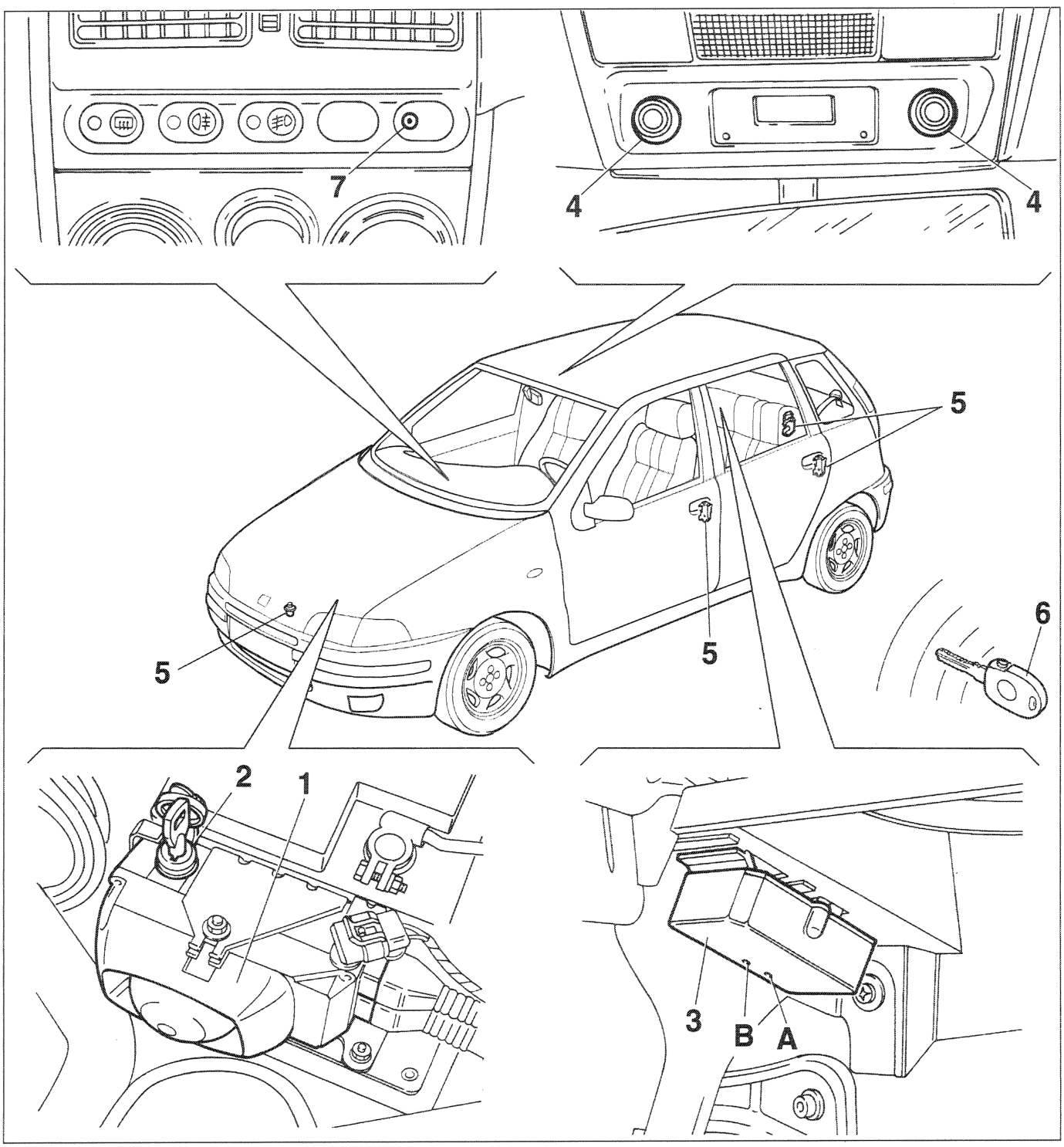
LOCATION OF ALARM SYSTEM COMPONENTS



P3M01ML01

1. Alarm control unit
2. Emergency switch and key
3. Receiver (located in luggage comp.)
   A. Green LED
   B. Programming button
4. Volumetric sensors in courtesy light
5. Door and lid sensors
6. Remote control integrated in key
7. LEDs

INTRODUCTION

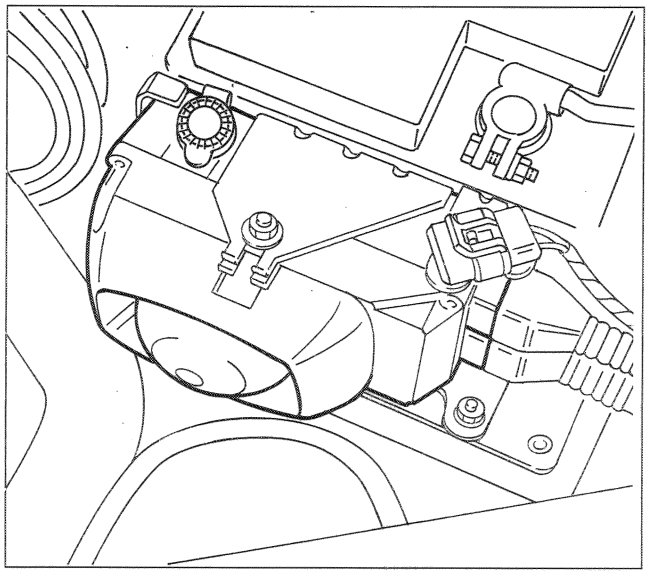
The radiofrequency alarm system offers both volumetric and perimeter type protection; in effect, it checks the state of the lids/doors and for the presence of a moving object inside the passenger compartment. In particular, it is capable of:

- adapting its operation to suit the regulations governing alarm systems in force is various countries;
- memorizing the number of times the alarm system has been activated;
- detecting faults and irregularities in the system connecting cables.

The alarm system comprises:

- a radiofrequency receiver, located in the luggage compartment;
- a radiofrequency remote control, integrated in the key;
- volumetric control sensors, incorporated in the courtesy light;
- front/rear door and lid sensors;
- an alarm control unit, located in the engine compartment opposite the battery, which includes a self--supplied siren (see diagram below);
- an emergency switch with a key (ON-OFF), on one side of the actual control unit (see diagram on page 4).

NOTE *The radiofrequency remote control facilitates the operations of activating and programming because, compared with infra red systems, this system has a greater operating radius, is not directional and is not affected by the possible poor transparency of the windows.*



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ALARM CONTROL UNIT

The alarm control unit is the main unit of the system. It checks and processes the signals coming from the:

- rear boot sensor;
- front bonnet sensor;
- door opening closing/sensors, in the locks;
- volumetric sensors;
- ignition switch.

ALARM SIREN

This is a compact type self-supplied siren, integrated in the control unit.
The intensity of the siren sound depends on the country where the vehicle is registered (see "COUNTRY CODE PROGRAMMING").

NOTE *The siren can be excluded by pressing the remote control button for more than 4 seconds when the alarm is switched on.*

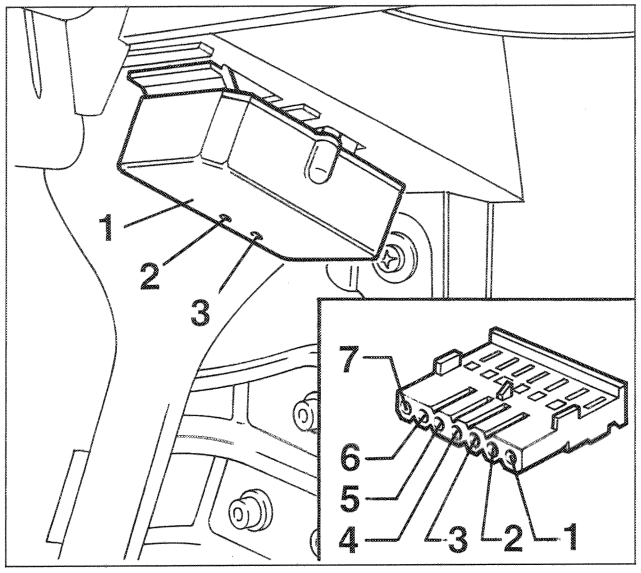
RECEIVER

The receiver, located in the luggage compartment as illustrated in the diagrams overleaf, is an electronic device which receives the signal coming from the remote control. It carries out the tasks of opening/-closing the doors and activating the alarm control unit.
Each receiver can be programmed with one or more remote controls (however, only the last 8 are retained) memorizing the codes.
There is a green LED (3) on the receiver (see diagram overleaf) which comes on when the signal is received, whilst a special button (2) allows the code to be memorized.

When the receivers are fitted on the vehicle they contain a "UNIVERSAL" code which is used for carrying out the tests at the end of the production line with a special remote control which has a universal code.

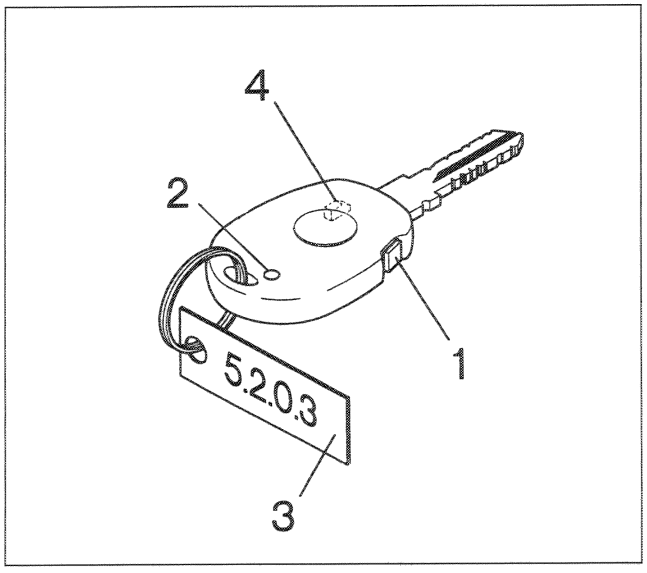
When the vehicle is later handed over to the Customer the receiver must be personalized replacing the "UNIVERSAL" code with the ones for the remote control which comes with the vehicle (see "PROGRAMMING" on the pages which follows).

Saloon versions: location of receiver



P3M03ML01

1. Receiver
2. Programming button
3. Green LED



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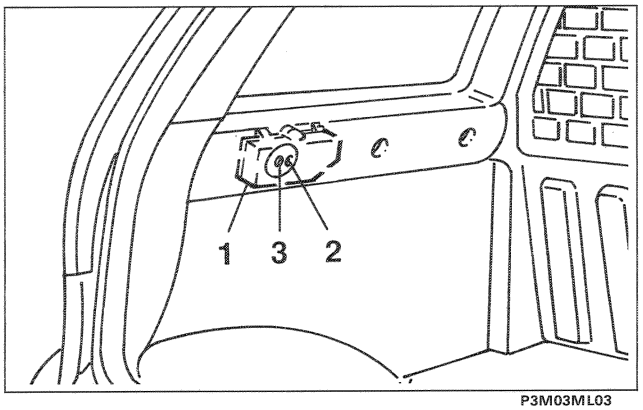
Van versions: location of receiver



P3M03ML03

Receiver connector

1. Not connected
2. Serial line to the alarm control unit
3. Positive from battery (+30)
4. Earth
5. Door release
6. Door lock
7. Positive controlled by the ignition (+15)

REMOTE CONTROL

The remote control for the alarm system, incorporated in the key, is an electronic device which sends the receiver a suitable signal for operating the opening/closing of the doors and activating/de-activating the alarm system.
Each time the control button (1) is pressed, the remote control sends a radio code with an operating range of about 10 metres.

1. Control button
2. Repeater LED
3. Password code plate
4. Transponder (used by Fiat CODE - not visible)

NOTE *Each key with remote control has a plate (3) with a 4 figure code (password) for protection against unauthorized programming (protected programming). The plate should be removed by the Dealer when the vehicle is handed over and placed on the reverse of the Code Card (refer to the Fiat CODE chapter). Mislaying the plate does not adversely affect the use of the alarm system, but it means that NEW REMOTE CONTROLS CANNOT BE PROGRAMMED (see description on pages which follow). If this occurs, the receiver and the keys must be replaced (to have the plates).*

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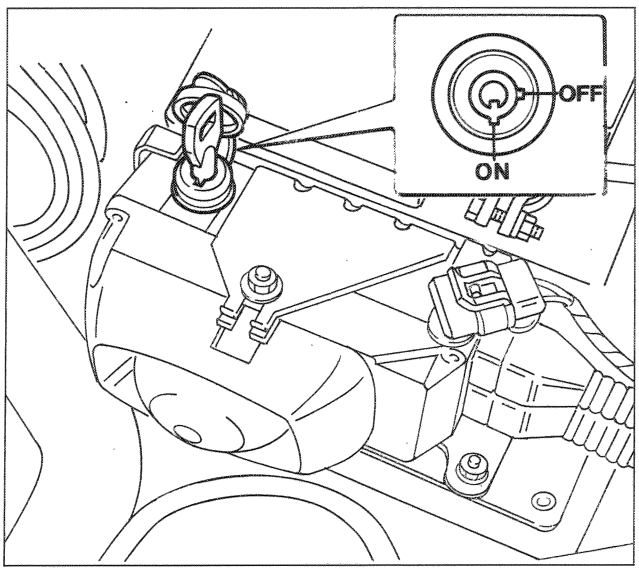

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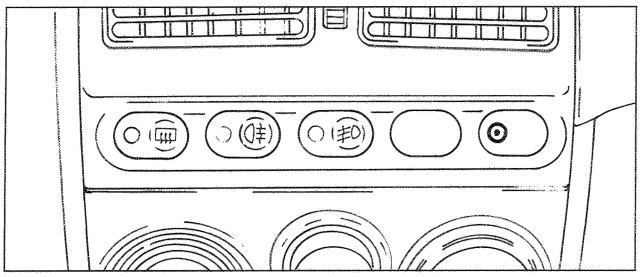

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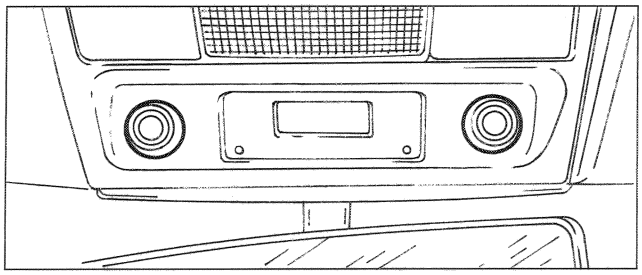

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EMERGENCY SWITCH WITH KEY

The emergency switch with key for the emergency circuit, whose location is illlustrated in the diagram, allows the alarm system to be excluded very quickly when necessary.

De-activation By turning the emergency key in an anti-clockwise direction (OFF position)

Activation By turning the emergency key in a clockwise direction (ON position).

LED

This red LED is located in the centre of the dashboard, on the panel containing the switches for the fog lamps, heated rear windscreen etc.; it has the task of signalling the state of the system and any irregularities (see page 10).

VOLUMETRIC SENSORS

The volumetric sensors allow additional surveillance checking that there are no intrusions in the vehicle. They are incorporated in the front courtesy light and one of them performs the function of a transmitter and the other a receiver.

OPERATION

Switching on the alarm

The alarm is switched on by pressing the remote control button with the key extracted from the ignition switch: the fact that the alarm has been switched on is signalled by the direction indicators coming on for around 2.5 seconds and an auditory signal (beep). The remote control has a range of about 10 metres.

Switching off the alarm

The alarm is switched off by pressing the button on the remote control: the fact that it has been switched off is signalled by the direction indicators flashing twice and two corresponding auditory signals (beeps).

It is, however, possible to switch the alarm on with the ignition key in the OFF or PARK position.

The switching on or off is also signalled by the LED coming on and, only in countries where the legislation permits, by visual and auditory signals, as described previously for the "ITALIAN" operating mode.

Excluding the alarm

If the remote control batteries are run down or the alarm system is faulty, it is possible to de-activate the system by turning the emergency key to the OFF position.
When the vehicle is handed over, check that the emergency key is in the ON position.
Turn the key to the OFF position if the vehicle is not going to be used for a long period (more than three weeks).
To reset the system, turn the emergency key to the ON position again.

Surveillance

During surveillance the LED flashes at a frequency of 0.8 Hz and the alarm system checks:

- the front/rear doors and lids;
- the disconnection of the battery and/or whether cables are cut;
- the ignition switch against unauthorized insertions;
- movements inside the passenger compartment (volumetric surveillance).

Alarm state

The system enters into an alarm state when one of the surveillance sensors (see previous list) detects an irregular situation.
The alarm state is manifest by the siren being activated for a maximum of three 26 second cycles in addition to the direction indicators coming on for a maximum of 4.7 minutes (only in countries where this is permitted by the legislation) if the cause of the alarm persists.
To come out of the alarm system:
- press the remote control switch (see chapter on "SWITCHING OFF" above);
- turn the emergency key to the OFF position.

NOTE *The alarm condition for the "SURVELLIANCE" stage however, remains memorized in the control unit.*

This last procedure should only be used in emergency situations if the alarm system cannot be switched off using the remote control.

Inhibiting the volumetric surveillance

Before the alarm system is switched on, the volumetric surveillance can be excluded in the following way:
With the ignition key in the ON position, turn the key in quick succession in the following positions: OFF - ON - OFF.

The confirmation that the volumetric surveillance has been excluded is given by the LED coming on for 2 seconds.

It is possible to return the key to the ON position for a maximum of 30 seconds after this operation with re-enabling the volumetric surveillance; this function is useful, for example, in allowing the electric windows to be closed.

When the key is returned to the ON position, for a period of more than 30 seconds, when the alarm is switched on for the second time, the volumetric surveillance is reinstated.

Auto switching on of alarm (only Belgian and United Kingdom markets)

Vehicles with alarms programmed for the Belgian and U.K. markets are equipped with a **"passive"**, "auto switching on" function. This ensures that the alarm is automatically partly switched on a short period (28 seconds) after the driver has left the vehicle.
The "passive" operation of the surveillance is exactly the same as the regular operation which can be activated via the remote control, but the doors are not locked. The automatic activation takes place 28 seconds after the following conditions have been verified:
- ignition key turned from ON to OFF;
- opening and then closing of the last open door.

The opening of any door or lid (front/rear) before this period of 28 seconds stops the countdown. Closing the door/lid resets the countdown which starts again from zero.

In oroder to regain possession of their vehicle after the alarm has switched itself on, the driver must press the button on remote control once.

Switching on of alarm with siren excluded

Each time one wishes to exclude the operation of the siren when switching on the alarm, the button on the remote control must be kept pressed for more than 4 seconds. After the auditory/visual signals described previously indicating that the alarm has been switched on, 5 beeps of the siren in quick succession follow to indicate that it has been excluded during the surveillance. The siren will be restored the next time the alarm is switched on.

Remote control "batteries run down" signal

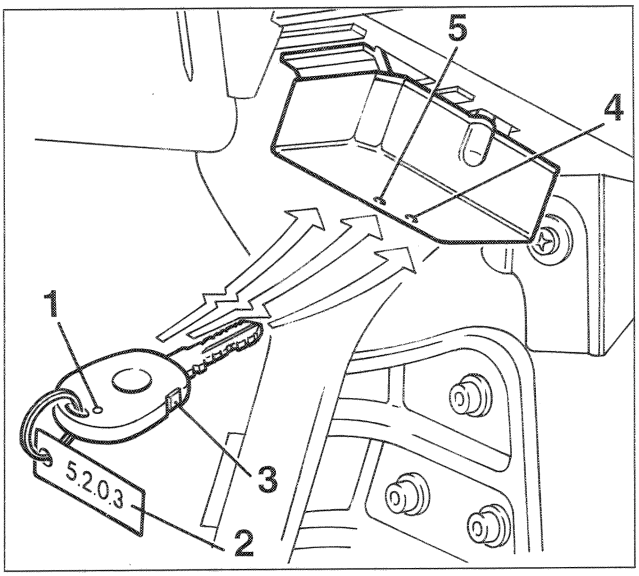
This can take place in two ways:
- by the remote control LED flashing once each time the alarm on switch is pressed as opposed to the series of flashes in normal circumstances.
- by the LED coming on constantly each time the alarm system is switched off.

When one of the above conditions is verified, the batteries in the remote control must be replaced.
When the batteries are replaced, the LED in the remote control will start to flash again, whilst the other LED in the dashboard will no longer signal that the remote control batteries are run down.

PROGRAMMING

The alarm signal modes can vary according to the laws in force in the country where the vehicle is registered; it is therefore necessary to programme the system by entering the "Country code", as described overleaf.
The system "recognizes" the code for an unlimited number of remote controls, but only the last 8 remain in the memory (when the ninth is entered the first is expelled from the remote control memory).
There are two different programming modes (see the description on the pages which follow):
- before entering the password: **SIMPLIFIED PROGRAMMING**
- after closing the memory: **PROTECTED PROGRAMMING**

Given the importance of carrying out the programming procedure accurately and quickly in the correct order, it is advisable, at least initially, for two people to be involved: one reading the instructions and the other following them to the letter.



P3M07MIL01

1. Remote control LED
2. 4 figure password code
3. Control button in remote control
4. Green LED in receiver
5. Programming button

SIMPLIFIED PROGRAMMING

A remote control must always be programmed with the:
- alarm switched off (LED off)
- ignition key removed or in the OFF/PARK position
- emergency key in the ON position

With this programming method all the codes for an unlimited number of remote controls are "recognized", but only the last 8 remain memorized by the alarm system in the following way:

1. press the button (5) on the receiver located in the luggage compartment and keep it pressed, the LED (4) next to it should flash;
2. keeping the button (5) pressed, press the remote control switch (3).
3. then release the switch (3) when the LED (4) in the receiver comes on constantly;
4. then release the button (5) in the receiver at the end of the cycle.
5. **If the LED in the receiver goes out when the remote control switch is pressed this means that the receiver memory is closed; it is therefore necessary to carry out the "PROTECTED" programming.**

NOTE *In order to programme further remote controls, repeat the operations described above.*

Country code programming

Procedure a)

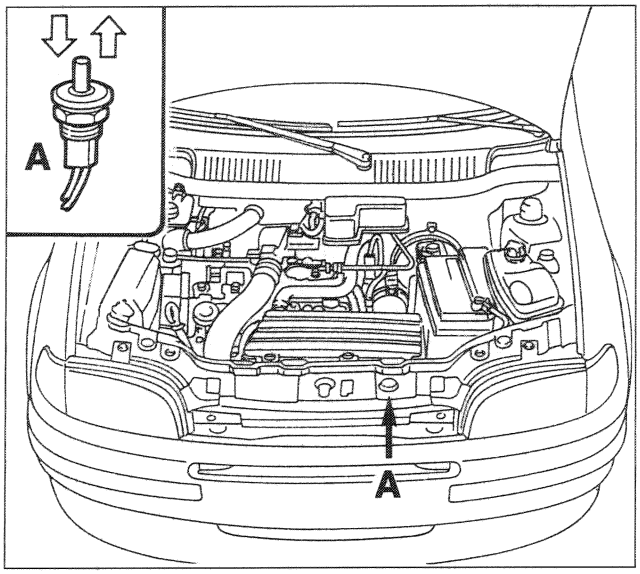
Having completed the programming of the remote controls by following the instructions given above, within 15 seconds of releasing the receiver button it is necessary to programme the code for the country where the alarm system is going to be operating. The country code is programmed by pressingthe button on the receiver a certain number of times in quick succession (see table below): each time it is pressed the LED will flash. If the button is not pressed, the system will operate according to the country code programmed previously; if there is no country code programmed (1st programming) then the system will automatically operate according to the"ITALIAN" mode.

NOTE *The 15 seconds are reduced to 3 from the second programming onwards.*

COUNTRY CODE (no. times but. pressed)	COUNTRY OF OPERATION	COUNTRY CODE (no. times but. pressed)	COUNTRY OF OPERATION
1	ITALY	5	UNITED KINGDOM
2	GERMANY	6	BELGIUM
3	FRANCE	7	HOLLAND
4	SWITZERLAND	8	EEC

If the procedure has been carried out correctly, the LED in the receiver will flash n. times (where n. is the number of the "country code" selected), confirming that the code has been programmed both in the receiver and in the control unit;
if this is not the case, the LED will come on CONSTANTLY for 5 seconds; at this point it will be necessary to repeat all the operations starting from point 1 of the programming.

NOTE *In order to programme the "country code" it is possible to use the procedure involving the FIAT /LANCIA Tester and other diagnostic systems.*



P3M08ML01

Procedure b)
Alternatively, it is possible to programme the "country code" via the following procedure:

- open the front lid;
- turn the ignition key from ON to OFF then, within 15 seconds it is necessary to press switch (A) (front lid opening sensor) 7 times in quick succession; 5 beeps will signal entry into MANUAL DIAGNOSIS (see paragraph). During this stage (5 beeps) press switch (A) and keep it pressed. A further long beep will signal acceptance of this manoeuvre;
- keep the switch pressed for the entire duration of the long beep. The latter confirms entry into "country code programming" and the possibility of later entering the "country code";
- release the switch (A) and, within 10 seconds, press the switch n. times (see table on previous page) to select the operating mode for the desired country (each time it is pressed a confirmation beep will be emitted).

The simplified programming procedure definitively cancels the universal code, used before the vehicle is handed over to the customer.

CLOSING THE MEMORY

To prevent entering unauthorized remote controls, the memory must be protected (closed); this operation takes place automatically after the alarm system has been switched on/off 128 times. It is also possible to close the memory manually by entering the password (4 figure code on the plate on the remote control illustrated on page 2): for example on a new vehicle before delivery after all the codes for the remote controls have been programmed.

The method for entering the password is as follows:

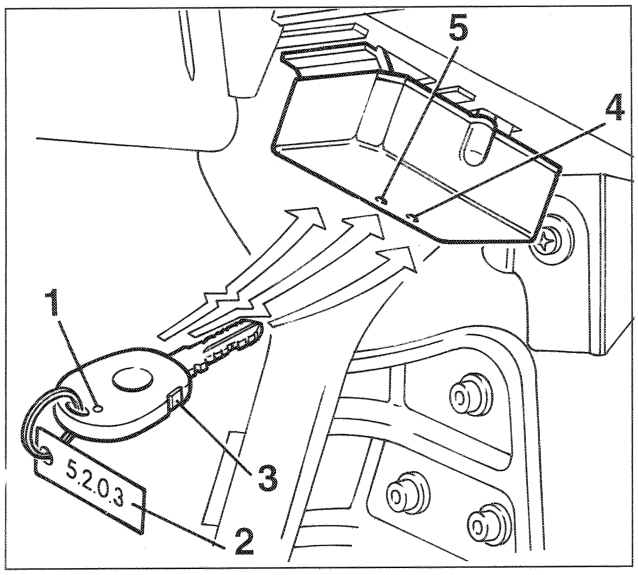
1. Take one of the plates for the remote controls programmed in the receiver, then press the button on the receiver for 1 second: the LED will flash as long as the button is pressed.
2. Release the button: after around 3 seconds the LED will flash briefly to indicate the possibility of introducing the first figure of the password.
3. Press the button on the receiver as many times as indicated by the first digit of the password (if for example the password is 5.2.0.3.: press it 5 times). It should be noted that each time the button is pressed the LED comes on briefly to give a visual confirmation.
4. Around 3 seconds after the last time the button is pressed (the fifth in the example) the LED will emit another flash to request the input of the next figure.
5. Proceed from point 3 to enter all the subsequent figures.

NOTE *When there is a "0" in the password (see example), the button on the receiver should not be pressed, but you should wait for the request to enter a new figure, signalled by the flashing.*

After having entered the 4 figures of the Password, the LED in the receiver:

- **will no longer come on**; this indicates that the Password has been entered correctly;
- **will come on constantly for around 10 seconds**; this indicates that the password has not been correctly entered. If this is the case, after the LED goes out, the password should be correctly reintroduced starting from point 1.

Entering the password correctly "closes" (protects) the memory to prevent the programming of unauthorized remote controls. In effect, with the memory "closed" it is not possibleto programme a new remote control because, after having transmitted the new code, the LED in the receiver will stop flashing to indicating the failure of the operation. In order to programme a new remote control, it is necessary to "open the memory", following the instructions given overleaf.



P3M07ML01

1. LED in remote control
2. 4 figure password code
3. Control button in remote control
4. Green LED in receiver
5. Programming button

PROTECTED PROGRAMMING

If the memory is "closed", the introduction of further remote control codes can only take place after the memory has been "opened" with one of the codes for the keys programmed in the receiver.

OPENING THE MEMORY AND PROGRMMING A NEW REMOTE CONTROL

Opening the memory

The memory should be opened by following the operations listed below, carrying them out in quick succession:

1. press the button (5) on the receiver for about 2 seconds; the LED (4) will flash as long as the button is pressed;
2. release the button; after about 2 seconds the LED will flash briefly indicating that it is possible to introduce the first figure of the password;
3. press the button (5) on the receiver as many times as indicated by the first digit of the password (if for example the password is 5.2.0.3., press it 5 times). You should notice that the LED (4) comes on briefly each time the button is pressed to give a visual confirmation;
4. about 2 seconds after the button is pressed for the last time (the fifth in the example), the LED will emit another flash to request the input of the next figure;
5. proceed from point 3 and enter all four digits (if the figure is "0", then do not press, but wait for the request for the next figure);
6. if the password has been correctly entered (memory opened), the LED will start to flash (for about 10 seconds); if, on the other hand, it comes on constantly (for around 10 seconds) then the cycle must be repeated from point 1, because the password has not been recognized.

Programming a new remote control

7. Whilst the LED (4) is flashing press the button (5) and keep it pressed, the LED (4) should continue to flash;
8. press the button (3) for the new remote control until the green LED (4) in the receiver comes on constantly.
9. then reolease the button (3) for the transmitter when the LED (4) in the receiver comes on constantly;
10. then release the button (5) in the receiver at the end of the programming cycle.

If the procedure has been carried out correctly the LED in the receiver will flash n times (where n is the number of the "country code" selected) confirming that the code has been programmed in both the receiver and the control unit; if this is not the case, the LED will come on CONSTANTLY for 5 seconds; at this point it will be necessary to repeat all the operations starting from point 1 of the programming.

After programming the new remote control, the memory will return to the "closed" state.

SYSTEM AUTODIAGNOSIS

The alarm system is capable of notifying the Use of any irregularities, present in the system, by the LED in the centre of the dashboard coming on constantly or flashing.

When it is switched on the system carries out an autodiagnosis where, if the outcome is positive, this is signalled by the LED flashing once at 4 Hz; if there is a problem or fault in the system, the LED will signal it according to the methods illustrated in the table.

Autodiagnostic display

FLASHING MODES	FAULT/FAILURE
8 Hz, duration 2.5 secs	Doors/lids open or switches (opening sensors) broken
Light on constantly, duration 2.5 secs	Volumetric sensors broken

If one of the doors or the front or rear lid is open or the system detects a fault in the volumetric sensor, the appropriate sensor is excluded from the surveillance and a warning auditory signal (beep) is given off 1 second after the system is switched on.

When the system is switched off, the LED flashes to indicate which sensor has activated the alarm during the surveillance (see table below).

Alarm set off signal

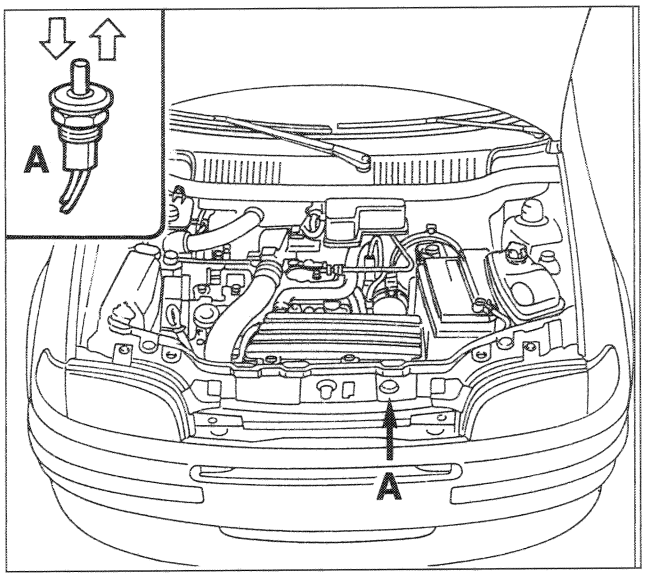
NO. OF FLASHES	IDENTIFICATION OF FAULT/FAILURE
1	Right front door
2	Left front door
3	Right rear door
4	Left rear door
5	Volumetric sensors in courtesy light
6	Front lid
7	Rear lid
8	Supply controlled by ignition +15
9	Direct supply + 30 or emergency remote key cables cut
10	At least 3 causes of alarm
Light on constantly	Remote control battery run down

The flashes are emitted in sequence with 1.5 second intervals for a maximum of 2 minutes or until the key is turned to the ON position.

If the LED signals faults, the User should seek assistance from the Fiat Service Network. It should be remembered that during service operations to the vehicle or in the case of problems with the alarm system which activate the siren, the alarm system can be excluded by turning the emergency key, located near the junction unit, from the ON position to the OFF position.

When the operation is completed, turn the emergency key to the ON position and always refit the switch protective cover.

Each individual component of the alarm system fitted on the vehicle becomes an integral part of it therefore it should not be fitted or tested on other vehicles, even those of the same model.



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MANUAL DIAGNOSIS

1st stage (activation of manual diagnosis)

Proceed as illustrated below:

- Open the front lid;
- turn the ignition key from ON to OFF then, within 15 seconds, press the switch (A) (front lid opening sensor) 7 times (in less than 10 seconds); 5 beeps will signal entry into "MANUAL DIAGNOSIS";

- during this stage (5 beeps) leave the switch (A) free; 1 flash from the direction indicators will confirm the start of the procedure;

2nd stage (manual diagnosis - volumetric sensors)

The "MANUAL DIAGNOSIS" automatically activates the autodiagnostic procedure for the volumetric sensors:
- if there are no irregularities then the siren will emit 3 beeps and the direction indicators will flash 3 times for around 10 seconds;
- if there is a problem, there will be a flash and a beep.

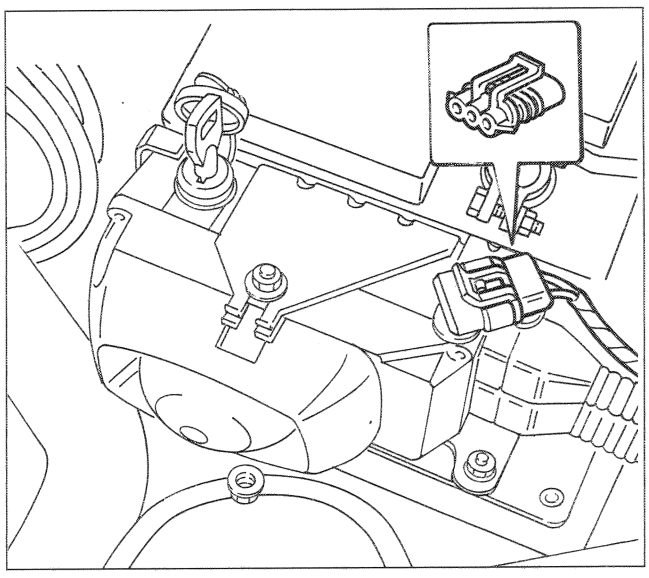
3rd stage (manual diagnosis - door/lid opening/closing sensors)

Carry out a diagnostic procedure for each opening/closing sensor for the moving parts (doors/lids): each time a door or a lid is opened the siren will beep and the direction indicators and the LED will flash.

4th stage (deactivation of manual diagnosis)

The exit from the "MANUAL DIAGNOSIS" can take place in two ways:
- automatically: by not opening a door or a lid for at least 30 seconds;
- manually: by turning the ignition key from OFF to ON.

The exit from "MANUAL DIAGNOSIS" is signalled by a beep (0.5 secs) and the direction indicators coming on (2.5 secs).


P3M11ML01

FAULT DIAGNOSIS USING FIAT-LANCIA TESTER

The system is equipped with a special diagnostic socket for connection with the FIAT/LANCIA Tester, or other diagnostic equipment.

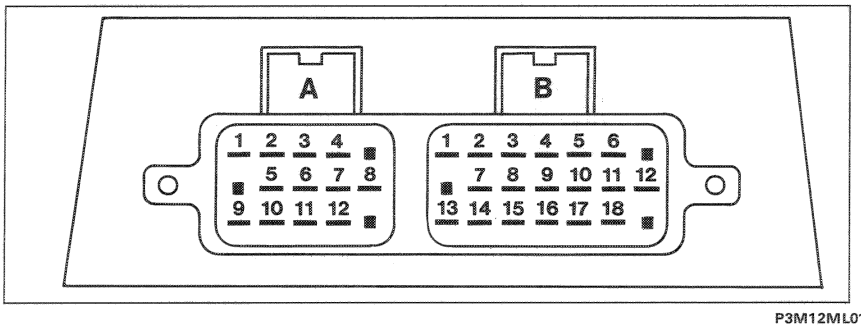
Before connecting the Tester make sure that the emergency key is switched ON.

Location of alarm system diagnostic socket

55.

SIGNALS ARRIVING AT AND LEAVING THE ALARM CONTROL UNIT

N°	I/O	I Max (A)	FUNCTION
B1	OUT	6	Relay n.a. contact: right direction indicators branch
B2	OUT	6	Relay n.a. contact: left direction indicators branch
B3	OUT	8	Preparation for relay n.c. contact (*)
B4	IN	8	Preparation for relay n.c. contact: +15 for B3 (*)
B5	OUT	8	Preparation for relay n.c. contact (*)
B6	IN	8	Preparation for relay n.c. contact: +50 for B5 and B10 (*)
B7	IN	12	Direction indicators relay common contact: +30 direction indicators supply
B8	IN	-	Switch (sensor) detecting left front door open (=closed)
B9	IN	-	Switch (sensor) detecting right front door open (=closed)
B10	OUT	0,04	Preparation for operation of two coloured LED (*)
B11	IN	0,04	Preparation for operation of two coloured LED by Fiat CODE (*)
B12	IN	2	Positive controlled by the ignition (+15)
B13	IN	-	Remote key: common (*)
B14	OUT	0,3	Operation check: signalling of door/s open (*)
B15	IN	-	Switch (sensor) detecting left rear door open (=closed)
B16	IN	-	Switch (sensor) detecting right rear door open (=closed)
B17	IN	-	Switch (sensor) detecting rear lid open (=closed)
B18	IN	-	Switch (sensor) detecting front lid open (=closed)
A1	OUT	0,04	LED anode operation
A2	I/O	-	Serial line from courtesy light
A3	IN	-	Direct supply positive (+30)
A4	IN	-	Remote key: internal supply (*)
A5	OUT	0,03	Anti-lifting modules positive supply (*)
A6	I/O	-	Line K-Fiat tester
A7	OUT	-	Remote key: external supply (*)
A8	OUT	0,03	Volumetric modules positive supply
A9	IN	2	Control unit earth
A10	I/O	-	Preparation for serial line (engine control unit) (*)
A11	OUT	0,06	External modules earth
A12	IN	-	Alarm signal from external modules (low = alarm)



P3M12ML01

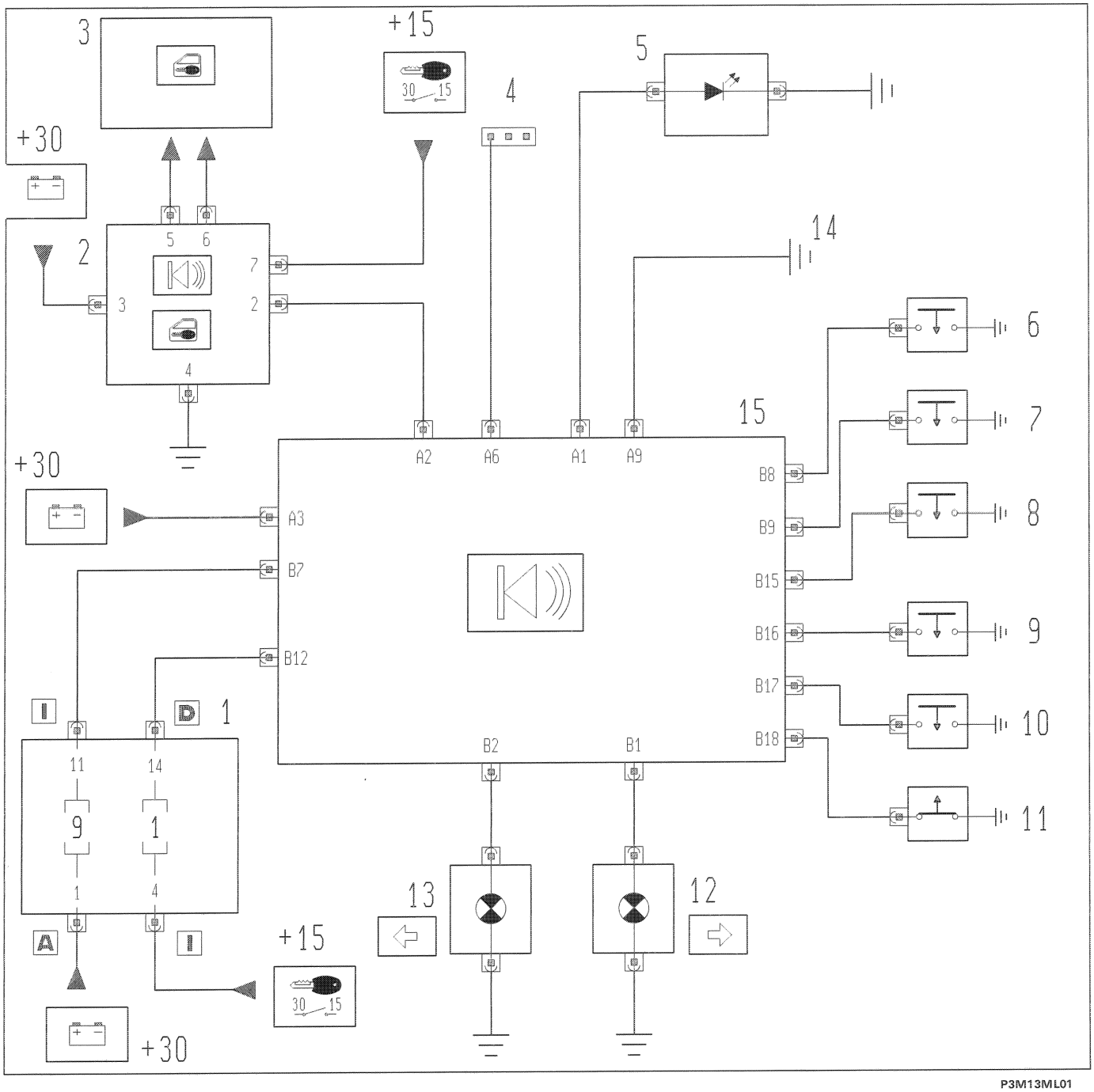
(*) Signals not used in present version of system

n.a. : normally open

n.c. : normally closed

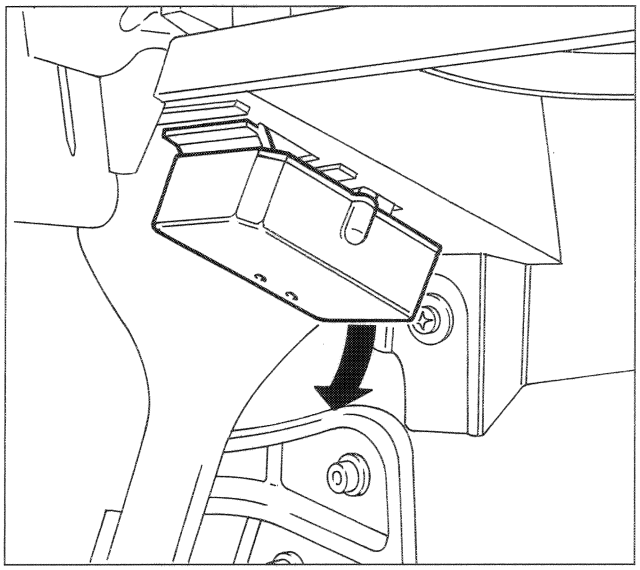
Signals entering and leaving the alarm control unit

WIRING DIAGRAM



P3M13ML01

1. Junction unit
2. Remote control receiver
3. Connections with central locking system
4. Diagnostic socket for alarm
5. LED
6. Left front door opening/closing sensor
7. Right front door opening/closing sensor
8. Left rear door opening/closing sensor
9. Right rear door opening/closing sensor
10. Luggage compartment light control button
11. Bonnet lid opening/closing sensor
12. Direction indicators/hazard warning lights right branch
13. Direction indicators/hazard warning lights left branch
14. Left front earth
15. Alarm device electronic control unit

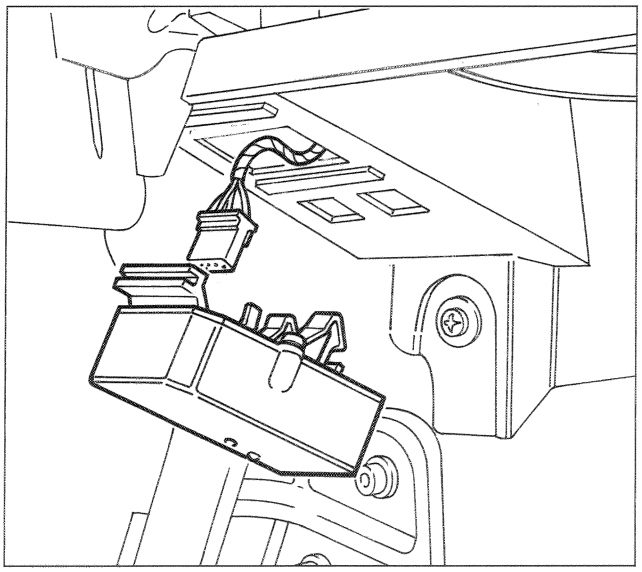


P3M14ML01

REMOVING-REFITTING RECEIVER

NOTE *The procedure described is for saloon versions; for the Van versions the side panel inside the luggage compartment must be removed first and then the instructions for the saloon versions can be followed.*

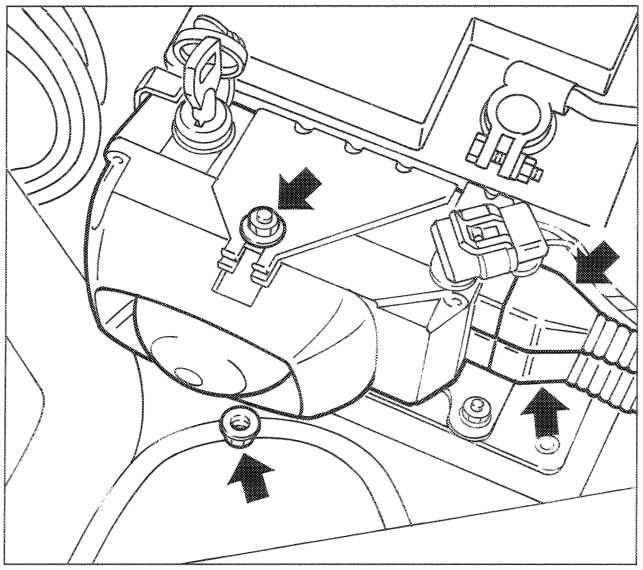
- Working from the luggage compartment, press on the rear of the receiver to release the retaining tabs, then rotate it in the direction shown by the arrow;



P3M14ML02

- disconnect the connector and remove the receiver.

NOTE *To refit, simply reverse the order of the operations carried out for the removal.*



P3M14ML03

REMOVING-REFITTING ALARM CONTROL UNIT

- Working via the engine compartment, undo the bolts fixing the control unit to the support;
- disconnect the connections and remove the control unit with integrated siren.

NOTE *To refit, simply reverse the order of the operations carried out for the removal.*