

P46.20-2139-09

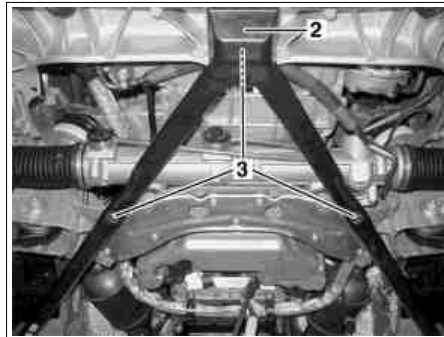
- 1 Front axle carrier
- 1g Retaining plate
- 10a Tie rod joints
- 21 Rubber bushing
- 23 Rack-and-pinion steering

- 23a Bolts
- 23g Bolts
- 23h Installation aid
- 25 Steering coupling

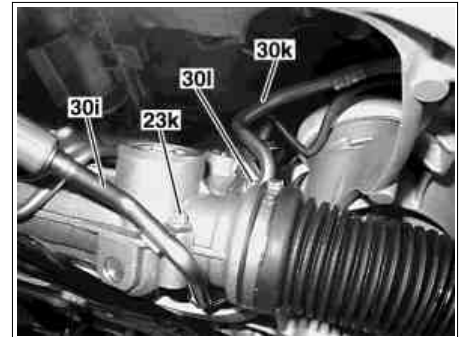
- 25b Screw
- 25k Nut
- 26 Connector

Y10 SPS [PML] solenoid valve

- 2 Cap
- 3 Bolts
- 23k Screw
- 30i Hydraulic line
- 30k Hydraulic line
- 30l Screw



P46.20-2138-01























P46.20-2137-01

**Modification notes**

28.2.07	Self-locking nut, steering joint to rack-and-pinion steering	*BA46.10-P-1002-01E
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⚠	Removing		
<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 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

	Notes on self-locking nuts and bolts		AH00.00-N-0001-01A
1	Open engine hood		AR88.40-P-1000R
2.1	Extract oil from expansion reservoir of power steering pump	Vehicles without active body control (ABC)  Hand pump	*210589007100
2.2	Suction off oil from the tandem pump expansion reservoirs	Vehicles with Active Body Control (Code 487) only.  Hand pump	*210589007100
3	Deactivate easy entry/exit function for driver seat and steering wheel	 Otherwise the driver seat and steering wheel move to a different position, e.g. when the driver door is opened/closed. The upper frame may be damaged when the holding device is installed.  It is switched off using the buttons on the steering wheel in the "Comfort" menu on the multifunction display, see vehicle owner's manual.	
4	Turn steering wheel to central position (front wheels in straight ahead position) and secure with the retaining device	 On a disengaged steering coupling (25) the steering wheel should not be turned because the spiral contact coil will be destroyed.  Holding device	*129589012100
5	Remove the front wheels  AP Remove/install wheels, rotate if necessary		AP40.10-P-4050Z
6	Remove center and rear sections of lower engine compartment paneling		AR61.20-P-1105R
7	Press tie rod joints (10a) off steering knuckles	 Thrust piece  Puller	AR46.40-P-0200-02I *140589006300 *124589033300
8	Unclip cap (2)		
9	Remove bolts (3) from front diagonal struts		
10	Disconnect plug (26) from SPS solenoid valve (Y10)		
11	Unscrew nut (25k)		
12	Loosen bolts (23a) for retaining plate (1g) on front axle carrier (1)		
13	Remove bolts (23g) of retaining plate (1g) on front axle carrier (1)		
14	Remove bolt (23k) for hydraulic line bracket (30i)		
15	Remove bolt (30l) of the hydraulic line (30i) and hydraulic line (30k) on the rack-and-pinion steering (23)	 Detach hydraulic lines (30i, 30k), seal line terminals with stop plugs.  Set of stop plugs	*129589009100
16	Pull out bolt (25b)		
17	Move out rack-and-pinion steering (23) towards the front  Evaluating steering rack when repairing accident vehicles		AH46.20-P-9409-01A
18	Check rubber mount (21) on rack-and-pinion steering mounting for damage	 Replace if required, see: ↓ Remove rubber mount of rack-and-pinion mounting. Lubricant paste	AR46.20-P-0600-02I *BR00.45-Z-1002-06A
19	Check protective cap on input shaft of rack-and-pinion steering (23) for damage	 Replace if required, see: ↓ Remove/install protective cap for input shaft on steering gear.	AR46.20-P-0004P
	<b>Install</b>		
20	Insert rack-and-pinion steering (23) into steering coupling (25) using installation aid (23h)	 Do not remove installation aid (23h).	
21	Mount steering coupling (25) using bolt (25b) and nut (25k) to rack-and-pinion steering (23)		*BA46.10-P-1002-01E
22	Fasten rack-and-pinion steering (23) to the front axle carrier (1) using bolts (23a) and bolts (23g)	 Bolts (23a), bolts (23g), nuts and the area around the bolts must be free of oil and grease. Under exposure to heat the lubricants can liquify, allowing bolts and nuts to loosen. 	*BA46.20-P-1003-01E

		<b>Nm</b>	*BA46.20-P-1004-01E
23	Screw in bolt (30l) for hydraulic line (30i) and hydraulic line (30k) to rack-and-pinion steering (23)	<b>i</b> Install new sealing rings. <b>Nm</b>	*BA46.20-P-1006-01E
24	Fix bracket for hydraulic line (30i) with bolt (23k)		
25	Connect plug (26) to SPS solenoid valve (Y10)		
26	Attach tie rod joints (10a) to steering knuckles	<b>Nm</b>	AR46.40-P-0200-02l *BA46.40-P-1001-01E
27	Screw in bolts (3) for front diagonal struts	<b>i</b> Only tighten the bolts (3) for the diagonal struts once the vehicle is standing with its wheels on the ground. <b>Nm</b>	*BA61.10-P-1011-01C
28	Clip on cap (2)		
29	Fill power steering pump and bleed	Vehicles with Active Body Control (Code 487) only. Vehicles without active body control (ABC)	AR46.30-P-0010N AR46.30-P-0010B
30	Check steering for function and leaks		
31	Mount front wheels Remove/install wheels, rotate if necessary		AP40.10-P-4050Z
32	Check front axle toe and adjust if necessary	<b>i</b> When installing new parts. see: ↓ Perform a wheel alignment check	AR40.20-P-0200R
33	Install lower engine compartment paneling		AR61.20-P-1105R
34	Close engine hood		AR88.40-P-1000R

#### **Nm** Steering shaft

Number	Designation	Model 230
BA46.10-P-1002-01E	Locking screw and steering coupling locknut to rack-and-pinion steering	Nm 24

#### **Nm** Tie rod

Number	Designation	Model 230
BA46.40-P-1001-01E	Self-locking nut, tie rod to steering knuckle	Stage 1 Nm 50
		Stage 2 $\angle^\circ$ 60

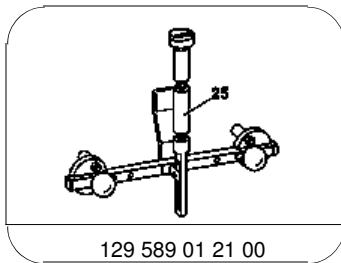
#### **Nm** Steering gear

Number	Designation	Model 230
BA46.20-P-1003-01E	Bolted connection, rack-and-pinion steering to retaining plate	Stage 1 Nm 70

		Stage 2	∠°	90
BA46.20-P-1004-01E	Bolted connection, supporting plate to front axle carrier	Stage 1	Nm	110
		Stage 2	∠°	-
BA46.20-P-1006-01E	Bolt on clamp plate, high-pressure line / return line to rack-and-pinion steering		Nm	18

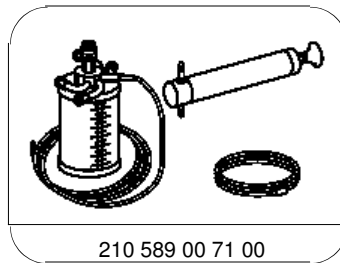
**Nm** Frame floor assembly

Number	Designation		Model 230
BA61.10-P-1011-01C	Self-locking bolt, front diagonal strut to frame floor assembly/front axle carrier	Nm	70



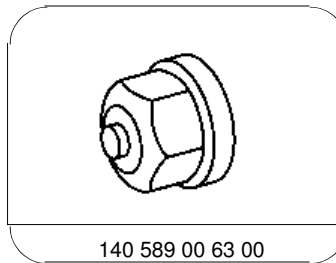
129 589 01 21 00

Holding device



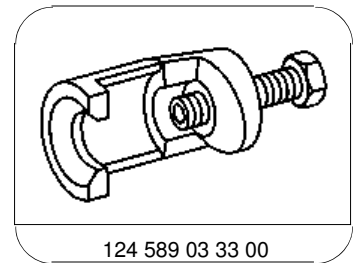
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Hand pump



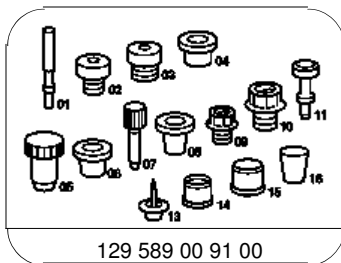
140 589 00 63 00

Thrust piece



124 589 03 33 00

Puller



129 589 00 91 00

Set of stop plugs

**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