



N.T. 3532A

XBOX

**FAULT FINDING
IMMOBILISER**

This note cancels and replaces section 82 in Workshop Repair Manual 337 - Diag Manual

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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 introduced by the manufacturer in the production of the various component units and accessories from which their vehicles are constructed."

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This document explains the fault finding procedure which applies to the multi-timer unit engine immobiliser system fitted in Clio 2.

To undertake fault finding on this system, it is essential to have the following items available:

- The Workshop Repair Manual (MR 337).
- The wiring diagram of the function on the vehicle concerned.
- The clip or NXR diagnostic tool.

GENERAL APPROACH TO FAULT FINDING

- Start up one of the diagnostic tools in order to identify the system fitted on the vehicle (type of computer, software N°, calibration N°, Parts Stores part number).
- Locate the Fault finding documents corresponding to the system identified.
- Take note of information contained in the introductory sections.

DESCRIPTION OF THE FAULT FINDING PHASES

1 - CHECKING THE FAULTS

It is essential to start with this stage before any work is done on the vehicle.

- Read the faults stored in the computer memory and use the Fault interpretation section of the documents.

Reminder: Each fault is interpreted for a particular type of storage (fault present, fault stored in memory, fault present or stored). The checks defined for handling each fault are therefore only to be performed if the fault shown by the diagnostic tool is interpreted in the document for its type of storage. The type of storage should be considered when setting up the diagnostic tool when the ignition is switched off and back on again.

If a fault is interpreted when it is declared as stored, the conditions for applying fault finding appear in the notes box. If the conditions are not fulfilled, use fault finding to check the circuit of the faulty part since the fault is no longer present on the vehicle. Perform the same operation when a fault is declared as stored by the diagnostic tool but is only interpreted in the documentation as a present fault.

2 - CONFORMITY CHECK

The conformity check is designed to check the states and parameters which do not display a fault on the diagnostic tool when they are outside the permitted tolerance values. This stage:

- Diagnoses faults that are not displayed which may correspond to a customer complaint.
- Checks the correct operation of the engine immobiliser system and eliminates the risk of faults reappearing after the repair.

This section gives the fault finding procedures for states and parameters and the conditions for checking them. If a state is not operating normally or a parameter is outside permitted tolerance values, you should consult the corresponding diagnostic page.

3 - RECTIFYING THE CUSTOMER COMPLAINT

If the diagnostic tool check is correct, but the customer complaint is still present, the problem should be dealt with according to the customer complaint.

This section has fault finding charts, which suggest a series of possible causes of the problem. These lines of investigation must only be used in the following cases:

- No faults appear on the diagnostic tool,
- No faults are detected during the conformity check.
- The engine immobiliser system does not operate correctly.

DF006 PRESENT OR STORED	<u>DIESEL SOLENOID VALVE ACKNOWLEDGEMENT CIRCUIT</u>
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NOTES	<p>Priority for dealing with a number of faults: Deal with fault DF045 coded line circuit first if it is present or stored.</p>
	<p>Conditions for applying the fault finding strategy to the fault stored: The fault is declared present after the ignition has been switched on for 5 seconds.</p>
	<p>Special notes: If the multi-timer unit has been changed, ensure that it is correctly configured by displaying state ET042 coded diesel solenoid valve configuration. This state must be ACTIVE in the case of a diesel engine with coded solenoid valve and INACTIVE in the case of a diesel engine without coded solenoid valve or for a petrol engine. Configure the multi-timer unit according to the vehicle engine if required (command mode menu then configuration).</p>

Check **the connection and good condition of the** coded solenoid valve connector (black 3 track connector).
Repair if necessary.

Disconnect the multi-timer unit and check, **with the ignition off, the insulation, continuity and absence of interference resistance** on the connection between:
yellow multi-timer unit connector **track 15**  **track 8** of the coded solenoid valve
Repair if necessary.

Check for the presence of an **earth** and a **+12 volts after ignition supply** on the coded solenoid valve connector (see vehicle wiring diagram).
Repair if necessary.

Reconnect the solenoid valve and multi-timer unit, switch on the ignition and, using the diagnostic tool, display state **ET006** re-read acknowledgement from the diesel solenoid valve (in the state screen).
If the connection previously checked is not faulty and the solenoid valve is correctly supplied, state **ET006** should be **ACTIVE** (problem solved).

If previous checks have not solved the problem (state **ET006** remains **INACTIVE**), check that the multi-timer unit is sending the correct signal to the solenoid valve by measuring across **track 8** of the solenoid valve and earth (multi-timer unit and coded solenoid valve connected electrically).

- No voltage should be present when the ignition is switched off.
- With the ignition switched on, a multimeter on an alternating voltage measuring position should measure an average voltage of about 5 volts (the multi-timer unit sends a continuous signal).

NOTE: For greater measuring accuracy, the signal check can be made using an oscilloscope by measuring between track 8 of the solenoid valve and earth (5 volts / scale division and 50 m/s time base. A square pulse signal should be displayed continuously).

AFTER REPAIR	<p>Clear the fault memory. Deal with any other possible faults.</p>
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DF014 PRESENT OR STORED	<u>CODED LINE CIRCUIT</u>
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NOTES	<p>Conditions for applying the fault finding strategy to the fault stored: The fault is declared present after the ignition has been switched on for 20 seconds.</p>
	<p>Special notes: If the multi-timer unit has been changed, ensure that it is correctly configured by displaying state ET042 coded diesel solenoid valve configuration. This state must be ACTIVE in the case of a diesel engine with coded solenoid valve and INACTIVE in the case of a diesel engine without coded solenoid valve. Configure the multi-timer unit according to the vehicle engine if required (command mode menu then configuration).</p>

Vehicle fitted with a coded solenoid valve (not DCI):

Check the connection and good condition of the coded solenoid valve connector (black 3 track connector).
Repair if necessary.

Disconnect the multi-timer unit and check, **with the ignition off, the insulation, continuity and absence of interference resistance** on the connection between:

yellow multi-timer unit connector **track 15** → **track 8** of the coded solenoid valve
Repair if necessary.

Check for the presence of an **earth** and a **+12 volts after ignition supply** on the coded solenoid valve connector (see vehicle wiring diagram).
Repair if necessary.

Reconnect the solenoid valve and multi-timer unit, switch on the ignition and, using the diagnostic tool, display state **ET006** re-read acknowledgement from the diesel solenoid valve (in the state screen).
If the connection previously checked is not faulty and the solenoid valve is correctly supplied, state **ET006** should be **ACTIVE** (problem solved).

If previous checks have not solved the problem (state **ET006** remains **INACTIVE**), check that the multi-timer unit is sending the correct signal to the solenoid valve by measuring between **track 8** of the solenoid valve and earth (multi-timer unit and coded solenoid valve connected electrically).

- No voltage should be present when the ignition is switched off.
- With the ignition switched on, a multimeter on an alternating voltage measuring position should measure an average voltage of about 5 volts (the multi-timer unit sends a continuous signal).

NOTE: For greater measuring accuracy, the signal check can be made using an oscilloscope by measuring between **track 8** of the solenoid valve and **the earth** (5 volts / scale divisions and 50 m/s time base. A square pulse signal should be displayed continuously).

If the signal measured previously is not present, **change the multi-timer unit**.
If the signal is present but the problem persists, **change the coded diesel solenoid valve**.

AFTER REPAIR	<p>Clear the fault memory. Deal with any other possible faults.</p>
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DF014

(continued)

Petrol or diesel vehicle without coded solenoid valve.

Disconnect the multi-timer unit and check, **with the ignition off, the insulation, continuity and absence of interference resistance** on the connection between:

yellow multi-timer unit connector **track 15** → **track*...** of injection or diesel computer
Repair if necessary.

If the previous check has not solved the problem, check that the multi-timer unit is sending the correct signal to the computer by measuring between **track 15** of the multi-timer unit and the earth (multi-timer unit and petrol or diesel injection computer connected electrically).

- No voltage should be present when the ignition is switched off.
- With the ignition switched on, a multimeter on an alternating voltage measuring position should measure an average voltage of about 5 volts (the multi-timer unit sends a continuous signal).

NOTE: For greater measuring accuracy, the signal check can be made using an oscilloscope by measuring between **track 15** of the solenoid valve and the earth (5 volts / scale divisions and 50 m/s time base. A square pulse signal should be displayed continuously).

If the signal measured previously is not present, **change the multi-timer unit.**

If the signal is present but the problem persists, **change the petrol or diesel injection computer.**

* according to engine (see wiring diagram)

AFTER REPAIR

Clear the fault memory.
Deal with any other possible faults.

DF015 PRESENT OR STORED	<u>AERIAL DECODER LINK</u> CC.1 : Short-circuit to +12 volts CO.0 : Open circuit or short circuit to earth
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NOTES	Conditions for applying the fault finding strategy to the fault stored: The fault is declared present after the ignition is switched on (when the ignition is switched off, the fault is then declared as stored even if the fault is still present).
	NOTE: the voltage described in the last check below is not a feed voltage but a high state signal (12 volts) consisting of a pulse sent when the engine immobiliser indicator light switches off (coded signal).

Remove the half cowl under the steering wheel, and check the connection and condition of the transponder ring connector (on the ignition switch).
Repair if necessary.

Disconnect the multi-timer unit connector and, with the ignition switched off, check **the insulation** (against +12 volts and the earth), **continuity and absence of interference resistance** on the connection between:
yellow multi-timer unit connector **track 2** —————▶ **track 4** of the transponder ring connector
Repair if necessary.

Disconnect the transponder ring connector and check for the presence of an **earth** on **track 2** and **+12 volts before ignition** on **track 3**.
Repair if necessary.

If the previous checks have not solved the problem, check the ignition is on, the presence of a 12 volt signal on **track 2 of the yellow multi-timer unit connector**.
NOTE: For greater measuring accuracy, the signal check can be made using an oscilloscope by measuring between **track 2 of the multi-timer unit** and **the earth** (2.5 volts / scale divisions and 500 ms time base). A 12 volt voltage with a pulse of 100 ms (signal variation) when the indicator is switched off should be displayed (as the pulse is fast, do several tests or activate the oscilloscope pre-release function).
If the signal is not present, change the transponder ring.
If the signal is present, change the multi-timer unit.

AFTER REPAIR	Clear the fault memory. Deal with any other possible faults.
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DF065 PRESENT	<u>COMPUTER</u>
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NOTES	None.
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The computer fault indicates an internal memory fault. Try **erasing the fault**, switching the ignition on and off.

If the fault reappears, check **the connection and the condition** of the multi-timer unit.
Repair if necessary.

Disconnect the black connector and the yellow connector on the multi-timer unit and check, **ignition is on**, the conformity of the supply (it should equal the battery voltage ± 0.5 volts) by checking the connections on:

black multi-timer unit connector **track B1** \longrightarrow **+ before ignition**
 black multi-timer unit connector **track A1** \longrightarrow **earth**
 yellow multi-timer unit connector **track 6** \longrightarrow **+ after ignition**
 Repair if necessary.

If previous checks have not cleared the fault, **replace** the multi-timer unit.

AFTER REPAIR	Clear the fault memory. Deal with any other possible faults.
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NOTES

Do not perform the conformity check until you have performed a complete check with the diagnostic tool (**no faults should be present**). The values shown in this conformity check are only examples.
Application condition for the check: **ignition off and immobiliser ACTIVE**.

Order	Function	Parameter or state check or action	Display and notes	Fault finding
1	Supplies	ET005: +12 volts after ignition PR002: Computer supply voltage	INACTIVE 10 V < x < 12.5 V	If there is a problem, check the conformity of multi-timer unit supplies. If the problem persists, carry out a fault finding test on the charge circuit .
2	Immobiliser	ET001: Engine immobiliser	ACTIVE	If the state is INACTIVE (ignition off for more than 15 seconds) and the keys have been correctly programmed, replace the multi-timer unit.
		ET007: Forced protection mode	ACTIVE	This state should only become ACTIVE after the forced protection mode control has been switched on. This control is used to test the engine immobiliser (impossible to start the engine). If the state is ACTIVE , switch on the ignition, switch off, then switch on again.
3	Ignition key	ET002: Key code received ET003: Key code valid ET008: Key present	NO NO NO	None
4	Key programming	ET020: Programming the first key	INACTIVE	Changes to ACTIVE state once the first key is programmed.
		ET022: Key programming complete ET023: Key programming locked	YES YES	If these states are indicated as NO , you must program the keys. For more information, refer to the programming procedure.
		ET045: Key programming configuration	one key or two keys	one or two KEYS depending on the configuration carried out.

NOTES

Do not perform the conformity check until you have performed a complete check with the diagnostic tool (**no faults should be present**). The values shown in this conformity check are only given as examples.

Application condition for the check: **ignition off and immobiliser ACTIVE**.

Order	Function	Parameter or state check or action	Display and notes	Fault-finding
5	Coded diesel solenoid valve	ET042: Coded diesel solenoid valve configuration	ACTIVE OR INACTIVE	The state should be ACTIVE if the diesel engine is fitted with a coded solenoid valve and INACTIVE for a diesel engine without a coded solenoid valve (DCI) or for a petrol engine. If the state characterisation is not in accordance with the vehicle engine, you must reconfigure the multi-timer unit.
		ET006: Re-read acknowledgement from the diesel solenoid valve	ACTIVE	if the state is INACTIVE , change the coded diesel solenoid valve.
6	Immobiliser security code	ET142: Time delay enter security code	INACTIVE	ACTIVE after entering three incorrect security codes. This state becomes INACTIVE once the correct code has been entered. NOTE: If the state is ACTIVE , you must wait 15 minutes, with the ignition on, before entering a new security code.
7	Immobiliser warning light	PR005: LED indicator	0 or 1	The state is at 0 if the indicator light is off and at 1 when the indicator light is on.
8	Equipment level	PR014: Equipment level	1, 2, 3 and 4	None

NOTES

Do not perform the conformity check until you have performed a complete check with the diagnostic tool (**no faults should be present**). The values shown in this conformity check are only given as examples.
Application condition for the check: **ignition off and immobiliser INACTIVE**.

Order	Function	Parameter or state check or action	Display and notes	Fault finding
1	Supplies	ET005: +12 volts after ignition PR002: Computer supply voltage	ACTIVE 10 V < x < 12.5 V	If there is a problem, check the conformity of multi-timer unit supplies. If the problem persists, carry out a fault finding test on the charge circuit .
2	Immobiliser	ET001: Immobiliser	INACTIVE	If the state is ACTIVE , check that the multi-timer unit is correctly configured and that the keys have been programmed. If the problem persists, refer to fault finding chart 3
		ET007: Forced protection mode	INACTIVE	This state should only become ACTIVE after the forced protection mode control has been switched on. This control is used to test the engine immobiliser (impossible to start the engine). If the state is ACTIVE switch on the ignition, switch off, then switch on again.
3	Ignition key	ET002: Key code received ET003: Key code valid ET008: Key present	YES YES YES	If one of these states is identified as NO refer to state interpretation.
4	Key programming	ET020: Programming the first key	INACTIVE	Changes to ACTIVE state once the first key is programmed.
		ET022: Key programming complete	YES	If these states show the characterisation NO , you must program the keys. For more information, refer to the programming procedure.
		ET023: Key programming locked	YES	
		ET045: Key programming configuration	one key or two keys	one or two KEYS depending on the configuration carried out.

NOTES

Do not perform the conformity check until you have performed a complete check with the diagnostic tool (**no faults should be present**). The values shown in this conformity check are only given as examples.

Application condition for the check: **Ignition off and immobiliser ACTIVE.**

Order	Function	Parameter or state check or action	Display and notes	Fault finding
5	Coded diesel solenoid valve	ET042: Coded diesel solenoid valve configuration	ACTIVE or INACTIVE	The state should be ACTIVE if the diesel engine is fitted with a coded solenoid valve and INACTIVE for a diesel engine without a coded solenoid valve (DCI) or for a petrol engine. If the state characterisation is not in accordance with the vehicle engine, you must reconfigure the multi-timer unit.
		ET006: Re-read acknowledgement from the diesel solenoid valve	ACTIVE	if the state is INACTIVE , change the coded diesel solenoid valve.
6	Immobiliser security code	ET142: Time delay enter security code	INACTIVE	ACTIVE after entering three incorrect security codes. This state becomes INACTIVE once the correct code has been entered. NOTE: If the state is ACTIVE , you must wait 15 minutes with the ignition on before entering a new security code.
7	Immobiliser warning light'	PR005: LED indicator	0 or 1	The state is at 0 if the indicator light is off and at 1 when the indicator light is on.
8	Equipment level	PR014: Equipment level	1, 2, 3, 4, 5 or 6	None.

Fault finding - Interpretation of states

ET002	<u>KEY CODE RECEIVED</u>
ET003	<u>VALID KEY CODE</u>
ET008	<u>KEY PRESENT</u>

NOTES	<p>Special notes: Before searching for any possible problem in these states, check that the keys have been correctly programmed by displaying the states ET022 key programming complete, and ET023 key programming locked. These two states should be identified as YES. If they do not, refer to the key programming procedure.</p>
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IGNITION OFF, IMMOBILISER ACTIVE: The three states are identified as
IGNITION ON, IMMOBILISER INACTIVE: The three states should be identified as **YES**
 If they do not, three possibilities may appear:

ET008 KEY PRESENT: NO → The key head chip no longer works
 or
 The ring is not receiving the signal.
 To find out which component does not work, carry out a test with a new, unencoded, ring.
 If the problem disappears, change the transponder ring. If not, the key head chip must be changed.

ET002 KEY CODE RECEIVED: NO → The ring / decoder unit connection is faulty. In this case, perform the diagnostic procedure associated with this fault (DF015)
 or
 The ring is faulty and must therefore be replaced.

ET003 KEY CODE VALID: NO → The key head chip no longer works
 or
 The key head chip is not in accordance with the code programmed in the multi-timer unit.
 In both cases, the key head chip must be replaced.

AFTER REPAIR	Restart the conformity check from the beginning.
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Fault finding - Customer complaints

NOTES

These customer complaints should only be investigated after a complete check has been run using the diagnostic tool.

NO DIALOGUE WITH THE COMPUTER

CHART 1

THE VEHICLE DOES NOT START (when the ignition is switched on, the immobiliser indicator light flashes continuously).

CHART 2

THE VEHICLE DOES NOT START (when the ignition is turned on, the immobiliser indicator light comes on for 3 seconds and then goes out).

CHART 3

THE IMMOBILISER INDICATOR LIGHT STAYS LIT

CHART 4

THE IMMOBILISER INDICATOR LIGHT DOES NOT COME ON (even when the immobiliser is active).

CHART 5

Diagnostic - Fault location charts

CHART 1	<u>NO DIALOGUE WITH THE COMPUTER</u>
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NOTES	None.
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Check that the vehicle battery is correctly charged.
Charge the battery if required.

Try the diagnostic tool on another car (to find out if the tool is faulty).

Check:

- the connection between the diagnostic tool and the diagnostic socket (lead in good condition),
- the injection, engine and passenger compartment fuses.

Check for the presence of **+12 volts before ignition** on **track 16**, **+12 volts after ignition** on **track 1** and an **earth on tracks 4 and 5** of the diagnostic socket.

Repair if necessary.

Check that the multi-timer unit is correctly supplied and connected to the diagnostic socket by checking **the insulation, continuity and absence of interference resistance** on the connections:

- black multi-timer unit connector **track B1** —————▶ **+ before ignition** (engine fuse box)
- yellow multi-timer unit connector **track 6** —————▶ **+ after ignition** (passenger compartment fuse box)
- black multi-timer unit connector **track A1** —————▶ **earth**
- yellow multi-timer unit connector **track 1** —————▶ **track 15** of the diagnostic socket (line L)
- yellow multi-timer unit connector **track 14** —————▶ **track 7** of the diagnostic socket (line K)

Repair if necessary.

If the checks have not cleared the fault, replace the multi-timer unit.

AFTER REPAIR	<p>Perform a complete check using the diagnostic tool. If the multi-timer unit has been changed, repeat the programming and configuration according to the programming procedure.</p>
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CHART 2

THE VEHICLE DOES NOT START (when the ignition is switched on, the immobiliser indicator light flashes continuously).

NOTES

Do not refer to this customer complaint until you have performed a **complete check with the diagnostic tool (no faults should be present** in the immobiliser diagnostic, the injection diagnostic and the connection unit diagnostic).

Special notes:

Before carrying out the fault finding procedure, make sure that the multi-timer unit has been programmed and configured by displaying the states **ET022**, **ET023** and **ET042**. To find out if these states are correct, refer to the **conformity check section**. If the states are not identified as required, refer to the programming procedure to find out the key programming procedure.

Check for the presence of a before ignition supply on track 3 and an earth on track 2 of the transponder ring connector. Repair if necessary (see the vehicle wiring diagram).

Switch on the ignition and check the states in the state menu:

ET008 KEY PRESENT

ET002 KEY CODE RECEIVED

Are these states identified as: YES?

YES

NO

Switch on the ignition and, in the state menu, check the state: ET003 KEY CODE

Is the state identified as: YES?

Carry out a test with the second key.

Has the problem disappeared?

YES

NO

NO

YES

Replace the multi-timer unit.

The head chip of the first key is faulty and must be replaced.

Replace the key head chips.

Replace the transponder ring.

AFTER REPAIR

Perform a complete check using the diagnostic tool.

If the multi-timer unit has been changed, repeat the programming and configuration according to the programming procedure.

Diagnostic - Fault location charts

CHART 3

THE VEHICLE DOES NOT START (when the ignition is turned on, the immobiliser indicator light comes on for 3 seconds and then goes out).

NOTES

Do not refer to this customer complaint until you have performed a **complete check with the diagnostic tool (no faults should be present** in the immobiliser diagnostic and the injection diagnostic).

Special notes:

Before carrying out this diagnostic procedure, make sure that multi-timer unit programming and configuration has been carried out, particularly entering the code manually if the multi-timer unit has been changed (so that the new code is programmed by the injection computer or the coded solenoid valve).

NOTE:

To activate the diesel solenoid valve control using the diagnostic tool:

- In the case of diesel injection without an injection computer, the command mode is in the engine immobiliser fault finding procedure.
- In the case of diesel injection with an injection computer, there is no coded solenoid valve and therefore no command mode.

For vehicles fitted with a diesel engine:

With the diagnostic tool connected, carry out a mechanical check (additional check):

With the ignition switched off, activate the **DIESEL SOLENOID VALVE** control, then switch on the ignition (as soon as the control has been initiated). The solenoid valve should open and close for 30 seconds.

Can you hear the solenoid valve operating?

YES

NO

Refer to **the fault finding chart** (for starting faults) contained in the Technical Note on the diesel injection fitted in the vehicle. This customer complaint provides a basis for researching the main causes of starter failure: a problem with the starter, battery voltage, engine coolant sensor, preheating, engine speed sensor, air and fuel supply circuits, exhaust system, or the general condition of the engine (oil level, compression).

Replace the coded diesel solenoid valve.

For vehicles fitted with a petrol engine:

Refer to **the fault finding chart** (for starting faults) contained in the Technical Note on the diesel injection fitted in the vehicle. This customer complaint provides a basis for researching the main causes of starter failure: a problem with the starter, battery voltage, engine coolant sensor, preheating, engine speed sensor, exhaust system air and fuel supply circuits, or the general condition of the engine (oil level, compression).

AFTER REPAIR

Perform a complete check using the diagnostic tool.

Diagnostic - Fault location charts

CHART 4

THE IMMOBILISER INDICATOR LIGHT STAYS LIT

NOTES

Do not refer to this customer complaint until you have performed a **complete check with the diagnostic tool (no faults should be present** in the immobiliser diagnostic, the injection diagnostic or the connection unit diagnostic).

Special notes:

When there is a diesel solenoid valve acknowledgement fault or a problem with the coded line, the engine immobiliser indicator light remains lit. You must therefore check in the engine immobiliser diagnostic to see if these faults are present or stored.

NOTE:

When the remote control locking units are resynchronised (press and hold down the electric door lock button), the engine immobiliser indicator remains lit for 10 seconds: normal operation.

Switch on the ignition and check the states in the state menu:
ET006 RE-READ ACKNOWLEDGEMENT DIESEL SOLENOID VALVE

Are these states identified as: **ACTIVE?**

YES

NO

Disconnect the multi-timer unit.

Has the indicator switched off?

Carry out the fault finding procedure:
**DF057 DIESEL SOLENOID VALVE
ACKNOWLEDGEMENT CIRCUIT;**

YES

Disconnect the multi-timer unit.

NO

Disconnect the multi-timer unit and, with the ignition switched off, check the insulation (in relation to the earth), continuity and absence of interference resistance on the connection between:

yellow multi-timer unit connector **track 24** —————> **track 5** of the grey instrument panel connector
Repair if necessary.

Has the indicator switched off?

NO

YES

Carry out the fault finding procedure for the instrument panel (refer to the corresponding Technical Note).

End of fault finding.

AFTER REPAIR

Perform a complete check using the diagnostic tool.
If the multi-timer unit has been changed, repeat the programming and the configurations according to the programming procedure.

Diagnostic - Fault location charts

CHART 5

THE IMMOBILISER INDICATOR LIGHT DOES NOT COME ON
(even when the immobiliser is active).

NOTES

Do not refer to this customer complaint until you have performed a **complete check with the diagnostic tool** (no faults should be present in the immobiliser diagnostic and the injection diagnostic).

Disconnect the multi-timer unit and, with the ignition switched off, check the insulation (against +12 volts), **continuity and absence of interference resistance** on the connection between:

yellow multi-timer unit connector **track 24** —————> **track 5** of the grey instrument panel connector
Repair if necessary.

When the multi-timer unit connector is re-connected, does the indicator switch off?

NO

YES

Disconnect the multi-timer unit and reconnect track 24 of the yellow multi-timer unit connector to the vehicle earth.

End of fault finding.

Has the indicator switched off?

NO

YES

Check the conformity of supplies and the instrument panel earths (see instrument panel diagram). If the supplies and earths are correct, carry out the fault finding procedure for the instrument panel (refer to the corresponding Technical Note).

Replace the multi-timer unit

AFTER REPAIR

Perform a complete check using the diagnostic tool.
If the multi-timer unit has been changed, repeat the programming and the configurations according to the programming procedure.