

32–100 Removal and installation of front shock absorber

Upper shock absorber suspension

	Part No.	Height	Length	OD	Rubber hardness °Shore
Rubber rings top and bottom	180 326 01 68	19	—	40	57 ± 5
Protective tube ¹⁾	115 323 04 38	4	240	—	—
Plastic protective tube ¹⁾ ²⁾	126 323 00 38	4	199	—	—
Disk, bottom ¹⁾	123 323 02 67	3,5	—	44	—
Supplementary rubber spring ¹⁾	115 323 06 44	—	105	—	—

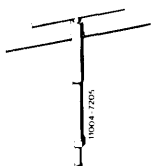
¹⁾ For gas pressure shock absorbers with separating piston only.

²⁾ 2nd version (use for repairs – simultaneously with disk 123 323 02 67).

Tightening torques

	Nm	(kpm)
Hex socket screws (1st version) or double hex screws (2nd version) of lower shock absorber suspension	20	(2)
Hex nuts of upper shock absorber suspension	Tighten up to runout of threads on piston rod	

Special tool

Socket wrench 5 mm for fastening upper shock absorber		107 589 00 09 00
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Note

The front shock absorbers are serving simultaneously as resilience stop for front wheels. For this reason, loosen shock absorber suspension **only** if the vehicle rests on its wheels or if the control arm is supported. With released shock absorber the upper control arm rests on end stop at front end. For assembly of upper suspension either place vehicle on its wheels or lift axle half at lower control arm.

Always use self-locking screws on principle!

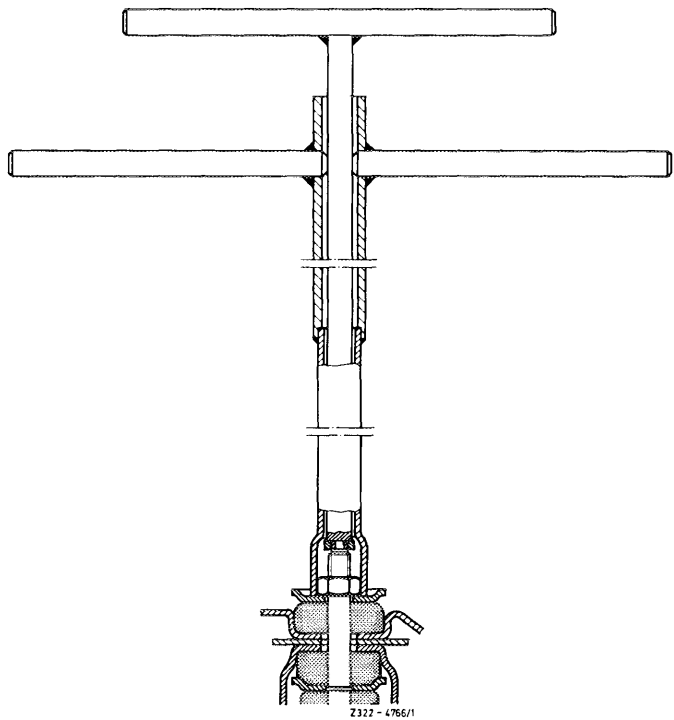
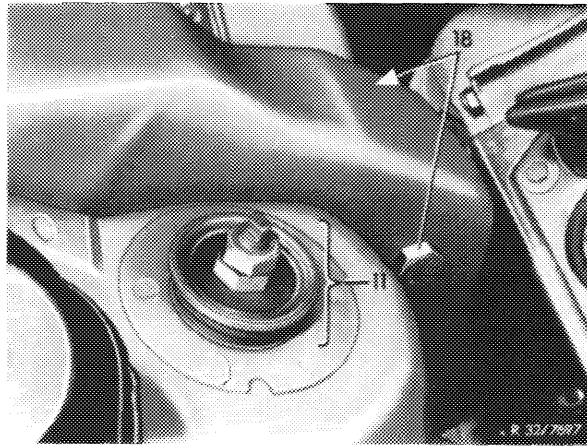
In the event of repairs, shock absorbers can be exchanged **individually** independent of make. Only the version of shock absorbers according to color code, e.g. 1 lengthwise line green or 1 crosswise line green must be in agreement.

Removal

1 Unscrew hex nuts on upper shock absorber suspension. Unscrew lower hex nut with wrench for attaching shock absorber. Remove disc and rubber ring.

Attention!

When removing gas pressure shock absorbers with separating piston or with piston rod mounted at top, with vehicle jacked up and axle half relieved, make sure that the piston rod is not turning along when loosening upper suspension. Since in this condition the resilience stop in shock absorber rests against operating piston, the attachment of operating piston to piston rod may become loose. The gas pressure would then suddenly extend piston rod and the oil in shock absorber would flow out (risk of an accident).



Wrench for fastening shock absorber

2 Lift vehicle.

3 Press-in shock absorber piston and set shock absorber vertically in relation to lower control arm.

4 Loosen lower shock absorber suspension, unscrewing hex. or double hex. bolts (11) on lower control arm.

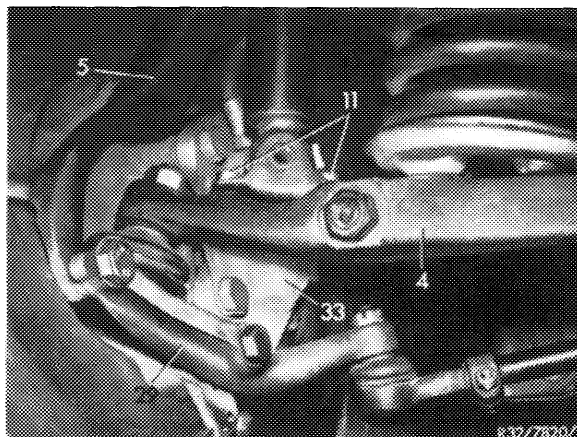
Remove shock absorber.

4 Lower control arm
5 Steering knuckle

11 Lower shock absorber suspension

29 Steering knuckle arm

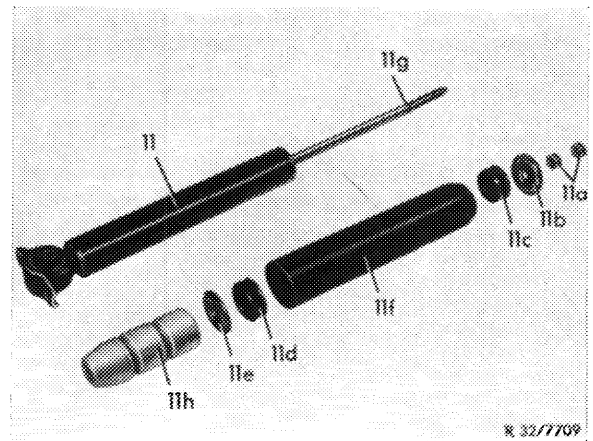
33 Brake caliper



5 Remove suspension components:

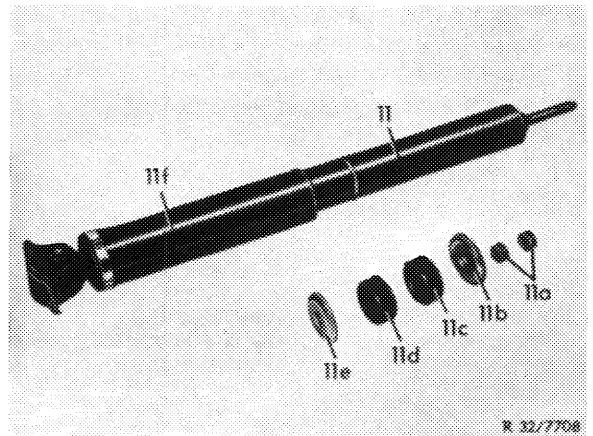
a) On shock absorber with separating piston: Pull off protective tube (11f), remove lower rubber ring (11d), lower disk (11e) and supplementary rubber spring (buffer stop 11h).

Shock absorber with separating piston
Bilstein
F & S



b) On shock absorbers without separating piston: Remove lower rubber ring (11d) and lower disk (11e).

Shock absorber without separating piston
F & S



Note: The additional rubber springs (buffer stops, 11h) are inside the protective tube on piston rod.

On shock absorbers with separating piston, they are located between housing and upper suspension, on shock absorbers without separating piston between housing and lower suspension.

Installation

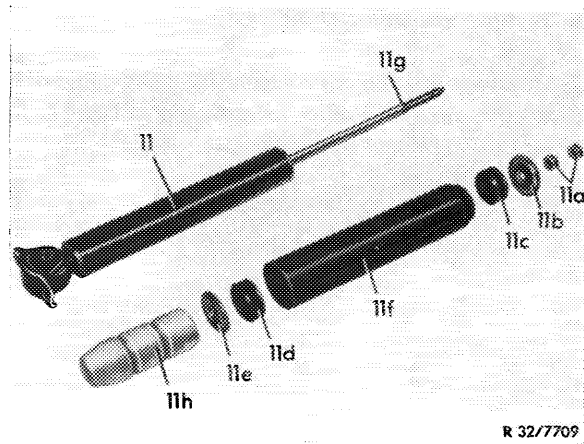
6 Check suspension components, clean lower control arm on supporting surface of fastening bracket of lower shock absorber suspension.

Note: The fastening bracket of the lower shock absorber suspension must be tightly seated in rubber mount, which should not be turnable within the suspension eye.

7 Slip suspension members (on shock absorber with separating piston: 11h, 11e, 11d and 11f) on piston rod.

Attention!

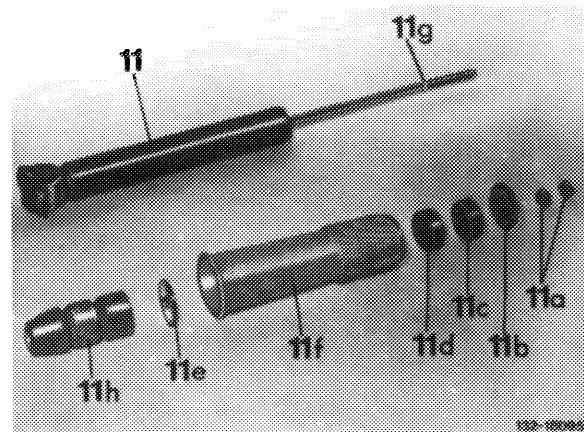
On shock absorber with separating piston never confuse lower disk (11e) with upper disk (11b), since otherwise the disk may slide over locking ring (11g) while driving.



shock absorber
Bilstein
F & S

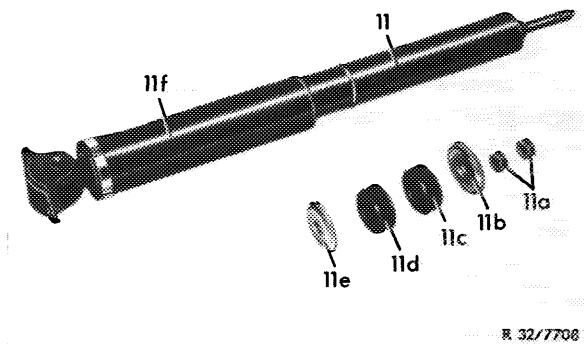
R 32/7709

Note: When renewing a shock absorber with separating piston use plastic protective sleeve (11f) instead of rubber protective tube, together with disk (11e). Pay attention to sequence of individual parts.



- | | |
|-----------------------|---|
| 11 Shock absorber | 11e Lower disk |
| 11a Hex. nut | 11f Plastic protective sleeve |
| 11b Upper disk | 11g Locking ring |
| 11c Upper rubber ring | 11h Supplementary rubber spring (buffer stop) |
| 11d Lower rubber ring | 38 Front end |

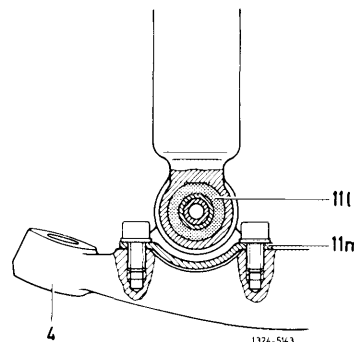
On F & S shock absorbers starting production 1975 an additional lower disc must be mounted on upper suspension, while the former version requires no lower disc.



F & S shock absorber

R 32/7708

8 Fasten shock absorber to lower control arm and introduce into front end.

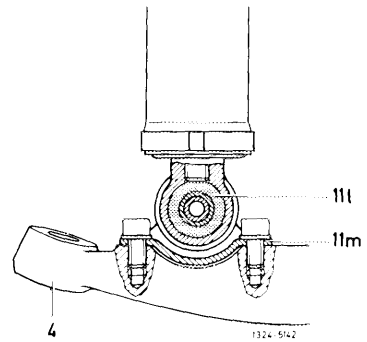


Lower suspension
Shock absorber with separating piston

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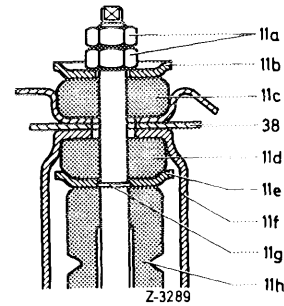
Lower suspension
Shock absorber without
separating piston

- 4 Lower control arm
- 11l Rubber mount
- 11m Fastening clamp



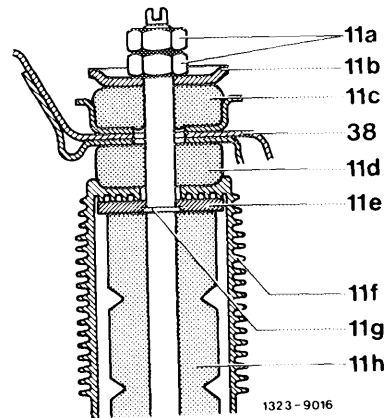
9 Lower vehicle and mount upper shock absorber
suspension.

Upper suspension
Shock absorber with
separating piston
(mounted with protective rubber
tube)



Upper suspension
Shock absorber with
separating piston
(mounted with plastic protective
sleeve)

- 11a Hex. nuts
- 11b Upper disk
- 11c Upper rubber ring
- 11d Lower rubber ring
- 11e Lower disk
- 11f Protective tube of plastic
protective sleeve
- 11g Locking ring
- 11h Supplementary rubber spring
(buffer stop)
- 38 Front end



Upper suspension
Shock absorber without
separating piston

- 11a Hex. nuts
- 11b Upper disk
- 11c Upper rubber ring
- 11d Lower rubber ring
- 11e Lower disk
- 38 Front end

