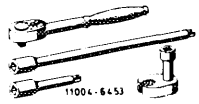
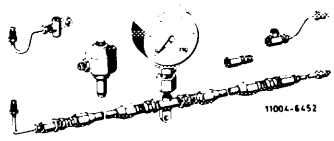
Data

Pressure reservoir for		Front axle [1] model 116.036	Rear axle model 116.036	Front and rear axle model 126
Part no.		116.320 16 15 or 126 320 03 15 [2]	116.320 14 15 or 126 320 02 15 [2]	126 320 01 15
Color code		red dot	blue dot	green dot
Gas filling pressure	when new	75+2 bar gauge pressure	60+2 bar gauge pressure	57+2 bar gauge pressure
	minimum value	60 bar gauge pressure	45 bar gauge pressure	
	permissible difference in pressure between lefthand and righthand pressure reservoir	8 bar gauge pressure		

1) Pressure reservoirs for front axle are similar to central reservoirs.
2) Pressure reservoir 2nd version (Perbunan) starting August 1979.

Special tools

Box wrench element open 11 mm 1/4" square, complete with change-over ratchet and 2 extensions for pressure oil lines		116 589 00 17 00
Pressure tester for level control and hydropneumatic suspension		126 589 02 21 00
Filter funnel		126 589 12 63 00

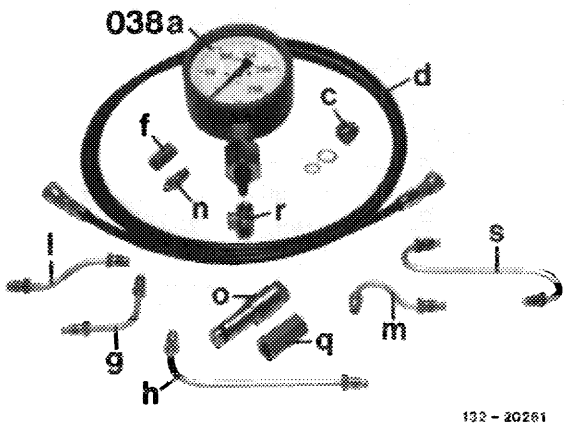
Note

Checking the gas filling pressure of pressure reservoir is required whenever suspension is getting harder. Checking all four pressure reservoirs will be of advantage.

The gas filling pressure decreases during operation, the time factor is evaluated higher than the mileage. Under normal conditions, the minimum pressure is attained after approx. 2 to 3 years or 80 000 to 120 000 km. Under extreme climatic conditions or in countries with very high outside temperatures, the gas pressure may decrease faster under given operating conditions, e.g. repeated slow bumper to bumper driving.

For checking, use pressure tester (038) with a new pressure gauge (0–250 bar).

038 Pressure tester
038a Pressure gauge 0–250 bar gauge pressure with connection, coupling nut and sealing ring (1)
c Adapter (8)
d Test pressure hose (1)
f Coupling (5)
g Test pressure line (2)
h Test pressure line (1)
l Test pressure line (1)
m Test pressure line (2)
n Vent screw (4)
o Pump test valve (1)
q Coupling (1)
r Distributor (4)
s Test pressure line (1)
Sealing rings C 14 x 18
Sealing rings C 10 x 13.5

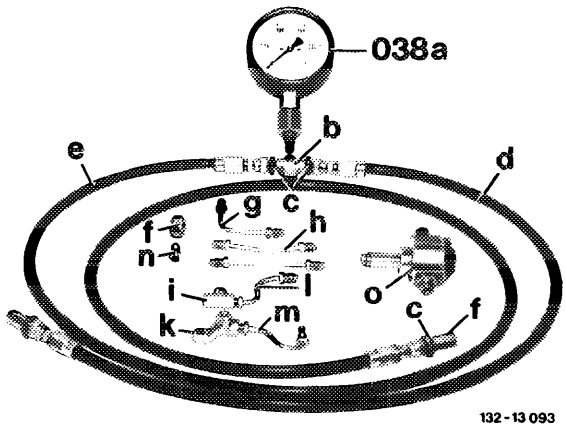


Numbers in brackets indicate how often these parts are contained in scope of delivery.

For each job, assemble the parts required for the respective tests. Tester (part no. 116 589 23 21 00) used up to now can be modernized by means of parts (038q) coupling (part no. 110 476 00 25) and (38r) distributor (part no. 116 990 03 72).

Use an additional test pressure hose (038e) of former pressure tester (part no. 116 589 02 21 00) for test. All the other parts can also likewise be used as described.

When filling pressure reservoir, do not exceed 100 bar!

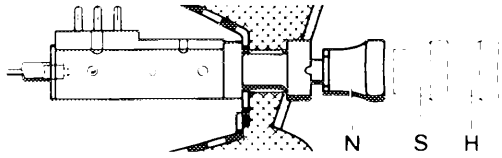


A. Model 116.036 without vent screw in line system

(1st version up to chassis no. 116.036–12–001984)

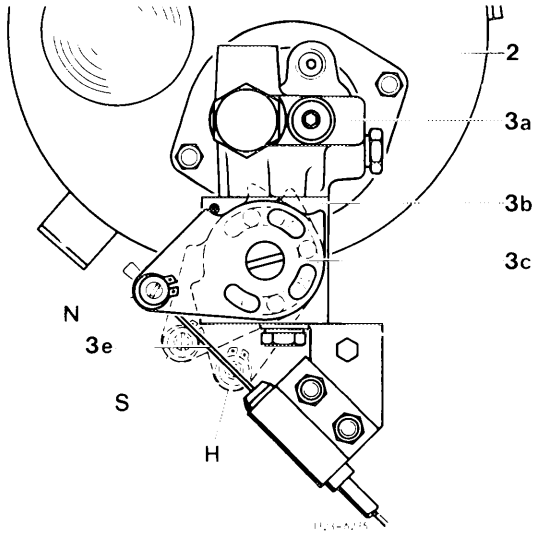
Checkup

1 Check complete suspension system for external leaks prior to starting test jobs.



2 Move puller for adjusting switch of valve unit into position N = "normal level".

3 Jack up vehicle at the front and rear.



2 Oil supply tank
3a Pressure regulator of valve unit
3b Adjusting switch of valve unit
3c Control disk
3e Puller for adjusting switch

Positions of adjusting switch:
N = normal level
switch pushed down or control disk against stop at front
S = detent position
switch locked in center position or control disk pulled into 1st detent
H = higher level
switch fully pulled or control disk pulled into 2nd detent

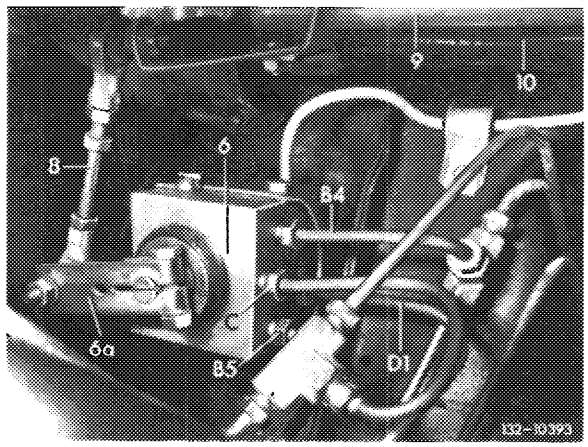
Note: In positions "H" and "S" warning lamp at right in instrument cluster is lighting up (red with vehicle symbol).

Pressure reservoir for front axle

4 Remove battery and battery frame. Connect battery cable of vehicle to removed battery by means of emergency starting cable.

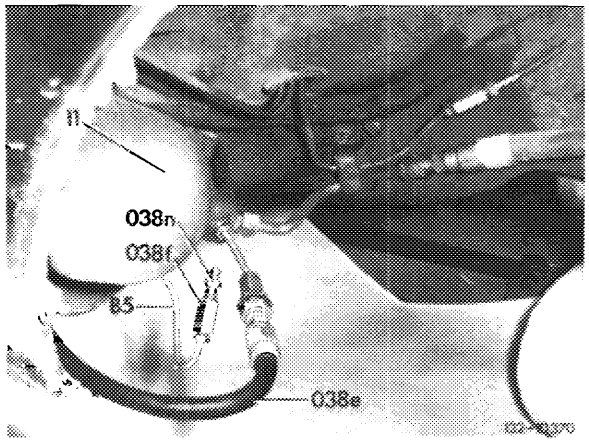
5 Disconnect connecting rod (8) on level controller (6) for front axle.

Attention!
For checking, move lever of level controller from center position by no more than 45^{o}. Any turning of lever and thereby of control disk past the permissible dimension may result in damage to valve balls and subsequently to internal leaks in regulator.



6 To check pressure reservoir left, unscrew pressure line (B5) on pressure reservoir and close with coupling (038f) and bleed valve (038n).

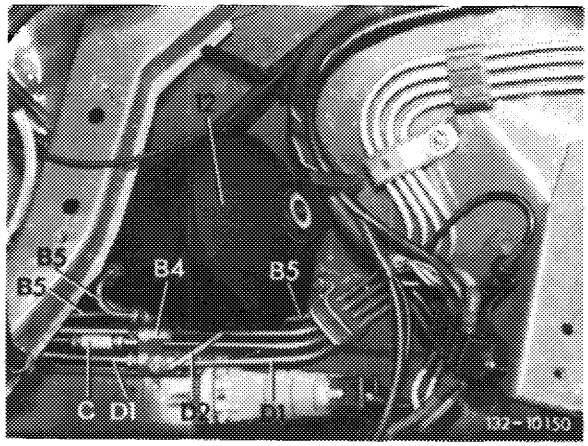
7 Connect pressure testing hose (038e) to pressure reservoir at left.



11 Pressure reservoir at left for front axle
038e Pressure testing hose 2000 mm long with pressure testing line (038h)

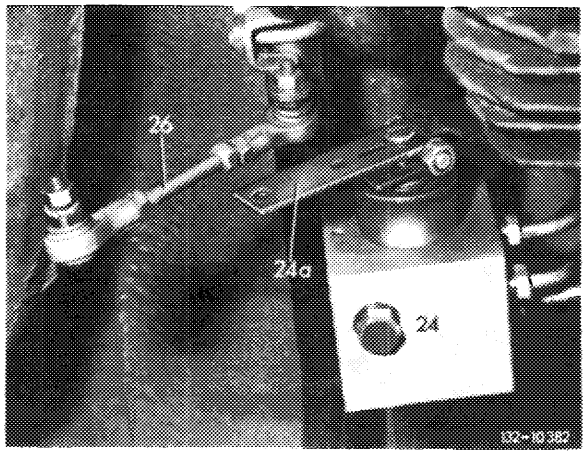
8 Disconnect pressure line (B5) on distributor and on pressure reservoir at right (12).

9 Connect pressure testing hose (038d) with pressure testing line (308h) to distributor instead of pressure line (B 5).



10 Set lever of level controller for front axle to "emptying".

Note: Illustration shows position of lever at rear level controller.

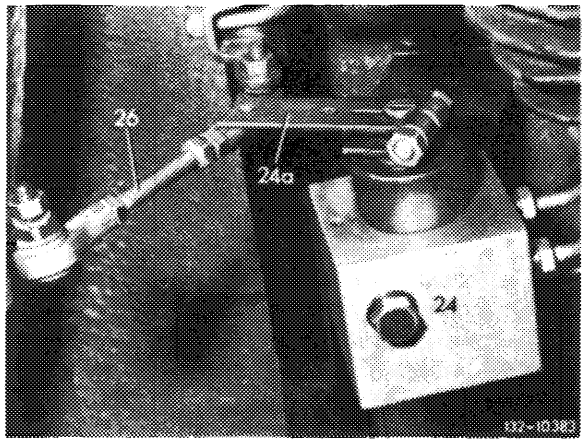


Level controller in position "emptying"
24 Level controller for rear axle
24a Lever for level controller

11 Run engine at idling speed. Set lever of level controller for front axle to "filling", while watching needle of pressure gauge.

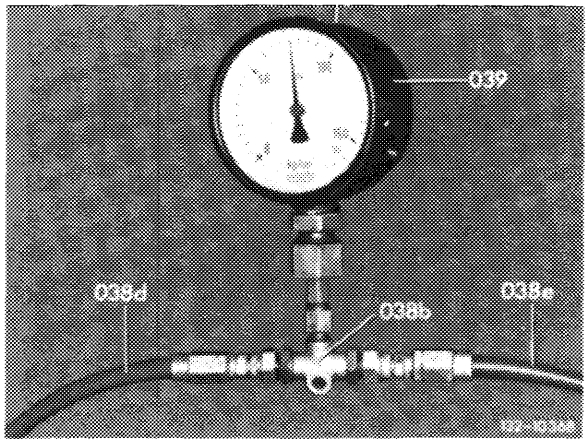
The gas filling pressure of pressure reservoir is indicated when the needle of the pressure gauge rises spontaneously to a pressure value. This sudden rise is effected when the oil pressure exceeds the gas pressure.

Set lever of level controller to "emptying". Stop engine.



Level controller in position "filling"

24 Level controller for rear axle
24a Lever for level controller

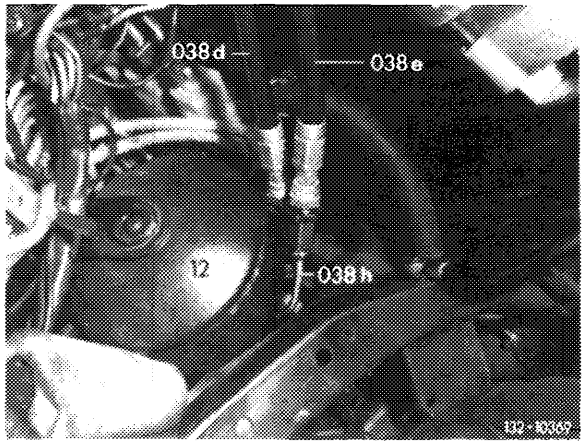


038b Distributor
038d Pressure testing hose 1000 mm long
038e Pressure testing hose 2000 mm long
039 Pressure gauge 0–160 or 0–250 bar gauge pressure

12 Disconnect pressure testing hose (038e) with pressure testing line (038h) on pressure reservoir left.

13 Check pressure reservoir right, connect pressure testing hose to pressure reservoir.

Pressure line (B5) to pressure reservoir left remains closed.



12 Pressure reservoir right for front axle
038d Pressure testing hose 1000 mm long
038e Pressure testing hose 2000 mm long
038h Pressure testing line

14 Perform checkup of righthand pressure reservoir similar to lefthand reservoir, refer to items 10 and 11.

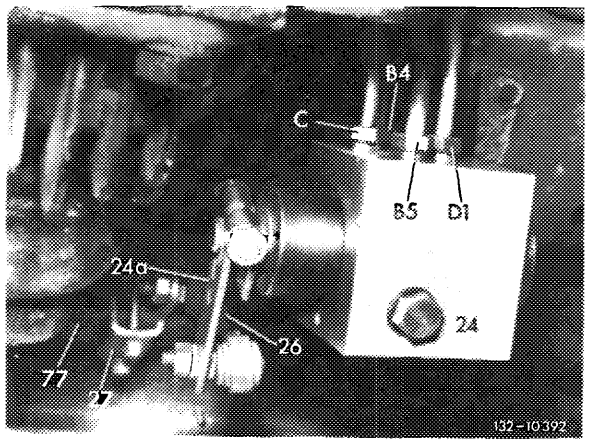
15 Disconnect pressure tester. Connect pressure lines to pressure reservoirs and to distributor at wheel house right, install battery and battery frame.

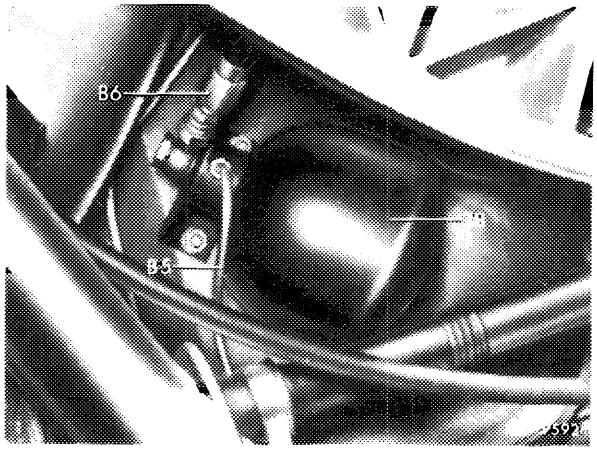
Pressure reservoir for rear axle

16 Disconnect connecting rod (26) on lever of level controller for rear axle.

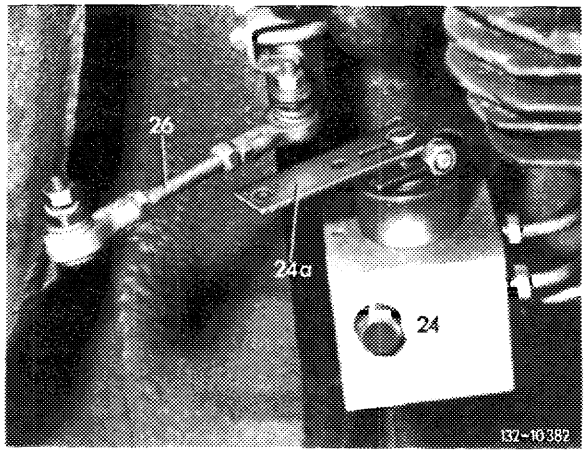
17 Unscrew pressure lines (B5) on both pressure reservoirs and on level controller.

18 Connect pressure gauge with pressure testing hose (038d) and pressure testing line (038g) to connection for pressure line (B5) on level controller and connect pressure testing hose (038e) with pressure testing line (038h) on lefthand pressure reservoir.





19 Set lever (24a) of level controller for rear axle to "emptying".

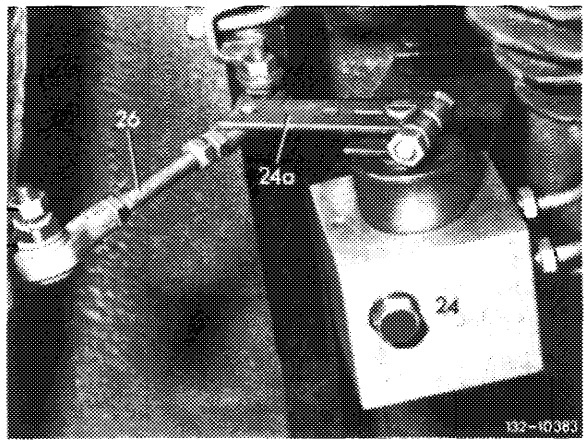


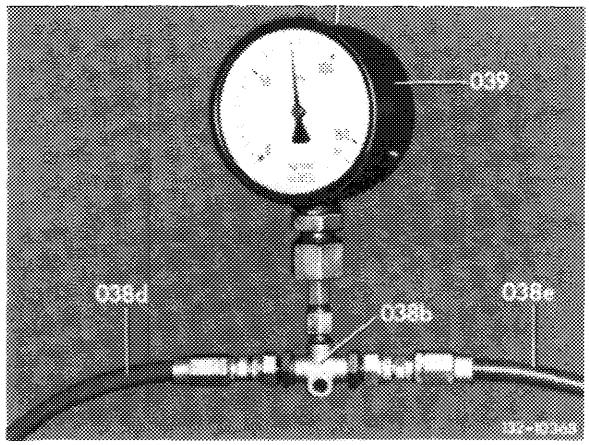
20 Run engine at idle speed. Set lever (24a) of level controller for rear axle to "filling", while watching needle of pressure gauge.

When filling pressure reservoirs, do not exceed 100 bar.

The gas filling pressure of the pressure reservoir is indicated when the needle of pressure gauge rises spontaneously to a pressure value.

This sudden rise occurs when the oil pressure exceeds the gas pressure. Set lever of level controller to "emptying". Stop engine.





038b Distributor
038d Pressure testing hose, 1000 mm long
038e Pressure testing hose, 2000 mm long
039 Pressure gauge 0–160 or 0–250 bar gauge pressure

21 Loosen pressure testing hose with pressure testing line on lefthand pressure reservoir and connect to righthand reservoir.

22 Perform checkup of righthand pressure reservoir similar to lefthand pressure reservoir, refer to items 19 and 20.

23 Disconnect pressure tester, connect pressure lines to pressure reservoirs and level controller.

24 Mount connecting rods of level controllers for front and rear axle.

25 Lower vehicle.

Attention!
Low ground clearance.

26 To fill suspension system, keep engine running (filling time of empty suspension system approx. 60 s at approx. 2500/min of engine).

27 Correct oil level in suspension system (32–600).

B. Model 116.036 with vent screw in line system

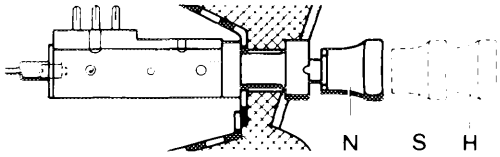
(2nd version starting chassis no. 116 036–12–001 985)

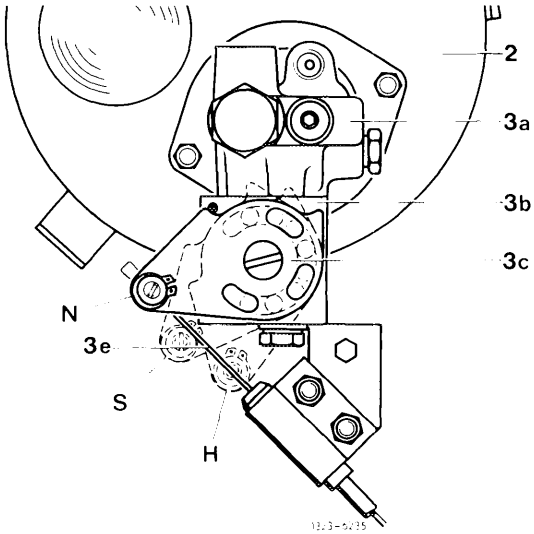
Checkup

1 Check complete suspension system for external leaks prior to starting test jobs.

2 Move puller for adjusting switch of valve unit into position N = "normal level".

3 Jack up vehicle at the front and rear.





2 Oil supply tank
3a Pressure regulator of valve unit
3b Adjusting switch of valve unit
3c Control disk
3e Puller for adjusting switch:

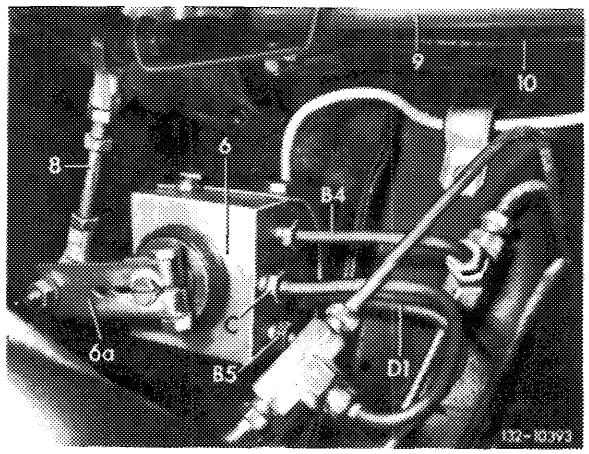
Positions of adjusting switch:
N = normal level
switch pushed down or control disk against stop at front
S = detent position
switch locked in center position or control disk pulled into 1st detent
H = higher level
switch fully pulled or control disk pulled into 2nd detent.

Note: In positions "H" and "S" warning lamp at right in instrument cluster is lighting up (red with vehicle symbol).

Pressure reservoir for front axle

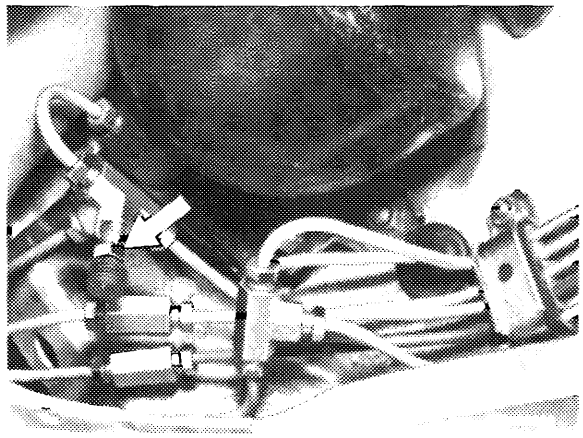
4 Remove battery and battery frame. Connect battery cable of vehicle to removed battery by means of emergency starting cable.

5 Disconnect connecting rod (8) on level controller (6) for front axle.



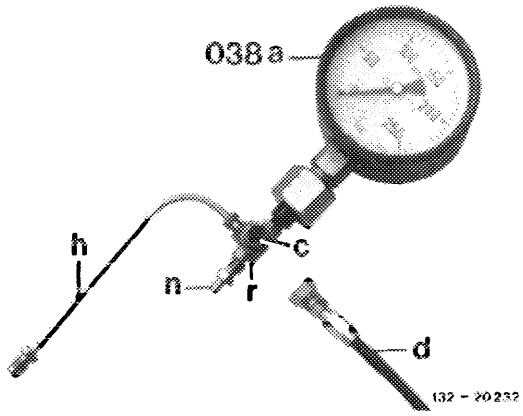
Attention!
For checking, move lever of level controller from center position by no more than 45°. Any turning of level and thereby of control disk past the permissible dimension may result in damage to valve ball and subsequently to internal leaks in level controller.

6 Unscrew vent screw (arrow) on distributor at right in engine compartment.

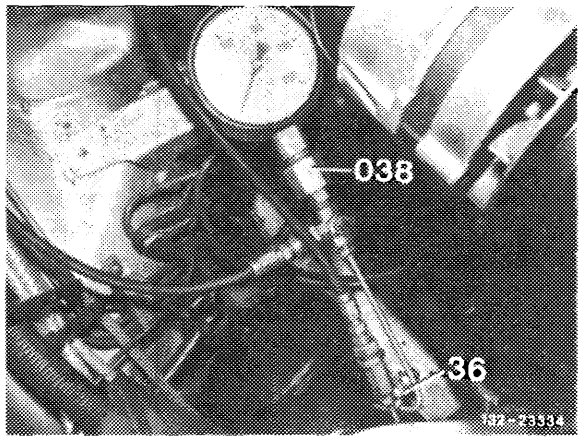


7 Assemble pressure tester (038) with pressure gauge (038a), adapter (c), pressure testing hose (d), pressure testing line (h), vent screw (n) and distributor (r). Use copper sealing ring for assembling parts (c) and (r).

Different from illustration, exchange pressure testing line (038h) with vent screw (038n) as shown in next illustration.



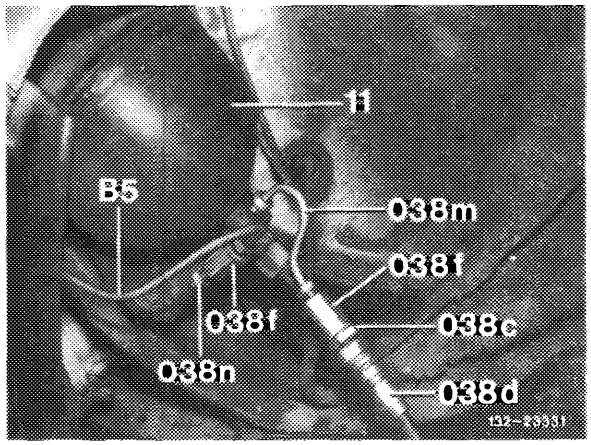
8 Insert pressure tester (038) into distributor (36).



9 Disconnect pressure line (B5) on **lefthand and righthand** pressure reservoir. Close both pressure lines each with coupling (038f) and vent screw (038n).

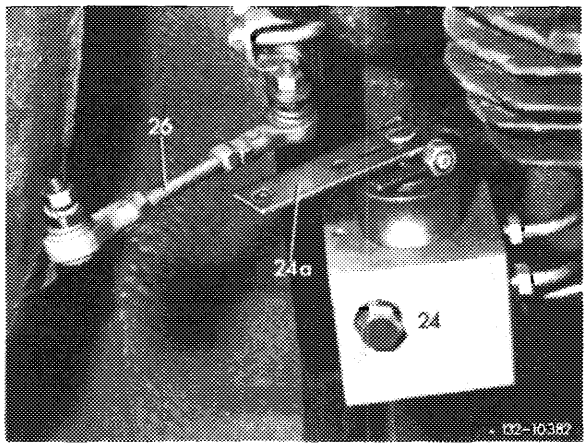
Checking lefthand pressure reservoir

10 Connect pressure testing hose (038d) with adapter (038c), coupling (038f) and pressure testing line (038m) to lefthand pressure reservoir (11) instead of pressure line (B 5).



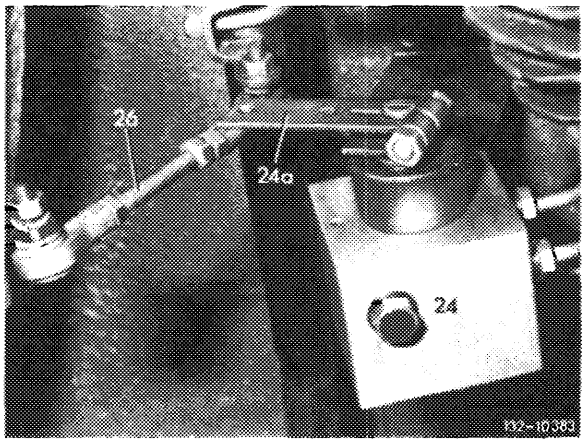
11 Set lever of level controller for front axle to "emptying".

Note: Illustration shows position of lever on rear level controller.



Level controller in position "emptying"

24 Level controller for rear axle
24a Lever for level controller

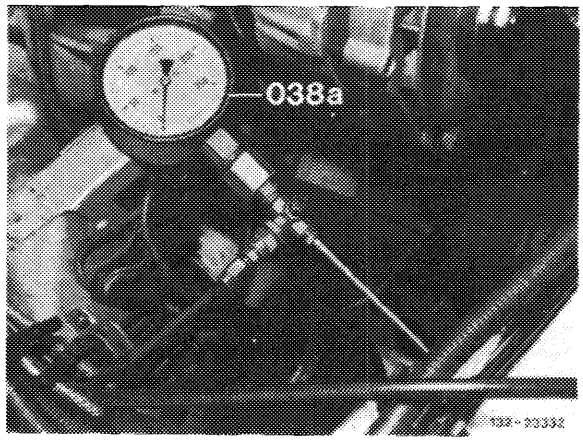


Level controller in position "filling"

24 Level controller for rear axle
24a Lever for level controller

12 Run engine at idle, set lever of level controller for front axle to "F" (filling) and watch pressure gauge needle (038a).

The gas filling pressure of pressure reservoir is indicated when the needle of the pressure gauge rises spontaneously to a pressure value. As from this spontaneously attained pressure value the needle will then rise but slowly. The reading point is the change from spontaneous to slow rise of needle.



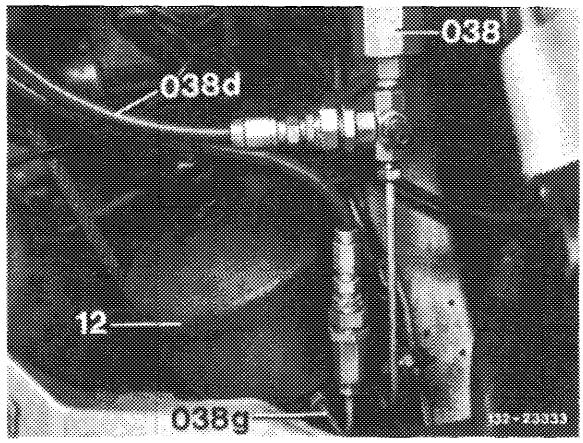
When filling level controller do not exceed 100 bar!

13 Set lever of level controller for front axle to "L" (emptying), so that the line and the pressure gauge are getting pressureless. Stop engine.

Checking righthand pressure reservoir

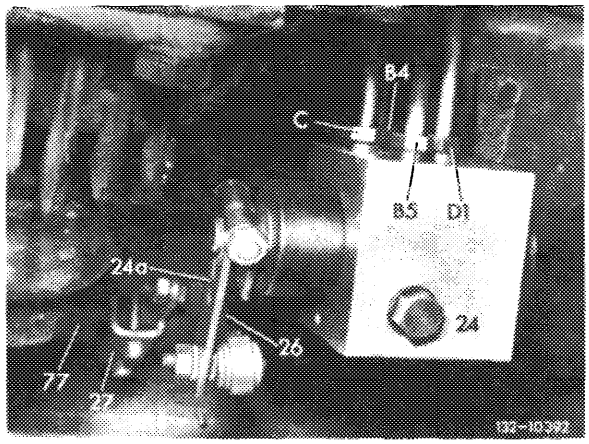
14 Connect pressure testing hose (038d) to **righthand** pressure reservoir (12). For this purpose, use pressure testing line (038g). Then perform steps according to items 11 to 13.

15 Disconnect pressure tester (038), mount vent screw in distributor. Connect pressure lines to pressure reservoir left and right. Install battery and battery frame.

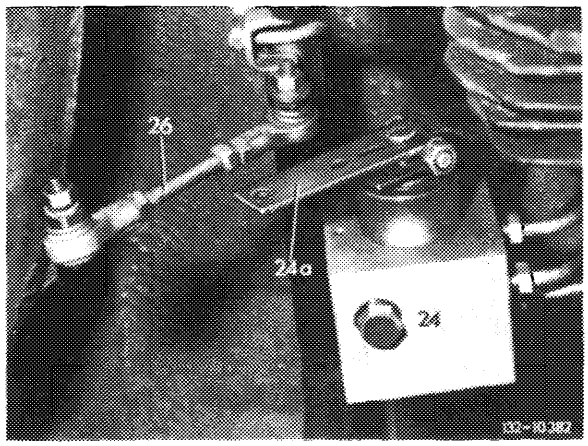


Pressure reservoir for rear axle

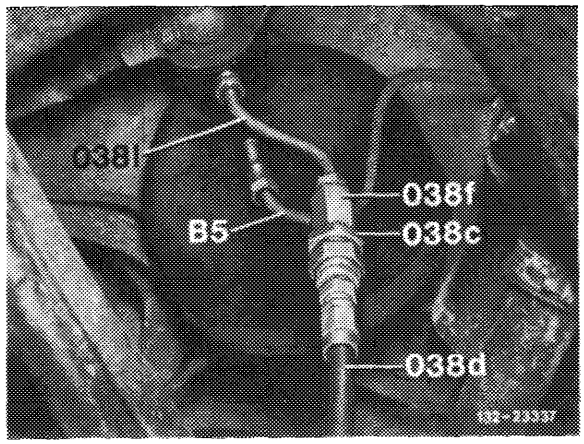
16 Disconnect connecting rod (26) on lever of torsion bar (27) of rear axle.



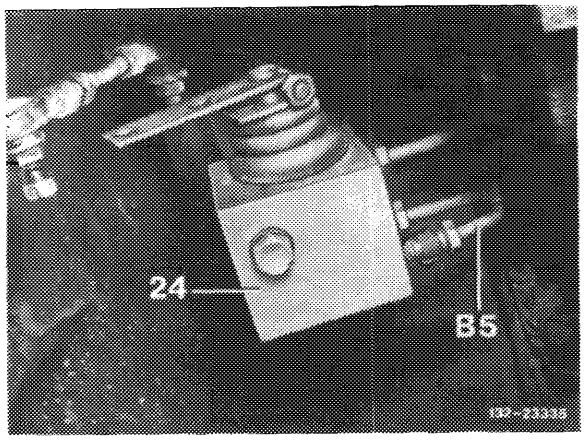
17 Set lever (24a) of level controller for rear axle to "L" (emptying).



18 Disconnect pressure line (B5) on **lefthand and righthand** pressure reservoir.

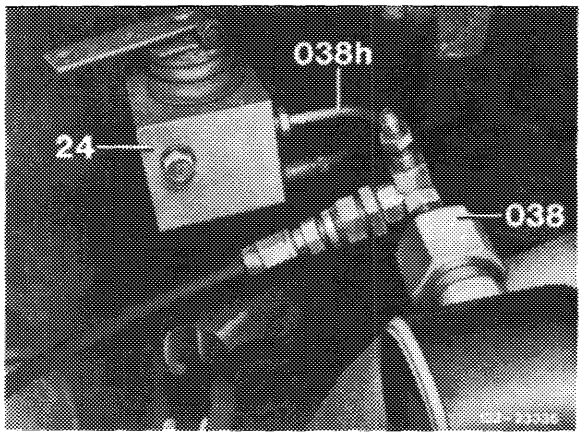


19 Unscrew pressure line (B5-identification on level controller "F").



24 Level controller
B5 Pressure line level controller-pressure reservoir

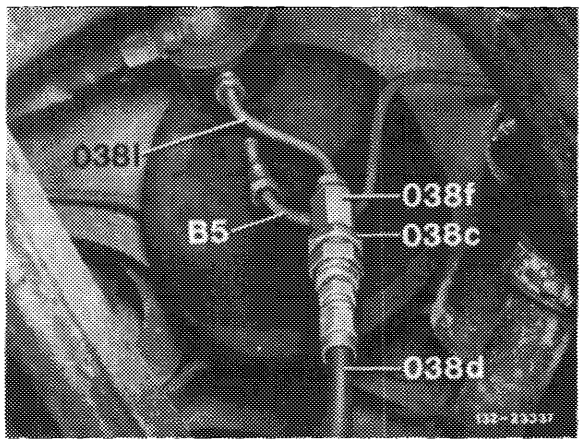
20 Mount pressure tester (038) into connection "F" on level controller (24).



038h Pressure testing line

Checking lefthand pressure reservoir

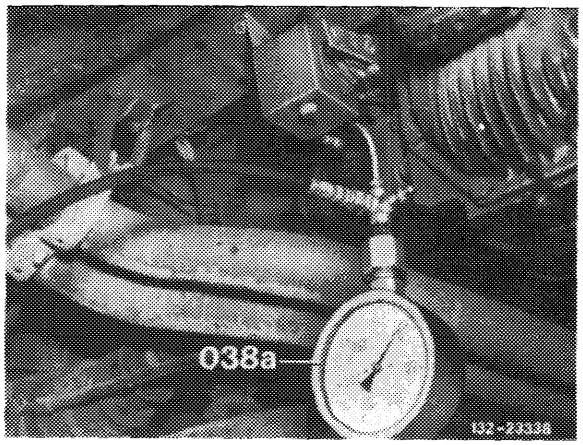
21 Connect pressure testing hose (038d) and pressure line (038l) to lefthand pressure reservoir.



038c Adapter
038f Coupling
B5 Pressure line level controller-pressure reservoir

22 Run engine at idle. Set lever of level controller for rear axle to "F" (filling) and watch needle of pressure gauge.

When filling pressure reservoirs, do not exceed 100 bar.



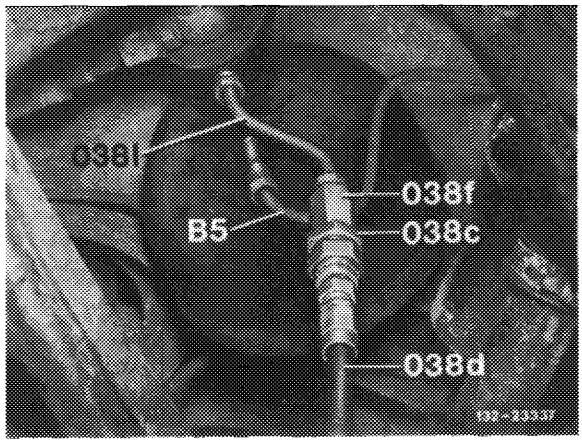
The gas filling pressure of the pressure reservoir is indicated when the needle of the pressure gauge rises spontaneously to a pressure value.

This sudden rise occurs when the oil pressure exceeds the gas pressure. Set lever of level controller to "L" (emptying). Stop engine.

Checking righthand pressure reservoir

23 Connect pressure testing hose (038d) to righthand pressure reservoir.

Perform step according to item 22.



24 Disconnect pressure tester. Connect pressure lines to pressure reservoirs and level controller.

25 Mount connecting rods of level controllers for front and rear axle. Lower vehicle.

Attention!
Low ground clearance.

26 Run engine to fill suspension system (filling time of empty suspension system of 60 s at approx. 2500/ min of engine).

27 Correct oil level in suspension system (32–600).