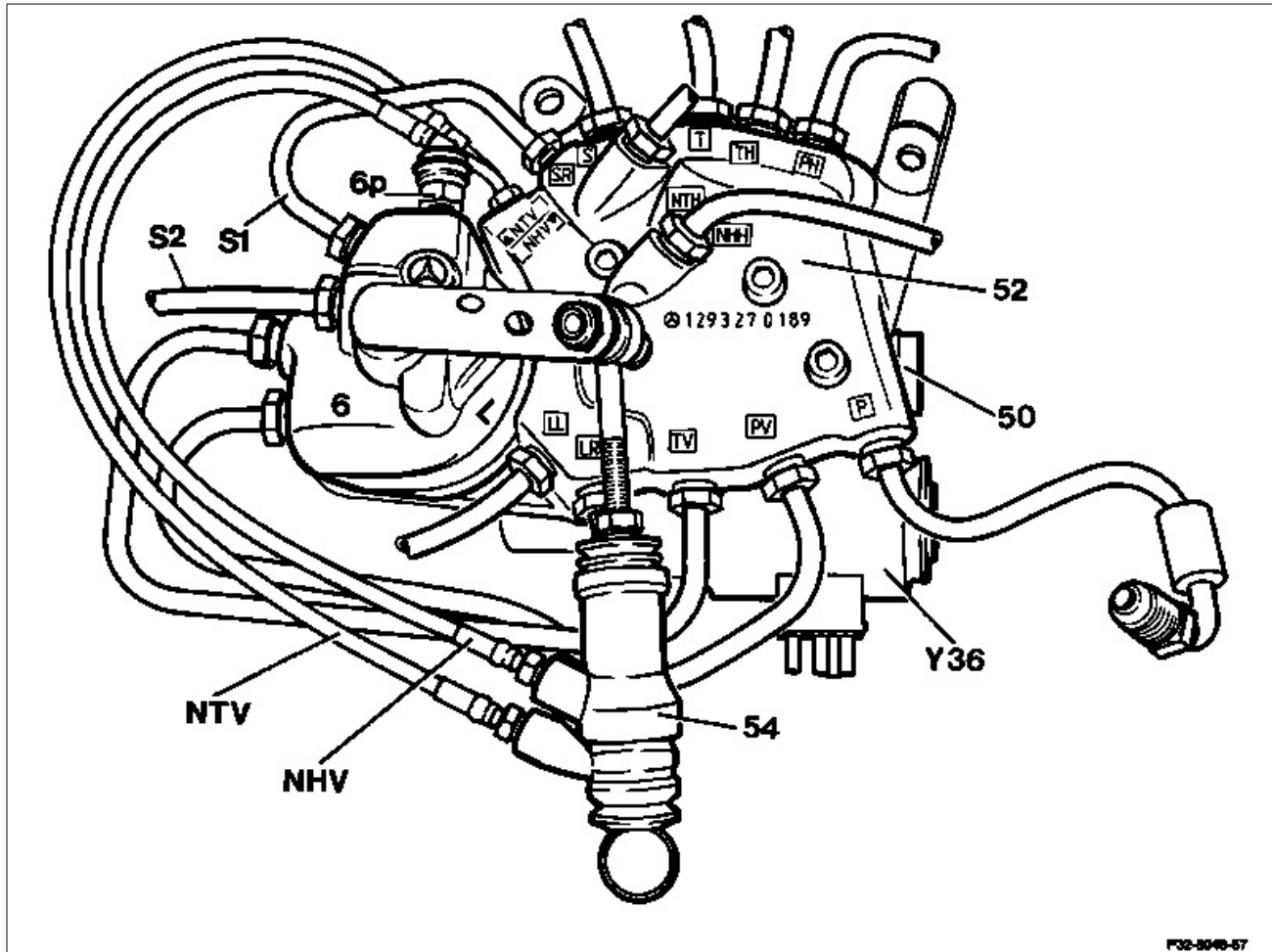


32-0650 Level control valve assembly - Removal and installation

Preceding operations:
 Drain hydraulic system (32-0630).

Operation no. of operation texts and work units or standard texts and flat rates
 32-0800



- | | |
|--|--|
| Right front wheel _____ | remove, replace, wheel bolts 110 Nm. |
| Cover on right wheel house _____ | remove, install. |
| High pressure extending hose (P) _____ | disconnect, connect at steel line, 25 Nm.
Collect oil in suitable vessel (No. 3). |
| Linkage/control rod (54) _____ | detach, reinstall on lever on level controller (6). Replace self-locking hexagon nut, 10 Nm. |
| Level adjustment non-return valve _____ | remove, install (Position 5 and 7). |
|
 | |
| Distributor valve (50) _____ | disconnect from distributor (52).
Tightening torque 7-9 Nm.
When installing, ensure correct seating of the nine O-rings. Always replace O-rings. |
| Valve unit, level control unit (Y36) _____ | remove from distributor valve (50).
Tightening torque 5-7 Nm.
Ensure correct seating of the four O-rings, when installing. Always replace O-rings. |

Test drive

Leakage check

carry out on uneven road.

perform in the areas in which hydraulic parts have been removed or slackened.

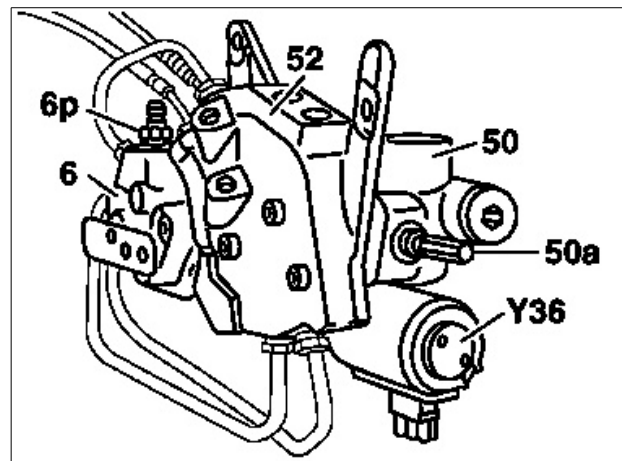
Special tool



Note

The distributor (52) is only removed in the event of damage as a result of an accident or in the event of visible defects such as hairline cracks or other damage which can lead to the failure of the ADS.

As of 9/90, a 10 mm hexagon bolt was introduced for the pressure supply screw (50a) in the distribution valve (50) (Allen-head bolt on vehicles manufactured up to 8/90).



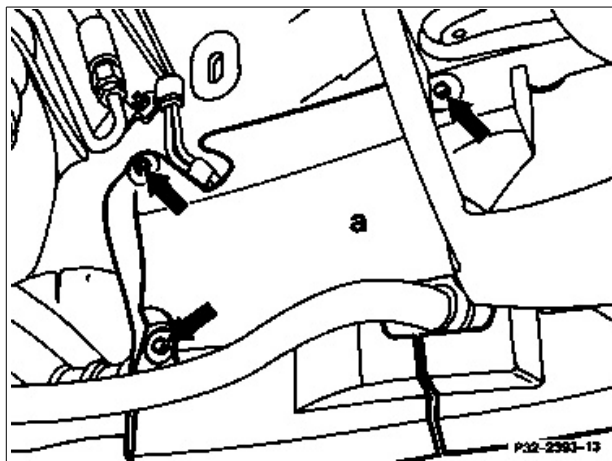
Removal, installation

- 1 Remove right front wheel.

Installation note

Torque lug bolts to 110 Nm.

2 Unscrew the three hexagon bolts (arrows) and remove the guard (a) in the right-side wheelhousing.



3 Disconnect the high-pressure expansion hose (P) from the steel hydraulic line (arrow). Use a suitable container to catch the emerging fluid.

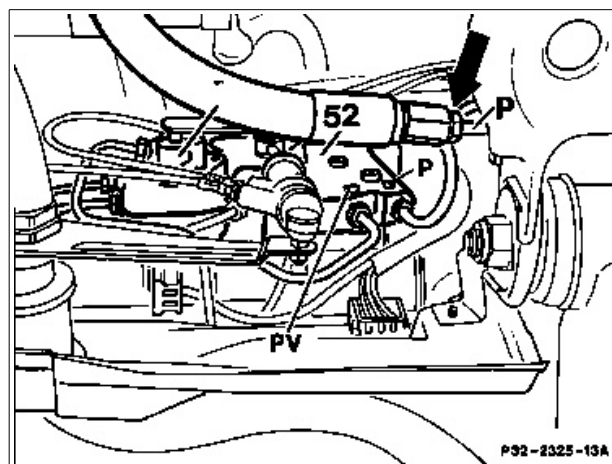
Installation note

Before connecting the high pressure extending hose, the tandem pump must be bled

[\(32-0630\)](#).

Tightening torque of high pressure extending hose (P) 25 Nm.

Perform check for leaks in the areas where parts of the hydraulic system have been removed or loosened.

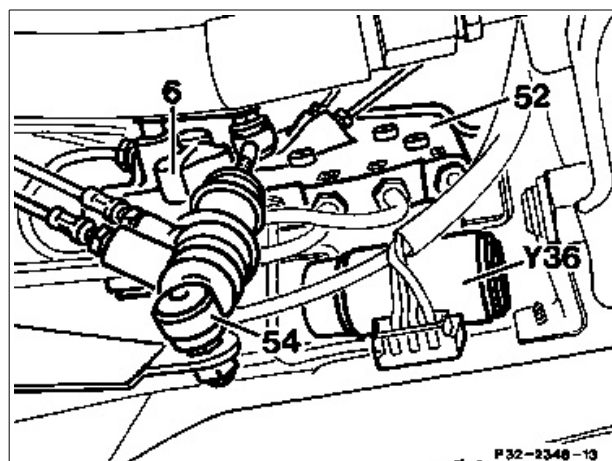


4 Detach the control rod (54) from the lever on the level controller (6). Use an open-end wrench to hold the joint pin as required.

Installation note

Replace self-locking nut, 10 Nm.

5 Remove the level control non-return valve (Y37) by pulling off the clamp used to retain the valve (refer to Position 8, Item A). Disconnect the plugs at Y37 and Y38.

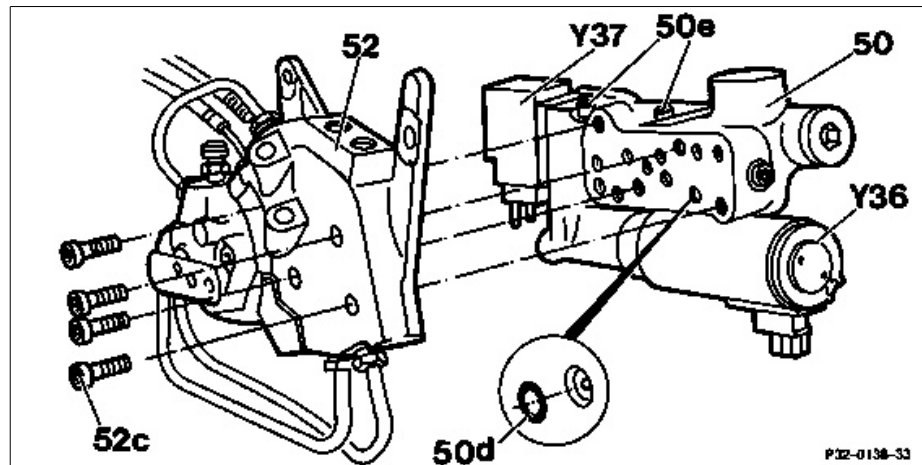
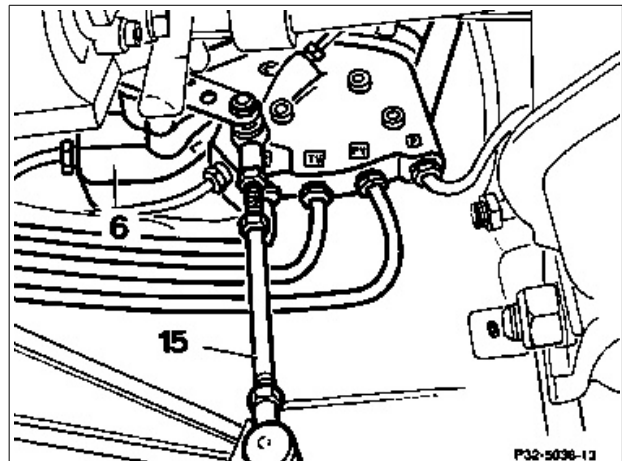


USA model

6 Disconnect the linkage rod (15) from the lever on the level controller (6). Use an open-end wrench to hold the joint pin as required.

Installation note

Renew self-locking nut, 10 Nm.



All models

7 Remove the Allen bolts (52c). Lift the distribution valve (50) from the distributor (52) and carefully remove it.

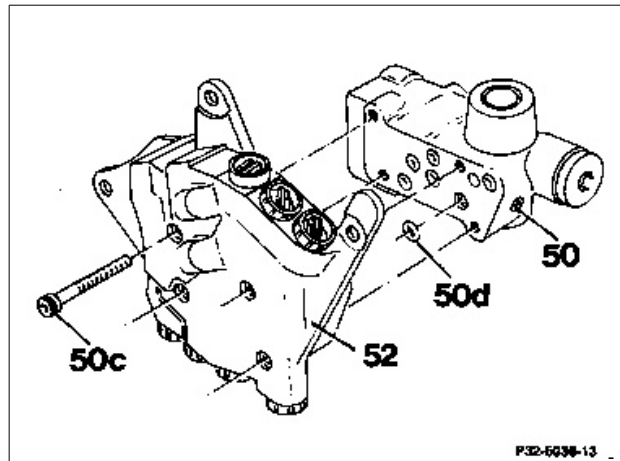
Installation note

Always replace O-rings (50d). Clean sealing surfaces before installation. Free oil ports from dirt particles. Ensure correct seating of new O-rings.

Tightening torque 7 - 9 Nm.

Illustration shows valve unit on USA model with sealing plugs

- 52 Distributor
- 50 Distributor valve
- 52c Hexagon socket bolts
- 50d O-rings

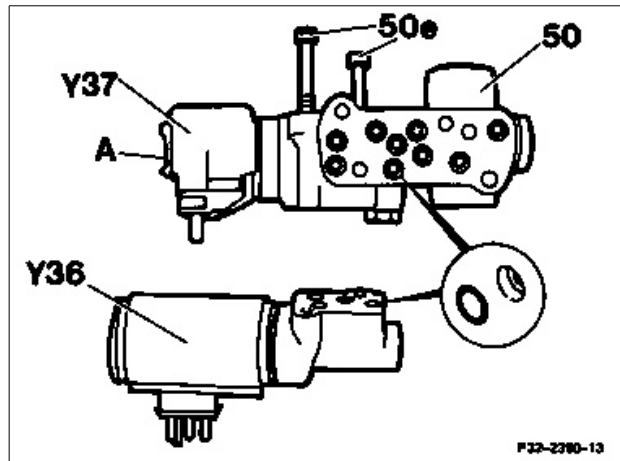


8 Unscrew the bolts (50e). Disconnect the level control control valve (Y36) from the distribution valve (50).

Installation note

Always replace O-rings. Before installing, clean sealing surfaces and free all ports from particles of dirt. Check correct seating of the four O-rings. Tightening torque 5 - 7 Nm.

- Model 129 with level adjustment
- Y37 Level adjustment lock valve
- A Retaining clip

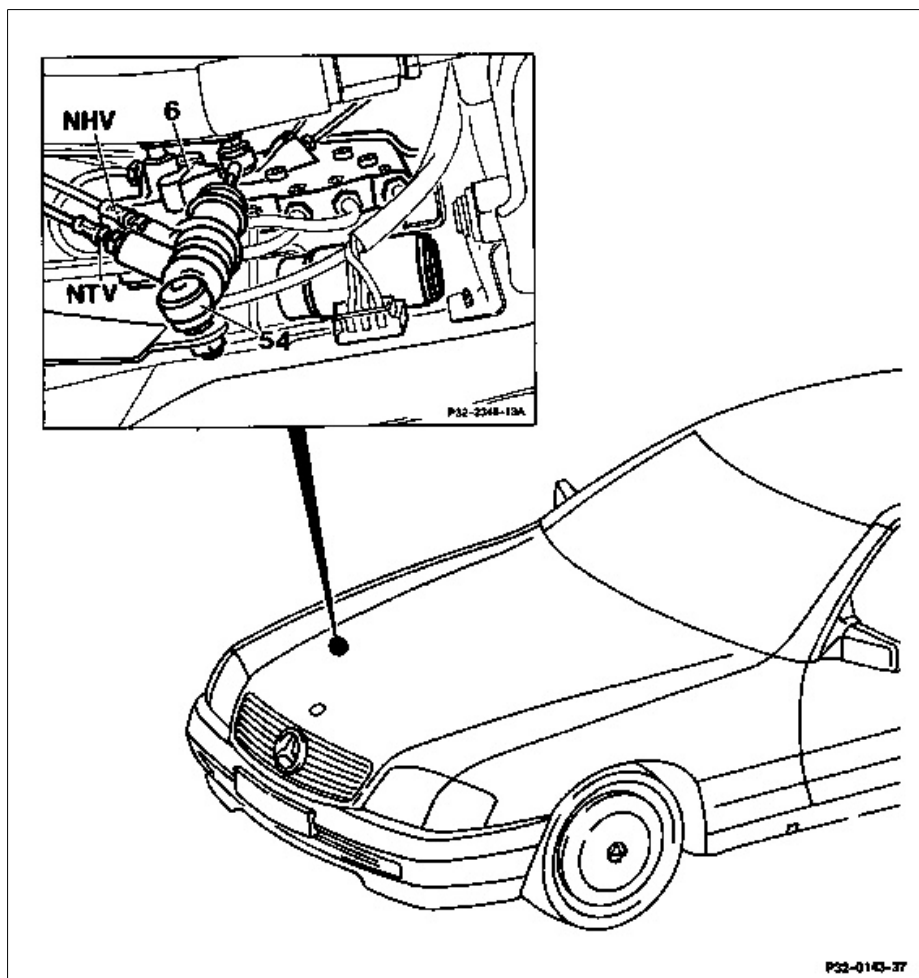


9 Assembly is performed in reverse sequence.

32-0660 Control/linkage rod on level controller - Removal and installation

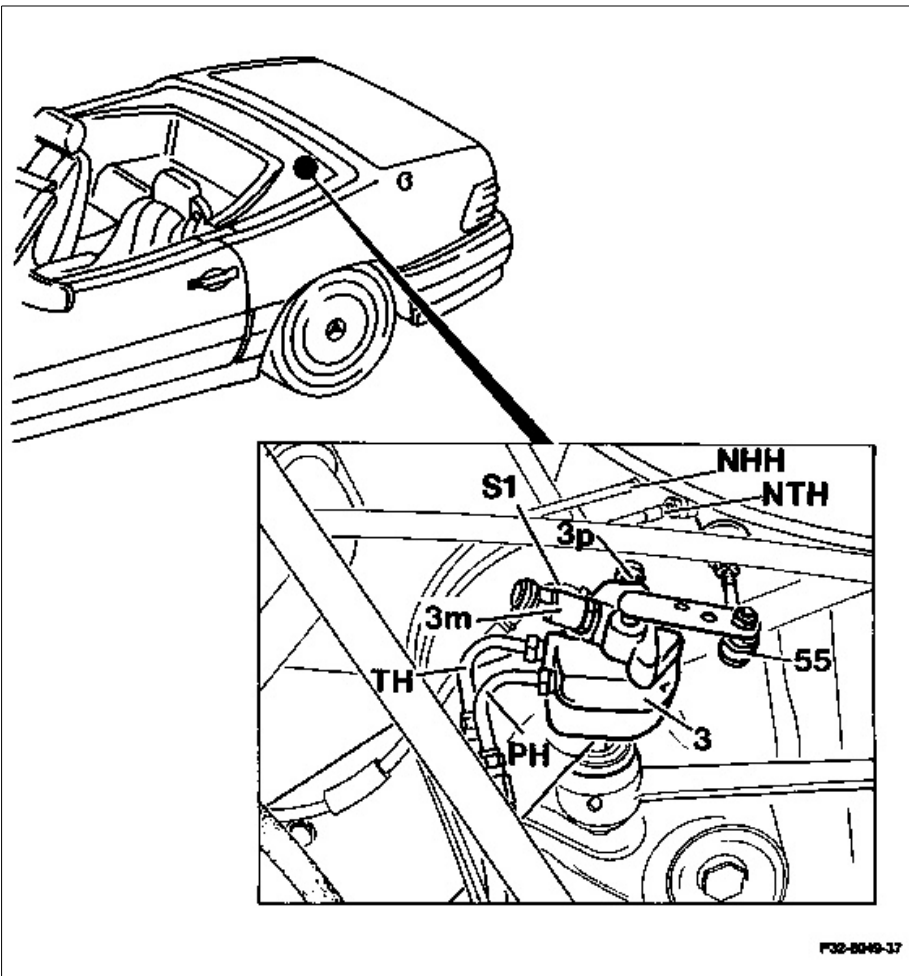
Preceding work:
Lower engine compartment lining removed (61-900).

A. Front axle - Model 129 (with level adjustment)



- | | |
|---|--|
| Control pressure lines (NHV, NTV) _____ | disconnect, connect, 8 Nm.
NHV connection = red point. |
| Control rod (54) on lever of level control unit (6)
and on torsion bar lever _____ | remove, install.
Replace self-locking nuts, 10 Nm. |
| Ball joint _____ | check for wear and rubber protective covers for
damage. |
| Torsion bar fixing _____ | check for firm seating. |
| Level controlled vehicle height at front
and rear _____ | check and adjust (40-0302). |
| Fluid level _____ | correct (32-0630). |

B. Rear axle - Model 129 (with level adjustment)



Control pressure lines (NTH, NHH) _____ disconnect, connect, 8 Nm.
NHH connection = red point.

Control rod (55) on lever of level control unit (3) and on torsion bar lever _____ remove, install.
Replace self-locking nuts, 10 Nm.

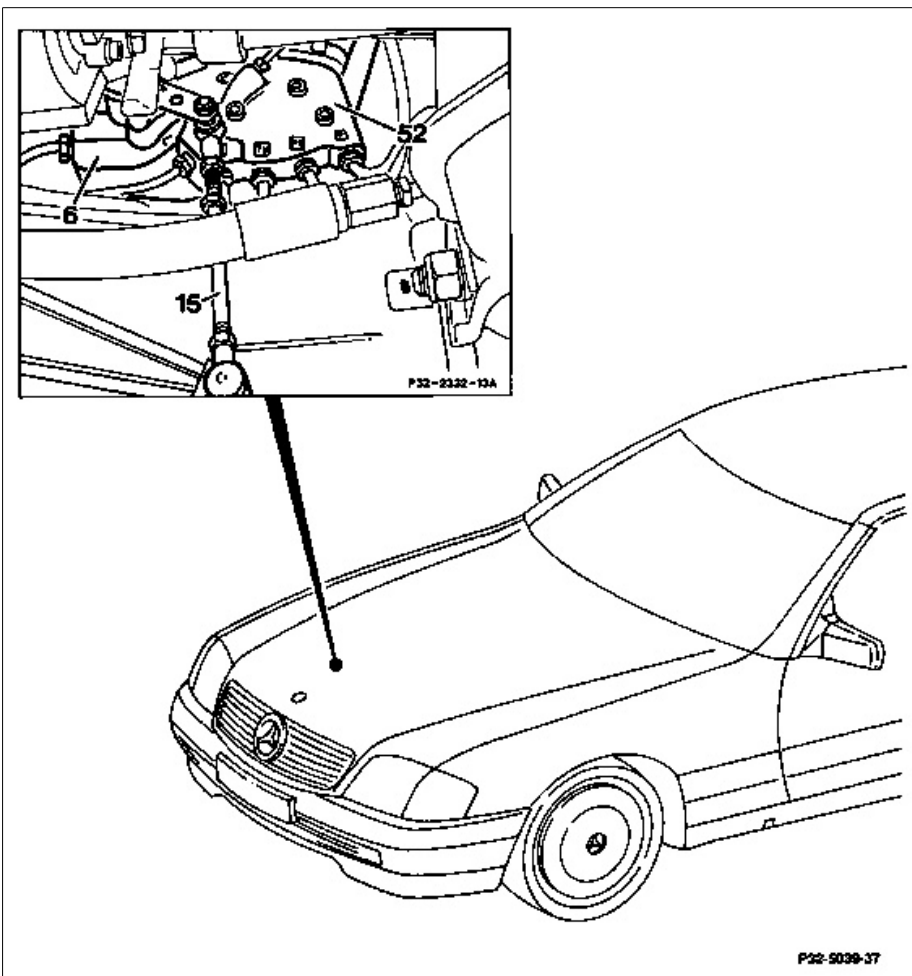
Ball joint _____ check for wear, and rubber protective covers for damage.

Torsion bar fixing _____ check for firm seating.

Level-controlled vehicle height at front and rear _____ check and adjust (40-0302).

Fluid level _____ correct (32-0630).

C. Front axle - Model 129 (USA model)



Connecting rod (15) _____ remove, install at lever on level control unit (6) and at torsion bar lever. Replace self-locking nut, 10 Nm.

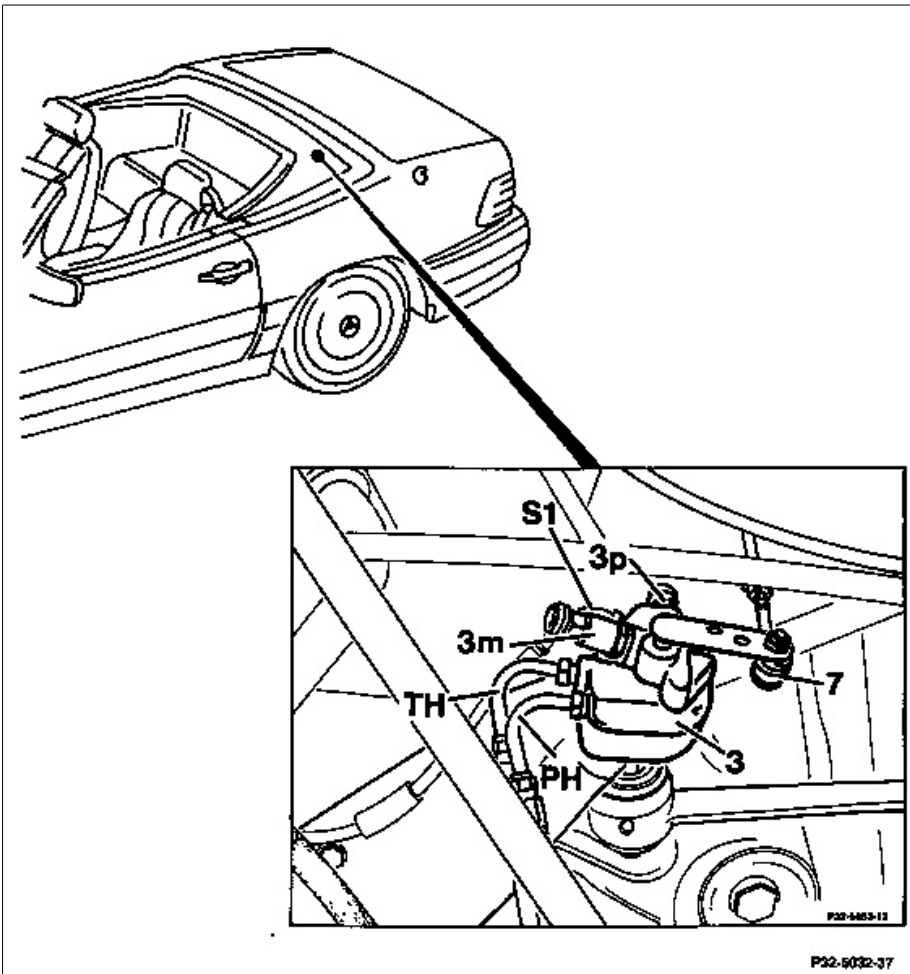
Ball joint _____ check for wear.

Torsion bar fixing _____ check for correct seating.

Level-controlled vehicle height at front and rear _____ check and adjust (40-0302).

Fluid level _____ correct (32-0630).

D. Rear axle - Model 129 (USA model)



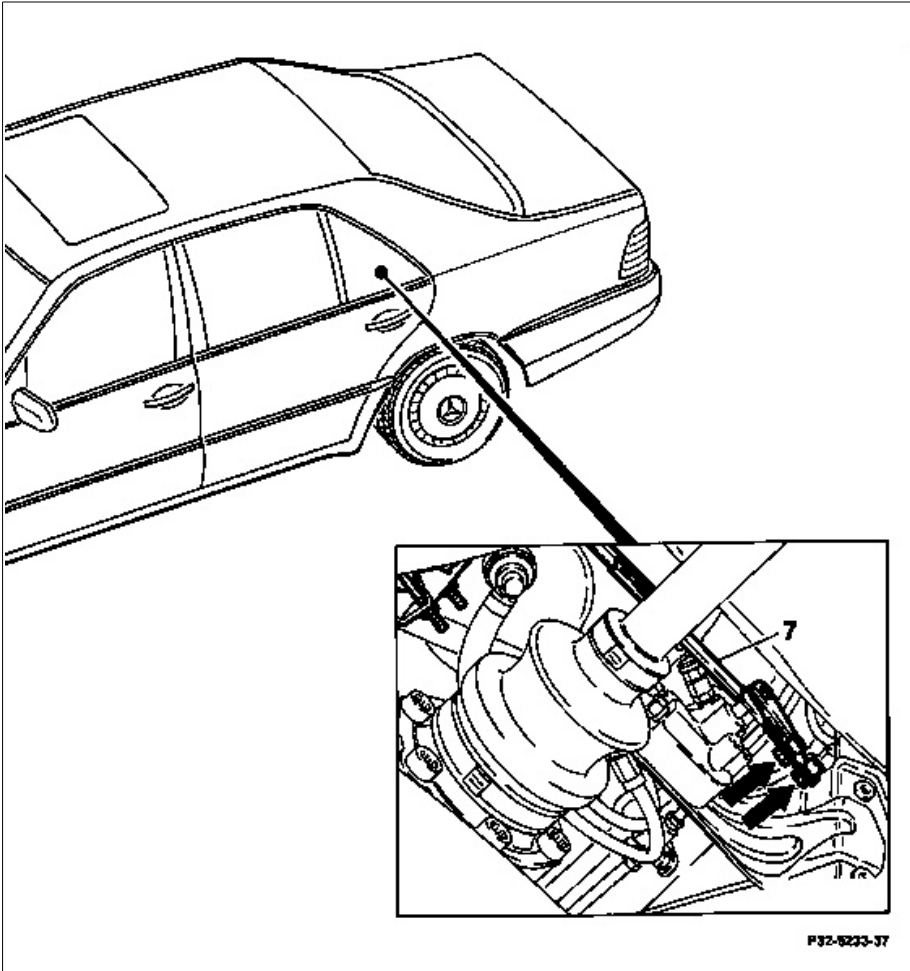
Linkage (7) _____ remove, install at lever on level control unit (3) and at torsion bar lever.
 Replace self-locking nut, 10 Nm.

Ball joint _____ check for wear.
 Torsion bar fixing _____ check for correct seating.

Level-controlled vehicle height at front and rear _____ check and adjust (40-0302).

Fluid level _____ correct (32-0630).

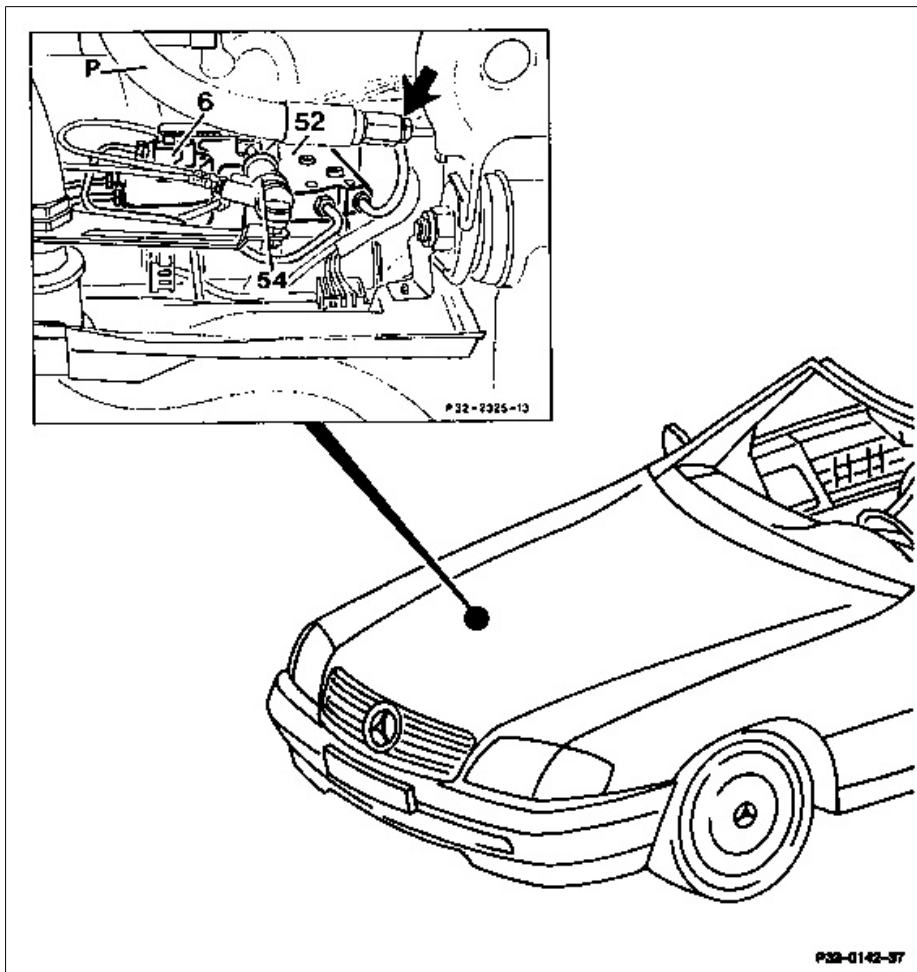
E. Rear axle - Model 140



- | | |
|--|--|
| Linkage (7) _____ | remove, install at lever on level control unit and at torsion bar lever.
Replace self-locking bolts, 10 Nm. |
| Ball joint _____ | check for wear. |
| Torsion bar fixing _____ | check for correct seating. |
| Vehicle height at front and rear _____ | check (40-0300), check base setting for level control system at rear suspension (40-0310). |
| Fluid level _____ | correct (32-0630). |

Preceding operations:
 Drain hydraulic system (32-0630).
 Raise vehicle (00-9008).

Operation no. of operation texts and work units or standard texts and flat rates
 32-0820



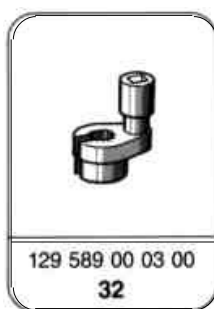
- | | |
|--|--|
| <p>High pressure extending hose _____</p> <p>Covering on right wheel house _____</p> <p>Bracket _____</p>
<p>Level adjustment lock valve _____</p> <p>Pressure lines (PV, S1, S2) _____</p>
<p>Connecting rod/control rod (54) _____</p> | <p>disconnect, connect, at steel line (P), 25 Nm.
 Collect oil in suitable vessel.</p> <p>remove, install (No. 2).
 on longitudinal member, remove, install (No. 3).
 (On Model 129.066 the heat conducting panel over the bracket is to be removed prior to this.)</p> <p>remove, install (No. 4).
 disconnect, connect, using line wrench 116 589 00 17 00,
 M10 1 = 14 Nm.
 M12 1 = 20 Nm.
 M12 1.5 = 25 Nm.</p> <p>on level control lever, unscrew, screw on.
 Replace self-locking nut, 10 Nm.
 ⚠
 Note information in No. 6.</p> |
|--|--|

Return line (TV) _____ disconnect, connect, using line wrench
129 589 00 03 00.
M10 1 = 14 Nm.
M12 1 = 20 Nm.
M12 1.5 = 25 Nm.

Level controller (6) _____ remove, install. Replace self-locking hexagon
bolts, 10 Nm (Position 8).

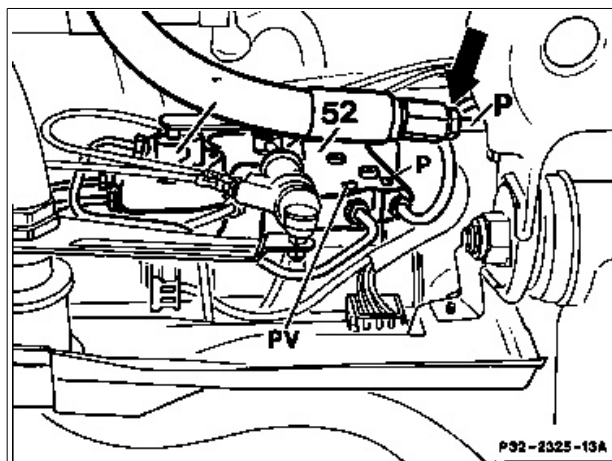
Level controlled vehicle height at front and rear _____ check and adjust (40-0302).
Headlight setting _____ check and adjust (82-1130).

Special tools



Removal, installation

1 Disconnect high pressure extending hose (arrow) at the steel line (P). Collect oil in suitable container.



Installation note

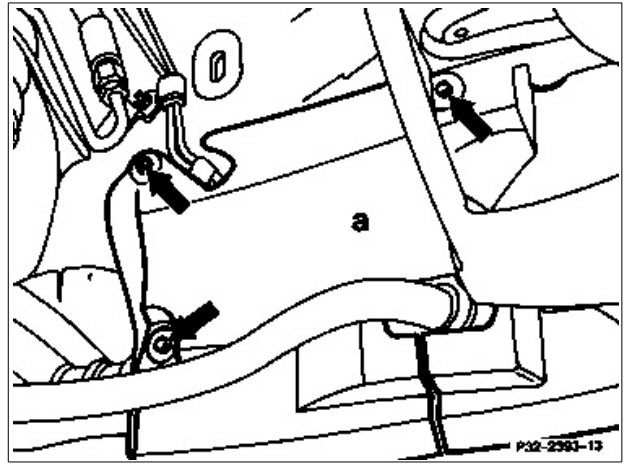
Before connecting the high pressure extending hose, the pressure oil pump is to be bled (32-0630).

Torque to 25 Nm.

Check and adjust level-controlled vehicle height at front and rear (40-0302).

If the operations have resulted in a change in vehicle height, the headlights will have to be readjusted (82-1130).

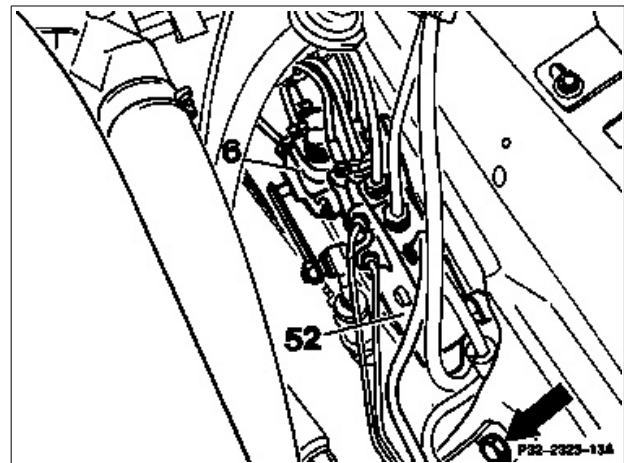
2 Unscrew bolts (arrows). Remove cover (a) on right wheel house.



3 Remove bracket (arrow) on frame side member.

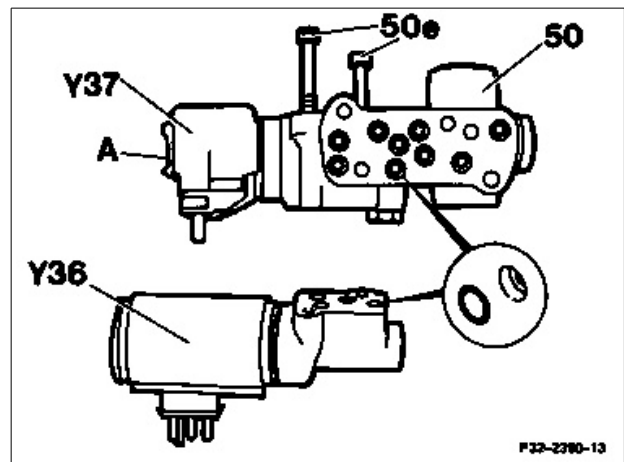
Note

On M119 and M120 equipped vehicles, start by removing the heat shield above the bracket (arrow).



4 Remove retaining clip (A) from level adjustment lock valve (Y37).
Remove level adjustment lock valve (Y37).

NOT on USA model.



5 Detach pressure lines (PV and TV) on level control unit and distributor (52), and remove both lines.

Installation note

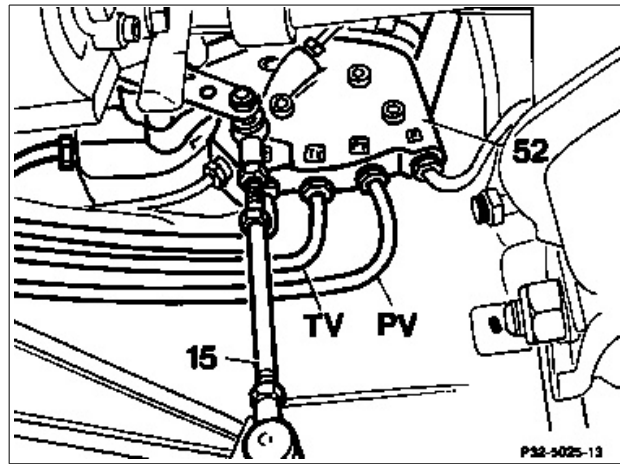
Tightening torques:

M10 1 = 14 Nm.

M12 1 = 20 Nm.

M12 1.5 = 25 Nm.

Illustration shows USA model



6 Unbolt connecting rod/control rod (15) at lever on level control unit.

Installation note

Replace self-locking nuts, 10 Nm.

Check ball joint on control rod for ease of movement, and protective covers for cracks.



Unscrew self-locking nut on level control lever to detach the connecting rod/control rod. If required, hold ball pin with an 8 mm open-end wrench. The ball pin must not be able to be pulled out of the ball cup.

7 Use line wrench to detach pressure lines (S1, S2) from the level control unit.

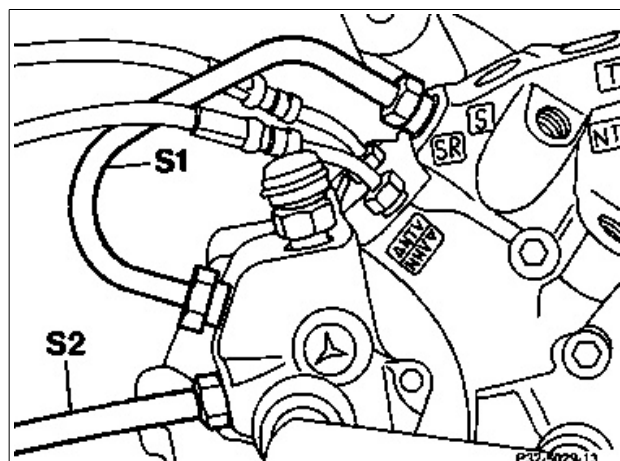
Installation note

Tightening torques:

M10 1 = 14 Nm.

M12 1 = 20 Nm.

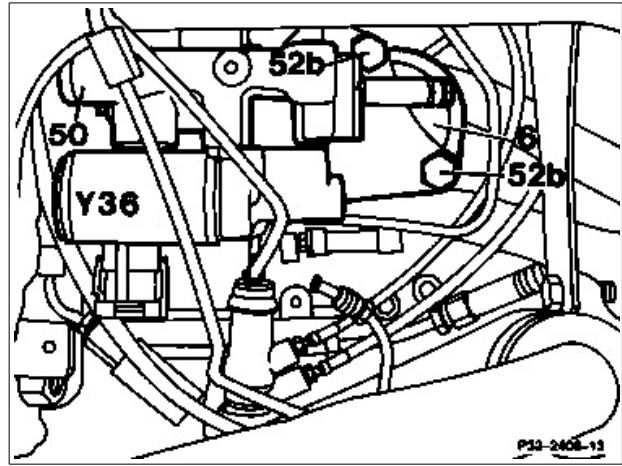
M12 1.5 = 25 Nm.



8 Unscrew bolts (52b) of level control unit (6),
remove level control unit.

Installation note

Replace self-locking hexagon bolts, 10 Nm.

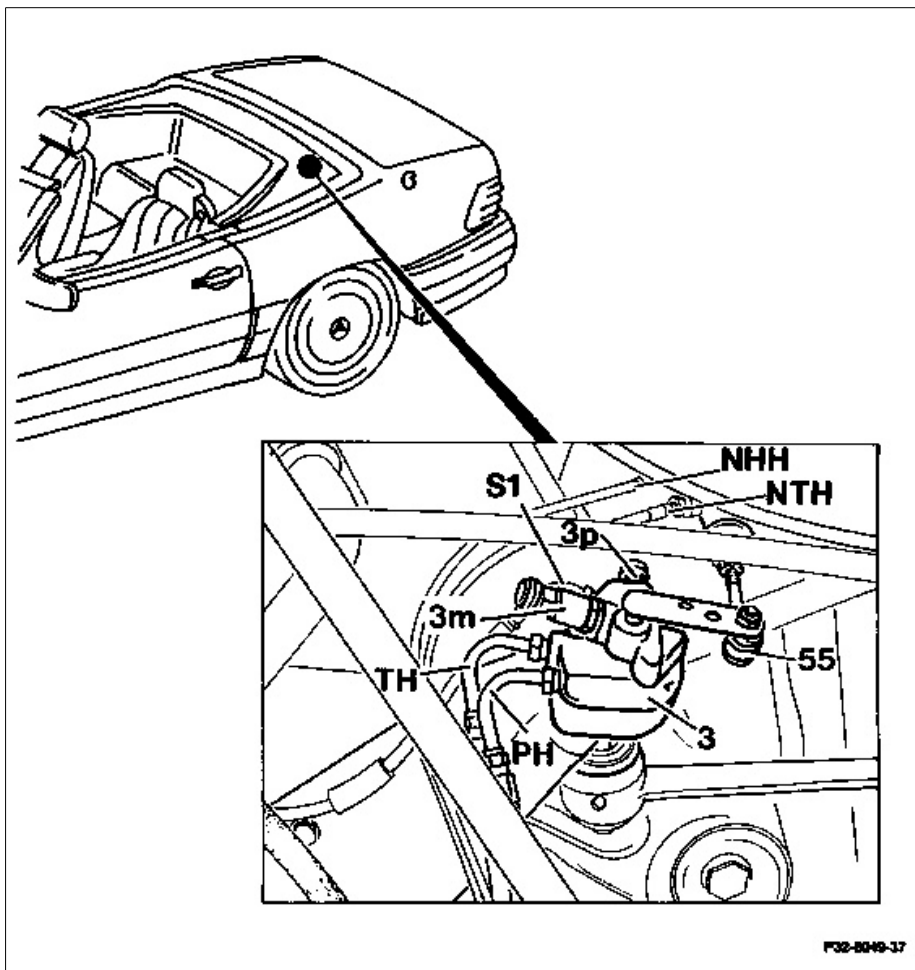


9 Install in reverse sequence.

Preceding operations:
 Drain hydraulic system (32-0630).

Operation no. of operation texts and work units or standard texts and flat rates
 32-0820

A. Model 129



Pressure lines (PH, S1) _____

detach, attach at level control unit (3), using line wrench 129 589 00 03 00.

M10 1 = 14 Nm.

M12 1 = 20 Nm.

M12 1.5 = 25 Nm.

Return line (TH) _____

detach, attach at level control unit (3), using line wrench 129 589 00 03 00.

M12 1 = 20 Nm.

M12 1.5 = 25 Nm.

Connecting rod/control rod (55) on level control lever _____

remove, install at lever on level control unit. Replace self-locking nut, 10 Nm.

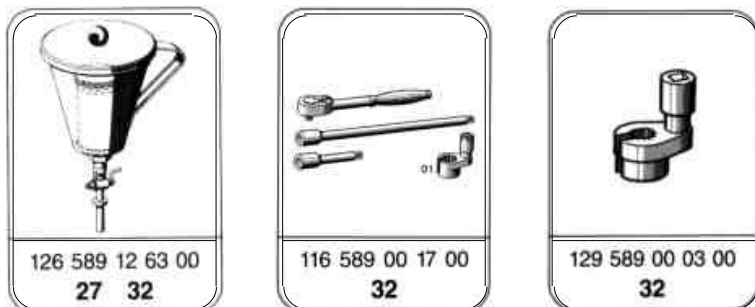


Note information in No. 3.

Level control unit (3) _____ remove, install,
 Replace self-locking hexagon bolts, 10 Nm.

Level-controlled vehicle height at front and rear _____ check and adjust (40-0302).
 Headlights _____ check and adjust (82-1130).

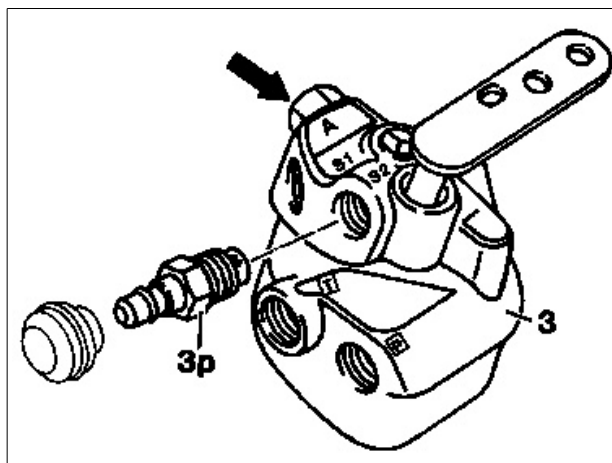
Special tools



Note

A new fluid drain plug (3p) was introduced at connection "S2" on the level controller (3) in 10/92.

The earlier fluid drain plug at connection "A" was replaced by a threaded seal plug (arrow). Tightening torque for fluid drain plug: 14 Nm.



Removal, installation

1 Use a line wrench to disconnect pressure lines (PH, S1) and return line (TH) on level control unit (3).

Installation note

Check and adjust ride height as determined by the level control system at both front and rear of vehicle (40-0302). The headlights will have to be readjusted if the height of the vehicle has changed (82-1130).

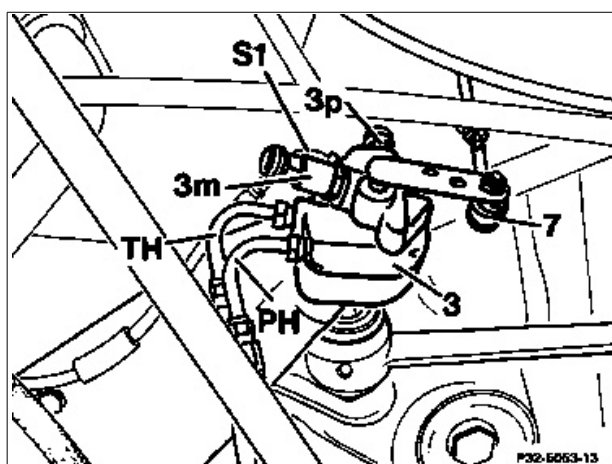


Illustration shows USA version up to 9/92

Tightening torques:

M10 1 = 14 Nm.

Tightening torques:

M10 1 = 14 Nm.

M12 1 = 20 Nm.

M12 1.5 = 25 Nm.

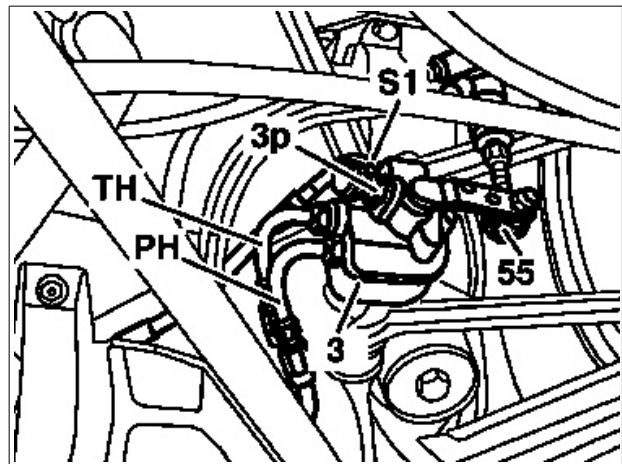
2 Remove the linkage (7) or control rod (55) from the lever on the level controller.

Installation note

Replace self-locking nuts, 10 Nm.

Check ball joints on control rod for ease of movement, and protective covers for cracks.

Version installed since 10/92



Unscrew self-locking nut on level control lever to detach the control rod. If required hold pin with an 8 mm open-end wrench. The ball pin must not be able to be pulled out of the ball cup.

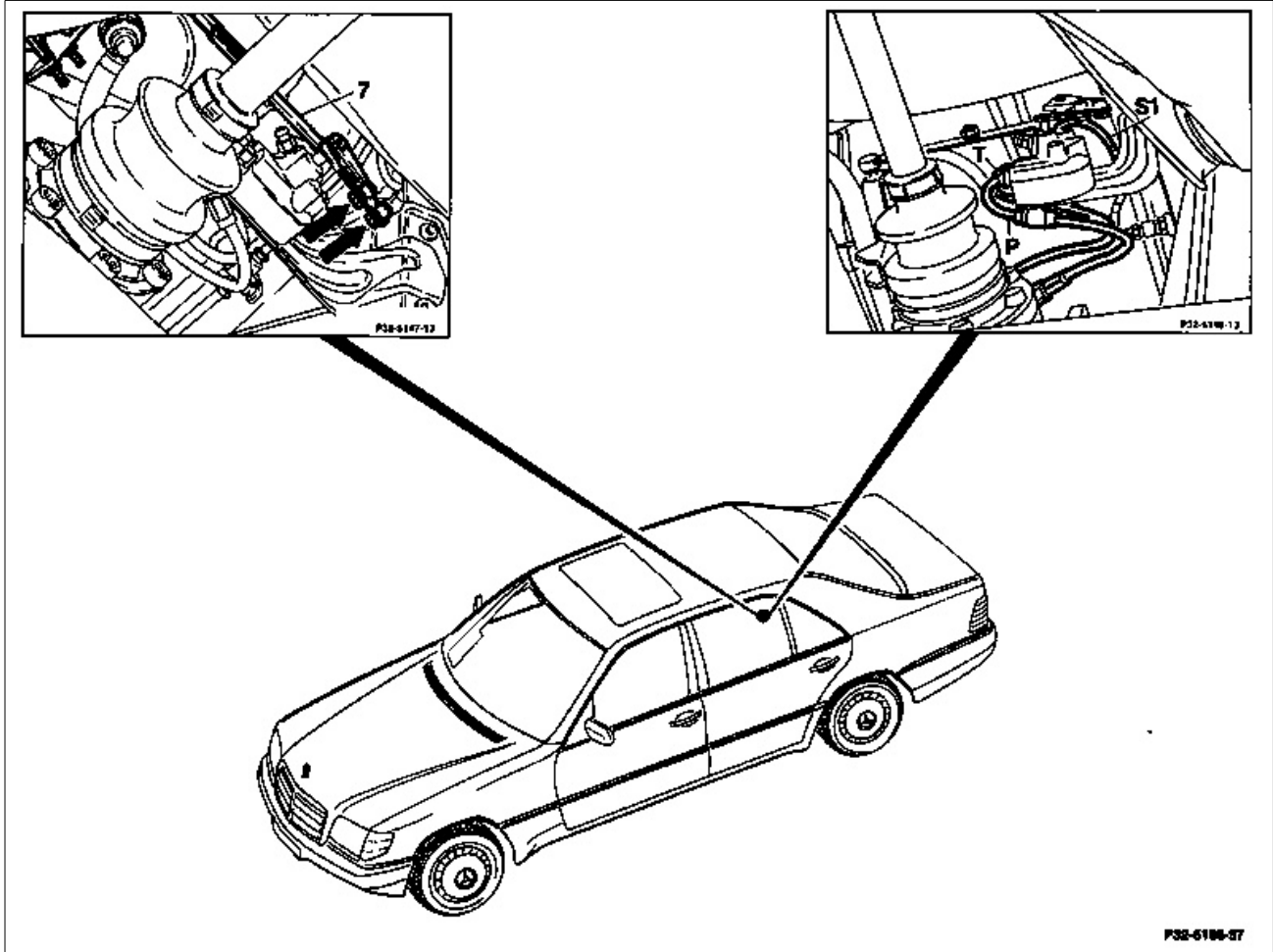
3 Unscrew two hexagon bolts and remove level control unit from bracket.

Installation note

Replace self-locking bolts, 10 Nm.

4 Install in reverse sequence.

B. Model 140



- Pressure lines (P, S1) _____ disconnect, connect at level control unit (3) using line wrench 129 589 00 03 00.
 S1 = 14 Nm.
 P = 20 Nm.
- Return line (T) _____ disconnect, connect at level control unit (3) using line wrench 129 589 00 03 00, 20 Nm.
- Linkage (7) _____ remove and install at lever of level control unit.
 Replace self-locking bolts, 10 Nm.
- Level control unit (3) _____ remove, install, 10 Nm.
 Replace self-locking hexagon bolts, 10 Nm.
- Vehicle level at both front and rear axles _____ check (40-0300), check base setting for level control system (40-0310).
- Headlights _____ check and adjust (82-1130).

Special tools



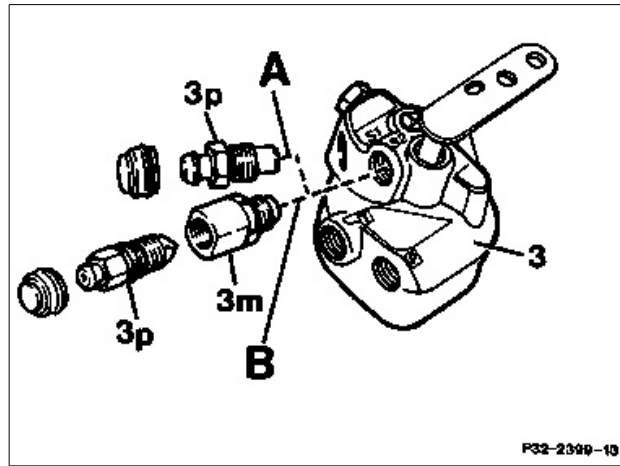
Notes

Letter codes on level controller

A=Model 140 with level control at the rear

B= Model 140 with rear level control and ADS,
Model 140 with rear level control and ASD.

- 3 Level controller
- 3m Connection fittings
- 3p Fluid drain plug
- P High-pressure line, hydraulic pump to level controller
- S1 High-pressure line, level controller to pressure accumulator
- S2 Connection fitting for fluid drain plug
- T Return line from level controller to fluid reservoir



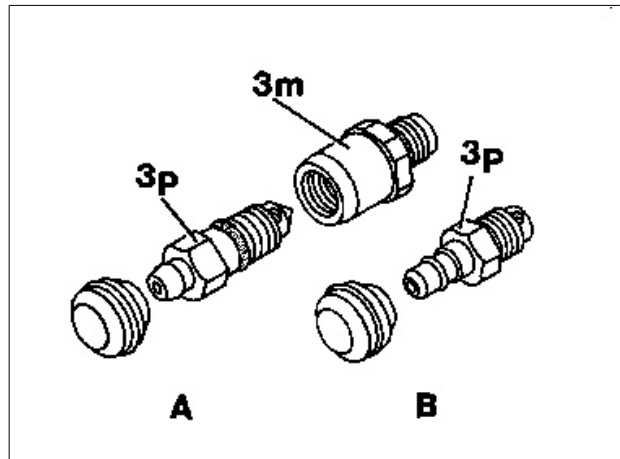
Modified fluid drain plug on level controller

.A new fluid drain plug (3m) was installed at connection "S2" on the level controller. The earlier fitting (3m) was deleted at the same time. Tightening torque for fluid drain plug: 14 Nm.

A = Version installed up to 9/92

B = Version from 10/92 onward

- 3m Connection fitting
- 3p Fluid drain plug



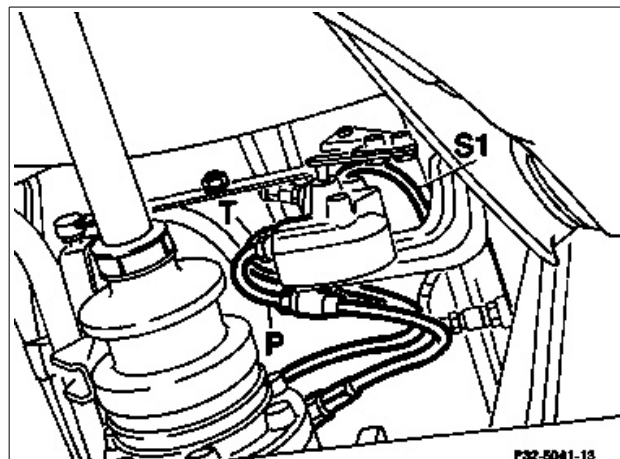
Removal, installation

1 Use a line wrench to disconnect pressure lines (P, S1) and return line (T) at level control unit.

Installation note

Check and adjust ride height as determined by the level control system at both front and rear of vehicle (40-0310)/base setting for level control system (40-0310). Check and adjust the headlights if the height of the vehicle has changed (82-1130).

Tightening torques:

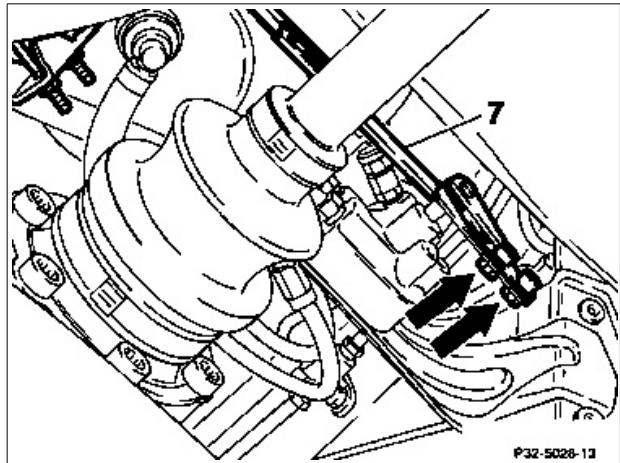


S1 = 14 Nm
P and T = 20 Nm.

2 Unscrew two self-locking bolts (arrows) and detach linkage (7).

Installation note

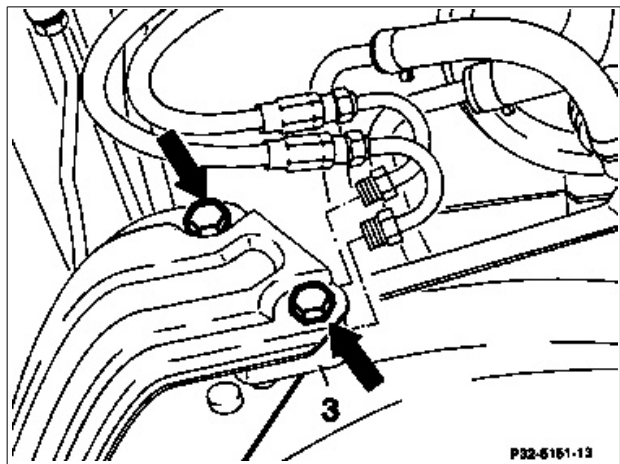
Replace self-locking bolts, 10 Nm.



3 Unscrew two hexagon bolts (arrow) and remove level control unit (3) from bracket.

Installation note

Replace self-locking hexagon bolts, 10 Nm.

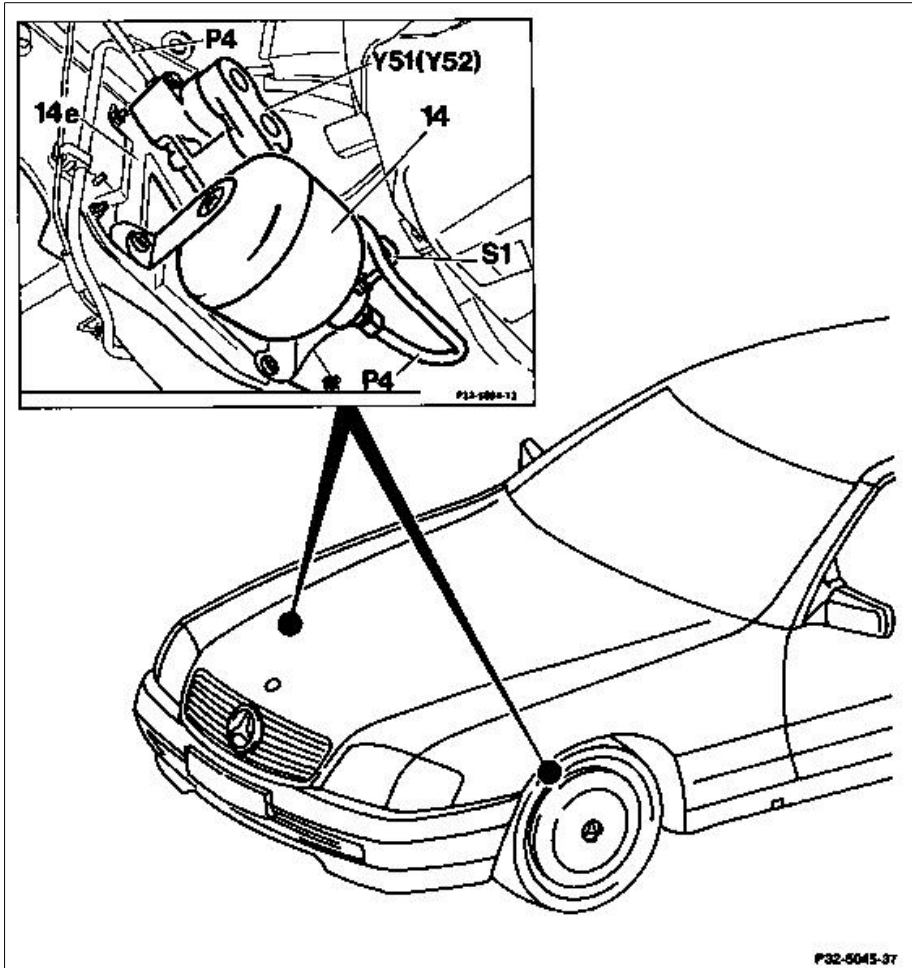


4 Install in reverse sequence.

Preceding work:

Pressure oil system drained (32-0630).

A. Front axle - Model 129



Connectors (Y51x1, Y52x1) _____

disconnect, connect. Pull downwards out of the splash wall, install in splash wall with rubber grommet (No. 1).
Version as of 7/93: Disconnect electrical lead from damper valve (Position 6).

Front wheels _____

remove, remount. Torque lug bolts to 110 Nm.

Cover in front wheelhousing _____

remove, install.

High-pressure line (P4) _____

detach, reconnect at both ends.
M16x1.5 = 30 Nm
M18x1.5 = 44 Nm.

Damper valves (Y51, Y52) _____

remove, install.
Tightening torques for bolts:
M6 = 10 Nm
M8 = 20 Nm.

Note

On vehicles manufactured from 7/93 onward, the connections (Y51x1, Y52x1) are plugged directly into the damper valve (in engine compartment on earlier versions).

An adapter line is supplied with the damper valve in the standard package contents.

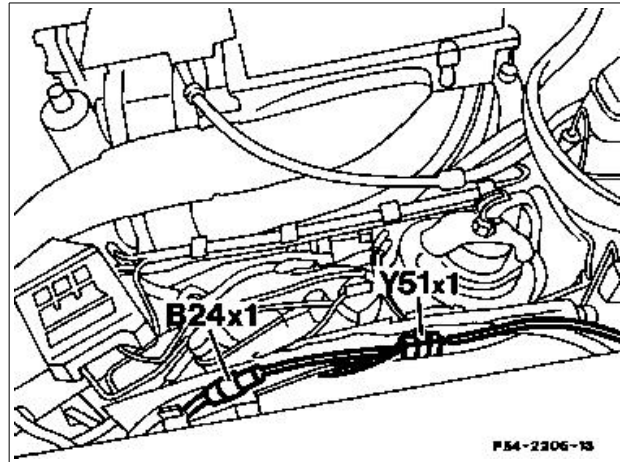
Removal, installation

1 Detach connectors (Y51x1, Y52x1). Detach cable from the retaining clip and remove together with the rubber grommet downwards from the splash wall.

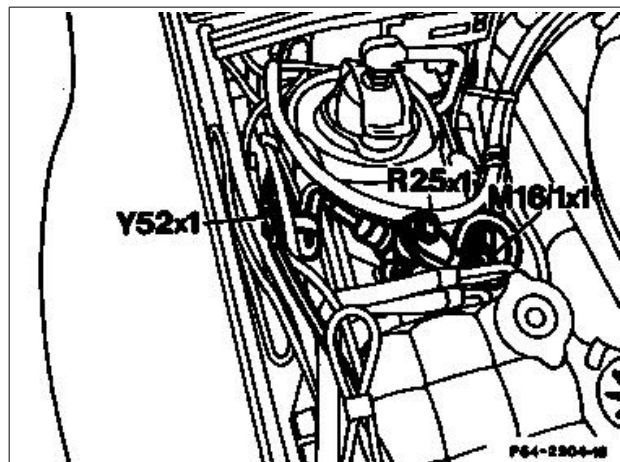
Installation note

Ensure correct seating of rubber grommet.

Y51x1 Connector, damper valve, front axle, left



Y52x1 Connector, damper valve, front axle, right

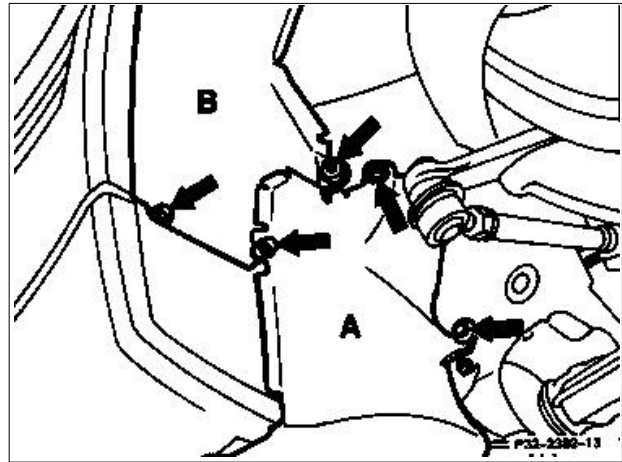


2 Remove the front wheels.

Installation note

Torque lug bolts to 110 Nm.

3 Unscrew the five hexagon bolts (arrows).
Remove guards (A and B) in wheelhousing.

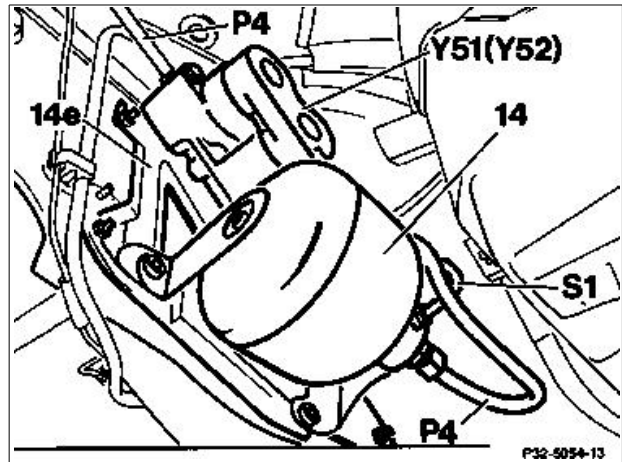


4 Disconnect the high-pressure line (P4) from the damper valve.

Installation note

Tightening torques: M16x1.5 = 30 Nm
M18x1.5 = 44 Nm.

5 Screw off the bolts/nuts holding the damper valves (Y51, Y52) in place.



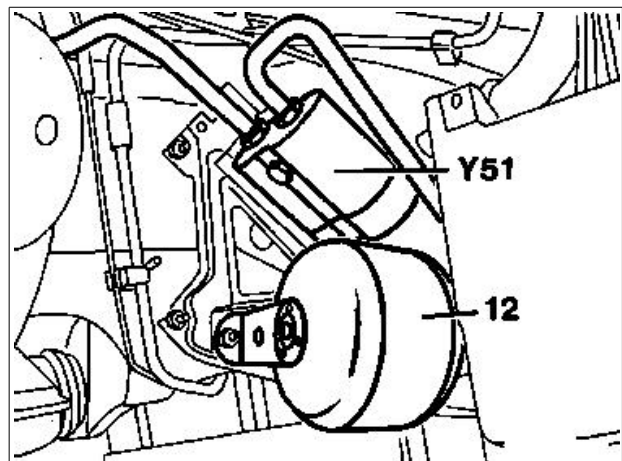
Y51(Y52) Damper valve
Version installed up to 6/93

6 Remove damper valves. Also detach electrical wire on versions manufactured from 7/93 onward.

Installation notes

Tightening torques:

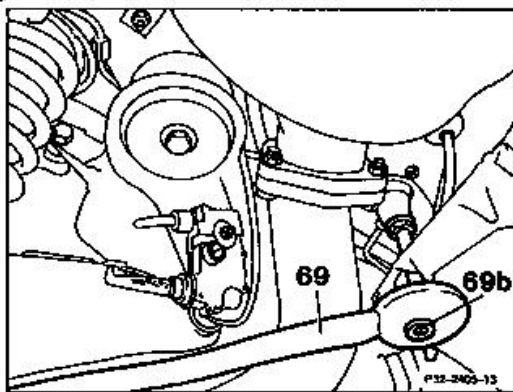
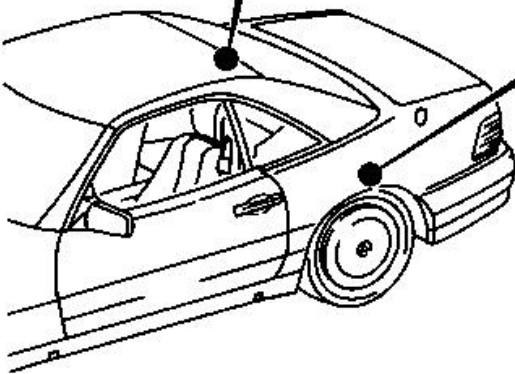
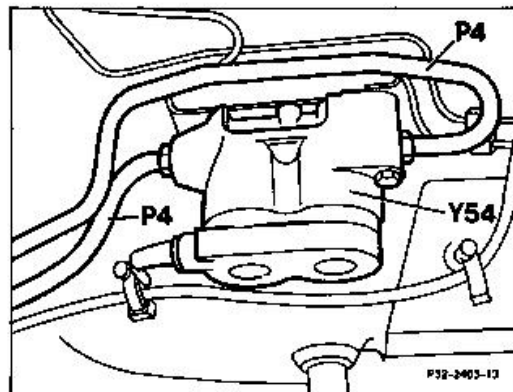
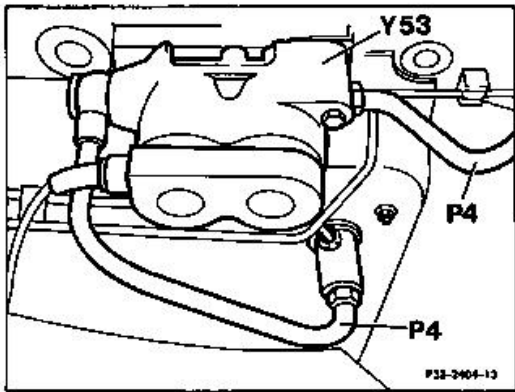
M6 = 10 Nm
M8 = 20 Nm.



Y51(Y52) Damper valve
Version installed from 7/93 onward

7 Installation is in reverse sequence.

B. Rear axle - Model 129



P32-0139-67

Covers for spare tire and electrical wiring in luggage compartment

Connectors (Y53x1, Y54x1) _____

remove, install.

disconnect, reconnect, remove, install at firewall with rubber grommet, version installed up to 6/93 (Position 2).
Version installed from 7/93 onward: Disconnect the electric lead at the damper valve (Position 8).

Vehicle _____

raise, lower (00-9008).

Cross member (69) _____

remove, install. Replace self-locking bolt (69b), 120 Nm.

Rear muffler _____

remove, remount in rubber doughnuts, secure with hook.

Pressure lines (P4) _____

disconnect, reconnect. Replace banjo bolt gaskets.

Tightening torques:

Banjo bolt = 50 Nm

M16x1.5 = 30 Nm

M18x1.5 = 44 Nm.

Damper valves (Y53, Y54) _____

remove, install.

Tightening torques:

M6 = 10 Nm.

M8 nut = 14 Nm

M8 bolt = 24 Nm.

Note

On vehicles manufactured from 7/93 onward, the connections (Y53x1, Y54x1) are plugged directly into the damper valve (in luggage compartment on earlier versions).

An adapter line is supplied with the damper valve in the standard package contents.

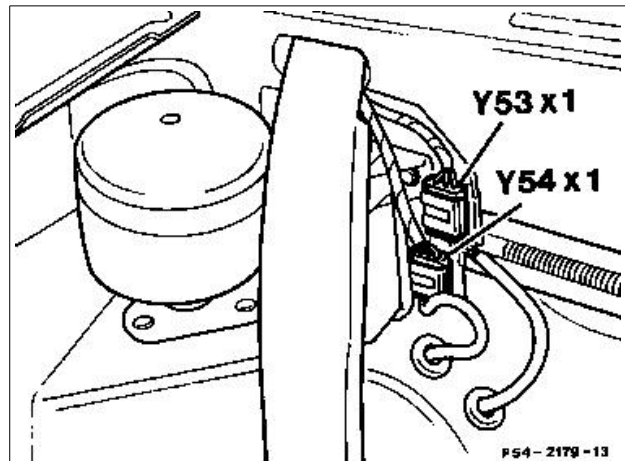
Removal, installation

- 1 Remove spare wheel and cable cover in luggage compartment.
- 2 Remove the wire plugs (Y53x1, Y54x1) from the clips, disconnect the plugs. Remove the wire from its clip, then pull from the firewall together with the rubber grommet (versions installed up to 6/93).

Installation note

Ensure that the rubber grommets seat properly.

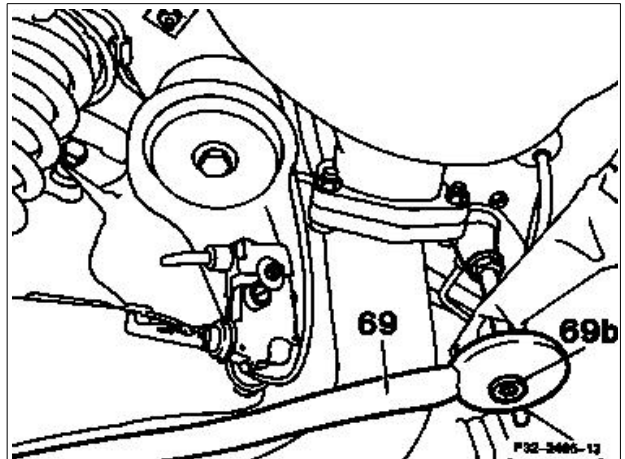
- 3 Raise vehicle (00-9008).



- 4 Unscrew self-locking bolt (69b) and remove cross strut (69).

Installation note

Replace self-locking bolt (69b), 120 Nm.



5 Detach rear muffler from the rubber rings and secure with hook.

6 Unbolt pressure lines (P4) at the damper valves (Y53, Y54).

Y53 Left-side damper valve
Version installed up to 6/93

Installation note

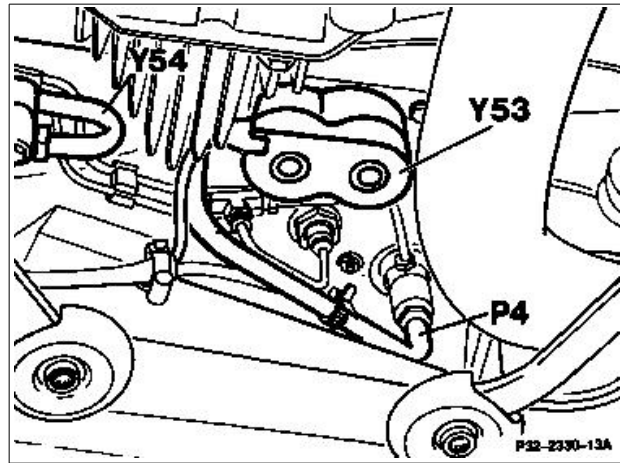
Replace the gaskets on the banjo bolt.

Tightening torques:

Banjo bolt = 50 Nm.

High-pressure line M16x1.5 = 30 Nm,

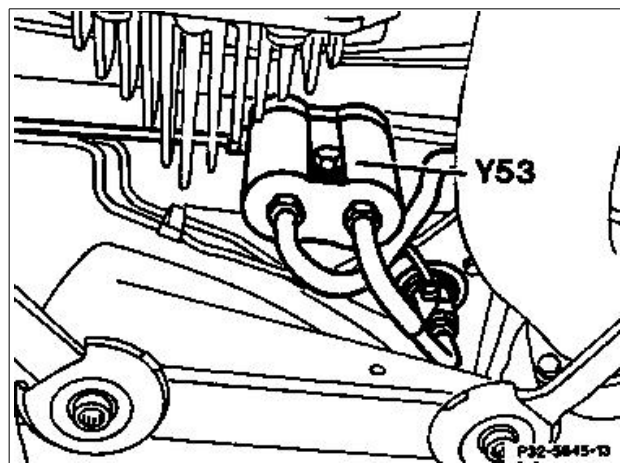
M18x1.5 = 44 Nm.



7 Unscrew the bolts/nuts used to hold the damper valves (Y51, Y52) in place.

8 Remove the damper valves. Also disconnect the wire from the damper valve on vehicles manufactured from 7/93 onward.

Y53 Left-side damper valve
Version installed from 7/93 onward



Installation note

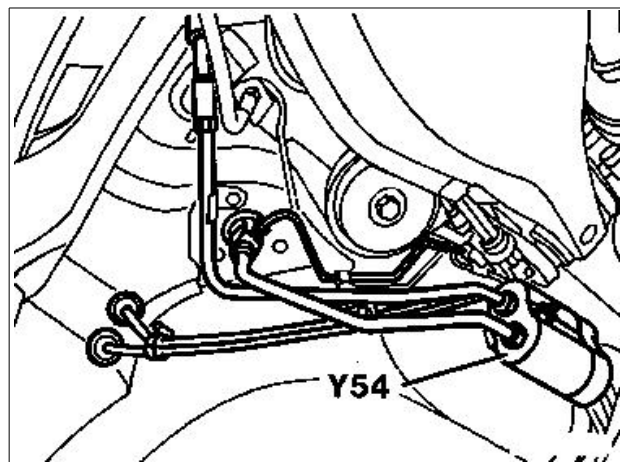
Tightening torques:

M6 = 10 Nm.

M8 nut = 14 Nm

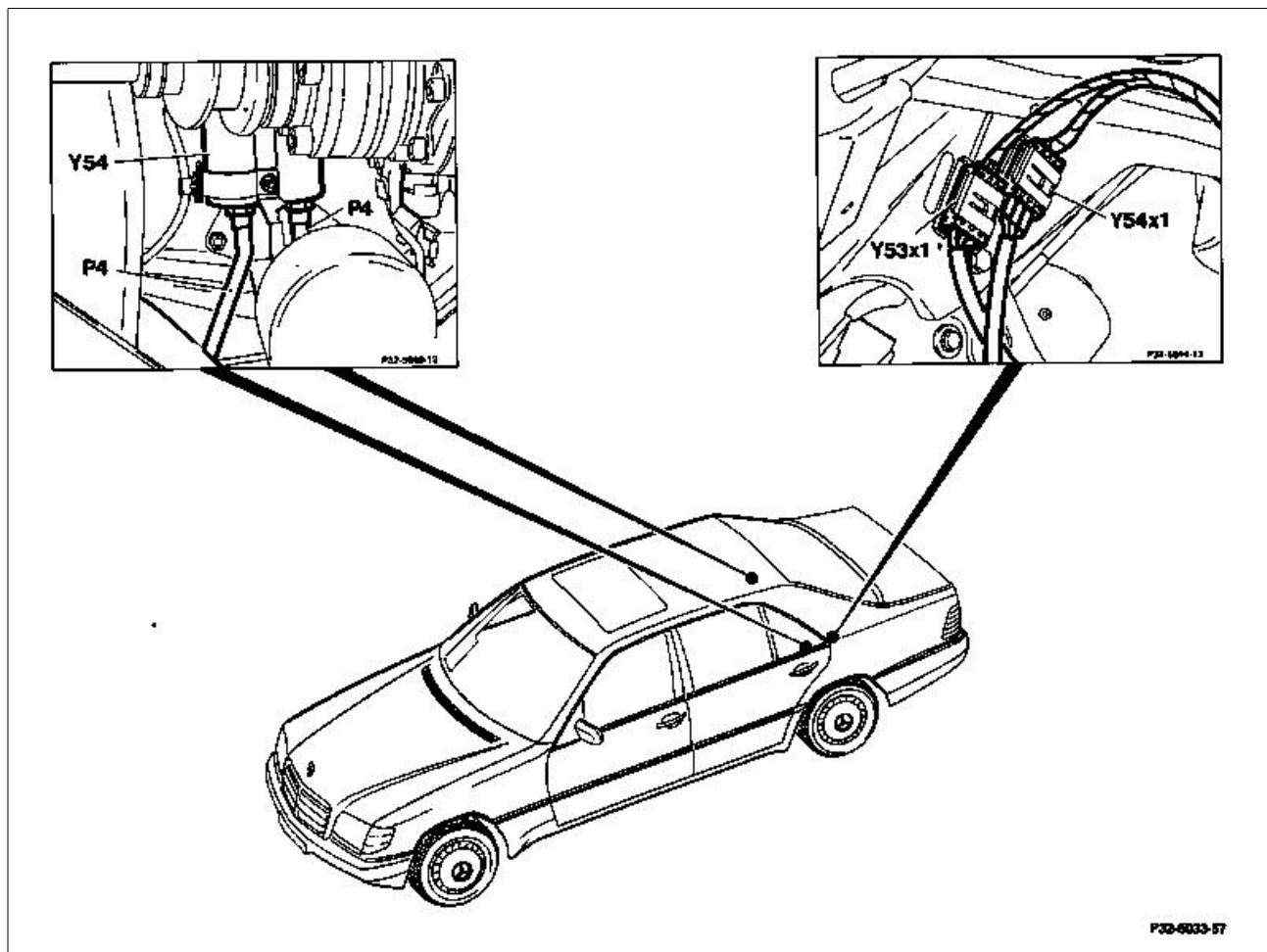
M8 bolt = 24 Nm.

Y54 Right-side damper valve
Version installed from 7/93 onward



9 Installation is in reverse sequence.

C. Rear axle - Model 140



Luggage compartment trim panels _____	remove, install.
Wire plugs (Y53x1, Y54x1) _____	disconnect, reconnect, remove, install in firewall with rubber grommets. Versions installed up to 6/93 (Position 2). Versions installed from 7/93 onward: Disconnect the electrical wire at the damper valve.
Vehicle _____	raise, lower (00-9008).
Rear muffler _____	remove, remount in rubber doughnuts, secure with hooks.
High-pressure line (P4) _____	disconnect, reconnect on both sides. Torque specification: M16x1.5 = 30 Nm M18x1.5 = 44 Nm.
Damper valves (Y53, Y54) _____	remove, install. Tightening torque: M8 nut = 14 Nm M8 bolt = 24 Nm.

Note

On vehicles manufactured from 7/93 onward, the connections (Y53x1, Y54x1) are plugged directly into the damper valve (in luggage compartment on earlier versions).

An adapter line is supplied with the damper valve in the standard package contents.

Removal, installation

1 Remove left-hand luggage compartment lining.

2 Remove the wire plugs (Y53x1, Y54x1) from the clips, disconnect the plugs. Remove the wire from its clip, then pull from the firewall together with the rubber grommet (versions installed up to 6/93).

Installation note

Ensure that the rubber grommets seat properly.

3 Raise vehicle (00-9008).

4 Remove the rear muffler from its rubber mounting doughnuts and secure with a hook.

5 Disconnect the high-pressure lines (P4) from the damper valves (Y53, Y54).

Installation note

Torque specification:

High-pressure line M16x1.5 = 30 Nm,
M18x1.5 = 44 Nm.

Y54 Right-side damper valve

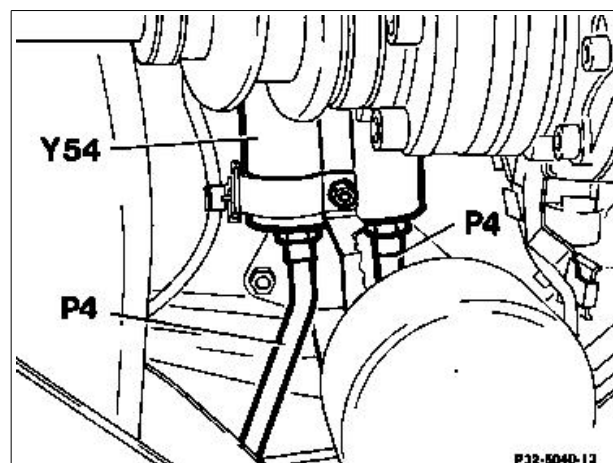
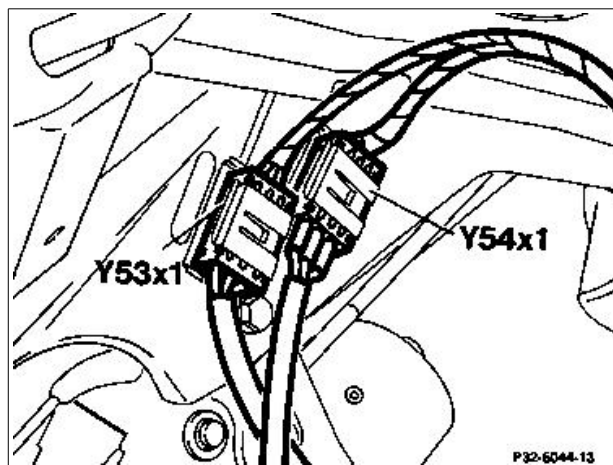
6 Unscrew the bolts/nuts used to hold the damper valves (Y53, Y54) in place.

Remove the damper valves. Also disconnect the wire from the damper valve on vehicles manufactured from 7/93 onward.

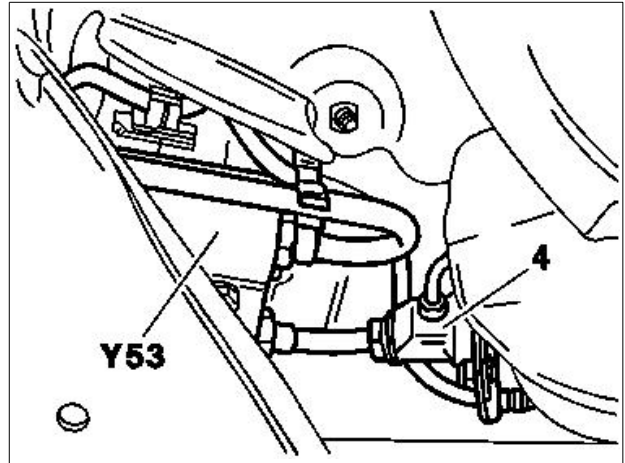
Installation note

Tightening torque:

M8 nut = 14 Nm
M8 bolt = 24 Nm.



Y53 Damper valve, left



7 Install in reverse sequence.