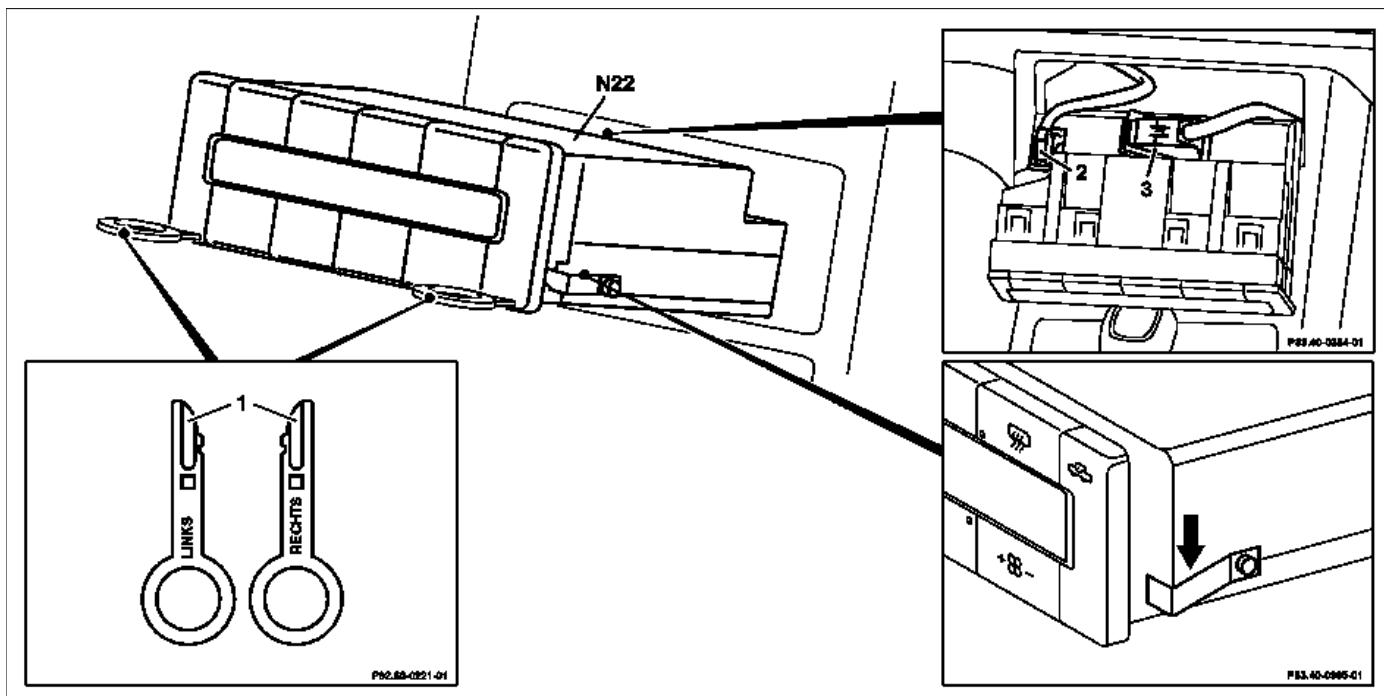


## MERCEDES-BENZ W208 CLK 320 WIS CONTENTS

- 1) REMOVING AND INSTALLING PUSHBUTTON CONTROL MODULE
- 2) REMOVING AND INSTALLING AIRBAG ON STEERING WHEEL
- 3) REMOVING AND INSTALLING PASSENGER AIRBAG UNIT
- 4) INSTALL LEFT FRONT OR RIGHT RPM SENSOR
- 5) FUNCTION OF WHEEL SPEED SENSOR
- 6) REMOVING AND INSTALLING ACTIVATED CHARCOAL CANISTER
- 7) INSTALL LEFT OR RIGHT REAR AXLE SPEED SENSOR
- 8) ESP HYDRAULIC UNIT
- 9) INSTALL TRANSMISSION WITH TORQUE CONVERTER
- 10) REMOVING AND INSTALLING BAS DIAPHRAGM TRAVEL SENSOR
- 11) BLEED BRAKE SYSTEM
- 12) REMOVING, CHECKING AND INSTALLING REAR AXLE BRAKE PADS
- 13) INSTALL FRONT AXLE BRAKE PADS
- 14) INSTALL BRAKE DISC
- 15) ADJUST PARKING BRAKE
- 16) INSTALL CAMSHAFTS
- 17) INSTALL CRANKSHAFT
- 18) INSTALL RADIATOR
- 19) REMOVE, INSTALL POLY V-BELT
- 20) INSTALL CYLINDER HEAD COVER
- 21) VIBRATION DAMPER
- 22) DRIVE PLATE
- 23) INSTALL INJECTION VALVES (ME-SFI)
- 24) INSTALL INTAKE MANIFOLD
- 25) INSTALL GENERATOR POLY-V BELT PULLEY
- 26) INSTALL EXHAUST MANIFOLD
- 27) INSTALL EXHAUST GAS RECIRCULATION VALVE
- 28) REMOVE, INSTALL AIR PUMP
- 29) REPLACE SPARK PLUGS
- 30) INSTALL KNOCK SENSORS
- 31) INSTALL CRANKSHAFT POSITION SENSOR
- 32) INSTALL IGNITION COILS
- 33) REMOVE STARTER, INSTALL
- 34) INSTALL ENGINE MOUNT
- 35) INSTALL ALTERNATOR
- 36) ENGINE OIL AND FILTER CHANGE
- 37) INSTALL COOLANT PUMP
- 38) INSTALL COOLANT THERMOSTAT
- 39) INSTALL ACCELERATOR PEDAL
- 40) REMOVING AND INSTALLING TORSION BAR ON FRONT AXLE
- 41) INSTALL REAR SPRING
- 42) REMOVING AND INSTALLING FRONT SPRING
- 43) INSTALL REAR SUSPENSION STRUT
- 44) INSTALL FRONT SHOCK ABSORBER
- 45) INSTALL REAR SHOCK ABSORBER
- 46) INSTALL COMPLETE REAR AXLE
- 47) INSTALL PROPELLER SHAFT
- 48) REMOVAL AND INSTALLATION OF PROPELLER SHAFT INTERMEDIATE BEARING AND REPLACEMENT OF GROOVED BALL BEARING

- 49) REPLACE BRAKE FLUID
- 50) CARRYING OUT BLEEDING OPERATION
- 51) REMOVING AND INSTALLING BRAKE BOOSTER
- 52) REMOVING AND INSTALLING MECHANICAL STOP LAMP SWITCH
- 53) SPECIFIED GEAR OILS (CARS, CROSS-COUNTRY VEHICLES) - SURVEY
- 54) DISMANTLING AND ASSEMBLING RIGID JACKET TUBE
- 55) REMOVING AND INSTALLING ELECTRONIC STEERING LOCK
- 56) STARTER SWITCH (EZS
- 57) REMOVING AND INSTALLING CONTACT SPIRAL
- 58) REMOVING AND INSTALLING JACKET TUBE
- 59) CHECKING OIL PRESSURE OF POWER STEERING PUMP
- 60) FILL POWER STEERING PUMP AND BLEED
- 61) INSTALL POWER STEERING PUMP
- 62) INSTALL STEERING IDLER ARM, REPLACING BEARING BUSH
- 63) INSTALL TIE ROD BALL JOINT
- 64) REPLACE FUEL FILTER
- 65) REMOVING AND INSTALLING EXPANSION RESERVOIR
- 66) DRAINING AND FILLING FUEL TANK
- 67) REMOVE, INSTALL FUEL GAGE SENSOR
- 68) INSTALL FUEL TANK
- 69) REMOVING, INSTALLING FUEL PUMP
- 70) REMOVING, INSTALLING SHUTOFF VALVE
- 71) REMOVING AND INSTALLING EXHAUST SYSTEM COMPLETE
- 72) INSTALL THE OXYGEN SENSOR
- 73) REMOVING AND INSTALLING CATALYTIC CONVERTER OR FRONT EXHAUST SYSTEM
- 74) REMOVING AND INSTALLING BATTERY
- 75) STAMPING IN VEHICLE IDENTIFICATION NUMBER
- 76) VEHICLE IDENTIFICATION NUMBER
- 77) INSTALL FRONT AXLE HALF
- 78) INSTALL DRAG LINK
- 79) REMOVING AND INSTALLING FRONT SEATS
- 80) INSTALL FRONT DOOR
- 81) REMOVING AND INSTALLING INSTRUMENT PANEL
- 82) REMOVING AND INSTALLING ENGINE HOOD
- 83) INSTALL FRONT FENDERS
- 84) INSTALL WINDSHIELD
- 85) REMOVING AND INSTALLING FRONT BUMPER
- 86) REMOVING AND INSTALLING COVER BELOW INSTRUMENT PANEL (LEFT)
- 87) REMOVING AND INSTALLING CENTER CONSOLE
- 88) ADJUST FRONT DOOR
- 89) STARTER SWITCH CONTROL MODULE
- 90) INSTALL BULBS OF HEADLAMP UNIT
- 91) REMOVING AND INSTALLING TELESCOPING NOZZLE FOR HEADLAMP CLEANING SYSTEM
- 92) REMOVING AND INSTALLING HEADLAMP CLEANING SYSTEM WASHING WATER RESERVOIR
- 93) REMOVING AND INSTALLING OVERHEAD CONTROL PANEL CONTROL MODULE
- 94) INSTALL RAIN SENSOR
- 95) REMOVING, DISASSEMBLING AND INSTALLING REAR SHELF
- 96) VENTILATION
- 97) REMOVING AND INSTALLING BLOWER MOTOR

MODEL 129 as of 1.6.96,  
140, 202 as of 1.9.95,  
208, 210 with CODE (581a) Air conditioning (automatic)



P83.40-0386-09

Shown on model 129

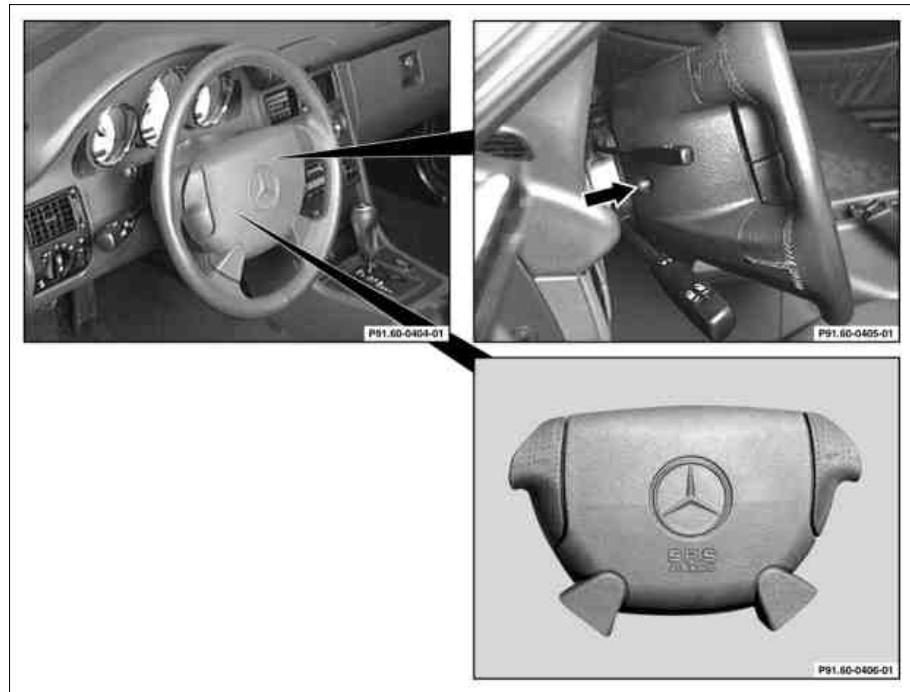
1 Removal tools

2 Connector  
3 Connector  
N22 Pushbutton control module

☒☒	Removal, installation		
1	Pull out A/C pushbutton control module (N22)	<b>[i]</b> For this purpose insert removal tools (1) ↓ Press back retaining springs (arrow) on removed pushbutton control module and pull out removal tools (1)	
2	Disconnect connectors (2, 3) on A/C pushbutton control module (N22)	<b>[i]</b> Unhook connectors by pivoting retaining strap	
3	Reinstall in opposite order	<b>[i] Installation</b> When replacing automatic A/C pushbutton control module on models 140, 202, 208, 210, version coding must be carried out.	

MODEL 170, 208

Illustrated on model 170

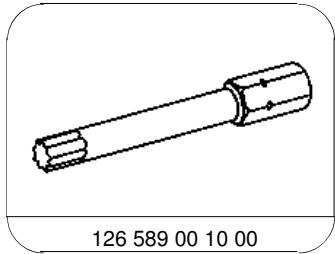


P91.60-0407-06

	Removal, installation		
<b>Danger!</b>	<b>Injury hazard</b> when testing or repairing airbags or emergency tensioning retractors	Store airbags with opening surface pointing up, do not expose to temperatures above 100 °C. Interrupt electric circuit when working on these units	AS91.00-Z-0001-01A
	Important instructions for performing repair, body work and welding on vehicles with airbags and emergency tensioning retractors	Model 129 as of 1.7.93, 163, 168, 170, 202 as of 1.7.93, 208, 210, 463, 638, 901, 902, 903, 904	AH91.00-P-0002-01B
	Evaluation of airbags and emergency tensioning retractors on accident vehicles	Model 129 as of 1.7.93, 163, 168, 170, 202 as of 1.7.93, 208, 210, 463, 638, 901, 902, 903, 904	AH91.00-P-0006-01B
	Legal regulations on handling and storing airbags and emergency tensioning retractors	Models 124, 129, 140, 163, 168, 170, 202, 208, 210, 314, 316, 318, 463, 638, 901, 902, 903, 904, 950, 952, 953, 954	AH91.00-P-0004-01A
<b>OS</b>	Instructions on disposal of airbags and emergency tensioning retractors	All models	OS91.00-P-0001-01A
1	Disconnect ground lead from battery		
2	Unscrew two screws (arrow)	 Hold airbag while unscrewing 	*BA91.60-P-1001-01A *126589001000
3	Remove airbag from steering wheel and disconnect connector from squib on gas generator		
4	Disconnect horn contacts Rendering airbags unusable		AR91.60-P-0611A
5	Install in opposite order	After the driver's airbag has triggered it is always necessary to replace the steering wheel	
6	Check combination switch automatic return		
7	Perform diagnosis		AD91.60-P-6000A

 **Airbag**

Number	Designation	Model 170	Model 208
BA91.60-P-1001-01A	Screw for airbag on steering wheel	Nm 8	8

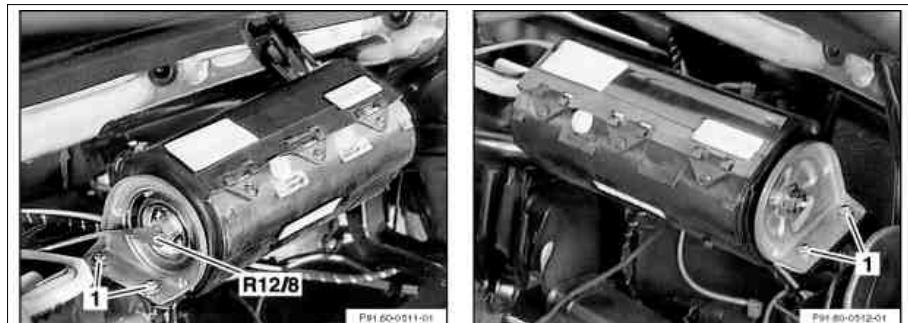


126 589 00 10 00

Screwdriver attachment

## MODEL 208

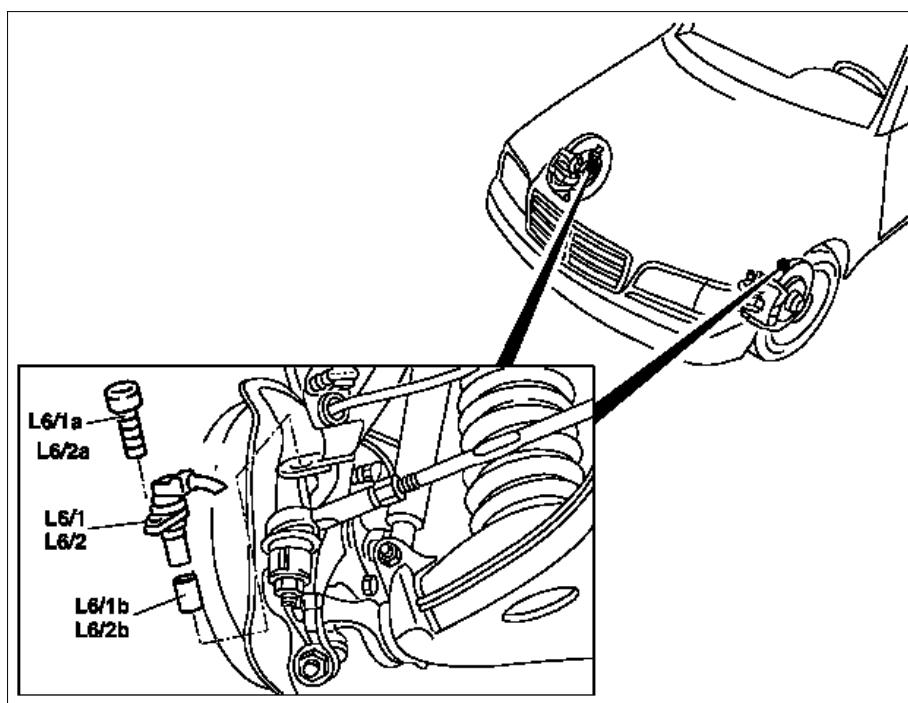
1 **Bolt**  
R12/8 Initiator for front passenger airbag (AB)



P91.60-0513-04

<input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	Remove/install		
<b>⚠ Danger!</b>	<b>Risk of injury</b> when carrying out test or repair work on airbag or emergency tensioning retractor units	Store airbag unit with expulsion area on top, do not subject to temperatures above 100 °C. Interrupt power supply when working on such units.	<b>AS91.00-Z-0001-01A</b>
<b>ⓘ</b>	Important instructions for performing repair, body work and welding on vehicles with airbags and emergency tensioning retractor units	Models 129 as of 1.7.93, 163, 168, 170, 202 as of 1.7.93, 208, 210, 463, 638, 901, 902, 903, 904	<b>AH91.00-P-0002-01B</b>
<b>i</b>	Legal regulations concerning the handling and storage of airbag and emergency tensioning retractors	Models 124, 129, 140, 163, 168, 170, 202, 208, 210, 314, 316, 318, 463, 638, 901, 902, 903, 904, 950, 952, 953, 954	<b>AH91.00-P-0004-01A</b>
<b>☒ OS</b>	Notes on disposal of airbag and emergency tensioning retractors	All models	<b>OS91.00-P-0001-01A</b>
1	Disconnect ground cable of battery		<b>AR54.10-P-0003A</b>
2	Remove instrument panel		<b>AR68.10-P-1000K</b>
3	Disconnect connector from the initiator (R12/8) at the inflator	<b>i</b> <b>Installation:</b> Connector must audibly latch into position	
4	Unscrew nut (2) for front passenger airbag unit		
5	Remove front passenger airbag unit		
6	Make airbag units unusable		<b>AR91.60-P-0611A</b>
7	Install in the reverse order		
8	Carry out diagnosis.		<b>AD91.60-P-6000A</b>
<b>☒ AD</b>			

MODEL 129, 140, 170, 202, 203, 208, 210



P42.30-0238-06

**Modification notes**

29.11.11	Long-life grease repair materials replaced by hot-grease paste		
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Fig. item etc.	Work instructions		
L6/1a, L6/2a	Self-locking hexagon socket head bolts for rpm sensor	Replace bolts.	*BA42.30-P-1001-01A
L6/1, L6/2	Front rpm sensor	<p> <b>Installation:</b> Check rotor on wheel hub for signs of damage. Pay attention to cleanliness of magnetic tip. models 202, 210:</p> <p> Rpm sensors from Bosch and Teves cannot be installed together.</p>	
BT	Front axle rpm sensor mounting changed	<p>Model 202 as of 09.95</p>	BT42.30-P-0001-01A
L6/1b, L6/2b	Centering sleeve	<p> Replace centering sleeve. Model 202</p> <p> As of 9.95 Apply light coating of grease to steering knuckle. Hot lubricating paste</p>	*BR00.45-Z-1005-06A

 **Front axle rpm sensor**

Number	Designation	Model 129	Model 140	Model 170	Model 202	Model 203
BA42.30-P-1001-01A	Self-locking bolt, front axle rpm sensor to steering knuckle	Nm 22	22	22	22	25

 **Front axle rpm sensor**

Number	Designation	Model 208	Model 210

BA42.30-P-1001-01A	Self-locking bolt, front axle rpm sensor to steering knuckle	Nm	22	22
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#### Repair materials

Number	Designation	Order number
BR00.45-Z-1005-06A	Paste, hot lubrication 1 kg, DB supply specification 6879.20	A 000 989 76 51

**MODEL** 129,  
140, 202 as of 1.6.94,  
163, 168, 170, 208, 210

with CODE (470a) Anti-lock brake system (ABS)  
with CODE (212a) Electronic traction system (ETS)  
with CODE (471a) Acceleration slip regulation (ASR)

**MODEL** 129,  
140 as of 1.6.94,  
163 up to 31.8.02,  
168, 170, 210 with CODE (472a) Electronic Stability Program (ESP)

**MODEL** 202 with ENGINES 112, 113, 604 with CODE (472a) Electronic Stability Program (ESP)

**MODEL** 208 with ENGINES 112, 113 with CODE (472a) Electronic Stability Program (ESP)

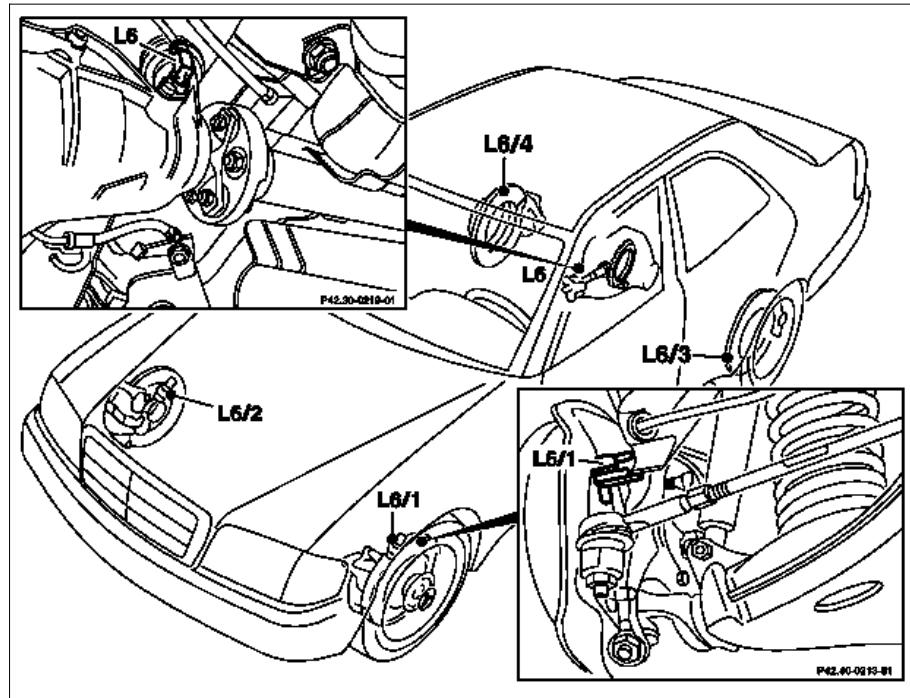
L6/1 Left front wheel speed sensor  
L6/2 Right front wheel speed sensor

**ABS only**

L6 Rear axle speed sensor

**ETS, ASR, ESP only**

L6/3 Left rear wheel speed sensor  
L6/4 Right rear wheel speed sensor



P42.30-0221-06

	Wheel speed sensor, location	The front wheelspeed sensors (L6/1 and L6/2) are mounted on the front steering knuckle assemblies. <b>ABS:</b> The rear wheelspeed sensor (L6) is located on the differential assembly. <b>ETS, ASR, ESP:</b> The rear wheelspeed sensors (L6/3 and L6/4) are mounted on the rear wheel carriers.	
	Wheel speed sensor, task	To supply the current wheel speed to the ABS, ETS, ASR or ESP control module (N47-7, N47-2, N47-1 or N47-5).	
	Wheel speed sensor, design	Inductive sensor: Coil with magnetic core installed at a defined distance from reluctor on the front wheel hub, the rear halfshafts or the drive pinion at the rear axle.	
	Wheel speed sensor, function	The magnetic field of the wheel speed sensor is intersected by the teeth of a rotor. This changes the magnetic field and the coil induces an AC voltage. The frequency of this alternating current, governed by the number of teeth on the reluctor, fluctuates to reflect variations in wheelspeed, is proportional to wheelspeed.	

MODEL 202, 208 with CODE (491) as of Model Year 99 USA version

77 Activated charcoal canister

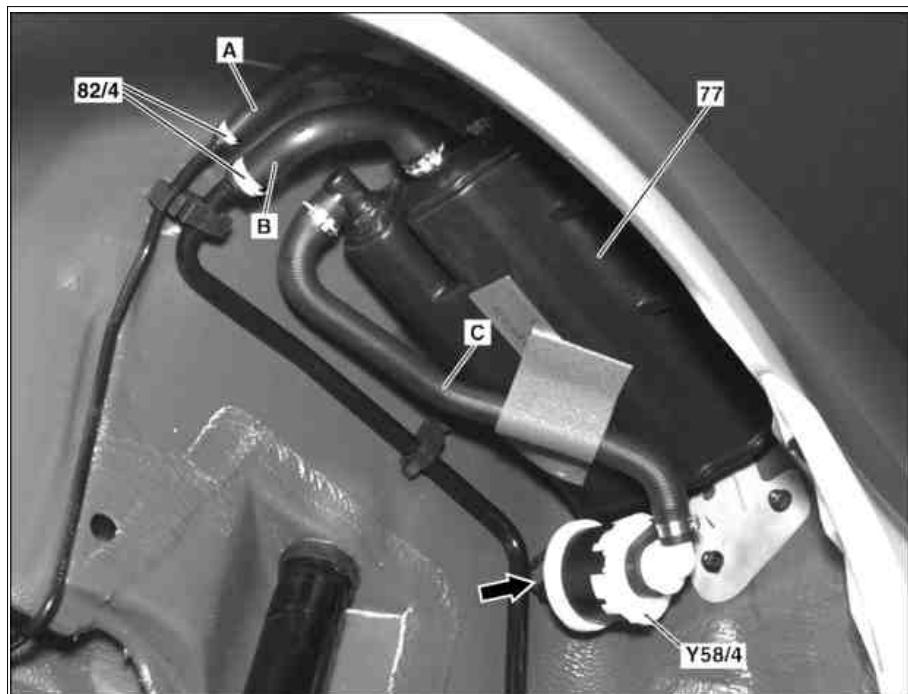
Y58/4 Activated charcoal canister shutoff valve

82/4 Hose clips

A Activated charcoal canister line to purge control valve

B Activated charcoal canister line to reservoir

C Activated charcoal canister line to shutoff valve



P47.30-2010-06

<input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	Removing, installing		
<b>⚠ Danger!</b>	<b>Risk of explosion</b> from ignition. <b>Risk of poisoning</b> from inhaling and swallowing fuel. <b>Risk of injury</b> as a result of fuel coming into contact with skin and eyes.	No fire, naked flame or smoking. Pour fuels only into suitable and appropriately marked containers. Wear protective clothing when handling fuel.	AS47.00-Z-0001-01A
1	Remove wheel housing liner	Rear left	
2	Detach lines (arrow) at shutoff valve (58/4)		
3	Slacken hose clips (82/4) and detach lines (A) and (B)		
4	Remove activated charcoal canister (77)	↓ <b>i</b> On-board refuelling vapor recovery ORVR function	GF47.10-P-3004A
5	Install in the reverse order		

MODEL 129, 140 as of 1.6.94,

170,

202 as of 1.6.94,

208, 210

with CODE (471) Acceleration slip regulation (ASR)

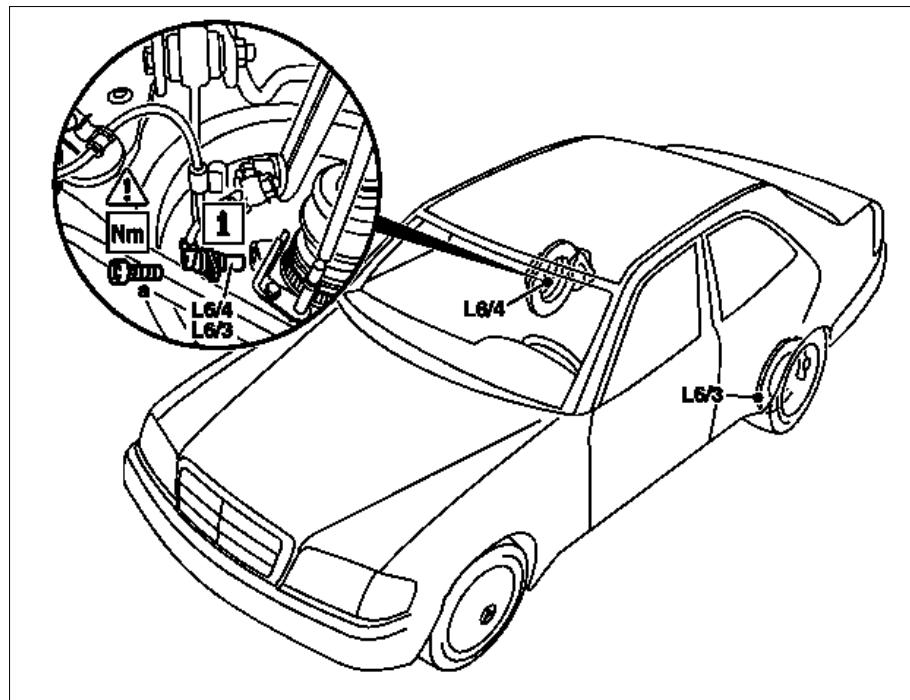
with CODE (212) Electronic traction system (ETS)

MODEL 129, 140, 170, 202, 208, 210 with CODE (472) Electronic Stability Program (ESP)

MODEL 203

MODEL 209 except CODE (P98) Black Series

Shows model 202



P42.40-0218-06

**Modification notes**

29.11.11	Long-life grease repair materials replaced by hot-grease paste		
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Fig. item etc.	Work instructions		
a	Self-locking bolts securing rear axle rpm sensor	<b>Installation:</b> Replace bolts in order to prevent them from becoming loose. <b>Nm</b> Models 129, 140, 170, 202, 208, 210, <b>Nm</b> Model 203, 209	<a href="#">*BA42.40-P-1002-01A</a> <a href="#">*BA42.30-P-1001-02A</a>
L6/3, L6/4	Left/right rear axle rpm sensor	<b>Installation:</b> Check rotor on wheel hub for damage. Pay attention to cleanliness of magnetic tip. <b>Installation:</b> Apply light coating of grease to bore in wheel carrier. Hot lubricating paste	<a href="#">*BR00.45-Z-1005-06A</a>

 **Acceleration Slip Regulation (ASR)**

Number	Designation	Model 129	Model 140	Model 170	Model 202
BA42.40-P-1002-01A	Self-locking bolt, rear axle speed sensor	Nm	8	8	8

 **Acceleration Slip Regulation (ASR)**

Number	Designation	Model 208	Model 210

BA42.40-P-1002-01A	Self-locking bolt, rear axle speed sensor	Nm	8	8
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**Nm** **Rear axle rpm sensor**

Number	Designation	Model 203	Model 209
BA42.30-P-1001-02A	Self-locking bolt of rear axle rpm sensor to wheel carrier	Nm	8

**Repair materials**

Number	Designation	Order number
BR00.45-Z-1005-06A	Paste, hot lubrication 1 kg, DB supply specification 6879.20	A 000 989 76 51

MODEL 129, 140 as of 1.6.94,

170,

202 as of 1.6.94,

208, 210

with CODE (212) Electronic traction system (ETS)

with CODE (471) Acceleration slip regulation (ASR)

MODEL 129, 140, 210 with CODE (472) Electronic Stability Program (ESP)

MODEL 202, 208 with ENGINE 112, 113 with CODE (472) Electronic Stability Program (ESP)

**Connectors of ESP hydraulic unit  
(A7/3)**

VA to front axle connector of charging piston unit

RA to rear axle connector of charging piston unit

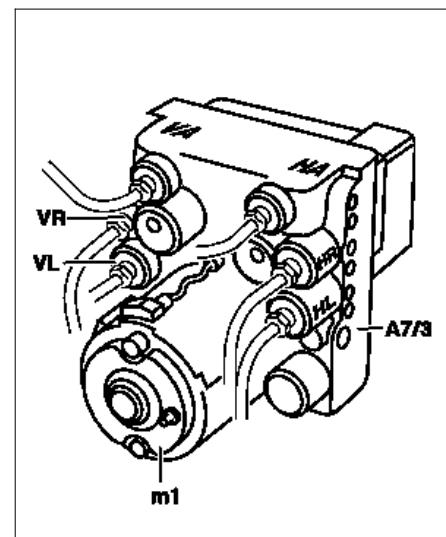
VL To left front wheel brake

FR To right front wheel brake

RL To left rear wheel brake

RR To right rear wheel brake

m1 High-pressure/return pump



P42.45-0205-02

**Connectors of Teves hydraulic unit  
ASR/ETS (A7/3)**

VL To left front wheel brake

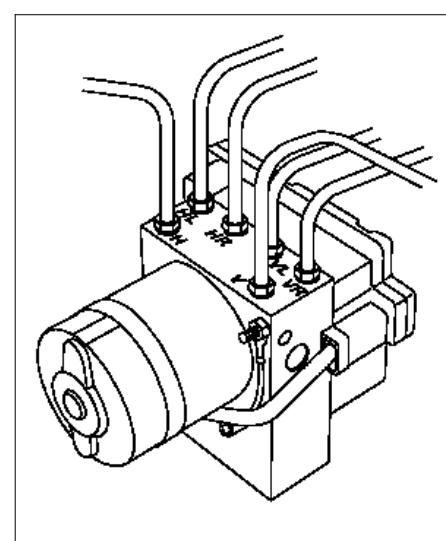
FR To right front wheel brake

RL To left rear wheel brake

RR To right rear wheel brake

V to tandem master brake cylinder of front axle

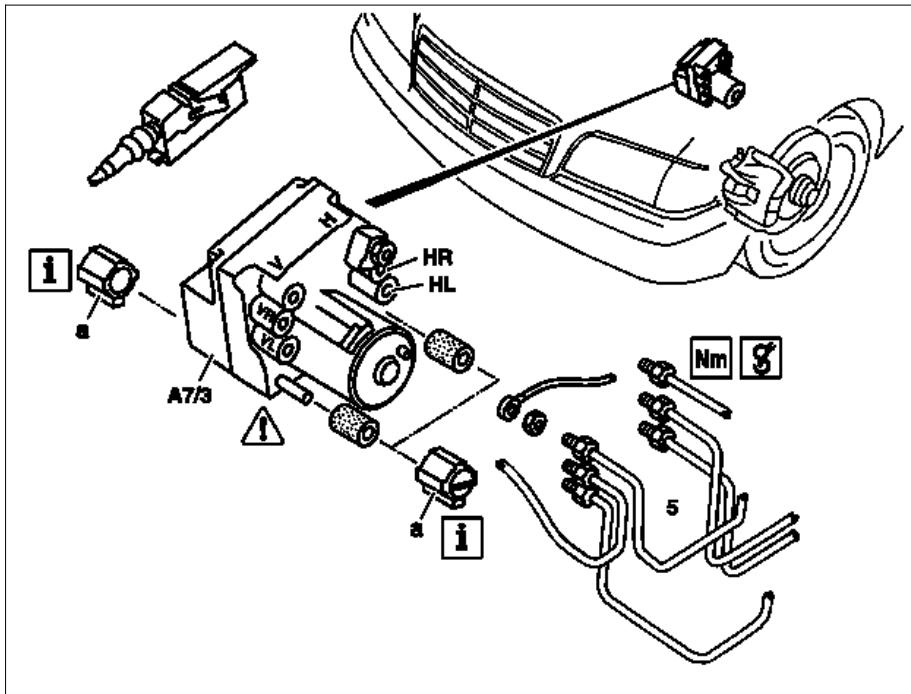
H to tandem master brake cylinder of rear axle



P42.40-0298-02

Connectors of hydraulic unit, Bosch  
ASR V/ETS (A7/3)

V to tandem master brake cylinder of front axle  
H to tandem master brake cylinder of rear axle  
VL To left front wheel brake  
FR To right front wheel brake  
RL To left rear wheel brake  
RR To right rear wheel brake



P42.40-0211-06

Figure item, etc.	Work instructions		
<b>Danger!</b>	<b>Risk of poisoning</b> caused by swallowing brake fluid. <b>Risk of injury</b> caused by brake fluid coming into contact with skin and eyes.	Only pour brake fluid into suitable and appropriately marked containers. Wear protective clothing and eye protection when handling brake fluid.	AS42.50-Z-0001-01A
	Brake fluid notes		AH42.50-P-0001-01A
	Notes on repairs to brake system		AH42.00-P-0003-01A
	Ignition OFF		
<b>Following completion of installation</b>	Bleed brake system		AR42.10-P-0010A
<b>Following completion of installation</b> 	Read out fault memory and erase		AD00.00-P-1000AZ
	Hydraulic lines	Ring spanner insert with size 11 mm. Ring spanner insert with size 12 mm. (ASR/ETS) (ESP) Model 202, 208 Risk of confusion! Before unbolting, mark hydraulic line at appropriate connector. Use plugs to seal off hydraulic lines and connection fittings. <b>Installation:</b> Pay attention to the markings when screwing on the hydraulic lines. Do not misconnect hydraulic lines. If necessary check installation of lines to the appropriate wheel.	*000589750300 *140589000300 *BA42.40-P-1001-01A *BA42.45-P-1003-01A *BA42.45-P-1003-01B *129589009100
a	Plastic caps	<b>Installation:</b> Install with the lug downwards.	
A7/3	Hydraulic unit (ETS)	Model 170: pull out upwards out of the rubber plugs.	

**Acceleration Slip Regulation (ASR)**

Number	Designation	Model 129	Model 140	Model 202	Model 210

BA42.40-P-1001-01A	Brake line to ASR / ETS hydraulic unit	Nm	15	15	15	15
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**Nm Acceleration Slip Regulation (ASR)**

Number	Designation	Model 170	Model 208
BA42.40-P-1001-01A	Brake line to ASR / ETS hydraulic unit	Nm	15

**Nm Electronic Stability Program (ESP)**

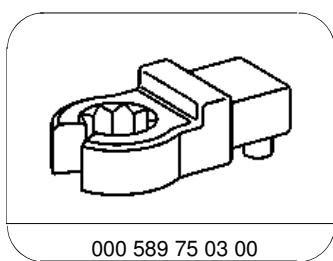
Number	Designation	Model 129	Model 140	Model 210
BA42.45-P-1003-01A	Brake line to ESP hydraulic unit	Nm	15	15

**Nm Electronic Stability Program (ESP)**

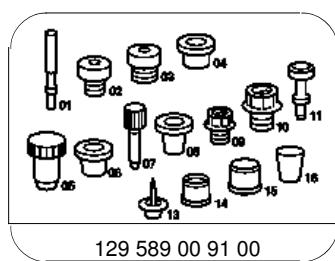
Number	Designation	Model 208 with engine 111
BA42.45-P-1003-01B	Union nut, brake line to ESP hydraulic unit	M10x1 Nm 14
		M12x1 Nm 16

**Nm Electronic Stability Program (ESP)**

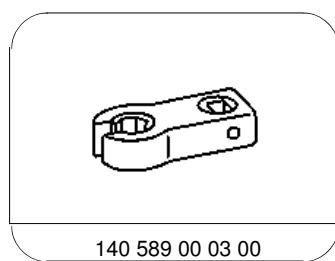
Number	Designation	Model 202 with engines 112, 113	Model 208 with engine 112, 113
BA42.45-P-1003-01B	Union nut, brake line to ESP hydraulic unit	M10x1 Nm 14	14
		M12x1 Nm 16	16



Box wrench bit

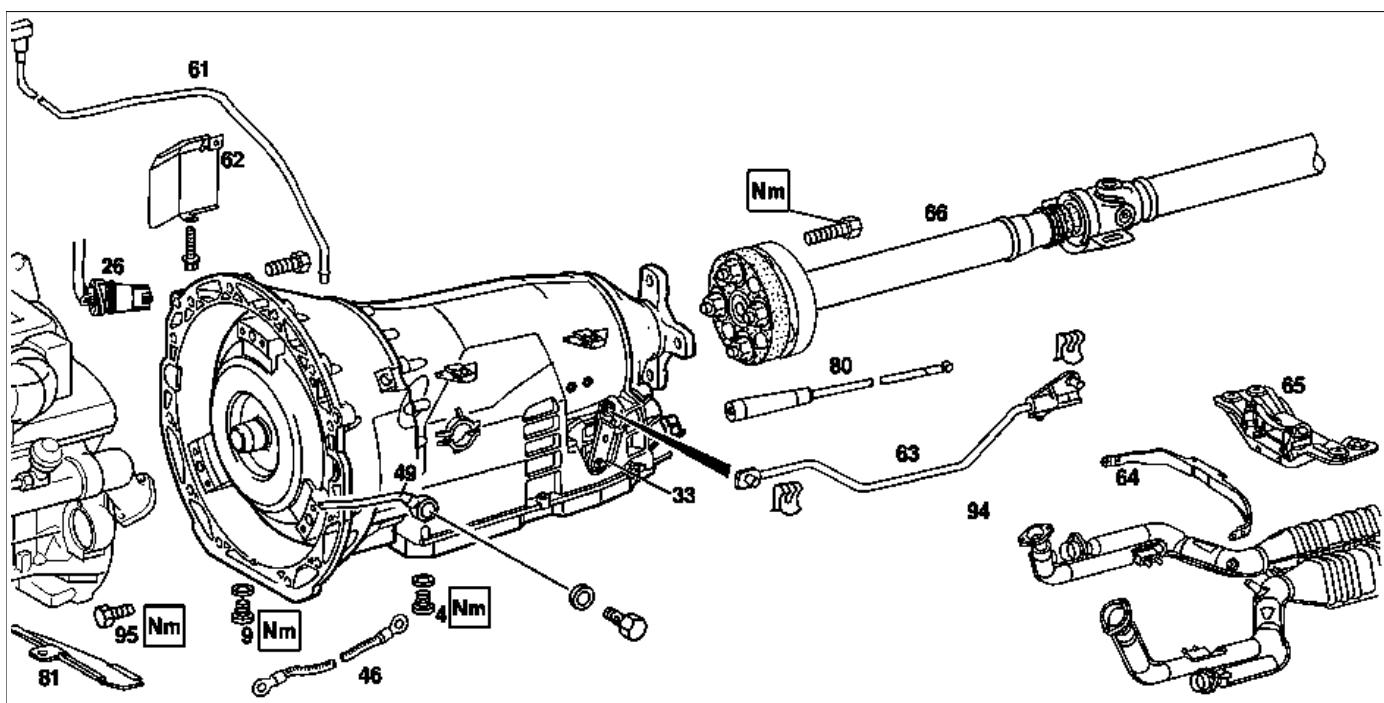


Set of stop plugs



Box wrench bit

TRANSMISSION 722.6 in MODEL 129, 140, 170, 202, 208, 210



P27.10-0251-09

4	Oil drain screw, transmission oil pan	61	Oil filler pipe	66	Propeller shaft
9	Torque converter oil drain screw	62	Shield	80	Parking shift lock
26	Plug-in connector	63	Shift rod	81	Torque converter cover
33	Range selector lever	64	Exhaust bracket	94	Exhaust system
46	Ground strap	65	Exhaust system	95	Screw
49	Oil cooling lines				

#### Modification notes

13.1.06	Oil drain bolt to torque converter Bolt, torque converter to drive plate	Transmission 722.6 Transmission 722.6	*BA27.20-P-1001-01C *BA27.20-P-1002-01C
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	Remove/install		
!	Notes on self-locking nuts and bolts		AH00.00-N-0001-01A
!	Before starting work the area around the oil cooler lines (49) must be thoroughly cleaned in the separation point areas on the transmission. Even the smallest dirt particles, introduced into the hydraulic components, can lead to malfunctions and a total failure of the transmission		
1	Detach ground line from battery	! Insulate ground line as a protection against unintentional contact of detached ground line with ground point of battery. Model 129, 170, 202, 208, 210 Model 140	AR54.10-P-0003A ra54001400003x AH54.10-P-0001-01A
!	Notes on battery		
2.1	Detach oil filler pipe (61) from engine	Model 129, 140 with engine 119 Model 202, 210 with engine 111, 604, 605, 606	AR27.10-P-0500-04A
2.2	Remove oil filler pipe (61)	Models 129, 140 with engine 120 Model 210 with engine 119	AR27.10-P-0500-04A
3	Remove oil drain screw (4) from the transmission oil pan and drain transmission oil	! If the transmission oil is burnt or interspersed with abrasive particles, the oil cooler lines (49) and oil cooler must be flushed out: ↓ Flush oil cooler and oil cooling lines	*BA27.10-P-1001-03A AR27.55-P-0001A
4	Remove oil drain screw (9) from torque converter and drain transmission oil	Nm	*BA27.20-P-1001-01C

		<p> If the transmission oil pan contains metal shavings, drain the transmission fluid from the torque converter via the drain hole through a clean cloth. If the cloth contains metal swarf after draining the transmission oil, it is then necessary to replace the torque converter. In case of doubt, flush the torque converter with ATF only. Metal shavings can damage the transmission at a later stage.</p> <p>Transmission 722.6</p>	
BT	Oil drain screw (9) at torque converter no longer required	Transmission 722.6	BT27.20-P-0001-01A
5.1	Remove shield (62) and detach 13-pin plug (26)	Shield (62) discontinued on model 129 with engine 119 and engine 120 as of 03.96	AR27.10-P-0500-01A
6	Detach control cable / gears for parking lock interlock (80) from transmission	<p> Transmission models 722.620 up to end no. 0001680 722.621 up to end no. 0001976 722.622 up to end no. 0016286</p> <p> Transmission models 722.60/61/63/66/69 722.620 as of end no. 0001681 722.621 as of end no. 0001977 722.622 as of end no. 0016287 722.623/624/625/627/628/629</p> <p> To install and remove place the selector lever or range selector lever (33) in position "P" and leave in position "P" with the cable/transmission removed.</p> <p> <b>Installation:</b> Check function of parking shift lock (80).</p>	AR27.60-P-0500-05A AR27.60-P-0500-05B
7.1	Detach retaining plate for rack-and-pinion steering	Model 210 4MATIC See: ↓ Remove/install rack-and-pinion steering.	AR46.20-P-0600A
8	Remove cover (81) and unscrew bolts (95) from torque converter		*BA27.20-P-1002-01C
9	Detach left and right oil cooling line (49) on transmission		
10	Remove shift rod (63); to do this, remove securing clips using  pliers	Pliers	*210589003700 <b>Installation:</b> Adjust shift rod (63). AR27.60-P-0980B
11	Remove exhaust bracket (64).		
12.1	Detach exhaust system (94) at rear with V-belt	Model 129, 140, 210 with engine 119	
12.2	Remove exhaust system (94) as from connector	Models 129, 140 with engine 120	AR49.10-P-7000F
13	Remove fan shroud from radiator	Model 210 with engine 119 Model 140 with engine 606	
14	Remove engine support with rear engine mount (65)	<p>Engine 112, 113</p> <p>Engine 119</p> <p>Engine 120</p> <p>Model 202, 210 with engine 111, 604, 605, 606</p> <p>Model 202, 210 with Engine 611, 612, 613</p>	AR22.10-P-1160HV ra22001192120x AR22.10-P-1160AO AR22.10-P-1160HB AR22.10-P-1160HC
15	Detach front propeller shaft (66)		*BA41.10-P-1001-01A
16.1	Detach propeller shaft from transfer case	Model 210 4MATIC	*BA33.30-P-1003-02A
17	Detach ground strap (46) from transmission		
18	Unscrew transmission from crankcase and use  transmission platform to remove downwards at an angle	Secure torque converter to prevent it from falling out.	
19.1	Remove torque converter using  grab handles	<p>If necessary</p> <p> <b>Installation:</b> Grease the torque converter lightly on drive flange. Multipurpose paste </p>	AR27.20-P-0500-01B *BR00.45-Z-1009-06A *168589006200
20	Install in the reverse order		
21	Check oil level in automatic transmission, correct if necessary		AR27.00-P-0100AC
22	Read out fault memory with STAR DIAGNOSIS and erase if necessary		
23.1	Perform transmission adaptation	Transmission adaptation must be performed after the transmission is changed or repaired.	

⚠ Danger! 24	<p><b>Risk of accident</b> caused by vehicle starting off by itself when engine is running. <b>Risk of injury</b> caused by contusions and burns during starting procedure or when working near the engine as it is running</p> <p>Perform engine test run and check transmission for proper function and leaktightness.</p>	<p>Secure vehicle to prevent it from moving by itself.</p> <p>Wear closed and snug-fitting work clothes. Do not touch hot or rotating parts.</p>	AS00.00-Z-0005-01A
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**Nm** Torque converter

Number	Designation	Trans-mission 722.6 except 722.648
BA27.20-P-1001-01C	Oil drain bolt to torque converter	M8 Nm 10
		M10 Nm 15
BA27.20-P-1002-01C	Bolt, torque converter to drive plate	Straight threaded connection M8 Nm 42
		Angled threaded connection Stage 1 Nm 4
		Stage 2 Nm 30
		Stage 3 $\Delta^\circ$ 90

**Nm** Oil pan, automatic transmission

Number	Designation	Trans-mission 722.6 except 722.628/ 648/649
BA27.10-P-1001-03A	Drain plug on transmission oil pan	Nm 20

**Nm** Front axle shaft

Number	Designation	Model 210.08/28
BA33.30-P-1003-02A	Bolt, front axle gear propeller shaft to transfer case flange	Nm 30

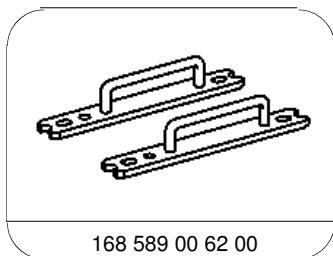
**Nm** Propeller shaft

Number	Designation	Model 129	Model 140	Model 170

BA41.10-P-1001-01A	Self-locking nut, flexible coupling to transmission or front propeller shaft	M10	Nm	40	-	40
		M12	Nm	60	60	60

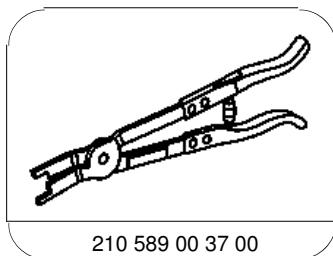
**Nm Propeller shaft**

Number	Designation	Model 202	Model 208	Model 210
BA41.10-P-1001-01A	Self-locking nut, flexible coupling to transmission or front propeller shaft	M10	Nm	40
		M12	Nm	60



168 589 00 62 00

Grab handle



210 589 00 37 00

Pliers

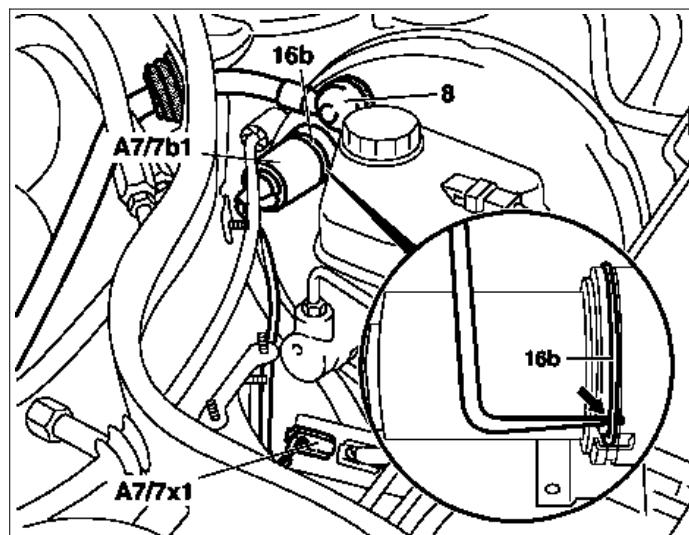
**Repair materials**

Number	Designation	Order number
BR00.45-Z-1009-06A	Multipurpose paste	A 000 989 80 51 10

**MODEL** 129, 140 as of 1.12.96,  
170, 202 as of 1.6.97,  
208, 210 as of 1.2.97

**Shown on model 208**

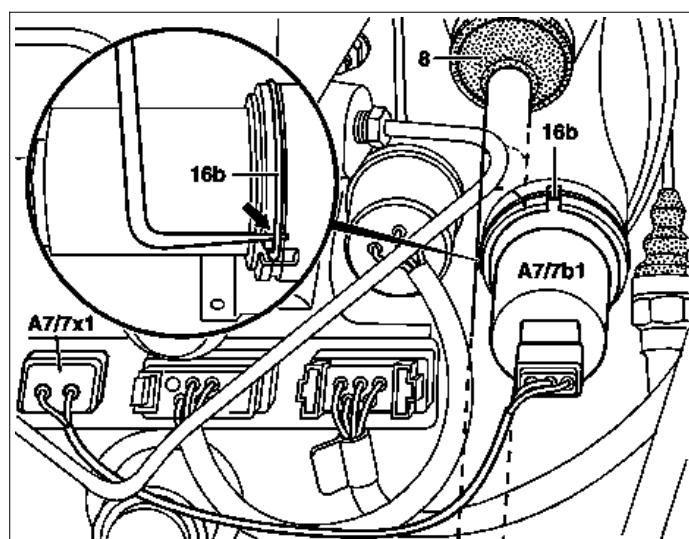
8 Vacuum line  
16b Locking ring  
A7/7b1 BAS diaphragm travel sensor  
A7/7x1 Diaphragm travel sensor connector



P42.31-0253-11

**Shown on model 210**

8 Vacuum line  
16b Locking ring  
A7/7b1 BAS diaphragm travel sensor  
A7/7x1 Diaphragm travel sensor connector



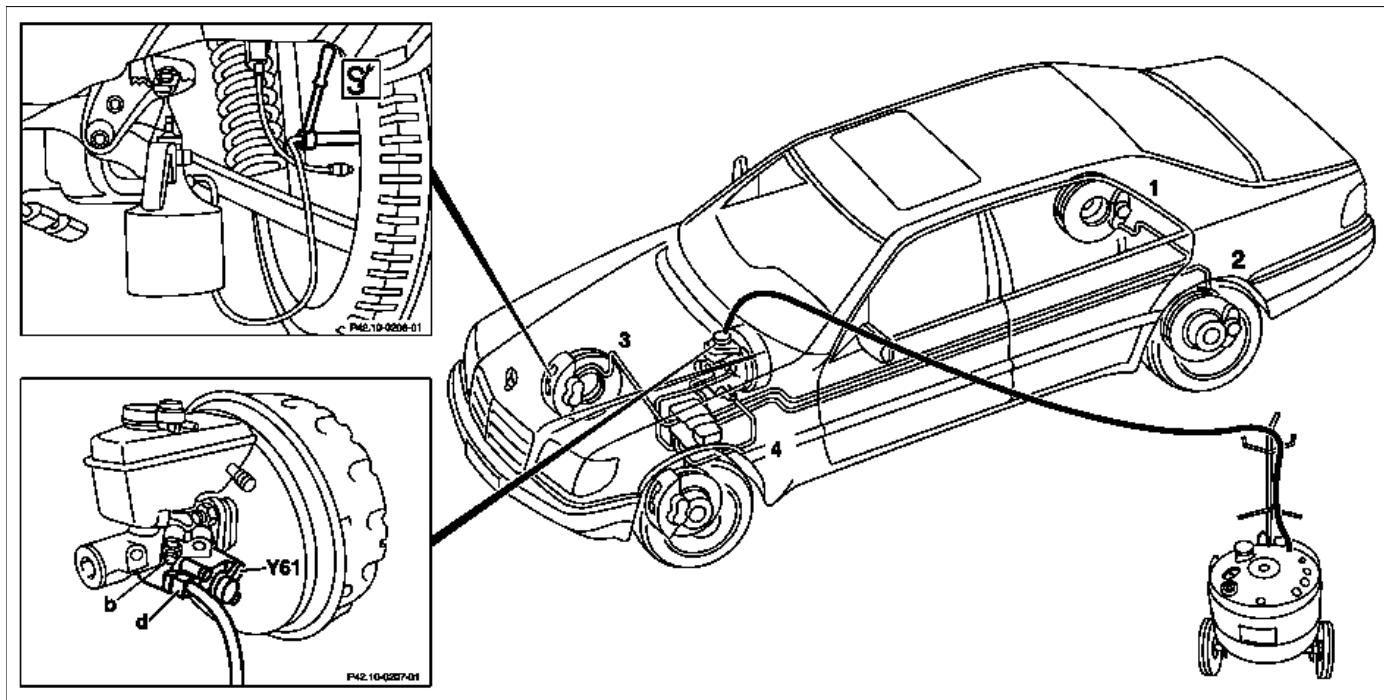
P42.31-0216-11

**Modification notes**

1.8.99	Check diaphragm travel sensor for labeling	New parts are marked with a white, yellow or blue "D" (Figure 1). The label may be on the side away from you.	
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	Removing, installing		
	Notes on brake booster		AH43.20-P-0001-01A
1	Operate brake pedal several times until vacuum in brake booster is reduced.	The diaphragm travel sensor sealing ring may be sucked into the brake booster if vacuum is present. If this happens, the brake booster must be replaced.	
2	Unplug BAS diaphragm travel sensor connector (A7/7x1)		
3	Remove locking ring (16b)	Use a suitable tool, e.g. angled scribe (arrow). <b>Installation:</b> Replace locking ring and ensure that it is correctly seated. Different manufacturers use different locking rings.	

4	Pull out BAS diaphragm travel sensor (A7/7b1)	<b>[i] Installation:</b> Rub a little spirit or soapy water onto the front of the diaphragm travel sensor so that O-ring slides correctly when inserted.	
5	Replace O-ring	<b>[i] Installation:</b> Insert O-ring into groove in brake booster and ensure that it is correctly seated.	
6	Install in the reverse order		
<input checked="" type="checkbox"/>	<b>Checking</b>		
7	Start engine	<b>[i] Operate brake several times.</b>	
8	Switch off engine		
9	Check diaphragm travel sensor for leaks	<b>[i] There must not be any air flow noises audible at the brake booster.</b>	



P42-10-0270-09

	Front axle, model 129, 140: <span style="border: 1px solid black; padding: 2px;">Nm</span> Bleed screw to brake caliper Front axle model 170: <span style="border: 1px solid black; padding: 2px;">Nm</span> Bleed screw to brake caliper Front axle model 202: <span style="border: 1px solid black; padding: 2px;">Nm</span> Bleed screw to brake caliper Front axle model 208: <span style="border: 1px solid black; padding: 2px;">Nm</span> Bleed screw to brake caliper Front axle model 210: <span style="border: 1px solid black; padding: 2px;">Nm</span> Bleed screw to brake caliper Rear axle, model 129, 140: <span style="border: 1px solid black; padding: 2px;">Nm</span> Bleed screw to brake caliper Rear axle model 170: <span style="border: 1px solid black; padding: 2px;">Nm</span> Bleed screw to brake caliper Rear axle model 202: <span style="border: 1px solid black; padding: 2px;">Nm</span> Bleed screw to brake caliper Rear axle model 210: <span style="border: 1px solid black; padding: 2px;">Nm</span> Bleed screw to brake caliper Rear axle model 208: <span style="border: 1px solid black; padding: 2px;">Nm</span> Bleed screw to brake caliper Rear axle model 210: <span style="border: 1px solid black; padding: 2px;">Nm</span> Bleed screw to brake caliper <span style="border: 1px solid black; padding: 2px;">S</span> Socket wrench	*BA42.10-P-1002-10I *BA42.10-P-1002-10P *BA42.10-P-1002-10K *BA42.10-P-1002-10D *BA42.10-P-1002-10F *BA42.10-P-1002-12I *BA42.10-P-1002-12P *BA42.10-P-1002-12K *BA42.10-P-1002-12D *BA42.10-P-1001-12F *140589030900	
4	Disconnect the brake fluid changing equipment, check the brake fluid level and correct if necessary	<span style="border: 1px solid black; padding: 2px;">F</span> Brake fluid	*BF42.10-P-1001-01A

Nm **Front axle brake caliper**

Number	Designation	Model 129	Model 140 without special protection	Model 140 with special protection
BA42.10-P-1002-10I	Bleed screw to brake caliper	Nm	7	7

Nm **Front axle brake caliper**

Number	Designation	Model 170
BA42.10-P-1002-10P	Bleed screw to brake caliper	Nm

Nm **Front axle brake caliper**

Number	Designation	Model 202.018/020/ 022/023/033/ 078/080/081/ 083/087/093/ 120/121/122/ 125/133/134/ 180/182/193/ 194, Model 202.028 up to 08/95	Model 202.024/025/ 026/029/082/ 085/086/088/ 089/128/188, Model 202.028 as of 09/95

BA42.10-P-1002-10K	Bleed screw to brake caliper	Nm	7	7
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**Nm** Front axle brake caliper

Number	Designation	Model
		208
BA42.10-P-1002-10D	Bleed screw to brake caliper	Nm 7

**Nm** Front axle brake caliper

Number	Designation	Model
		210
BA42.10-P-1002-10F	Bleed screw to brake caliper	M8 Nm 7

**Nm** Rear axle brake caliper

Number	Designation	Model	Model
		129	140
BA42.10-P-1002-12I	Bleed screw to brake caliper	Nm 7	7

**Nm** Rear axle brake caliper

Number	Designation	Model	Model
		170.435/ 444/445/ 447/449/ 465	170.466
BA42.10-P-1002-12P	Bleed screw to brake caliper	Nm 7	7

**Nm** Rear axle brake caliper

Number	Designation	Model
		202
BA42.10-P-1002-12K	Bleed screw to brake caliper	Nm 7

**Nm** Rear axle brake caliper

Number	Designation	Model
		208

BA42.10-P-1002-12D	Bleed screw to brake caliper	Nm	7
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 **Rear axle brake caliper**

Number	Designation	Model
		<b>210</b>
BA42.10-P-1001-12F	Bleed screw to brake caliper	Nm 7

 **Brake fluid**

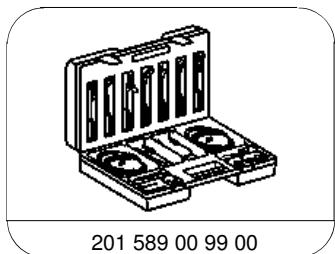
Number	Designation	Model	Model
		<b>129</b>	<b>140</b>
BF42.10-P-1001-01A	Brake fluid	Filling capacity Liters	≈0.45 to 0.6 ≈0.7...0.9
		Specifications for Operating Fluids Sheet	<b>BB00.40-P-0330-01A</b> <b>BB00.40-P-0330-01A</b>
		Sheet	<b>BB00.40-P-0331-00A</b> <b>BB00.40-P-0331-00A</b>

 **Brake fluid**

Number	Designation	Model	Model
		<b>170</b>	<b>202</b>
BF42.10-P-1001-01A	Brake fluid	Filling capacity Liters	≈0.45 to 0.6 ≈0.45 to 0.6
		Specifications for Operating Fluids Sheet	<b>BB00.40-P-0330-01A</b> <b>BB00.40-P-0330-01A</b>
		Sheet	<b>BB00.40-P-0331-00A</b> <b>BB00.40-P-0331-00A</b>

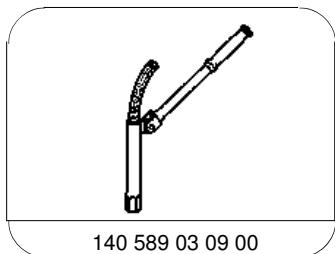
 **Brake fluid**

Number	Designation	Model	Model
		<b>208</b>	<b>210</b>
BF42.10-P-1001-01A	Brake fluid	Filling capacity Liters	≈0.45 to 0.6 ≈0.45 to 0.6
		Specifications for Operating Fluids Sheet	<b>BB00.40-P-0330-01A</b> <b>BB00.40-P-0330-01A</b>
		Sheet	<b>BB00.40-P-0331-00A</b> <b>BB00.40-P-0331-00A</b>



201 589 00 99 00

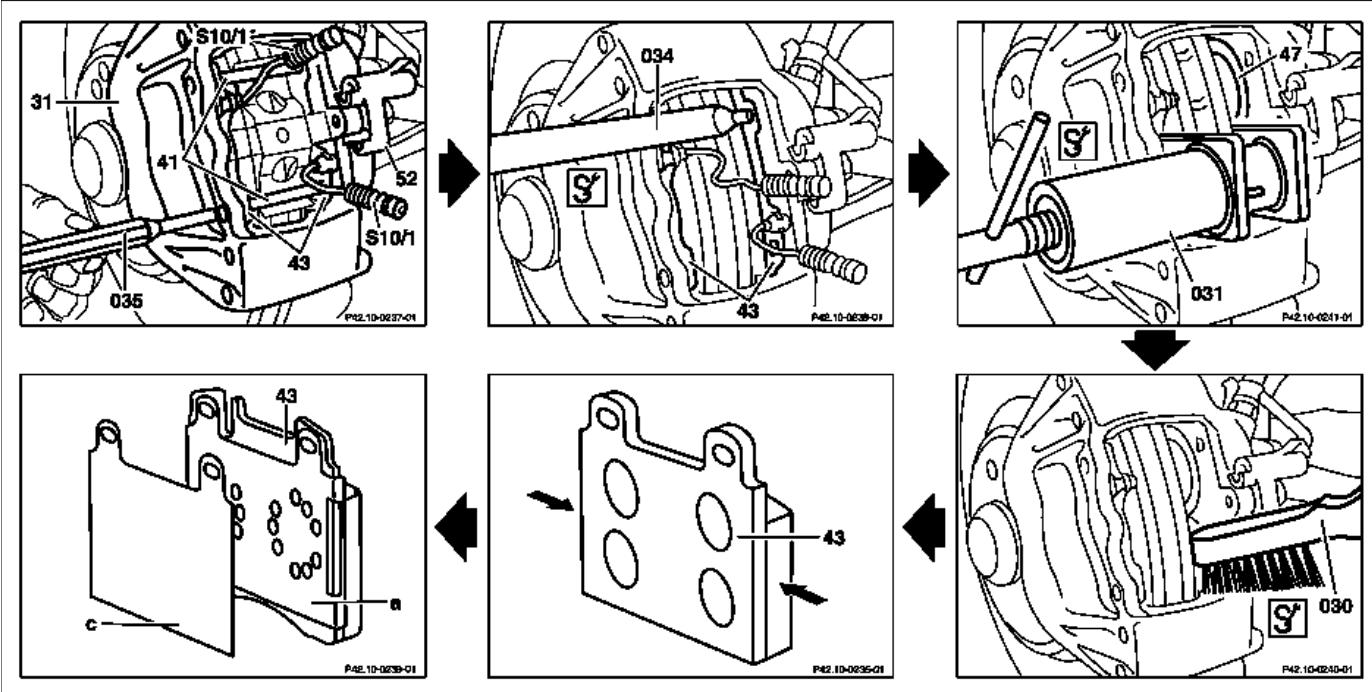
Electrical connection set



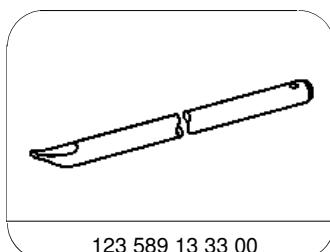
140 589 03 09 00

Socket wrench

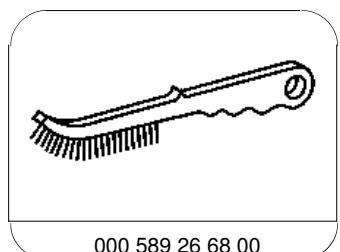
MODEL 129, 140, 170, 202, 208, 210



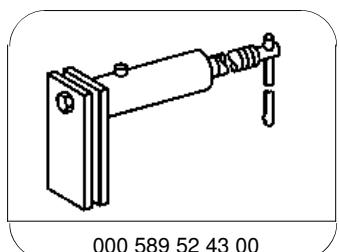
3 	Remove brake pad contact sensor  Notes on installing brake pad wear sensor contact sensors	<b>[i] Installation:</b> Replace defective brake pad contact sensor.	AH42.10-P-0003-01A
4	Drive out retaining pins (41) using punch (035) and remove retaining spring	<b>[i] Installation:</b> Knock retaining pins (41) all the way in.	
5	Pull brake pads (43) out of the brake caliper (31)	<p> When pressing out seized brake pads (43) insert wedge between lever (034) and brake caliper (31) to prevent damage.</p> <p><b>[i] Installation:</b> Brake pads (43) are to be disposed of as special waste. The local authorities can provide information regarding whether disposal is also permitted as industrial waste similar to domestic waste.</p> <p><b>[i] Installation:</b> Only sets of brake pads (43) approved by Mercedes-Benz may be installed. Install brake pads (43) with peripheral damping (a and c) ungreased. On brake pads (43) without peripheral damping on the side surfaces (arrows) coat with some brake pad paste.</p> <p> Lever  Wedge Brake pad paste</p>	
	<b>Checking</b>		*123589133300 *601589076300 *BR00.45-Z-1003-06A
6  	Check brake pad thickness and brake disks  Inspect condition of brake disks  Check brake lining thickness	<p><b>[i] Replace</b> brake pads (43) and brake disks in sets if necessary.</p> <p>Model 129, 140 as of 1.7.93 Model 170, 202, 208, 210</p> <p><b>[i] If</b> the brake pads (43) have worn down to beyond the wear limit, the bar between the sealing groove and dust cap may be damaged; therefore: ↓ Inspect brake system for leaks with pressure tester.</p>	AP42.10-P-4258AM AP42.10-P-4253AM AR42.10-P-0015A
7	Press back brake piston (47) using resetting device (031)	<p><b>[i] Do not</b> bend heat shield. If brake pads (43) have been removed from several brake calipers (31), their brake pistons (47) must be secured beforehand with wedges to prevent them from falling out.</p> <p><b>[i] Do not</b> fit the pusher tool (031) to the brake disk, but push back the opposite brake pistons (47) simultaneously. If brake pistons (47) are sluggish: ↓ Repair brake caliper (31).</p> <p> Resetting device  Wedge</p>	AR42.10-P-0151A *000589524300 *601589076300
	<b>Clean</b>		
8	Clean contact surfaces of brake pads (43) using brake caliper brush (030)	<p><b>[i] Do not</b> damage boots of brake pistons (47).</p> <p> Brake caliper brush</p>	*000589266800
9	Install in the reverse order		
	<b>Danger!</b> Risk of accident when commissioning the vehicle due to a lack of braking effect when the service brake is operated for the first time after repair work	Before starting engine, actuate brake pedal several times until the pressure is built up and maintained in the brake system.	AS42.50-Z-0002-01A
10	Operate the brake pedal several times until the brake pads (43) contact the brake disks	<b>[i] Firm</b> resistance should be noticeable at the brake pedal.	
	<b>Checking</b>		
11 	Check brake fluid level, correct if necessary Brake system - inspect fluid level		AP42.10-P-4210Z



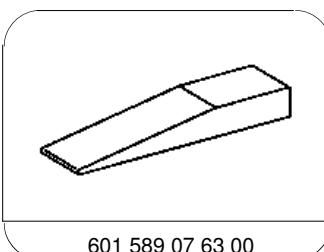
123 589 13 33 00



000 589 26 68 00



000 589 52 43 00



601 589 07 63 00

**Repair materials**

Number	Designation	Order number
BR00.45-Z-1003-06A	Brake pad paste replaced by: A 001 989 94 51	A 001 989 10 51

**MODEL** 170.435 /444 /445 /447 /449 /465, 202.024 /025 /026 /029 /082 /085 /086 /088 /089 /128 /188, 208.335 /344 /345 /347 /348 /365 /435 /444 /445 /447 /448 /465

**MODEL** 202.028 as of 1.9.95,  
210.00 /01 /02 /035 /037 /04 /05 /06 /081 /082,  
210.083 up to 7.2.99,  
210.20 /21 /22 /23 /24 /26 /282,

210.283 up to 7.2.99,  
210.60 /61 /663 except CODE (957) AMG engineering package

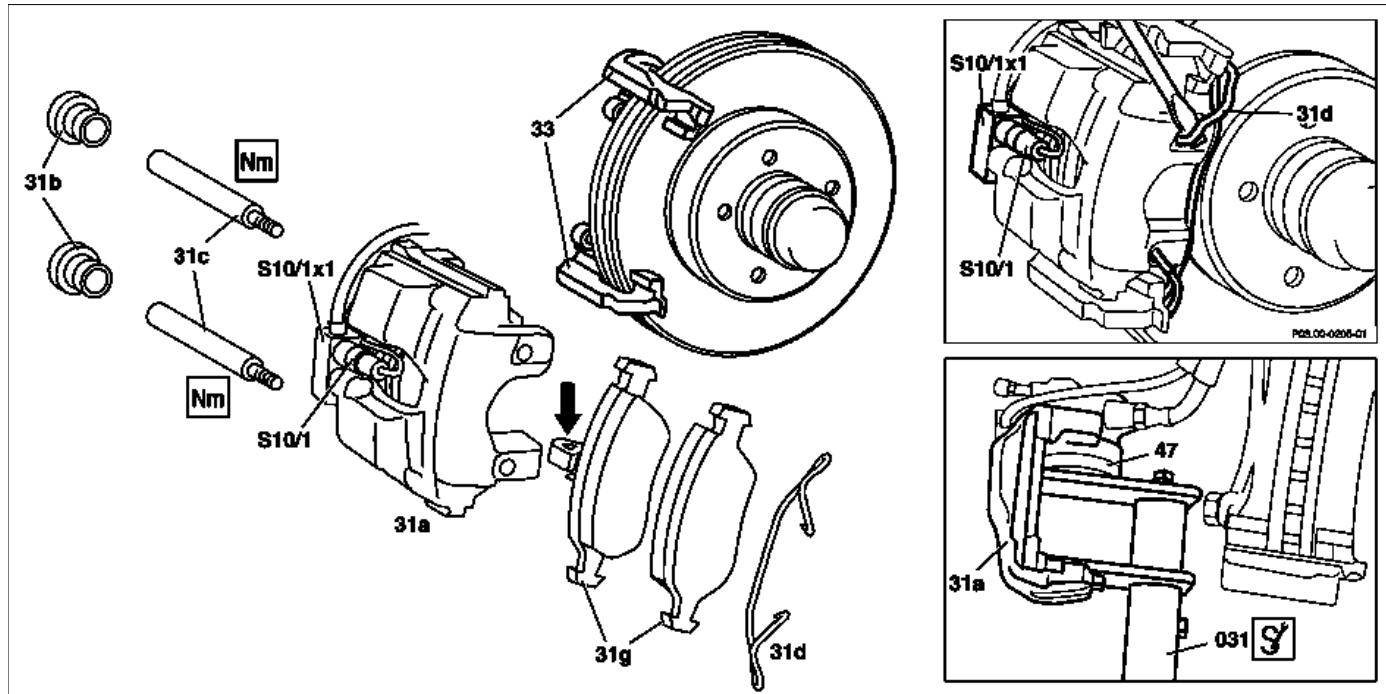
**MODEL** 210.070

with CODE (491) USA version

with CODE (498) Japan version

with CODE (625) Australia version

**MODEL** 208.370 /470 with CODE (491) USA version



P42.10-0268-09

	Remove/install		
<b>Danger!</b>	<b>Risk of poisoning</b> caused by swallowing brake fluid. <b>Risk of injury</b> caused by brake fluid coming into contact with skin and eyes.	Only pour brake fluid into suitable and appropriately marked containers. Wear protective clothing and eye protection when handling brake fluid.	AS42.50-Z-0001-01A
<b>Danger!</b>	<b>Risk of injury</b> to skin and eyes caused by handling hot or glowing objects.	Wear safety gloves, protective clothing and safety glasses, if necessary.	AS00.00-Z-0002-01A
	Notes on repairs to brake system		AH42.00-P-0003-01A
	Brake fluid notes		AH42.50-P-0001-01A
	Notes on self-locking nuts and bolts		AH00.00-N-0001-01A
1	Unscrew the cap on the brake fluid expansion reservoir and suction off some brake fluid	In order to prevent the expansion reservoir overflowing when pressing back the brake pistons.	
2	Remove the front wheels Remove/install wheels, rotate if necessary		AP40.10-P-4050Z
3	Unhook spring (31d)		
4	Remove brake pad contact sensor	<b>Installation:</b> Replace defective contact sensors.	
	Notes on installing brake pad wear sensor contact sensors		AH42.10-P-0003-01A
5	Detach covers (31b) and remove guide pins (31c)	Model 208 Model 210 Model 170 Model 202	*BA42.10-P-1003-10D *BA42.10-P-1003-10F *BA42.10-P-1003-10P *BA42.10-P-1003-10K

6	Remove floating brake caliper (31a) with inner brake pad	<b>!</b> Attach floating caliper (31a) to vehicle so that it is free of tension. Do not kink or tension brake hose, as otherwise it will be damaged.	
7	Remove brake pads (31g)	<b>!</b> Brake pads (31g) are to be disposed of as special waste. The local authorities can provide information regarding whether disposal is also permitted as industrial waste similar to domestic waste. <b>i Installation:</b> Only the brake pads (31g) approved by Mercedes-Benz may be built-in as a set. Install brake pads (31g) without grease. Insert inner brake pad with riveted on spring (arrow) in brake piston, insert outer brake pad in brake caliper support (33).	
	<b>Checking</b>		
8  	Check brake pad thickness and brake disks  Inspect condition of brake disks  Check brake lining thickness	<b>!</b> Only replace brake pads (31g) and brake disks in complete sets if necessary.  <b>!</b> If the brake pads (31g) have worn down to beyond the wear limit, the bar between the sealing groove and dust cap may be damaged; therefore: ↓ Inspect brake system for leaks with pressure tester.	AP42.10-P-4258AM AP42.10-P-4253AM AR42.10-P-0015A
9	Check floating caliper (31a) for leaks and dust boot (47) for signs of damage and correct seating	<b>!</b> If floating brake caliper (31a) is leaky or dust boot (47) is damaged or not seated correctly: ↓ Repair floating caliper: Except model 170.444/449/465, Model 202.088, Model 208.344/348/444/448 Model 170.444/449/465, Model 202.088, Model 208.344/348/444/448	AR42.10-P-0152B
10	Press back brake piston using resetting device (031).	<b>!</b> If brake pads (31g) have been removed from several brake calipers, secure their brake pistons beforehand with wedges to prevent them from falling out. If the brake piston is difficult to move: ↓ Repair floating caliper: Except model 170.444/449/465, Model 202.088, Model 208.344/348/444/448 Model 170.444/449/465, model 202.088, model 208.344/348/444/448 <input checked="" type="checkbox"/> Resetting device <input checked="" type="checkbox"/> Wedge	AR42.10-P-0152B  *000589524300 *601589076300
	<b>Clean</b>		
11	Clean contact surfaces of brake pads (31g) at floating caliper (31a) and brake caliper support (33)	<b>!</b> Do not damage dust boot (47).  <input checked="" type="checkbox"/> Brake caliper brush	*000589266800
12	Install in the reverse order		
	<b>Danger!</b> <b>Risk of accident</b> when commissioning the vehicle due to a lack of braking effect when the service brake is operated for the first time after repair work	Before starting engine, actuate brake pedal several times until the pressure is built up and maintained in the brake system.	AS42.50-Z-0002-01A
13	Operate the brake pedal several times until the brake pads (31g) contact the brake disks	<b>!</b> Firm resistance should be noticeable at the brake pedal.	
14  	Inspect fluid level in expansion reservoir, adjust to correct level if necessary Brake system - inspect fluid level		AP42.10-P-4210Z

#### Front axle brake caliper

Number	Designation	Model 170

BA42.10-P-1003-10P	Guide pin, brake caliper to brake caliper support	Nm	25
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**Nm** Front axle brake caliper

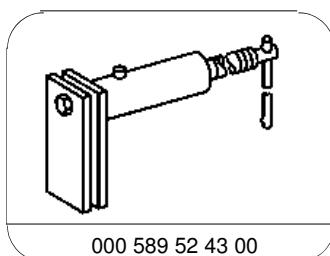
<b>Number</b>	<b>Designation</b>	<b>Model</b>
		<b>202.024/025/ 026/029/082/ 085/086/088/ 089/128/188, Model 202.028 as of 09/95</b>
BA42.10-P-1003-10K	Guide pin on caliper support	Nm 25

**Nm** Front axle brake caliper

<b>Number</b>	<b>Designation</b>	<b>Model</b>
		<b>208</b>
BA42.10-P-1003-10D	Guide pin on caliper support	Nm 25

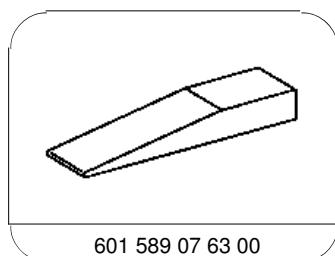
**Nm** Front axle brake caliper

<b>Number</b>	<b>Designation</b>	<b>Model</b>
		<b>210</b>
BA42.10-P-1003-10F	Guide pin on caliper support	Nm 25



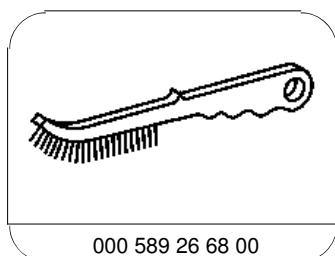
000 589 52 43 00

Pusher tool



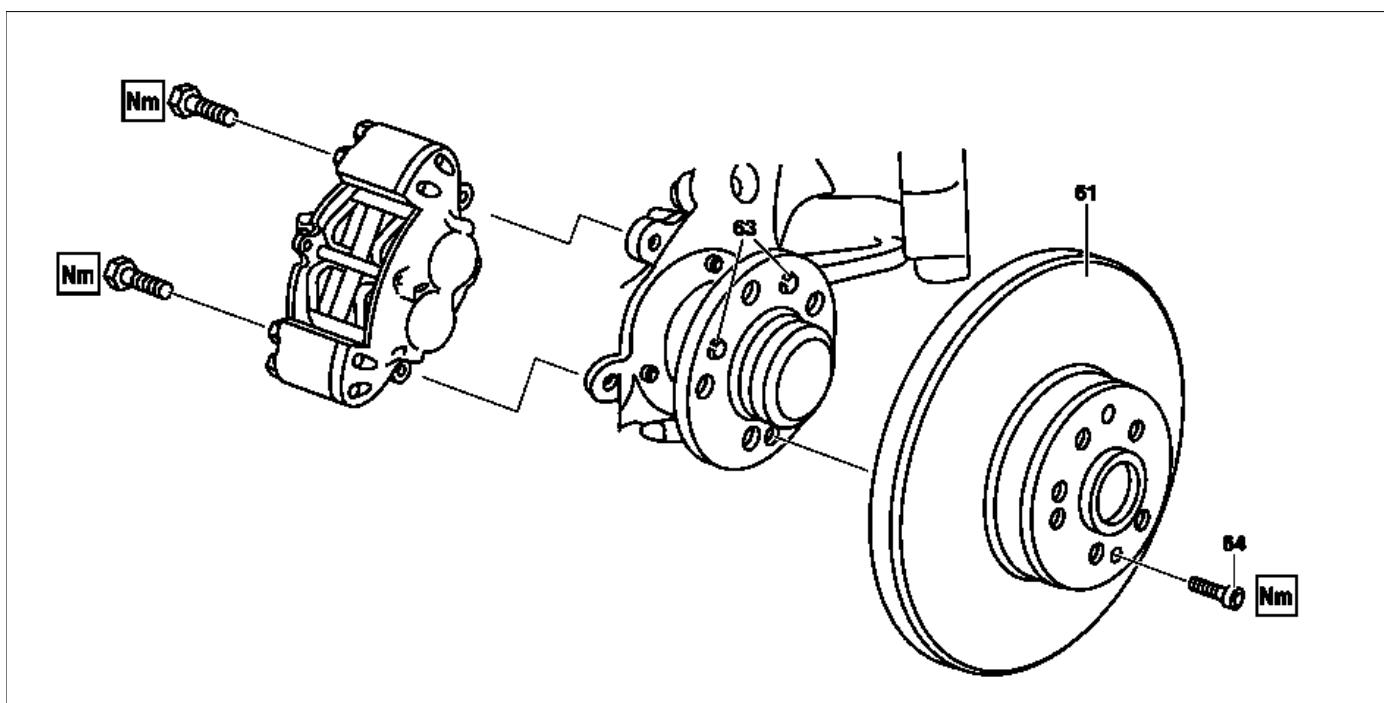
601 589 07 63 00

Wedge



000 589 26 68 00

Brake caliper brush



P42.10-2005-09

## Modification notes

29.11.11	Long-life grease repair materials replaced by hot-grease paste	Step 5	
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	Remove/install		
<b>Danger!</b>	<b>Risk of injury</b> to skin and eyes caused by handling hot or glowing objects.	Wear safety gloves, protective clothing and safety glasses, if necessary.	AS00.00-Z-0002-01A
	Notes on repairs to brake system		AH42.00-P-0003-01A
1	Remove wheels Remove/install wheels, rotate if necessary		AP40.10-P-4050Z
2	Release parking brake	Only if removing brake disks (61) at rear axle.	
3	Check brake lining thickness and brake disks (61)	Only replace brake pads and brake disks (61) in complete sets if necessary.	
	Check brake lining thickness	Model 129, 140 as of 1.7.93, Model 170, 202, 208, 210	AP42.10-P-4253AM
	Inspect condition of brake disks		AP42.10-P-4258AM
4	Remove brake disk	Do not detach brake hose, instead attach brake caliper to vehicle so that it is free of tension. Do not kink or tension brake hose, as otherwise it will be damaged.  At the front axle: Model 129, 140, Model 208.370 /470 up to 18.1.99 except code 491 USA version, model 210.070 up to 7.2.99 except code 491 USA version, except code 498 Japan version, except code 625 Australia version, except code 957 AMG engineering package, model 210.072 /270 /272 up to 7.2.99	AR42.10-P-0070AM

		<p>Model 202.024 /025 /026 /029 /082 /085 /086 /088 /089 /128 /188,          Model 170.435 /444 /445 /447 /449 /465,          Model 208.335 /344 /345 /347 /348 /365 /435 /444 /445 /447 /448 /465,          Model 210.00 /01 /02 /035 /037 /04 /053 /06 /081 /082 /20 /21 /22 /23 /24 /26 /282 /60 /61 /663,          model 210.083 /283 up to 7.2.99,          model 210.070 /270          with code 491 USA version,          with code 498 Japan version,          with code 625 Australia version,          model 208.370 /470 with code 494 USA version,          model 202.028 as of 1.9.95, 210.055, except code 957 AMG engineering package          Model 202.018 /020 /022 /023 /078 /080 /081 /083 /087 /120 /121 /122 /125 /133 /180 /182 /193,          model 202.028 up to 31.8.95 except code 957 AMG engineering package          Model 170.466, 208.374,          model 208.370 /470 as of 19.1.99 except code 494 USA version,          model 202.033 /093, 210.072 /074 /274 with code 957 AMG engineering package,          model 210.070 as of 8.2.99,          except code 494 USA version,          except code 498 Japan version,          except code 625 Australia version,          model 210.083 /270 /283 as of 8.2.99          Model 202.028, 210.055 with code 957 AMG engineering package C 36, E 36          At the rear axle:          Model 129, 140, 170, 202, 208, 210 except code 957 AMG engineering package          Model 202.028 /033 /093, 210.055 /072 /074 /274 with code 957 AMG engineering package</p>	AR42.10-P-0070BM AR42.10-P-0070CM AR42.10-P-0070DM AR42.10-P-0070EM AR42.10-P-0080AM AR42.10-P-0080BM
5	<p>Remove locking bolt (64) and remove brake disk (61)</p> <p>Fixture for pulling out roll pins on front wheel hub</p> <p>Notes on installing brake disks          Front axle brake disks modified          Front axle brake system, function</p>	<p><b>[i] Installation:</b> Only replace brake disks (61) in pairs. Lightly grease seat of brake disk (61) and replace the safety bolt (64).          Hot lubricating paste</p> <p><b>[i] Models 129, 140, 202:</b> Ensure that the dowel pin or roll pins (63) are properly seated in the brake disk (61).</p> <p><b>[i] Models 202.033 /093, 208.374, 210.072 with code 957 AMG engineering package E 50 AMG 210.074 /274</b>          The left and right brake disks (61) are different.          Identification:          AMG A210 421 1912 right side          AMG A210 421 1812 left side</p> <p><b>[i] Model 140 up to 3.9.93</b>  <b>When installing new brake disks on front axle:</b> ↓          Pull out roll pins on front wheel hub.</p> <p><b>Nm</b>  <b>Nm</b></p> <p>Model 129.067 as of 1.6.1994, 129.076          Model 129.067 as of 1.6.94          Model 210.072 /272 with code 957 AMG engineering package E 50 AMG</p>	*BR00.45-Z-1005-06A AR42.10-P-0220-01A WF58.50-P-4210-02A *BA42.10-P-1001-06A *BA42.10-P-1002-06A AH42.10-P-9406-04A BT42.10-P-9406-01A GF42.10-P-0002A
6	Install in the reverse order		
7	Adjust parking brake	<p>Model 129, 140 as of 1.11.93, 170, 202, 208, 210          Model 140 up to 31.10.93</p>	AR42.20-P-0540A AR42.20-P-0540B

**■ Brake discs, brake cover plate**

Number	Designation	Model 129	Model 140	Model 170

BA42.10-P-1001-06A	Locking bolt of rear axle brake disk	Nm	10	10	10
BA42.10-P-1002-06A	Locking bolt of front axle brake disk	Nm	10	10	10

**Nm Brake discs, brake cover plate**

Number	Designation	Model 202	Model 208	Model 210.0
BA42.10-P-1001-06A	Locking bolt of rear axle brake disk	Nm	10	10
BA42.10-P-1002-06A	Locking bolt of front axle brake disk	Nm	10	10

**Nm Brake discs, brake cover plate**

Number	Designation	Model 210.2/ 6
BA42.10-P-1001-06A	Locking bolt of rear axle brake disk	Nm
BA42.10-P-1002-06A	Locking bolt of front axle brake disk	Nm

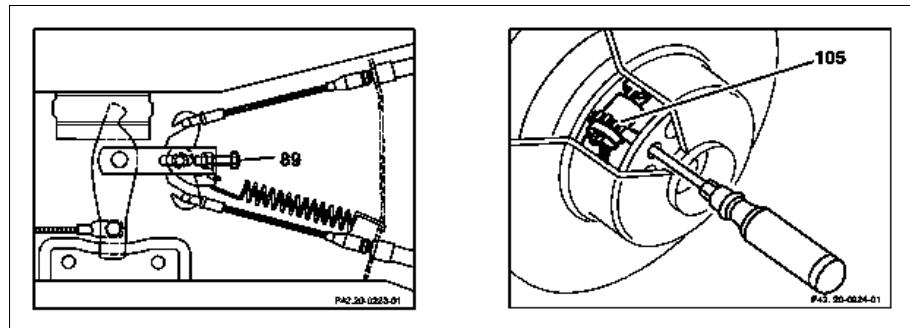
**Repair materials**

Number	Designation	Order number
BR00.45-Z-1005-06A	Paste, hot lubrication 1 kg, DB supply specification 6879.20	A 000 989 76 51

MODEL 129, 170, 202, 203, 208, 210

MODEL 140 as from 1.11.93

MODEL 209.3/ 4



P42.20-0222-04

**Modification notes**

23.8.05	Clearance adjustment value changed to 8 teeth	Step 7	
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	<b>Check</b>		
<b>Danger!</b>	<b>Risk of death</b> caused by vehicle slipping or toppling off of the lifting platform.	Align vehicle between the columns of the and position the four support plates below the lifting platform support points specified by the vehicle manufacturer.	AS00.00-Z-0010-01A
1.1	Check version of pedal assembly Parking brake pedal assembly modified	Except model 170	BT42.20-P-0510-01A
2.1	Operate parking brake pedal and check pedal travel of parking brake pedal	Except model 170  If the pedal travel is not within the tolerance range: ↓ Adjusting parking brake. Actuating force on parking brake pedal Notches through which the parking brake pedal must be depressed	*BE42.20-P-1001-01C *BE42.20-P-1002-01C
2.2	Operate parking brake lever and check travel of the parking brake lever	Model 170  Adjust parking brake, if the parking brake lever can be pulled up by more than 3 notches without any adequate braking effect taking place.	
	<b>Remove</b>		
3	Raise vehicle at rear		
4.1	Slacken adjusting screw (89)	Models 129, 170	
5	Undo a wheel bolt at the left and right rear wheel Remove/install wheels, rotate if necessary	Light alloy wheels must be removed due to the risk of damage.	AP40.10-P-4050Z
	<b>Adjust</b>		
6	Use screwdriver to rotate adjusting wheel (105) until the brake shoes abut the parking brake drum and the rear wheel or brake disk can no longer be turned by hand.	Actuation direction for applying the brake shoes: Right side: Turn the adjusting wheel (105) from the bottom upwards. Left side: Turn the adjusting wheel (105) from the top downwards.	
	Adjusting mechanism for parking brake modified	Type 140	BT42.20-P-9311-01A
7	Turn back adjusting wheel (105) until the wheel or brake disk is able to rotate completely freely by hand	When loosening the adjusting wheels (105) ensure that both sides are turned back by the same number of teeth (8 teeth).	
8.1	Turn in adjusting screw (89) until the brake cables no longer sag	Model 129, 170	
	<b>Check</b>		
9.1	Operate parking brake pedal several times and check pedal travel of the parking brake pedal, then release the parking brake	Except model 170  Actuating force on parking brake pedal	*BE42.20-P-1001-01C

		Notches through which the parking brake pedal must be depressed	*BE42.20-P-1002-01C
9.2	Operate parking brake lever several times, check parking brake lever travel, and then release the parking brake	Model 170  [i] Turn in adjusting screw (89) until the parking brake lever can be actuated by one tooth with an average force application of approx. 90 to 120 Nm.	
10	Check for unobstructed movement of rear wheels or brake disks		
<input checked="" type="checkbox"/>	<b>Install</b>		
11 	Fit wheel bolts or light alloy wheels Remove/install wheels, rotate if necessary.		AP40.10-P-4050Z

#### Adjustment values for parking brake

Number	Designation	Model 129, Pedal assembly with pulled notch	Model 129, Pedal assembly with pushed notch
BE42.20-P-1001-01C	Actuating force on parking brake pedal	N 170 (-50/+70)	170 (-50/+70)
BE42.20-P-1002-01C	Notches through which the parking brake pedal must be depressed	Quantity 1  See fig. <a href="#">BT42.20-P-0510-01A</a>	5  <a href="#">BT42.20-P-0510-01A</a>

#### Adjustment values for parking brake

Number	Designation	Model 140, Pedal assembly with pulled notch	Model 140, Pedal assembly with pushed notch
BE42.20-P-1001-01C	Actuating force on parking brake pedal	N 170 (-50/+70)	170 (-50/+70)
BE42.20-P-1002-01C	Notches through which the parking brake pedal must be depressed	Quantity 1  See fig. <a href="#">BT42.20-P-0510-01A</a>	5  <a href="#">BT42.20-P-0510-01A</a>

#### Adjustment values for parking brake

Number	Designation	Model 202, Pedal assembly with pulled notch	Model 202, Pedal assembly with pushed notch
BE42.20-P-1001-01C	Actuating force on parking brake pedal	N 170 (-50/+70)	170 (-50/+70)
BE42.20-P-1002-01C	Notches through which the parking brake pedal must be depressed	Quantity 1  See fig. <a href="#">BT42.20-P-0510-01A</a>	5  <a href="#">BT42.20-P-0510-01A</a>

#### Adjustment values for parking brake

Number	Designation	Model 203, Pedal assembly with pulled notch	Model 203, Pedal assembly with pushed notch
BE42.20-P-1001-01C	Actuating force on parking brake pedal	N 170 (-50/+70)	170 (-50/+70)
BE42.20-P-1002-01C	Notches through which the parking brake pedal must be depressed	Quantity 1	5
		See fig. <a href="#">BT42.20-P-0510-01A</a>	<a href="#">BT42.20-P-0510-01A</a>

#### Adjustment values for parking brake

Number	Designation	Model 208, Pedal assembly with pulled notch	Model 208, Pedal assembly with pushed notch
BE42.20-P-1001-01C	Actuating force on parking brake pedal	N 170 (-50/+70)	170 (-50/+70)
BE42.20-P-1002-01C	Notches through which the parking brake pedal must be depressed	Quantity 1	5
		See fig. <a href="#">BT42.20-P-0510-01A</a>	<a href="#">BT42.20-P-0510-01A</a>

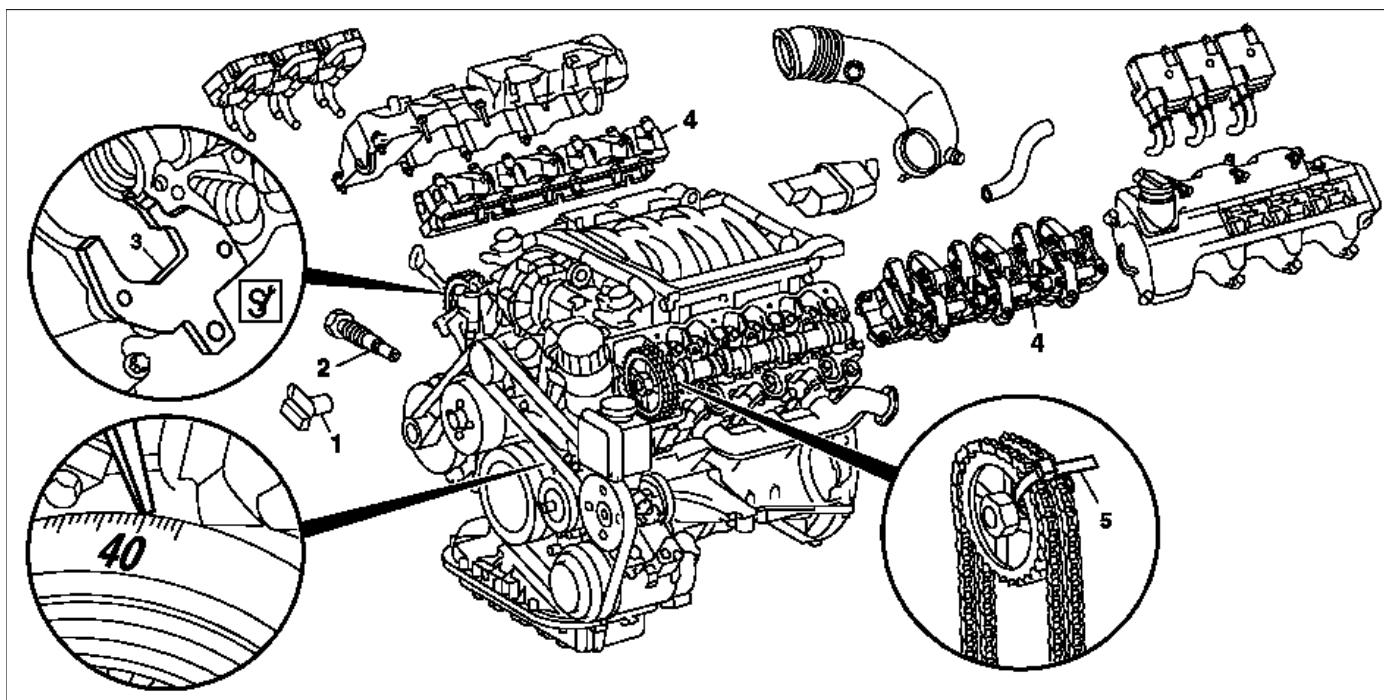
#### Adjustment values for parking brake

Number	Designation	Model 209, Pedal assembly with pulled notch	Model 209, Pedal assembly with pushed notch
BE42.20-P-1001-01C	Actuating force on parking brake pedal	N 170 (-50/+70)	170 (-50/+70)
BE42.20-P-1002-01C	Notches through which the parking brake pedal must be depressed	Quantity 1	5
		See fig. <a href="#">BT42.20-P-0510-01A</a>	<a href="#">BT42.20-P-0510-01A</a>

#### Adjustment values for parking brake

Number	Designation	Model 210, Pedal assembly with pulled notch	Model 210, Pedal assembly with pushed notch
BE42.20-P-1001-01C	Actuating force on parking brake pedal	N 170 (-50/+70)	170 (-50/+70)
BE42.20-P-1002-01C	Notches through which the parking brake pedal must be depressed	Quantity 1	5
		See fig. <a href="#">BT42.20-P-0510-01A</a>	<a href="#">BT42.20-P-0510-01A</a>

**ENGINE 112**  
**ENGINE 112.945 in MODEL 463.209 /232 /233 /244 /245 /250**  
**ENGINE 113.962 in MODEL 463.206 /240 /241 /247 /248 /249 /254**  
**ENGINE 113.982 in MODEL 463.243 /246**  
**ENGINE 113 in MODEL 129, 163, 202, 203, 208, 209, 210, 211, 215, 220, 230**



P05.20-0303-09

**Shown on engine 112**

1 Camshaft Hall sensor  
 2 Chain tensioner

3 Right-hand camshaft locating plate 40° after first ignition TDC  
 4 Camshaft bearing bridge  
 5 Cable tie

**Modification notes**

18.6.97	M112: Procedure modified, new special tool.	Step 1-14	*112589010300
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	Removing		
1	Remove cylinder head covers	Air filter mounted on vehicle Air filter mounted on engine	AR01.20-P-5014B AR01.20-P-5014BV
2	Position piston of cylinder 1 at 40° after TDC	<p><b>i</b> Rotate engine at crankshaft in direction of rotation until 40° marking on belt pulley/vibration damper is aligned with marking on timing case cover. The grooves on the camshafts must be pointing toward the inner V.</p> <p><b>i</b> Engine must not be rotated backwards.</p>	AR05.10-P-6858V
3	Remove chain tensioner (2)	Model 129, 463 Model 163 except 163.174 /175 Model 202, 208, 210 with engine 113 Model 170, 202, 203, 208, 209, 210 with engine 112 Model 163.174/ 175 Model 209.375 /475 Model 209.376 /476 up to 23.4.04 Model 203 with engine 113 Model 209.376/ 476 as of 24.4.04 Model 211.0 with engine 112, 113 Model 211.276 Model 215 Model 220, 230 with engine 112, 113 Model 211.2 except 211.276 with engine 112, 113 Model 171 with engine 113	AR05.10-P-7800C  <b>AR05.10-P-7800CA</b>  AR05.10-P-7800AC  AR05.10-P-7800AM

4	Remove camshaft Hall sensor (1)	Model 129, 163, 170, 202, 203, 208, 209, 210 215, 220 with engine 112 Model 129, 163, 202, 208, 210 with engine 113 except engine 113.990 /991 Model 209 except 209.475 Model 211 except 211.076 /261 /265 /270 /276 Model 463 with engine 113.962 Model 463 with engine 113.982 Model 211.076 / 276 Model 215.374, 220.074 /174 Model 203 with engine 113 Model 171 Model 209.475 Model 211.261 /265 /270	AR15.10-P-2000A
5	Detach camshaft sprocket, take off	Tie camshaft sprocket and timing chain together with cable tie (5). Open-end wrench Insertion tool Torque wrench	*112589000100 *112589010300 *001589722100
6	Take off camshaft bearing bridge (4)	Observe slackening diagram! Engine 112, 113 except cylinder shutoff, code 479. Engine 113.960 with cylinder shutoff, code 479.	AR05.20-P-7103AU AR05.20-P-7103AV
7	Remove camshaft		
	<b>Install</b>		
8	Install camshaft  Camshaft code number and assignment	Pay attention to camshaft marking when installing camshaft. Engine 112, 113 Oil the bearing surfaces! Pay attention to correct position of cap on front end of camshaft.	AH05.20-N-0100-01A
9	Install camshaft bearing bridge (4).	Observe tightening procedure. Engine 112, 113 except cylinder shutoff, code 479. Engine 113.960 with cylinder shutoff, code 479.	AR05.20-P-7103AU AR05.20-P-7103AV
10	Rotate camshaft to basic position	Locating plate Locating plate Open-end wrench	AR05.20-P-6020AU *112589003200 *112589013200 *112589000100
11	Install camshaft sprocket	Take off cable tie (5)!  Open-end wrench	*BA05.20-P-1001-01B *112589000100
12	Install camshaft Hall sensor (1)	Model 129, 163, 170, 202, 203, 208, 209, 210 215, 220 with engine 112 Model 129, 163, 202, 208, 210 with engine 113 except engine 113.990 /991 Model 209 except 209.475 Model 211 except 211.076 /261 /265 /270 /276 Model 463 with engine 113.962 Model 463 with engine 113.982 Model 211.076 / 276 Model 215.374, 220.074 /174 Model 203 with engine 113 Model 171 Model 209.475 Model 211.261 /265 /270 	AR15.10-P-2000A  AR15.10-P-2000RVK AR15.10-P-2000AC  *BA15.10-P-1002-03A
13	Install chain tensioner (2)	Model 129, 463 Model 163 except 163.174 /175 Model 202, 208, 210 with engine 113 Model 170, 202, 203, 208, 209, 210 with engine 112 Model 163.174/ 175 Model 209.375 /475 Model 209.376 /476 up to 23.4.04 Model 203 with engine 113 Model 209.376/ 476 as of 24.4.04 Model 211.0 with engine 112, 113 Model 211.276 Model 215 Model 220, 230 with engine 112, 113	AR05.10-P-7800C  AR05.10-P-7800CA  AR05.10-P-7800AC  AR05.10-P-7800AM

		Model 211.2 except 211.276 with engine 112, 113 Model 171 with engine 113	
14	Check engine valve timing		AR05.10-P-6858V
15	Install cylinder head covers	Air filter mounted on vehicle Air filter mounted on engine	AR01.20-P-5014B AR01.20-P-5014BV

**[Nm] Camshaft**

Number	Designation	Engine 112 except 112.951/976	Engine 112.951/ 976
BA05.20-P-1001-01B	Bolt, camshaft sprocket	M12×45 Stage 1 Nm Stage 2 $\Delta$ °	50 90 50 90

**[Nm] Camshaft**

Number	Designation	Engine 113.940/941/ 942/943/944/ 948/961/962/ 963/964/965/ 966/967/968/ 969/971/980/ 981/982/984/ 986/992/995
BA05.20-P-1001-01B	Bolt, camshaft sprocket	M12×45 Stage 1 Nm Stage 2 $\Delta$ °
		50 90

**[Nm] Camshaft**

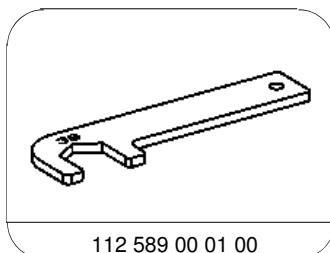
Number	Designation	Engine 113.960 without code 479	Engine 113.960 with code 479
BA05.20-P-1001-01B	Bolt, camshaft sprocket	M12×45 Stage 1 Nm Stage 2 $\Delta$ °	50 90 50 90

**[Nm] Camshaft**

Number	Designation	Engine 113.987/988/ 990/993	Engine 113.991
BA05.20-P-1001-01B	Bolt, camshaft sprocket	M12×45 Stage 1 Nm Stage 2 $\Delta$ °	50 90 50 90

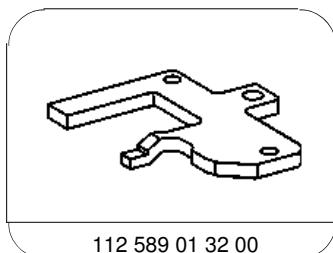
**Nm Position sensor**

Number	Designation	Engine	Engine	Engine
		112.910/911/ 912/913/914/ 915/916/917/ 920/921/922/ 923/940/941/ 942/943/944/ 945/946/947/ 949/951/953/ 954/955/960/ 961/970/972/ 973/975/976	113.940/941/ 942/943/944/ 948/960/961/ 962/963/964/ 965/966/967/ 968/969/971/ 980/981/982/ 984/986/992/ 993/995	113.987/ 988/990/ 991
BA15.10-P-1002-03A	Camshaft Hall sensor to cylinder head	Nm	8	8
				8



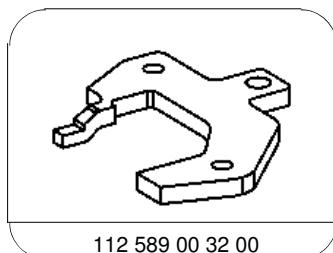
112 589 00 01 00

Open end wrench



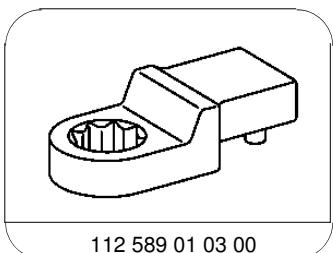
112 589 01 32 00

Locating plate



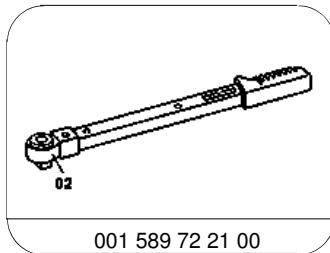
112 589 00 32 00

Locating plate



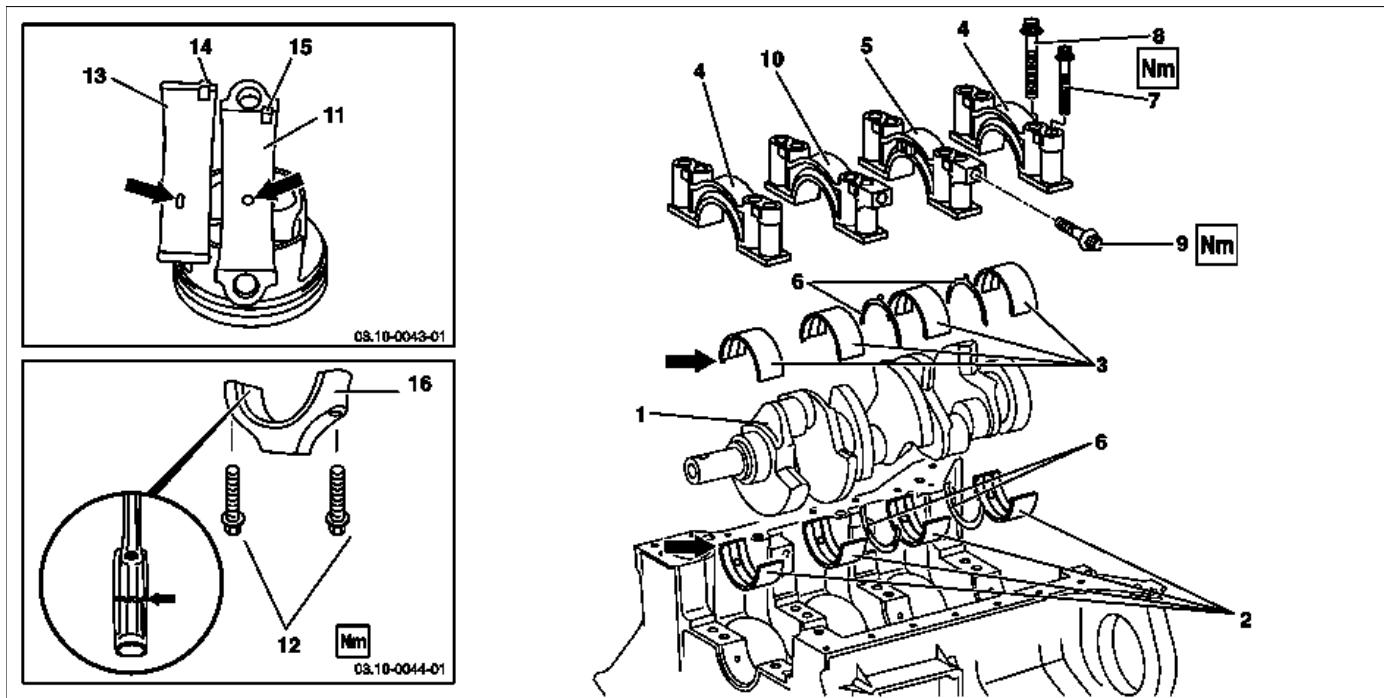
112 589 01 03 00

Insertion tool



001 589 72 21 00

Torque wrench



P03.20-2023-09

1	Crankshaft	6	Thrust plate	10	Crankshaft bearing cap
2	Crankshaft bearing shell with oil drilling and oil groove (crankcase)	7	Crankshaft bearing bolts (M8x75 Torx)	11	Connecting rod
3	Crankshaft bearing shell	8	Crankshaft bearing bolts (M10x90 Torx)	12	Connecting rod bolts
4	Crankshaft bearing cap	9	Crankshaft bearing bolts at side (M8x40 Torx)	13	Connecting rod bearing shell
5	Fitted bearing			14	Anti-twist lock
				15	Groove
				16	Connecting rod bearing cap

#### Modification notes

27.2.04	Figure modified from 30 Nm and 90 $\Delta$ ° to 5 Nm, 30 Nm and 90 $\Delta$ °	Figure in BA03.20-P-1003-01D of ENGINE 112, 113 modified	<a href="#">*BA03.20-P-1003-01D</a>
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	Removing		
	<b>Danger!</b> Risk of death caused by vehicle slipping or toppling off the lifting platform.	Align vehicle between columns of vehicle lift and position four support plates at vehicle lift support points specified by vehicle manufacturer.	<a href="#">AS00.00-Z-0010-01A</a>
1	Remove engine	Model 463 Model 220 without 4MATIC Model 220 with 4MATIC Model 210 with 4MATIC Model 210 without 4MATIC, 208, 202, 129 Model 211.061/065 Model 203 without 4MATIC, 209 Model 203 with 4MATIC Model 170 Model 163	AR01.10-P-2400CC AR01.10-P-2400AB AR01.10-P-2400IW AR01.10-P-2400C <a href="#">AR01.10-P-2400CB</a> AR01.10-P-2400TC AR01.10-P-2400PV AR01.10-P-2400PW AR01.10-P-2400SV AR01.10-P-2400CA
2.1	Remove automatic transmission from engine	Model 463 Model 220 without 4MATIC Model 220 with 4MATIC Models 210, 208, 202, 170, 129 Model 211.061/065 Model 203 without 4MATIC, 209 Model 203 with 4MATIC Model 163	AR27.10-P-0500BD AR27.10-P-0500I AR27.10-P-0500IW <a href="#">AR27.10-P-0500B</a> AR27.10-P-0500T AR27.10-P-0500P AR27.10-P-0500PW AR27.10-P-0500GH
2.2	Remove manual transmission from engine	Model 210, 202, 129 Model 211.061 Model 203, 209 Model 170 Model 208 with transmission 716.6	AR26.10-P-0020A AR26.10-P-0020T AR26.10-P-0020P AR26.10-P-0020D AR26.10-P-0020D

		Model 208 with transmission 716.6 (code 424)	AR26.10-P-0020E
3	Remove oil pan top section	Model 463 Model 220 without 4MATIC Model 220 with 4MATIC Model 210 with 4MATIC Model 210 without 4MATIC Model 211.061/065 Model 208, 202 Model 203 without 4MATIC, 209 Model 203 with 4MATIC Model 170 Model 163 Model 129	AR01.45-P-7500FG AR01.45-P-7500I AR01.45-P-7500IW AR01.45-P-7500FA AR01.45-P-7500F AR01.45-P-7500TV <b>AR01.45-P-7500FC</b> AR01.45-P-7500PV AR01.45-P-7500PW AR01.45-P-7500SV AR01.45-P-7500FB AR01.45-P-7500FD
4	Remove oil pump	<b>i</b> For this step, push back chain tensioner and take off chain. Model 129, 163, 170, 202, 208.365 /465, 210, 220 without 4MATIC, 463 Model 203 without 4MATIC, 209, 211.061/065 Model 203 with 4MATIC, 220 with 4MATIC	<b>AR18.10-P-6020B</b> AR18.10-P-6020PV AR18.10-P-6020PW
5	Detach belt pulley/vibration damper	Model 129, 463, 163 Model 170, 202, 203, 208.365/465, 209, 210, 211.061/065, 220	AR03.30-P-1600C <b>AR03.30-P-1600CA</b>
6	Detach flywheel/driven plate		<b>AR03.30-P-8001C</b>
7	Take off end cover		<b>AR01.40-P-8913B</b>
8	Take off timing case cover	Model 463 Model 220, 210 without 4MATIC, 208, 202, 129, 163, 170 Model 210 with 4MATIC Model 203, 209, 211.061/065	AR01.40-P-8000GV <b>AR01.40-P-8000B</b> AR01.40-P-8000V AR01.40-P-8000PV
9	Remove connecting rod bearing cap (16)	<b>i</b> While turning the crankshaft, ensure that the connecting rods (11) do not get jammed. <b>i</b> For this step, mark connecting rod (11) and connecting rod bearing cap (16) on one side relative to each other.	
10	Unscrew crankshaft bearing cap bolts	<b>i</b> Pay attention to the bolt release pattern: Bolt tightening procedure for crankshaft bearing cap(s)	<b>AR03.20-P-4351-02AV</b>
11	Remove the crankshaft bearing caps (4, 10) and fitted bearing (5)	<b>i</b> Before removing, mark crankshaft bearing caps (4, 10) and fitted bearing (5). Carefully lever out crankshaft bearing caps (10) and (5).	
12	Take crankshaft (1) out of crankcase		
13	Take crankshaft bearing shells (2) and thrust washers (6) out of the crankcase		
<b>☒</b>	<b>Install</b>		
14	Insert crankshaft (1)	<b>i</b> Oil crankshaft journals and crankshaft bearing shells (2) If a new crankshaft is being installed If crankshaft is being repaired	<b>AR03.20-P-4341-01CV</b> <b>AR03.20-P-4341-01CVA</b>
15	Tighten crankshaft bearing caps	<b>!*</b> Always fit new crankshaft bearing cap bolts M8X75 and M10X90, otherwise there is a risk of cracks and fracture. Tighten all bolts (M10, M8) at the same time, as specified in the tightening diagram.	
		Tightening procedure	<b>AR03.20-P-4351-02AV</b>
		<b>Nm</b> Bolt (7) <b>Nm</b> Side bolt (9) <b>Nm</b> Bolt (8)	* <b>BA03.20-P-1001-01D</b> * <b>BA03.20-P-1002-01D</b> * <b>BA03.20-P-1003-01D</b>
16.1	Check axial play of crankshaft	If a new crankshaft is being installed	<b>AR03.20-P-4291-03AV</b>
17	Check connecting rod bolts (12)	<b>☛</b> Check values: ↓ Thread and shank length	<b>AR03.10-P-6111-01BV</b> * <b>BE03.10-P-1001-03A</b>
18	Install connecting rod bearings and fit the connecting rod bearing cap (16)	<b>!*</b> The connecting rod bearing shell (13) with oil drilling (arrowed) must be mounted in the connecting rod (11), otherwise the connecting rod bearings will not be lubricated. The anti-twist locks (14) of the connecting rod bearing shells (13) must be located in the grooves (15) in the connecting rod (11) and the connecting rod bearing cap (16).	<b>AR03.10-P-6111-06AV</b>

		<p> The connecting rod (11) and connecting rod bearing cap (16) are cracked (broken) (see zoomed section). They must not be installed on the wrong side, as dimensional accuracy would be lost.</p>	
19	Tighten connecting rod bolts (12)	<p> <b>Nm</b></p>	AR03.10-P-6111-02BV *BA03.10-P-1001-01E
20	Rotate crankshaft	To check for unobstructed movement.	
21	Fit on end cover	Fit a new radial sealing ring. The sealing lip of radial sealing ring and its mating surface must not be oiled or greased. Pay attention to the fitted sleeves when pressing on the end cover.	AR01.40-P-8913B
22	Mount flywheel/drive plate		AR03.30-P-8001C
23	Mount timing case cover	Replace the O-rings and radial sealing ring. The sealing lip of radial sealing ring and its mating surface must not be oiled or greased. Pay attention to fitted sleeves when pressing on end cover! Model 463 Model 220, 210 without 4MATIC, 208, 202, 129, 163, 170 Model 210 with 4MATIC Model 203, 209, 211.061/065	AR01.40-P-8000GV AR01.40-P-8000B AR01.40-P-8000V AR01.40-P-8000PV
24	Mount belt pulley/vibration damper	Model 129, 463, 163 Model 170, 202, 203, 208.365/465, 209, 210, 211.061/065, 220	AR03.30-P-1600C AR03.30-P-1600CA
25	Mount oil pump	Ensure that the oil return shutoff valve is correctly located. Clean oil pump strainer. Fill oil pump with engine oil before installing, so that oil is delivered at the initial startup. Model 129, 163, 170, 202, 208.365 /465, 210, 220 without 4MATIC, 463 Model 203 without 4MATIC, 209, 211.061/065 Model 203 with 4MATIC, 220 with 4MATIC	AR18.10-P-6020B AR18.10-P-6020PV AR18.10-P-6020PW
26	Fit oil pan top section	Model 463 Model 220 without 4MATIC Model 220 with 4MATIC Model 210 with 4MATIC Model 210 without 4MATIC Model 211.061/065 Model 208, 202 Model 203 without 4MATIC, 209 Model 203 with 4MATIC Model 170 Model 163 Model 129	AR01.45-P-7500FG AR01.45-P-7500I AR01.45-P-7500IW AR01.45-P-7500FA AR01.45-P-7500F AR01.45-P-7500TV AR01.45-P-7500FC AR01.45-P-7500PV AR01.45-P-7500PW AR01.45-P-7500SV AR01.45-P-7500FB AR01.45-P-7500FD
27	Check engine valve timing		AR05.10-P-6858V
28.1	Fit automatic transmission	Model 463 Model 220 without 4MATIC Model 220 with 4MATIC Models 210, 208, 202, 170, 129 Model 211.061/065 Model 203 without 4MATIC, 209 Model 203 with 4MATIC Model 163	AR27.10-P-0500BD AR27.10-P-0500I AR27.10-P-0500IW AR27.10-P-0500B AR27.10-P-0500T AR27.10-P-0500P AR27.10-P-0500PW AR27.10-P-0500GH
28.2	Fit on manual transmission	Model 129, 210, 202 Model 211.061 Model 203, 209 Model 170 Model 208 with transmission 716.6 Model 208 with transmission 716.6 (code 424)	AR26.10-P-0020A AR26.10-P-0020T AR26.10-P-0020P AR26.10-P-0020D AR26.10-P-0020D AR26.10-P-0020E
29	Install engine	Model 463 Model 220 without 4MATIC Model 220 with 4MATIC Model 210 with 4MATIC Model 210 without 4MATIC, 208, 202, 129. Model 211.061/065 Model 203 without 4MATIC, 209 Model 203 with 4MATIC	AR01.10-P-2400CC AR01.10-P-2400AB AR01.10-P-2400IW AR01.10-P-2400C AR01.10-P-2400CB AR01.10-P-2400TC AR01.10-P-2400PV AR01.10-P-2400PW

## Test specifications for connecting rod bolts

Number	Designation			Engine 112 except 112.951/976, Engine 113.94/96/971/ 980/981/982/ 984/986
BE03.10-P-1001-03A	Connecting rod bolts	Thread dia.	M	8x1
		Shank length	New	mm 47
			max.	mm 47.6

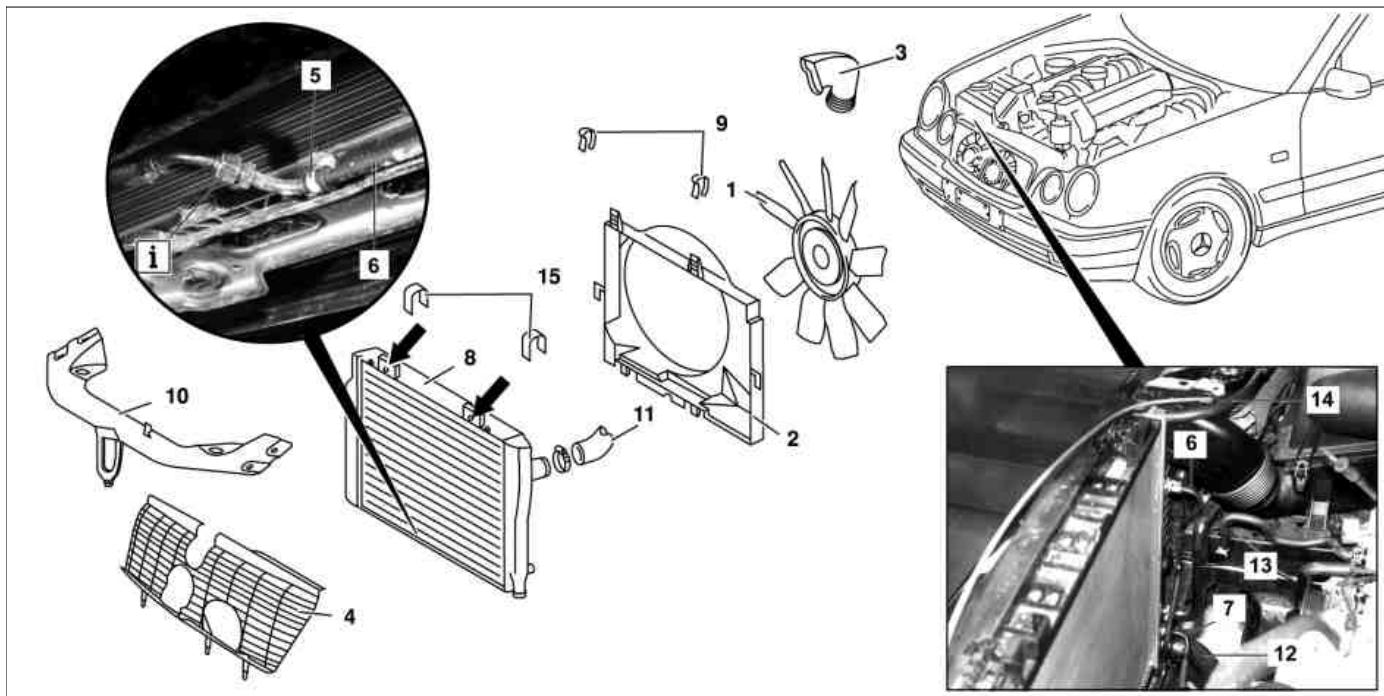
## Nm Connecting rod

Number	Designation	Engines 112, 113		
BA03.10-P-1001-01E	Connecting rod bolt	Stage 1	Nm	5
		Stage 2	Nm	25
		Stage 3	Δ°	90

## Nm Crankshaft bearing cap

Number	Designation	Engines 112, 113		
BA03.20-P-1001-01D	Bolt for crankshaft bearing cap	M8	Stage 1	Nm 20
			Stage 2	Δ° 90
BA03.20-P-1002-01D	Side crankshaft bearing cap bolt	M8	Stage 1	Nm 30
			Stage 2	Δ° -
BA03.20-P-1003-01D	Bolt for crankshaft bearing cap	M10	Stage 1	Nm 5
			Stage 2	Nm 30
			Stage 3	Δ° 90

ENGINE 112 in MODEL 210, 208, 202  
 ENGINE 113 in MODEL 210, 208, 202



P20.20-2006-09

Shown on model 210 with M112 without 4-Matic

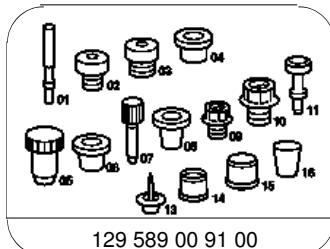
1 Viscous fan	9 Clamp fan shroud
2 Fan shroud	10 Radiator crossmember
3 Air inlet pipe of air filter	11 Coolant line (radiator → thermostat housing)
4 Protective grille	12 Coolant line (radiator → coolant pump)
5 Bracket of ATF line	13 Coolant line (expansion tank → radiator)
6, 7 ATF line	14 Coolant line (expansion tank → radiator)
8 Radiator	15 Clamp radiator

	Remove/install		
1	Remove engine panel		AR61.20-P-1105AB
⚠ Danger!	<b>Risk of injury</b> to skin and eyes caused by scalding from contact with hot coolant spray. <b>Risk of poisoning</b> caused by swallowing coolant.	Do not open cooling system unless coolant temperature is below 90°C. Open cap slowly and release the pressure. Do not pour coolant into beverage containers. Wear protective gloves, protective clothing and safety glasses.	AS20.00-Z-0001-01A
2	Drain coolant at radiator, pour in		AR20.00-P-1142HA
3.1	Remove viscous fan (1)	All except models 208.365/465 <span style="border: 1px solid black; padding: 2px;">i</span> Right-hand thread!	AR20.40-P-5660C
4	Remove fan shroud (2).	- On vehicles with suction fan, first disconnect connector for suction fan.	
5.1	Remove protective grille (4)	Only on model 208 with engine 113 and on model 210, 202	
6.1	Unscrew bracket (5) of ATF line (6) from lower radiator (8)	All except model 210 with model 113	
7	Detach ATF lines (6, 7) at radiator	<span style="border: 1px solid black; padding: 2px;">i</span> Model 210 with engine 113: Disconnect ATF lines (6, 7) from rubber hoses and plug in connections. <span style="border: 1px solid black; padding: 2px;">S</span> <span style="border: 1px solid black; padding: 2px;">Nm</span> <span style="border: 1px solid black; padding: 2px;">Nm</span>	*129589009100 *BA20.20-P-1003-01A *BA20.20-P-1001-01A
8.1	Remove air inlet pipe (3) of air filter	Only on model 210 with engine 112, 113 Model 208 with engine 113 <span style="border: 1px solid black; padding: 2px;">i</span> On model 208 with engine 113 both air inlet pipes must be removed.	
9	Remove clamps (15)		
10.1	Remove radiator crossmember (10)	All except model 210 with 4-MATIC	

11	Unplug coolant line (11, 12, 13) at radiator		
12.1	Unplug coolant line (14) at radiator (8)	Only on model 210 with engine 112, 113 Model 208 with engine 113 <b>[i]</b> On model 208 the coolant line (14) is mounted on upper left radiator.	
13	Unscrew capacitor at radiator (see arrows)		
14	Remove radiator (8)	<b>Installation:</b> The studs on the radiator must be located at the bottom in the rubber mounts on the crossmember.	
15	Install in the reverse order		
16	Pour in coolant		AR20.00-P-1142HA
<b>⚠ Danger!</b>	<b>Risk of accident</b> caused by vehicle starting off by itself when engine is running. <b>Risk of injury</b> caused by contusions and burns during starting procedure or when working near the engine as it is running	Secure vehicle to prevent it from moving by itself. Wear closed and snug-fitting work clothes. Do not touch hot or rotating parts.	AS00.00-Z-0005-01A
17	Check oil level in automatic transmission, correct if necessary		AR27.00-P-0100AC
18	Inspect cooling system for leaks		AR20.00-P-1010HA

#### Radiator, coolant hoses

Number	Designation	Engine 112 except 112.942/970, engine 113.940/941/ 943/944/945/ 946/948/960/ 961/962/963/ 966/967/968/ 969/980/982/ 984/986/992/ 993/995	Engine 112.942/ 970, 113.942/ 965/981
BA20.20-P-1001-01A	Union nut, automatic transmission oil line to radiator	Nm	20
BA20.20-P-1003-01A	Banjo bolt	M12x1.5 Nm	30



Set of stop plugs

ENGINE 112 in MODEL 202, 208.365 /465, 210, 220.063 /065 /067 /087 /163 /165 /167 /187

ENGINE 113 in MODEL 215.373 /375, 220.070 /073 /075 /083 /084 /170 /173 /175 /183 /184 /875

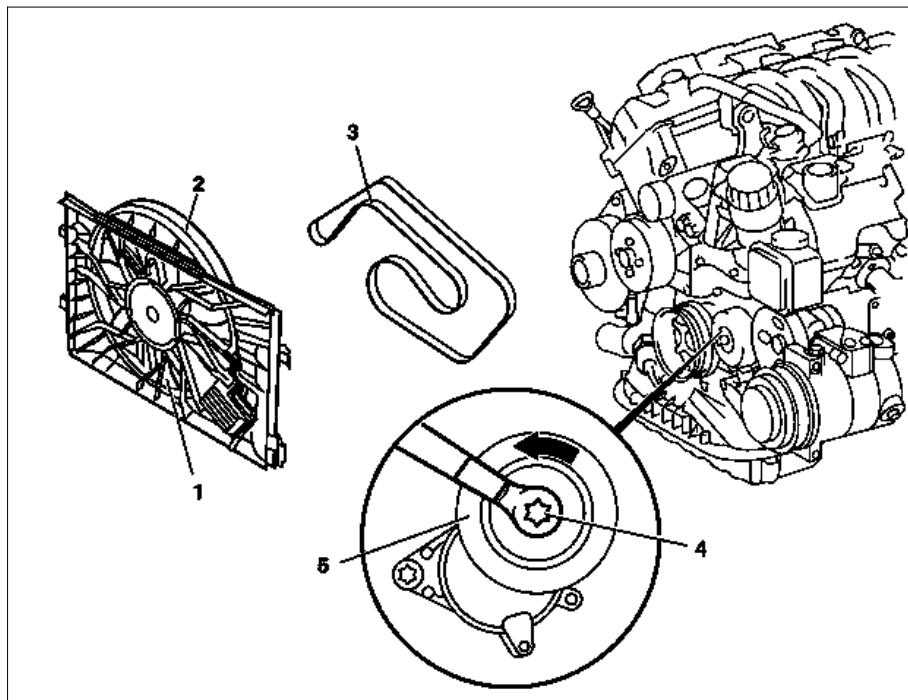
ENGINE 113.981 in MODEL 163.174

ENGINE 113.965 in MODEL 163.175

ENGINE 113.984 in MODEL 208.374 /474

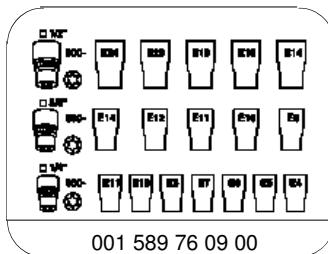
Shown on engine 112

- 1 Electric fan
- 2 Fan shroud
- 3 Poly-V-belt
- 4 Stud bolt
- 5 Tensioning pulley



P13.22-2030-06

<input checked="" type="checkbox"/>	Remove		
1.1	Remove fan shroud (2) with electric fan (1)	For models 163.174/175 only.	AR20.40-P-5000GH
2	Loosen and remove the poly-V-belt (3)	<p><b>[i]</b> For this step, swivel stud bolt (4) at tensioning pulley (5) in anti-clockwise direction. Lock the tension pulley with a pin or mandrel (diameter 5mm).</p> <p><b>[S]</b> External torx set</p>	<b>*001589760900</b>
<input checked="" type="checkbox"/>	<b>Check</b>		
3	Inspect belt pulley sections and tensioning device for damage and dirt		
4 	Check poly-V-belt (3) Check poly-V-belt in visible area for wear	Engine 112, 113 except 113.965/981 Engine 113.981/965 in model 163	<b>AP13.22-P-1352Z</b> AP13.22-P-1351GH
<input checked="" type="checkbox"/>	Install		
5	Fit on poly-V-belt (3), then clamp	<p><b>[i]</b> Do not use belt wax or any similar products.</p> <p>Proceed by the numbered sequence of the respective belt routing pattern, starting with the tension pulley: ↓</p> <p>Routing diagram of poly V-belt</p>	<b>AR13.22-P-3902-02B</b>
6.1	Install fan shroud (2) with electric fan	For models 163.174/175 only.	AR20.40-P-5000GH



001 589 76 09 00

External Torx set

## ENGINES 112

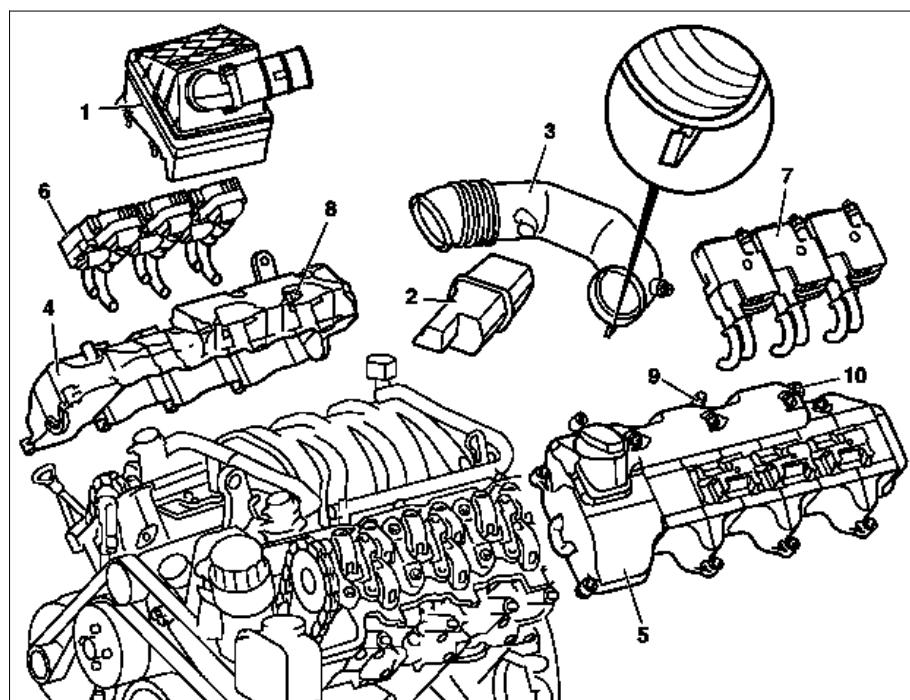
Air filter positioned at vehicle side

## ENGINES 113

Air filter positioned at vehicle side

## Shown on engine 112

- 1 Air cleaner housing
- 2 Resonance unit
- 3 Resonance tube
- 4 Right cylinder head cover
- 5 Left cylinder head cover
- 6 Right ignition coils
- 7 Left ignition coils
- 8 Right connection
- 9 Left connection
- 10 Left connection



P01.20-0221-06

<input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	Remove/install		
<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/> External torx set <input checked="" type="checkbox"/> Torx bit set	<a href="#">*001589760900</a> <a href="#">*000589011000</a>
1	Remove engine trim panel		
2	Remove air filter housing (1).		
3	Remove resonance body (2)		
4	Remove the resonance tube (3) with hot film mass air flow sensor	<input checked="" type="checkbox"/> At this time pull out the hot film mass air flow sensor plug. <b>Removal:</b> Pay attention to the mounting projection of the resonance tube (3)! All except model 163 with engine 113.942/981 Model 163 with engine 113.942/981	<a href="#">AR07.07-P-1454A</a> <a href="#">AR07.07-P-1454MV</a>
5	Unbolt dipstick guide tube of automatic transmission		
6	Unbolt ignition coils (6, 7) at cylinder head covers	<input checked="" type="checkbox"/> *BA01.20-P-1002-01E	<a href="#">AR15.12-P-2003A</a>
7	Disconnect spark plug connectors	<input checked="" type="checkbox"/> Pay attention to markings for spark plug connectors on cylinder head covers and ignition coils <input checked="" type="checkbox"/>	<a href="#">*110589010100</a>
8	Detach the vacuum hoses at connections (8, 9) of the cylinder head covers		
9	Detach crankcase ventilation hose at cylinder head cover fitting (10)	<input checked="" type="checkbox"/> Only on left side.	
<b><span style="color: red;">⚠ Danger!</span></b>	<b>Risk of explosion</b> caused by ignition of flammable products, <b>risk of poisoning</b> caused by inhaling fuel vapors or swallowing fuel as well as <b>risk of injury</b> to skin and eyes exposed to fuel.	No fire, sparks, open flames or smoking. Pour fuels only into suitable and appropriately marked containers. Wear protective clothing when handling fuel.	<a href="#">AS47.00-Z-0001-01A</a>
10	Disconnect fuel line at fuel rail	<input checked="" type="checkbox"/> Only in case of vehicles with a non-flexible fuel line. Release fuel pressure through service valve!	

		Pressure hose  	*119589046300 *BA07.52-P-1001-01A *BA07.52-P-1001-01A
11	Remove cylinder head covers (4, 5)	 <b>Installation:</b> Ensure cylinder head cover gasket is correctly installed.	*BA01.20-P-1001-01E AR01.20-P-5014-01B
12	Install in the reverse order		
<b>Danger!</b>	<b>Risk of accident</b> caused by vehicle starting off by itself when engine is running. <b>Risk of injury</b> caused by contusions and burns during starting procedure or when working near the engine as it is running	Secure vehicle to prevent it from moving by itself. Wear closed and snug-fitting work clothes. Do not touch hot or rotating parts.	AS00.00-Z-0005-01A
13	Check for leaks with engine running		

**Crankcase ventilation, cylinder head cover**

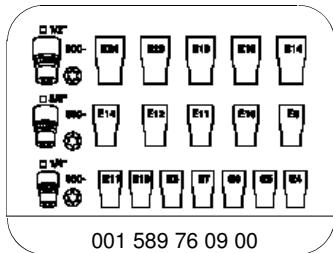
Number	Designation	Engine 112	Engine 113
BA01.20-P-1001-01E	Cylinder head cover bolt	Stage 1 Nm 9	9
		Stage 2 $\Delta^\circ$ -	-
BA01.20-P-1002-01E	Bolt, ignition coils to cylinder head cover	Nm 8	8

**Fuel distributor**

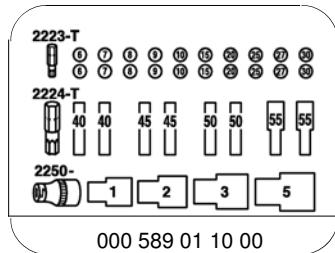
Number	Designation	Engine 112 except 112.945/951/960/961	Engine 112.945	Engine 112.951/976	Engine 112.960/961 AMG
BA07.52-P-1001-01A	Fuel feed line to fuel distributor	Nm 38	38	24	35

**Fuel distributor**

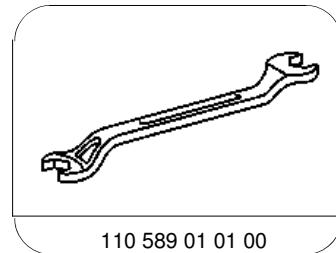
Number	Designation	Engine 113.987	Engine 113.990/991	Engine 113.992/993/995	Engine 113.940/941/942/943/944/945/946/948/960/961/962/963/964/965/966/967/968/969/971/980/981/982/984/986/988
BA07.52-P-1001-01A	Fuel feed line to fuel distributor	Nm 38	38	38	38



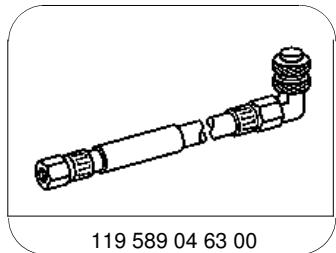
External Torx set



Torx bit set



Open-end wrench, double



Pressure hose

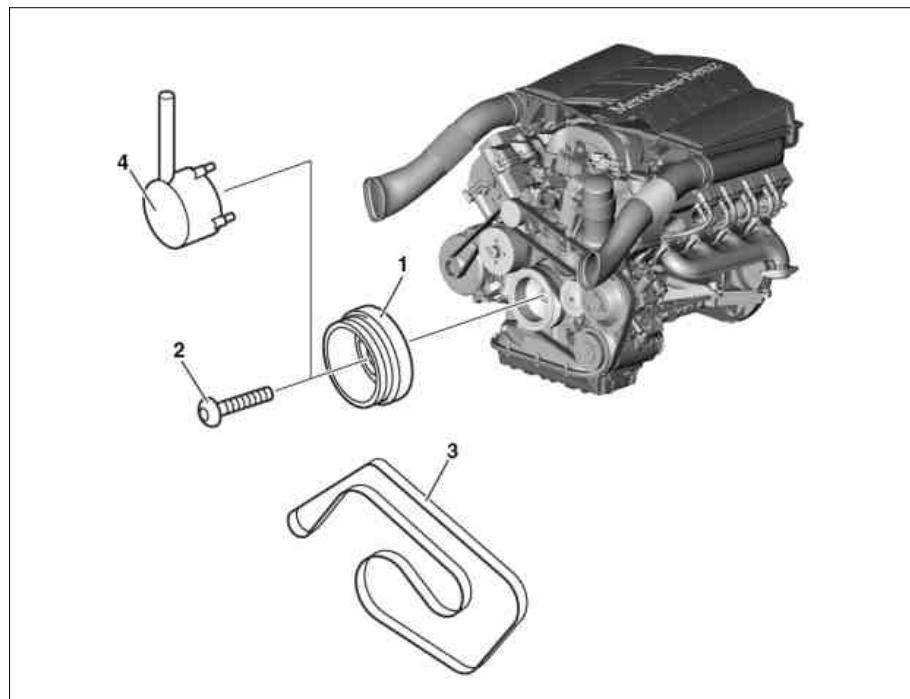
ENGINES 112.947 in MODEL 170  
 ENGINES 112 in MODELS 202, 208, 209, 210, 220  
 ENGINES 113 in MODEL 209  
 ENGINES 113 (except 113.991) in MODEL 215, 220  
 ENGINES 112.913 in MODEL 211.061 /261  
 ENGINES 112.949 in MODEL 211.065 /265  
 ENGINES 113.967 in MODEL 211.070 /270  
 ENGINES 113.981 in MODEL 163.174  
 ENGINES 113.963 in MODEL 230.475  
 ENGINES 112.973 in MODEL 230.467  
 ENGINES 112.917 in MODELS 211.080 /280  
 ENGINES 112.954 in MODEL 211.082 /282  
 ENGINES 113.969 in MODEL 211.083 /283  
 ENGINES 113.988 in MODEL 203.076 /276  
 ENGINES 113.989 in MODEL 171.473

1 Belt pulley/vibration damper

2 Center bolt

3 Poly-V belt

4 Counterholder



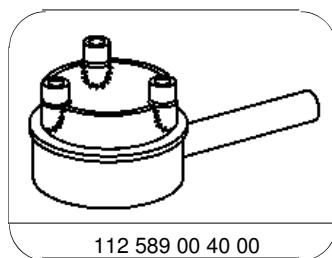
P03.30-2109-06

	Remove/install		
<b>⚠ Danger!</b>	<b>Risk of death</b> caused by vehicle slipping or toppling off of the lifting platform.	Align vehicle between columns of vehicle lift and position four support plates at vehicle lift support points specified by vehicle manufacturer.	<b>AS00.00-Z-0010-01A</b>
1	Remove engine compartment paneling	Model 163 Model 171	AR61.20-P-1105GH AR61.20-P-1105V
2.1	Remove front engine cover	Model 211.061 /065 /070 /080 /082 /083 /261 /265 /270 /280 /282 /283	
2.2	Remove air filter housing	Model 163.174 with engine 113.981 Model 170 with engine 112.947 Model 202, 208, 209, 210, 220 with engine 112 Model 209 with engine 113 except engine 113.987 from 24.04.04 Model 215, 220 with engine 113 Model 230.467 with engine 112.973 Model 230.475 with engine 113.963 Model 171.473 with engine 113.989 Model 203.076 /276 with engine 113.988 Model 209.376 /476 with engine 113.987 as of 24.04.04	AR09.10-P-1150AC
3.1	Remove electric fan	Model 163 Model 170.465 Model 209 with engine 113	AR20.40-P-5000GH AR20.40-P-5000SV AR20.40-P-5000PV
3.2	Remove fan shroud	Model 171.473 Model 211.070 /270 /083 /283 Model 202, 208	AR20.40-P-6800VT AR20.40-P-6800TB

4	Remove poly-V belt (3)	Models 163.174, 202, 208, 210, 215, 220 Model 170.465 Model 171.473 Model 203.076 /276 Model 209.361/ 365/ 375/ 376/ 461/ 465/ 475/ 476 Model 211.061 /065 /070 /080 /082 /083 /261 /265 /270 /280 /282 /283 Model 230.467/ 475	AR13.22-P-1202BA AR13.22-P-1202SV AR13.22-P-1202PV AR13.22-P-1202R
5	Remove center bolt (2)	<b>[i] Installation:</b> The center bolt (2) should always be replaced. <b>[i] Installation:</b> To set the rotation angle, make two guide marks on the counterholder (4). <b>[i] Use extension.</b>  	*BA03.30-P-1001-01D *112589004000
6	Detach belt pulley/vibration damper (1) from crankshaft	<b>[i] Installation:</b> The groove on belt pulley/vibration damper (1) must engage in feather key of the crankshaft.	
	<b>Checking</b>		
7	Check belt pulley/vibration damper (1) for faults		
8	Check tread on crankshaft radial sealing ring at hub of belt pulley/vibration damper (1)	<b>[i] Check for scoring and galling, if necessary, replace belt pulley/vibration damper (1).</b>	
9	Replace front crankshaft radial sealing ring	<b>[i] Only when replacing belt pulley/vibration damper (1) or in the event of a leak at crankshaft radial sealing ring.</b> Except model 230.467 Model 230.467	AR03.20-P-3000BA AR03.20-P-3000R
10	Install in the reverse order		
11	Check engine oil level and replenish oil if necessary		
	<b>Danger!</b> <b>Risk of accident</b> caused by vehicle starting off by itself when engine is running. <b>Risk of injury</b> caused by contusions and burns during starting procedure or when working near the engine as it is running	Secure vehicle to prevent it from moving by itself. Wear closed and snug-fitting work clothes. Do not touch hot or rotating parts.	AS00.00-Z-0005-01A
12	Conduct engine test run and check engine for leaks		

 **Flywheel, driven plate, vibration damper, starter ring gear**

Number	Designation	Engine 112	Engine 113.94/96/ 97/98
BA03.30-P-1001-01D	Central bolt on vibration damper	Stage 1 Nm 200	200
		Stage 2 $\angle$ <sup>°</sup> 90	90

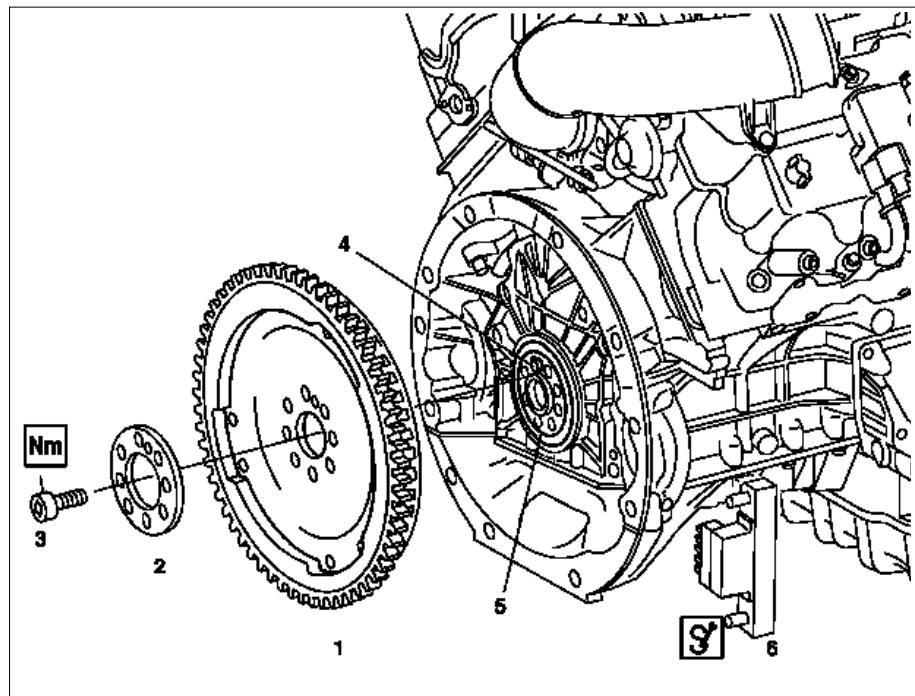


Counterholder

ENGINE 112.945 in MODEL 463.209 /232 /233 /244 /245 /250  
 ENGINE 112 in MODEL 129, 163, 170, 202, 203, 208, 209, 210, 220  
 ENGINE 113.962 in MODEL 463.206 /240 /241 /247 /248 /249 /254  
 ENGINE 113 in MODEL 129, 163, 202, 208, 209, 210, 211.076 /276, 215, 220, 230.474 /475  
 ENGINE 137 in MODEL 215, 220  
 ENGINE 112.913 in MODEL 211.061 /261  
 ENGINE 112.949 in MODEL 211.065 /265  
 ENGINE 113.967 in MODEL 211.070 /270  
 ENGINE 113.987 in MODEL 209.376  
 ENGINE 113.982 in MODEL 463.243 /246  
 ENGINE 112.917 in MODEL 211.080 /280  
 ENGINE 112.954 in MODEL 211.082 /282  
 ENGINE 113.969 in MODEL 211.083 /283

Shown on engine 112 with manual transmission

- 1 Flywheel with starter ring gear
- 2 Washer
- 3 Bolts
- 4 Cylinder pin
- 5 Crankshaft
- 6 Retaining lock



P03.30-0283-06

#### Modification notes

5.7.11	Value modified: Bolt, pressure plate to flywheel or two-mass flywheel	<a href="#">*BA25.10-P-1001-01A</a>
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Remove/install			
<b>⚠ Danger!</b>	Risk of death caused by vehicle slipping or toppling off the lifting platform.	Align vehicle between columns of lifting platform and position the four support plates at lifting platform support points specified by vehicle manufacturer.	<a href="#">AS00.00-Z-0010-01A</a>
1.1	Remove automatic transmission	Model 129, 170, 202, 208, 210 Model 463 Model 463 Model 230.474 /475 Model 215, 220 without 4MATIC with engine 112, 113 Model 220, 211 with 4MATIC with engine 112, 113 Model 215, 220 with engine 137 Model 203 without 4MATIC, 209 with engine 112, 113 Model 203 with 4MATIC Model 211 without 4MATIC with engine 112, 113 Model 163 with engine 112, 113	<a href="#">AR27.10-P-0500B</a> <a href="#">AR27.10-P-0500BD</a> <a href="#">AR27.10-P-0500GA</a> <a href="#">AR27.10-P-0500R</a> <a href="#">AR27.10-P-0500I</a> <a href="#">AR27.10-P-0500IW</a> <a href="#">AR27.10-P-0500I</a> <a href="#">AR27.10-P-0500P</a> <a href="#">AR27.10-P-0500PW</a> <a href="#">AR27.10-P-0500T</a> <a href="#">AR27.10-P-0500GH</a>
1.2	Remove manual transmission	Model 210, 202, 129 with engine 112 Model 203, 209 with engine 112 Model 211 with engine 112 Model 170	<a href="#">AR26.10-P-0020A</a> <a href="#">AR26.10-P-0020P</a> <a href="#">AR26.10-P-0020T</a> <a href="#">AR26.10-P-0020D</a>

1.3	Remove Sequentronic automated manual transmission (AMT)	Model 203, 208, 209.3 with engine 112 Model 211.0 with engine 112	AR26.10-P-0020E AR26.10-P-0020TA
2	Install retaining lock (6) for crankshaft (5) and starter ring gear		AR03.30-P-5000B
3.1	Detach clutch	Vehicles with manual transmission <b>i</b> Only unscrew or screw in bolts by 1 to 1.5 turns at a time Model 129, 163, 170, 202, 208, 210 Model 203, 209, 211 <b>Nm</b> Bolt, pressure plate to flywheel or two-mass flywheel	AR25.10-P-0050A AR25.10-P-0050P *BA25.10-P-1001-01A
4	Remove bolts (3) of flywheel or of drive plate	<b>i</b> <b>Installation:</b> Replace bolts, because if they are used again, the connection may loosen and the bolts may shear off. <b>Nm</b> Torx bolts of two-mass flywheel/driven plate at crankshaft	*BA03.30-P-1002-01D
5	Remove washer (2)		
6	Remove flywheel with starter ring gear (1) and drive plate <b>GF</b> Flywheel, two-mass flywheel, drive plate, location	<b>i</b> <b>Installation:</b> The cylinder pin (4) determines the installation position. Engine 112, 113	GF03.30-P-8001-01B
7	Install in the reverse order		
8	Carry out initialization	<b>i</b> If a new flywheel or drive plate is installed, perform initialization in ME control unit with STAR DIAGNOSIS in menu item "Control unit adaptation". STAR DIAGNOSIS diagnosis system	

**Nm Flywheel, driven plate, vibration damper, starter ring gear**

Number	Designation	Engine 112		
BA03.30-P-1002-01D	Bolt, two-mass flywheel/drive plate to crankshaft	Stage 1	Nm	45
		Stage 2	°	90

**Nm Flywheel, driven plate, vibration damper, starter ring gear**

Number	Designation	Engine 113.94/96/97/98	Engine 113.990/991/992/993/995	Engine 137
BA03.30-P-1002-01D	Bolt, two-mass flywheel/drive plate to crankshaft	Stage 1	Nm	45
		Stage 2	°	90

**Nm Clutch**

Number	Designation	Model 129, 140, 163, 170, 202, 203, 208, 209, 210, 211, 230	Model 461, 463

BA25.10-P-1001-01A	Bolt of pressure plate to flywheel or two-mass flywheel	Stage 1 Nm	16	16
		Stage 2 Nm	25	25

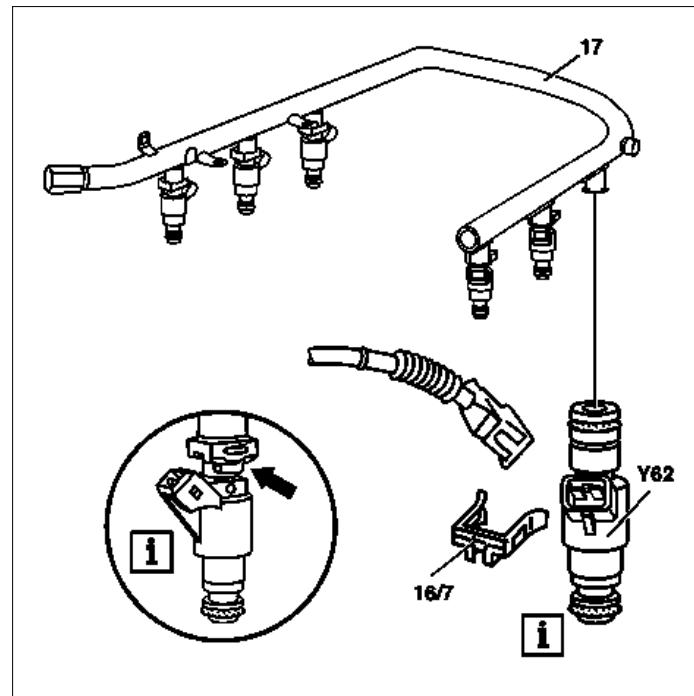
ENGINE 112.910 in MODEL 202.026 /086  
 ENGINE 112.920 in MODEL 202.089 /029  
 ENGINE 112.921 in MODEL 210.081 /281 /063 /263  
 ENGINE 112.922 in MODEL 220.063 /163  
 ENGINE 112.923 in MODEL 129.059  
 ENGINE 112.940 in MODEL 208.365 /465  
 ENGINE 112.941 in MODEL 210.282 /065 /082 /265  
 ENGINE 112.942 in MODEL 163.154  
 ENGINE 112.943 in MODEL 129.064  
 ENGINE 112.944 in MODEL 220.165 /065  
 ENGINE 113.940 in MODEL 210.070 /270  
 ENGINE 113.941 in MODEL 220.070 /170  
 ENGINE 113.960 in MODEL 215.375, 220.075 /175  
 ENGINE 113.961 in MODEL 129.068  
 ENGINE 112.945, 113.962 /982 in MODEL 463  
 ENGINE 113.980 in MODEL 210.074 /274  
 ENGINE 113.944 in MODEL 202.033 /093  
 ENGINE 113.942 in MODEL 163.172  
 ENGINE 113.943 in MODEL 208.370 /470  
 ENGINE 113.984 in MODEL 208.374  
 ENGINE 113.981 in MODEL 163.174  
 ENGINE 112.912 in MODEL 203.061 /261, 209.361 /461  
 ENGINE 112.946 in MODEL 203.064 /264  
 ENGINE 112.947 in MODEL 170.465  
 ENGINE 112.960 in MODEL 170.466  
 ENGINE 112.961 in MODEL 203.065 /265  
 ENGINE 113.963 in MODEL 230.475  
 ENGINE 113.968 in MODEL 209.375 /475  
 ENGINE 112.913 in MODEL 211.061 /261  
 ENGINE 112.949 in MODEL 211.065 /265  
 ENGINE 113.967 in MODEL 211.070 /270  
 ENGINE 113.992 in MODEL 230.474  
 ENGINE 113.987 in MODEL 209.376 /476  
 ENGINE 112.955 in MODEL 209.365 /465  
 ENGINE 112.916 in MODEL 203.081 /281  
 ENGINE 112.953 in MODEL 203.084 /284  
 ENGINE 112.970 in MODEL 163.157  
 ENGINE 113.965 in MODEL 163.175  
 ENGINE 113.990 in MODEL 211.076 /276  
 ENGINE 113.991 in MODEL 215.374, 220.074 /174  
 ENGINE 112.973 in MODEL 230.467  
 ENGINE 112.972 in MODEL 220.067 /167  
 ENGINE 112.975 in MODEL 220.087 /187  
 ENGINE 113.948 in MODEL 220.083 /183  
 ENGINE 113.966 in MODEL 220.084 /184  
 ENGINE 112.917 in MODEL 211.080 /280  
 ENGINE 112.954 in MODEL 211.082 /282  
 ENGINE 113.969 in MODEL 211.083 /283  
 ENGINE 113.988 in MODEL 203.076 /276  
 ENGINE 113.989 in MODEL 171.473  
 ENGINE 113.995 in MODEL 230.472

Shown on engine 112

16/7 Anti-twist lock  
17 Fuel distributor

Y62 Fuel injection valves

Arrow: Square catch



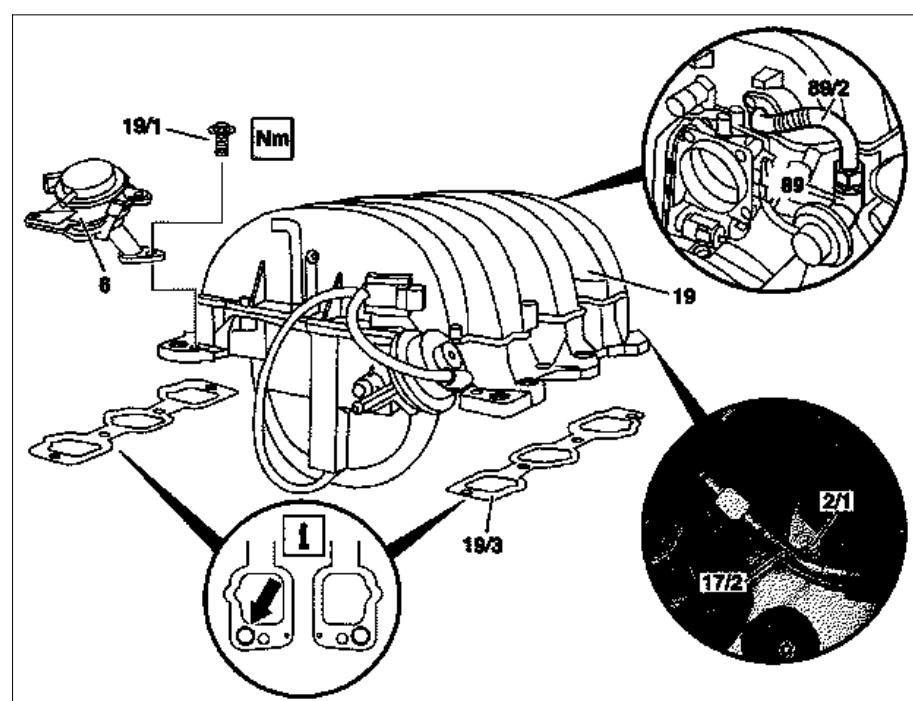
P07.40-0218-12

	Remove/install		
1	<p>Remove fuel distributor (17) together with the fuel injectors (Y62)</p> <p>Model 129.059 / 064 / 068 Model 163.154 / 157 / 172 / 174 / 175 Model 202.026 / 029 / 033 / 086 / 089 / 093 Model 208.365 / 370 / 374 / 465 / 470 Model 210.063 / 065 / 070 / 074 / 081 / 082 / 263 / 265 / 270 / 274 / 281 / 282 Model 170.465 / 466 Model 171.473 Model 203.061 / 261 / 064 / 065 / 076 / 081 / 084 / 264 / 265 / 276 / 281 / 284 Model 209 Model 211.061 / 065 / 070 / 076 / 080 / 082 / 083 / 261 / 265 / 270 / 276 / 280 / 282 / 283 Model 215.374 / 375 Model 220.063 / 065 / 067 / 070 / 074 / 075 / 083 / 084 / 087 / 163 / 165 / 167 / 170 / 174 / 175 / 183 / 184 / 187 Model 230 Engine 112.945, 113.962 in model 463 Engine 113.982 in model 463.241 / 243 / 246</p> <p> Check O-rings for damage otherwise this can lead to leakage. Before installing fuel injection valves (Y62) lubricate O-rings.</p> <p> Anti-twist locks (16/7) must latch into the square catch (arrow) of the fuel injection valves (Y62).</p>	AR07.03-P-1451A  AR07.03-P-1451AA  AR07.03-P-1451AG	
2	Install in the reverse order		

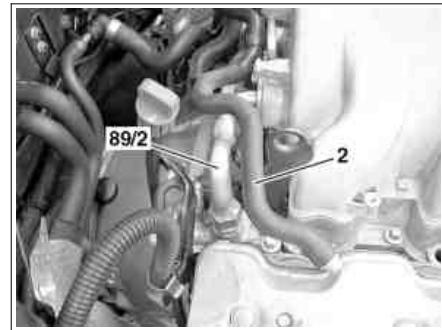
ENGINES 112.910 in MODEL 202.026 /086  
 ENGINES 112.920 in MODEL 202.029 /089  
 ENGINES 112.921 in MODEL 210.063 /081 /263 /281  
 ENGINES 112.922 in MODEL 220.063 /163  
 ENGINES 112.923 in MODEL 129.059  
 ENGINES 112.940 in MODEL 208.365 /465  
 ENGINES 112.941 in MODEL 210.065 /082 /265 /282  
 ENGINES 112.942 in MODEL 163.154  
 ENGINES 112.943 in MODEL 129.064  
 ENGINES 112.944 in MODEL 220.065 /165  
 ENGINES 113.940 in MODEL 210.070 /270  
 ENGINES 113.941 in MODEL 220.070 /170  
 ENGINES 113.960 in MODEL 215.375, 220.075 /175  
 ENGINES 113.961 in MODEL 129.068  
 ENGINES 113.944 in MODEL 202.033 /093  
 ENGINES 113.942 in MODEL 163.172  
 ENGINES 113.980 in MODEL 210.074 /274  
 ENGINES 113.943 in MODEL 208.370 /470  
 ENGINES 113.984 in MODEL 208.374  
 ENGINES 113.981 in MODEL 163.174  
 ENGINES 112.912 in MODEL 203.061 /261, 209.361 /461  
 ENGINES 112.946 in MODEL 203.064 /264  
 ENGINES 112.947 in MODEL 170.465  
 ENGINES 113.963 in MODEL 230.475  
 ENGINES 113.968 in MODEL 209.375 /475  
 ENGINES 112.913 in MODEL 211.061 /261  
 ENGINES 112.949 in MODEL 211.065 /265  
 ENGINES 113.967 in MODEL 211.070 /270  
 ENGINES 113.987 in MODEL 209.376 /476  
 ENGINES 112.955 in MODEL 209.365 /465  
 ENGINES 112.916 in MODEL 203.081 /281  
 ENGINES 112.953 in MODEL 203.084 /284  
 ENGINES 112.970 in MODEL 163.157  
 ENGINES 112.972 in MODEL 220.067 /167  
 ENGINES 112.973 in MODEL 230.467  
 ENGINES 113.965 in MODEL 163.175  
 ENGINES 112.975 in MODEL 220.087 /187  
 ENGINES 113.948 in MODEL 220.083 /183  
 ENGINES 113.966 in MODEL 220.084 /184  
 ENGINES 112.917 in MODELS 211.080 /280  
 ENGINES 112.954 in MODEL 211.082 /282  
 ENGINES 113.969 in MODEL 211.083 /283  
 ENGINES 113.988 in MODEL 203.076 /276  
 ENGINES 113.989 in MODEL 171.473

Shown on engine 112

2/1 Cylinder head cover bolt  
 6 Combination valve  
 17/2 Feed line  
 19 Intake manifold  
 19/1 Bolt  
 19/3 Gasket  
 89 Exhaust gas recirculation valve  
 89/2 Cable  
 Arrow Hole for combination valve



2 Crankcase ventilation hose  
89/2 Cable



P09.20-2137-01

Remove/install		
<b>⚠ Danger!</b>	<b>Risk of explosion</b> caused by fuel igniting, <b>risk of poisoning</b> caused by inhaling and swallowing fuel and <b>risk of injury</b> to eyes and skin caused by contact with fuel	No fire, sparks, open flames or smoking. Only pour fuels into suitable and appropriately marked containers. Wear protective clothing when handling fuel.
1	Remove key from electronic ignition switch	Only on vehicles with electronic ignition switch  [i] Vehicles with Keyless Go code 889: Switch off engine, remove Keyless Go-Cards out of vehicle and store outside of the sender range.
2	Remove cover on front side of engine	Model 129, 211, 215, 220, 230 only
3.1	Remove engine cover with integrated air filter	Except model 171.473, 203.076 /276, 209.376 /476 from 24.4.04  [i] The air filter is integrated in the engine cover. Remove engine cover or air filter by pulling it vertically up and off the cylinder head covers.
3.2	Remove air filter housing	Model 171.473 Model 203.076 /276 Model 209.376 / 476 as of 24.4.04
4	Remove hot film mass air flow sensor with air intake pipe	Engine 112.910 /920 /921 /940 /941 /942 /970 Engine 113.940 Engine 112.922 /944 /972 /973 /975 Engine 113.941 /948 /960 /961 /963 /966 Engine 112.912 /913 /916 /917 /946 /947 /949 /954 /953 /955 Engine 113.968 /967 /969 /987 /988 /989 Engine 112.923 /943 Engine 113.943 /944 /980 /984 ENGINE 113.942 /965/ 981
5	Disconnect lead line (17/2) at the fuel distributor	[i] Release fuel pressure via service valve and collect fuel!  Nm  [S]
6	Removing fuel rail with injection valves	Engine 112.910 /920 /921 /923 /940 /941 /942 /943 /970 Engine 113.940 /942 /943 /944 /961 /965 /980 /981 /984 Engine 112.912 /913 /916 /917 /922 /944 /946 /947 /949 /953 /954 /955 /972 /973 /975 Engine 113.941 /948 /960 /963 /966 /967 /968 /969 /987 /988 /989
7.1	Remove bolt of cylinder head cover (2/1)	Model 230.475 only  Nm
7.2	Remove crankshaft ventilation hose (2) and line (89/2) and place to one side	Model 171.473 only  [i] Remove cylinder head cover (2/1) bolt in order to detach exhaust gas recirculation valve (89) bracket.  Nm
8	Disconnect vacuum lines from intake pipe (19)	[i] <b>Installation:</b> Observe intake manifold connection diagram. ↓ Engine 112 except 112.913 /917 /949 /954 Engine 112.913 /917 /949 /954
		AR09.20-P-1310-01A AR09.20-P-1310-01T

		Engine 112 with USA version, code 494, except engine 112.913 /916 /917 /949 /953 /954 /975 Engine 112.913 /916 /917 /949 /953 /954 /975 with USA version, code 494 Engine 113 except 113.967 /969 Engine 113.967 /969 Engine 113 with USA version, code 494, except engine 113.948 /963 /966 /984 /967 /969 /988 /989 Engine 113.948 /963 /966 /984 /967 /969 /988 /989 with USA version, code 494	AR09.20-P-1310-01AA
9	Disconnect electrical connectors		
10	Unscrew union nut from pipe (89/2) to exhaust gas recirculation valve (89)	<b>[i]</b> Counterhold connection fitting when unscrewing. <b>Nm</b>	*BA14.20-P-1002-01B
11	Remove screw (19/1)	except engine 113.987 from 24.04.04, Engine 113.988/ 989 <b>Nm</b>	*BA09.20-P-1001-01D
11.2	Remove bolts from right combination valve (6) and left combination valve (6)	Only on engines 113.987 from 24.04.04 Engine 113.988/ 989 <b>Nm</b>	*BA09.20-P-1001-01D
12.1	Remove combination valve (6)	except engine 113.987 from 24.04.04, Engine 113.988/ 989 <b>[i] Installation:</b> Install new gasket	
12.2	Detach right combination valve (6) and left combination valve (6) and place to one side	Only engine 113.987 from 24.04.04 Engine 113.988/ 989 <b>[i] Installation:</b> Replace seals.	
13	Detach intake manifold (19)	<b>[i]</b> Plug intake ducts. Use centering bolt for exact positioning of intake manifold and for centering the gasket (19/3). <b>Nm</b> <b>g</b>	*BA09.20-P-1001-01D *112589026200
14	Replace gasket (19/3)		
15	Install in the reverse order		

**[Nm] Crankcase ventilation, cylinder head cover**

Number	Designation	Engine 112	Engine 113
BA01.20-P-1001-01E	Cylinder head cover bolt	Stage 1 Nm 9	9
		Stage 2 $4^\circ$ -	-

**[Nm] Fuel distributor**

Number	Designation	Engine 112 except 112.945/951/ 960/961
BA07.52-P-1001-01A	Fuel feed line to fuel distributor	Nm 38

**[Nm] Fuel distributor**

<b>Number</b>	<b>Designation</b>	<b>Engine</b> 113.940/941/ 942/943/944/ 945/946/948/ 960/961/962/ 963/964/965/ 966/967/968/ 969/971/980/ 981/982/984/ 986/988	<b>Engine</b> 113.987	<b>Engine</b> 113.989
BA07.52-P-1001-01A	Fuel feed line to fuel distributor	Nm 38	38	38

**Nm Intake manifold**

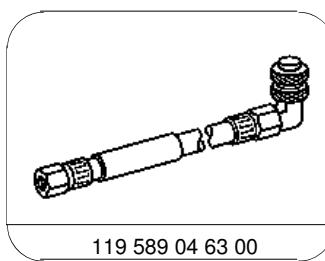
<b>Number</b>	<b>Designation</b>	<b>Engines</b> 112, 113
BA09.20-P-1001-01D	Bolt, intake manifold to cylinder head	M8 Nm 20

**Nm Exhaust gas recirculation**

<b>Number</b>	<b>Designation</b>	<b>Engine</b> 112.910/912/916/ 920/921/922/923/ 940/941/942/943/ 944/945/946/947/ 953/972/975	<b>Engine</b> 112.913/ 917/949/ 954/955/ 970/973	<b>Engine</b> 113.940/941/942/ 943/944/948/960/9 61/962/964/965/96 6/967/968/969/971 /980/981/982/984/ 987/988	<b>Engine</b> 113.963
BA14.20-P-1002-01B	Union nut, exhaust gas recirculation pipe to exhaust gas recirculation valve	Nm 40	40	40	23

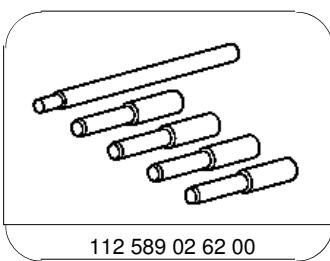
**Nm Exhaust gas recirculation**

<b>Number</b>	<b>Designation</b>	<b>Engine</b> 113.989
BA14.20-P-1002-01B	Acorn nut, exhaust gas recirculation pipe to exhaust gas recirculation valve	Nm 40



119 589 04 63 00

Pressure hose



112 589 02 62 00

Set of dowel bolts

ENGINE 111.943 /946 /973 in MODEL 170

ENGINE 104.941, 111.920 /921 /941 /944 /945 /961 /974 /975, 601.913, 604.910 /915, 605.910 /960 in MODEL 202

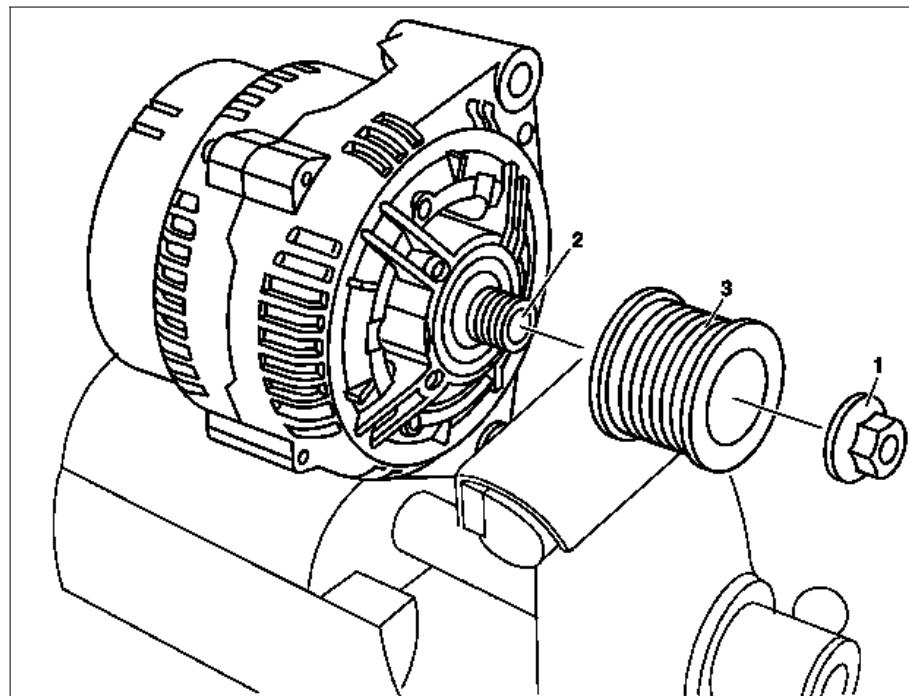
ENGINE 111.944 /945 /975, 112.940 in MODEL 208

ENGINE 104.945 /995, 111.942 /970, 112.921 /941, 119.985, 602.982, 604.912 /917, 605.912, 606.912 /962 in MODEL 210

1 Collar nut

2 Shaft

3 V-belt belt pulley



P15.40-0201-06

	Remove/install		
1	Remove alternator	Engine 112.940 in model 208. Engine 112.921 /941, 119.985 in Model 210. Engine 104.945 /995, 111.942 /970, 602.982, 604.912 /917, 605.912, 606.912 /962 in Model 210. Engine 104.941, 111.920 /921 /941 /944 /945 /961 /974 /975, 601.913, 604.910 /915, 605.910 /960 in Model 202, engine 111.944 /945 /975 in Model 208. Engine 111.943 /946 /973 in Model 170.	AR15.40-P-5032EB AR15.40-P-5032ED AR15.40-P-5032F AR15.40-P-5032EA AR15.40-P-5032G
2	Unscrew collar nut (1)	<b>[i]</b> Multitooth for retaining the shaft (2) with a reversible ratchet. <b>[Nm]</b> <b>[Nm]</b>	*BA15.40-P-1004-01A *BA15.40-P-1004-01E
3	Remove ribbed V-belt pulley (3)	<b>[i]</b> When maintaining alternators after mileage in excess of 100.000 km, also replace the poly-V belt pulley (3) at the same time.	
4	Install in the reverse order		

#### **[Nm]** Alternator

Number	Designation	Engine 104	Engine 111	Engine 112.91/92/94/953/954/955/96/97 except 112.976, engine 113.94/96/98
BA15.40-P-1004-01A	Collar nut on poly-V belt pulley	Nm 80	80	80

**Nm Alternator**

<b>Number</b>	<b>Designation</b>	<b>Engine</b>	
		<b>119</b>	
BA15.40-P-1004-01A	Collar nut on poly-V belt pulley	Nm	80

**Nm Alternator**

<b>Number</b>	<b>Designation</b>	<b>Engine</b>	<b>Engine</b>	<b>Engine</b>
		<b>601</b>	<b>602</b>	<b>604</b>
BA15.40-P-1004-01E	Collar nut to poly-V belt pulley	Nm	80	80

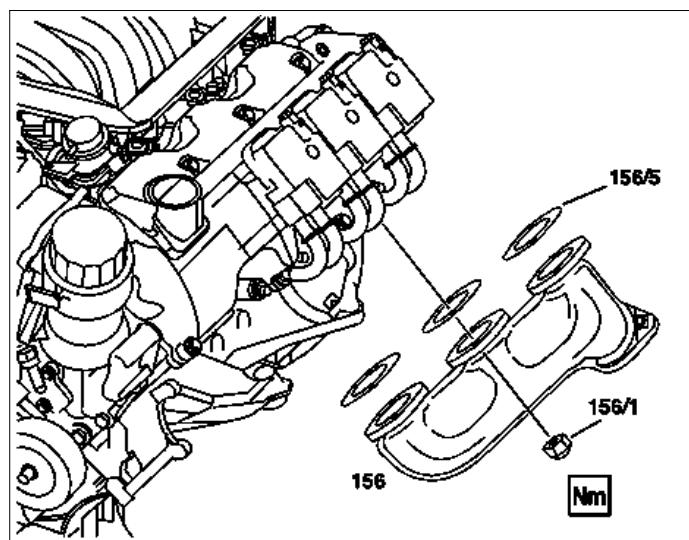
**Nm Alternator**

<b>Number</b>	<b>Designation</b>	<b>Engine</b>	<b>Engine</b>
		<b>605</b>	<b>606</b>
BA15.40-P-1004-01E	Collar nut to poly-V belt pulley	Nm	80

ENGINES 112.910 in MODEL 202.026 /086  
 ENGINES 112.920 in MODEL 202.029 /089  
 ENGINES 112.940 in MODEL 208.365 /465  
 ENGINES 113.944 in MODEL 202.033 /093  
 ENGINES 113.943 in MODEL 208.370 /470  
 ENGINES 113.984 in MODEL 208.374

## Engine 112

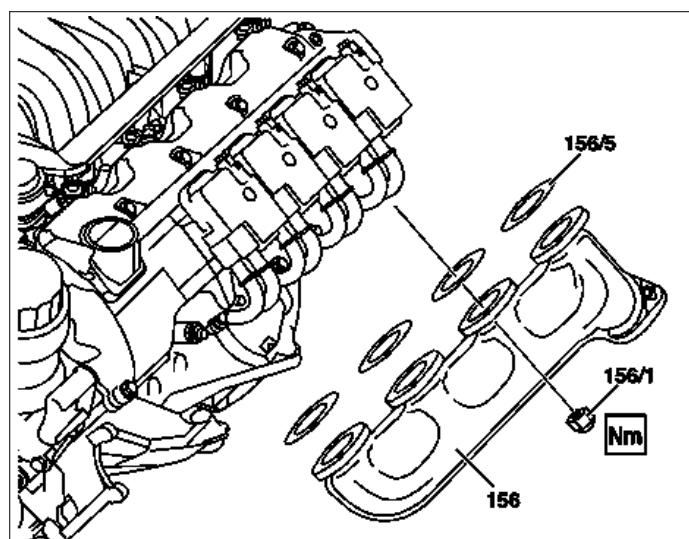
156 Exhaust manifold  
 156/1 Nuts  
 156/5 Seal



P14.10-0233-11

## Engine 113

156 Exhaust manifold  
 156/1 Nuts  
 156/5 Seal



P14.10-0249-11

	Remove/install		
1	Disconnect connector for oxygen sensors		AR14.00-P-5303A
2	Remove complete exhaust system		AR49.10-P-7000AU
3.1	Remove air filter	When removing right exhaust manifold. ① On model 208.370/374/470, 202.033/093, the air filter always has to be removed. The air filter is integrated in the cylinder head cover trim. Remove air filter by lifting vertically up and off cylinder head covers.	
4	Remove ignition coils		AR15.12-P-2003A
5.1	Remove washer fluid reservoir for windshield washer system	When removing left exhaust manifold.	
6.1	Detach left and right engine mount at front axle carrier	When removing left exhaust manifold. Nm	*BA22.10-P-1001-01L
7.1	Remove shield from left engine mount	When removing left exhaust manifold.	
8	Attach engine support bracket and raise engine	Engine support device, engine hoist <a href="gotis://A_01_09.0">gotis://A_01_09.0</a>	AR33.10-P-0100-01AV

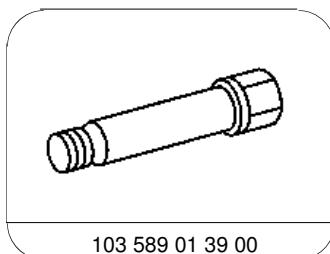
9	Remove exhaust manifold	<p><b>Left side of engine:</b> Take out exhaust manifold by lifting upwards.</p> <p><b>Right side of engine:</b> Take out exhaust manifold from bottom.</p> <p><b>Installation:</b> Replace nuts (156/1) and gaskets (156/5).</p> <p><b>Nm</b></p> <p><b>If</b> screw/bolts on flange connection of front exhaust system/ exhaust manifold are stiff, or thread is damaged: ↓ Replace rivet nuts in exhaust manifold</p> <p><b>Nm</b></p>	*BA14.10-P-1001-01B
10	Install in the reverse order		AR49.10-P-5531-01DA *103589013900 *BA14.10-P-1002-01B

#### **Nm** Exhaust manifold

Number	Designation	Engine	Engine
		112 except 112.951/ 976	113.940/941/ 942/943/944/ 945/946/948/ 960/961/962/ 963/964/965/ 966/967/968/ 969/971/980/ 981/982/984/ 986/992/993/ 995
BA14.10-P-1001-01B	Nut on exhaust manifold	Nm	16
BA14.10-P-1002-01B	Flange connection, exhaust manifold/front exhaust pipes	Nm	20

#### **Nm** Engine mounts, engine supports

Number	Designation	Engine	Engine
		112.910/920, 113.944 in model 202.026/029/ 033/086/089/ 093	112.940, 113.943/984 in model 208.365/ 370/374/465/ 470
BA22.10-P-1001-01L	Screw/bolt, front engine mount to front axle carrier	Nm	35



103 589 01 39 00

Caulking bolt

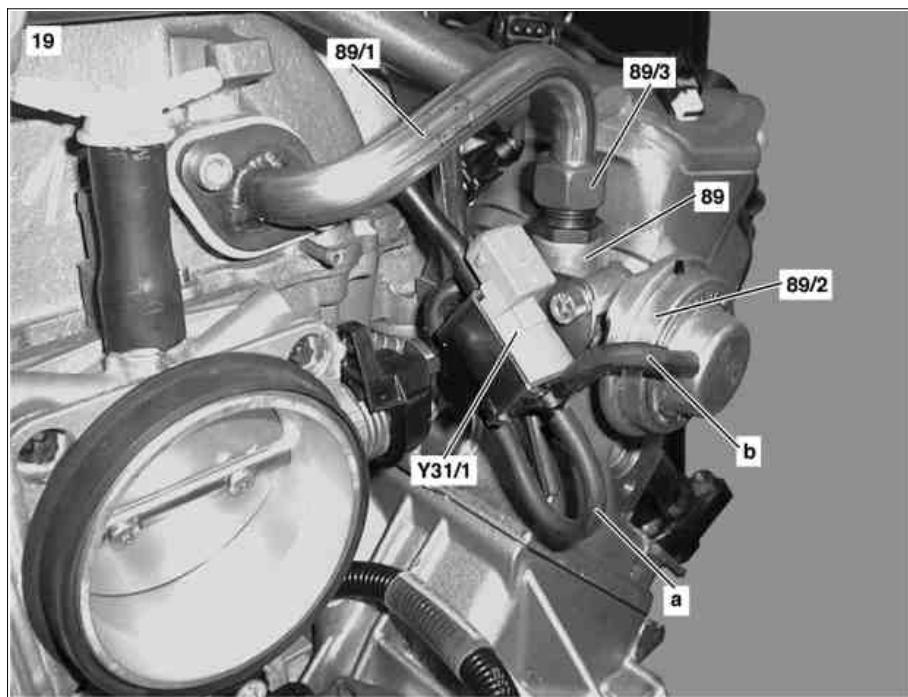
ENGINE 112.910 in MODEL 202.026 /086  
 ENGINE 112.920 in MODEL 202.029 /089  
 ENGINE 112.922 in MODEL 220.063  
 ENGINE 112.923 in MODEL 129.059  
 ENGINE 112.940 in MODEL 208.365 /465  
 ENGINE 112.921 in MODEL 210.063 /081 /263 /281  
 ENGINE 112.941 in MODEL 210.065 /082 /265 /282  
 ENGINE 112.943 in MODEL 129.064  
 ENGINE 112.944 in MODEL 220.065 /165  
 ENGINE 113.940 in MODEL 210.070 /270  
 ENGINE 113.941 in MODEL 220.070 /170  
 ENGINE 113.960 in MODEL 215.375, 220.075 /175  
 ENGINE 113.961 in MODEL 129.068  
 ENGINE 113.980 in MODEL 210.074 /274  
 ENGINE 113.944 in MODEL 202.033 /093  
 ENGINE 113.943 in MODEL 208.370 /470  
 ENGINE 113.984 in MODELS 208.374  
 ENGINE 112.912 in MODEL 203.061 /261, 209.361 /461  
 ENGINE 112.946 in MODEL 203.064 /264  
 ENGINE 112.947 in MODEL 170.465  
 ENGINE 113.963 in MODEL 230.475  
 ENGINE 113.968 in MODEL 209.375 /475  
 ENGINE 112.913 in MODEL 211.061 /261  
 ENGINE 112.949 in MODEL 211.065 /265  
 ENGINE 113.967 in MODEL 211.070 /270  
 ENGINE 113.987 in MODEL 209.376 /476  
 ENGINE 112.955 in MODEL 209.365 /465  
 ENGINE 112.916 in MODEL 203.081 /281  
 ENGINE 112.953 in MODEL 203.084 /284  
 ENGINE 112.975 in MODEL 220.087 /187  
 ENGINE 113.948 in MODEL 220.083 /183  
 ENGINE 113.966 in MODEL 220.084 /184  
 ENGINE 112.917 in MODEL 211.080 /280  
 ENGINE 112.954 in MODEL 211.082 /282  
 ENGINE 113.969 in MODEL 211.083 /283  
 ENGINE 113.988 in MODEL 203.076 /276  
 ENGINE 113.989 in MODEL 171.473

Shown on engine 112

19 Intake manifold  
 89 Exhaust gas recirculation valve  
 89/1 Exhaust gas recirculation line  
 89/2 Vacuum reservoir  
 89/3 Union nut

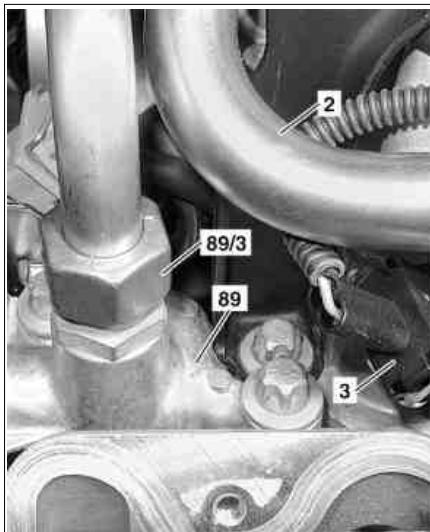
a Vacuum line from intake pipe  
 b Vacuum line

Y31/1 ARF vacuum transducer

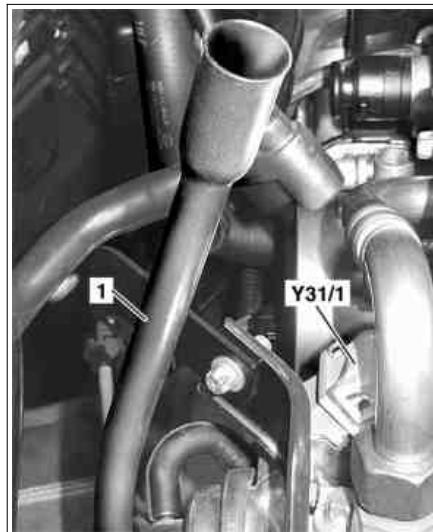


Shown on engine 112

1 Oil dipstick guide tube  
 2 Fuel rail  
 3 Plug connection  
 89 Exhaust gas recirculation valve  
 89/3 Union nut  
 Y31/1 ARF vacuum transducer



P14.20-2075-02



P14.20-2076-02

Modification notes

13.5.02	Value changed from 23 to 40 Nm	Value in series altered BA14.20-P-1002-01B for engine 112.913/949	<a href="#">*BA14.20-P-1002-01B</a>
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	Remove/install		
<b>⚠ Danger!</b>	<b>Risk of injury</b> to skin and eyes caused by handling hot or glowing objects.	Wear safety gloves, protective clothing and safety glasses, if necessary.	<a href="#">AS00.00-Z-0002-01A</a>
1	Remove cover on front side of engine	Model 129, 211, 215, 220, 230	
2.1	Remove air filter housing	Model 171.473 Model 203.076/ 276 Model 209.376/ 476 as of 24.4.04	AR09.10-P-1150AC
2.2	Remove engine cover with integrated air filter	except model 171.473 Model 203.076 /276, Model 209.376/ 476 as of 24.4.04  <b>[i] Installation:</b> The air filter is integrated in the engine cover. Remove engine cover or air filter by pulling it vertically up and off the cylinder head covers.  <b>[i] Installation:</b> Moisten slightly with lubricating paste retainers on the cylinder head covers and the sealing ring of the hot film mass air flow sensor in the air filter housing. Lubricating paste	<a href="#">*BR00.45-Z-1002-06A</a>
3	Remove hot film mass air flow sensor with air intake pipe	Engine 112.910 /920 /921 /940 /941 Engine 113.940 Engine 112.922 /923 /943 /944 /975 Engine 113.941/ 948/ 960/ 961/ 963/ 966 Engine 113.943 /944 /980 /984 Engine 112.912 /913 /916 /917 /946 /947 /949 /953 /954 /955 Engine 113.967 /968 /969 /987 /988 /989	<a href="#">AR07.07-P-1454A</a> <a href="#">AR07.07-P-1454AA</a> <a href="#">AR07.07-P-1454AG</a> <a href="#">AR07.07-P-1454SV</a>
4.1	Remove oil dipstick guide tube (1) and turn to the side	Model 203, 209  <b>[i] Installation:</b> Ensure correct seating of sealing ring of oil dipstick guide tube (1) in oil pan top section.	
4.2	Detach oil dipstick guide tube (1) from bracket on exhaust gas recirculation valve (89) and turn to the side	Model 171.473 Model 211	
5	Remove retaining bracket from oil dipstick guide tube (1)	Model 171.473 Model 230.475 Model 203.076/ 276	
6	Detach fuel distributor rail (2) on right side and push to the side	Model 211	
7	Unplug connector (3) from injection valve	Model 171.473 Model 211 Model 203.076/ 276	
8	Unplug connector on EGR pressure transducer (Y31/1).		
9	Detach vacuum line (b) to vacuum unit (89/2) and EGR pressure transducer (Y31/1)		

10	Unscrew union nut (89/3) on exhaust gas recirculation valve (89)	<b>[i]</b> Model 211, 230.475: pull EGR pipe (89/1) out of exhaust gas recirculation valve (89). <b>Nm</b>	<b>*BA14.20-P-1002-01B</b>
11	Dismount EGR line (89/1) from intake manifold (19)	Except model 230.475 <b>Nm</b>	<b>*BA14.20-P-1003-01B</b>
12	Unscrew exhaust gas recirculation pipe (89) from cylinder head	<b>Nm</b>	<b>*BA14.20-P-1001-01B</b>
13	Remove exhaust gas recirculation valve (89)	<b>[!]</b> <b>Installation:</b> Replace gaskets. Note length and routing of vacuum line from intake manifold to EGR [ARF] vacuum transducer (Y31/1) . Incorrect routing may cause throttle lever to jam.	
14	Install in the reverse order		

#### **[Nm] Exhaust gas recirculation**

Number	Designation	Engine 112.910/912/916/ 920/921/922/923/ 940/941/942/943/ 944/945/946/947/ 953/972/975	Engine 112.913 / 917/949 / 954/955 / 970/973	Engine 113.940/941/942/ 943/944/948/960/9 61/962/964/965/96 6/967/968/969/971 /980/981/982/984/ 987/988	Engine 113.963
BA14.20-P-1001-01B	Bolt, exhaust gas recirculation valve to cylinder head	Nm 20	20	20	20
BA14.20-P-1002-01B	Union nut, exhaust gas recirculation pipe to exhaust gas recirculation valve	Nm 40	40	40	23
BA14.20-P-1003-01B	Bolt, exhaust gas recirculation pipe to intake pipe	Nm 9	8	9	8

#### **[Nm] Exhaust gas recirculation**

Number	Designation	Engine 113.989
BA14.20-P-1001-01B	Bolt, exhaust gas recirculation valve to cylinder head	Nm 20
BA14.20-P-1002-01B	Union nut, exhaust gas recirculation pipe to exhaust gas recirculation valve	Nm 40
BA14.20-P-1003-01B	Bolt, exhaust gas recirculation pipe to intake pipe	Nm 9

#### **Repair materials**

Number	Designation	Order number
BR00.45-Z-1002-06A	Lubricating paste, rubber parts 2.5 kg, DB supply specification 6867.00	A 000 989 01 60

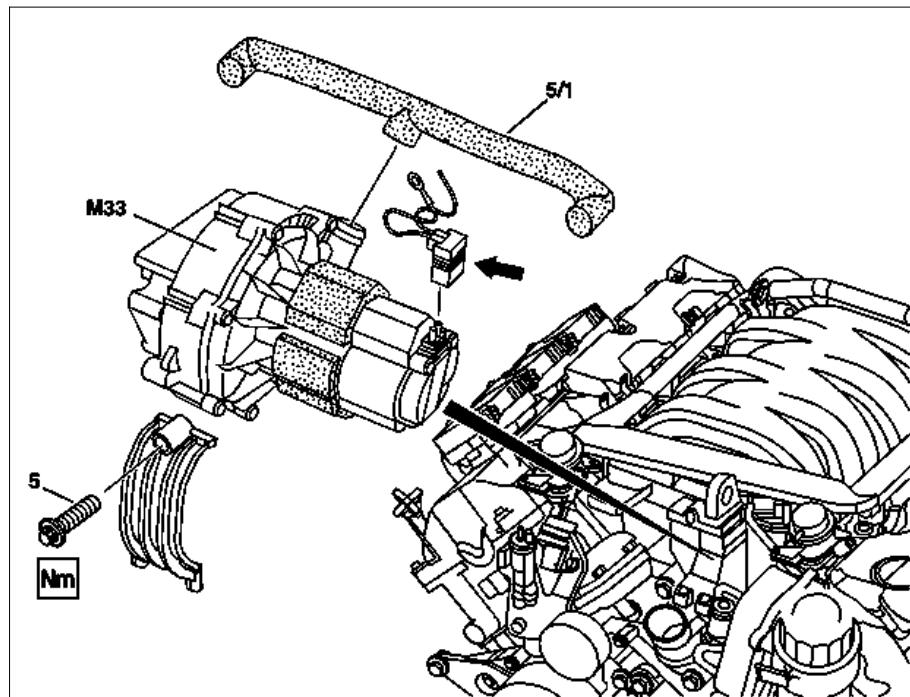
ENGINE 112, 113 in MODEL 163, 202, 208, 210  
 ENGINE 112 (except 112.960 /961) in MODEL 170, 203, 209.361 /365 /461 /465 (except 170.466, 203.265 /065)  
 ENGINE 113.968 in MODEL 209.375 /475  
 ENGINE 112.913 in MODEL 211.061 /261  
 ENGINE 112.949 in MODEL 211.065 /265  
 ENGINE 113.967 in MODEL 211.070 /270  
 ENGINE 113.987 in MODEL 209.376 /476 up to 23.4.04  
 ENGINE 112.917 in MODEL 211.080 /280  
 ENGINE 112.954 in MODEL 211.082 /282  
 ENGINE 113.969 in MODEL 211.083 /283

Shown on engine 112

5 Bolt  
 5/1 Air hose

M33 Electric air pump

Arrow: Electrical connector



P14.30-0246-06

Fig. item etc.	Work instructions		
i	Engine cover with integrated air filter	remove	
Nm	Bolt connecting air pump bracket to timing case		*BA14.30-P-1003-01A
5	Bolt	<i>i</i> Pay attention to ground cable.	
5/1	Air hose		
M33	Electric air pump	<i>i</i> Unplug electrical connector (arrow)	

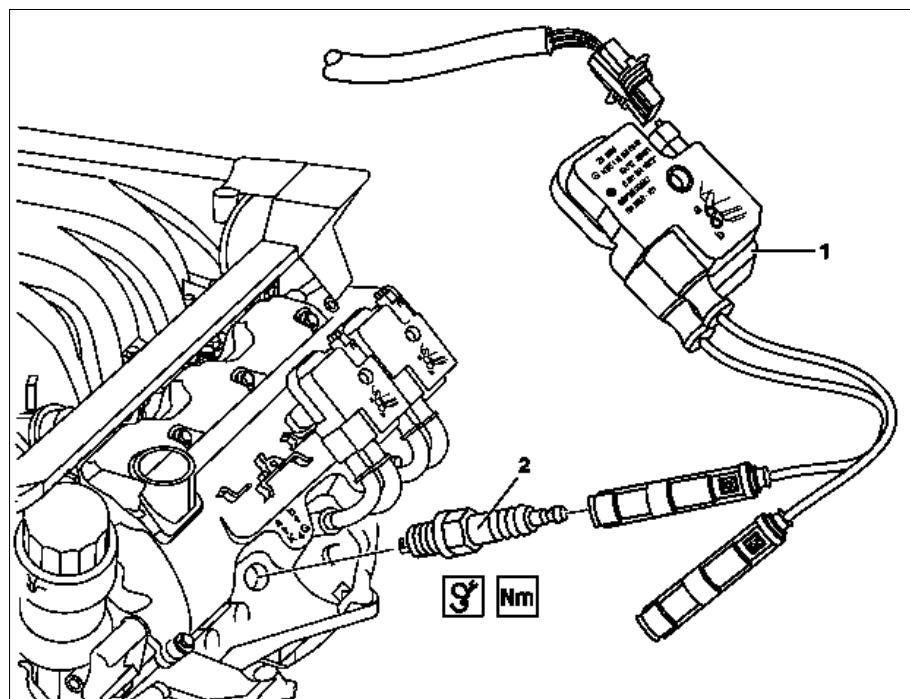
#### Air pump

Number	Designation	Engine 112 except 112.960/ 961 AMG	Engine 113.940/941/ 942/943/944/ 945/946/948/ 960/961/962/ 963/964/965/ 966/967/968/ 969/971/980/ 981/982/984/ 986	Engine 113.987/ 988
BA14.30-P-1003-01A	Bolt connecting air pump bracket to timing case	Nm 12	Nm 12	8

ENGINES 112 in MODELS 170, 202, 203, 208, 209, 210  
 ENGINES 113 in MODELS 202, 203, 208, 209, 210

Shown on model 210 with engine 112

1 Ignition coil  
 2 Spark plug



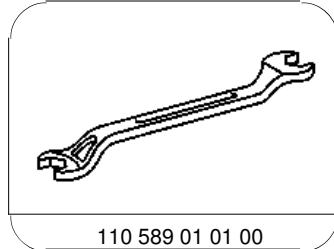
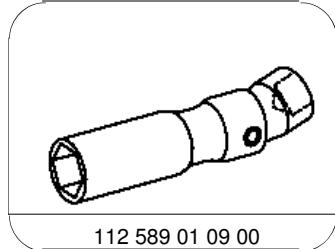
P15.10-2113-06

	Remove/install		
	<b>Danger!</b> Risk of death caused by contact with parts conducting high voltages.	Do not come into contact with parts that are under high voltage. Persons with electronic implants (such as pacemakers) must not work on the ignition system.	AS15.10-Z-0001-01A
	Notes on avoiding damage to ignition system	Engine 104, 111, 112, 113, 119, 120, 271	AH15.10-P-0002-01D
1.1	Remove top part of air filter housing	Only on engines with air filter fitted at vehicle side.	
2.1	Remove hot film mass air flow sensor with air intake pipe  Remove hot film mass air flow sensor with air intake pipe	Only on engines with air filter fitted at vehicle side.  Engine 112.910 in model 202.026 / 086 Engine 112.920 in model 202.029 / 089 Engine 112.940 in model 208.365 / 465 Engine 112.911 in model 210.061 / 261 Engine 112.921 in model 210.063 / 081 / 263 / 663 / 281 Engine 112.941 in model 210.065 / 082 / 265 / 282 Engine 113.940 in model 210.070 / 270 Engine 112.947 in model 170.465 Engine 112.912 in Model 203.061 / 261, 209.361 / 461 Engine 112.946 in model 203.064 / 264 / 764 Engine 113.968 in model 209.375 / 475 Engine 113.987 in model 209.376 / 476 Engine 112.955 in model 209.365 / 465 Engine 112.953 in model 203.084 / 284 Engine 112.916 in model 203.081 / 281 Engine 113.988 in model 203.076 / 276	AR07.07-P-1454A  AR07.07-P-1454SV
		Engine 113.943 in model 208.470 / 370 Engine 113.944 in model 202.093 / 033 Engine 113.984 in model 208.374 / 474 Engine 113.980 in model 210.274 / 074	AR07.07-P-1454AG
3	Remove engine cover with integrated air filter	Pull engine cover with integrated air filter vertically upwards off the cylinder head covers.	
4	Remove the ignition coil (1)		

5	Disconnect spark plug connectors	 Use double open-end wrench to pry off spark plug connectors via the cylinder head cover.  Double open-ended wrench	*110589010100
 6	<b>Checking</b>	 Replace, if necessary.	
7	Check spark plug connector, ignition coil connectors and ignition lines for damage, deformation and crack formation	 Replace, if necessary.	
8	Remove the spark plug (2)	  Spark plug wrench	*BA15.10-P-1001-01A *112589010900
	Install in the reverse order		

 **Spark plugs**

Number	Designation	Engine 104, 110, 111, 113.940/941/942/943/ 944/948/960/961/962/ 963/964/965/966/967/ 968/969/971/980/981/ 982/984/986/992/993/ 995, 115, 117, 119, 120	Engine 112.910/911/ 912/913/914/ 915/916/917/ 920/921/922/ 923/940/941/ 942/943/944/ 945/946/947/ 949/951/953/ 954/955/960/ 961/970/972/ 973/975/976	Engine 113.987/988/ 990/991
BA15.10-P-1001-01A	Spark plugs	Nm	28	28
				25



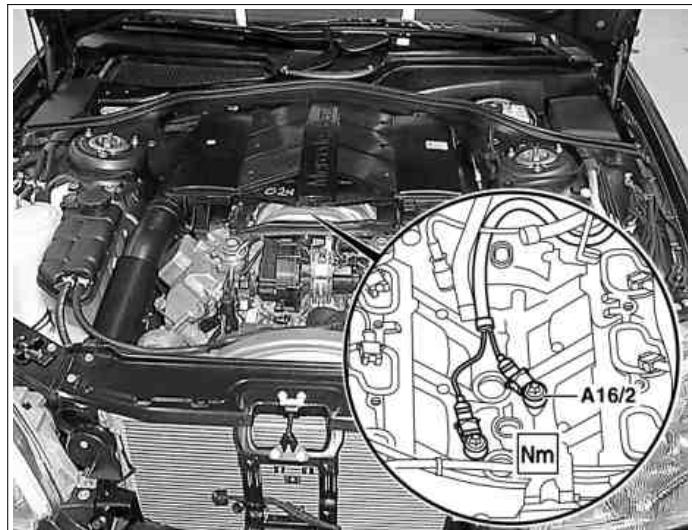
Spark plug wrench

Open-end wrench, double

AR15.12-P-2184A	Remove/install knock sensors	4.12.06
ENGINE	112.910 in MODEL 202.026 /086	
ENGINE	112.920 in MODEL 202.029 /089	
ENGINE	112.921 in MODEL 210.063 /081 /263 /281	
ENGINE	112.922 in MODEL 220.063 /163	
ENGINE	112.923 in MODEL 129.059	
ENGINE	112.940 in MODEL 208.365 /465	
ENGINE	112.941 in MODEL 210.065 /082 /265 /282	
ENGINE	112.942 in MODEL 163.154	
ENGINE	112.943 in MODEL 129.064	
ENGINE	112.944 in MODEL 220.065 /165	
ENGINE	113.940 in MODEL 210.070 /270	
ENGINE	113.941 in MODEL 220.070 /170	
ENGINE	113.960 in MODEL 215.375, 220.075 /175	
ENGINE	113.961 in MODEL 129.068	
ENGINE	112.945 in MODEL 463.209 /232 /233 /244 /245 /250	
ENGINE	113.944 in MODEL 202.033 /093	
ENGINE	113.980 in MODEL 210.074 /274	
ENGINE	113.943 in MODEL 208.370 /470	
ENGINE	113.984 in MODEL 208.374	
ENGINE	113.981 in MODEL 163.174	
ENGINE	112.912 in MODEL 203.061 /261, 209.361 /461	
ENGINE	112.946 in MODEL 203.064 /264	
ENGINE	112.947 in MODEL 170.465	
ENGINE	112.960 in MODEL 170.466	
ENGINE	113.942 in MODEL 163.172	
ENGINE	112.961 in MODEL 203.065 /265	
ENGINE	113.965 in MODEL 163.175	
ENGINE	113.963 in MODEL 230.475	
ENGINE	113.968 in MODEL 209.375 /475	
ENGINE	112.913 in MODEL 211.061 /261	
ENGINE	112.949 in MODEL 211.065 /265	
ENGINE	113.967 in MODEL 211.070 /270	
ENGINE	113.987 in MODEL 209.376 /476	
ENGINE	112.955 in MODEL 209.365 /465	
ENGINE	113.962 in MODEL 463.206 /240 /241 /247 /248 /249 /254	
ENGINE	113.982 in MODEL 463.243 /246	
ENGINE	112.953 in MODEL 203.084 /284	
ENGINE	112.916 in MODEL 203.081 /281	
ENGINE	112.973 in MODEL 230.467	
ENGINE	112.972 in MODEL 220.067 /167	
ENGINE	112.970 in MODEL 163.157	
ENGINE	112.975 in MODEL 220.087 /187	
ENGINE	113.948 in MODEL 220.083 /183	
ENGINE	113.966 in MODEL 220.084 /184	
ENGINE	112.917 in MODEL 211.080 /280	
ENGINE	112.954 in MODEL 211.082 /282	
ENGINE	113.969 in MODEL 211.083 /283	
ENGINE	113.990 in MODEL 211.076 /276	
ENGINE	113.988 in MODEL 203.076 /276	
ENGINE	113.993 in MODEL 463.270 /271	
ENGINE	113.989 in MODEL 171.473	

Shown on engine 112 in model 220

A16/2 Left knock sensor 2



P15.12-0276-11

Remove/install			
1.1	Remove intake manifold	All except model, 463 with engine 113.962/982/993 Model 463 with engine 112.945 Model 170.466 with engine 112.960 Model 203.065/265 with engine 112.961 Model 211.076/276 with engine 113.990 Model 463 with Engine 112.945, 113.962/982	AR09.20-P-1310A
1.2	Remove compressor	Model 170.466 with engine, 112.960 model 203.065/265 with engine, 112.961 model 211.076/276 with engine 113.990 Model 463.270/271 with engine 113.993	AR09.50-P-4705SVK
2	Detach knock sensor 1, right and knock sensor 2, left (A16/2) from cylinder block	Nm	*BA15.10-P-1001-02A
3	Install in the reverse order		

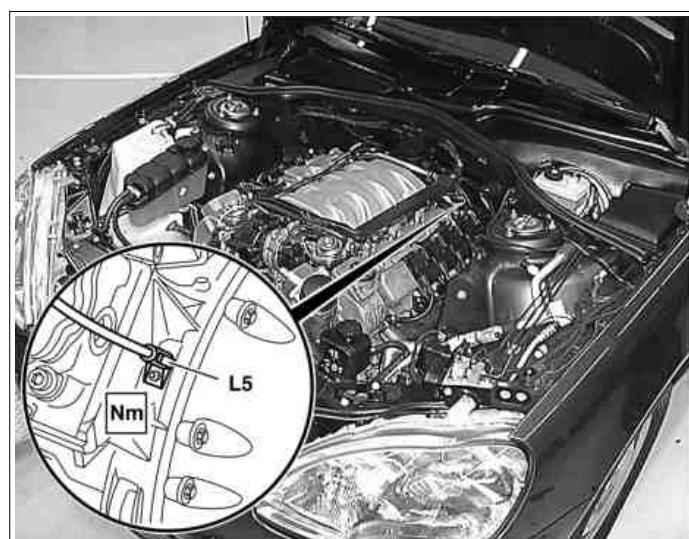
#### Nm Knock sensors

Number	Designation	Engine 112.910/911/ 912/913/914/ 915/916/917/ 920/921/922/ 923/940/941/ 942/943/944/ 945/946/947/ 949/951/953/ 954/955/960/ 961/970/972/ 973/975/976	Engine 113.940/941/ 942/943/944/ 945/946/948/ 960/961/962/ 963/964/965/ 966/967/968/ 969/971/980/ 981/982/984/ 986/987/988/ 990/991/992/ 993/995	Engine 113.989
BA15.10-P-1001-02A	Bolt securing knock sensor to cylinder block	Nm	20	20

ENGINE 112.910 in MODEL 202.026 /086  
 ENGINE 112.920 in MODEL 202.029 /089  
 ENGINE 112.921 in MODEL 210.063 /081 /263 /281  
 ENGINE 112.922 in MODEL 220.063  
 ENGINE 112.923 in MODEL 129.059  
 ENGINE 112.940 in MODEL 208.365 /465  
 ENGINE 112.941 in MODEL 210.065 /082 /265 /282  
 ENGINE 112.942 in MODEL 163.154  
 ENGINE 112.943 in MODEL 129.064  
 ENGINE 112.944 in MODEL 220.065 /165  
 ENGINE 113.940 in MODEL 210.070 /270  
 ENGINE 113.941 in MODEL 220.070 /170  
 ENGINE 113.960 in MODEL 215.375, 220.075 /175  
 ENGINE 113.961 in MODEL 129.068  
 ENGINE 112.945 in MODEL 463.209 /232 /233 /244 /245 /250  
 ENGINE 113.944 in MODEL 202.033 /093  
 ENGINE 113.980 in MODEL 210.074 /274  
 ENGINE 113.943 in MODEL 208.370 /470  
 ENGINE 113.984 in MODEL 208.374  
 ENGINE 113.981 in MODEL 163.174  
 ENGINE 112.912 in MODEL 203.061 /261, 209.361 /461  
 ENGINE 112.946 in MODEL 203.064 /264  
 ENGINE 112.947 in MODEL 170.465  
 ENGINE 112.960 in MODEL 170.466  
 ENGINE 113.942 in MODEL 163.172  
 ENGINE 112.961 in MODEL 203.065 /265  
 ENGINE 113.965 in MODEL 163.175  
 ENGINE 113.963 in MODEL 230.475  
 ENGINE 112.913 in MODEL 211.061 /261  
 ENGINE 112.949 in MODEL 211.065 /265  
 ENGINE 113.967 in MODEL 211.070 /270  
 ENGINE 113.962 in MODEL 463.206 /240 /241 /247 /248 /249 /254  
 ENGINE 113.982 in MODEL 463.243 /246  
 ENGINE 112.955 in MODEL 209.365 /465  
 ENGINE 112.916 in MODEL 203.081 /281  
 ENGINE 112.953 in MODEL 203.084 /284  
 ENGINE 112.973 in MODEL 230.467  
 ENGINE 112.972 in MODEL 220.067 /167  
 ENGINE 112.970 in MODEL 163.157  
 ENGINE 112.975 in MODEL 220.087 /187  
 ENGINE 113.948 in MODEL 220.083 /183  
 ENGINE 113.966 in MODEL 220.084 /184  
 ENGINE 112.917 in MODEL 211.080 /280  
 ENGINE 112.954 in MODEL 211.082 /282  
 ENGINE 113.969 in MODEL 211.083 /283

Shown on ENGINE 113 in MODEL 220

L5 Crankshaft position sensor



P15.12-0275-11

1.1	Remove engine cover with integrated air filter	All except engine 112.960 in model 170.466, engine 112.961 in model 203.065 /265 <b>[i]</b> Remove air filter housing by lifting vertically up and off the cylinder head covers. <b>[i] Installation:</b> Slightly moisten rubber retainers on cylinder head covers and sealing ring of hot film mass air flow sensor in the air filter housing with lubricating paste. Lubricant paste	
1.2	Remove air filter housing	Engine 112.960 in model 170.466 Engine 112.961 in model 203.065 /265	AR09.10-P-1150SVK
2	Remove crankshaft position sensor (L5)	<b>Nm</b>	*BA15.10-P-1001-03A
3	Install in the reverse order		
4	Perform default initialization.	After replacing crankshaft position sensor (L5). <b>[i]</b> Connect STAR-DIAGNOSIS and select menu item for control unit adaptations in ME control unit.	
 AD	Connect STAR DIAGNOSIS and read out fault memory		AD00.00-P-2000-04A

#### **Nm** Position sensor

Number	Designation	Engine 112.910/911/ 912/913/914/ 915/916/917/ 920/921/922/ 923/940/941/ 942/943/944/ 945/946/947/ 949/951/953/ 954/955/960/ 961/970/972/ 973/975/976	Engine 113.940/941/ 942/943/944/ 948/960/961/ 962/963/964/ 965/966/967/ 968/969/971/ 980/981/982/ 984/986/992/ 993/995
BA15.10-P-1001-03A	Crankshaft position sensor to engine block	Nm 8	8

#### Repair materials

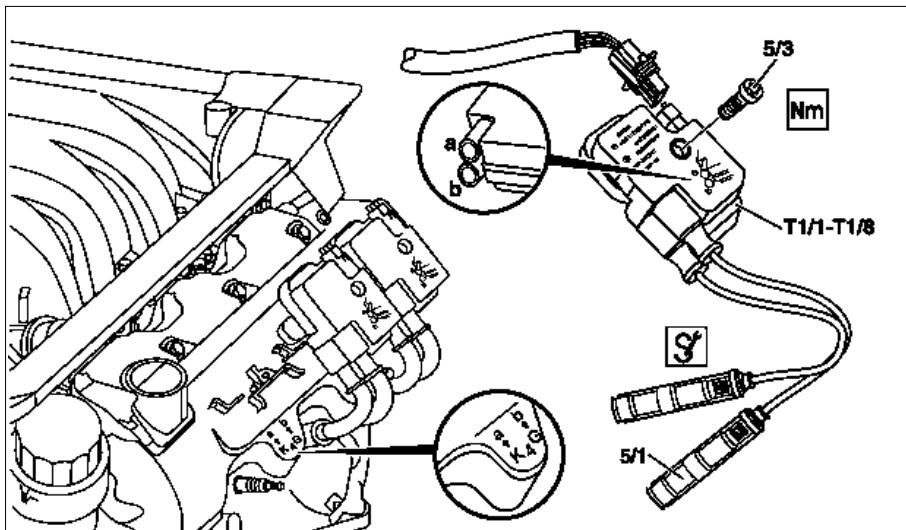
Number	Designation	Order number
BR00.45-Z-1002-06A	Lubricating paste, rubber parts 2.5 kg, DB supply specification 6867.00	A 000 989 01 60

ENGINES 112.910 in MODEL 202.026 /086  
 ENGINES 112.920 in MODEL 202.029 /089  
 ENGINES 112.921 in MODEL 210.063 /081 /263 /281  
 ENGINES 112.922 in MODEL 220.063 /163  
 ENGINES 112.923 in MODEL 129.059  
 ENGINES 112.940 in MODEL 208.365 /465  
 ENGINES 112.941 in MODEL 210.065 /082 /265 /282  
 ENGINES 112.942 in MODEL 163.154  
 ENGINES 112.943 in MODEL 129.064  
 ENGINES 112.944 in MODEL 220.065 /165  
 ENGINES 112.945 in MODEL 463  
 ENGINES 113.940 in MODEL 210.070 /270  
 ENGINES 113.941 in MODEL 220.070 /170  
 ENGINES 113.960 in MODEL 215.375, 220.075 /175 /875  
 ENGINES 113.961 in MODEL 129.068  
 ENGINES 113.962 /982 in MODEL 463  
 ENGINES 113.980 in MODEL 210.074 /274  
 ENGINES 113.944 in MODEL 202.033 /093  
 ENGINES 113.942 in MODEL 163.172  
 ENGINES 113.943 in MODEL 208.370 /470  
 ENGINES 113.984 in MODEL 208.374 /474  
 ENGINES 113.981 in MODEL 163.174  
 ENGINES 112.912 in MODEL 203.061 /261, 209.361 /461  
 ENGINES 112.946 in MODEL 203.064 /264  
 ENGINES 112.947 in MODEL 170.465  
 ENGINES 112.960 in MODEL 170.466  
 ENGINES 113.986 in MODEL 215.373, 220.073 /173  
 ENGINES 112.961 in MODEL 203.065 /265  
 ENGINES 113.965 in MODEL 163.175  
 ENGINES 113.963 in MODEL 230.475  
 ENGINES 113.968 in MODEL 209.375 /475  
 ENGINES 112.913 in MODEL 211.061 /261  
 ENGINES 112.949 in MODEL 211.065 /265  
 ENGINES 113.967 in MODEL 211.070 /270  
 ENGINES 113.992 in MODEL 230.474  
 ENGINES 113.987 in MODEL 209.376 /476  
 ENGINES 112.955 in MODEL 209.365 /465  
 ENGINES 113.990 in MODEL 211.076 /276  
 ENGINES 113.991 in MODEL 215.374, 220.074 /174  
 ENGINES 112.916 in MODEL 203.081 /281  
 ENGINES 112.953 in MODEL 203.084 /284  
 ENGINES 112.972 in MODEL 220.067 /167  
 ENGINES 112.973 in MODEL 230.467  
 ENGINES 112.970 in MODEL 163.157  
 ENGINES 112.975 in MODEL 220.087 /187  
 ENGINES 113.948 in MODEL 220.083 /183  
 ENGINES 113.966 in MODEL 220.084 /184  
 ENGINES 112.917 in MODELS 211.080 /280  
 ENGINES 112.954 in MODEL 211.082 /282  
 ENGINES 113.969 in MODEL 211.083 /283  
 ENGINES 113.988 in MODEL 203.076 /276  
 ENGINES 113.993 in MODEL 463.270 /271  
 ENGINES 113.989 in MODEL 171.473  
 ENGINES 113.995 in MODEL 230.472

## Shown on engine 112

5/1 Spark plug connector  
 5/3 Screw  
 T1/1 Cylinder 1 ignition coil  
 T1/2 Cylinder 2 ignition coil  
 T1/3 Cylinder 3 ignition coil  
 T1/4 Cylinder 4 ignition coil  
 T1/5 Cylinder 5 ignition coil  
 T1/6 Cylinder 6 ignition coil  
 T1/7 Cylinder 7 ignition coil  
 T1/8 Cylinder 8 ignition coil

Arrow: Identification of the connector



P15.12-2045-05

## Modification notes

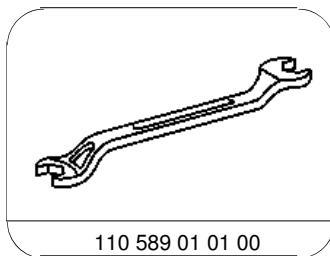
16.5.06	"Disconnect/connect battery ground line" removed	Model 203, 209,	
---------	--	-----------------	--

	Remove/install		
<b>Danger!</b>	<b>Hazard</b> from touching parts which conduct high voltages	Do not touch parts which conduct high voltages. Persons who wear electronic implants (e.g. heart pacemakers) should never perform any work on the ignition system.	AS15.10-Z-0001-01A
	Notes on avoiding damage to ignition system		AH15.10-P-0002-01D
1	Deactivate service mode in TELE AID emergency call system	Only on model 463.270 with code: Tele-Aid car phone emergency call system ET2.	AR82.95-P-0005-03GR
	Notes on TELE AID emergency call system	Model 463.243/244/245/247/248/250/254/270/309/322/323/323/333 TELE AID car telephone emergency call system ET2	AH82.95-P-0001-01GA
2	Disconnect ground line from battery	Model 463 except model 463.241/248 with code 979 special protection version Model 463.241 with: -special protection version code 979, -special protection version FB4 with code ZS4, -special protection version FB6 with code ZS6, -special protection version FB7 with code ZS7, additional battery 100 Ah incl. cutoff relay CODE E26. Model 463.248 with: -special protection version, code 979, -special protection version FB6, code ZS6, -special protection version FB7, code ZS7, -additional battery 100 Ah including cutoff relay, code E26.	AR54.10-P-0003G AR54.10-P-0003PV AR54.10-P-0003PM
3	Unclip cover on front side of engine	Model 211, 215, 220, 230.475/476	
4.1	Remove engine cover with integrated air filter	Except model 170.466, 203.065/076/265/276, 209.376/476 from 24.4.04, 211.076/276, 215.374, 220.074/174, 230.474, 463.270/271 The air filter is integrated in the engine cover. Remove the engine cover or the air filter housing by pulling it from the cylinder head covers vertically in the upward direction.	
4.2	Remove air filter housing	Model 170.466, 203.065/265, 211.076/276, 215.374, 220.074/174, 230.474 Model 203.076 /276, 209.376 /476 from 24.4.04, 171.473 Model 463.270/271	AR09.10-P-1150SVK AR09.10-P-1150AC AR09.10-P-1150GX
5	Remove screw (5/3)	5Nm	*BA15.10-P-1001-04A
6	Detach spark plug connector (5/1) from the spark plugs	Pry off spark plug connector (5/1) using open-end wrench, double over the cylinder head cover of the spark plugs.	

		<p><b>[i] Installation:</b> Observe the identification of the connector (arrow) on the cylinder head cover and the ignition coil of cylinders 1 to 6 or 1 to 8 for the corresponding spark plug connector (5/1).</p> <p><b>[S] Double open-ended wrench</b></p>	
7	Separate electrical connector of ignition coil of cylinder 1 to 6 (T1/1 to T1/6) or 1 to 8 (T1/1 to T1/8)	<b>[i] Installation:</b> Install new cable ties.	
8	Remove ignition coil of cylinder 1 to 6 (T1/1 to T1/6) or 1 to 8 (T1/1 to T1/8)		
9	Install in the reverse order		
10	Activate Service mode in Tele-Aid emergency call system	<b>[i] Only on model 463.270 with code: Tele-Aid car phone emergency call system ET2. Model 463.243/244/245/247/248/250/254/270/309/322/323/323/333 TELE AID car telephone emergency call system ET2</b>	AR82.95-P-0005-03GR
<b>[i]</b>	Notes on TELE AID emergency call system		AH82.95-P-0001-01GA

**Nm Ignition coil**

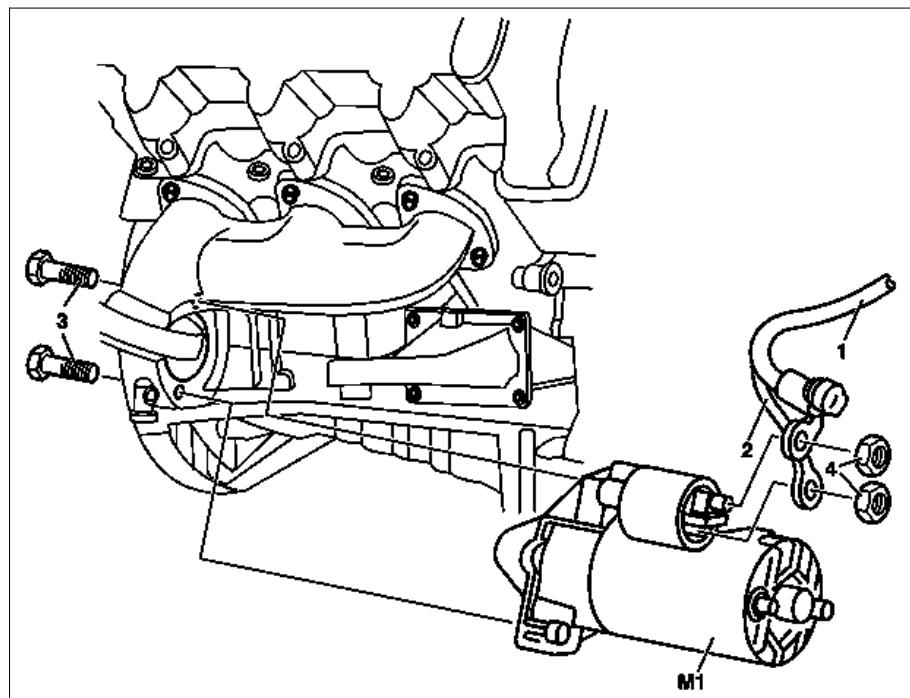
Number	Designation	Engine	
BA15.10-P-1001-04A	Bolt, ignition coil to cylinder head cover	Nm	112, 113



Open-end wrench, double

ENGINE 112.910 in MODEL 202.026 /086  
 ENGINE 112.920 in MODEL 202.029 /089  
 ENGINE 112.915 in MODEL 202.088  
 ENGINE 112.940 in MODEL 208.365 /465  
 ENGINE 113.943 in MODEL 208.370 /470  
 ENGINE 113.984 in MODEL 208.374

1 Electric cable circuit 30  
 2 Electric cable circuit 50  
 3 Bolts  
 4 Nut  
 M1 Starter



P15.30-0217-06

#### Modification notes

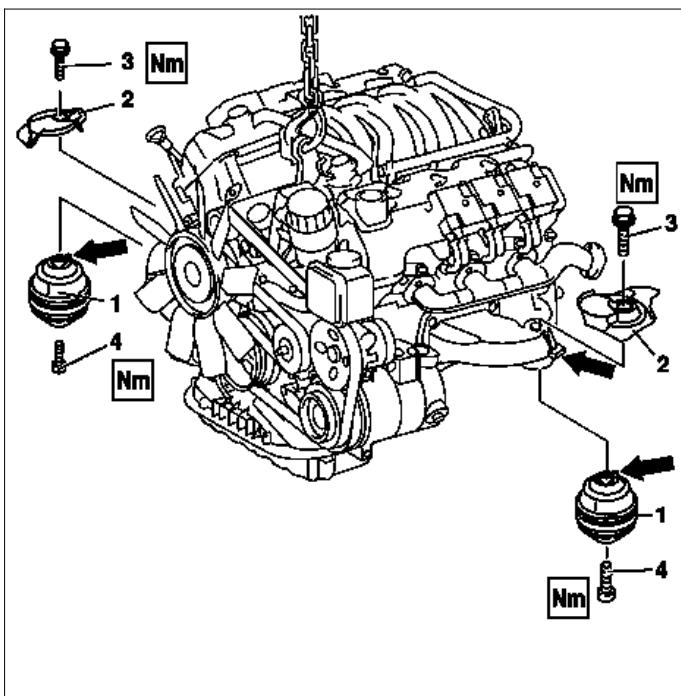
6.7.00	Value changed from 16 Nm to 14 Nm	Figure in BA15.30-P-1001-01A for engine 112, 113 modified	*BA15.30-P-1001-01A
6.7.00	Value changed from 10 Nm to 6 Nm	Figure in BA15.30-P-1002-01A for engine 112, 113 modified	*BA15.30-P-1002-01A
6.7.00	Value changed from 58 Nm to 42 Nm	Figure in BA15.30-P-1003-01A for engine 112, 113 modified	*BA15.30-P-1003-01A

	Remove/Install		
	<b>Danger!</b>	<b>Risk of explosion</b> caused by escaping oxyhydrogen gas. <b>Risk of injury</b> caused by caustic burns to eyes, skin and mucous membranes from battery electrolyte (contains diluted sulfuric acid) or metal spatter due to short circuit. <b>Risk of burn injuries</b> caused by short circuit. <b>Risk of poisoning</b> caused by swallowing battery electrolyte (contains diluted sulfuric acid) or absorption of lead over the skin or orifices	No fire, sparks, open flames or smoking. Wear acid-resistant gloves and clothing and safety glasses with side guards. Do not place any conductive objects on the battery and avoid any short circuit from battery positive to ground. Only fill liquid battery electrolyte (diluted sulfuric acid) into suitable and appropriately marked containers.
1	Disconnect ground line from battery	Insulate clamping device of the ground line in order to prevent inadvertent contact with the ground point of the battery.	AS54.10-Z-0001-01A AR54.10-P-0003A
	Notes on battery		AH54.10-P-0001-01A
2	Remove lower engine compartment paneling		AR61.20-P-1105AB
3	Remove right engine mount	Engine 112.915 Engine 112 except engine 112.915 Engine 113	AR22.10-P-1100AV AR22.10-P-1100MV
4	Dismount electrical lines (1, 2), to do this, unscrew bolts (4)	Nut, terminal 30 connection Nut of connection circuit50	*BA15.30-P-1001-01A *BA15.30-P-1002-01A
5	Remove screws (3)		*BA15.30-P-1003-01A
6	Take starter (M1) down and out		
7	Install in the reverse order		
8	Perform function check		
9	Render electrical system operational	Perform basic programming	AR00.19-P-0200C

Number	Designation	Engine 112 except 112.951, 113.94/ 96/98
BA15.30-P-1001-01A	Nut of connection of circuit 30 Nm	14
BA15.30-P-1002-01A	Nut of connection circuit 50 Nm	6
BA15.30-P-1003-01A	Bolt of starter to crankcase Nm	42

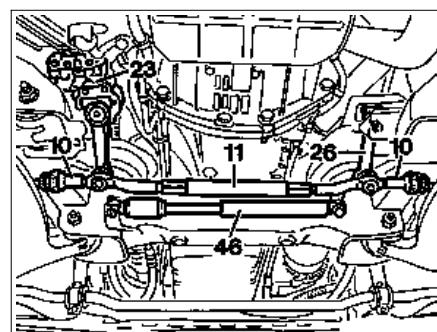
ENGINE 112.940 in MODELS 208.365 /465  
 ENGINE 112.910 in MODELS 202.026 /086  
 ENGINE 112.920 in MODELS 202.029 /089  
 ENGINE 113.944 in MODELS 202.033 /093

- 1 Engine mount
- 2 Shields
- 3, 4 Bolt



P22.10-2005-12

10 Track rods  
 11 Drag link  
 23 Steering gear  
 26 Relay lever  
 46 Steering damper



P46.10-0203-01

Remove/install		
1 Remove engine cover or air filter	<p><b>Information:</b> On model 202.033/093 the air filter is integrated in the engine trim panel. Remove engine cover or air filter by pulling it vertically up and off cylinder head covers.</p>	
2 Disconnect/connect battery ground line	<p><b>Information:</b> Only necessary if the right engine mount is removed.</p> <p><b>Installation:</b> After connecting, read fault memory, encode radio and normalize power windows. Vehicles with stationary heater: adjust time display on stationary heater.</p>	AR54.10-P-0003A
3 Put on engine carrier arm		AR33.10-P-0100-01AV
4 Unscrew bolts (4) connecting engine mount (1) to front axle carrier	Nm	*BA22.10-P-1001-01L
5 Unbolt steering damper (46) at drag link (11)	Nm	*BA46.40-P-1001-03A
6 Unscrew nuts of drag link (11) at Pitman arm and at relay lever (26)	<p><b>Information:</b> Counterhold ball studs, if necessary, with hexagon socket wrench.</p> <p><b>Installation:</b> Replace self-locking nuts.</p>	Nm *BA46.40-P-1001-04A

7	Use puller to press drag link (11) off at pitman arm and at relay lever (26) and detach	<p> <b>Installation:</b> Clean tapers free of grease and press ball joints firmly into the drag links. Inspect play of joint, rubber boot, replace drag link, if necessary. ↓ Remove drag link.</p> <p> </p>	<b>AR46.40-P-0100C</b> *129589106300 *202589013300
8	Remove shield at relay lever (26)		
9	Unscrew bolts (3) connecting engine mount (1) to engine support	<p> </p>	<b>*BA22.10-P-1004-01L</b> *112589001600
10	Raise engine at front lifting eye	<p> Ensure that rear of engine does not touch the body! Do not over-tension coolant hoses and ground cable (W11/4 engine support left → front axle carrier)!</p>	
11	Remove shields (2)	<p><b>Installation:</b> The recesses in shields must be located in the anti-twist locks of the engine supports.</p>	
12	Remove engine mounts (1)	<p><b>Installation:</b>  The anti-twist locks (arrows) at engine mounts (1) must fit in retaining grooves (arrows) of the engine supports.</p> <p><b>Installation:</b>  On model 202.033/093 (AMG) harder engine mounts are fitted than in the standard vehicle; pay attention to this when replacing engine mounts!</p>	
	Environmental protection regulations for disposal of engine mounts	Dispose engine mounts into mixed scrap.	
13	Install in the reverse order		
14	Read out fault memory and erase	<p> Only necessary if the right engine mount is removed. Stored faults which can result from cables being disconnected or from simulation during removal and installation or test work, have to be processed and erased in the fault memories after completing the work. ↓ Diagnosis Manual Volume 2, Index 0: Connecting and using test equipment</p>	

** Engine mounts, engine supports**

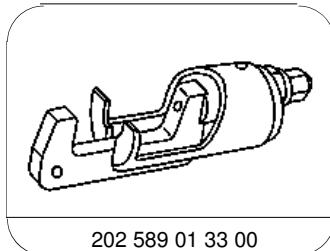
Number	Designation	Engines 112.910/920, 113.944 in models 202.026/029/033/ 086/089/093	Engine 112.940, 113.943/984 in model 208.365/ 370/374/465/470
BA22.10-P-1001-01L	Bolt, front engine mounts to front axle carrier	Nm 35	35
BA22.10-P-1004-01L	Bolt, front engine mount to engine support	Nm 55	55

** Steering damper**

Number	Designation	Model 202	Model 208
BA46.40-P-1001-03A	Steering damper to drag link	Nm 40	40

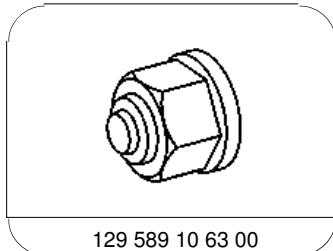
** Drag link**

Number	Designation	Model 202	Model 208
BA46.40-P-1001-04A	Self-locking nuts of drag link	Stage 1 Nm	50
		Stage 2 $\Delta^\circ$	-



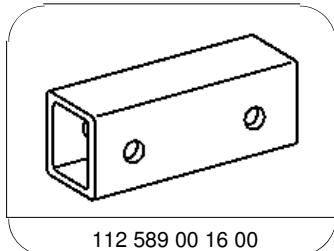
202 589 01 33 00

Puller



129 589 10 63 00

Thrust piece



112 589 00 16 00

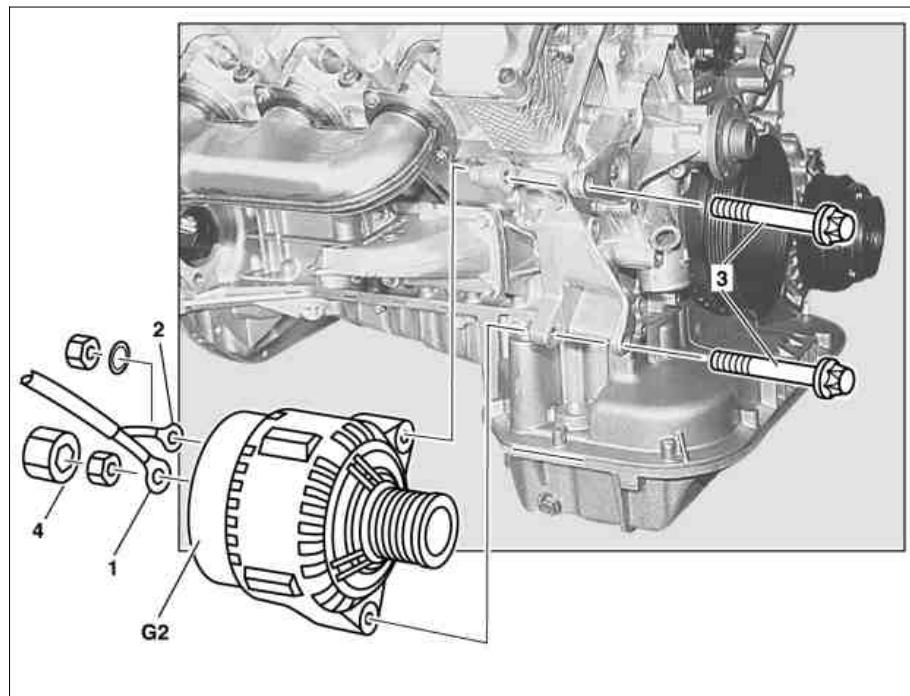
Connecting piece

ENGINE 112.910 /920 in MODEL 202

ENGINE 112.940, 113.943 /984 in MODEL 208

Shown on engine 112

- 1 Electrical cable, circuit 30 (B+)
- 2 Electric cable, circuit 61 (D+)
- 3 Bolts
- 4 Cover sleeve
- G2 Alternator



P15.40-2003-06

**Modification notes**

14.4.00	Value changed from 15 Nm to 18 Nm	Figure in BA15.40-P-1001-01A for engine 112, 113 modified	<a href="#">*BA15.40-P-1001-01A</a>
14.4.00	Value changed from 4 Nm to 5 Nm	Specification in BA15.40-P-1002-01A revised for 112, 113 engines	<a href="#">*BA15.40-P-1002-01A</a>

<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> Remove/install			
1	Disconnect battery ground line	<span style="color: red;">i</span> Insulate cable lug of ground line to provide protection from unintentional contact of disconnected ground line.	<a href="#">AR54.10-P-0003A</a>
2	Remove lower engine compartment paneling	Model 202 Model 208	<a href="#">AR61.20-P-1105A</a>
3	Remove poly-V belt	Engine 113.943 in model 208 Engine 112.910/ 920 in model 202 Engine 112.940, 113.984 in model 208	<a href="#">AR13.22-P-1202B</a> <a href="#">AR13.22-P-1202BA</a>
4	Disconnect electrical line circuit 30 (B+)(1) and electrical line circuit 61 (D+) (2).	Nm Nm	<a href="#">*BA15.40-P-1001-01A</a> <a href="#">*BA15.40-P-1002-01A</a>
5	Remove alternator screws (3)	Nm	<a href="#">*BA15.40-P-1003-01A</a>
6	Remove alternator (G2) downwards		
7	Install in the reverse sequence		

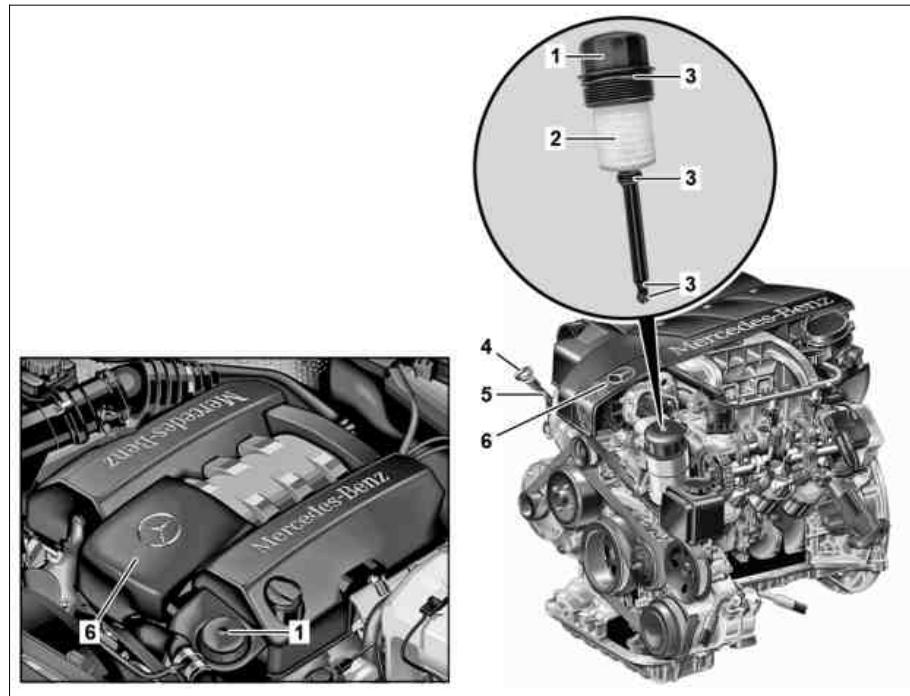
**Nm Alternator**

Number	Designation	Engine 112.91/92/94/ 953/954/955/ 96/97 except 112.976, engine 113.94/96/98	
BA15.40-P-1001-01A	Nut, circuit B+ to alternator	Nm	18
BA15.40-P-1002-01A	Nut, circuit D+ to alternator	Nm	5

BA15.40-P-1003-01A	Alternator bolt	Nm	42
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**ENGINE** 112.910/915/920 in MODEL 202  
**ENGINE** 112.911/914/921/941 in MODEL 210  
**ENGINE** 112.912/946 in MODEL 203  
**ENGINE** 112.912/955 in MODEL 209  
**ENGINE** 112.913/917/949/954 in MODEL 211  
**ENGINE** 112.922/944/972/975 in MODEL 220  
**ENGINE** 112.923/943 in MODEL 129  
**ENGINE** 112.940 in MODEL 208  
**ENGINE** 112.942/970 in MODEL 163  
**ENGINE** 112.947 in MODEL 170  
**ENGINE** 112.973 in MODEL 230

- 1 Oil filter screw-on cover
- 2 Oil filter element
- 3 Sealing rings
- 4 Oil dipstick
- 5 Oil measuring pipe
- 6 Engine cover



P18.00-2365-06

<b>⚠ Danger !</b>	<b>Risk of injury</b> to skin and eyes due to handling of engine oil. <b>Risk of poisoning</b> caused by swallowing engine oil	Wear protective gloves, protective clothing and safety glasses. Do not fill engine oil into beverage containers.	<b>AS18.00-Z-0001-01A</b>
<b>⚠ Danger !</b>	<b>Risk of accident</b> from vehicle starting off by itself when engine running. <b>Risk of injury</b> (bruises and burns) resulting from working on the engine while it is being started or when it is running.	Secure vehicle to prevent it from starting off by itself. Wear closed and snug-fitting work clothes. Do not touch hot or rotating parts.	<b>AS00.00-Z-0005-01A</b>
<b>i</b>	Notes on engine oil and filter changes		<b>AH18.00-P-0104-01A</b>
<b>x</b>	<b>Remove</b>		
1	allow engine to warm up	<b>i</b> Coolant temperature min. 80 °C.	
2.1	Pull oil dipstick (4) out of oil measuring pipe (5) and wipe with a lint-free cloth	If installed  <b>i</b> The oil dipstick (4) and oil measuring pipe (5) can be at the front or rear of the engine (depending on the model series).	
2.2	Pull stop plug out of oil measuring pipe (5)	If installed  <b>i</b> Stop plugs and oil measuring pipe (5) can be at the front or rear of the engine (depending on the model series).	
3	Suction off engine oil using oil measuring pipe (5)	Engine oil suction unit - stationary <a href="#">gotis://S_18.1_01.1</a> Engine oil suction unit - mobile <a href="#">gotis://S_18.1_02.0</a>	
4	Remove engine cover (6)	If the oil filter threaded cap (1) is not accessible.	

5	Remove oil filter threaded cap (1)	<p><b>i</b> Unscrew the oil filter threaded cap (1) (depending on the version) using a  socket wrench bit.   Wrench socket</p>	*103589020900
6	Remove oil filter threaded cap (1)		
7	Replace oil filter element (2)		
8	Replace sealing ring (3)		
 <b>Install</b>			
9	Install oil filter threaded cap (1)	<p><b>i</b> Unscrew the oil filter threaded cap (1) (depending on the version) using  socket.   Screw cap at oil filter   Wrench socket</p>	*BA18.20-P-1001-01D *103589020900
10	Remove engine oil extractor		
11.1	Insert clean oil dipstick (4) into oil measuring pipe (5)	If installed	
11.2	Insert stop plug into oil measuring pipe (5)	If installed	
12	pour in engine oil	 use only approved engine oils. Engine damage can occur otherwise.  Engine oil	*BF18.00-P-1001-01H
 <b>Check</b>			
13	Run engine until it is at operating temperature, and check for leaktightness	<p><b>i</b> Coolant temperature min. 80 °C.  in the event of leakage:  ↓  Determine and rectify cause, subject to separate repair order.</p>	
14	Turn off engine		
15	Pull stop plug out of oil measuring pipe (5)	If installed	
16.1	Check engine oil level using oil dipstick (4); correct if necessary	Check engine oil level using on-board oil dipstick (4) MODEL 203, 209, 211, 230, ENGINE 112.922/944/972 in MODEL 220 <b>i</b> Insert oil dipstick (4) all the way into the oil measuring pipe (5) and leave for at least 3 s.	AP18.00-P-1811MP
16.2	Check engine oil level using a dipstick, correct if necessary	Check engine oil level with special tool MODEL 129, 163, 170, 202, 208, 210, ENGINE 112.975 in MODEL 220 <b>i</b>  Insert dipstick all the way into guide tube (5) and hold there for at least 3 seconds.  Measuring rod	AP18.00-P-1810MA *120589072100
 <b>Install</b>			
17	Insert stop plug into oil measuring pipe (5)		
18	Install engine cover (6)	If the engine cover (6) was removed	

 Oil filter

<b>Number</b>	<b>Designation</b>	<b>ENGINE</b> 112.910/911/912/91 3/914/915/916/917/9 20/921/922/923/940/ 941/942/943/944/94 5/946/947/949/951/9 53/954/955/960/961/ 970/972/973/975
BA18.20-P-1001-01D	Screw cap at oil filter	Nm 25

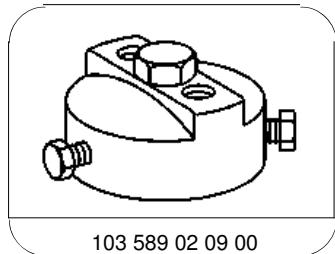
 Engine lubrication

<b>Number</b>	<b>Designation</b>	<b>ENGINE 112 (except 112.916/953/975) shortened maintenance interval</b>	<b>ENGINE 112 (except 112.916/953/975) Maximum maintenance interval</b>
BF18.00-P-1001-01H	Engine oil	Filling capacity with oil filter Liter 8,0	8,0

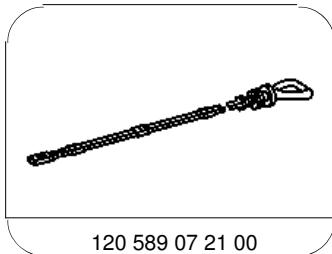
	Filling capacity without oil filter	Liter	7,5	7,5
	Sheet		BB00.40-P-0229-01A	-
	Sheet		BB00.40-P-0229-03A	-
	Sheet		BB00.40-P-0229-05A	BB00.40-P-0229-05A

 Engine lubrication

Number	Designation	ENGINE 112.975 Verkürztes Wartungsintervall	ENGINE 112.975 Maximales Wartungsintervall
BF18.00-P-1001-01H	Engine oil	Filling capacity with oil filter Liter	8,0
		Filling capacity without oil filter Liter	7,5
		Sheet	BB00.40-P-0229-01A
		Sheet	BB00.40-P-0229-03A
		Sheet	BB00.40-P-0229-05A



103 589 02 09 00  
Wrench socket

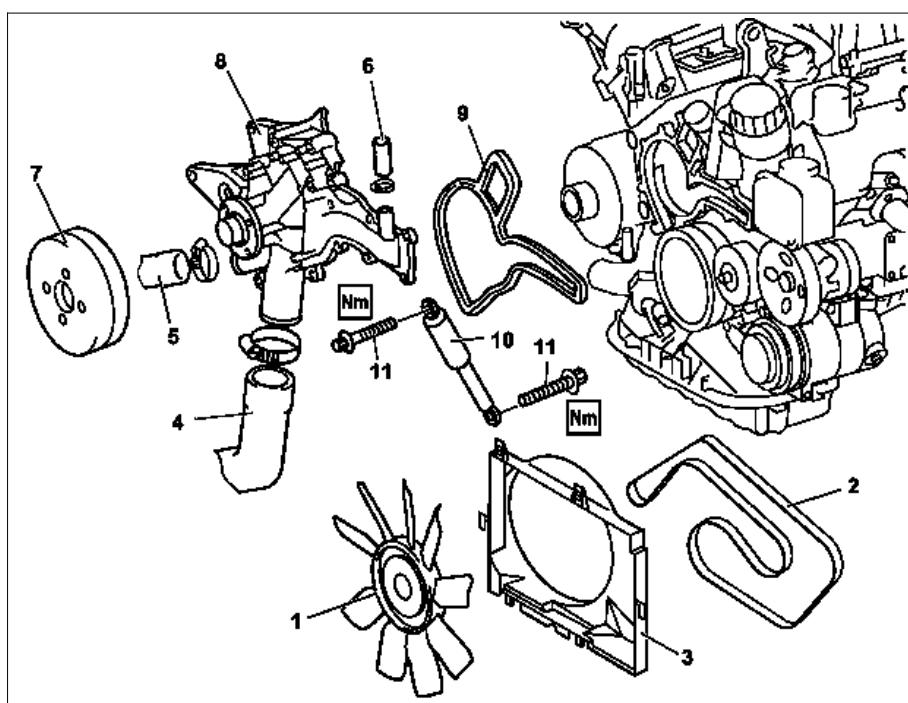


120 589 07 21 00  
Measuring rod

ENGINES 112.945 in MODEL 463.209 /232 /233 /244 /245 /250  
 ENGINES 112 in MODEL 129, 163, 170, 202, 203, 208, 209, 210, 220  
 ENGINES 113.962 in MODELS 463.206 /240 /241 /247 /248 /249 /254  
 ENGINES 113 in MODEL 129, 163, 202, 203, 208, 209, 210, 220  
 ENGINES 113.982 in MODEL 463.243 /246  
 ENGINES 113.989 in MODEL 171.473

Shown on engine 112

- 1 Viscous fan
- 2 Poly-V-belt
- 3 Fan shroud
- 4 Coolant hose
- 5 Coolant hose
- 6 Coolant hose to oil-water heat exchanger
- 7 Coolant pump belt pulley
- 8 Coolant pump
- 9 Coolant pump gasket
- 10 Shock absorber
- 11 Bolts



P20.10-0242-06

#### Modification notes

16.12.03	Value changed from 10 Nm to 9 Nm	Value in BA20.10-P-1002-01M modified on engine 112.910/911/912/913/914/915/916/917/920/921/922/923/940/941/942/943/944/945/946/947/949/953/954/955/960/961/970/972/973/975	*BA20.10-P-1002-01M
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		Remove/install	
	<b>Danger!</b>	<b>Risk of death</b> caused by vehicle slipping or toppling off the lifting platform.	Align vehicle between columns of lifting platform and position four support plates at the lifting platform support points specified by vehicle manufacturer.
1	Lift/jack up vehicle	Models 129, 170, 202, 208, 210, 220 Model 163 Model 171 Model 203, 209 Model 463	AS00.00-Z-0010-01A AR00.60-P-1000GH AR00.60-P-1000V AR00.60-P-1000P AR00.60-P-1000G
2	<b>Risk of injury</b> caused by <b>fingers being pinched or crushed</b> when removing, installing or aligning hoods, doors, trunk lids, liftgates or sliding roof Open engine hood	Keep body parts and limbs well clear of moving parts.  Model 129 Model 163.154 /172 up to VIN A145272 Model 163.154 /172 up to VIN X708318 Model 163.154 /172 from VIN A145273 Model 163.154 /172 from VIN X708319 Model 163.157/ 174/ 175 Model 170 Model 171.4 Model 202 Model 203 Model 208 / 210 Model 209 Model 220 Model 463	AS00.00-Z-0011-01A AR88.40-P-1000GH AR88.40-P-1000GI AR88.40-P-1000G AR88.40-P-1000G AR88.40-P-1000V AR88.40-P-1000E AR88.40-P-1000P <b>AR88.40-P-1000F</b> AR88.40-P-1000Q AR88.40-P-1000M AR88.40-P-1000GG
3.1	Unclip cover on front side of engine	Only model 220.	

4.1	Remove engine cover or air filter	<b>[i]</b> All except models 170.466, 171.473, 203.065 /265, 203.076 /276, 209.376 /476 from 24.4.04.	
5.1	Partially remove air filter housing	Engine 112.960 in model 170.466 Engine 112.961 in model 203.065/ 265 Engine 113.987 in model 209.376 /476 as of 24.4.04 Engine 113.988 in model 203.076 /276 Engine 113.989 in model 171.473	AR09.10-P-1150SVK AR09.10-P-1150AC
6.1	Remove viscous fan (1)	All except models 163.174 /175, 170, 171.473, 203, 208.365 /465, 209, 220 <b>[i]</b> Right-hand thread!	AR20.40-P-5660C
7.1	Remove fan shroud (3)	<b>[i]</b> On vehicles fitted with suction fan, separate the plug connection of the suction fan before removing the fan shroud (3). Model 171.473 with engine 113.989 Model 463 with engine 112.945, 113.962 /982 Model 220 with engine 112, 113	AR20.40-P-6800VT AR20.40-P-6800V AR20.40-P-6800AB
8.1	Remove electric fan	Model 163 with engines 113.965/ 981 Model 170 with engine 112.947 /960 Model 171.473 with engine 113.989 Model 203.076 /276 Model 203 with engines 112.912 /916 /946 /953 /961 Model 209 with engines 112.912 /955, 113.968 /987. Model 208.365 / 465	AR20.40-P-5000GH AR20.40-P-5000SV AR20.40-P-5000V AR20.40-P-5000AC AR20.40-P-5000PV
<b>⚠ Danger!</b>	<b>Risk of injury</b> to skin and eyes caused by scalding from contact with hot coolant spray. <b>Risk of poisoning</b> caused by swallowing coolant.	Do not open cooling system unless coolant temperature is below 90°C. Open cap slowly and release the pressure. Do not pour coolant into beverage containers. Wear protective gloves, protective clothing and safety glasses.	<b>AS20.00-Z-0001-01A</b>
9	Drain coolant at radiator	<b>[i]</b> Model 163: For draining coolant, detach bottom coolant line at radiator or at coolant pump. <b>[!] Installation:</b> On model 163 replace radiator connection of hose clamps to coolant hose, otherwise this can cause a damage to the bolt/thread. <b>[Nm]</b> Hose clamp <b>[i]</b> Collect coolant <b>[i]</b> Disposal of coolants: observe legal regulations or local wastewater requirements! Refer to Environmental Protection Catalog issued by MBVD/PWU for locations in Germany. Model 129, 163, 202, 208, 210, 220 with engine 112 Model 220, 210, 208, 202, 163, 129 with engine 113 Model 463.206 /240 /241 /247 /248 /249 /254 with engine 113.962 Model 463.209 /232 /233 /244 /245 /250 with engine 112.945. Model 463.243 /246 with engine 113.982 Model 170.465 with engine 112.947 Model 170.466 with engine 112.960 Model 171.473 with engine 113.989 Model 203.061 /261 with engine 112.912 Model 203.064 /264 /764 with engine 112.946 Model 203.065 /265 with engine 112.961 Model 203.076 /276 with engine 113.988 Model 203.081 /281 with engine 112.916 Model 203.084 /284 with engine 112.953 Model 209.361 /461 with engine 112.912 Model 209.365 /465 with engine 112.955 Model 209.375 /475 with engine 113.968 Model 209.376 /476 with engine 113.987	<b>*BA20.20-P-1004-01A</b>  <b>AR20.00-P-1142HA</b>  <b>AR20.00-P-1142SV</b> <b>AR20.00-P-1142PV</b>
10	Remove poly-V belt (2)	<b>[i]</b> Lock tensioner pulley with drift or pin (diameter 5 mm).	

		<p>Model 463.209 /232 /233 /244 /245 /250 with engine 112.945.          Model 463.206 /240 /241 /247 /248 /249 /254 with engine 113.962          Model 463.243 /246 with engine 113.982          Model 129, 163 with engine 112          Model 129, 202, 208.370 /470, 210 with engine 113          Model 163 with engine 113 except 113.965 /981          Model 202, 208, 210, 220 with engine 112          Model 220 with engine 113 except 220.074 /174          Model 163.174 with engine 113.981          Model 163.175 with engine 113.965          Model 208.374 /474 with engine 113          Model 220.074 / 174          Model 170.465 with engine 112.947          Model 170.466 with engine 112.960          Model 203.065 /265 with engine 112.961          Model 171.473 with engine 113.989          Model 203.061 /261 with engine 112.912          Model 203.064 /264 /764 with engine 112.946          Model 203.076 /276 with engine 113.988          Model 203.081 /281 with engine 112.916          Model 203.084 /284 with engine 112.953          Model 209.361 /461 with engine 112.912          Model 209.365 /465 with engine 112.955          Model 209.375 /475 with engine 113.968          Model 209.376 /476 with engine 113.987</p>	AR13.22-P-1202B
11.1	Remove shock absorber (10)	Model 210, 203, 209, 202, 170, 129 with manual transmission	
12	Remove poly-V-belt tensioning device	<p>Model 463.209 /232 /233 /244 /245 /250 with engine 112.945.          Model 463.206 /240 /241 /247 /248 /249 /254 with engine 113.962          Model 463.243 /246 with engine 113.982          Model 129, 163 with engine 112          Model 129, 202, 208, 210 with engine 113          Model 163 with engine 113 except 113.965 /981          Model 163.174 with engine 113.981          Model 163.175 with engine 113.965          Model 170, 202, 203, 208, 209, 210, 220 with engine 112          Model 171.473 with engine 113.989          Model 203, 209, 220 with engine 113</p>	AR13.25-P-3200B
			AR13.25-P-3200BA
13	Disconnect coolant hose (4, 5)	<p> Check condition of coolant hoses and hose clamps, replace if necessary.</p>	
14.1	Disconnect coolant hose (6) at oil-water heat exchanger	<p> All except model 171.473.   Check condition of coolant hose and hose clamp; replace if necessary.</p>	
15.1	Remove bolts from oil lines on oil filter	<p> Only model 171.473.   Bolt of oil line to oil filter housing</p>	*BA18.20-P-1003-01D
16.1	Remove bolts from oil lines brackets and lay oil lines with brackets to one side	<p> Only model 171.473.   Bolt, oil line bracket</p>	*BA18.20-P-1004-01D
17.1	Remove bracket with switchover valve and pressure sensor and place to one side	Only model 171.473.	
18	Take off belt pulley of coolant pump (7)	<p> Engine 112: ↓   Belt pulley on coolant pump   Engine 113, except 113.987 /988 /989 /991: ↓   Belt pulley on coolant pump   Engines 113.987 /988 /989 /991: ↓   Belt pulley on coolant pump   Engine 113.989: ↓   Counterholder</p>	*BA20.10-P-1002-01M *BA20.10-P-1002-01C *BA20.10-P-1002-01L *113589004000
19	Remove coolant pump (8)	<p> <b>Installation:</b> Replace gasket of coolant pump (9).   Engine 112: ↓   Self-tapping screw for coolant pump to timing case</p>	*BA20.10-P-1001-01M

		<p><b>Engine</b> 113 except 113.987 /988 /989 /991: ↓</p> <p><b>Nm</b> Self-tapping screw for coolant pump to timing case</p> <p><b>Engines</b> 113.987 /988 /989 /991: ↓</p> <p><b>Nm</b> Bolt, coolant pump to timing case</p> <p><b>Engine</b> 112, 113: ↓</p> <p><b>Nm</b> Alternator screw</p> <p><b>External torx set</b></p>	<p>*BA20.10-P-1001-01C</p> <p>*BA20.10-P-1001-01L</p> <p>*BA15.40-P-1003-01A</p> <p>*001589760900</p>
20	Install in the reverse order		
21	Inspecting cooling system for leaks	<p><b>Engine</b> All except models 170, 171.473, 203, 209, 220.074 /174</p> <p>Model 170, 171.473, 203, 209</p> <p>Model 220.074 / 174</p>	<p>AR20.00-P-1010HA</p> <p>AR20.00-P-1010P</p> <p>AR20.00-P-1010RVK</p>

**Nm** Alternator

Number	Designation	Engine 112.91/92/94/ 953/954/955/ 96/97 except 112.976, engine 113.94/96/98	Engine 113.991 in model 215, 220
BA15.40-P-1003-01A	Alternator bolt	Nm 42	-

**Nm** Oil filter

Number	Designation	Engine 113.989
BA18.20-P-1003-01D	Bolt, oil line to oil filter housing	Nm 9
BA18.20-P-1004-01D	Bolt for oil line bracket	Nm -

**Nm** Coolant pump, coolant thermostat

Number	Designation		
BA20.10-P-1001-01M	Self-tapping bolt, connecting coolant pump to timing case	Thread not pre-tapped M6 Nm Thread not pre-tapped M8 Nm Thread pre-tapped M6 Nm	14 35 10

		Thread pre-tapped	M8	Nm	25
BA20.10-P-1002-01M	Belt pulley on coolant pump			Nm	9

**Nm Coolant pump, coolant thermostat**

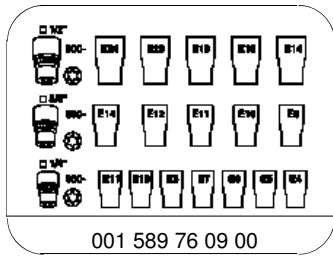
Number	Designation	Engine 113.940/941/ 942/943/944/ 945/946/948/ 960/961/962/ 963/965/966/ 967/968/969/ 980/981/982/ 984/986/992 993/995	
BA20.10-P-1001-01C	Self-tapping bolt, connecting coolant pump to timing case	Thread not pre-tapped	M6 Nm 14
		Thread not pre-tapped	M8 Nm 35
		Thread pre-tapped	M6 Nm 10
		Thread pre-tapped	M8 Nm 25
BA20.10-P-1002-01C	Belt pulley on coolant pump		Nm 10

**Nm Coolant pump, coolant thermostat**

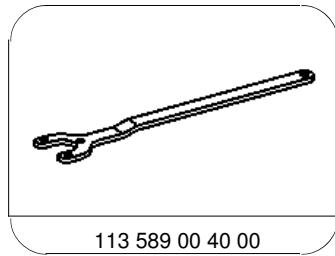
Number	Designation	Engine 113.987/988/ 990/991	Engine 113.989
BA20.10-P-1001-01L	Bolt, coolant pump to timing case	M6 Nm 14	14
		M8 Nm 20	20
BA20.10-P-1002-01L	Belt pulley on coolant pump	Nm 9	9

**Nm Radiator, coolant hoses**

Number	Designation	Engine 112.942/ 970, 113.942/ 965/981
BA20.20-P-1004-01A	Hose clamp	Nm 3



External Torx set



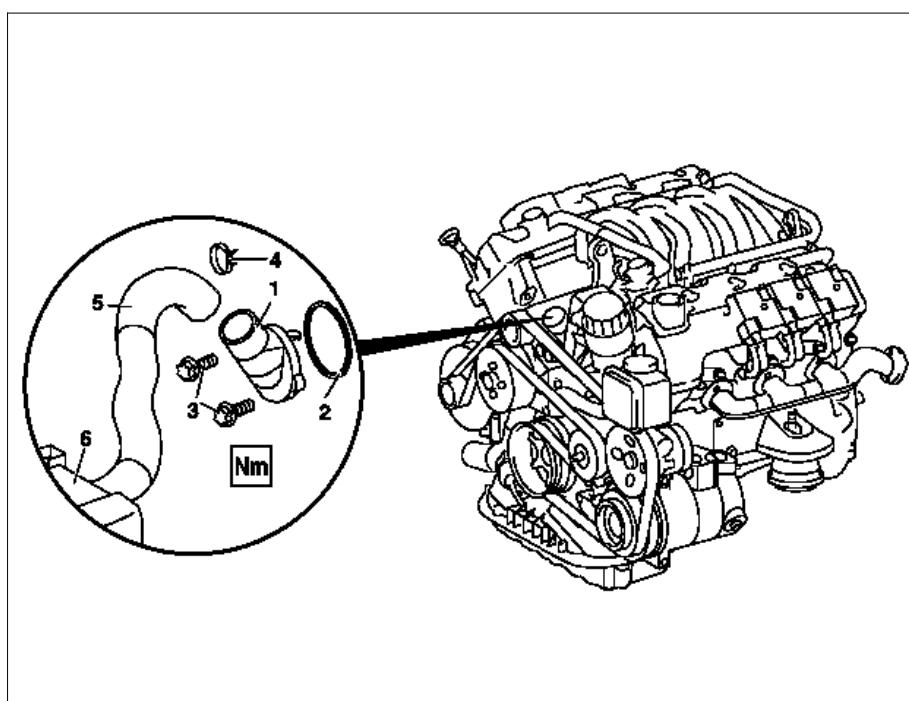
113 589 00 40 00

Counterholder

ENGINE 112 in MODEL 129, 163, 202, 208, 209.361 /365 /461 /465, 210, 211.061 /261 /065 /265, 220  
 ENGINE 112.945 in MODEL 463.209 /232 /233 /244 /245 /250  
 ENGINE 113 in MODEL 129, 163, 202, 203, 208, 209, 210, 211.070 /270, 220, 230.475  
 ENGINE 113.962 in MODEL 463.206 /240 /241 /247 /248 /249 /254  
 ENGINE 113.982 in MODEL 463.243 /246  
 ENGINE 113.989 in MODEL 171.473

Shown on engine 112

- 1 Coolant thermostat housing
- 2 Sealing ring
- 3 Bolts
- 4 Hose clamp
- 5 Coolant hose
- 6 Radiator



P20.10-0243-06

#### Modification notes

1.9.04	Value changed from 10 Nm to 14 Nm	Value in row 1003 changed for engine 112.910/911/912/913/914/915/916/917/920/921/922/923/940/941/942/943/944/945/946/947/949/953/954/955/960/961/970/972/973/975	<a href="#">*BA20.10-P-1003-01M</a>
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	Remove/install		
<b>Danger!</b>	<b>Risk of injury</b> caused by <b>fingers being pinched or crushed</b> when removing, installing or aligning hoods, doors, trunk lids, tailgates or sliding roof.  1 Open engine hood	Keep body parts and limbs well clear of moving parts.	<a href="#">AS00.00-Z-0011-01A</a>
<b>Danger!</b>	<b>Risk of injury</b> to skin and eyes caused by scalding from contact with hot coolant spray. <b>Risk of poisoning</b> caused by swallowing coolant.  2 Drain coolant at radiator (6)	<p>Do not open cooling system unless coolant temperature is below 90°C. Open cap slowly and release the pressure. Do not pour coolant into beverage containers. Wear protective gloves, protective clothing and safety glasses.</p> <p> Model 163: For draining coolant, detach bottom coolant line at radiator or at coolant pump.</p> <p> <b>Installation:</b> On model 163 replace radiator connection of hose clamps to coolant hose, otherwise this can cause a damage to the bolt/thread.</p> <p> Model 163</p> <p> Collect coolant</p> <p> Disposal of coolants: observe legal regulations or local wastewater requirements! Refer to Environmental Protection Catalog issued by MBVD/PWU for locations in Germany.</p>	<a href="#">AS20.00-Z-0001-01A</a>  <a href="#">*BA20.20-P-1004-01A</a>

		Engine 112 in model 220, 208, 211, 163, 210, 129, 202 Engine 113 in model 211, 163, 208, 202, 210, 220, 129 Engine 113.962 in Model 463.240 /241 /248 /254 /206 /247 /249 Engine 112.945 in model 463.233 /244 /209 /232 /245 /250 Engine 113.982 in model 463.246 /243 Engine 113.963 in model 230.475 Engine 112.912 in model 209.361 /461 Engine 112.955 in model 209.365 /465 Engine 113.968 in model 209.375 /475 Engine 113.987 in MODEL 209.376/ 476 Engine 113.988 in model 203.076/ 276 Engine 113.989 in model 171.473	AR20.00-P-1142HA
④	Notes on coolant		AH20.00-N-2080-01A
3	Unclip cover on front side of engine	Model 211, 220	
4	Remove engine cover with integrated air filter	Except model 211, 230  Model 171.473 Model 203.076/ 276 Model 209.376/ 476 as of 24.4.04  [i] For model 463, 220, 210.074 /274, 208.370 /374 /470, 209.361 /365 /375 /376 /461 /465 /475 /476, 202.033 /093, 129, the air filter is integrated in the engine cover. Remove engine cover or air filter by pulling it vertically up and off the cylinder head covers.	AR09.10-P-1150AC
5	Detach coolant hose (5)	[i] Inspect condition of coolant hose (5) and hose clamp (4), replace if necessary.	
6	Remove poly-V belt from guide pulley	Model 171.473 with engine 113.989	AR13.22-P-1202PV
7	Unscrew bolts (3), remove coolant thermostat housing (1) with coolant thermostat	[i] The coolant thermostat must not be removed from the housing. Otherwise it will be destroyed. Re-installation is not possible. The housing is supplied together with the coolant thermostat for repair purposes.  [i] <b>Installation:</b> Install new sealing ring (2). Nm Engine 112 Nm Engine 113 except 113.987 /988 /989 /991 Nm Engine 113.987 /988 /989 /991	*BA20.10-P-1003-01M *BA20.10-P-1003-01C *BA20.10-P-1003-01L
8	Install in the reverse order		
9	Inspect cooling system for leaks	Model 129, 163, 202, 208, 210, 211, 463 Model 220 except 220.074 /174 Model 171.473 Model 203.076/ 276 Model 209 with engine 112, 113 Model 220.074/ 174 Model 230.475	AR20.00-P-1010HA AR20.00-P-1010P AR20.00-P-1010RVK

#### Nm Radiator, coolant hoses

Number	Designation	Engine 112.942/ 970, 113.942/ 965/981
BA20.20-P-1004-01A	Hose clamp	Nm 3

#### Nm Coolant pump, coolant thermostat

Number	Designation	Engine 113.940/941/ 942/943/944/ 945/946/948/ 960/961/962/ 963/965/966/ 967/968/969/ 980/981/982/ 984/986/992 993/995
BA20.10-P-1003-01C	Bolt for coolant thermostat housing	M6 Nm 10

**Nm Coolant pump, coolant thermostat**

Number	Designation	Engine 112.910/911/912 /913/914/915/ 916/917/920/ 921/922/923/ 940/941/942/ 943/944/945/ 946/947/949/ 953/954/955/ 960/961/970/ 972/973/975
BA20.10-P-1003-01M	Bolt for coolant thermostat housing	M6 Nm 14

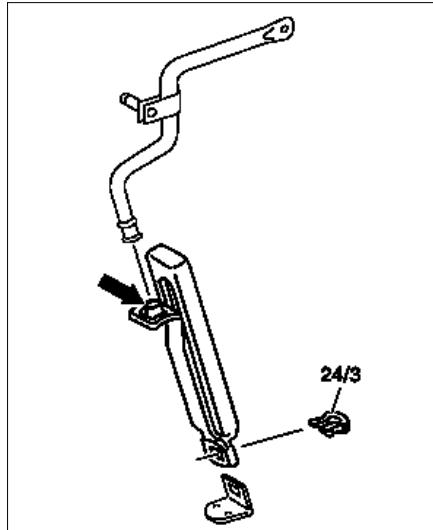
**Nm Coolant pump, coolant thermostat**

Number	Designation	Engine 113.987/988/ 990/991	Engine 113.989
BA20.10-P-1003-01L	Bolt for coolant thermostat housing	M6 Nm 14	14

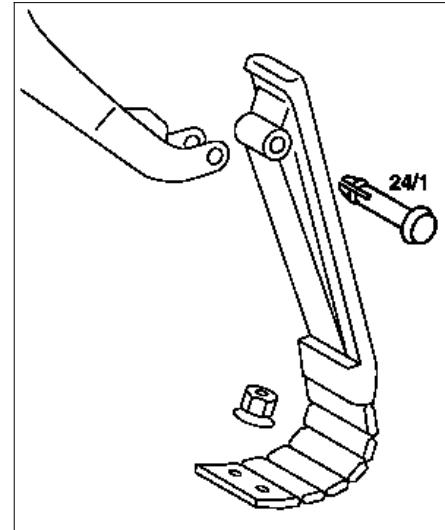
**MODEL** 124, 129, 140, 170, 202, 208, 210, 461, 463.200 /204 /206 /207 /208 /209 /220 /221 /224 /225 /227 /228 /230 /231 /232 /233 /240 /241 /300 /304 /307 /308 /320 /321 /324 /325 /327 /328 /330 /331 (except , 461.304 /305 /305 /333 /334 /340 /343 /344 /346)

**Diagram left**

Models 124, 463, 461



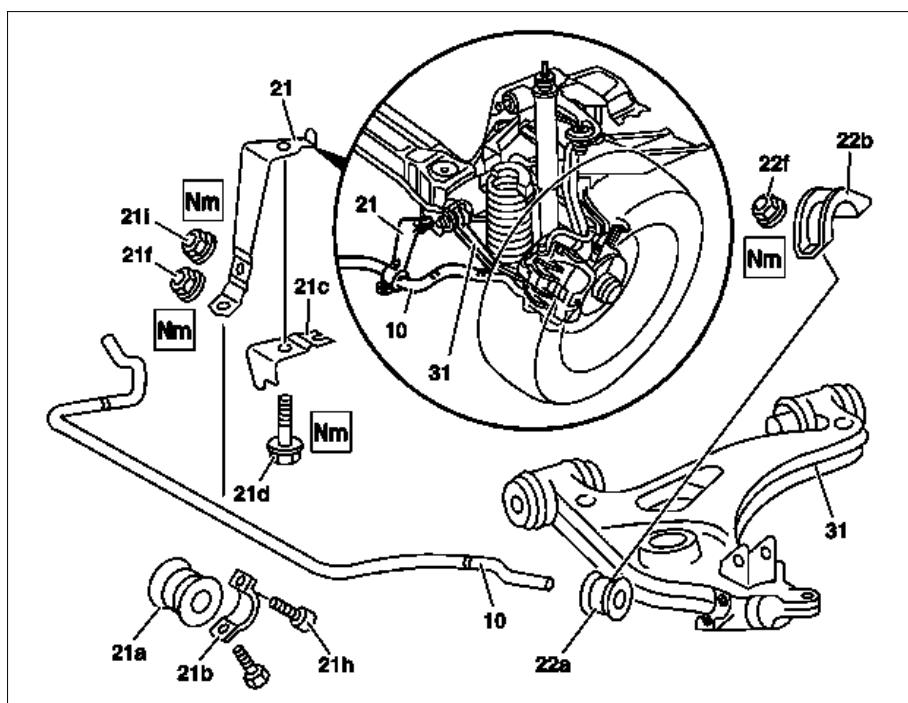
P30.10-0220-02



P30.10-0221-02

Figure/item, etc.	Work instructions		
24/3, 24/1	Expanding clip or expanding wedge pin	The expanding clip or expanding wedge pin must engage properly	

MODEL 170, 202, 208



P32.20-0209-06

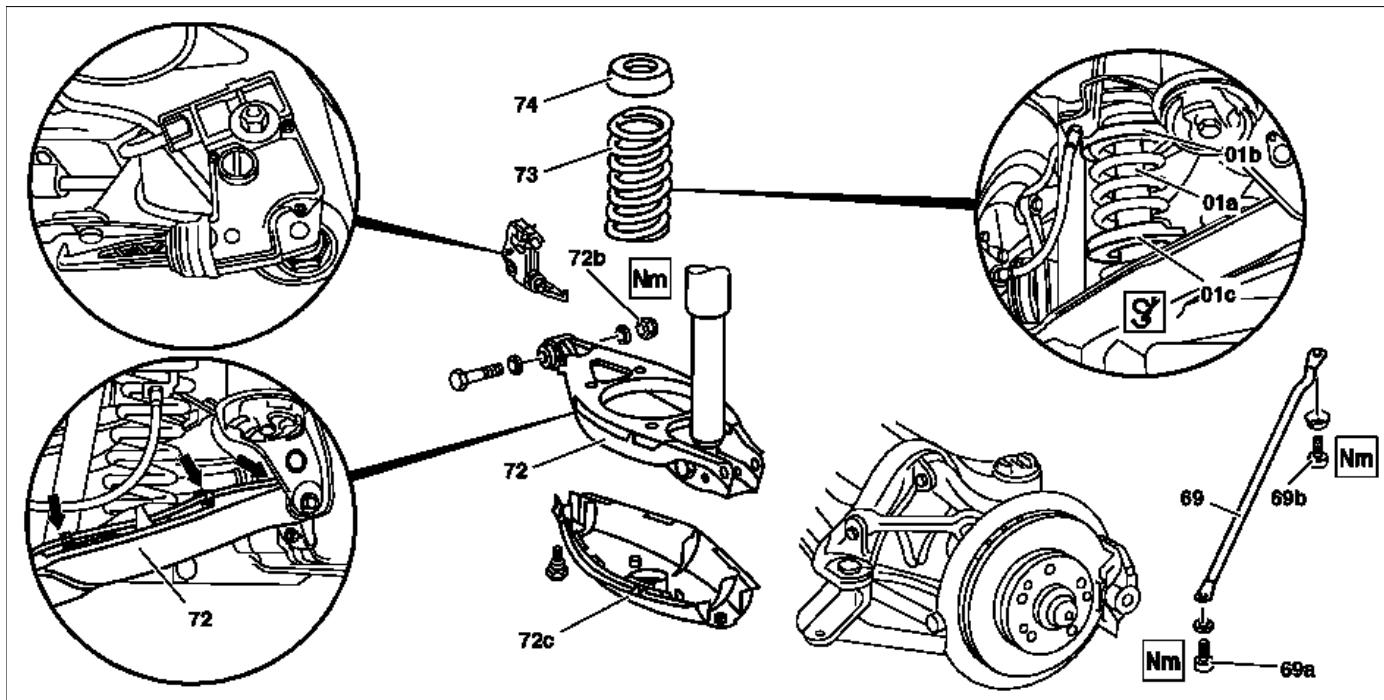
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<b>Removal, installation</b>		
		Replace self-locking bolts and nuts.		
1		Remove bracket (22b).	Nut (22f)	*BA32.20-P-1001-02C
2		Remove bracket (21b).	Nut (21i) Nut (21f)  <b>Installation:</b> Due to the preload of the bracket (21b), first install the hexagon socket bolt (21h).	*BA32.20-P-1002-02C  *BA32.20-P-1003-02C
3		Remove spring leaf swivelling lever (21) and mounting plate (21c).	Comply with spring leaf swivelling lever assignment! The spring leaf swivelling lever (21) differs on the left and right and is mounted differently depending on the model. Bolt (21d)	*BA32.20-P-1004-02C
4		Remove torsion bar (10).	<b>Installation:</b> Align torsion bar (10).	
5		Pull rubber mounts (21a, 22a) off torsion bar (10).		
6		Install in reverse sequence.		

#### **Front axle torsion bar**

Number	Designation	Model 202	Model 208
BA32.20-P-1001-02C	Self-locking nut for fastening bracket to wishbone	Nm	20
BA32.20-P-1002-02C	Self-locking nut for fastening bracket to top of spring leaf swivelling lever	M10 Nm	40
BA32.20-P-1003-02C	Self-locking nut for fastening bracket to bottom of spring leaf swivelling lever	M8 Nm	20
BA32.20-P-1004-02C	Self-locking bolt for fastening spring leaf swivelling lever to side member	Nm	60

#### **Front axle torsion bar**

<b>Number</b>	<b>Designation</b>	<b>Model 170</b>		
BA32.20-P-1001-02C	Self-locking nut for fastening bracket to wishbone	Nm	20	
BA32.20-P-1002-02C	Self-locking nut for fastening bracket to top of spring leaf swivelling lever	M10	Nm	40
BA32.20-P-1003-02C	Self-locking nut for fastening bracket to bottom of spring leaf swivelling lever	M8	Nm	20
BA32.20-P-1004-02C	Self-locking bolt for fastening spring leaf swivelling lever to side member	Nm	60	



P32.20-0206-09

Remove/install			
<b>⚠ Danger!</b>	Risk of death caused by vehicle slipping or toppling off of the lifting platform.	Align vehicle between the columns of the lifting platform and position the four support plates at the lifting platform support points specified by the vehicle manufacturer.	AS00.00-Z-0010-01A
<b>i</b>	Springs; general background information.	Model 129, 140, 168, 170, 202, 208, 210	AH32.20-P-9404-01A
1	Raise vehicle		
2.1	Remove rear axle switch for roll bar.	Model 129 up to 08/95	ra91001290860x
3	Remove track control arm shield (72c).		
4	Remove lateral strut (69).	Model 129 for removal of left rear spring Model 170, 208.4 for removal of left or right rear spring  Installation: <b>Nm</b> Replace self-locking bolt (69a, 69b) Model 129 Model 170 Model 208.4	*BA32.20-P-1001-03A *BA61.10-P-1001-01A *BA61.10-P-1003-01C
5.1	Unclip electrical line for brake wear indicator on spring control arm (72) (arrows).	Vehicles with ASR code 471  Installation: Check line is correctly routed.	
6	Insert clamping plates (01b, 01c).	<b>✉</b> Model 140 up to 12.94 <b>✉</b> Model 129, 140 as of 01.95, 170, 202, 208, 210	*202589146300 *202589136300
7	Raise spring control arm (72).	Until the rear axle shaft adopts an almost horizontal position.	
8	Insert tensioning device (01a).	<b>✉</b>	*202589023100
<b>⚠ Danger!</b>	Risk of injury caused by pinching or crushing when working on springs or spring bodies that are under tension  Clamp rear spring.	Use only approved tensioning devices; shield off hazard area if necessary. Inspect special tools for damage and proper operation (visual inspection). Wear protective gloves.	AS00.00-Z-0001-01A  AR32.20-P-0200-01A
9	Release spring control arm (72).	Model 129, 140, 170, 202, 208, 210  Installation: <b>Nm</b> Replace self-locking nut (72b) and tighten in almost horizontal position of rear axle shaft.	*BA35.20-P-1001-01A
10	Remove rear spring (73) with rubber bushing (74).	<b>✉</b> Clean track control arm (72) in area surrounding the anchorage point. Model 202	
<b>BT</b>	Modified front and rear springs	<b>i</b> After replacing the rear spring or the rubber mount ↓	BT32.20-P-0001-01A

		Check and correct headlamp adjustment	AP82.10-P-8260A
12	Install in the reverse order.		

**Nm** Rear axle steel suspension

Number	Designation	Model 129	
BA32.20-P-1001-03A	Self-locking bolt for fastening cross strut to frame floor assembly	Nm	120

**Nm** Spring control arm

Number	Designation	Model	Model	Model	Model
		129	140	202	208
BA35.20-P-1001-01A	Self-locking nut, spring control arm to rear axle carrier	Stage 1 Nm	70	70	70
		Stage 2 $\Delta^\circ$	-	-	-

**Nm** Spring control arm

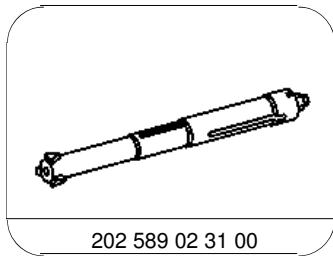
Number	Designation	Model	Model
		208	210 except 210.07 with Code 979 and Code Z06
BA35.20-P-1001-01A	Self-locking nut, spring control arm to rear axle carrier	Stage 1 Nm	70
		Stage 2 $\Delta^\circ$	-

**Nm** Frame floor assembly

Number	Designation	Model 170	
BA61.10-P-1001-01A	Self-locking bolt connecting rear cross strut to frame floor	Nm	60

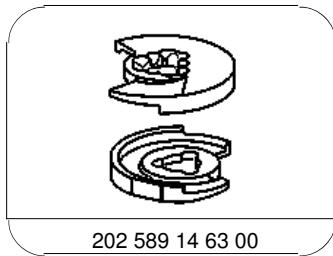
**Nm** Frame floor assembly

Number	Designation	Model
		208.435/445/ 447/465/470
BA61.10-P-1003-01C	Self-locking bolt connecting rear cross strut to frame floor	Nm 60



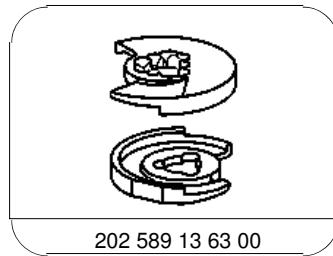
202 589 02 31 00

Tensioning device



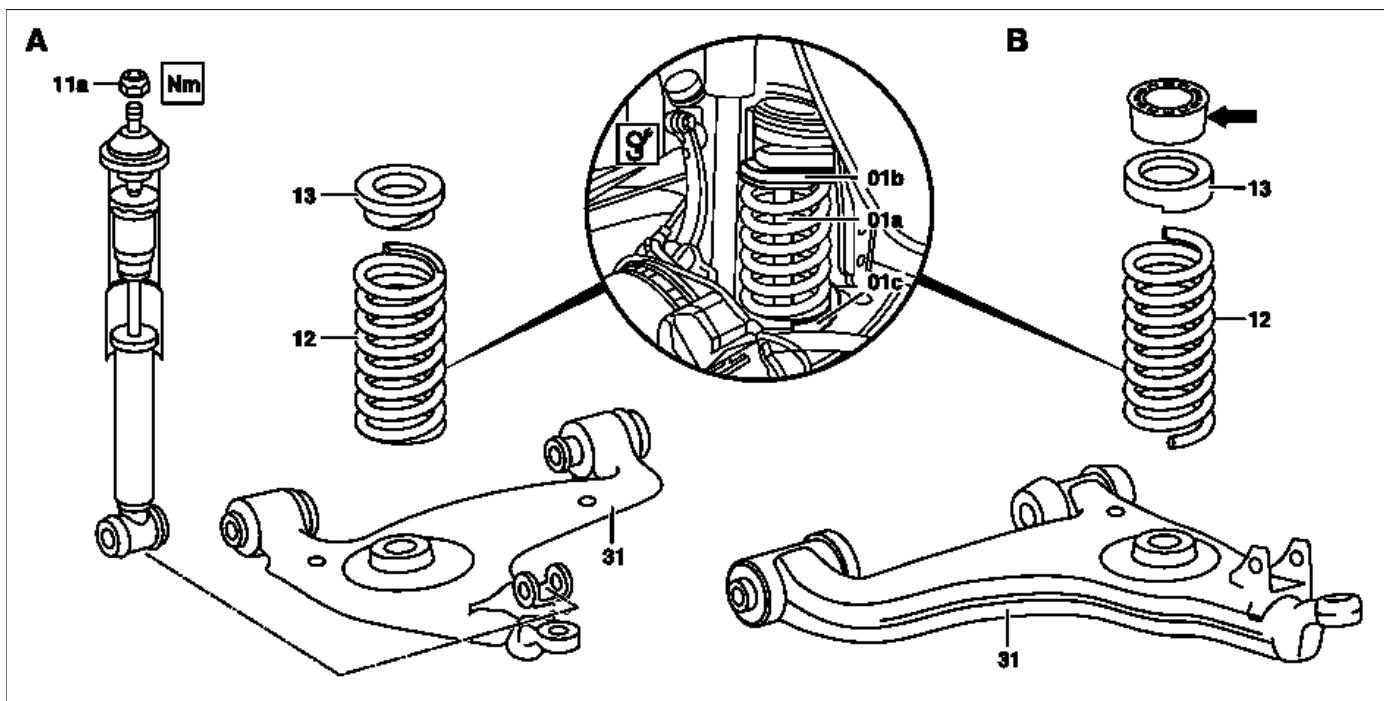
202 589 14 63 00

Tensioning plates



202 589 13 63 00

Tensioning plates



P32.25-0221-09

A Front spring, models 140

B Front spring, model 170, 202, 208, 210

		Removing, installing	
	General information on springs	Models 129, 140, 168, 170, 202, 208, 210	<a href="#">AH32.20-P-9404-01A</a>
1	Detach upper shock absorber fixing and raise vehicle.	Model 140 ⚠ The vehicle must be on its wheels for removing the upper shock absorber fixing. 💡 Steady piston rod using Allen wrench ⚠ <b>Installation:</b> Replace self-locking nut (11a).	<a href="#">*BA32.25-P-1001-01A</a>
2	Insert clamping plates (01b, 01c)	Model 140 Models 170, 202, 208, 210	<a href="#">*202589146300</a> <a href="#">*202589136300</a>
3	Insert clamping device (01a)	Model 140 alternatively Models 170, 202, 208, 210 alternatively	<a href="#">*202589013100</a> <a href="#">*202589023100</a>
	<b>Danger!</b> Risk of injury from being trapped or crushed when working on preloaded springs or spring bodies	Only use approved clamping devices and if appropriate also screen off the danger area. Check special tools for damage and function, (visual inspection). Wear safety gloves.	<a href="#">AS00.00-Z-0001-01A</a>
4	Clamp, unclamp front spring		<a href="#">AR32.20-P-0200-01A</a>
5	Remove front spring (12) with rubber mount (13) forwards	Clean wishbone in area of support surface 💡 Models 170, 202, 208, 210: additionally insert plastic support (arrow) Models 202, 210: insert zinc sealing washer for England and Scandinavia.	
	Modified front and rear springs	Model 202 After replacing the front spring or rubber mount: ↓ Check and correct headlamp adjustment	<a href="#">BT32.20-P-0001-01A</a> <a href="#">AP82.10-P-8260A</a>
6	Install in reverse order		

## Front axle shock absorber

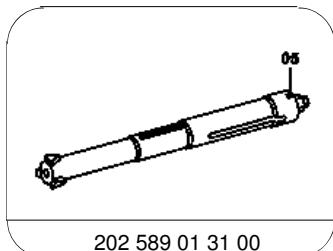
Number	Designation	Model 140

BA32.25-P-1001-01A

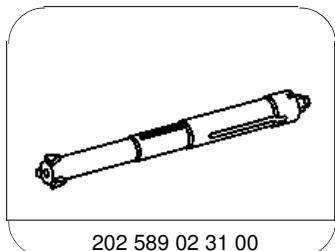
Self-locking nut for fastening shock absorber to front end

Nm

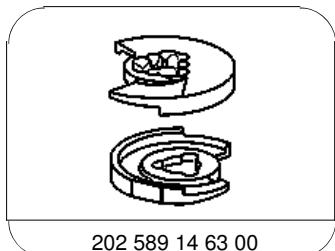
40



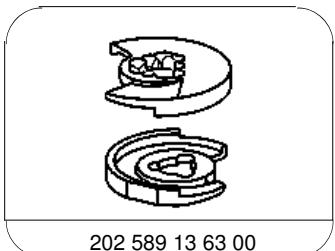
202 589 01 31 00



202 589 02 31 00



202 589 14 63 00



202 589 13 63 00

Clamping device

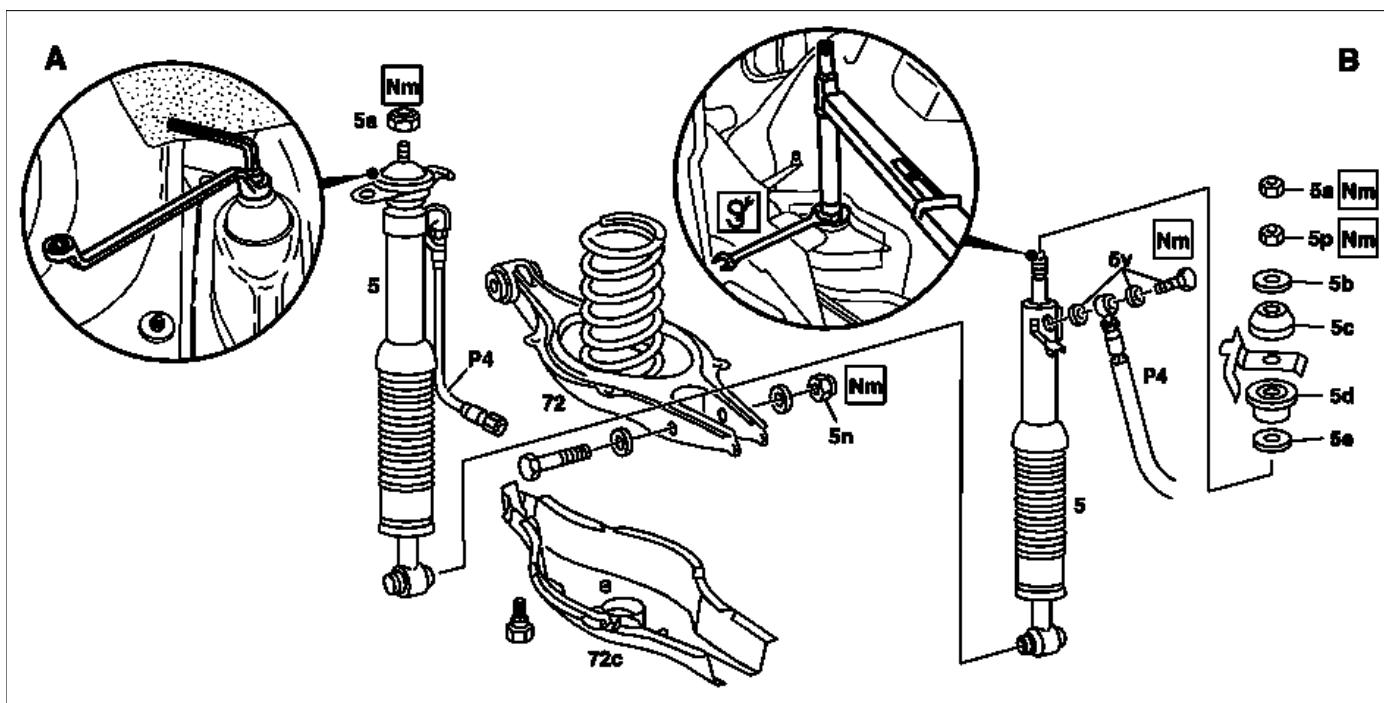
MODEL 140 as of 1.6.94,

210

with CODE (217) Level control on rear axle with ADS

with CODE (480) Rear axle level control system

MODEL 202, 203.2, 208 with CODE (480) Rear axle level control system

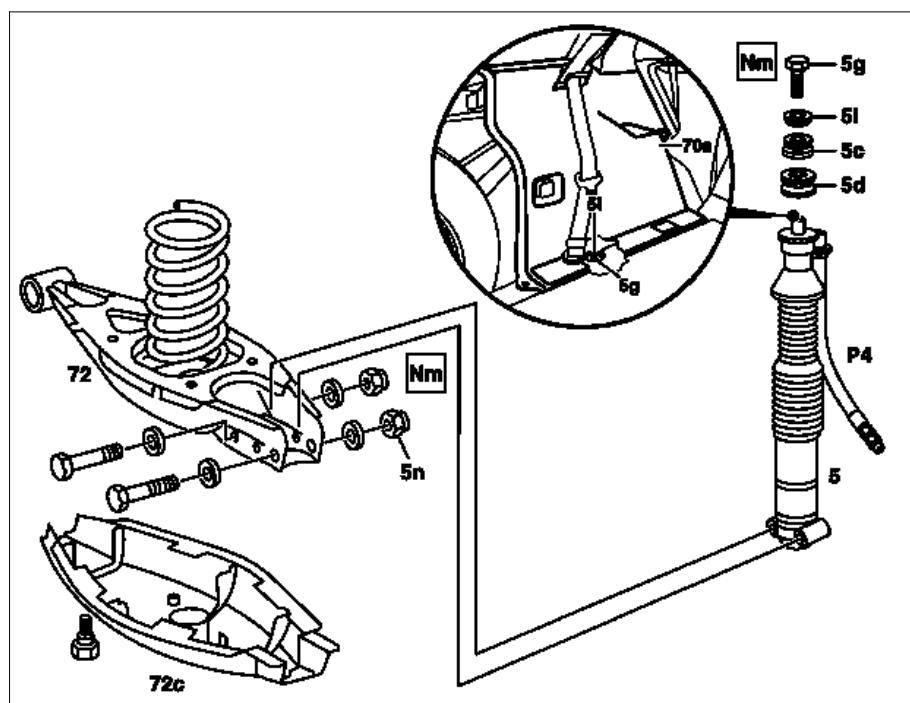


P32.30-0217-09

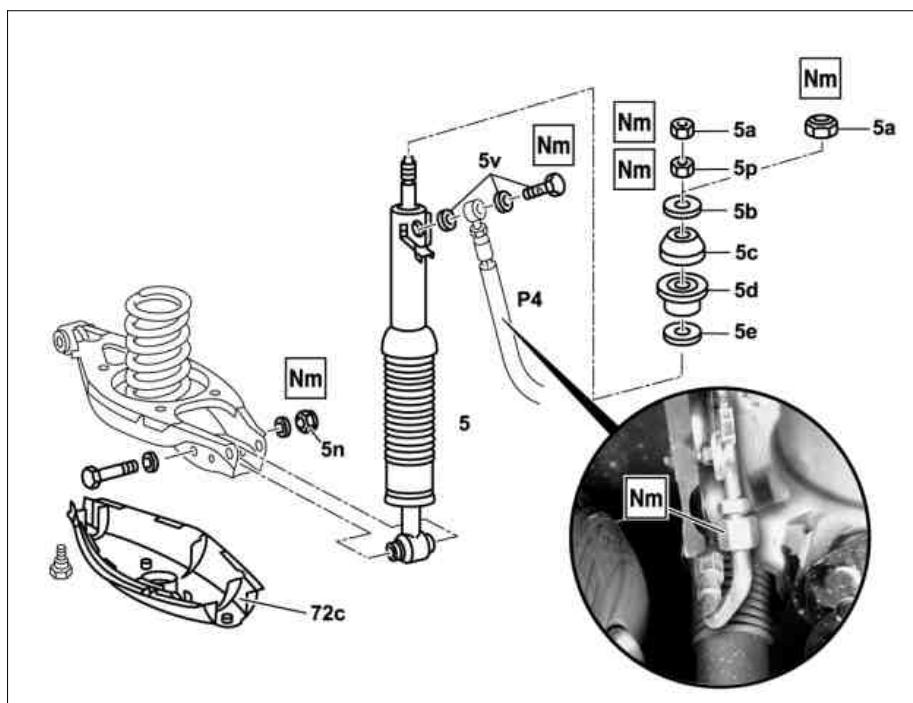
A Suspension strut, model 140

B Suspension strut, model 202, 208, 210.0

Suspension strut, model 210.2, 210.6



P32.30-0263-06



P32.25-2044-06

	Remove/install		
	The vehicle must be standing on its wheels for removing the top suspension strut mounting.		
1	Remove trunk lining or load area lining		
2	Detach top suspension strut mounting	Model 140 Counterhold piston rod with Allen wrench (WAF 5). <input checked="" type="checkbox"/> Model 202, 208, 210.0 <b>Installation:</b> Replace self-locking nut (5a) on model 140. <b>Nm</b> Model 140 nut (5a) <b>Nm</b> Model 202, 203, 208 nut (5p) <b>Nm</b> Model 210.0 nut (5p) <b>Nm</b> Models 202, 208 nut (5a) <b>Nm</b> Model 210.0 nut (5a) <b>Nm</b> Model 210.2, 210.6 bolt (5g)	*202589000900 <b>*BA32.30-P-1001-01A</b> <b>*BA32.30-P-1001-01B</b> <b>*BA32.30-P-1006-01A</b> <b>*BA32.30-P-1002-01B</b> <b>*BA32.30-P-1005-01A</b> <b>*BA32.30-P-1007-01A</b>
3.1	Remove washer (5b) and rubber mount (5c)	Model 202, 203, 208, 210.0	
3.2	Remove washer (5i) and rubber mount (5c)	Model 210.2, 210.6	
4	Raise vehicle		
	<b>Danger!</b> <b>Risk of injury</b> to skin or eyes caused by hydraulic fluid spraying out under high pressure. <b>Risk of poisoning</b> caused by swallowing hydraulic fluid	Depressurize the hydraulic system completely before starting any work on the system. Wear protective clothing and safety glasses.	AS00.00-Z-0013-01A
5	Empty pressurized oil system		<b>AR32.30-P-0630A</b>
	General information for working on vehicles with level control/ADS	All models with code 216b, 216c, 217a, 480	<b>AH32.00-P-0002-01A</b>
6.1	Disconnect pressure line (P4) at connection of the steel line/pressure hose	Model 140, 210.2, 210.6 <b>Installation:</b> Pay attention to correct routing of pressure line (P4). <b>Nm</b> Model 140 <b>Nm</b> Model 210.2, 210.6	*BA32.30-P-1003-01A *BA32.30-P-1003-01A
6.2	Disconnect pressure line (P4) at suspension strut	Model 202, 203, 208, 210.0 <b>Nm</b> Model 202, 208 <b>Nm</b> Model 210.0	*BA32.30-P-1004-01B *BA32.30-P-1004-01B
		<b>Installation:</b> Replace copper sealing rings on banjo bolt (5v) Before tightening the pressure line on suspension strut ↓ Check/set up distance between the suspension strut and wheel arch	<b>AR32.30-P-0610-01A</b>
7	Detach cover of spring control arm (72c)		

8	Detach/remove suspension strut (5) on spring control arm (72)	<p><b>Installation:</b> Pull suspension strut apart so that the suspension strut mount abuts the dome. Model 140: The sheet metal plate on the suspension strut mount must point in the direction of travel. Replace self-locking nut (5n).</p> <p><b>Nm</b> Model 140 Model 202, 203, 208 <b>Nm</b> Model 210</p>	
	<b>Checking</b>		
9	Check rubber mounts (5c, 5d), plate (5e) suspension strut mount and rubber boot for damage and cracks. Check ball joint for wear		
10	Check suspension strut for leaktightness	<p><b>i</b> A slight oil mist is permissible. If the joint eye is wet with oil → replace suspension strut.</p>	
11	Install in the reverse order	<p><b>i</b> <b>After installing:</b> Check distance between suspension strut and wheel arch in the ready to drive condition Model 202, 203, 208, 210.0: If necessary, loosen top suspension strut mounting and re-align suspension strut.</p>	AR32.30-P-0610-01A
 <b>Danger!</b>	<b>Risk of injury</b> caused by drilling gas-filled assemblies or components (noncombustible gases) Dispose of suspension strut	Wear safety glasses and a face mask.	AS00.00-Z-0006-01A
12  <b>OS</b>			OS32.25-P-0120-01A

#### Check values for rear axle suspension strut

Number	Designation	Model 202 with level control	Model 203.2 with level control
BE32.30-P-1001-01A	Distance between bracket of pressure hose on suspension strut tube and wheel arch at full rebound travel	Left mm 11-15	11 to 15
		Right mm 24-28	24 to 28
		See picture	AR32.30-P-0610-01A AR32.30-P-0610-01A
BE32.30-P-1002-01A	Distance between the bracket of the pressure hose on suspension strut tube and wheel arch ready to drive (vehicle standing on its wheels)	LEFT mm 14-18	14 to 18
		Right mm 26-30	26 to 30
		See picture	AR32.30-P-0610-01A AR32.30-P-0610-01A

#### Check values for rear axle suspension strut

Number	Designation	Model 208 with level control	Model 210.0 with level control/ADS
BE32.30-P-1001-01A	Distance between the bracket of the pressure hose on suspension strut tube and wheel arch at full rebound travel	Left mm 11-15	8,5-10,5
		Right mm 24-28	8,5-10,5

		See picture	AR32.30-P-0610-01A	AR32.30-P-0610-01A
BE32.30-P-1002-01A	Distance between the bracket of the pressure hose on suspension strut tube and wheel arch ready to drive (vehicle standing on its wheels)	LEFT mm	14-18	10.5-12,5
		Right mm	26-30	10.5-12,5
		See picture	AR32.30-P-0610-01A	AR32.30-P-0610-01A

**Nm Suspension strut rear axle**

Number	Designation	Model 202 with level control	Model 203.2 with level control
BA32.30-P-1001-01B	Nut, suspension strut of level control to frame floor assembly	Nm 18	18
BA32.30-P-1002-01B	Jam nut, suspension strut of level control to frame floor assembly	Nm 30	30
BA32.30-P-1003-01B	Self-locking nut, ride-height control strut to track control arm	Nm 55	55
BA32.30-P-1004-01B	Banjo bolt of pressure line of level control on suspension strut	Nm 25	25

**Nm Suspension strut rear axle**

Number	Designation	Model 208 with level control
BA32.30-P-1001-01B	Nut, suspension strut of level control to frame floor assembly	Nm 18
BA32.30-P-1002-01B	Jam nut, suspension strut of level control to frame floor assembly	Nm 30
BA32.30-P-1003-01B	Self-locking nut, ride-height control strut to track control arm	Nm 55
BA32.30-P-1004-01B	Banjo bolt of pressure line of level control on suspension strut	Nm 25

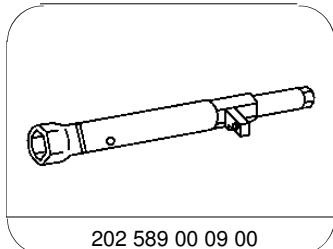
**Nm Suspension strut rear axle**

Number	Designation	Model 140 with level control/ADS	Model 210.0 with level control/ADS
BA32.30-P-1001-01A	Self-locking nut, suspension strut level control/ADS to frame floor	Nm 40	-

BA32.30-P-1002-01A	Self-locking nut, suspension strut level control/ADS to spring control arm	Nm	100	55
BA32.30-P-1003-01A	Pressure line level control to steel pipe connection suspension strut - pressure hose (reference figure)	M16×1.5 Nm	30	30
BA32.30-P-1004-01A	Banjo bolt of pressure line of level control to suspension strut	Nm	-	25
BA32.30-P-1005-01A	Jam nut, suspension strut of level control to frame floor assembly	Nm	-	30
BA32.30-P-1006-01A	Nut, suspension strut of level control to frame floor assembly	Nm	-	17
BA32.30-P-1007-01A	Nut, suspension strut of level control to frame floor assembly	Nm	-	-

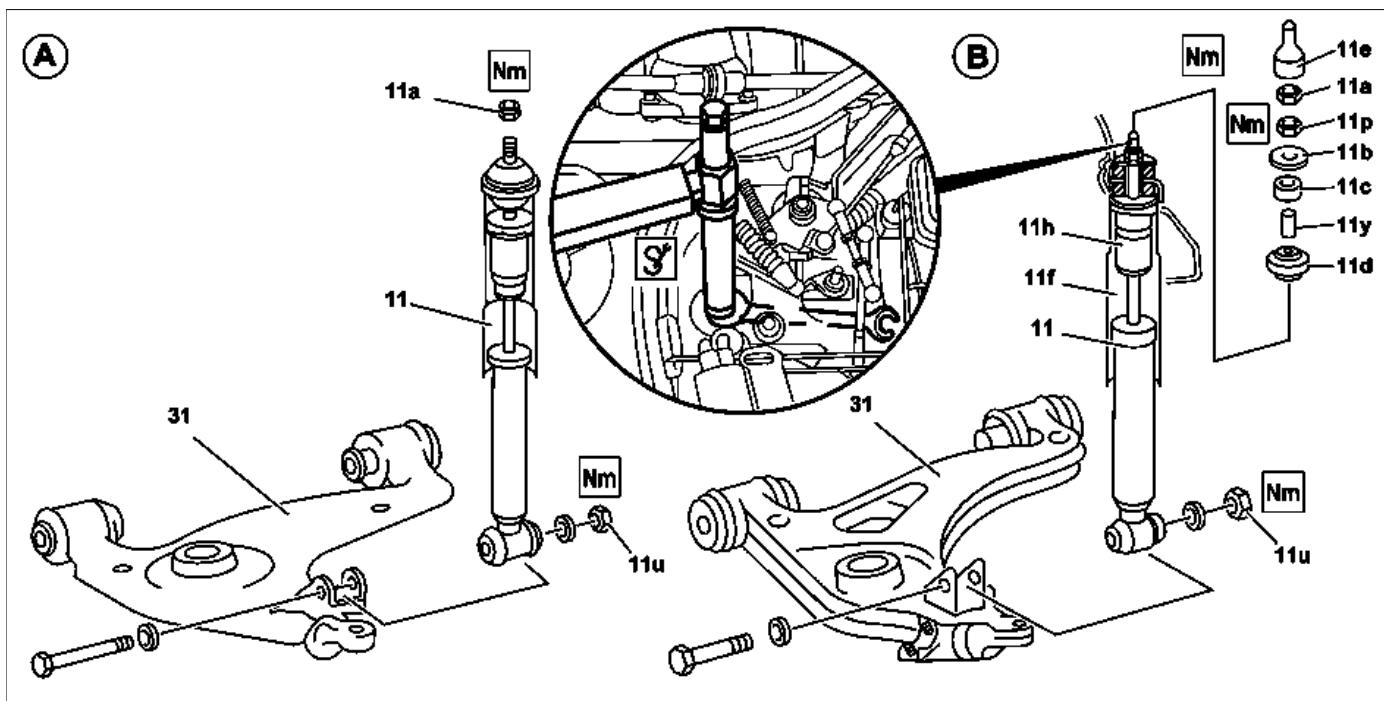
**Nm Suspension strut rear axle**

Number	Designation	Model 210.2 with level control/ADS
BA32.30-P-1002-01A	Self-locking nut, suspension strut level control/ADS to spring control arm	Nm 55
BA32.30-P-1003-01A	Pressure line level control to steel pipe connection suspension strut - pressure hose (reference figure)	M16×1.5 Nm 30
BA32.30-P-1007-01A	Nut, suspension strut of level control to frame floor assembly	Nm 25



Socket wrench

MODEL 140, 170, 202, 208, 210



P32.25-0203-09

A Damper, model 140

B Damper, model 170, 202, 208, 210

Remove/install			
	The vehicle must be on its wheels for the removal of the upper shock absorber mount.		
1	Detach upper shock absorber mount.  Model 140 Counterhold piston rod using Allen wrench (size 5).  <b>Model 170, 202, 208, 210:</b> Remove cap (11e) <b>Model 170, 202, 208, 210</b> <b>Installation:</b> Replace self-locking nut (11a).  <b>Model 140</b> nut (11a) <b>Model 170, 202, 208, 210</b> nut (11p) <b>Model 170, 202, 208, 210</b> nut (11a)	  <b>Model 170, 202, 208, 210:</b> Remove cap (11e) <b>Model 170, 202, 208, 210</b> <b>Installation:</b> Replace self-locking nut (11a).  <b>Model 140</b> nut (11a) <b>Model 170, 202, 208, 210</b> nut (11p) <b>Model 170, 202, 208, 210</b> nut (11a)	  <b>Model 170, 202, 208, 210:</b> Remove cap (11e) <b>Model 170, 202, 208, 210</b> <b>Installation:</b> Replace self-locking nut (11a).  <b>Model 140</b> nut (11a) <b>Model 170, 202, 208, 210</b> nut (11p) <b>Model 170, 202, 208, 210</b> nut (11a)
2.1	Remove plate (11b) and rubber mount (11c).	Model 170, 202, 208, 210	
3	Raise vehicle.		
4	Detach damper (11) from transverse control arm (31) and remove downwards.	<b>Installation:</b> Replace self-locking nut (11u).  <b>Model 140</b> <b>Model 170, 202, 208, 210</b>	  <b>Model 170, 202, 208, 210:</b> <b>Model 170, 202, 208, 210</b> <b>Installation:</b> Replace self-locking nut (11u).  <b>Model 140</b> <b>Model 170, 202, 208, 210</b>
5	Remove attaching parts (11y, 11d, 11f, 11h) of damper (11).	Model 170, 202, 208, 210  Check attaching parts (11d, 11f, 11h) for damage and cracks.	
6	Check shock absorber.		AR32.25-P-0121A
7	Install in the reverse order.		

#### Front axle shock absorber

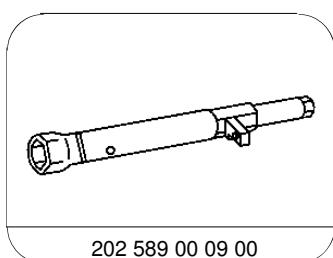
Number	Designation	Model 140	
BA32.25-P-1001-01A	Self-locking nut for attaching damper on front end	Nm	40
BA32.25-P-1002-01A	Self-locking nut for attaching damper on transverse control arm	Nm	100

**Nm** Front axle shock absorber

Number	Designation		Model 170	Model 202	Model 208
BA32.25-P-1001-01B	Nut for shock absorber on front end	Nm	18	18	18
BA32.25-P-1002-01B	Lock nut for shock absorber on front end	Nm	30	30	30
BA32.25-P-1003-01B	Self-locking nut, shock absorber to wishbone	– Nm	55	55	55
		Yellow Nm	-	-	-
		silver/blue Nm	-	-	-

**Nm** Front axle shock absorber

Number	Designation	Model 210 except 210.07 with codes Z04, Z06 210.08/28	
BA32.25-P-1001-01B	Nut for shock absorber on front end	Nm	18
BA32.25-P-1002-01B	Lock nut for shock absorber on front end	Nm	30
BA32.25-P-1003-01B	Self-locking nut, shock absorber to wishbone	– Nm	55
		Yellow Nm	-
		silver/blue Nm	-



202 589 00 09 00

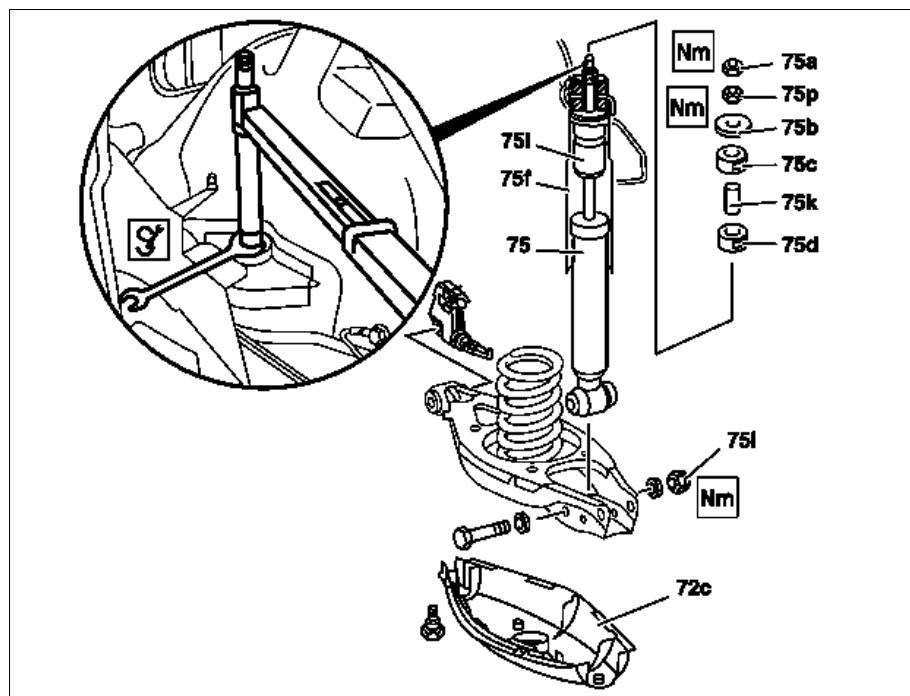
Socket wrench

MODEL 129, 140, 170, 202, 203, 208

MODEL 209 except CODE (P98) Black Series

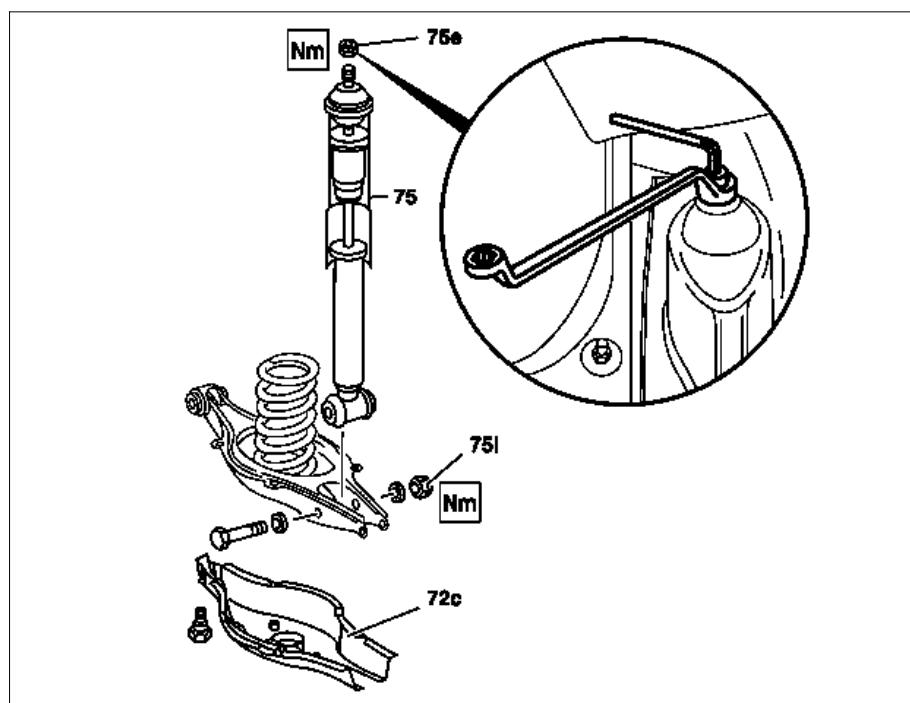
MODEL 210 except CODE (489) All-round level control system

Shock absorber model 129, 170, 202, 203  
208, 209 and model 210 with steel  
suspension



P32.25-2082-06

Shock absorber model 140 and model  
210 with ADS (Adaptive Damper System)



P32.25-2083-06

	Remove/install		
	<b>Danger!</b> Risk of death caused by vehicle slipping or toppling off of the lifting platform.	Align vehicle between columns of vehicle lift and position four support plates at vehicle lift support points specified by vehicle manufacturer.	AS00.00-Z-0010-01A
	Notes on self-locking nuts and bolts		AH00.00-N-0001-01A
1	Detach upper shock absorber mount	<p> The vehicle must be on its wheels for removing the upper shock absorber mount.</p> <p> Vehicles with steel suspension:</p> <p> Models 170, 202, 208, 210</p> <p> Models 129, 170, 202, 203, 208, 209, nut (75p)</p>	<p>*202589000900</p> <p>*BA32.25-P-1001-03A</p>

		<p><b>Nm</b> Models 129, 170, 202, 208 nut (75a)  <b>Nm</b> Model 210 nut (75a)  <b>i</b> Vehicles with ADS (Adaptive Damper System):  <b>i</b> The vehicle must be on its wheels for removing the upper shock absorber mount.  Model 140, 210 with ADS (Adaptive Damper System)  Counterhold piston rod with Allen wrench (SW5).  <b>Nm</b> Model 140, 210 nut (75e)</p>	<p>*BA32.25-P-1002-03A  *BA32.25-P-1003-03B  *BA32.25-P-1001-03B</p>
2	Remove plate (75b) and rubber mount (75c)	Model 129, 170, 202, 203, 208, 209, 210 with steel suspension	
3	Raise vehicle		
4	Remove rear axle switch for roll bar	Model 129 up to 08/95	ra91001290860x
5	Remove track control arm shield (72c).		
6	Detach shock absorber (75) from spring control arm	<p><b>Nm</b> Models 129, 170, 202, 203, 208, 209  <b>Nm</b> Model 140, 210</p>	<p>*BA32.25-P-1003-03A  *BA32.25-P-1002-03B</p>
7	Remove mounting parts (75k, 75d, 75f, 75i) for shock absorber (75)	<p>Model 129, 170, 202, 208, 210  <b>!</b> Check mounting parts (75d, 75f, 75i) for damage and cracks.</p>	
8	Check shock absorber		AR32.25-P-0121A
9	Install in the reverse order		

**Nm** Rear axle shock absorber

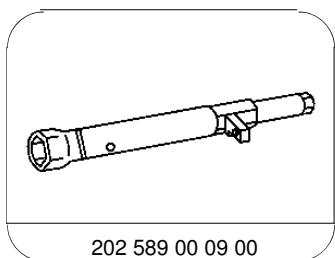
Number	Designation	Model 129	Model 170	Model 202
BA32.25-P-1001-03A	Nut for attaching shock absorber to frame floor	– Nm M10 Nm	18 –	18 –
BA32.25-P-1002-03A	Jam nut for attaching shock absorber to frame floor assembly		Nm 30	30 30
BA32.25-P-1003-03A	Self-locking nut for attaching shock absorber to spring control arm	– Stage 1 Nm Stage 2 $\Delta^\circ$ Nm M10 Nm	55 – –	55 – –

**Nm** Rear axle shock absorber

Number	Designation	Model 203	Model 208	Model 209 without code P98
BA32.25-P-1001-03A	Nut for attaching shock absorber to frame floor	– Nm M10 Nm	30 –	18 –
BA32.25-P-1002-03A	Jam nut for attaching shock absorber to frame floor assembly		Nm –	30 –
BA32.25-P-1003-03A	Self-locking nut for attaching shock absorber to spring control arm	– Stage 1 Nm Stage 2 $\Delta^\circ$ Nm M10 Nm	55 – –	55 – –

**Nm** Rear axle shock absorber

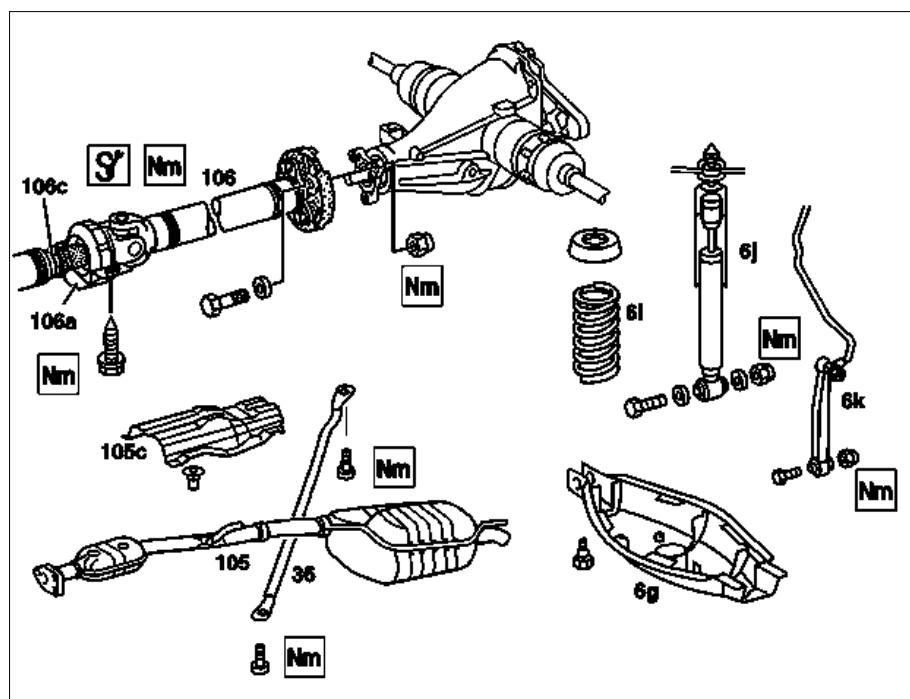
Number	Designation		Model 140	Model 210
BA32.25-P-1001-03B	Self-locking nut for attaching shock absorber to frame floor	Nm	40	-
BA32.25-P-1002-03B	Self-locking nut for attaching shock absorber to spring control arm	Nm	100	55
BA32.25-P-1003-03B	Lock nut, shock absorber to frame floor	Nm	-	30



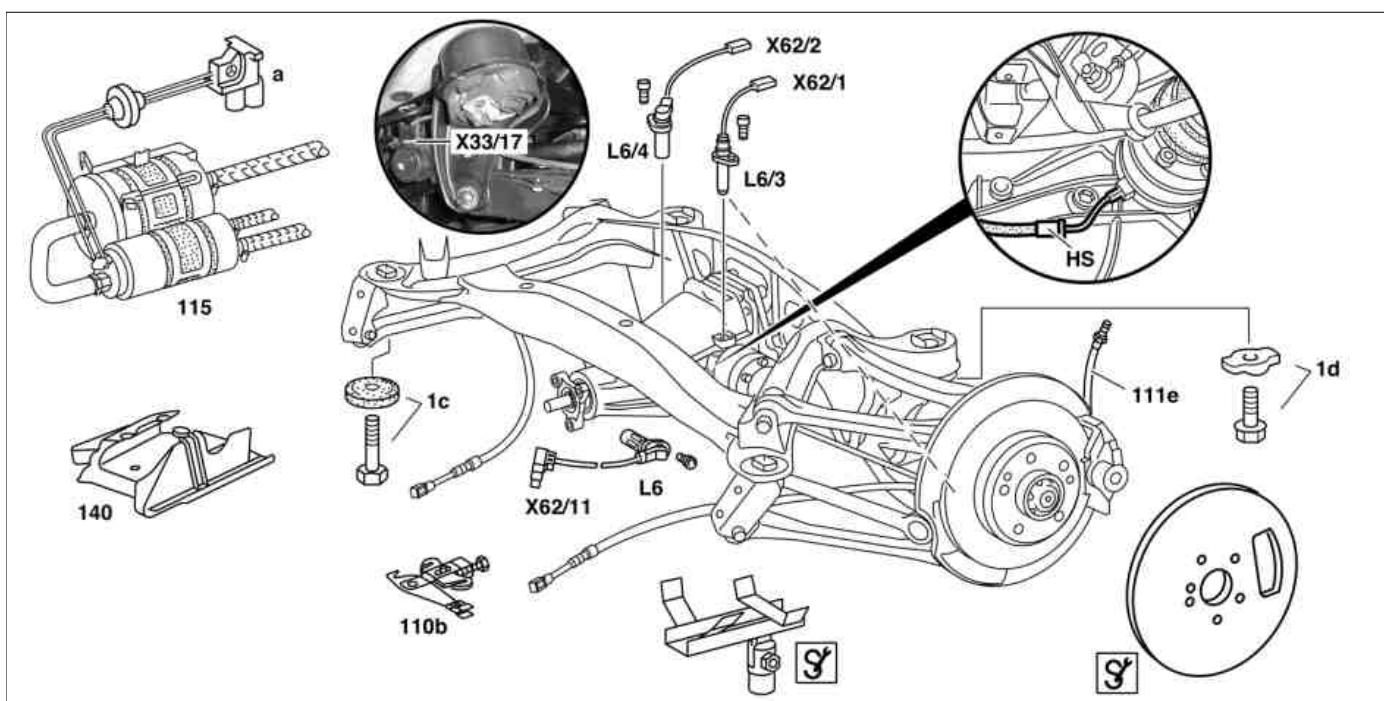
202 589 00 09 00

Socket wrench

**MODEL 170, 202, 208**



P35 10-0264-06



P35.10-2246-09

## Modification notes

20.3.04	Oil filler/drain screw on rear axle differential modified	<p>Phased in as of 19.01.04</p> <p><b>i</b> The oil filler screws and oil drain screws should always be replaced after being unscrewed.</p> <p>The new oil filler screws and drain screws as well as the tapped holes must be cleaned with a special cleaning spray and provided with a special sealing compound.</p> <p><b>i</b> Only carry out oil level check at interior temperature.</p>	BT35.31-P-0015-01A
20.3.04	<p>The oil filler screw should always be replaced after being unscrewed from the rear axle differential.</p> <p>The new oil filler screw as well as the tapped hole must be cleaned with a special cleaning spray and the oil filler screw provided with a special sealing compound</p>		AR35.31-P-0520-03A
	The vehicle must have a chassis alignment check after the rear axle is installed		

Fig. item etc.	Work instructions		
 <b>Danger!</b>	<b>Risk of death</b> caused by vehicle slipping or toppling off of the lifting platform.	Align vehicle between columns of vehicle lift and position four support plates at vehicle lift support points specified by vehicle manufacturer.	AS00.00-Z-0010-01A
 <b>Note</b>	Notes on self-locking nuts and bolts		AH00.00-N-0001-01A
 <b>Installation</b>	Bleed ASD hydraulic system	Model Series 202 with ASD up to 05/94	AR35.41-P-0519C
 <b>Installation</b>	Check vehicle level at rear axle		AR40.20-P-0300A
 <b>Installation</b>	Check oil level in rear axle differential and correct if necessary	<p> Mixing of old universal hypoid gear oil and the new FE hypoid gear oil should be avoided due to the better fuel economy.</p> <p> Model 170</p> <p> Model 202</p> <p> Model 208</p> <p>Loctite 7063 cleaning spray (150 ml)</p> <p>Sealant, Omnidit 100H (50 g)</p> <p> Oil filler plug</p> <p>Phased in as of 19.01.04</p>	AR35.31-P-0520-03A  *BF35.31-P-1001-01F *BF35.31-P-1001-01D *BF35.31-P-1001-01H *BR00.45-Z-1046-04A *BR00.45-Z-1061-01A *BA35.31-P-1002-02A
 <b>BT</b>	Oil filler/drain screw on rear axle differential modified		BT35.31-P-0015-01A
 <b>Installation</b>	Perform wheel alignment check		AR40.20-P-0200A
 <b>Installation</b>	Check headlamp adjustment and correct if necessary		
 <b>AP</b>	Check and correct headlamp adjustment		AP82.10-P-8260A
 <b>S</b>	Assembly attachment		*140589016200
 <b>S</b>	Guard plate		*220589013100
1c	Front rear rear-axle suspension bolt	<p> <b>Installation:</b> Recut thread on frame floor with tap.</p> <p> <b>Nm</b></p>	*BA35.10-P-1001-01A
1d	Rear rear-axle suspension bolt	<p> <b>Installation:</b> Recut thread on frame floor with tap.</p> <p> <b>Nm</b></p>	*BA35.10-P-1002-01A
6g	Spring control arm covering		
6i	Remove/install rear spring	Remove both rear springs.	AR32.20-P-0230A
 <b>Danger!</b>	<b>Risk of injury</b> to skin or eyes caused by hydraulic fluid spraying out under high pressure. <b>Risk of poisoning</b> caused by swallowing hydraulic fluid	Depressurize the hydraulic system completely before starting any work on the system. Wear protective clothing and safety glasses.	AS00.00-Z-0013-01A
6j	Detach dampers or suspension struts from the spring control arms	<p> Vehicles without ride-height control.</p> <p> Vehicles with ride-height control.</p>	*BA32.25-P-1003-03A *BA32.30-P-1003-01B
6k	Stabilizer bar link rod	 <b>Nm</b>	*BA32.20-P-1002-04C
36	Detach both frame cross struts	<p> <b>Nm</b> Model 170 only</p> <p> <b>Nm</b> Model 208.4 only</p>	*BA61.10-P-1001-01A *BA61.10-P-1003-01C
105	Remove / install exhaust system from flange connection	<p>Refer to: Remove/install exhaust system complete: ↓</p> <p>Model 170 with engines 111.943/946/973</p> <p>Model Series 170 with Engine 111.958/983</p> <p>Model 170 with engine 112</p> <p>Model 202 with engine 104, 111</p> <p>Model 202 with engine 601</p> <p>Model 202 with engine 604, 605</p> <p>Model 202 with engine 611</p> <p>Model 202, 208 with engine 112, 113</p> <p>Model 208 with engine 111</p>	AR49.10-P-7000G AR49.10-P-7000GS AR49.10-P-7000SV AR49.10-P-7000D ra49006010100x AR49.10-P-7000I AR49.10-P-7000HB <b>AR49.10-P-7000AU</b> AR49.10-P-7000DA
105c	Exhaust shielding plate		
106	Remove rear of driveshaft at joint flange	<p> Flex disk remains on propeller shaft.</p> <p>Loosen fitting sleeves on flexible couplings.</p> <p>Drift for loosening fitting sleeves in flex disks.</p> <p> Fit on propeller shaft at stiffener arm.</p> <p> <b>Nm</b></p>	AR41.10-P-0050-09DA WF58.50-P-4110-01A  *BA41.10-P-1002-01A
106 A	Propeller shaft center support bearing	 <b>Installation:</b> Only tighten the bolts of the propeller shaft intermediate bearing after attaching the flexible coupling to the rear axle differential.	

		Nm	*BA41.40-P-1001-01A
106c	Propeller shaft clamp nut	Model 202 up to approx. 10/95 Open-end wrench 46 mm Open-end wrench 41 mm Nm	*126589000100 *201589000100 *BA41.10-P-1003-01A
 BT	Clamp connection of propeller shaft	Model 202: Converted to flexible connection.	BT41.10-P-9110-01DA
110b	Parking brake cables from automatic cable adjuster or idler lever, releasing and attaching	See: ↓  Remove/install rear brake control cable	AR42.20-P-0525A
 Danger!	<b>Risk of poisoning</b> caused by swallowing brake fluid. <b>Risk of injury</b> caused by brake fluid coming into contact with skin and eyes.	Only pour brake fluid into suitable and appropriately marked containers. Wear protective clothing and eye protection when handling brake fluid.	AS42.50-Z-0001-01A
111e	Brake hose	Detach brake hose from floorpan.  Seal line connections immediately with plugs. The brake fluid reservoir must not run completely empty. Box-end wrench attachment  <b>Installation:</b> The brake hoses (111e) must not be twisted after being tightened (danger of cracking). Nm  <b>Installation:</b> Bleed brake system	*000589750300  *BA42.10-P-1001-04A AR42.10-P-0010A AH42.50-P-0001-01A AH42.10-P-9406-01A AH42.00-P-0003-01A
   i	Brake fluid notes Notes on installing brake hoses Notes on repairs to brake system		
115	Remove fuel pump assembly from rubber rings and tie into place with wire		
140	Shield on fuel pump assembly		
a	Disconnect, connect 2-pin fuel pump wiring harness connector	Engine 104, 111	AR47.20-P-5713D
HS	Hydraulic line	Only Model 202 to 05/94 with ASD <b>Removal:</b> Plug threaded sockets on ring cylinder and line.	
L6	Rear axle rpm sensor	Vehicles with ABS: <b>Removal:</b> Clean magnetic tip, replace O-ring.	ra42001240714x
L6/3, L6/4	Remove/install left rear rpm sensor and right rear rpm sensor	Vehicles with ASR up to 05/94  Vehicles with ASR, ETS, ESP as of 06/94	ra42002020820x  AR42.40-P-0820A
X33/17	Rear headlamp range adjustment connector	Model 170: Vehicles with Xenon headlamps	
X33/17	Rear ADS/headlamp range adjustment connector	Models 202, 208: Vehicles with Xenon headlamps	
X62/1, X62/2	Left rear rpm sensor / brake wear indicator connector	<b>Removal:</b> If installed	
X62/11	Rear axle ABS rpm sensor connector (2-pin)	<b>Removal:</b> If installed	

#### Nm Rear axle stabilizer bar

Number	Designation	Model 170	Model 202 without level adjustment	Model 202 with level control
BA32.20-P-1002-04C	Self-locking nut, linkage rod to track control arm	Nm	20	20

#### Nm Rear axle stabilizer bar

Number	Designation	Model 208 without level control	Model 208 with level control

BA32.20-P-1002-04C	Self-locking nut, linkage rod to track control arm	Nm	20	20
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**Nm** Suspension strut rear axle

Number	Designation	Model 202 with level control	Model 208 with level control
BA32.30-P-1003-01B	Self-locking nut, ride-height control strut to track control arm	Nm 55	55

**Nm** Rear axle shock absorber

Number	Designation	Model 170	Model 202	Model 208
BA32.25-P-1003-03A	Self-locking nut for attaching shock absorber to spring control arm	– Stage 1 Nm 55	55	55
		Stage 2 $\Delta^\circ$	-	-
		M10 Nm	-	-

**Nm** Rear axle carrier

Number	Designation	Model 170	Model 202	Model 208
BA35.10-P-1001-01A	Self-locking bolt, front rear axle carrier rubber mount to frame floor	– Nm 90	90	90
	with bolt Flange Ø 24 mm Stage 1	Nm -	-	-
	Stage 2 $\Delta^\circ$	-	-	-
	with bolt flange Ø 26 mm Stage 1	Nm -	-	-
	Stage 2 $\Delta^\circ$	-	-	-
BA35.10-P-1002-01A	Self-locking bolt, rear axle carrier rear rubber mount to frame floor	– Nm 90	90	90
	with bolt Flange Ø 24 mm Stage 1	Nm -	-	-
	Stage 2 $\Delta^\circ$	-	-	-
	with bolt flange Ø 26 mm Stage 1	Nm -	-	-
	Stage 2 $\Delta^\circ$	-	-	-

**Nm** Differential housing

Number	Designation	Model 170	Model 202
BA35.31-P-1002-02A	Oil filler screw, differential	Nm 50	50

**Nm Differential housing**

Number	Designation	Model 208
BA35.31-P-1002-02A	Oil filler screw, differential	Nm 50

**Nm Propeller shaft**

Number	Designation	Model 170	Model 202	Model 208
BA41.10-P-1002-01A	Self-locking nut, flexible coupling to rear propeller shaft or rear axle differential.	M10 Nm 40	40	40
		M12 Nm 60	60	60
BA41.10-P-1003-01A	Clamping nut of propellor shaft	Nm -	40	-

**Nm Propeller shaft center support bearing**

Number	Designation	Model 170	Model 202	Model 208
BA41.40-P-1001-01A	Bolt, propeller shaft center support bearing to frame floor assembly	Self-tapping screw Nm -	-	-
		Bolt with washer Nm 25	25	25
		Bolt with collar and self-centering tip Nm 30	30	30
		Bolt with collar and without self-centering tip Nm -	-	-

**Nm Brake lines, brake hoses**

Number	Designation	Model 170	Model 202	Model 208
BA42.10-P-1001-04A	Brake pipe to brake hose	Nm 14	14	14

**Nm Frame floor assembly**

Number	Designation	Model 170
BA61.10-P-1001-01A	Self-locking bolt connecting rear cross strut to frame floor	Nm 60

 **Frame floor assembly**

Number	Designation	Model 208.435/445/ 447/465/470
BA61.10-P-1003-01C	Self-locking bolt connecting rear cross strut to frame floor	Nm 60

 **Differential**

Number	Designation	Model 202.018/020/ 022/120/121/125, with (code 211) ASD	Model 202.018/078/ 120/121/122/ 125/182 except (code 450) taxi version, model 202.018/120/ 121/125 without (code 211) ASD, model 202.180	Model 202.018/078/ 120/121/122/ 125/182, without (code 211) ASD, with (code 450) taxi version
BF35.31-P-1001-01D	Filling capacity	Differential	Liters 1.1	0.7
		Specifications for Operating Fluids	Sheet —	BB00.40-P-0235-00A
			Sheet BB00.40-P-0235-07A	BB00.40-P-0235-07A

 **Differential**

Number	Designation	Model 202.020/022/ 023/024/025/ 026/028/029/ 080/081/082/ 083/086/087/ 088/089/128/ 188 without (code 211) ASD, model 202.085 with automatic 5-speed transmission, model 202.134/194 except (code 450) taxi version	Model 202.033/093/ 133/193 Model 202.085 with manual 5- speed transmission, Model 202.134/194 with (Code 450) Taxi version
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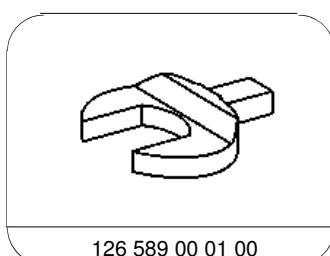
BF35.31-P-1001-01D	Filling capacity	Differential	Liters	1.1	1.1
		Specifications for Operating Fluids	Sheet	BB00.40-P-0235-00A	—
			Sheet	BB00.40-P-0235-07A	BB00.40-P-0235-07A

#### Differential

Number	Designation	Model 170.435	Model 170.444/445/447/449	Model 170.465/466
BF35.31-P-1001-01F	Filling capacity	Differential	Liters	0.7
		Specifications for Operating Fluids	Sheet	BB00.40-P-0235-07A
				BB00.40-P-0235-07A
				BB00.40-P-0235-07A

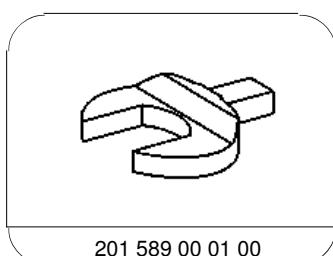
#### Differential

Number	Designation	Model 208.335/344/345/347/348/435/444/445/447/448	Model 208.365/370/465/470	Model 208.374/474
BF35.31-P-1001-01H	Filling capacity	Differential	Liters	1.1
		Specifications for Operating Fluids	Sheet	BB00.40-P-0235-07A
				BB00.40-P-0235-07A
				BB00.40-P-0235-07A



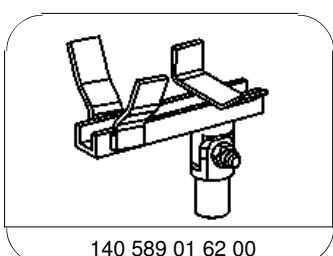
126 589 00 01 00

Open end wrench



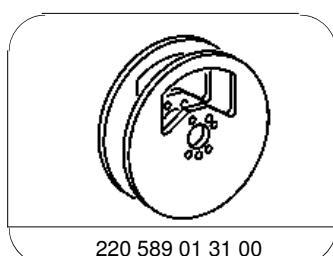
201 589 00 01 00

Open end wrench



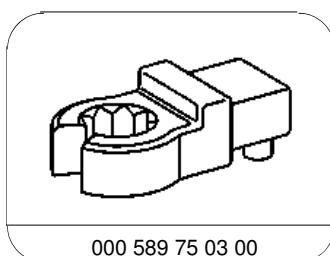
140 589 01 62 00

Assembly attachment



220 589 01 31 00

Guard plate



000 589 75 03 00

Box wrench bit

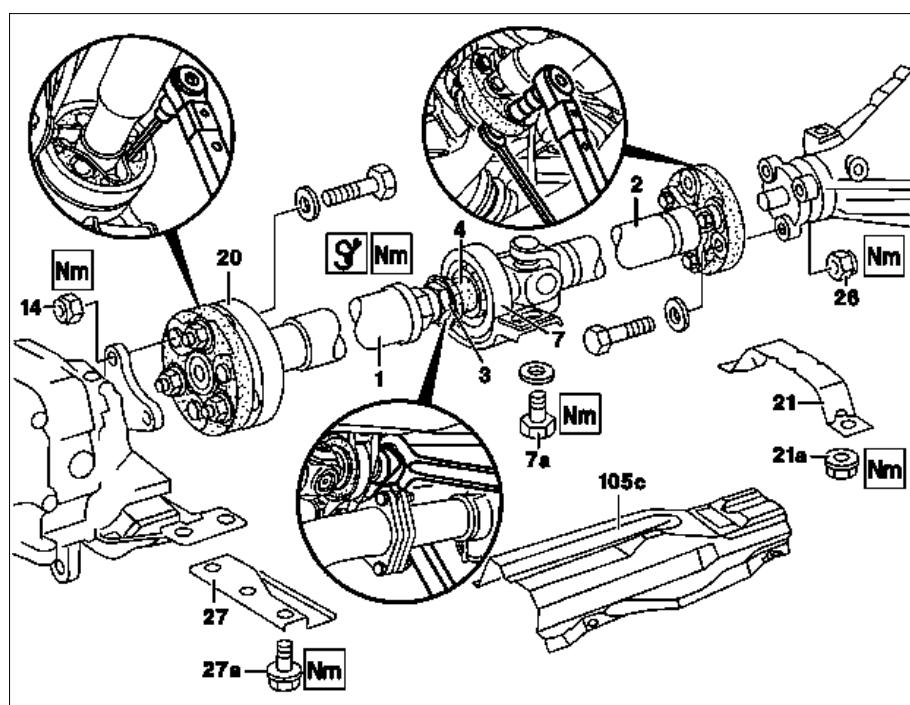
#### Repair materials

Number	Designation	Order number
BR00.45-Z-1061-01A	Sealant, Omnidfit 100H (50 g)	A 002 989 23 71



MODEL 170, 202, 208

- 1 Front propeller shaft
- 2 Rear propeller shaft
- 3 Propeller shaft clamp nut
- 4 Rubber boot
- 7 Propeller shaft intermediate bearing
- 7a Screw
- 20 Vibration damper
- 21 Crossmember
- 21a Bolts
- 26 Nut
- 27 Reinforcement brace
- 27a Screw
- 105c Exhaust shielding plate on tunnel
- 105d Sheet metal nut



P41.10-0207-06

#### Modification notes

18.6.97	Replacement part change: Front propeller shaft hole circle diameter changed	Step 16	
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	Remove/install		
	<b>Installation</b>	Replace self-locking nuts and bolts.	
1	Remove bottom section of soundproofing	Model 202.1	
2	Remove left rear frame cross brace	Model 170, 208.4	*BA61.10-P-1001-01A
3	Remove exhaust system starting as of connector	Model 202.0	
4	Unhook suspension rubbers of exhaust system	Model 170, 202.1, 208 Support exhaust system at rear muffler.	
5	Detach exhaust shielding plate (105c) in tunnel area		
6	Detach rear cross bridge (21)	Model 202, 208 Model 170	*BA61.10-P-1001-01C *BA61.10-P-1004-01A
7	Detach reinforcement brace (27)	Model 202, 208 Model 170	*BA61.10-P-1002-01C *BA61.10-P-1003-01A
8	Loosen propeller shaft clamp nut (3)	Model 202 up to approx. 10/95 Loosen clamp nut approx. one revolution, do not side back the rubber boot (the rubber boot slides at the same time). Models 202.01/020/022/1 Model 202.028  <b>Installation:</b> Tighten propeller shaft clamp nut, pay attention to correct seat of rubber boot. Observe technical modifications ↓ Converted to flexible connection.	*201589000100 *126589000100 *BA41.10-P-1003-01A
BT	Clamp connection of propeller shaft		BT41.10-P-9110-01DA
9	Loosen bolts (7a) of propeller shaft center support bearing	Tighten bolts (7a) only after fastening the flex disks to the transmission and rear axle center assembly. 	*BA41.40-P-1001-01A
10 11	Remove rear engine mount Detach front propeller shaft from transmission	Model 170, 208, with AT. Flexible disk remains on propeller shaft.  Observe technical modifications ↓	AR22.10-P-1160HB *BA41.10-P-1001-01A

 <b>BT</b>	Vibration damper discontinued at the front propeller shaft	Model 202.018/020 with automatic transmission (722.422).	BT41.10-P-0002-01A
12	Remove propeller shaft from rear axle center assembly.	 The flexible coupling remains on the propeller shaft. 	*BA41.10-P-1002-01A
13  <b>WF</b>	Release fitting sleeves on flex disks Drift for releasing the fitting sleeves in the flexible couplings		AR41.10-P-0050-09DA WF58.50-P-4110-01A
14	Remove bolts (7a) of propeller shaft center support bearing	 Support propeller shaft.	
15	Pull off propeller shaft from centering spigot on transmission and rear axle and take out backwards	  <b>Installation:</b> Coat splined shaft profile with MB long-term grease	*BF41.10-P-1001-01A
16	Separate front and rear propeller shaft if necessary	 <b>Installation:</b> Coat splined profile with MB-long-life grease ↓ Specifications for Operating Fluids sheet 266.2 Connect sections of propeller shaft.  <b>Installation:</b> On model 202.121 with 4-speed automatic transmission 722.4 except with code 450 Taxi-version (up to 31.7.96) for logistical reasons for the replacement part requirement <b>only</b> a front propeller shaft <b>hole circle-Ø 90mm</b> (formerly 80mm) is available. The three arm flange on the transmission should therefore be replaced at the same time	*BR00.45-Z-1001-06A AR41.10-P-0050-05DA ra27147220440x
	<b>Checking</b>		
17	Check flexible couplings, centering sleeves and propeller shaft center support bearing for wear	Replace if necessary ↓  Remove/install propeller shaft intermediate bearing and replacing deep-groove ball bearing. Replace centering sleeve.	AR41.10-P-0100DA AR41.10-P-0200DA
18	Install in the reverse order.		

#### Propeller shaft

Number	Designation	Model 170	Model 208
BA41.10-P-1001-01A	Self-locking nut, flexible coupling to transmission or front propeller shaft	M10 Nm 40 M12 Nm 60	40 60
BA41.10-P-1002-01A	Self-locking nut, flexible coupling to rear propeller shaft or rear axle differential.	M10 Nm 40 M12 Nm 60	40 60
BA41.10-P-1003-01A	Clamping nut of propeller shaft	Nm -	-

#### Propeller shaft

Number	Designation	Model 202
BA41.10-P-1001-01A	Self-locking nut, flexible coupling to transmission or front propeller shaft	M10 Nm 40 M12 Nm 60

BA41.10-P-1002-01A	Self-locking nut, flexible coupling to rear propeller shaft or rear axle differential.	M10	Nm	40
		M12	Nm	60
BA41.10-P-1003-01A	Clamping nut of propeller shaft		Nm	40

**Nm Propeller shaft intermediate bearing**

Number	Designation		Model 170	Model 202	Model 208
BA41.40-P-1001-01A	Bolt, propeller shaft intermediate bearing to frame floor assembly	Self-tapping screw	Nm	-	-
		Bolt with washer	Nm	25	25
		Bolt with collar and self-centering tip	Nm	30	30
		Bolt with collar and without self-centering tip	Nm	-	-

**Nm Frame floor assembly**

Number	Designation	Model 202	Model 208.335/345/347/365/370/374	Model 208.435/445/447/465/470
BA61.10-P-1001-01C	Self-locking bolt connecting rear transverse bridge to frame floor	Nm	40	40
BA61.10-P-1002-01C	Self-locking bolt connecting reinforcement brace to front of frame floor	Nm	25	25
BA61.10-P-1003-01C	Self-locking bolt connecting rear cross strut to frame floor	Nm	-	60

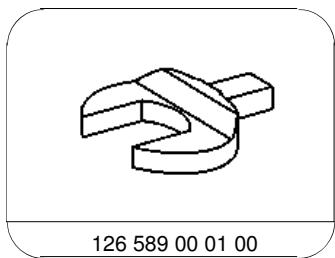
**Nm Frame floor assembly**

Number	Designation	Model 170
BA61.10-P-1001-01A	Self-locking bolt connecting rear cross strut to frame floor	Nm
BA61.10-P-1003-01A	Bolt, front stiffening bridge to frame floor assembly	Nm
BA61.10-P-1004-01A	Bolt, rear cross bridge to frame floor assembly	Nm

**Propeller shaft**

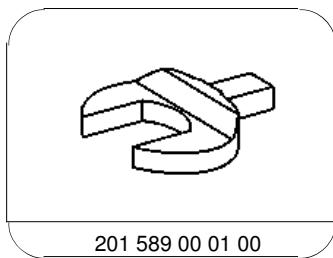
Number	Designation	Model 202	Model 170	Model 208

BF41.10-P-1001-01A	Grease quantity	Centering sleeve of propeller shaft	g	6	6	6
		Specifications for Operating Fluids	Sheet	BB00.40-P-0267-00A	BB00.40-P-0267-00A	BB00.40-P-0267-00A



126 589 00 01 00

Open end wrench



201 589 00 01 00

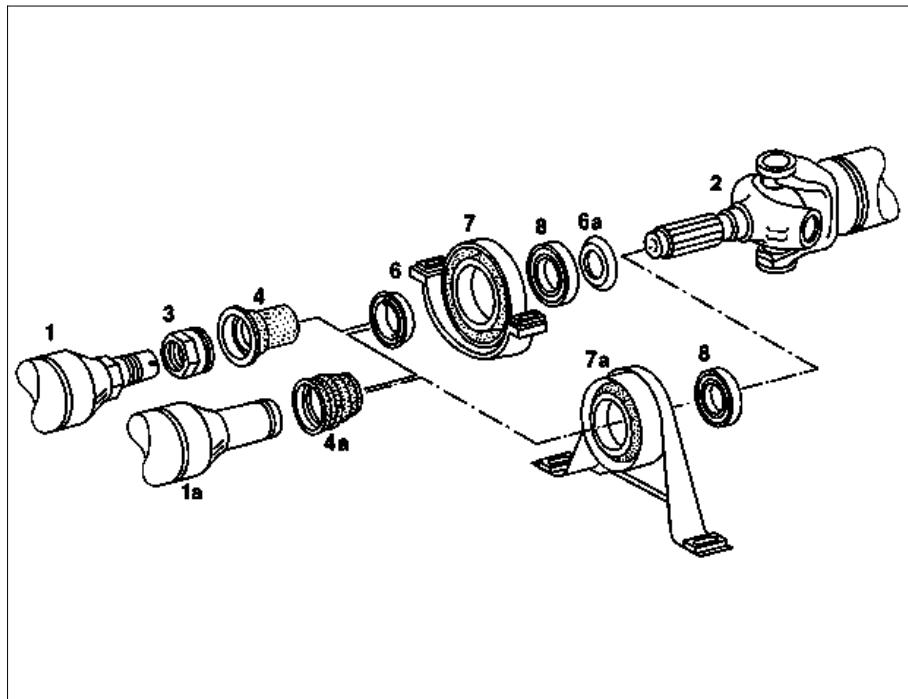
Open end wrench

#### Repair materials

Number	Designation	Order number
BR00.45-Z-1001-06A	Long-life grease	A 000 989 63 51 11

MODEL 129, 140, 170, 202, 208, 210

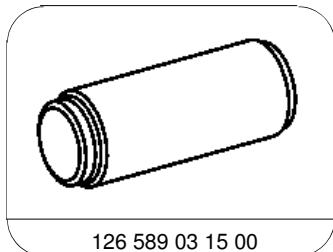
- 1 Front propeller shaft with clamp connection
- 1a Front propeller shaft with slide connection
- 2 Rear propeller shaft
- 3 Propeller shaft clamping nut
- 4/4a Rubber boot (optional)
- 6 Front protective cap (shaft side)
- 6a Rear protective cap (fork side)
- 7 Rubber mount, models 129, 140, 202 and 208
- 7a Rubber mount, model 210
- 8 Grooved ball bearing



P41.40-0201-06

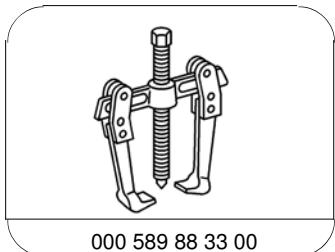
	Removal, installation		
1	Remove propeller shaft	Model 129 Model 140 Model 202, 170, 208 Model 210	AR41.10-P-0050A AR41.10-P-0050DA AR41.10-P-0050EA AR41.10-P-0050B
2	Separate front (1, 1a) and rear propeller shaft (2) at clamp connection or slide connection  BT BT	<b>i Installation:</b> Assemble propeller shaft.  Observe Technical modification ↓ <b>Model 129.066, 140.04/050/051</b> <b>Model 140.050/051</b>	AR41.10-P-0050-05DA  BT41.10-P-9110-01DA BT41.10-P-9111-02DA
3	Pull rubber boot (4, 4a) off joint fork	<b>i Installation:</b> Replace damaged rubber boot and ensure correct fit.	
4	Pull off rubber mount (7, 7a) with grooved ball bearing (8) and front protective cap (6)  BT	<b>i Installation:</b> Press rubber mount with grooved ball bearing onto the joint fork. Fit new protective cap on grooved ball bearing. Models 129, 140 and 202 as of 6/95 are no longer fitted with a protective cap. Models 170, 208, 210 are no protective cap Observe Technical modification ↓ <b>Models 129.066/067/076, 140.04/05/07/13</b>	AR41.10-P-0100-01DA AR41.10-P-0100-05DA AR41.10-P-0100-04DA  BT41.10-P-9208-01DA
5	Remove rear protective cap (6a)	<b>i Installation:</b> Replace protective cap if damaged.	
6	Press grooved ball bearing out of rubber mount	<b>i</b> Models 129, 140, 170.445/447, 202.024/025/026/028/029/082/085/086/089/128/133/188/193, 208.345/347/365/370/445/447/465/470, 210.006/015/017/020/025/045/053/055/06/07, 210.08/206/215/217/225/245/26/27/28/606/617/663 <b>i</b> Models 170.435, 202.01/020/022/023/078/080/083, 202.120/121/122/125/180/182, 208.335/435, 210.003/004/010/035/037/210/235/237, 210.610 <b>i Installation:</b> Press grooved ball bearing into rubber mount.	*116589094300  *201589094300  AR41.10-P-0100-02DA

7	Check rubber mount and grooved ball bearing for wear	Replace parts if necessary.	
8	Install in reverse sequence.		



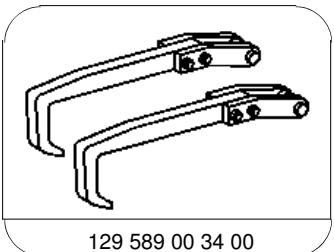
126 589 03 15 00

Alignment tool



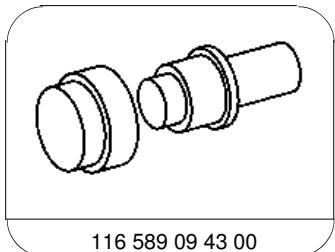
000 589 88 33 00

Puller



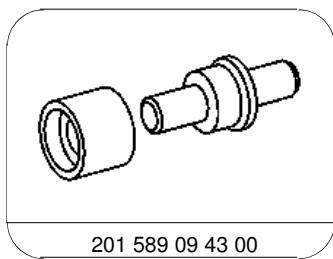
129 589 00 34 00

Puller arms



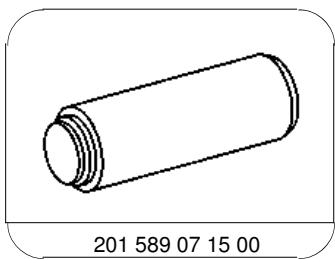
116 589 09 43 00

Press-out/in device



201 589 09 43 00

Press-out/in device



201 589 07 15 00

Alignment tool

MODEL 140 as of 1.7.93,

202 up to 31.5.94,

210, 170, 208 (except , 208.474) except CODE (471) Acceleration slip regulation (ASR)

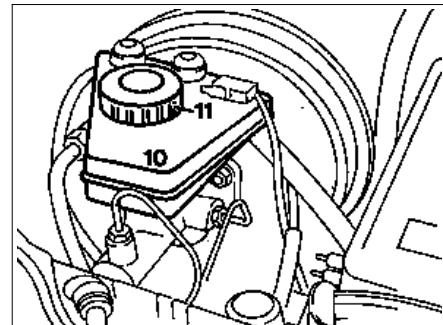
MODEL 202, 210, 215 (except , 210.072 /272) with CODE (472) Electronic Stability Program (ESP)

MODEL 220

with CODE (472) Electronic Stability Program (ESP)  
except CODE (Z07) Top protection

10 Brake fluid reservoir

11 Cap



P42.00-0202-01

Picture item, etc.	Work instructions		
⚠ Danger!	<b>Risk of death</b> caused by vehicle slipping or toppling off of the lifting platform.	Align vehicle between columns of vehicle lift and position four support plates at vehicle lift support points specified by vehicle manufacturer.	AS00.00-Z-0010-01A
⚠ Danger!	<b>Risk of poisoning</b> caused by swallowing brake fluid. <b>Risk of injury</b> caused by brake fluid coming into contact with skin and eyes.	Only pour brake fluid into suitable and appropriately marked containers. Wear protective clothing and eye protection when handling brake fluid.	AS42.50-Z-0001-01A
ⓘ	Notes on repairs to brake system		AH42.00-P-0003-01A
ⓘ	Brake fluid notes		AH42.50-P-0001-01A
1	Drive vehicle over the assembly pit and raise using the lifting platform		
2	Open screw cap (11) of reservoir for brake fluid (10)		
3	Extract brake fluid from brake fluid reservoir (10)		
4	Pour in new brake fluid	ⓘ Up to the "MAX" mark on the reservoir for brake fluid (10).	
	<b>Replacing brake fluid with the brake fluid changing equipment</b>		
5	Connect brake fluid changing equipment and switch on	ⓘ Pay attention to manufacturer's operating instructions. Brake fluid change unit <a href="#">gotis://B_42/43.2_01</a>	
6	Drain brake fluid	ⓘ The new brake fluid must escape via the bleed hose free of bubbles. Allow approx. 80 cm <sup>3</sup> of brake fluid to flow out at each brake caliper and at the clutch slave cylinder.	
AR	Carrying out bleeding operation	Model 220, 215	AR42.10-P-0010-02I
AR	Carrying out bleeding operation	Model 140, 170, 208, 210 except code 471 Acceleration slip regulation (ASR) Model 202 up to 31.5.94 except code 471 Acceleration slip regulation (ASR) Model 210 except code 472 Electronic Stability Program (ESP) Model 140, 202, 210 with code 472 Electronic Stability Program (ESP) Front axle model 140: Nm Bleed screw to brake caliper	AR42.10-P-0010-02A
		Front axle model 170: Nm Bleed screw to brake caliper	*BA42.10-P-1002-10I
		Front axle model 202: Nm Bleed screw to brake caliper	*BA42.10-P-1002-10P
		Front axle model 208: Nm Bleed screw to brake caliper	*BA42.10-P-1002-10K
		Front axle model 210: Nm Bleed screw to brake caliper	*BA42.10-P-1002-10D
		Front axle model 210: Nm Bleed screw to brake caliper	*BA42.10-P-1002-10F

	Front axle, model 215, 220: Nm Bleed screw to brake caliper Rear axle model 140: Nm Bleed screw to brake caliper Rear axle model 170: Nm Bleed screw to brake caliper Rear axle model 202: Nm Bleed screw to brake caliper Rear axle model 208: Nm Bleed screw to brake caliper Rear axle model 210: Nm Bleed screw to brake caliper Rear axle, model 215, 220: Nm Bleed screw to brake caliper S Socket wrench	*BA42.10-P-1002-10G *BA42.10-P-1002-12I *BA42.10-P-1002-12P *BA42.10-P-1002-12K *BA42.10-P-1002-12D *BA42.10-P-1001-12F *BA42.10-P-1002-12G *140589030900
7	Lower vehicle	
8	Disconnect brake fluid changing equipment	Brake fluid change unit gotis://B_42/43.2_01
9	Correct the fluid level in the brake fluid reservoir (10)	Brake fluid
10	Close cap (11)	
	<b>Replacing brake fluid without the brake fluid changing equipment</b>	
11	Pump out brake fluid  Bleed brake system Bleed brake system	<p><b>Depress the brake pedal fully about 10 times.</b></p> <p><b>The brake fluid reservoir (10) must not be emptied completely; if necessary top up with new brake fluid up to the "MAX" mark on the brake fluid reservoir (10). The new brake fluid must escape without any bubbles through the bleed hose.</b></p> <p><b>If the reservoir for brake fluid (10) has been emptied completely, see:</b></p> <p style="text-align: center;">↓</p> <p>Model 140, 170, 202, 208, 210 Model 215, 220</p> <p>Front axle model 140: Nm Bleed screw to brake caliper Front axle model 170: Nm Bleed screw to brake caliper Front axle model 202: Nm Bleed screw to brake caliper Front axle model 208: Nm Bleed screw to brake caliper Front axle model 210: Nm Bleed screw to brake caliper Front axle, model 215, 220: Nm Bleed screw to brake caliper Rear axle model 140: Nm Bleed screw to brake caliper Rear axle model 170: Nm Bleed screw to brake caliper Rear axle model 202: Nm Bleed screw to brake caliper Rear axle model 208: Nm Bleed screw to brake caliper Rear axle model 210: Nm Bleed screw to brake caliper Rear axle, model 215, 220: Nm Bleed screw to brake caliper S Socket wrench</p>
		AR42.10-P-0010A AR42.10-P-0010I
12	Correct the fluid level in the brake fluid reservoir (10)	Brake fluid
13	Close cap (11)	

**Nm Front axle brake caliper**

Number	Designation	Model 140 without special protection	Model 140 with special protection
BA42.10-P-1002-10I	Bleed screw to brake caliper	Nm 7	7

**Nm** Front axle brake caliper

Number	Designation	MODEL 170
BA42.10-P-1002-10P	Bleed screw to brake caliper	Nm 7

**Nm** Front axle brake caliper

Number	Designation	Model 202.018/020/ 022/023/033/ 078/080/081/ 083/087/093/ 120/121/122/ 125/133/134/ 180/182/193/ 194, Model 202.028 up to 08/95	Model 202.024/025/ 026/029/082/ 085/086/088/ 089/128/188, Model 202.028 as of 09/95
BA42.10-P-1002-10K	Bleed screw to brake caliper	Nm 7	7

**Nm** Front axle brake caliper

Number	Designation	Model 208
BA42.10-P-1002-10D	Bleed screw to brake caliper	Nm 7

**Nm** Front axle brake caliper

Number	Designation	Model 210
BA42.10-P-1002-10F	Bleed screw to brake caliper	M8 Nm 7

**Nm** Front axle brake caliper

Number	Designation	Model
		<b>215</b>
BA42.10-P-1002-10G	Bleed screw to brake caliper	Nm 7

**Nm** Front axle brake caliper

Number	Designation	Model 220 except model 08/18/074/174/ 179, model 220 without special protection	Model 220 with special protection, Model 220.08/18/074/ 174/179
BA42.10-P-1002-10G	Bleed screw to brake caliper	Nm 7	14

**Nm** Rear axle brake caliper

Number	Designation	Model
		<b>140</b>
BA42.10-P-1002-12I	Bleed screw to brake caliper	Nm 7

**Nm** Rear axle brake caliper

Number	Designation	Model 170.435/ 444/445/ 447/449/ 465	Model 170.466
BA42.10-P-1002-12P	Bleed screw to brake caliper	Nm 7	7

**Nm** Rear axle brake caliper

Number	Designation	Model
		<b>202</b>
BA42.10-P-1002-12K	Bleed screw to brake caliper	Nm 7

**Nm** Rear axle brake caliper

Number	Designation	Model	
BA42.10-P-1002-12D	Bleed screw to brake caliper	Nm	7

**Nm** Rear axle brake caliper

Number	Designation	Model	
BA42.10-P-1001-12F	Bleed screw to brake caliper	Nm	7

**Nm** Rear axle brake caliper

Number	Designation	Model	Model
BA42.10-P-1002-12G	Bleed screw to brake caliper	Nm	7

**Nm** Rear axle brake caliper

Number	Designation	Model	Model
BA42.10-P-1002-12G	Bleed screw to brake caliper	Nm	7

**Brake fluid**

Number	Designation	Model	Model
BF42.10-P-1001-01A	Brake fluid	Filling capacity	Liters
		Specifications for Operating Fluids	Sheet
			BB00.40-P-0330-01A
			BB00.40-P-0331-00A

**Brake fluid**

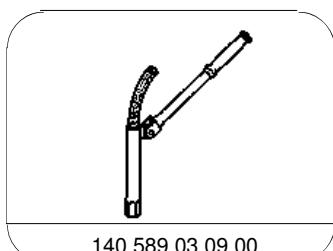
Number	Designation		Model 202	Model 208
BF42.10-P-1001-01A	Brake fluid	Filling capacity	Liters ≈0.45 to 0.6	≈0.45 to 0.6
		Specifications for Operating Fluids	Sheet BB00.40-P-0330-01A	BB00.40-P-0330-01A
			Sheet BB00.40-P-0331-00A	BB00.40-P-0331-00A

#### Brake fluid

Number	Designation		Model 210	Model 215
BF42.10-P-1001-01A	Brake fluid	Filling capacity	Liters ≈0.45 to 0.6	≈0.7...0.9
		Specifications for Operating Fluids	Sheet BB00.40-P-0330-01A	BB00.40-P-0330-01A
			Sheet BB00.40-P-0331-00A	BB00.40-P-0331-00A

#### Brake fluid

Number	Designation		Model 220
BF42.10-P-1001-01A	Brake fluid	Filling capacity	Liters ≈0.7...0.9
		Specifications for Operating Fluids	Sheet BB00.40-P-0330-01A
			Sheet BB00.40-P-0331-00A



Socket wrench

AR42.10-P-0010-02A <b>⚠Danger!</b>	Carrying out bleeding operation <b>Risk of poisoning</b> caused by swallowing brake fluid. <b>Risk of injury</b> caused by brake fluid coming into contact with skin and eyes.	Only pour brake fluid into suitable and appropriately marked containers. Wear protective clothing and eye protection when handling brake fluid.	<b>AS42.50-Z-0001-01A</b>
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**Nm** Front axle brake caliper

Number	Designation	Model 129	Model 140 without special protection	Model 140 with special protection
BA42.10-P-1002-10I	Bleed screw to brake caliper	Nm	7	7

**Nm** Front axle brake caliper

Number	Designation	Model 170
BA42.10-P-1002-10P	Bleed screw to brake caliper	Nm

**Nm** Front axle brake caliper

Number	Designation	Model 202.018/020/ 022/023/033/ 078/080/081/ 083/087/093/ 120/121/122/ 125/133/134/ 180/182/193/ 194, Model 202.028 up to 08/95	Model 202.024/025/ 026/029/082/ 085/086/088/ 089/128/188, Model 202.028 as of 09/95
BA42.10-P-1002-10K	Bleed screw to brake caliper	Nm	7

**Nm** Front axle brake caliper

Number	Designation	Model 208
BA42.10-P-1002-10D	Bleed screw to brake caliper	Nm

**Nm** Front axle brake caliper

Number	Designation	Model 210

BA42.10-P-1002-10F	Bleed screw to brake caliper	M8	Nm	7
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**Nm** Rear axle brake caliper

Number	Designation	Model 129	Model 140
BA42.10-P-1002-12I	Bleed screw to brake caliper	Nm	7

**Nm** Rear axle brake caliper

Number	Designation	Model 170.435/ 444/445/ 447/449/ 465	Model 170.466
BA42.10-P-1002-12P	Bleed screw to brake caliper	Nm	7

**Nm** Rear axle brake caliper

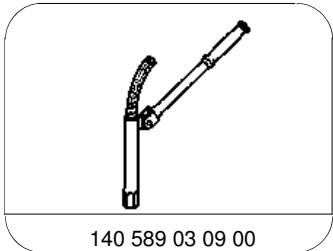
Number	Designation	Model 202
BA42.10-P-1002-12K	Bleed screw to brake caliper	Nm

**Nm** Rear axle brake caliper

Number	Designation	Model 208
BA42.10-P-1002-12D	Bleed screw to brake caliper	Nm

**Nm** Rear axle brake caliper

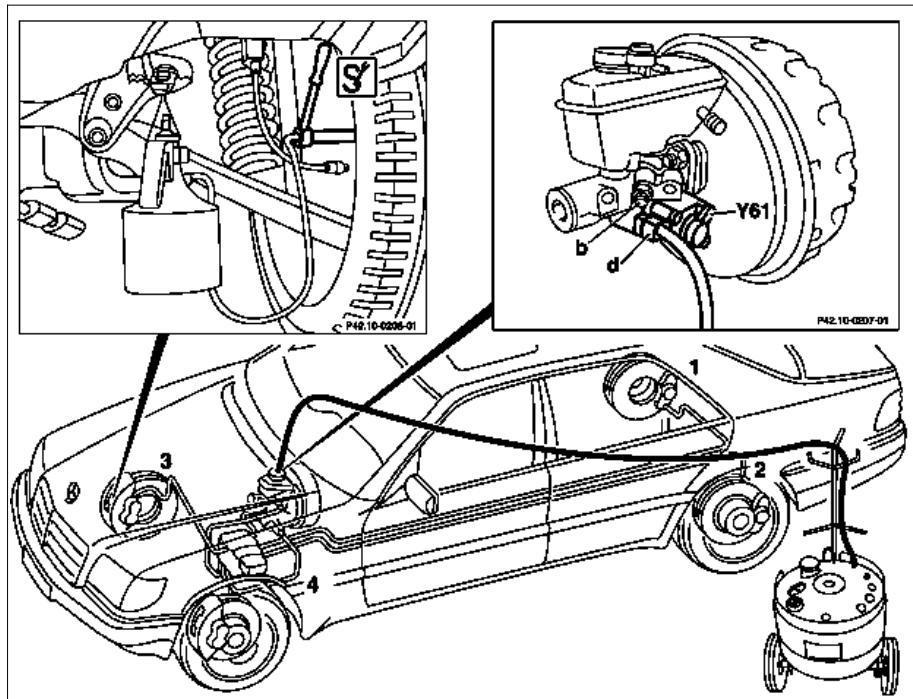
Number	Designation	Model 210
BA42.10-P-1001-12F	Bleed screw to brake caliper	Nm



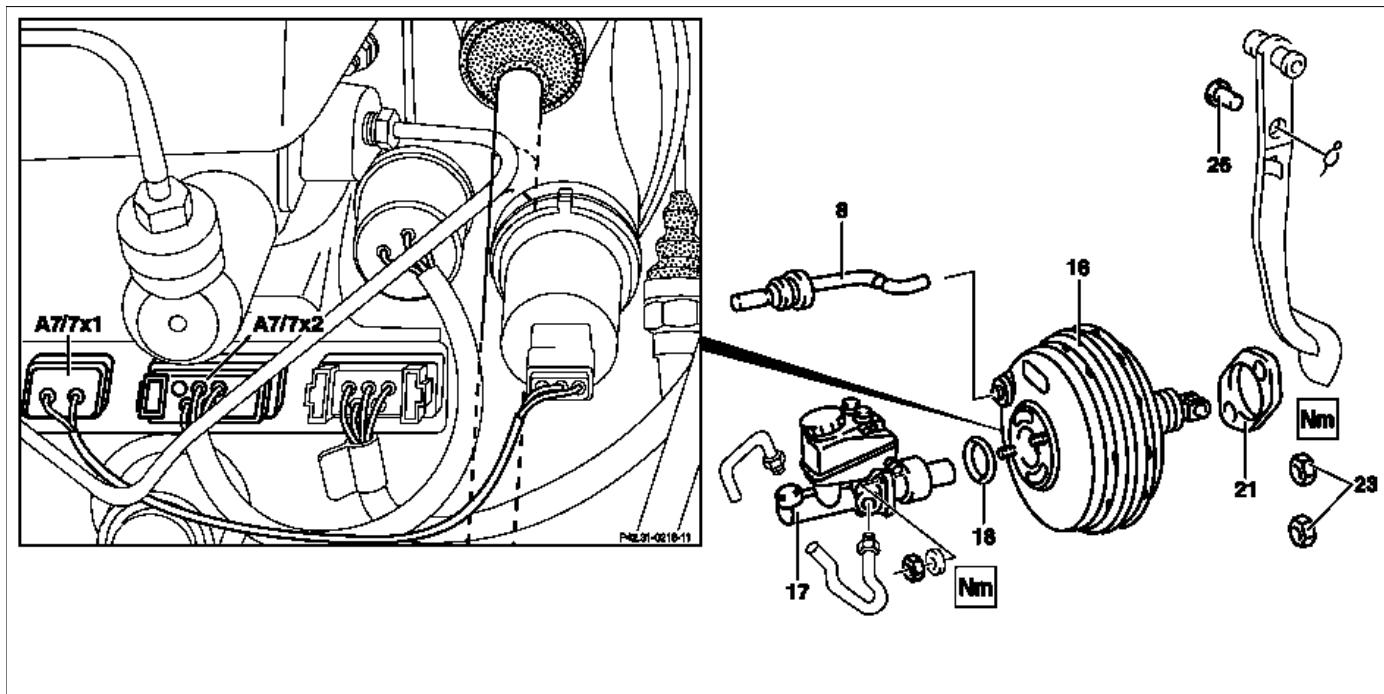
140 589 03 09 00

Socket wrench

- 1 Open bleed screw on brake caliper (1) and at an bleeding pressure of 2 bar allow approx. 80 cm<sup>3</sup> of brake fluid to flow out free of bubbles.
- 2 Close bleed screw on brake caliper (1).
- 3.1 Model 140 only: Open bleed screw (b) on master brake cylinder, allow bubble-free brake fluid to emerge, then reclose.
- 4 Repeat bleeding operation at brake calipers (2, 3, 4).  
i Allow fluid to flow at each brake caliper (2, 3, 4) until roughly 80 cm<sup>3</sup> emerges free of bubbles.



P42.10-0261-06



P43.10-2004-09

		Removal, installation	
1		Remove cover under instrument panel	AR68.10-P-1500K
2		Remove stop lamp switch	<b>[i] Installation:</b> Adjust stop lamp switch AR42.10-P-0040A
<b>⚠ Danger!</b>		<b>Risk of poisoning</b> due to consuming brake fluid. <b>Risk of injury</b> due to brake fluid coming into contact with the skin and eyes.	Only pour brake fluid into suitable, appropriately marked containers. Wear protective clothing and safety glasses when handling brake fluid. AS42.50-Z-0001-01A
3		Remove brake booster (16)	<b>[i] Operate the brake pedal several times until the vacuum in the brake booster is reduced (only with vacuum line connected).</b> <b>[i] If the brake booster is replaced in vehicles with Brake Assist (BAS), the brake booster must be calibrated to the control module (BAS) using the hand-held tester (HHT).</b> <b>Nm</b> All models All models AR43.10-P-0350-01A  <b>*BA43.10-P-1002-01A</b> <b>AH42.50-P-0001-01A</b> <b>AH42.00-P-0003-01A</b>
	<b>(i)</b>	Notes on brake fluid	
	<b>(i)</b>	Notes on repairs to brake system	
4		Unscrew brake master cylinder (17) on brake booster	<b>Nm</b> On BAS: Observe control module retaining plate <b>[i] Installation:</b> Replace sealing ring (18)  <b>*BA42.10-P-1001-05A</b>
	<b>(i)</b>	<b>Checking</b>	
5		Check brake master cylinder (17) for leaks at rear of piston	Visual inspection
	<b>(i)</b>	Notes on loss of brake fluid which is not visible externally	Models 129, 140, 163, 168, 170, 202, 208, 210, 215, 220, 460, 461, 463 <b>AH42.10-P-9406-02A</b>
6		Install in reverse order	

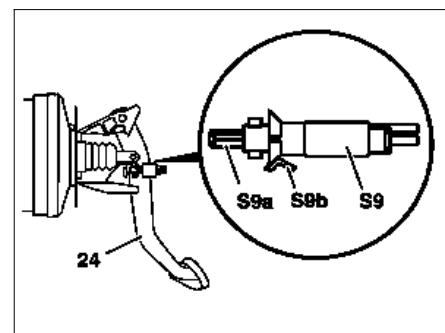
**Nm** Brake booster - pneumatic

Number	Designation	Model 208	
BA43.10-P-1002-01A	Nut of brake booster carrier on front end	Nm	20

**Nm** Brake master cylinder

Number	Designation	Model 208	
BA42.10-P-1001-05A	Nut of brake master cylinder on brake booster	Nm	20

MODELS 129, 140, 170, 202, 208, 210



P42.10-0217-01

<input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	Removing, installing		
1	Remove cover below instrument panel	Model 129 Model 140 Model 170 Model 202 Model 208 Model 210	ra68001290150x ra68001400150x AR68.10-P-1500G AR68.10-P-1500E <b>AR68.10-P-1500K</b> AR68.10-P-1500F
2	Unplug electrical connector from stop lamp switch (S9)		
3	Press catch (S9b)		
4	Turn and pull out stop lamp switch (S9), and adjust	<b>[i] Installation:</b> Pull actuating pin (S9a) all the way out. Fully depress brake pedal (24), insert stop lamp switch (S9) and turn until catch (S9b) engages. The actuating travel distance is set automatically.	
5	Install in the reverse order		

BB00.40-P-0231-01A	Specified gear oils (cars, cross-country vehicles) - survey	● Should be used ○ Can be used As at 146518	
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**MODEL ALL**

<b>smart, Sheets 235.71 up to 235.72</b>		<b>SAE grade</b>	<b>Sheet no. 235</b>
<b>Major assembly</b>		<b>.71</b>	<b>.72</b>
Automated manual transmission model 450, 452 with transmission 717.4		●	
Automated manual transmission model 451, 454 with transmission 717.4			●

<b>Passenger car, sheets 235.0 to 235.74</b>		<b>SAE grade</b>	<b>Sheet no. 235</b>							
<b>Major assembly</b>			<b>.0</b>	<b>.3</b>	<b>.7</b>	<b>.10</b>	<b>.15</b>	<b>.61</b>	<b>.62</b>	<b>.74</b>
Front axle (4MATIC)	75W-85	○								●
Rear axle model 163										●
Rear axle model 164 with rear wheel drive (4 ×2)						●				
Rear axle model 251 with rear wheel drive (4 ×2)						●				
Rear axle model 117, 156, 176, 246 4MATIC (4×4)									●	
Rear axle (standard differential)	75W-85, 85W-90, 90	○	●							
Rear axle with AMG differential lock Model 230.479 Model 204.077/277, 211.076/077/276/277, 219.376/377, 230.470/472/474 with code 471/P30 Model 171.473, 203.076/276, 209.377/477 Model 172.475, 231.474/479, 463.270/271/272/273	75W-140						●			
Rear axle with differential lock model 164, 199	75W-85					●			●	
Differential with limited slip	75W-85, 85W-90		●							
Manual steering	85W-90, 90	●								
Manual transmission as of transmission sequence number 7 340 241 (717.4 and 716.6)	75W-80W				●					
Manual transmission SG 150/180 (716.5)	75W-80W				●					
Manual transmission NMT 270, 370/400		●								
Manual transmission 700.7 (Citan)					●					

<b>Cross-country vehicle, Sheets 235.0 to 235.61</b>		<b>SAE grade</b>	<b>Sheet no. 235</b>							
<b>Major assembly</b>			<b>.0</b>	<b>.1</b>	<b>.7</b>	<b>.10</b>	<b>.11</b>	<b>.61</b>		
Axles	85W-90, 90		●							
Manual transmission as of transmission sequence number 7 340 241	75W-80W						●			
Transfer case Not for transfer case (VG) 150 E	80, 80W, 80W/85W ( <b>i</b> In hot climate zones SAE 90, 85W-90)			●						
Transfer case VG 150 E	75W-90W								●	
Model 463.270/271	75W-140									●

<b>Passenger car and cross-country vehicle sheets 236.1 to 236.81 table 1</b>															
<b>Major assembly</b>		<b>SAE grade</b>	<b>Sheet no. 236</b>												
			.1	.2	.3	.6	.7	.8	.9	.10	.12	.14	.15	.16	.81
Manual steering L 075 Z	ATF			●											
Power steering	ATF			●											
Manual steering (cross-country vehicle)	ATF			●											
Power steering (cross-country vehicle)	ATF		●	●	●										
Manual transmission (cross-country vehicle)	ATF	●			○										
Manual transmission 717.4, sheet 236.6 <b>not</b> for GL76/30-5, GL275E up to transmission sequence number 7 340 240	ATF		●		○										

MB 4 and 5-speed automatic transmission <b>without</b> regulated torque converter lockup clutch (KÜB) (722.3/4/5) sheet 236.8 only for arctic climate	ATF	●			●	●	○	●	●	○				●
MB 5-speed automatic transmission <b>with</b> regulated torque converter lockup clutch (KÜB) for vehicles with rear wheel drive (722.6)	ATF									●				
MB 5-speed automatic transmission <b>with</b> regulated torque converter lockup clutch (KÜB) for vehicles with front wheel drive (722.7)	ATF							●						
7-speed automatic transmission 722.9 in combination with engine 629 irrespective of production period and the oil pan installed	ATF								●					
7-speed automatic transmission 722.9 <b>up to</b> transmission sequence number 2834526 (except vehicles with engine 629)	ATF								●					
7-speed automatic transmission 722.9 <b>as of</b> transmission sequence number 2834527 (with engine 113, 152, 156, 157, 275, 279)	ATF									●				
7-speed automatic transmission 722.9 <b>as of</b> transmission sequence number 2834527 (except vehicles with engine 113, 152, 156, 157, 275, 279, 629)	ATF								●		○			
Hybrid 7-speed automatic transmission 724.2	ATF								●					
9-speed automatic transmission 725.0	ATF									●				

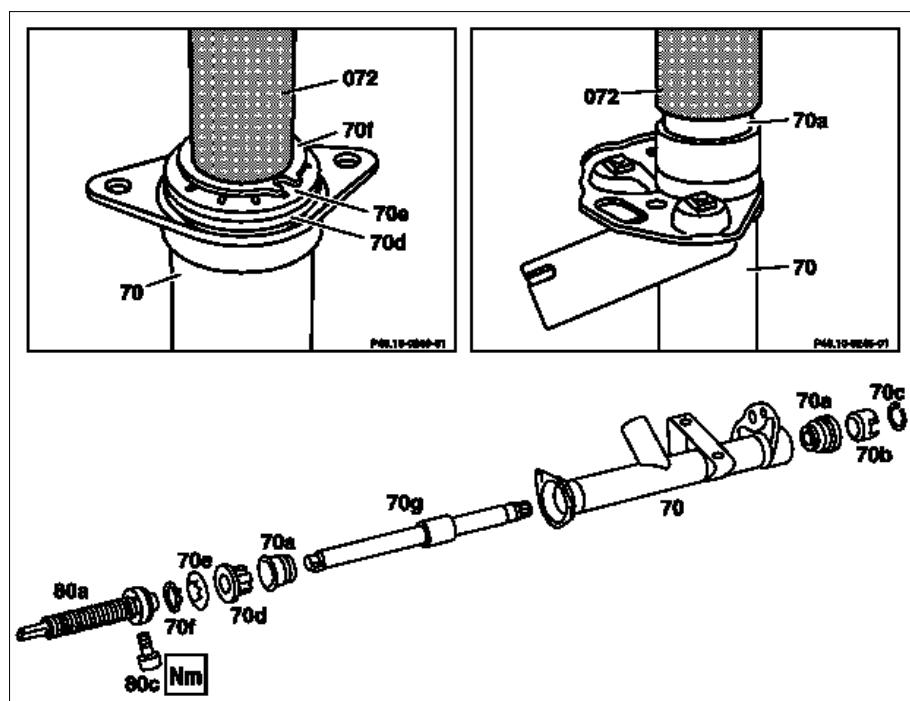
**Passenger car and cross-country vehicle sheets 236.1 to 236.81 table 2**

Major assembly	SAE grade	Sheet no. 236								
		.06	.10	.12	.13	.20	.21	.25	.26	.41
Transfer case (4MATIC), model 124	ATF	●								
Transfer case (4MATIC), model 163, 210	ATF		●							
Transfer case (4MATIC), model 164, 166, 251	ATF			●						
Transfer case (4MATIC), model 203, 211, 220	ATF				●					
Transmission 722.55 in model 164 (hybrid)	ATF									●
MB F-CVT transmission 722.8	ATF				●					
Hydraulic circuit transmission 700.4	ATF					●				
GL-5 hydraulic circuit (gear set)	ATF						●			
7G-DCT transmission 724 in model 117, 156, 176, 242, 246	ATF						●			

MODEL 129, 170, 202, 208

70 Jacket tube  
 70a Ball bearing  
 70b Thrust ring  
 70c Locking ring  
 70d Thrust ring  
 70e Disk spring  
 70f Retaining ring  
 70g Upper steering shaft  
 80a Lower steering shaft  
 80c Hexagon socket bolt

072 Tube



P46.10-0230-06

<input checked="" type="checkbox"/>	Dismantling		
1	Remove jacket tube		AR46.10-P-0400A
2	Detach bolt (80c), remove lower steering shaft (80a)	Check lateral runout of lower steering shaft (80a) (visual inspection).	
3	Remove retaining ring (70f), disk spring (70e) and thrust ring (70d)		
4	Push steering shaft (70g) out slightly, remove locking ring (70c) and thrust ring (70b)		
5	Press ball bearing (70a) out of the jacket tube using the steering shaft (70g)		
<input checked="" type="checkbox"/>	Assembling		
6	Using a suitable tube (072), press the new ball bearing (70a) in up to the stop in the jacket tube		
7	Slide steering shaft in (70g) and press second ball bearing in		
8	Push thrust ring (70b) and locking ring (70c) together onto the steering shaft	Ensure that the locking ring locks in position correctly in the groove of the upper steering shaft. Two locking rings are fitted on vehicles with contact spirals.	
9	Slide on thrust ring (70d) and disk spring (70e)		
10	Mount retaining ring (70f) on the steering shaft (70g) and, using a suitable tube (072), push on until the disk spring (70e) is fully preloaded.	The disk spring must be preloaded fully; preload fully using the lower steering shaft, if necessary.	
11	Attach lower steering shaft (80a) to upper steering shaft		AR46.10-P-0500-01E

#### Steering shaft

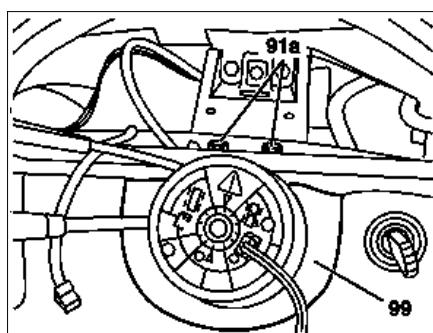
Number	Designation	Model 129	Model 170
BA46.10-P-1002-01B	Lower clamping screw to upper steering shaft	Nm	25

**Nm** Steering shaft

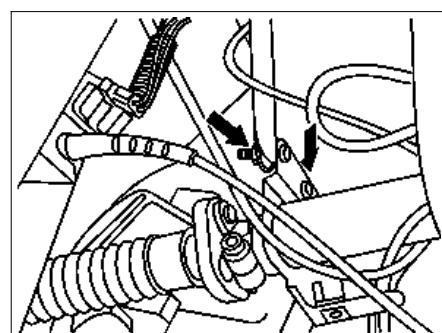
Number	Designation	Model 202	Model 208
BA46.10-P-1002-01B	Lower clamping screw to upper steering shaft	Nm 25	25

## MODEL 208

91a Screws  
 99 Steering column trim  
 Arrows Nuts

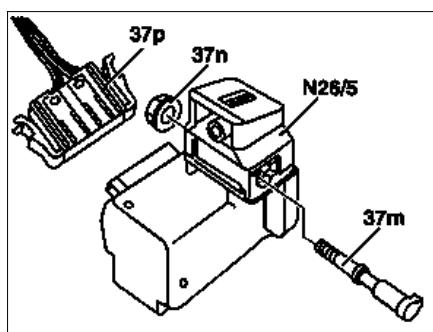


P46.10-0403-01

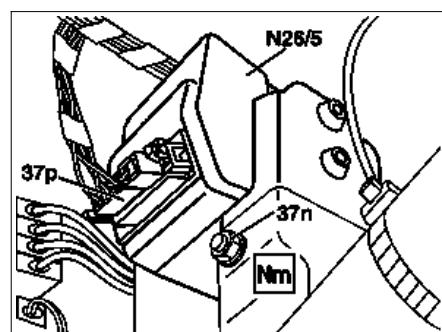


P46.10-0404-01

37m Securing bolts  
 37n Nut  
 37p Connector  
 N26/5 Electronic steering lock



P46.10-0406-01



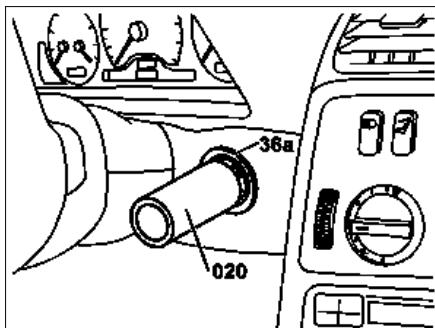
P46.10-0405-01

	Removing, installing		
	Replace self-locking nuts and bolts		
1	Remove steering wheel		AR46.10-P-0100C
2	Remove instrument cluster		AR54.30-P-6015EA
3	Remove cover below instrument panel		AR68.10-P-1500K
4	Unscrew steering column trim (99)		
5	Detach jacket tube fixing	<p> <b>Installation:</b> First of all fit on all nuts and bolts.</p> <p> Tighten the bottom nuts (arrows) first of all.</p> <p> Bolts (91a).</p>	<p>*BA46.10-P-1001-03A</p> <p>*BA46.10-P-1002-03A</p>
6	Unscrew nut (37n) of securing bolts (37m)		*BA46.10-P-1009-03A
N	Turn electronic ignition key into position "1" and lift securing bolt (37m) up and off	The securing bolt can only be taken off if the electronic steering lock is unlocked.	
8	Separate plug connection (37p)		
9	Take electronic steering lock (N36/5) out of steering column		
10	Install in the reverse order		

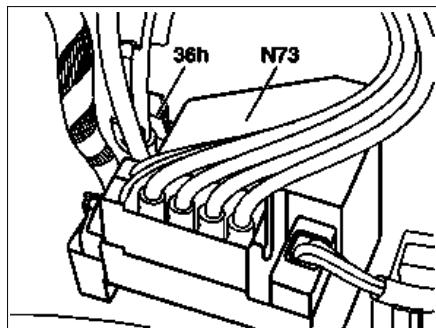
**Jacket tube**

Number	Designation	Model 208	
BA46.10-P-1001-03A	Lower nut, jacket tube to body	Nm	20
BA46.10-P-1002-03A	Upper bolt, jacket tube to body	Nm	20
BA46.10-P-1009-03A	Nut of securing bolt of electronic steering lock to steering column	Nm	10

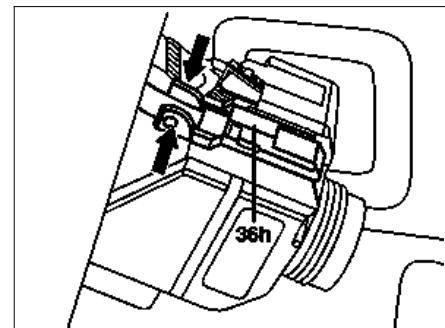
MODEL 208



P46.10-0400-01

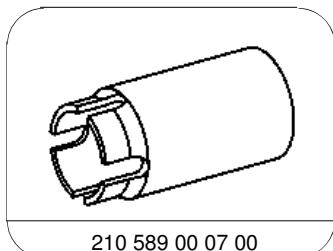


P46.10-0401-01



P46.10-0402-01

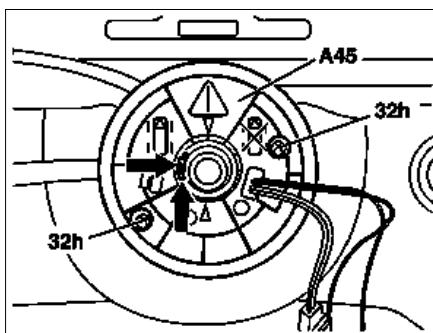
<input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	Removal, installation		
1	Remove cover below instrument panel		AR68.10-P-1500K
2	Unscrew screw from bottom right of instrument panel		
3	Unscrew escutcheon (36a) from instrument panel using a claw-type wrench (020)		*210589000700
4	Remove electronic ignition/starter switch (N73)	<b>Installation:</b> Shift lock (36h) points to the top left	
5	Remove shift lock (36h), by compressing the retaining clips (arrows) and moving the shift lock forwards out of the retaining lugs		
6	Disconnect electrical connectors		
7	Install in reverse order		



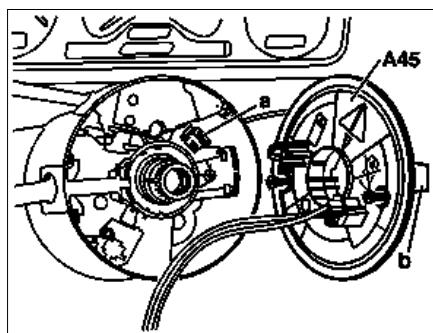
210 589 00 07 00

Claw-type wrench for escutcheon  
on ignition/starter switch

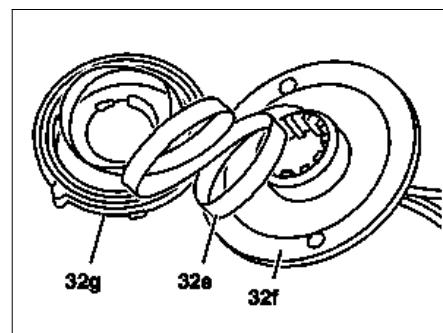
MODEL 170, 208,  
210 as of 1.6.99



P46.10-0397-01



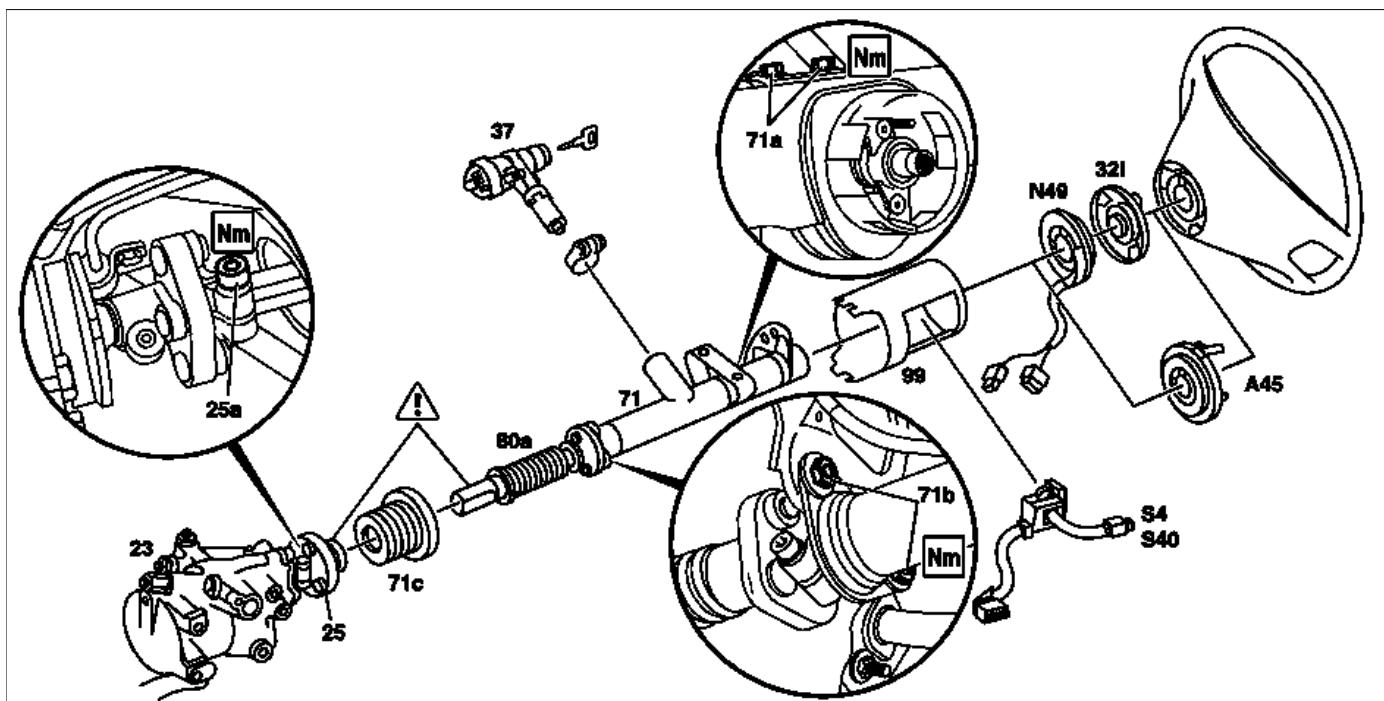
P46.10-0398-01



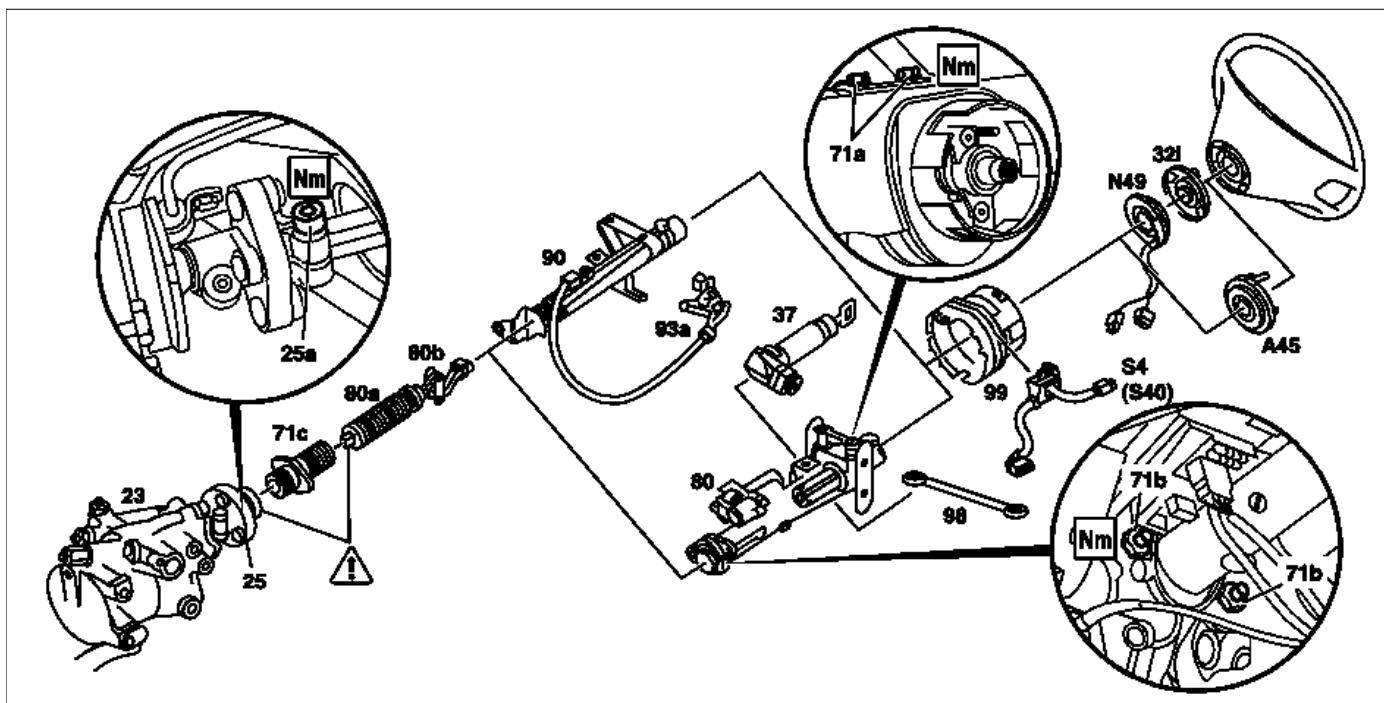
P46.10-0399-01

Model 208 shown

<input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	Removal, installation		
1	Remove steering wheel	<p><b>[i]</b> Front wheels in straightahead position            Model 170, 208.            Model 210.</p>	<b>AR46.10-P-0100C</b> <b>AR46.10-P-0100B</b>
2	Only unscrew fixing bolts (32h) until the contact spiral (A45) can be removed.	<p><b>[i]</b> The fixing bolts are used as an anti-rotation device or assembly aid at the same time.</p>	
3	Carefully remove contact spiral (A45) from jacket tube	<p><b>[i] Installation:</b> Push on contact spiral (A45) up to the stop; the recess must align with the fixing lug (arrows) and the connector (a, b).  <b>[!]</b> If the contact spiral was twisted, e.g. when the steering coupling was removed ↓ Adjust center position of contact spiral.</p>	<b>AR46.10-P-0200-01A</b>
<input checked="" type="checkbox"/>	Checking		
4	Check contact spiral (A45) for damage	<p>Visual inspection.  <b>[i]</b> The upper (32f) and lower sections (32g) of the contact spiral are clipped together and can only be separated due to the effect of excess forces or defective assembly. If this is the case, wind the contact spiral up carefully and assemble with care, not pinching or kinking the contact spiral (32e).  <b>[!]</b> <b>Do not use oil or grease!</b></p>	
5	Install in reverse order		



P46.10-0228-09



P46.10-0229-09

80 Electric steering column adjustment

90 Manual steering column adjustment

**Modification notes**

23.8.99	Value changed from 8 to 20 Nm	Value in BA46.10-P-1001-03A changed	*BA46.10-P-1001-03A
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	Removing, installing		
1	Remove cover below instrument panel	Model 129 Model 140 Model 170 Model 202 Model 208	ra68001290150x ra68001400150x AR68.10-P-1500G AR68.10-P-1500E <b>AR68.10-P-1500K</b>
2	Remove steering wheel	Model 129 up to veh. ident. end no. 079 794 and 140 up to veh. ident. end no. 123 446	AR46.10-P-0100A

		Model 129 as of veh. ident. end no. 079 795 and 140 as of veh. ident. end no. 123 447 Model 202 Models 170, 208	AR46.10-P-0100B <b>AR46.10-P-0100C</b>
3.1	Remove carrier plate (32l) with horn and airbag carbon brushes	Model 129 up to veh. ident. end no. 079 794 and 140 up to veh. ident. end no. 123 446	
4.1	Remove contact spiral (A45)	Model 129 as of veh. ident. end no. 079 795 and 140 as of veh. ident. end no. 123 447 Model 202 Models 170, 208	AR46.10-P-0200A <b>AR46.10-P-0200B</b>
5.1	Remove steering angle sensor (N49)	Model 129 with ADS, CODE 217a up to veh. ident. end no. 079 794 and 140 with ADS, CODE 217a up to veh. ident. end no. 123 446	AR46.10-P-0300A
6	Remove instrument cluster	Model 140 Model 170 Models 129, 202, 208, 210	ra54001406015x AR54.30-P-6015EC <b>AR54.30-P-6015EA</b>
7.1	Remove steering lock (37)	Models 129, 140 Models 202, 170	AR46.10-P-0900A AR46.10-P-0900B
8.1	Remove electronic steering lock (ESC)	Model 208	<b>AR46.10-P-0910B</b>
9	Remove combination switch (S4)	Model 129 Model 140 Models 170, 202, 208	AR54.25-P-2800CS ra54001402800x <b>AR54.25-P-2800EA</b>
10	Remove jacket tube trim (99)		
11.1	Disconnect contact spiral / airbag unit connector	Models 170, 208	
12.1	Detach operating switch (93a) and expose, or disconnect electrical connector	<b>Vehicles with adjustable steering column</b> <b>i Installation:</b> Ensure that control cables and electrical cables are correctly routed	
12.2	Detach reinforcement brace (98)	<b>Vehicles with adjustable steering column</b>	
13	Unscrew upper bolt (25a) of steering coupling	<b>!</b> On vehicles with contact spiral, only disconnect connector after removing the contact spiral <b>Nm</b> Models 129, 170, 202, 208 <b>Nm</b> Model 140 up to veh. ident. end no. A - 033 950 <b>Nm</b> Model 140 as of veh. ident. end no. A- 033 951 to A - 166 259 <b>Nm</b> Model 140 as of veh. ident. end no. A - 166 260 <b>i</b> Note technical modifications on model 140: ↓ Bolted connection of steering shaft and steering coupling Bolted connection of steering shaft and steering coupling	*BA46.10-P-1001-01B *BA46.10-P-1001-01A *BA46.10-P-1002-01A *BA46.10-P-1003-01A BT46.10-P-9110-01A BT46.10-P-9111-01A
 <b>BT</b>			
 <b>BT</b>			
14	Detach lower nuts on jacket tube (71b)	<b>Nm</b>	*BA46.10-P-1001-03A
15	Detach upper bolts on jacket tube (71a)	<b>Nm</b> <b>i Installation:</b> Do not tighten bolts and nuts (the jacket tube must remain adjustable). <b>Electric jacket tube:</b> Tighten the upper bolts first <b>Rigid and manually adjustable jacket tube:</b> Tighten the bottom nuts first	*BA46.10-P-1002-03A
16	Pull jacket tube with lower steering shaft out of steering coupling (25) and remove	<b>!</b> Do not use force as the lower steering shaft (80a) is sensitive to the effects of side force <b>i Installation:</b> <ul style="list-style-type: none"><li>Ensure the straight-ahead position of the jacket tube (triggering lugs must point towards the combination switch) and steering gear</li><li>Push lower steering shaft as far as possible into steering coupling</li></ul>	
	<b>Inspecting</b>		
17	Check lateral runout of lower steering shaft (80a)	If necessary if tolerance is exceeded: ↓ Replace lower steering shaft (80a).	*BE46.10-P-1001-01A
18	Install in the reverse order		

#### Test values for steering shaft

Number	Designation	Model 129	Model 140	Model 170	Model 202	Model 208
BE46.10-P-1001-01A	Maximum lateral runout of lower steering shaft	mm	2.0	2.0	2.0	2.0

**Nm** Steering shaft

Number	Designation	Model 140 up to veh. ident. end no. A-033 950	Model 140 as of veh. ident. end no. A-033 951 to A-166 259
BA46.10-P-1001-01A	Bolt of steering joint	M8 Nm 25	-
BA46.10-P-1002-01A	Bolt of steering joint	M10 Nm -	30
BA46.10-P-1003-01A	Bolt of steering joint	M8 Nm -	-

**Nm** Steering shaft

Number	Designation	Model 140 as of veh. ident. end no. A-166 260
BA46.10-P-1001-01A	Bolt of steering joint	M8 Nm -
BA46.10-P-1002-01A	Bolt of steering joint	M10 Nm -
BA46.10-P-1003-01A	Bolt of steering joint	M8 Nm 20

**Nm** Steering shaft

Number	Designation	Model 129	Model 170
BA46.10-P-1001-01B	Bolt of steering joint	Nm 30	30

**Nm** Steering shaft

Number	Designation	Model 202	Model 208
BA46.10-P-1001-01B	Bolt of steering joint	Nm 30	30

**Nm** Jacket tube

Number	Designation	Model 129	Model 140	Model 170	Model 202

BA46.10-P-1001-03A	Lower nut, jacket tube to body	Nm	20	20	8	8
BA46.10-P-1002-03A	Upper bolt, jacket tube to body	Nm	20	20	20	20

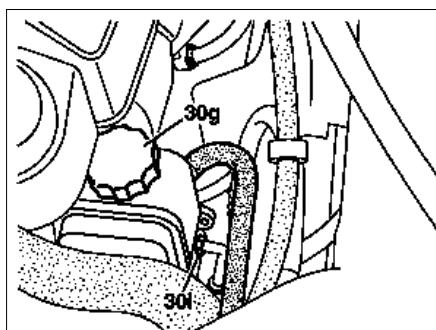
**Nm** **Jacket tube**

Number	Designation	Model 208
BA46.10-P-1001-03A	Lower nut, jacket tube to body	Nm 20
BA46.10-P-1002-03A	Upper bolt, jacket tube to body	Nm 20

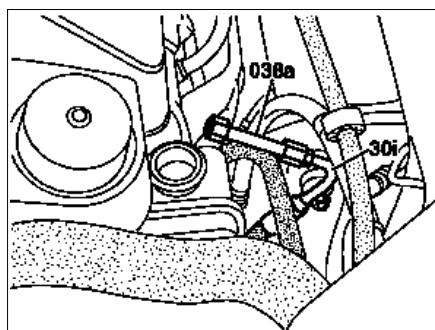
**MODEL** 129.059 /064 /068, 163.154 /157 /172 /174 /175, 170.465, 202.026 /029 /033 /086 /089 /093, 208.365 /370 /374 /465 /470, 210.061 /063 /065 /070 /074 /081 /082 /083 /261 /263 /265 /270 /274 /281 /282 /283 /663, 211.061 /065 /070 /076 /080 /082 /083 /261 /265 /270 /276 /280 /282 /283

**MODEL** 202.133 /134 /193 /194 except CODE (480) Rear axle level control system

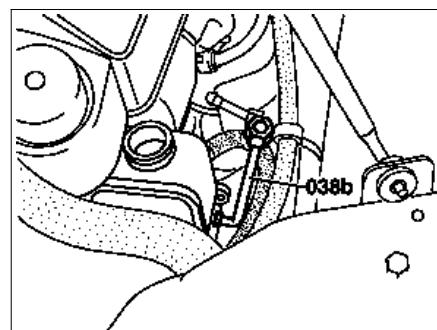
**MODEL** 220.063 /065 /070 /075 /165 /170 /175 except CODE (487) Active Body Control (ABC)



P46.30-0242-01



P46.30-0243-01



P46.30-0244-01

**Shown on engine 112 in model 163**

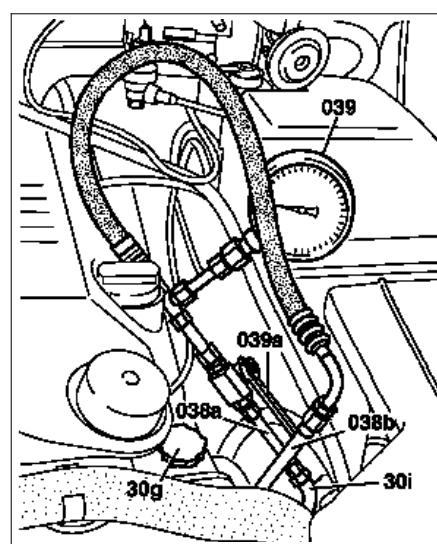
30g Reservoir cap  
30i High pressure expansion hose

038a Connection fitting

038b Connection fitting

**Shown on engine 112 in model 163**

038a Connection fitting  
038b Connection fitting  
039 Tester  
039a Throttle valve  
30g Reservoir cap  
30i High pressure expansion hose



P46.30-0245-02

**Modification notes**

18.4.06	Banjo bolt, high pressure expansion hose to power steering pump	Model 211 with engine 112, 113	*BA46.30-P-1002-01M
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	Removing		
1.1	Open reservoir cap (30g) and extract oil from reservoir of power steering pump.	Model 129, 163, 170, 202, 208, 211, 220 Model 210 without adaptive damping system (ADS) with level control, code 216b. [S] Hand pump	*210589007100
1.2	Detach feed line from reservoir	Model 210 with adaptive damping system (ADS) with level control, code 216b. [S] Clamping device	*000589403700
2	Detach high pressure expansion hose (30i) from power steering pump	[i] On vehicles with tandem pump the test equipment must not be connected to the pressure oil pump for adaptive damping system (ADS) with level control, code 216b.	
3	Attach connection fitting (038a) to high-pressure expansion hose (30i)	[i] Special tool 210 589 09 63 00 has been replaced by special tool 215 589 01 63 00. Both special tools can be used for carrying out the test. [S] Connection fitting	*215589016300
4	Attach connection fitting (038b) to power steering pump	[i] Special tool 210 589 09 63 00 has been replaced by special tool 215 589 01 63 00. Both special tools can be used for carrying out the test.	

		 Connection fitting	*215589016300
5	Connect test equipment (039) between connection fitting (038a) and connection fitting (038b)	 Testing unit	*124589062100
6	Remove clamp from feed line from reservoir	Model 210 with adaptive damping system (ADS) with level control, code 216b.	
7 	Fill supply reservoir Check and correct power steering fluid level		AP46.00-P-4611BB
 <b>Danger!</b>	Risk of accident from vehicle starting off by itself when engine running. Risk of injury from bruises and burns if you hold your hand into engine when it is started or when it is running.	Secure vehicle to prevent it moving off. Wear closed and close-fitting work clothes. Do not touch hot or rotating parts.	AS00.00-Z-0005-01A
8	Start engine		
9	Increase engine speed to approx. 1000 rpm		
	<b>Checking</b>		
10	Close throttle cock (039a) and check maximum operating pressure.	 Only carry out the test briefly so that the oil temperature does not rise unacceptably. Model 129.059 /064 /068, 163, 170.465, 202.026 /029 /086 /089 /033 /093 /133 /134 /193 /194, 208.365 /465 /370 /374 /470, 210.06 /081 /082 /26 /281 /282 /663 /070 /074 /083 /270 /274 /283 Model 211 Model 220.063/065/070/075/165/170/175 without Active Body Control (ABC), code 487a	*BE46.30-P-1001-01A   *BE46.30-P-1001-01C  *BE46.30-P-1001-01B
11	Turn off engine		
12.1	Extract fluid out of the power steering pump's fluid reservoir	Model 129, 163, 170, 202, 208, 211, 220 Model 210 without adaptive damping system (ADS) with level control, code 216b.  Hand pump	*210589007100
12.2	Detach feed line from reservoir	Model 210 with adaptive damping system (ADS) with level control, code 216b.  Clamping device	*000589403700
13	Disconnect testing unit (039)		
	<b>Install</b>		
14	Check O-ring on high-pressure expansion hose (30i) and replace if necessary		
15	Screw high-pressure expansion hose (30i) onto power steering pump	 Model 129.059/ 064/ 068, 163./154 /157 /172/174/175, 170, 202.026 /029 /033 /086 /089 /093, 208.365 /370 /374 /465 /470, 210.061 /063 /065 /070 /074 /081 /082 /083 /261 /263 /265 /270 /274 /281 /282 /283 /663, 202.133 /134 /193 /194 without level control: ↓  High-pressure expansion hose to power steering pump  Model 211 with engines 112, 113: ↓  Banjo bolt, high pressure expansion hose to power steering pump  Model 220.063 /065 /070 /073 /075 /165 /170 /173 /175 without Active Body Control (ABC), code 487a: ↓  High-pressure expansion hose to power steering pump	*BA46.30-P-1003-01A   *BA46.30-P-1002-01M   *BA46.30-P-1003-01C
16	Remove clamp from feed line from reservoir	Model 210 with adaptive damping system (ADS) with level control, code 216b.	
17	Fill power steering pump and bleed	Model 129.059 /064 /068, 163.154 /157 /172 /174 /175, 170.465 /202.026 /029 /033 /086 /089 /093, 208.365 /370 /374 /465 /470, 210, 220.063 /065 /070 /075 /165 /170 /175 Model 211.061/ 065/ 070/ 076/ 261/ 265/ 270/ 276/ 080/ 082/ 083/ 280/ 282/ 283	AR46.30-P-0010B  AR46.30-P-0010P
18	Inspect power-steering pump for leaks	 Carry out visual inspection.	

#### Power steering pump test specifications

Number	Designation	Model 129.059/064	Model 129.068	Model 163	Model 170.465

BE46.30-P-1001-01A	Pressure in power steering pump	bar	107-115	107-115	92-100	107-115
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**Power steering pump test specifications**

Number	Designation	Model 202.026/ 029/086/089	Model 202.033/093	Model 202.133/134/ 193/ 194	Model 208.365/465
BE46.30-P-1001-01A	Pressure in power steering pump	bar	105-115	105-115	105-115

**Power steering pump test specifications**

Number	Designation	Model 208.370/374/470	Model 281/282I 210.06/081/ 082/26/282// 663	Model 210.070/074/ 083/270/274/283
BE46.30-P-1001-01A	Pressure in power steering pump	bar	105-115	107-115

**Power steering pump test specifications**

Number	Designation	Model 211
BE46.30-P-1001-01C	Pressure in power steering pump	bar

**Power steering pump test specifications**

Number	Designation	Model 220.063/065/070 /075/165/170/17 5 without code 487a
BE46.30-P-1001-01B	Pressure in power steering pump	bar

**Nm Power steering pump**

Number	Designation	Model 129.059/ 064/068	Model 163.128/154/157/ 172/174/175	Model 170

BA46.30-P-1003-01A	High-pressure expansion hose to power steering pump	M14×1.5	Nm	-	-	-
		M16×1.5	Nm	45	45	45

**Nm Power steering pump**

Number	Designation	Model 202.026/029/ 033/086/088/ 089/093	Model 202.133/134/ 193/194 without level control
BA46.30-P-1003-01A	High-pressure expansion hose to power steering pump	M14×1.5	Nm
		M16×1.5	Nm

**Nm Power steering pump**

Number	Designation	Model 208.365/370 374/465/ 470/474	Model 210.061/062/063 / 065/070/074/ 081/082/083/ 261/262/263/ 265/270/274/ 281/282/283/ 663
BA46.30-P-1003-01A	High-pressure expansion hose to power steering pump	M14×1.5	Nm
		M16×1.5	Nm

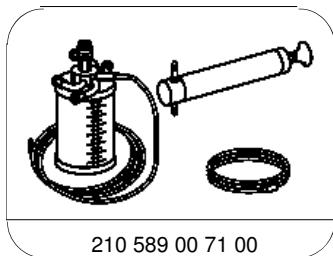
**Nm Power steering pump**

Number	Designation	Model 211 with engine 112, 113
BA46.30-P-1002-01M	Banjo bolt, high pressure expansion hose to power steering pump	Nm

**Nm Power steering pump**

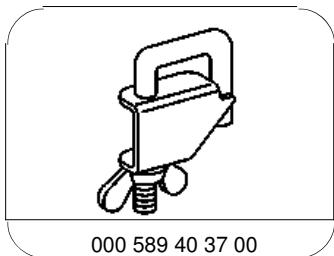
Number	Designation	Model 220.063/065/ 067/070/073/ 075/163/165/ 167/170/173/ 175/875 without code 487a
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BA46.30-P-1003-01C	High-pressure expansion hose to power steering pump	M14x1.5	Nm	-
		M16x1.5	Nm	40



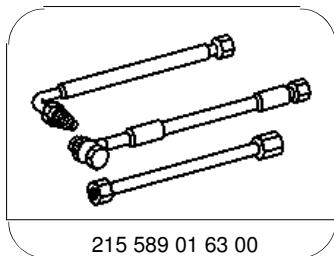
210 589 00 71 00

Hand pump



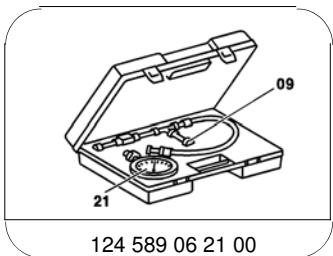
000 589 40 37 00

Clamping device



215 589 01 63 00

Connection fitting



124 589 06 21 00

Tester

**MODEL** 129.059 /064 /068, 163.154 /157 /172 /174 /175, 170.465, 202.026 /029 /033 /086 /089 /093, 208.365 /370 /374 /465 /470, 210

**MODEL** 220 except CODE (487) Active Body Control (ABC)

**MODEL** 230 except CODE (487) Active Body Control (ABC)

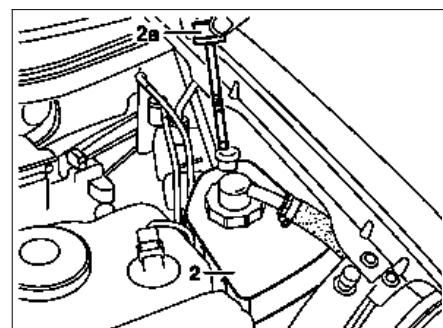


Model 163, 170, 220,  
Model 129, 202, 208,  
Model 210 without level  
control

2 Power steering  
expansion  
reservoir  
47 Air-intake hose

Model 210 with level  
control (tandem pump)

2 Power steering  
expansion  
reservoir  
2a Dipstick



P46.30-2188-01

P32.30-2024-01

#### Modification notes

23.4.06	Document adapted to the revised procedure	
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	Remove/install		
<b>Danger!</b>	<b>Risk of injury</b> to skin or eyes caused by hydraulic fluid spraying out under high pressure. <b>Risk of poisoning</b> caused by swallowing hydraulic fluid	Depressurize the hydraulic system completely before starting any work on the system. Wear protective clothing and safety glasses.	AS00.00-Z-0013-01A
<b>Danger!</b>	<b>Risk of injury</b> caused by <b>fingers being pinched or crushed</b> when removing, installing or aligning hoods, doors, trunk lids, liftgates or sliding roof	Keep body parts and limbs well clear of moving parts.	AS00.00-Z-0011-01A
<b>Danger!</b>	<b>Risk of death</b> caused by vehicle slipping or toppling off of the lifting platform.	Align vehicle between columns of vehicle lift and position four support plates at vehicle lift support points specified by vehicle manufacturer.	AS00.00-Z-0010-01A
1	Hoist vehicle with lifting platform until wheels are free		
2	Remove cover of charge air manifold together with cover above power steering pump	Model 220.025/125/ 026/126	
	<b>Fill</b>		
3	Fill the expansion reservoir (2) of the power steering to approx. 10 mm below the upper wedge of the container with MB steering gear oil	<p> Do <b>not</b> start the engine! If the engine is started there is a risk of air entering the hydraulic steering system, which is then extremely difficult to remove.</p> <p> Fill the expansion reservoir (2) to approx. 10 mm below the upper edge of the reservoir with MB steering gear oil.</p> <p> Refill with MB-steering gear oil continuously until the oil level remains constant.</p> <p> Model 129, 163, 170, 202, 208, 220, 230, Model 210 without level control</p> <p> Model 210 with level control</p>	<p> *BF46.20-P-1001-01A</p> <p> *BF32.30-P-1001-01A</p>
	<b>Bleeding</b>		
4	Turn steering wheel from steering stop to steering stop	<p> Do <b>not</b> start the engine! If the engine is started there is a risk of air entering the hydraulic steering system, which is then extremely difficult to remove.</p> <p> Turn steering wheel slowly from steering stop to steering stop until bubbles are no longer visible in the expansion reservoir (2).</p> <p> Repeat turning the steering from stop to stop several times (up to 30 times). During this process, MB steering gear oil must be poured into the expansion reservoir (2) by a second person.</p>	

 <b>Danger!</b>	<b>Risk of accident</b> caused by vehicle starting off by itself when engine is running. <b>Risk of injury</b> caused by contusions and burns during starting procedure or when working near the engine as it is running	Secure vehicle to prevent it from moving by itself. Wear closed and snug-fitting work clothes. Do not touch hot or rotating parts.	AS00.00-Z-0005-01A
5	Start engine without moving the steering	<p> Allow engine to run for approx. 1 min at idle speed.</p> <p> During this process, a second person must observe the oil level in the expansion reservoir (2) and add MB steering gear oil if necessary.</p>	
6	Turn steering wheel from steering stop to steering stop	<p> When the engine is running turn the steering wheel slowly several times from steering stop to steering stop, meanwhile adding MB steering gear oil in expansion reservoir (2).</p> <p> Repeat the procedure until the oil level in the expansion reservoir (2) remains constant and bubbles are no longer visible.</p>	
 <b>Checking</b>			
7  AP  AP	Check oil level in the expansion reservoir (2) and fill up to the maximum fill level Power steering - checking and correcting oil level	Model 202 up to 31.8.95 Model 202 as of 1.9.95, model 129, 163, 170, 208, 210, 220, 230	AP46.00-P-4611BA AP46.00-P-4611BB
8	Test run engine and check that steering system is not leaking and is functioning correctly	 If leaks are found, determine the cause and rectify, subject to separate repair order.	
9	Install in the reverse order		

#### **Steering gear**

Number	Designation			Model 129	Model 163	Model 170
BF46.20-P-1001-01A	Power steering	Filling capacity	Liters	≈1.0	≈1.2	≈1.0
		MB steering gear oil	Sheet	BB00.40-P-0236-03A	BB00.40-P-0236-03A	BB00.40-P-0236-03A

#### **Steering gear**

Number	Designation			Model 202	Model 208	Model 210
BF46.20-P-1001-01A	Power steering	Filling capacity	Liters	≈1.0	≈1.0	≈1.0
		MB steering gear oil	Sheet	BB00.40-P-0236-03A	BB00.40-P-0236-03A	BB00.40-P-0236-03A

#### **Steering gear**

Number	Designation			Model 220 without code 487	Model 230 without code 487
BF46.20-P-1001-01A	Power steering	Filling capacity	Liters	≈1.0	≈1.0
		MB steering gear oil	Sheet	BB00.40-P-0345-00A	BB00.40-P-0345-00A

#### **Level control system**

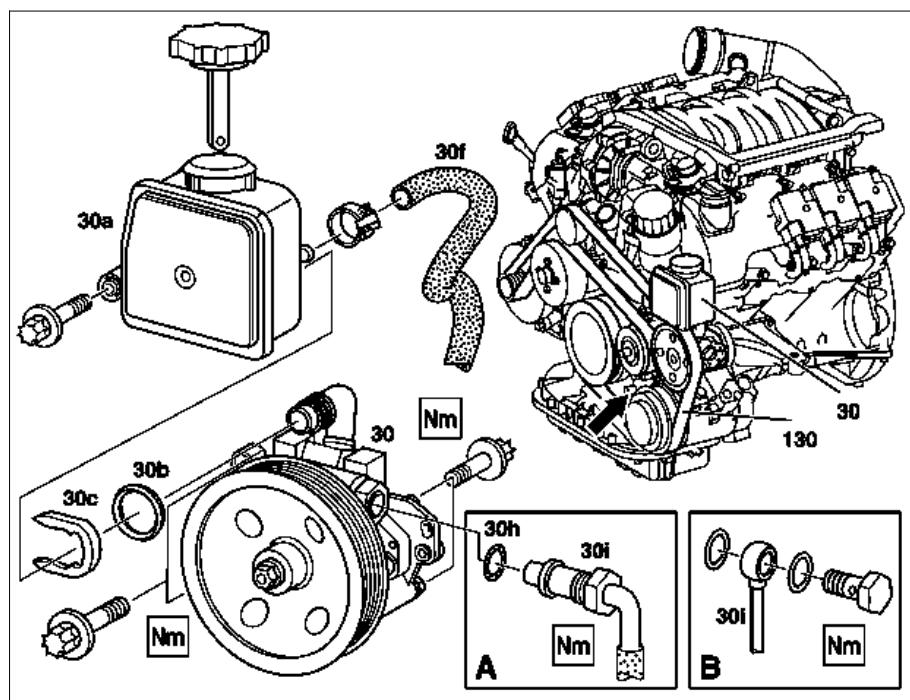
Number	Designation	Model 210 with level control/ADS		
BF32.30-P-1001-01A	Filling capacity	Level control system, filling system for the first time	Liters	~2
	Specifications for Operating Fluids		Sheet	-
			Sheet	BB00.40-P-0344-00A

**MODEL** 129.059 /064 /068, 163.154 /157 /172 /174 /175, 170.465, 202.026 /029 /033 /086 /089 /093, 208.365 /370 /374 /465 /470, 210.061 /063 /065 /070 /074 /081 /082 /083 /261 /263 /265 /270 /274 /281 /282 /283 /663

**MODEL** 220.063 /065 /070 /075 /083 /084 /087 /165 /170 /175 /183 /184 /187 except CODE (487) Active Body Control (ABC)

Shown on engine 112

30 Power steering pump  
 30a Reservoir  
 30b Sealing ring  
 30c Circlip  
 30f Return flow pipe  
 30h O-ring  
 30i High pressure expansion hose  
 130 Poly-V-belt  
 Arrow: Tensioner pulley for poly-V belt



P46.30-2136-06

	Remove/install		
1.1	Loosen poly-V-belt (130)	<span style="color: #0070C0;">i</span> Model 163. only	
1.2	Remove poly-V belt (130)	<span style="color: #0070C0;">i</span> Except model 163. Engine 112 in model 129 Engine 113 in model 202, 208 except 208.374, 210, 129 Engine 112 in model 202, 208.365 /465, 210, 220.063 /065 /087 /165 /187 Engine 113 in model 220.070 /075 /083 /084 /170 /175 /183 /184 Engine 113.984 in model 208.374 Engine 112.947 in model 170.465	AR13.22-P-1202B <span style="color: red;">AR13.22-P-1202BA</span> AR13.22-P-1202SV
2.1	Suction off oil from reservoir (30a)	<span style="color: #0070C0;">i</span> Except model 210 with level control. <span style="color: #0070C0;">S</span> Hand pump	*210589007100
2.2	Clamp off supply line from reservoir (30a)	<span style="color: #0070C0;">i</span> Model 210 with level control. <span style="color: #0070C0;">S</span> Clamping device	*000589403700
3	Detach return line (30f)	<span style="color: #0070C0;">i</span> Seal off line connection with blind plug. <span style="color: #0070C0;">i</span> Model 129, 163, 170, 202, 208, 210: <span style="color: #0070C0;">Nm</span> Return flow line at power steering pump <span style="color: #0070C0;">i</span> Model 220: <span style="color: #0070C0;">Nm</span> Return flow line at power steering pump	*BA46.30-P-1002-01A *BA46.30-P-1002-01C
4.1	Remove reservoir (30a)	<span style="color: #0070C0;">i</span> Model 163. only  <span style="color: #0070C0;">i</span> <b>Removal:</b> Use a suitable screwdriver to pry off retaining ring (30c).  <span style="color: #0070C0;">i</span> <b>Installation:</b> First mount reservoir on power steering pump before it is installed.	
5	Unscrew high-pressure expansion hose (30i)	<span style="color: #0070C0;">i</span> Seal off line connection with blind plug. <span style="color: #0070C0;">i</span> <b>Installation:</b> Check O-ring (30h) or sealing rings, replace if necessary. <span style="color: #0070C0;">i</span> Model 129, 163, 170, 202, 208, 210: <span style="color: #0070C0;">Nm</span> High-pressure expansion hose to power steering pump <span style="color: #0070C0;">i</span> Model 220 version (A): ↓	*BA46.30-P-1003-01A

		<p><b>Nm</b> High-pressure expansion hose to power steering pump  <b>i</b> Model 220 version (B) with banjo bolt: ↓  <b>Nm</b> Banjo bolt, high pressure expansion hose to power steering pump</p>	*BA46.30-P-1003-01C
6.1	Detach high-pressure hose and intake line to power steering pump	<p><b>i</b> Vehicles with level control. Seal off intake line with clamp, and line connections with blind plugs.  <b>Nm</b> High-pressure hose, tandem pump  <b>SY</b> Clamping device</p>	*BA46.30-P-1004-01A *000589403700
7	Detach power steering pump (30)	<p><b>i</b> Vehicles without level control: In addition detach reservoir (30a) and together with the power steering pump (30) guide forwards out of the guide rail.</p> <p><b>i Installation:</b> If necessary, replace self-tapping bolts, observing the following in the process:</p> <ul style="list-style-type: none"> <li>• Never recut thread ,</li> <li>• Only use original bolts,</li> <li>• When screwing in do not attach bolts obliquely and</li> <li>• Do not use an impact wrench.</li> </ul> <p>Bolts, power steering pump to front timing case:  Model 129, 163, 170, 202, 208, 210↓  <b>Nm</b> Self-tapping screw for power steering pump to timing case  Model 220: ↓  <b>Nm</b> Self-tapping screw for power steering pump to timing case</p> <p>Rear bolts:  Model 129, 163, 170, 202, 208, 210↓  <b>Nm</b> Screw, power steering pump to cylinder liner collar seat or crankcase  Model 220.063 /065 /070 /075 /165 /170 /175 without Active Body Control (ABC)  Code 487a: ↓  <b>Nm</b> Screw, power steering pump to cylinder liner collar seat or crankcase</p>	*BA46.30-P-1010-01A *BA46.30-P-1010-01C *BA46.30-P-1005-01A *BA46.30-P-1005-01C
8.1	Detach reservoir (30a)	<p><b>i</b> Except model 163, 210 with level control.</p> <p><b>i Removal:</b> Use a suitable screwdriver to pry off retaining ring (30c).</p> <p><b>i Removal:</b> The reservoir (30a) can also be removed when the power steering pump (30) is installed.</p> <p><b>i Installation:</b> Check sealing ring (30b), replace if necessary. Ensure retaining ring (30c) is seated correctly.</p>	
9	Install in the reverse order		
10	Fill power steering pump and bleed		AR46.30-P-0010B

#### **Nm** Power steering pump

Number	Designation	Model 129.059/064/068	Model 163.128/154/157/172/174/175	Model 170
BA46.30-P-1002-01A	Return line to power steering pump	Nm 2	2	-
BA46.30-P-1003-01A	High-pressure expansion hose to power steering pump	M14x1.5 Nm -	-	-
		M16x1.5 Nm 45	45	45
BA46.30-P-1004-01A	High-pressure hose, tandem pump	Nm -	25	25
BA46.30-P-1005-01A	Screw, power steering pump to cylinder liner collar seat or crankcase	Nm -	25	25

BA46.30-P-1010-01A	Self-tapping bolt, power steering pump to timing case	Thread not pre-tapped	Nm	35	35	-
		Thread pre-tapped	Nm	20	20	-

**Nm Power steering pump**

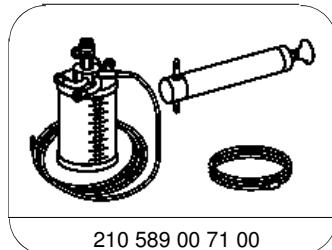
Number	Designation	Model 202.026/029/ 033/086/088/089/ 093	Model 208.365/370 374/465/ 470/474
BA46.30-P-1002-01A	Return line to power steering pump	Nm	2
BA46.30-P-1003-01A	High-pressure expansion hose to power steering pump	M14x1.5	Nm
		M16x1.5	Nm
BA46.30-P-1004-01A	High-pressure hose, tandem pump	Nm	25
BA46.30-P-1010-01A	Self-tapping bolt, power steering pump to timing case	Thread not pre-tapped	Nm
		Thread pre-tapped	Nm
		35	35
		20	20

**Nm Power steering pump**

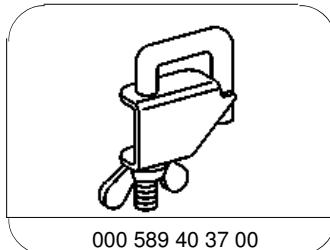
Number	Designation	Model 210.061/062/063 / 065/070/074/ 081/082/083/ 261/262/263/ 265/270/274/ 281/282/283/ 663
BA46.30-P-1002-01A	Return line to power steering pump	Nm
BA46.30-P-1003-01A	High-pressure expansion hose to power steering pump	M14x1.5
		M16x1.5
BA46.30-P-1004-01A	High-pressure hose, tandem pump	Nm
BA46.30-P-1005-01A	Screw, power steering pump to cylinder liner collar seat or crankcase	Nm
BA46.30-P-1010-01A	Self-tapping bolt, power steering pump to timing case	Thread not pre-tapped
		Thread pre-tapped
		Nm
		35
		20

**Nm Power steering pump**

Number	Designation	Model 220.063/065/ 067/070/073/ 075/163/165/ 167/170/173/ 175/875 without code 487a	Model 220.083/084/087 /183/184/187
BA46.30-P-1002-01C	Return line to power steering pump	Nm 2	-
BA46.30-P-1003-01C	High-pressure expansion hose to power steering pump	M14x1.5 Nm -	-
		M16x1.5 Nm 40	-
BA46.30-P-1005-01C	Screw, power steering pump to cylinder liner collar seat or crankcase	Nm 25	-
BA46.30-P-1010-01C	Self-tapping bolt, power steering pump to timing case	Thread not pre-tapped Nm 35	35
		Thread pre-tapped Nm 20	20
BA46.30-P-1016-01C	Banjo bolt, high pressure expansion hose to power steering pump	Nm -	45



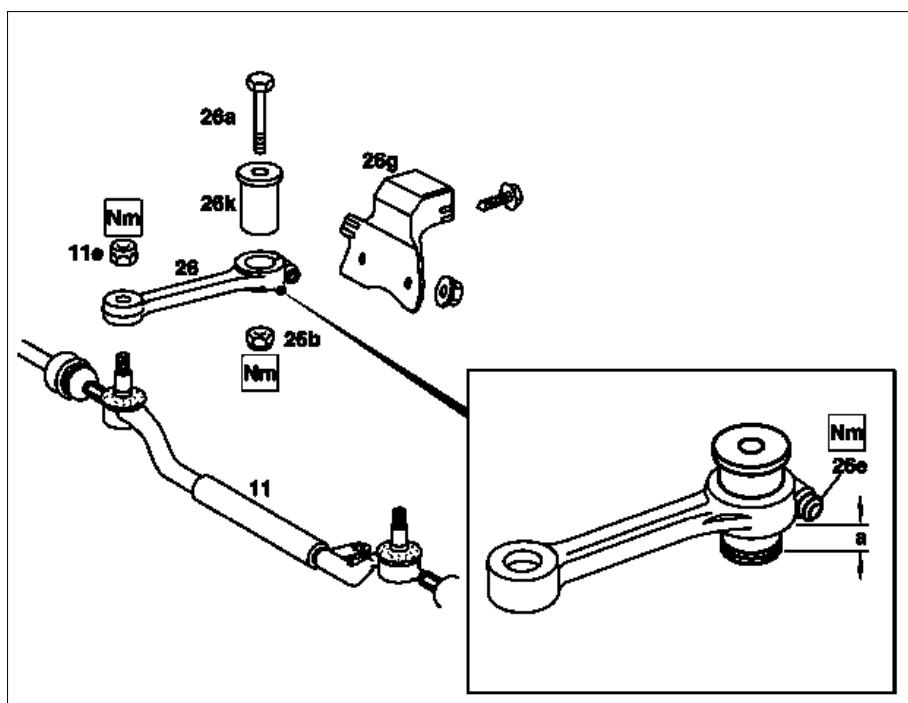
Hand pump



Clamping device

MODEL 170, 202, 208

11 Combined track rod and drag link  
 11e Self-locking nut  
 26 Steering idler arm  
 26a Screw  
 26b Self-locking nut  
 26e Clamping screw  
 26g Heat shield  
 26k Bearing bush  
 "a" adjustment dimension for ball point position



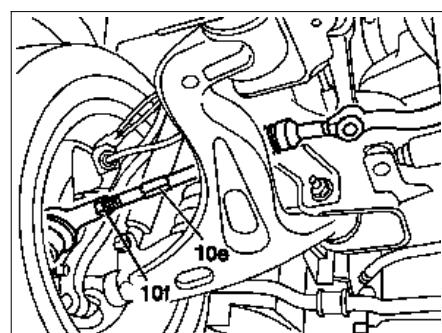
P46.40-0210-06

Remove, Install			
<b>Installation</b>	Replace self-locking nuts		
1	Remove drag link (11) on steering idler arm (26)		AR46.40-P-0100C
2	Remove heat shield (26g)		
3	Unscrew nut (26b). Pull out bolt (26a) and remove steering idler arm (26) with bearing bush(26k)	Nm	*BA46.40-P-1001-05A
4	Loosen clamping screw (26e)		*BA46.40-P-1003-05A
5	Remove bearing bush (26k)  The steering idler arm is adjusted in a defined position "a" = 19.1 mm on the bearing bush (26k) "a" = 19,1 mm	<b>[i] Installation:</b> The slight offset of the steering idler arm must point towards the collar of the bearing bush/bearing bush <b>[i] The adjusted position may be changed by a maximum of 5 mm by correcting the ball point position. If the specified ball point position is not reached within this adjustment range the bearing tube/body is deformed</b>	
6	Install in the reverse order		

#### Nm Steering idler arm

Number	Designation	Model 170	Model 202	Model 208
BA46.40-P-1001-05A	Self-locking nut, steering idler arm to longitudinal frame member bearing bracket	NM 50	50	50
BA46.40-P-1003-05A	Clamp screw, steering idler arm to bearing bush	NM 30	30	30

MODEL 170, 202, 208



P40.30-0288-01

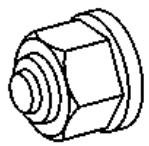
## Modification notes

10.9.03	Reference to adjusting toe on front axle replaced by reference to wheel alignment	Operation step 7	
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	Remove/install		
<b>Danger!</b>	<b>Risk of death</b> caused by vehicle slipping or toppling off of the lifting platform.	Align vehicle between columns of vehicle lift and position four support plates at vehicle lift support points specified by vehicle manufacturer.	<b>AS00.00-Z-0010-01A</b>
	Notes on self-locking nuts and bolts		AH00.00-N-0001-01A
<b>AP</b>	Remove front wheel Remove/install wheels		<b>AP40.10-P-4050Z</b>
2	Pry tie rod joint off steering knuckle	<b>i</b> <b>Installation:</b> Clean grease off cone and press tie rod joint firmly into steering knuckle.  Thrust piece Puller	<b>AR46.40-P-0200-02CC</b> *BA46.40-P-1002-01A *129589106300 *202589023300
3	Loosen clamping cone ring (10f), in the process counterhold at hexagon (10e)		
4	Unscrew tie rod end		
	<b>Checking</b>		
5	Check tie rod joint for play and damaged rubber boot	<b>i</b> Replace tie rod joint if necessary. <b>i</b> The inner ball joint of the tie rod is permanently connected to the drag link and can therefore only be replaced with the drag link.	
6	Install in the reverse order		
7	Check front wheel toe and adjust if necessary	See: ↓ Perform a wheel alignment check	<b>AR40.20-P-0200A</b>

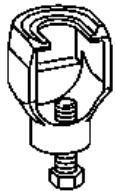
**Tie rod**

Number	Designation	Model 170	Model 202	Model 208
BA46.40-P-1002-01A	Self-locking nut, tie rod to steering knuckle Yellow silver or blue	Nm 50	Nm 50	Nm 50
		Nm -	Nm -	Nm -



129 589 10 63 00

Thrust piece



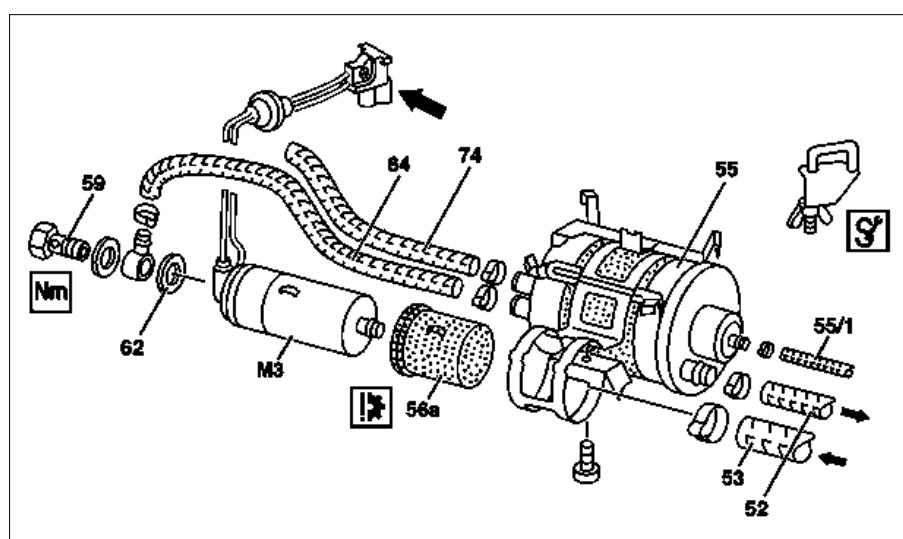
202 589 02 33 00

Puller

**ENGINES 112 in MODEL 170**  
**ENGINES 112, 113 in MODEL 129, 202, 208, 210**  
**ENGINES 113 in MODEL 215, 220**  
**ENGINES 112, 113 in MODEL 230**  
**ENGINES 275 in MODEL 230 except CODE (P99) Special model "AMG Black Series"**

Shown on model 210 with engine 112

52 Fuel pressure hose to engine  
 53 Fuel suction hose  
 55 Fuel filter  
 55/1 Degassing line  
 56a Plastic sleeve  
 59 Banjo bolt  
 62 Copper sealing ring  
 64 Fuel pressure hose  
 66 Fuel return line  
 74



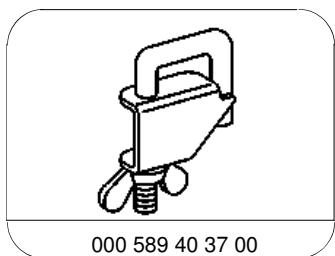
P47.20-0263-05

#### Modification notes

9.10.02	Safety information added		AS00.00-Z-0010-01A
<input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	<b>Remove/install</b>		
<b>⚠ Danger!</b>	<b>Risk of death</b> caused by vehicle slipping or toppling off of the lifting platform.	Align vehicle between columns of vehicle lift and position four support plates at vehicle lift support points specified by vehicle manufacturer.	AS00.00-Z-0010-01A
<b>⚠ Danger!</b>	<b>Risk of explosion</b> caused by fuel igniting, <b>risk of poisoning</b> caused by inhaling and swallowing fuel and <b>risk of injury</b> to eyes and skin caused by contact with fuel	No fire, sparks, open flames or smoking. Pour fuels only into suitable and appropriately marked containers. Wear protective clothing when handling fuel.	AS47.00-Z-0001-01A
1	Release pressure relief in fuel tank	<b>i</b> For this step open fuel filler flap and filler cap and reseal.	
2	Raise vehicle using a lifting platform		
3 	Remove underbody plate Remove/install underbody protection	Model 220 with code (Z07) Top protection	AR61.40-P-1000MB
4	Pinch off fuel suction hose (53) and fuel pressure hose to engine (52)	<b>i</b> <b>Installation:</b> Check fuel suction hose (53) and fuel pressure hose to engine (52) for damage, replace if necessary. <b>i</b> Clamping device	*000589403700
5	Detach hoses lines from fuel filter (55)	<b>i</b> Detach the fuel pressure hose to the engine (52), fuel pressure hose (64), fuel return line (74), fuel suction hose (53) and degassing line (55/1) from the fuel filter (55). <b>i</b> <b>Installation:</b> Check the hose clamps for damage and replace if necessary. Only use the hose clamps listed in the parts catalog. <b>i</b> Banjo bolt, fuel line to fuel pump or fuel filter	*BA47.20-P-1001-01B
6	Remove fuel filter (55)	<b>i</b> <b>Installation:</b> Insert the new fuel filter (55) with plastic film. Do not damage the plastic film when sliding the fuel filter (55) into the retaining clamp, otherwise contact corrosion can occur. Center the plastic film on the fuel filter (55) in the retaining clamp if possible.	
7	Install in the reverse order		
<b>⚠</b>	<b>Checking</b>		
<b>⚠ Danger!</b>	<b>Risk of accident</b> caused by vehicle starting off by itself when engine is running. <b>Risk of injury</b> caused by contusions and burns during starting procedure or when working near the engine as it is running	Secure vehicle to prevent it from moving by itself. Wear closed and snug-fitting work clothes. Do not touch hot or rotating parts.	AS00.00-Z-0005-01A
8	Start engine and check fuel system for leaks	<b>i</b> Carry out visual inspection.	

**Nm** Fuel pump

Number	Designation	Engine 112	Engines 113.940/941/ 942/943/944/ 948/960/961/ 963/965/966/ 967/968/980/ 981/984/986/ 992/995	Engine 113.991	Engine 275
BA47.20-P-1001-01B	Banjo bolt of fuel line to fuel pump or fuel filter	Nm	25	25	25

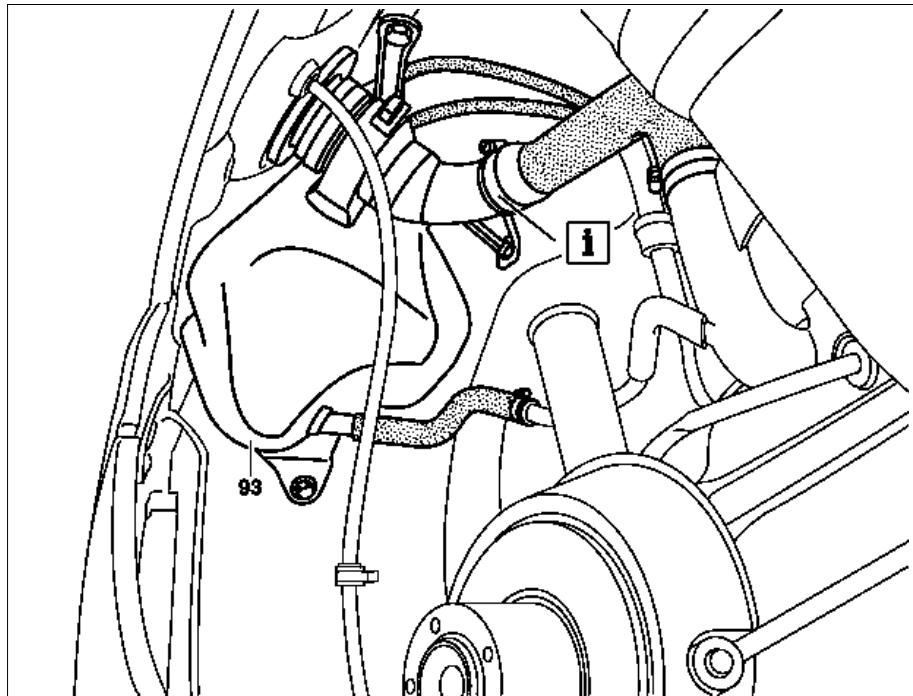


Clamping device

**MODEL 202 as of 1.3.96,  
208**

**Illustrated on models 202, 208.3**

**93 Expansion reservoir**



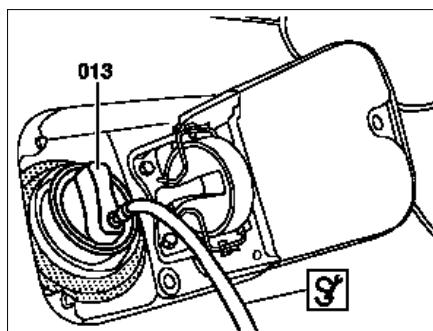
P47.10-0367-06

	Removing, installing		
<b>⚠ Danger!</b>	<b>Risk of explosion</b> from ignition. <b>Risk of poisoning</b> from inhaling and swallowing fuel. <b>Risk of injury</b> as a result of fuel coming into contact with skin and eyes.	No fire, naked flame or smoking. Pour fuels only into suitable and appropriately marked containers. Wear protective clothing when handling fuel.	<b>AS47.00-Z-0001-01A</b>
<b>i</b>	Hose clip	If fuel tank is full, pump out about 8 liters of fuel ↓ Emptying fuel tank, filling	<b>AR47.10-P-4001E</b>
1	Disconnect vent hoses and connection hose		
2	Take expansion reservoir together with filler neck (93) and cup seal down and out	<b>i</b> Inspect connection, vent hoses and cup seal for reuse, replace if necessary	
3	Remove guide funnel	Models 202.0, 208	<b>AR47.10-P-7571D</b>
4	Install in the opposite order		

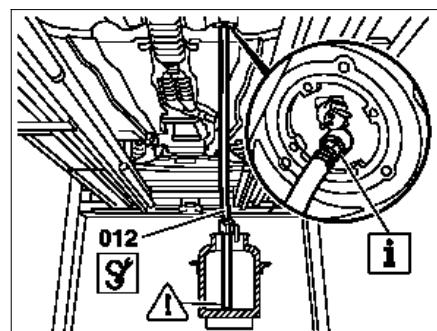
MODEL 202, 208

## Draining fuel

012 Drain hose  
013 Cap



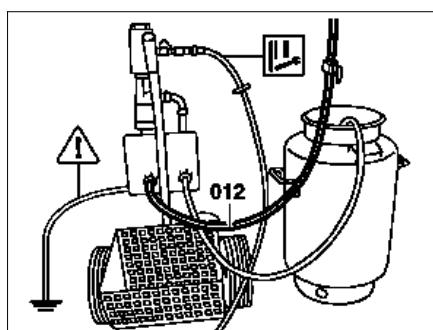
P47.10-0218-01



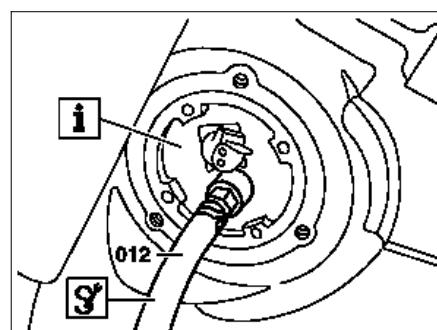
P47.10-0219-01

## Pumping out fuel

012 Drain hose



P47.10-0217-01

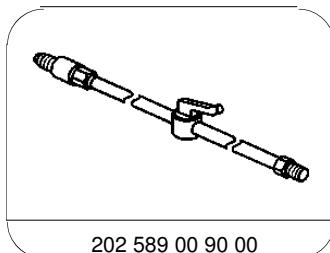


P47.10-0216-01

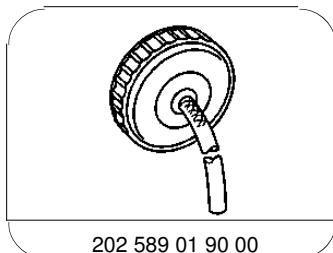
Draining or pumping out fuel			
<b>Danger!</b>	<b>Risk of explosion</b> from ignition. <b>Risk of poisoning</b> from inhaling and swallowing fuel. <b>Risk of injury</b> as a result of fuel coming into contact with skin and eyes	No fire, naked flame or smoking Pour fuels only into suitable and appropriately marked containers Wear protective clothing when handling fuel	AS47.00-Z-0001-01A
1.1	<b>Draining fuel</b>		
	Fit cap (013) together with pressure hose, take off		*202589019000
	Unscrew drain valve screw plug, screw in	Check O-ring, replace if necessary. When installing, ensure it is correctly seated. When working on the fuel gauge sender, only drain the chamber on which work is being performed. When removing and installing fuel tank, drain both chambers. 	*BA47.10-P-1001-01A
	Screw drain hose (012) with shut-off cock into drain valve, unscrew	The drain hose must be touching the bottom of the safety tank to avoid static charging. 	*202589009000
	If no fuel runs out, fuel tank must be pressurized to approx. 0.15 bar by a brief pressure surge	a) Briefly blow into the pressure hose of the cap (013) with compressed air b) Insert an air pump (e.g. ball pump) into the cap (013) of the pressure hose, pump two or three times and disconnect again immediately.	
1.2	<b>Pumping out fuel</b>		
	Unscrew drain valve screw plug, screw in	Check O-ring, replace if necessary. When installing, ensure it is correctly seated. 	*BA47.10-P-1001-01A
	Screw drain hose (012) with shut-off cock into drain valve, unscrew	When working on the fuel gauge sender, only drain the chamber on which work is being performed. When removing and installing fuel tank, drain both chambers. 	*202589009000
	Connect suction pump to ground Connect drain hose (012) with shut-off cock to suction end of scavenger pump, lock	Connect suction pump to ground in order to avoid electrostatic discharge 	*WE58.40-Z-1001-22A
	Pump out fuel through drain valve into safety tank		

**Nm** Fuel tank

Number	Designation	Model 202	Model 208
BA47.10-P-1001-01A	Drain valve screw plug	Nm	15



Drain hose



Cap

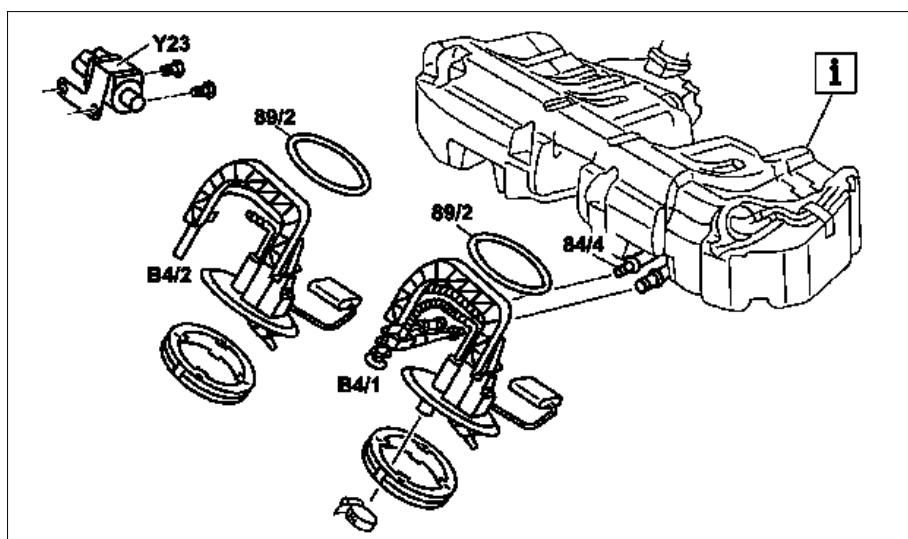
**Workshop equipment**

WE58.40-Z-1001-22A	Tank emptying device
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MODEL 202, 208

## Fuel tank system of gasoline engines

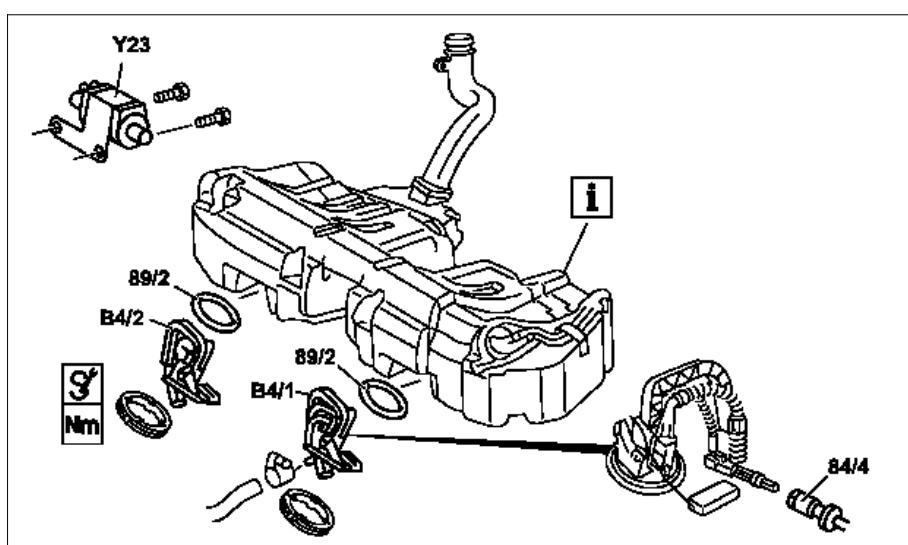
84/4 Lines from suction spray pump  
 89/2 Shaped seal  
 B4/1 Fuel gage sensor in left half of tank  
 B4/2 Fuel gage sensor in right half of tank  
 Y23 Fuel metering pump (only on models with heater booster or stationary heater)



P47.10-2028-05

## Fuel tank system of diesel engines

84/4 Lines from suction spray pump  
 89/2 Shaped seal  
 B4/1 Fuel gage sensor in left half of tank  
 B4/2 Fuel gage sensor in right half of tank  
 Y23 Fuel metering pump (only on models with heater booster or stationary heater)



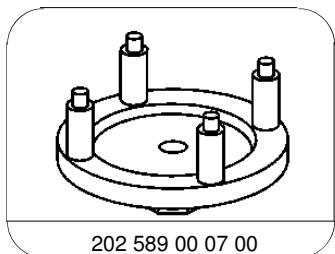
P47.10-0400-05

Fig. item, etc.	Work instructions		
<b>⚠ Danger!</b>	<b>Risk of explosion</b> if ignition takes place, <b>risk of poisoning</b> caused by inhaling fuel vapors or swallowing fuel as well as <b>risk of injury</b> to skin and eyes exposed to fuel.	No fire, sparks, naked flames or smoking. Pour fuels only into suitable and appropriately marked containers. Wear protective clothing when handling fuel.	<b>AS47.00-Z-0001-01A</b>
<b>i</b>	Drain fuel tank, fill		<b>AR47.10-P-4001E</b>
<b>Nm</b>	Ring nut	Use pronged wrench for unscrewing, screwing on.	<b>*BA47.10-P-1004-01A</b> <b>*202589000700</b>
Y23	Fuel metering pump	Unbolt. <b>i</b> Only fitted to models with heater booster or stationary heater.	
B4/1	Fuel gage sensor	<b>Installation note</b> Fit on lines (84/4) of suction spray pump at fuel gage sensor (B4/1). Insert fuel gage sensor with studs into slots of fuel tank. Replace shaped seal (89/2).	

**i** Fuel tank

Number	Designation	Model 202	Model 208

BA47.10-P-1004-01A	Ring nut for fuel gauge sensor	Nm	55	55
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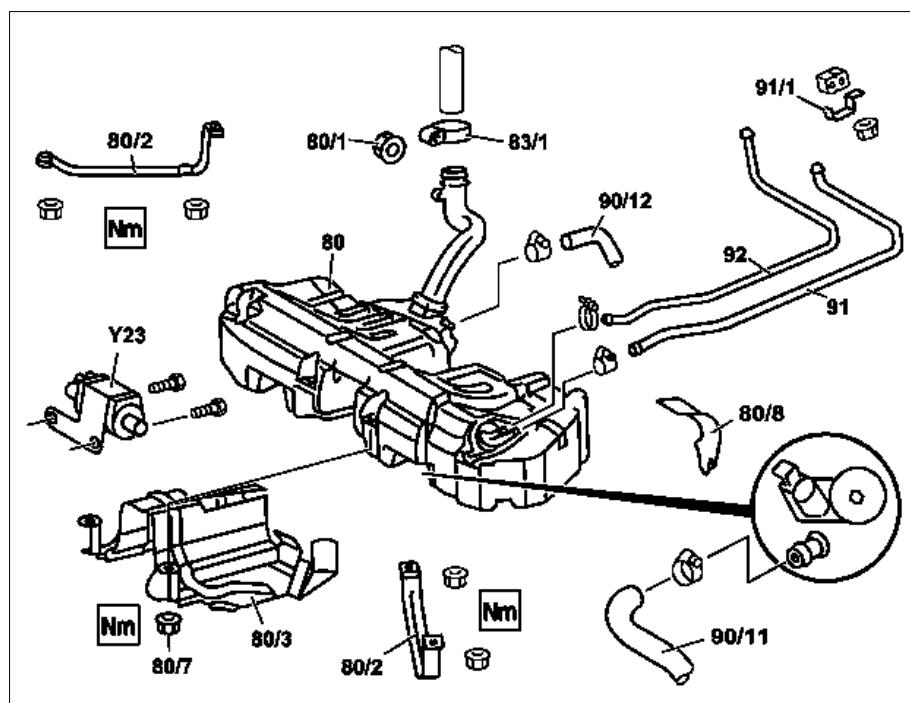


Puller

MODEL 202, 208

## Tank system for diesel engine

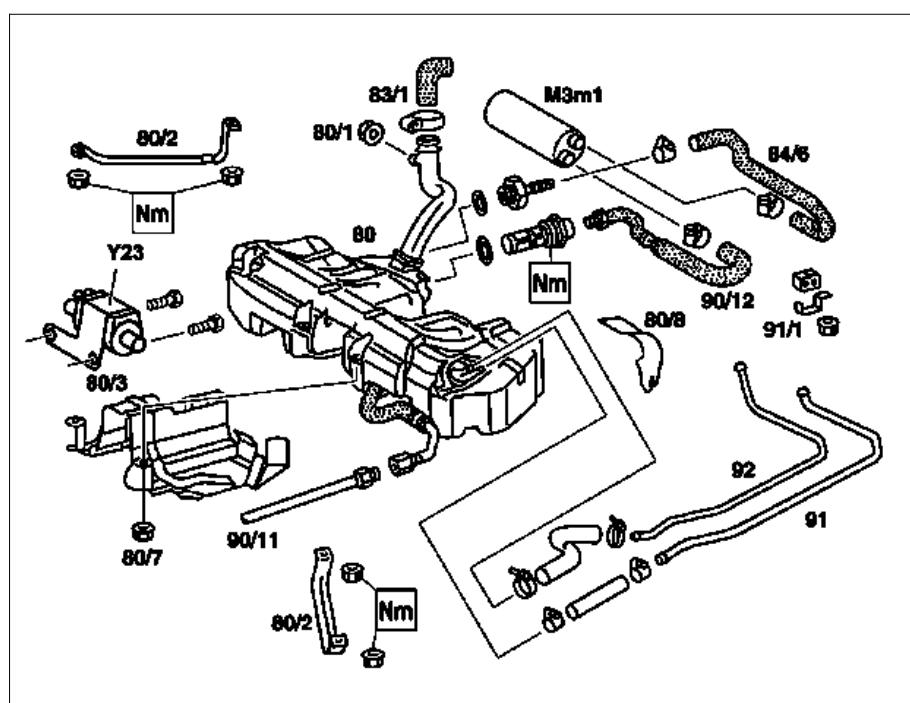
80 Fuel tank  
 80/1 Nut  
 80/2 Tensioning straps  
 80/3 Shield  
 80/7 Nuts  
 80/8 Sound deadener  
 83/1 Hose clamp  
 90/11 Fuel return hose  
 90/12 Fuel suction hose  
 91 Air admission line  
 91/1 Clip  
 92 Vent line  
 Y23 Fuel metering pump (only for model 202.133/193)



P47.10-0399-06

## Tank system for gasoline engine

80 Fuel tank  
 80/1 Nut  
 80/2 Tensioning straps  
 80/3 Shield  
 80/7 Nuts  
 80/8 Sound deadener  
 83/1 Hose clamp  
 84/6 Degassing hose  
 90/11 Fuel return hose  
 90/12 Fuel suction hose  
 91 Air admission line  
 91/1 Clip  
 92 Vent line  
 M3m1 Fuel pump  
 Y23 Fuel metering pump (only for model 208.374 with Engine 113.984)



P47.10-2026-06

## Modification notes

12.8.97	Unscrew fuel metering pump (Y23) only for model 202.133/193		
9.4.99	Unscrew fuel metering pump (Y23) only for model 208.374 with Engine 113.984		

Remove, Install		
<b>Danger!</b> Risk of explosion caused by ignition of flammable products, risk of poisoning caused by inhaling fuel vapors or swallowing fuel as well as risk of injury to skin and eyes exposed to fuel.	No fire, sparks, open flames or smoking. Pour fuels only into suitable and appropriately marked containers. Wear protective clothing when handling fuel.	AS47.00-Z-0001-01A
1 Empty/fill fuel tank	Pay attention to fuel quantity.	AR47.10-P-4001E *BF47.10-P-1001-01A

2	Remove/install complete rear axle		AR35.10-P-0010D
3	Remove/install fender liner in rear fender	<b>i</b> At right rear. Model 202	AR88.10-P-1400E
4	Slacken hose clamp (83/1) from connector hose-filler neck at the bottom		
5	Pinch off fuel hose (90/12) on the suction side and degassing hose (84/6) with Pierburg fuel pump	Model 202.018,208	
6	Remove nut (80/1) of filler neck at bottom		
7.1	Unscrew fuel metering pump (Y23)	Model 202.133/193 Model 208.374 (AMG) <b>i</b> Right in front of the fuel level sensor.	
8	Detach tensioning straps (80/2)	<b>i</b> For this step, support fuel tank with lift. <b>Nm</b>	*BA47.10-P-1003-01A
 BT	Suspension of fuel tank modified	Model 202, 208	BT47.10-P-0004-01A
9  BT	Loosen sound deadening mat (80/8) Sound deadening mat omitted, fuel tank modified	To do so, lower the lift by approx. 30 cm. Model 202	BT47.10-P-0002-01A
10	Unscrew nuts (80/7) from fuel tank	<b>i</b> Fuel tank without rubber naps <b>Nm</b> <b>i</b> Fuel tank with rubber naps <b>Nm</b>	*BA47.10-P-1002-01A *BA47.10-P-1006-01A
11	Remove fuel strainer	<b>i</b> Clean and check for re-usability. <b>Nm</b>	*BA47.10-P-1005-01A
12	Install in the reverse order		
13  OS	Dispose of fuel tank Disposing fuel tanks		OS47.10-P-0001-01A

#### Fuel tank

Number	Designation	Model 202	Model 208
BA47.10-P-1002-01A	Nut at fuel tank (fuel tank without rubber naps)	Nm 20	20
BA47.10-P-1003-01A	Nut for tensioning straps	Nm 40	40
BA47.10-P-1005-01A	Fuel strainer in fuel tank	Nm 40	40
BA47.10-P-1006-01A	Fuel strainer in fuel tank (fuel tank with rubber naps)	Nm 15	15

#### Fuel tank

Number	Designation	Model 202.018/020/023/ 024/025/026/ 029/033/078/ 080/082/083/ 085/086/089/093	Model 202.121/122/128/ 133/180/182/ 188/193
BF47.10-P-1001-01A	Fuel tank capacity	Total filling capacity Liters 62	62
		Reserve capacity Liters 8	7

#### Fuel tank

<b>Number</b>	<b>Designation</b>			<b>Model</b> <b>208</b>
BF47.10-P-1001-01A	Fuel tank capacity	Total filling capacity	Liters	62
		Reserve capacity	Liters	8

ENGINE 112.910

in MODEL 202.026 #A as of 205024,  
202.026 #F as of 175421,

202.086

ENGINE 112.920

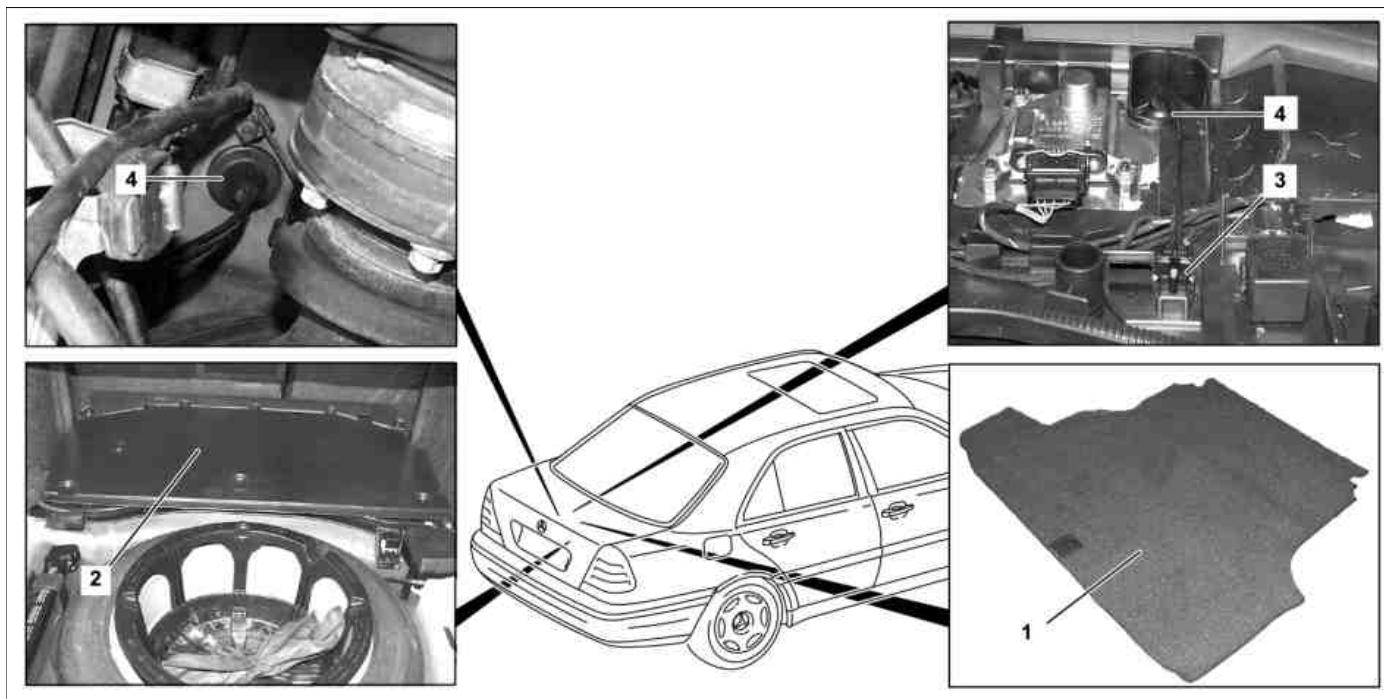
in MODEL 202.029 #A as of 205024,  
202.029 #F as of 175421,  
202.089

ENGINE 112.940 in MODEL 208.365 /465

ENGINE 113.944 in MODEL 202.033 /093

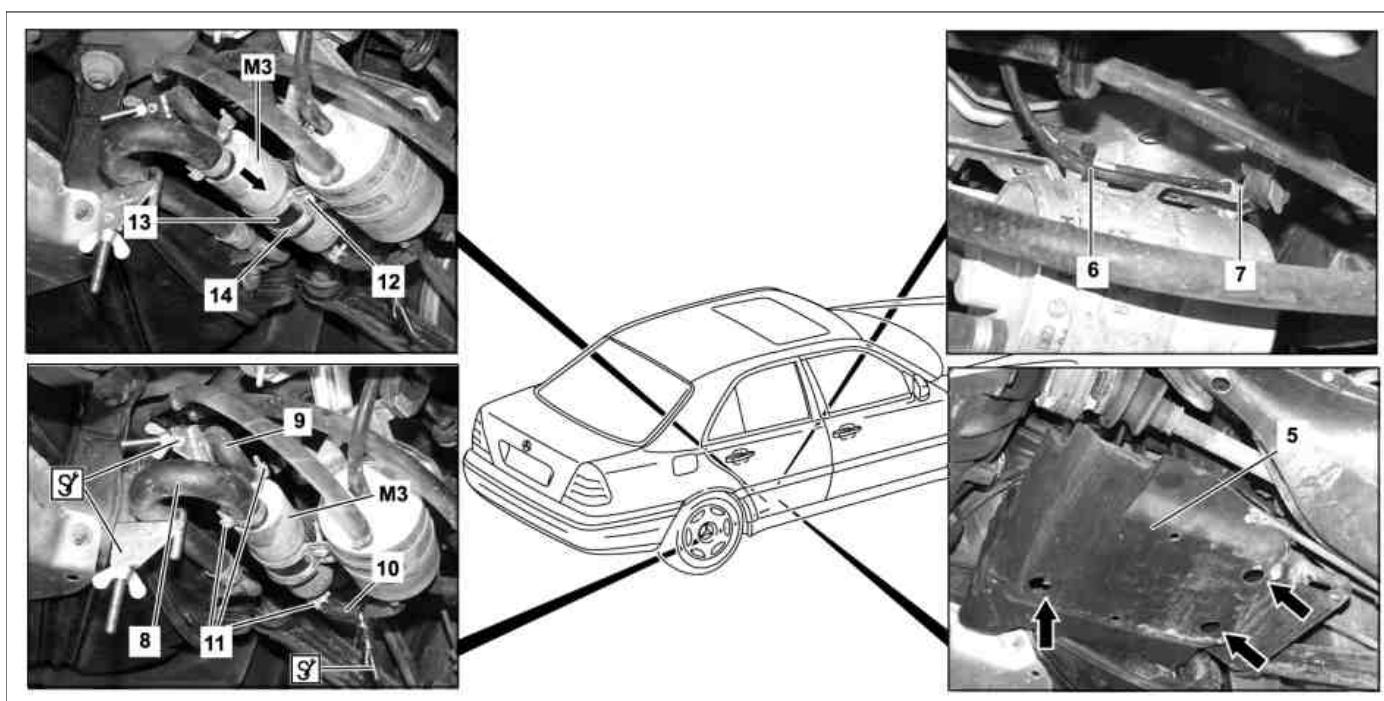
ENGINE 113.943 in MODEL 208.370 /470

ENGINE 113.984 in MODEL 208.374



P47.20-2026-09

Shown on model 202 with engine 112

1 Trunk cover  
2 Cover3 Connector  
4 Rubber grommet

P47.20-2027-09

5 Cover (fuel pump)

6 Cable strap

7 Clip

8 Fuel line (Tank → fuel pump)

9 Fuel line (Fuel pump → tank)

10 Fuel line (Fuel pump → fuel filter)

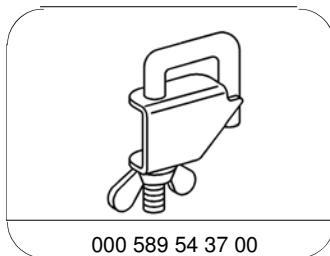
11 Hose clips

12 Bolt

13 Plastic sleeve

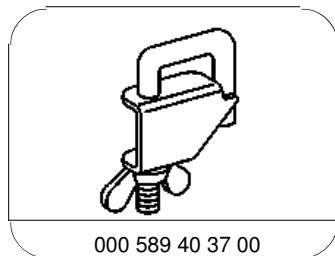
14 Bracket

 	Removing, installing		
 <b>Danger!</b>	<b>Risk of explosion</b> due to igniting fuel, <b>risk of poisoning</b> due to inhaling and consuming fuel and <b>risk of injury</b> due to fuel coming into contact with the skin and eyes.	Fire, sparks, naked flames and smoking prohibited. Only pour fuel into suitable and appropriately labeled containers. Wear protective clothing when handling fuel.	AS47.00-Z-0001-01A
1	Disconnect and connect the ground cable at the battery	<b>[i] Installation:</b> After connecting the ground cable, read out error memory, encode radio and calibrate power window Vehicles with stationary heater: set stationary heater clock.	AR54.10-P-0003A
2	Remove trunk cover (1)		
3	Remove cover (2)		
4	Ascertain as-build condition	Fuel line with banjo bolt at fuel pump.	AR47.20-P-5713AU
5	Unplug connector (5)		
6	Press rubber grommet (4) out of floor panel	<b>[i] Installation:</b> Check rubber grommet for damage and correct installation.  If damaged: replace rubber grommet.	
7	Remove cover (5) of fuel pump	<b>[i] Removal:</b>  Unscrew the three nuts of cover through holes (arrows).	
8	Remove cable strap (6) and clip (7)		
9	Unclip fuel lines (8, 9, 10)	 	<a href="#">*000589543700</a> <a href="#">*000589403700</a>
10	Pull fuel lines (8, 9, 10) off fuel pump (M3)	<b>[i] Installation:</b>  Replace hose clips (11).	
11	Loosen bolt (12)		
12	Remove fuel pump (M3) in direction of arrow	<b>[i] Removal:</b>  Do not damage the insulation of the cable and plug of connector (3) when pulling through floor panel. <b>[i] Installation:</b>  Check plastic sleeve (13) for damage. If damaged: replace plastic sleeve (56a). The plastic sleeve (13) must overlap on both sides of the bracket (14) since corrosion may occur if the fuel pump touches the bracket directly.	
13 	Install in reverse sequence Overview of fuel pump		GF47.20-P-0025-02A



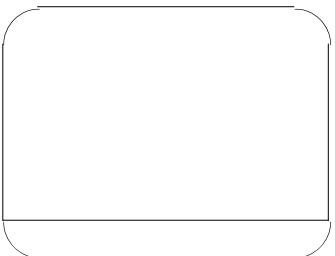
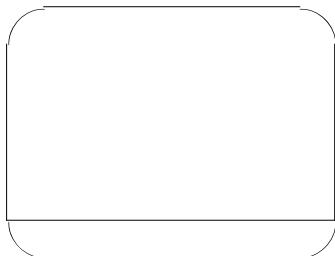
000 589 54 37 00

Clamp



000 589 40 37 00

Clamp



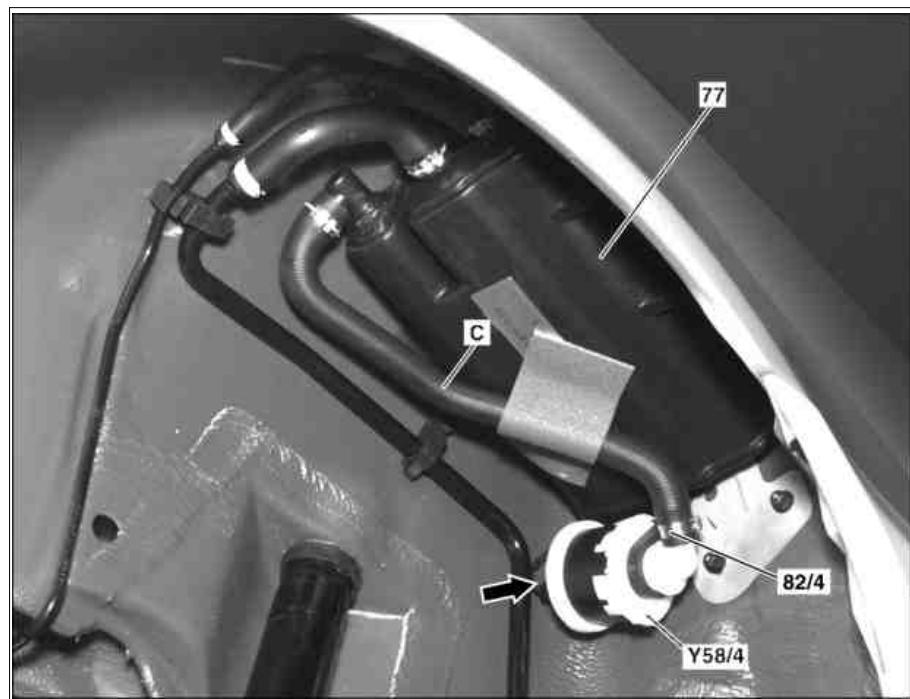
ENGINE 111.975 in MODEL 202.024 with CODE (491) as of Model Year 99 USA version  
 ENGINE 112.920 in MODEL 202.029 with CODE (491) as of Model Year 99 USA version  
 ENGINE 112.940 in MODEL 208.365 /465 with CODE (491) as of Model Year 99 USA version  
 ENGINE 113.943 in MODEL 208.370 with CODE (491) as of Model Year 99 USA version

77 Activated charcoal canister

Y58/4 Activated charcoal canister shutoff valve

82/4 Hose clips

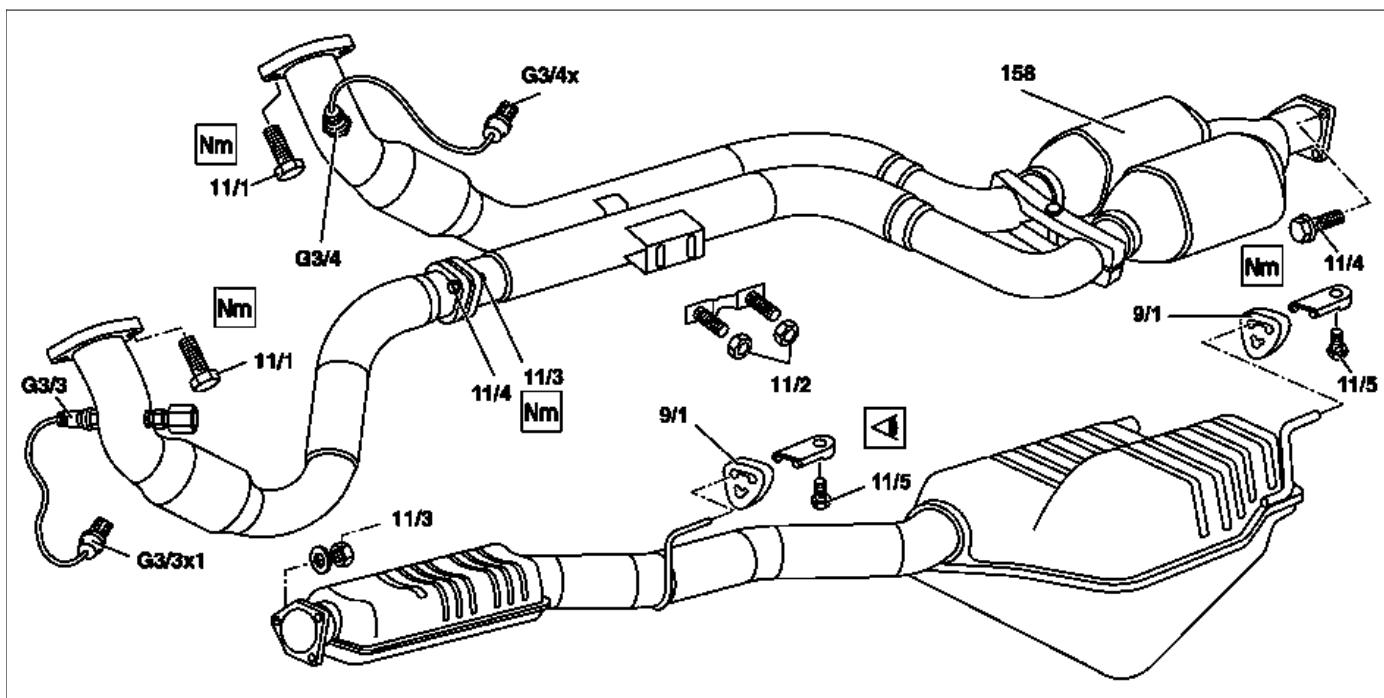
C Activated charcoal canister line to shutoff valve



P47.30-2011-06

	Removing, installing		
<b>⚠ Danger!</b>	<b>Risk of explosion</b> from ignition. <b>Risk of poisoning</b> from inhaling and swallowing fuel. <b>Risk of injury</b> as a result of fuel coming into contact with skin and eyes.	No fire, naked flame or smoking. Pour fuels only into suitable and appropriately marked containers. Wear protective clothing when handling fuel.	<b>AS47.00-Z-0001-01A</b>
1	Remove wheel housing liner	Rear left	
2	Disconnect line (arrow) at shutoff valve (Y58/4)		
3	Slacken hose clip (82/4) and disconnect line (C)		
4	Unclip shutoff valve (Y58/4) at bracket of activated charcoal canister	↓ <b>[i] On-board refuelling vapor recovery ORVR function</b>	<b>GF47.10-P-3004A</b>
5	Install in the reverse order		

ENGINE 112.910 in MODELS 202.026 /086  
 ENGINE 112.920 in MODELS 202.029 /089  
 ENGINE 112.940 in MODELS 208.365 /465  
 ENGINE 113.944 in MODELS 202.033 /093  
 ENGINE 113.943 in MODELS 208.370 /470  
 ENGINE 113.984 in MODEL 208.374



P49.10-2074-09

Shown on model 208 with engine 112.940

9/1	Rubber bushing	11/3	Nuts
11/1	Bolts	11/4	Bolts
11/2	Nuts	11/5	Bolts
		158	Catalytic converter

G3/3	Left lambda sensor upstream of TWC
G3/4	Right oxygen sensor, before TWC
G3/3x1	Left sensor connector, before TWC
G3/4x1	Right oxygen sensor connector, before TWC

	Remove/install		
(1)		On model 202.033/093, 208.374 with engines 113.944, 113.984, note the greater shore hardness of the rubber mounts (9/1)!	
1	Disconnect plug connection of left and right O2 sensors upstream of TWC (G3/3x1, G3/4x1)		AR14.00-P-5303A
2	Unscrew bolts (11/1) at flange connection between front exhaust system / exhaust manifold	If bolts are sluggish or thread is damaged: ↓  Replace rivet nuts in exhaust manifold. Nm	AR49.10-P-5531-01DA *BA14.10-P-1002-01B
3	Unscrew nuts (11/2) on bracket	Replace nuts	
4	Unscrew bolts (11/5) on the suspension of the rear exhaust system	Check the rubber mounts (9/1) for damage, replace if necessary.	
5	Lift out exhaust system complete	<b>i Installation:</b> Install the exhaust system free of stress, loosen bolts (11/4) if necessary. Nm	*BA49.10-P-1002-01A
6	Install in the reverse order		

**Nm** Exhaust manifold

Number	Designation	Engine 112 except 112.951/ 976	Engines 113.940/941/ 942/943/944/ 945/946/948/ 960/961/962/ 963/964/965/ 966/967/968/ 969/971/980/ 981/982/984/ 986/992/993/ 995
BA14.10-P-1002-01B	Flange connection, exhaust manifold and front exhaust pipes	Nm 20	Nm 20

**Nm Exhaust system**

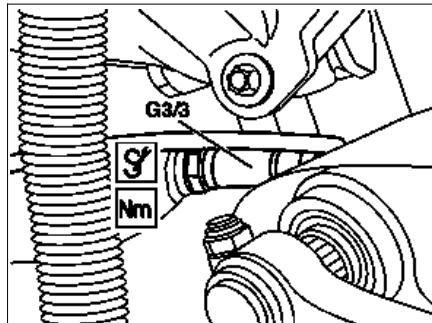
Number	Designation	Engines 112, 113 in model 202	Engines 112, 113 in model 208
BA49.10-P-1002-01A	Bolt, flange connection on exhaust pipe	Nm 20	Nm 20

ENGINE 112.910 in MODELS 202.026 /086  
 ENGINE 112.920 in MODELS 202.029 /089  
 ENGINE 112.940 in MODELS 208.365 /465  
 ENGINE 112.921 in MODELS 210.063 /263 /081 /281  
 ENGINE 112.941 in MODELS 210.065 /082 /265 /282  
 ENGINE 113.940 in MODELS 210.070 /270  
 ENGINE 113.980 in MODELS 210.074 /274  
 ENGINE 113.944 in MODELS 202.033 /093  
 ENGINE 113.943 in MODELS 208.370 /470  
 ENGINE 113.984 in MODEL 208.374

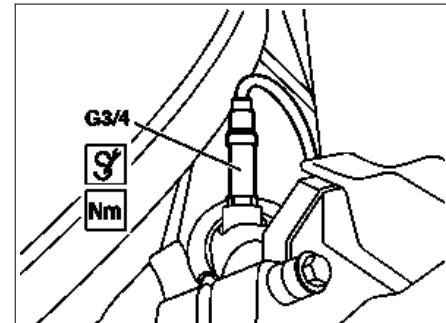
#### Model 202/ 208

##### Left picture

G3/3 Left oxygen sensor, upstream of TWC



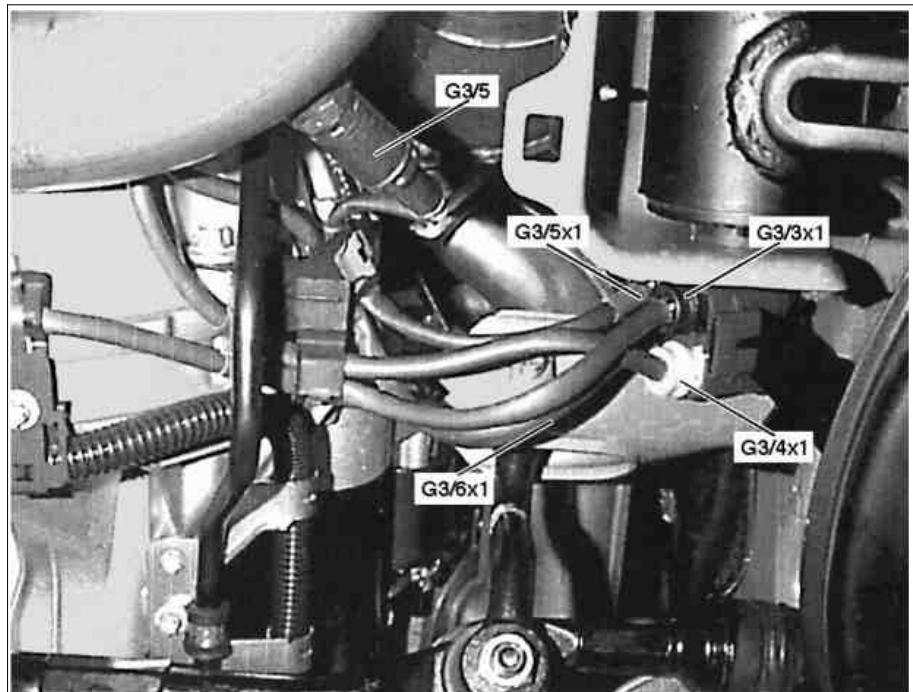
P14.00-0261-01



P14.00-0262-01

#### Model 202/ 208

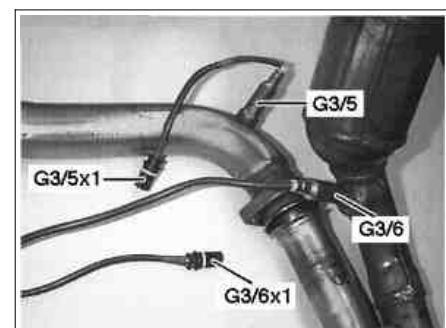
G3/3x1 Left oxygen sensor connector upstream of TWC  
 G3/4x1 Right oxygen sensor connector upstream of TWC  
 G3/5 Left diagnostic sensor  
 G3/5x1 Left diagnostic sensor connector  
 G3/6x1 Right diagnostic sensor connector



P14.00-0263-06

#### Location of diagnostic sensors, Model 202/ 208

G3/5 Left diagnostic sensor  
 G3/6 Right diagnostic sensor  
 G3/5x1 Left diagnostic sensor connector  
 G3/6x1 Right diagnostic sensor connector

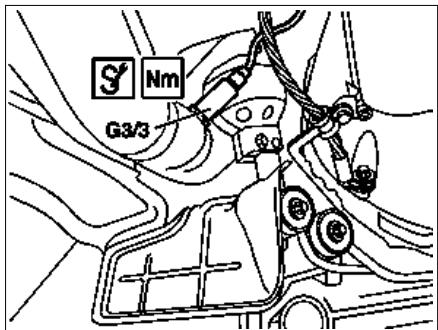


P14.00-0265-01

Shows model 210.081/082

**Diagram left**

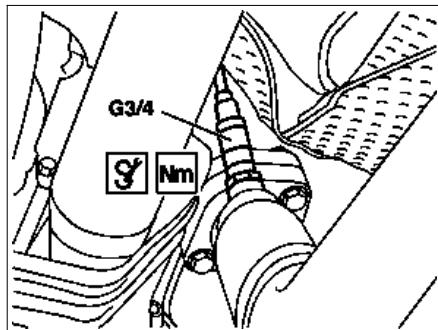
G3/3 Left oxygen sensor, upstream of TWC



P14.00-0249-01

**Diagram right**

G3/4 Right oxygen sensor upstream of TWC



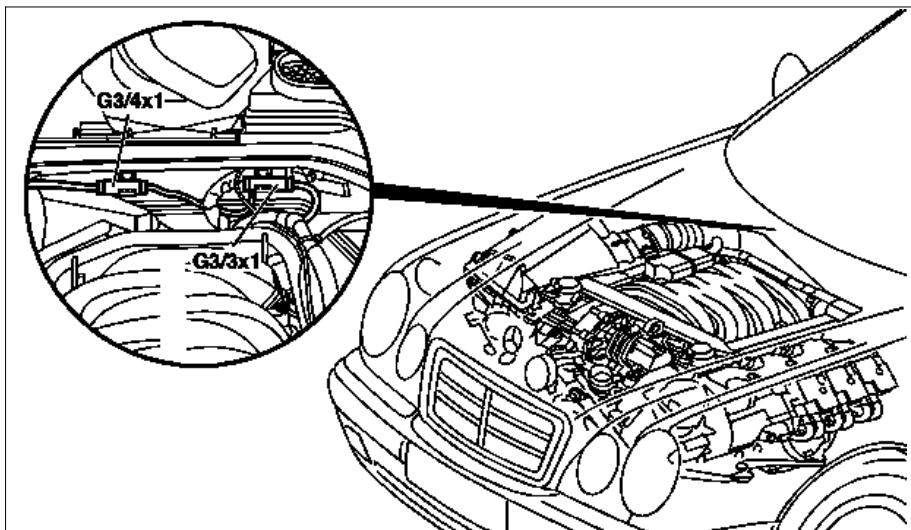
P14.00-0250-01

**Illustration is model**

210.063/263/065/265/281/282

G3/3x1 Left oxygen sensor connector upstream of TWC

G3/4x1 Right oxygen sensor connector upstream of TWC



P14.00-0248-05

Models 210.070/074/270/274

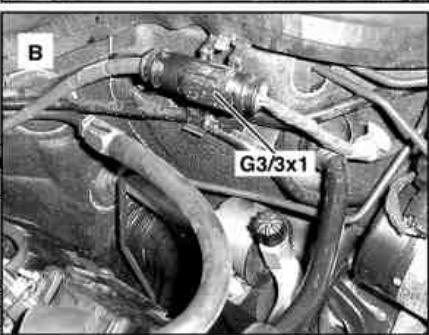
**Fig. A**

G3/4x1 Right oxygen sensor connector upstream of TWC



**Fig. B**

G3/3x1 Left oxygen sensor connector upstream of TWC



P14.00-0267-06

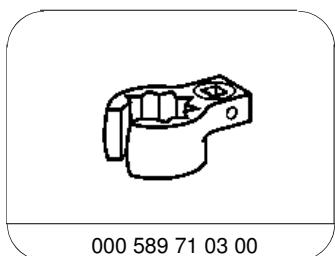
**Modification notes**

10.11.04	Value changed from 55 Nm to 45 Nm	Value in series 1001 for engine 112.910/911/912/913/914/915/916/920/921/922/923/940/941/942/943/944/945/946/947/949/953/955/960/961/970/972/973/975	*BA14.00-P-1001-01A
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Fig. item etc.	Work instructions		
G3/3x1, G3/4x1	Plug connection		
G3/3, G3/4	Oxygen sensor	<b>[i] Installation:</b> Coat thread on oxygen sensor with heat-resistant lubricant.	*BR00.45-Z-1005-06A

**Nm O2 sensor**

Number	Designation	Engines	Engines	
		112.910/911/ 912/913/914/ 915/916/920/ 921/922/923/ 940/941/942/ 943/944/945/ 946/947/949/ 953/955/960/ 961/970/972/ 973/975	113.940/941/ 942/943/944/ 948/960/961/ 962/963/964/ 965/966/967/ 968/980/981/ 982/984/986/ 992/993/995	
BA14.00-P-1001-01A	O <sub>2</sub> sensor on exhaust pipe/ exhaust manifold	Nm	45	55



000 589 71 03 00

Ring wrench socket

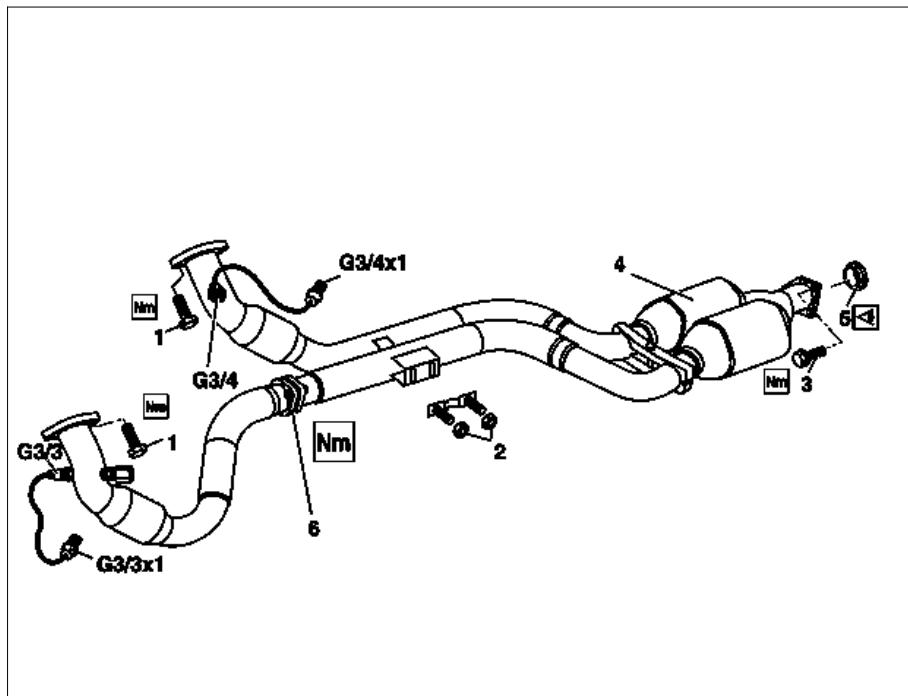
**Repair materials**

Number	Designation	Order number
BR00.45-Z-1005-06A	Paste, hot lubrication 1 kg, DB supply specification 6879.20	A 000 989 76 51

ENGINES 112.940, 113.943 /984 in MODEL 208  
 ENGINES 112.910 /920, 113.944 in MODEL 202

Shown on engine 112.940

- 1 Screws
- 2 Nuts
- 3 Screws
- 4 Three-way catalytic converter
- 5 Seal ring
- 6 Flange connection
- G3/3 Left O2 sensor upstream of TWC
- G3/4 Right O2 sensor upstream of TWC
- G3/3x1 Left connector upstream of TWC
- G3/4x1 Right connector upstream of TWC



P49.10-2075-06

	Remove/install		
1	Disconnect plug connection of left and right O2 sensors upstream of TWC (G3/3x1, G3/4x1)		AR14.00-P-5303A
2	Unscrew bolts (1) at flange connection between front exhaust system / exhaust manifold	<ul style="list-style-type: none"> <li><b>[i]</b> Loosen flange connection (6) or Disconnect if necessary.</li> <li><b>[i]</b> If bolts are stiff, or thread damaged: ↓ Replace the rivet nuts in the exhaust manifold.</li> </ul>	<ul style="list-style-type: none"> <li>AR49.10-P-5531-01DA</li> <li>*BA14.10-P-1002-01B</li> <li>*BA49.10-P-1002-01A</li> </ul>
3	Unscrew bolts (3) at flange connection between front exhaust system / rear exhaust system	<ul style="list-style-type: none"> <li><b>[i] Installation:</b> Replace nuts and bolts (3) if necessary.</li> </ul>	
4	Unscrew nuts (2) on bracket	<ul style="list-style-type: none"> <li><b>[i] Installation:</b> Install new nuts.</li> </ul>	
5	Remove front exhaust system with three-way catalytic converter (4)	<ul style="list-style-type: none"> <li><b>[i] Removal/installation:</b> Push rear exhaust system back slightly, or disconnect rear exhaust system if necessary.</li> <li><b>[!]</b> Ensure that the heat shields of the exhaust system are not damaged when removing and installing the three-way catalytic converter (4).</li> <li><b>[!]</b> Check seal ring (5) for damage and replace if necessary.</li> <li>Use emery cloth to remove combustion and corrosion residues at connection points.</li> </ul>	<ul style="list-style-type: none"> <li>*BA49.10-P-1002-01A</li> </ul>
<b>OS</b>	Notes on disposing of catalytic converters	Vehicles with three-way catalytic converter code 620a	OS49.10-P-1000-01A
6	Install in the reverse order	<ul style="list-style-type: none"> <li><b>[i]</b> Install catalytic converter free of stress.</li> </ul>	

**Nm** Exhaust manifold

Number	Designation	Engine 112 except 112.951/ 976	Engines 113.940/941/ 942/943/944/ 945/946/948/ 960/961/962/ 963/964/965/ 966/967/968/ 969/971/980/ 981/982/984/ 986/992/993/ 995
BA14.10-P-1001-01B	Nut on exhaust manifold	Nm 16	16
BA14.10-P-1002-01B	Flange connection, exhaust manifold and front exhaust pipes	Nm 20	20

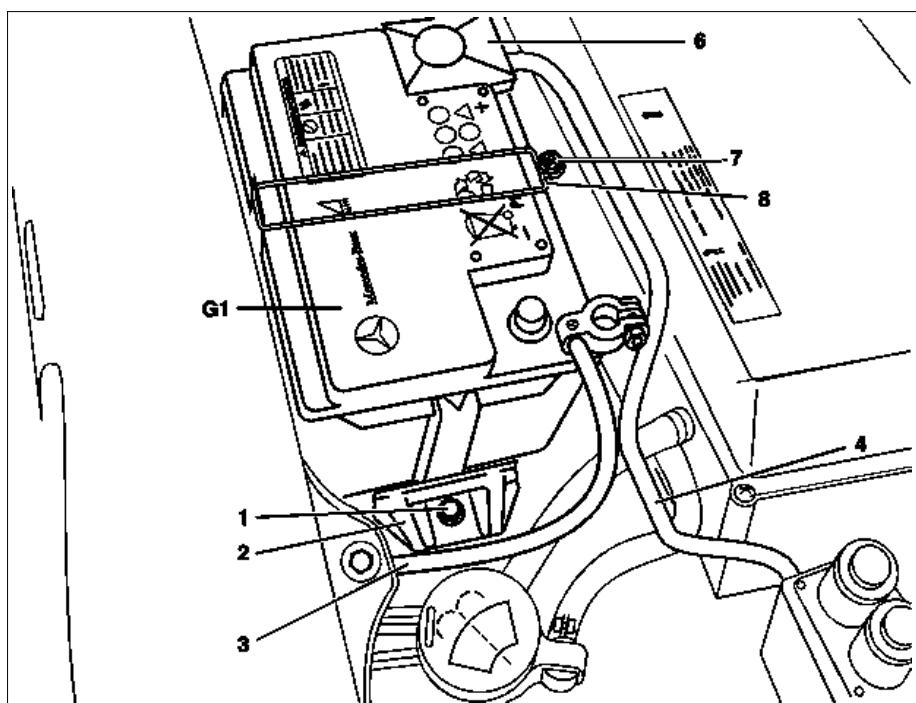
**Nm Exhaust system**

Number	Designation	Engines 112, 113 in model 202	Engines 112, 113 in model 208
BA49.10-P-1002-01A	Bolt, flange connection to exhaust pipe	Nm 20	20

MODEL 170, 202, 208, 210, 129

**Battery, model 170**

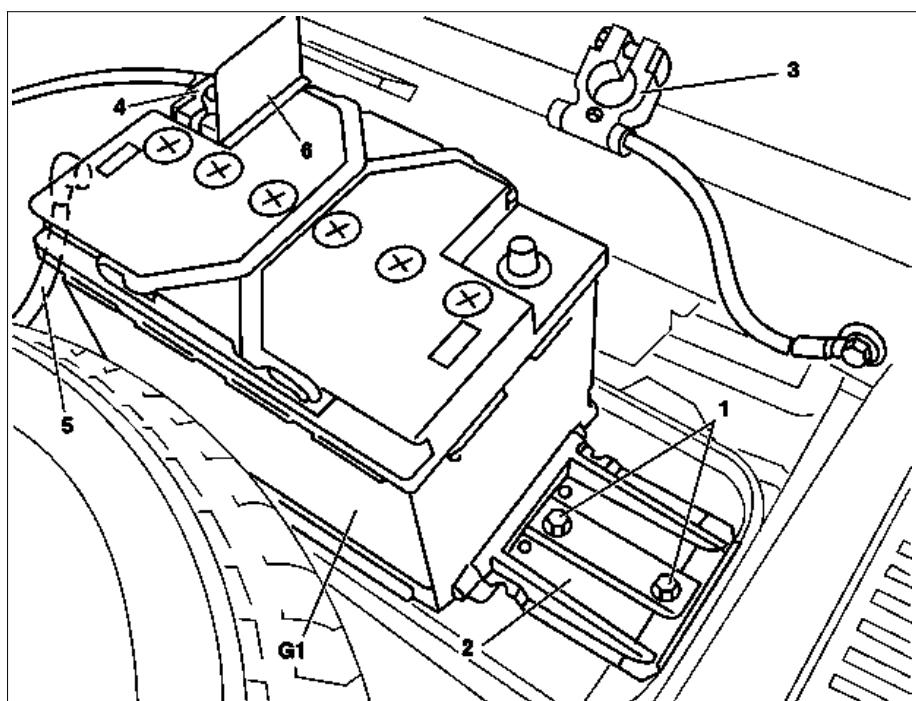
- 1 Screw
- 2 Holder
- 3 Ground lead
- 4 Positive lead
- 6 Positive pole cover
- 7 Nut
- 8 Strap
- G1 Battery



P54.10-0278-06

**Battery, models 202, 208**

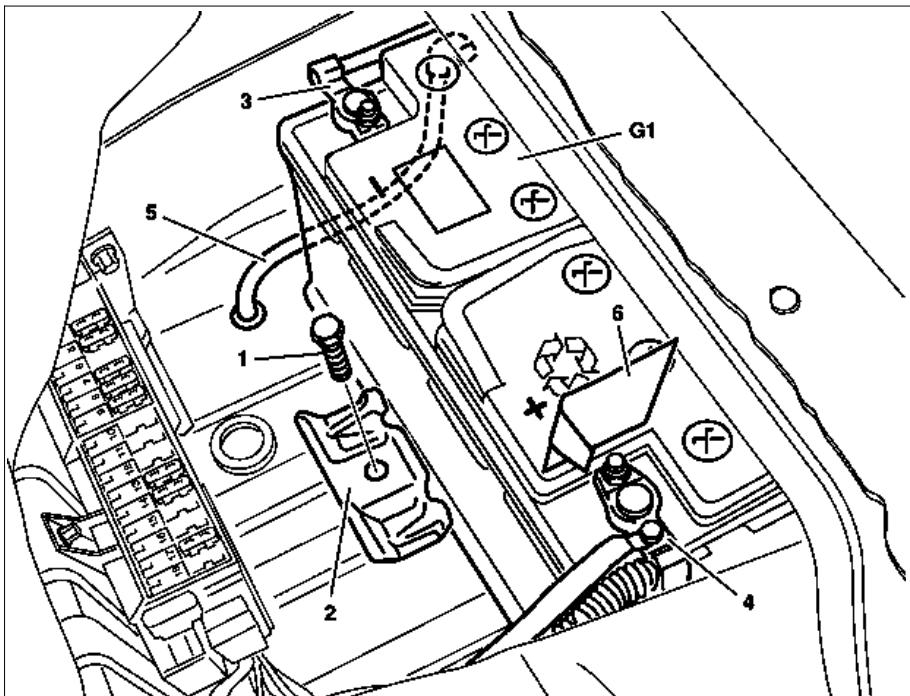
- 1 Bolts
- 2 Bracket
- 3 Ground cable
- 4 Positive cable
- 5 Vent pipe
- 6 Positive terminal cover
- G1 Battery



P54.10-0005-06

### Battery, model 210

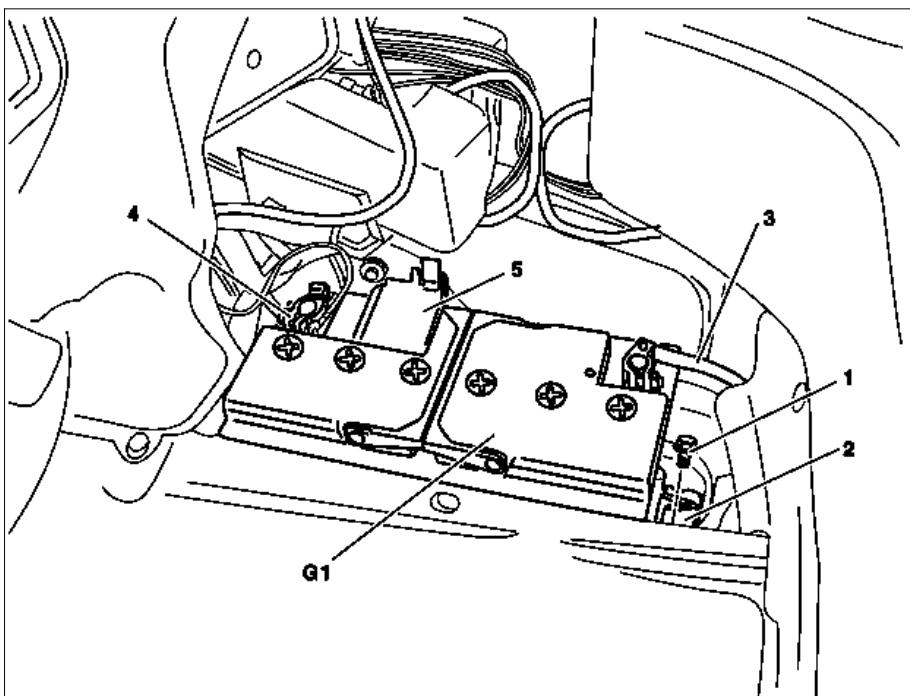
- 1 Bolt
- 2 Bracket
- 3 Ground cable
- 4 Positive cable
- 5 Vent pipe
- 6 Positive terminal cover
- G1 Battery



P54.10-0219-06

### Battery, model 129

- 1 Bolt
- 2 Holder
- 3 Ground cable
- 4 Positive cable
- 5 Positive terminal cover
- 6 Positive terminal cover
- G1 Battery



P54.10-2017-06

	Removal, installation		
<b>Danger!</b>	<b>Risk of explosion</b> caused by escaping oxyhydrogen gas. <b>Risk of injury</b> caused by caustic burns to eyes, skin and mucous membranes from battery electrolyte (contains diluted sulfuric acid) or metal spatter due to short circuit. <b>Risk of burn injuries</b> caused by short circuit. <b>Risk of poisoning</b> caused by swallowing battery electrolyte (contains diluted sulfuric acid) or absorption of lead over the skin or orifices	No fire, sparks, open flames or smoking. Wear acid-resistant gloves and clothing and safety glasses with side guards. Do not place any conductive objects on the battery and avoid any short circuit from battery positive to ground. Only fill liquid battery electrolyte (diluted sulfuric acid) into suitable and appropriately marked containers.	<b>AS54.10-Z-0001-01A</b>
	Notes on battery	All models	<b>AH54.10-P-0001-01A</b>
	Battery version changed (battery with felt)	In models 202.028/121/128 a battery with felt has been used as of 01/97 for a limited time.	BT54.10-P-0001-01A
1	Withdraw ignition/glow start key		
2.1	Remove rear seat	Model 210 sedan	AR91.12-P-1700F
2.2	Fold rear seat cushion forward and remove battery compartment cover	Model 210 T-model	

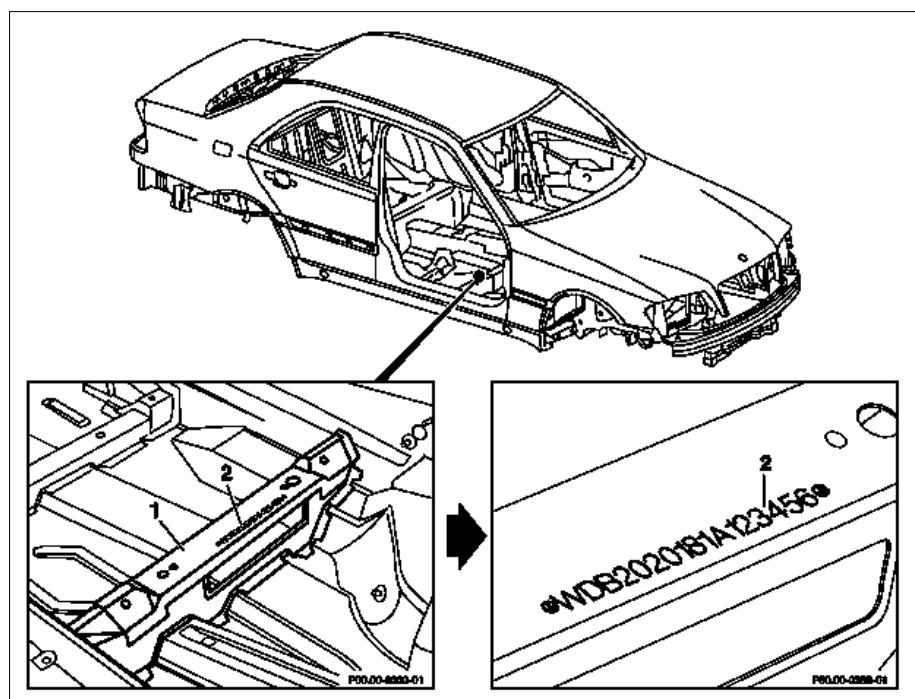
2.3	Fold trunk cover up	Model 202 sedan, 208	
2.4	Remove cargo space cover	Model 202 T-model	
2.5	Remove battery cover in right side of trunk	Model 129	
3	Connect quiescent current circuit retention unit		*WH58.30-Z-1004-09A
4	Unscrew screw (1) and remove holder (2)	 Model 202 with 62 Ah and 74 Ah, two screws	
5.1	Unscrew nut (7) and remove strap (8)	Model 170	
6	Disconnect ground cable (3) at battery	 On model 210 insulate cable terminal on ground lead for protection against unintentional contact between disconnected ground lead and ground connection point W10	AR54.10-P-0003A
7	Disconnect positive cable (4)		
8.1	Detach vent pipe (5) at battery (G1)	Models 202, 208, 210	
9	Remove battery (G1)	 If battery is defective ↓	
 OS	Dispose of battery	All models	OS54.10-P-0001-01Z
10	Reinstall in opposite order		

#### Commercially available tools

Number	Designation
WH58.30-Z-1004-09A	Demagnetizing coil, Firma BERNSTEIN-Werkzeugfabrik Steinrücke GmbH D-42897 Remscheid-Lennep

MODEL 202.0 /1, 208.3, 210.0 /2 /6

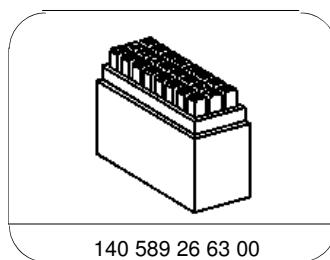
1 Cross member  
2 Vehicle identification number



P60.00-0287-06

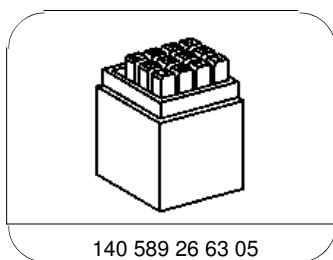
Figure items, etc.	Working instructions		
<b>i</b>	Product liability, trademark and traffic laws	All models	<a href="#">AH60.00-P-0800-01Z</a>
<b>i</b>	Vehicle identification number	EC vehicles USA vehicles	<a href="#">AH60.00-P-0800-02A</a> <a href="#">AH60.00-P-0800-02B</a>
	Mounting number punch guide	<input checked="" type="checkbox"/> Number punch guide	<a href="#">AR60.00-P-0800-01E</a> <a href="#">*202589096300</a>
	Stamping in vehicle identification number	<input checked="" type="checkbox"/> Number punches <input checked="" type="checkbox"/> Number punches <input checked="" type="checkbox"/> Number punch guide	<a href="#">AR60.00-P-0800-02E</a> <a href="#">*140589266300</a> <a href="#">*140589266305</a> <a href="#">*202589096300</a>
	Crossing out vehicle identification number	<input checked="" type="checkbox"/> Number punches <input checked="" type="checkbox"/> Number punches <input checked="" type="checkbox"/> Number punch guide	<a href="#">AR60.00-P-0800-03E</a> <a href="#">*140589266300</a> <a href="#">*140589266305</a> <a href="#">*202589096300</a>
	Stamping vehicle identification number into spare field	<input checked="" type="checkbox"/> Number punches <input checked="" type="checkbox"/> Number punches <input checked="" type="checkbox"/> Number punch guide	<a href="#">AR60.00-P-0800-04E</a> <a href="#">*140589266300</a> <a href="#">*140589266305</a> <a href="#">*202589096300</a>

#### Special tools



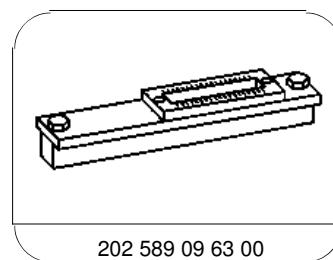
140 589 26 63 00

Number punch guide



140 589 26 63 05

Number punches

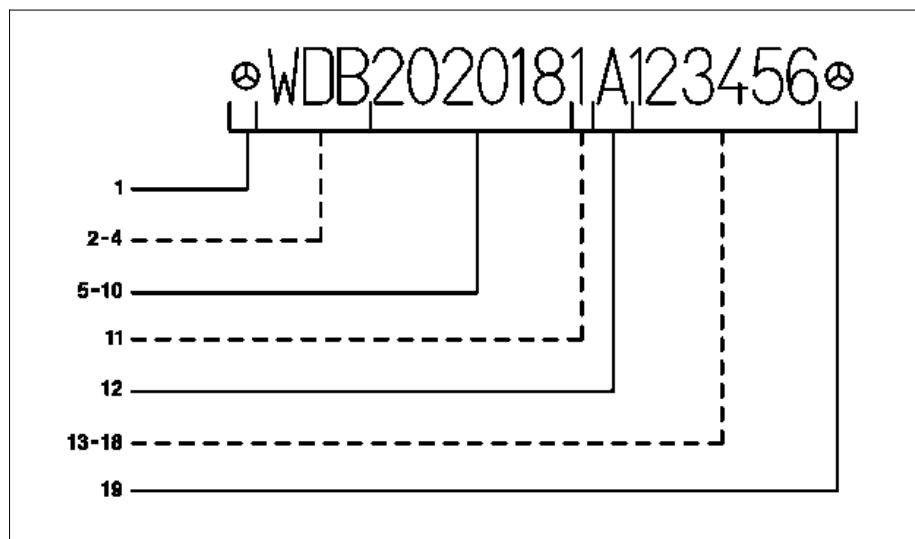


202 589 09 63 00

Number punches

**MODEL ALL**  
**EU vehicles**

1	Trademark
2-4	World manufacturer code
5-10	Model designation
11	Steering
12	Manufacturing plant
13-18	Production number
19	Trademark



P60.00-0252-05

The vehicle identification number starts and ends with the "Mercedes star" (trademark) and has 19 punched numbers with a total length of 106 +/- 4 mm.

If, in case of repair, the area where the vehicle identification number has been embossed is replaced, it is necessary to stamp it in at the same point.

This involves a change to the vehicle which is subject to compulsory notification. In the Federal Republic of Germany immediately inform the vehicle licensing agency **in writing**.

The vehicle holder is required to complete a certificate for the vehicle licensing authority which indicates that the vehicle identification number has been re-stamped after completing body repairs.

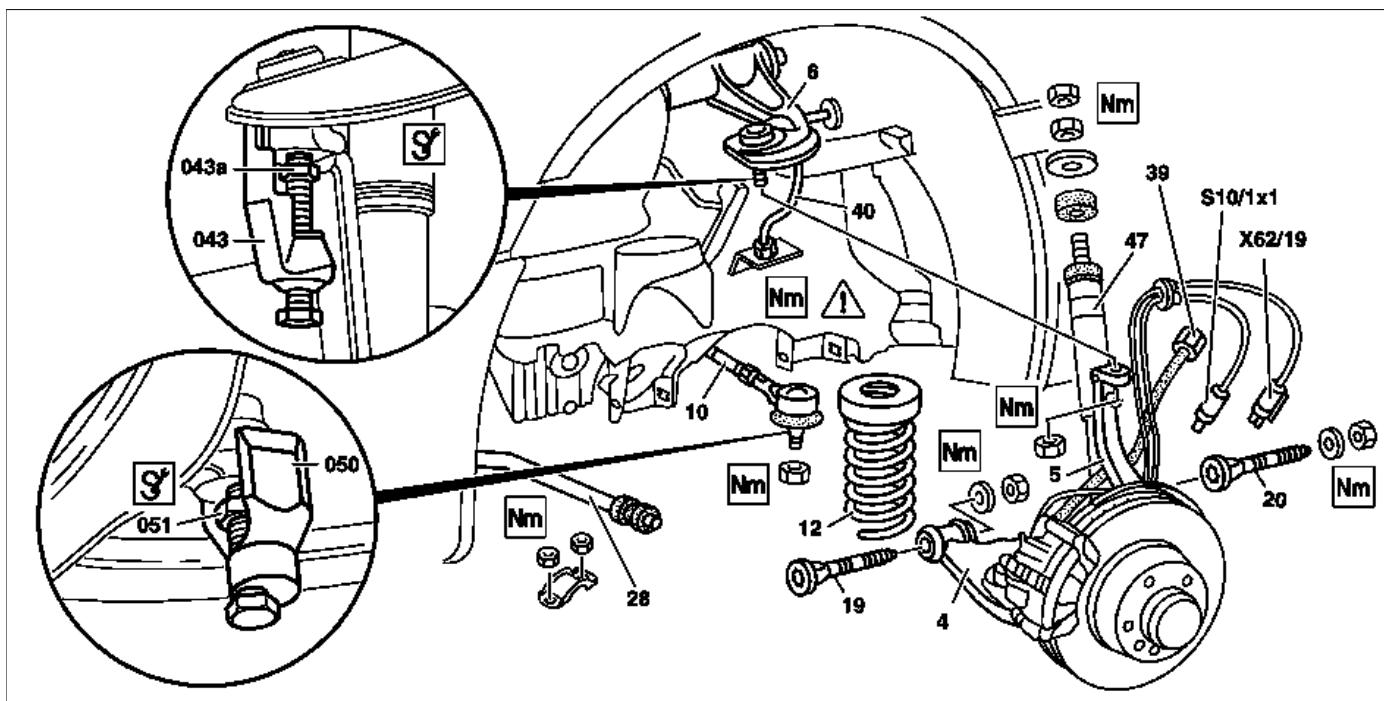
As proof, the original vehicle identification number cut out of the old part, may also be enclosed.

A vehicle identification number incompletely punched in by the workshop must be crossed out and pinched in correctly in the spare field on the right crossmember, the right side of the drive shaft tunnel, the rear partition wall or the firewall.

This procedure should be noted additionally in the certificate for the vehicle licensing authority as follows:

"The incorrectly or incompletely stamped-in vehicle identification number was crossed out and the correct vehicle identification number stamped into in the spare field.".

Export countries must observe their relevant vehicle licensing provisions and legal regulations.



P33.10-0208-09

	Remove/install		
1	Remove front wheel		AP40.10-P-4050Z
2	Remove front spring (12)		AR32.20-P-0200B
3.1	Disconnect rpm sensor connectors (X62/19) and brake pad contact sensor (S10/1x1) in major assembly compartment	<b>[i] Model 202</b> Pull cable set of front axle out through the wheel arch.	
3.2	Disconnect rpm sensor connectors and brake pad contact sensor in wheel arch	<b>[i] Model 170, 208</b>	
<b>⚠ Danger!</b>	<b>Risk of poisoning</b> caused by swallowing brake fluid. <b>Risk of injury</b> caused by brake fluid coming into contact with skin and eyes.	Only pour brake fluid into suitable and appropriately marked containers. Wear protective clothing and eye protection when handling brake fluid.	AS42.50-Z-0001-01A
4	Unscrew brake hose (39) from brake line (40)	Protect lines against contamination  <b>[!] Installation:</b> <b>Nm</b> The brake hose must not be twisted after tightening. Open double end box wrench, WAF 8x9 mm or WAF 10x11 mm	*BA42.10-P-1001-04A
<b>[!] Notes on installing brake hoses</b> <b>[!] Brake fluid notes</b>		Model 129, 140, 170, 202, 208, 210	AH42.10-P-9406-01A
		All models	AH42.50-P-0001-01A
5	Detach torsion bar (28) from lower control arm	<b>Nm</b>	*BA32.20-P-1001-02C
6	Remove track rod (10) at steering knuckle	<b>Nm</b> Check rubber boot and ball joint for wear and damage <b>[✓] Puller (050)</b> <b>[✓] Thrust piece (051)</b>	*BA46.40-P-1002-01A *202589023300 *129589106300
7	Unscrew damper (47) at upper mounting	<b>Nm</b> <b>Nm</b>	*BA32.25-P-1002-01B *BA32.25-P-1001-01B
<b>BT</b>	Support lower control arm (4) and detach at frame floor assembly	<b>[i] Model 170</b> Remove lower engine compartment paneling first <b>Nm</b> <b>[i] Observe technical modifications ↓</b> Bearing bracket of lower control arm	AR33.10-P-0200-01B  *BA33.20-P-1009-01A BT33.20-P-9308-01B
	Detach steering knuckle (5) from upper wishbone (6)	<b>Nm</b> Check rubber boot and ball joint for wear and damage <b>[✓] Puller (043)</b> <b>[✓] Thrust piece (043a)</b>	*BA33.20-P-1002-01A *124589033300 *210589046300
10	Remove front axle half		

11	Remove upper transverse control arm		AR33.20-P-0500B
12	Install in the reverse order		
 <b>Installation</b>	Replace self-locking nuts and bolts.	Tighten securing nuts when vehicle in ready-for-the-road condition	
13	Bleed front brake system		AR42.10-P-0010A
14	Perform a wheel alignment check		AR40.20-P-0200A

 **Front axle stabilizer bar**

Number	Designation	Model 202	Type 208
BA32.20-P-1001-02C	Self-locking nut for attaching retaining bracket to transverse control arm	Nm 20	20

 **Front axle stabilizer bar**

Number	Designation	Model 170
BA32.20-P-1001-02C	Self-locking nut for attaching retaining bracket to transverse control arm	Nm 20

 **Front axle shock absorber**

Number	Designation	Model 202	Model 208	Model 170
BA32.25-P-1001-01B	Nut for shock absorber on front end	Nm 18	18	18
BA32.25-P-1002-01B	Lock nut for shock absorber on front end	Nm 30	30	30

 **Wheel location, hub**

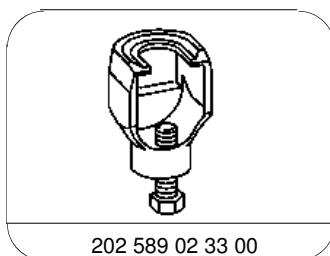
Number	Designation	Model 170	Model 202	Model 208
BA33.20-P-1002-01A	Self-locking nut, upper wishbone follower joint to steering knuckle	Initially Nm 45	45	45
		Inspection Nm -	-	-
BA33.20-P-1009-01A	Self-locking nut, lower wishbone to frame	Nm 120	120	120

 **Brake lines, brake hoses**

Number	Designation	Model 170	Model 202	Model 208
BA42.10-P-1001-04A	Brake pipe to brake hose	Nm 14	14	14

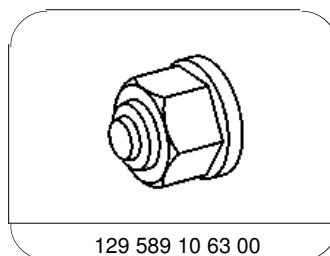
**Nm Tie rod**

Number	Designation		Model 170	Model 202	Model 208
BA46.40-P-1002-01A	Self-locking nut, tie rod to steering knuckle	Yellow	Nm 50	Nm 50	Nm 50
		silver or blue	Nm -	Nm -	Nm -



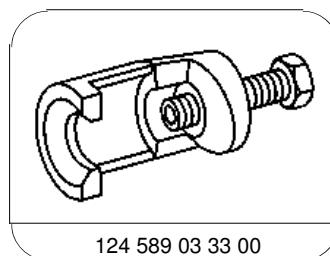
202 589 02 33 00

Puller



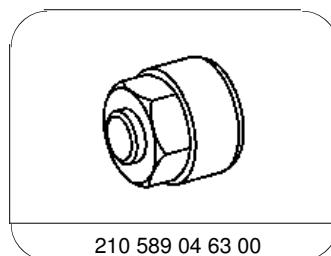
129 589 10 63 00

Thrust piece



124 589 03 33 00

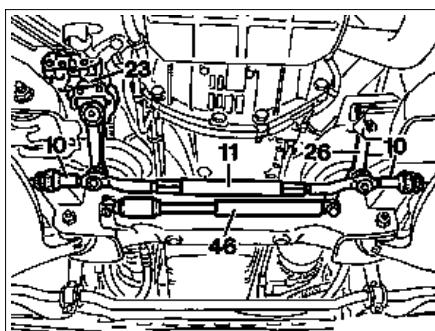
Puller



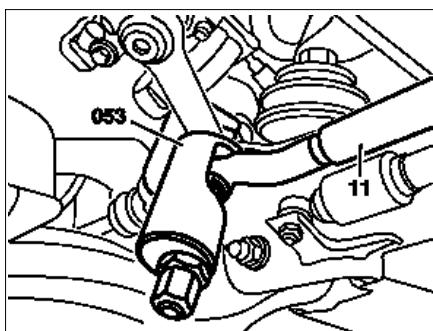
210 589 04 63 00

Thrust piece M 10x1.5

MODEL 170, 202, 208

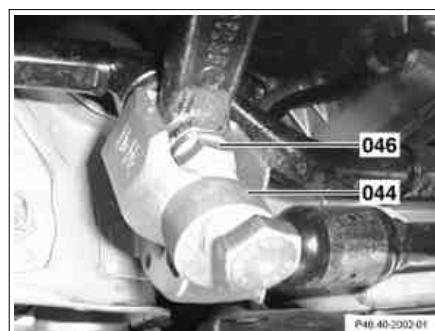


P46.10-0203-01



P46.40-0205-01

Engine 111, 601, 604, 605, 611



P46.40-0202-01

Engine 112, 113

## Modification notes

10.9.03	Reference to adjusting toe on front axle replaced by reference to wheel alignment	Step 8	
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	Remove/install		
<b>Danger!</b>	<b>Risk of death</b> caused by vehicle slipping or toppling off of the lifting platform.	Align vehicle between columns of vehicle lift and position four support plates at vehicle lift support points specified by vehicle manufacturer.	AS00.00-Z-0010-01A
	Notes on self-locking nuts and bolts		AH00.00-N-0001-01A
1.1	Remove engine compartment paneling	Vehicles with gasoline engine Model 170 Model 202, 208	AR61.20-P-1105A AR61.20-P-1105AB
1.2	Remove bottom section of soundproofing	Vehicles with diesel engine Model 202	AR94.30-P-5300A
2	Detach steering damper (46) from drag link (11)		*BA46.40-P-1001-03A
3	Unscrew nuts from drag link (11)	Counterhold ball studs if necessary with Allen wrench. 	*BA46.40-P-1001-04A
4	Press tie rod joints off steering knuckles		AR46.40-P-0200-02CC
5.1	Press drag link (11) off steering gear pitman arm and steering idler arm using puller (053)	Engine 111, 601, 604, 605, 611 Puller <b>Installation:</b> Remove grease from cones and press ball joints firmly into steering arm.	*202589013300
5.2	Pry off drag link (11) on pitman arm and steering idler arm using thrust piece (046) and puller (044)	Engine 112, 113 Puller Thrust piece <b>Installation:</b> Remove grease from cones and press ball joints firmly into steering arm.	*202589023300 *129589106300
6	Check ball joints on drag link (11) for play and damaged rubber boots	If necessary replace drag link (11). The right drag link joint is a pivot joint with a swivel range of max. 2°. This prevents pivot movements of the drag link.	
7	Install in the reverse order	See: ↓	
8	Check front wheel toe and adjust if necessary	Perform a wheel alignment check	AR40.20-P-0200A

## Tie rod

Number	Designation	Model 170	Model 202	Model 208

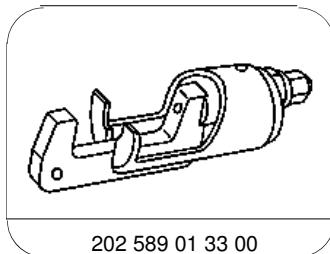
BA46.40-P-1002-01A	Self-locking nut, tie rod to steering knuckle	Yellow	Nm	50	50	50
		silver or blue	Nm	-	-	-

**Nm** Steering damper

Number	Designation		Model 170	Model 202	Model 208
BA46.40-P-1001-03A	Steering damper to drag link	Nm	40	40	40

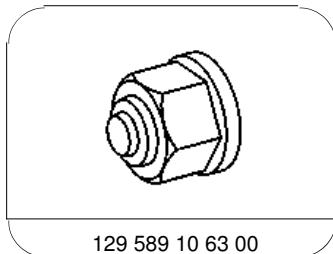
**Nm** Drag link

Number	Designation		Model 170	Model 202	Model 208
BA46.40-P-1001-04A	Self-locking nuts on drag link	Stage 1	Nm	50	50
		Stage 2	$\Delta^\circ$	-	-



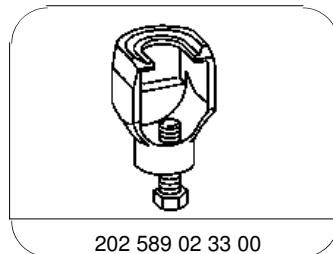
202 589 01 33 00

Puller



129 589 10 63 00

Thrust piece

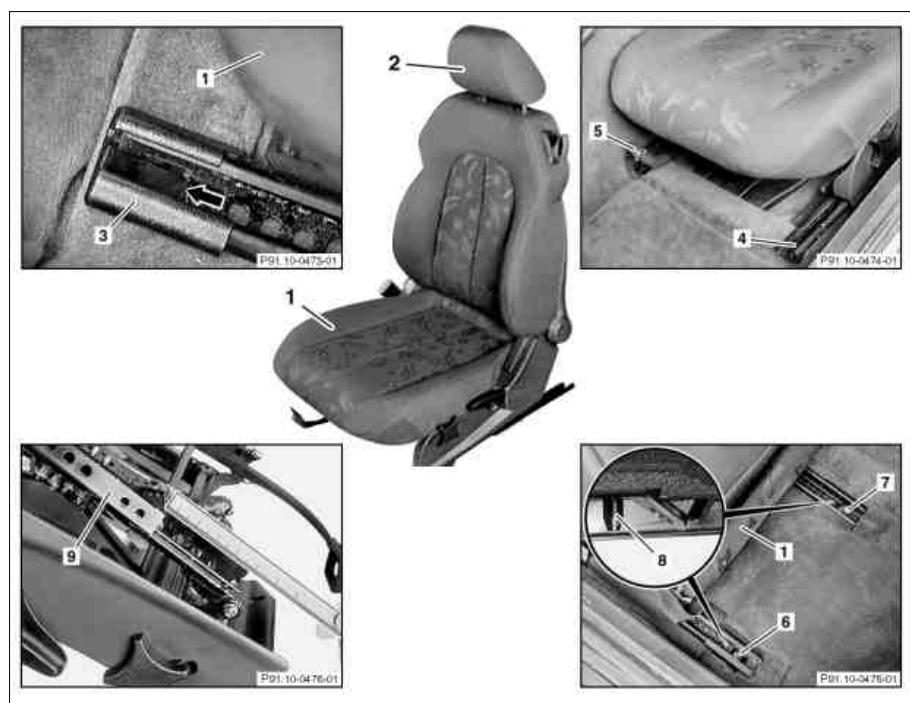


202 589 02 33 00

Puller

## MODEL 208

1 Front seat  
 2 Head restraint  
 3 Trim panel  
 4, 5, 6 and 7 Screws  
 8 Arresting bolts  
 9 Seat adjustment rails

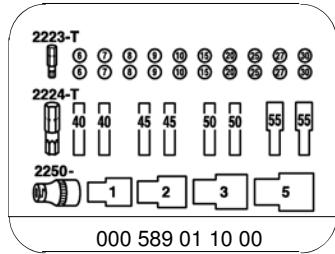


P91.10-0477-06

	Removal, installation		
1	Remove head restraint (2) and move front seat (1) toward rear		
2	Pull off cover (3) on both front seat rails		
3	Unscrew screws (4 and 5)	 Use E12 external Torx socket wrench attachment. *000589011000	<a href="#">*BA91.10-P-1001-01A</a>
4	Move front seat toward front and fold front seat backrest forward		
5	Unscrew screws (6 and 7)	 Use E12 external Torx socket wrench attachment. *000589011000	<a href="#">*BA91.10-P-1001-01A</a>
6	Remove front seat (1)	Passenger seat: Separate connector for the seat occupied recognition sensor.	
N	Install in opposite order	Before installing position both seat adjustment rails (9) uniformly to one another. A maximum offset of 4 mm is permissible. Insert arresting bolts (8) into holes in seat mounting console.	

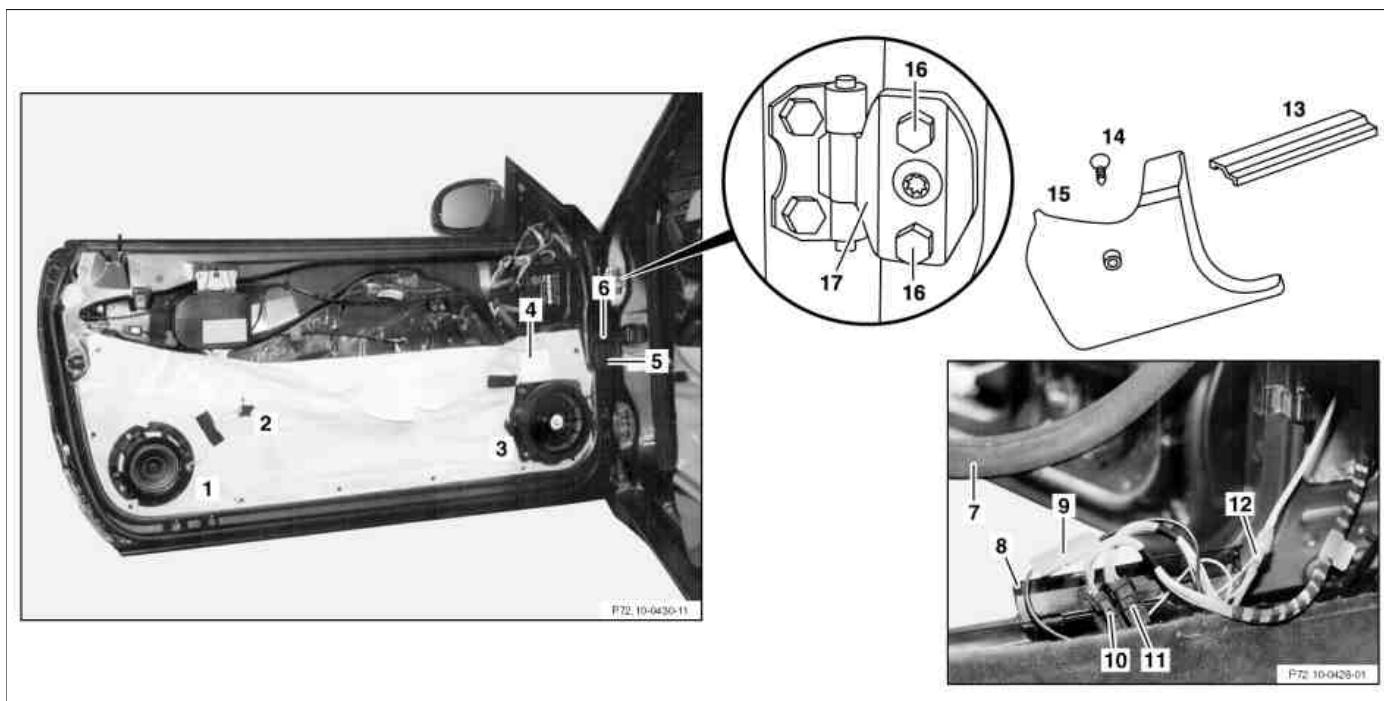
## Front seats

Number	Designation	Model
BA91.10-P-1001-01A	Screw on seat rail	Nm 50



TORX bit set

MODEL 208



P72.10-0431-09

1	In-door speaker (mid-range speaker)	7	Door seal	13	Rocker panel molding
2	In-door speaker separation point	8	Cable duct	14	Bolt
3	In-door speaker (bass)	9	Side airbag separation point	15	Base cover
4	In-door speaker separation point	10	Door control unit separation point	16	Bolt
5	Bellows	11	Door control unit separation point	17	Door hinge
6	Door catch	12	Separation point, pneumatic line		

<b>[i]</b>	Seam sealing following repair	<b>[i]</b> Includes seam sealing on driver's door	AR97.10-P-4000K
<b>[i]</b>	Cavity preservation following repair work	<b>[i]</b> Includes cavity preservation on driver's door	AR97.20-P-1500K
<b>[X] X</b>	<b>Remove/Install</b>		
1	Remove door lining		AR72.10-P-1000K
2	Disconnect in-door speaker separation point (4) and remove in-door speaker (3)	<b>[i]</b> Remove sound deadening mat from in-door speaker (4) <b>Installation:</b> Replace tie straps	
3	Disconnect in-door speaker separation point (2) and remove in-door speaker (1)	<b>[i]</b> <b>Installation:</b> Replace tie straps.	
4	Pull door foil off of inner door panel	<b>[i]</b> <b>Installation:</b> Replace damaged door foil, glue door foil onto inner door panel	*BR00.45-Z-1004-02A
5	Remove rocker panel molding (13) with mounting wedge		*110589035900
6	Remove door seal (7) from A-pillar		
7	Remove inner base paneling (15) from A-pillar		
8	Open cable duct (8) at front		
9	Disconnect pneumatic line separation point (12)	<b>[!]</b> Danger of breaking insert profiles <b>[i]</b> A 7 mm open-end wrench can be used to separate the pneumatic line (12)	
10	Disconnect side airbag separation points (9) and door control unit (10, 11)		
11	Pull wiring harness through bellows (5) on A-pillar and unclip bellows (5) from front door		
12	Remove door catch (6) from A-pillar.	<b>[Nm]</b>	*BA72.10-P-1003-01A
13	Unscrew bolts (16) from bottom and top hinge and slightly pull door away from A-pillar	<b>[!]</b> Hold door with aid of 2nd person to prevent damaging paint. <b>[i]</b> <b>Installation:</b> Position front door to centering bolts with hinges (17), screw on with bolts (16) and tighten <b>[Nm]</b>	*BA72.10-P-1001-01A

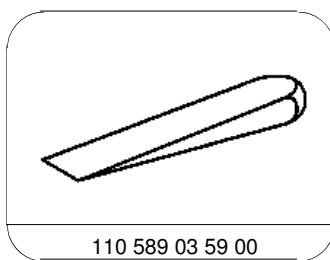
14	Remove front door and lay down on secure base	Do not damage paintwork	
15	Install in the reverse order		
16	Check gap dimensions at door all the way around	 Dimensions ↓ Gaps dimensions at hoods, doors and covers If applicable, adjust front door	*129589032100 *BE60.00-P-1002-01A AR60.00-P-0700-01K AR72.10-P-0550G

#### Test and adjustment values, gap dimensions at hoods, doors and covers

Number	Designation	Model 208.3	Model 208.4
BE60.00-P-1002-01A	Gap dimension	Dimension mm "B"	6.5 ( $\pm 0.5$ )
	Front door to A-pillar	Dimension mm "H"	5.0 ( $\pm 1.0$ )
	Front door to fender	Dimension mm "I"	4.0 ( $\pm 0.5$ )
	Front door to rear door	Dimension mm "C"	-
	Front door to roof	Dimension mm "D"	-
	Rear door to upper side section	Dimension mm "J"	-
	Rear door to lower side section	Dimension mm "Q"	-
	Fender to A-pillar	Dimension mm "P"	-
	Front door to rear fender	Fig., see	4.0 ( $\pm 0.5$ )
			AR60.00-P-0700-01K A
			AR60.00-P-0700-01K

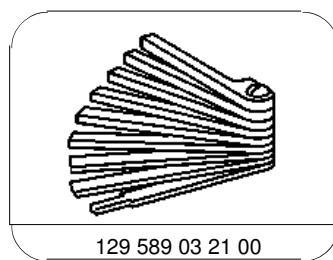
#### Front door

Number	Designation	Model 208.3/4
BA72.10-P-1001-01A	Bolt to door hinge	Nm 37
BA72.10-P-1003-01A	Bolt to door catch on A-pillar	Nm 25



110 589 03 59 00

Mounting wedge



129 589 03 21 00

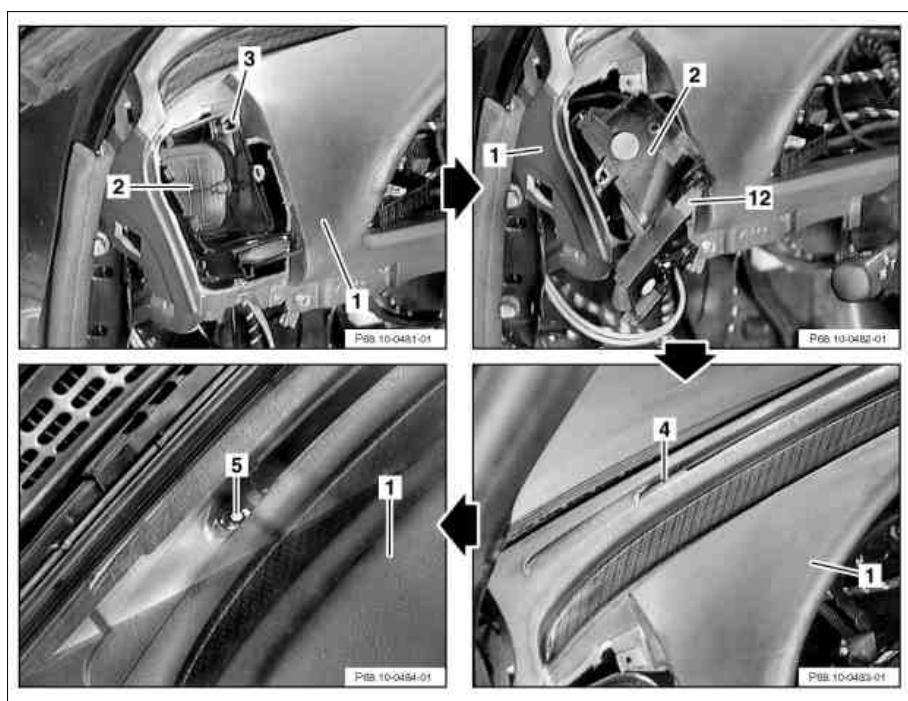
Feeler gage

#### Repair materials

Number	Designation	Order number
BR00.45-Z-1004-02A	Adhesive PVC 914	A 001 989 30 71

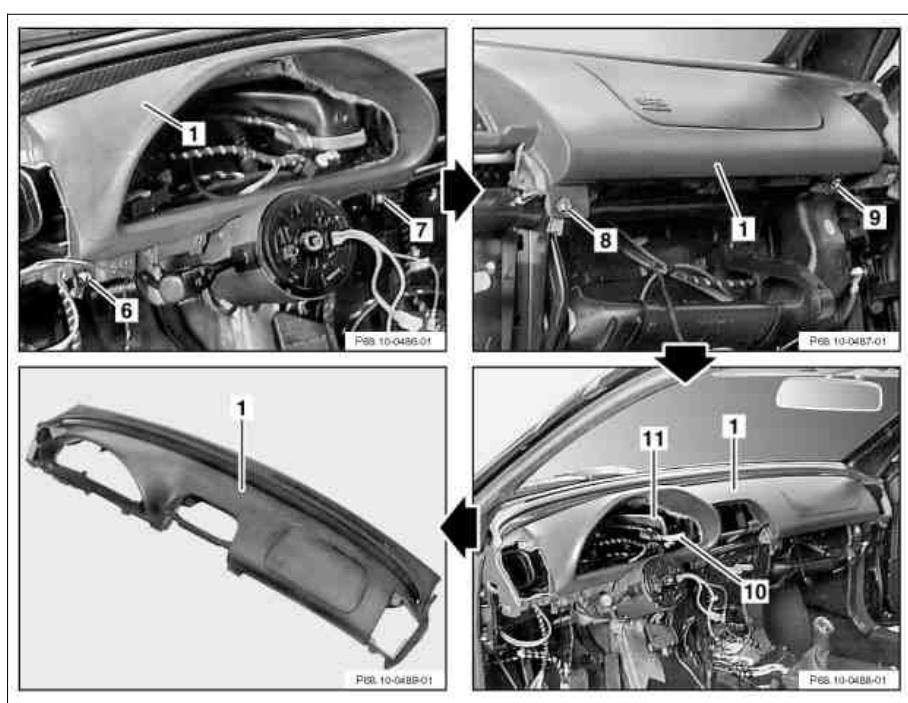
## MODEL 208

1 *Instrument panel*  
 2 *Housing*  
 3 and 5 *Screws*  
 4 *Covers*  
 12 *Connector*



P68.10-0485-06

1 *Instrument panel*  
 6,7,8 and 9 *Screws*  
 10 *Gasket*  
 11 *Defroster nozzle*

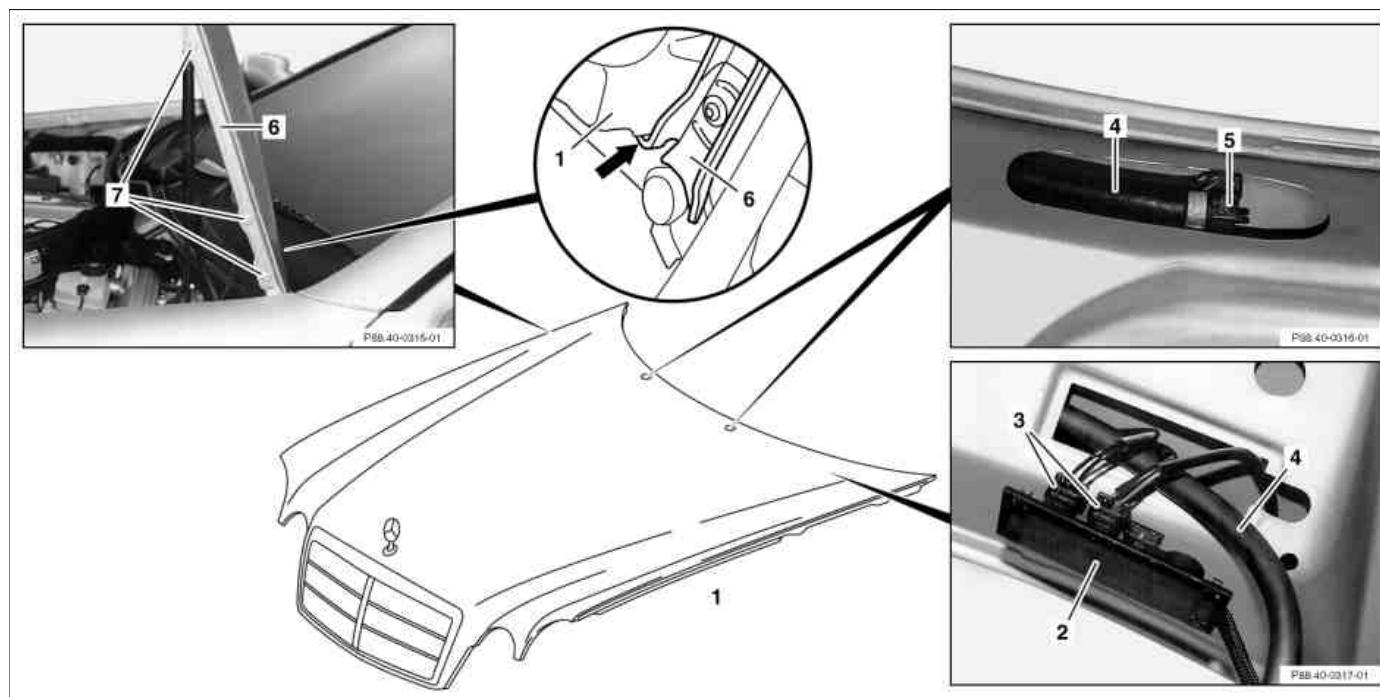


P68.10-0490-06

	Removal, installation	
1	Remove steering wheel	AR46.10-P-0100C
2	Remove instrument cluster	AR54.30-P-6015EA
3	Remove bottom section of instrument panel on driver's side	AR68.10-P-1505K
4	Remove bottom section of instrument panel on passenger side	AR68.10-P-1507K
5	Remove center console	AR68.20-P-2000K
6	Remove side air nozzles on left and right	AR68.10-P-1100K
7	Remove center air nozzle	AR68.10-P-1150K
8	Remove paneling on A-pillars on left and right	AR68.30-P-4050K
9	Unscrew screw (3) and remove housing (2)	
10	Disconnect connector (12) on housing (2) and lay housing down (2)	

11	Unclip cover (4) on left and right at top and remove		
12	Unscrew screws (5) on left and right		
13	Unscrew screws (6, 7, 8 and 9)		
14	Lift instrument panel (1), pull toward rear and remove	<p><b>i</b> Installation: Insert sheet metal clip nuts (6 each) for fastening instrument panel.</p> <p>Check gasket (10) above air outlet on heater housing and replace, if necessary.</p> <p>Insert instrument panel (11) with defroster nozzles (11) on heater housing, expose electrical wires.</p> <p>Check for proper function, set clock and adjust side windows, code radio</p>	
15	Lay instrument panel (1) down on suitable surface		
16	Reinstall in opposite order		

MODEL 208.3/4



P88.40-0314-09

1 Engine hood	4 Water hose	6 Engine hood hinge
2 Cover	5 Windshield washer nozzle	7 Screw
3 Connector		

	Removal, installation		
<b>Danger!</b>	<b>Risk of injury</b> from fingers being pinched or jammed when removing and installing and aligning hoods, doors, trunk lids/tailgates and sliding roof	When moving components ensure that no body parts or limbs are in the area of motion.	AS00.00-Z-0011-01A
1	Move engine hood (1) to upright position		AR88.40-P-1000F
2	Attach fender guards		
3	Unclip cover (2) and disconnect connectors (3)		
4	Pull water hose (4) off of windshield washer nozzle (5) and pull out of engine hood (1)		
5	Mark installation position of engine hood (1) on engine hood hinges (6)	<b>i</b> This facilitates installation	
6	Unscrew screws (9) on engine hood (1)	<b>!*</b> Have second person secure engine hood <b>Nm</b> Screw on engine hood	*BA88.40-P-1001-01A
7	Remove engine hood (8) with aid of second person and set down on suitable surface	<b>!*</b> Avoid damaging paint <b>i</b> <b>Installation:</b> Insert engine hood (1) into hinge (6) (see arrow).	AR88.40-P-3020K
8	Reinstall in opposite order	When replacing engine hood supplement standard joint seal and hollow cavity preservation. See ↓ Sealing weld after repairs Model 208.3 Model 208.4 Processing of corrosion protection materials before painting Hollow cavity preservation following repair	AR97.10-P-4000K AR97.10-P-4000KA AR97.20-P-0500A AR97.20-P-1500K
9	Adjust engine hood		AR88.40-P-3020K

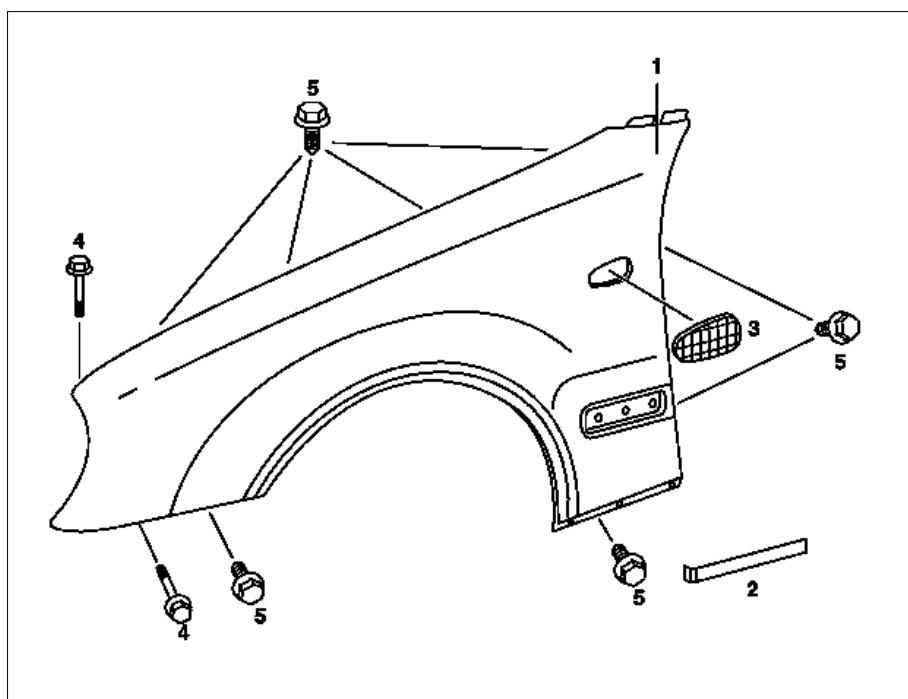
**Nm** Engine hood

Number	Designation	Model 208.3/4

BA88.40-P-1001-01A	Screws on engine hood	Nm	10
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MODEL 208.3/ 4

1 Fenders  
 2 Cover  
 3 Turn signal lamp  
 4 Bolt  
 5 Bolt



P88.10-0266-06

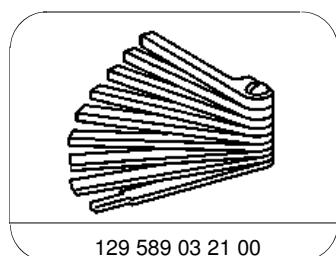
	Remove/Install		
<b>i</b>	When replacing front fender apply MB permanent underbody protection, preserve with cavity wax following installation	<b>i</b> Cavity wax Use approved wax preservative, see service microfiche, specifications for operating fluids, sheet no. 385	
1	Open engine hood and move to upright position		AR88.40-P-1000F
2	Remove fender liner in front fender		
3	Remove front bumper		AR88.20-P-2000K
4	Unscrew headlamp mounting bolts (4)	<b>i</b> Do not remove headlamp.	
5	Remove cover (2)		
6	Disconnect connector and remove turn signal lamp (3)		
7	Remove door retaining strap from A-pillar	<b>i</b> Better accessibility to bolts (5) on A-pillar <b>!</b> Avoid damaging paint on door and front fender <b>Nm</b> Bolt at door catch	*BA72.10-P-1003-01A
8	Unscrew bolts (5).	<b>!</b> Avoid damaging paint.	
9	Remove fender (1) toward front	<b>!</b> Avoid damaging paint.	
10	Install in the reverse order	When replacing fender supply standard seam sealing, underbody and cavity preservation Refer to: ↓ Seam sealing following repair Model 208.3 Model 208.4 Processing of corrosion protection materials before painting Cavity preservation following repair work	AR97.10-P-4000K AR97.10-P-4000KA AR97.20-P-0500A AR97.20-P-1500K
11	Check gaps on fender (1), correct	<b>!</b> Feeler gage <b>i</b> Dimensions ↓ Gap dimensions at hoods, doors and covers Model 208.3 Gap dimensions at hoods, doors and covers Model 208.4 Gaps of hood Gaps of fender	*129589032100 AR60.00-P-0700-01K AR60.00-P-0700-01KA *BE60.00-P-1001-01A *BE60.00-P-1002-01A

**Test and adjustment values, gap dimensions at hoods, doors and covers**

<b>Number</b>	<b>Designation</b>		<b>Model 208.3</b>	<b>Model 208.4</b>
BE60.00-P-1001-01A	Gap dimension	Engine hood to fender	Dimension "A" mm	4.0 ( $\pm 0.5$ )
		Engine hood to headlamp	Dimension "R" mm	6.0 ( $\pm 1.1$ )
		Engine hood to radiator grille	Dimension "O" mm	-
		Radiator grill to headlamp	Dimension "N" mm	-
		Fig., see		<a href="#">AR60.00-P-0700-01K</a> AR60.00-P-0700-01K A
BE60.00-P-1002-01A	Gap dimension	Front door to A-pillar	Dimension "B" mm	6.5 ( $\pm 0.5$ )
		Front door to fender	Dimension "H" mm	4.0 ( $\pm 0.5$ )
		Front door to rear door	Dimension "I" mm	-
		Front door to roof	Dimension "C" mm	-
		Rear door to upper side section	Dimension "D" mm	-
		Rear door to lower side section	Dimension "J" mm	-
		Fender to A-pillar	Dimension "Q" mm	-
		Front door to rear fender	Dimension "P" mm	4.0 ( $\pm 0.5$ )
		Fig., see		<a href="#">AR60.00-P-0700-01K</a> AR60.00-P-0700-01K A

**Nm** **Front door**

<b>Number</b>	<b>Designation</b>	<b>Model 208.3/4</b>
BA72.10-P-1003-01A	Bolt, door catch on A-pillar	Nm 25

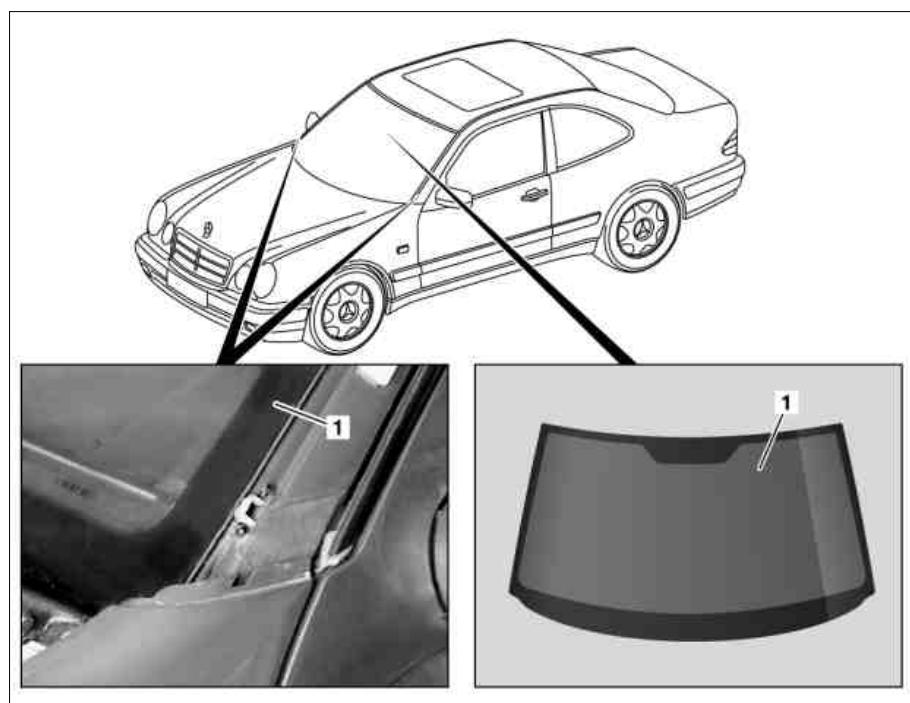


Feeler gage

MODEL 208.3/4

Illustrated on model 208.3

1 Windshield



P67.10-0279-06

## Modification notes

18.7.08	Note on painting in the glazing area added	Step 12	
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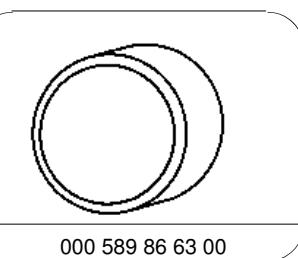
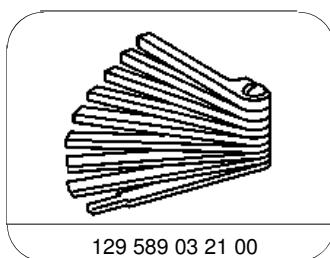
	Removing		
	<b>Danger!</b>	Risk of injury due to tear or warming up of cutting wire and through glass splinters when cutting out glued windows	Wear protective gloves and safety glasses. <b>AS67.00-Z-0004-01A</b>
	<b>Danger!</b>	Risk of injury caused by moving parts that can pinch, crush or, in extreme cases even sever extremities.	Always remove ignition key when working on windshield wiper mechanism. <b>AS82.30-Z-0001-01A</b>
1	Prepare 1-component adhesive cartridge	Intermediate piece Cartridge preheater, cartridge gun <a href="#">gotis://K 67.0 02.0</a> Repair kit	<b>AR67.10-P-1000-12SX</b> <b>*000589866300</b> <b>*BR00.45-Z-1089-02A</b>
2	Remove both panelings from outside of A-pillar		<b>AR88.80-P-8500K</b>
3	Remove ornamental frame on windshield.		<b>AR67.10-P-1200K</b>
4	Remove wiper system		<b>AR82.30-P-6400E</b>
5	Remove rain sensor (B38)	With code (345) Rain sensor	<b>AR82.30-P-7700F</b>
6	Remove inside rearview mirror	On model 208.4	<b>AR68.40-P-0001KA</b>
7	Remove left and right bracket at lower A-pillar		
8	Cut out windshield (1) with Roll Out 2004 window removal tool	Roll out 2004 window removal tool <a href="#">gotis://K 67.0 01.0</a> Suction lifting device <a href="#">gotis://K 67.0 03.0</a>	<b>AR67.10-P-1000-11SX</b>
9	Remove windshield (1) from body with Cup suction tools	Aid of helper required. Suction lifting device <a href="#">gotis://K 67.0 03.0</a>	
	Install		
10	Replace rubber spacers	Do not remove protective foil.	<b>AR67.10-P-1000-02K</b>
11	Prepare windshield (1) for installation	Repair kit Repair kit	<b>AR67.10-P-1000-03P</b> <b>*BR00.45-Z-1015-02A</b> <b>*BR00.45-Z-1089-02A</b>
12	Prepare body flange for installation General notes about painting the body flange in the glazing area	Pay attention to notes concerning the preparation of new parts such as the A-pillar, the roof or the side walls.	<b>AR67.10-P-1501-01P</b> <b>AH98.00-P-9408-06A</b>

		<p>Wet and dry vacuum cleaner <a href="#">gotis://P_00.12_06.0</a></p> <p>Repair kit</p> <p>Repair kit</p> <p>Touch-up pencil</p> <p>Hepox 2K EP primer filler 4017 (Spray Max)</p>	<p>*BR00.45-Z-1015-02A</p> <p>*BR00.45-Z-1089-02A</p> <p>*BR00.45-Z-1012-07A</p> <p>*BR00.45-Z-1050-07A</p>
13	Align windshield (1) in the body opening	<p><b>[i]</b> Aid of helper required.</p> <p><b>[i]</b> Observe gap</p> <p><b>[S]</b> Feeler gauge</p> <p>Suction lifting device <a href="#">gotis://K_67.0_03.0</a></p> <p>Distance between top edge of window and front edge of roof</p>	<p>AR67.10-P-1000-04K</p> <p>*129589032100</p> <p>*BE67.10-P-1001-01A</p>
14	Remove protective foil from rubber spacers		
15	Apply adhesive material	<p><b>[!]</b> Install windshield (1) within 10 minutes before adhesive force of adhesive material starts to decrease.</p> <p><b>[i]</b> Height of glue bead approx. 13 mm.</p> <p><b>[S]</b> Intermediate piece</p> <p>Cartridge gun <a href="#">gotis://K_67.0_02.0</a></p> <p>Repair kit</p> <p>Repair kit</p>	<p>AR67.10-P-1000-08P</p> <p>*000589866300</p> <p>*BR00.45-Z-1015-02A</p> <p>*BR00.45-Z-1089-02A</p>
16	Install windshield (1)	<p><b>[!]</b> Open side window in driver door for the duration of the curing time to prevent the windshield (1) from being pressed outwards by the air pressure when the doors are closed.</p> <p><b>[i]</b> Aid of helper required. The waiting time (drive-away time) is approx. 1 h calculated from the time the windshield (1) is installed.</p> <p>Suction lifting device <a href="#">gotis://K_67.0_03.0</a></p>	AR67.10-P-1503-01K
17	Install ornamental frame on wind deflector		AR67.10-P-1200K
18	Install both panels on outside of A-pillar		AR88.80-P-8500K
19	Install wiper system		AR82.30-P-6400E
20	Install left and right bracket on lower A-pillar		
21	Install inside rearview mirror	On model 208.4	AR68.40-P-0001KA
22	Install rain sensor	With code (345) Rain sensor	AR82.30-P-7700F
23	Clean windshield (1)		
24	Code adaptation of rain sensor and light sensor amplification factor and select type of windshield	<b>[i]</b> On vehicles with code (345) Rain sensor. Engine hood and driver door must be closed.	
<b>AD</b>	Connect STAR DIAGNOSIS and read out fault memory		AD00.00-P-2000-04A

#### Test and adjustment values for windshield

Number	Designation	Model 208	
BE67.10-P-1001-01A	Distance between window upper edge and front edge of roof	Dimension mm "A"	12

See picture AR67.10-P-1000-04K



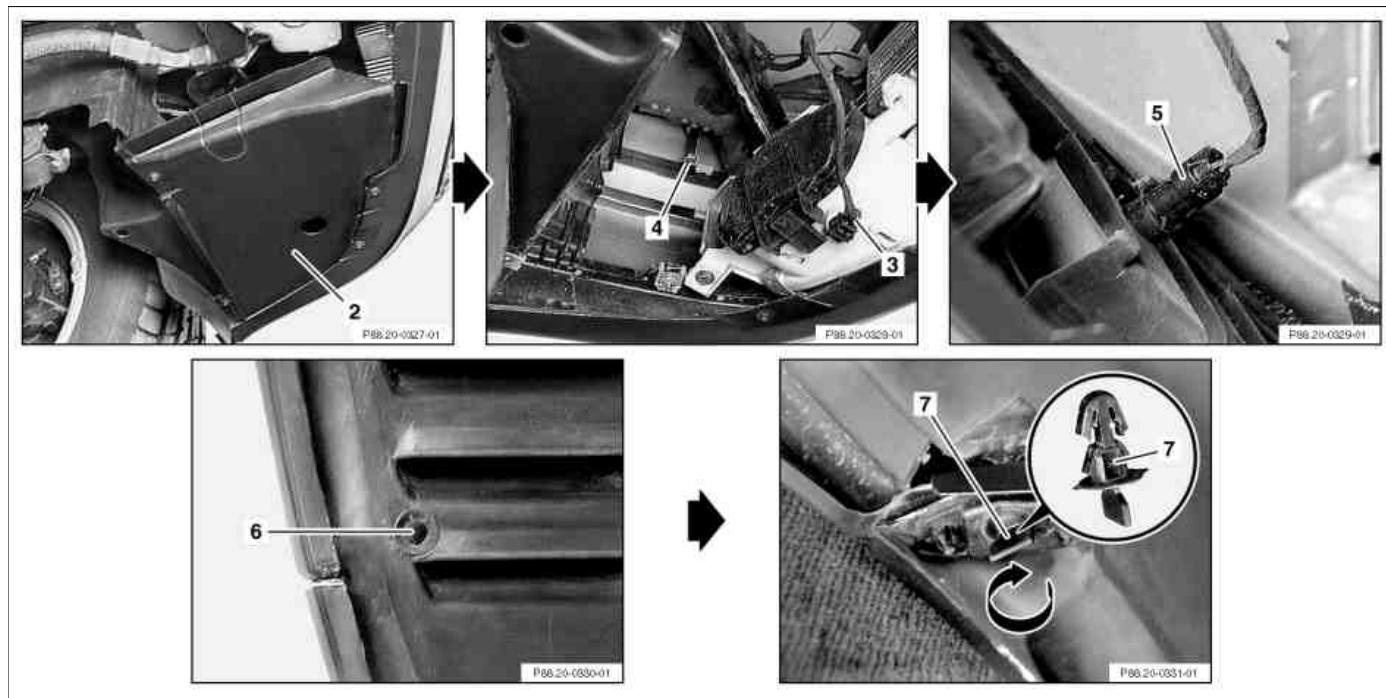
Feeler gauge

Intermediate piece

## Repair materials

Number	Designation	Order number
BR00.45-Z-1015-02A	Repair kit, glazing, installing window, 2-component adhesive	A 220 670 00 93
BR00.45-Z-1089-02A	Repair kit, installing window, 1-component adhesive, replaced by: A 221 670 81 01	A 221 670 21 01
BR00.45-Z-1012-07A	Primer stick	A 000 986 27 50
BR00.45-Z-1050-07A	Hepox 2K EP primer filler 4017 (Spray Max)	Spies Hecker GmbH Fritz-Hecker-Str. 47-107 50968 Köln Germany Tel. +49 221 370606 Fax. +49 221 3706410 <a href="http://www.spieshecker.com">www.spieshecker.com</a>

MODEL 208

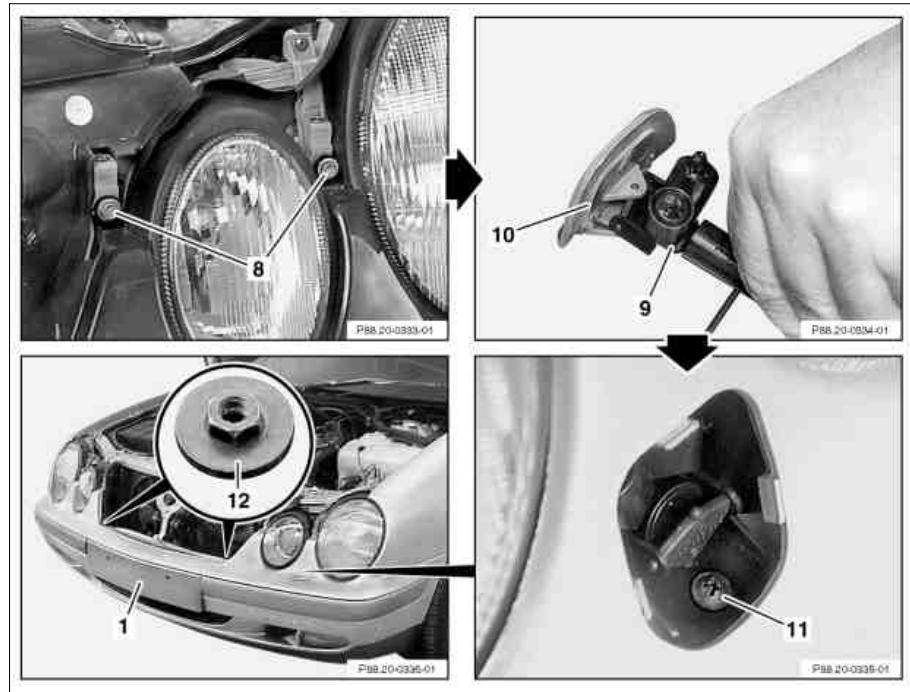


P88.20-0326-09

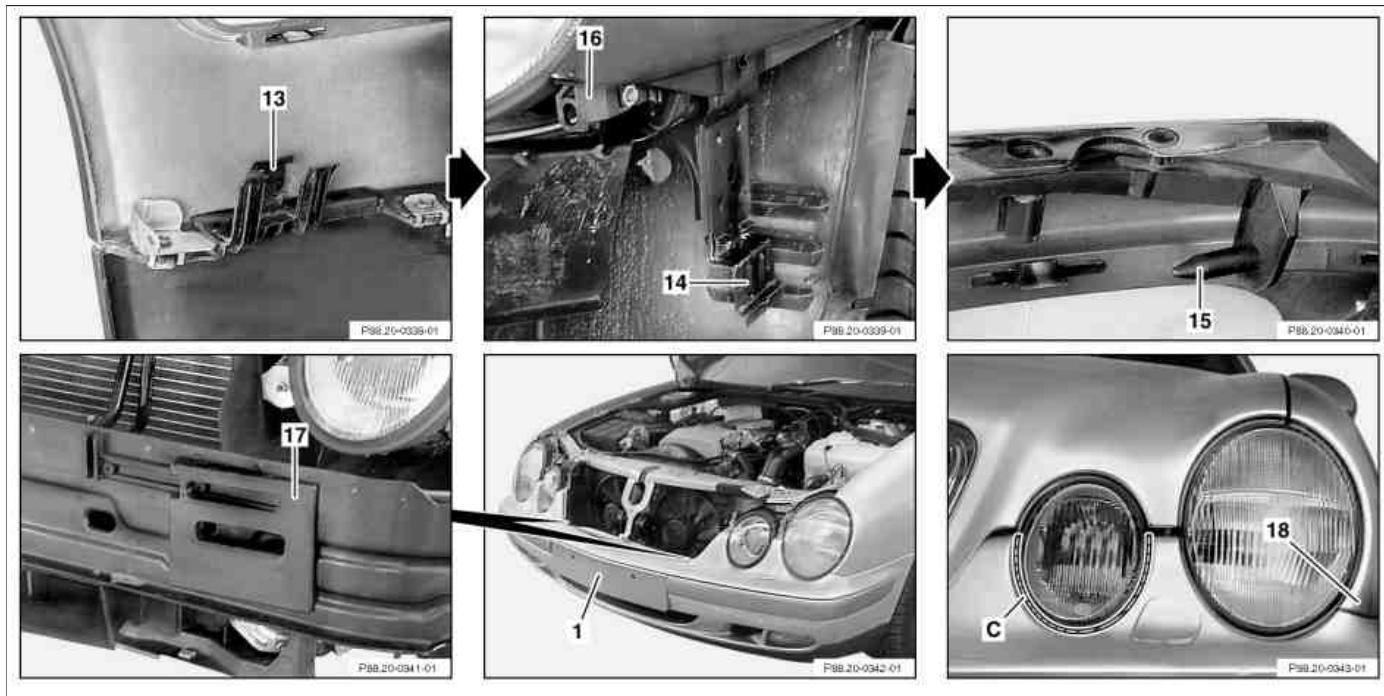
2 Lining  
 3 Fog lamp connector  
 1 Bumper  
 8 Screw  
 9 Telescoping nozzle for headlamp cleaning system  
 10 Telescoping nozzle cover  
 11 Screw  
 12 Nut

4 Screw  
 5 Outside temperature sensor

6 Spreading rivet  
 7 Rotary clip



P88.20-0332-06



P88.20-0337-09

13 Guide  
14 Holder  
15 Centering pin

16 Holder  
17 Intermediate layer

18 Fender tip  
C Gap dimension from headlamp lens to bumper cover

<input checked="" type="checkbox"/>	Removal		
1	Remove paneling (2)		
2	Disconnect fog lamp connector (3)		
3	Unscrew screw (4)		
4	Disconnect outside temperature sensor (5)		
5	Remove spreading rivet (6) from wheelhouse panel		
6	Open rotary clip (7) on side of fender flange		
7	Unscrew screws (8)		
8	Remove cover (9) on telescoping nozzle (10)	With SAA 500.305/01 Headlamp cleaning system Have second mechanic press headlamp cleaning system switch momentarily until telescoping nozzle (10) extends. Pull telescoping nozzle (10), release headlamp cleaning system switch, remove cover (9) and release telescoping nozzle (10).	
9	Unscrew screw (11)		
10.1	Transfer AMG bumper	<b>[i]</b> See installation instructions for accessories ↓ Retrofit AMG paneling parts, model 208.3 coupe Retrofit AMG paneling parts, model 208.4 convertible	AZ88.00-P-0001B AZ88.00-P-0001D
11	Unscrew nuts (12) and remove bumper (1)		
<input checked="" type="checkbox"/>	Installation		
12	Position bumper (1) on body and slide guide (13) onto holder (14) while inserting centering pin (15) into holder (16)		
13	Press bumper (1) up in area of wheelhouse and fasten with rotary clip (7)		
14	Start nuts (12) loosely on studs		
15	Align bumper (1) with tip of fender (18) in area of headlamp	<b>[!]</b> Press against bumper (1) in area of bumper guard and not on cover <b>[i]</b> Bumper (1) should not extend more than 1 mm beyond tip of fender (18)	
16	Tighten screw (4)		*BA88.20-P-1004-01A
17	Start screws (8) loosely		

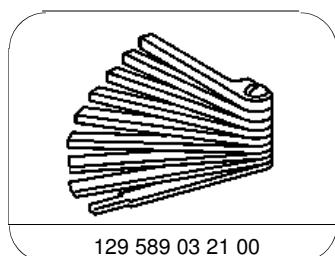
18	Push intermediate layer (17) outward to stop	<b>[i]</b> This closes the gap between the bumper (1) and cross member. Move intermediate layer (17) with only slight force to prevent bumper (1) from being pressed forward	
19	Align bumper (1) to correct height and tighten nuts (12)	<b>[S]</b>	*BE88.20-P-1003-01A *BA88.20-P-1001-01A *129589032100
20	Tighten screws (8)		*BA88.20-P-1003-01A
21	Screw in screw (11)	<b>[i]</b> The flange on the telescoping nozzle (10) should make contact with the reinforcement frame for the bumper (1)	
22	Install cover (9) on telescoping nozzle (10)		
23	Plug in connector for fog lamp (3)		
24	Install outside temperature sensor (5)		
25	Install spreading rivet (6) in rear wheelhouse panel		
26	Install lining (2)		

#### Gap dimensions for bumper

Number	Designation	Models 208.3/4	
BE88.20-P-1003-01A	Di- Front bumper, gap dimension "C" mm men (Headlamp lens to cover) - sion  See figure	6	AR88.20-P-2000K

#### Nm Bumper

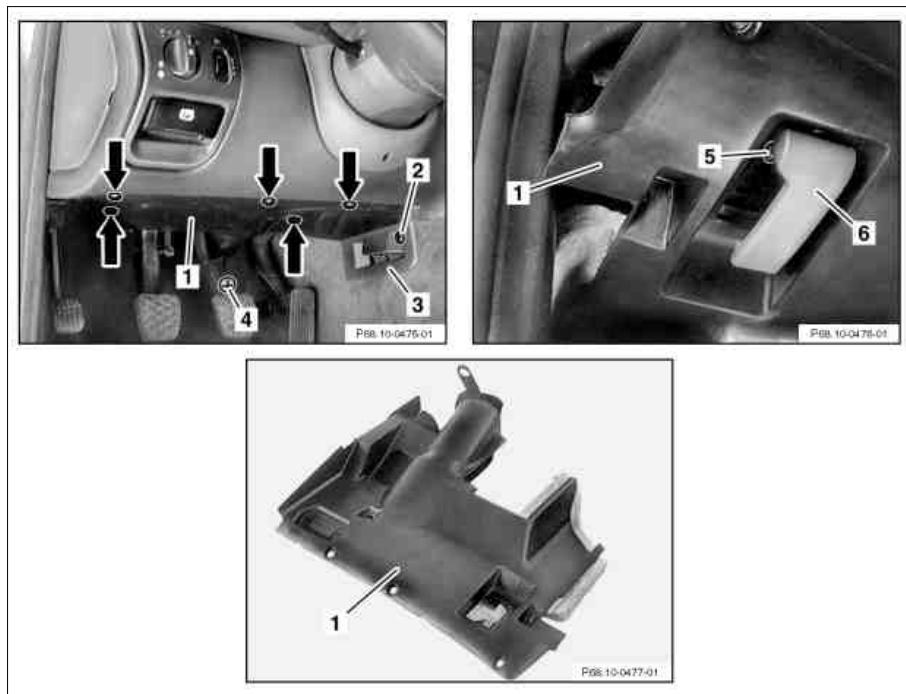
Number	Designation	Models 208.3/4	
BA88.20-P-1001-01A	Nut for front bumper on cross member	Nm	20
BA88.20-P-1003-01A	Bolt for front bumper on headlamp housing	Nm	2
BA88.20-P-1004-01A	Bolt for front bumper on inside of fender	Nm	3



Feeler gage

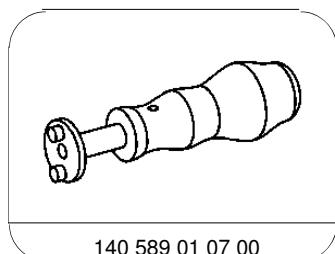
## MODEL 208

1 Cover  
 2 Plastic screw  
 3 Air outlet cover  
 4 Plastic nut  
 5 Screw  
 6 Handle



P68.10-0478-06

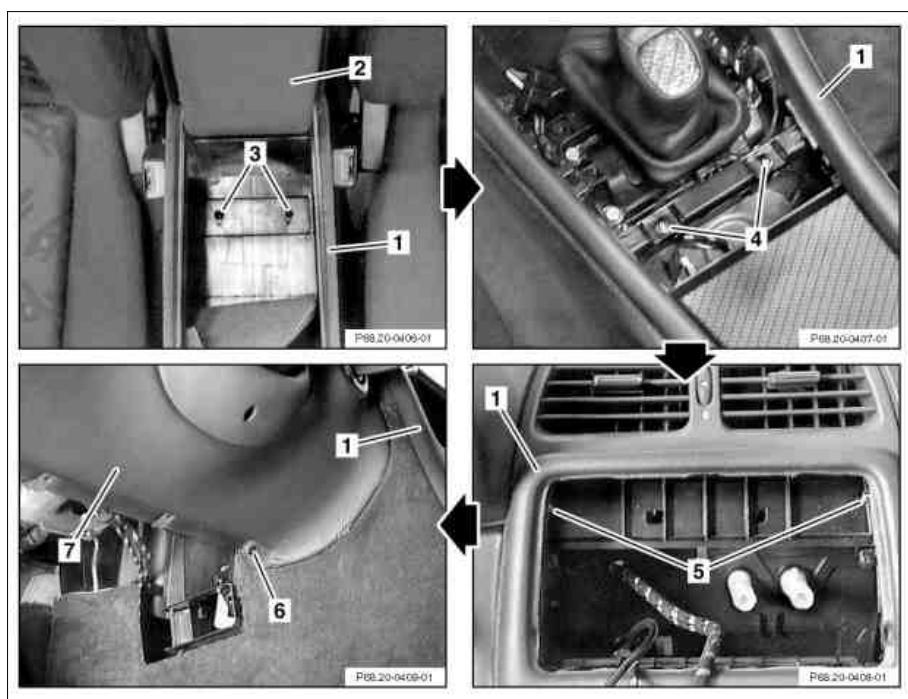
	Removal, installation		
1	Turn plastic screw (2) 90° and remove air outlet cover (3)		
2	Unscrew screws (arrows) and plastic nut (4)	↗	*140589010700
3	Pull cover (1) back and unscrew screw (5)		
4	Unhook handle (6) from cover (1) and guide through		
5	Remove cover (1)		
6	Reinstall in opposite order		



Pin wrench

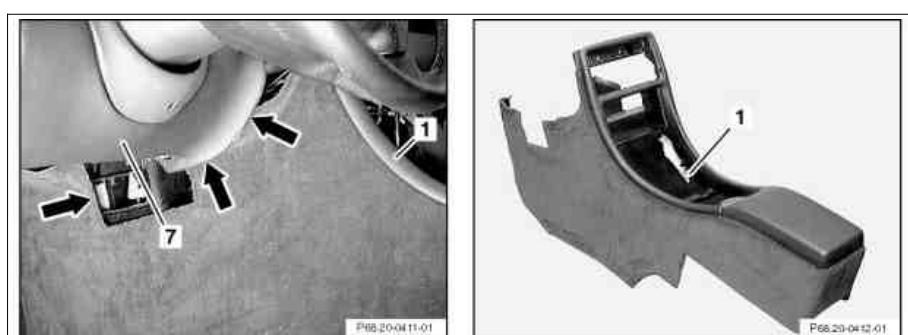
## MODEL 208

1 Center console  
 2 Cover (armrest)  
 3, 4, 5 and 6 Screws  
 7 Bottom section of instrument panel



P68.20-0410-06

1 Center console  
 7 Bottom section of instrument panel

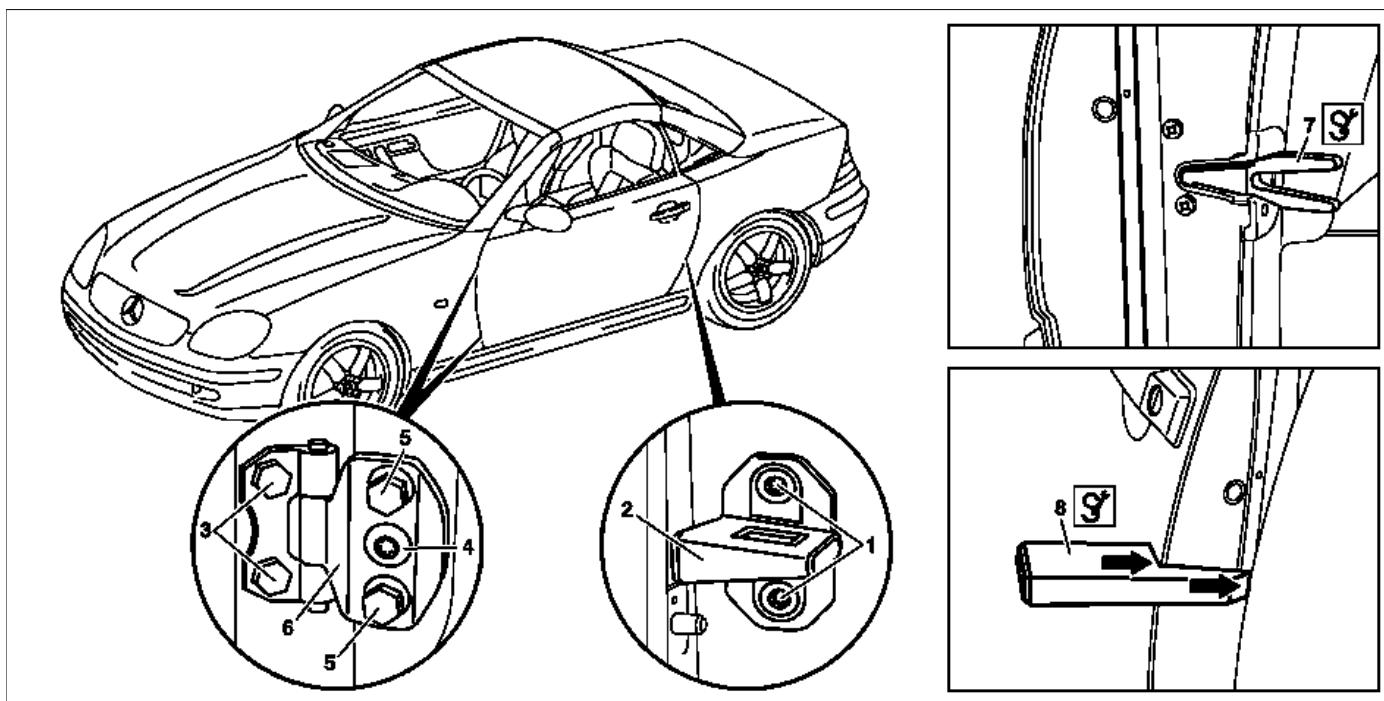


P68.20-0413-04

<input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	Removal, installation	
1	Remove cover below instrument panel (left)	AR68.10-P-1500K
2	Remove cover below instrument panel (right)	AR68.10-P-1520K
3	Remove cover on air outlet in footwell on left and right	
4	Remove ashtray housing	AR68.20-P-2400K
5	Remove spectacles compartment or cassette compartment	AR68.20-P-2450K
6	Remove radio	AR82.60-P-7502EA
7	Remove pushbutton control module for heater/air-conditioning	
8	Open cover (2) above stowage compartment and remove insert	
9	Unscrew screws (3) in stowage compartment	
10	Unscrew screws (4) in area of shift lever dome	
11	Unscrew screws (5) below center nozzle	
12	Unscrew screws (6) in bottom section of instrument panel on left and right	
13	Lift floor covering in front in area of center console paneling	
14	Adjust both front seats to rear	
15	Remove center console (1) toward rear by lifting side covers over air outlet ducts and seat adjustment rails, then pull center console (1) below bottom sections of instrument panel	



MODEL 170, 208.3



P72.10-0267-09

## Shown on model 170

1 Screw  
2 Lock striker

3 Screw  
4 Centering screw  
5 Screw  
6 Hinge

7 Centering gage  
8 Depth stop

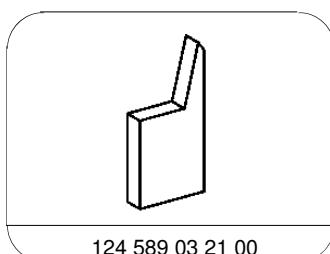
	Adjust		
1	Remove lock striker (2)		
2	Inspect sizes of gaps at door all round	 Model 170 Gap dimensions on hoods, doors and covers  Model 208.3 Gap dimensions on hoods, doors and covers	<a href="#">*129589032100</a> <a href="#">AR60.00-P-0700-01G</a> <a href="#">*BE60.00-P-1002-01A</a> <a href="#">*BE60.00-P-1006-01A</a> <a href="#">AR60.00-P-0700-01K</a> <a href="#">*BE60.00-P-1002-01A</a>
3	Loosen bolts (3) from inner door panel and tighten; adjust gap dimension by moving front door		<a href="#">*BA72.10-P-1001-01A</a>
4	Loosen bolts (5) and tighten; with centering screw (4) on hinge (6), adjust contour of driver door at hinge side	 Door paneling should be flush with contour of front fender or should be located max. 1 mm deeper.	<a href="#">*BA72.10-P-1001-01A</a>
5	Bolt on striker eye (2).	Do not tighten bolts (1)	
6	Insert centering gage (7) into door lock until lock completely catches (catch stage 2)	 Left centering gage  Right centering gage	<a href="#">*210589022100</a> <a href="#">*210589032100</a>
7	Position depth stop (8) at height of striker eye (2) on outside door panel and close door until depth stop (8) makes contact on both sides (arrows)		<a href="#">*124589032100</a>
8	Press striker eye (2) into centering gage (7) from inside through open window and tighten bolts (1)		<a href="#">*BA72.10-P-1004-01A</a>
9	Pull outer door handle and remove centering gage (7)		
10	Check door for easy motion		
11	Check crank window adjustment, if necessary adjust	Model 170 Model 208.3	<a href="#">AR72.10-P-1950G</a> <a href="#">AR72.10-P-1950K</a>

## Test and adjustment values, gap dimensions at hoods, doors and covers

Number	Designation			Type 170	Type 208.3
BE60.00-P-1002-01A	Gap dimension	Front door to A-pillar	Dimension "B" mm	-	6.5 ( $\pm 0.5$ )
		Front door to fender	Dimension "H" mm	4.0 ( $\pm 0.5$ )	4.0 ( $\pm 0.5$ )
		Front door to rear door	Dimension "I" mm	-	-
		Front door to roof	Dimension "C" mm	-	-
		Rear door to top of side section	Dimension "D" mm	-	-
		Rear door to side section, bottom	Dimension "J" mm	-	-
		Fender to A-pillar	Dimension "Q" mm	4.0 ( $\pm 1.6$ )	-
		Front door to rear fender	Dimension "P" mm	4.0 ( $\pm 0.5$ )	4.0 ( $\pm 0.5$ )
		See picture		AR60.00-P-0700-01G	AR60.00-P-0700-01K
BE60.00-P-1006-01A	Gap dimension	Roof to windshield frame	Dimension "S" mm	9.0 (+0/-2)	-
		Roof to rear window frame	Dimension "T" mm	7.0 (+0/-2)	-
		See picture		AR60.00-P-0700-01G	-

#### Front door

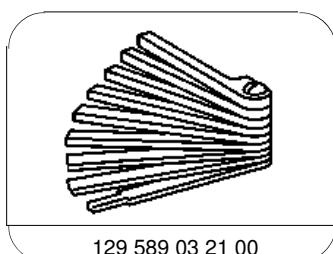
Number	Designation	Model 170	Model 208.3/4
BA72.10-P-1001-01A	Screw on door hinge	Nm 32	37
BA72.10-P-1004-01A	Bolt to lock striker	Nm 28	28



124 589 03 21 00

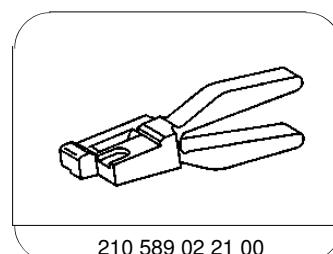


Depth stop



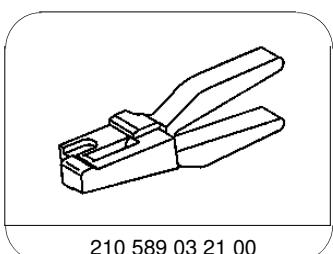
129 589 03 21 00

Feeler gauge



210 589 02 21 00

Left centering gage

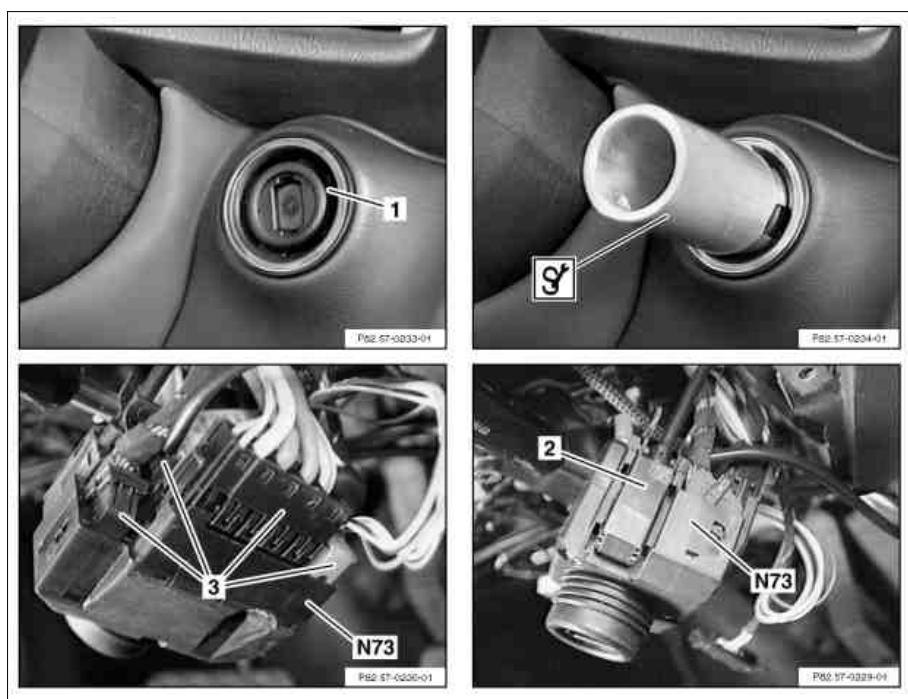


210 589 03 21 00

Right centering gage

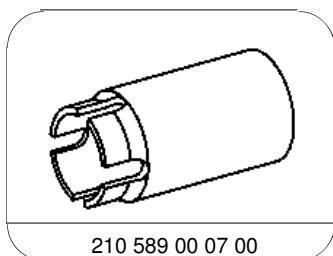
## MODEL 208

1 Round cover plate  
 2 Shift lock control cable  
 3 Electrical connector  
 N73 Electronic ignition switch control module  
 210 589 00 07 00



P82.57-0235-06

	Removal, installation		
1	Remove bottom section of instrument panel (on driver-side)		AR68.10-P-1505K
2	Screw off round cover plate (1) with special tool	210 589 00 07 00	*210589000700
3	Pull electronic ignition switch control module (N73) toward rear out of cover below left side of instrument panel		
4	Remove shift lock control cable (2) on electronic ignition switch control module (N73)	<b>[i]</b> only on vehicles with automatic transmission	
5	Disconnect electrical connectors (3) from electronic ignition switch control module (N73)	<b>[i]</b> Use aid for connection and disconnection if required	
6	Reinstall in opposite order	<b>[i]</b> <b>Installation:</b> When replacing electronic ignition switch control module (N73) program according to programming instructions included with programming station.	



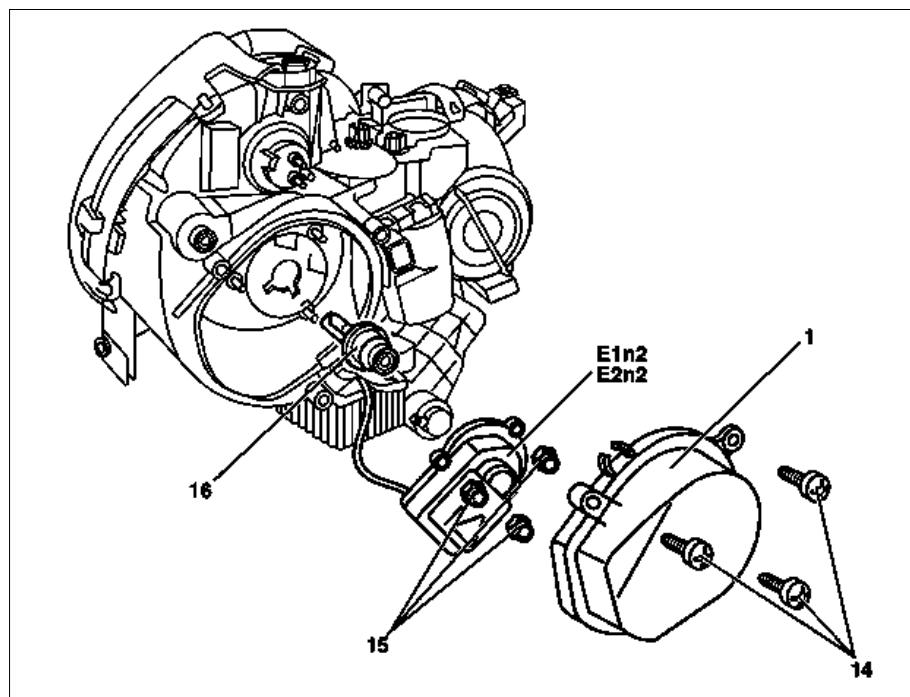
210 589 00 07 00

Claw-type wrench for round cover plate on ignition/starter switch

**MODEL 208,**  
**210 up to 31.5.99 with CODE (612) Xenon headlamp unit**

**Model 208**

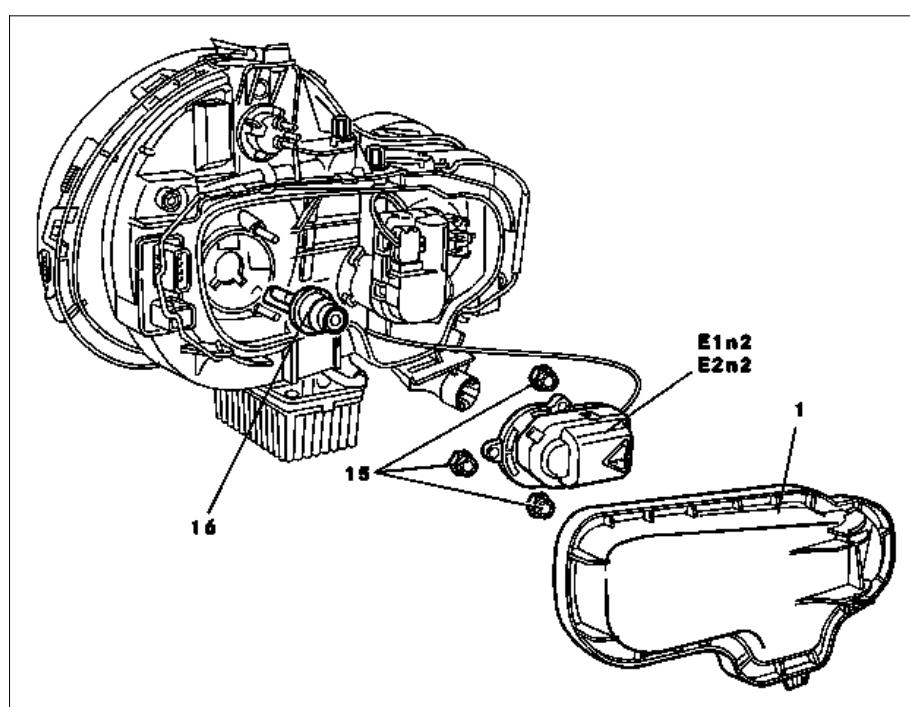
1     Housing cover  
 14    Bolts  
 15    Nut  
 16    Xenon lamp D2R  
 E1n2   Xenon headlamp ignition module  
 E2n2   Xenon headlamp ignition module



P82.10-0752-06

**Model 210**

1     Housing cover  
 15    Nut  
 16    Xenon lamp D2R  
 E1n2   Xenon headlamp ignition module  
 E2n2   Xenon headlamp ignition module

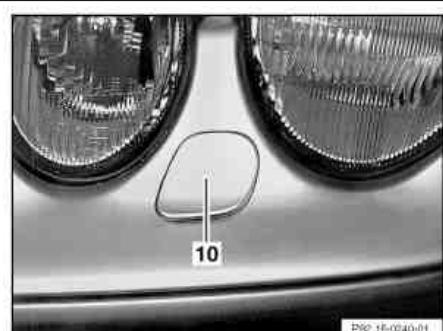


P82.10-0313-06

	Remove/install		
	<b>Danger!</b> Risk of death caused by touching parts which conduct high voltages	Do not come into contact with parts that are under high voltage. Persons who have electronic implants (e.g. pacemakers) must not perform any work on the ignition system.	AS15.10-Z-0001-01A

<b>Danger!</b>	<p><b>Risk of death</b> caused by high voltage levels present at xenon headlamps.</p> <p><b>Risk of explosion/risk of fire</b> due to highly flammable materials in the area of damaged xenon bulbs</p> <p><b>Risk of injury</b> from UV light, hot components at xenon headlamps and glass splinters when xenon bulbs crack</p> <p><b>Risk of poisoning</b> from inhaling mercury vapors and from swallowing/skin contact with poisonous salts and mercury compounds</p>	<p>Do not come into contact with parts that are under high voltage. Persons with <b>active electronic implants</b> (e.g. heart pacemakers) must never work on xenon headlamps.</p> <p>Switch off entire lighting system. Wear insulating safety shoes, safety glasses and protective gloves. Remove highly inflammable materials from the hazard area. Ensure the work area is adequately ventilated.</p>	AS82.10-Z-0001-01A
1	Remove lamp unit	Model 208 Model 210	AR82.10-P-4730EE AR82.10-P-4730EB
2.1	Unscrew screws (14) and remove housing cover (1)	Model 208	
2.2	Unclip housing cover (1)	Model 210	
3	Unscrew nuts (15) and remove ignition modules (E1n2, E2n2)		
4	Carefully remove xenon bulb D2R (16)		
5	Install in the reverse order		

MODEL 208 with CODE (600a) Headlamp cleaning system



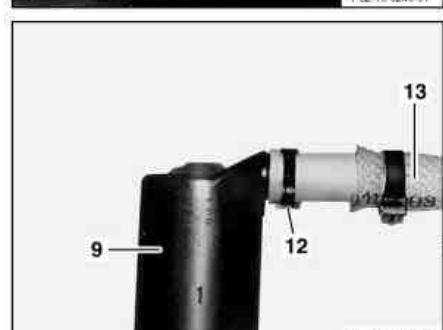
P82.15-0240-01



P88.20-0334-01



P88.20-0335-01



P82.15-0241-01

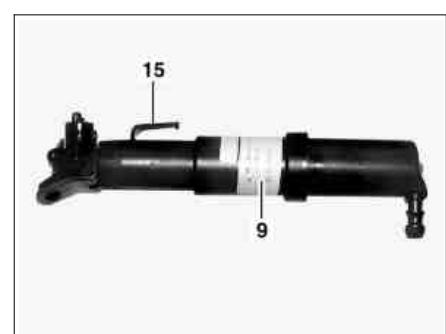


P82.15-0242-01



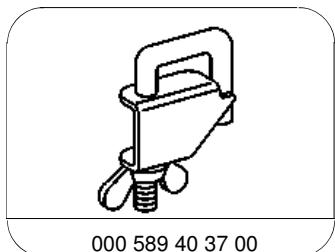
P82.15-0243-01

P82.15-0244-09

9 Telescoping nozzle  
10 Cover11 Screw  
12 Retaining clip13 Washing water hose  
14 Mount9 Telescoping nozzle  
15 Retaining lug

P82.15-0245-01

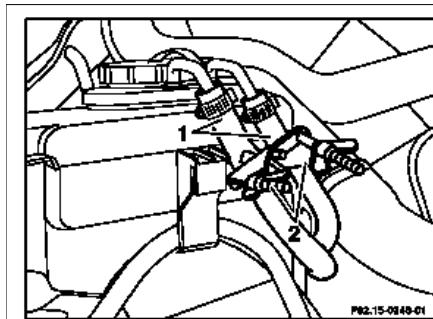
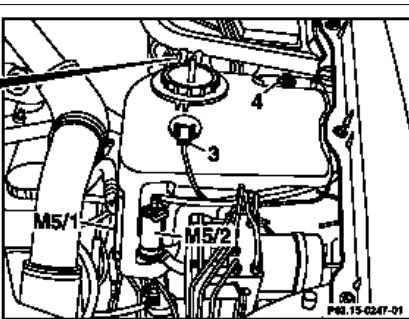
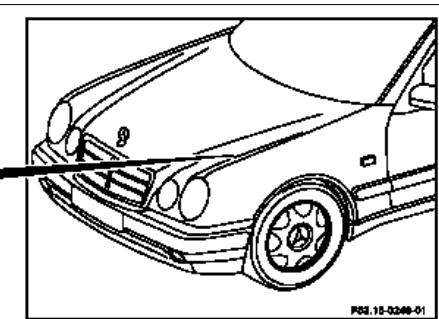
	Removal, installation		
1	Open engine hood, move to upright position		AR88.40-P-1000F
2	Pull cover (10) toward front and unclip telescoping nozzle (9)	Avoid damaging paint on cover and bumper	
3	Unscrew screw (11)		
4	Disconnect washing water hose (13) with clamp		*000589403700
5	Pull off retaining clip (12) and remove washing water hose (13) from telescoping nozzle (9)		
6	Remove mount (14) (2 screws)	<b>Installation:</b> Ensure that centering hole is properly positioned (arrow)	
7	Remove telescoping nozzle (9) from bumper toward front	Avoid damaging paint on bumper <b>Installation:</b> The retaining lug (15) must be inserted into the headlamp housing	
8	Reinstall in opposite order		
9	Check for proper function		



000 589 40 37 00

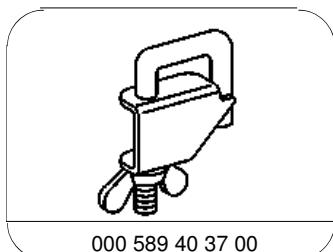
Clamp

MODEL 208 with CODE (600a) Headlamp cleaning system

1 Hot water hose  
2 Clamp3 Connector  
4 Plastic nutM5/1 Windshield washer pump  
M5/2 Headlamp washer pump

P82.15-0249-07

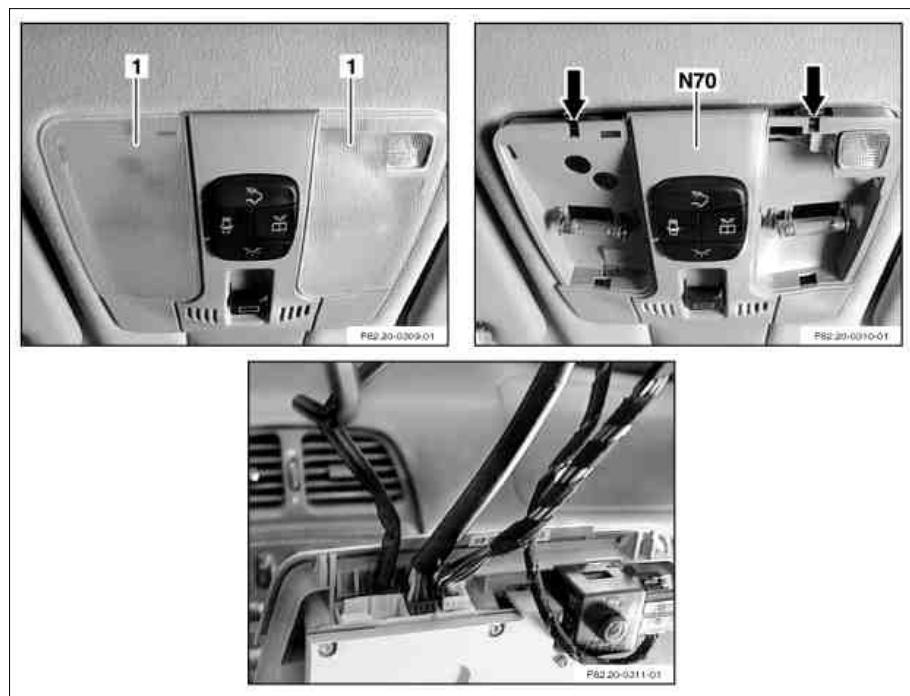
	Removal, installation		
1	Move engine hood to upright position		AR88.40-P-1000F
2	Disconnect connector (3) on washing water indicator		
3	Attach clamp (2) to hot water hoses (1) for washing water heating spiral	§	*000589403700
4	Remove hot water hoses (1) and unclip washing water reservoir		
5	Unscrew plastic nuts (4) and remove washing water reservoir from mount		
6	Remove windshield washer pump (M5/1) and unclip feed lines from washing water reservoir	■ Plug opening in washing water reservoir with suitable plug	
7	Remove headlamp washer pump (M5/2)	■ Plug opening in washing water reservoir with suitable plug	
8	Remove washing water reservoir upward		
9	Reinstall in opposite order		



Clamp

**MODEL** 202 as of 1.6.97,  
208,  
210 as of 1.3.97

1 *Light lenses*  
N70 *Overhead control panel control module*



P82.20-0312-06

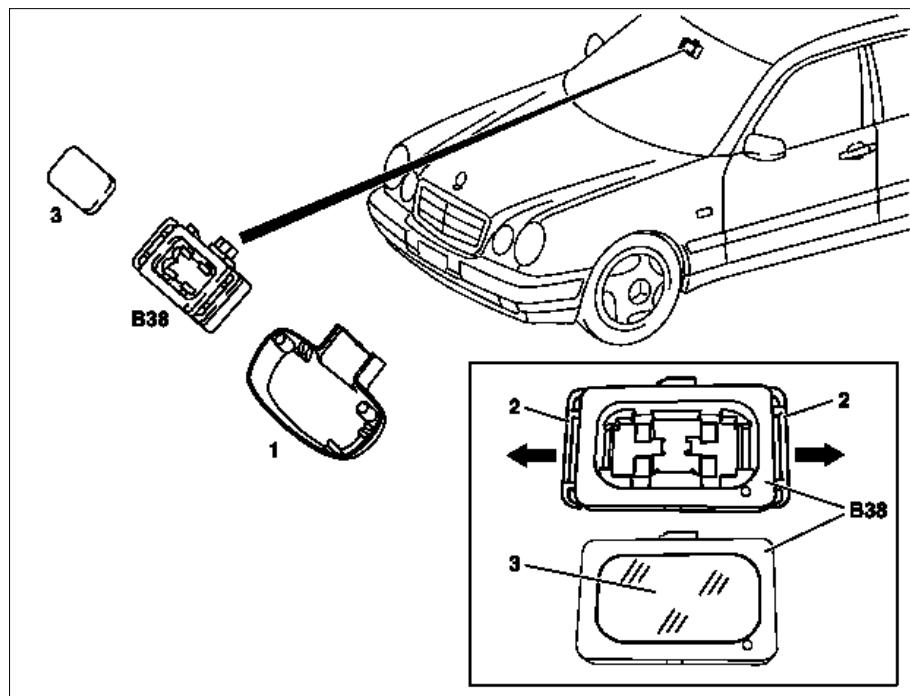
<input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	<b>Removal, installation</b>		
1	Pry out lenses (1)		
2	Press in clips (arrows)		
3	Pry out overhead control panel control module (N70) toward front		
4	Disconnect electrical connectors on overhead control panel control module (N70)		
5	Reinstall in opposite order		

**MODELS 129,  
202 as of 1.6.97,  
208, 210 with CODE (345a) Rain sensor**

Shown on Model 210

- 1 Cover
- 2 Retaining clips
- 3 Lens

B38 Rain sensor



P82.30-0211-06

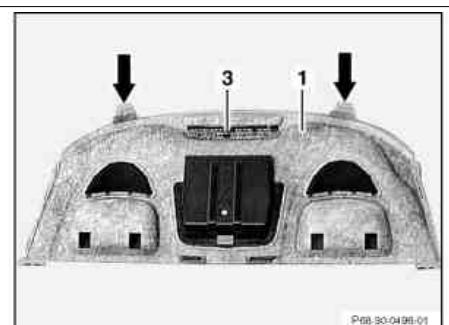
**Modification notes**

11.4.03	Disconnecting ground lead from battery newly included	Step 1
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<input checked="" type="checkbox"/> <input type="checkbox"/>	Remove/Install		
1	Disconnect ground cable of battery		AR54.10-P-0003A
2	Remove cover (1)		
3	Release retaining clamps (2) from rain sensor (B38) on left and right		
4	Remove rain sensor (B38)	Lens (3) of rain sensor (B38) is bonded to the windshield and may not be removed, otherwise this damages the lens (3).	
5	Separate electrical connector at rain sensor (B38)		
6	Install in the reverse order		
7	Check for proper function		

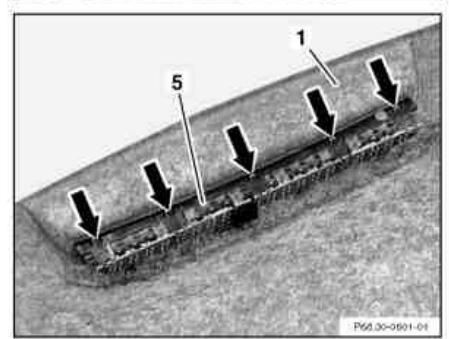
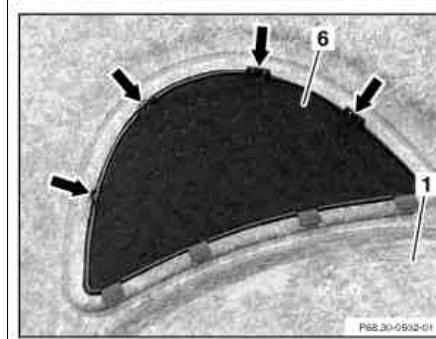
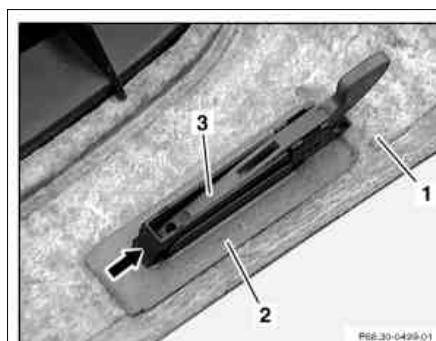
## MODEL 208.3

1 Rear shelf  
 2 Expanding anchor  
 3 Connector for center high-mounted stop lamp



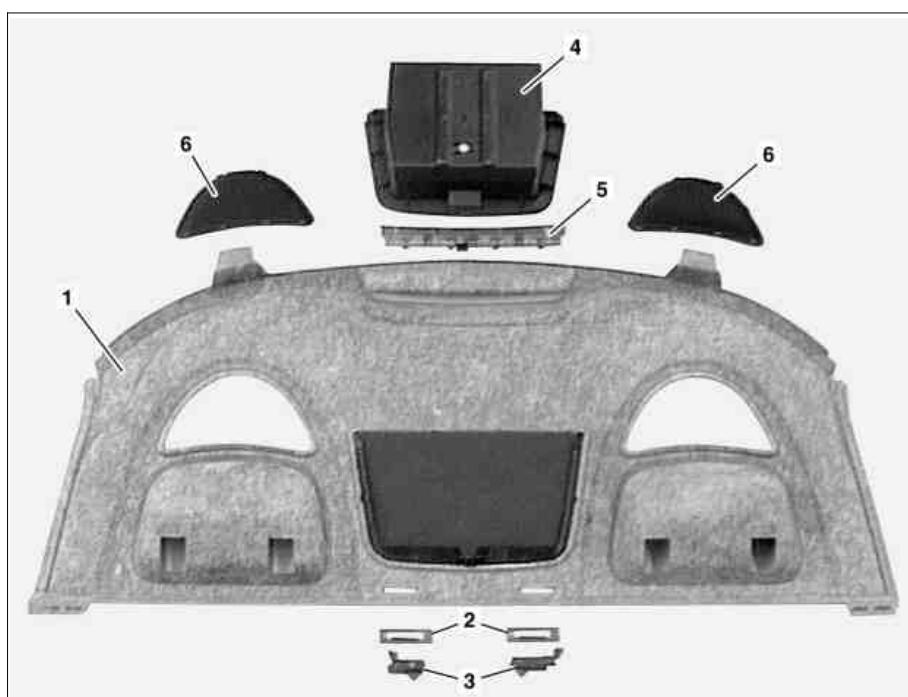
P68.30-0497-04

1 Rear shelf  
 2 Reinforcement frame  
 3 Indicator  
 4 Housing  
 5 Center high-mounted stop lamp  
 6 Speaker cover



P68.30-0503-06

1 Rear shelf  
 2 Reinforcement frame  
 3 Indicator  
 4 Housing  
 5 Center high-mounted stop lamp  
 6 Speaker cover



P68.30-0504-06



## Removal

1	Remove side paneling in rear on left and right		AR68.30-P-4780K
2	Remove both rear head restraints		AR91.16-P-1770E
3	Remove expanding anchor (2)	<b>[i]</b> On vehicles with code 540a also unscrew nuts (3 each) on sun blind and disconnect connector from drive	
4	Lift rear shelf (1) at front and pull forward by simultaneously disconnecting connector (3) on center high-mounted stop lamp		
5	Remove rear shelf (1)		
<input checked="" type="checkbox"/>	<b>Installation</b>		
6	Position insulation below rear shelf (1) and expose wires		
7	Position rear shelf (1) and simultaneously connect connector (3) to center high-mounted stop lamp.	<b>[i]</b> On vehicles with code 540a connect connector to drive for sun blind	
8	Insert lugs on rear shelf (1) (arrows) into cutouts in trunk bridge and insert indicator (3) into opening above backrest catch		
9	Install expanding anchor (2)	<b>[i]</b> On vehicles with code 540a also screw nuts (3 each) onto sun blind	
10	Install both rear headrests		AR91.16-P-1770E
11	Install side paneling on left and right		AR68.30-P-4780K
<input checked="" type="checkbox"/>	<b>Disassembly</b>		
12	Lay rear shelf (1) down on suitable surface		
13	Unclip indicator (3) (arrow) and remove		
14	Remove reinforcement frame (2)		
15	Push housing (4) toward rear and unclip from rear shelf (1) (arrow)		
16	Unclip center high-mounted stop lamp (5) toward rear (arrow) and remove		
17	Unclip speaker cover (6) and remove upward		

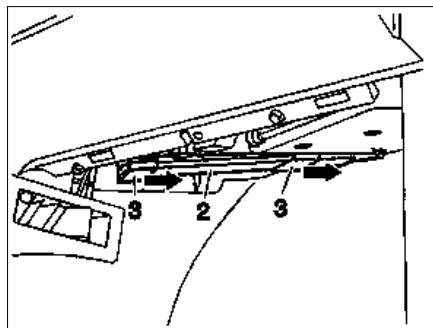
MODEL 208

**Left figure**

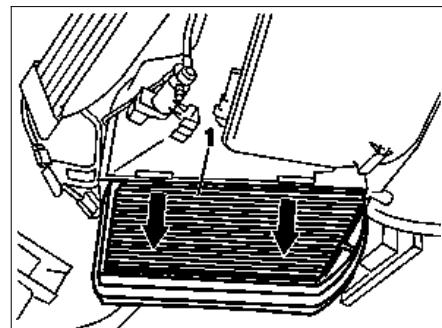
2 Cover  
3 Retaining clips

**Right figure**

1 Dust filter



P83.10-0203-01



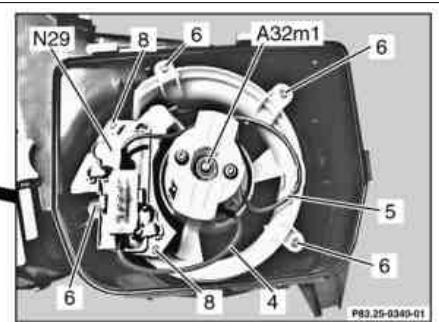
P83.10-0200-01

<input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	Removing, installing		
1	Remove cover panel below instrument panel	<b>[i]</b> If automatic air conditioning (Auto AC) fitted, a combination filter is used	<b>AR68.10-P-1520K</b>
2	Take off cover (2)	Push the two retaining clips (3) in direction of arrow for this purpose	
3	Pull dust filter (1) down and out (arrows)		
4	Install in the reverse order		

**MODEL 170,  
202 as of 1.9.95,  
208**

**Illustrated in model 170**

4	Electrical lead, positive
5	Electrical lead, negative
6	Screw
8	Screw
A32m1	Blower motor
N29	Electronic blower regulator



P83.25-2033-04

<input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	<b>Removal, installation</b>		
1	Remove electronic blower regulator (N29)		AR83.25-P-1220G
2	Unscrew screws (6)		
3	Remove blower motor (A32m1)		
4	Install in opposite order		