TECHNICAL NOTE
EDITION ANGLAISE

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JULY 2000

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Service 0422

Twingo

Type: **X06 X**

*S/*Section: **88**

88 **NEW GENERATION OF AIRBAG COMPUTER**

- Engine: **XXX**
- Gearbox: **XXX**

Basic manual:

Special features of 50 track airbag computers recognised by fault finding tools by the title ACU3.8.

These computers are fitted with a passenger front airbag disabling system using a key located on the side of the instrument panel (passenger's side).

All operations on airbag systems and pretensioners must be carried out by qualified and trained personnel.

IMPORTANT: It is vital that pyrotechnic systems (pretensioners, front and side airbags) are checked using the fault finding tools:
– after an accident which has not given rise to triggering,
– after theft or attempted theft of the vehicle,
– before selling a used vehicle.

For parts not dealt with in this Technical Note, refer to "**Airbag manual SRP**" and the Fault FindingTechnical Note 3434A.

SPECIAL TOOLING

Faults may be traced in these systems using the following fault finding tools:

- **NXR**,
- **OPTIMA 5800**,
- **CLIP.**

These tools allow detection of faults in the computer or faulty lines in the system (see **Technical Note 3434A**).

NB: These tools have an auxiliary function which allows ignition lines to be deactivated to prevent any risk of triggering the pyrotechnic gas generators.

The **NXR** or **CLIP** tools also have an "**Airbag and pretensioner wiring harness check**" function which is similar to the functionality of the **XRBAG** tool.

XRBAG TEST UNIT (Elé. 1288)

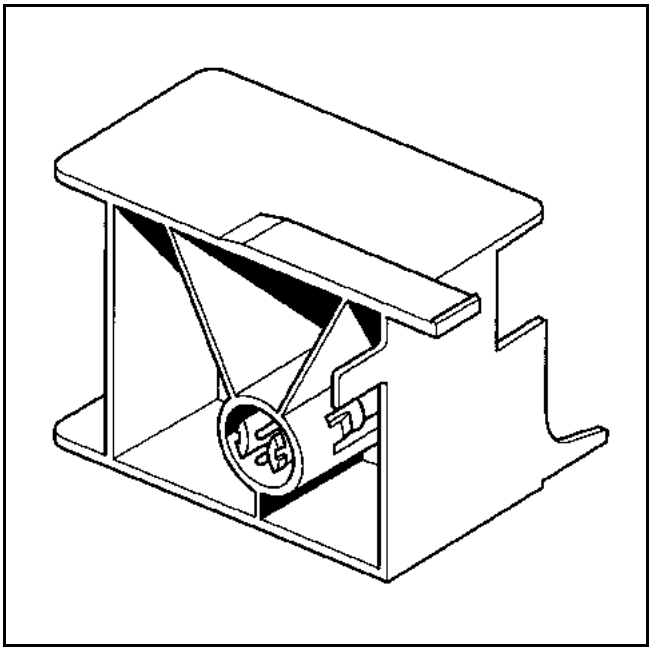
This unit is a tool specifically designed for testing and fault finding on airbag devices and seat belt pretensioners. It should be used with a designated 50 track adapter.

It allows electrical measurements to be carried out on the various lines in the systems (see **Technical Note 3434A**).

IMPORTANT: It is forbidden to take measurements on these systems with an ohmmeter or other electrical measuring device: there is a risk of triggering due to the operating current of the device.

DUMMY AIRBAG IGNITION MODULE

A dummy ignition module integrated in a small red unit is delivered with the **XRBAG** test kit.

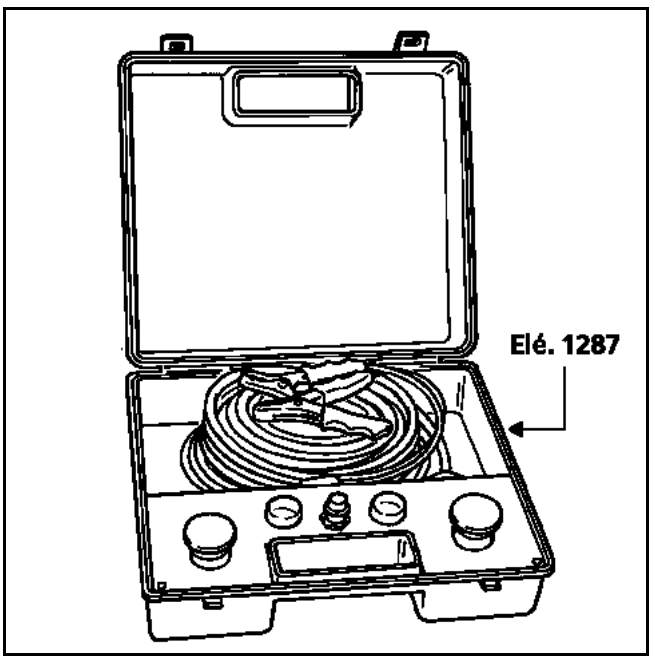


It has the same electrical characteristics as a live ignition module and replaces the airbag cushion or the pretensioner during fault finding.

DESTRUCTION UNIT

To avoid all possible risk of an accident the pyrotechnic gas generators in the airbags and seat belt pretensioners must be triggered before the vehicle or the individual part is scrapped.

It is **ESSENTIAL** to use the tool **Elé. 1287** for this purpose.



Refer to the "**Destruction procedure**" section in **SRP Airbag manual** (according to country).

IMPORTANT: Do not reuse the pyrotechnic components as replacement parts. The pretensioners or airbags on a vehicle which are destined for scrap must be destroyed.

WARNING: Do not trigger pretensioners which are to be returned under the warranty for a problem on the seat belt catch. This makes analysis by the supplier impossible.
Return the part in the packaging of the new part.

OPERATION OF FRONT PRETENSIONERS AND AIRBAGS

Front and side airbags and pretensioners function exactly as described in the **SRP Airbag manual**.

IMPORTANT: in this equipment (SRP front airbags), the seat belts are linked to the airbag function. You must check the part number of every piece being replaced.

IMPORTANT:

There are three generations of **50 track** (orange connector) computers and three generations of side sensors.

For correct operation of the side airbags, it is vital that computers which are in good condition are fitted and that their compatibility with the side sensors fitted on the vehicle is respected.

If there is a pairing error, the side airbag will not be triggered in case of impact and the airbag warning light may illuminate erratically (see details in the "**Side impact sensors**" section).

IMPORTANT

Before removing the computer it is vital that you lock it using one of the fault finding tools.

When this function is activated, all the ignition lines are disabled and the airbag warning light on the instrument panel illuminated when ignition is switched on (new computers are delivered in this condition).

NOTE: It is possible to check that no fault was present prior to impact using the fault finding tools in the event of poor operation of these systems at the time of impact.

Computer locking procedure

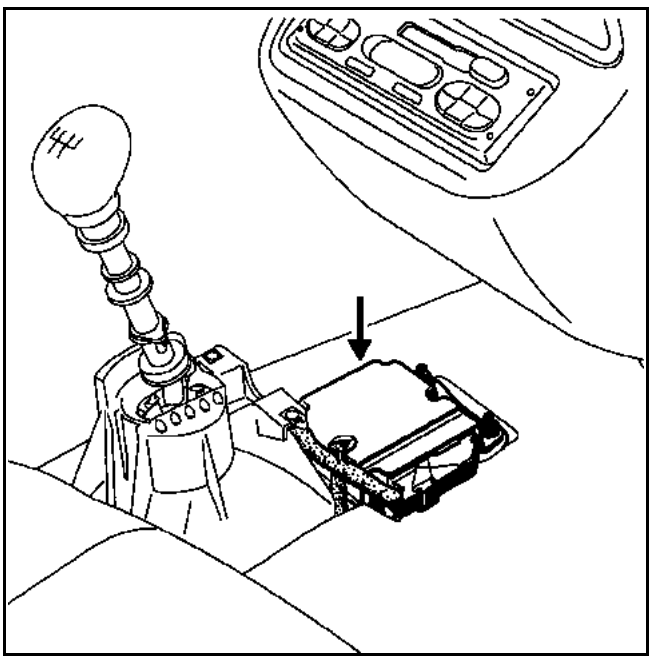
Before removing the computer or before any operation on the airbag and pretensioner systems, it is vital that you lock the computer either:

- **by using tools NXR, OPTIMA 5800 and CLIP**
  1 Choose the "**Fault**" menu
  2 Select and validate the vehicle model
  3 Select and validate the system to be checked "**Airbag**"
  4 Select the menu "**Control**", "**Scénario**"
  5 Select and confirm the "**System components configuration**" or "**Programming**" function then confirm the line "**Computer locking**" (depending on tool)
  6 Select the "**State**" menu and check that the unit is locked. The "**Computer locked**" status must be confirmed and the airbag warning light on the instrument panel illuminated (new computers are delivered in this condition). Fault finding is still possible when this mode is activated.

NOTE: To unlock the computer, use the same method and validate the "**Computer unlocking**" line.
The "**Computer locked**" status no longer needs to be confirmed and the airbag warning light on the instrument panel must extinguish.

Removal

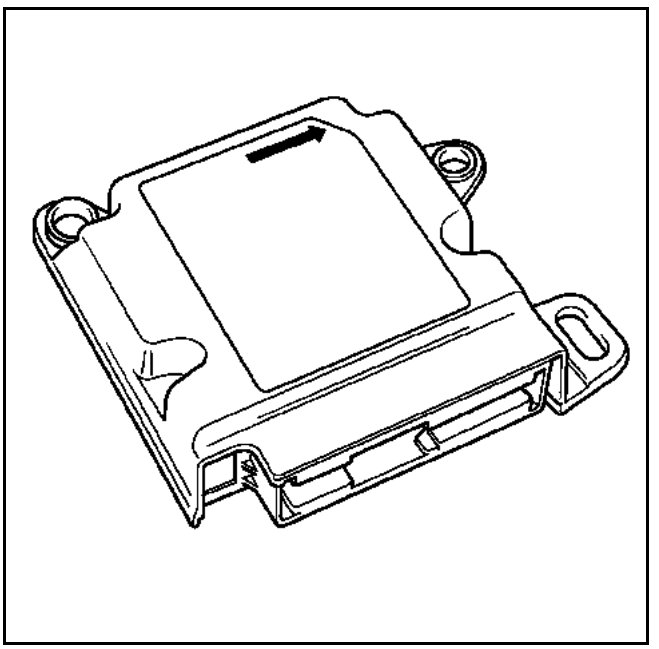
The computer is located on the central console.



WARNING

- Do not use hammers, or cause any impact on the floor, during an operation under the vehicle (exhaust, bodywork, etc.), without first locking the computer using the fault finding tool.
- An electrical accessory retrofitted to the vehicle (speaker, alarm unit and any device which may generate a magnetic field), must not be placed in close proximity to the airbag/pretensioner computer.

Computer after removal



PASSENGER FRONT AIRBAG DISABLEMENT KEY

The inhibitor key, which is located on the instrument panel, has two positions:

- **ON** position = passenger front airbag functioning,
- **OFF** position = passenger airbag is deactivated to allow a child seat to be fitted.

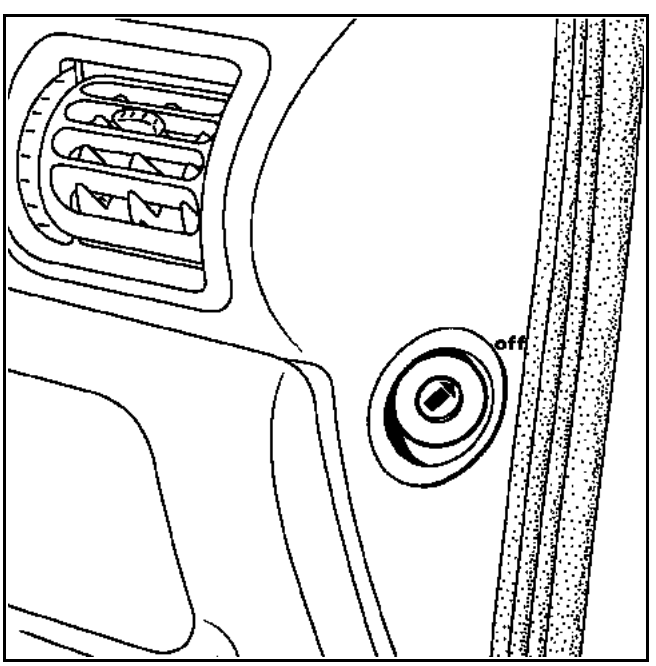
This inhibitor key position is indicated on the instrument panel by the warning light "**AIRBAG OFF**".

Operating principle

The switch arrow must be in the "**OFF**" position, see drawing, for the passenger airbag to be disabled.

To do this:
– switch off the ignition,
– put the ignition key in the inhibitor switch (passenger side of the instrument panel),
– the key will return automatically to the "**OFF**" position when it is released.

On the instrument panel, a warning light "**AIRBAG OFF**" confirms that the airbag is disabled upon switching on the ignition.



Passenger airbag operation (engine switched off)

Put the key in the inhibitor switch to prime the passenger airbag.

Turn the key so that the switch is at "**ON**", then remove.

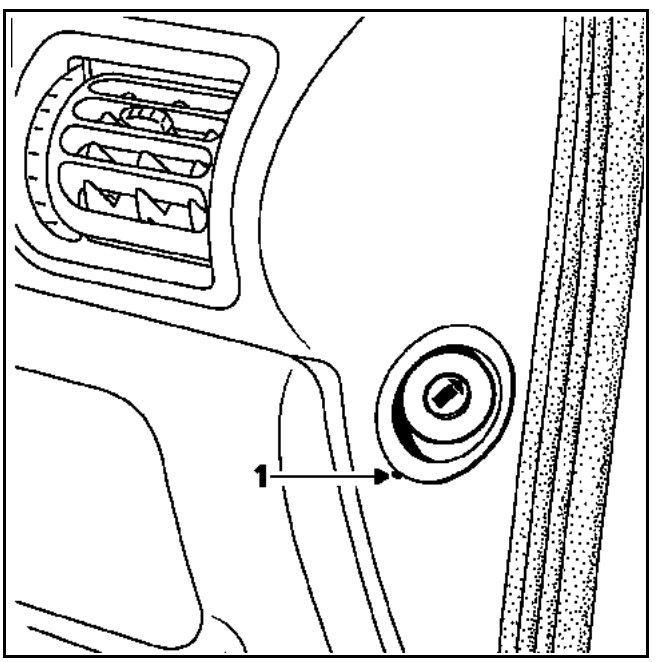
The position of the inhibitor switch can be confirmed using the fault finding tools: **ET 085** "**Locking contact switch**".

IMPORTANT: the position of the inhibitor switch is only taken into account if the ignition is switched off and the computer is configured correctly.

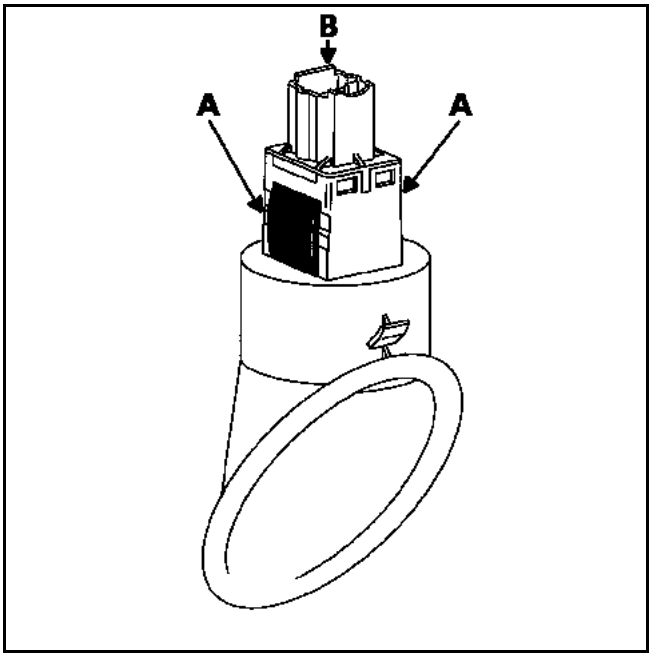
IMPORTANT: before doing any work on the airbag system, lock the computer using a fault finding tool. When this function is activated all the ignition lines are disabled and the airbag warning light on the instrument panel illuminates when ignition is switched on.

REMOVAL OF INHIBITOR SWITCH

To remove the switch and its mounting, press gently on the small catch (1) using a small screwdriver, (see drawing), then retract the switch and its mounting.



Press (A) and push (B) to separate the switch from its mounting.



Inhibitor key resistance:
– key in "**OFF**" position = **100** Ω
– key in "**ON**" position = **400** Ω

The inhibitor switch resistance can be recorded using the fault finding tools: **PR122** "**Locking sensor circuit impedance**", if the computer is configured correctly.

WARNING LIGHT ON THE INSTRUMENT PANEL

This warning light indicates that the pretensioners, driver and passenger airbags, and the "AIRBAG OFF" warning light are in good working order.

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

If it does not illuminate when ignition is switched on or illuminates when the vehicle is moving, this signals a fault in the system (see "**Fault Finding**" Technical Note).

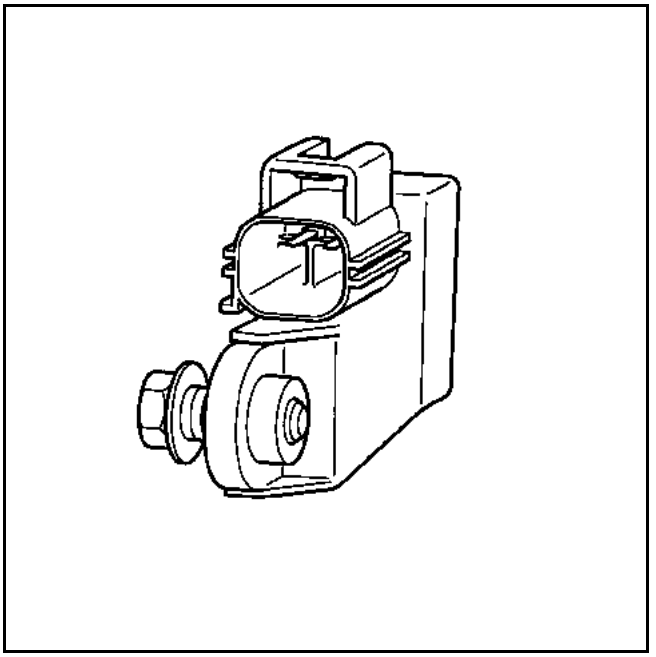
"AIRBAG OFF" WARNING LIGHT

This warning light is illuminated when the passenger front airbag inhibitor key is in the "**OFF**" position (deactivated)

IMPORTANT: the computer illuminates the AIRBAG warning light (fault) if the "AIRBAG OFF" warning light is defective while the inhibitor switch is in the "OFF" position.

SIDE IMPACT SENSORS

The impact sensors are designed to function with this type of computer.



Depending on the vehicle equipment, check the computer configuration using the "**Control**", "**Scénario**", "**System components configuration**" menu:
– "**Driver's side sensor**",
– "**Passenger side sensor**.

NB: this type of computer does not require programming of the side sensors.

Configuration of units fitted with a 3rd generation orange 50 track connector

The new units which can be recognised by the title "**ACU3.8**" by the fault finding tools (except **XR25**) are delivered as non-configured "**side airbags**" .

If this configuration is not carried out, the airbag warning light remains illuminated (ignition switched on).

- **using tools NXR, OPTIMA 5800 and CLIP**
  1 Select the "**Fault finding**" menu,
  2 Select and validate the vehicle type
  3 Select and validate the system to be checked "**Airbag**"
  4 Select the menu "**Control**", "**Scénario**"
  5 Select and confirm the "**System components configuration**" or "**Programming**" function (depending on tool version),
  6 Select and confirm the required configurations,
  7 Quit fault finding using the "**Fault finding finished**" button,
  8 Switch off and on again to confirm the configuration using the "**System components configuration**" function.

These computers can be fitted with key-operated inhibitor systems or Ixofix sensors on the passenger seat (not currently available).

Configure the computer for vehicle equipment using the "**Control**", "**Scénario**" functions and confirm "**System components configuration**" or "**Programming**" (depending on tool version):

- "**Isofix function**"
- "**Passenger airbag locking using key**"

Orange 50 track connector

Track	Description
1	driver's front airbag +
2	driver's front airbag -
3	passenger's front airbag +
4	passenger's front airbag -
5	driver's pretensioner +
6	passenger's pretensioner +
7	passenger's pretensioner -
8 and 9	Not used
10	Airbag warning light on instrument panel
11	Earth
12	Passenger's front airbag inhibitor key +
13 to 15	Not used
16	driver's side airbag +
17	driver's side airbag -
18	passenger's side airbag +
19	passenger's side airbag -
20	Not used
21	driver's side sensor +
22	driver's side sensor -
23	passenger's side sensor +
24	passenger's side sensor -
25	+ after ignition feed
26 to 29	Shunt
30	driver pretensioner -
31 and 32	Shunt
33 and 34	Not used
35 and 36	Shunt
37	Passenger front airbag inhibitor key
38 and 39	Shunt
40	Not used
41 to 44	Shunt
45	Not used
46	Fault finding line K
47	"airbag OFF" warning light
48	Impact detection information
49 and 50	Not used