

A. General

All the legal regulations cited in this chapter refer to the Federal Republic of Germany.

In all other countries, the pertinent regulations must be observed.



The driver's and passenger's airbag units and belt tensioners are category T1 pyrotechnic devices. Their handling, transportation and storage are subject to the "Law on Explosive Substances" (Explosives Law of 17.04.86) and must therefore be reported to the relevant trade supervisory office.

Acquisition, transportation, storage, removal, installation and scrapping may be performed by trained personnel only, in accordance with the safety regulations.

B. Despatch of airbag and belt tensioner units

Transportation within the plant must always occur in the luggage compartment or cargo area of the vehicle and using the service packaging.

Transportation in the passenger compartment is prohibited!

C. Storage of airbag and belt tensioner units

Airbag and belt tensioner units must be stored in accordance with the Second Regulation to the Explosives Law of 17.04.86.

According to this regulation, small quantities of materials and objects may be stored in lockable rooms without a special storage permit according to the Explosives Law. Only a limited number of category T1 pyrotechnic devices may be stored in a building used for industrial purposes.

According to Annex 6 to the Appendix of the 2nd Explosives Regulation, the following maximum storage quantities are permitted in a building used for industrial purposes without a special permit from the relevant authority, provided certain conditions are observed (e.g. a steel cabinet):

General store room: 20 kg gross

Sealed room (separate store room):
200 kg gross

In order to calculate the quantity actually stored, reference must be made to the gross mass of the component for which the authorization regarding explosive substances was issued:

Per driver's airbag: 0.6 kg

Per passenger's airbag: 1.2 kg

Per belt tensioner: 0.2 kg

D. Assembly and disassembly of airbag and belt tensioner units

1 Testing, disassembly and assembly may only be performed and supervised by specially trained personnel.

2 Airbag and belt tensioner units must only be fitted when the battery is disconnected, the negative pole/terminal covered and the test coupling/plug connection (10-pin) disconnected, directly and without delay after removal from the store room.

3 If work should be interrupted, the airbag and/or belt tensioner units must be returned to storage in a sealed room. Under no circumstances should these components be left unsupervised.

The fundamental points to be observed are as follows:

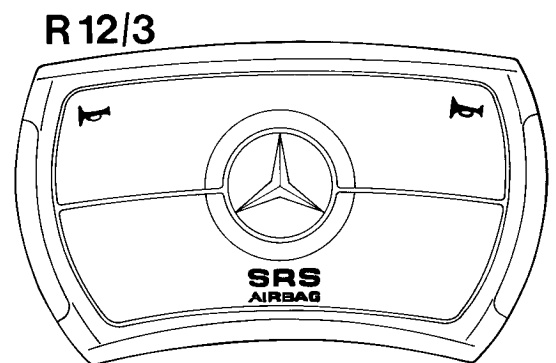
- Airbag and belt tensioner units must not be treated with grease, cleaning agents or similar agents.
- Airbag and belt tensioner units must not be exposed to temperatures above 100 °C even for brief periods.
- Airbag and belt tensioner units which have fallen from a height of more than 0.5 m must not be installed in the vehicle.
- Airbag and belt tensioner units must only be tested electrically when installed in the vehicle and using the specified test equipment.

Before removing airbag and belt tensioner units, the battery must similarly be disconnected, the negative terminal covered and the test coupling/plug connection (10-pin) disconnected.



Airbag units removed from the vehicle must always be stored with the cushion uppermost!

If the gas generators are ignited, the airbag unit will be thrown into the air if the airbag is at the bottom (risk of injury).



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E. Scrapping of airbag and belt tensioner units

In the Federal Republic of Germany, the airbag and belt tensioner units must be rendered unusable by electrical ignition before scrapping, in accordance with the accident prevention regulations. These safety measures are essential because any improper activation of these pyrotechnic devices may result in injury. Dangerous situations arise e.g. when scrapping with the aid of cutting torches, when melting down or if components still charged are placed in flames or smoldering fires at refuse dumps.

In order to avoid an additional workload arising from compliance with these safety measures, we recommend passing the pyrotechnic devices for scrapping to a scrap dealer who will perform the necessary safety measures. On acceptance, the scrap dealer must sign a declaration obliging him to scrap pyrotechnic devices in accordance with the accident prevention regulations.

When agreements of this sort are made, it is however essential to ensure that it is impossible to remove pyrotechnic devices from the scrap to be passed on for repair work. For this reason, they must be rendered unusable for reconditioning by means of ignition. This requires an ignition device developed by MB, with which the pyrotechnic devices can be rendered unusable in complete safety.

Check whether the vehicle is equipped with belt tensioners or airbag and belt tensioner units

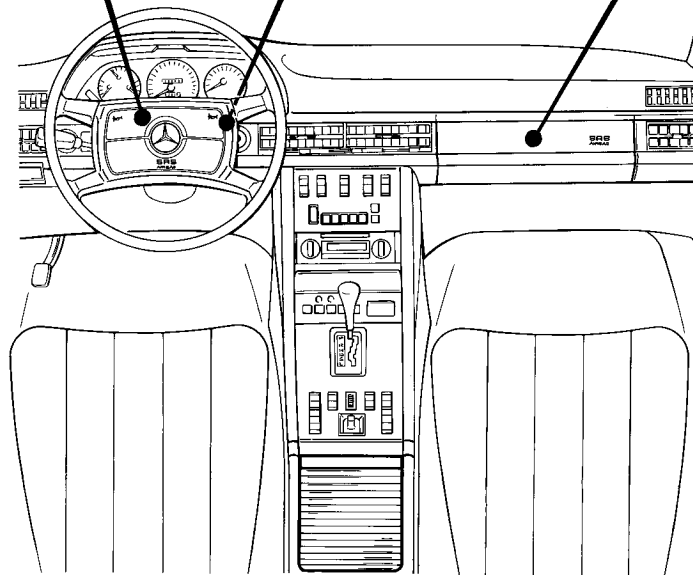
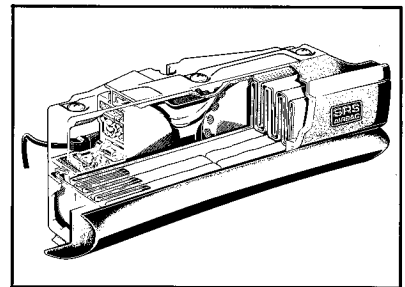
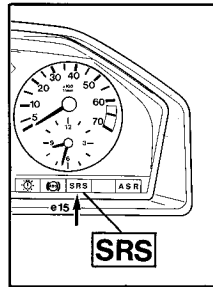
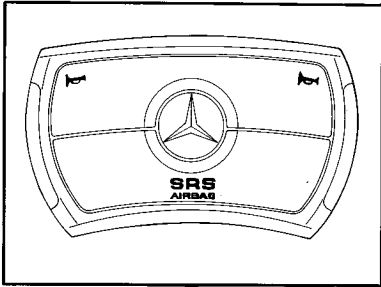
1 Belt tensioners can be recognized by the symbol **"RS"** on the buckle latch.

2 The driver airbag unit can be recognized by the inscription **"Airbag"** or **"SRS Airbag"** on the steering wheel upholstery.

The passenger airbag unit can be recognized by the inscription **"SRS AIRBAG"**.

An additional feature to aid recognition is the warning lamp in the instrument cluster bearing the inscription **"RS"** or **"SRS"**.

 version **"SRS"** (as before).



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Checking removed or individually supplied belt tensioners and airbag units and triggering if necessary

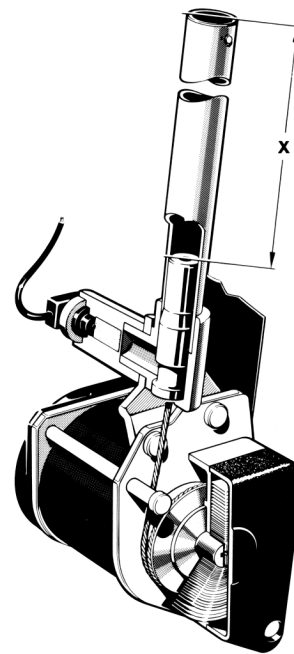
1 Belt tensioner (cable tensioner)

Remove protective rubber cap on end of tube and determine distance "X". To do this, insert a round instrument or a screwdriver of approx. 10 mm diameter and measure the depth.

Model	Distance "X"
124	170 mm \pm 5 mm

- If the distance measured is shorter than the distance listed in the table, the belt tensioner has been triggered.

Belt tensioner, 1st version



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Modified versions

As of 01/86, there is an observation window (arrow) in the housing of the belt tensioner, through which the cable is visible. It is thus no longer necessary to remove the belt tensioner from the vehicle to perform this test.

If no cable is visible, the belt tensioner has been triggered.

Belt tensioner, 2nd version

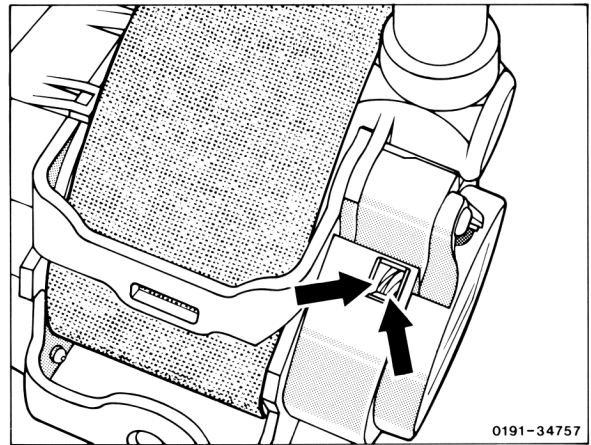


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As of 08/87, belt tensioners are supplied by two manufacturers.

The housing of Autoflug belt tensioners is also fitted with an observation window through which two cables are visible.

Autoflug belt tensioners where only 1 cable or no cable is visible have been triggered.



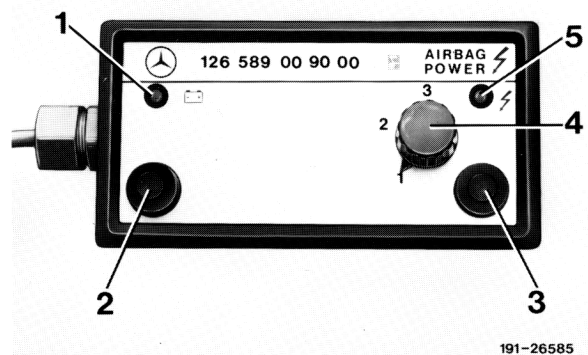
2 Lay any belt tensioners which have not been triggered in the footwell of a scrap vehicle and directly connect the 2-pin coupling. Trigger belt tensioner as described under section b.

3 Airbag unit

If the cushion on the airbag unit is not ruptured, the airbag unit must be triggered with the aid of the 2-pin coupling (see section b).

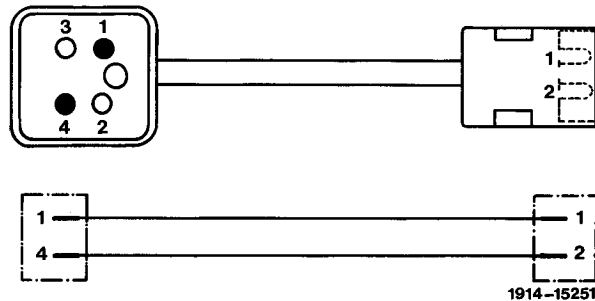
Triggering device

- 1 Battery charge indicator lamp
- 2 Battery check pushbutton
- 3 Pushbutton for triggering
- 4 Rotary knob
- 5 Triggering indicator lamp



Triggering airbag and belt tensioner units

In order to trigger belt tensioner units via the 4-pin coupling, a separate adapter cable, part no. 124 589 29 63 00, is required. This part is not included with the triggering device, part no. 126 589 00 90 00.

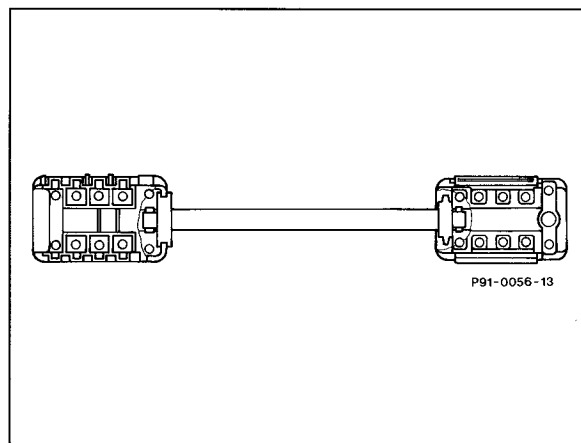


Self-made adapter cable

Number	Designation	Part no.
1	Plug, top section	009 545 21 28
1	Plug, bottom section	009 545 52 28
2	Plug pins, dia. 4 mm	001 545 38 26
2	Plug pins, dia. 2.5 mm	011 545 16 28
1	Plug	012 545 56 28
0.3 m	Mains cable	Commercial

In order to trigger the belt tensioner units (modified triggering logic as of 09/87) by means of the test coupling/plug connection for airbag (X29/9), a separate adapter cable, part no. 126 589 21 63 00, is required. This part is not included with the triggering device, part no. 126 589 00 90 00.

The adapter cable must be connected to plug connector 6 of the triggering device and may be used for all vehicles delivered to date.



a) Use of the triggering device

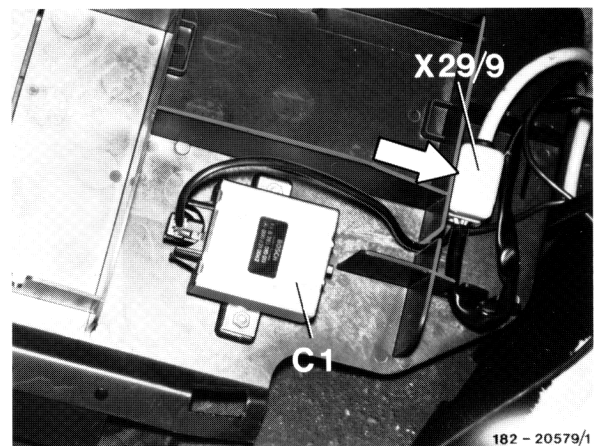
With airbag and belt tensioner units in situ.

- 1 Check that the steering wheel is securely mounted on the steering column and that the airbag unit is rigidly coupled to the steering wheel (the steering wheel is damaged when an airbag unit is triggered and must also be scrapped). In vehicles with passenger's airbag, the passenger airbag unit must be secured in place with the central retaining bolt.
- 2 Turn ignition key to position "0", disconnect battery negative terminal and cover.
- 3 In vehicles with airbag and belt tensioners, disconnect red 10-pin plug connection.

Location of the 10-pin plug connection or the 4-pin belt tensioner test coupling in the vehicle:

Model 124, 1st version

Under the passenger's foot rest.



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Model 124, 2nd version

On the panel under the passenger's foot rest.

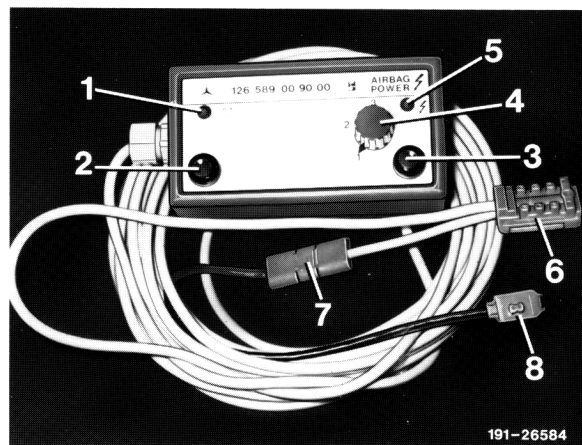


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4 Connect adapter cable part no. 126 589 21 63 00, with plug connection 6. Connect adapter cable plug connector with the 10-pin plug of the airbag cable harness.

Triggering

Driver's airbag Belt tensioner, Passenger's airbag Detonator 1	Knob (4), position 1
Passenger's airbag Detonator 2	Knob (4), position 2
	Knob (4), position 3



5 From the specified safety distance (10 m, equals the length of the triggering cable) press pushbutton (2) and pushbutton (3) simultaneously. The indicator lamp (5) lights up when the belt tensioner has been triggered.

6 In vehicles with belt tensioners only (without airbag), disconnect adapter cable at plug connector (7) and join adapter cable, part no. 124 589 29 63 00, or self-made adapter cable, with plug connector (7).

7 Join 4-pin plug (2 pins used) to the belt tensioner test coupling.

Triggering the belt tensioner

Knob (4), position 2.

b) Use of the triggering device

For separate airbag and belt tensioner units

Separate airbag or belt tensioner units should be triggered in a scrap vehicle (with the doors closed) if possible. Position the separate airbag unit in the footwell with the **cushioned side is uppermost**. If there is no suitable vehicle available, the airbag unit may, in exceptional cases, be triggered in the transportation container for spare-part engines with the lid closed.

Since the passenger airbag unit has 2 gas generators, these units must be triggered in 2 stages. Separate belt tensioner units must be triggered in a container filled with sand. There must be a bank of sand at least 30 cm thick around the unit.

1 Connect plug connector (8) to the unit to be scrapped.

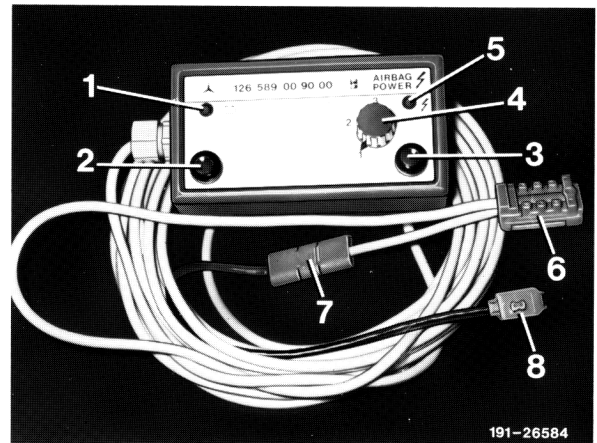
2 Turn rotary knob (4) to position (1).

3 From the specified safety distance (10 m, equals the length of the triggering cable), press pushbutton (2) and pushbutton (3) simultaneously. When triggering in a scrap vehicle, always stand in front of the vehicle. The indicator lamp (5) lights up when the unit has been triggered.

Note

Plug connector (8) is damaged when a separate airbag unit is triggered. For this reason, the adapter cable must be disconnected at the plug connector (7) and renewed.

(Part no. 126 589 00 90 22)

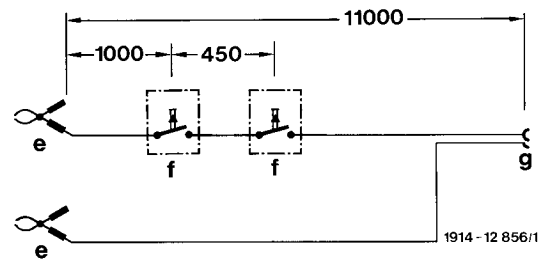


c) If triggering device, part no. 124 589 00 90 00, is not available

Self-made triggering cable

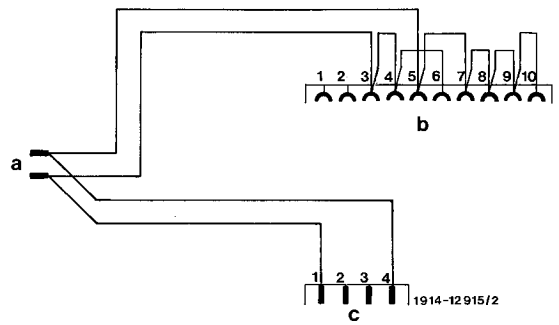
1 Construct triggering cable with pushbutton.

- e Battery terminals
- f Pushbutton
- g Coaxial plug connector



2 Construct adapter cable for 4 or 10-pin coupling of vehicle cable harness.

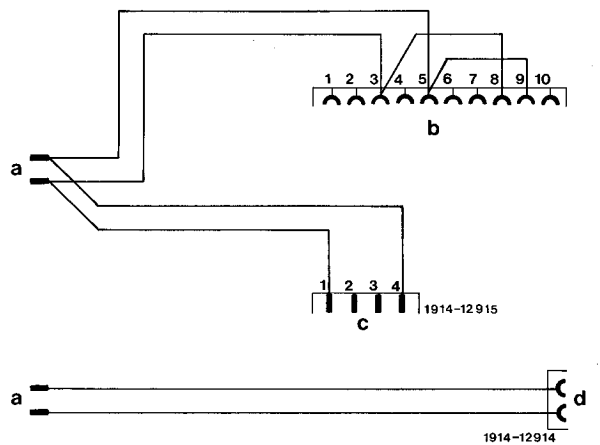
- e Coaxial plug connector
- b 10-pin plug connector
- c 4-pin plug connector



3 Construct adapter cable for triggering separate airbag or belt tensioner units.

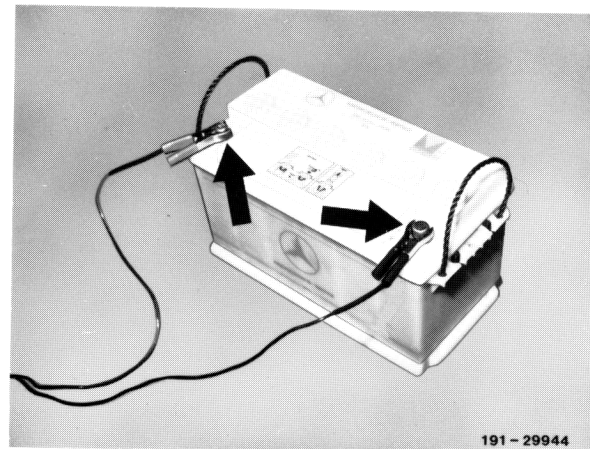
Note

The plug connector (d) is damaged when a separate airbag unit is triggered. For this reason, the adapter cable is no longer usable after triggering the airbag unit and must be rebuilt. The passenger airbag unit must be triggered in two stages (2 gas generators).



- a Coaxial plug connector
- d 2-pin plug connector



4 Connect triggering cable to starter battery. From the specified safety distance (equal to the length of the triggering cable), press both pushbuttons simultaneously.



Spare parts



Number	Designation	Part no.
1	10-pin plug connector	001 545 20 28
8	Contact jack	002 545 99 26
1	4-pin plug connector	009 545 52 28
1	Cover	009 545 21 28
2	Pins	001 545 38 26
1	2-pin plug connector	126 540 07 81
2	Coaxial plug	Commercial
2	Pushbutton (without locking device)	Commercial
2	Battery terminals	Commercial
1	Two-strand cable, 11 m long	Commercial

Operating the triggering device

Test config. Triggering device at position	Cable harness plug no.	Scope of test	Operation: buttons	Reference value: LED	Possible cause if deviation from reference value
1		Internal battery test	Press  Triggering device not connected	 ON Green indicator lamp ON	If necessary, re-new batteries of triggering device: 2 miniature batteries (2 x 1.5 V)

With the ignition switched off and the battery negative terminal disconnected, disconnect the coupling from the control unit and connect with the triggering device.

Observe the safety distance of 10 m when triggering.

1	3 + 5	Triggering driver's detonator	Press both pushbuttons	1. Before triggering  ON	Triggering circuit faulty
2	8 + 6 4 + 9 4 + 10	Triggering passenger's detonator 1 or belt tensioner, right, or left and right		Triggering occurs with a bang	
3	7 + 6	Triggering passenger's detonator 2		2. After triggering  ON Green indicator lamp ON	

F. Disposal of mercury-containing control units

Mercury-containing components must not be disposed of with industrial waste or passed on to the usual scrap disposal companies. These components must either be sent for recycling in accordance with the regulations of the Refuse Law, or disposed of as special waste.

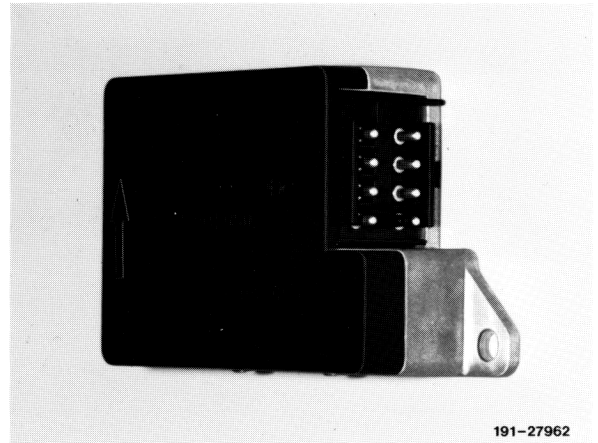
Workshops with no recycling facilities for mercury-containing components may send these parts back to the Sindelfingen plant, Abteilung KGA, Abladestelle 300, in the same way as returned service parts.

Parts covered by warranty and goodwill must be marked as such.

Mercury-containing components

1. Belt tensioner control unit

Part no. 003 820 06 10



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2. Airbag control unit

Part no. 126 820 14 10

124 820 51 10

002 820 97 10

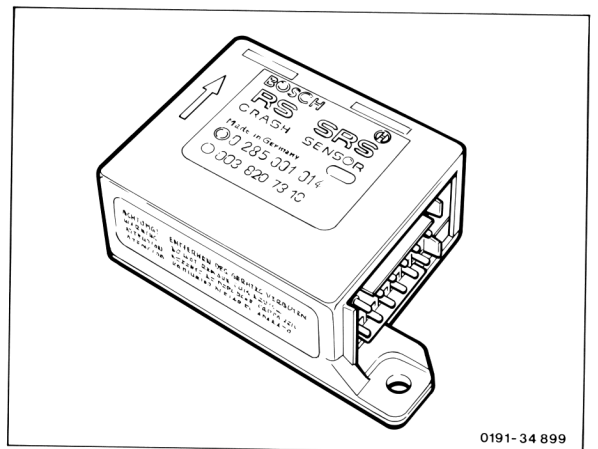


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3. Airbag control unit

Part no. 003 820 73 10

003 820 74 10

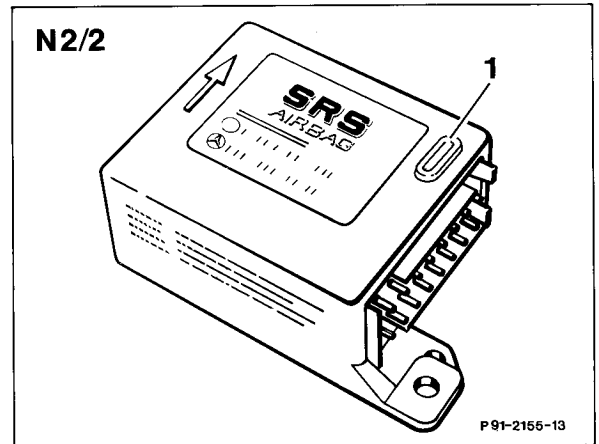


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Mercury-free control units

There is a web (1) on the top face of these airbag or belt tensioner control units. When the control unit is installed in the vehicle, this web is accessible from outside (with the ashtray, radio or right-hand tunnel panelling removed) and indicates that the previous mercury switch has been replaced by a reed contact.

Control units with web need no longer be separately disposed of but may remain in the vehicle for scrapping, be disposed of as industrial waste or passed on to the usual scrap disposal companies.



Illustrated on the airbag control unit
N2/2 Control unit
Part no. 004 820 11 10
1 Web

G. Important instructions to be observed during testing and repairs and following accidents

1. Before starting

- body repairs
- welding and
- work on the airbag restraint system, steering wheel, airbag unit, control unit and belt tensioner, the battery negative terminal must be disconnected and covered.

The 10-pin test coupling for the airbag plug connection (color red) in the right-hand footwell must be disconnected 2 s after disconnecting the battery.

2. Following accidents

After an accident, the individual components must be renewed if the following conditions are met:

- 1 Visible deformation or damage to the housing.
- 2 Deformation to the control unit support bracket (even if the control unit appears to be intact).
- 3 If an electrical fault is discovered during testing.
- 4 Not triggered, but damaged airbag and belt tensioner units.
- 5 Triggered airbag and belt tensioner units.
- 6 If pulse display 10 appears (vehicles as of 09/87).

Note

Damaged or faulty components must not be repaired, but must always be renewed. The same renewal regulations as described in operation no. 91-625 apply for belt tensioner units which have not been triggered.

If the driver airbag unit has been triggered, the steering wheel must always be renewed.

If the passenger airbag unit has triggered, the installation frame must always be renewed.

3 Paintwork

There are no particular safety regulations to be observed in the event of paintwork with subsequent heat drying, as the entire airbag and belt tensioner restraint system has been designed in such a way that no damage can occur from heating up the vehicle.

4 After working on the airbag and belt tensioner restraint system, the system (in vehicles up to 09/87) must be checked using the tester, or (in vehicles as of 09/87) by means of the pulse display. Pulse display 1 indicates that no fault is stored, i.e. the system is in order.

Note

In vehicles as of 09/87, the belt tensioners are not incorporated into the pulse display and these must be specially tested as described under 91-700 following renewal of one or both belt tensioners.

Note

When removing one or both front seats (the plug connection to the belt buckles must be disconnected) with the ignition in position 1 or 2, the RS or SRS warning lamp lights up and goes out again when the seats have been reinstalled. This is stored as a fault (pulse display 5 or 6).

The memory must be cleared as described.