

# RENAULT

## Technical Note 3560 A

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<i>Vehicle type</i>	<i>Type</i>
Twingo	06XX
Kangoo	XC0X
Clio II	XB0X
Master	XD0X
Mascott	XC0X

## DECODER UNIT and MULTI-TIMER UNIT FAULT FINDING

COMPUTER TYPE:  
PROGRAM No:  
VDIAG No:

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77 11 306 882

OCTOBER 2001

EDITION ANGLAISE

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"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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# IMMOBILISER

## Decoder unit and multi-timer unit

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New programming procedure for decoder unit, multi-timer unit and programming infrared or radio frequency remote control for the CLIP diagnostic tool.

**IMPORTANT:** this new programming procedure can be applied to an engine immobiliser system fitted with a **decoder unit** (Master, Mascott, Kangoo, Twingo) as well as an engine immobiliser system fitted with a **multi-timer unit** (Clio II).

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## Decoder unit and multi-timer unit

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### Replacing a decoder unit or a multi-timer unit only

A new decoder unit or multi-timer unit is not coded. Once it is installed in the vehicle, you must program **one of the two key codes** into it for it to function.

**NOTE:** if only the unit is to be replaced, you do not need to perform any operation on the injection computer or coded solenoid valve, as they keep the same immobiliser code.

**IMPORTANT:** once a decoder unit or a multi-timer unit has been programmed with the key code, it is impossible to delete it or store another code in its place.

### PROGRAMMING PROCEDURE FOR ENGINE IMMOBILISER TRANSPONDER:

The procedure is carried out using **only one key**.

Check in the area **Engine immobiliser** then **STATE LIST** that the state **ET045: Key programming configuration** is displayed as **1 key**. If it is not, change it using the **COMMAND MODE** menu, then **CONFIGURATION** and select the **programming with one key** configuration and confirm with the blue button (above and to the right of the screen), **COMMAND IN PROGRESS** is displayed, then **COMMAND FINISHED**.

The CLIP diagnostic tool is indispensable for carrying out this procedure, in order to lock the key programming.

- 1 Before removing and replacing the unit, it is crucial to note the configuration of the decoder unit or multi-timer unit, or to print out the configuration screen, so as to be able to configure the new unit as it was before replacement (see chapter: **Configuration of decoder unit or Configuration of multi-timer unit**).
- 2 With the ignition switched off, remove the decoder unit or multi-timer unit.
- 3 Fit the new unit (ignition off).
- 4 Select the **COMPUTER FAULT FINDING** menu.
- 5 Select the vehicle type.
- 6 Select and confirm the **IMMOBILISER** system.
- 7 Choose the **STATE LIST** menu and check the following states:

ET 022	KEY PROGRAMMING COMPLETE	NO
ET 023	KEY PROGRAMMING LOCKED	NO

**NOTE:** If Key programming locked and Key programming complete are shown as NO, replace the decoder unit or the multi-timer unit (this unit has already been used).

- 8 Switch the ignition on using one of the keys for approximately 2 seconds (without starting the engine). Check the following states:

ET 022	KEY CODE RECEIVED	YES
ET 022	KEY PROGRAMMING COMPLETE	YES

# IMMOBILISER

## Decoder unit and multi-timer unit

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- 9 The red immobiliser warning light flashes rapidly.
- 10 Switch off the ignition and select the **COMMAND MODE** menu, then **ACTUATORS** and select the **CALIBRATION FINISHED** command to lock the programming, then confirm with the blue button (above and to the right of the screen). **COMMAND IN PROGRESS** is displayed, followed by **COMMAND FINISHED**.
- 11 The red immobiliser warning light should *flash slowly*.
- 12 Check the following states in the **STATE LIST** menu:

ET 022	KEY PROGRAMMING COMPLETE	YES
ET 023	KEY PROGRAMMING LOCKED	YES

- 14 Check that the immobiliser system operates correctly with **both keys**.
  - With the ignition off, the red immobiliser warning light should flash 10 seconds after the ignition is switched off (slow flashing).
  - In the **STATE LIST** menu, check that the state **ET001: Engine immobiliser** is **ACTIVE**. The vehicle should not start when other keys are used.
- 15 Check the configuration of the new decoder unit or multi-timer unit. Select the **STATE LIST** menu in **Engine immobiliser and Connection unit**.  
Change the configurations if necessary. Select the **COMMAND MODE** menu then **CONFIGURATION**.

**NOTE:** to simulate the engine immobiliser function, wait for the red warning light to flash slowly before switching on the ignition.

- Select the **COMMAND MODE** menu, then **ACTUATORS** and select the **FORCED PROTECTION MODE** command then confirm with the blue button (above and to the right of the screen). **COMMAND IN PROGRESS** is displayed, followed by **COMMAND FINISHED**.
  - In the **STATE LIST** menu, check that the state **ET007: Forced protection mode** is **ACTIVE**.
  - Switch the ignition on, the red immobiliser warning light should flash more quickly and it should be impossible to start the vehicle.
- 16 The procedure is complete. After switching the ignition off and on again (for more than 2 seconds), check that the vehicle can be started with both keys.

**NOTE:** to program the infrared or radio frequency remote control after replacing a decoder unit or multi-timer unit only, you must be aware of the following points:

- To program the **1<sup>st</sup> remote control**, follow the **simple resynchronisation procedure (see procedure page 88-1)**.
- To program the **2<sup>nd</sup> remote control** (if fitted), follow the **specific resynchronisation procedure (see procedure page 88-1)**.

### Configuration of decoder unit

The decoder unit must be configured according to the equipment level of the vehicle.

**NOTE:** the different configurations for the decoder unit are in two domains (Engine immobiliser and Connection unit).

#### 1st domain: ENGINE IMMOBILISER

- 1 Connect the CLIP diagnostic tool, then select the **COMPUTER FAULT FINDING** menu.
- 2 Select the vehicle type.
- 3 Select and confirm the **IMMOBILISER system**.
- 4 Select the **COMMAND MODE** menu, then **CONFIGURATION**.
  - **Petrol or diesel engine immobiliser without coded solenoid valve:** For vehicles fitted with petrol or diesel injection with computer.
  - **Engine immobiliser with coded diesel solenoid valve:** For vehicles fitted with diesel injection without computer.
  - **Programming with 1 key:** Allows the decoder unit to be programmed with only one key.
  - **Programming with 2 keys:** Allows the decoder unit to be programmed with two keys.

**Note:** To configure the decoder unit, select the configurations required then confirm.

#### 2nd domain: CONNECTION UNIT

- 1 Connect the CLIP diagnostic tool, then select the **COMPUTER FAULT FINDING** menu.
- 2 Select the vehicle type.
- 3 Select and validate the **CONNECTION UNIT** system.
- 4 Choose the **COMMAND MODE** menu then **CONFIGURATION**.
  - **With infrared remote control:** For vehicles fitted with an infrared receiver.
  - **With radio frequency remote control:** For vehicles fitted with radio frequency receiver.
  - **Central door locking push button:** For vehicles fitted with door locking push button.
  - **Without courtesy light timer:** For vehicles that are not fitted with a courtesy light timer.
  - **With courtesy light timer:** For vehicles fitted with a courtesy light timer.
  - **Authorisation for automatic door locking when driving function:** Allows the automatic door locking function to be authorised or inhibited when the driver presses the electric door lock button.
  - **Automatic door locking inhibition function:** Inhibits the automatic door locking function when the driver presses the electric door lock button.

### Multi-timer unit configuration

The multi-timer unit must be configured according to the equipment level of the vehicle. For more information on the equipment level and on the different functions of the multi-timer unit, please refer to **Technical Note 3531A (preliminary chapter)**.

**NOTE:** the different configurations for the multi-timer unit are in two domains (Engine immobiliser and Connection unit).

**1st domain: ENGINE IMMOBILISER: Identical to decoder unit.**

**2nd domain: CONNECTION UNIT**

- 1 Connect the CLIP diagnostic tool, then select the **COMPUTER FAULT FINDING** menu.
  - 2 Select the vehicle type.
  - 3 Select and validate the **CONNECTION UNIT** system.
  - 4 Select the **COMMAND MODE** menu, then **CONFIGURATION**.
- **Authorisation for automatic door locking when driving function:** Allows the automatic door locking function to be authorised or inhibited when the driver presses the electric door lock button.
  - **Automatic door locking inhibition function:** Inhibits the automatic door locking function with the electric door lock button activated by the driver.
  - **Without variable windscreen wiper timing:** For vehicles not fitted with variable windscreen wiper timing.
  - **With variable windscreen wiper timing:** For vehicles fitted with variable windscreen -wiper timing.
  - **Without overspeed warning:** For all vehicles except those driven in Saudi Arabia.
  - **With overspeed warning:** For vehicles driven in Saudi Arabia.
  - **Without running lights:** For all vehicles except those driven in cold Scandinavian countries (Sweden, Norway, etc.).
  - **With running lights:** For Scandinavian vehicles (e.g. Sweden, Norway).
  - **With infrared remote control:** For vehicles fitted with an infrared receiver.
  - **With radio frequency remote control:** For vehicles fitted with radio frequency receiver.
  - **With automatic door relocking:** Allows doors to be automatically relocked.  
Example: when the driver locks the doors with the radio frequency remote control, if he unintentionally presses the remote control, the doors unlock. You must wait **30 seconds** for the doors to lock automatically.
  - **Without automatic relocking:** Inhibits automatic relocking.
  - **Central door locking push button:** For vehicles fitted with a door locking push button.
  - **Central door locking switch:** For vehicles fitted with central door locking switch.
  - **Without courtesy light timer:** For vehicles not fitted with a courtesy light timer.
  - **With courtesy light timer:** For vehicles fitted with a courtesy light timer.
  - **Without hazard warning lights in case of impact:** Inhibits hazard warning lights in case of impact.
  - **With hazard warning lights in case of impact:** Switches on hazard warning lights in case of impact.

# IMMOBILISER

## Decoder unit and multi-timer unit

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### Replacing a kit

(Decoder unit or multi-timer unit plus two key heads )

If a kit is replaced it will be necessary to:

- Program the key code into the decoder unit or multi-timer unit (delivered uncoded).
- Erase the old code stored in the injection computer or coded solenoid valve using the security procedure (with the **code number for the old kit**, available from the local assistance network, refer to **Technical Note 3315E**).

**IMPORTANT:** to erase the old code (stored in the injection computer or in the coded solenoid valve), the procedure described below must be followed in the correct order.

- 1 Fit the metal inserts from the old keys into the new key heads.
- 2 Note the number of one of the old keys to obtain the security code number.
- 3 Before removing and replacing the unit, it is crucial to note the configuration of the decoder unit or multi-timer unit, or to print out the configuration screen, so as to configure the new unit as it was before replacement (see chapter: **Configuration of decoder unit or Configuration of multi-timer unit**).
- 4 With the ignition switched off, remove the decoder unit or multi-timer unit.
- 5 Fit the new unit (ignition off).
- 6 Select the **COMPUTER FAULT FINDING** menu.
- 7 Select the vehicle type.
- 8 Select and confirm the **IMMOBILISER** system.
- 9 Choose the **STATE LIST** menu and check the following states:

ET 002	KEY PROGRAMMING COMPLETE	NO
ET 023	KEY PROGRAMMING LOCKED	NO

**NOTE:** if **Key programming locked** and **Key programming complete** are not identified as **NO**, replace the decoder unit or the multi-timer unit (this unit has already been used).

- 11 With one of the keys switch the ignition on for approximately 2 seconds (without starting the engine). Check the following states:

ET 022	KEY CODE RECEIVED	YES
ET 022	KEY PROGRAMMING COMPLETE	NO

- 12 Switch on the ignition for about 2 seconds (without starting the engine) using the second key and check the following states:

**Case n°1:** The 2<sup>nd</sup> key inserted belongs to the vehicle, you should see:

ET 002	KEY CODE RECEIVED	YES
ET 022	KEY PROGRAMMING COMPLETE	YES

**Case n°2:** The 2<sup>nd</sup> key inserted does not belong to the vehicle or the 1<sup>st</sup> key has been presented twice. You should see:

ET 002	KEY CODE RECEIVED	NO
ET 022	KEY PROGRAMMING COMPLETE	NO

- 13 The red immobiliser warning light flashes rapidly.
- 14 Switch off the ignition and select the **COMMAND MODE** menu, then **ACTUATORS** and select the **CALIBRATION FINISHED** command to lock the programming, then confirm with the blue button (above and to the right of the screen). **COMMAND IN PROGRESS** is displayed, followed by **COMMAND FINISHED**.

# IMMOBILISER

## Decoder unit and multi-timer unit

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- 15 The red immobiliser light should: **flash slowly**.
- 16 Check the following states in the **STATE LIST** menu:

ET 022	KEY PROGRAMMING COMPLETE	YES
ET 023	KEY PROGRAMMING LOCKED	YES

- 17 Switch the ignition on, the red immobiliser warning light should flash more quickly.
- 18 Select the **COMMAND MODE** menu then **ACTUATORS** and select the **ENTER CODE MANUALLY** command. Enter the 4 figure security code using the alphanumeric keyboard and confirm with the **Enter** button on the keyboard. **COMMAND IN PROGRESS** is displayed, followed by **COMMAND FINISHED**.
- 19 Switch the ignition off and on again for a few seconds without starting the engine to program the immobiliser code for the new kit in the injection computer or coded solenoid valve. The red warning light should come on for 3 seconds then go out. Check that the vehicle starts with **both keys**.
- 20 Check the configuration of the new decoder unit or multi-timer unit. Select the **COMMAND MODE** then **STATE LIST** in **Engine immobiliser and Connection unit**.  
Change the configurations if necessary. Select the **COMMAND MODE** menu then **CONFIGURATION**.
- 21 The procedure is complete.

**NOTE:** to program the infrared or radio frequency remote control after replacing a kit, you must be aware of the following points:

- To program the 1<sup>st</sup> remote control, follow the **simple resynchronisation procedure** (see procedure page 88-1).
- To program the 2<sup>nd</sup> remote control (if fitted), follow the **specific resynchronisation procedure** (see procedure page 88-1).

### Procedure for entering the security code

With this engine immobiliser system, the entry procedure is controlled by the decoder unit or the multi-timer unit.

The code can only be entered using the CLIP.

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

After the security code number has been determined (request from the local assistance network, refer to **Technical Note 3351E**) carry out the following operations:

- 1 Ignition off, the red engine immobiliser warning light should flash (slow flashing).
- 2 Switch the ignition on, the injection warning light (petrol vehicle) comes on for approximately 3 seconds then turns off, while the red immobiliser warning light should flash more quickly.
- 3 Select the **COMPUTER FAULT FINDING** menu.
- 4 Select the vehicle type.
- 5 Select and confirm the **IMMOBILISER** system.
- 6 Select the **STATE LIST** menu, then check that the state **ET001: Engine immobiliser** is **ACTIVE**.
- 7 Select the **COMMAND MODE** menu then **ACTUATORS** and select the control **ENTER CODE MANUALLY**. Enter the security code and validate with the **Enter** button on the alphanumeric keyboard. **COMMAND IN PROGRESS** is displayed, followed by **COMMAND FINISHED**.

**IMPORTANT:** You may make three attempts to enter the code. If, after the 3<sup>d</sup> attempt, the code is invalid, you must wait for approximately 15 minutes before trying again.

When this period has expired, switch the ignition off and on again and 3 more attempts may be made.

**NOTE:** This **procedure on its own** does not decode the injection computer or coded solenoid valve (depending on the engine), **it only authorises vehicle starting**.

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

### Programming procedure for infrared and radio frequency remote controls

#### 1. Simple resynchronisation procedure: (Programming the 1<sup>st</sup> remote control)

This procedure allows the 1<sup>st</sup> infrared or radio frequency remote control to be programmed with the decoder unit or the multi-timer unit (rolling code).

This procedure is used:

- When the remote control code no longer lies within the reception range of the multi-timer unit (over 1 000 consecutive presses on the remote control, away from the vehicle).
- When replacing a decoder unit or multi-timer unit only (new unit).
- When replacing a kit.

Ignition off:

- 1 Press and hold the central door locking button for a few seconds until the doors lock and unlock.  
From this moment, the operator has **10 seconds** to carry out the next operation.

**NOTE:** the **10 seconds** are displayed by the red immobiliser warning light being permanently on, then in the **STATE LIST** menu, in the domain **Connection unit**, check the following state:

ET 106	<b>PROGRAMMING OR RESYNCHRONISATION. INFRARED OR RADIO FREQUENCY REMOTE CONTROL</b>	<b>ACTIVE</b>
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- 2 Press the remote control twice (the doors lock and unlock and the red warning light switches off).

**IMPORTANT:** to ensure that the infrared code is correctly transmitted, it is essential to direct the remote control correctly towards the receiver. If the procedure fails it will be necessary to restart from the beginning (infrared remote control only).

- 3 The procedure is complete - check that the doors lock correctly.

### 2. Specific resynchronisation procedure: (Programming the 2<sup>nd</sup> remote control)

This procedure allows the 2<sup>nd</sup> infrared or radio frequency remote control to be programmed with the decoder unit or the multi-timer unit (rolling code).

- 1 Select the **COMPUTER FAULT FINDING** menu.
- 2 Select the vehicle type.
- 3 Select and validate the **CONNECTION UNIT** system.

#### For vehicles fitted with a radio frequency remote control, go to point 7.

- 4 For vehicles fitted with **infrared remote control**. With the ignition switched off, select the **COMMAND MODE** menu then **ACTUATORS** and select the control **FORCED PROTECTION MODE**, then validate with the blue button (above and to the right of the screen). **COMMAND IN PROGRESS** is displayed, followed by **COMMAND FINISHED** (to display the validation of the control **FORCED PROTECTION MODE** go to **STATE LIST** and check that the state **ET007: forced protection mode** is **ACTIVE**).
- 5 Switch the ignition on, the red immobiliser warning light flashes rapidly.
- 6 Go back to the previous menu, **COMMAND MODE** then **ACTUATORS**, select the **ENTER CODE MANUALLY** command and enter the 4 digit code (see procedure for entering the security code).
- 7 Switch off the ignition, select the **COMMAND MODE** menu then **CONFIGURATION** and select the configuration **Programming 2<sup>nd</sup> infrared/radio frequency remote control key.**, The operator then has **10 seconds** to carry out the next operation.

**NOTE:** the **10 seconds** are shown by the red immobiliser warning light being permanently on.

- 8 Press the remote control twice (the doors lock and unlock and the red warning light goes out).

**NOTE:** It is not always necessary to resynchronise the second remote control (if fitted) when a key head is replaced. Check that the second control operates, otherwise resynchronise it.

If both remote controls (if fitted) are desynchronised, two resynchronisation procedures will have to be carried out (one for each remote control).

**IMPORTANT:** to ensure that the infrared code is correctly transmitted, it is essential to direct the remote control correctly towards the receiver. If the procedure fails it will be necessary to restart from the beginning (infrared remote control only).

- 9 The procedure is complete - check that the doors lock correctly.