Mercedes-Benz

AMG

Installation instructions

Conversion to AMG sports suspension Model 140 (Coupé) with level control on the rear axle

32.08

Models 140.063/070/076

Valid for vehicles with previous, cylindrical rear axle springs.
Used up to production no. 9 811 876
(refer to data card in maintenance booklet or the production plate on the lock cross-member in the engine compartment).

Installation of the suspension kit is not envisaged for USA models.

These installation instructions apply to the mounting of the following suspension kits:
B6 602 0022 - Front axle rating system up to 73
B6 602 0023 - Front axle rating system as of 74

The installation instructions are divided up into the following sections:

A. AMG sports suspension

B. Installation of AMG sports suspension

C. Test and adjustment values

D. Appendix to installation instructions

Note
After the conversion, in the Federal Republic of Germany, approval for the installation is required from an officially recognized expert or tester at a technical testing station for motor vehicles or from a test engineer of an officially recognized supervisory organisation. In addition, a copy of the respective expert's report on the parts and a Mercedes-Benz workshop confirmation must be submitted (refer to form in appendix).

A. AMG sports suspension

The following parts of the suspension have been tuned to a sporting driving style:

- Front axle torsion bar
- Front axle shock absorber
- Rear axle spring strut
- Front axle/rear axle springs

The vehicle level has been lowered relative to the standard production version.

Test and adjustment values can be obtained from Chapter C of these installation instructions.

Wheel/tire combinations

The following wheel/tire combinations can be used.

1. AMG 18 inch tires

Tire dimension: 255/45 ZR 18
Recommended tire brands can be obtained from Service Information "Summer tires in conjunction with AMG special equipment and AMG light alloy wheels from the range of accessories".

Wheel dimension: $8\frac{1}{2}$ J × 18 H2 ET 44
(multi-piece AMG light-alloy disk wheel, forged)
All wheel-related details such as tightening torques, wheel bolts, inflation pressures, etc. are listed in the installation instructions "Conversion to 255/45 ZR 18 tires and 8 $\frac{1}{2}$ J × 18 H2 ET 44 disk wheel".

Note

To ensure adequate wheel clearance, the standard production steering stop pin must be replaced by stop pin part number A 129 330 00 80 in the case of 18" tires.

2. MB 16 inch standard production tires

Use of snow chains

Snow chains may only be used in conjunction with MB standard production tires.

B. Installation of AMG sports suspension

1. Springs and shock absorbers on front or rear axles

Model 140.	Front axle		Rear axle with level control	
	Spring part no.	Shock absorber part no.	Spring part no.	Spring strut part no.
070/076 04	H WA140 321 03 04 H WA140 320 01 13		H WA140 323 02 00	H WA140 324 03
	H WA140 321 04 04		H WA140 324 04 04	

2. Removal and installation of suspension parts

- Front axle/rear axle springs
- Front axle shock absorbers
- Rear axle spring strut

Proceed in accordance with MB guidelines.

For this, refer to current repair microfilm
"Steel suspension, model 140" - main group 32 and "Level control, model 140" - main group 32.

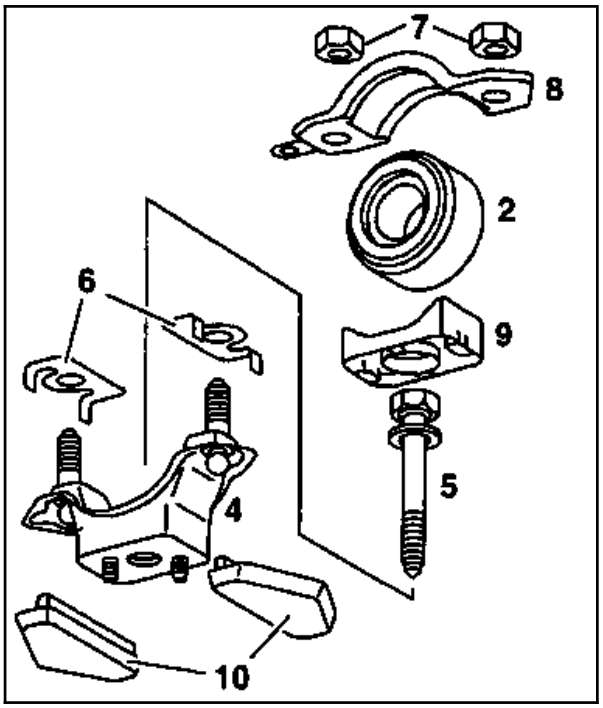
The assignment of springs or spring rubber mounts can be obtained from chapter C of these installation instructions

Note
If, in individual cases, the vehicle level should be outside the specified tolerance band after the installation of the AMG sports suspension, despite correct assignment of springs and spring rubber mounts, the vehicle level is to be retroactively corrected by means of spring rubber mounts:
Front axle:
A 5 mm change at the front spring rubber mount (corresponds to one stud) raises or lowers the
vehicle level by approx. 8 mm.
Rear axle:
A 5 mm change at the rear spring rubber mount (corresponds to one stud) raises or lowers the vehicle level by approx. 7 mm.

- Front axle torsion bar dia. 30 mm

Proceed in accordance with MB guidelines.
For this, refer to the current repair microfilm "Steel suspension, model 140" - main group 32.

The parts required to install the reinforced front axle torsion bar are shown in the following as a supplement to the MB repair microfilm.



P32-5745-15

Item no.	Component designation	Part no.	Qty. p. veh.	Note
1	Front axle torsion bar dia. 30	A140 323 27 65	1	not illustrated
2	Rubber mount for torsion bar dia. 30	A140 323 14 85	2	
3	Self-locking hexagon nut M8*) (Torsion bar connecting rod)	913 004 012 008	2	M_A = 70 Nm not illustrated
4	Left/right housing (reinforced)	A140 320 21 29 left A140 320 20 29 right	1 1	
5	Hexagon bolt M14 × 1.5*) (microencapsulated)	A140 990 26 01	2	M_A = 130 ±15 Nm
6	Reinforcement	A140 323 02 95	4	Note installed position!
7	Self-locking hexagon collared nut M8 torsion bar mount*)	913 023 008 000	4	M_A = 20 Nm
8	Bearing cap*)	A140 323 01 40 A140 323 17 43	2 2	140 (Saloon) 140 (Coupé)
9	Shim*)	A140 323 00 84	2	
10	Rubber stop*)	A140 331 04 44	4	

*) Standard production component on model W/V/C 140

3. Chassis measurement

Proceed in accordance with MB guidelines.
For this, refer to repair microfilm "Chassis measurement, model 140" - main group 40.

The adjustment values can be found in chapter C of these installation instructions.

C. Test and adjustment values

Model 140 (Coupé) with rear axle level control
Special equipment "AMG sports suspension"

Vehicle level in mm

Model 140.	**Front axle**		**Rear axle**	
	ready-to-drive	with level control	laden ready-to-drive[1])	(control point)
070/076	- 5±10	- 20±10 [3])	0±10	- 20±2 [2])

1) Ready-to-drive values apply to basic pressure in spring struts.
2) Values for adjustment.
3) Values for test. The difference in vehicle level between adjustment and test results from the free play of the level controller which does not, however, affect control accuracy when driving.

Wheel alignment at front axle
Model 140 (Coupé)

Model		140
Camber [1])	Wheels in straight ahead position (Toe-in value 0)	- 0° 20' $^{+10'}_{-20'}$ (- 0.35° $^{+0.15°}_{-0.35°}$)
	Permissible difference between left and right	0° 20' (0.35°)
Caster [1])	Wheels in straight ahead position (Toe-in value 0)	10° 10' ±30' (10.15° ±0.50°)
	With wheels turned	9° 55' ±30' (9.90° ±0.50°)
	Permissible difference between left and right	0° 30' (0.50°)
Toe-in [1]) (Front wheels pressed apart with 90-110 N)		0° 35' ±10' (0.60° ±0.15°)
Toe difference angle for 20° angle of the wheel on the inside of the curve [2])		- 0° 55' ±30' (0.90° ±0.50°)
Maximum permissible steer angle of the wheel on the inside of the curve [3])		40° (40.00°)
Ball point position [4])		10 ±2 mm
Permissible height deviation of the ball point position between the pitman arm and steering idler arm		3 mm

Values in brackets in decimal degrees

1) Tolerances only for test. Aim for nominal value during adjustment.
2) Value without toe-in.
3) On the wheel on the outside of the curve, a 7° to 11° smaller steer angle results from the toe difference angle.
4) Correction upwards and downwards by shifting the steering idler arm on the bearing tube.

Wheel alignment at rear axle
Model 140 (Coupé)

Total toe-in (ready-to-drive level) [1])	0° 30' $^{+05'}_{-10'}$ (0.50° $^{+0.10°}_{-0.15°}$)
Permissible range of toe-in per wheel [2]) (ready-to-drive level) between	0° 35' and 0° (0.60° and 0°)

Values in brackets in decimal degrees

1) Values for adjustment, toe-in evenly distributed between both wheels.

2) Values for adjustment, toe-in evenly distributed between both wheels.
3) Values for test. Correction not required.

Camber values at rear axle at vehicle level, model 140 (Coupé)

Camber (°)			Vehicle level (mm)
- 0° 15'	±30'	(- 0.25°	±0.50°) +40
- 0° 25'	±30'	(- 0.45°	±0.50°) +30
- 0° 40'	±30'	(- 0.65°	±0.50°) +20
- 0° 50'	±30'	(- 0.85°	±0.50°) +10
- 1° ±30'	(- 1.00°		±0.50°)0
- 1° 15'	±30'	(- 1.25°	±0.50°) - 10
- 1° 30'	±30'	(- 1.50°	±0.50°) - 20
- 1° 45'	±30'	(- 1.75°	±0.50°) - 30
- 2° ±30'	(- 2.00°		±0.50°) - 40
- 2° 25'	±30'	(- 2.45°	±0.50°) - 50
- 2° 45'	±30'	(- 2.75°	±0.50°) - 60

Values in brackets in decimal degrees

Survey of spring rubber mounts

Note
Part is used on both front and rear axle!

Part no.	Number of studs	Height "s" (mm)
A140 321 06 84	1	8
A140 321 07 84	2	13
A140 321 08 84	3	18
A140 321 09 84	4	23

Front axle rating system for model and version

Model 140.	070	076
Basic rating	57	80
Driver and front passenger airbag	●	●
Automatic transmission	●	●
Electric seat adjuster - front right	●	●
Large battery	●	●
Electrically adjustable steering column	●	●
Sliding roof	●	●
Tempomat	●	●
Air conditioner	8	●
ASR	2	●
Fire extinguisher	1	●
Headlamp cl. unit	1	●
Radio	1	●
Auxiliary heater	3	3
Sound system	1	1
Telephone installation parts	1	1
AMG styling package	1	1

● = standard production equipment

Assignment of front springs to spring rubber mounts

Total rating	Front spring part no.	Shim/number of studs			
		1	2	3	4
		Part no. A140 321 . . 84			
up to		06	07	08	09
57	H WA140 321 03 04	blue*)	red		
65			blue	red	
73			blue	red	
80	H WA140 321 04 04	blau	red		
88		blue	red		
96			blue	red	

*) Color marking (load group) of springs

Rear axle rating system for model and version

Model 140.	070	076
Basic rating	31	41
Sliding roof	●	●
Automatic transmission	●	●
Electric seat adjuster - front right	●	●
ASR	2	●
Trailer coupling	8	8
Refrigerator box	6	6
Telephone installation parts	2	2
CD changer in trunk	2	2
Rear axle level control	2	2
AMG styling package	1	1
Electric roller-blind for rear window	1	1
Sound system	1	1

● = Standard production equipment

Assignment of rear springs to spring rubber mounts

Total rating up to	Rear spring part no.	Shim/number of studs 1	2	3	4
		Part no. A140 321 . . 84			
		06	07	08	09
32	H WA140 324 03 04	blue*)	red		
42			blue	red	
48			blue	red	
50	H WA140 324 04 04	blue	red		
58		blue	red		
66			blue	red	
>66			blue*)		

*) Color marking (load group) of springs