

82-0983 Testing anti-theft warning system (ATA)

Operation no. of operation texts and work units or standard texts and flat rates:

A. Standard version as of model year 1986

For wiring diagrams see Wiring Diagrams Passenger Cars Volume 3.1 and 4.

Special tool



Commercially available tester

Multimeter

e.g. Sun DMM-5

Note

The electrical connection set 201 589 00 99 00 must be enlarged by two cables, order no. 809509.

Test steps

1. Test voltage supply for control unit.
2. Test switching on and off anti-theft warning system.
3. Test tripping contacts and wiring.
4. Test audible alarm signal and wiring.

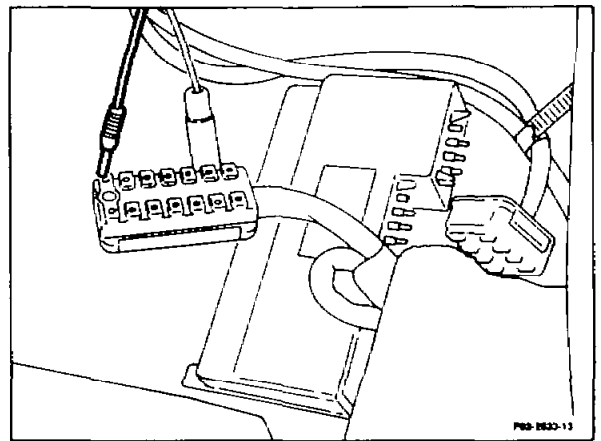


Preparation for all test steps

- 1 Test fuse C.
- 2 Unplug 8-pin and 14-pin connector from the ATA control unit N26.
- 3 Check contacts of couplings to ensure the soldered connections and electrical contacts are good. Check the contacts with a gauge; they must not be widened.

Note

The connector of cable no. 809509 from the electrical connection set 201 589 00 99 00 can be used as a gauge.



Test step 1

Test voltage supply for ATA control unit N26 at 8-pin connector.

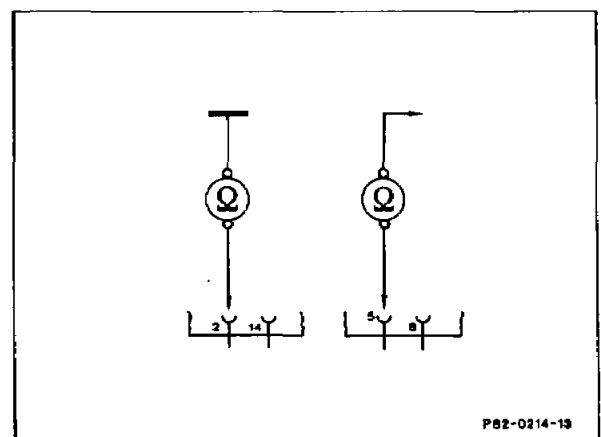
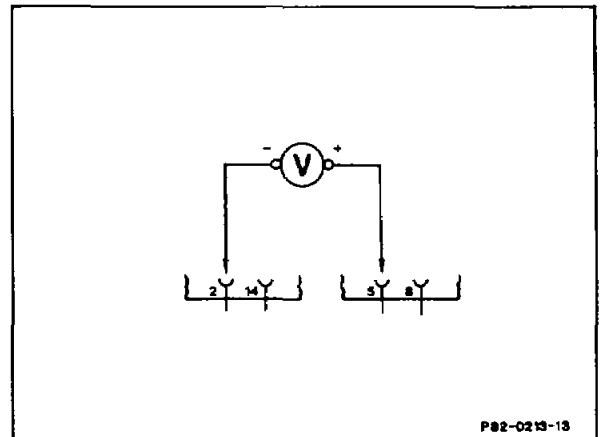
Multimeter to contact 5 (+) of 8-pin coupling, contact 2 (-) of 14-pin coupling.

Specification > 11 V

Yes

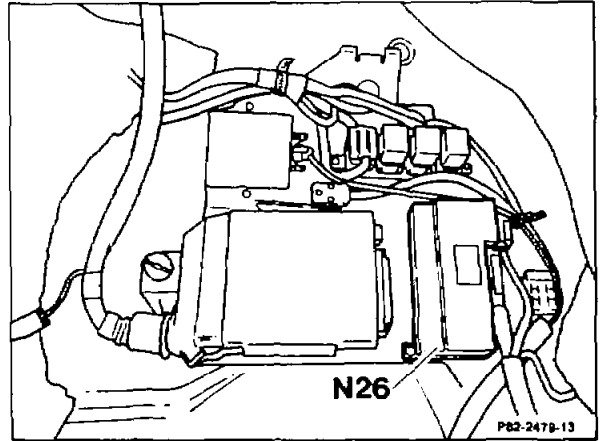
No

Test red/white cable from contact 5 up to fuse C and brown cable from contact 2 (terminal 31) to ground point W3 for open circuit; rectify any open circuit.



Test step 2

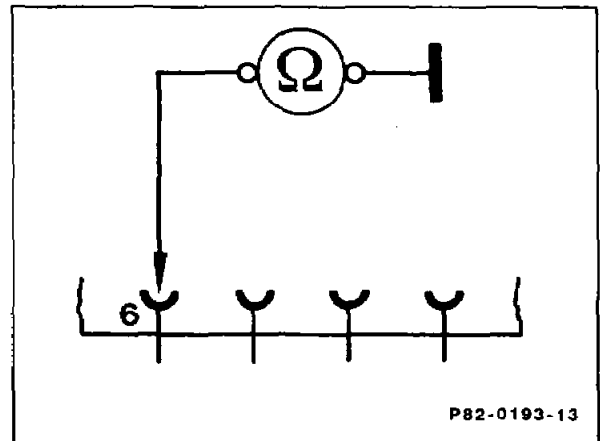
Testing switching anti-theft warning system on and off. Test operation of switch at locks of front left and front right doors and test wiring from the switches to the 8-pin connector of the ATA control unit N26 for open circuit.



1. Switching on anti-theft warning system

Multimeter to contact 6 and to ground. Turn key in left-hand door to the right and in right-hand door to the left and hold tight.

Specification $< 0.5 \Omega$



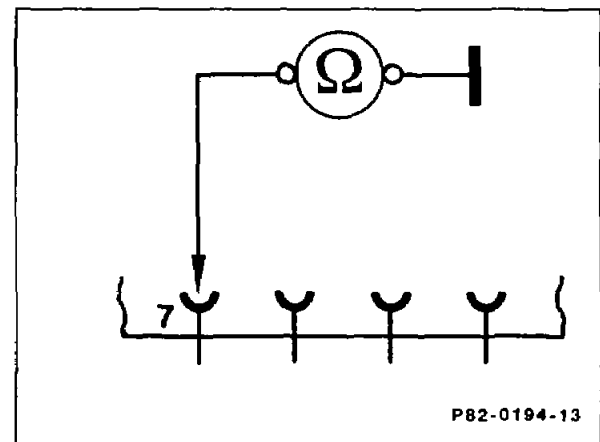
2. Switching off anti-theft warning system

Multimeter to contact 7 and to ground. Turn key in left-hand door to the left and in right-hand door to the right and hold tight.

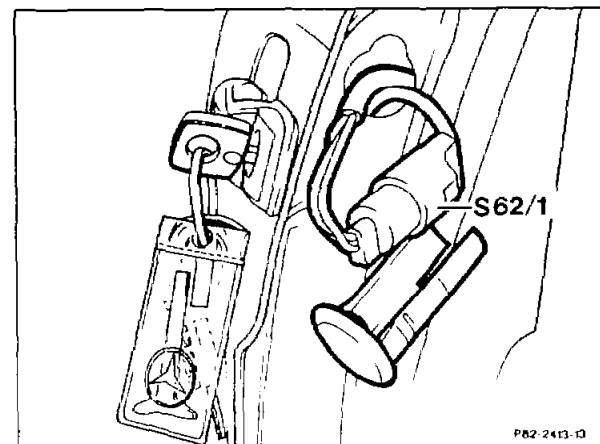
Specification $< 0.5 \Omega$

Yes

No



Remove plug connection (S62/1) of left-hand or right-hand door.

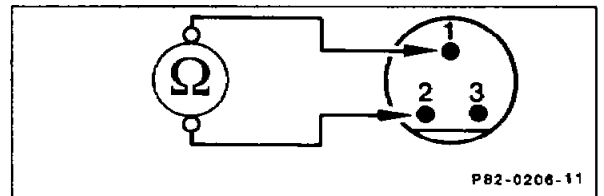
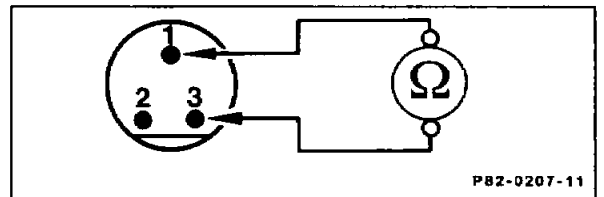
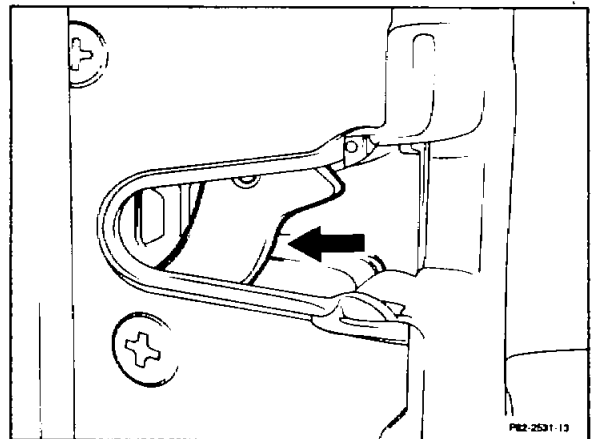
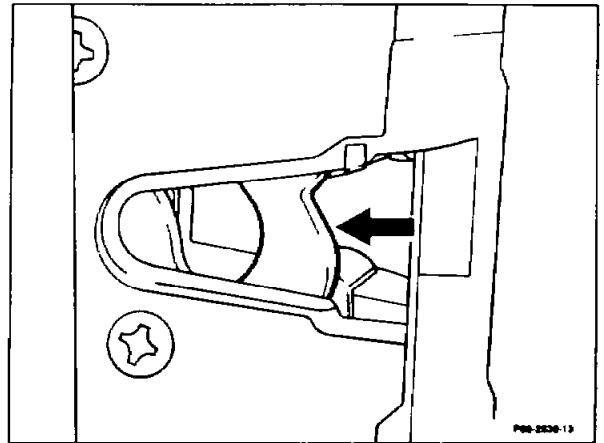


Test step 2.1

Test operation of switch at the locked cylinders of the front left and front right doors.

Note

Before switching on anti-theft warning system when door is open, the rotary tumbler of the front left door lock (arrow) must be moved into the "door closed" position. Before closing the front left door, the rotary tumbler on the inside door mechanism must be moved into the "door open" position.



1. Anti-theft warning system switch on

Multimeter to connectors 1 and 3

Turn key in left-hand door to the right and in right-hand door to the left and hold tight.

Specification $< 0.5 \Omega$

2. Anti-theft warning system switch off

Multimeter to connectors 1 and 2

Turn key in left-hand door to the left and in right-hand door to the right and hold tight.

Specification $< 0.5 \Omega$

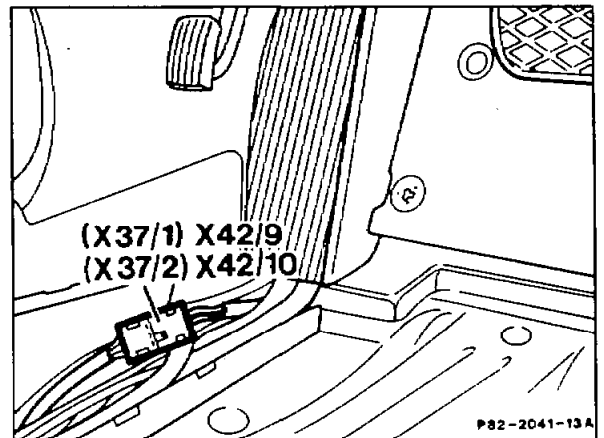
Yes

No

Replace locked cylinders of left-hand or right-hand door, respectively.

Test brown cable from contact 1, green/yellow cable from contact 2 and yellow/blue cable from contact 3 for open circuit. The cables run through the plug connections X42/9* and X42/10* to the 8-pin connector of the ATA control unit N26 (see wiring diagram). If no open circuit is found, replace ATA control unit N26.

* Not applicable as of 09/87



Test step 2.2

Test switching anti-theft warning system on and off at trunk lid lock. It is assumed that the car can be locked and unlocked centrally from the trunk lid lock.

Test wiring between connector of plug connection X43 and of the 14-pin connector of the ATA control unit N26 for open circuit.

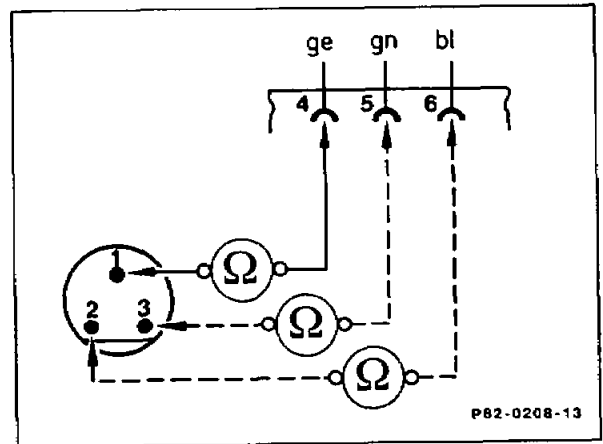
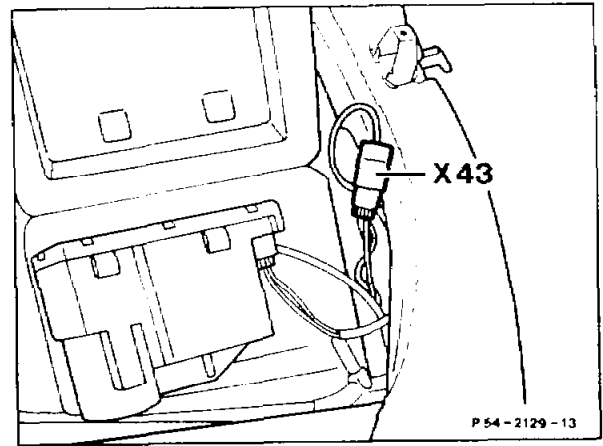
Multimeter to connector and contact

- | | |
|---|---|
| 1 | 4 |
| 2 | 6 |
| 3 | 5 |

Specification $< 0.5 \Omega$

Yes	No
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Rectify open circuit.



Test step 3

Test triggering contacts and wiring at 14-pin connector of ATA control unit N26.

Note

If the anti-theft warning system is switched on (car parked and locked), the alarm is tripped after a cut-in delay of about 10 seconds by the following tripping points:

3. If the front left or front right door is opened.
- 3.1 If the rear left or rear right door is opened.
- 3.2 If the hood is opened.
- 3.3 If the trunk lid is opened.
- 3.4 If the radio is removed.
- 3.5 If the key is turned in the steering lock to position 2 (ignition on).
- 3.6 If the service brake is operated.
- 3.7 If the car is towed away.*

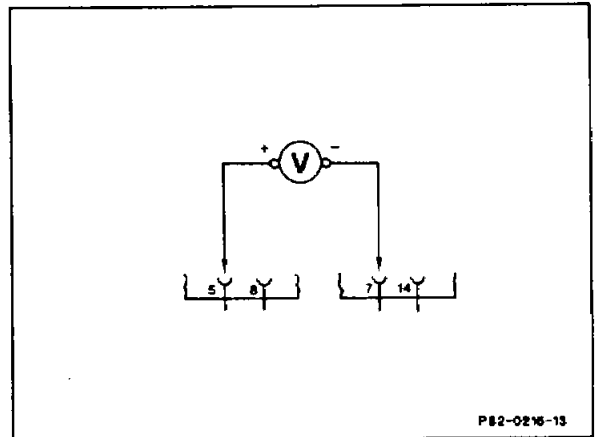
Test tripping contact (door contact switches) of the front left and front right doors.

Multimeter to contact 5 (+) of 8-pin connector, contact 7 (-) at 14-pin connector.

Door opened specification > 11 V

Door closed specification 0 V

* Not applicable as of 03/87



Yes

No

Test brown/gray cable from contact 7 up to right or left door contact switch, respectively, for open circuit or short to ground; rectify any open circuit or short circuit.

Test step 3.1

Test tripping contact (door contact switches) of the rear left and rear right doors.

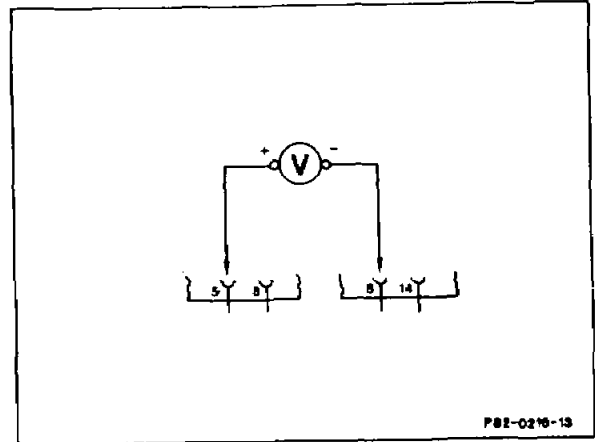
Multimeter to contact 5 (+) of 8-pin connector, contact 8 (-) of 14-pin connector.

Door opened specification > 11 V

Door closed specification 0 V

Yes

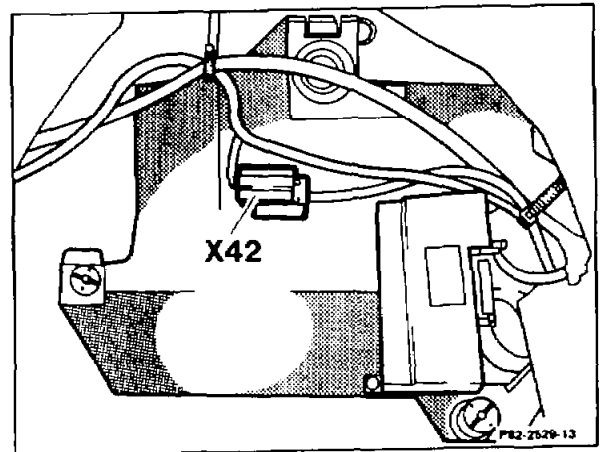
No



Test brown/green black cable from contact 8 up to left or right door contact switch for open circuit or short circuit to ground; rectify any open circuit or short circuit.

Note

The cable runs via plug connection X42 (see wiring diagram).



Test step 3.2

Test hood switch (S62).

Note

The hood switch must be pressed about 10 mm when the hood is closed.

As a check, wrap a wire around the pin of the switch and attach it so that it can be pushed upward when the pin is pressed in.

Close hood and open it again and measure the distance by which the wire has been pushed up.

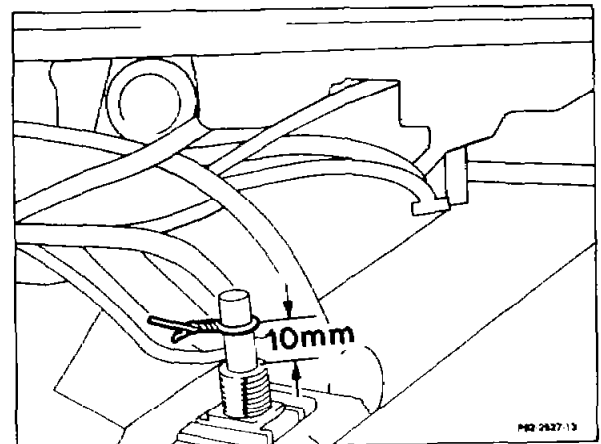
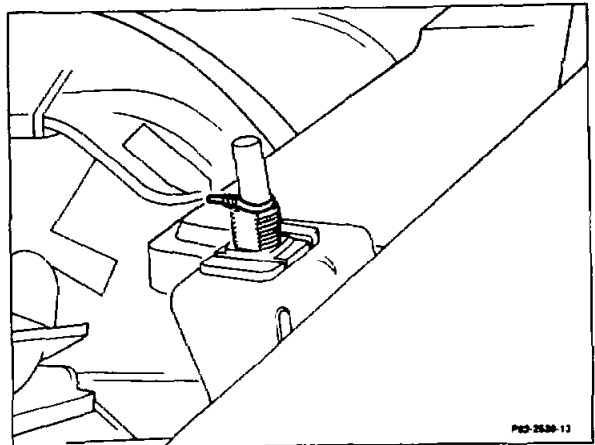
Multimeter to contact 5 (+) of 8-pin connector, contact 9 (-) of 14-pin connector.

Hood opened specification > 11 V

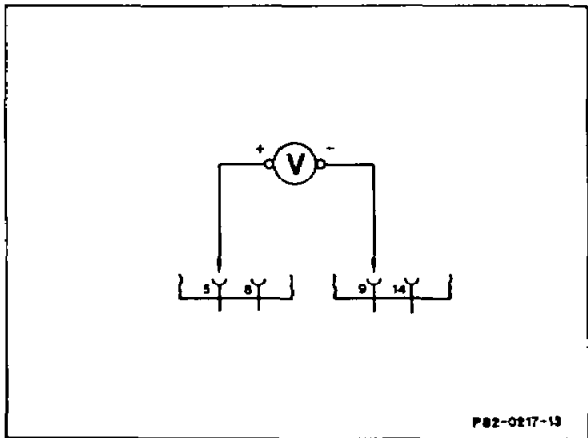
Hood closed specification 0 V

Yes

No



Test brown/red cable from contact 9 up to switch and the switch itself for open circuit or short circuit to ground; rectify any open circuit or short circuit.



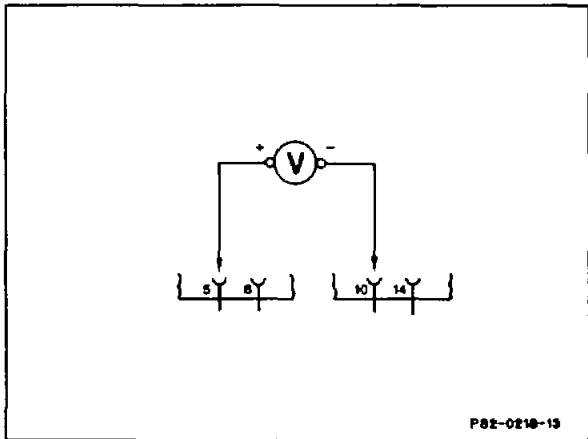
Test step 3.3

Tripping contact of trunk lid switch

Multimeter to contact 5 (+) at 8-pin connector, contact 10 (-) at 14-pin connector

Trunk lid opened	specification	> 11 V
Trunk lid closed	specification	0 V

Yes	No
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Test black cable from contact 10 up to the switch for open circuit or short circuit to ground; rectify any open circuit or short circuit.

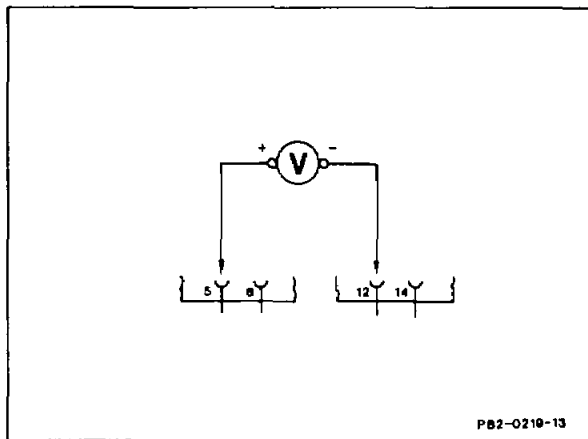
Test step 3.4

Test tripping contact of radio (radio security contact).

Multimeter to contact 5 (+) of 8-pin connector, contact 12 (-) of 14-pin connector

Radio fitted	specification	> 11 V
Radio removed	specification	0 V

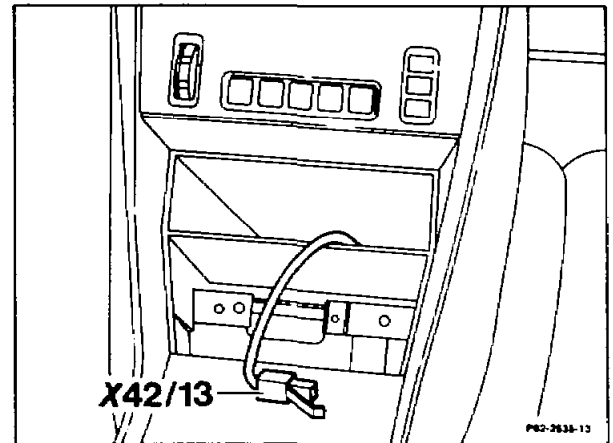
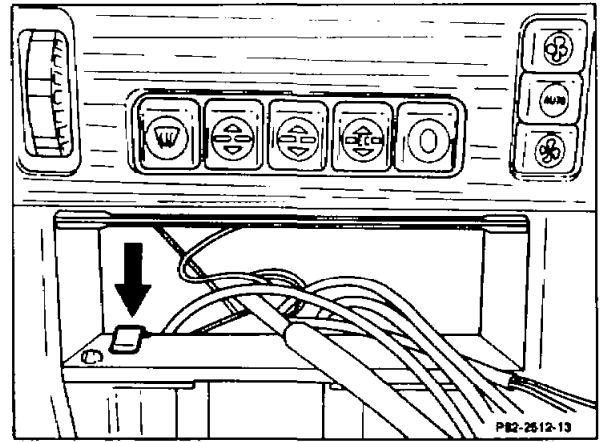
Yes	No
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Test brown/blue cable from contact 12 up to the radio security contact for open circuit or short circuit to ground; rectify any open circuit or short circuit.

Note

It is important to ensure that the radio security contact is correctly installed, has good contact to the radio housing and that no sticker is affixed in the contacting area on the radio housing.



Test step 3.5

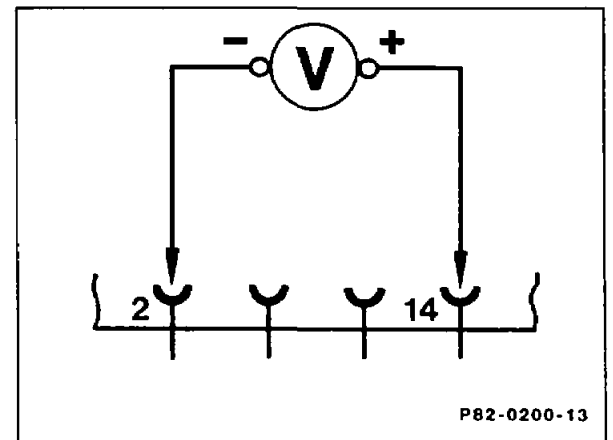
Test tripping contact of ignition starter switch (ignition on).

Multimeter to contact 14 (+), contact 2 (-) of 14-pin connector. Turn key in steering lock to position 2.

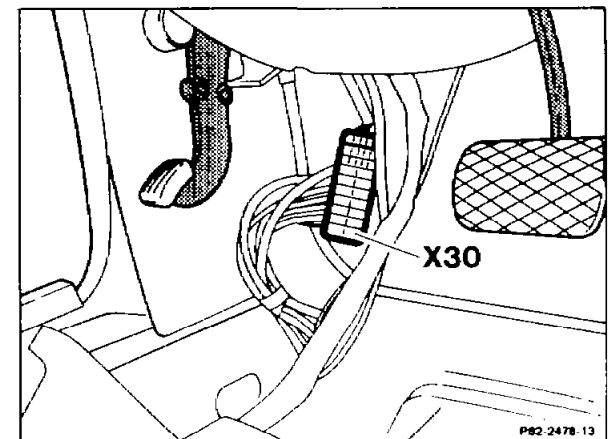
Specification > 11 V

Yes

No



Test black/red cable from contact 14 up to plug connection X30 contact 2 for open circuit; rectify any open circuit.



Test step 3.6

Test tripping contact of service brake (stop lamp switch).

Multimeter to contact (+), contact 2 (-) of 14-pin connector. Key in position 2. Operate service brake.

Specification > 11 V

Yes

No

Test black/red white cable from contact 13 up to stop lamp switch S9 for open circuit; rectify any open circuit.

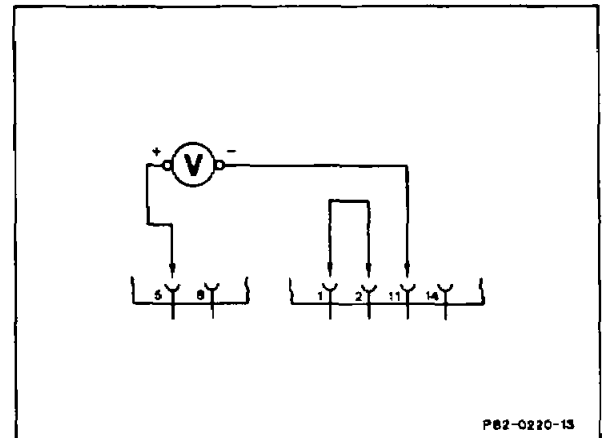
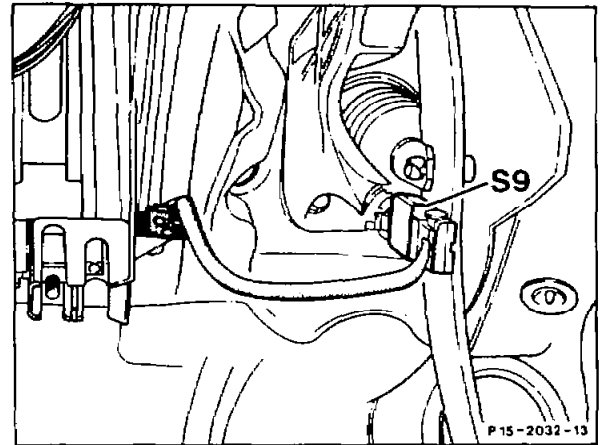
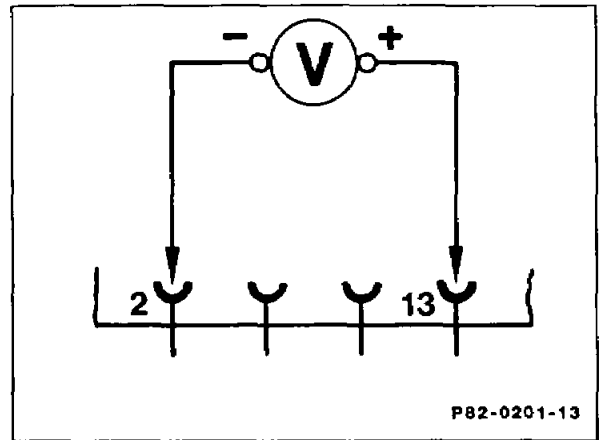
Test step 3.7

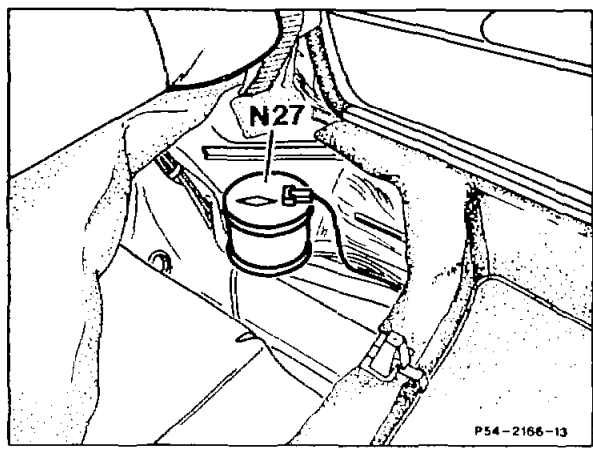
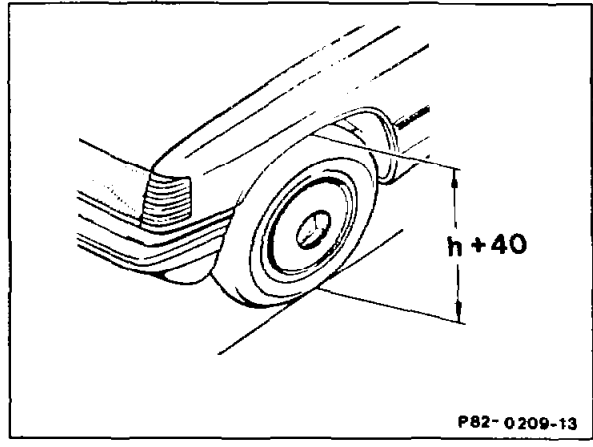
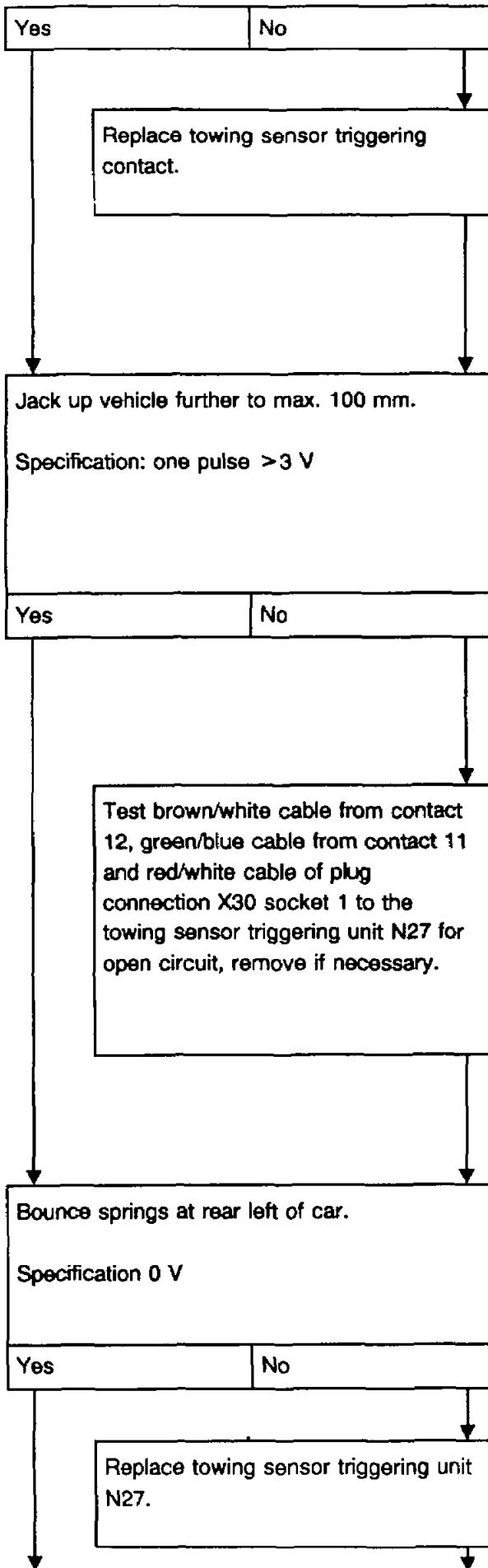
Test towing sensor triggering contact*

Multimeter to contact 5 (+) of 8-pin connector, contact 11 (-) of 14-pin connector. Bridge contacts 1 and 2 with connection cable. Jack up vehicle 50 mm.

Specification 0 V

* Not applicable as of 03/87





Test step 4

Test audible alarm signal and wiring at 8-pin connector of ATA control unit N26.

Multimeter to contact 1 and to ground

Specification $< 0.5 \Omega$

Yes

No

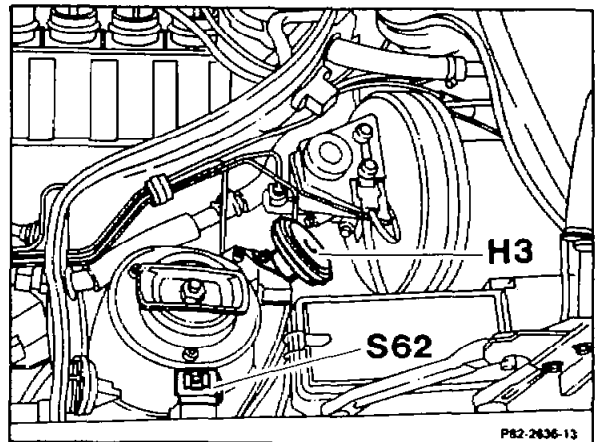
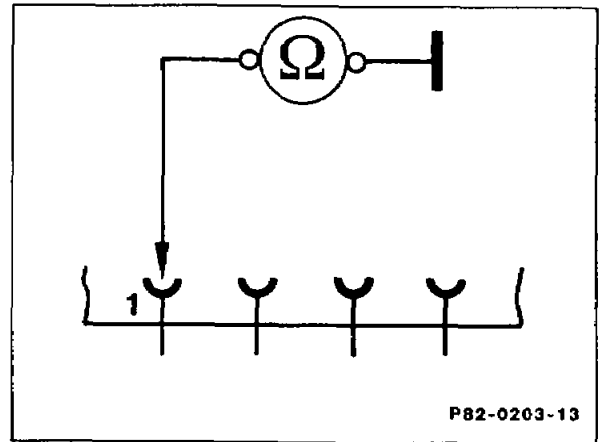
Test black/yellow red cable from contact 1 up to alarm signal horn H3 for open circuit; rectify any open circuit.

Test operation of alarm signal horn (H3) and negative cable for alarm horn for open circuit; rectify any open circuit.

Note

As of model year 1990, the installation position of the alarm horn has been modified. It is located at the front left behind the head lamp.

If no fault is found at the switches, the wiring and at the triggering contacts, the ATA control unit N26 has to be replaced.



B. USA as of model year 1986

For wiring diagrams see Wiring Diagrams Passenger Cars Volume 3.1 and 4.

Special tool



Commercially available testers

Multimeter

e.g. Sun DMM-5

Note

The electrical connection set 201 589 00 99 00 must be enlarged by two cables, order no. 809509.

Test steps

1. Test voltage supply for control unit.
2. Test switching anti-theft warning system on and off.
3. Test tripping contacts and wiring.
4. Test audible alarm signal and wiring.
5. Test visual alarm signal and wiring.



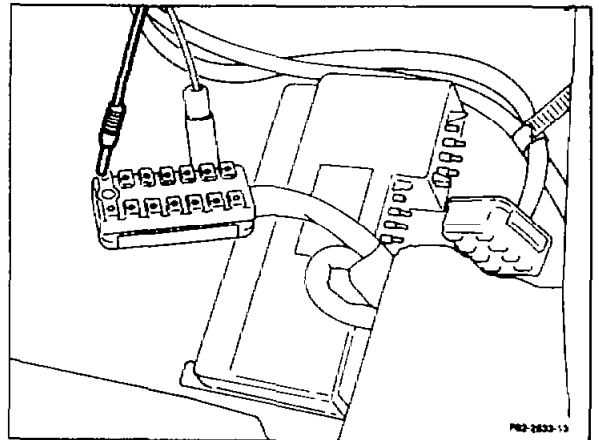
Preparation for all test steps.

- 1 Test fuse C and fuses of auxiliary fuse box.
- 2 Unplug 8-pin and 14-pin connectors from the ATA control unit N26.

3 Check contacts of couplings to ensure the soldered connections and electrical contacts are good. Check the contacts with a gauge; they must not be widened.

Note

The connector of cable no. 809509 from the electrical connection set 201 589 00 99 00 can be used as a gauge.



Test step 1

Test voltage supply for control unit N26 at the 14-pin coupling.

Multimeter to contact

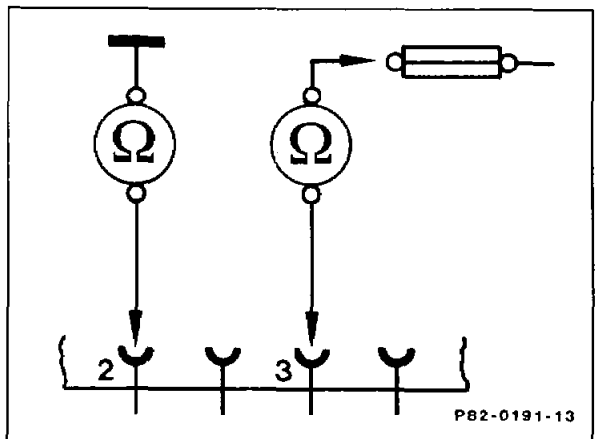
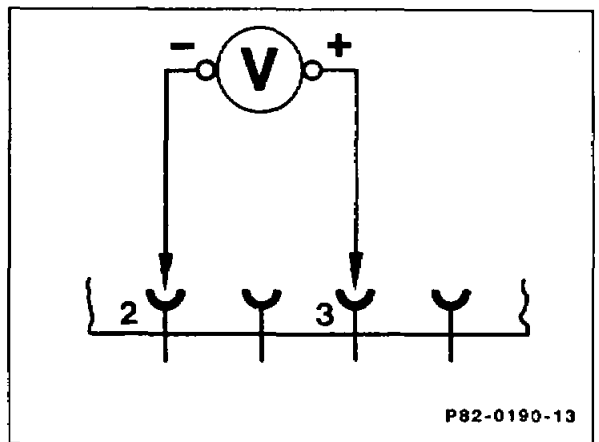
- 2
- + 3

Specification > 11 V

Yes

No

Test red/white cable from contact 3 up to fuse C and brown cable from contact 2 up to plug connection X30 contact 3 (terminal 3) for open circuit; rectify any open circuit.



Test step 1.1

Test voltage supply for the ATA control unit N26 at 8-pin.

Multimeter in turn to contacts

- +4
- +5
- 2 of 14-pin coupling

Specification > 11 volts

Yes

No

Test red/white cable from contact 4 and red/yellow cable from contact 5 up to additional fuse for open circuit; rectify any open circuit.

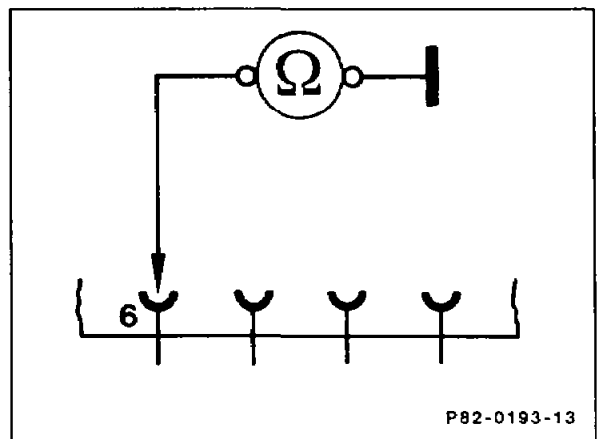
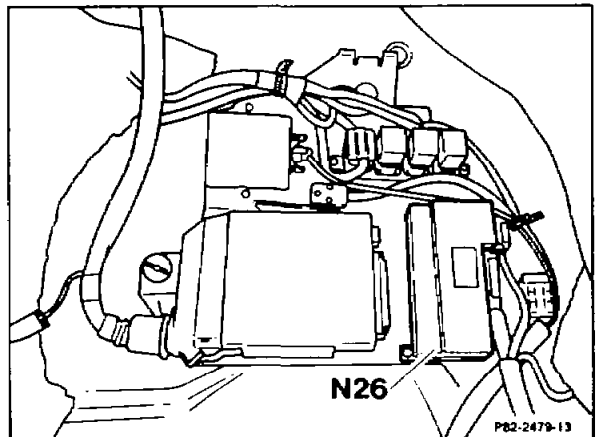
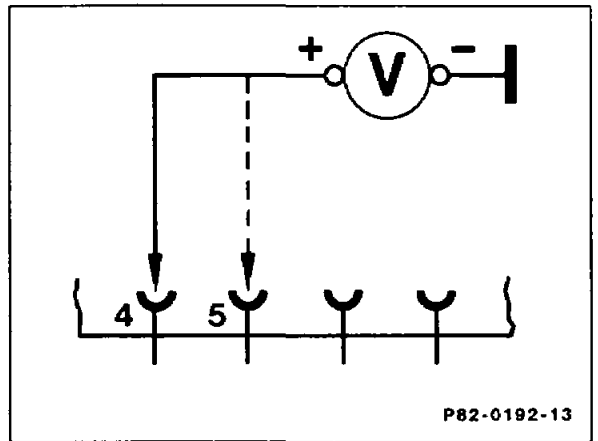
Test step 2

Test ATA switching on and off. Test switch at lock cylinders of front left and right doors for proper operation and wiring from the switches to the 8-pin connector of the ATA control unit N26 for open circuit.

1. Switching on anti-theft warning system

Multimeter to contact 6 and to ground. Turn key in left-hand door to the right and in right-hand door to the left and hold tight.

Specification < 0.5 Ω



2. Switching off anti-theft warning system

Multimeter to contact 7 and to ground. Turn key in left-hand door to the left and in right-hand door to the right and hold tight.

Specification $< 0.5 \Omega$

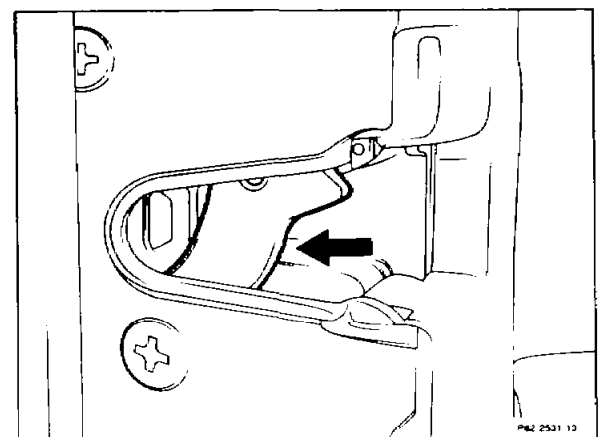
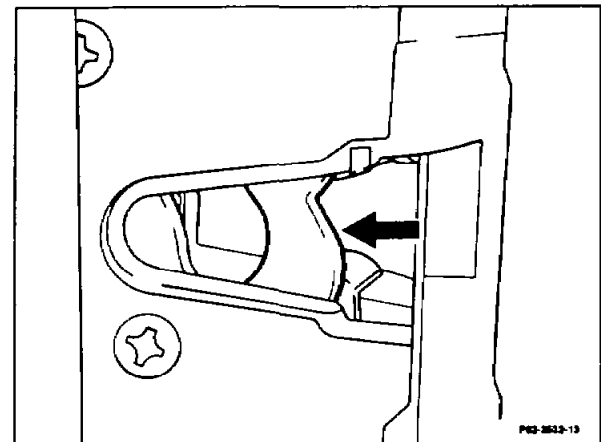
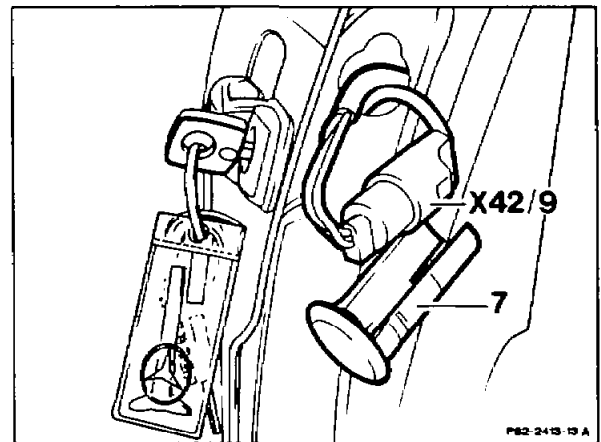
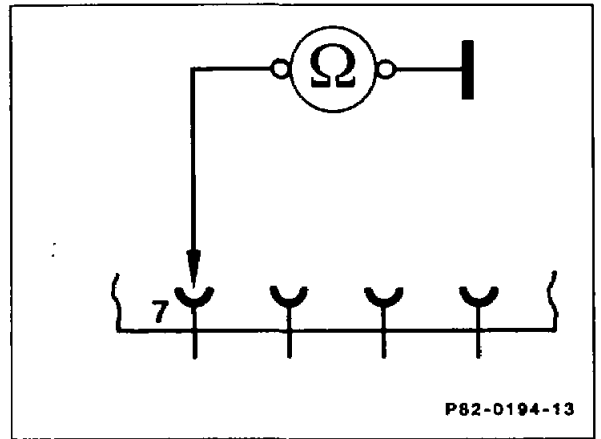
Remove plug connection (S62/1) of the left-hand or right-hand door respectively.

Test step 2.1

Check operation of switch at locked cylinders of front left and front right doors.

Note

Before switching on anti-theft warning system when door is open, the rotary tumbler of the front left door lock (arrow) must be moved into "door closed" position. Before closing the front left door, the rotary tumbler on the inside door mechanism must be moved into the "door open" position.



1. Anti-theft warning system switch on

Multimeter to connectors 1 and 3

Turn key in left-hand door to the right and on right-hand door to the left and hold tight.

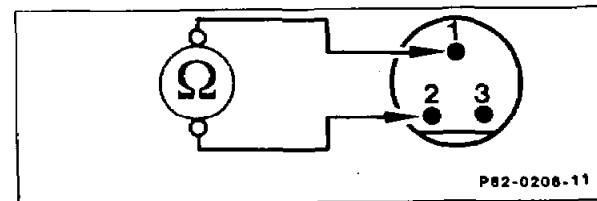
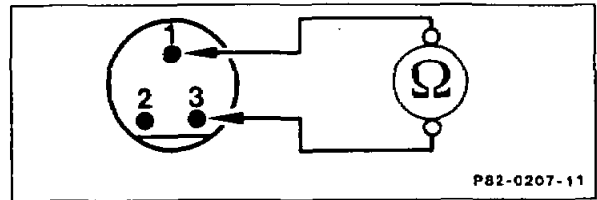
Specification $< 0.5 \Omega$

2. Anti-theft warning system switch off

Multimeter to connectors 1 and 2

Turn key in left-hand door to the left and on right-hand door to the right and hold tight.

Specification $< 0.5 \Omega$



Yes

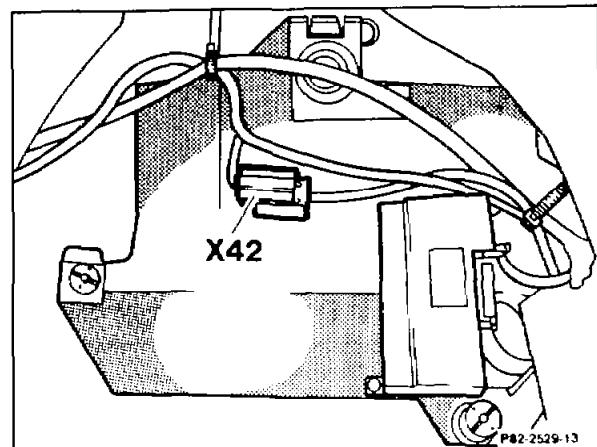
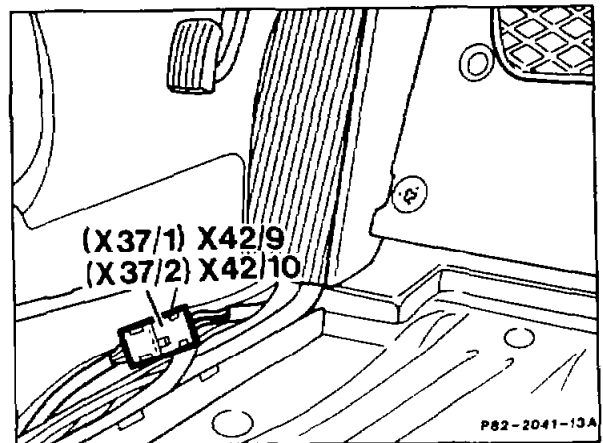
No

Replace locked cylinders of left-hand or right-hand door, respectively.

Test brown cable from contact 1, green/yellow cable from contact 2 and yellow/blue cable from contact 3 for open circuit. The cables run via the plug connections X37/1 or X37/2 and X42 to the 8-pin connector of the ATA control unit N26 (see wiring diagram). If no open circuit is found, replace ATA control unit N26.

Note

Plug connections X37/1, X37/2 and X42/9, X42/10 no longer fitted as of 05/88.



Test step 2.2

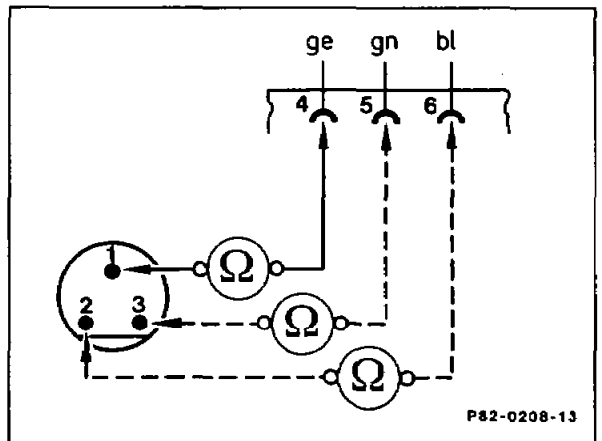
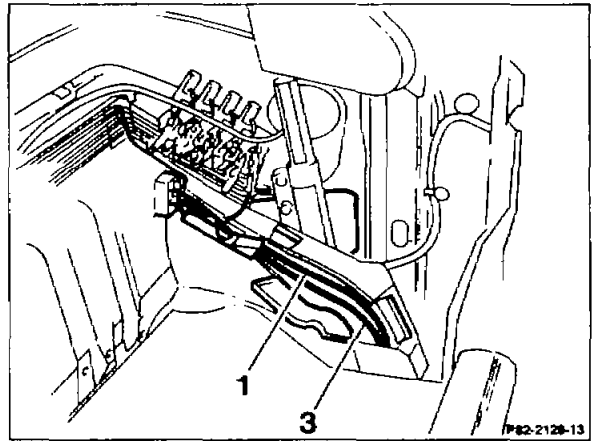
Test switching on and off anti-theft warning system at trunk lid lock. It is assumed that the car can be locked and unlocked centrally from the trunk lid lock.

Test wiring between connector of plug connection X43 and 14-pin connector of ATA control unit N26 for open circuit.

Multimeter to connector and contact

- | | |
|---|---|
| 1 | 4 |
| 2 | 6 |
| 3 | 5 |

Specification $< 0.5 \Omega$



Yes	No
-----	----

Rectify open circuit

Test step 3

Test triggering contacts and wiring at 14-pin connector of ATA control unit N26.

Note

If the anti-theft warning system is switched on (car parked and locked). The alarm is tripped after a cut-in delay of about 10 seconds by the following tripping points:

3. If the front left or front right door is opened.
- 3.1 If the rear left or rear right door is opened.
- 3.2 If the hood is opened.
- 3.3 If the trunk lid is opened.
- 3.4 If the radio is removed.
- 3.5 If the key is turned in the steering lock to position 2 (ignition on)
- 3.6 If the service brake is operated.
- 3.7 If the car is towed away.*

Test tripping contacts (door contact switches) of the front left and front right doors.

Multimeter to contact 3 (+), contact 7 (-)
Door opened specification > 11 V
Door closed specification 0 V

* Not applicable as of 07/86

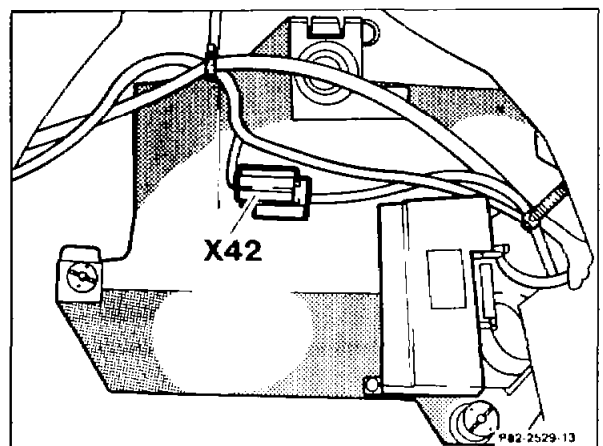
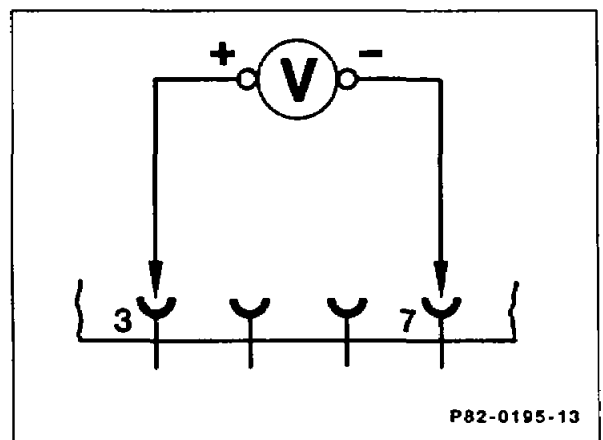
Yes

No

Test brown/gray cable from contact 7 up to left or right door contact switch, respectively, for open circuit or for short to ground; rectify any open circuit or short circuit.

Note

The cables run via the plug connection X42 (see wiring diagram Fig. 1).



Test step 3.1

Test tripping contacts (door contact switches) of the rear left and rear right doors.

Multimeter to contact 3 (+), contact 8 (-)

Door opened specification > 11 V

Door closed specification 0 V

Yes

No

Test brown/green black cable from contact 8 up to the left or right door contact switch, respectively, for open circuit or short to ground; rectify any open circuit or short circuit.

Note

The cable runs via plug connection X42 (see wiring diagram Fig. 1).

Test step 3.2

Test hood switch (S62).

Note

The hood switch must be pressed approx. 10 mm when the hood is closed.

As a check, wrap a wire around the pin of the switch and attach it so that it can be pushed upward when the pin is pressed in.

Close hood and open it again and measure the distance by which the wire has been pushed up.

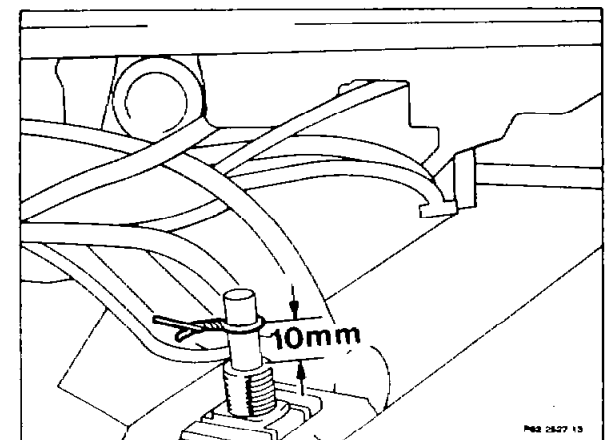
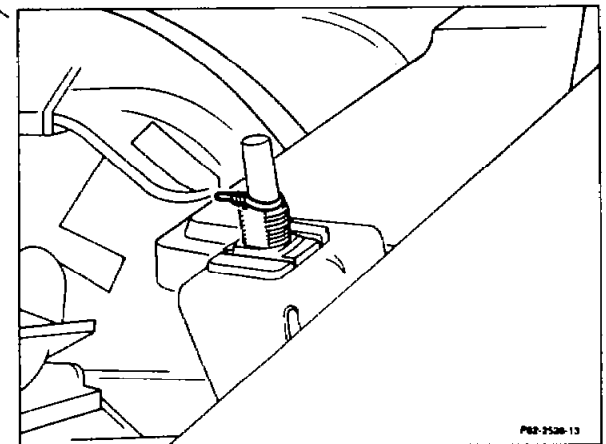
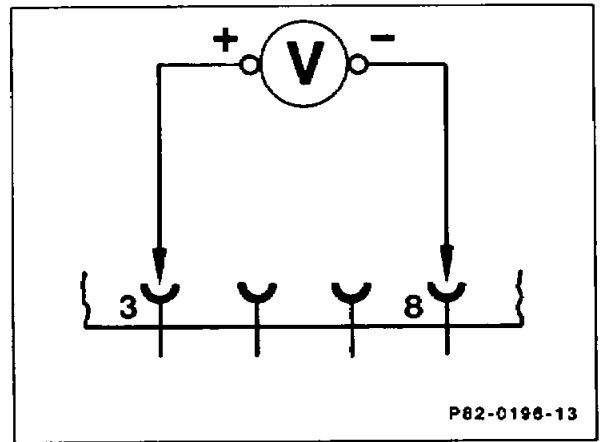
Multimeter to contact 3 (+), contact 9 (-)

Hood opened specification > 11 V

Hood closed specification 0 V

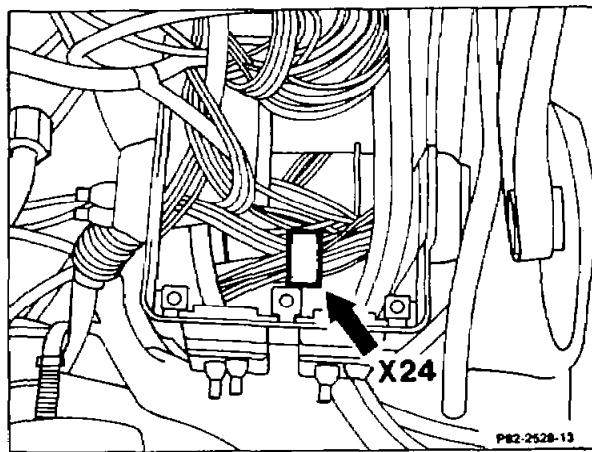
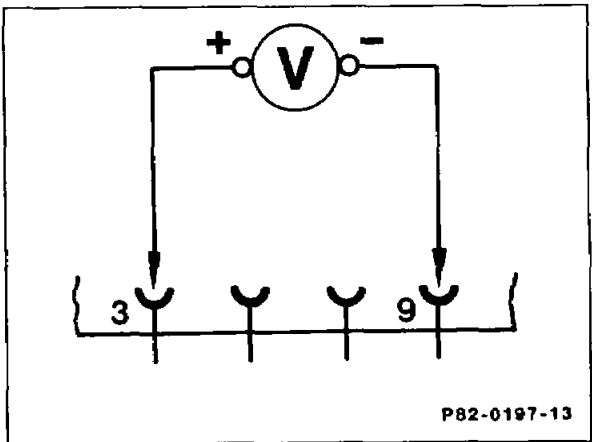
Yes

No



Test brown/red cable from contact 9 up to switch and the switch itself for open circuit or short circuit to ground; rectify any open circuit or short circuit.

Note
The cable runs via the plug connections X42 and X24 (see wiring diagram).



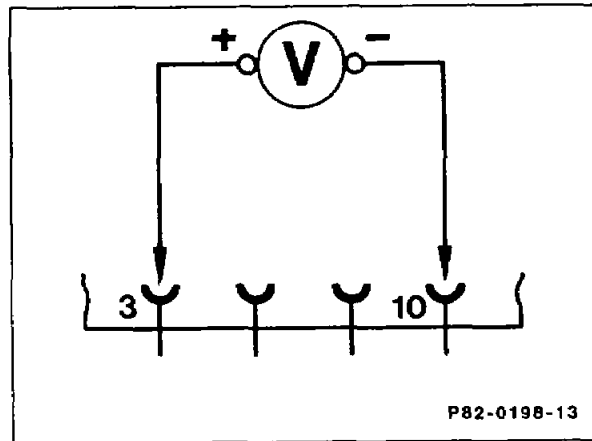
Test step 3.3

Test trunk lid switch triggering contact.

Multimeter to contact 3 (+), contact 10 (-)

Trunk lid opened	specification	>11 V
Trunk lid closed	specification	0 V

Yes No



Test black cable from contact up to plug connection (X40/1) and brown/yellow cable from the plug connection (X40/1) up to the switch (S17/8) for open circuit or short circuit to ground; rectify any open circuit or short circuit.

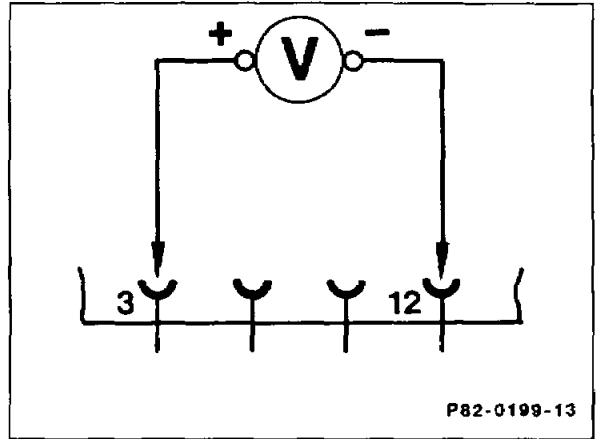
Test step 3.4

Test tripping contact of radio (radio security contact).

Multimeter to contact 3 (+), contact 12 (-)
Radio fitted specification > 11 V
Radio removed specification 0 V

Yes

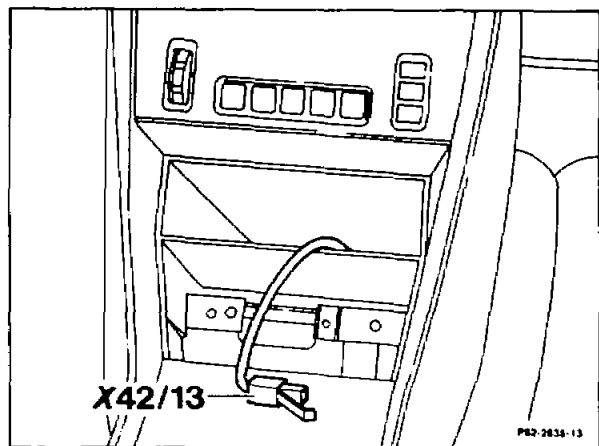
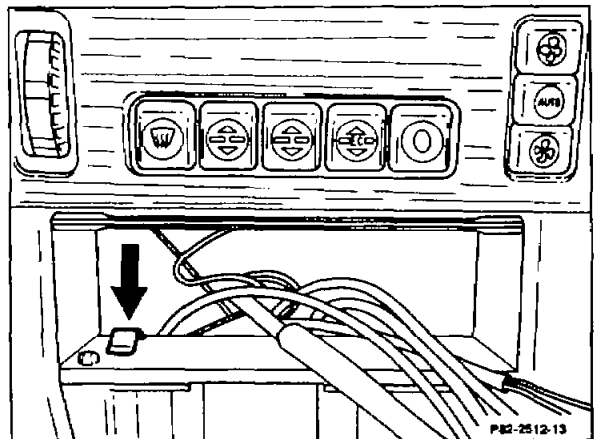
No



Test brown/blue cable from contact 12 up to radio security contact (arrow) for open circuit or short circuit to ground; rectify any open circuit or short circuit.

Note

It is important to ensure that the radio security contact is correctly installed, that it has good contact to the radio housing and that no sticker is affixed in the contacting area of the radio housing.



Test step 3.5

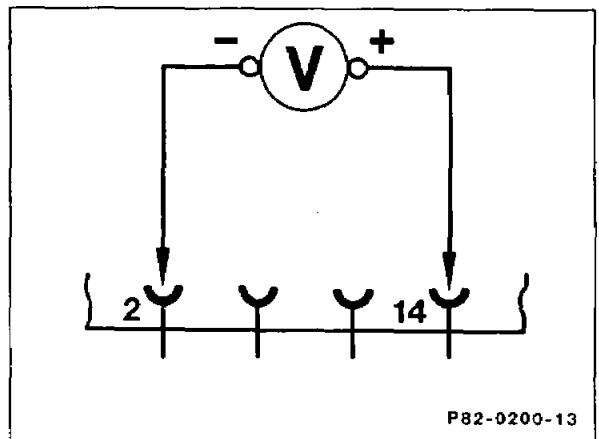
Test tripping contact of ignition starter switch (ignition on).

Multimeter to contact 14 (+), contact 2 (-).
Turn key in steering lock to position 2.

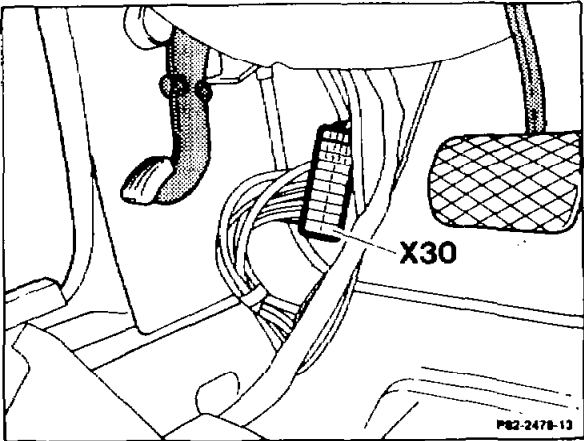
Specification > 11 V

Yes

No



Test black/red cable from contact 14 up to plug connection X30 contact 2 for open circuit; rectify any open circuit.



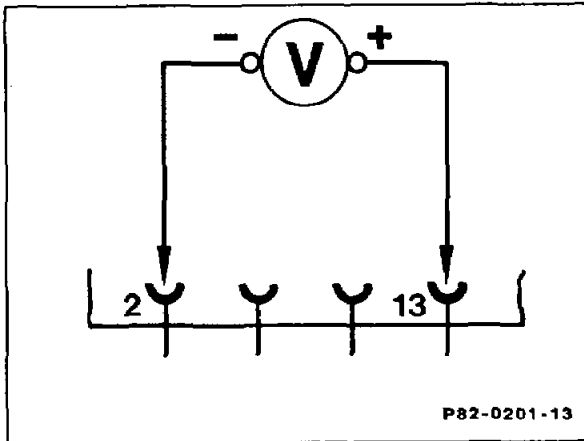
Test step 3.6

Test tripping contact of service brake (stop lamp switch).

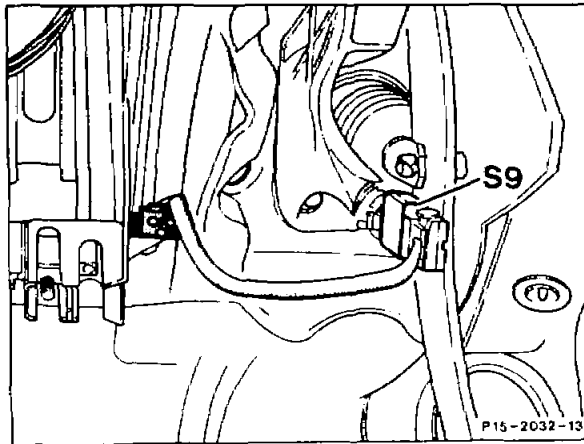
Multimeter to contact 13 (+), contact 2 (-). Turn key in steering lock to position 2. Operate service brake.

Specification > 11 V

Yes	No
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Test black/red/white cable from contact 13 up to terminal block X21 for open circuit; rectify any open circuit.



Test step 3.7

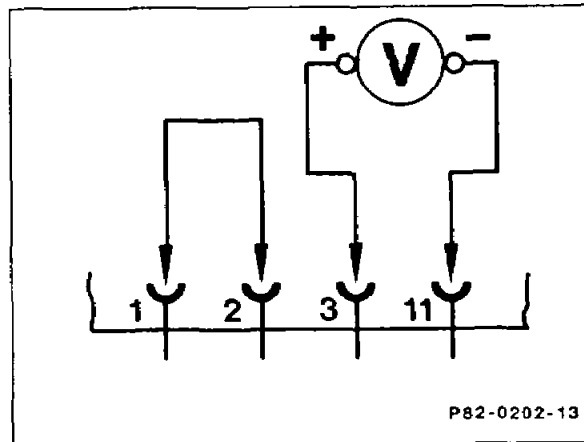
Test towing sensor triggering contact*

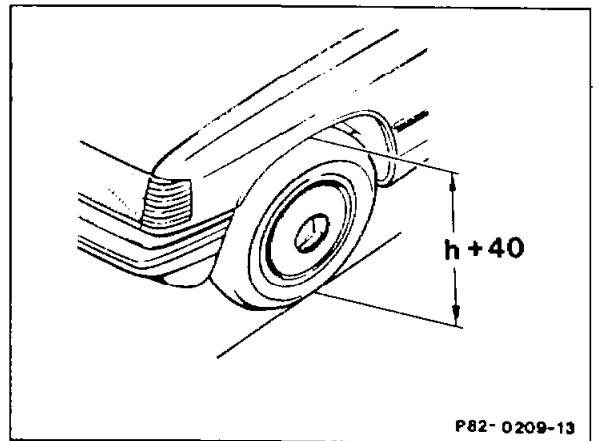
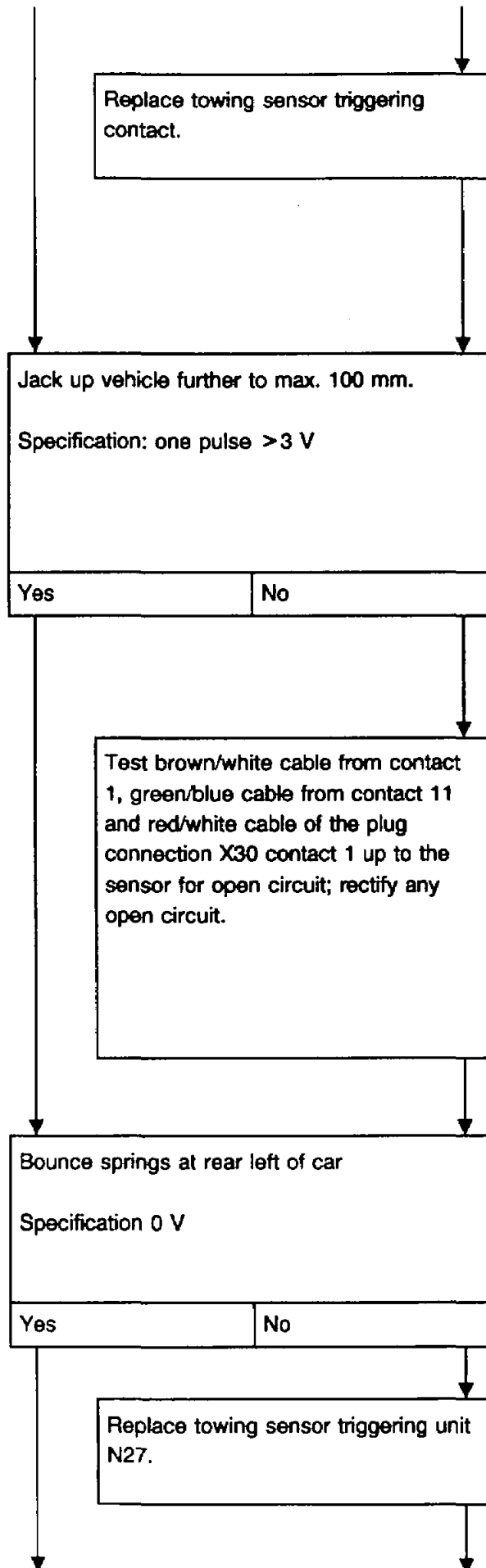
Multimeter to contact 3 (+), contact 11 (-). Bridge contacts 1 and 2 with connection cable. Jack up vehicle 50 mm.

Specification 0 V

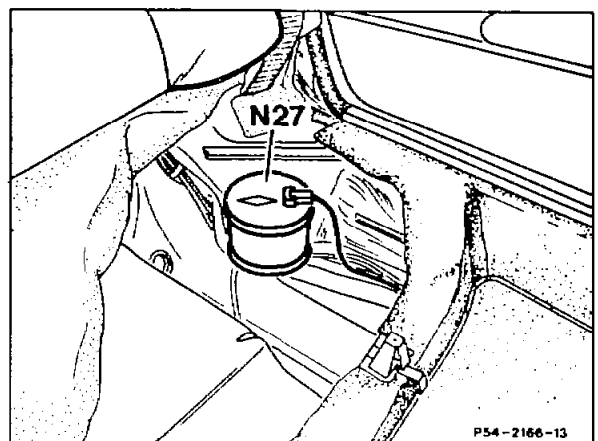
* Not applicable as of 07/86

Yes	No
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P82-0209-13



P54-2166-13

Test step 4

Test audible alarm signal and wiring at 8-pin connector of ATA control unit N26.
Multimeter to contact 1 and ground
Specification $< 0.5 \Omega$

Yes

No

Test black/yellow/red cable from contact 1 up to alarm signal horn H3 for open circuit; rectify any open circuit.

Note

Cable runs via plug connection X24 (see wiring diagram).

Test operation of alarm signal horn (H3) and negative cable for alarm horn for open circuit; rectify any open circuit.

As of model year 1990, the installation position of the alarm signal horn has been modified. It is located at the front left behind the headlamp.

Test step 5

Test visual alarm signal and wiring at 8-pin connector of ATA control unit N26.

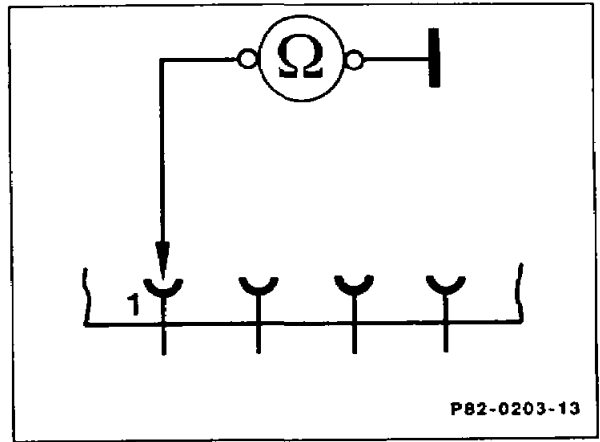
Voltmeter to contact 2 (+) and to ground, contact 3 (+) and to ground.

Switch on parking lights.

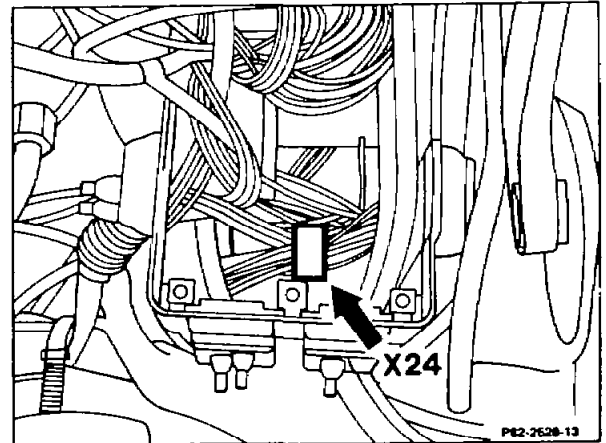
Specification $> 11 \text{ V}$

Yes

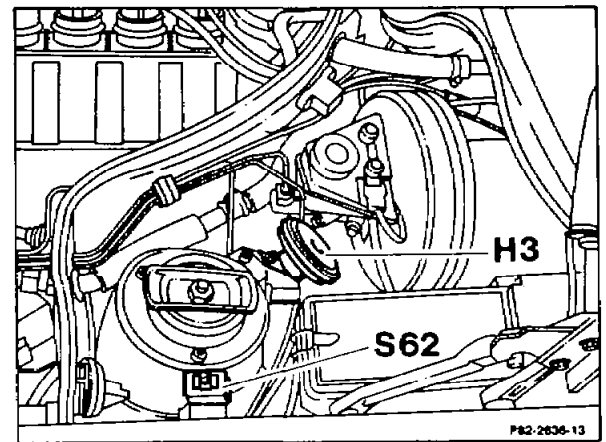
No



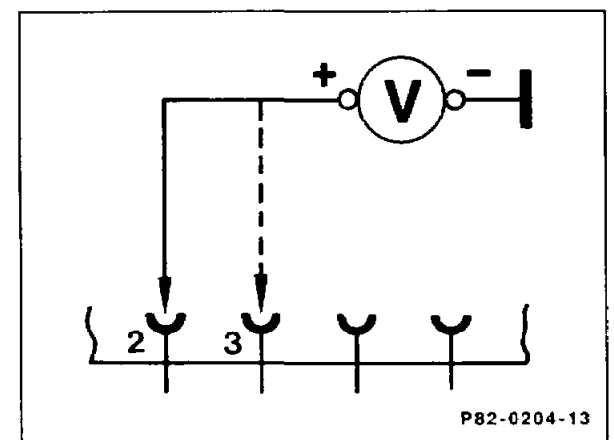
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P82-0204-13

