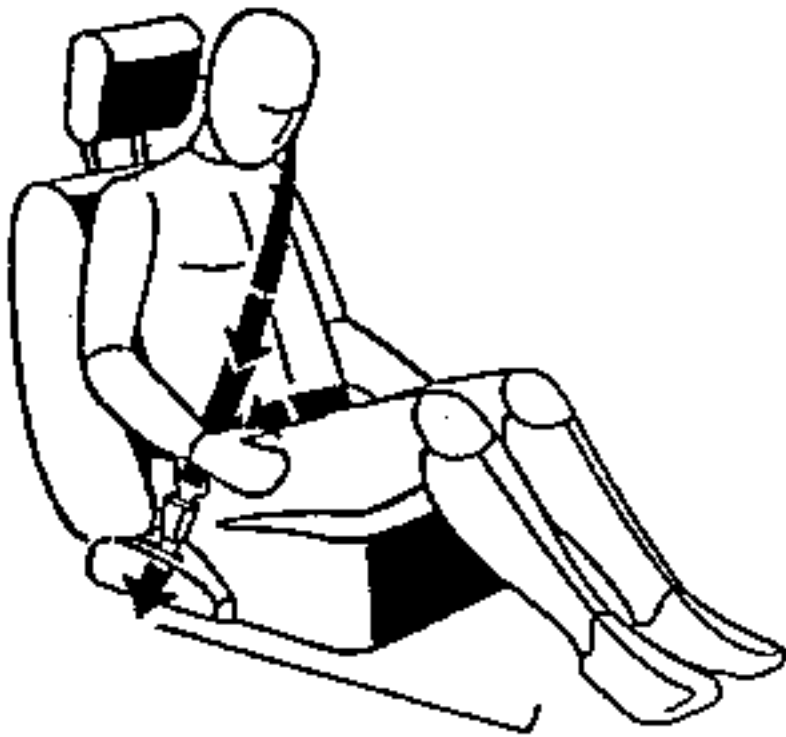


GENERAL

There are 3 complementary safety systems to the seat belts.

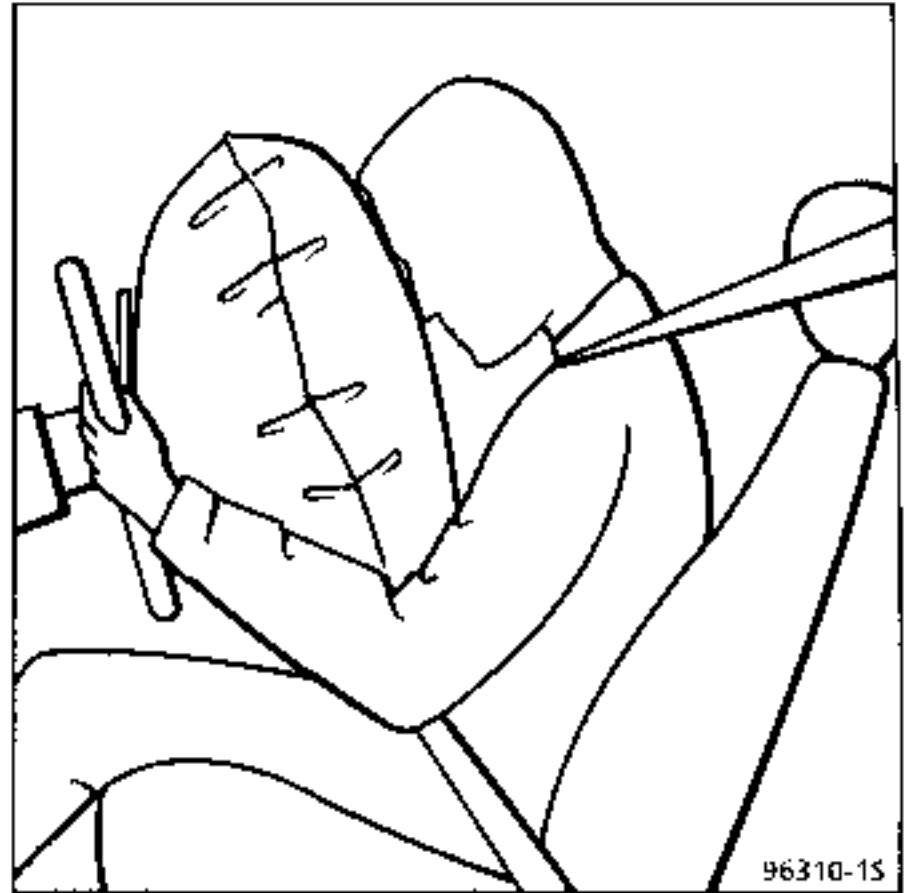
In the event of a frontal impact of sufficiently high force, the computer managing these systems triggers:

- The **pre-tensioners** retract the seat belts for the front seats, so as to pull the belts against the body.



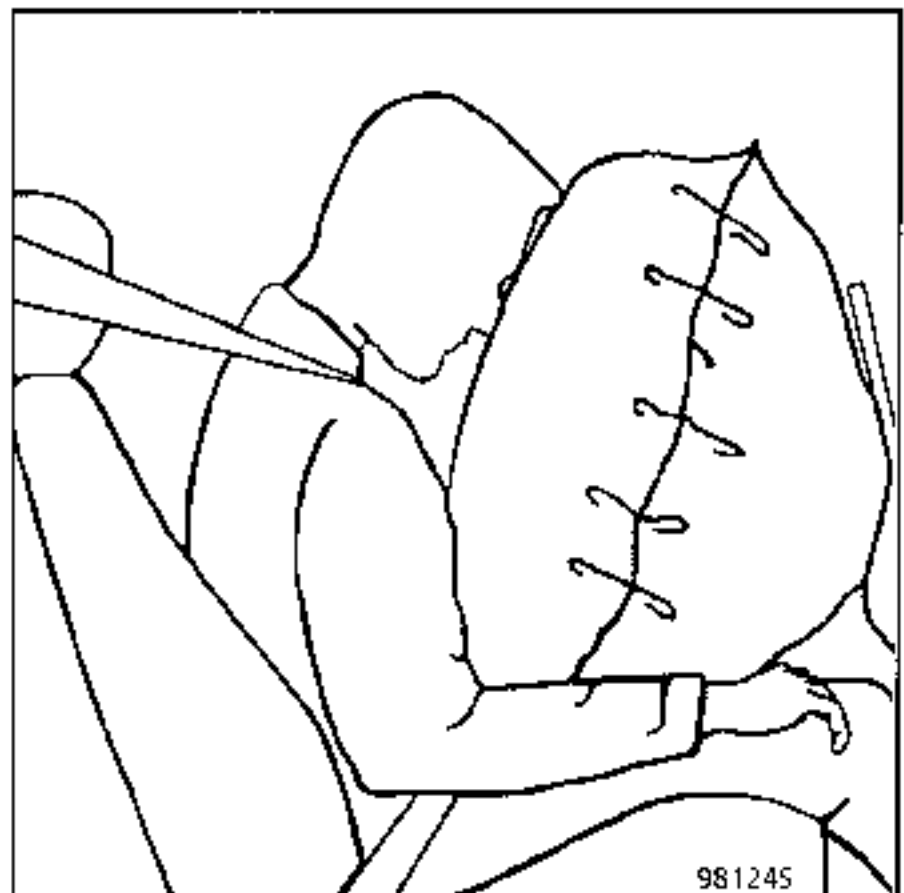
MAB' 11075

- The **airbag cushion** which inflates from the centre of the steering wheel to protect the driver's head.



96310-15

- The **airbag module** which inflates from the dashboard to protect the front passenger's head.



981245

OPERATION AND BEHAVIOUR OF AIR BAGS AND SEAT BELT PRE-TENSIONERS

1) Operation

Should an accident occur, the air bag prevents the occupant's head from coming into contact with the steering wheel or the dashboard.

In addition, by its absorption effect it reduces the maximum acceleration speed of the head.

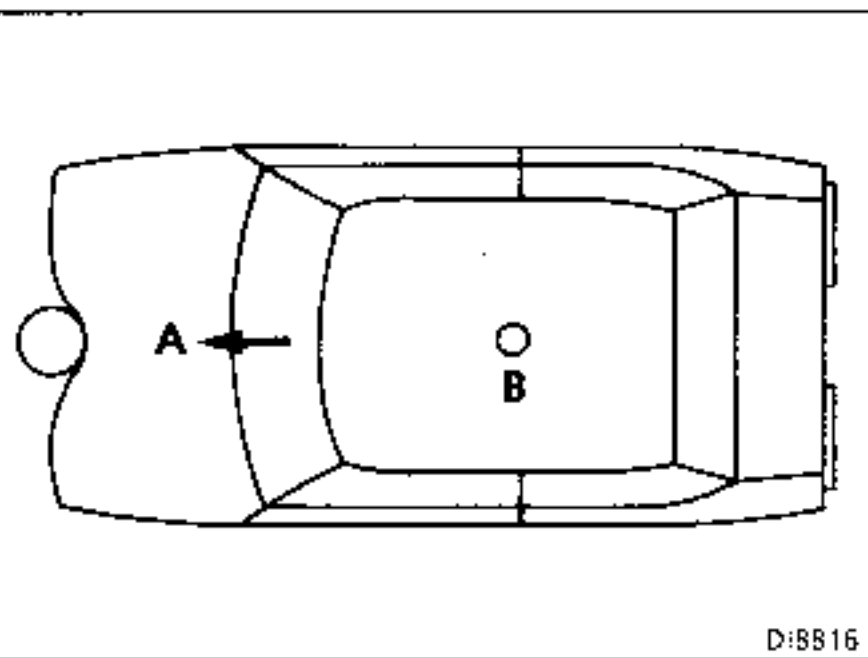
2) Air bag trigger threshold

There are four likely situations which may occur :

1) FRONTAL IMPACT AGAINST A RIGID OBSTACLE

The triggering speed depends on the surface of the obstacle; the weaker the surface, the greater the speed.

The seat belt pre-tensioners are generally triggered at a lower speed than the speed at which the air bag is triggered.

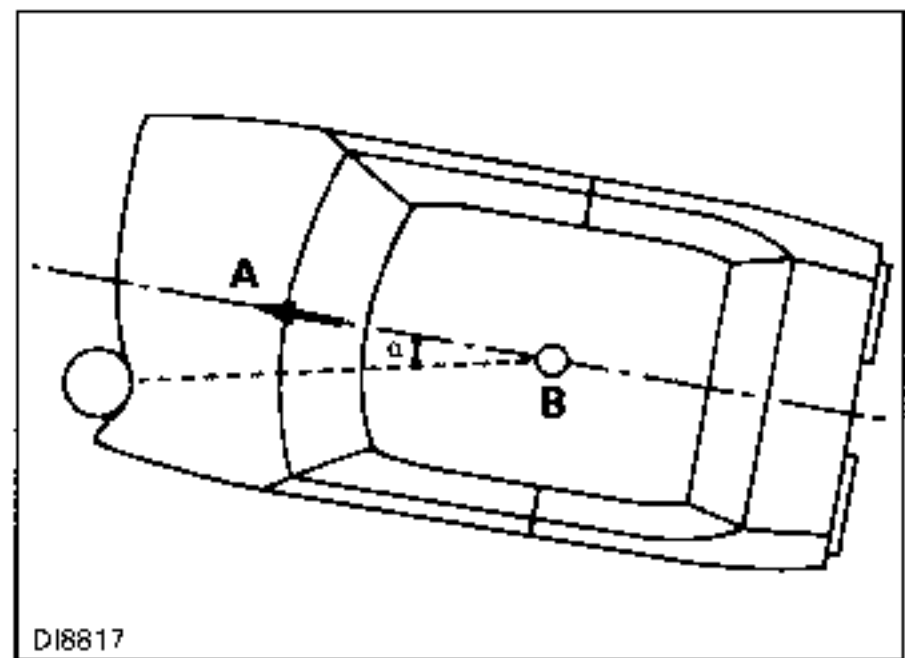


A Direction of travel
B Centre of gravity

2) OFF-SET IMPACT AGAINST A RIGID OBSTACLE :

In this case, the speed at which the air bag is triggered depends on the angle of impact α .

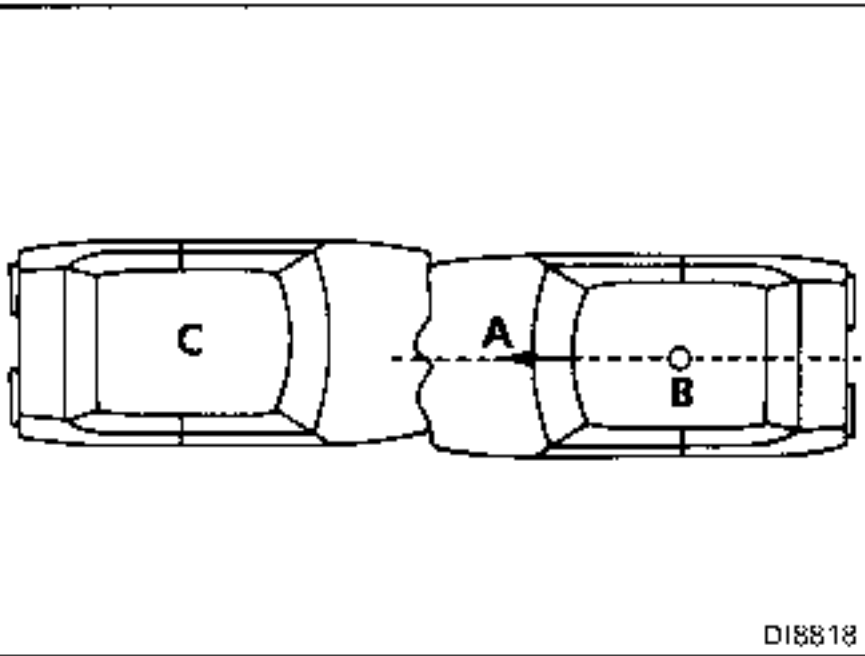
The greater the angle, the greater the triggering speed.



3) FRONTAL IMPACT AGAINST A FLEXIBLE OBSTACLE :

The speed at which the air bag is triggered depends on the degrees of flexibility of the bodywork of the vehicle impacted.

The more "supple" the other vehicle, the greater the triggering speed required (for a vehicle of equal suppleness and 100 % cover, the speed is greater than 25 mph (40 km/h) *(relative speed)*).

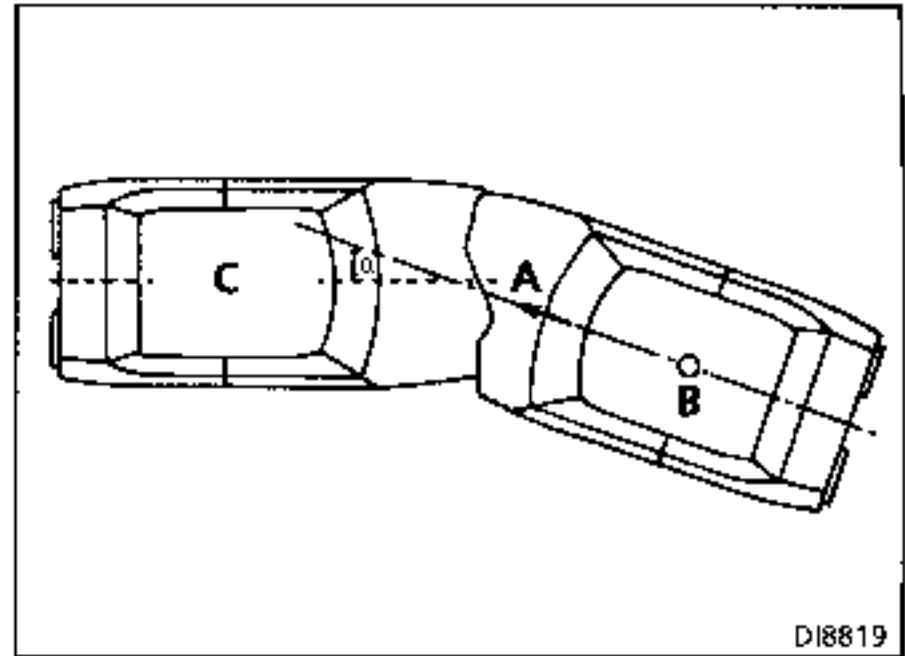


- A Direction of travel
- B Centre of gravity
- C Parked vehicle

4) OFF-SET IMPACT AGAINST A FLEXIBLE OBSTACLE:

The speed required to trigger the air bag depends on the angle of impact α and on the flexibility of the impacted vehicle in the direction of travel.

The speed required to trigger the air bag is much greater if the angle α is wider and the flexibility of the impacted vehicle is greater.



5) SUMMARY AND CONCLUSION

- The air bag only operates with deceleration in the **direction of travel**. A side impact or a "roll-over" may **not trigger** the operation of the air bag.
- The projection energy of the vehicle is transformed into deformation energy of the front section of the vehicle. Deceleration is much greater if deformation of the impacted vehicle is low, that is, the air bag will be triggered much sooner .
- The minimum speed at which the airbag is triggered is much greater the wider the angle of impact α (see above).
- If, during frontal impact there is no deformation to the front right-hand pillars, or engine-gearbox impact, non-triggering of the air bag **cannot be** considered as an operating incident as the speed required for triggering the air bag has possibly not been reached.
- The seat belt pre-tensioners are always triggered at a lower speed than that of the air bag.
- Experience shows that the impact speeds indicated by the customer are not always correct as their reactions are generally reduced following the impact which has occurred. There is nearly always some confusion between the cruising speed prior to the impact and the actual speed of the impact, which fortunately in general is a lot less.

Various vehicle configurations are possible:

Vehicle equipped with:

- **Pre-tensioners only.**
- **Pre-tensioners and driver's airbag.**
- **Pre-tensioners, driver's airbag and passenger's airbag.**

NOTE :

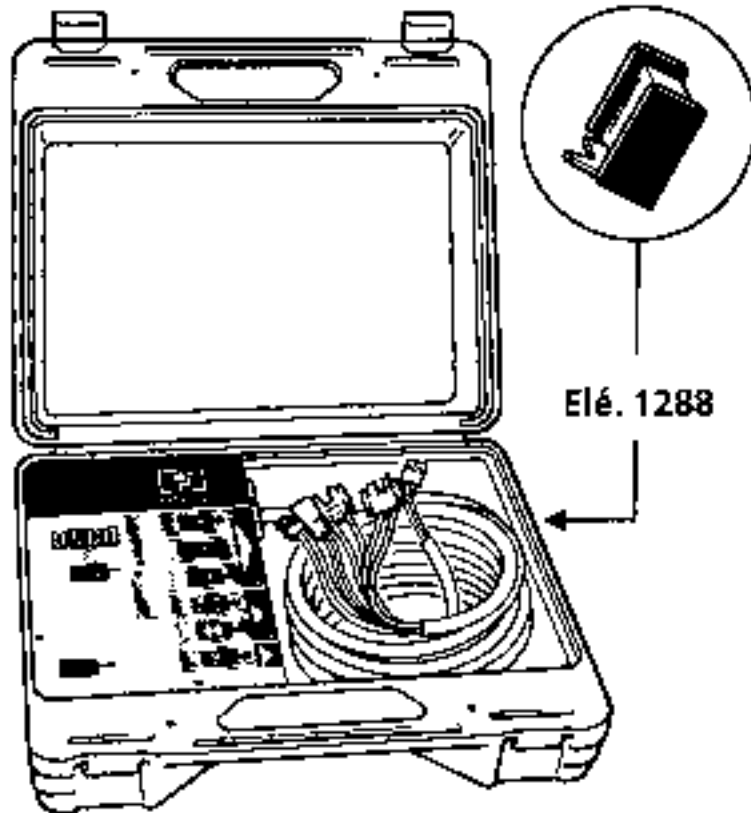
- **A driver's airbag may be fitted in After Sales for the Renault 19 only (see N.T. 2081).**
- **A vehicle fitted with a driver's airbag may be identified by a label applied in the lower corner of the windscreen on the driver's side and the word "Airbag" in the centre of the steering wheel.**
- **If a passenger airbag is fitted, a second label is applied in the lower corner of the windscreen on the passenger side and the word "Airbag" is marked on the dashboard on the passenger side. (See section on "Passenger side airbag".**

**All of these labels are available in a kit,
Part No 77 01 204 830.**

SPECIAL TOOLING

PRESENTATION

TEST KIT - XRBAG (Ele. 1288)



96833G

This equipment is a specially designed tool for testing and fault finding of airbag and pre-tensioner safety equipment.

IMPORTANT : No measurements may be made on this system using an ohmmeter or any other electrical measuring equipment: the system may be triggered due to the operating current of the measuring equipment (refer to the section "Fault finding").

DUMMY AIRBAG MODULE

A dummy airbag ignition module in a small red box is supplied in the XRBAG kit (see previous diagram).

It has the same electrical specifications as a real ignition module and is used to replace the airbag cushion during fault finding to avoid discharge of the batteries when the unit is being removed from the vehicle, in the case of an "self-contained" airbag in the steering wheel.

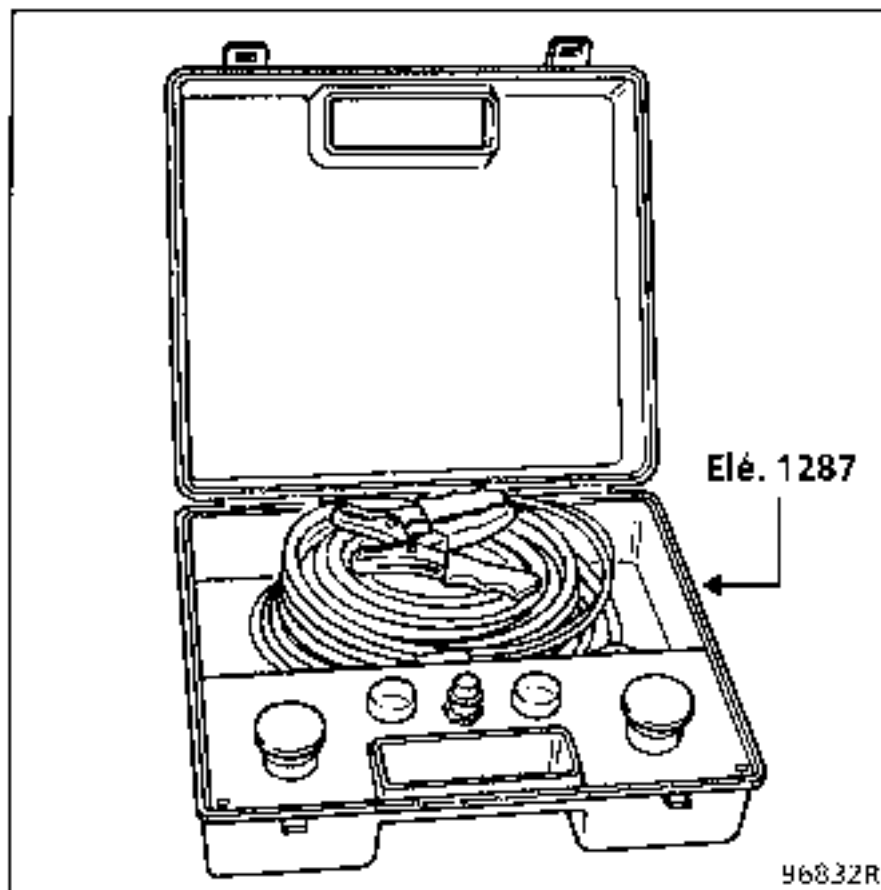
Two dummy ignition modules are required for fault finding on the passenger airbag.

Please contact your local After Sales Head Office for details of availability.

DESTRUCTION EQUIPMENT

In order to prevent any risk of accident or injury, the airbag and seat belt pre-tensioner pyrotechnic gas generators must be triggered before scrapping a vehicle or component.

IT IS IMPERATIVE that you use tool **Ele. 1287** designed to carry out this operation.

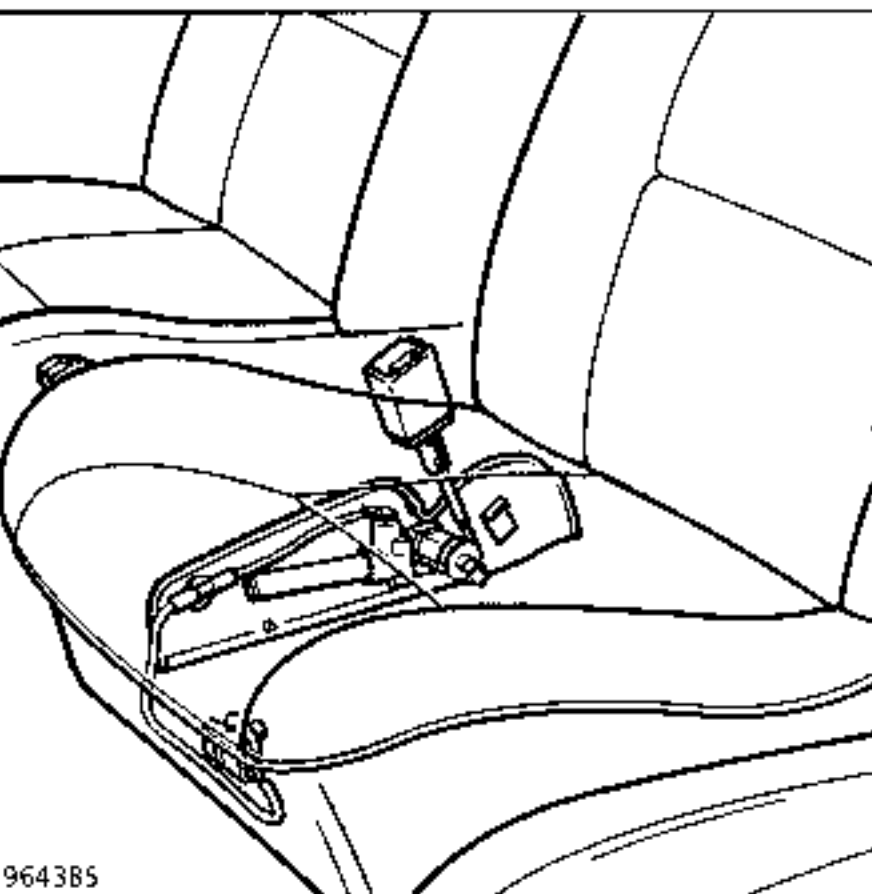


Refer to the section "Destruction Procedure".

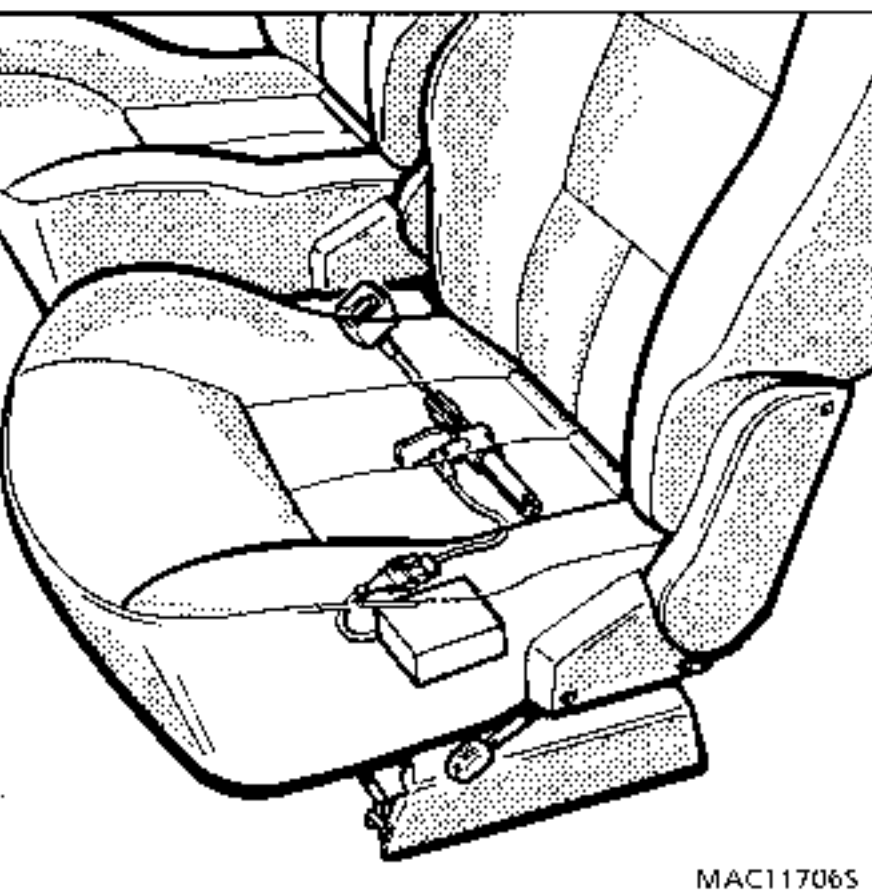
DESCRIPTION

SEAT BELT PRE-TENSIONERS

They are mounted on the side of the front seats.



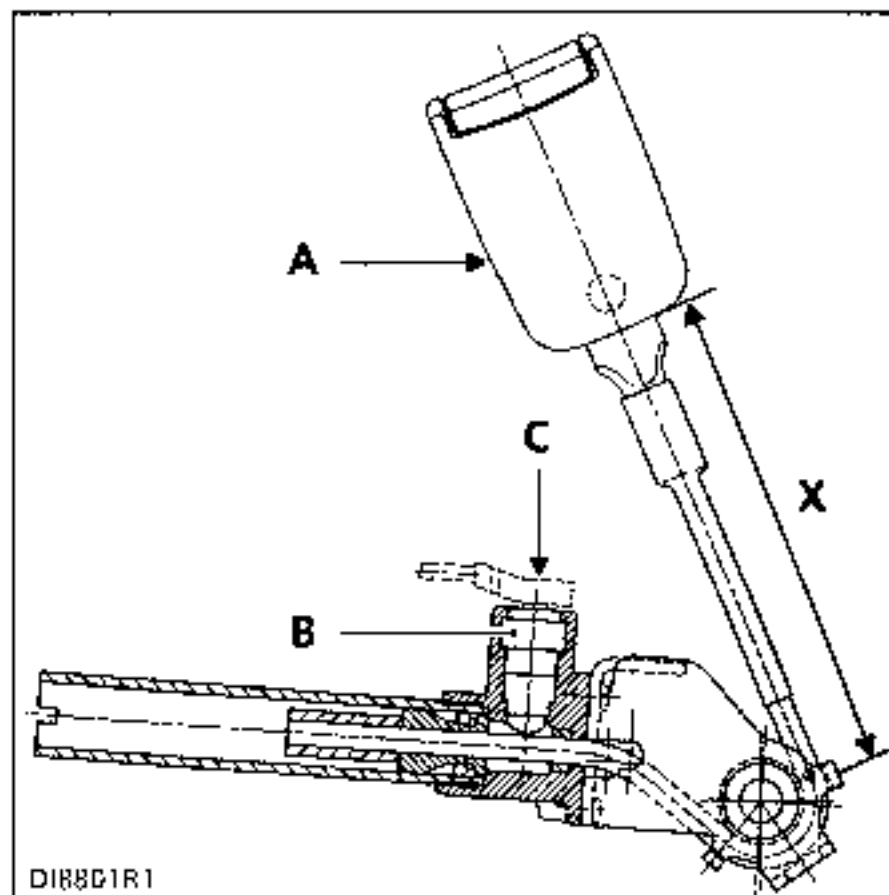
Example : Clio and R19



Example : Espace

A pre-tensioner is made up of :
– a special seat belt buckle (A),
– a gas pyrotechnic generator and ignition module (B).

NOTE :
X = 120 mm for all vehicles except Safrane
X = 160 mm for Safrane

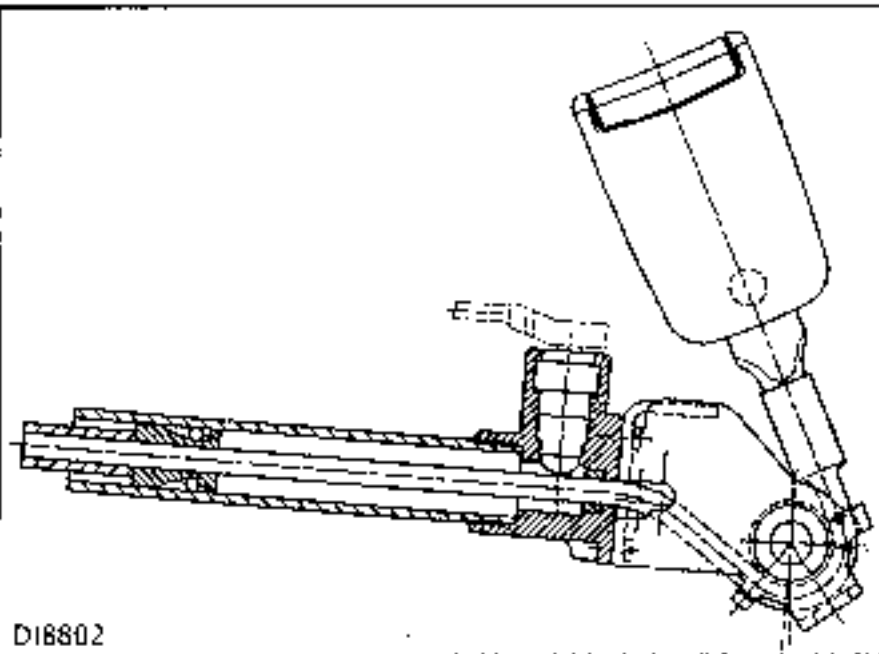


A non-triggered seat belt pre-tensioner.

When triggered, the system retracts the buckle up to 70 mm (maximum).

The retracting travel may be different from one side to the other. These differences are due to the following :

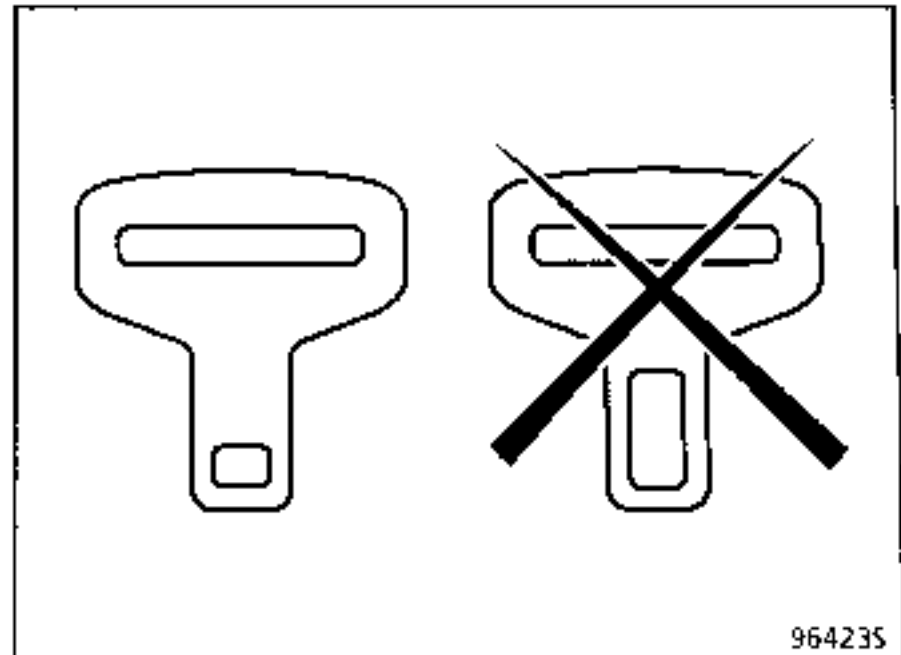
- No occupant in the seat, or seat belts not attached:
→ buckle retraction is maximum.
- The belts of the vehicle occupants are tight or securely against the upper body :
→ retraction is low.



Pre-tensioner triggered with maximum retraction.

The components of the pre-tensioner cannot be separated.

IMPORTANT : The pre-tensioner catches **must be used** with seat belts having buckles with small windows.



REMOVAL

IMPORTANT : Never bring pyrotechnic systems (pre-tensioners) near to a source of heat or naked flame - there is a risk that they may be triggered.

Remove:

- the violet pre-tensioner connector located under the front seat,
- the seat (4 mounting bolts under the body),
- the pre-tensioner assembly.

IMPORTANT: Before scrapping a non-triggered pre-tensioner it must be destroyed in accordance with the method for destruction (see section on 'Destruction Procedure').

REFITTING

Ensure the wiring is correctly routed and secured under the seat:

- 1 clip on seats with manual control,
- 3 clips on seats with electric control (Laguna and Safrane).

NOTE : Only the wiring with 3 clips is available from the Parts Department. If the seat in question has manual control remove the 2 extra clips, taking care not to damage the wiring (Laguna and Safrane).

IMPORTANT :

- Before reconnecting the pre-tensioners (violet connector under the seat), check the condition of the assembly using the test tool **XRBA9 (Ele. 1288)** for both pre-tensioners (see section on "Fault finding").
- On the pre-tensioner side, make sure connector **C** is fitted firmly).

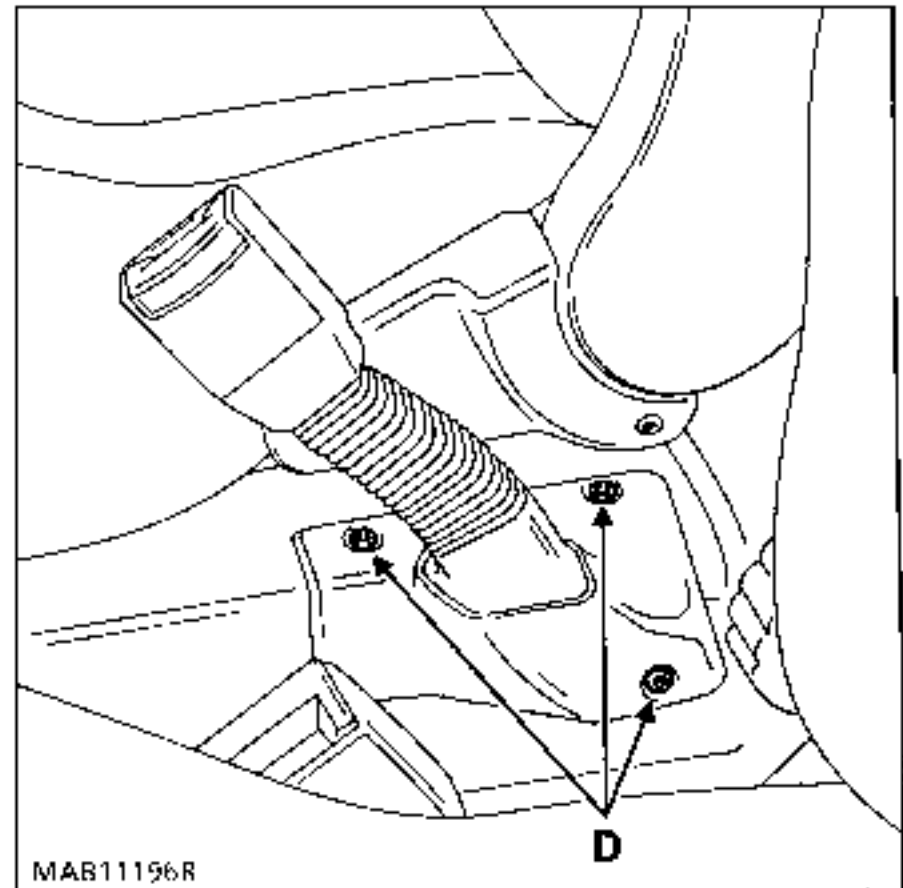
SPECIAL POINTS WHEN REMOVING A PRE-TENSIONER ON THE ESPACE

Disconnect the battery.

Wait for 10 minutes.

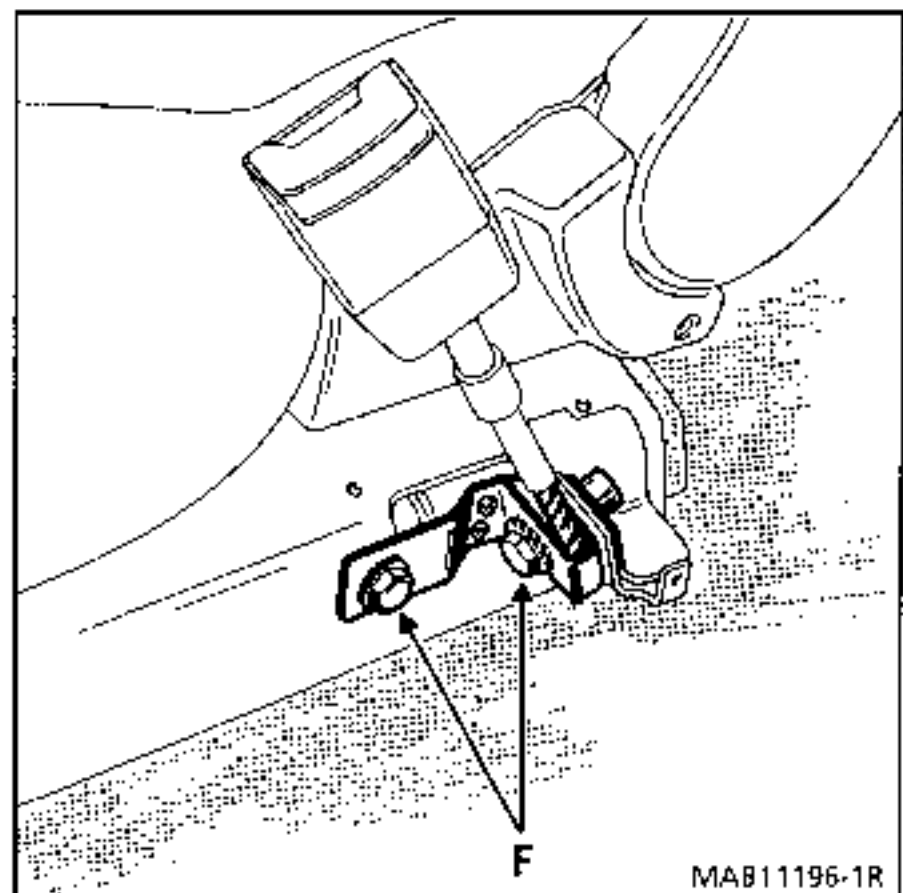
Push the seat as far back as possible.

Remove the stalk trim - 3 bolts (D).



Disconnect the pre-tensioner.

Unscrew the two bolts (F).



Remove the assembly.

COMPUTER

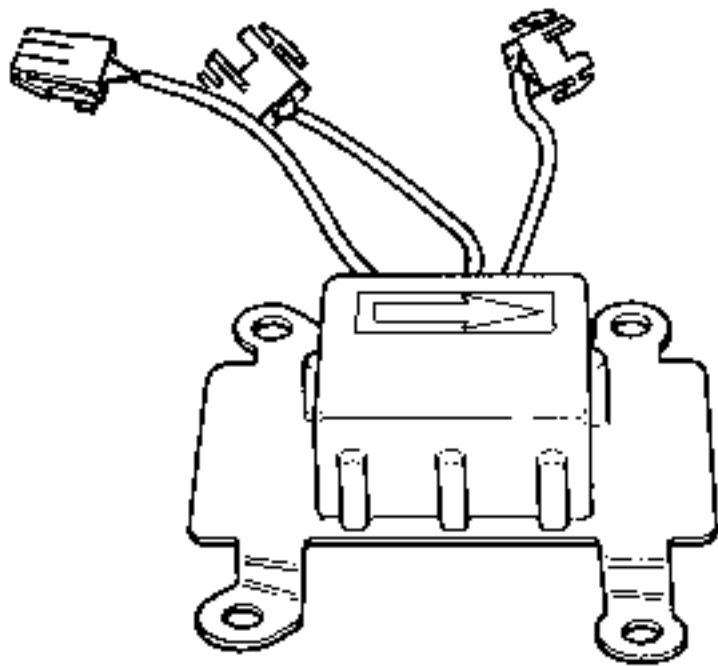
As the two pre-tensioners are connected in parallel they are triggered at the same time by the computer.

There are two possible types of computer:

1st case :

A pre-tensioner computer which consists of:

- a electro-mechanical sensor,
- an ignition trigger system for both pre-tensioners.

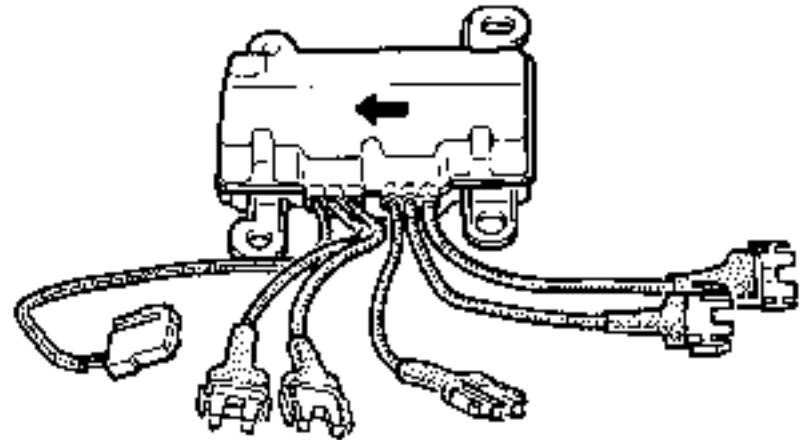


2nd case :

A computer for pre-tensioners and airbag(s) which includes:

- an electro-mechanical sensor for the pre-tensioners,
- an electro-mechanical sensor for the airbag(s),

- the ignition trigger system for the pre-tensioners and/or airbag(s),
- the electronic monitoring system for triggering the airbag(s).



NOTE : For the airbag equipment, the computer (except for the "self-contained" airbag) controls the triggering of both or all the three functions. The Twingo, on the other hand, is equipped with two electronic units and the pre-tensioners and airbags are controlled independently.

IMPORTANT

Before removing the computer :

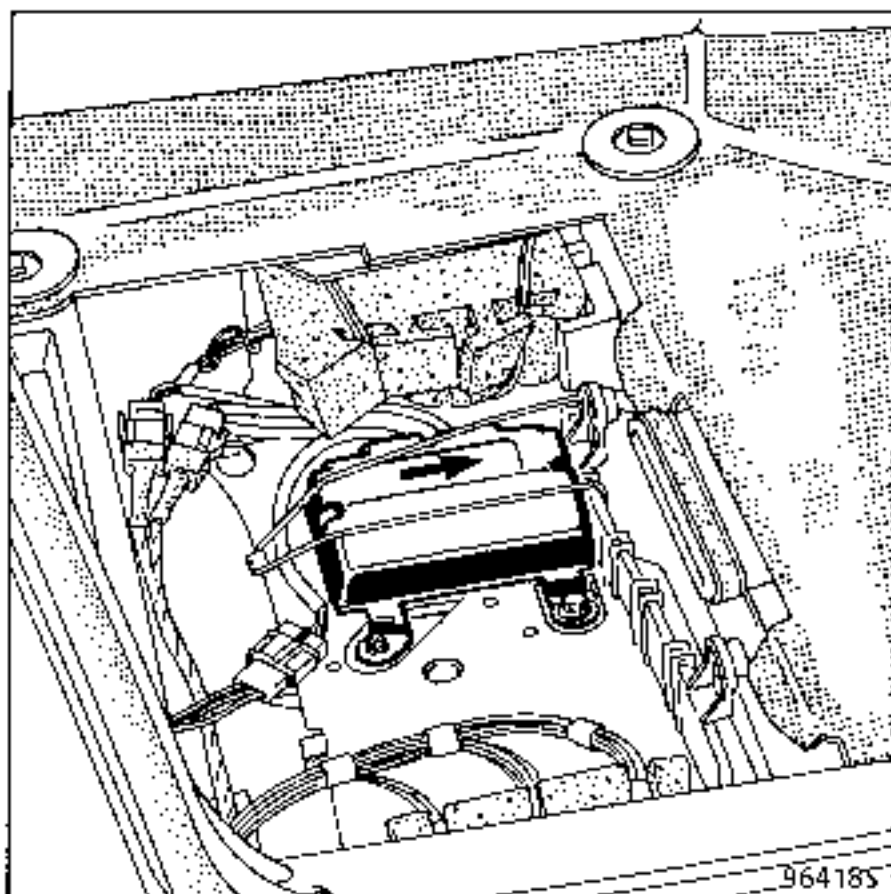
- Turn the ignition off.
- Remove the fuse (see Technical Note with wiring diagrams).
- Wait 5 mins. (except the Espace, where it is necessary to wait 10 mins.) for the reserve capacity to discharge (in the computer).
- Disconnect the computer connectors to avoid all risk of triggering the system.
- Ensure that no-one is in the passenger compartment during the complete operation on the computer.

POSITION OF THE COMPUTER

Laguna and Safrane

The computer is located under the passenger seat and secured by three or four nuts (tightening torque : 0.4 daN.m).

To reach the computer, move the seat as far forward as possible, release the carpet and remove the plastic cover which is secured by 2 screws.

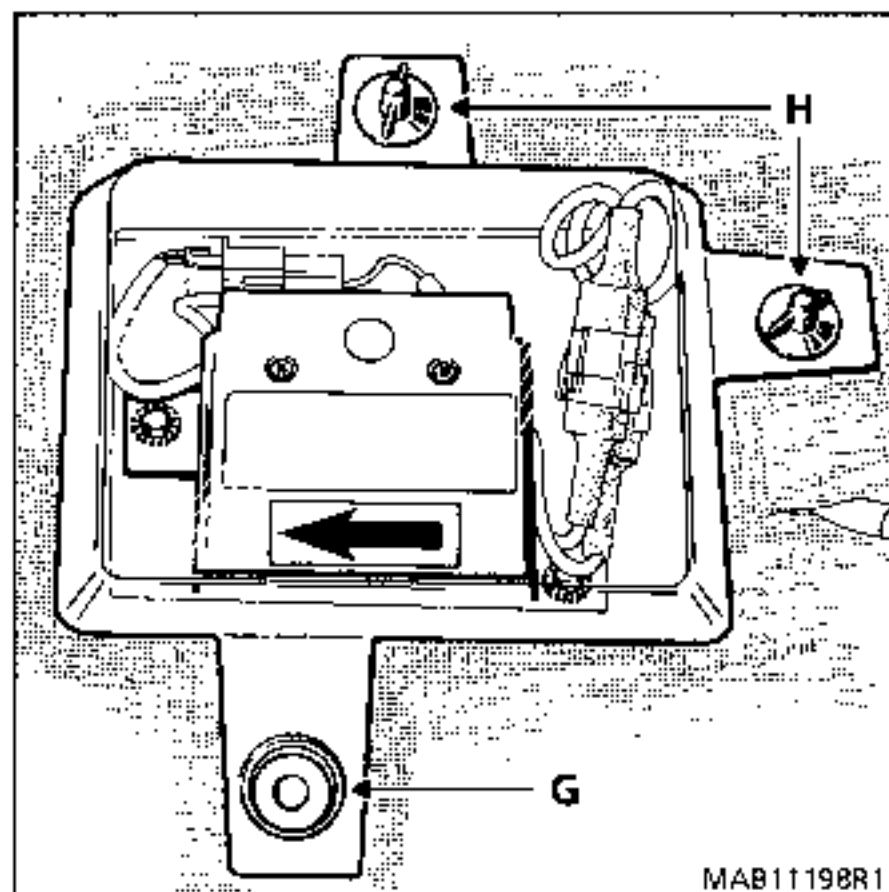


Example : Safrane

Espace

The computer is located under the front left-hand seat and held in position by two nuts (tightening torque: 0.4 daN.m).

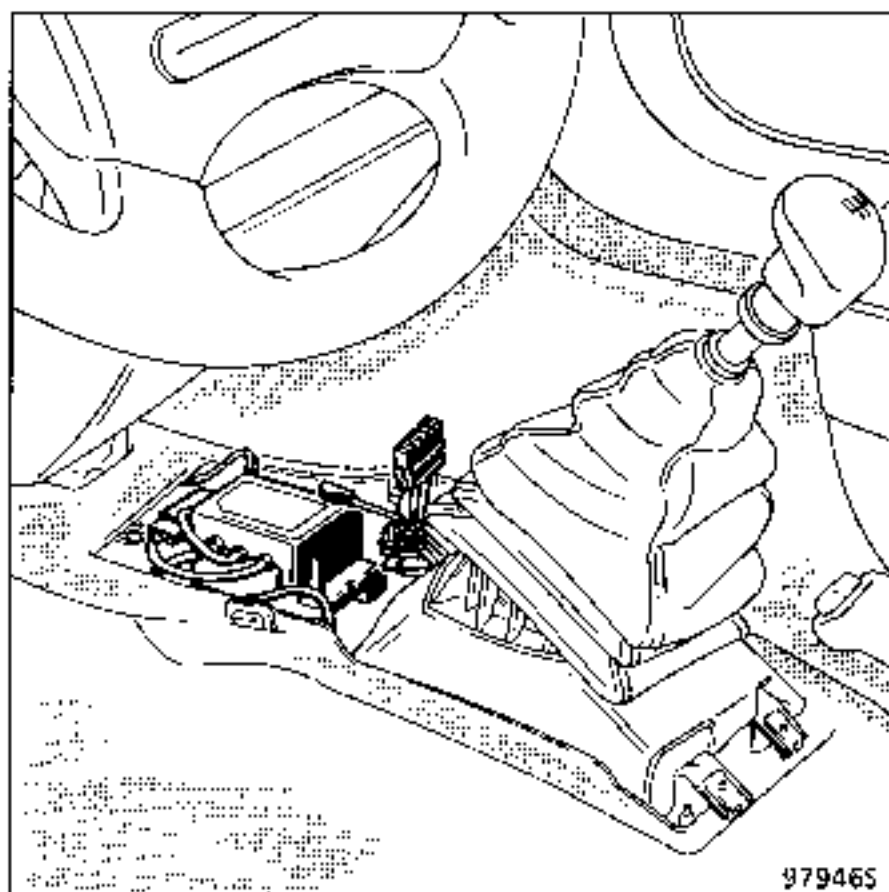
To reach the computer, move the seat as far back as possible, remove the mounting bolt for the front left-hand seat runner (G) and the fittings securing the cover (H).



Twingo, Clio and R19

The computer is located in the central console.

To reach the computer, remove the central console after disconnecting the cigarette lighter and the door locking switch (depending on equipment level). Remove the fittings securing it (tightening torque : 0.4 daN.m).



Example : Clio

IMPORTANT: When the console is removed, make sure that the console mounting screws are the correct length in order to avoid any risk of damage to the cables.

IMPORTANT : The wiring continuity of the system must not be checked using an ohmmeter or any other electrical measuring equipment without isolating the seat belt pre-tensioners : the system may be triggered due to the operating current of the measuring equipment.
The test equipment **XR BAG (Ele. 1288)** **MUST** be used (see section "Fault finding").

IMPORTANT : The pre-tensioners may be triggered when the computer is not fed (+ after ignition cut or feed connector disconnected for less than 5 minutes).

REFITTING (Special points)

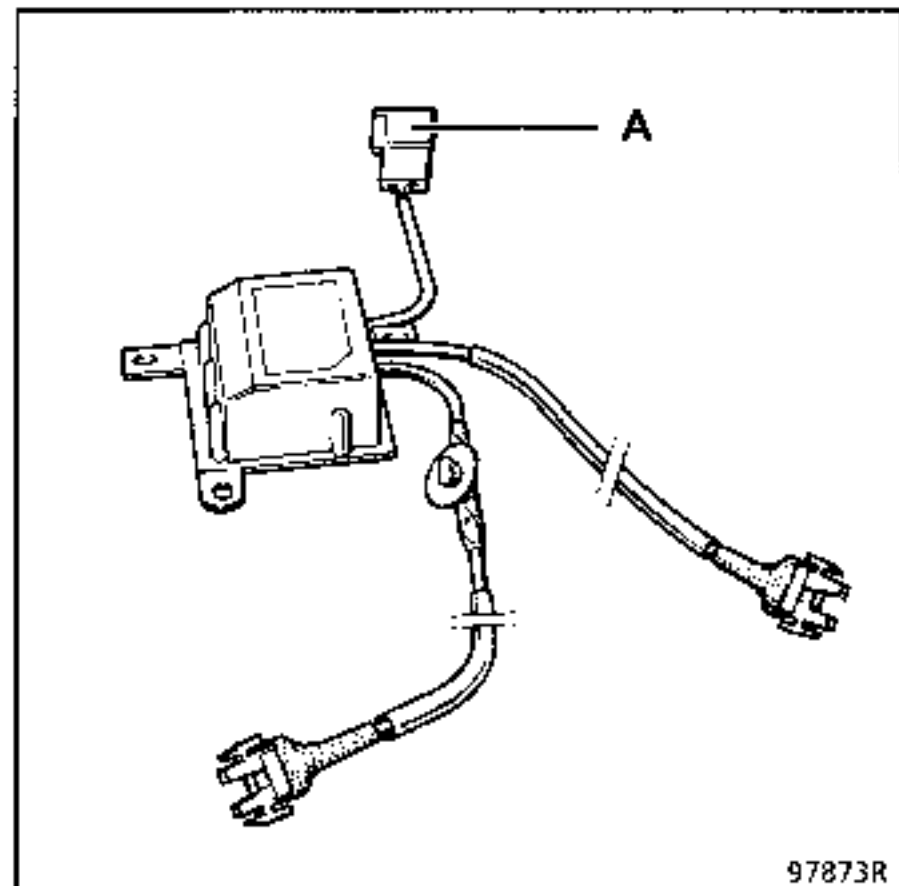
IMPORTANT: The computer must be replaced if the pre-tensioners have been triggered. Certain components are no longer to specification after the triggering current has passed through them.

IMPORTANT : When refitting the computer, it must be secured to the vehicle before the connectors are reconnected. The arrow on the computer must be pointing forwards.

CONNECTIONS

- One 3-track connector (A)

Track	Allocation
1	After ignition
2	Not used
3	Earth



- Two 2-track violet connectors (located under the front seats) for triggering of the pre-tensioners.

NOTE : On these two trigger lines, there are two other intermediate violet connectors on the computer output on the R19, Laguna and Safrane.

NOTE: The pre-tensioner trigger wiring connectors are special as they short circuit (tab holder side) when they are disconnected, which prevents accidental triggering of the system (aerial effect for example).

NOTE :

- The vehicle battery normally feeds the computer and the ignition module.
A reserve energy capacity is included in the computer however, in case the battery is disconnected at the initial moment of impact.
- The pre-tensioners have no warning light.

ATTENTION :

- **IMPORTANT:** when an operation is carried out under the vehicle (exhaust, bodywork, etc.), do not use a hammer or transfer impact forces to the floor of the vehicle without removing the pre-tensioner fuse and waiting 5 minutes for the reserve capacity to discharge (see Technical Note with wiring diagrams).
- When installing after-sales electrical accessories (speakers, alarm or any other equipment which may create a magnetic field), these must not be fitted near to an airbag/pre-tensioner computer.

OPERATIONS ON THE TRIGGER WIRING

If there is a fault on one of these wires, the component must be replaced - it should not be repaired.

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

When fitting new wiring, make sure that this is not damaged in any way and that it is correctly routed.

NOTE : The trigger wiring is available from the Parts Department as a single kit, containing the airbag and pre-tensioner wiring.

OPERATION

The pre-tensioner computer is in stand-by mode as soon as the ignition is turned on.

This computer monitors vehicle deceleration as recorded by its integral electro-mechanical sensor.

In the event of a frontal impact of sufficient force, the sensor triggers the simultaneous ignition of the two pyrotechnic generators for the front seat belt pre-tensioners.

Under the force of the gas generated by the system a piston is moved in a cylinder, pulling a cable connected to a corresponding central buckle, which retracts the seat belt.

This system will not trigger in the event of:

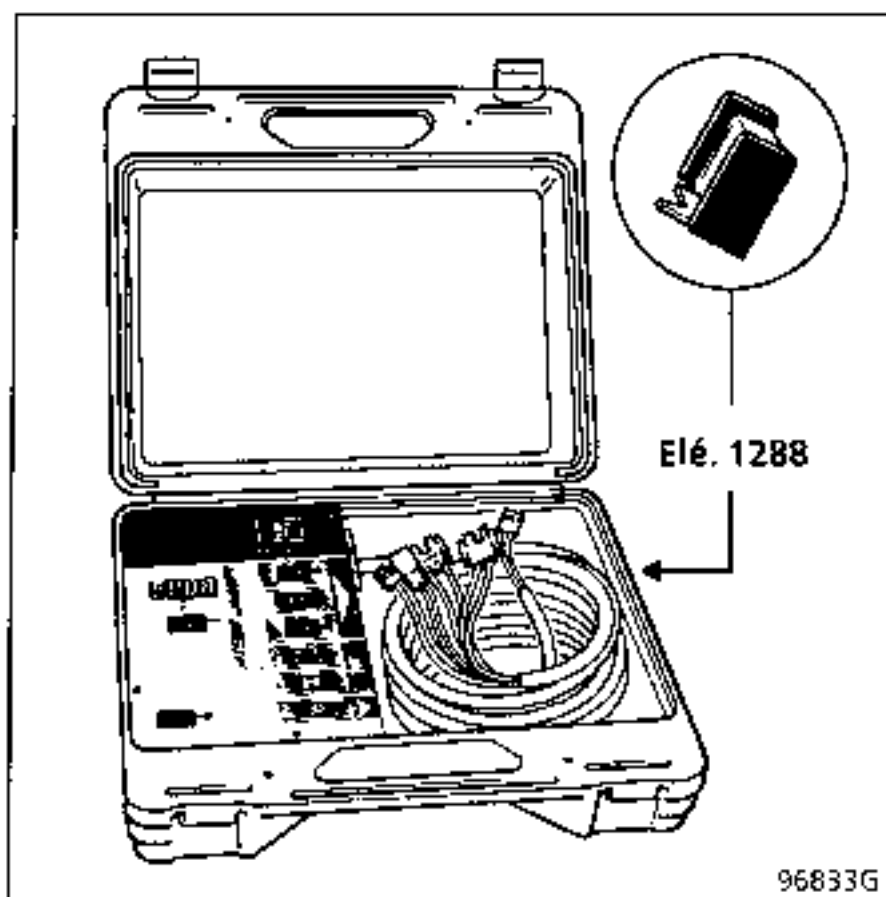
- a side impact,
- a rear impact.

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

IMPORTANT : The system **MUST** must be checked using the XRBAG tool following:

- an accident which did not cause the system to trigger,
- an attempted theft or actual theft of the vehicle,
- before selling a second-hand vehicle.

XR BAG TEST KIT (see section "Fault finding" for information on use).



REMINDER: if the seat belt pre-tensioners have been triggered, the computer **MUST** be replaced.

SEAT BELTS

If the seat belt pre-tensioners have been triggered, the front seat belt or belts must be replaced if they were in use at the time of the impact (if in any doubt, replace the seat belt). The physical forces applied to the catch affect the inertia reel and may have damaged the reel mechanism.

DESCRIPTION

DRIVER'S AIRBAG

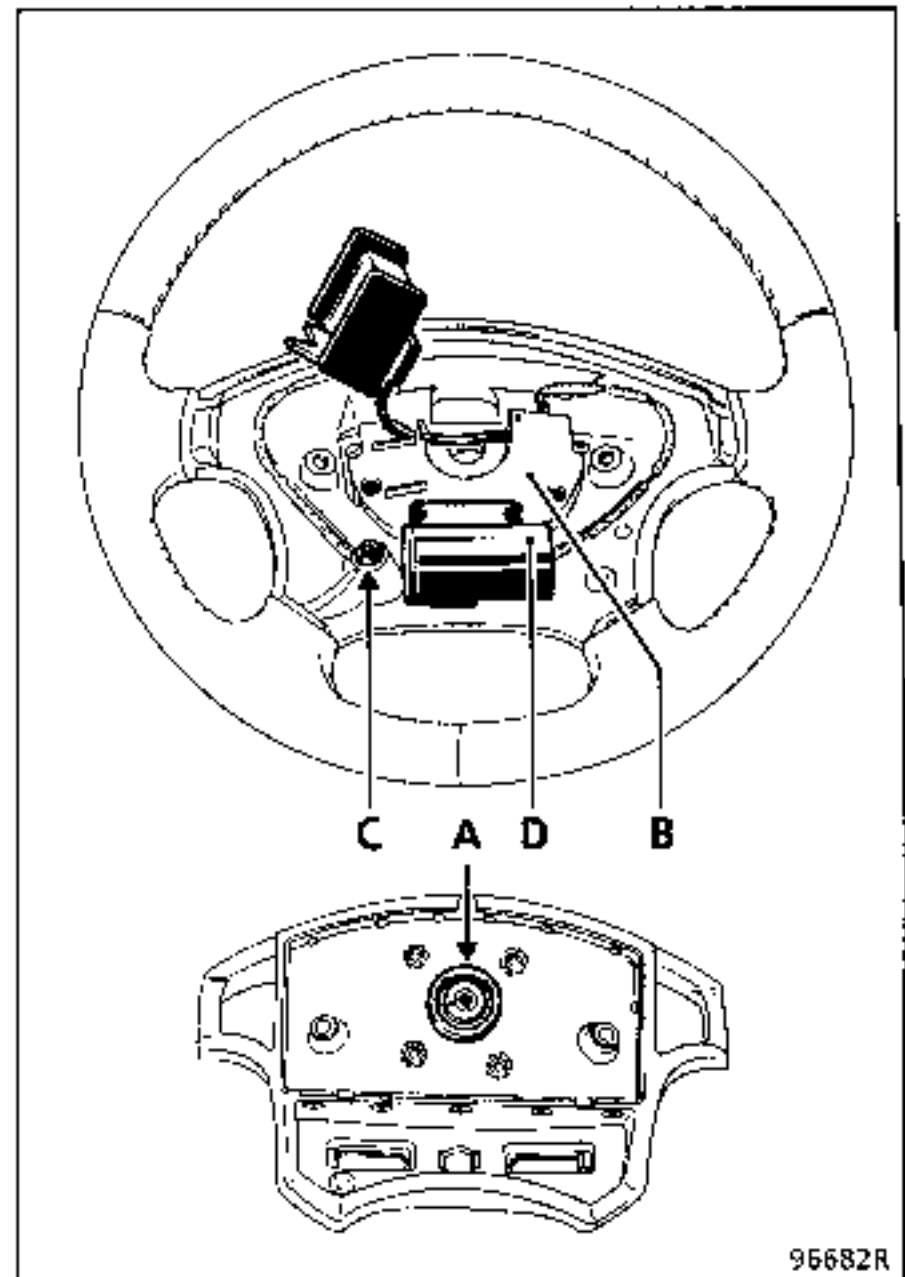
One of three systems may be fitted:

- "Self-contained" airbag (Clio, R19 and Espace types),
- "Central" airbag (Twingo, Laguna and Safrane types) **without** a passenger airbag,
- "Central" airbag (Twingo, Laguna and Safrane type) **with** a passenger airbag.

"SELF-CONTAINED" AIRBAG

This system comprises:

- an inflatable cushion,
- a pyrotechnic gas generator with ignition module (A),
- a computer (B) with:
 - an electro-mechanical sensor,
 - a trigger line monitoring the system,
- a warning light (C),
- a main battery/secondary battery assembly (D).



95682R

A vehicle fitted with a driver's airbag may be identified by a label applied in the lower corner of the windscreen on the driver's side and the term "Airbag" in the centre of the steering wheel. (This adhesive label can be obtained under Part No. 77 01 204 830).

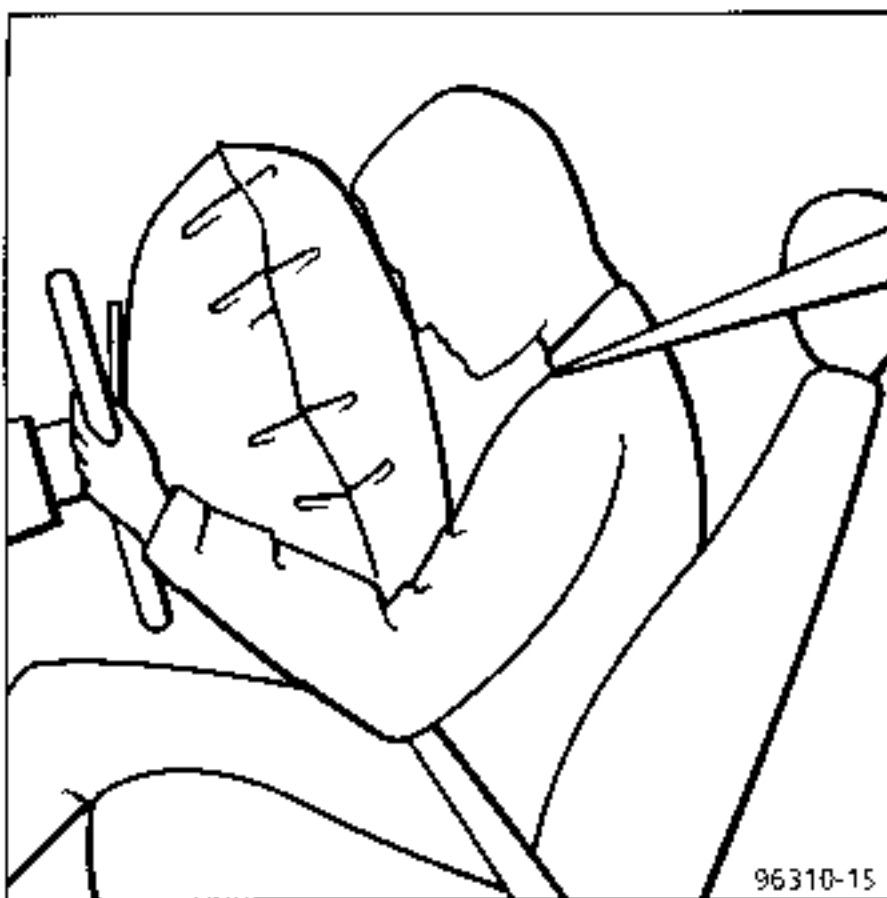
The airbag is of the "self-contained" type. It is electrically fed by a main battery in the centre of the steering wheel.

When this battery is no longer serviceable, a secondary battery is used for a period of 5 weeks. The driver is alerted by the flashing of the warning light on the steering wheel.

NOTE : If the batteries are disconnected at the initial moment of impact, there is a reserve energy capacity in the computer which allows the system to operate.

IMPORTANT: The batteries must be replaced every 4 years. After replacement the maintenance booklet must be marked accordingly.

IMPORTANT : If the customer notes that the warning light has been flashing, the complete system should be checked (using the XRBAG tool), even if the fault has disappeared in the meantime.



96310-15

NOTE : When the airbag inflates, the steering wheel cover is torn.

REMOVAL OF THE AIRBAG CUSHION (without removing the steering wheel)

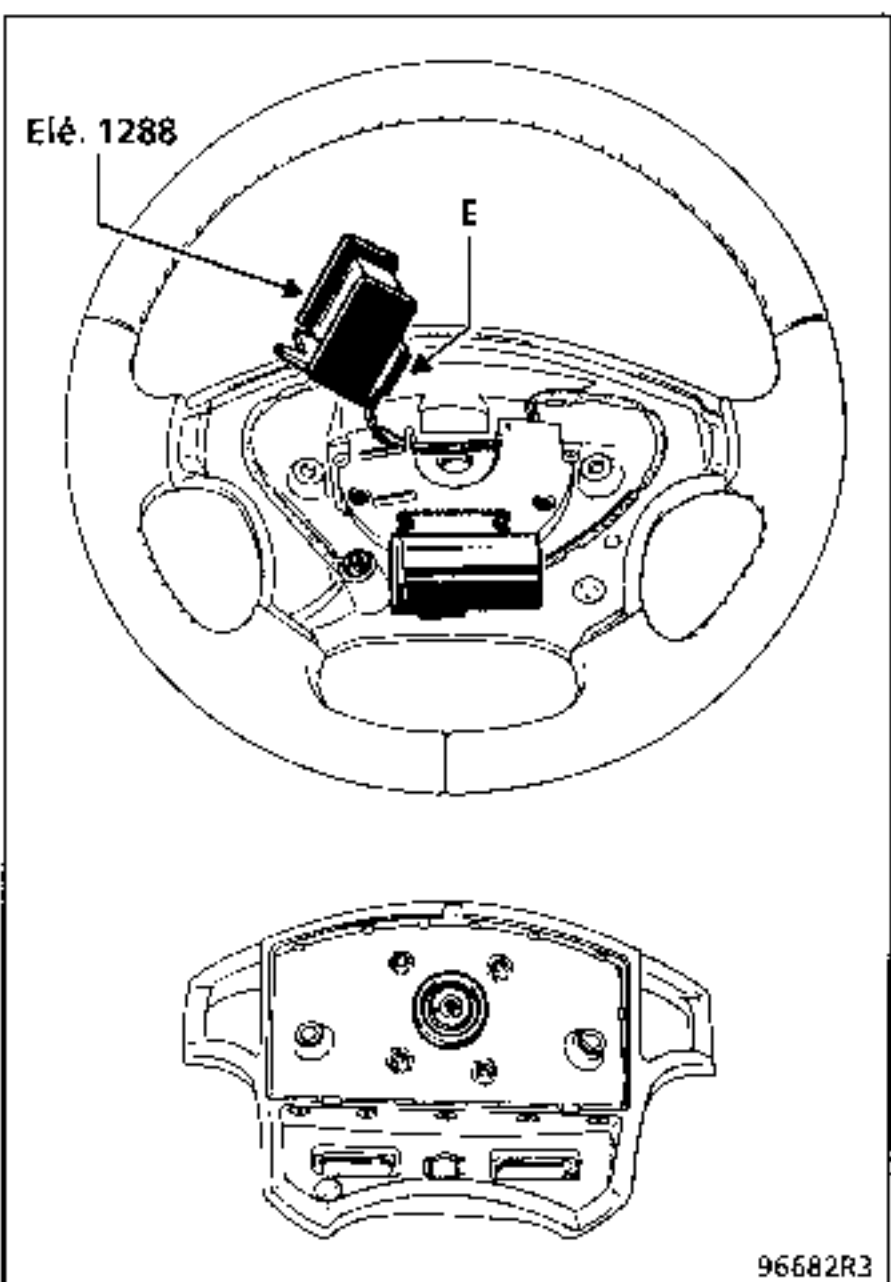
IMPORTANT: The pyrotechnic systems (airbag and pre-tensioners) must not be handled near a heat source or a flame ; they may be triggered.

Remove the airbag cushion by removing the 2 bolts behind the steering wheel (tightening torque: 0.5 daN.m).

Disconnect the connector and connect the dummy ignition module from the XRBAG Ele. 1288 to avoid discharge of the battery due to the flashing of the warning light.

NOTE : If the steering wheel is to be removed, disconnect the batteries by the small black 4-track connector.

IMPORTANT : Never reconnect the airbag cushion and battery to a steering wheel that is removed from the vehicle - the system may trigger.



96682R3

IMPORTANT: The computer must be replaced if the airbag has been triggered. Certain components are no longer to specification after the trigger current has passed through them.

NOTE: The computer is mounted by 3 bolts.

REMINDER: A second computer, located in the console, controls the separate operation of the pre-tensioners (depending on equipment level).

IMPORTANT : Before scrapping a non-triggered airbag cushion it **MUST** be destroyed in accordance with the method for destruction (see section "Destruction procedure").

REFITTING

If the steering wheel has been removed:

- Renew the nut (pre-bonded nut) and observe the correct tightening torque (4.5 daN.m).
- Reconnect the batteries.

Each time the airbag is replaced, renew the computer and the batteries (unless the fault is the appearance of the airbag cushion).

IMPORTANT: The airbag cushion is specific to the vehicle - check the part number marked on the back of the part before fitting.

IMPORTANT : Before reconnecting the driver's airbag, the system operation must be checked:

- Check the warning light flashes when the battery unit is connected to the computer.
- Connect :
 - the dummy ignition module to the driver's airbag cushion connector and check that the warning light extinguishes,
 - the driver's airbag in place of the dummy ignition module (make sure that the connector is properly fitted (E) : press in firmly).

- Check that the warning light is extinguished and screw the airbag cushion back into position on the steering wheel.

If the warning light does not operate as described above, refer to the section "Fault finding" and check the system using the XRBAG tool (Ele. 1288).

- Tighten the two airbag cushion mounting screws to a tightening torque of 0.5 daN.m.

IMPORTANT:

- If these procedures are not correctly observed the systems may not operate correctly or may be accidentally triggered.
- No measurements may be made on the airbag or pre-tensioner systems using an ohmmeter or any other electrical measuring equipment: the systems may be triggered due to the operating current of the measuring equipment.

IMPORTANT

During a mechanical or bodywork operation it is important to :

Remove the airbag cushion, to avoid any risk of triggering it.

Disconnect the batteries (small, black 4 track connector) to avoid releasing of the trigger energy and discharge of the battery due to flashing of the warning light.

Connect the dummy ignition module in place of the airbag.

Before refitting the airbag cushion, check the system using the XRBAG tool (Ele. 1288). See section "Fault finding".

REMOVAL OF THE AIRBAG CUSHION (with removal of the steering wheel)**IMPORTANT**

When removing the steering wheel the following procedure must be observed:

Remove the airbag cushion.

Disconnect the batteries (small 4 track connector) to allow the reserve capacity to discharge and to avoid releasing of the trigger energy in the case of a possible impact. Certain components are no longer to specification after the triggering current has passed through them (which means that the computer must be replaced).

This also avoids the battery discharging (due to flashing of the warning light) during the operation.

Remove the steering wheel.

Connect the dummy ignition module in place of the airbag.

Never reconnect the airbag cushion and batteries to a steering wheel that is removed from the vehicle - the system may trigger.

Before refitting the airbag cushion, check the system using the XRBAG tool (Ele. 1288). See section "Fault finding".

REMINDER: A driver's airbag may be fitted in After Sales for the Renault 19 (see N.T. 2081).

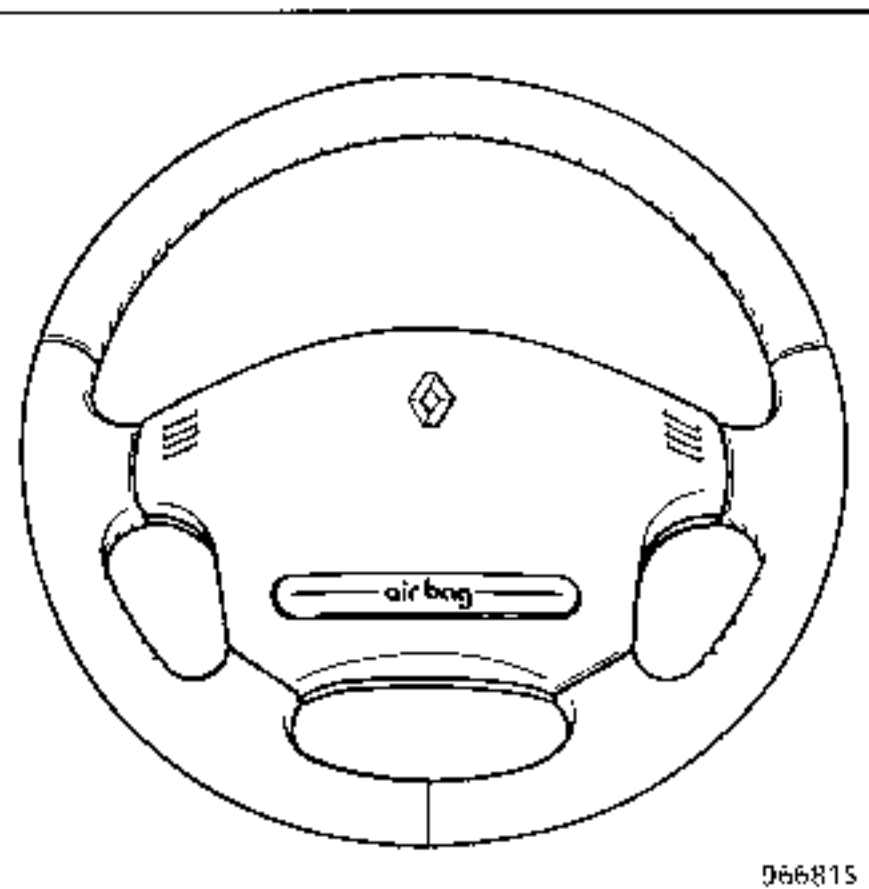
A - DESCRIPTION

"CENTRAL" AIRBAG (without passenger airbag)

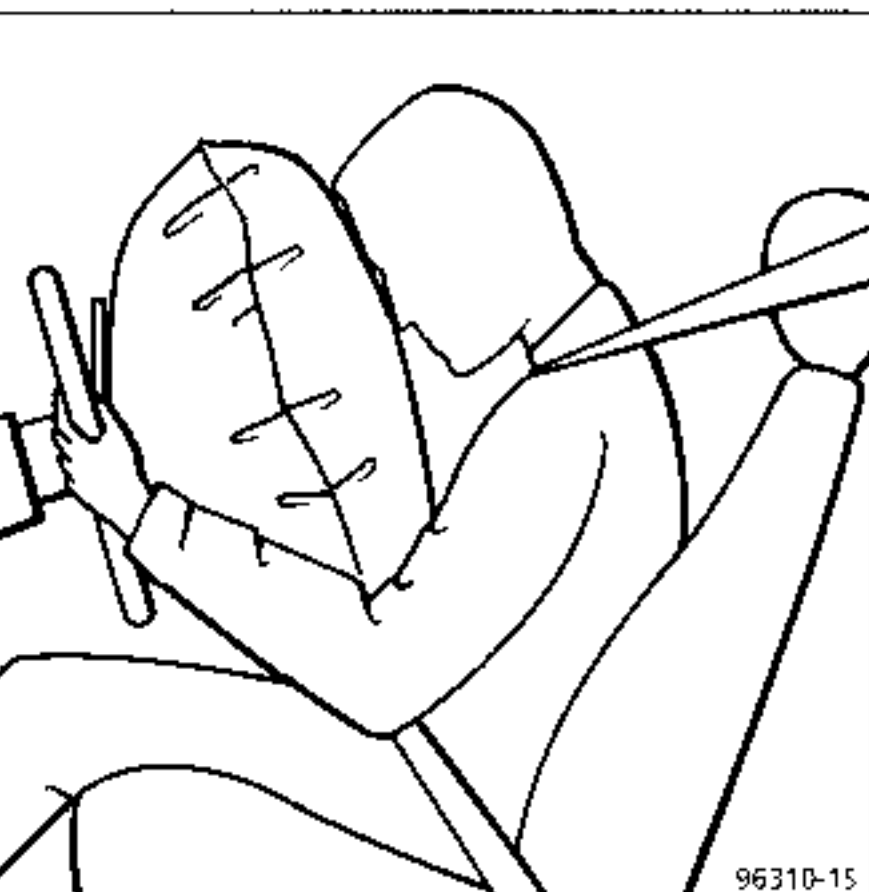
This is located in the steering wheel cushion.

It comprises:

- an inflatable cushion,
- a pyrotechnic gas generator and ignition module.



The airbag components may not be separated.



NOTE : When the airbag inflates, the steering wheel cover is torn.

Warning light  on the instrument panel shows the correct operation of the driver's airbag.

NOTE : this system is operational after the ignition has been turned on. A vehicle fitted with a driver's airbag may be identified by a label applied in the lower corner of the windscreen on the driver's side and the term "Airbag" in the centre of the steering wheel. (This self-adhesive label can be obtained under Part No. 77 01 204 830.)

AIRBAG, STEERING WHEEL AND ROTARY SWITCH

REMOVING

IMPORTANT: Never bring pyrotechnic systems (airbag and pre-tensioners) near a source of heat or a naked flame; the systems may be triggered.

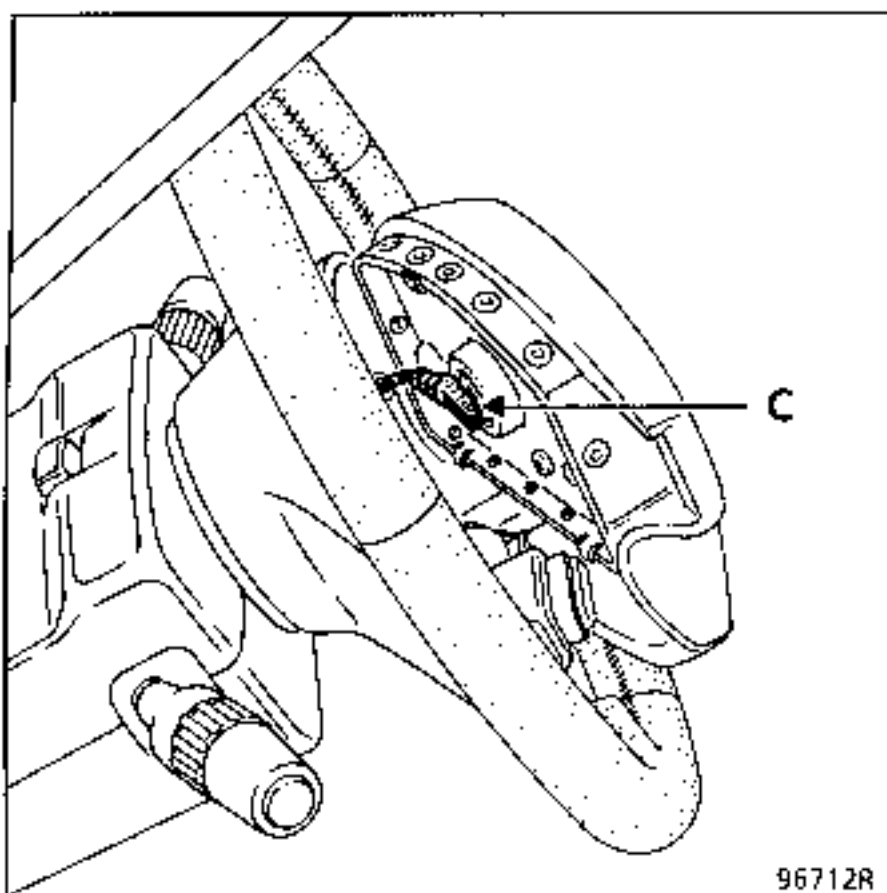
IMPORTANT : When the steering wheel is removed, the airbag connector (C) **MUST** be disconnected (see diagram on following page) before the rotary switch connector is disconnected.

The airbag has a connector which short circuits when it is disconnected to avoid accidental triggering of the system.

The rotary switch connector does not have this feature (1st fitting only, refer to section "Special notes for rotary switch under the steering wheel" for Laguna and Safrane).

Remove:

- the airbag cushion by the 2 bolts located behind the steering wheel and disconnect the connector (C),



- the horn connector, if fitted,
- the rotary switch connectors (airbag and cruise control, if fitted),
- the steering wheel nut or bolt,
- the steering wheel after positioning the wheels straight.

REMOVING

IMPORTANT : Before scrapping a non-triggered airbag cushion it **MUST** be destroyed in accordance with the method for destruction (see section "Destruction Procedure").

- It is **essential** to replace the nut or pre-bonded bolt and observe the tightening torque of 4.5 daN.m.
- Make sure the connector is properly fitted (C) : press in firmly.
- Tighten the two airbag cushion mounting screws to a torque of 0.5 daN.m.

SPECIAL NOTES FOR ROTARY SWITCH UNDER THE STEERING WHEEL

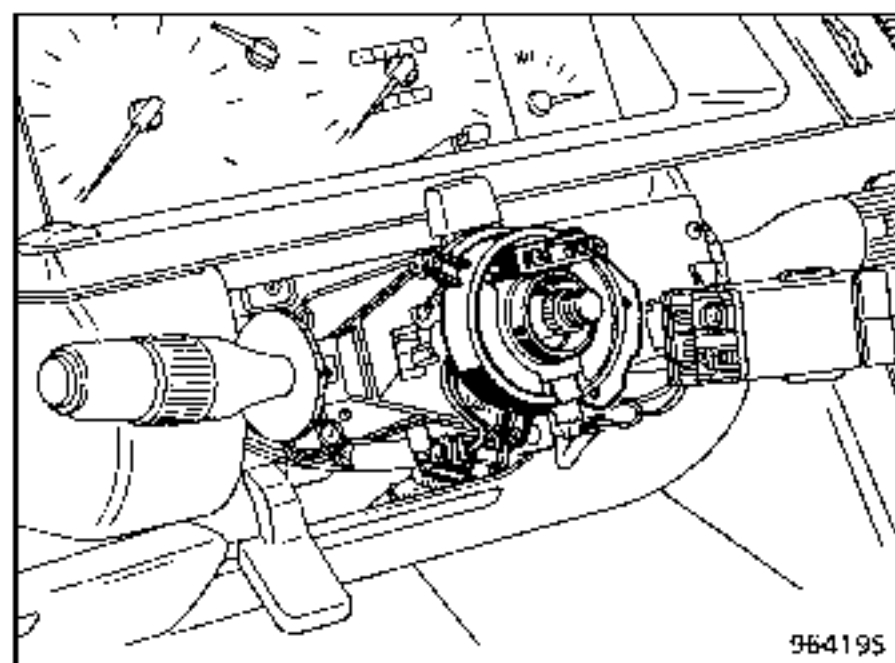
This switch ensures the electrical connection between the steering column and the steering wheel.

The switch is a strip with conducting tracks (airbag) 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.

REMOVING

When the switch is removed, its position must be noted, either:

- by ensuring the wheels are straight when the switch is removed so that the strip is positioned in the centre,
- by securing the rotary switch in position using adhesive tape.



Example : Laguna

(1st fitting - Laguna and Safrane with two connectors on the airbag line).

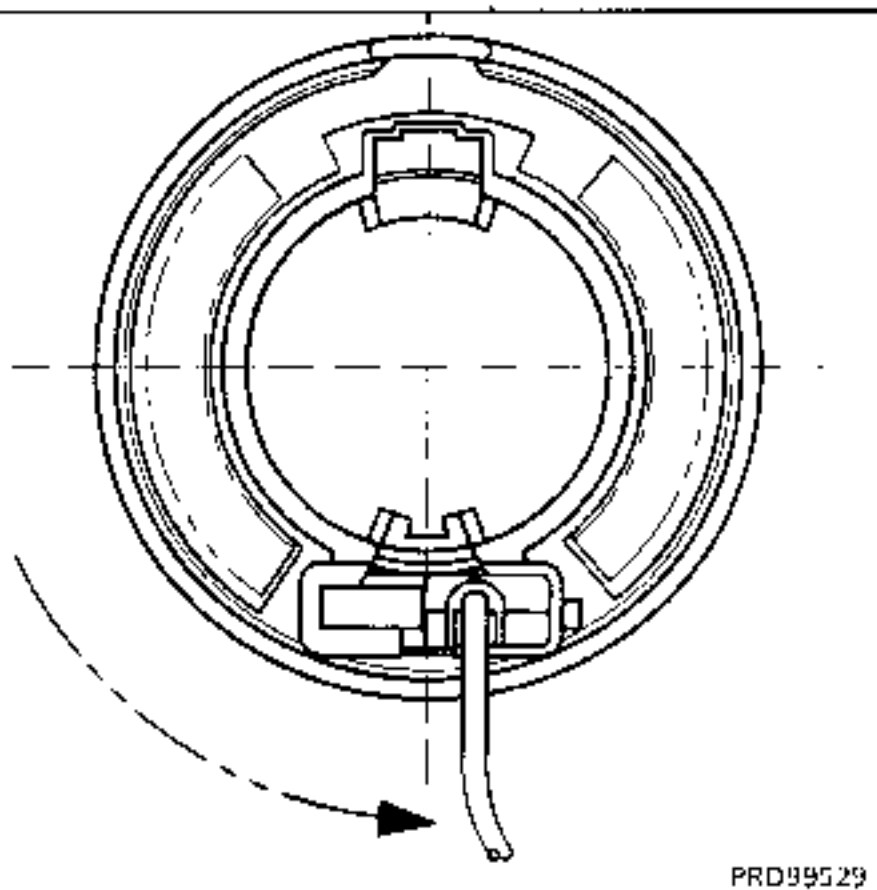
If the switch is renewed, the new part is supplied ready centred. It is held in position by a label which tears when the steering wheel is moved for the first time (fit with the wheels straight).

REFITTING

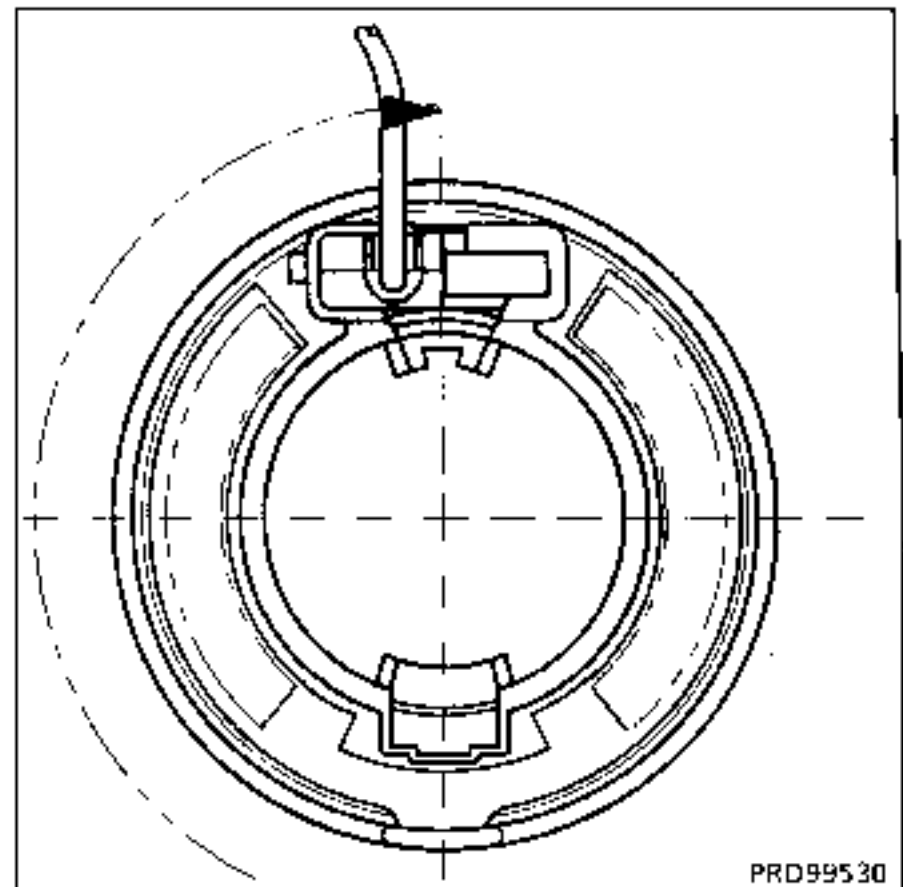
- Make sure the wheels are always in straight-ahead position.
- Check that the rotary switch is always fixed in position before it is refitted.

If this is not the case, apply the following method:

Turn the upper section of the rotary switch anti-clockwise. The switch becomes difficult to rotate (but it must not be forced) when it gets near to the extreme position, as shown below.



Then apply slight pressure to turn the upper part (in a clockwise direction) and check that the rotary switch is correctly in the position shown below.



Turn the part in a clockwise direction again through two complete rotations and make sure that the rotary switch is correctly in the position described above after this operation.

Refit the steering wheel and change the pre-bonded nut or bolt, ensuring that the tightening torque is 4.5 daN.m.

SPECIAL CASES

If any work is carried out on the vehicle which involves removing the steering unit, engine, gearbox, etc. requiring the steering rack to be disconnected from the steering column:

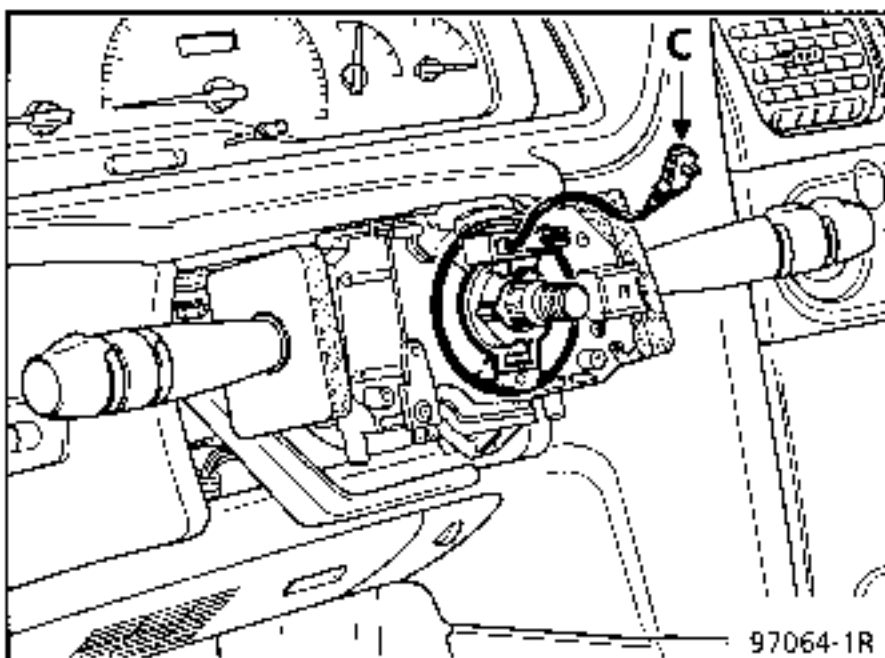
→ the steering wheel must be secured in position, using a "steering lock" tool.

IMPORTANT: So that the rotary switch under the steering wheel is not irreparably damaged, it is important that the steering wheel remains in the same position for the duration of the work.

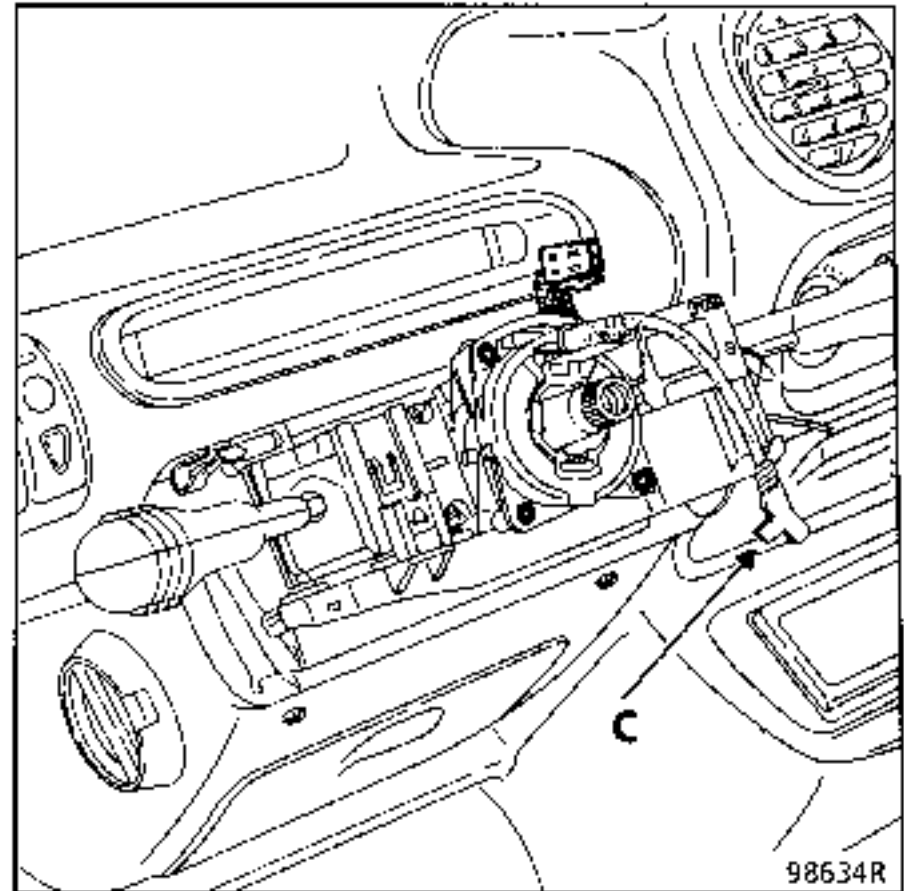
If there is any doubt whatsoever that the steering wheel may not be correctly centred, the steering wheel must be removed and the centring method described above must be used.

REMINDER : In this case, only trained, qualified personnel may work on the airbag.

Other examples



(2nd fitting for Laguna and Safrane with one connector on the airbag line.)



(Twingo fitting with one connector on the airbag line.)

IMPORTANT : Before reconnecting the driver's airbag, the system operation must be checked:

- Check that the airbag warning light on the instrument panel is illuminated when the ignition is on.
- Connect a dummy ignition module to the driver's airbag connector and check that the warning light extinguishes.
- Turn the ignition off, connect the airbag in place of the dummy ignition module and screw the cushion into place on the steering wheel.
- Turn the ignition on, check that the warning light illuminates for 3 seconds when the ignition is turned on then extinguishes and remains extinguished.

If the warning light does not operate as described above, refer to the section "Fault finding" and check the system using the XRBAG tool (Ele. 1288).

ATTENTION :

- If these procedures are not correctly observed, the systems may not operate correctly or may be accidentally triggered.
- Make sure the connector is correctly fitted at the ignition unit end (C) : (press in firmly).

DESCRIPTION

COMPUTER

One of two computers may be fitted :

- A "central", self-contained computer which only operates the airbag (Twingo).
- A "central" airbag which operates both the airbag and pre-tensioners (Laguna and Safrane).

In both cases it is located under the passenger seat and secured by three or four nuts (tightening torque of 0.4 daN.m).

IMPORTANT : before removing the computer:

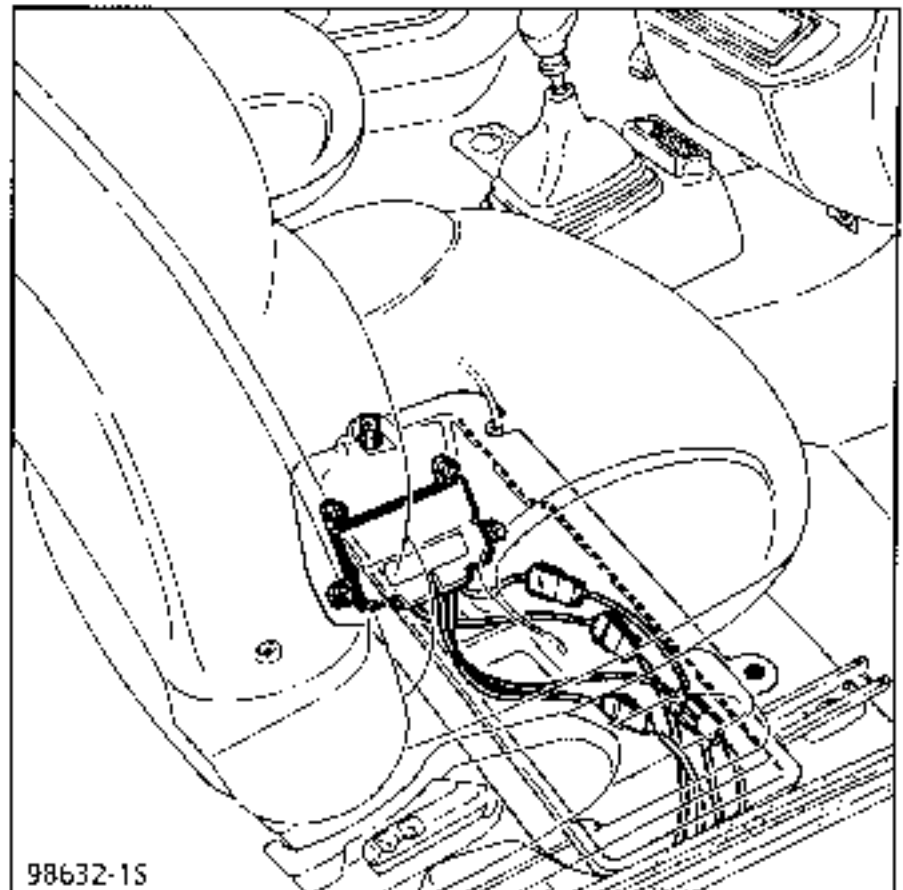
- Turn the ignition off.
- Remove the airbag / pre-tensioners fuse (see technical note on "wiring diagrams").
- Wait for 5 minutes for the reserve capacity to discharge (in computer).
- Disconnect the computer connectors to avoid all risk of triggering the system.
- Ensure that no-one is in the passenger compartment during the complete operation on the computer.

LOCATION

Twingo

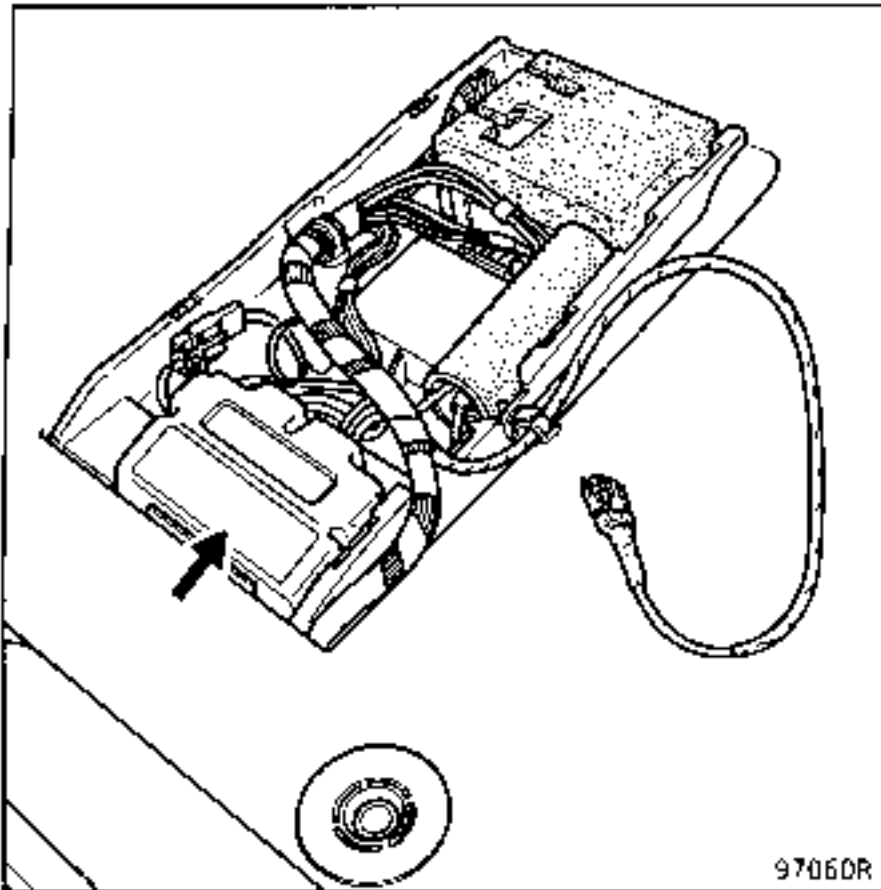
To reach the computer, tilt the passenger seat forwards and remove the tray under the seat (one nut, one clip).

To avoid removing the seat, a cut-out section is provided in the carpet along the cross member (see dotted line). Then disconnect and remove the computer.



Laguna, Safrane

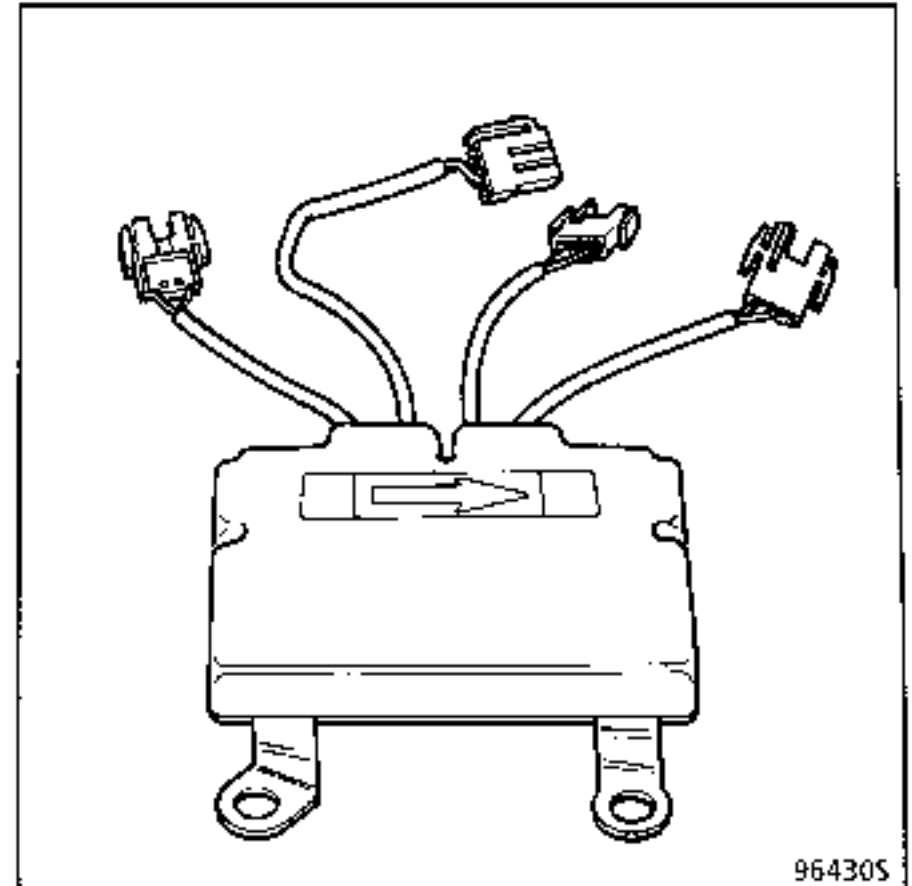
To reach the computer, move the seat as far forward as possible, release the carpet and remove the plastic cover which is secured by 2 screws.



Example : Laguna

The computer comprises:

- an electro-mechanical sensor for the airbags,
- an electro-mechanical sensor for the seat belt pre-tensioners (except Twingo),
- the trigger system for the pre-tensioners and passenger airbag,
- the airbag trigger lines monitoring system, for illumination of the fault warning light on the instrument panel.



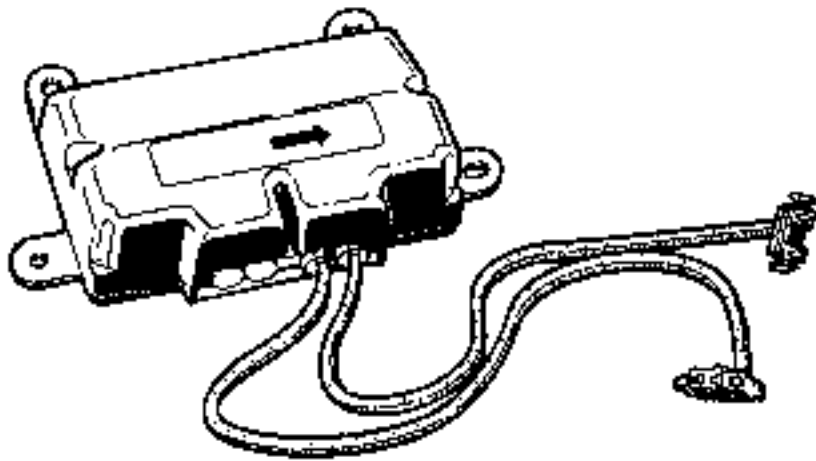
Example : Laguna and Safrane

CONNECTION

- 3-track connector

Track	Allocation
1	+ after ignition
2	Airbag warning light
3	Earth

- One 2-track orange connector
Triggering of driver's airbag
- Two 2-track violet connectors (except Twingo)
Triggering of pre-tensioners



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Example : Twingo

NOTE : In this case, the pre-tensioners are operated by a computer in the centre console which is identical to vehicles without driver's airbags.

CONNECTION

- 3-track connector

Track	Allocation
1	– after ignition
2	Airbag warning light
3	Earth

- One 2-track orange connector
Triggering of driver's airbag

IMPORTANT: The computer must be replaced if the airbags or pre-tensioners have been triggered. Certain components are no longer to specification after the triggering current has passed through them.

IMPORTANT : When refitting the computer, it must be secured to the vehicle before the connectors are reconnected. The arrow on the computer must be pointing forwards.

IMPORTANT: The wiring continuity of the system must not be checked using an ohmmeter or any other electrical measuring equipment without isolating the airbag and seat belt pre-tensioners : the system may be triggered due to the operating current of the measuring equipment.
The test equipment XRBAG (Ele. 1288) **MUST** be used .

NOTE: The pre-tensioner and airbags trigger wiring connectors are special as they short circuit (tab holder side) when they are disconnected, which prevents accidental triggering of the system (aerial effect for example).

REMINDER : The rotary switch connector on the steering wheel does not have this special feature. This connector is no longer fitted on the second version of the "central" driver's airbag (on the Laguna and Safrane only).

INSTRUMENT PANEL WARNING LIGHT



- This warning light is only used for the airbag system (there is no warning light for the pre-tensioners). When the ignition is turned on, it should illuminate for a few seconds, then extinguish (and remain extinguished). If it does not illuminate when the ignition is turned on or if it illuminates when the vehicle is moving, there is a fault in the system (see "Fault finding").

NOTE: this warning light is linked to the "Service" warning light on Safrane only.

OPERATIONS ON THE TRIGGER WIRING

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

As the airbag trigger wiring is integral in the passenger compartment wiring harness, to facilitate repair, the repair method for this wiring consists of cutting the two ends of the faulty wiring and running the new wiring along the same route along the passenger compartment harness.


IMPORTANT: When fitting new wiring, make sure that it cannot be damaged where it is fitted and that it is correctly routed.

NOTE: The trigger wiring is available from the Parts Department as a single kit, containing the airbag and pre-tensioner wiring.

REMINDER: These safety devices will not withstand any conventional repair operation to wiring or connectors.

OPERATION

Vehicle with airbag and pre-tensioners

When the ignition is turned on the airbag warning light  illuminates for a few seconds then extinguishes.

The computer is then in stand-by mode and monitors vehicle deceleration as recorded by its two electro-mechanical sensors.

In the event of a frontal impact of sufficient force, the most sensitive sensor triggers the simultaneous ignition of the two pyrotechnic generators for the front seat belt pre-tensioners (except Twingo).

Under the force of the gas generated by the system a piston is moved in a cylinder, pulling a cable connected to a corresponding central buckle, which retracts the seat belt.

If the frontal impact is greater, the second sensor will also trigger the ignition of the pyrotechnic generator for the airbag, as well as the pre-tensioners, which will inflate the airbag.

These systems will not trigger in the event of:

- a side impact,
- a rear impact.

ATTENTION :

- **IMPORTANT:** when an operation is carried out under the vehicle (exhaust, bodywork, etc.), do not use a hammer or transfer impact forces to the floor of the vehicle without removing the pre-tensioner fuse and waiting 5 minutes for the reserve capacity to discharge (see Technical Note with wiring diagrams).
- When installing after-sales electrical accessories (speakers, alarm or any other equipment which may create a magnetic field), these must not be fitted near to an airbag/pre-tensioner computer.

NOTE : The vehicle battery normally feeds the computer and the ignition module.

A reserve energy capacity is included in the computer however, in case the battery is disconnected at the initial moment of impact.

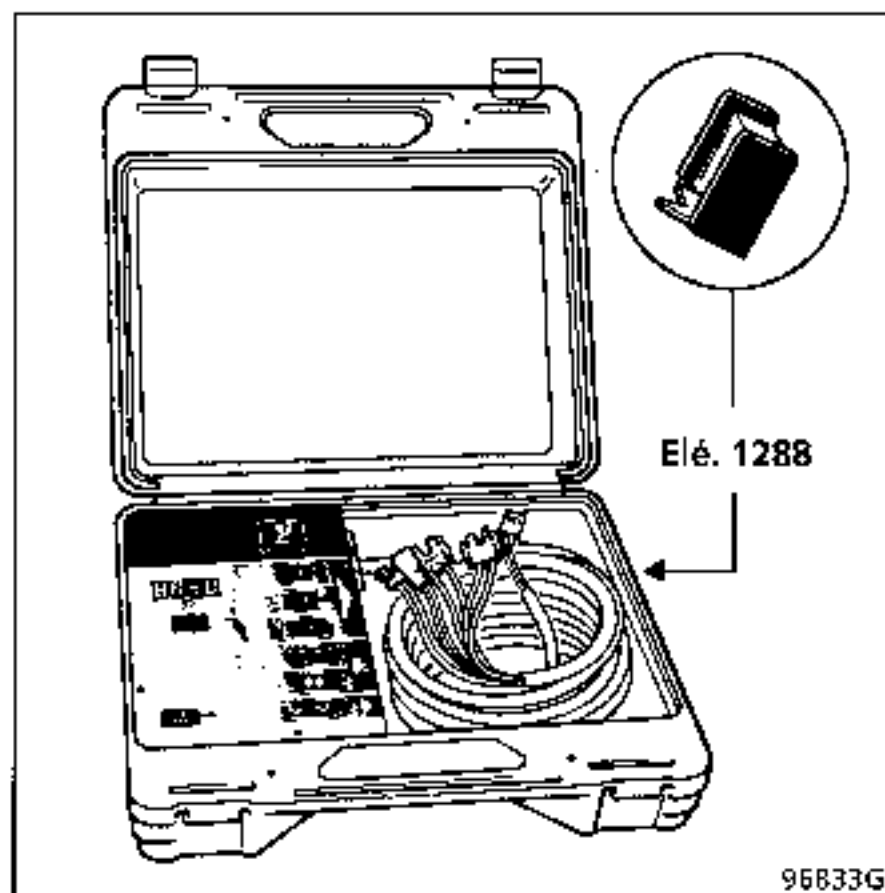
When triggered, a pyrotechnic gas generator produces an explosion and a small amount of smoke.

If the windscreen is replaced, remember to replace the label showing that the vehicle is fitted with an airbag.

IMPORTANT : The systems **MUST** must be checked using the **XR BAG** tool following:

- an accident which did not cause the system to trigger,
- an attempted theft or actual theft of the vehicle,
- before selling a second-hand vehicle.

XR BAG TEST KIT (see section "Fault finding" for information on use).



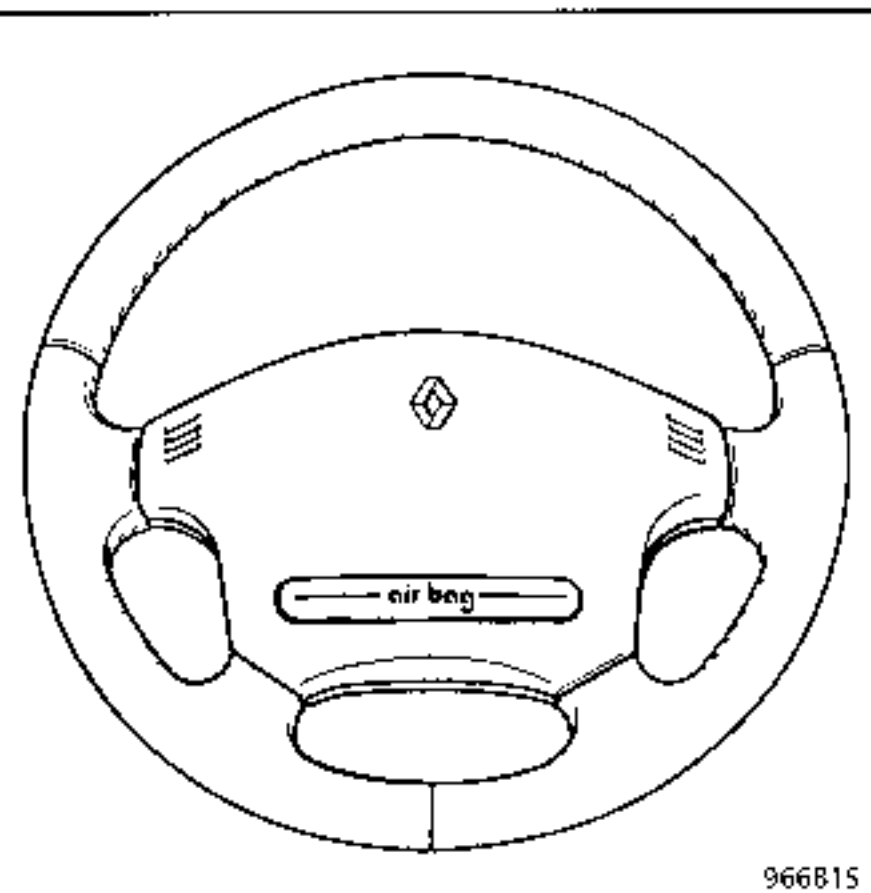
B - DESCRIPTION

"CENTRAL" AIRBAG (with passenger airbag)

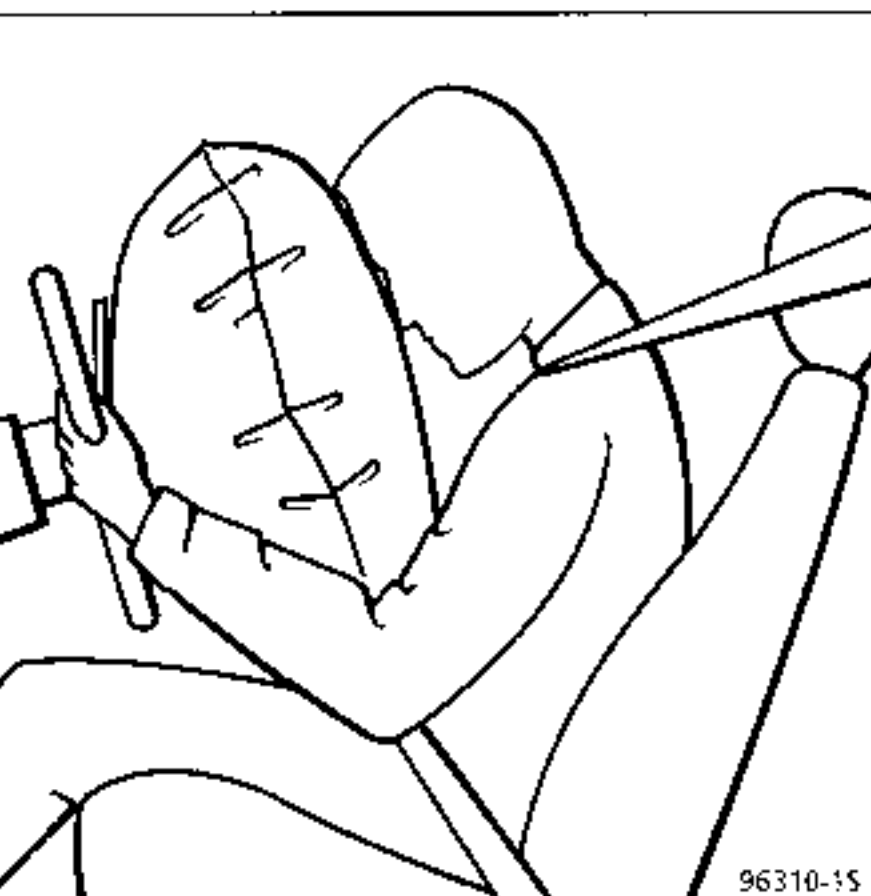
This is located in the steering wheel cushion.

It comprises:


- an inflatable cushion,
- a pyrotechnic gas generator and ignition module.



The airbag components may not be separated.



NOTE : When the airbag inflates, the steering wheel cover is torn.

Warning light  on the instrument panel monitors the correct operation of the driver and passenger airbags and has a fault-finding mode.

NOTE : this system is operational after the ignition has been turned on. A vehicle fitted with a driver's airbag may be identified by a label applied in the lower corner of the windscreen on the driver's side and the term "Airbag" in the centre of the steering wheel. (This self-adhesive label can be obtained under Part No. 77 01 204 830.)

AIRBAG, STEERING WHEEL AND ROTARY SWITCH

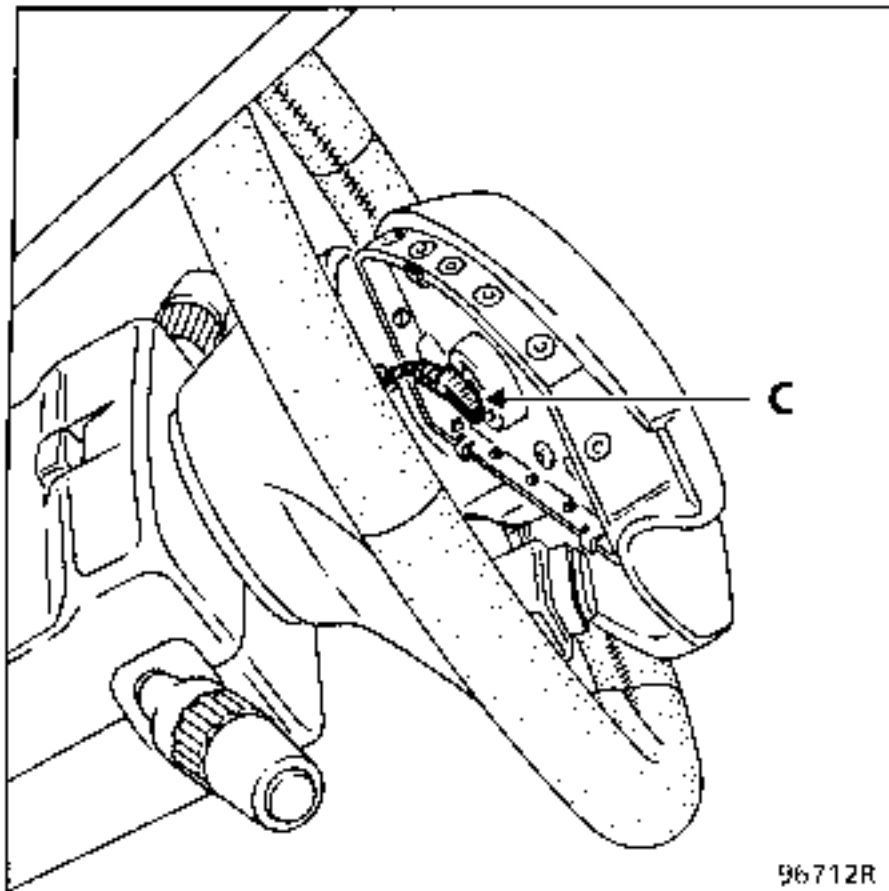
REMOVING

IMPORTANT: Never bring pyrotechnic systems (airbag and pre-tensioners) near a source of heat or a naked flame; the systems may be triggered.

IMPORTANT : When the steering wheel is removed, the airbag connector (C) **MUST** be disconnected (see diagram on following page). The airbag has a connector which short circuits when it is disconnected to avoid accidental triggering of the system.

Remove:

- the airbag cushion by the 2 screws located behind the steering wheel and disconnect the connector (C),



- the horn and cruise control connectors, if fitted,
- the steering wheel nut or bolt,
- the steering wheel after positioning the wheels straight.

REMOVING

IMPORTANT : Before scrapping a non-triggered airbag cushion it **MUST** be destroyed in accordance with the method for destruction (see section "Destruction Procedure").

- It is **essential** to replace the nut or pre-bonded bolt and observe the tightening torque of 4.5 daN.m.
- Make sure the connector is properly fitted (C) : press in firmly.
- Tighten the two airbag cushion mounting screws to a torque of 0.5 daN.m.

SPECIAL NOTES FOR THE ROTARY SWITCH UNDER THE STEERING WHEEL

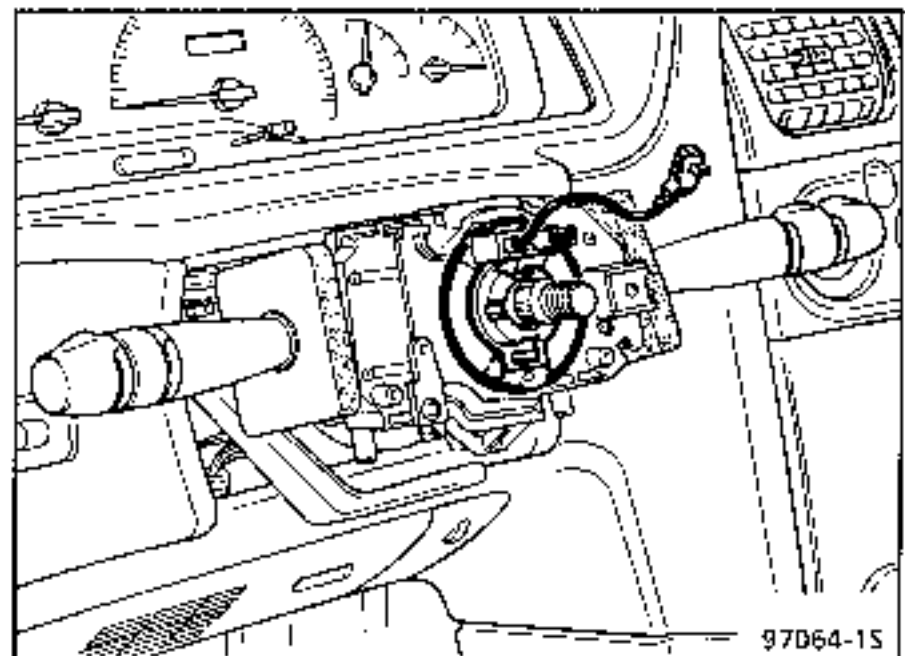
This switch ensures the electrical connection between the steering column and the steering wheel.

The switch is a strip with conducting tracks (airbag) 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.

REMOVING

When the switch is removed, its position must be noted, either:

- by ensuring the wheels are straight when the switch is removed so that the strip is positioned in the centre,
- by securing the rotary switch in position using adhesive tape.



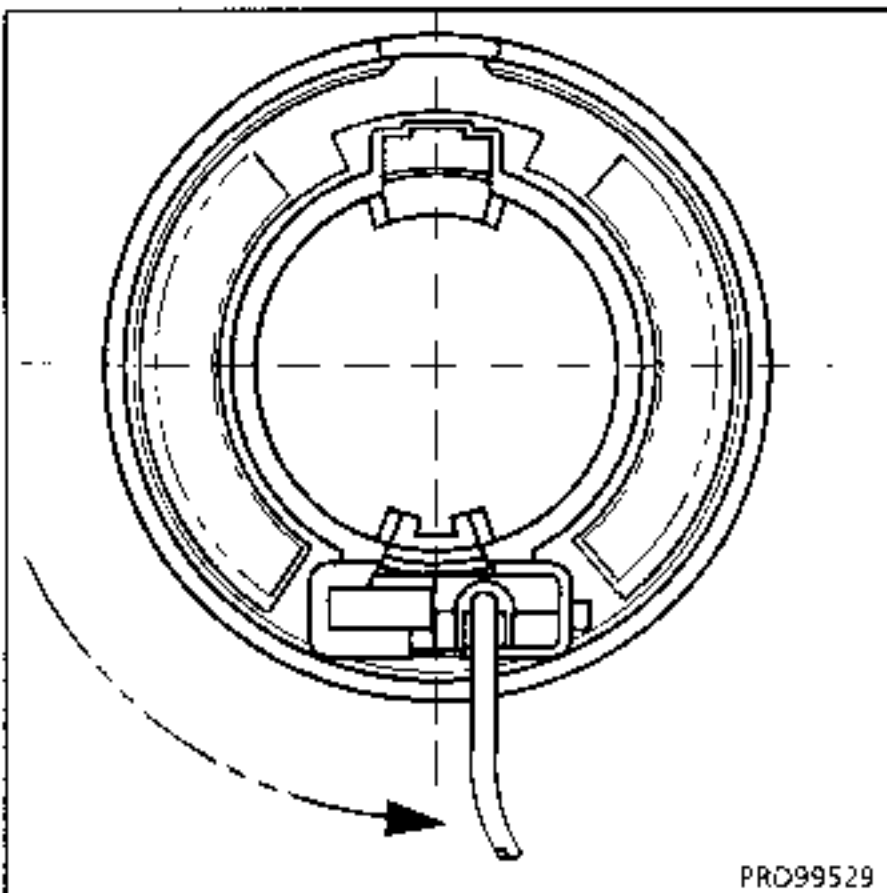
If the switch is renewed, the new part is supplied ready centred. It is held in position by a label which tears when the steering wheel is moved for the first time (fit with the wheels straight).

REFITTING

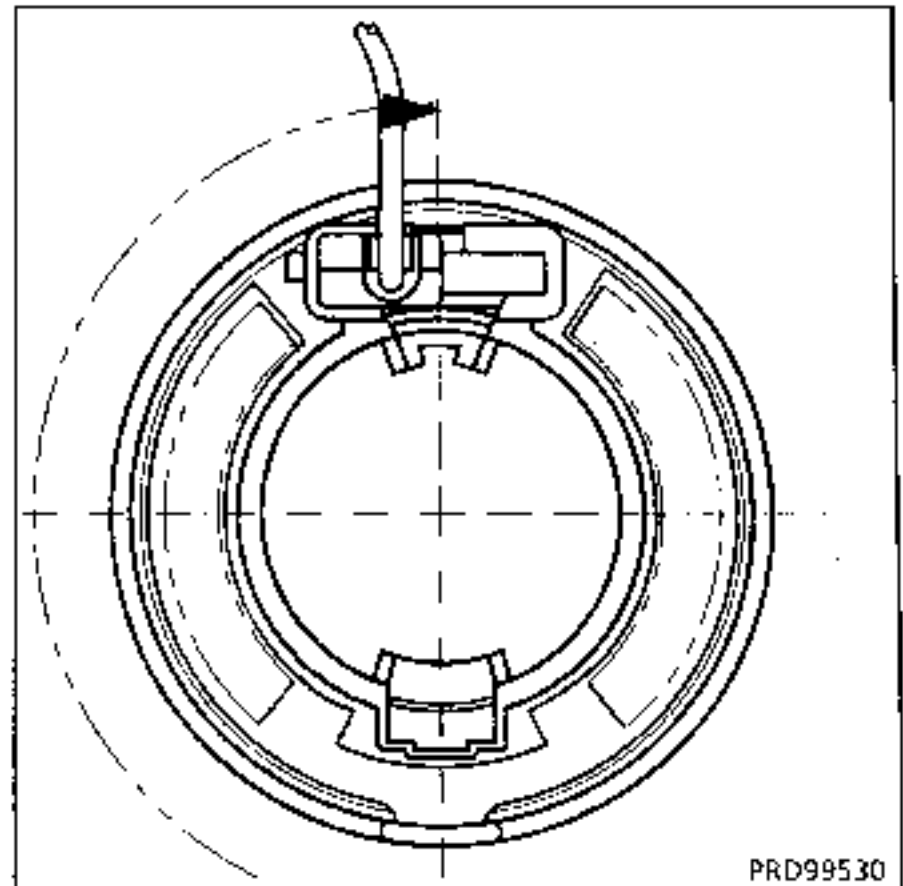
- Make sure the wheels are always in straight-ahead position.
- Check that the rotary switch is always fixed in position before it is refitted.

If this is not the case, apply the following method for recentring:

Turn the upper section of the rotary switch anti-clockwise. The switch becomes difficult to rotate (but it must not be forced) when it gets near to the extreme position, as shown below.



Then apply slight pressure to turn the upper part (in a clockwise direction) and check that the rotary switch is correctly in the position shown.



Turn the part in a clockwise direction again through two complete rotations and make sure that the rotary switch is correctly in the position described above after this operation.

Refit the steering wheel and change the pre-bonded nut or bolt, ensuring that the tightening torque is 4.5 daN.m.

SPECIAL CASES

If any work is carried out on the vehicle which involves removing the steering unit, engine, gearbox, etc. requiring the steering rack to be disconnected from the steering column:

→ the steering wheel must be secured in position, using a "steering lock" tool.

IMPORTANT: So that the rotary switch is not irreparably damaged, it is **important** that the steering wheel remains in the same position for the duration of the work.

If there is any doubt whatsoever that the steering wheel may not be correctly centred, the steering wheel must be removed and the centring method described above must be used.

REMINDER : In this case, only trained, qualified personnel may work on the airbag.

IMPORTANT : Before reconnecting the driver's airbag, the system operation must be checked:

- Check that the warning light indicates an open circuit fault for the driver's airbag when the ignition is on (code 1 : see chapter on "Instrument panel warning lights").
- Connect a dummy ignition module (Ele. 1288) to the driver's airbag connector and check that the warning light illuminates for three seconds when the ignition is switched on and then extinguishes (and remains extinguished).

If the warning light does not operate as described above, refer to the section "Fault finding" and check the system using the XRBAG tool (Ele. 1288).

ATTENTION :

- If these procedures are not correctly observed the systems may not operate correctly or may be accidentally triggered.
- Make sure the connector is correctly inserted at the ignition unit end (C) : (press in firmly).

Reconnect the connectors for the cruise control, if fitted, and horn.

DESCRIPTION**COMPUTER**

One of two computers may be fitted :

- A "central", self-contained computer which only operates the driver's and passenger's airbags (Twingo).
- A "central" airbag which operates both the airbag and pre-tensioners.

In both cases it is located under the passenger seat and secured by three or four nuts (tightening torque of 0.4 daN.m).

IMPORTANT : before removing the computer:

- Turn the ignition off.
- Remove the airbag / pre-tensioners fuse (see technical note on "wiring diagrams").
- Wait for 5 minutes for the reserve capacity to discharge (in computer).
- Disconnect the computer connectors to avoid all risk of triggering the system.
- Ensure that no-one is in the passenger compartment during the complete operation on the computer.

LOCATION

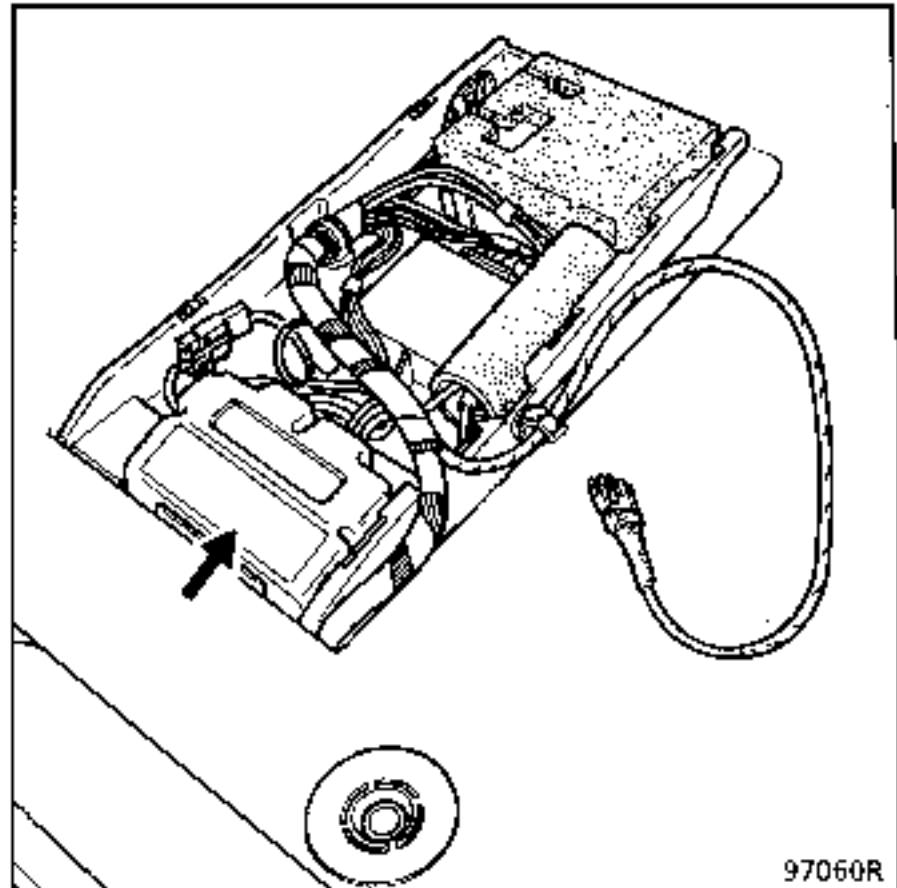
Twingo

To reach the computer, tilt the passenger seat forwards and remove the tray under the seat (one nut, one clip).

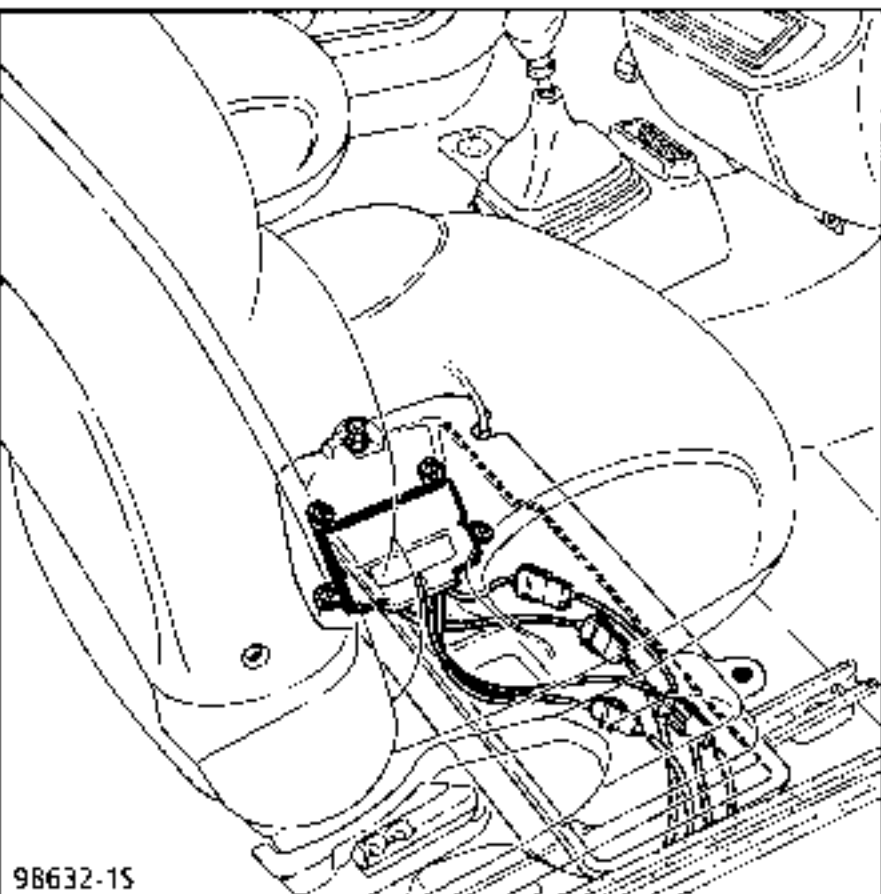
To avoid removing the seat, a cut-out section is provided in the carpet along the cross member (see dotted line). Then disconnect and remove the computer.

Laguna, Safrane

To reach the computer, move the seat as far forward as possible, release the carpet and remove the plastic cover which is secured by 2 screws.

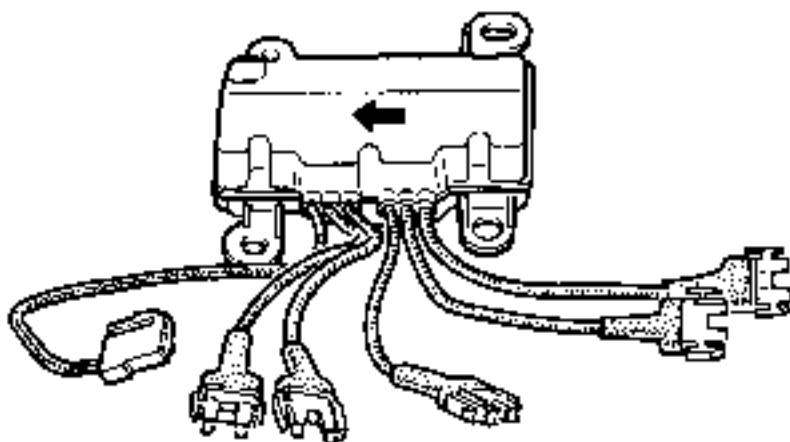


Example : Laguna



The computer comprises:

- an electro-mechanical sensor for the airbags,
- an electro-mechanical sensor for the seat belt pre-tensioners (except Twingo),
- the trigger system for the pre-tensioners and the driver's airbag and passenger airbag,
- the airbag trigger lines monitoring system.



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IMPORTANT: The computer must be replaced if the airbags or pre-tensioners have been triggered. Certain components are no longer to specification after the triggering current has passed through them.

IMPORTANT: When refitting the computer, it must be secured to the vehicle before the connectors are reconnected. The arrow on the computer must be pointing forwards.

CONNECTION

- 3-track connector

Track	Allocation
1	+ after ignition
2	Airbag warning light
3	Earth

- One 2-track orange connector
Triggering of driver's airbag
- Two 2-track violet connectors (except Twingo)
Triggering of pre-tensioners
- Two 2-track green connectors
Triggering of passenger's airbag

IMPORTANT: The wiring continuity of the system must not be checked using an ohmmeter or any other electrical measuring equipment without isolating the airbag and seat belt pre-tensioners : the system may be triggered due to the operating current of the measuring equipment.
The test equipment XRBAG (Ele. 1288) **MUST** be used.

NOTE: The pre-tensioner and airbags trigger wiring connectors are special as they short circuit (tab holder side) when they are disconnected, which prevents accidental triggering of the system (aerial effect for example).

INSTRUMENT PANEL WARNING LIGHT



- This warning light is only used for the airbag system (there is no warning light for the pretensioners). When the ignition is turned on, it should illuminate for a few seconds, then extinguish (and remain extinguished). If it does not illuminate when the ignition is turned on or if it illuminates when the vehicle is moving, there is a fault in the system (see "Fault finding").

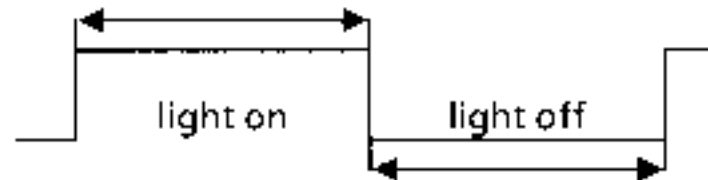
NOTE: this warning light is linked to the "Service" warning light on Safrane only.

- In addition, if the vehicle is fitted with both passenger and driver's airbags, the warning light may indicate 6 system faults.

The computer has an integral self diagnosis system which differentiates 6 faults and emits 6 codes using the illumination (fixed or flashing) of the airbag warning light on the instrument panel.

These faults only concern the airbags ignition circuits (no self-diagnosis for the pretensioners).

IDENTIFICATION OF FAULT CODES



Code	Fault	Illumination of warning light for code emission
1	Driver's airbag open circuit or resistance $> 8 \Omega$	
2	Driver's airbag short circuit (to earth or 12 volts)*	
3	Passenger airbag open circuit or resistance $> 8 \Omega$	
4	Passenger airbag short circuit (to earth or 12 volts)*	
5	Internal computer fault or airbag line short circuit	
6	Feed voltage low or high	

* **NOTE :** Emission of codes 2 and 4 appears when there is a short circuit with the ignition on (customer use) : the airbag warning light flashes.

➔ After switching the ignition off and on again, this short circuit is shown by code 5 : the warning light is permanently illuminated

OPERATIONS ON THE TRIGGER WIRING

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

As the airbag trigger wiring is integral in the passenger compartment wiring harness, to facilitate repair, the repair method for this wiring consists of cutting the two ends of the faulty wiring and running the new wiring along the same route along the passenger compartment harness.


IMPORTANT: When fitting new wiring, make sure that it cannot be damaged where it is fitted and that it is correctly routed.

NOTE: The trigger wiring is available from the Parts Department as a single kit, containing the airbag and pre-tensioner wiring.

REMINDER: These safety devices will not withstand any conventional repair operation to wiring or connectors.

OPERATION

Vehicle with airbag and pre-tensioners

When the ignition is turned on, the airbag warning light  illuminates for a few

seconds then extinguishes.

The computer is then in stand-by mode and monitors vehicle deceleration as recorded by its two electro-mechanical sensors.

In the event of a frontal impact of sufficient force, the most sensitive sensor triggers the simultaneous ignition of the two pyrotechnic generators for the front seat belt pre-tensioners.

Under the force of the gas generated by the system a piston is moved in a cylinder, pulling a cable connected to a corresponding central buckle, which retracts the seat belt.

If the frontal impact is greater, the second sensor will also trigger the ignition of the pyrotechnic generator for the airbags, as well as the pre-tensioners, which will inflate the airbags for the driver and passenger.

These systems will not trigger in the event of:

- a side impact,
- a rear impact.

IMPORTANT :

- When an operation is carried out under the vehicle (exhaust, bodywork, etc.), do not use a hammer or transfer impact forces to the floor of the vehicle without removing the pre-tensioner fuse and waiting 5 minutes for the reserve capacity to discharge (see Technical Note with wiring diagrams).
- When installing after-sales electrical accessories (speakers, alarm or any other equipment which may create a magnetic field), these must not be fitted near to an airbag/pre-tensioner computer.

NOTE : The vehicle battery normally feeds the computer and the ignition module.

A reserve energy capacity is included in the computer, in case the battery is disconnected at the initial moment of impact.

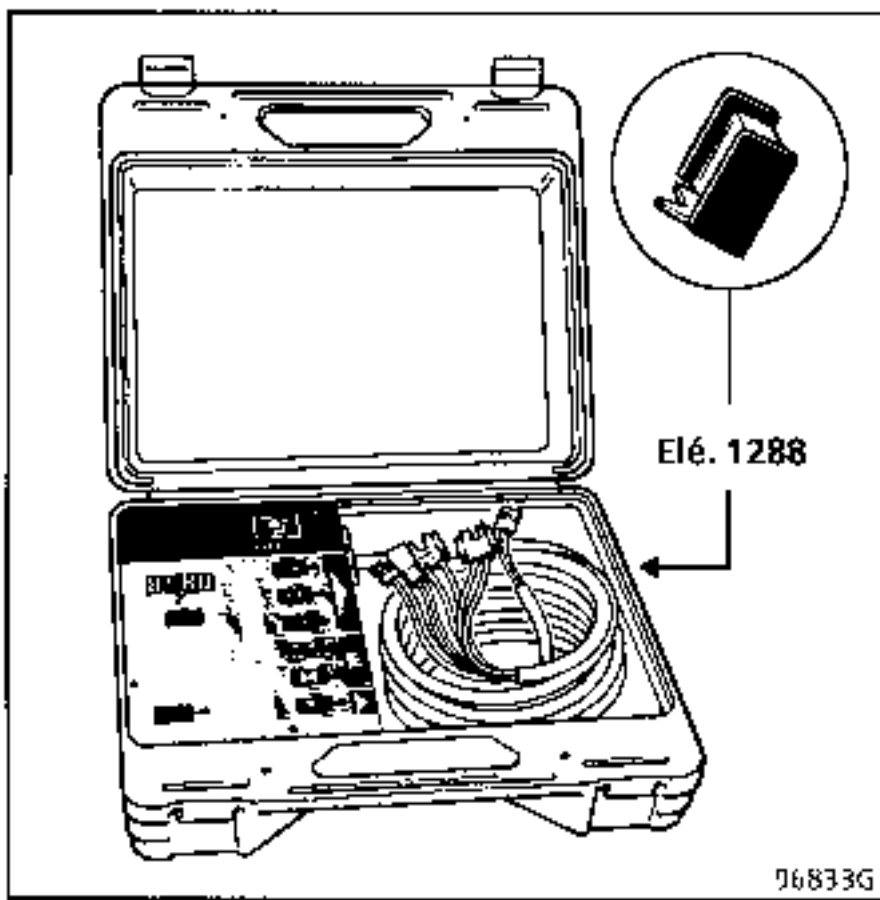
When triggered, a pyrotechnic gas generator produces an explosion and a small amount of smoke.

If the windscreen is replaced, remember to replace the label showing that the vehicle is fitted with an airbag.

IMPORTANT : The system **MUST** be checked using the XRBAG tool following:

- an accident which did not cause the system to trigger,
- an attempted theft or actual theft of the vehicle,
- before selling a second-hand vehicle.

XRBAG TEST KIT (see "Fault finding" section for information on use).



C - DESCRIPTION

PASSENGER AIRBAG MODULE (Twingo, Laguna and Safrane types)

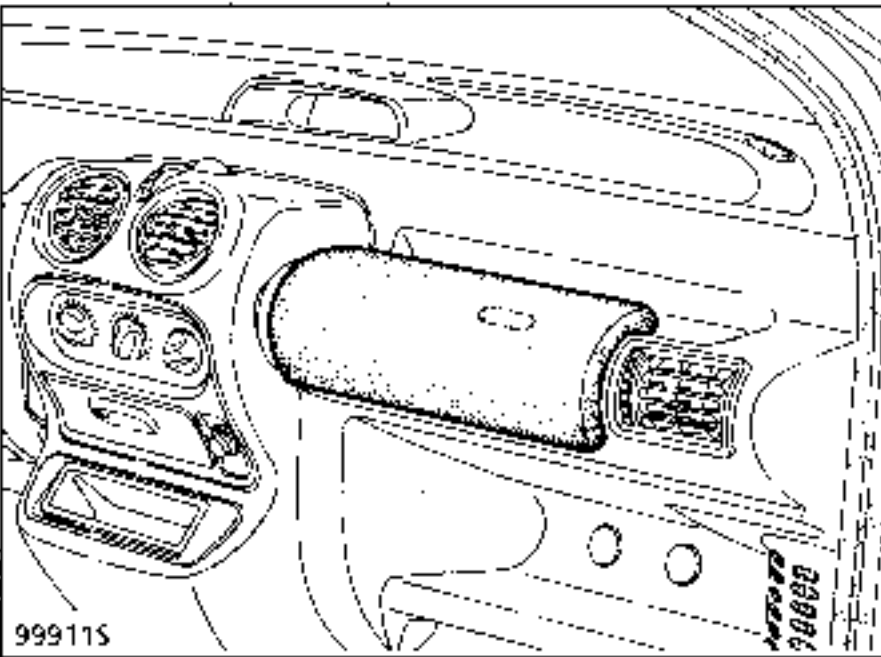
The airbag module is located in the dashboard in place of the glovebox, opposite the front passenger.

It comprises:

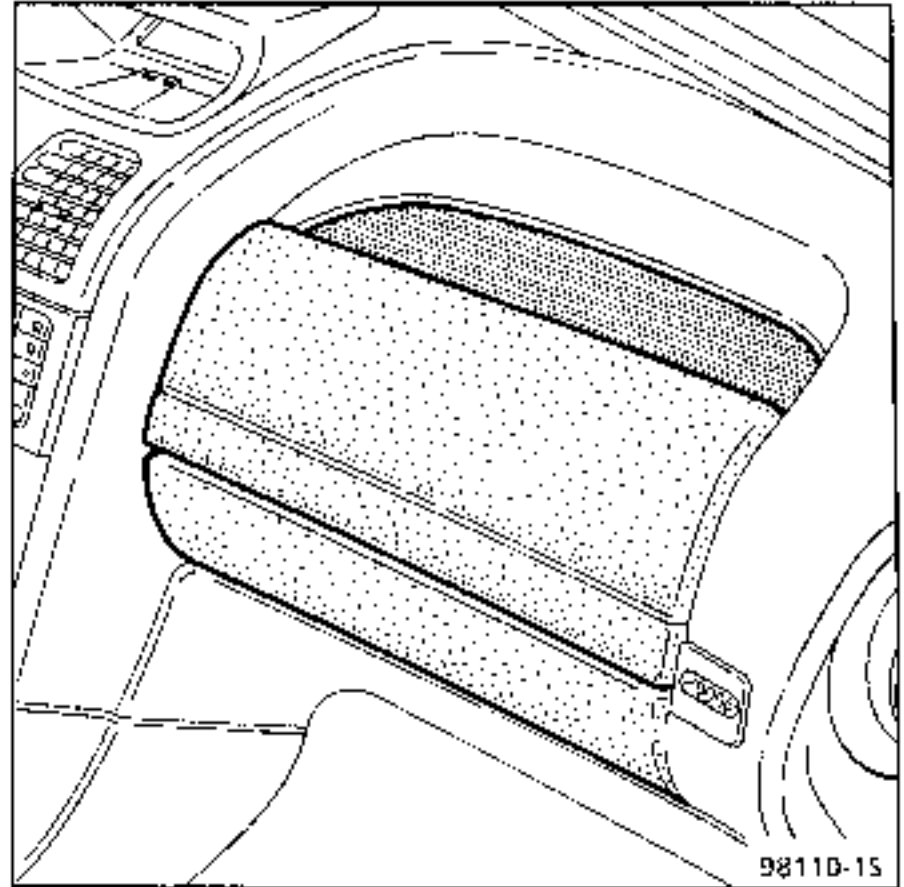
- an inflatable cushion,
- two pyrotechnic gas generators and their ignition modules.

LOCATION

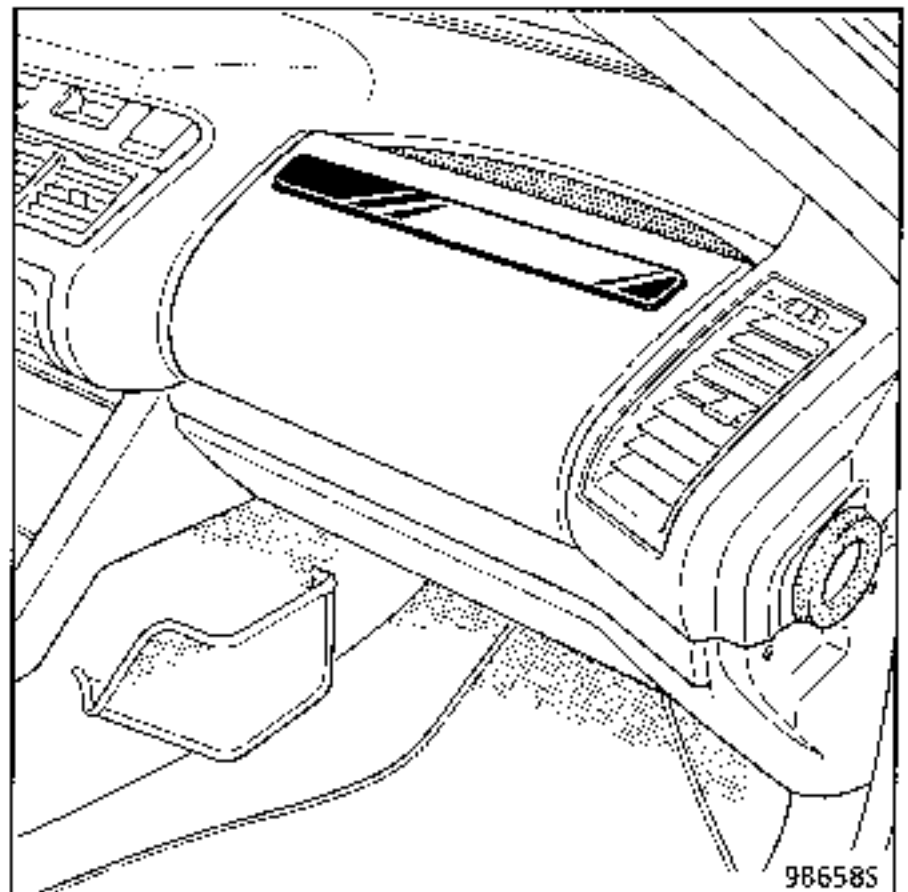
Twingo



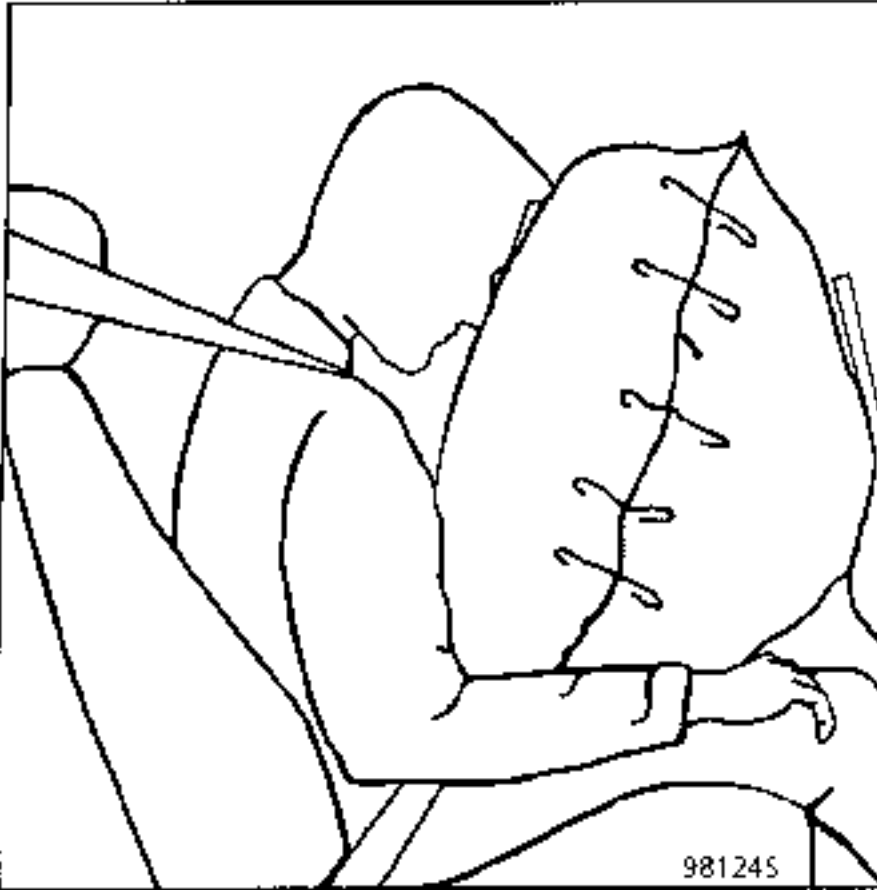
Laguna




Safrane



The airbag module components may not be separated.



NOTE : When the airbag inflates, the passenger airbag module cover on the dashboard opens.

Warning light  on the instrument panel monitors the correct operation of the driver and passenger airbags and has a fault finding mode.

NOTE : This system is operational after the ignition has been turned on. A vehicle fitted with a passenger airbag may be identified by a label applied in the lower corner of the windscreen on the passenger side and the word "Airbag" on the dashboard on the same side. Two other labels, on the front door window and on the side of the dashboard, indicate that a child seat may not be fitted to the front passenger seat (refer to the Driver's Handbook).

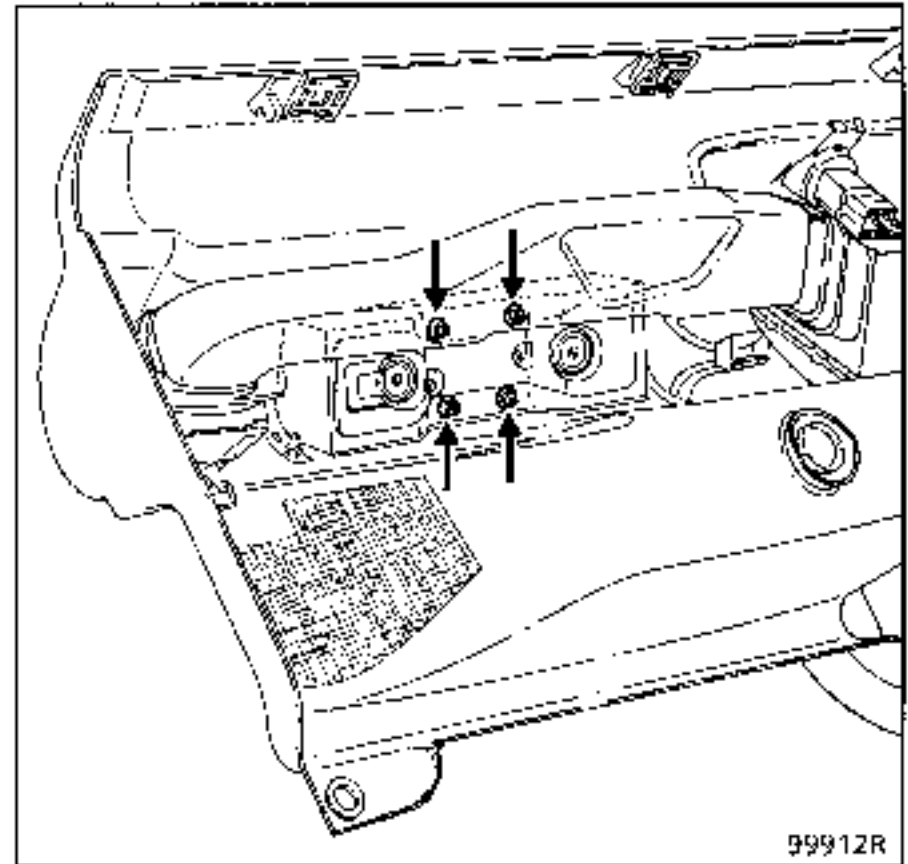
(These self-adhesive labels are available under Part No. 77 01 204 830.)

IMPORTANT: the pyrotechnic systems (airbags and pre-tensioners) must not be handled near to a heat source or flame. They may be triggered.

REMOVING THE PASSENGER AIRBAG ON THE TWINGO

The dashboard must be removed to take out the passenger airbag module.

Then remove the adhesive "tamper-proof label" and take out the airbag module (four nuts).



IMPORTANT : if a passenger airbag is triggered, the damage caused to mountings means that the dashboard must be replaced.

IMPORTANT : Before scrapping an airbag which has not been triggered, it **MUST** be destroyed by following the "Destruction procedure for a part removed from the vehicle" described in the instructions for all types of driver's airbags .

REFITTING

IMPORTANT: The safety recommendations given for refitting or replacing a passenger airbag module **MUST** be observed. Failure to observe these conditions could cause the system to operate incorrectly or may even present a risk to the occupants of the vehicle.

IMPORTANT : Refitting is the reverse of removal. It is essential to observe the tightening torque for the four module mounting nuts ($0.6 \text{ daN.m} \pm 15 \%$). Before reconnecting the passenger airbag module, check to make sure the system is operating correctly :

- The "tamper-proof label" must be replaced by a blue After Sales label (sold in a kit for all types Part No. 77 01 204 944).
- Remember to remove all foreign bodies (bolts, clips...) from between the module and the passenger airbag cover.
- Check that the warning light shows an open circuit fault for the passenger airbag (code 3 : see section "Instrument panel warning light").

- Connect a dummy ignition module (Ele. 1288) to each of the two passenger airbag module connectors and check that the warning light extinguishes (the second dummy ignition module is issued with the update for the XRBAG Manual or details may be obtained from your After Sales Head Office).
- Disconnect and reconnect each of the two dummy ignition modules in turn and check that the fault with the passenger airbag is noted by the computer.
- Turn the ignition off, connect the passenger airbag ignition modules in place of the two dummy ignition modules.
- Make sure the two ignition unit connectors are properly fitted (push firmly).
- Switch on the ignition again and check that the warning light illuminates for 3 seconds when the ignition is switched on. It should then extinguish and remain extinguished.

If the warning light does not operate as described above, consult the "Fault finding" section and check the system using XRBAG tool (Ele. 1288).

Refit the dashboard.

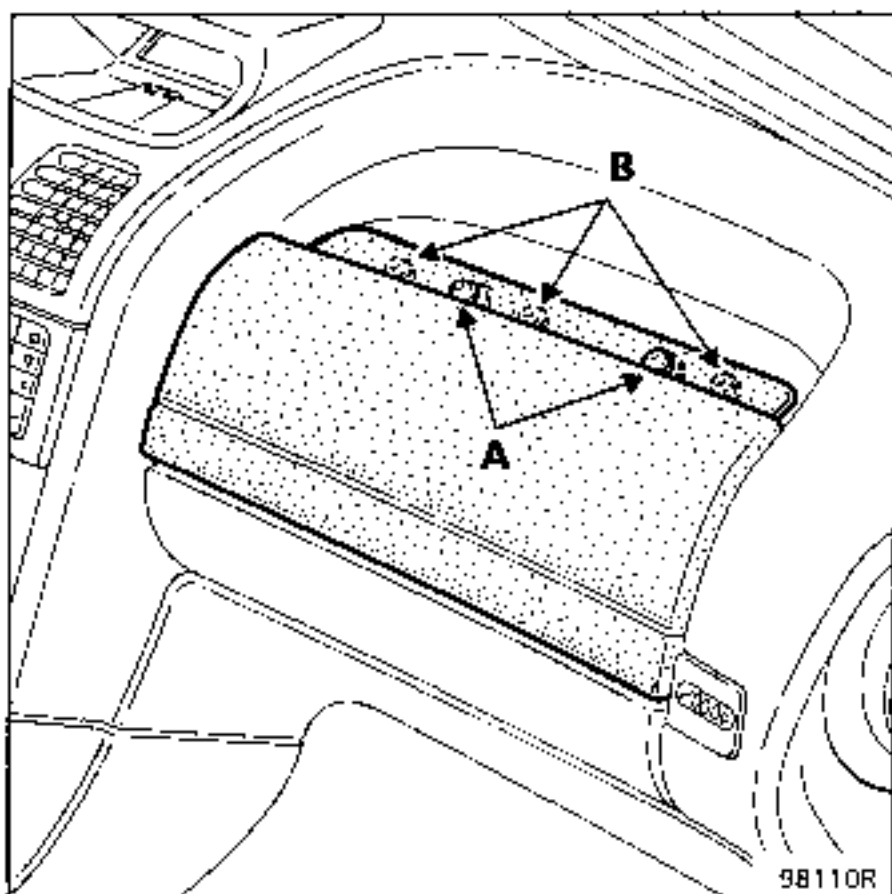
REMOVING THE PASSENGER AIRBAG ON THE LAGUNA

Remove:

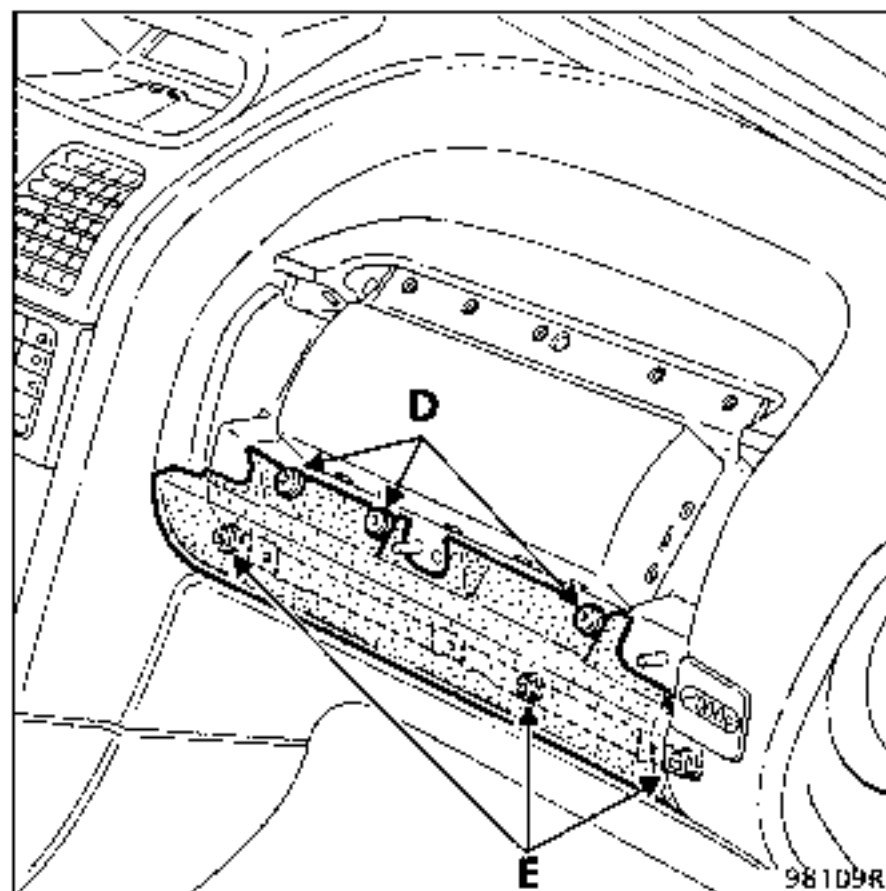
- the dashboard rubber matting,
- the adhesive "tamper-proof label" (yellow when fitted in the factory, light blue after an After Sales operation).

Remove :

- the two screws (A) securing the upper plate (A),
- the three screws securing the module cover (B),



- the three screws (D) securing the lower module trim,



- the three lower bolts (E) securing the airbag module (tightening torque : 0.5 daN.m),
- the 2 connectors for the passenger airbag ignition modules.

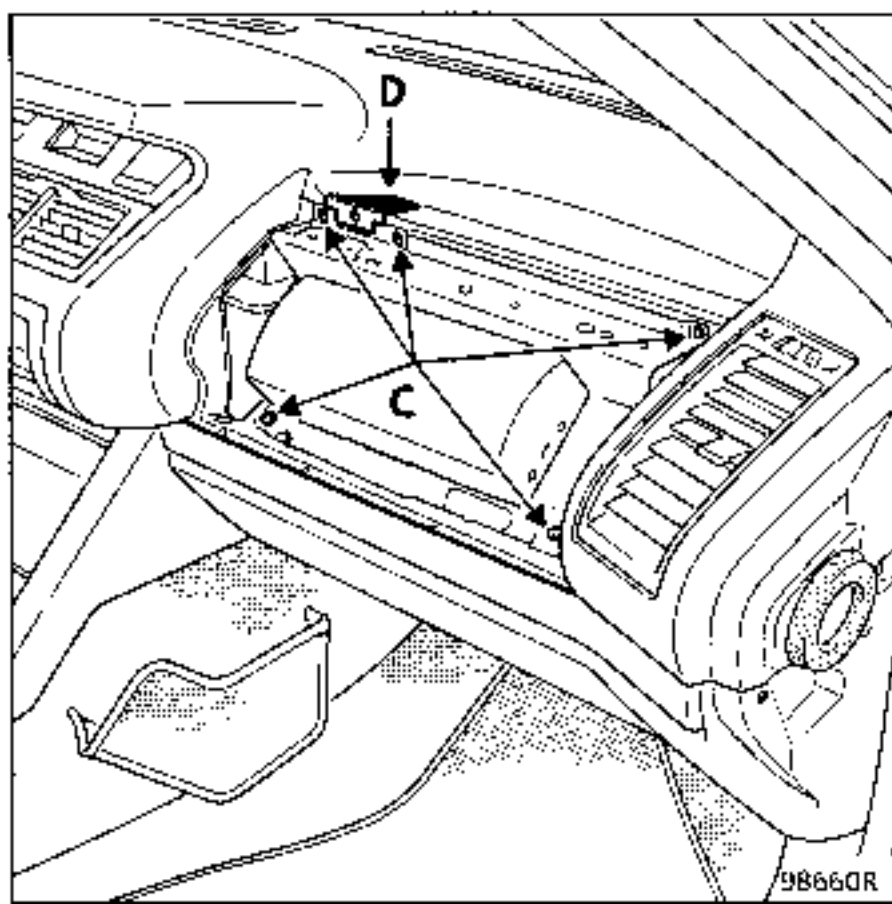
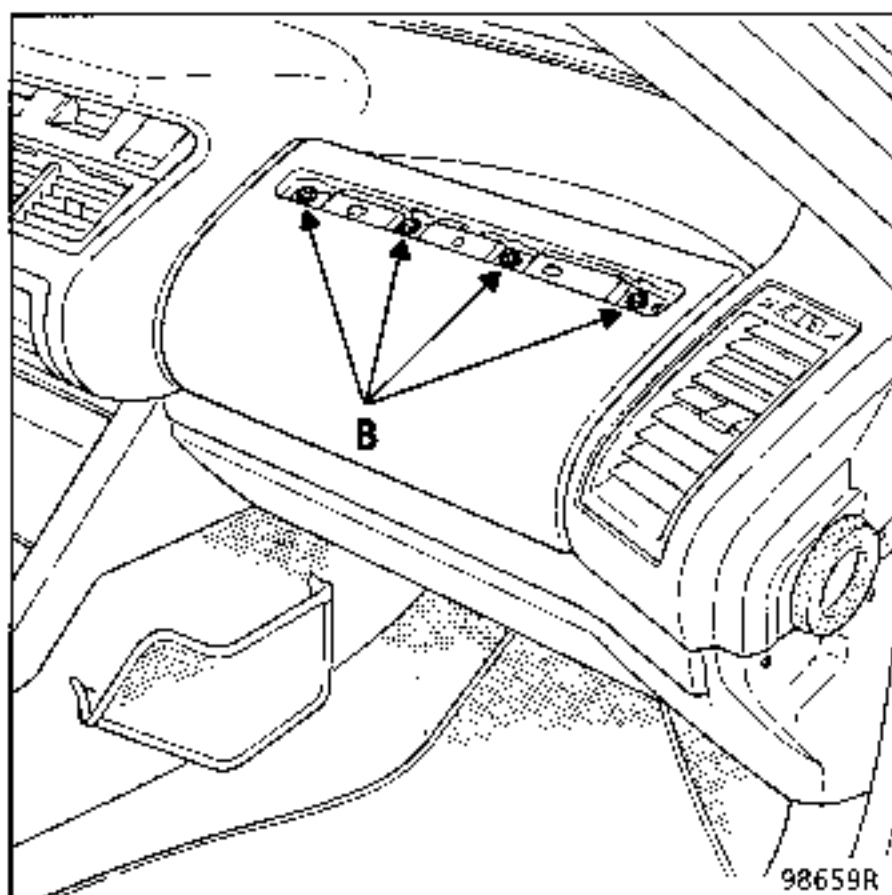
REMOVING THE PASSENGER AIRBAG ON THE SAFRANE

Remove:

- the dashboard rubber matting,
- the trim strip,
- the adhesive "tamper-proof label" (yellow when fitted in the factory, light blue after an After Sales operation).

Remove :

- the four bolts securing the module cover (B) (tightening torque : 0.5 daN.m),



- the glovebox lock blanking cover (D) (1 bolt),
- the airbag module by the 5 bolts (C).

Disconnect the two connectors for the passenger airbag ignition modules.

REFITTING PASSENGER AIRBAGS ON THE LAGUNA OR SAFRANE

IMPORTANT : Before scrapping an airbag which has not been triggered, it **MUST** be destroyed by following the "Destruction procedure for a part removed from the vehicle" described in the instructions for all types of driver's airbags .

IMPORTANT: The safety recommendations given for refitting or replacing a passenger airbag module **MUST** be observed. Failure to observe these conditions could cause the system to operate incorrectly or may even present a risk to the occupants of the vehicle.

IMPORTANT : if a passenger airbag is triggered, the damage caused to mountings means that the **dashboard must be replaced**.

IMPORTANT : before reconnecting the passenger airbag, the system operation must be checked:

- Check that the warning light shows an open circuit fault for the passenger airbag (code 3 : see section "Instrument panel warning light").

- Connect a dummy ignition module (Ele. 1288) to each of the two passenger airbag module connectors and check that the warning light extinguishes (The second dummy ignition module is issued with the update for the XRBAG Manual or details may be obtained from your After Sales Head Office).
- Disconnect and reconnect each of the two dummy ignition modules in turn and check that the fault with the passenger airbag is noted by the computer.
- Turn the ignition off, connect the passenger airbag ignition modules in place of the two dummy ignition modules.
- Make sure the two ignition unit connectors are properly inserted (push firmly).
- Switch on the ignition again and check that the warning light illuminates for 3 seconds when the ignition is switched on. It should then extinguish and remain extinguished.

If the warning light does not operate as described above, consult the "Fault finding" section and check the system using tool XRBAG (Ele. 1288).

IMPORTANT : refitting is then the reverse of removal - follow the procedure below :

- It is **essential** to observe the tightening torque (0.5 daN.m) for the module mounting bolts.

- The "tamper-proof label" must always be replaced by a blue After Sales label, sold in a kit for all types (Part Number 77 01 204 944, blue colour), after first cleaning the surface to which the label is to be applied with heptane (Part Number 77 11 170 064). This precaution ensures the tamper-proof label system is totally efficient.
- Remember to remove all foreign bodies (bolts, clips...) from between the module and the passenger airbag cover.

DESCRIPTION

COMPUTER

The computer is located under the front passenger seat and is secured by three or four nuts (tightening torque : 0.4 daN.m).

IMPORTANT : before removing the computer :

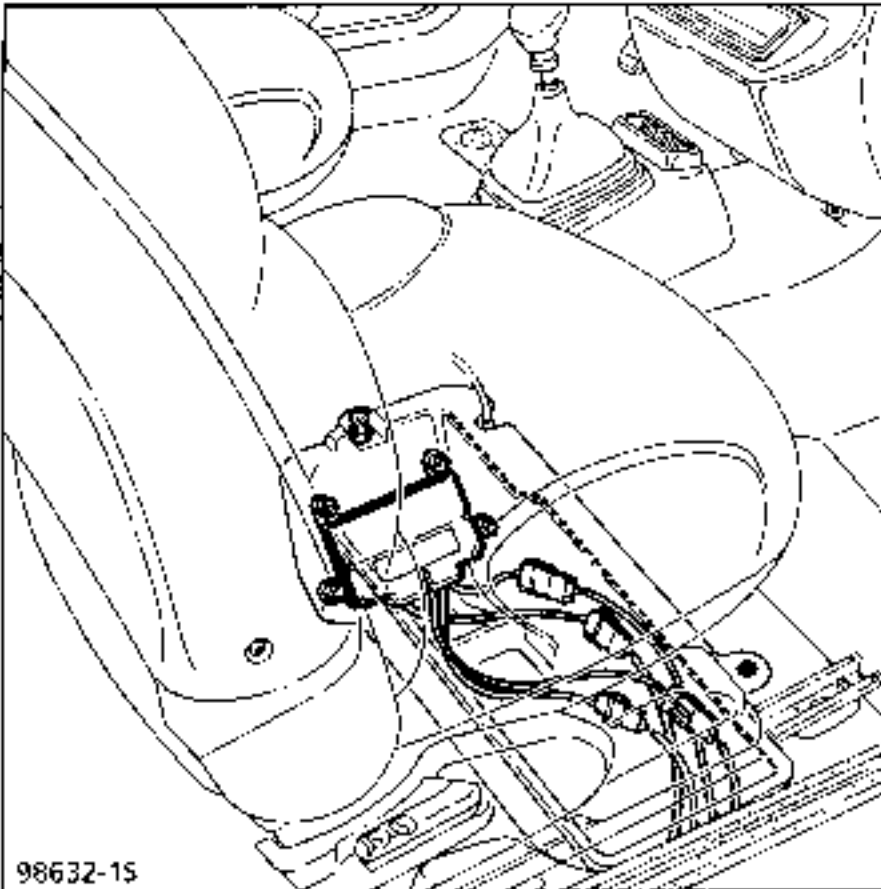
- Switch off the ignition.
- Remove the airbag/pre-tensioner fuse (see Technical Note on wiring diagrams).
- Wait 5 minutes for the reserve capacity to discharge (in computer).
- Disconnect the computer connectors to avoid all risk of triggering the system.
- Ensure no-one is present in the passenger compartment during all operations on the computer.

LOCATION

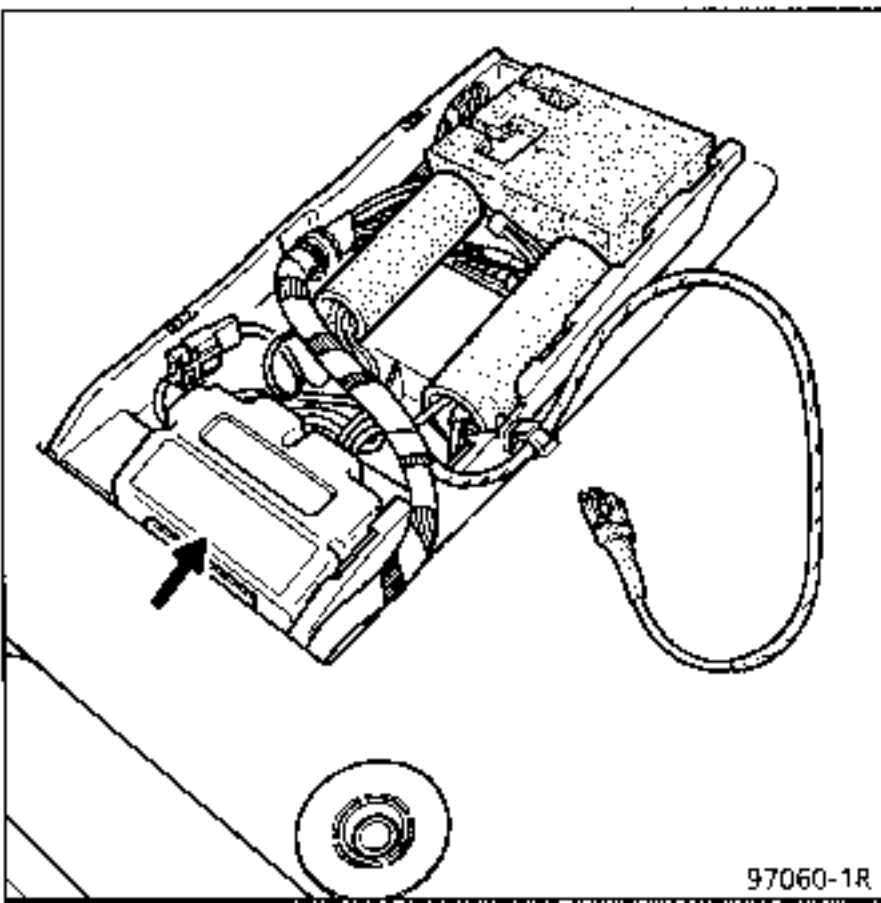
Twingo

To reach the computer, tilt the passenger seat forward and remove the tray under the seat (one nut, one clip)

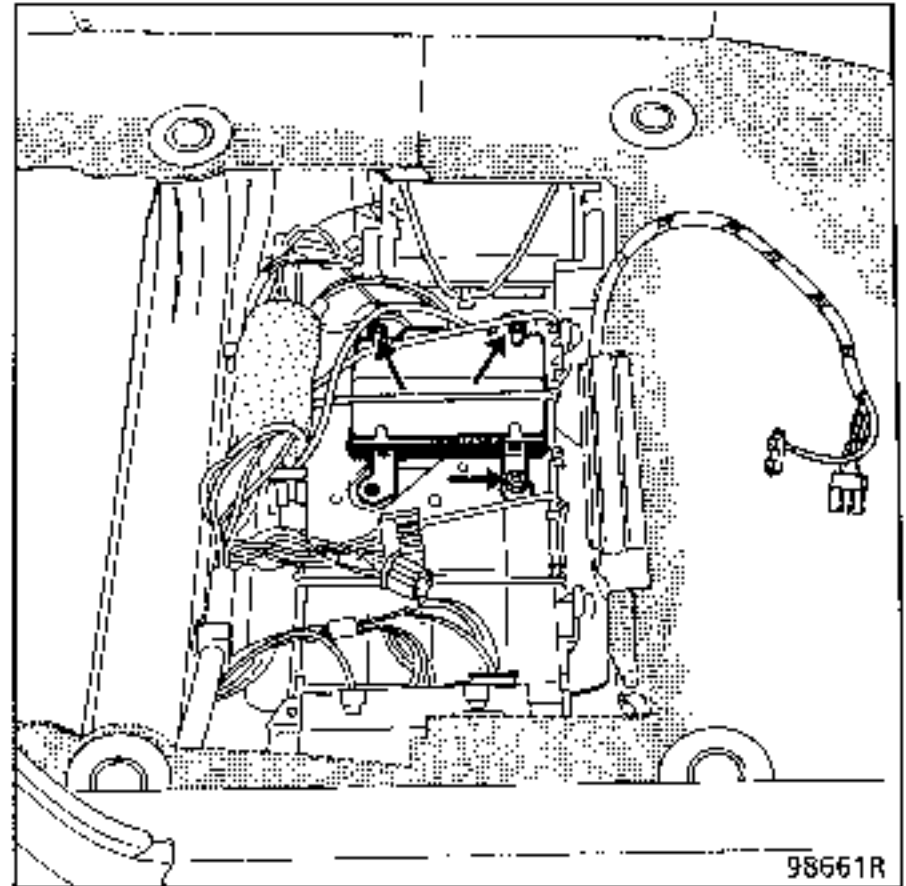
To avoid removing the seat, a cut-out section is provided in the carpet along the cross member (see dotted line). Then disconnect and remove the computer.



Laguna



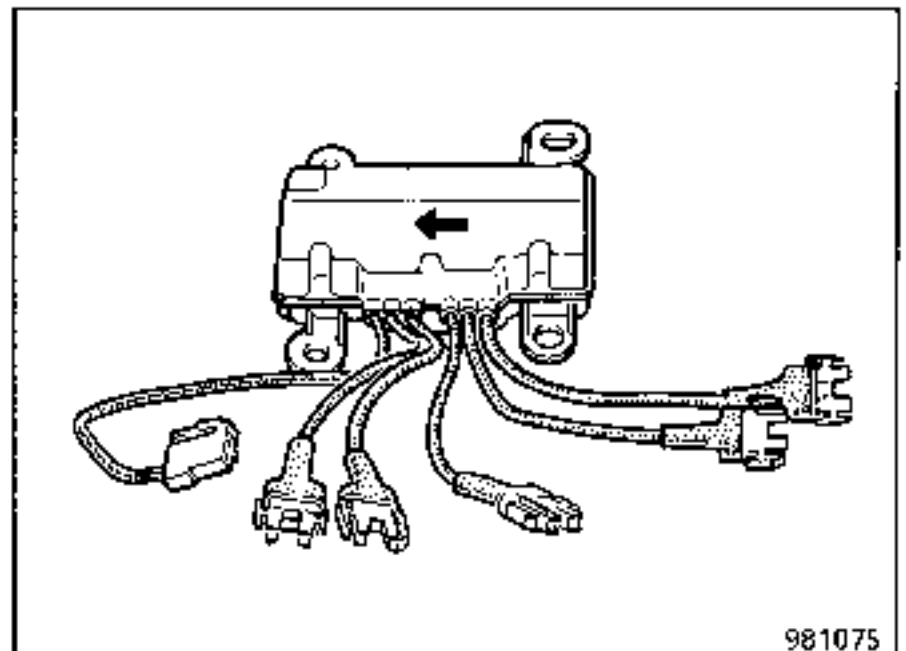
Safrane



To gain access to the computer move the front passenger seat as far forward as possible, release the carpet and remove the plastic cover which is secured by two bolts.

The computer comprises:

- an electro-mechanical sensor for the airbags,
- an electro-mechanical sensor for the pre-tensioners (except Twingo),
- the trigger system for the pre-tensioners, driver's airbag and passenger airbag,
- the airbag trigger line monitoring system.



IMPORTANT: The computer must be replaced if the airbags or pre-tensioners have been triggered. Certain components lose their nominal specifications after the trigger current has passed through them.

IMPORTANT: When refitting the computer, it **MUST** be secured to the vehicle before the connectors are reconnected. The arrow on the computer must be pointing forwards.

CONNECTION

- 3-track connector

Track	Allocation
1	+ after ignition
2	Airbag warning light
3	Earth

- One 2 track orange connector
Triggering of driver's airbag
- Two 2 track violet connectors (except Twingo)
Triggering of pre-tensioners
- Two 2 track green connectors
Triggering of passenger airbag

IMPORTANT: The wiring continuity of the system must not be checked using an ohmmeter or any other electrical measuring equipment without isolating the airbags and pre-tensioners: the system may be triggered due to the operating current of the measuring equipment. The test equipment XRBAG (Ele. 1288) **MUST** be used.

NOTE: the airbag and pre-tensioner trigger wiring connectors are special as they short circuit (tab holder side) when they are disconnected, which prevents accidental triggering of the systems (aerial effect for example).

INSTRUMENT PANEL WARNING LIGHT

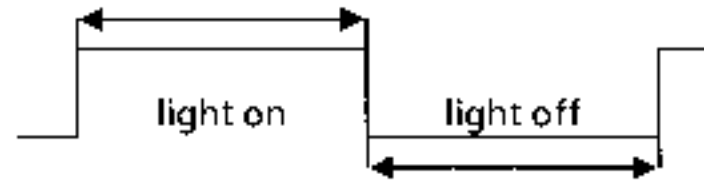


- This warning light is only for the airbag system (there is no warning light for the pre-tensioners). It should illuminate for a few seconds when the ignition is turned on then extinguish (and remain extinguished). If it does not illuminate when the ignition is turned on or if it illuminates while the vehicle is moving, there is a fault in the system (see "Fault finding").
- If the vehicle is fitted with driver and passenger airbags the warning light can signal six system faults.

The computer has an integral self diagnosis system which distinguishes 6 different faults and emits 6 codes which are displayed by the illumination of the airbag warning light on the instrument panel (permanently illuminated or flashing).

These faults only concern the airbag ignition module circuits (there is no fault finding for the pre-tensioner circuits).

IDENTIFICATION OF FAULT CODES



Code	Fault	Illumination of warning light for code emission
1	Driver's airbag open circuit or resistance $> 8 \Omega$	
2	Driver's airbag short circuit (to earth or 12 volts)*	
3	Passenger airbag open circuit or resistance $> 8 \Omega$	
4	Passenger airbag short circuit (to earth or 12 volts)*	
5	Internal computer fault or airbag line short circuit	
6	Feed voltage too low or too high	

* NOTE : Emission of codes 2 and 4 appears when there is a short circuit with the ignition on (customer use) : the airbag warning light flashes.

After switching the ignition off and on, this short circuit is shown by code 5 : the warning light is permanently illuminated

OPERATIONS ON THE TRIGGER WIRING

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

As the airbag trigger wiring is integral in the passenger compartment wiring harness, to facilitate repair, the repair method for this wiring consists of cutting the four ends of the faulty wiring and running the new wiring along the same route along the passenger compartment harness.


IMPORTANT: When fitting new wiring, make sure that it cannot be damaged where it is fitted and that it is correctly routed.

REMINDER: These safety devices will not withstand any conventional repair operation to wiring or connectors.

NOTE: The trigger wiring is available from the Parts Department as a single kit, containing the airbag and pre-tensioner wiring.

OPERATION

Vehicle with airbag and pre-tensioners

When the ignition is turned on the airbag warning light  illuminates for a few

seconds then extinguishes.

The computer is then in stand-by mode and monitors vehicle deceleration as recorded by its two electro-mechanical sensors.

In the event of a frontal impact of sufficient force, the most sensitive sensor triggers the simultaneous ignition of the two pyrotechnic generators for the front seat belt pre-tensioners.

Under the force of the gas generated by the system a piston is moved in a cylinder, pulling a cable connected to a corresponding central buckle, which retracts the seat belt.

If the frontal impact is greater, the second sensor will also trigger the ignition of the pyrotechnic generator for the airbags, as well as the pre-tensioners, which will inflate the airbags for the driver and passenger.

These systems will not trigger in the event of:

- a side impact,
- a rear impact.

ATTENTION :

- **IMPORTANT:** when an operation is carried out under the vehicle (exhaust, bodywork, etc.), do not use a hammer or transfer impact forces to the floor of the vehicle without removing the pre-tensioner fuse and waiting 5 minutes for the reserve capacity to discharge (see Technical Note with wiring diagrams).
- When installing after-sales electrical accessories (speakers, alarm or any other equipment which may create a magnetic field), these must not be fitted near to an airbag/pre-tensioner computer.

NOTE : The vehicle battery normally feeds the computer and the ignition module.

A reserve energy capacity is included in the computer however, in case the battery is disconnected at the initial moment of impact.

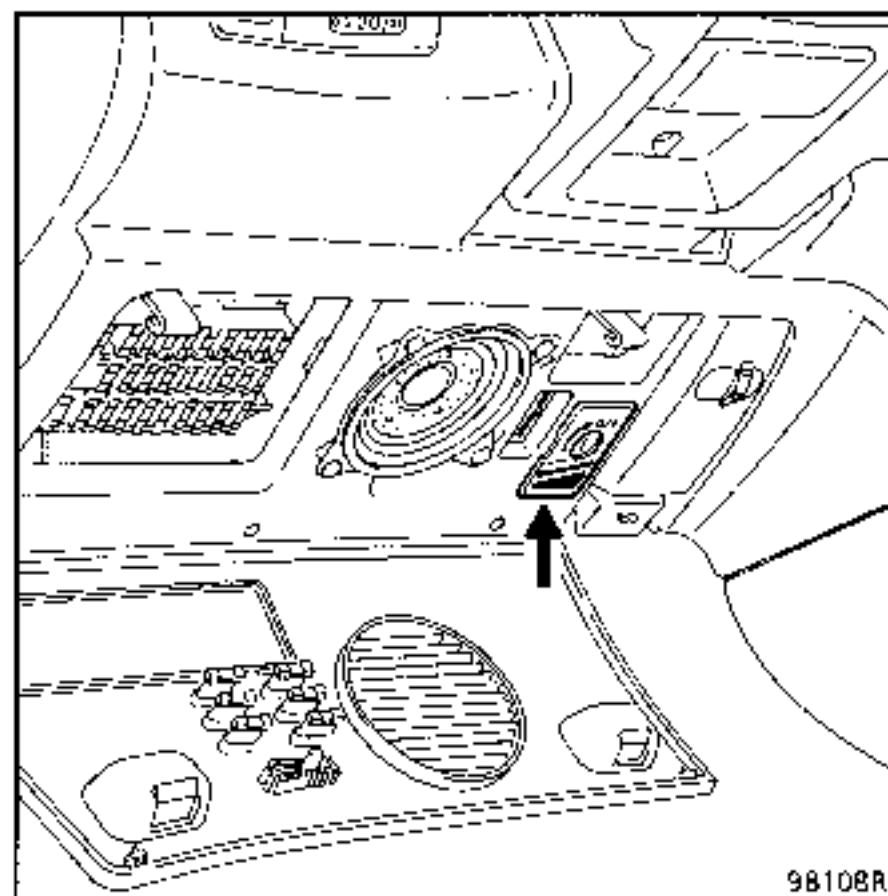
When triggered, a pyrotechnic gas generator produces an explosion and a small amount of smoke.

If the windscreen is replaced, remember to replace the label showing that the vehicle is fitted with an airbag.

IMPORTANT : The system **MUST** must be checked using the XRBAG tool following:

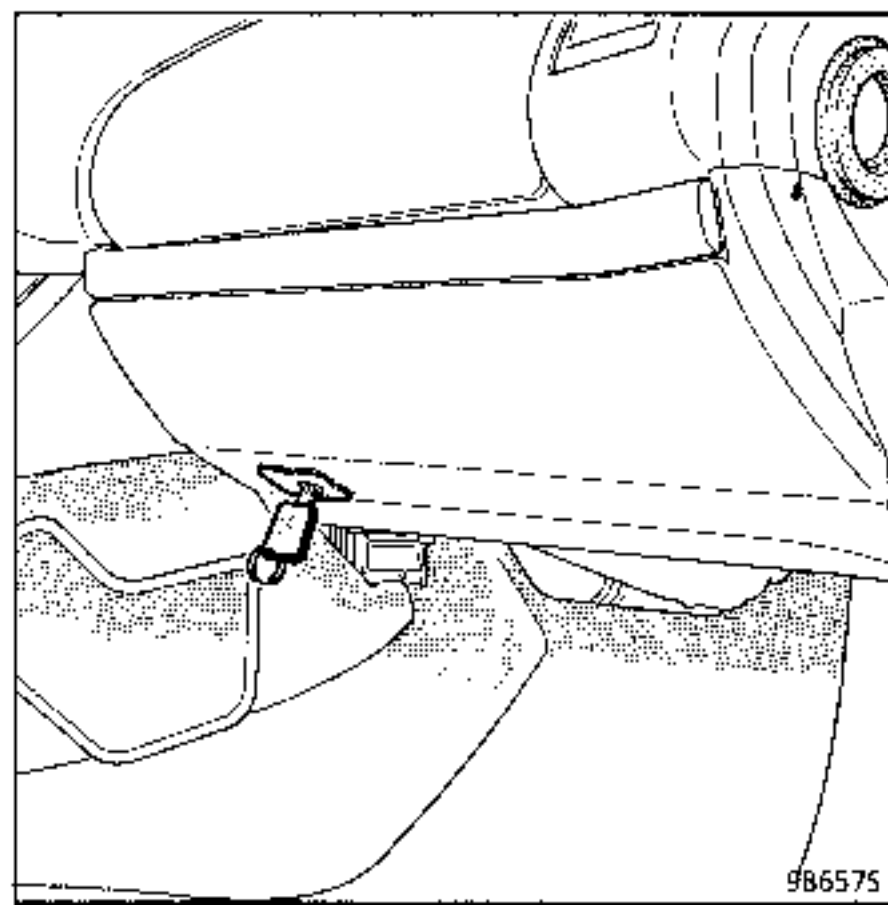
- an accident which did not cause the system to trigger,
- an attempted theft or actual theft of the vehicle,
- before selling a second-hand vehicle.

XRBAG TEST KIT (see section "Fault finding" for information on use).



SPECIAL NOTE ON ALARM LOCK FOR THE SAFRANE

As the passenger airbag is in the place of the dashboard glovebox the alarm suppression lock which is usually located in the glovebox, is now located at the bottom of the dashboard on the same side.



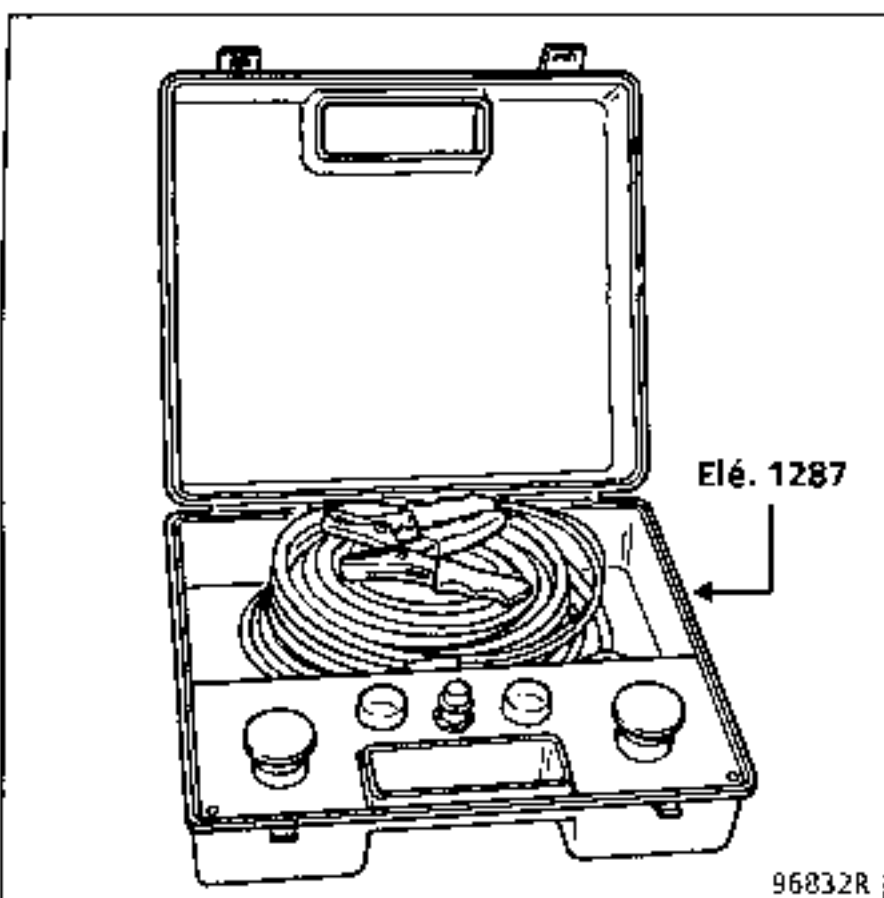
SPECIAL NOTE ON ALARM LOCK FOR THE LAGUNA

As the passenger airbag is in the place of the dashboard glovebox the alarm suppression lock which is usually located in the glovebox, is now located next to the passenger compartment fuse box.

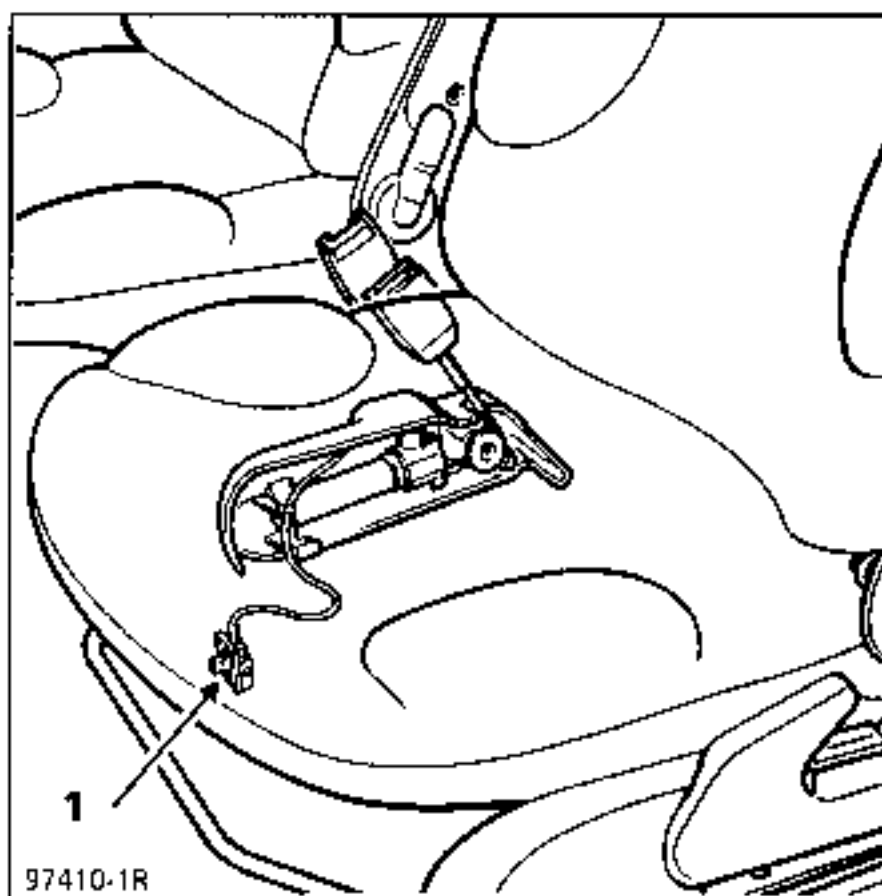
DESTRUCTION PROCEDURE

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

Special tool Ele. 1287 must be used.



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



Example : Twingo

Repeat the procedure for the second pre-tensioner.

NOTE : If the unit cannot be triggered (ignition unit faulty), return the old part in the packaging from the new replacement part to your local After Sales Head Office (For UK, send to Technical Services Department, Swindon).

DESTRUCTION OF THE PART REMOVED FROM THE VEHICLE

Proceed in the same manner as for the airbag (part removed from vehicle).

DESCRIPTION

PRE-TENSIONERS

DESTRUCTION OF THE PART FITTED TO THE VEHICLE

Move the vehicle outside of the workshop.

Connect the destruction tool to the violet connector (1) located under the front seat using the corresponding wire.

Unroll all the wire supplied with the tool so that you are at a sufficient distance from the vehicle (approximately 10 metres) when the unit is triggered.

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

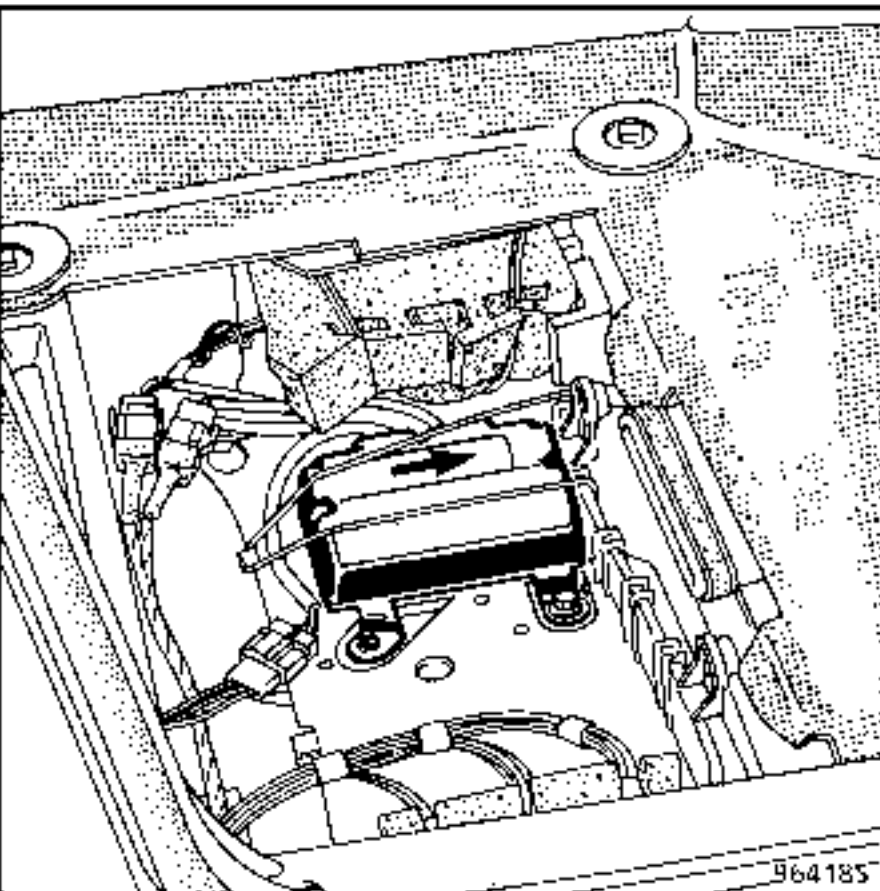
"CENTRAL" DRIVER'S AIRBAG

DESTRUCTION OF THE PART FITTED TO THE VEHICLE (only for Twingo, Laguna and Safrane)

IMPORTANT : the "self-contained" airbag must be destroyed when it is removed from the vehicle.

Move the vehicle outside of the workshop.

Make space around the computer under the passenger seat (see section on "Description of computer") in order to connect the the destruction tool to the orange airbag connector using the wire provided for this purpose.



Example : Safrane

Open the vehicle doors.

Unroll all the wire supplied with the tool so that you are at a sufficient distance 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 the unit and no objects are close by, carry out the destruction of the airbag by pressing the two push buttons on the tool at the same time.

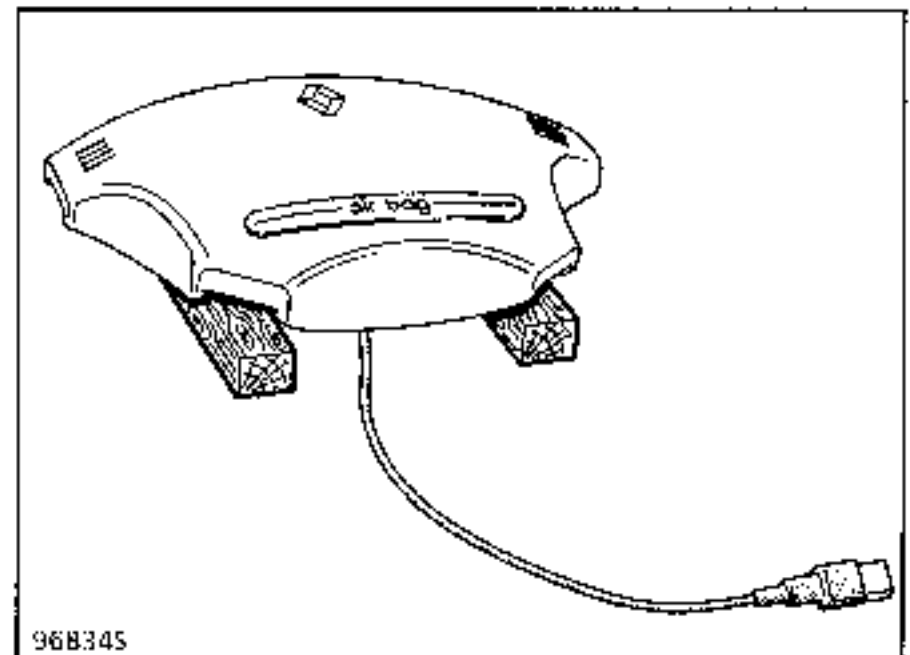
NOTE : If the unit cannot be triggered (ignition unit faulty), return the old part in the packaging from the new replacement part to your local After Sales Head Office (For UK, send to Technical Services Department, Swindon).

ALL TYPES OF DRIVER'S AIRBAG

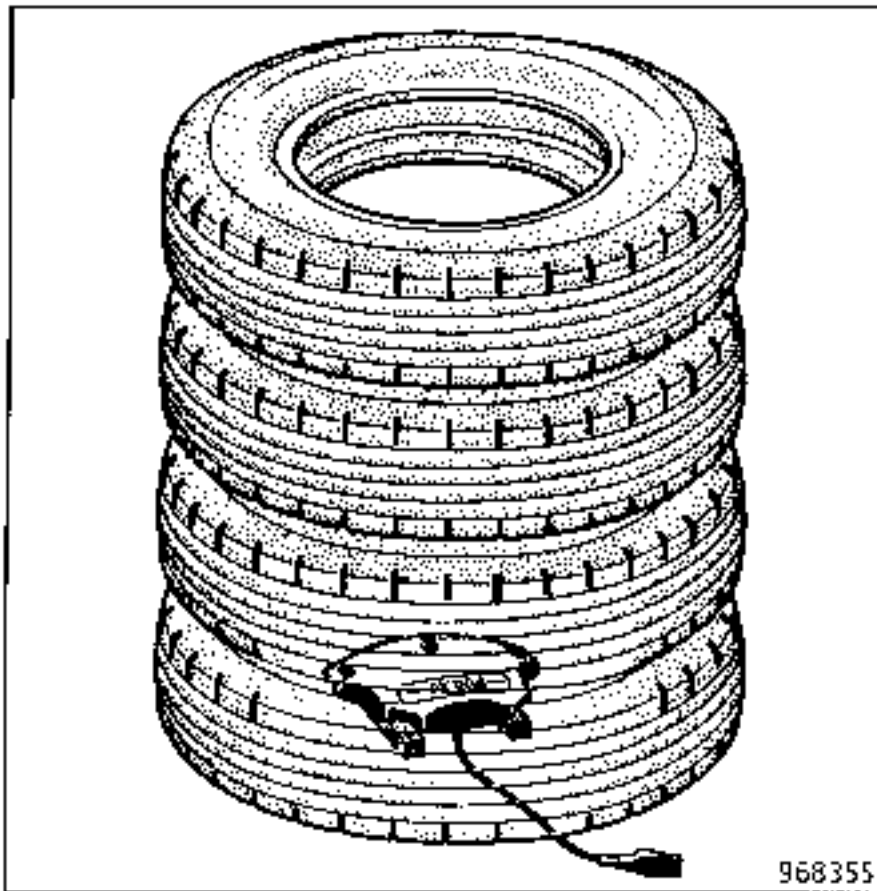
DESTRUCTION OF THE PART REMOVED FROM THE VEHICLE

Carry out the operation outside the workshop.

After connecting the correct wiring, set the airbag cushion on 2 blocks of wood to avoid damaging the connector against the ground.



Stack 4 old tyres over the assembly.



Unroll all the wire supplied with the tool so that you are at a sufficient distance from the vehicle (approximately 10 metres) when the unit is triggered and connect the tool wire to the airbag cushion connector.

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 airbag by pressing the two push buttons on the tool at the same time.

NOTE : if the unit cannot be triggered (ignition unit faulty), return the old part in the packaging from the new replacement part to your local After Sales Head Office (For UK, send to Technical Services Department, Swindon).

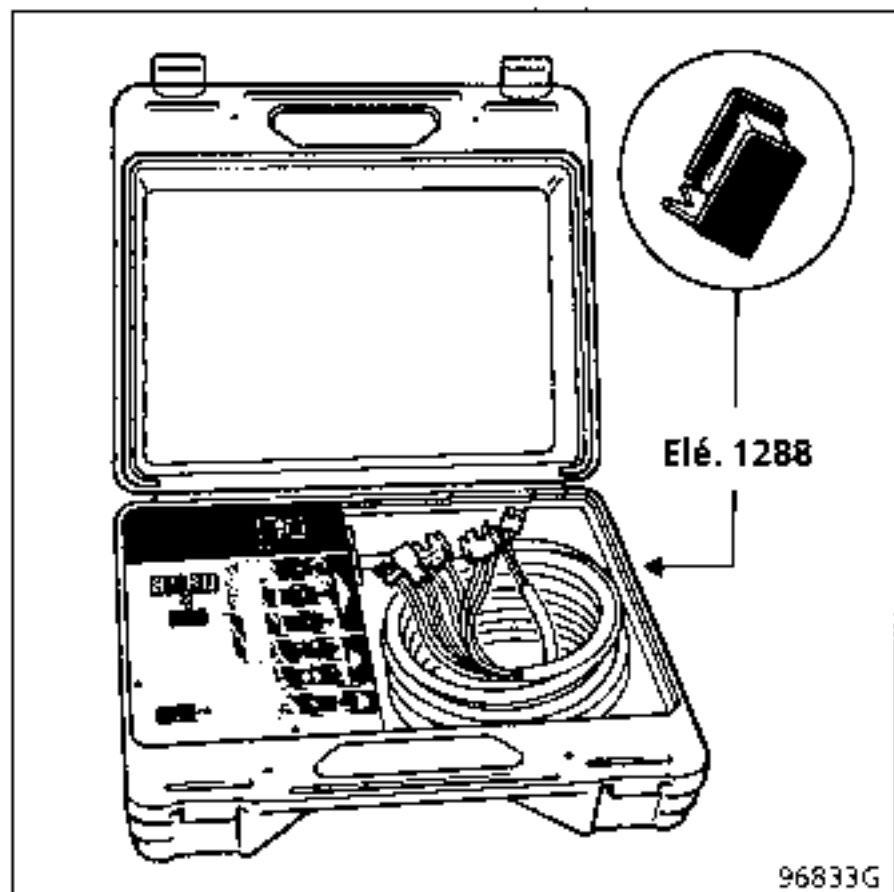
PASSENGER AIRBAG

DESTRUCTION OF THE PART FITTED TO THE VEHICLE

Proceed in the same manner as for the driver's airbag (part removed).

FAULT FINDING

Test equipment XRBAG (Ele. 1288)



PRESENTATION

The test equipment XRBAG is a specific tool which has been designed to test and carry out fault finding on airbag and seat belt pre-tensioner units.

An internal check carried out before each measurement guarantees total protection against the risks of accidental triggering of these devices.

When the power is supplied to the XRBAG, the vehicle battery voltage is checked and the tool is prevented from operating if the battery voltage is less than 10 V and the message



is shown on the display.

The function selection pad allows the various measurements to be carried out on the vehicle quickly.

The display on the tool allows the results of measurements to be read directly.

The functions which may be selected on the XRBAG are as follows:

- Measurement of resistance at any point on the airbag and pre-tensioner wiring (detection of an open circuit or short circuit).
- Check of airbag and pre-tensioner circuit insulation in relation to :
 - earth,
 - + battery.
- Test :
 - of the airbag warning light on the instrument panel (warning light flashes if test is correct, example : Laguna and Safrane),
 - of the 12 V feed voltage to the computers (pre-tensioner computer and central airbags + pre-tensioner computer).
- 3.5 V , 30 seconds timed feed to check the "self-contained" airbag (computer integral in steering wheel, example : R19, Clio).
- Measurement and display of values.

Values are expressed in ohms for resistance and insulation and in volts for voltage measurements. The accuracy of the measurement of voltages and resistances less than 10 ohms is approximately one tenth of a unit.

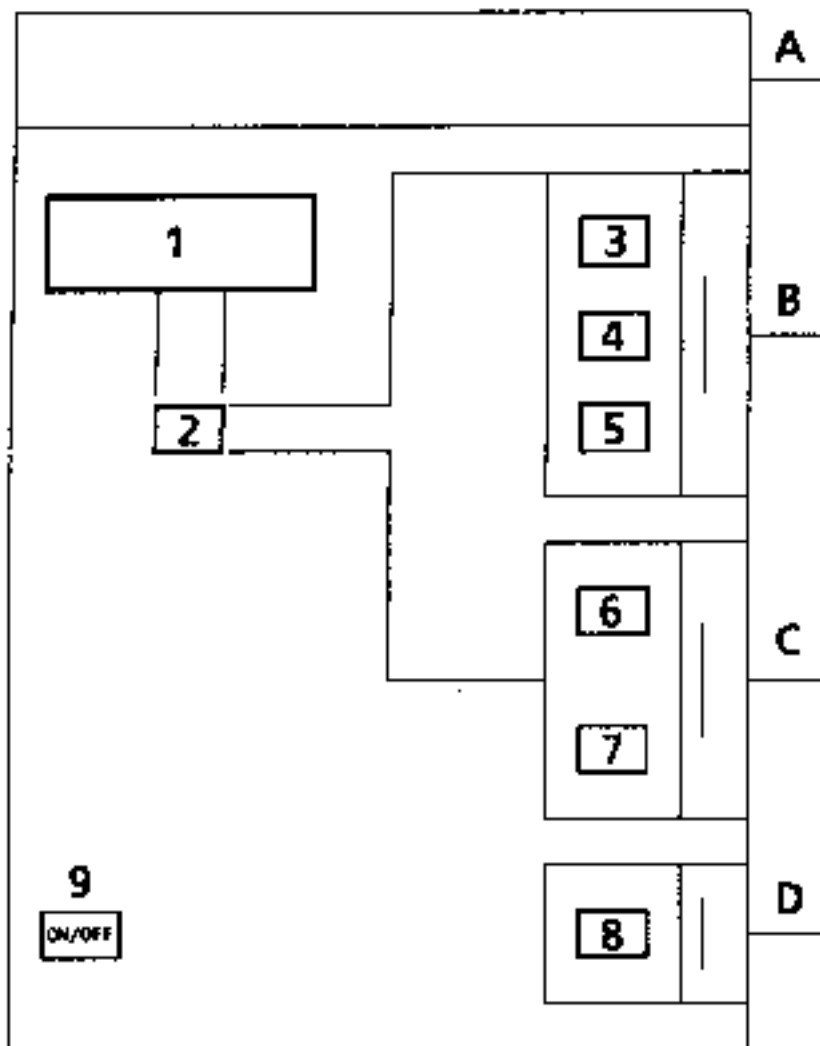
The feed for the test equipment is taken either directly from the battery, or from the cigar lighter (the cigar lighter socket adapter is supplied with the tool).

REMINDER

IMPORTANT: The wiring continuity of the system must not be checked using an ohmmeter or any other electrical measuring equipment without isolating the airbag and seat belt pre-tensioners : the system may be triggered due to the operating current of the measuring equipment.
The test equipment XRBAG (Ele. 1288) **MUST** be used).

DESCRIPTION

UNIT



DIRBD5

Function of the various numbered units

- 1 4 digit display
- 2 Measurement key.
The value measured is shown on the display if this key is pressed after selecting a new "measurement" function
- 3 Key for selecting "resistance measurement"
- 4 Key for selecting "circuit insulation in relation to + 12V"
- 5 Key for selecting "circuit insulation in relation to earth"
- 6 Key for selecting "test feed voltages to computers"

- 7 Key for selecting "check the airbag warning light on the instrument panel by earthing the line"
- 8 Key for selecting : 3.5 V feed to the "self-contained" airbag on the steering wheel to detect a fault in the battery unit (example : R19, Clio)
- 9 ON/OFF key for turning the XRBAG tool on and off

AIRBAG DUMMY IGNITION MODULE

A dummy ignition module in a small red box is supplied with the XRBAG tool.

It has the same electrical specifications as a real ignition module and is used to replace the airbag cushion during fault finding to avoid discharge of the batteries when the unit is being removed from the vehicle, in the case of an "self-contained" airbag in the steering wheel (example: R19, Clio).

A second dummy ignition module is supplied with the update of the manual for the XRBAG kit or may be ordered separately:

Refer to your After Sales Head Office for further information.

NOTE : this second dummy ignition module is required for fault finding on the passenger airbag.

WIRING

- A** Feed cable for the XRBAG tool, for connection to the battery.

An adapter for the cigarette lighter socket is also supplied with the equipment.

- B** Multifunction cable:

- **violet connector** for checking the circuit for the pre-tensioners at points C1 and C2 or C1 only on Twingo and Clio,
- **orange connector** for checking the circuit for the driver airbag circuits at points C1 and C2 (Laguna and Safrane),
- **black connector** for checking the circuit for the driver airbag at point C3 (1st fitting, rotary switch under steering wheel - Laguna and Safrane),
- **white connector** for checking the airbag ignition modules at point C4 and the pre-tensioner ignition modules at point C3,
- **green connector** for checking the passenger airbag ignition modules at point C1.

This output is obtained using the adapter cable supplied with the manual update for the XRBAG tool.

NOTE : an adapter cable with a black 4 track connector output is used for checking the rotary switch (Laguna).

- C** Cable with a grey 3 track connector for checking the "central" airbag and pre-tensioner computer feed and the feed to the computer for pre-tensioners only.

This cable is also used for checking the instrument panel airbag warning light line for "central" airbags and pre-tensioners.

NOTE : an adapter cable with a white 3 track connector output is used for testing certain computers.

- D** Cable with a small black 4 track connector for supplying a 3.5V feed to "self-contained" airbags on the steering wheel in place of the battery unit (example : R19, Clio).

NOTE : refer to the wiring diagrams in the following pages to identify the points C1, C2, C3 and C4

SPECIAL NOTES FOR OPERATION

The buzzer sounds when a function key is pressed and a small red warning light illuminates and then flashes next to the key selected.

Selecting one function cancels the previous one (functions cannot be selected together).

The XRBAG tool will not take into account the pressing of two keys at the same time.

The display of a value is only possible by pressing the function key "measure/display values" numbered 2, and the values will only be displayed after selection of one of the first 4 function keys (the value on the display will disappear after a few seconds).

GUIDE TO OPERATION

1. Providing power to the equipment

Connect the feed cable reference A to the battery or to the cigar lighter socket.

Press the "ON/OFF" key (the red warning light should illuminate).

2. Using the various measurement functions

a) Measuring the feed voltage to the computers:

Use the cable reference C and connect it to the computer 3-track connector.

Press:

- the key numbered 6 (the red warning light next to it illuminates then flashes),
- the measurement key numbered 2 to obtain the display of the value (> 10 V).

b) Measuring resistance or insulation:

Reconnect the computer to the vehicle.

Use cable reference B and connect one of its connectors to the point to be measured (follow the instructions on the fault finding flow charts for the function required; see following pages).

Press:

- one of the keys numbered 3, 4 or 5 depending on the type of measurement to be made (the red warning light next to it illuminates then flashes).
- the measurement key numbered 2 to obtain the display of the value :

- Correct resistance measurement values:

pre-tensioners between 1.7 and 4 Ω

driver's airbag between 2.3 and 5.5 Ω

passenger airbag 1.6 to 4 Ω

the value 9999 indicates a resistance which is equal to infinity

- correct measurement value for insulation in relation to + 12 V and to earth :

the resistance should be equal to infinity, the display should therefore show 9999

3. Checking the operation of the airbag warning light on the instrument panel

Use cable reference C and connect it to the 3 track feed connector on the unit.

Press the key numbered 7 (the small red warning light next to it illuminates). When this function is selected, XRBAG makes the warning light flash for 30 seconds.

4. Checking the 3.5 V feed for the "self-contained" airbag on the steering wheel (example : R19, Clio)

Use the cable reference D and connect it to the 4 track connector in place of the battery unit.

Press the key numbered 8 (the small red warning light next to it illuminates).

5 seconds after this function is selected XRBAG supplies a feed voltage of 3.5 V for 30 seconds.

NOTE : these various checks are described stage by stage in the fault charts corresponding to the function required (see following pages).

DISPLAY OF VALUES

Measuring a voltage:

The display has three figures, one of which is a decimal.

Measuring a resistance and checking insulation:

- from 0 to 9.9 Ω :
display shown as 2 figures, one being a decimal,
- from 10 to 9999 Ω :
display shown as 4 figures, no decimal,
- from 10 to 200 k Ω :
display shown as 3 figures, followed by "h".

The display is in k Ω with an accuracy of 10 k Ω from 100 k Ω .

- greater than 200 k Ω :
"9999" flashes on the display.

NOTE : the minimum value acceptable when testing insulation in relation to earth or + battery is 100 k Ω , displayed as "100 h" on the XRBAG. Perfect insulation is displayed as "9999", flashing.

TESTING AND FAULT FINDING

Fault finding for:

- illumination of the airbag warning light on the instrument panel,
- non-illumination of the airbag warning light on the instrument panel when the ignition is turned on,
- illumination of the airbag warning light on the steering wheel (example : R19, Clio),
- non-illumination of the airbag warning light on the steering wheel when the airbag cushion is disconnected (example : R19, Clio).

Testing of the seat belt pre-tensioner circuits on the vehicle:

- fitted with a central airbag and pre-tensioner computer (except Twingo),
- not fitted with an airbag or fitted with a "self-contained" airbag on the steering wheel (example : R19, Clio).

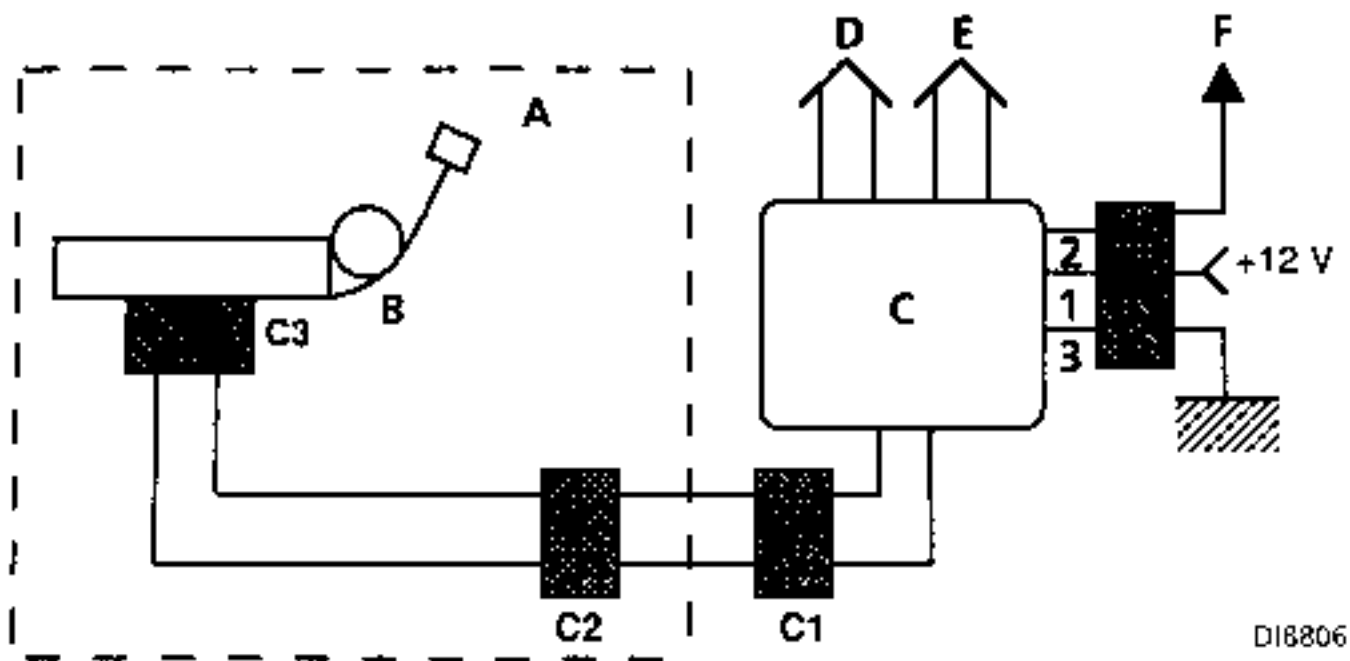
The testing and fault finding procedures for these various cases are given in the following pages.

NOTE : certain tests in the fault finding procedures for vehicles fitted with an airbag require the use of one or two dummy ignition modules.

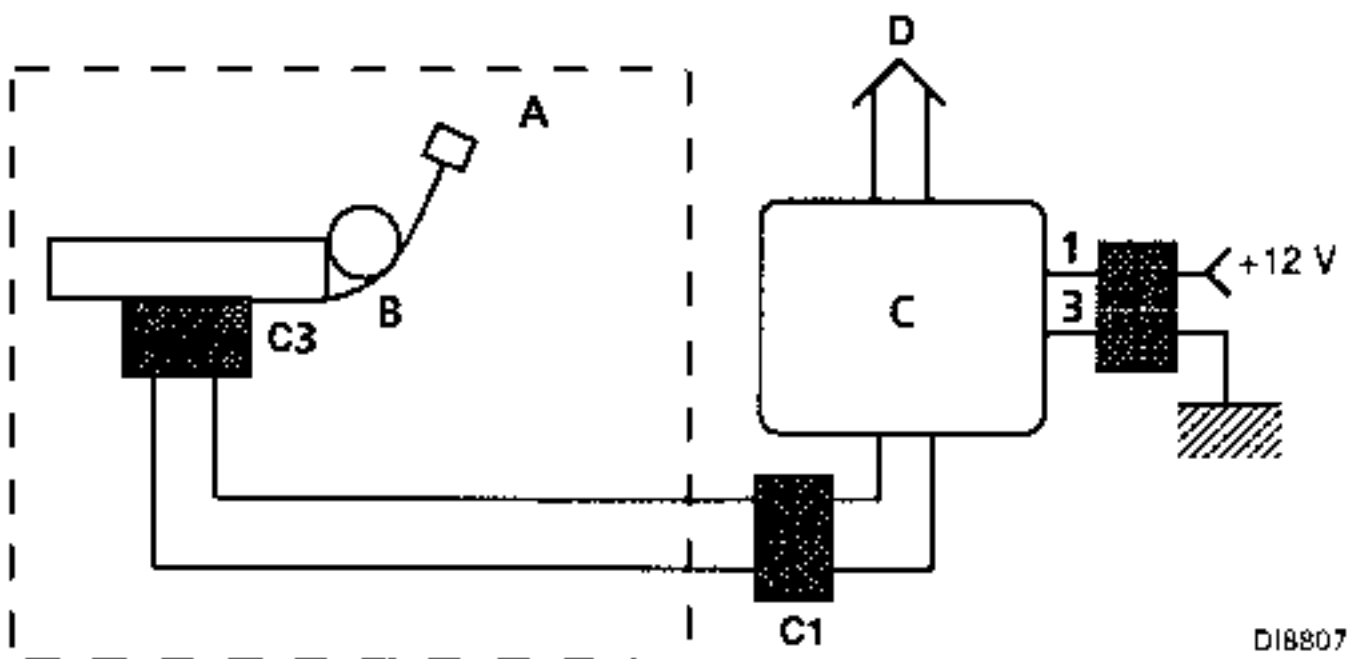
To avoid incorrect interpretation of the illumination or non-illumination of the warning lights and to avoid unnecessary replacement of parts, the conformity of the dummy ignition module must be checked.

To do this, use the XRBAG resistance measurement function, connecting the dummy ignition module to the cable reference B. The resistance of a dummy ignition module should be between 1.7 and 3 Ω .

PRE-TENSIONERS (R19, Laguna, Safrane)



PRE-TENSIONERS (Twingo, Clio and Espace)



The connections for the pre-tensioners for each seat are the same.

- A** Left hand seat
- B** Left hand pre-tensioner
- C** Pre-tensioner computer or central computer
- D** To right hand pre-tensioner
- E** To airbags (Laguna and Safrane depending on equipment)
- F** Instrument panel warning light (Laguna and Safrane only)

	Measuring point	Correct value
Pre-tensioners	C1, C2	1.7 to 4 Ohms

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

CHECKING THE PRE-TENSIONER CIRCUITS ON A VEHICLE
WITHOUT A "CENTRAL" AIRBAG UNIT

Ignition off, disconnect the 3 track pre-tensioner computer connector.
Use the XRBAG to check the feed voltage to the computer.
Is the voltage greater than 10.5 V ignition on?

NO

Carry out the operations required to provide a feed voltage greater than 10.5 V (fuse) between tracks 1 and 3 on the feed connector.

YES

Turn the ignition off, ensure continuity between earth and track 3 on the feed connector then reconnect the 3 track connector to the computer.
Use the XRBAG tool to measure the resistance and check the leakage to positive and earth at point C1 on the wiring for one of the pre-tensioners.
Are the values obtained correct (correct value between 1.7 and 4 Ω)?

YES

Carry out the same test on the other pre-tensioner.

NO

Use the XRBAG tool to measure the resistance and check the leakage to positive and earth at point C2. Are the values obtained correct? (except Twingo and Clio : C2 does not exist)

YES

Replace the wiring between points C1 and C2 then repeat the test at point C1 to check the repair.

NO

Use the XRBAG tool to measure the resistance and check the leakage to positive and earth at point C3. Are the values obtained correct?

YES

Replace the wiring between points C2 and C3 then repeat the test at point C1 to check the repair or between points C1 and C3 if there is no point C2.

NO

Carry out:
- the replacement of the pre-tensioner tested and then destroy it,
- the same test on the other pre-tensioner from point C1.

CHECKING THE PRE-TENSIONER CIRCUITS ON A VEHICLE WITH A
"CENTRAL" AIRBAG + PRE-TENSIONER UNIT

Move the passenger seat as far forward as possible and unscrew the protective cover to reach the central airbag and pre-tensioner computer. Use the XRBAG tool to measure the resistance and check the leakage to positive and earth at point C1 on the wiring for one of the pre-tensioners. Are the values obtained correct (correct value between 1.7 and 4 Ω)?

YES

Carry out the same test on the other pre-tensioner.

NO

Use the XRBAG tool to measure the resistance and check the leakage to positive and earth at point C2. Are the values obtained correct ? (except Twingo and Clio : C2 does not exist)

YES

Replace the wiring between points C1 and C2 then repeat the test at point C1 to check the repair.

NO

Use the XRBAG tool to measure the resistance and check the leakage to positive and earth at point C3. Are the values obtained correct ?

YES

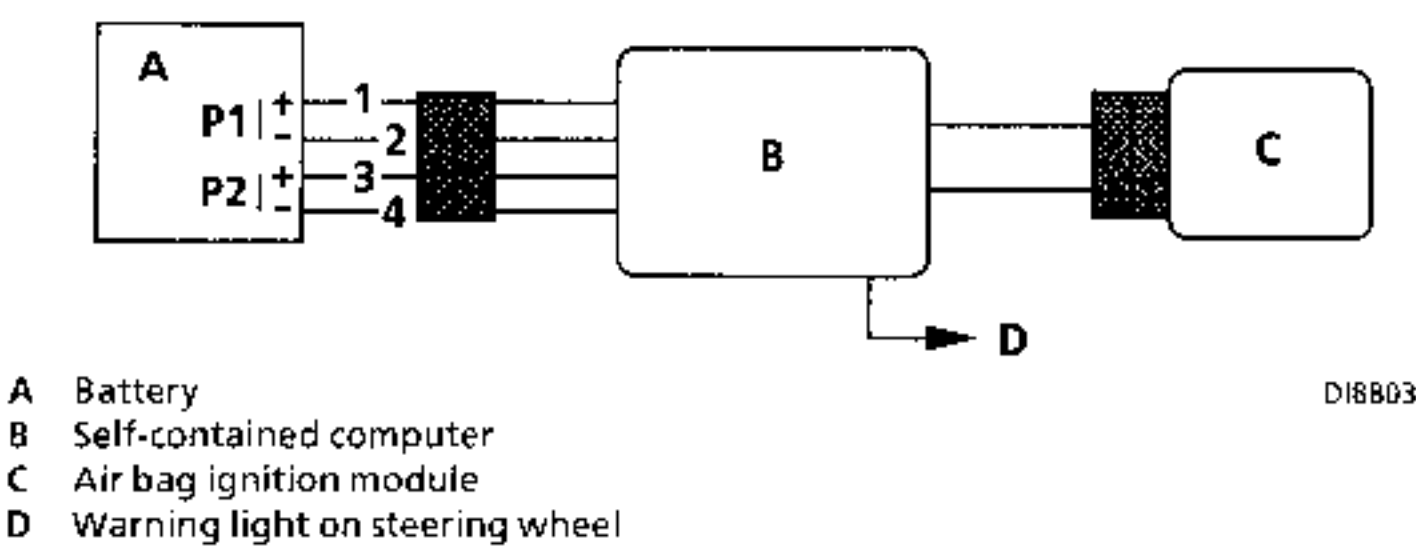
Replace the wiring between points C2 and C3 then repeat the test at point C1 to check the repair or between points C1 and C3 if there is no point C2.

NO

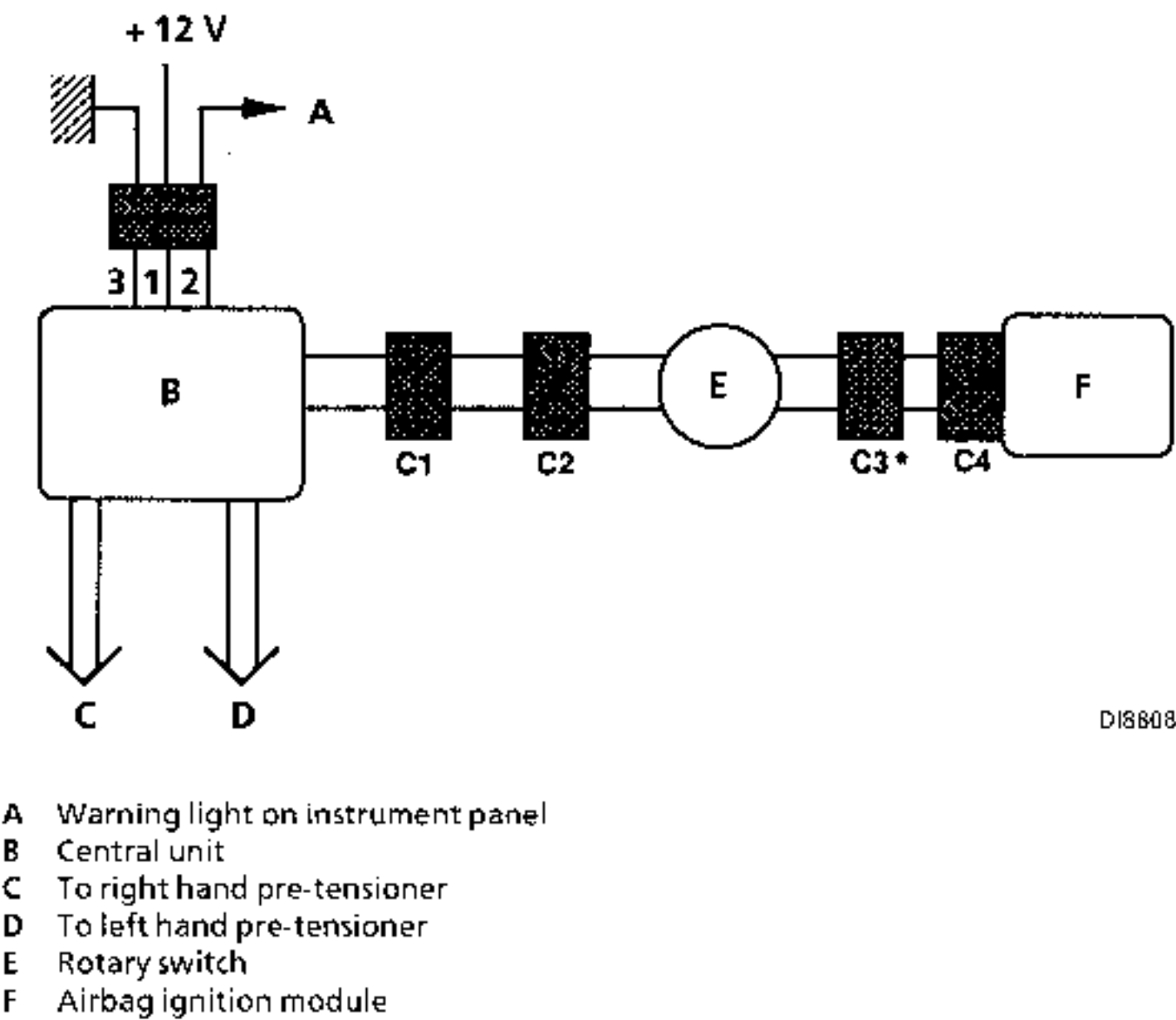
Carry out:

- the replacement of the pre-tensioner tested and then destroy it,
- the same test on the other pre-tensioner from point C1.

"SELF-CONTAINED" AIRBAG ON STEERING WHEEL(Clio, R19 and Espace)



AIRBAG ON CENTRAL UNIT WITH NO PASSENGER AIRBAG (Laguna and Safrane)



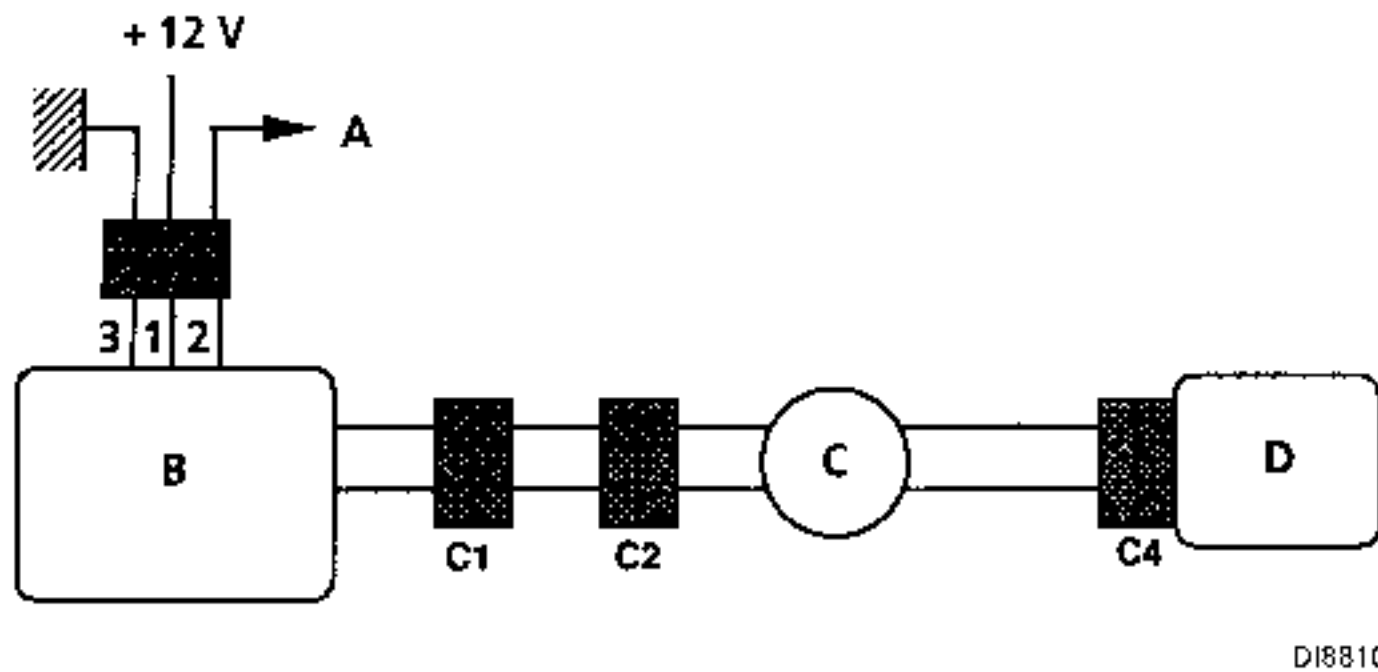
(*) C3 only for 1st fitting, rotary switch

	Measuring point	Correct value
"Driver's airbag"	C1, C2, C3* and C4	2.3 to 5.5 Ω

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

FAULT FINDING

DRIVER'S AIRBAG ON "CENTRAL" UNIT (Twingo without passenger airbag)



- A Warning light on instrument panel
- B Central unit
- C Rotary switch
- D Airbag ignition module

	Measuring point	Correct value
"Driver's" airbag	C1, C2 and C4	2.3 to 5.5 Ω

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

**AIRBAG WARNING LIGHT ILLUMINATED ON
STEERING WHEEL FOR VEHICLE WITH
"SELF-CONTAINED" AIRBAG**

Remove the 2 mounting bolts for the steering wheel cushion and check that it is correctly connected to the airbag computer. Disconnect the steering wheel cushion and connect the dummy ignition module. Is the warning light on the steering wheel still illuminated?

NO →

Replace the airbag cushion. After the replacement ensure the airbag warning light remains extinguished. Follow the procedure for destruction of the replaced airbag.

YES
↓

Disconnect the battery unit and use the XRBAG and the special cable to feed the airbag computer. With the computer fed as above by the XRBAG, is the airbag warning light on the steering wheel illuminated?

NO →

Replace the battery unit and ensure the warning light is extinguished. Disconnect the dummy ignition module and check the warning light flashes. Reconnect the airbag cushion and check the warning light extinguishes and remains extinguished. Refit the cushion to the steering wheel.

YES
↓

Replace the airbag computer and check the system operates correctly. Disconnect the dummy ignition module and check the warning light flashes. Reconnect the airbag cushion and check the warning light extinguishes. Refit the cushion to the steering wheel.

**AIRBAG WARNING LIGHT ON STEERING WHEEL EXTINGUISHED WHEN
AIRBAG CUSHION IS DISCONNECTED, FOR VEHICLE WITH
"SELF-CONTAINED" AIRBAG**

Remove the 2 mounting bolts for the steering wheel cushion and check that the battery unit is correctly connected to the airbag computer. If the fault persists, disconnect the battery unit and use the XRBAG and the special cable to supply the airbag computer with 3.5V. With the airbag cushion disconnected and the computer fed as above by the XRBAG, does the airbag warning light flash?

YES →

Replace the battery unit and ensure the warning light flashes. Connect the dummy ignition module and check the warning light extinguishes. Reconnect the airbag cushion and check the warning light remains extinguished. Refit the cushion to the steering wheel.

NO
↓

Replace the airbag computer. Before reconnecting the airbag cushion ensure the warning light flashes. Connect the dummy ignition module and check the warning light extinguishes. Reconnect the airbag cushion and check the warning light remains extinguished. Refit the cushion to the steering wheel.

**AIRBAG WARNING LIGHT ILLUMINATED ON INSTRUMENT PANEL FOR
VEHICLE WITH DRIVER'S AIRBAG WITHOUT PASSENGER AIRBAG**

Ignition off, disconnect the 3 track computer connector.
Turn the ignition on.

Is the airbag warning light on the instrument panel
illuminated?

YES →

There is a short circuit on the line
between the computer and the
airbag and service warning lights.
Ensure the line is insulated from
earth.

NO
↓

Use the XRBAG tool to test the computer feed voltage.

Is the voltage greater than 10.5 V ignition on?

NO →

Carry out the operations required
to provide a feed voltage greater
than 10.5 V.

YES
↓

Turn the ignition off. Reconnect the computer 3 track connector.
Remove the 2 mounting bolts from the steering wheel cushion and
check it is correctly connected. Disconnect the steering wheel
cushion and connect the dummy ignition module to the white
connector. Turn the ignition on. Does the airbag warning light
extinguish 3 seconds after turning the ignition on?

YES →

Ignition module is faulty. Turn the
ignition off and replace the airbag
cushion. Screw the cushion into
position on the steering wheel and
turn the ignition on to check the
operation of the warning light is
correct. Follow the procedure for
destruction of the replaced airbag.

NO
↓

Turn the ignition off and reconnect the airbag cushion in
place of the dummy ignition module. Use the XRBAG tool to
measure the resistance and check the leakage to positive
and earth at point C3. Are the values obtained correct ?
(value correct between 2.3 and 5.5 Ω) (C3 no longer exists on
new rotary switch under steering wheel)

NO →

Replace the wiring between points
C3 and C4.

YES
↓

Use the XRBAG tool to measure the resistance and check
the leakage to positive and earth at point C2. Are the values
obtained correct ?
(value correct between 2.3 and 5.5 Ω)

NO →

Replace the rotary switch under the
steering wheel

YES
↓

Use the XRBAG tool to measure the resistance and check
the leakage to positive and earth at point C1. Are the values
obtained correct ?

NO →

Replace the wiring between points
C1 and C2.

YES
↓

The tests carried out have not shown a fault. Replace the
airbag computer. Check that the warning light operates
correctly after replacing the computer.

THE AIRBAG WARNING LIGHT ON THE INSTRUMENT PANEL DOES NOT ILLUMINATE WHEN THE IGNITION IS TURNED ON FOR A VEHICLE WITH A DRIVER'S AIRBAG AND WITHOUT A PASSENGER AIRBAG

Move the passenger seat as far forward as possible and unscrew the protective cover to reach the airbag and pretensioner central computer. Ignition off, disconnect the computer feed connector and connect the XRBAG to carry out the test on the airbag warning light. Does the airbag warning light flash during the test? (earthing track 2 on the connector).

NO →

The line between the connector and the warning light is cut, the warning light bulb is blown or there is a + after ignition fault with the warning light. After repair, ensure the warning light operates correctly when the ignition is turned on.

YES

Use the XRBAG to check the computer feed voltage. Is the voltage greater than 10.5 V, ignition on?

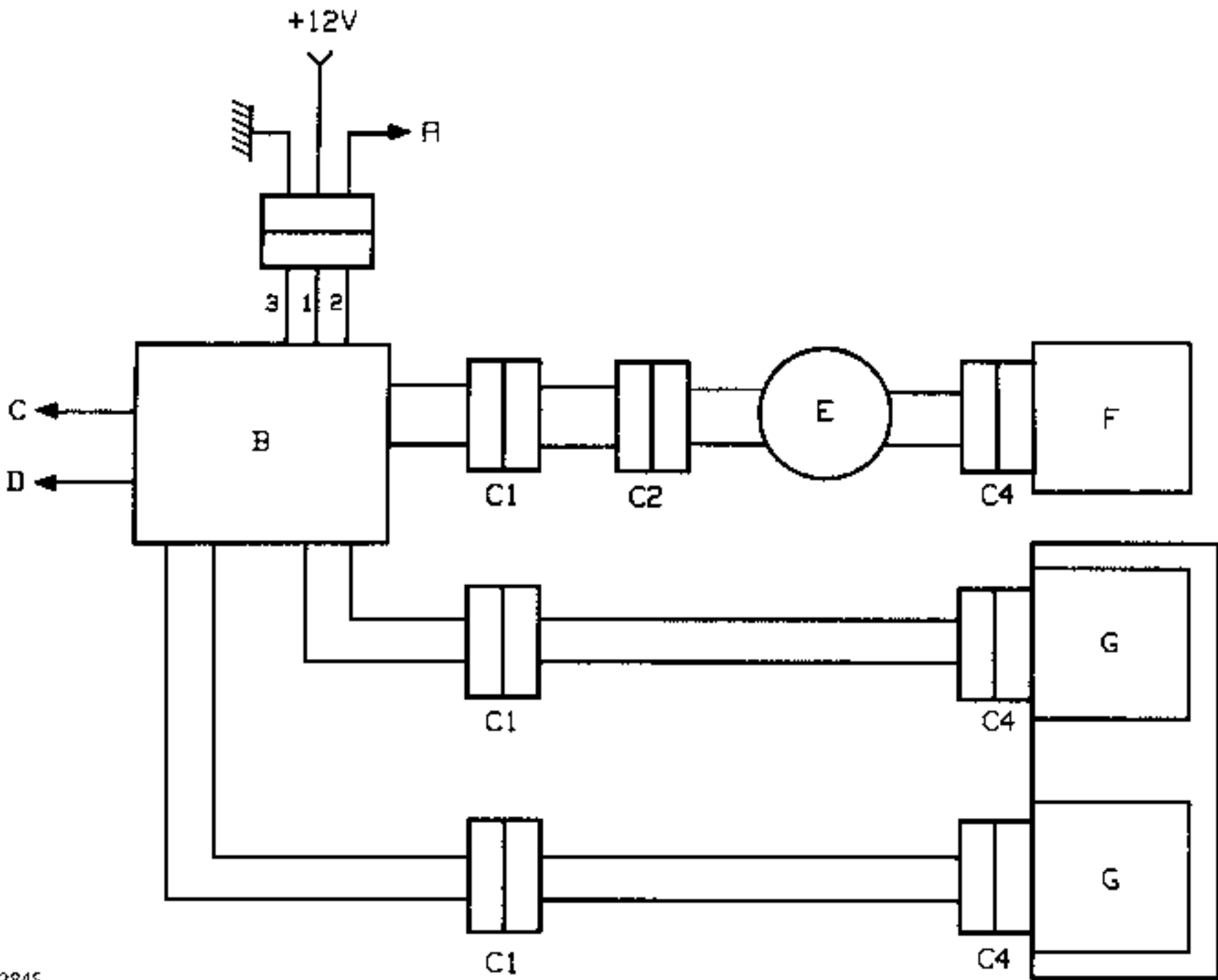
NO →

Carry out the operations required to ensure a feed voltage greater than 10.5 V between tracks 1 and 3 on the feed connector.

YES

Check and ensure continuity between earth and track 3 on the feed connector. Replace the central airbag and pretensioner computer. After the replacement, check that the warning light operates correctly when the ignition is turned on.

COMPUTER FOR DRIVER AND PASSENGER AIRBAGS (Twingo, Laguna and Safrane)



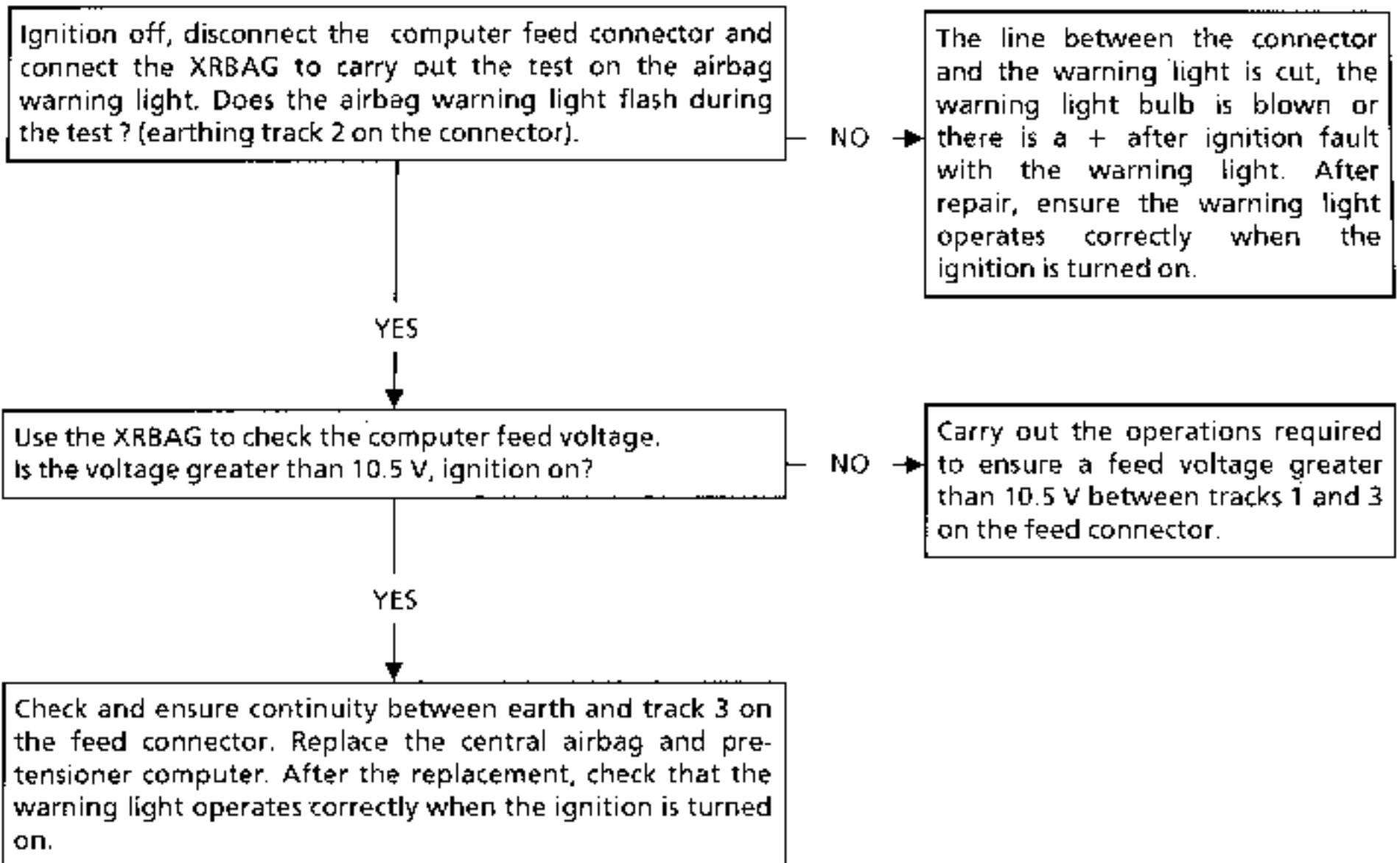
982845

- A Instrument panel warning light
- B Central unit
- C To right hand pre-tensioner (except Twingo)
- D To left hand pre-tensioner (except Twingo)
- E Rotary switch
- F Driver's airbag ignition module
- G Passenger airbag ignition module

	Measuring point	Correct value
Driver's airbag	C1, C2 and C4	2.3 to 5.5 Ω
Passenger airbag	C1 and C4	1.6 to 4 Ω

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

THE AIRBAG WARNING LIGHT ON THE INSTRUMENT PANEL DOES NOT ILLUMINATE
WHEN THE IGNITION IS TURNED ON



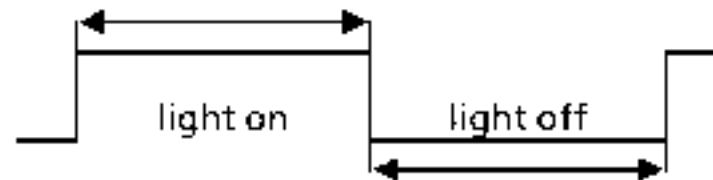
AIRBAG WARNING LIGHT ILLUMINATED ON INSTRUMENT PANEL
(vehicle with passenger airbag)

The central driver + passenger airbag units have an integral self diagnosis function which distinguishes 6 faults and transmits 6 fault codes to signal the origin of the fault.

The fault codes are visualised by the illumination (fixed or flashing) of the airbag warning light on the instrument panel.

These faults only concern the airbag ignition module circuits (there is no fault diagnosis for the pre-tensioner circuits).

IDENTIFICATION OF FAULT CODES



Code	Fault	Illumination of warning light for code emission
1	Driver's airbag open circuit or resistance $>8\ \Omega$	<p>1 s 0.2 s 2 s</p>
2	Driver's airbag short circuit (to earth or 12 volts)*	<p>1 s 0.2 s 2 s</p>
3	Passenger airbag open circuit or resistance $>8\ \Omega$	<p>1 s 0.2 s</p>
4	Passenger airbag short circuit (to earth or 12 volts)*	<p>0.2 s 1 s</p>
5	Internal computer fault or airbag line short circuit	<p>permanently illuminated</p>
6	Feed voltage low or high	<p>3 s 5 s</p>

(*) **NOTE** : Emission of codes 2 and 4 appears when there is a short circuit with the ignition on (customer use: the airbag warning light flashes).

→ After switching the ignition off and on, this short circuit is shown by code 5: the warning light is permanently illuminated.

CODES 1 and 2 : DRIVER'S AIRBAG IGNITION MODULE FAULT

Ignition off, remove the 2 mounting bolts for the steering wheel cushion and check that it is correctly connected to the airbag ignition module connector. Disconnect the steering wheel cushion and connect a dummy ignition module supplied with the XRBAG. Turn the ignition on. Does the airbag warning light extinguish 3 seconds after turning the ignition on?

YES →

The driver's airbag ignition module is faulty. Turn the ignition off and fit a new airbag cushion. Screw the cushion into place on the steering wheel and ensure the warning light operates correctly when the ignition is switched on. Follow the procedure for destruction of the replaced airbag.

NO

Use the XRBAG tool to measure the resistance and check the leakage to 12V and earth at point C2. Are the values obtained correct ? (value correct between 2.3 and 5.5 Ω)

NO →

Replace the rotary switch

YES

Use the XRBAG tool to measure the resistance and check the leakage to 12V and earth at point C1 (orange connector). Are the values obtained correct ?

NO →

Replace the wiring between points C1 and C2.

YES

The tests carried out have not shown a fault on the driver's airbag ignition module line. Replace the central airbag and pre-tensioner computer. Check that the warning light operates correctly after replacing the computer.

CODES 3 and 4 : PASSENGER AIRBAG IGNITION MODULE FAULT

Use the XRBAG tool to measure the resistance and check the leakage to 12V and earth at point C1 (green connectors) for each of the 2 ignition module lines for the passenger airbag.

Are the values obtained correct for both lines ? (value correct between 1.6 and 4 Ω)

YES →

Replace the computer. Check the warning light operates correctly when the ignition is turned on.

NO

Ignition off, reconnect the 2 ignition module lines at points C1 then remove the passenger airbag module. Connect 2 dummy ignition modules supplied with the XRBAG in place of the passenger airbag ignition modules. Turn the ignition on. Does the airbag warning light still show a fault in the passenger airbag module?

NO →

One of the passenger airbag ignition modules is faulty. Turn the ignition off and fit a new passenger airbag module. After fitting the airbag module, check the warning light operates correctly when the ignition is turned on. Follow the procedure for destruction of the replaced airbag (remember to destroy both ignition modules).

YES

Turn the ignition off and replace the connecting cable between the computer and the passenger airbag module. After replacing the cable check the warning light operates correctly when the ignition is turned on.

**CODE 5 : INTERNAL COMPUTER FAULT OR SHORT CIRCUIT ON ONE OF
THE AIRBAG IGNITION MODULE LINES**

Ignition off, disconnect the feed connector to the computer.
Turn the ignition on. Is the airbag warning light illuminated
on the instrument panel?

YES →

There is a short circuit on the line
between the computer and the
airbag warning light. Ensure the
insulation of the line in relation to
earth.

NO
↓

Use the XRBAG tool to check the leakage to 12V and earth at point C1 for the 3 airbag lines (orange or green connections).
If the values obtained are not correct, follow the fault finding procedure for codes 2 and 4 (depending on the type of airbag concerned).
If the values obtained are correct for the 3 lines, turn the ignition off and replace the central airbag and pretensioner computer.
After replacement, check that the warning light operates correctly when the ignition is turned on.

CODE 6 : COMPUTER FEED VOLTAGE IS TOO LOW OR TOO HIGH

Carry out the operations required to ensure the feed voltage is greater than 10.5V and less than 16V.