

Espace

N.T. 2754A

Basic manual: M.R. 315

Coded key transponder AND PLIP TRANSPONDER IMMOBILISER SYSTEMS SINGLE DECODER UNIT

77 11 194 161

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Edition Anglaise

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

The methods may be modified as a result of changes by the manufacturer in the production of the various component units and accessories from which his vehicles are constructed".

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ENGINE IMMOBILISER

Single decoder unit

82

ESPACE JE0X - Two types of engine immobiliser

Coded key transponder and infra red remote control systems with separate computers

JE0A T000001 → T002979
JE0E T000001 → T004337
JE0D T000001 → T000177

Function of coded key transponder and infra red remote control systems

- **Infra red remote control decoder unit:** located under the left hand seat, this controls:
 - the locking and unlocking of the opening elements,
 - the interior lighting (courtesy light timing).
 - the arming and disarming of the alarm (Right hand drive and accessory).
- **Coded key transponder decoder unit:** located under the instrument panel.
This controls the engine immobiliser system.

FAULT-FINDING

Coded key transponder transponder decoder unit: M.R. 315, fault-finding section (section 82).

Infra red remote control decoder unit : See M.R. 315 (section 88).

Coded key transponder and infra red remote control engine immobiliser with single "DUAL-FUNCTION" computer

JE0A T002980 → T999999
JE0E T004338 → T999999
JE0D T000178 → T999999

Function of the decoder unit

Single decoder unit: located under the instrument panel, this controls:

- the engine immobiliser system,
- the locking and unlocking of the openings,
- the interior lighting (courtesy light timing),
- the arming and disarming of the alarm (Right hand drive and accessory).

FAULT-FINDING

This is the object of this technical note.

GENERAL

From 1997 the **ESPACE** is fitted with a single decoder unit which enables both the engine immobiliser operated by a coded key transponder recognition system (called a **coded key transponder engine immobiliser**) and the infra red remote control to be controlled .

Coded electronics, independent of the infra red remote control function (which operates without batteries), are incorporated into each ignition key head.

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

If the decoder unit recognises the code, starting of the vehicle will then be authorised.

The engine immobiliser is activated a few seconds after the key is removed from the ignition, indicated by the flashing of the red indicator light on the roof console.

In the event of a key recognition system fault, a security code can be entered using the door locking button (either side) and the red indicator light located on the roof console (or using the XR25).

This code will be communicated to the repairer (at his request) by the local assistance network (according to country, example **Delta Assistance** on **08 00 05 15 15** for France, for U.K. contact the N.V.S.R. by fax only).

With this generation of engine immobiliser, the repairer must not pass on the confidential code to the customer when a repair is carried out (automatic activation of the system 10 seconds after the ignition is switched off (within one minute for the UK) when a repair is carried out).

NOTE:

This system is fitted to petrol or diesel vehicles.

Petrol vehicle: the engine is immobilised by the injection computer.

Diesel vehicle: the engine is immobilised by a coded solenoid valve (on the injection pump).

The vehicle's infra red remote control is used to:

- lock or unlock the openings,
- control the courtesy lights (timing),
- set and unset the alarm.

There is no action on the engine immobiliser system.

The infra red code changes and will therefore be different each time the remote control is pressed in order to prevent any copying.

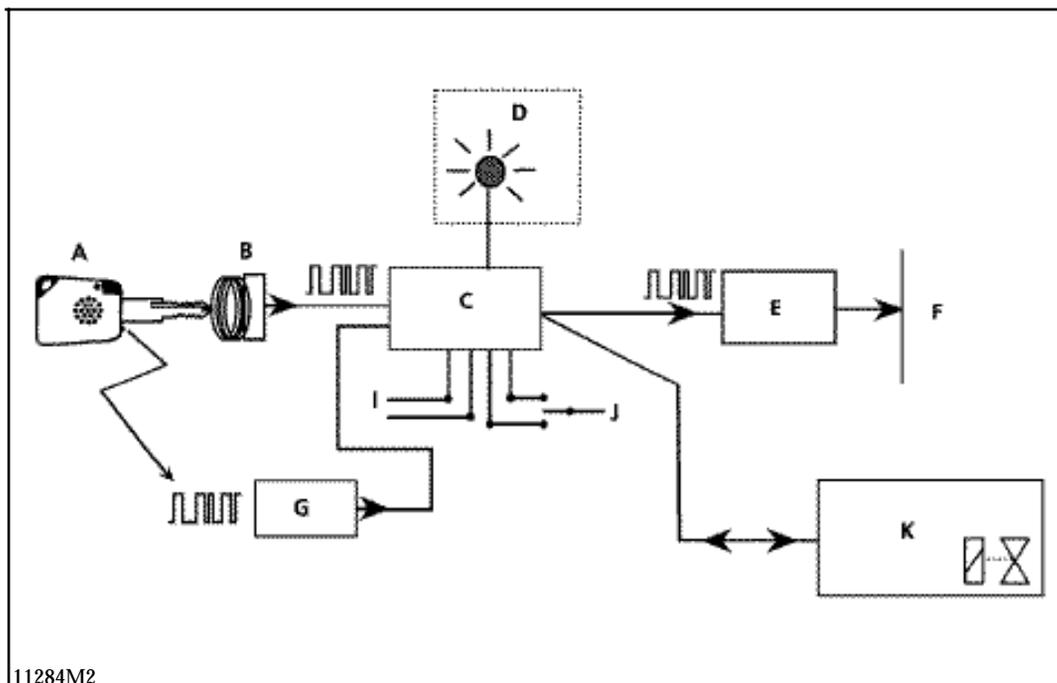
Therefore, when one of the transmitters is changed, resynchronisation will be necessary.

IDENTIFICATION

On these vehicles, the coded key transponder head identification number has **eight characters** starting with the letter **Z**.

Using the XR25 and fault-finding fiche N° **56** (ISO selector in position **S8**), enter code **D56, right hand bargraph 1** should be illuminated (code present).

INTRODUCTION TO THE SYSTEM



- A Dual-function key
- B Receiver antenna ring
- C Coded key transponder decoder unit
- D Red engine immobiliser indicator light (on the roof console)
- E Injection computer (petrol)
- F Fuel pump, injectors, ignition (petrol)
- G Infra red remote control receiver
- I Diagnostic socket
- J Door central locking and unlocking button (CPE)
- K Coded solenoid valve (diesel)

FUNCTION OF THE Decoder unit

The decoder unit controls:

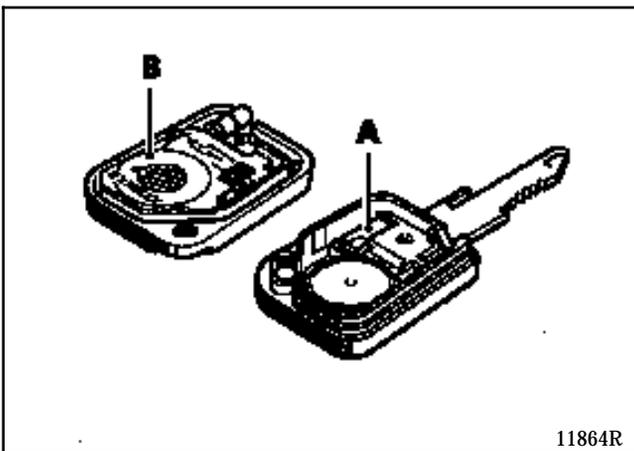
- the engine immobiliser system,
- the locking and unlocking of the openings,
- the interior lighting (courtesy light timing),
- the arming and disarming of the alarm (according to specification).

DESCRIPTION OF THE SYSTEM

With this system, the engine immobiliser is activated approximately 10 seconds after switching off the + after ignition supply (indicated by flashing of the red engine immobiliser indicator light).

It consists of:

- Two special dual-function key heads which are matched and fitted:
 - with coded electronics (A) which enable the engine immobiliser to be controlled,
 - with infra red remote control electronics (B) which enables locking and unlocking of the opening elements, timing of the courtesy light to be controlled and alarm set/unset.

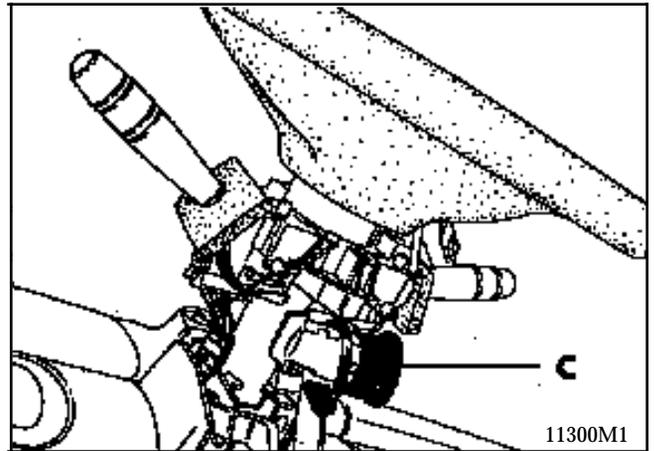


- An antenna ring (C) located around the ignition switch, fitted with electronics which transmit the key codes to the decoder unit (D).

NOTE: This ring is not coded.

WARNING: Do not place the ring or its connector under stress when removing or refitting the two half casings to avoid damaging the wires of the coil.

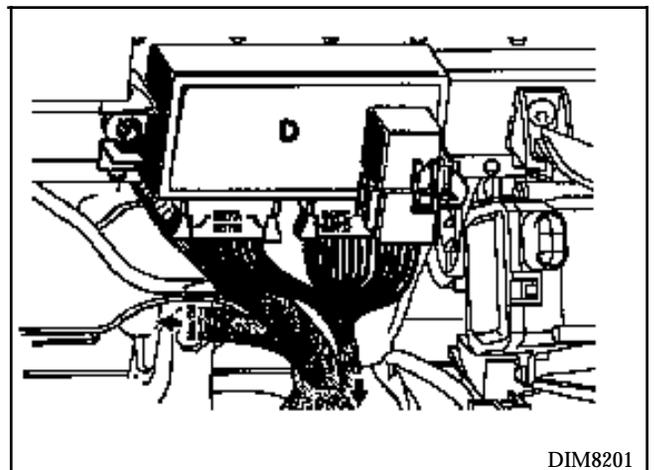
If these wires are damaged, the key will not be recognised when the ignition is switched on.



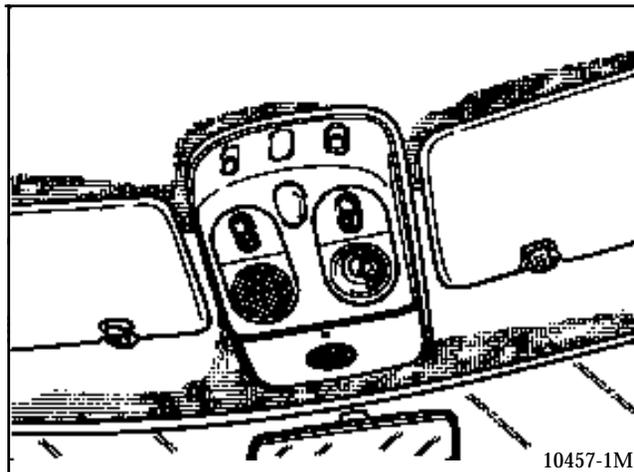
- A decoder unit (D) located under the instrument panel on the left hand side.

It ensures the following functions:

- decoding of the key signal from the antenna ring,
- control of the engine immobiliser system by sending a code to the injection computer (petrol) or to the coded solenoid valve (diesel) in order to authorise starting of the vehicle,
- unlocking or locking of the opening elements,
- timed illumination of the courtesy light.



- A red engine immobiliser indicator light located on the roof console and used for:
 - signalling the activation of the engine immobiliser system,
 - entering the security code,
 - signalling an equipment fault for vehicles fitted with a diesel engine.
 - signalling entry into infra red remote control resynchronisation mode.
- An injection indicator light (on petrol vehicles only) which enables the signalling of:
 - an injection fault,
 - an engine immobiliser fault while the engine is running (flashes on deceleration and at idle).
- A door locking button which also enables the security code to be entered (either side) located on the roof console.



OPERATION

When the engine immobiliser system is operational (approximately 10 seconds after switching off the + after ignition supply), the red engine immobiliser indicator light flashes (slow flashing, one flash per second).

After switching on the ignition, the antenna ring analyses the key code and transmits it to the decoder unit.

If the decoder unit recognises the code, it sends a code to the injection computer (petrol) or the coded solenoid valve (diesel) via the coded connection and extinguishes the red engine immobiliser indicator light (after approximately 3 seconds).

At this precise moment, several instances may occur:

- The injection computer (petrol) or the coded solenoid valve (diesel) does not have a reference code stored in its memory:
 - the code which is sent to it is stored in its memory.
- The injection computer (petrol) or the coded solenoid valve (diesel) has a reference code stored in its memory:
 - The code which is sent to it is compared with this reference code.
 - If the two codes are the same, the computer unlocks the injection (petrol) or the coded solenoid valve (diesel) and authorises starting of the engine. When the ignition is switched on, the injection indicator light (petrol) and the engine immobiliser indicator light illuminate for a few seconds and extinguish, thus indicating that the system is operating correctly.

- If the two codes are not the same, the system remains locked in order to prohibit starting of the engine. When the ignition is switched on, the injection indicator light (petrol) illuminates for a few seconds and extinguishes while the red engine immobiliser indicator light flashes (rapid flashing). The vehicle cannot be started.

NOTE: For correct operation of the system, no object (example: key ring) must be inserted between the key and the ring.

WARNING: When the battery charge is low, the drop in voltage resulting from operation of the starter may reactivate the engine immobiliser. If the voltage is very low, the engine cannot be started, even by pushing the vehicle.

CHANGING A KEY HEAD

If the coded electronics of the key head or the infra red remote control are faulty:

- Order a replacement key head using the number given in the faulty key head (eight alphanumeric characters starting with the letter Z) and resynchronise the infra red remote control.
- If the customer then wishes a repair to be carried out (2nd key not available), the decoder unit and the two key heads must be changed (see changing the decoder unit and the two key heads).

If the key has been lost:

→ order a replacement key head using the number given in the 2nd key head (eight alphanumeric characters starting with the letter Z) or on the label which usually accompanies the keys when the vehicle is supplied.
In this case, order the metal insert as well using the key number.

WARNING: Do not touch the key's coded electronics when looking for the number given in the key head. All key heads the electronics of which have been handled must be changed.

NOTE: If it is not possible to find the key head number (both keys and the label lost), it will be necessary to change the whole kit (decoder unit, two transmitters and the injection computer or the coded solenoid valve electronics).

PROCEDURE FOR RESYNCHRONISING THE INFRARED REMOTE CONTROL (PLIP)

This procedure will be used if a transmitter is changed or when the transmitter code is no longer be within the receiving range of the decoder unit (more than 1000 unsuccessful consecutive presses of the transmitter).

This enables the two transmitters to be put back in phase with the decoder unit (rolling code).

SPECIAL POINT: With this new computer, resynchronisation of the 2nd transmitter is not always necessary.

If the procedure is carried out with one transmitter, check that the second one operates. Otherwise, carry out a complete synchronisation with both transmitters.

1. Switch on the ignition (to activate the door central locking button supply).
2. Switch off the ignition.
3. Press the door central locking button for more than 5 seconds (the doors lock and unlock).

From this moment, the operator has 15 seconds (displayed by the illumination of the red engine immobiliser indicator light) in which to carry out the two following operations.

4. Press the **1st transmitter** once (the doors lock and unlock).
5. Press the **2nd transmitter** once (the doors lock and unlock).

WARNING: For the infra red code to be transmitted correctly, the transmitter **must** be directed towards the receiver correctly.

If the attempt fails, start the procedure again from the beginning.

CHANGING THE DECODER UNIT ONLY

A new decoder unit has no code. Once it has been fitted to the vehicle, it must be programmed with the key code in order for it to be operational (refer to the decoder unit programming procedure opposite).

IMPORTANT: If the customer has not left the 2nd key, programming can be carried out with **only one key**, using the XR25.

Before carrying out the programming procedure:

- Connect the XR25 to the vehicle.
- Place the rotary selector in position **S8** and enter code **D56**.

Ignition off

- Enter **G31*1*** and programme using one key only, **left hand bargraph 3** extinguishes.

NOTE: There is no operation to be carried out on the injection computer or the coded solenoid valve. It retains the same engine immobiliser code.

WARNING: Once a decoder unit has been programmed with the key code, it is not possible to erase the code or store another code in its place.

Special points

On diesel vehicles, the decoder unit is identical to the decoder unit of a petrol engine immobiliser system.

When it is changed, the new part must be configured for "diesel" using the XR25.

This configuration enables the decoder unit to check the correct operation of the coded solenoid valve, indicated by the engine immobiliser indicator light (refer to diesel configuration).

Decoder unit PROGRAMMING PROCEDURE

This procedure can only be carried out once for each decoder unit. Until this procedure is carried out, the vehicle cannot be started.

NOTE: If the computer cannot be programmed, check the transponder antenna ring/decoder unit connection and visually check the antenna ring (refer to the fault-finding section). If the wires of the coil are damaged, the ring must be changed.

The procedure can be carried out:

- Using **both keys** (which enables their correct pairing to be checked).

NOTE: The procedure will not work if the same key is used twice or if they are not a pair.

- Using **one key only**, using the XR25 (if the customer does not leave both keys at the workshop).

The XR25 can be used for this procedure but is not essential (except for programming using one key only, see changing the decoder unit only).

1. Connect the XR25 to the vehicle, place the rotary selector in position **S8** and enter code **D56** (fault-finding fiche number 56), **right hand bargraph 17 and left hand bargraph 19** should be illuminated (programming not carried out).
2. Switch on the ignition (without starting) using the 1st key (approximately 2 seconds). **Right and left hand bargraphs 18** illuminate. From this moment, the operator has 4 minutes in which to carry out the following operation.
3. Switch on the ignition (without starting) using the 2nd key (approximately 2 seconds). **Right and left hand bargraphs 18 and left hand bargraph 19** extinguish. The red engine immobiliser indicator light flashes rapidly.

4. **Switch off** the ignition and switch it on again for a few seconds (without starting) in order to send the code to the injection computer or to the solenoid valve.
5. Check that the engine immobiliser system operates correctly:
→ with the ignition off, the red engine immobiliser indicator light should flash (slow flashing). **Left hand bargraph 10** should be illuminated. It will not then be possible to start the vehicle using other keys.

NOTE: To simulate prohibiting of starting, **with the ignition off**, wait until the red engine immobiliser indicator light starts to flash slowly. Enter command **G04***, **left hand bargraph 9** illuminates.

Switch on the ignition, the red engine immobiliser indicator light flashes more rapidly and it should not be possible to start the vehicle.

6. The procedure is completed, check the correct operation of the system. Switch off the ignition and switch it on again and check that the red indicator light illuminates for 3 seconds and then extinguishes, and that the vehicle starts.

NOTE: If the programming procedure is unsuccessful, wait until **left and right hand bargraphs 18** extinguish before trying again with both keys.

Special features of the infra red remote control

If the key programming procedure (engine immobiliser function) has been carried out using the **original** keys, the infra red remote controls will be operational immediately.

If the key programming procedure (engine immobiliser function) has been carried out using **replacement** keys, resynchronisation will be necessary before they are operational.

If the programming procedure (engine immobiliser function) has been carried out using only one **original** key (using command **G31*1***) only the infra red remote control for this key will be operational.

In order for the 2nd infra red remote control to be operational, resynchronisation will be necessary.

If the programming procedure (engine immobiliser function) has been carried out using **replacement** keys (using command **G31*1***), resynchronisation of the infra red remote control will be necessary before it is operational.

In order for the 2nd infra red remote control to be operational, resynchronisation will be necessary.

Check the operation of the infra red remote control(s). Following the programming procedure, **left and right hand bargraphs 17** should extinguish.

Diesel configuration

On these vehicles, the decoder unit must be configured for "diesel" using the XR25.

With the XR25 connected (ISO selector in position **S8**) :

1. Enter code **D56** (fiche N° 56).
Right hand bargraph 1 should be illuminated.
2. Enter code **G22*2***.
Right hand bargraph 3 should illuminate.
Configuration is completed.

CHANGING A DECODER UNIT AND TWO KEY HEADS

If a decoder unit and two key heads are changed:

- The decoder unit must be programmed with the codes of the two new transmitters (supplied with no code stored).
- The old code stored in the injection computer or in the coded solenoid valve electronics must be erased following the repair procedure (using the code number of the old kit to be requested from the local assistance network, example **DELTA Assistance** for France or for the U.K., contact the N.V.S.R. by fax only).

IMPORTANT: In order for the old code (stored in the injection computer or in the coded solenoid valve electronics) to be erased, it is essential that the procedure described below is followed in order.

The code of the injection computer or the coded solenoid valve electronics can only be erased using the security code (**using the number of the old decoder unit**) if the new decoder unit fitted to the vehicle has been programmed with a code (as in the procedure which follows).

NOTE: If the security code which is entered into the decoder unit is the same as that of the injection computer or the coded solenoid valve, its code will not be erased.

1. Fit the metal inserts of the old keys to the new key heads.
 2. Note the number of one of old key heads in order to obtain the security code.
 3. Remove the decoder unit (ignition off).
 4. Fit the new decoder unit in its place (ignition off).
 5. Connect the XR25, (fault-finding fiche 56) place the selector in position **S8** and enter code **D56, right hand bargraph 17 and left hand bargraph 19** should be illuminated (not programmed).
 6. Switch on the ignition (without starting) using the 1st key (approximately 2 seconds). **right and left hand bargraphs 18** illuminate. From this moment, the operator has 4 minutes in which to carry out the following operation.
 7. Switch on the ignition (without starting) using the 2nd key (approximately 2 seconds). **right and left hand bargraphs 18 and left hand bargraph 19** extinguish. The red indicator light flashes rapidly.
 8. Switch off the ignition and switch it on again for a few seconds, check that the indicator light is illuminated.
 9. Switch off the ignition and switch it on again for more than 10 seconds in succession.
- **WARNING:**
For diesel vehicles:
Switch off the ignition and configure the decoder unit for "diesel" (see diesel configuration using command **G22*2***).
10. Switch off the ignition and wait for the red indicator light to start flashing slowly. With the ignition off enter **G04***, **left hand bargraph 9** illuminates.
 11. Switch on the ignition, the red indicator light flashes rapidly, enter command **G40*** on the XR25 then the security code of the **old key** and confirm via button *.

12. Switch off the ignition and switch it on again for a few seconds, in order to send the code to the injection computer or to the coded solenoid valve.
13. Switch off the ignition, the engine immobiliser function will be active approximately 10 seconds later (the red engine immobiliser indicator light flashes).
14. Check that the system operates correctly. Switch on the ignition and check that the red indicator light illuminates for 3 seconds and then extinguishes, and that the vehicle starts.

NOTE:

It is possible to check that starting is prohibited using the XR25.

- To simulate prohibiting of starting, **with the ignition off**, wait until the red engine immobiliser indicator light starts to flash slowly, enter command **G04***, **left hand bargraph 9** illuminates.
- Switch on the ignition, the red engine immobiliser indicator light flashes more rapidly and it should not be possible to start the vehicle.
- Switch off the ignition and switch it on again. Check that the red indicator light illuminates for 3 seconds and then extinguishes, and that the vehicle starts.

NOTE: On petrol vehicles, using the XR25, it is possible to check that the injection computer code has been erased (in injection fault-finding mode).

Connect the XR25 to the diagnostic socket. Enter the code which corresponds to the type of injection. **Right hand bargraph 2** (engine immobiliser) should be illuminated and after entering ***22**, the message "**2def**" should appear on the XR25 display. The code has now been eased.

- If "**1def**" is displayed, this indicates a fault on the coded line. In this case, repair the coded line and start the procedure again.
- If **right hand bargraph 2** (engine immobiliser) is extinguished and after entering ***22** "**bon**" is displayed, this indicates that the injection computer code has not been erased. In this case, check the conformity of the security code and repeat the procedure.

CHANGING THE INJECTION COMPUTER (petrol vehicle)

The injection computer is supplied with no code programmed in. It is therefore necessary to programme it with the engine immobiliser code when it is fitted in order to authorise starting of the vehicle.

All that is necessary is to carry out the following operations:

- Switch on the ignition using the coded key transponder for a few seconds in order to send the code to the injection computer or to the coded solenoid valve.
- Switch off the ignition, the engine immobiliser function will be active approximately 10 seconds later (the red engine immobiliser indicator light flashes).
- Check that the system operates correctly. Switch on the ignition and check that the red indicator light illuminates for 3 seconds and then extinguishes, and that the vehicle starts.

NOTE:

It is possible to check that starting is prohibited using the XR25.

- Use fault-finding fiche N° 56 and enter code **D56** on the XR25.
- To simulate prohibition of starting, **with the ignition off**, wait until the red engine immobiliser indicator light starts to flash slowly. Enter command **G04***, **left hand bargraph 9** illuminates.
- Switch on the ignition, the red engine immobiliser indicator light flashes more rapidly and it should not be possible to start the engine.
- The procedure is completed. After switching off the ignition and switching it on again (for more than 2 seconds), check that the vehicle starts.

PROCEDURE FOR ENTERING THE SECURITY CODE

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

The code is entered using the door locking button and the red engine immobiliser indicator light, or using the XR25.

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

After obtaining the security code, carry out the following operations:

Via the door central locking button (CPE)

1. With the ignition off, the red engine immobiliser indicator light should flash (slow flashing).
2. Switch on the ignition, the injection indicator light (petrol vehicle) illuminates for approximately 3 seconds and then extinguishes while the red engine immobiliser indicator light flashes more rapidly.
3. Press the door central locking button continuously (either side), the red indicator light extinguishes.
4. Without releasing the button, the indicator light illuminates in a cycle (every 1.5 seconds) as a counter. Count the number of times that the red indicator light illuminates and release the button when the value of the 1st number of the security code is reached.
5. Press the locking button again. Count the number of times that the red indicator light illuminates and release the button when the value of the 2nd number of the security code is reached.
6. Repeat operation "5" to enter the last two numbers of the security code in succession.

When the 4th number of the security code has been entered:

- **If the code is correct**, it is possible to start the vehicle.

The red engine immobiliser indicator light should illuminate for approximately 3 seconds, extinguish for approximately 3 seconds and illuminate again for approximately 30 seconds.

This indicator light illumination cycle will be repeated every time the ignition is switched on for as long as the vehicle remains unprotected (up until approximately 10 minutes after switching off the ignition). This reminds the customer that the vehicle is no longer protected.

The vehicle will be protected again:

- approximately 10 minutes after switching off the ignition (automatic activation),
- after disconnecting the battery.

- **If the code is incorrect**, it will still not be possible to start the vehicle.

The red engine immobiliser indicator light flashes.

Switch off the ignition and then repeat the procedure for entering the code.

WARNING: Only three attempts at entering the code are permitted. If the code is invalid at the end of the 3rd attempt, it will not be possible to try again until approximately 15 minutes have elapsed with the ignition on.

Once this time has elapsed, switch off the ignition and switch it on again. Another three attempts are permitted.

NOTE: This procedure does not erase the injection computer or the coded solenoid valve (depending on the engine), it only authorises starting of the engine.

REMINDER: Between two attempts at entering the code, the ignition must be switched off and switched on again.

Using the XR25

1. With the ignition on, the red engine immobiliser indicator light should flash (slow flashing).
2. Switch on the ignition, the injection indicator light (petrol vehicle) illuminates for approximately 3 seconds and then extinguishes while the red engine immobiliser indicator light flashes more rapidly.
3. Connect the XR25, use fault-finding fiche N° 56, place the selector in position S8 and enter code D56.
Left hand bargraph 10 should be illuminated.

4. Enter command G40* followed by the security code and confirm via *.

- **If the code is correct**, "bon" is displayed on the XR25 and **left hand bargraph 10** extinguishes.

- **If the code is incorrect**, "déf" is displayed on the XR25 and **left hand bargraph 10** remains illuminated.

WARNING: Only three attempts at entering the code are permitted. If the code is invalid at the end of the 3rd attempt, it will not be possible to try again until approximately 15 minutes have elapsed with the ignition on.

Once this time has elapsed, switch off the ignition and switch it on again. Another three attempts are permitted.

NOTE: This procedure does not erase the injection computer or the coded solenoid valve (depending on the engine), it only authorises starting of the engine.

REMINDER: Between two attempts at entering the code, the ignition must be switched off and switched on again.

ENGINE IMMOBILISER

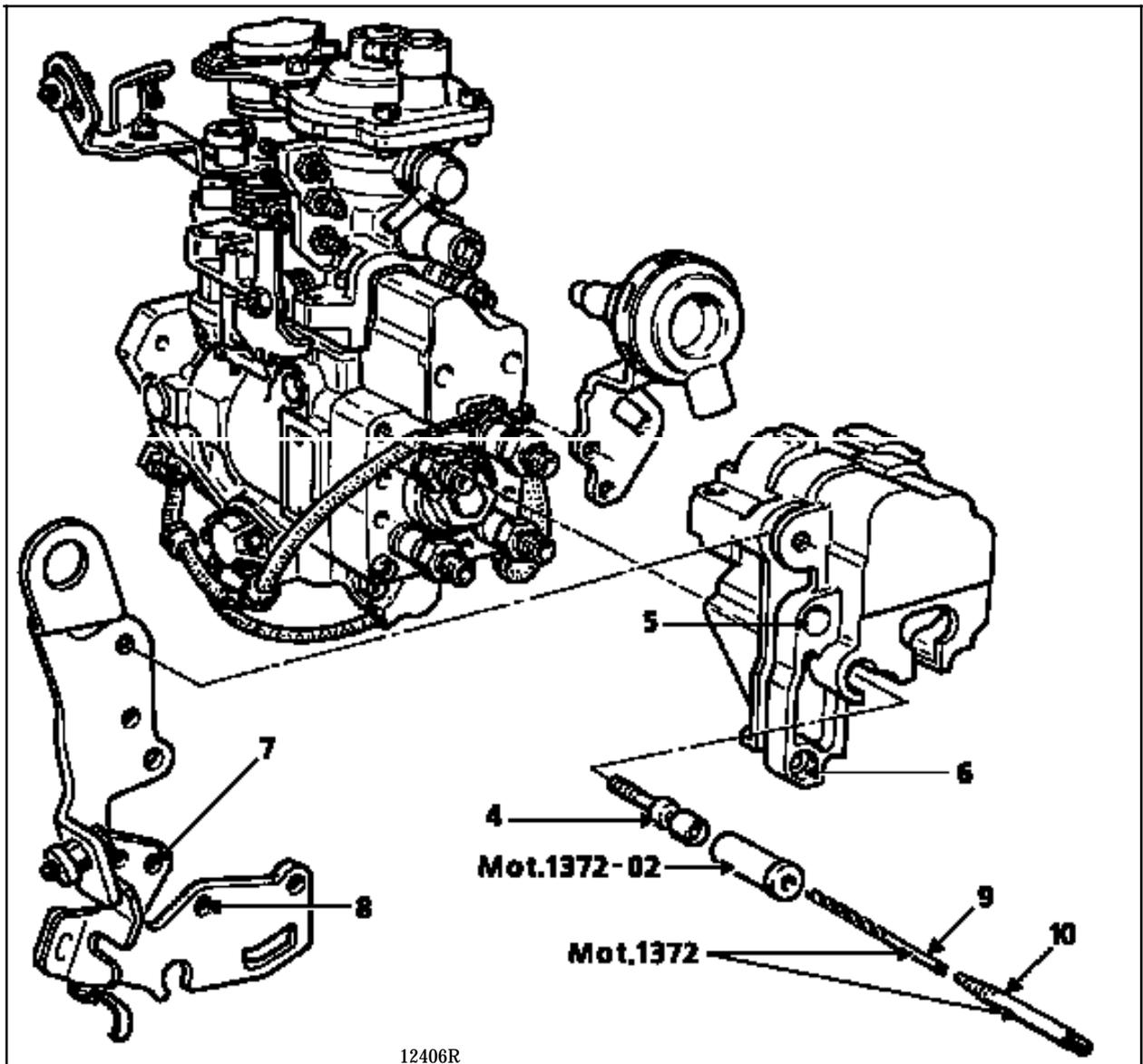
Single decoder unit

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CHANGING THE ELECTRONICS OF A CODED SOLENOID VALVE refer to NT 2717A (diesel vehicle with BOSCH pump)

SPECIAL TOOLS REQUIRED	
Mot. 1372	Kit for extracting the self-shear computer bolts
Mot. 1372-02	Drill bit for drilling out the self-shear bolts
Mot. 1383	Tool for removing high pressure diesel pipes

Drill out the 5 self-shear bolts (4), (5), (6), (7) and (8), over a length of **4 mm** using drill bit **Mot. 1372-02** and using the **4 mm diameter** drill bit (9), supplied in kit **Mot.1372** (the quality of the drill bit used to drill self-shear bolt (4) is very important, use a tungsten carbon drill bit).



When drilling:

- hold the drill bit,
- lubricate the drill bit lightly

Use extractor (10) and its handle to remove the screws.

WARNING: The solenoid valve electronics are supplied with no code programmed. It must therefore be programmed with the engine immobiliser system code when it is fitted

All that is necessary is to carry out the following operations:

- Switch on the ignition using the coded key transponder for a few seconds, in order to send the code to the injection computer or to the coded solenoid valve.
- Switch off the ignition, the engine immobiliser function will be active approximately 10 seconds later (the red engine immobiliser indicator light flashes).
- Check that the system operates correctly. Switch on the ignition and check that the red indicator light illuminates for approximately 3 seconds and then extinguishes, and that the vehicle starts.

NOTE: It is possible to check that starting is prohibited using the XR25.

- Connect the XR25, use fault-finding fiche N° 56, place the selector in position **S8** and enter code **D56** .
- With the ignition off, wait until the red indicator light starts to flash slowly. Enter command **G04*** (forced protected mode) on the XR25 (**left hand bargraph 9** illuminates).
- Switch on the ignition, the red engine immobiliser indicator light flashes more rapidly and it should not be possible to start the engine.

SPECIAL FEATURES OF INJECTION COMPUTER TESTS (test part)

CHECK

In injection fault-finding mode, it is possible to find out the status of the computer (using cassette N° 16 or later only).

Connect the XR25, use diagnostic fiche N° 27, place the selector in position **S8** and enter code **D13**.

- If the injection computer is not programmed with a code, **right hand bargraph 2** (engine immobiliser) should be illuminated and after entering *22, "**2def**" should appear on the XR25 display.
- If the injection computer is programmed with a code and there is no fault on the coded line, **right hand bargraph 2** should be extinguished and after entering *22, "**bon**" should appear on the XR25 display (even if the computer code does not correspond to the vehicle).

NOTE: If the injection computer has detected a fault on the coded line, "**1def**" will appear on the XR25 display after entering *22 (**right hand bargraph 2** should illuminate). In this case, repair and erase the fault by disconnecting the battery.

DECODING PROCEDURE

If the injection computer has been programmed with a code and it has to be fitted to another vehicle or returned to the warehouse, it **must** be decoded before it is removed.

The decoding procedure consists of replacing the vehicle's decoder unit with another decoder unit with a different code and entering the vehicle security code (security code to be requested from the local assistance network depending on the country, example **Delta Assistance** on **0800 05 15 15** for France or for the U.K. contact the N.V.S.R. by fax only), using the number given in the vehicle key head.

1. **With the ignition off, replace the original decoder unit of the vehicle with a decoder unit programmed with a different code, (the procedure will not work with a decoder unit which is not programmed with a code or which is programmed with the same number as the injection computer).**

- **WARNING:**

For diesel vehicles:

Switch off the ignition and configure the decoder unit for "diesel" (refer to diesel configuration using command **G22*2***).

2. Switch the ignition off and then on again for a few seconds, check that the indicator light is illuminated.
3. Switch off the ignition and wait until the red indicator light starts to flash slowly.
4. With the ignition off enter **G04***, **left hand bargraph 9** illuminates.
5. Switch on the ignition, the red engine immobiliser indicator light flashes (rapid flashing).
6. With the ignition on, enter command **G40*** on the XR25 then the security code of the **old key** and confirm via button *.

7. Switch the ignition off and then on again for a few seconds in order to send the code to the injection computer or to the coded solenoid valve.
8. Switch off the ignition, the engine immobiliser function will be active approximately 10 seconds later (the red engine immobiliser indicator light flashes).
9. Check that the system operates correctly. Switch on the ignition and check that the indicator light illuminates for 3 seconds and then extinguishes, and that the vehicle starts.

NOTE:

It is possible to check that starting is prohibited using the XR25.

- To simulate prohibiting of starting, **with the ignition off**, wait until the red engine immobiliser indicator light starts to flash slowly, enter command **G04***, **left hand bargraph 9** illuminates.
- Switch on the ignition, the red engine immobiliser indicator light flashes more rapidly and it should not be possible to start the engine.
- Switch the ignition off and then on again. Check that the red indicator light illuminates for 3 seconds and then extinguishes and that the vehicle starts.

Computer borrowed from another vehicle fitted with the same engine (if available)

In order to prevent the need to carry out injection computer coding and decoding procedures, it will be simpler to borrow the following from another vehicle with the same specifications:

- its injection computer,
- its coded key transponder decoder unit,
- its key head.

Following the test, refit the parts described above to their original vehicle.

SPECIAL FEATURES OF CODED SOLENOID VALVE TESTS (test part)

WARNING

When testing the electronics of a solenoid valve which is not programmed with a code (on a part borrowed from the Parts Department for test purposes), the decoder unit **must not** be supplied with current during the test operation.

Switching on the ignition results in the decoder unit coded information being sent to the solenoid valve electronics (the code is then programmed).

To prevent the need to store a code which could render the electronics of the coded solenoid valve unusable after the test, the decoder unit fuse (+ before ignition) must be removed (fuse with the engine immobiliser symbol). The coded information will not then be sent when the ignition is switched on (the solenoid valve electronics will therefore remain uncoded).

SYSTEM FAILURE WHILE THE ENGINE IS RUNNING

Petrol vehicle

If a system fault is detected by the injection computer while the engine is running, the injection indicator light on the instrument panel will flash during deceleration and at idle (engine speed below **1 500 rpm**).

WARNING: In this case, after repair, the fault stored in the injection computer memory must be erased by disconnecting the battery (approximately 2 minutes), in order to reactivate the engine immobiliser system.

NOTE: This fault can be displayed by the XR25 (in injection fault-finding mode).

Connect the XR25 and enter the injection code.

The fault can be displayed by **right hand bargraph 2**.

After entering *22, "1def" displayed on the XR25 indicates a fault on the coded line.

Diesel vehicle

If a system fault is detected by the decoder unit while the engine is running, the red engine immobiliser indicator light will illuminate until the ignition is switched off.

WARNING: In this case, after repair, the fault stored in the decoder unit must be erased by disconnecting the battery (for approximately 2 minutes), in order to reactivate the engine immobiliser system.

NOTE: This fault can be displayed on the XR25 in decoder unit fault-finding mode (fiche N° 56).

Connect the XR25.

Place the rotary selector in position **S8** and enter code **D56**.

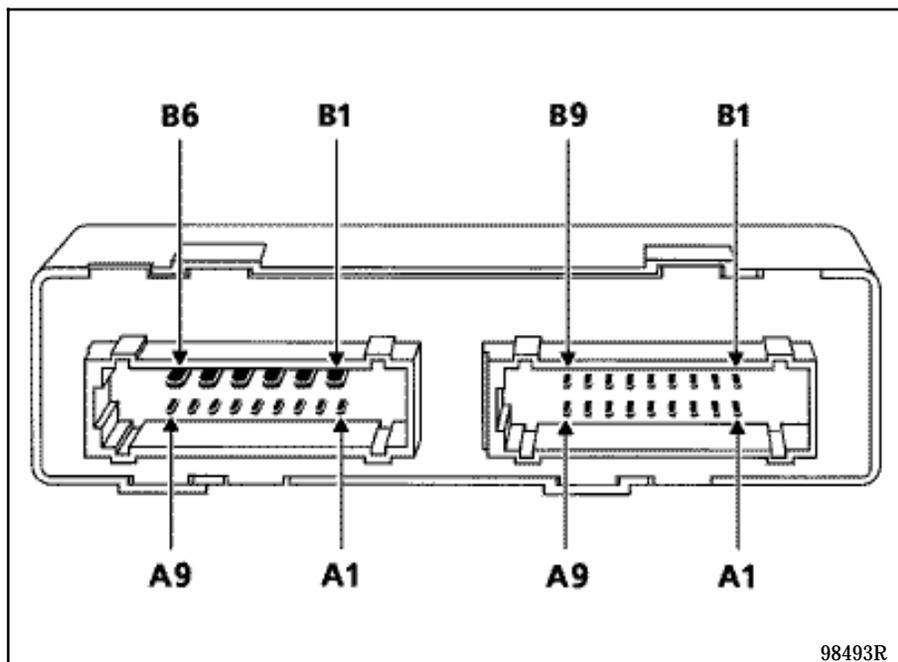
The fault can be displayed by **left or right hand bargraph 6**.

ENGINE IMMOBILISER

Single decoder unit

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CONNECTION OF THE SINGLE Decoder unit



98493R

Black 15-way connector

Track	Description
A1	+ after ignition
A2	Door opening information
A3	Door closing information
A4	Red engine immobiliser indicator light
A5	Diagnostic socket information (line L)
A6	Antenna ring/decoder unit coded line
A7	Antenna ring interrogation
A8	Antenna ring earth
A9	Antenna ring supply
B1	Door closing
B2	Coded information to the computer or the coded solenoid valve
B3	Door opening
B4	Diagnostic socket information (line K)
B5	+ before ignition
B6	Earth

Blue 18-way connector

Track	Description
A1	Not used
A2	+ accessories
A3	Infra red input
A4	Infra red receiver supply
A5	Not used
A6	Not used
A7	Not used
A8	Not used
A9	Not used
B1	Rear door pillar switches
B2	Front left door pillar switch
B3	Front right door pillar switch
B4	Door opening/alarm* information
B5	Door closing/alarm* information relay
B6	Control relay via infra red remote control
B7	Timing/courtesy light control
B8	Not used
B9	Not used

* Depending on equipment level

ENGINE IMMOBILISER

Single decoder unit

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PARTS LIST

- 104 Ignition switch
- 120 Injection computer*
- 123 Door locking button
- 138 Right rear door locking motor
- 139 Left rear door locking motor
- 140 Driver's door locking motor
- 141 Passenger door locking motor
- 142 Tailgate locking motor
- 154 Boot switch
- 178 Right rear door pillar switch
- 179 Left rear door pillar switch
- 180 Driver's door pillar switch
- 181 Passenger door pillar switch
- 225 Diagnostic socket
- 619 Infra red transmitter
- 645 Passenger compartment connection unit
- 957 Coded key decoder unit
- 711 Coded solenoid valve
- 927 Impact sensor

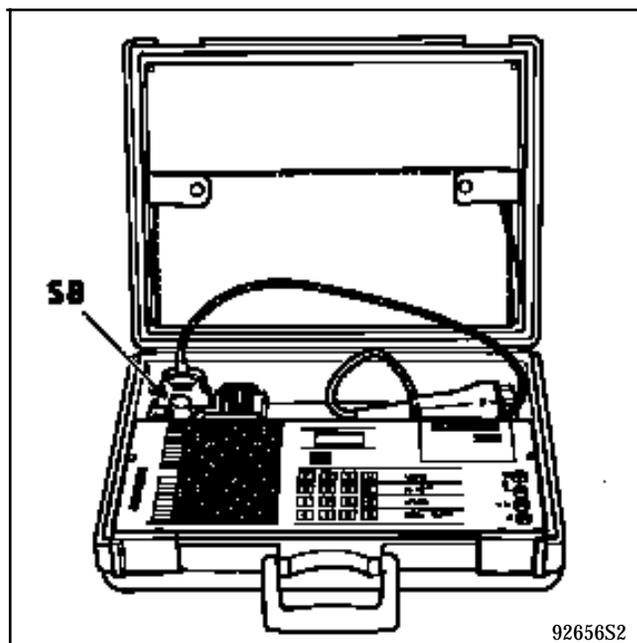
* 35-way for F3R and Z7X engines

FAULT-FINDING

In the event of a fault on this engine immobiliser system, a fault-finding procedure can be carried out using the XR25.

CONNECTION

Use cassette N° **16** (or later edition) and fault-finding fiche N° **56**.



Connect the XR25 to the diagnostic socket.

Position the ISO selector at **S8**.

Enter the special system code **D56**.

ENGINE IMMOBILISER

Single decoder unit

82

FAULT-FINDING - INTRODUCTION

ESTABLISHING XR25/DECODER UNIT DIALOGUE

- Connect the XR25 to the diagnostic socket.
- Place the ISO selector in position **S8**
- Enter **D56**

n.56

PRECAUTION

When carrying out checks using a multimeter, avoid using a datum target on the connectors the size of which could damage the clips and result in poor contact.

IDENTIFICATION OF THE ENGINE IMMOBILISER FAULT BARGRAPH ON THE PETROL INJECTION FICHE

To check whether the "engine immobiliser fault" bargraph is illuminated on the injection fiche which corresponds to the vehicle, use fiche n° 27 side 1/2 (for F3R and Z7X engines).

- Connect the XR25 to the diagnostic socket.
- Place the ISO selector in position **S8**
- Enter **D13**

9 n.J

ERASING THE MEMORY

After repairing the engine immobiliser system, enter G0** on the keypad of the XR25 in order to erase the stored fault.

REPRESENTATION OF BARGRAPHS

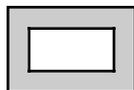


- Illuminates when dialogue is established with the unit computer, if it remains extinguished:
- the code does not exist,
 - there is a line, equipment or computer fault.

REPRESENTATION OF FAULTS (always on a coloured background)



When illuminated, this indicates a fault on the unit under investigation. The associated text defines the fault.



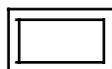
When extinguished, this indicates that no fault has been detected on the unit under investigation.

REPRESENTATION OF STATUS (always on a white background)

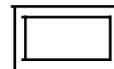
Engine stopped, ignition on, no operator action

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

- If on the fiche, the bargraph is represented



the XR25 should display



- If on the fiche, the bargraph is represented



the XR25 should display

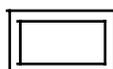


- If on the fiche, the bargraph is represented



the XR25 should display

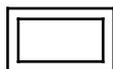
either



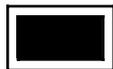
or



Engine running



Extinguished, when the function or the condition specified on the fiche is no longer carried out.



Illuminated, when the function or the condition specified on the fiche is carried out.

Fiche n° 27 is a generic fiche used for several engines.

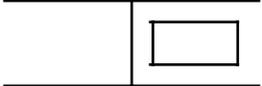
The different engines do not use all of the bargraphs. To find out which bargraphs are dealt with by the injection computer, after establishing dialogue, press keys V and 9 simultaneously.

The bargraphs which are dealt with will:

- illuminate, in the case of fault bargraphs which cannot be stored or status bargraphs,
- flash, in the case of fault bargraphs which can be stored.

To return to fault-finding mode, press key D.

FAULT-FINDING - INTERPRETATION OF XR25 BARGRAPHS

1 	Right hand bargraph 1 extinguished <u>XR25/DECODER UNIT COMMUNICATION</u>	Fiche n° 56
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INSTRUCTIONS	None.
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Check the condition of the +before ignition fuse.

Change the fuse if necessary.

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

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

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

Check that the 15-way decoder unit connector is engaged correctly.

Check that the decoder unit is supplied correctly:

- earth on track **B6** of the black 15-way decoder unit.
- + before ignition on track **B5** of the black 15-way decoder unit.

Ensure that the diagnostic socket is supplied correctly.

Check and ensure the continuity and insulation of the electrical wiring of tracks **A5** and **B4** of the 15-way decoder unit.

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

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

FAULT-FINDING - INTERPRETATION OF XR25 BARGRAPHS

<p>5</p> 	<p>Right hand bargraph 5 flashing</p> <p><u>CODED LINE READING FAULT</u></p>	<p>Fiche n° 56</p>
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<p>INSTRUCTIONS</p>	<p>If right hand bargraph 6 is also illuminated, deal with it first.</p> <p>If right hand bargraph 6 is extinguished, ignore the flashing of right hand bargraph 5.</p> <p>NOTE: From XR25 cassette n° 17 onwards, right hand bargraph 5 will be discontinued.</p>
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<p>AFTER REPAIR</p>	<p>Carry out a conformity check.</p> <p>Check the operation of the engine immobiliser system.</p>
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FAULT-FINDING - INTERPRETATION OF XR25 BARGRAPHS

<p>6</p> 	<p>Left hand bargraph 6 illuminated</p> <p><u>DIESEL SOLENOID VALVE ACQUITTAL</u></p>	Fiche n° 56
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INSTRUCTIONS	None.
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Place the XR25 in impulse detection mode (key "G", input via terminal "Vin").
 With the ignition on, check the presence of impulses on track **B2** of the 15-way decoder unit connector (test with the decoder unit and solenoid valve coded electronics connectors connected).

With the ignition on, if there are no impulses, change the decoder unit.

Switch on the ignition for more than 30 seconds in succession, then switch off the ignition and wait until the engine immobiliser flashes (engine immobiliser active).

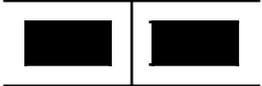
Switch the ignition on again and check that **left hand bargraph 8** is permanently illuminated.

Is **left hand bargraph 8** illuminated permanently?

YES	Change the decoder unit.
NO	Change the solenoid valve coded electronics.

AFTER REPAIR	<p>Erase the stored fault by entering G0** on the XR25 keypad.</p> <p>Carry out a conformity check.</p> <p>Check the operation of the engine immobiliser system.</p>
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FAULT-FINDING - INTERPRETATION OF XR25 BARGRAPHS

<p>6</p> 	<p>Left and right hand bargraphs 6 illuminated</p> <p><u>DIESEL SOLENOID VALVE and CODED LINE ACQUITTAL</u></p>	Fiche n° 56
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INSTRUCTIONS	<p>Before starting the fault-finding procedure, switch on the ignition for more than 30 seconds in succession, then switch off the ignition.</p>
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Ensure that the 3-way solenoid valve coded electronics connector is connected correctly.

Check the condition of the electrical wiring between:

Solenoid valve coded electronics 3-way connector	{	1 and B2 of the 15-way decoder unit connector 2 and the + before ignition fuse 3 and the vehicle earth
--	---	--

Repair the faulty electrical wiring if necessary.

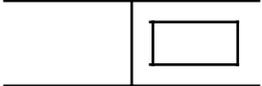
Place the XR25 in impulse detection mode (key "G", input via terminal "Vin").
 With the ignition on, check the presence of impulses on track **B2** of the 15-way decoder unit connector (test with the decoder unit and solenoid valve coded electronics connectors connected).

Are there impulses?

YES	Change the computer at the solenoid valve end.
NO	Change the decoder unit.

AFTER REPAIR	<p>Erase the stored fault by entering G0** on the XR25 keypad. Carry out a conformity check. Check the operation of the engine immobiliser system.</p>
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FAULT-FINDING - INTERPRETATION OF XR25 BARGRAPHS

<p>3</p> 	<p>Right hand bargraph 3 illuminated</p> <p><u>CODED DIESEL SOLENOID VALVE CONFIGURATION</u></p>	Fiche n° 56
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INSTRUCTIONS	None.
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Using the XR25, reconfigure the decoder unit correctly.

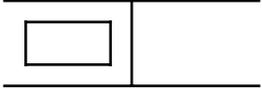
On the XR25 keypad, enter:

- **G22*1*** for a petrol vehicle,
- **G22*2*** for a diesel vehicle.

NOTE: For the diesel model, incorrect configuration of the decoder unit does not prevent correct operation of the engine immobiliser. However, in the event of a fault, the engine immobiliser indicator light will not illuminate.

AFTER REPAIR	<p>Erase the stored fault by entering G0** on the XR25 keypad.</p> <p>Carry out a conformity check.</p> <p>Check the operation of the engine immobiliser system.</p>
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FAULT-FINDING - INTERPRETATION OF XR25 BARGRAPHS

<p>4</p> 	<p>Left hand bargraph 4, incorrect illumination <u>+ ACCESSORIES PRESENT</u></p>	<p>Fiche n° 56</p>
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<p>INSTRUCTIONS</p>	<p>Reminder: During normal operation</p> <ul style="list-style-type: none"> - Left hand bargraph 4 illuminated with the ignition switch at + Accessories - Left hand bargraph 4 extinguished with the ignition off
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<p>Check the condition of the + Accessories fuse. Change the fuse if necessary.</p>
<p>With the ignition switch + Accessories, check the presence of + 12 Volts on track A2 of the 18-way decoder unit connector. Is 12 Volts present ?</p>

<p>YES</p>	<p>Change the decoder unit.</p>
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<p>NO</p>	<p>Repair the electrical wiring between track A2 of the 18-way decoder unit connector and the passenger compartment fuse board.</p>
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<p>AFTER REPAIR</p>	<p>Carry out a conformity check. Check the operation of the engine immobiliser system.</p>
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FAULT-FINDING - INTERPRETATION OF XR25 BARGRAPHS

<p>4</p> 	<p>Right hand bargraph 4, incorrect illumination <u>+ AFTER IGNITION PRESENT</u></p>	<p>Fiche n° 56</p>
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<p>INSTRUCTIONS</p>	<p>Reminder: During normal operation</p> <ul style="list-style-type: none"> - Right hand bargraph 4 illuminated with the ignition switch at + after ignition - Right hand bargraph 4 extinguished with the ignition switch in any position other than + after ignition
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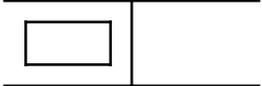
<p>Check the condition of the + after ignition fuse. Change the fuse if necessary.</p>
<p>With the ignition on, check the presence of + 12 Volts on track A1 of the 15-way decoder unit connector. Is 12 Volts present?</p>

<p>YES</p>	<p>Change the decoder unit.</p>
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<p>NO</p>	<p>Repair the electrical wiring between track A1 of the 15-way decoder unit connector and the passenger compartment fuse board.</p>
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<p>AFTER REPAIR</p>	<p>Carry out a conformity check. Check the operation of the engine immobiliser system.</p>
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FAULT-FINDING - INTERPRETATION OF XR25 BARGRAPHS

<p>11</p> 	<p>Left hand bargraph 11 remains extinguished following operation of the infra red remote control</p> <p><u>INFRA RED REMOTE CONTROL SIGNAL RECEIVED</u></p>	<p>Fiche n° 56</p>
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INSTRUCTIONS	<p>If right hand bargraph 17 is illuminated, do not apply the following fault-finding procedure as the decoder unit has not been programmed. Carry out the infra red remote control keys programming procedure.</p> <p>Only refer to the following fault-finding procedure if left hand bargraph 11 remains extinguished after trying to lock or unlock the vehicle doors using the infra red remote control.</p>
---------------------	---

Check whether the vehicle doors can be locked or unlocked by carrying out a test using the second key. If the vehicle doors can be locked or unlocked, change the battery in the first key.

On the infra red transmitter connector, check the presence of + 12 V before ignition between tracks:

- 4 and 3
- 5 and 3

Is this voltage present?

YES	<p>Place the XR25 in impulse detection mode (key "G", input via terminal "Vin"). Check the presence of impulses on track 4 of the infra red transmitter by operating the infra red remote control (test with the decoder unit and infra red transmitter connectors connected).</p> <p>Are there impulses when the infra red remote control is operated?</p>
------------	---

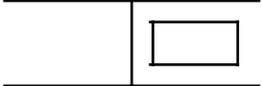
YES	Change the decoder unit.
NO	Change the infra red transmitter.

NO	<p>On the 18-way decoder unit connector, check the presence of + 12 V before ignition between tracks:</p> <ul style="list-style-type: none"> - A4 and the vehicle earth, - A3 and the vehicle earth. <p>Is this voltage present?</p>
-----------	--

YES	Repair the electrical wiring between the infra red transmitter and the 18-way decoder unit connector.
NO	Change the decoder unit.

AFTER REPAIR	<p>Carry out a conformity check.</p> <p>Check the operation of the engine immobiliser system</p>
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FAULT-FINDING - INTERPRETATION OF XR25 BARGRAPHS

<p>11</p> 	<p>Right hand bargraph 11 remains extinguished following operation of the infra red remote control</p> <p><u>INFRA RED REMOTE CONTROL SIGNAL CORRECT</u></p>	Fiche n° 56
---	---	-------------

INSTRUCTIONS	<p>Only refer to the following fault-finding procedure left hand bargraph 11 illuminates for 3 seconds when the infra red remote control is operated and right hand bargraph 11 remains extinguished. Check that the keys belong to the vehicle.</p>
---------------------	--

The infra red remote control code and the decoder unit code are not synchronised **right hand bargraph 11** remains extinguished (while **left hand bargraph 11** illuminates for approximately 2 seconds before extinguishing) when the infra red remote control is pressed and the vehicle doors cannot be locked or unlocked using the infra red remote control.

Apply the procedure for resynchronising the infra red remote controls.

AFTER REPAIR	<p>Carry out a conformity check. Check the operation of the engine immobiliser system.</p>
---------------------	--

ENGINE IMMOBILISER

Single decoder unit

82

INJECTION FAULT-FINDING - XR25 FICHE

FICHE N° 27

N°27 1/2 S8 code : D 1 3 read : 90J

1		ILLUMINATED → FAULT TEST EXTINGUISHED → TURN CARD	CODE PRESENT
2		COMPUTER	ENG. IMMOB. * 22
3		AIR TEMPERATURE	O2 SENSOR * 23
4		COOLANT TEMP.	VEHICLE SPEED
5		PRESSURE	FLYWHEEL SIGNAL * 25
6		* 06 PINKING	THROTTLE POSITION
7		CAMSHAFT	FUEL TANK PRESSURE
8		* 08 FUEL PUMP	BLOCKING * 28
9		* 09 ANTI-PERCOLATION	AIR PUMP * 29
10		* 10 O2 SENSOR OVERHEAT.	BI MODE * 30

INJECTION (FAULTS)

Erase fault memory : G 0 **
Status check request : G01 *

11		* 11 INJECTOR CIRCUIT	CONNECTION A.T. → INJ
12		* 12 WARN. LAMP CIRC. DEF	FUEL PUMP + INFO
13		SAVE DATA IN MEMORY	ADAC * 33
14		* 14 IDLE SPEED REG. CIRC.	BLEED CANISTER CIRC. * 34
15		* 15 CONNECTION INJ. → AC	EGR CIRCUIT * 35
16		* 16 IGNITION COILS	COLD START INJECTORS * 36
17		* 17 MIL WARN. LIGHT	
18			
19			
20		* 20 COMPUTER CONFIGURATION	XR25 MEMORY 0

ADDITIONAL CHECKS : # . .

01	PRESSURE	mb
02	Coolant temp.	°C
03	Air temp.	°C
04	Computer feed	V
05	O2 sensor	V
06	Engine speed	rpm
12	Idling RCO	%
13	Pinking signal	
14	Engine speed gap	rpm
15	Pinking correct.	
16	Atmos. pressure	mb
17	Throttle pot.	
18	Vehicle speed	km/h
21	Auto correct of RCO idle speed	%
23	Canister purge RCO	%
24	RCO EGR	%
30	Auto correct of rich under high loads	
31	Auto correct of rich under low loads	
35	Corr. richesse	
44	P. absorbed by AC compressor	w

End of test : G 13 *

Part No : G 70 *

Diagnosed faults :
Press V and 9.

Return to diagnostic mode : D

16 ANG

FI21627-1

The bargraphs on a coloured background represent a fault.
The bargraphs on a white background represent a status.

q54561.0

ENGINE IMMOBILISER

Single decoder unit

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ENGINE IMMOBILISER FAULT-FINDING - XR25 FICHE

FICHE N° 56

N°56	S8	code : D 5 6	read : ~56
1	COMPUTER CONFIGURATION (fixed display)		CODE PRESENT <input checked="" type="checkbox"/>
2	TYPE OF PLIP <input checked="" type="checkbox"/> IR <input type="checkbox"/> RF	ENG. IMMOB. 1 <input type="checkbox"/> ENG. IMMOB. 2 <input checked="" type="checkbox"/>	
3	VALIDATION 1 key <input type="checkbox"/> 2 keys <input checked="" type="checkbox"/>	CODED DIESEL SOL. VALVE <input checked="" type="checkbox"/>	
4	<input checked="" type="checkbox"/> + ACCESSORIES PRESENT	+ APC PRESENT <input checked="" type="checkbox"/>	
5	DEFECTS		
6	<input checked="" type="checkbox"/> DIESEL SV ACQUITTAL	DEFECT RE-READ CODED LINE <input checked="" type="checkbox"/>	
7	<input checked="" type="checkbox"/> KEY INTERROGATION (CC) (only if Valeo unit)	CODED LINE * 26 <input checked="" type="checkbox"/>	
8	<input checked="" type="checkbox"/> RE-READ DIESEL ACQ.	KEY PRESENT <input type="checkbox"/>	CONTROL MODES : G...* 23 Diesel sol. valve mech. test only if line 3 Right and line 6 Right/Left <input type="checkbox"/> Test Switch off ign. enter G23 switch ign. on, the valve opens and closes within 30 secs (audible test) 03 Int. light switch 08 Opening movement 09 Closing movement 15 Closing - elec. window 04 Protected mode enforced 40**xxx* Enter code Part No : G70 *
9	<input type="checkbox"/> PROT. MODE ENFORCED	RECEIVED (key code) <input type="checkbox"/>	
10	<input type="checkbox"/> ENG. IMMOB. ACTIVE	VALIDATE <input type="checkbox"/>	
ENG. IMMOB. (PLIP and KEY) Erase memory : G 0 ** End of test : G 13 *			
11	<input checked="" type="checkbox"/> ACTIVATE PLIP (UNLOCK) SIGNAL RECVD <input type="checkbox"/> SIGNAL CORRECT <input type="checkbox"/>		
12	INTERIOR LIGHT CUT-OUT USING PLIP (option, depending on equipment) <input type="checkbox"/>		
13	<input checked="" type="checkbox"/> ACTIVATE PLIP (signal) UNLOCK <input type="checkbox"/> LOCK <input checked="" type="checkbox"/>		
14	<input checked="" type="checkbox"/> *14 ACTIVATE DOOR LOCK SWITCH UNLOCKING (1) <input type="checkbox"/> LOCKING (0)	MOTOR ACTION LOCKING (0) <input type="checkbox"/> UNLOCK (1) *34 <input checked="" type="checkbox"/>	
15	<input checked="" type="checkbox"/> AUTHORISATION ELEC. WINDOW (PLIP) (with anti-trap)	WINDOW CLOSING <input type="checkbox"/>	
16	<input checked="" type="checkbox"/> DOOR SWITCHES (ILLUM. IF DOOR OPEN)		
17	<input type="checkbox"/> VALIDATION IN PROGRESS OR RESYNCHRO	PLIP	NOT VALIDATED <input type="checkbox"/>
18	<input type="checkbox"/> VALIDATING 1st KEY	KEY	VALIDATION AUTHORISED <input type="checkbox"/>
19	<input type="checkbox"/> NOT VALIDATED	reserved	
20	reserved	IMMOB. CODE TIMED LOCK-OUT <input type="checkbox"/>	
SEE REPAIR MANUAL			16 ANG

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FAULT-FINDING - CUSTOMER COMPLAINTS***INSTRUCTIONS***

Only refer to these customer complaints following a complete check using the XR25.

NO XR25/Decoder unit COMMUNICATION	CHART 1
WITH THE IGNITION ON, THE ENGINE IMMOBILISER INDICATOR LIGHT FLASHES PERMANENTLY (STARTING IMPOSSIBLE)	CHART 2
THE ENGINE IMMOBILISER INDICATOR LIGHT REMAINS ILLUMINATED (EVEN WITH THE IGNITION OFF) OR REMAINS EXTINGUISHED	CHART 3
WITH THE IGNITION ON, THE INJECTION INDICATOR LIGHT FLASHES PERMANENTLY (STARTING IMPOSSIBLE)	CHART 4
WHILE DRIVING (DECELERATION) AND AT IDLE, THE INJECTION INDICATOR LIGHT FLASHES PERMANENTLY	CHART 5

FAULT-FINDING CHARTS

CHART 1	NO XR25/COMPUTER COMMUNICATION
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INSTRUCTIONS	None
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Check the condition of the + before ignition fuse.
Change the fuse if necessary.



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

Check that the ISO interface is in position **S8**, that you are using the latest version of the XR25 cassette and the correct access code (**D56**).

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



Check that the 15-way decoder unit connector is engaged correctly.

Check that the decoder unit is supplied correctly:

- earth on track **B6** of the black 15-way decoder unit connector,
- + before ignition on track **B5** of the black 15-way decoder unit connector.



Ensure that the diagnostic socket is supplied correctly.

Check and ensure the continuity and insulation of the electrical wiring of tracks **A5** and **B4** of the 15-way decoder unit connector.

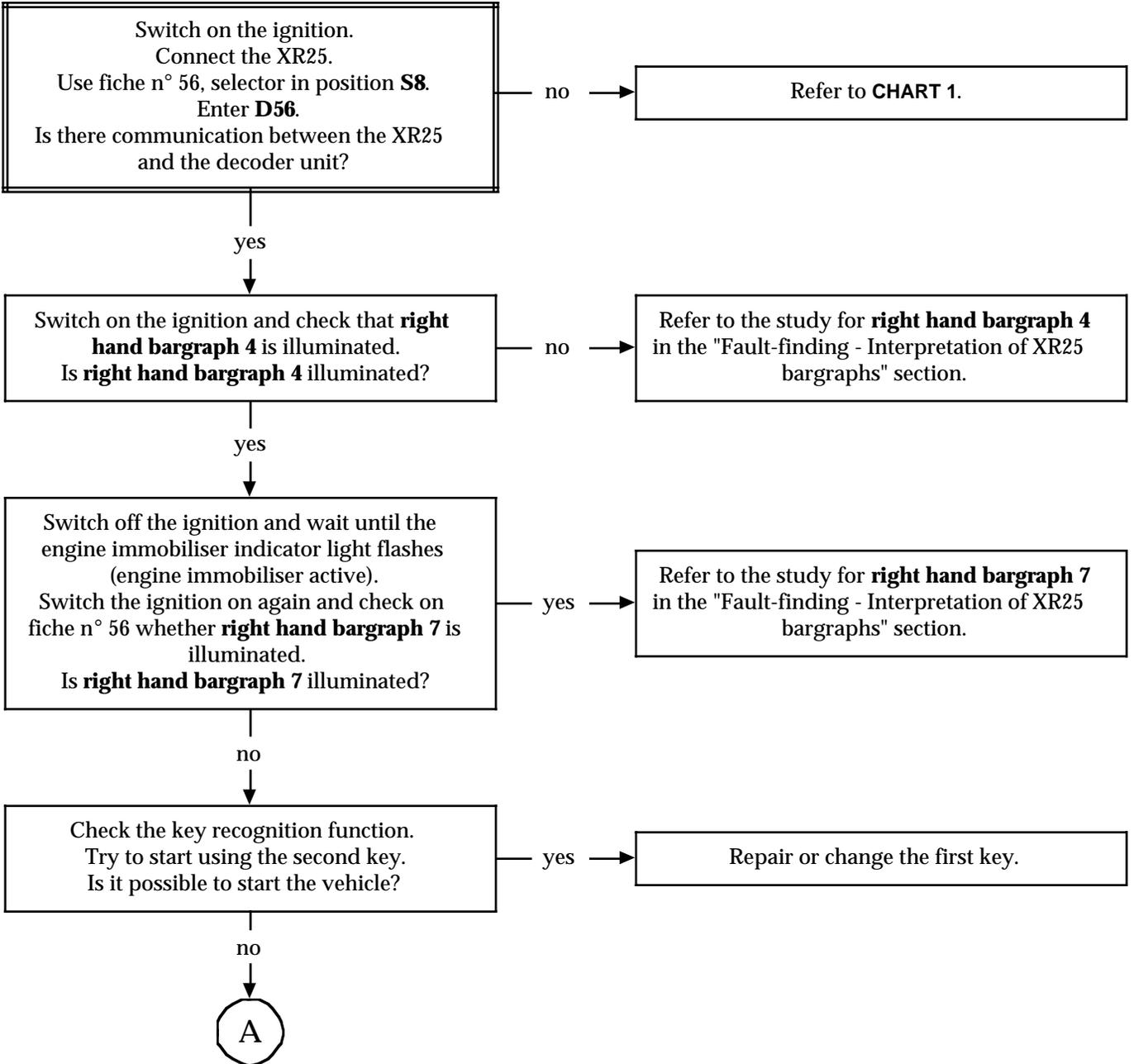


If there is still no communication between the XR25 and the decoder unit, change the decoder unit.

AFTER REPAIR	When communication is established, deal with any illuminated fault bargraphs. Carry out a conformity check.
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FAULT-FINDING CHARTS

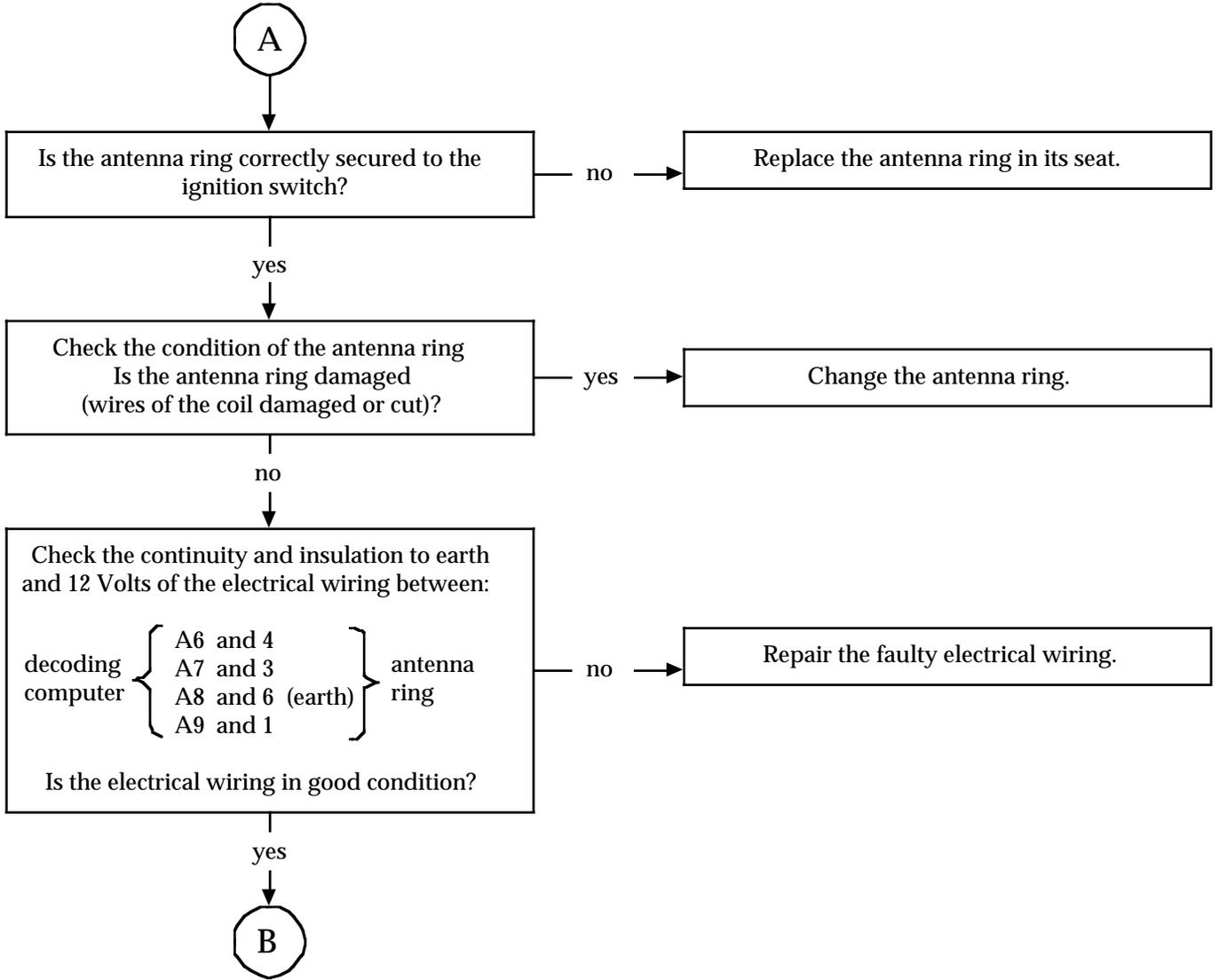
CHART 2	WITH THE IGNITION ON, THE ENGINE IMMOBILISER INDICATOR LIGHT FLASHES PERMANENTLY (starting impossible)
INSTRUCTIONS	None



AFTER REPAIR	Carry out a conformity check. Check the operation of the engine immobiliser system.
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FAULT-FINDING CHARTS

CHART 2
CONT 1

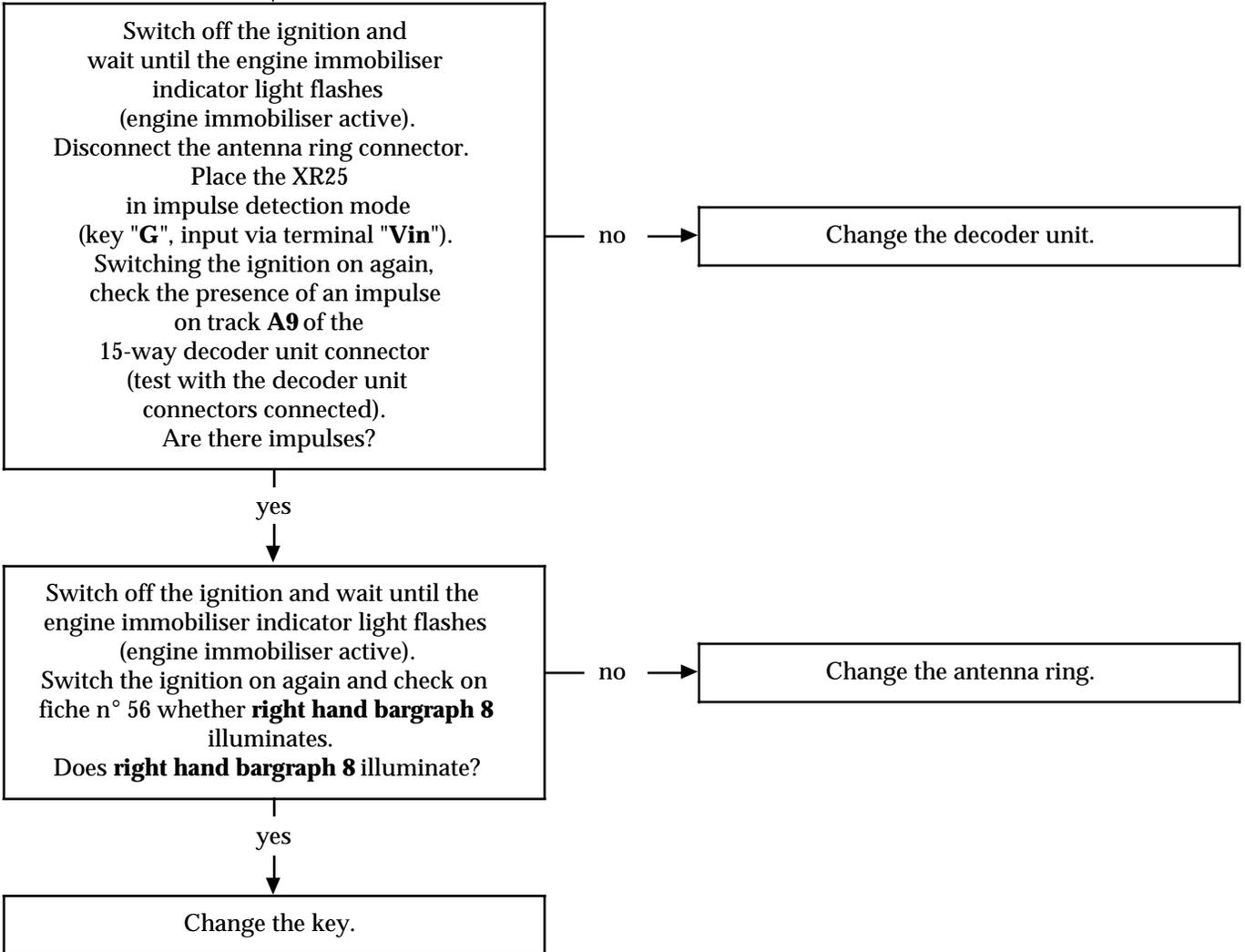
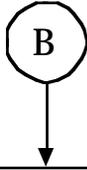


AFTER REPAIR

Carry out a conformity check.
Check the operation of the engine immobiliser system.

FAULT-FINDING CHARTS

CHART 2
CONT 2

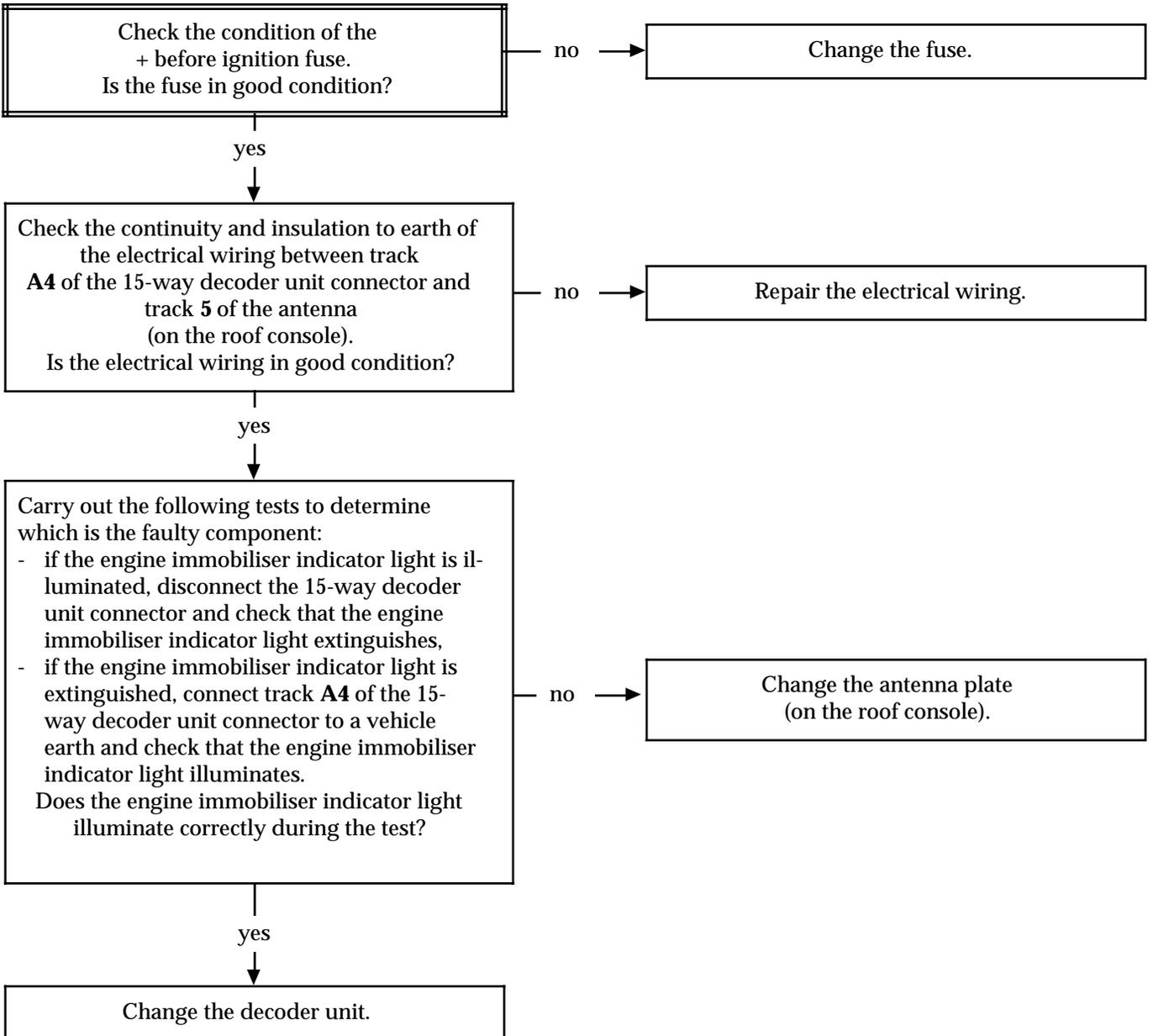


APRES REPARATION	Carry out a conformity check. Check the operation of the engine immobiliser system.
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FAULT-FINDING CHARTS

CHART 3	THE ENGINE IMMOBILISER INDICATOR LIGHT REMAINS ILLUMINATED (even with the ignition off) OR REMAINS EXTINGUISHED
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INSTRUCTIONS	Sans
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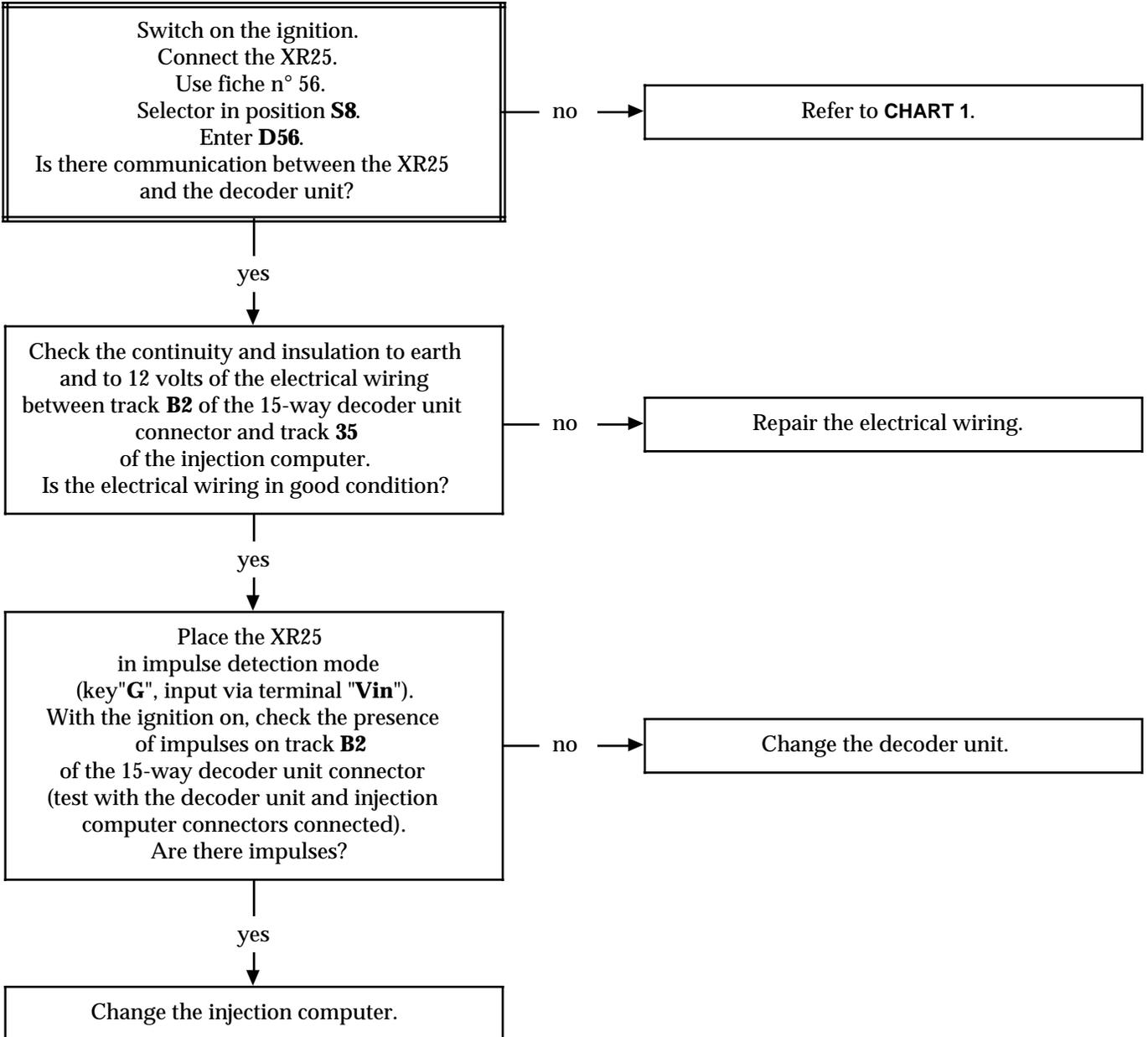


AFTER REPAIR	Carry out a conformity check. Check the operation of the engine immobiliser system.
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FAULT-FINDING CHARTS

CHART 4	WITH THE IGNITION ON, THE INJECTION INDICATOR LIGHT FLASHES PERMANENTLY (starting impossible)
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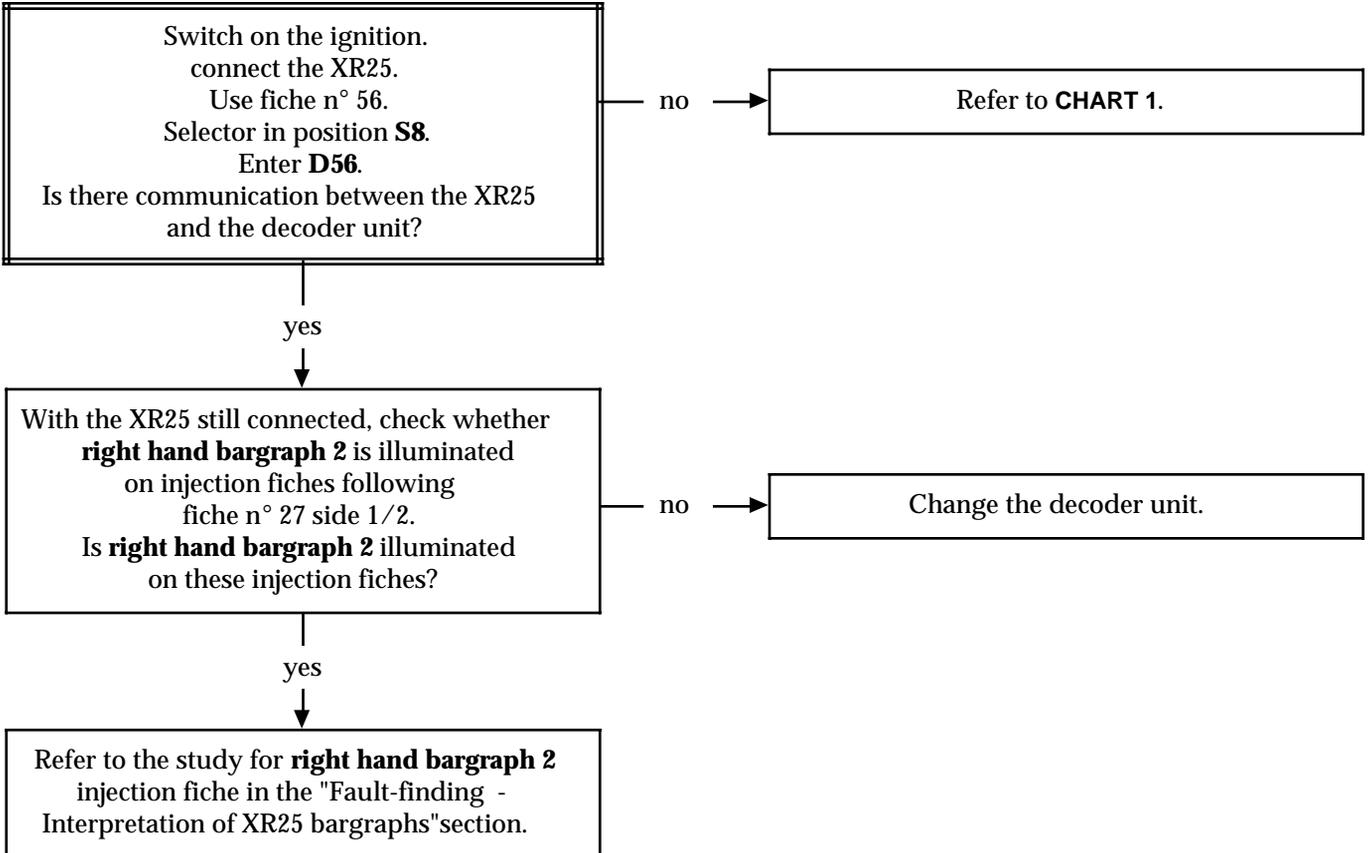
INSTRUCTIONS	None
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AFTER REPAIR	Carry out a conformity check. Check the operation of the engine immobiliser system.
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FAULT-FINDING CHARTS

CHART 5	WHILE DRIVING (deceleration) AND AT IDLE, THE INJECTION INDICATOR LIGHT FLASHES PERMANENTLY
INSTRUCTIONS	None



AFTER REPAIR	Carry out a conformity check. Check the operation of the engine immobiliser system.
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FAULT-FINDING - CUSTOMER COMPLAINTS

INSTRUCTIONS

Only refer to these customer complaints following a complete check using the XR25.

NO XR25/Decoder unit COMMUNICATION **CHART 1**

WITH THE IGNITION ON, THE ENGINE IMMOBILISER INDICATOR LIGHT FLASHES PERMANENTLY (STARTING IMPOSSIBLE) **CHART 2**

THE ENGINE IMMOBILISER INDICATOR LIGHT REMAINS ILLUMINATED FOR MORE THAN 30 SECONDS IN SUCCESSION WITH THE IGNITION ON (THE ENGINE IMMOBILISER INDICATOR LIGHT ILLUMINATES WHEN THE IGNITION IS SWITCHED ON, WITHIN 16 SECONDS OF THE IGNITION BEING SWITCHED ON OR THE ENGINE IMMOBILISER INDICATOR LIGHT ILLUMINATES FOR MORE THAN 30 SECONDS IN SUCCESSION). **CHART 3**

WHEN THE IGNITION IS SWITCHED ON, THE ENGINE IMMOBILISER INDICATOR LIGHT ILLUMINATES FOR 3 SECONDS AND THEN EXTINGUISHES, BUT THE VEHICLE DOES NOT START **CHART 4**

THE ENGINE IMMOBILISER INDICATOR LIGHT REMAINS ILLUMINATED (EVEN WITH THE IGNITION OFF) OR REMAINS EXTINGUISHED **CHART 5**

FAULT-FINDING CHARTS

CHART 1	NO XR25/COMPUTER COMMUNICATION
INSTRUCTIONS	None

Check the condition of the + before ignition fuse.
Change the fuse if necessary.



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

Check that the ISO interface is in position **S8**, that you are using the latest version of the XR25 cassette and the correct access code (**D56**).

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



Check that the 15-way decoder unit connector is engaged correctly.

Check that the decoder unit is supplied correctly:

- earth on track **B6** of the black 15-way decoder unit,
- + before ignition on track **B5** of the black 15-way decoder unit connector.



Ensure that the diagnostic socket is supplied correctly.

Check and ensure the continuity and insulation of the electrical wiring of tracks **A5** and **B4** of the 15-way decoder unit connector.



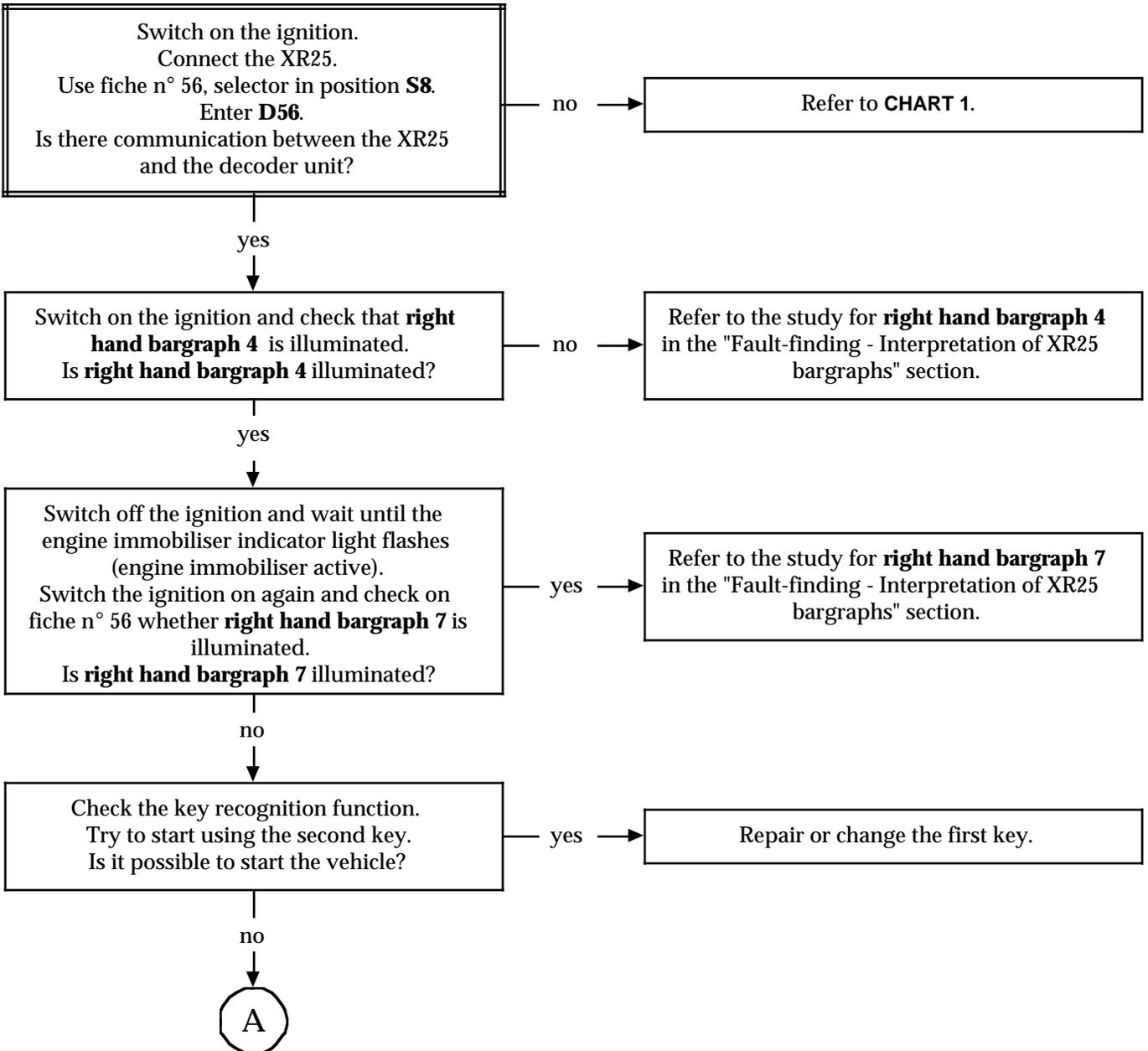
If there is still no communication between the XR25 and the decoder unit, change the decoder unit.

**AFTER
REPAIR**

When communication is established, deal with any illuminated fault bargraphs.
Carry out a conformity check.

FAULT-FINDING CHARTS

CHART 2	WITH THE IGNITION ON, THE ENGINE IMMOBILISER INDICATOR LIGHT FLASHES PERMANENTLY (starting impossible)
INSTRUCTIONS	None



AFTER REPAIR	Carry out a conformity check. Check the operation of the engine immobiliser system.
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FAULT-FINDING CHARTS

CHART 2 CONT 1

A

Is the antenna ring secured to the ignition switch correctly?

no

Replace the antenna ring in its seat.

yes

Check the condition of the antenna ring. Is the antenna ring damaged (wires of the coil damaged or cut)?

yes

Change the antenna ring.

no

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

decoding computer	{	A6 and 4	}	antenna ring
		A7 and 3		
		A8 and 6 (earth)		
		A9 and 1		

Is the electrical wiring in good condition?

no

Repair the faulty electrical wiring.

yes

B

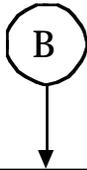
AFTER REPAIR

Carry out a conformity check.
Check the operation of the engine immobiliser system.

FAULT-FINDING CHARTS

CHART 2

CHART 2



Switch off the ignition and wait until the engine immobiliser indicator light flashes (engine immobiliser active).
Disconnect the antenna ring connector.
Place the XR25 in impulse detection mode (key "G", input via terminal "Vin").
Switching the ignition on again, check the presence of an impulse on track A9 of the 15-way decoder unit connector (test with the decoder unit connectors connected).
Is there an impulse?

no

Change the decoder unit.

yes

Switch off the ignition and wait until the engine immobiliser indicator light flashes (engine immobiliser active).
Switch the ignition on again and check on fiche n° 56 whether **right hand bargraph 8** illuminates.
Does **right hand bargraph 8** illuminate?

yes

Change the antenna ring.

yes

Change the key.

AFTER REPAIR

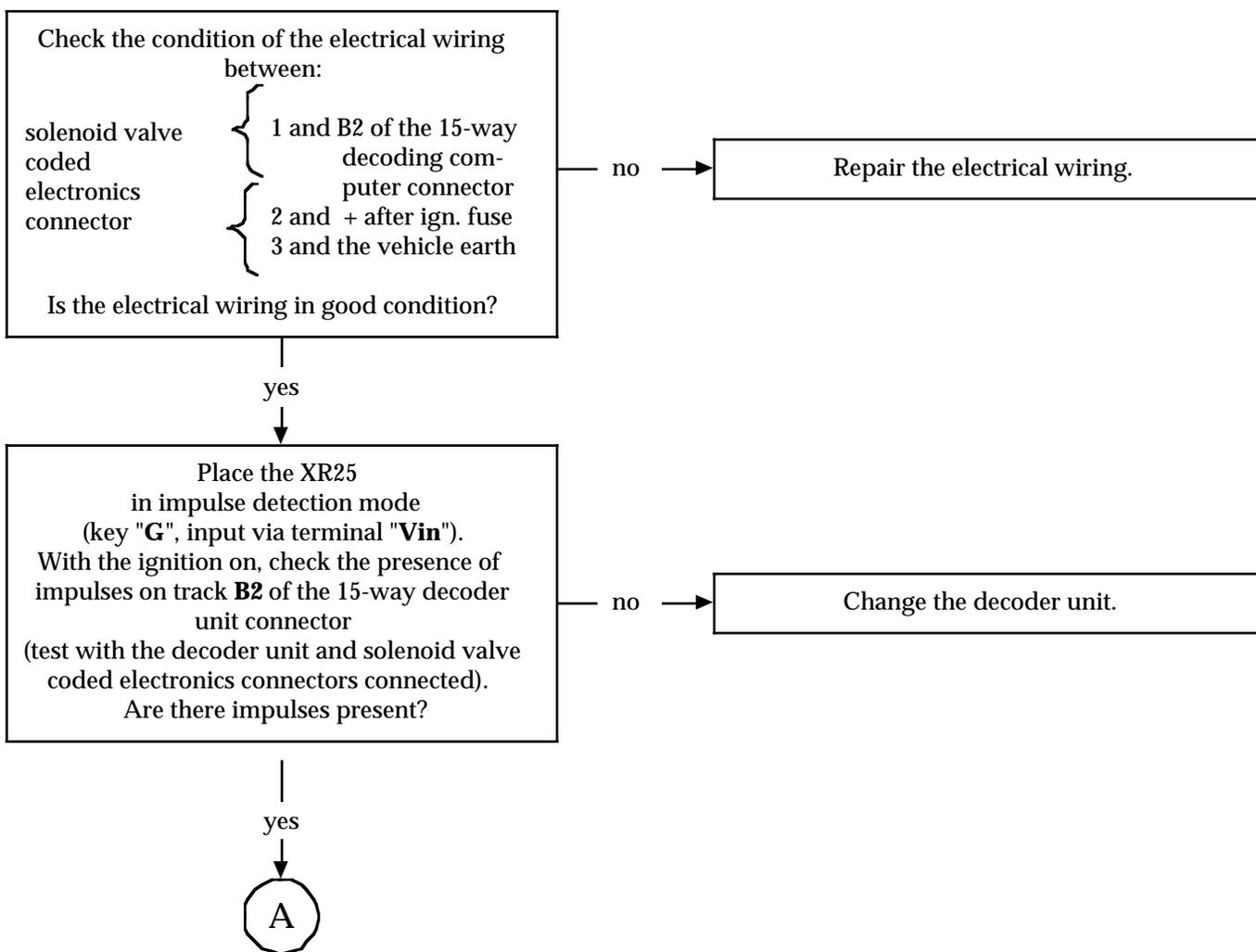
Carry out a conformity check.
Check the operation of the engine immobiliser system.

DIESEL

FAULT-FINDING CHARTS

CHART 3	<p>THE ENGINE IMMOBILISER INDICATOR LIGHT REMAINS ILLUMINATED FOR MORE THAN 30 SECONDS IN SUCCESSION WITH THE IGNITION ON (THE ENGINE IMMOBILISER INDICATOR LIGHT ILLUMINATES WHEN THE IGNITION IS SWITCHED ON, WITHIN 16 SECONDS OF THE IGNITION BEING SWITCHED ON OR THE ENGINE IMMOBILISER INDICATOR LIGHT ILLUMINATES FOR MORE THAN 30 SECONDS IN SUCCESSION).</p>
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INSTRUCTIONS	None
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AFTER REPAIR	<p>Carry out a conformity check. Check the operation of the engine immobiliser system.</p>
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FAULT-FINDING CHARTS

CHART 3
CONT


With the XR25 connected, use fiche n° 56.

Carry out a mechanical check of the solenoid valve.

- With the ignition off, enter **G23***.
- Switch the ignition on again. The valve should open and close several times in 30 seconds (check by listening to the valve).

Does the valve open and close for approximately 30 seconds and is acquittal suspended (**left hand bargraph 8 illuminated**) ?

no

Change the solenoid valve coded electronics.

yes

Change the decoder unit.

AFTER
REPAIR

Carry out a conformity check.
 Check the operation of the engine immobiliser system.

FAULT-FINDING CHARTS

CHART 4

WHEN THE IGNITION IS SWITCHED ON, THE ENGINE IMMOBILISER INDICATOR LIGHT ILLUMINATES FOR 3 SECONDS AND THEN EXTINGUISHES, BUT THE VEHICLE DOES NOT START

INSTRUCTIONS

None

Connect the XR25. Use fiche n° 56.

Carry out a mechanical check of the solenoid valve.

- With the ignition off, enter **G23***.
- Switch the ignition on again. The valve should open and close several times in 30 seconds (check by listening to the valve).

Does the valve open and close for approximately 30 seconds and is acquittal suspended

(left hand bargraph 8 illuminated)?

yes

The solenoid valve coded electronics are not faulty.
Refer to the fault-finding information which corresponds to the diesel engine.

no

Remove the solenoid valve coded electronics.

Check the condition of the solenoid valve.
With the ignition off, connect + 12 Volts to the solenoid valve.

Then try to start.
Does the vehicle start

yes

no

Change the solenoid valve.

Change the solenoid valve coded electronics.

AFTER REPAIR

Carry out a conformity check.
Check the operation of the engine immobiliser system.

FAULT-FINDING CHARTS

CHART 5

THE ENGINE IMMOBILISER INDICATOR LIGHT REMAINS ILLUMINATED (even with the ignition off) OR REMAINS EXTINGUISHED

INSTRUCTIONS

None

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

no

Change the fuse.

yes

Check the continuity and insulation to earth of the electrical wiring between track **A4** of the 15-way decoding computer connector and track **6** of the antenna plate connector (on the roof console).
Is the electrical wiring in good condition

no

Repair the electrical wiring.

yes

Carry out the following tests to determine which of the components is faulty:

- if the engine immobiliser indicator light is illuminated, disconnect the 15-way decoder unit connector and check that the engine immobiliser indicator light extinguishes,
- if the engine immobiliser indicator light is extinguished, connect track **A4** of the 15-way decoder unit connector to a vehicle earth and check that the engine immobiliser indicator light illuminates.

Does the engine immobiliser indicator light illuminate correctly during the test?

no

Change the antenna plate (on the roof console).

yes

Change the decoder unit.

AFTER REPAIR

Carry out a conformity check.
Check the operation of the engine immobiliser system.

FAULT-FINDING - CONFORMITY CHECK

INSTRUCTIONS

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

Order of operations	Function to be checked	Action	Bargraph	Display and Notes
1	XR25 dialogue	D56 (selector in position S8)		n.56
2			<p style="text-align: center;">1</p>	Code present
3	Conformity of the decoder unit	G70*		<p style="text-align: center;">X X X</p> <p>Part number displayed in 2 sequences</p>
4	Interpretation of normally illuminated bargraphs		<p style="text-align: center;">2</p> <p style="text-align: center;">2</p> <p style="text-align: center;">3</p>	<p>Type of remote control:</p> <ul style="list-style-type: none"> - Illuminated for an infra red remote control. - Extinguished for a radio frequency remote control <p>Using XR25 cassette n° 16 : Type of engine immobiliser. Illuminated for engine immobiliser 2. Extinguished for engine immobiliser 1.</p> <p>Using XR25 cassette n° 17 : Illuminated if fitted with a courtesy light timer.. Extinguished if not fitted with a courtesy light timer.</p> <p>Illuminated if programmed with the both keys. Extinguished if programmed with just one key.</p>

FAULT-FINDING - CONFORMITY CHECK

INSTRUCTIONS

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

Order of operations	Function to be checked	Action	Bargraph	Display and Notes
5	Configuration of the computer for petrol/diesel		<p style="text-align: center;">3</p> 	<p>Illuminated if configured for a diesel vehicle. Extinguished if configured for a petrol vehicle. Command: - G22*1* petrol configuration - G22*2* diesel configuration.</p>
6	Forced protected mode		<p style="text-align: center;">9</p> 	<p>Illuminated only after entering command G04* on the XR25. The vehicle cannot be started if left hand bargraph 9 is illuminated.</p>
7	Status of the engine immobiliser		<p style="text-align: center;">10</p> 	<p>Illuminated if the engine immobiliser is active: switch off the ignition and wait approximately 10 seconds for left hand bargraph 10 to illuminate. Extinguished if the engine immobiliser is not active.</p>
8	Presence of the key		<p style="text-align: center;">8</p> 	<p>Illuminated when the ignition is switched on (if the vehicle was protected before the ignition was switched on, engine immobiliser indicator light flashing). NOTE: During normal operation, right hand bargraphs 8, 9 and 10 should all be illuminated.</p>

FAULT-FINDING - CONFORMITY CHECK

INSTRUCTIONS

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

Order of operations	Function to be checked	Action	Bargraph	Display and Notes
9	Key code reception		<p style="text-align: center;">9</p> 	<p>Illuminated when the ignition is switched on in the case of a coded key of the correct format (if the vehicle was protected before the ignition was switched on, engine immobiliser indicator light flashing). NOTE: During normal operation, right hand bargraphs 8, 9 and 10, should all be illuminated.</p>
10	Key code valid		<p style="text-align: center;">10</p> 	<p>Illuminated when the ignition is switched on in the case of a coded key of the correct format (if the vehicle was protected before the ignition was switched on, engine immobiliser indicator light flashing). NOTE: During normal operation, right hand bargraphs 8, 9 and 10, should all be illuminated.</p>
11	Reception of the infra red signal sent by the infra red remote control		<p style="text-align: center;">11</p>  <p style="text-align: center;">11</p> 	<p>Illuminated for approximately 3 seconds if the infra red signal is received by the decoder unit via the infra red transmitter.</p> <p>Illuminated for approximately 3 seconds if the infra red signal received by the decoder unit via the infra red transmitter is a correct signal.</p>
12	Presence of interior lighting cut-off after infra red remote control		<p style="text-align: center;">12</p> 	<p>Should extinguish after 30 minutes with the ignition off. Should extinguish after the doors are locked using the infra red remote control.</p>

FAULT-FINDING - CONFORMITY CHECK

INSTRUCTIONS	If a fault bargraph illuminates, refer to the corresponding fault-finding chart.
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Order of operations	Function to be checked	Action	Bargraph	Display and Notes
13	Reception of information relating to locking/unlocking of the doors using the central locking button.		<p>14</p> 	<p>Illuminated when the door locking/unlocking information sent by the central locking button is received.</p> <p>Display input * 14 on the XR25 to find out the information received by the decoder unit:</p> <ul style="list-style-type: none"> - if * 14 = 0 door locking information - if * 14 = 1 door unlocking information
14	Door locking/ unlocking information sent to the locking motors by the decoder unit.		<p>14</p> 	<p>Illuminated when the door locking/unlocking information from the decoder unit is sent to the locking motors.</p> <p>Display input * 34 on the XR25 to find out the information sent by the decoder unit:</p> <ul style="list-style-type: none"> - if * 34 = 0 door unlocking information, - if * 34 = 1 door locking information. <p>(NOTE: Ignore what is written on fiche n° 56, XR25 cassette n° 16).</p>

APPENDED CHECKS

COMMAND MODES G--*

To use this function, enter **G** on the XR25 keypad, then the number of the command selected followed by an asterisk.

- 03** Courtesy light command (illuminates the courtesy light for 3 seconds).
- 04** Forced protected mode: activates the engine immobiliser function even if the key is correct, which enables the prohibiting of starting to be checked. **Left hand bargraph 9** should illuminate. This command should be entered with the ignition off while the engine immobiliser is active.
WARNING: Switching off the ignition cancels this command.
- 05** Engine immobiliser indicator light command (illuminates the engine immobiliser indicator light for 3 seconds).
- 06** Activation for 3 seconds of the "door unlocking" information to the alarm computer (for vehicles fitted with the alarm).
- 07** Activation for 3 seconds of the "door locking" information to the alarm computer (for vehicles fitted with the alarm).
- 08** Door unlocking command (activates the unlocking end of the motors for 3 seconds).
- 09** Door locking command (activates the locking end of the motors for 3 seconds).
- 22** Configuration :
 - **G 22 * 1 *** = petrol configuration (**right hand bargraph 3** should be extinguished).
 - **G 22 * 2 *** = diesel configuration (**right hand bargraph 3** should be illuminated).
- 23** Forced solenoid valve test mode (used on diesel vehicles only).
Activates the coded solenoid valve (opening/closing) for approximately 30 seconds (check by listening to the solenoid valve).
Note:
 - the decoder unit should be configured for diesel,
 - **left hand bargraph 8** should be illuminated during the test.
- 31** Configuration :
 - **G31 * 1 *** = programming with one key only. This command allows programming using one key only when a decoder unit only is changed (if the customer does not have both keys with him).
This command must be input into the XR25 before beginning the programming procedure.
 - **G31 * 1 *** = returns to programming using one of the two keys.

APPENDED CHECKSCOMMAND MODES **G--***

- 40** Entering of the repair code (**left hand bargraph 10** should be illuminated and the ignition should be on).
This command mode can be used for entering the repair code, but it does not allow decoding of the injection computer or of the coded solenoid valve.
Enter the vehicle's repair code on the XR25 and confirm using key "*".
If the code is correct, "**bon**" is displayed on the XR25 and **left hand bargraph 10** extinguishes.
If the code is not correct, "**deF**" is displayed on the XR25 and **left hand bargraph 10** remains illuminated.
- WARNING:** Three attempts at entering the code are permitted. If the code is incorrect after the 3rd attempt, 15 minutes must elapse before another attempt can be made (between each attempt at entering the code, the ignition must be switched off and switched on again).
- 47** Courtesy light timer configuration:
- **G 47 * 0 *** = deselection of the courtesy light timer.
- **G 47 * 1 *** = activation of the courtesy light timer.
- 70** Reading of the part number (decoder unit part number).

LIST OF THE VARIOUS

- 26** Source of the last openings control:
1 → Infra red remote control
2 → Central locking button
- 27** Reading of the last openings control:
1 → Unlocking
2 → Locking

FAULT-FINDING - HELP**Removal - refitting of the clips**

In order to remove the clips and tabs of the wiring of the two decoder unit connectors, a tool kit **Elé. 1263** must be used.

Use the **black** tool to unclip the modules.

Use the **brown** tool to remove the clips.

