** (ISO selector on **S8** code **D49**, fiche n° 49 for vehicles without side air bags or fiche n° 66 for vehicles with side air bags).
When this function is activated, all trigger lines are inhibited, the air bag warning light on the instrument panel and bargraph **14 LH side** (fault finding fiche n° **49**) or **12 LH side** (fault finding fiche n° 66) on the **XR25** illuminate.

To remove the passenger's front air bag module, the dashboard must be removed after the ignition module (E) and earth wire (F) have been disconnected.

The passenger's front air bag module is mounted by means of:
- four bolts (G),



- two plastic tabs (H).



IMPORTANT: the dashboard must be systematically replaced when the passenger's front air bag module is triggered, as it deforms and damages the mountings.
Remember to attach the label to the side of the new dashboard forbidding installation of a backward facing child safety seat in the passenger seat (label available in a set under **Part number : 77 01 205 442**).

IMPORTANT: before scrapping an untriggered air bag, it MUST be destroyed in accordance with the method, see the "**Destruction procedure**" section.

REMINDER: when the pretensioners or air bags are triggered, the computer locks and illuminates the air bag warning light on the instrument panel. The computer must therefore be replaced (certain components lose their nominal specifications after the trigger energy has passed through them).

Refitting

IMPORTANT: the safety notes for refitting or replacing the passenger's front air bag module **MUST** be observed.
If these instructions are not followed, it could lead to failure of the system and may even present a risk to the occupants of the vehicle.

Refitting is the reverse of removal. Observe the correct tightening torques for the four module mounting nuts.

IMPORTANT

- Remove all foreign bodies (bolts, clips...) when fitting the air bag module.
- The tightening torque for the module is **0.2 daN.m**.
- When replacing the air bag module on these vehicles, the spare part MUST bear the term "**Airbag SRP**" (a single ignition module).
- On the module side, firmly snap-fit the connector (stiff connection).
- The earth wire (F) for the module must be reconnected.
- Attach a blue "**tamper evident**" label, sold under part number **77 01 205 356**.

After replacing the faulty components and reconnecting the connector, carry out a check using the **XR25** (fiche n° 49 for vehicles without side air bags or fiche n° 66 for vehicles with side air bags).

If everything is correct, unlock the computer using command **G81***.

Otherwise, see the "**Fault finding**" section.

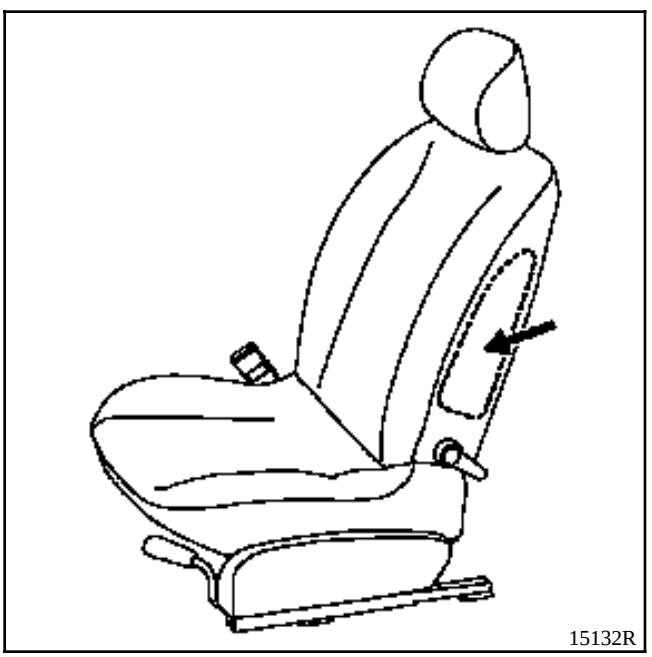
SIDE AIR BAG MODULE

Description

The "side air bag" module is mounted in the seatback of the front seats, on the door side.

It consists of:
- an inflatable cushion,
- a pyrotechnic gas generator and ignition module.

These components cannot be separated.


15132R

When it deploys, the air bag tears the module cover, the foam and the seat trim.

NOTE: this system is operational after the ignition has been switched on.

Removal

IMPORTANT: it is forbidden to:
- handle the pyrotechnic systems (pretensioners or air bags) near a source of heat or a flame; there is a risk that they may be triggered,
- make measurements on these systems with an ohmmeter or other electrical measuring equipment; the systems may be triggered due to the operating current of the measuring equipment.

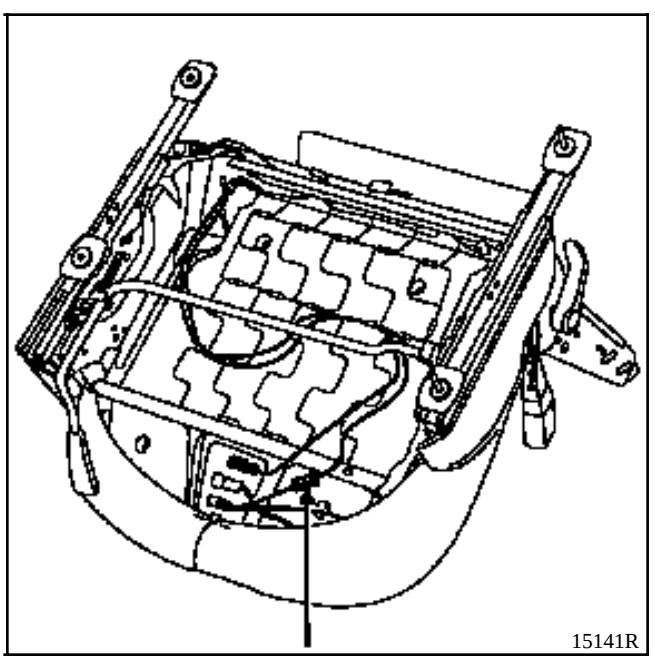
IMPORTANT: Before removing an air bag, lock the computer using the **XR25** and command **G80*** (ISO selector on **S8** code **D49** fault finding fiche n° 66).

When this function is activated, all trigger lines are inhibited, the air bag warning light on the instrument panel and bargraph **12 LH side** on the **XR25** illuminate (fault finding fiche n° **66**).

Remove the seat of the vehicle.

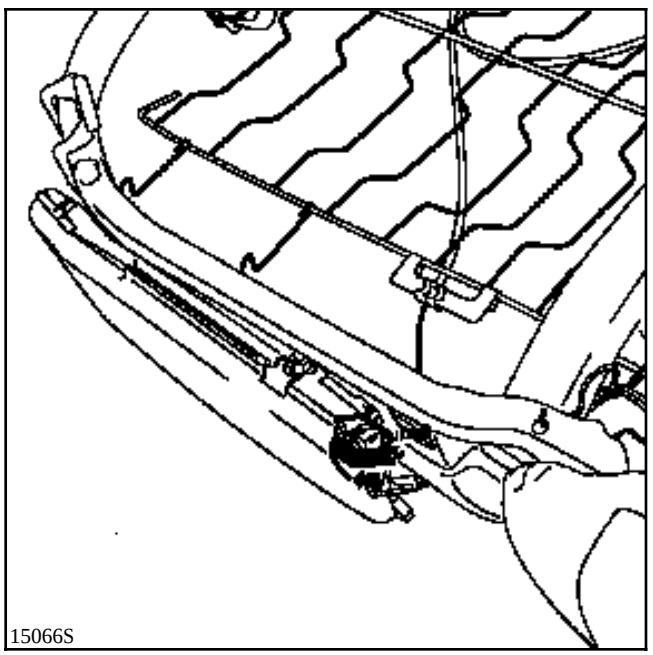
Strip the seatback (see special notes on removing the seat trim in the corresponding bodywork Technical Note).

Release the air bag module wiring and its earth wire after disconnecting its connector (I) (mark the wiring routing).

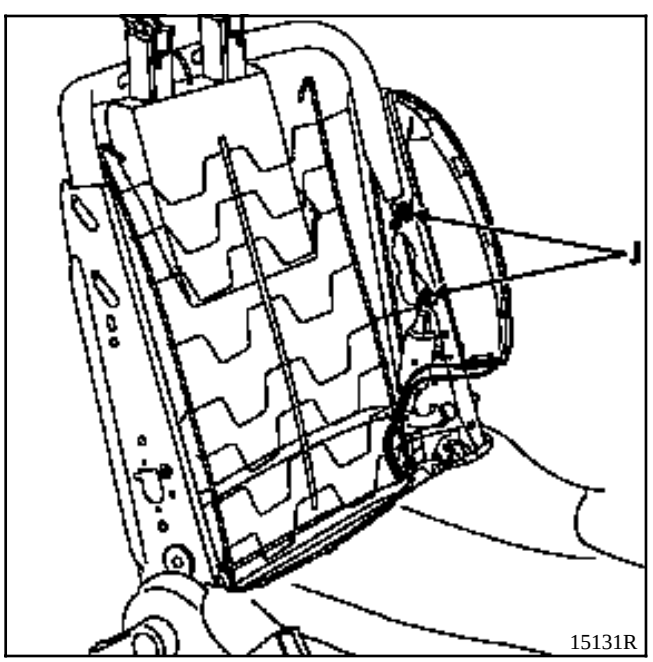

15141R

NOTE

For fault finding on the ignition module wiring, the retaining clip will have to be released as indicated below to access the connector.


15066S

Remove the air bag by removing the two nuts (J).



15131R

IMPORTANT: if the system has not been triggered and has to be refitted, do not open the air bag module, as the bag has to be folded in a particular way.

IMPORTANT: before scrapping an untriggered air bag, it MUST be destroyed in accordance with the method, see the "**Destruction procedure**" section.

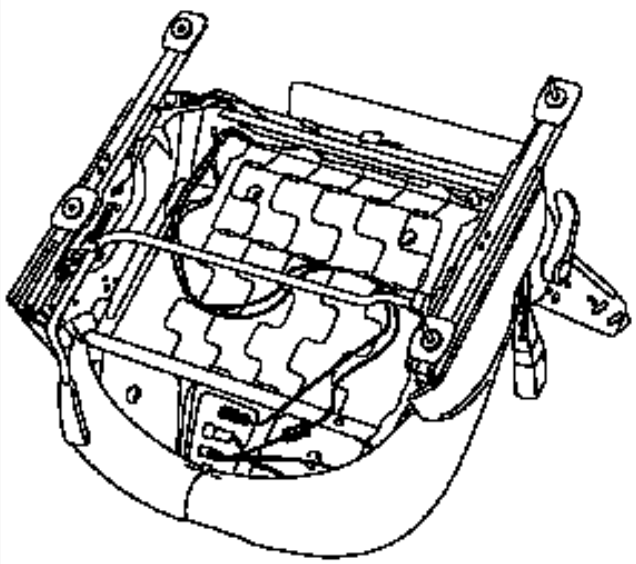
REMINDER: when the pretensioners or air bags are triggered, the computer locks and illuminates the air bag warning light on the instrument panel. The computer must therefore be replaced (certain components lose their nominal specifications after the trigger energy has passed through them).

Refitting

IMPORTANT: when a side air bag module triggers, the deformation and damage to the mountings mean that the seat must be systematically replaced.

Mount the air bag module to the seatback framework (tightening torque: **0.8 daN.m**).

Reposition the wiring under the seat base as it was originally.


15141S

IMPORTANT: seats equipped with side air bags have special trim and covers. If these components have to be replaced, ensure, when ordering the new components, that they conform to specification.

After replacing the faulty components and reconnecting the connectors, carry out a check using the XR25 (fiche n° 66).

If everything is correct, unlock the computer using command **G81***.

Otherwise, see the "**Fault finding**" section.

IMPORTANT: If these procedures are not correctly observed the systems may not operate correctly or may be accidentally triggered.

DESTRUCTION PROCEDURE

In order to avoid any risk of an accident, the pyrotechnic gas generators must be triggered before the vehicle or the part is scrapped.

Special tool **Elé. 1287** must be used.

PRETENSIONERS

IMPORTANT: do not trigger the pretensioners which must be returned under warranty for a stalk problem. This makes analysis of the component impossible for the supplier.
Return the component in the packaging of the new one.

Destruction of the component fitted to the vehicle

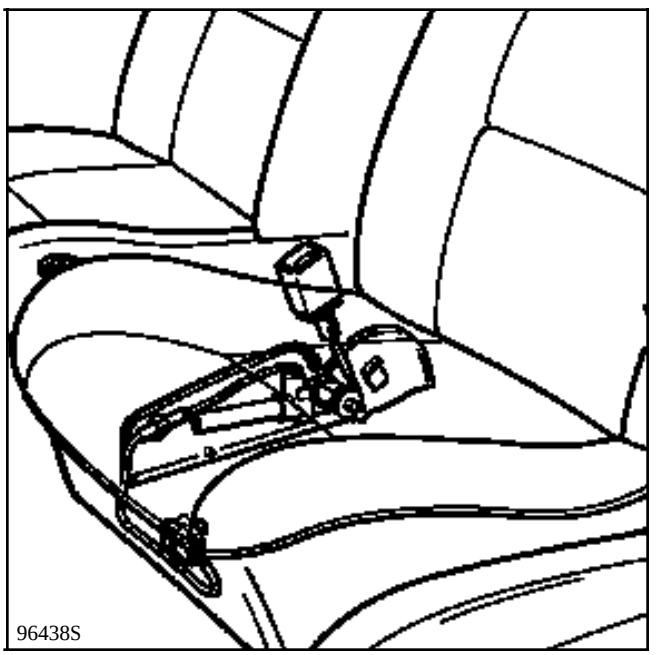
Move the vehicle outside the workshop.

Connect the destruction tool to the pretensioner after removing the seat runner cover.

Unroll all the wire supplied with the tool so that you are far enough away from the vehicle (approximately **10 metres**) when the unit is triggered.

Connect the two feed wires on the tool to a battery.

After ensuring that no-one is near, carry out the destruction of the pretensioner by pressing the two push buttons on the tool at the same time.



NOTE: if the unit cannot be triggered (faulty ignition module), return the old part in the packaging from the new replacement part to **Comex via Parts Distribution with a completed parts return label** (Service **0429**).

Destruction of the component removed from the vehicle

Carry out the procedure in the same way as for the air bags, within a stack of old tyres (see below).

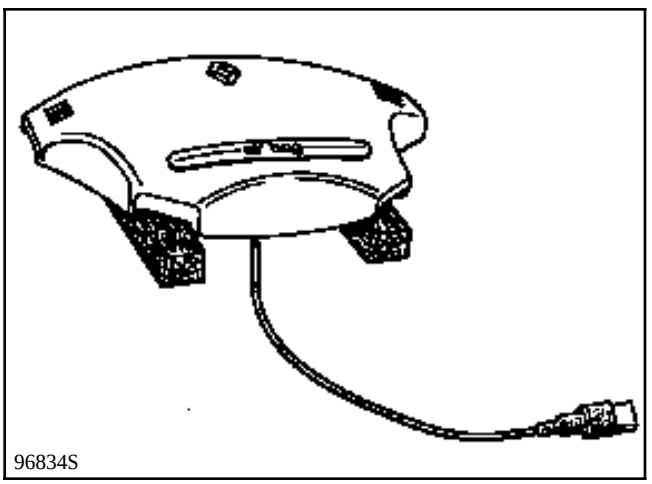
FRONT AND SIDE AIR BAGS

Destruction of the component removed from the vehicle

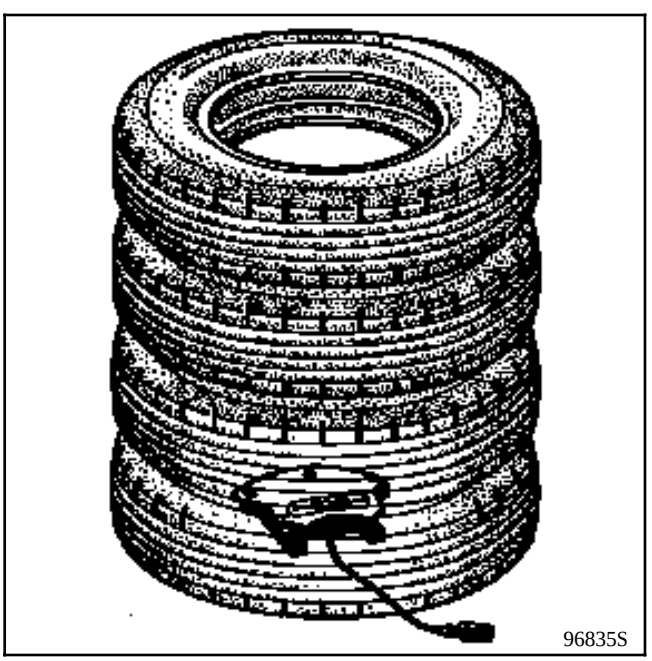
Carry out the operation outside the workshop.

After connecting the corresponding wiring, set the air bag cushion on two wooden blocks to prevent the connector being damaged against the ground.

Example: driver's air bag


96834S

Cover the assembly with a stack of four old tyres.


96835S

Unroll all the wire supplied with the tool so that you are far enough away from the assembly (approximately **10 metres**) when the unit is triggered and connect it to the air bag cushion.

Connect the two feed wires on the tool to a battery.

After ensuring that no-one is near the unit, carry out the destruction of the air bag by pressing the two push buttons on the tool at the same time.

NOTE: if the unit cannot be triggered (faulty ignition module), return the old part in the packaging from the new replacement part to **Comex via Parts Distribution with a completed parts return label** (Service **0429**).

FAULT FINDING - INTRODUCTION

CONDITIONS FOR APPLYING THE CHECKS DEFINED IN THIS FAULT FINDING

The checks defined in this fault finding are only to be applied to TWINGO vehicles equipped with the new programmed restraint system (SRP) which reduces the pressure of the seat belt on the thorax in the event of a severe impact.

This new system can be identified by the term "airbag SRP" on the steering wheel boss and on the passenger air bag module and by a yellow computer connector.

The checks defined in this fault finding are only to be applied when the fault bargraph is permanently illuminated, indicating that the fault is present on the vehicle at the time of testing. The computer should only be replaced if there is a computer fault, whether the bargraph is illuminated or flashing.

If the fault is not present but simply memorised, the bargraph flashes and the application of the checks in the fault finding will not allow the origin of fault memorisation to be located. In this case, only a check of the wiring and the connections for the component concerned should be carried out (it is possible to test the wiring concerned in fault finding mode to try to obtain illumination of the bargraph).

TOOLING REQUIRED FOR OPERATIONS ON THE AIR BAG AND SEAT BELT PRETENSIONER SYSTEM:

- XR25 (with XR25 cassette n° 18).
- XRBAG, update n° 4 (with the new 30 track B40 adaptor with the yellow computer base).
- Multimeter.

REMINDER:

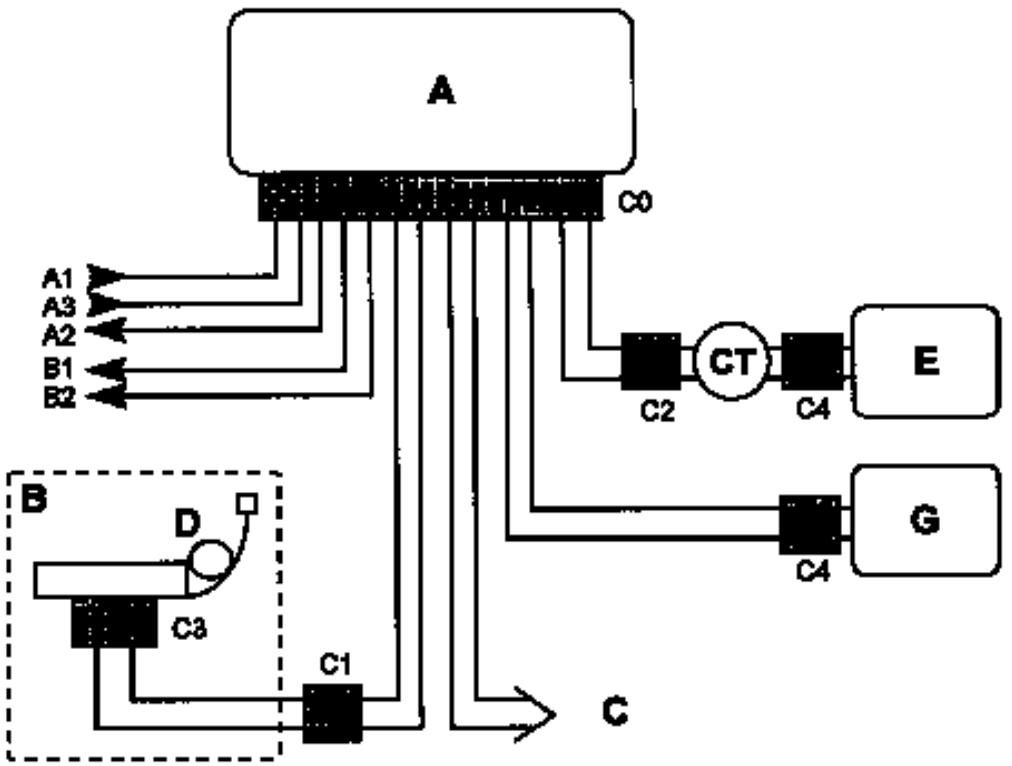
When carrying out an operation on the air bag / seat belt pretensioner systems, the computer must be locked using XR25 command G80* to prevent incorrect triggering (all trigger lines will be inhibited). This operating mode is indicated by illumination of the warning light on the instrument panel.
Without the XR25, switch off the ignition and remove the supply fuse for the system (pretensioner fuse) and wait at least 2 seconds for the reserve energy capacity to discharge.

Never carry out measuring operations on the air bag and pretensioner trigger lines with equipment other than the XRBAG.

Before using a dummy ignition module, ensure that the resistance is between 1.8 and 2.5 ohms.

FAULT FINDING - XR25 FICHE

PRETENSIONERS, DRIVER AND PASSENGER AIR BAGS



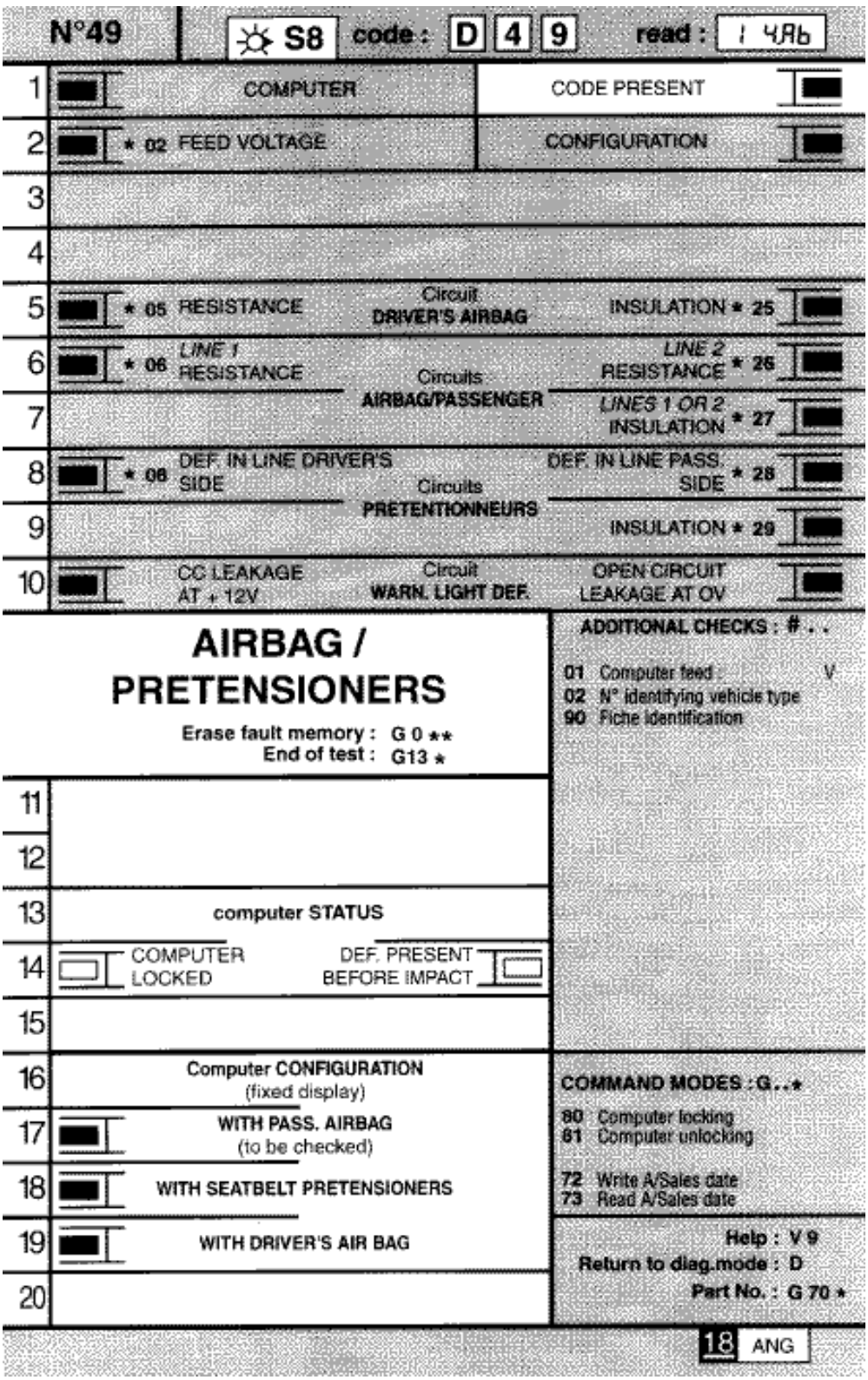
DI8826

	AIR BAGS	
	Measuring point	Correct value
Driver	C0, C2 and C4	2 to 9.4 ohms
Passenger	C0 and C4	1.6 to 4.6 ohms
	PRETENSIONERS	
	Measuring point	Correct value
	C0, C1 and C3	1.6 to 4.6 ohms

Correct insulation value: display≥ 100.h or 9999 flashing.

FAULT FINDING - XR25 FICHE

PRESENTATION OF XR25 FICHE N° 49 (cassette N° 18)



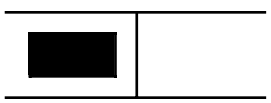
FI21849

4SRP06 1.0

FAULT FINDING - XR25 FICHE

BARGRAPH SYMBOLS

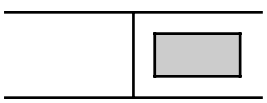
OF FAULTS (always on coloured background)



If illuminated, indicates a fault on the product tested. The associated text defines the fault.
This bargraph may be :

- Illuminated : fault present.
- Flashing : fault memorised.
- Extinguished : fault absent or not found.

OF STATUS (always on white background)



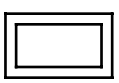
Bargraph always at the top on the right hand side.
If illuminated, indicates that dialogue has been established with the product computer.
If it remains extinguished :

- The code does not exist.
- There is a computer, XR25 or XR25 / computer connection fault.

The representation of the following bargraphs indicates their initial status :
Initial status : (ignition on, engine stopped, no operator action)


or

Indefinite


Extinguished

is illuminated when the function or the condition specified on the fiche is being met.

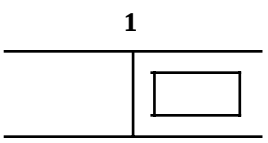

Illuminated

extinguishes when the function or the condition specified on the fiche is no longer being met.

ADDITIONAL DETAILS

Certain bargraphs have a *. The command *.., when the bargraph is illuminated, allowing additional information on the type of fault or status which has arisen to be displayed.

FAULT FINDING - INTERPRETATION OF XR25 BARGRAPHS



Bargraph 1 RH side extinguished Fiche n° 49

Code present

NOTES	NONE

Ensure that the XR25 is not the cause of the fault by trying to communicate with a computer on another vehicle. If the XR25 is not at fault and dialogue cannot be established with another computer on the same vehicle, it may be that a faulty computer is disrupting fault finding lines **K** and **L**. Disconnect each computer in turn to locate the faulty one.
Check that the ISO selector is in position **S8**, that you are using XR25 cassette 18 and the correct access code.
Check the battery voltage and carry out the operations necessary to obtain the correct voltage **(10.5 volts < U battery < 16 volts)**.

Check the presence and condition of the air bag fuse.
Check the connection of the computer connector and the condition of its connections.
Check that the computer is correctly fed:

- Disconnect the air bag computer and fit the **30 track B40 XRBAG adaptor**.
- Check and ensure the presence of **+ after ignition feed** between the terminals marked **earth 1** and **+ after ignition feed**.

Check that the diagnostic socket is correctly fed:

- **+ before ignition feed** on **track 16**.
- **Earth** on **track 5**.

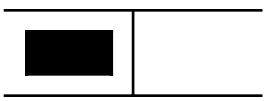
Check the continuity and insulation of the lines connecting the diagnostic socket and the air bag computer:

- Between the terminal marked **L** and **track 15** of the diagnostic socket.
- Between the terminal marked **K** and **track 7** of the diagnostic socket.

If dialogue is still not established after these various checks, replace the air bag computer (consult the "Aid" section for this operation).

AFTER REPAIR	When communication has been established, deal with any illuminated fault bargraphs.

FAULT FINDING - INTERPRETATION OF XR25 BARGRAPHS

1 	**Bargraph 1 LH side illuminated or flashing** Computer	Fiche n° 49

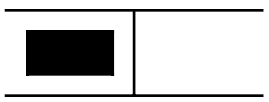
NOTES	None

Replace the air bag computer (consult the "Aid" section for this operation).

AFTER REPAIR	None

4SRP06 1.0

FAULT FINDING - INTERPRETATION OF XR25 BARGRAPHS



Bargraph 2 LH side illuminated Fiche n° 49

Supply voltage

XR25 aid: *02 : 1.dEF : Too many micro-cuts
2.dEF : Voltage outside tolerance range

NOTES	Use the 30 track XRBAG adaptor for operations on the computer connector.

I.dEF - 2.dEF

NOTES	None

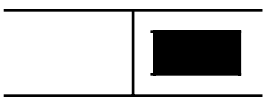
Carry out the operations necessary to obtain the correct supply voltage for the computer:
10.5 volts ± 0.1 < correct voltage < 16 volts ± 0.1.

- Check the battery charge.
- Check the charging circuit.
- Check the tightness and condition of the battery terminals.
- Check the computer earth.
- Check the condition of the computer connections.
- Check the locking of the connector.

AFTER REPAIR	Erase the computer memory using command GO**.

4SRP06 1.0

FAULT FINDING - INTERPRETATION OF XR25 BARGRAPHS

2 	**Bargraph 2 RH side illuminated** Fiche n° 49 Configuration
NOTES	None

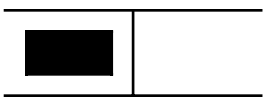
Illumination of **bargraph 2 RH side** corresponds to incoherence between computer configuration and the vehicle equipment detected by the computer.
The vehicle should be equipped with a passenger air bag and the computer is configured "without passenger air bag" as indicated by **bargraph 17 LH side** being extinguished.

Modify the computer configuration using command **G21*4***.

AFTER REPAIR	Erase the computer memory using command G0** then switch off the ignition. Carry out another check using the XR25.

4SRP06 1.0

FAULT FINDING - INTERPRETATION OF XR25 BARGRAPHS

5 	**Bargraph 5 LH side illuminated** Fiche n° 49 Driver's air bag line resistance **XR25 aid:** *05 : CC : Short circuit CO : Open circuit

NOTES	Never carry out measuring operations on the trigger lines with equipment other than the XRBAG.

Lock the computer using command **G80*** on the XR25.
Switch off the ignition and remove the 2 steering wheel boss mounting bolts.
Check that it is correctly connected.

Disconnect the steering wheel boss and connect a dummy ignition module to the ignition module connector.
Switch on the ignition and carry out a check using the XR25.
Replace the air bag if the fault has been memorised (fault no longer declared present).

With the ignition switched off, disconnect then reconnect the rotary switch connector under the steering wheel.
Work on the connections if **bargraph 5 LH side** starts to flash.

The XRBAG must be used to measure resistance at **point C2** of the driver's air bag circuit.
If the value obtained is not correct, replace the rotary switch under the steering wheel.

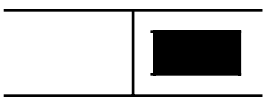
Reconnect the rotary switch under the steering wheel, disconnect the computer connector and fit the 30 track B40 adaptor.
The XRBAG must be used to measure resistance on **adaptor cable A**.
If the value obtained is not correct, check the connections on the 30 track connector (tracks 10 and 11) and replace the wiring if necessary.

If there is no evidence of a fault after these checks have been carried out, replace the air bag computer (consult the "Aid" section for this operation).
Reconnect the driver's air bag ignition module and remount the boss on the steering wheel.

AFTER REPAIR	Erase the computer memory using command G0** then switch off the ignition. Carry out another check using the XR25 and, if there is no fault, unlock the computer using command G81*. Destroy the air bag if there has been a replacement (tool **Elé. 1287**).

4SRP06 1.0

FAULT FINDING - INTERPRETATION OF XR25 BARGRAPHS

5 	**Bargraph 5 RH side illuminated** Fiche n° 49 Driver's air bag line insulation **XR25 aid:** *25 : CC.1 : Short circuit to 12 volts CC.0 : Short circuit to earth

NOTES	Never carry out measuring operations on the trigger lines with equipment other than the XRBAG.

Lock the computer using command **G80*** on the XR25.
Switch off the ignition and remove the 2 steering wheel boss mounting bolts.
Check the condition of the trigger cable.

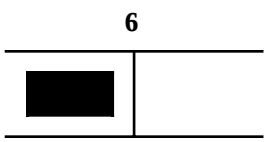
The XRBAG must be used for the insulation measurement appropriate to the type of fault at **point C2** of the driver's air bag circuit.
If the value obtained is not correct, replace the rotary switch under the steering wheel.

Reconnect the rotary switch under the steering wheel, disconnect the computer connector and fit the 30 track B40 adaptor.
The XRBAG must be used for the insulation measurement appropriate to the type of fault on **adaptor cable A**.
If the value obtained is not correct, check the connections on the 30 track connector (tracks 10 and 11) and replace the wiring if necessary.

If there is no evidence of a fault after these checks have been carried out, replace the air bag computer (consult the "Aid" section for this operation).
Reconnect the driver's air bag ignition module and remount the boss on the steering wheel.

AFTER REPAIR	Erase the computer memory using command G0** then switch off the ignition. Carry out another check using the XR25 and, if there is no fault, unlock the computer using command G81*. Destroy the air bag if there has been a replacement (tool **Elé. 1287**).

FAULT FINDING - INTERPRETATION OF XR25 BARGRAPHS



Bargraph 6 LH side illuminated Fiche n° 49

Line 1 resistance - passenger air bag

XR25 aid: *06 : CC : Short circuit
CO : Open circuit

NOTES	Never carry out measuring operations on the trigger lines with equipment other than the XRBAG. On this vehicle, "line 1" corresponds to the single trigger line for the passenger air bag module. If the vehicle is not equipped with a passenger air bag, consult the section on bargraph 17 LH side.

Lock the computer using command **G80*** on the XR25.
Switch off the ignition, disconnect the computer connector and fit the 30 track B40 adaptor.
The XRBAG must be used to measure resistance on **adaptor cable B**.
Is the value obtained correct?

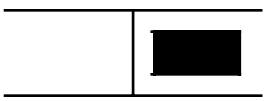
YES	If the value obtained is correct for **adaptor cable B**, check the condition of the computer connections.
NO	If the value obtained is not correct for **adaptor cable B**, check the connections on the 30 track connector (tracks 13 and 14). If the value remains incorrect, switch off the ignition and remove the dashboard to access the passenger air bag module wiring. Disconnect the ignition module for the passenger air bag module, connect a dummy ignition module to the ignition module connector, then use the XRBAG to measure the resistance on **adaptor cable B** again. If the value obtained is correct, replace the passenger air bag module. If the value obtained is still not correct, replace the air bag wiring.

Reconnect the computer and the ignition module for the passenger air bag module, then switch the ignition on again.
Carry out a check using the XR25.
If the XR25 is still indicating the presence of a fault on the passenger air bag line and the checks carried out have not indicated the presence of a fault, replace the air bag computer (consult the "Aid" section for this operation).

AFTER REPAIR	Erase the computer memory using command G0** then switch off the ignition. Carry out another check using the XR25 and, if there is no fault, unlock the computer using command G81*. Destroy the passenger air bag module if there has been a replacement (tool **Elé. 1287**).

4SRP06 1.0

FAULT FINDING - INTERPRETATION OF XR25 BARGRAPHS

7 	**Bargraph 7 RH side illuminated** Fiche n° 49 Insulation, passenger air bag - line 1 or 2 **XR25 aid:** *27 : CC.1 : Short circuit to 12 volts CC.0 : Short circuit to earth

NOTES	Never carry out measuring operations on the trigger lines with equipment other than the XRBAG. On this vehicle, "line 1" corresponds to the single trigger line for the passenger air bag module.

Lock the computer using command **G80*** on the XR25.
Switch off the ignition, disconnect the computer connector and fit the 30 track B40 adaptor.
The XRBAG must be used for insulation measurements appropriate to the type of fault on **adaptor cable B**.
Is the value obtained correct?

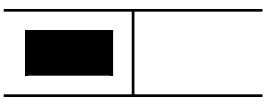
YES	If the value obtained is correct for **adaptor cable B**, check the condition of the computer connections.
NO	If the value obtained is not correct for **adaptor cable B**, check the connections on the 30 track connector (tracks 6/7). If the value remains incorrect, replace the air bag wiring.

Reconnect the computer and the ignition module for the passenger air bag module, then switch the ignition on again.
Carry out a check using the XR25.
If the XR25 is still indicating a fault on the passenger air bag line and the checks carried out have not indicated the presence of a fault, replace the air bag computer (consult the "Aid" section for this operation).

AFTER REPAIR	Erase the computer memory using command G0** then switch off the ignition. Carry out another check using the XR25 and, if there is no fault, unlock the computer using command G81*. Destroy the passenger air bag module if there has been a replacement (tool **Elé. 1287**).

4SRP06 1.0

FAULT FINDING - INTERPRETATION OF XR25 BARGRAPHS

8 	**Bargraph 8 LH side illuminated** Fiche n° 49 Driver's pretensioner line resistance **XR25 aid:** *08 : CC : Short circuit CO : Open circuit

NOTES	Never carry out measuring operations on the trigger lines with equipment other than the XRBAG.

Lock the computer using command **G80*** on the XR25.
Switch off the ignition and check that the ignition module for the driver's pretensioner is correctly connected.

Disconnect the ignition module for the driver's pretensioner and connect a dummy ignition module to the ignition module connector.
Switch on the ignition and carry out a check using the XR25.
Replace the driver's pretensioner if the fault has been memorised (fault no longer declared present).

The XRBAG must be used to measure resistance at **point C1** (seat connector) on the driver's pretensioner line.
If the value obtained is not correct, replace the wiring between **points C1 and C3** (seat wiring).

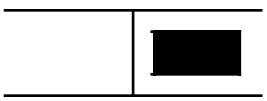
Disconnect the computer connector and fit the 30 track B40 adaptor.
The XRBAG must be used to measure resistance on **adaptor cable D**.
If the value obtained is not correct, check the connections on the 30 track connector (tracks 1 and 2) and replace the wiring if necessary.

If there is no evidence of a fault after these checks have been carried out, replace the air bag computer (consult the "Aid" section for this operation).
Reconnect the ignition module for the driver's pretensioner.

AFTER REPAIR	Erase the computer memory using command G0** then switch off the ignition. Carry out another check using the XR25 and, if there is no fault, unlock the computer using command G81*. Destroy the pretensioner if there has been a replacement (tool **Elé. 1287**).

4SRP06 1.0

FAULT FINDING - INTERPRETATION OF XR25 BARGRAPHS

8 	**Bargraph 8 RH side illuminated** Fiche n° 49 Passenger pretensioner line resistance **XR25 aid:** *28 : CC : Short circuit CO : Open circuit

NOTES	Never carry out measuring operations on the trigger lines with equipment other than the XRBAG.

Lock the computer using command **G80*** on the XR25.
Switch off the ignition and check that the passenger pretensioner ignition module is correctly connected.

Disconnect the passenger pretensioner ignition module and connect a dummy ignition module to the ignition module connector.
Switch on the ignition and carry out a check using the XR25.
Replace the passenger pretensioner if the fault has been memorised (fault no longer declared present).

The XRBAG must be used to measure resistance at **point C1** (seat connector) on the passenger pretensioner line.
If the value obtained is not correct, replace the wiring between **points C1 and C3** (seat wiring).

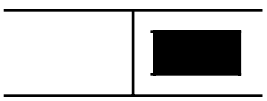
Disconnect the computer connector and fit the 30 track B40 adaptor.
The XRBAG must be used to measure resistance on **adaptor cable C**.
If the value obtained is not correct, check the connections on the 30 track connector (tracks 3 and 4) and replace the wiring if necessary.

If there is no evidence of a fault after these checks have been carried out, replace the air bag computer (consult the "Aid" section for this operation).
Reconnect the passenger pretensioner ignition module.

AFTER REPAIR	Erase the computer memory using command G0** then switch off the ignition. Carry out another check using the XR25 and, if there is no fault, unlock the computer using command G81*. Destroy the pretensioner if there has been a replacement (tool **Elé. 1287**).

4SRP06 1.0

FAULT FINDING - INTERPRETATION OF XR25 BARGRAPHS

9 	**Bargraph 9 RH side illuminated** Fiche n° 49 Insulation of pretensioner lines **XR25 aid:** *29 : CC.1 : Short circuit to 12 volts CC.0 : Short circuit to earth

NOTES	Never carry out measuring operations on the trigger lines with equipment other than the XRBAG.

Lock the computer using command **G80*** on the XR25.
Disconnect the ignition module for the driver's pretensioner and connect a dummy ignition module to the ignition module connectors.
Switch on the ignition and carry out a check using the XR25.
If the fault has been memorised (fault no longer declared present), check the condition of the seat wiring.
Replace the driver's pretensioner if the wiring is not faulty.
Then carry out the same operation on the passenger pretensioner (if there is no fault on the driver's side).

The XRBAG must be used for the insulation measurement appropriate to the type of fault at **point C1** (seat connector) on the driver's pretensioner line.
If the value obtained is not correct, replace the wiring between **points C1 and C3** (seat wiring).
Then carry out the same measurement on the passenger pretensioner line (if there is no fault on the driver's side).

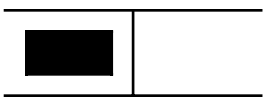
Disconnect the computer connector and fit the 30 track B40 adaptor.
The XRBAG must be used for insulation measurements appropriate to the type of fault on **adaptor cables C (passenger)** and **D (driver)**.
If one of the values obtained is not correct, check the connections on the 30 track connector (tracks 3 / 4 for **cable C and** 1/2 for **cable D)** and replace the wiring if necessary.

If there is no evidence of a fault after these checks have been carried out, replace the air bag computer (consult the "Aid" section for this operation).
Reconnect the seat belt pretensioner ignition modules.

AFTER REPAIR	Erase the computer memory using command G0** then switch off the ignition. Carry out another check using the XR25 and, if there is no fault, unlock the computer using command G81*. Destroy the pretensioner(s) if there has been a replacement (tool **Elé. 1287**).

4SRP06 1.0

FAULT FINDING - INTERPRETATION OF XR25 BARGRAPHS

10 	**Bargraph 10 LH side illuminated** Fiche n° 49 Short circuit or insulation from 12 volts on the air bag fault warning light line

NOTES	Use the 30 track XRBAG adaptor for operations on the computer connector.

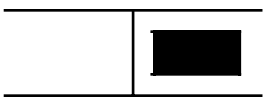
Lock the computer using command **G80*** on the XR25.
Check the condition of the warning light bulb.
Ensure the insulation from **12 volts** of the connection between the warning light and **track 7** of the 30 track connector.

If there is no evidence of a fault after these checks have been carried out, replace the air bag computer (consult the "Aid" section for this operation).

AFTER REPAIR	Erase the computer memory using command G0** then switch off the ignition. Carry out another check using the XR25 and, if there is no fault, unlock the computer using command G81*.

4SRP06 1.0

FAULT FINDING - INTERPRETATION OF XR25 BARGRAPHS

10 	**Bargraph 10 RH side illuminated** Fiche n° 49 Open circuit or insulation from earth on the air bag fault warning light line

NOTES	Use the 30 track XRBAG adaptor for operations on the computer connector.

Warning light extinguished with + after ignition feed

NOTES	None

Lock the computer using command **G80*** on the XR25.
Check the condition of the warning light bulb.
Ensure the continuity of the connection between the warning light and **track 7** of the 30 track connector.
Ensure the presence of **12 volts** at the warning light.

If there is no evidence of a fault after these checks have been carried out, disconnect the computer connector and fit the the 30 track XRBAG B40 adaptor. Use the XRBAG in its test function to check the operation of the instrument panel warning light from **grey adaptor cable 1**.
If it is possible to illuminate the warning light using the XRBAG, replace the air bag computer (consult the "Aid" section for this operation).
If it is not possible to control the warning light, repeat the checks described above.

Warning light illuminated with + after ignition feed

NOTES	None

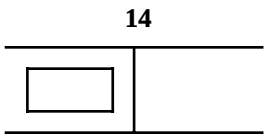
Lock the computer using command **G80*** on the XR25.
Ensure the insulation from **earth** of the connection between the warning light and **track 7** of the 30 track connector.

If there is no evidence of a fault after these checks have been carried out, replace the air bag computer (consult the "Aid" section for this operation).

AFTER REPAIR	Erase the computer memory using command G0** then switch off the ignition. Carry out another check using the XR25 and, if there is no fault, unlock the computer using command G81*.

4SRP06 1.0

FAULT FINDING - INTERPRETATION OF XR25 BARGRAPHS

	**Bargraph 14 LH side** Fiche n° 49 Computer locked

NOTES	None

Bargraph 14 LH side allows the locked status of the computer to be displayed.
When it is illuminated, all trigger lines are inhibited, preventing triggering of the air bags and seat belt pretensioners.
This bargraph is normally illuminated in 2 situations :

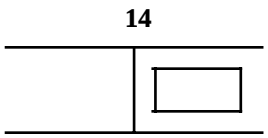
- The computer is new (it is sold locked).
- The computer locking command on the XR25 has been used during an operation on the vehicle (G80*).

UNLOCKING

- Erase the computer memory using command **G0****, then switch off the ignition.
- Carry out another check using the XR25 and, if there is no fault, unlock the computer using command **G81***.

AFTER REPAIR	None.

FAULT FINDING - INTERPRETATION OF XR25 BARGRAPHS



Bargraph 14 RH side Fiche n° 49

Fault present before impact

NOTES	None

This bargraph is normally illuminated in the following situation:

- An impact has been detected.
- A fault was present in the computer memory before the impact.
- The present fault was declared by illumination of the fault warning light before the impact.

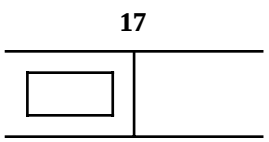
Bargraph 14 LH side may therefore justify non-triggering of an air bag or a seat belt pretensioner.

Consult the Technical Department if this bargraph is illuminated in other situations (no fault, no impact, ...).

AFTER REPAIR	None.

4SRP06 1.0

FAULT FINDING - INTERPRETATION OF XR25 BARGRAPHS

	**Bargraph 17 LH side** Fiche n° 49 Computer configuration "With passenger air bag"

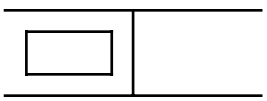
NOTES	None

Bargraph 17 LH side allows computer configuration to be displayed and ensures that it is correctly adapted to the vehicle equipment.

If **bargraph 17 LH side** is illuminated and the vehicle is not equipped with a passenger air bag, use command **G21*3*** to configure it "Without passenger air bag".

AFTER REPAIR	None.

FAULT FINDING - INTERPRETATION OF XR25 BARGRAPHS

18-19 	**Bargraphs 18 and 19 LH side** Fiche n° 49 Computer configuration "With pretensioners and driver's air bag"

NOTES	None

Bargraphs 18 and 19 LH side allow computer configuration to be displayed.

As the minimum equipment for these vehicles is a driver's air bag and pretensioners, these two bargraphs are always illuminated.

AFTER REPAIR	None.

FAULT FINDING - CHECKING CONFORMITY

NOTES	Only carry out this conformity check after a complete check using the XR25.

Order of operations	Function to be checked	Action	Bargraph	Display and notes
1	XR25 dialogue	**D49** (selector on **S8**)		**4.Ab**
2	Computer conformity	**#02**		0
3	Computer configuration		**17 / 18 / 19** 	Ensure that the computer configuration defined by these three bargraphs corresponds to the vehicle equipment.
4	Warning light operation - check computer initialisation	Ignition on		Fault warning light illuminates for 3 seconds when the ignition is switched on (consult fault finding if it remains illuminated or does not illuminate).

FAULT FINDING - AID

REPLACING THE AIR BAG COMPUTER

Air bag computers are supplied locked to prevent accidental triggering (all the trigger lines are inhibited). This operating mode is indicated by illumination of the instrument panel warning light.

When replacing an air bag computer, follow the procedure below:

- Ensure that the ignition is switched off.
- Replace the computer.
- Carry out a check using the XR25.
- Only unlock the computer using command **G81*** if no faults are declared by the XR25.

If the vehicle is not equipped with a passenger air bag, configure the computer "**without passenger air bag**" using command **G21*3***.

FAULT FINDING - INTRODUCTION

CONDITIONS FOR APPLYING THE CHECKS DEFINED IN THIS FAULT FINDING

The checks defined in this fault finding are only to be applied to TWINGO vehicles equipped with the new programmed restraint system (SRP) and side air bags for the driver and front passenger.

This new system can be identified by:
- the term "airbag SRP" on the steering wheel boss and on the passenger air bag module,
- the term "airbag" on the side of the seatbacks of the front seats,
- an orange computer connector with 50 tracks.

The checks defined in this fault finding are only to be applied when the fault bargraph is permanently illuminated, indicating that the fault is present on the vehicle at the time of testing. The computer should only be replaced if there is a computer fault, whether the bargraph is illuminated or flashing.

If the fault is not present but simply memorised, the bargraph flashes and the application of the checks in the fault finding will not allow the origin of fault memorisation to be located. In this case, only a check of the wiring and the connections for the component concerned should be carried out (it is possible to test the wiring concerned in fault finding mode to try to obtain illumination of the bargraph).

TOOLING REQUIRED FOR OPERATIONS ON THE AIR BAG AND SEAT BELT PRETENSIONER SYSTEMS:

- XR25 (with XR25 cassette n° 18).
- XRBAG, update n° 5 (with the new 50 track B50 adaptor with orange computer base).
- Multimeter.

REMINDERS:

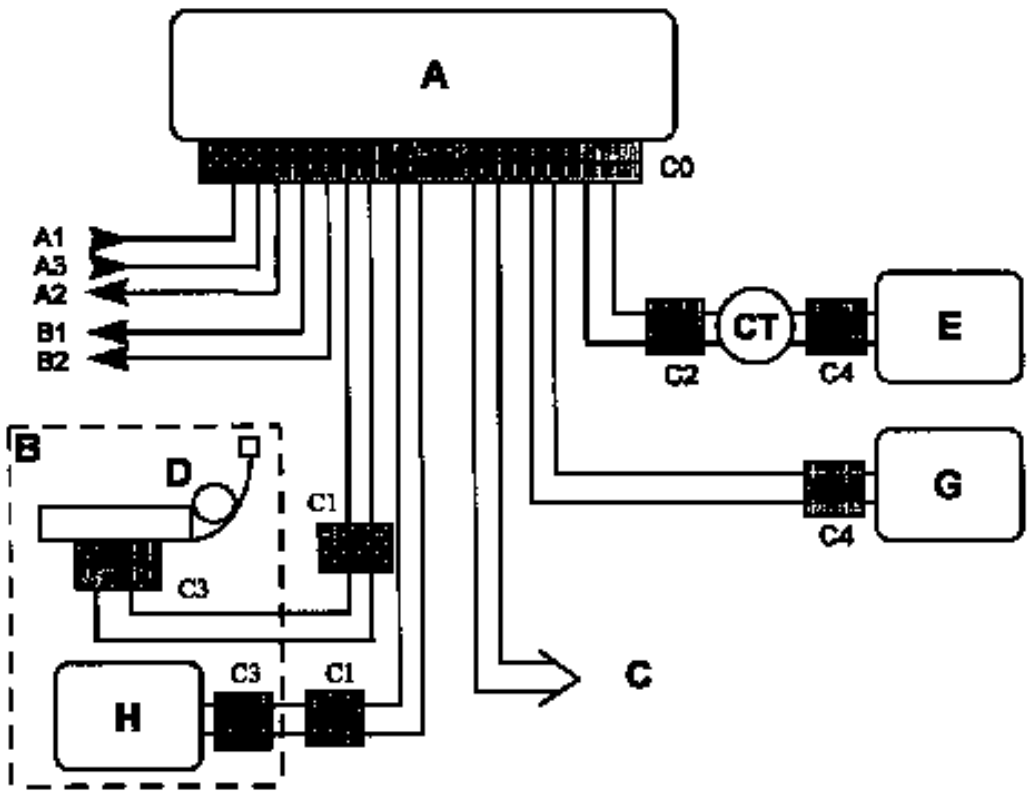
When carrying out any operation on the air bag / seat belt pretensioner systems, the computer must be locked using the XR25 and command G80* to prevent incorrect triggering (all trigger lines will be inhibited). This operating mode is indicated by illumination of the instrument panel warning light. Without the XR25, switch off the ignition and remove the supply fuse for the system (pretensioner fuse) and wait at least 2 seconds for the reserve energy capacity to discharge.

Never carry out measuring operations on the air bag and pretensioner trigger lines with equipment other than the XRBAG.

Ensure:
- before using a dummy ignition module, that its resistance is between 1.8 and 2.5 ohms,
- when carrying out any operation, that the computer voltage supply does not fall below **10 Volts** (#01).

FAULT FINDING - XR25 FICHE

PRETENSIONERS, FRONT AND SIDE AIR BAGS



DI8827

A Central computer
B Driver's seat
C Passenger seat
D Pretensioner
E Driver's air bag ignition module
G Passenger air bag ignition module
H Side air bag ignition module

CT Rotary switch
A1 + 12 volts
A2 Warning light
A3 Earth
B1, B2 } Diagnostic lines

	FRONT AIR BAGS	
	Measuring point	Correct value
Driver	C0, C2 and C4	2 to 9.4 ohms
Passenger	C0 and C4	1.6 to 4.6 ohms
	SIDE AIR BAGS AND PRETENSIONERS	
	Measuring point	Correct value
	C0, C1 and C3	1.6 to 4.6 ohms

Correct insulation value: display ≥ 100.h or 9999 flashing.

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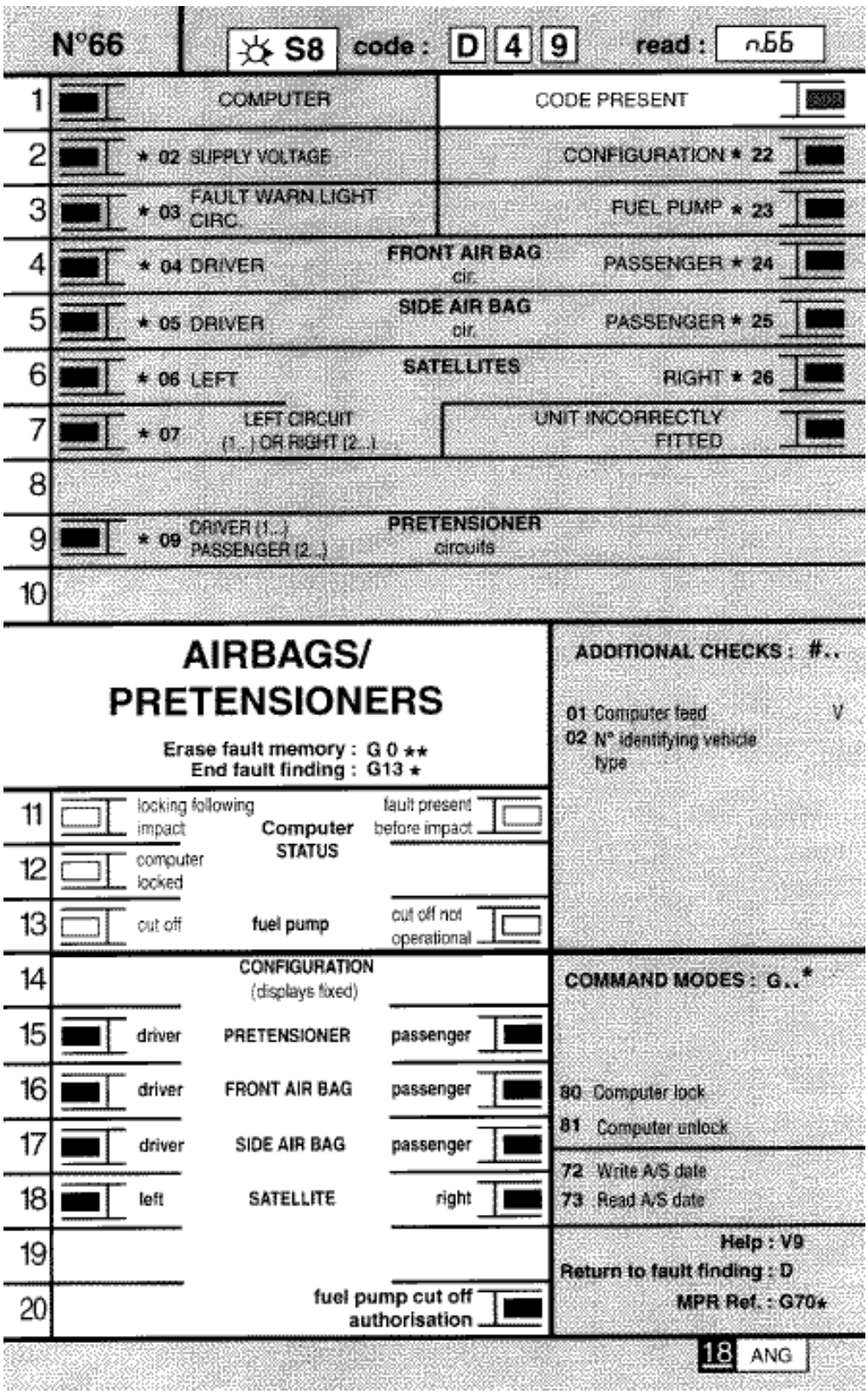
FAULT FINDING - XR25 FICHE

PRESENTATION OF XR25 FICHE N° 66 (cassette N° 18)



FI21866

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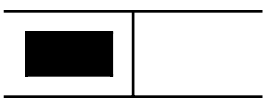
FAULT FINDING - XR25 FICHE

BARGRAPH SYMBOLS

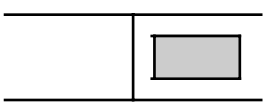
FAULTS (always on coloured background)



If illuminated, indicates a fault on the product tested. The associated text defines the fault.
This bargraph may be:

- Illuminated : fault present.
- Flashing : fault memorised.
- Extinguished : fault absent or not detected.

STATUS (always on white background)



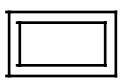
Bargraph always located on top right hand side.
If illuminated, indicates that dialogue has been established with the product computer.
If it remains extinguished:

- The code does not exist.
- There is an XR25, computer or XR25 / computer connection fault.

The representation of the following bargraphs indicates their initial status:
Initial status: (ignition on, engine stopped, no operator action)


or

Undefined


Extinguished

illuminates when the function or condition specified on the fiche is being met.

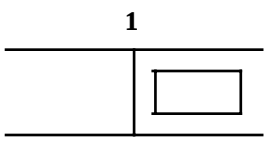

Illuminated

extinguishes when the function or condition specified on the fiche is no longer being met.

ADDITIONAL DETAILS

Certain bargraphs have a *. The command *.., when the bargraph is illuminated, allowing additional information on the type of fault or status which has arisen to be displayed.

Fault finding - Interpretation of XR25 bargraphs



Bargraph 1 RH side extinguished Fiche n° 66

Code present

NOTES	None

Ensure that the XR25 is not the cause of the fault by trying to communicate with a computer on another vehicle. If the XR25 is not at fault and dialogue cannot be established with another computer on the same vehicle, it may be that a faulty computer is disrupting diagnostic lines K and L. Disconnect each computer in turn to locate the faulty one.
Check that the ISO selector is in position **S8**, that you are using XR25 cassette 18 and the correct access code.
Check battery voltage and carry out the operations necessary to obtain the correct voltage **(10.5 volts < U battery < 16 volts)**.

Check the presence and condition of the air bag computer feed fuse (instrument panel fuse).
Check the connection of the computer connector and the condition of its connections.
Check that the computer is correctly fed:

- Disconnect the air bag computer and fit the **50 track B50** XRBAG adaptor.
- Check and ensure the presence of **+ after ignition feed** between the terminals marked **earth and + after ignition feed**.

Check that the diagnostic socket is correctly fed:

- **+ before ignition feed** on **track 16**.
- **Earth** on **track 5**.

Check the continuity and insulation of the lines connecting the diagnostic socket and the air bag computer:

- Between the terminal marked **L** and **track 15** of the diagnostic socket.
- Between the terminal marked **K** and **track 7** of the diagnostic socket.

If dialogue is still not established after these various checks, replace the air bag computer (consult the "Aid" section for this operations).

AFTER REPAIR	When communication has been established, deal with any fault bargraphs which may be illuminated.

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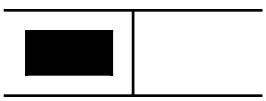
FAULT FINDING - INTERPRETATION OF XR25 BARGRAPHS

1 	**Bargraph 1 LH side illuminated or flashing** Computer	Fiche n° 66

NOTES	None

Replace the air bag computer (consult the "Aid" section for this operations).

AFTER REPAIR	None

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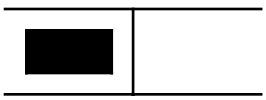
FAULT FINDING - INTERPRETATION OF XR25 BARGRAPHS

2 	**Bargraph 2 LH side illuminated** Fiche n° 66 Supply voltage **XR25 aid :** *02 : 1.dEF : Too many micro-cuts 2.dEF : Voltage outside tolerance range

NOTES	Use the B50 XRBAG adaptor for operations on the computer connector.

1.dEF - 2.dEF	***NOTES***	None

Carry out the operations necessary to obtain the correct computer supply voltage:
10.5 volts ± 0.1 < correct voltage < 16 volts ± 0.1.
- Check the battery charge.
- Check the charging circuit.
- Check the tightness and condition of the battery terminals.
- Check the computer earth.
- Check the condition of the computer connections and that it is locked.

AFTER REPAIR	Deal with any faults declared by the XR25. Erase the computer memory using command G0**.

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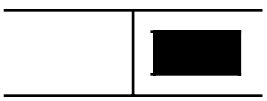
FAULT FINDING - INTERPRETATION OF XR25 BARGRAPHS

2 	**Bargraph 2 RH side illuminated** Fiche n° 66 Configuration

NOTES	None

Illumination of **bargraph 2 RH side** corresponds to incoherence between computer configuration and the vehicle equipment detected by the computer. The computer detects the presence of a component which is supplementary to its configuration. As this vehicle is equipped with all possible air bags and pretensioners as standard, the declaration of a "configuration" fault indicates that there is a computer fault.

Replace the air bag computer (consult the "Aid" section for this operations).

AFTER REPAIR	Erase the computer memory using command G0** then switch off the ignition. Carry out another check using the XR25.

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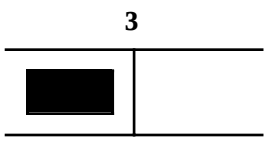
FAULT FINDING - INTERPRETATION OF XR25 BARGRAPHS



Bargraph 3 LH side illuminated Fiche n° 66

Air bag fault warning light circuit

XR25 aid : *03 : 1CC.1 : Short circuit to 12 volts
1CO.0 : Open circuit or short circuit to earth

NOTES	Use the B50 XRBAG adaptor for operations on the computer connector.

1CC.1	NOTES	None

Lock the computer using command **G80*** on the XR25.
Check the condition of the warning light bulb.
Ensure the insulation from **12 volts** of the connection between the warning light and **track 7** of the 50 track connector.

1CO.0	NOTES	None

Warning light extinguished with after ignition feed

Lock the computer using command **G80*** on the XR25.
Check the condition of the warning light bulb.
Ensure the continuity of the connection between the warning light and **track 7** of the 50 track connector.
Ensure the presence of **12 volts** to the warning light.

If the checks carried out have not indicated the presence of a fault, disconnect the computer connector and fit the **50 track B50 XRBAG adaptor**. Use the XRBAG in its test function to check the operation of the warning light on the instrument panel from **grey adaptor cable 2**.
If the warning light can be illuminated using the XRBAG, replace the air bag computer (consult the "Aid" section for this operation).
If the warning light cannot be illuminated, carry out the checks described earlier.

AFTER REPAIR	Erase the computer memory using command G0** then switch off the ignition. Carry out another check using the XR25 and, if there is no fault, unlock the computer using command G81*.

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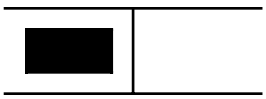
FAULT FINDING - INTERPRETATION OF XR25 BARGRAPHS

3  CONT	

Warning light illuminated with after ignition feed

Lock the computer using command **G80*** on the XR25.

Disconnect the air bag computer and check on the base for the presence of the 7 pins which open the connector shunts.

Ensure the insulation from **earth** of the connection between the warning light and **track 7** of the 50 track connector.

AFTER REPAIR	Erase the computer memory using command G0** then switch off the ignition. Carry out another check using the XR25 and, if there is no fault, unlock the computer using command G81*.

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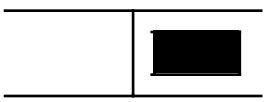
FAULT FINDING - INTERPRETATION OF XR25 BARGRAPHS

3 	**Bargraph 3 RH side illuminated** Fiche n° 66 Fuel pump
NOTES	None

Fault not used by this application.

AFTER REPAIR	Erase the computer memory using command G0** then switch off the ignition. Carry out another check using the XR25 and, if there is no fault, unlock the computer using command G81*.

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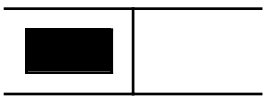
FAULT FINDING - INTERPRETATION OF XR25 BARGRAPHS

4 	**Bargraph 4 LH side illuminated** Fiche n° 66 Driver's front air bag circuit **XR25 aid :** *04 : CC : Short circuit CO : Open circuit CC.1 : Short circuit to 12 volts CC.0 : Short circuit to earth

NOTES	Never carry out measuring operations on the trigger lines with equipment other than the XRBAG.

CO - CC	***NOTES***	None

Lock the computer using command **G80*** on the XR25.
Switch off the ignition and remove the 2 steering wheel boss mounting bolts.
Check that it is correctly connected.

Disconnect the steering wheel boss and connect a dummy ignition module to the ignition module connector.
Switch on the ignition and carry out a check using the XR25.
Replace the air bag if the fault has been memorised (fault no longer declared present).

Ignition off, disconnect then reconnect the rotary switch connector under the steering wheel.
Work on the connections if **bargraph 4 LH side** starts to flash.

The XRBAG must be used to measure the resistance at **point C2** of the circuit for the driver's front air bag.
If the value obtained is not correct, replace the rotary switch under the steering wheel.

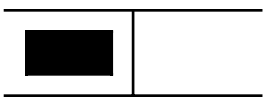
Reconnect the rotary switch under the steering wheel, disconnect the computer connector and fit the **50 track B50 adaptor.**
The XRBAG must be used to measure the resistance on **adaptor cable C**.
If the value obtained is not correct, check the 50 track connector connections (tracks 10 and 11) and replace the wiring if necessary.

If the checks carried out have not indicated the presence of a fault, check on the air bag computer base for the presence of the 7 shunt opening pins for the 50 track connector.
Check the condition of:
- the computer connections.
- the 50 track connector (locking system, ...)

AFTER REPAIR	Erase the computer memory using command G0** then switch off the ignition. Carry out another check using the XR25 and, if there is no fault, unlock the computer using command G81*. Destroy the air bag if there has been a replacement (tool **Elé. 1287**).

6SRP061.0

FAULT FINDING - INTERPRETATION OF XR25 BARGRAPHS

4  CONT	

CC.1 - CC.0	***NOTES***	None

Lock the computer using command **G80*** on the XR25.
Switch off the ignition and remove the 2 steering wheel boss mounting bolts.
Check the condition of the trigger cable.

The XRBAG must be used to measure the insulation appropriate to the type of fault at **point C2** of the circuit for the driver's front air bag.
If the value obtained is not correct, replace the rotary switch under the steering wheel.

Reconnect the rotary switch under the steering wheel, disconnect the computer connector and fit the **50 track B50 adaptor**.
The XRBAG must be used to measure the insulation appropriate to the type of fault on **adaptor cable C**.
If the value obtained is not correct, check the 50 track connector connections (tracks 10 and 11) and replace the wiring if necessary.

AFTER REPAIR	Erase the computer memory using command G0** then switch off the ignition. Carry out another check using the XR25 and, if there is no fault, unlock the computer using command G81*. Destroy the air bag if there has been a replacement (tool **Elé. 1287**).

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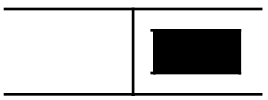
FAULT FINDING - INTERPRETATION OF XR25 BARGRAPHS

4 	**Bargraph 4 RH side illuminated** Fiche n° 66 Passenger's front air bag circuit **XR25 aid :** *24 : CC : Short circuit CO : Open circuit CC.1 : Short circuit to 12 volts CC.0 : Short circuit to earth

NOTES	Never carry out measuring operations on the trigger lines with equipment other than the XRBAG.

CO - CC	***NOTES***	None

Lock the computer using command **G80*** on the XR25.
Switch off the ignition, disconnect the computer connector and fit the **50 track B50 adaptor**.
The XRBAG must be used to measure the resistance on **adaptor cable D**.
Is the correct value obtained?

YES

If the value obtained is correct at **adaptor cable D,** check on the air bag computer base for the presence of the 7 shunt opening pins for the 50 track connector.
Check:
- the condition of the computer connections,
- the condition of the 50 track connector (locking system, connections, ...).

NO

If the value obtained is not correct at **adaptor cable D** check the 50 track connector connections (tracks 13 and 14).

If the value remains incorrect, switch off the ignition and remove the dashboard to access the passenger air bag module wiring. Disconnect the passenger air bag module ignition module, connect a dummy ignition module to the ignition module connector, then use the XRBAG to measure the resistance on **adaptor cable D** again.
If the value obtained is correct, replace the passenger air bag module.
If the value obtained is still incorrect, replace the air bag wiring.

AFTER REPAIR	Reconnect the computer and the ignition module for the passenger air bag module, then switch the ignition on again. Erase the computer memory using command G0** then switch off the ignition. Carry out another check using the XR25 and, if there is no fault, unlock the computer using command G81*. Destroy the passenger air bag module if there has been a replacement (tool **Elé. 1287**).

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FAULT FINDING - INTERPRETATION OF XR25 BARGRAPHS

4	
CONT	

CC.1 - CC.0	NOTES	None

Lock the computer using command **G80*** on the XR25.
Switch off the ignition, disconnect the computer connector and fit the **50 track B50 adaptor**.
The XRBAG must be used to measure the insulation appropriate to the type of fault on **adaptor cable D**.
Is the correct value obtained?

YES	If the value obtained is correct at **adaptor cable D** check the condition of the computer connections.
NO	If the value obtained is not correct at **adaptor cable D** check the 50 track connector connections (tracks 13 / 14).
	If the value remains incorrect, replace the air bag wiring.

AFTER REPAIR	Reconnect the computer and the ignition module for the passenger air bag module, then switch the ignition on again. Erase the computer memory using command G0** then switch off the ignition. Carry out another check using the XR25 and, if there is no fault, unlock the computer using command G81*. Destroy the passenger air bag module if there has been a replacement (tool **Elé. 1287**).

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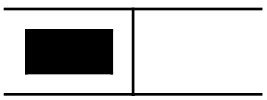
FAULT FINDING - INTERPRETATION OF XR25 BARGRAPHS

5 	**Bargraph 5 LH side illuminated** Fiche n° 66 Driver's side air bag circuit **XR25 aid :** *05 : CC : Short circuit CO : Open circuit CC.1 : Short circuit to 12 volts CC.0 : Short circuit to earth

NOTES	Never carry out measuring operations on the trigger lines with equipment other than the XRBAG.

CO - CC	***NOTES***	None

Lock the computer using command **G80*** on the XR25.
The XRBAG must be used to measure the resistance at **point C1** (seat connector) of the line for the driver's side air bag module.
Is the value obtained correct?

YES

Check the seat connector connections (point C1).
Visually check the seat wiring. Reconnect point **C1**.

Disconnect the computer connector and fit the **50 track B50 adaptor**.
The XRBAG must be used to measure the resistance on **adaptor cable E**.
- If the value obtained is not correct, check the 50 track connector connections (tracks 16 and 17) and replace the wiring if necessary.
- If the value obtained is correct at **adaptor cable E**, check on the computer base for the presence of the 7 shunt opening pins for the 50 track connector.

Check: - the condition of the computer connections,
- the condition of the 50 track connector (locking system, connections, ...)

NO

Check the seat connector connections.
Strip the driver's seat and check that the side air bag ignition module is correctly connected.

Disconnect the driver's side air bag ignition module, connect a dummy ignition module to the ignition module connector and use the XRBAG to measure the resistance at **point C1** again.
- If the value obtained is correct, replace the driver's side air bag module.
- If the value obtained is still incorrect, replace the wiring between **points C1 and C3** (seat wiring).

AFTER REPAIR	Reconnect the computer and the driver's side air bag ignition module then switch the ignition on again. Erase the computer memory using command G0** then switch off the ignition. Carry out another check using the XR25 and, if there is no fault, unlock the computer using command G81*. Destroy the side air bag module if there has been a replacement (tool **Elé. 1287**).

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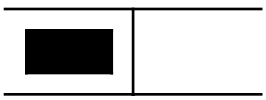
FAULT FINDING - INTERPRETATION OF XR25 BARGRAPHS

5  CONT	

CC.1 - CC.0	***NOTES***	None

Lock the computer using command **G80*** on the XR25.
The XRBAG must be used to measure the insulation appropriate to the type of fault at **point C1** (seat connector) of the line for the driver's side air bag module.
Is the value obtained correct?

YES

Check the seat connector connections (point C1).
Visually check the seat wiring. Reconnect point **C1**.

Disconnect the computer connector and fit the **50 track B50 adaptor**.
The XRBAG must be used to measure the insulation appropriate to the type of fault on **adaptor cable E**.
If the value obtained is not correct, check the 50 track connector connections (tracks 16 and 17) and replace the wiring if necessary.

NO

Check the seat connector connections.
Replace the wiring between **points C1 and C3** (seat wiring).

AFTER REPAIR	Reconnect the computer and the driver's side air bag ignition module then switch the ignition on again. Erase the computer memory using command G0** then switch off the ignition. Carry out another check using the XR25 and, if there is no fault, unlock the computer using command G81*. Destroy the side air bag module if there has been a replacement (tool **Elé. 1287**).

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FAULT FINDING - INTERPRETATION OF XR25 BARGRAPHS

5	**Bargraph 5 RH side illuminated** Fiche n° 66 Passenger's side air bag circuit **XR25 aid :** *25 : CC : Short circuit CO : Open circuit CC.1 : Short circuit to 12 volts CC.0 : Short circuit to earth

NOTES	Never carry out measuring operations on the trigger lines with equipment other than the XRBAG.

CO - CC	***NOTES***	None

Lock the computer using command **G80*** on the XR25.
The XRBAG must be used to measure the resistance at **point C1** (seat connector) of the line for the passenger's side air bag module.
Is the value obtained correct?

YES

Check the seat connector connections (point C1).
Visually check the seat wiring. Reconnect point **C1**.

Disconnect the computer connector and fit the **50 track B50 adaptor**.
The XRBAG must be used to measure the resistance on **adaptor cable F**.
- If the value obtained is not correct, check the 50 track connector connections (tracks 18 and 19) and replace the wiring if necessary.
- If the value obtained is correct at **adaptor cable F**, check on the computer base for the presence of the 7 shunt opening pins for the 50 track connector.

Check: - the condition of the computer connections,
- the condition of the 50 track connector (locking system, connections, ...)

NO

Check the seat connector connections.
Strip the passenger seat and check that the side air bag ignition module is correctly connected.

Disconnect the passenger's side air bag ignition module, connect a dummy ignition module to the ignition module connector and use the XRBAG to measure the resistance at **point C1** again.
- If the value obtained is correct, replace the passenger's side air bag ignition module.
- If the value obtained is still incorrect, replace the wiring between **points C1 and C3** (seat wiring).

AFTER REPAIR	Reconnect the computer and the passenger's side air bag ignition module then switch the ignition on again. Erase the computer memory using command G0** then switch off the ignition. Carry out another check using the XR25 and, if there is no fault, unlock the computer using command G81*. Destroy the side air bag module if there has been a replacement (tool **Elé. 1287**).

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FAULT FINDING - INTERPRETATION OF XR25 BARGRAPHS

5	
[redacted]	
CONT	

CC.1 - CC.0	***NOTES***	None

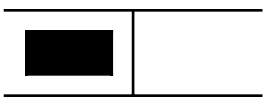
Lock the computer using command **G80*** on the XR25.
The XRBAG must be used to measure the insulation appropriate to the type of fault at **point C1** (seat connector) of the line for the passenger's side air bag module.
Is the value obtained correct?

YES	Check the seat connector connections (point C1). Visually check the seat wiring. Reconnect point **C1**.
	Disconnect the computer connector and fit the **50 track B50 adaptor**. The XRBAG must be used to measure the insulation appropriate to the type of fault on **adaptor cable F**. If the value obtained is not correct, check the 50 track connector connections (tracks 18 and 19) and replace the wiring if necessary.

NO	Check the seat connector connections. Replace the wiring between **points C1 and C3** (seat wiring).

AFTER REPAIR	Reconnect the computer and the passenger's side air bag ignition module then switch the ignition on again. Erase the computer memory using command G0** then switch off the ignition. Carry out another check using the XR25 and, if there is no fault, unlock the computer using command G81*. Destroy the side air bag module if there has been a replacement (tool **Elé. 1287**).

FAULT FINDING - INTERPRETATION OF XR25 BARGRAPHS

6 	**Bargraph 6 LH side illuminated** Fiche n° 66 Driver's satellite (impact sensor for side air bag)
NOTES	None

Replace the satellite for the driver's side air bag.

AFTER REPAIR	Erase the computer memory using command G0** then switch off the ignition. Carry out another check using the XR25 and, if there is no fault, unlock the computer using command G81*.

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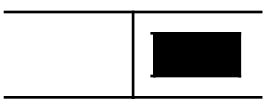
FAULT FINDING - INTERPRETATION OF XR25 BARGRAPHS

6 	**Bargraph 6 RH side illuminated** Fiche n° 66 Passenger's satellite (impact sensor for side air bag)
NOTES	None

Replace the satellite for the passenger's side air bag.

AFTER REPAIR	Erase the computer memory using command G0** then switch off the ignition. Carry out another check using the XR25 and, if there is no fault, unlock the computer using command G81*.

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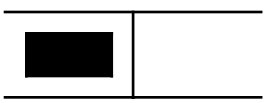
FAULT FINDING - INTERPRETATION OF XR25 BARGRAPHS

7 	**Bargraph 7 LH side illuminated** Fiche n° 66 Driver and passenger satellite circuits (impact sensors for side air bags) **XR25 aid :** *07 : 1.CO : No satellite signal on driver's side 1.dEF : Satellite signal disrupted on driver's side 2.CO : No satellite signal on passenger side 2.dEF : Satellite signal disrupted on passenger side

NOTES	None

1.CO / 1.dEF	***NOTES***	None

Lock the computer using command **G80*** on the XR25.
Check that the satellite on the driver's side is correctly connected and check its connections.
Check:
- the condition of the computer connections (tracks 20 and 22),
- the condition of the 50 track connector (locking system, connections, ...)

Replace the wiring if the fault persists.

2.CO / 2.dEF	***NOTES***	None

Lock the computer using command **G80*** on the XR25.
Check that the satellite on the passenger side is correctly connected and check its connections.
Check:
- the condition of the computer connections (tracks 21 and 23),
- the condition of the 50 track connector (locking system, connections, ...)

Replace the wiring if the fault persists.

AFTER REPAIR	Erase the computer memory using command G0** then switch off the ignition. Carry out another check using the XR25 and, if there is no fault, unlock the computer using command G81*.

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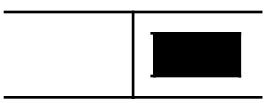
FAULT FINDING - INTERPRETATION OF XR25 BARGRAPHS

7 	**Bargraph 7 RH side illuminated** Fiche n° 66 Computer incorrectly mounted
NOTES	None

Fault not used by this application.

AFTER REPAIR	Erase the computer memory using command G0** then switch off the ignition. Carry out another check using the XR25 and, if there is no fault, unlock the computer using command G81*.

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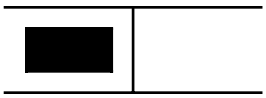
FAULT FINDING - INTERPRETATION OF XR25 BARGRAPHS

9 	**Bargraph 9 LH side illuminated** Fiche n° 66 Driver and passenger pretensioner circuits **XR25 aid :** *09 : CO : Open circuit CC.1 : Short circuit to 12 volts CC.0 : Short circuit to earth

NOTES	Never carry out measuring operations on the trigger lines with equipment other than the XRBAG.

CO	***NOTES***	None

Lock the computer using command **G80*** on the XR25.
Switch off the ignition and check that the ignition modules for the driver and passenger pretensioners are correctly connected.

Disconnect the ignition module for the driver's pretensioner and connect a dummy ignition module to the ignition module connector.
Switch on the ignition and carry out a check using the XR25.
Replace the driver's pretensioner if the fault has been memorised (fault no longer declared present).
Then carry out the same operations on the passenger's pretensioner (if there is no fault on the driver's side).

The XRBAG must be used to measure the resistance at **point C1** (seat connector) of the driver's pretensioner line.
If the value obtained is not correct, replace the wiring between **points C1 and C3** (seat wiring).
Then carry out the same operations on the passenger's pretensioner line (if there is no fault on the driver's side).

Disconnect the computer connector and fit the **50 track B50 adaptor**.
The XRBAG tool must be used to measure the resistance on **adaptor cables B (passenger) and A (driver)**.
If one of the values obtained is not correct, check the 50 track connector connections (tracks 3 / 4 for **cable B and** 1/2 for **cable A)** and replace the wiring if necessary.

AFTER REPAIR	Reconnect the computer and pretensioner ignition module then switch the ignition on again. Erase the computer memory using command G0** then switch off the ignition. Carry out another check using the XR25 and, if there is no fault, unlock the computer using command G81*. Destroy the pretensioner if there has been a replacement (tool **Elé. 1287**).

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FAULT FINDING - INTERPRETATION OF XR25 BARGRAPHS

9	
CONT	

CC.1 - CC.0	NOTES	None

Lock the computer using command **G80*** on the XR25.
Disconnect the ignition module for the driver's pretensioner and connect a dummy ignition module to the ignition module connector.
Switch on the ignition and carry out a check using the XR25.
If the fault has been memorised (fault no longer declared present), check the condition of the seat wiring.
Replace the driver's pretensioner if the wiring is not faulty.
Then carry out the same operations on the passenger's pretensioner (if there is no fault on the driver's side).

The XRBAG must be used to measure the insulation appropriate to the type of fault at **point C1** (seat connector) of the driver's pretensioner line.
If the value obtained is not correct, replace the wiring between **points C1 and C3** (seat wiring).
Then carry out the same operation on the passenger's pretensioner line (if there is no fault on the driver's side).

Disconnect the computer connector and fit the **50 track B50 adaptor**.
The XRBAG must be used to measure the insulation appropriate to the type of fault on **adaptor cables B (passenger) and A (driver)**.
If one of the values obtained is not correct, check the 50 track connector connections (tracks 3 / 4 for **cable B and** 1/2 for **cable A) and** replace the wiring if necessary.

If the checks carried out have not indicated the presence of a fault on one of the pretensioner circuits, check on the air bag computer base for the presence of the 7 shunt opening pins for the 50 track connector.
Check:
- the condition of the computer connections,
- the condition of the 50 track connector (locking system, connections, ...)

AFTER REPAIR	Reconnect the computer and pretensioner ignition module then switch the ignition on again. Erase the computer memory using command G0** then switch off the ignition. Carry out another check using the XR25 and, if there is no fault, unlock the computer using command G81*. Destroy the pretensioner if there has been a replacement (tool **Elé. 1287**).

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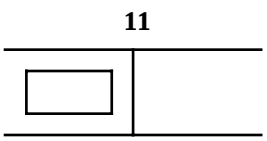
FAULT FINDING - INTERPRETATION OF XR25 BARGRAPHS

	**Bargraph 11 LH side** Fiche n° 66 Computer locked following an impact

NOTES	None

This bargraph is normally illuminated when an impact has been detected by the system and the computer was not locked before the impact.

Bargraph **1 LH side** "computer fault" is also illuminated and the computer and any components which have been triggered must be replaced (air bags and pretensioners)

AFTER REPAIR	None

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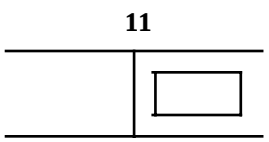
FAULT FINDING - INTERPRETATION OF XR25 BARGRAPHS



Bargraph 11 RH side Fiche n° 66

Fault present before impact

NOTES	None

This bargraph is normally illuminated in the following situation:

- An impact has been detected.
- A fault was present in the computer memory before the impact.
- The present fault was declared by illumination of the fault warning light before the impact.

Bargraph 11 RH side may therefore justify non-triggering of an air bag or the seat belt pretensioners.

Consult the Technical Department if this bargraph is illuminated under other conditions (no fault, no impact,...).

AFTER REPAIR	None.

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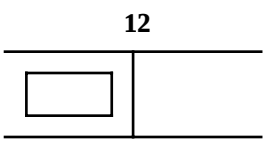
FAULT FINDING - INTERPRETATION OF XR25 BARGRAPHS

	**Bargraph 12 LH side** Fiche n° 66 Computer locked

NOTES	None

Bargraph 12 LH side allows the locked status of the computer to be displayed.
When it is illuminated, all trigger lines are inhibited, preventing triggering of the air bags and seat belt pretensioners.
This bargraph is normally illuminated in 2 situations:

- The computer is new (it is sold locked).
- The computer locking command on the XR25 has been used during an operations on the vehicle (G80*).

UNLOCKING

- Erase the computer memory using command **G0****, then switch off the ignition.
- Carry out another check using the XR25 and, if there is no fault, unlock the computer using command **G81***.

AFTER REPAIR	None.

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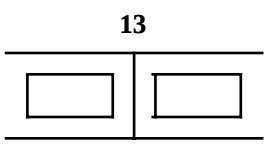
FAULT FINDING - INTERPRETATION OF XR25 BARGRAPHS

	**Bargraphs 13 RH side and LH side** Fuel pump	Fiche n° 66

NOTES	None

Status bargraphs are not used by this application.

AFTER REPAIR	None.

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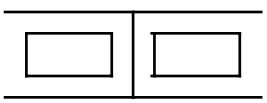
FAULT FINDING - INTERPRETATION OF XR25 BARGRAPHS

15-16-17-18 	**Bargraphs 15, 16, 17 and 18 RH side and LH side** Fiche n° 66 Computer configuration

NOTES	None

Bargraphs 15, 16, 17 and 18 RH side and LH side allow computer configuration to be displayed.

As the factory fitted equipment for this vehicle is front and side air bags for the driver and passenger, driver and passenger pretensioners and satellites on the RH side and LH side, these 8 bargraphs are always illuminated.

AFTER REPAIR	None.

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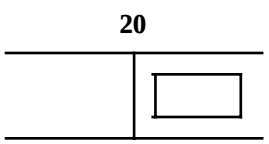
FAULT FINDING - INTERPRETATION OF XR25 BARGRAPHS

	**Bargraph 20 RH side** Fiche n° 66 Fuel pump cut-off authorisation
NOTES	None

Configuration bargraph not used by this application.

AFTER REPAIR	None.

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FAULT FINDING - CHECKING CONFORMITY

NOTES	Only carry out this conformity check after a complete check using the XR25.

Order of operations	Function to be checked	Action	Bargraph	Display and notes
1	XR25 dialogue	D49 (selector on S8)		**n.66**
2	Computer conformity	#02		0
3	Computer configuration		**15 / 16 / 17 / 18** [redacted]	Ensure that the computer configuration defined by these 8 bargraphs corresponds to the vehicle equipment.
4	Warning light operations - check computer initialisation	Ignition on		Fault warning light illuminates for 3 seconds when the ignition is switched on (consult fault finding if it remains illuminated or does not illuminate).

FAULT FINDING - AID

REPLACING THE AIR BAG COMPUTER

Air bag computers are supplied locked to prevent accidental triggering (all the trigger lines are inhibited). This operating mode is indicated by illumination of the instrument panel warning light.

When replacing an air bag computer, follow the procedure below:

- Ensure that the ignition is switched off.
- Replace the computer.
- Carry out a check using the XR25.
- Only unlock the computer using command **G81*** if no faults are declared by the XR25.