

17.2 Model 140

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Diagnostics Functional control **Seat belts, belt latch, belt tension reduction feature, belt height adjustment**

Component locations

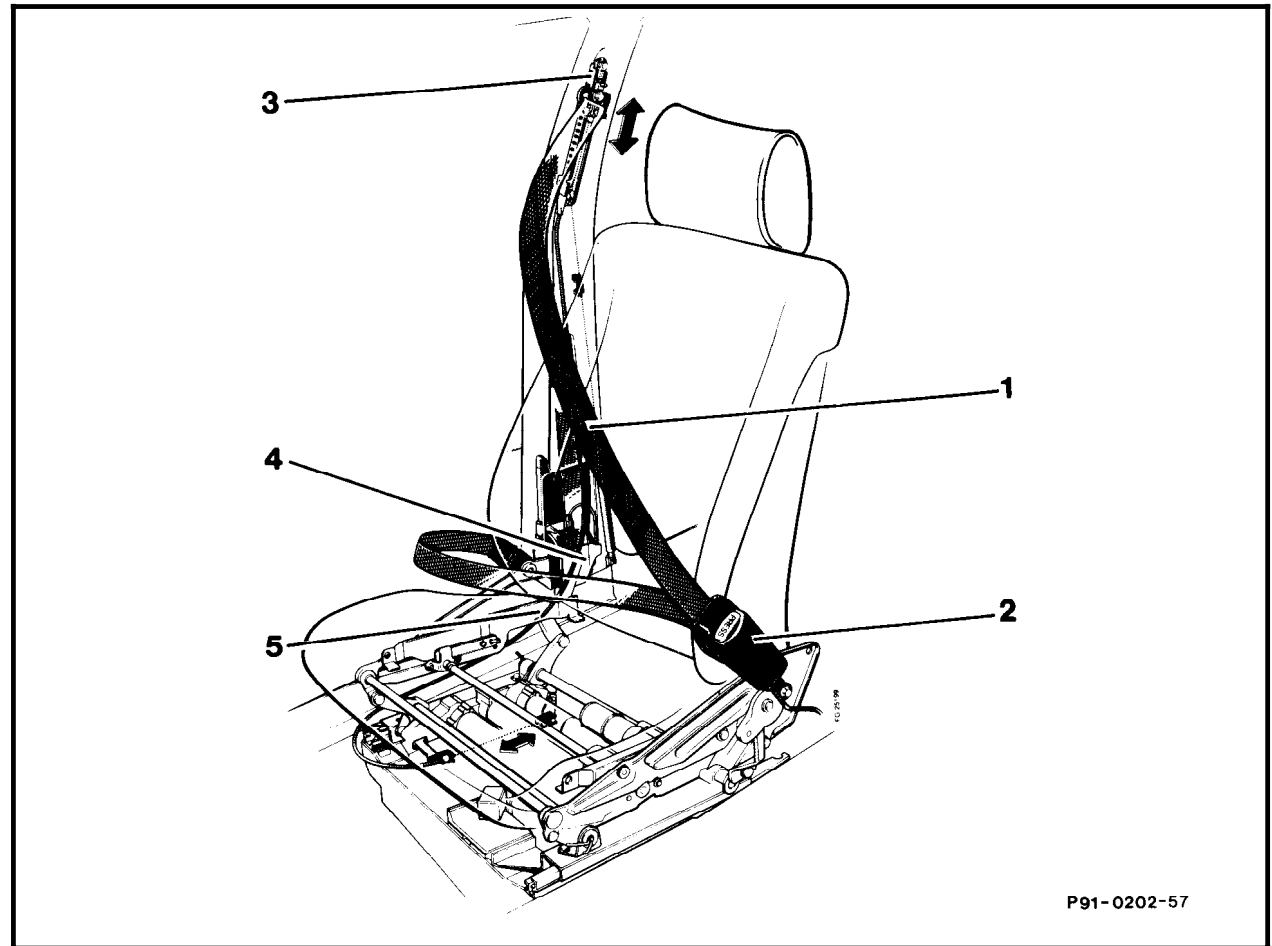


Figure 1

- 1 Seat belt
- 2 Seat belt latch
- 3 Seat belt height adjustment
- 4 Seat belt automatic reel
- 5 Cable (Seat belt height adjustment)

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Diagnostics Functional control Seat belts, belt latch, belt tension reduction feature, belt height adjustment

Conduct the mechanical and electrical functional tests of the seat belt tensioner:

- After an accident
- After deployment of the seat belt tensioner
- After replacement of the seat belt tensioner

Testing the seat belt tension reduction feature and the seat belt height adjustment is also described in this chapter on seat belt tensioner (ETR).

17.2 Emergency Tensioning Retractor

Model 140

Diagnostics Functional control Seat belts, belt latch, belt tension reduction feature, belt height adjustment

Test step/scope of test	Test condition	Nominal value	Possible cause/remedy
⇒ 1 Testing the free movement of the seat belts and the seat belt automatic reels (Driver, front passenger, rear seats ¹⁾	Pull the seat belt outward (figure 1, item 1) slowly and with constant force, then release.	The seat belt can be pulled out and the automatic reel pulls it back in again.	Seat belt twisted or folded. Defective automatic reel (91-0625-0630)
⇒ 2 Testing seat belt latch (Driver, front passenger, rear seats ¹⁾	Pull the seat belt (figure 1, item 1) abruptly outward.	Seat belt is locked by the automatic reel.	Defective automatic reel (91-0625-0630)
⇒ 3 Testing seat belt tension reduction feature (Driver, front passenger, rear seats ¹⁾	Turn the ignition key to position 1. Sit in the driver's and/or front passenger's seat, pull out the seat belt. Latch the seat belt. Pull the seat belt out again.	When the seat belt is pulled out the normal retraction force is applied. When the seat belt is latched there is a reduced retraction force.	Seat belt twisted or folded. Defective automatic reel (91-0625-0630) Defective seat belt latch, Defective automatic reel.
⇒ 4 Testing seat belt height adjustment Driver, front passenger	Adjust the driver and/or front passenger seat forward. Backward.	Seat belt height adjustment adjusts itself upward. Downward.	Defective seat height adjuster (91-0639)

¹⁾ Seat belt tension reduction feature in rear seat only with individual power seats or available with power seat back adjustment.

Diagnostics Troubleshooting chart

Complaint	Possible cause	Remedy/test step ¹⁾
After an accident both belt tensioners are released or not released.	Left seat belt tensioner, Right seat belt tensioner	23⇒ 1 23⇒ 2
Seat belt cannot be pulled out.	Seat belt twisted Seat belt automatic reel defective	11⇒ 1
After latching the seat belt the retraction force is not reduced.	Seat belt latch or seat belt automatic reel defective	11⇒ 3 24⇒ 1
Seat belt height adjustment does not work.	Cable not connected. Defective seat belt height adjuster	11⇒ 4

1) Observe Preparation for Test, see 22.

Electrical testing program Component locations

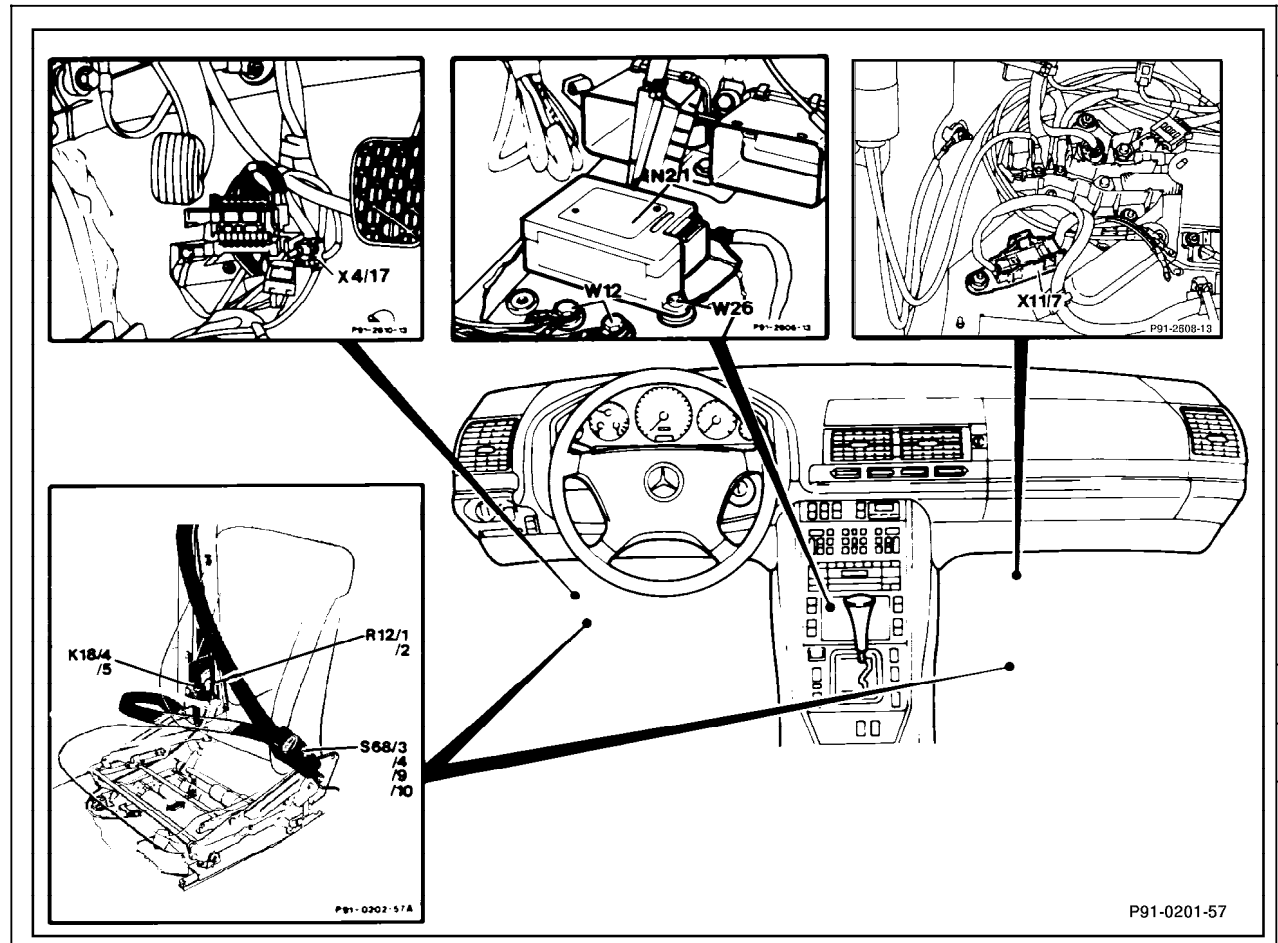


Figure 1

- K18/4 Driver seat belt adjustment solenoid
- K18/5 Front passenger seat belt adjustment solenoid
- N2/1 ETR control unit
- R12/1 Left front emergency tensioning retractor (ETR) squib
- R12/2 Right front emergency tensioning retractor (ETR) squib
- S68/9 Drive seat belt buckle switch (belt position/convenience)
- S68/10 Front passenger seat belt buckle switch (belt position/convenience)
- X4/17 Terminal block, terminal 15C
- X11/7 Test connection, ETR

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Electrical test program Preparations for testing

Preparations for testing

1. Ignition: **OFF**
2. Expose and disconnect test connection, ETR (X11/7) in the front passenger legroom (figure 1, 24).
3. Connect socket box with test wiring harness according to connection diagram (figure 1, 23).

Electric wiring diagrams:

See "Electric Troubleshooting Manual, Model 140"

Description:	Group
Model 140	91

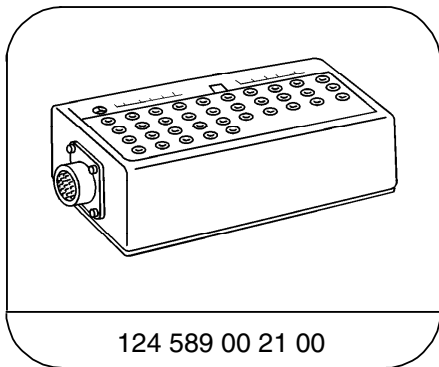
Note on the column Test equipment/test connection

The letters or numbers in parentheses, such as ⇒ 1.0 (B.1) mean:

B = connector B

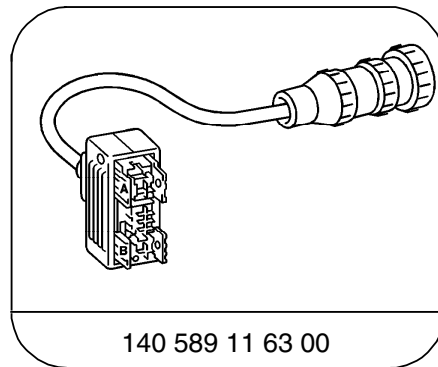
1 = Socket 1 in electrical wiring diagram

Special Tools



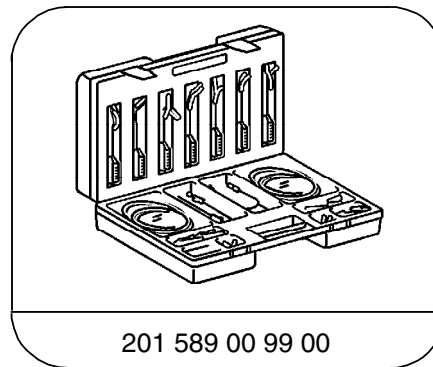
124 589 00 21 00

35-pin socket box



140 589 11 63 00

Test cable



201 589 00 99 00

Electrical connecting set

17.2 Emergency Tensioning Retractor

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Electrical test program

Preparations for testing

Equipment

Description	Supplier
Multimeter	Fluke 23 DB Sun, DMM-

Electrical test program

Preparations for testing

Socket box connection diagram

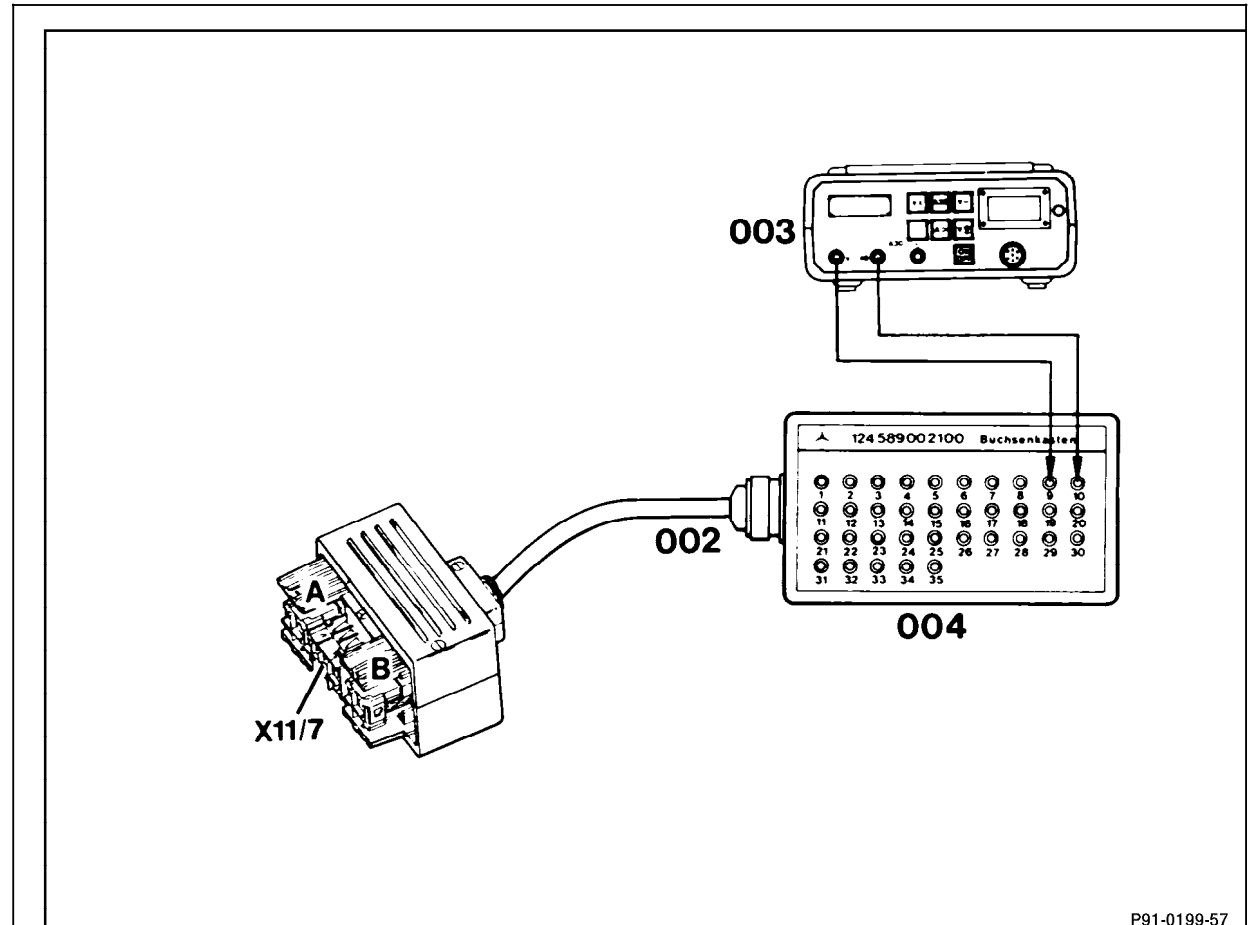


Figure 1

- 002 Test cable
- 003 Multimeter
- 004 Socket box
- X11/7 Test connection, ETR

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Electric test program Testing the seat belt tensioning system

Test step	Scope of test	Test equipment/ test connection	Test condition	Nominal value	Possible cause/remedy
⇒ 1.0	Left front emergency tensioning retractor (ETR) squib (R12/1)	<p>X11/7 9 — (B.1) ← Ω → 10 (B.2)</p>	Ignition: OFF Disconnect test connection, ETR (X11/7) (24, figure 1)	2–5 Ω	Wiring Left seat belt tensioner (91-0630)
⇒ 2.0	Right front emergency tensioning retractor (ETR) squib (R12/2)	<p>X11/7 11 — (B.3) ← Ω → 12 (B.4)</p>	Ignition: OFF Disconnect test connection, ETR (X11/7) (24, figure 1)	2–5 Ω	Wiring Right seat belt tensioner (91-0630)



17.2 Emergency Tensioning Retractor

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Electrical test program Testing the seat belt tension reduction feature (driver, front passenger)

Test step	Scope of test	Test equipment/ test connection	Test condition	Nominal value	Possible cause/remedy
⇒ 1.0	Voltage supply, seat belt latch switch Driver, front passenger) S68/9, S68/10	<p>K18/4 and/or K18/5</p> <p>1 — (B) ← V → — 2 (B)</p>	<p>Remove the B-pillar cover. Unplug the connector for the seat belt tension reduction feature actuator at the seat belt automatic reel. Ignition: ON Seat belt not latched.</p> <p>Seat belt latched.</p>	<p>0 V</p> <p>11–14 V</p>	<p>Wiring</p> <p>Seat belt latch (S68/9, S68/10)</p>
⇒ 1.1	Actuator, seat belt tension reduction feature driver (K18/4) front passenger (K18/5)	<p>K18/4 and/or K18/5</p> <p>1 — (B) ← Ω → — 2 (B)</p>	<p>Remove the B-pillar cover. Unplug the connector for the seat belt tension reduction feature actuator.</p>	<p>50–60 Ω</p>	<p>Defective seat belt automatic reel (91–0630)</p>

Electrical test program Testing the seat belt tension reduction feature (driver, front passenger)

Test step	Scope of test	Test equipment/ test connection	Test condition	Nominal value	Possible cause/remedy
⇒ 2.0	Voltage supply, seat belt latch switch ¹⁾ Right, left rear seat (S68/11, S68/12)	K18/6 and/or K18/7 1 —  — 2	Remove the B-pillar cover. Unplug the connector for the seat belt tension reduction feature actuator at the seat belt automatic reel. Ignition: ON Seat belt not latched. Seat belt latched .	0 V 11–14 V	Wiring Seat belt latch (S68/11, S68/12)
⇒ 2.1	Actuator, seat belt tension reduction feature ¹⁾ Left rear seat (K18/6) Right rear seat (K18/7)	K18/6 and/or K18/7 1 —  — 2	Unplug the connector for the seat belt tension reduction feature actuator.	50–60 Ω	Defective seat belt automatic reel (91–0630)

¹⁾ Seat belt tension reduction feature in rear seat only with individual power seats or available with power seat back adjustment.

Electrical test program

Testing the seat belt tension reduction feature (driver, front passenger)

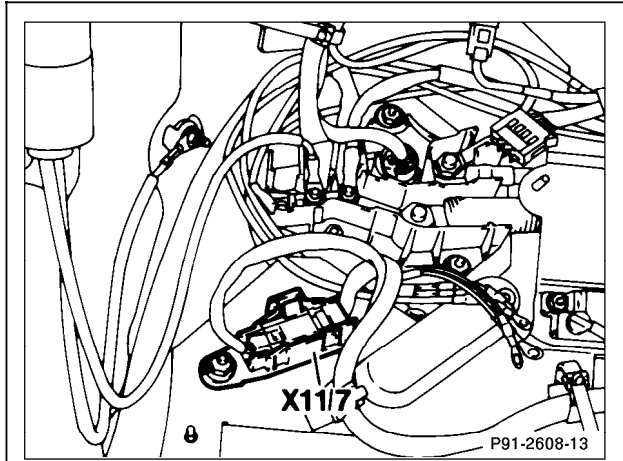


Figure1

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X11/7 Test connection, ETR

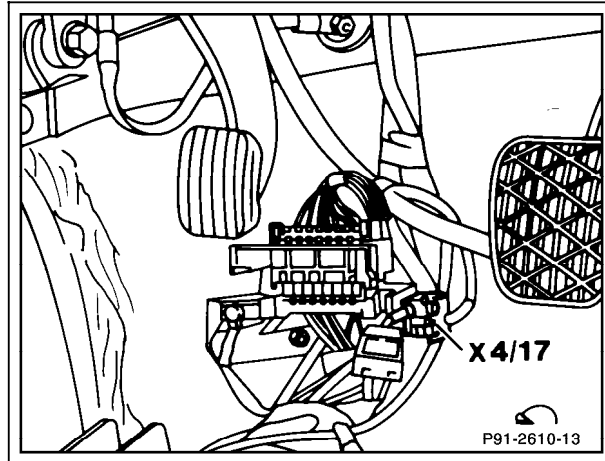


Figure2

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X4/17 Terminal block, terminal 15c

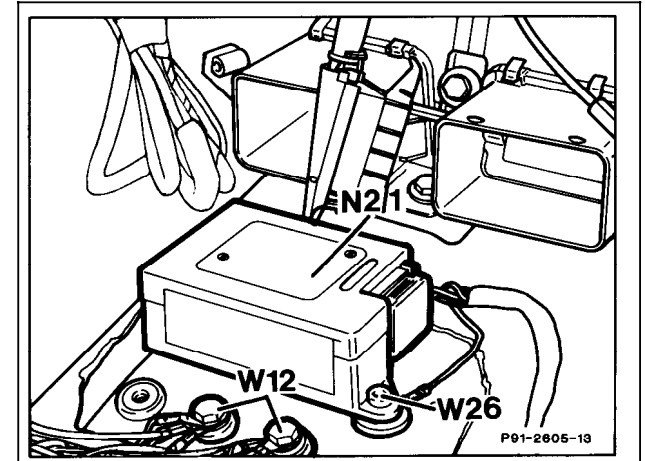


Figure3

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W12 Ground, center console
W26 Ground, SRS control unit