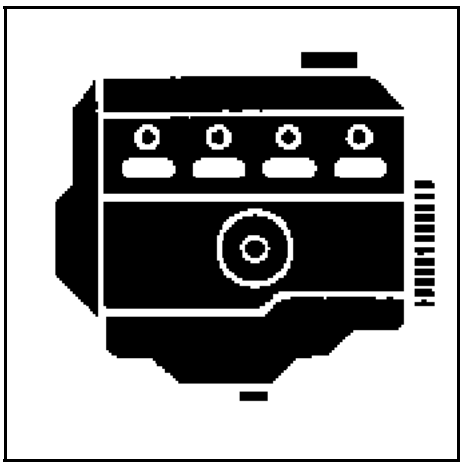
RENAULT

twingo

Mégane



TECHNICAL NOTE

3424A

Radio:

Becker

navigation system

Edition Anglaise

77 11 296 802

twingo

Mégane

8 Electrical equipment

83 Instrument panel

X06X / XAXX

77 11 296 802 **MARCH 2001** **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 his vehicles are constructed."

Contents

GENERAL

This navigation system comprises a voice synthesiser and a radio display to provide guidance for the driver.

This system can:

- find a specific location, such as:
  - a road, street or avenue
  - a hotel,
  - a municipal building,
  - a garage or petrol station,
  - etc.
- choose **DESTINATION** guidance criteria, so as to:
  - optimise journey time,
  - select the shortest distance,
  - select A or B roads,
  - include destinations along the way,
- memorise addresses in **DEST. MEMORY**,
- display journey time and distance.

This system uses the following to function:

- an electronic navigation computer integrated in the radio,
- a satellite link (GPS aerial) that can locate the vehicle,
- a display (integrated in the radio) that shows written data,
- a distance travelled signal (vehicle speed sensor),
- a reverse gear signal,
- a CD ROM with maps of twelve countries in their respective languages,
- a steering wheel control
- a radio/steering wheel control connection unit.

The radio control on the steering wheel only controls audio functions, not the navigation function.

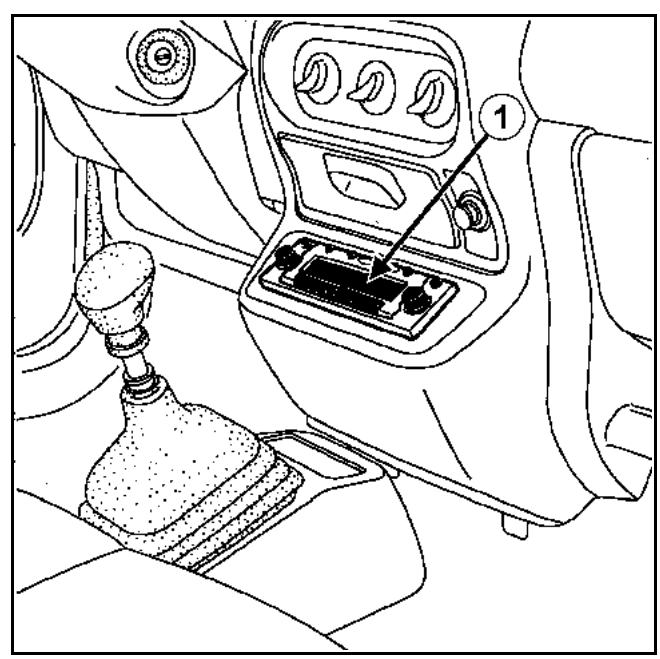
NOTES

- If the vehicle has been transported by train or ferry, the navigation system may need a few minutes to find its exact location (see section on **CALIBRATION**)
- If the vehicle battery has been disconnected, the system may need up to fifteen minutes to calculate its exact location. The vehicle must be outdoors, with the navigation system switched on, in order to pick up satellite signals with the GPS aerial.
- The system can also operate without valid GPS data. Under these circumstances, precision may be lost when it comes to pinpointing exact locations.

COMPONENTS

Screen

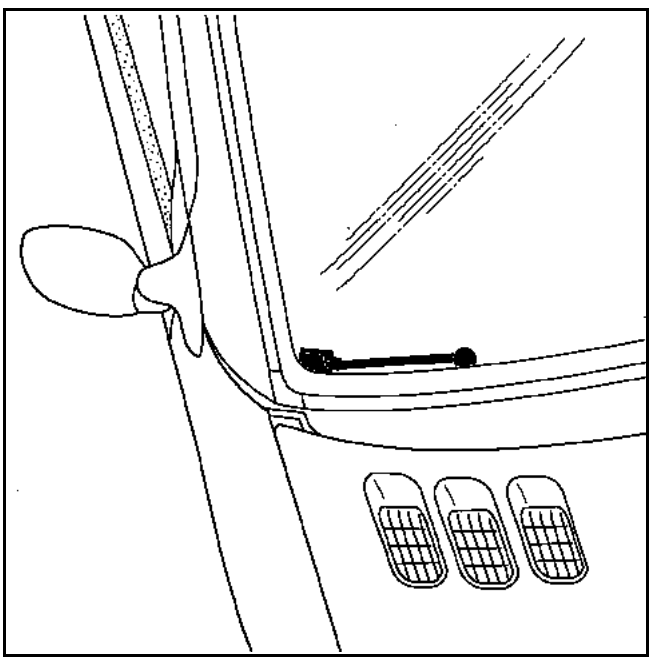
The radio screen (1) is also used as a removable coded display.



GPS aerial

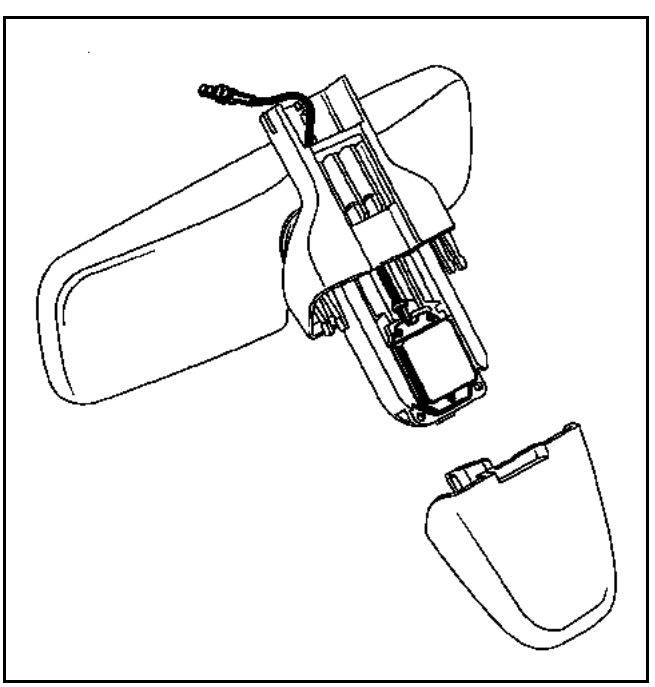
Twingo

The GPS aerial is located under the front right section of the bottom of the dashboard.



Mégane

The GPS aerial is located in the lower section of the rear-view mirror.



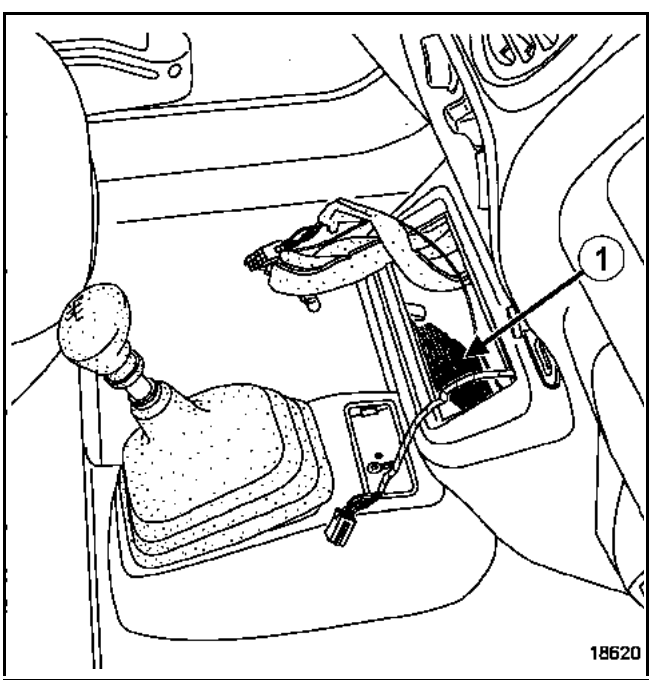
WARNING: the GPS aerial wire is very fragile. Do not bend or trap it.

A heated windscreen may affect the GPS aerial reception. Some models have special fittings for this reason.

Steering wheel switch

The radio control on the steering wheel is not used for the navigation function. It is only used for the **radio** function.

The steering wheel is linked to the radio by an interface unit (1).



CD reader

There is one CD reader that is used for listening to CDs and for the navigation function.

The navigation CD contains maps of twelve countries in their respective languages. The latest edition can be obtained from the Spare parts store.

It is possible to listen to a CD at the same time as using the navigation system. To do this, insert the navigation CD while the journey information is being loaded. When the **CD** icon disappears, replace the navigation CD with an audio CD.

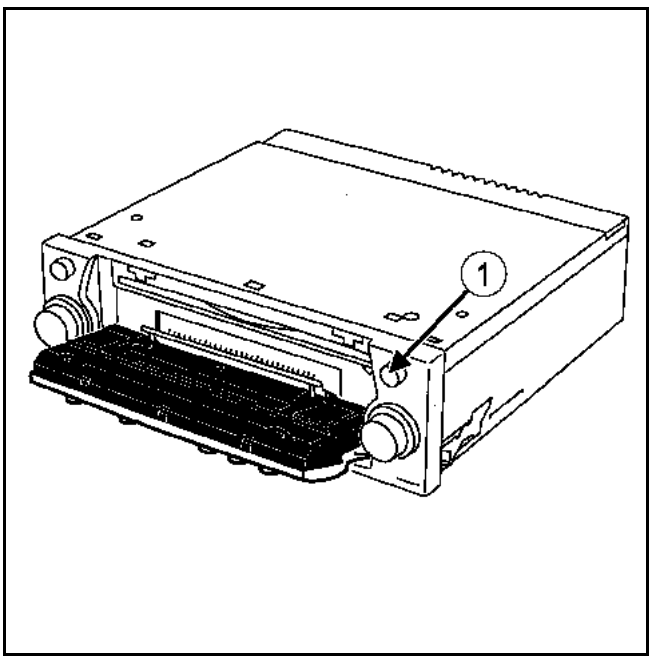
If the destination or itinerary changes, the navigation CD may have to be reinserted to recalculate the new journey.

When the system is in audio CD mode, a heat shield device is integrated in the radio. In the event of overheating, the radio returns to radio mode and the message **Temp** is displayed for a few seconds.

If a CD becomes jammed in the reader, consult the section on **retrieving a CD**

REMOVAL

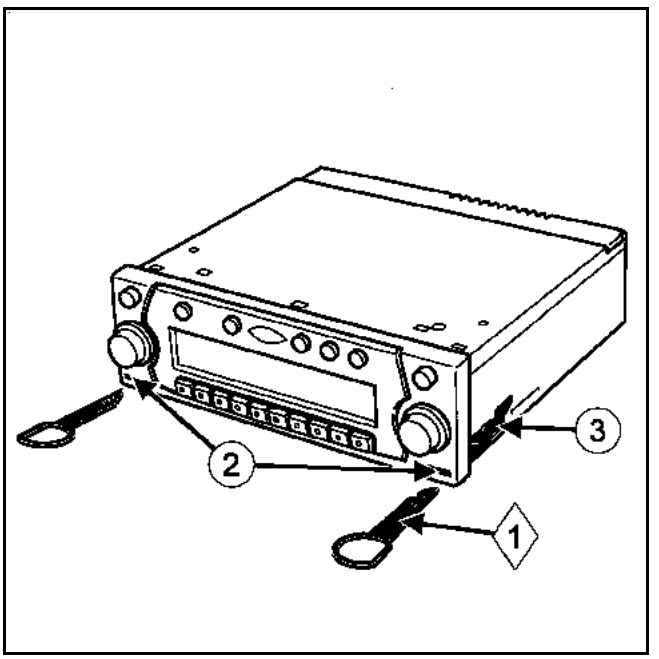
Screen



The radio screen is also used as a removable coded display.

Press button (**1**) and pull to remove the display.

Navigation computer (radio)



Disconnect the battery.

Insert tools **Ms. 1544** (**1**) in the two holes (**2**) until they are pushed up to the last notch.

Pull on the tools in the radio shaft.

Disconnect the connectors.

Press the side screws (**3**) to remove the tools (**1**).

WARNING: the GPS aerial wire is very fragile. Do not bend or trap it.

REFITTING

Navigation computer (radio)

Lock all the connectors and aerial wires, then push the radio into its housing.

Next, calibrate the system and set the different menus **user menu** and **service menu**.

Screen

To fit the removable screen, engage the lower left and right rotation points and then the upper points.

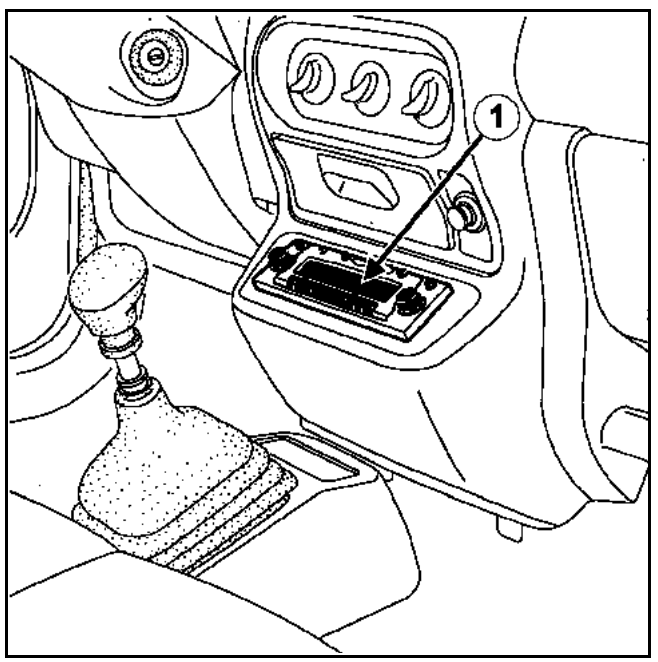
The security code does not change if the screen is replaced.

PROCEDURE

Entering the security code

The radio is protected by a security code if its supply is cut off.

When you press the on button, the message **Enter Code N mber** appears on the display (**1**).



This four digit code is entered with the keypad multifunction keys.

If an incorrect code is entered in the keypad, the message **CODE** appears on the display. If an incorrect code is entered three times, the system locks for approximately one hour, maintaining a voltage supply, and displays the message **WAIT**.

REMINDER: Consult Technical Note 3315E for information on obtaining the immobiliser code.

Calibrating the radio

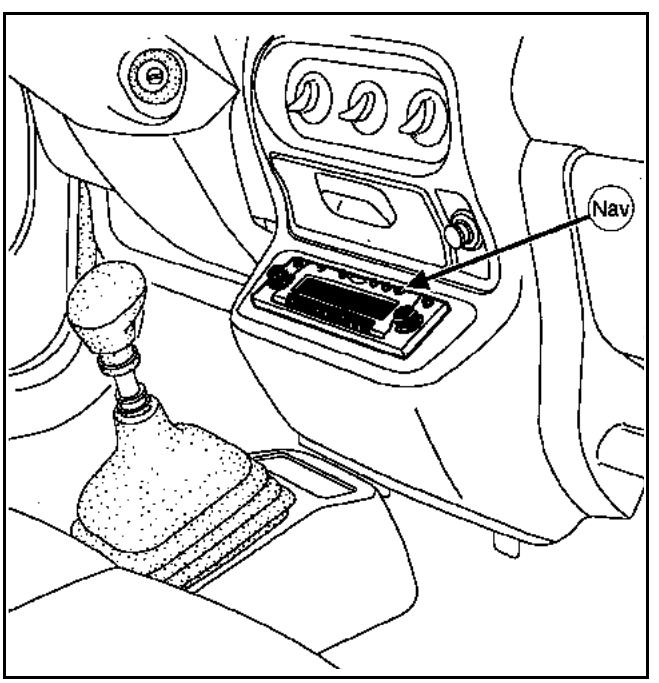
To calibrate the system, carry out a fault finding test then take the vehicle outdoors.

After the system has been switched on, a message will appear in the top right of the display:

- GPS OK : GPS reception is operating and the navigation CD can be inserted,
- GPS WAIT : the system is searching for satellite reception,
- GPS AERIAL ERROR : the GPS aerial is not connected correctly or is not operating,
- GPS UNIT ERROR : the radio is experiencing a fault.

– Insert the navigation CD and wait until installation is completed.

– When installation is complete, press key (**Nav**). The display will show **NAVIGATION ACTIVATED**.



– Use the button on the right to select a language. Some languages come with a male or female voice option.

– With the car stationary and outdoors, the message **PLEASE WAIT FOR GPS RECEPTION BEFORE CALIBRATING** is displayed until GPS reception can be calibrated.

– With the vehicle still stationary, the message **START CALIBRATING** will appear. Calibrating can now begin.

– Begin the calibration process by driving along winding roads. Different information should be displayed during the journey. The message **CALIBRATE 2** signals that the system is ready for use.

When the system is used for the first time, the message **CALIBRATE 3** will be displayed.

Specific calibration modes can be accessed via the fault finding procedure. In this case, some extra information is required:

– horizontal angle of the set = 0,

– slope angle of the set = 0,

– impulse = not known,

– tyre value entry:
  – tyre sizes: enter the tyre values by replacing the r and the missing numbers with 0 (e.g.: for 165/70r14, enter 165/070/047),
  – status: enter the status of the corresponding tyre (old/new);

– entering complete,

– start auto calibration.

This information is already present on some RENAULT vehicles; only the vehicle programming needs to be done.

SETTINGS

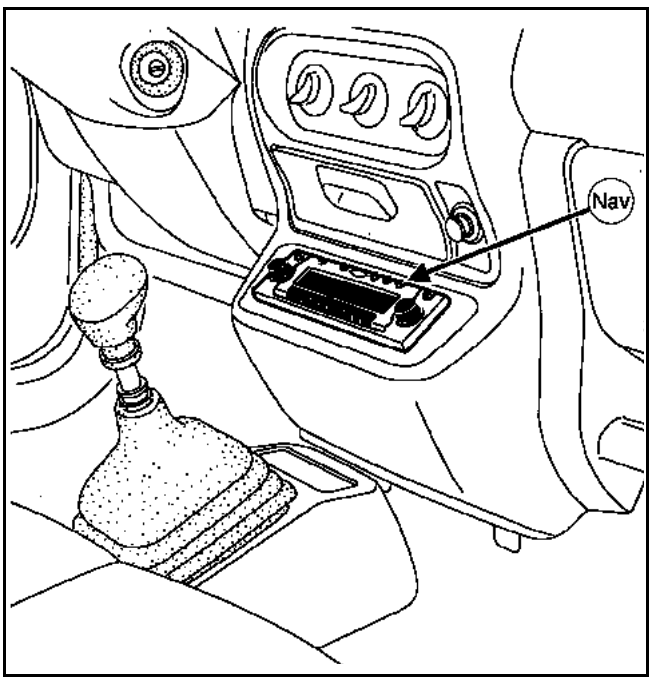
Special features of the clock

The satellite link (GPS) sets the clock automatically.

The time displayed can be changed using the **TIME** menu, after pressing the (**Nav**) key:

– the **24 H** multifunction key selects either 12 or 24 hour clock,

– the "+" and "-" multifunction keys change the time in relation to the satellite time.



Thus, after the battery or the navigation computer have been disconnected, do not use the **TIME** menu to set the clock. Instead, take the car outdoors (for correct satellite link).

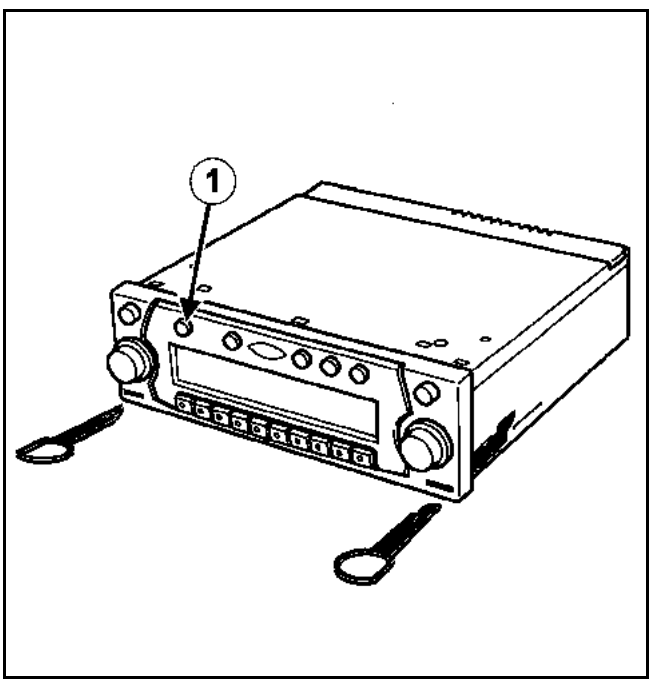
Language selection

The language can be changed using the **LANGUAGE** menu, after a long press on the (**Nav**) key: There is also a choice of male or female voice for some countries.

Setting the user menu

The user menu contains information for making basic radio settings.

To enter the user menu, press button (**1**) for two seconds. Press the → button to access the menus in succession.



The basic[1] settings are as follows:

- GAL : setting volume in relation to vehicle speed
- Tel : telephone reaction mode
- Lcd : setting the display
- Led : LED operation
- M/S : setting optimum reception levels
- Nav : setting the navigation messages
- Aux : setting the auxiliary output
- Cmp : settings for compass display
- BeV : setting the signal volume

1. Consult the driver's handbook for more precise information.

Setting volume in relation to vehicle speed GAL

This function adjusts the radio volume according to the vehicle speed. This setting fixes the start of the adjustment (0: no adjustment, +1: low speed increase, +15: high speed increase).

Telephone reaction mode TEL

This function lowers the radio volume when a telephone is installed. To operate this function, configure in audio mute position. The telephone must be correctly connected for this function to operate.

Display settings LCD

This function alters the display lighting (**low**:, **high**:, **automatic**:).

LED operation

This function inhibits the red protection warning light.

Setting optimum reception levels M/S

This function reduces reception problems. To operate this function, select **Stereo**, **Mono** or **Auto** mode.

Setting the navigation messages NAV

This setting selects combinations of navigation and radio messages:

- only : the radio does not operate when navigation messages are being transmitted
- mixed : the radio volume is turned down and the navigation messages are transmitted at previous radio volume level
- independ : the radio volume and navigation messages are adjusted with the volume button

Setting the auxiliary output AUX

This function operates the supply output for the accessories (e.g. CD changer).

Settings for compass display CMP

If the guidance system is not switched on, this function displays a compass.

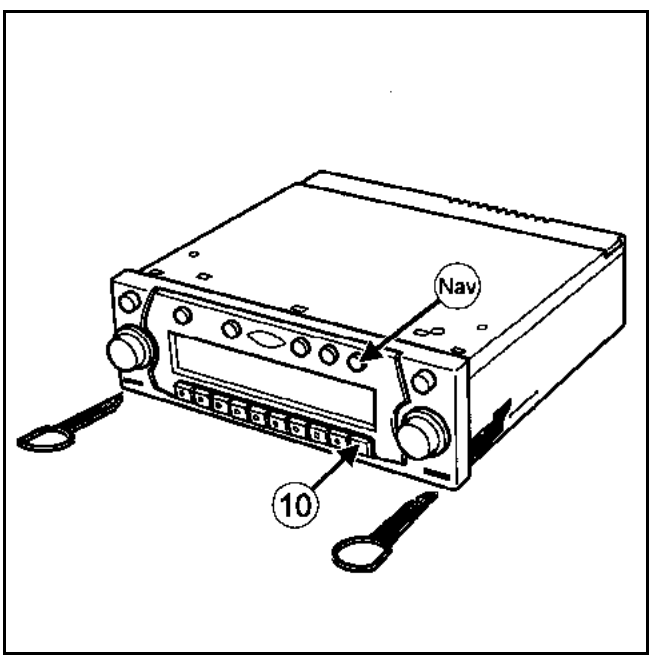
Setting the signal volume BEV

This function changes the tone of the beep (0: high, 5: low).

Service menu

The service menu contains information on basic radio settings.

Press the (Nav) button and the multifunctions button (10) simultaneously to enter the service menu. Press the → button to access the next menus.

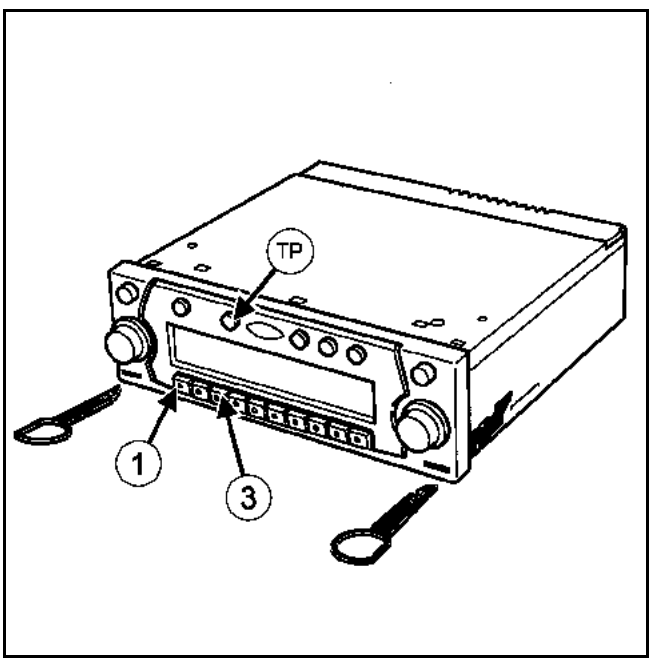


The available data is as follows:

- Model-No. : model number display
- Serial-No. : serial number display
- Changer Reset : : not in use
- GAL : volume increase
- Radio software : radio software version display
- Radio Bolo : radio technical specifications display
- Navi Rom : navigation software version display
- Navi Flash : navigation technical specifications display
- RTC Value : RTC value display

ERASING RADIO INFORMATION (REINITIALISING)

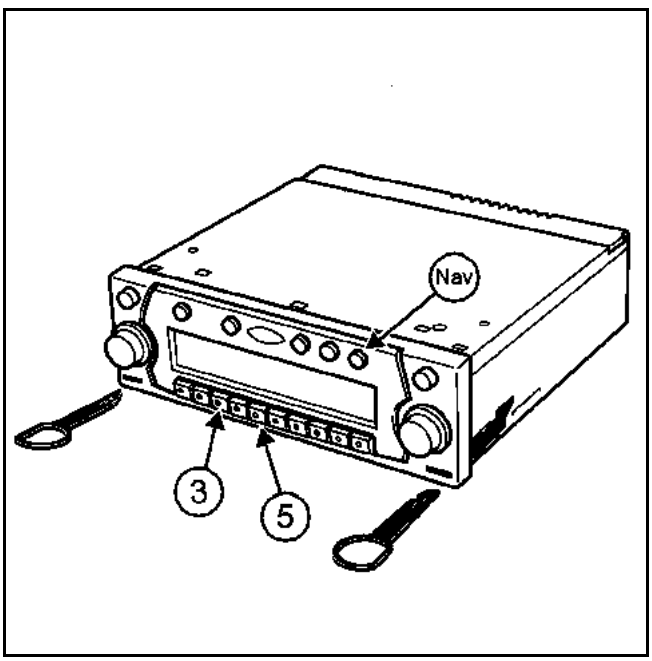
If there are problems with the radio settings, all the data present can be erased by pressing multifunction buttons (1) and (3) and the (TP) button simultaneously. In this case, the navigation CD must be reinserted in the radio and the calibrations and settings must be re-programmed.



FAULT FINDING

Autodiagnostic (self-test)

Press the (Nav) button and the multifunction buttons (3) and (5) simultaneously to access the self-test function.



This system is fitted with a self-test mode that can check the following:

– CALIBRATION PROGRESS: enters the radio position[1] and displays the calibration procedure details,

– GPS INFO: checks the satellite reception. If reception is good (FX shows 2D), the time and date should be automatically updated,

– CALIBRATE: erases calibration,

– SENSOR: checks sensor operation. Consult the information on **checking the sensors**,

– VERSION: displays the navigation software version

– RADIO WAVE CHECK: issues the message **Please insert navigation CD**,

– UNIT CHECK: tests the computer components,

– DEMO: consult the **demonstration mode** information.

Checking the sensors

This function checks sensor operation:

– radio wave check: select **RADIO WAVE CHECK**. The system issues the message **Please insert navigation CD**. Select (**Nav**) to return to the previous menu.

– computer check: select **UNIT CHECK**. The system should display **OK**. Select (**Nav**) to return to the previous menu.

– movement sensor check: select **SENSORS**:
  – drive the vehicle in forward and reverse gears for a few metres, the value **RAD** should not increase until the vehicle moves.
  – engage reverse gear, the value **ROCK** should vary between 0 and 1.
  – turn the car around corners a few times, the values X and Y should vary.

  Select (Nav) to return to the previous menu.

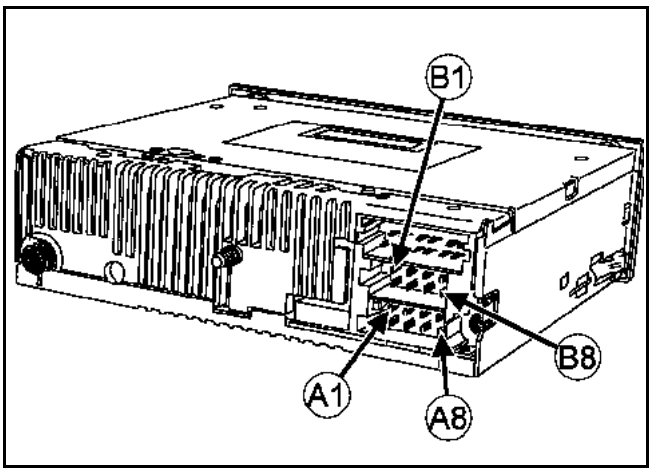
– aerial satellite reception check: select **GPS SIGNAL**. The screen should display the number of satellites registered by the sensors (e.g. 3), and the exact time and date. Select (Nav) to return to the previous menu.

1. This information is already present on some RENAULT vehicles; only the vehicle programming needs to be done.

Demonstration mode

Press the (**Nav**) button followed by buttons (**3**) and (**5**) to access this mode.

IMPORTANT: it is vital to exit **demonstration mode** after use to prevent disturbing the system operation.

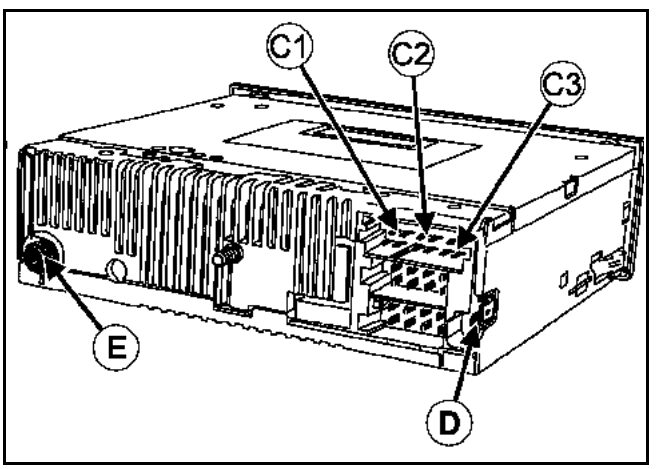


Connector A

Track	Description
1	Vehicle speed signal
2	Reverse light signal
3	Telephone mute (not used)
4	+ Before ignition
5	Aerial electrical output
6	+ side lights
7	+ accessories
8	Earth

Connector B

Track	Description
1	+ Rear right-hand speaker
2	- Rear right-hand speaker
3	+ Front right-hand speaker
4	- Front right-hand speaker
5	+ Front left-hand speaker
6	- Front left-hand speaker
7	+ Rear left-hand speaker
8	- Rear left-hand speaker



Connector C1

Track	Description
1	Rear left output line (not used)
2	Rear right output line (not used)
3	L.F. earth (not used)
4	Front left output line (not used)
5	Front right output line (not used)
6	Bass unit output line (not used)

Connector C2: Union specific to CD changer

Connector C3

Track	Description
13	Telephone input (not used)
14	Telephone earth input (not used)
15	Union specific to steering wheel
16	Union specific to steering wheel
17	Union specific to steering wheel
18	CD L.F. earth (auxiliary)
19	CD L.F. earth. Left (auxiliary)
20	CD L.F. earth. Right (auxiliary)

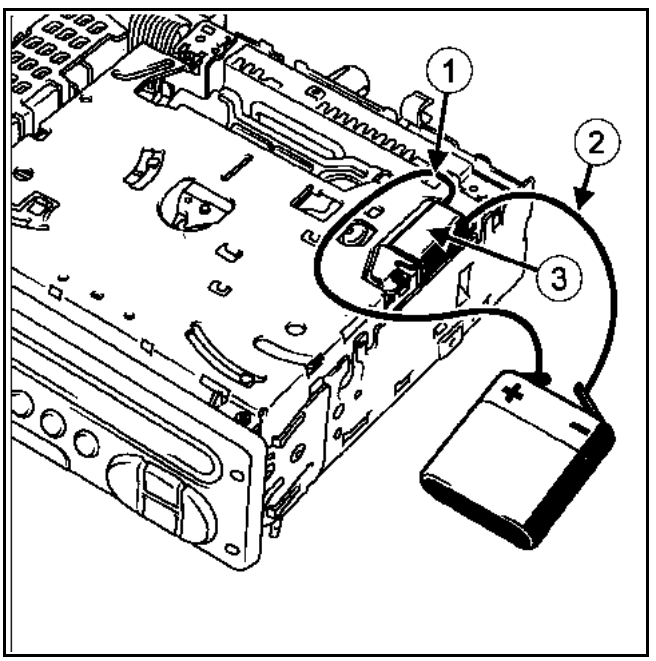
D: GPS aerial union.

E: Radio aerial union (with ISO adaptor).

Remove the upper section of the radio.

FIRST SOLUTION

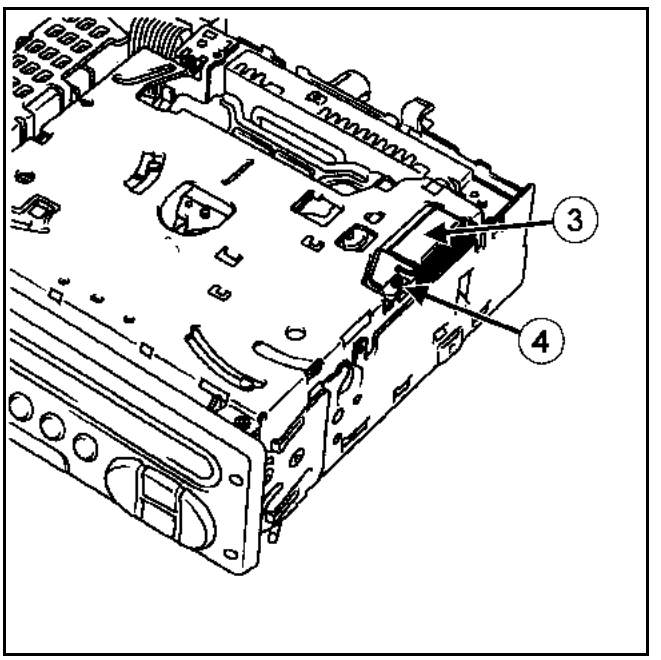
If the electric motor is able to function.



Eject the CD by using a 4.5 volt battery to supply the electric motor (**1**) (place the + wire on contact (**1**) and the - wire on contact (**3**) until the CD ejects).

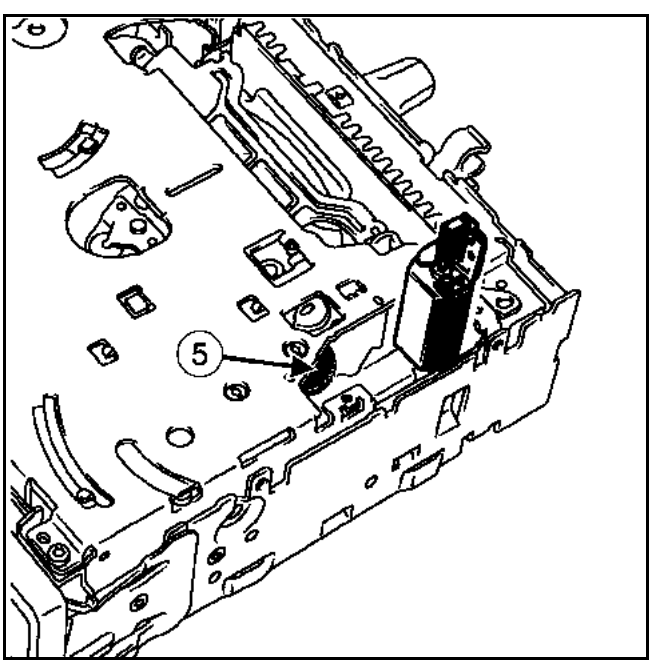
SECOND SOLUTION

If the electric motor is not able to function.



Remove the bolt (**4**) and disengage the electric motor (**3**).

Turn the toothed wheel (**5**) manually in a clockwise direction until the CD is ejected.



Before replacing the radio:

– Refit the electric motor and attach it using the bolt (second solution only).

– Close the unit and attach the upper section using the retaining bolt.