

## 19.1 Model 124.066


### Diagnosis

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### Electrical Test Program

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### Diagnosis – Function Test

Test step/Test scope	Test condition	Nominal value	Possible cause/Remedy <sup>1)</sup>
⇒ 1.0 Roll bar – crash deployment	Turn left rear axle switch (S83/2) or right rear axle switch (S83/3) to “Arretiert“. Roll bar in down position. Drive vehicle and apply hard braking at approximately 6 mph (10 km/h).	Roll bar deploys.	Diagnostic chart 12.   After the function test is complete, turn axle switch (S83/2 or S83/3) to “Function“.
⇒ 2.0 Roll bar malfunction indicator lamp (E30)	Ignition: <b>ON</b>  Engine: <b>At idle</b>	Indicator lamp comes on.  Indicator lamp goes out.	Diagnostic chart 12.

<sup>1)</sup> Observe Preparation for Test, see 22.

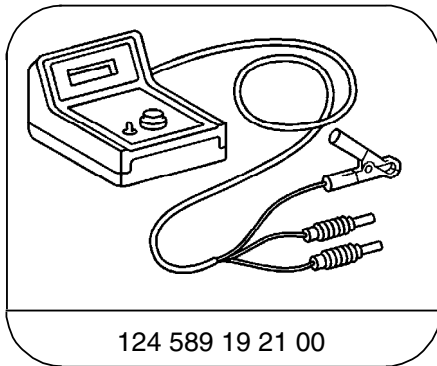
### Diagnosis – Diagnostic Trouble Code (DTC) Memory

To Read Diagnostic Trouble Codes

- Connect impulse counter (yellow wire to socket 9) as shown in section 0.



Ignition: **ON**, Roll bar malfunction indicator lamp comes on.

#### Special Tools



Pulse counter

## Diagnosis – Diagnostic Trouble Code (DTC) Memory

DTC  	Possible cause	Test step/Remedy <sup>1)</sup>
1	No diagnostic trouble codes (DTC) stored in memory.	--
2	Roll bar control module (N53)	23 ⇒ 1.0
3	Roll bar control module (N53), voltage supply.	23 ⇒ 2.0
6	Roll bar deployment solenoid (Y57/1), open circuit, short to circuit 30 or 31.	23 ⇒ 3.0
7	Rear axle switch (S83/2 or S83/3) short to circuit 30 or 31.	23 ⇒ 4.0
8	Roll bar malfunction indicator lamp (E30)	23 ⇒ 5.0

<sup>1)</sup> Observe Preparation for Test, see 22.

## Electrical Test Program – Component Locations

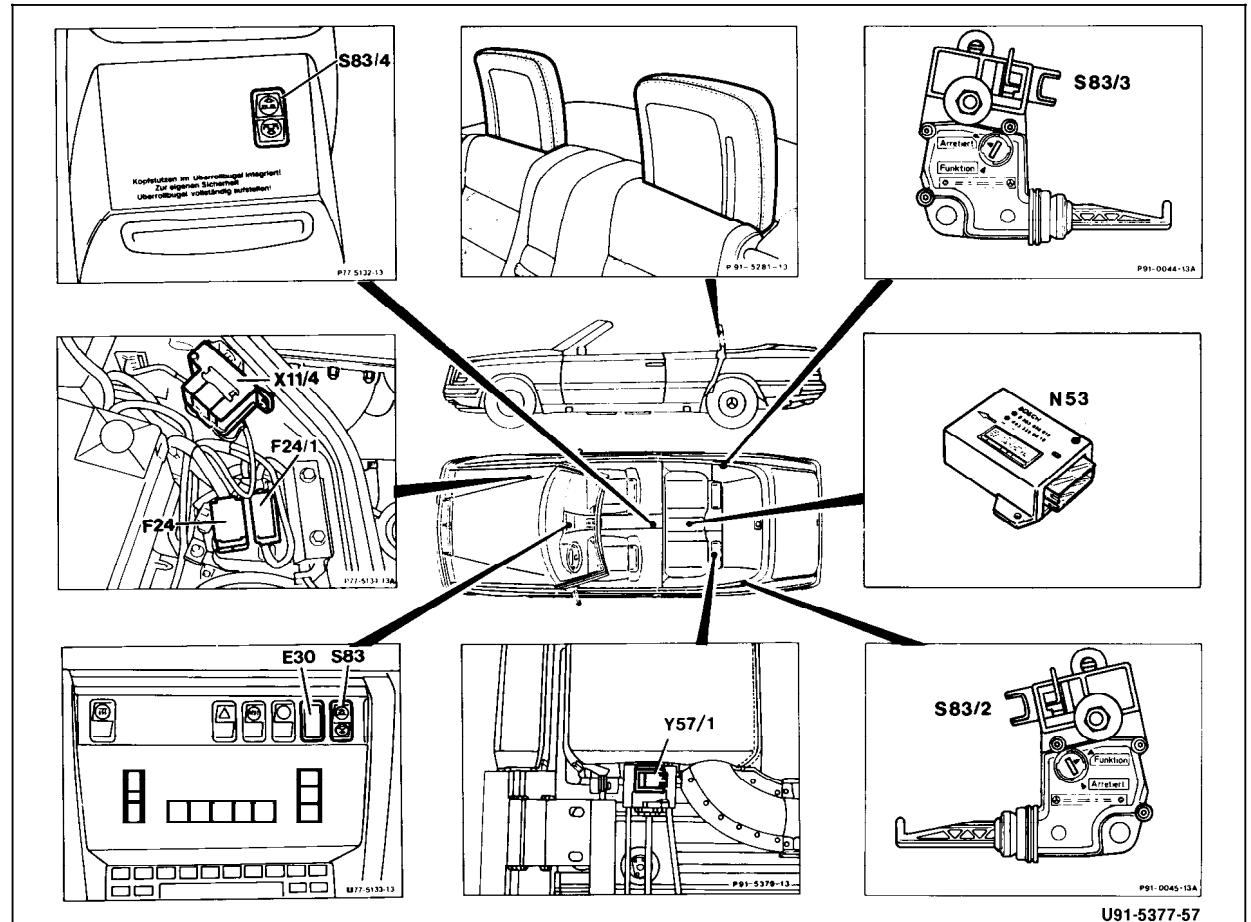


Figure 1

- E30 Center console roll bar malfunction indicator lamp
- F24 Auxiliary fuse holder (CST/RB)
- N53 RB control module (crash deployment)
- S83 RB switch (manual operation)
- S83/2 Left rear axle switch (roll bar)
- S83/3 Right rear axle switch (roll bar)
- S83/4 RB switch (rear center console)
- X11/4 Data link connector (DTC readout)
- Y57/1 RB deployment solenoid

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## Electrical Test Program – Preparation for Test

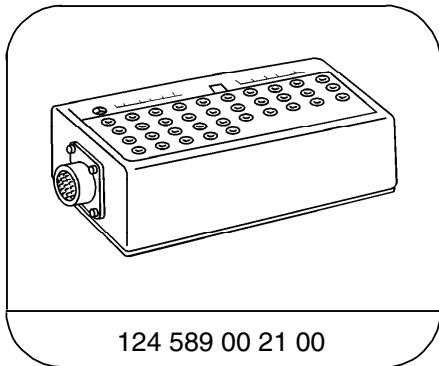
### Test Conditions

1. Battery voltage, 11 – 14 V.
2. Fuse 6, circuit 15 [in Fuse\_relaz (F1)] in proper working condition.
3. Fuse in auxiliarz fuse holder (F24) in proper working condition.

Electrical wiring diagrams :

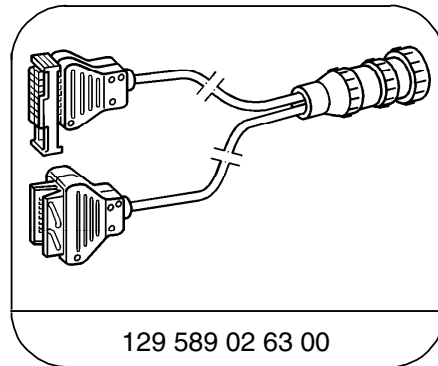
Electrical Troubleshooting Manual, Model 202.

### Special Tools



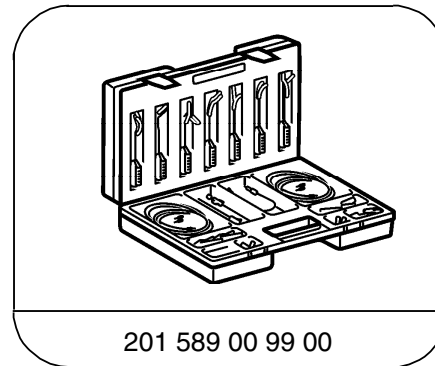
124 589 00 21 00

35-pin socket box



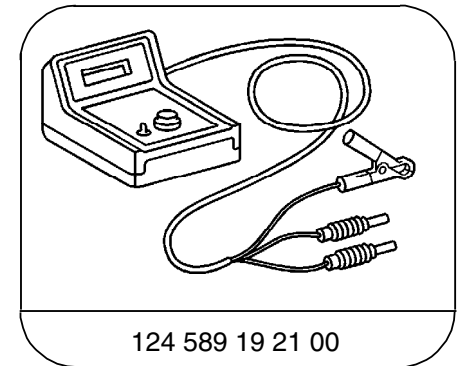
129 589 02 63 00

16-pin test cable



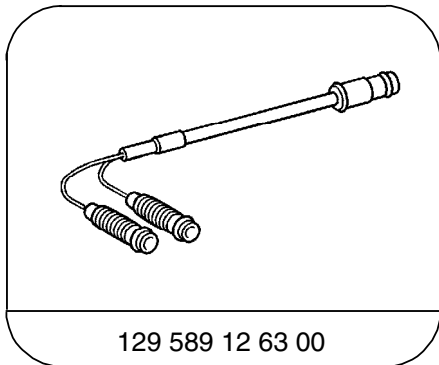
201 589 00 99 00

Electrical connecting set



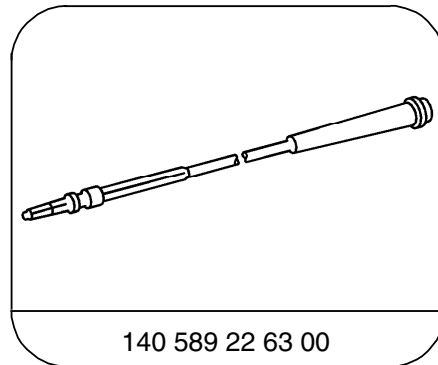
124 589 19 21 00

Pulse counter



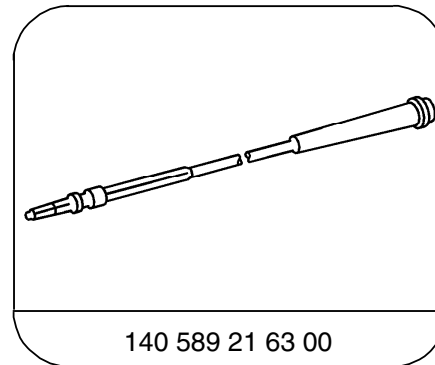
129 589 12 63 00

Test cable



140 589 22 63 00

Adapter cable



140 589 21 63 00

Adapter cable

### Electrical Test Program – Preparation for Test

#### Conventional tools, test equipment

Description	Brand, model, etc.
Multimeter <sup>1)</sup>	Fluke models 23, 83, 85, 87

<sup>1)</sup> Available through the MBUSA Standard Equipment Program.

Electrical Test Program – Preparation for Test

Connection Diagram

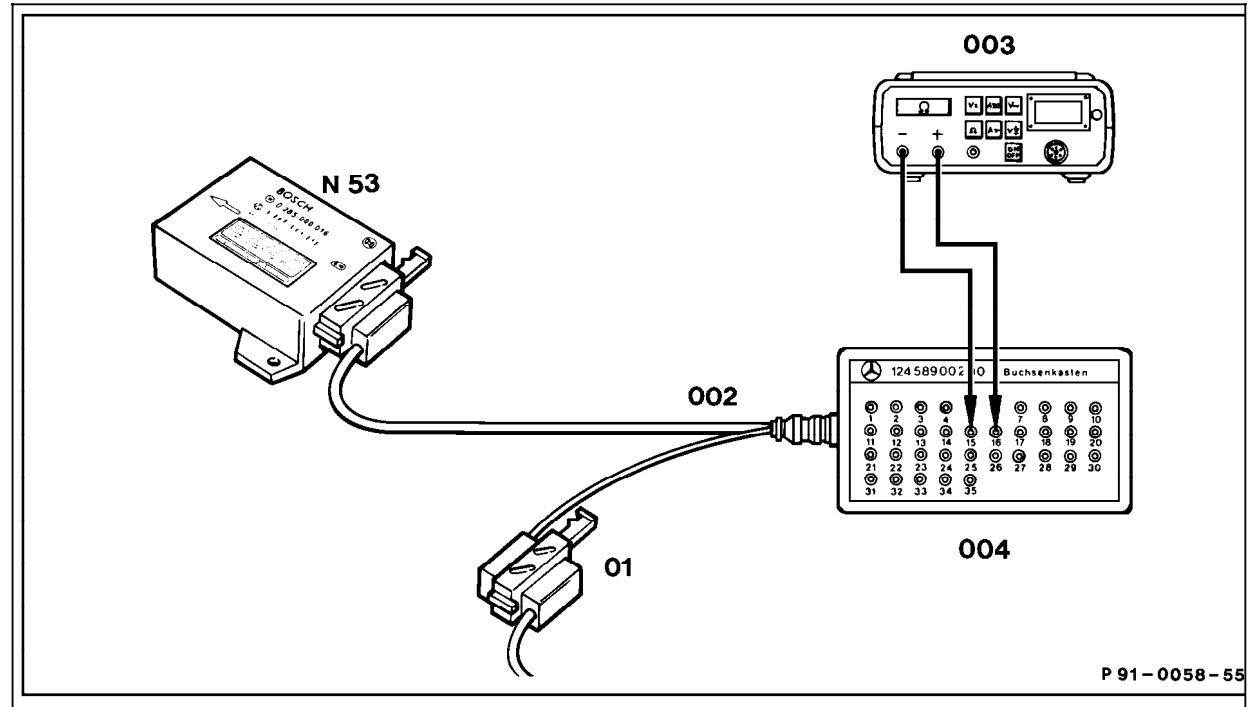


Figure 1






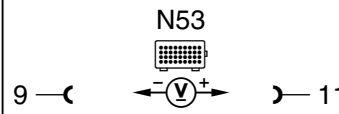

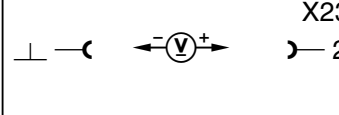

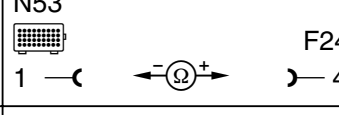

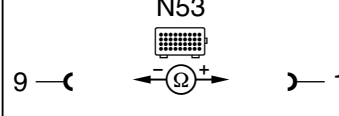

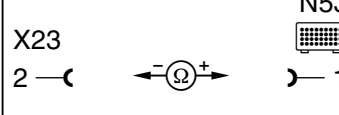
- N53 RB control module
- 01 Vehicle harness (RB control module)
- 002 Test cable
- 003 Digital multimeter
- 004 Socket box

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## Electrical Test Program – Test

⇒		Test scope	Test connection	Test condition	Nominal value	Possible cause/Remedy
1.0		<b>RB control module (N53)</b>		Erase DTC  . Read other DTC's in memory	DTC  erased	RB control module (N53)
2.0		<b>RB control module (N53)</b> Voltage supply, circuit 15		Ignition: <b>ON</b>	11 – 14 V	Wiring, Ignition switch (S2/1)
3.0		<b>RB deployment solenoid (Y57/1)</b> Voltage supply		Ignition: <b>OFF</b> Disconnect RB solenoid valve connector (X23).	11 – 14 V	Wiring, ⇒ 3.1
3.1		RB deployment solenoid (Y57/1) with wiring Resistance		Disconnect auxiliary fuse holder (F24).	0.5 – 1.5Ω	RB deployment solenoid (Y57/1), Wiring, ⇒ 3.2
3.2		RB deployment solenoid (Y57/1) with wiring Insulation resistance		Disconnect connector from RB control module (N53). Disconnect auxiliary fuse holder (F24).	> 20 kΩ	Wiring, ⇒ 3.3
3.3		Insulation resistance Circuit 30		Disconnect RB solenoid valve connector (X23)	> 20 kΩ	Wiring.

## Electrical Test Program – Test

⇒		Test scope	Test connection	Test condition	Nominal value	Possible cause/Remedy
4.0	7	<b>Rear axle switch (S83/2 or S83/3)</b> Resistance	 N53 15 — Ω — 16	Switch S83/2 and S83/3 in position: Function S83/2 in: Arretiert S83/3 in: Arretiert	$< 2\Omega$ $> 20\text{ k}\Omega$ $> 20\text{ k}\Omega$	Wiring Rear axle switch (S83/2 or S83/3), ⇒ 4.1
4.1	7	Insulation resistance Circuit 31	 N53 9 — Ω — 15	Disconnect connector from RB control module (N53). Switch S83/2 and S83/3 in position: Function	$> 20\text{ k}\Omega$	Wiring, ⇒ 4.2
4.2	7	Insulation resistance Circuit 30	 N53 15 — Ω — 11	Disconnect connector from RB control module (N53). Switch S83/2 and S83/3 in position: Function	$> 20\text{ k}\Omega$	Wiring.
5.0		<b>RB malfunction indicator lamp (E30)</b>	 N53 2 — — 7	Bridge  sockets 2 & 7. Ignition: <b>ON</b>  Disconnect connector from RB control module (N53). Disconnect bridge.	Indicator lamp comes on.  Indicaator lamp goes out.	RB malfunction indicator lamp (E30), Wiring, ⇒ 5.1
5.1		Diagnostic cable Insulation resistance	 N53 2 — — 7	Disconnect indicator laamp (E30).	$> 20\text{ k}\Omega$	Wiring.

Electrical Test Program – Test

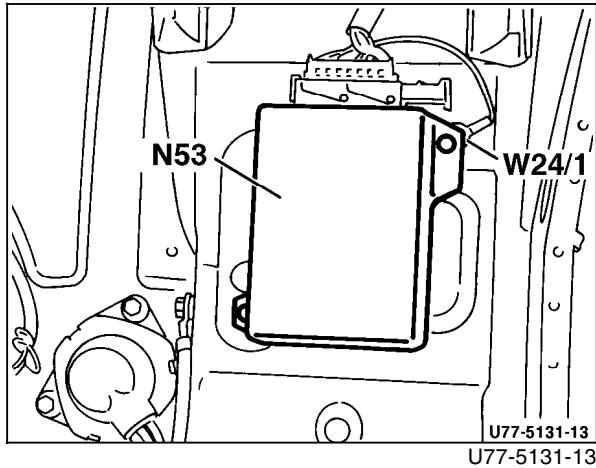


Figure 1  
N53 RB control module  
W24/1 Ground

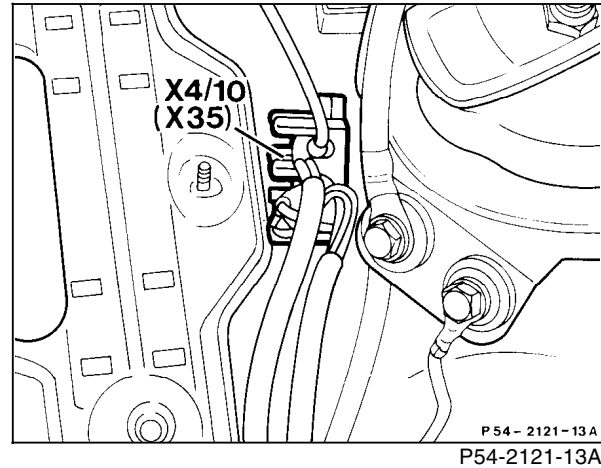


Figure 2  
X4/10 Terminal block

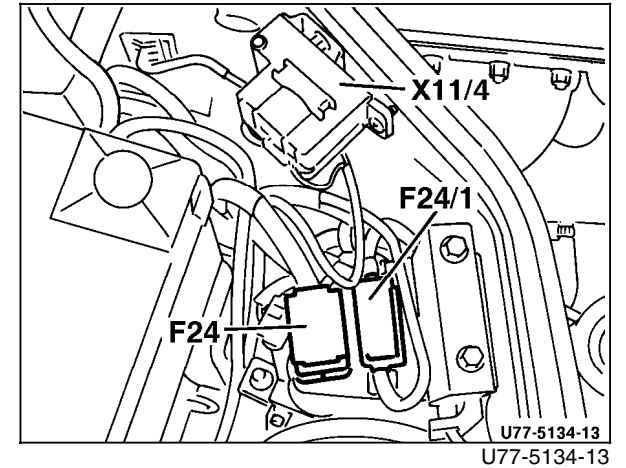


Figure 3  
X11/4 Data link connector (DTC readout)  
F24 Auxiliary fuse holder (CST/RB)

Electrical Test Program – Test

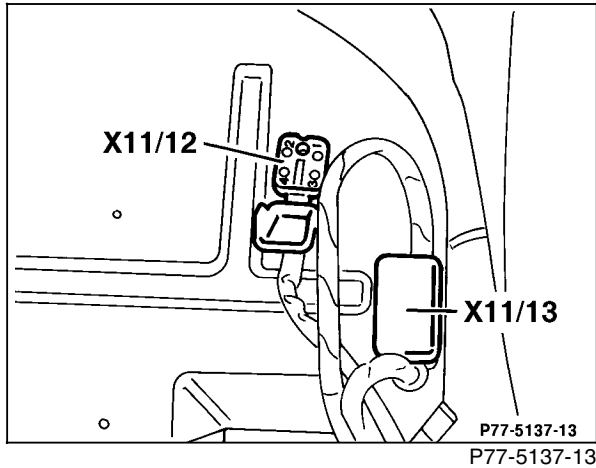


Figure 4  
X11/12 Power soft top test connector (4-pole)

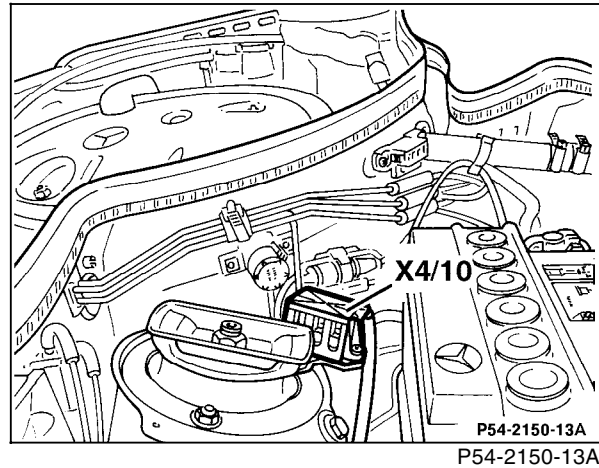


Figure 5  
X4/10 Terminal block

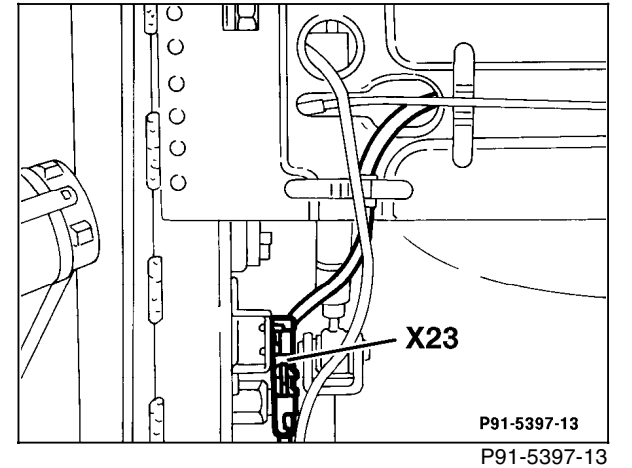
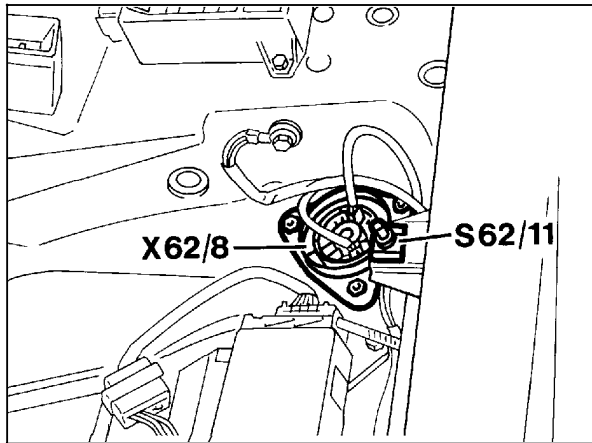


Figure 6  
X23 RB solenoid valve connector (2-pole)

Electrical Test Program – Test



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Figure

Model

X62/8 Rear axle multiple circuit junction connector