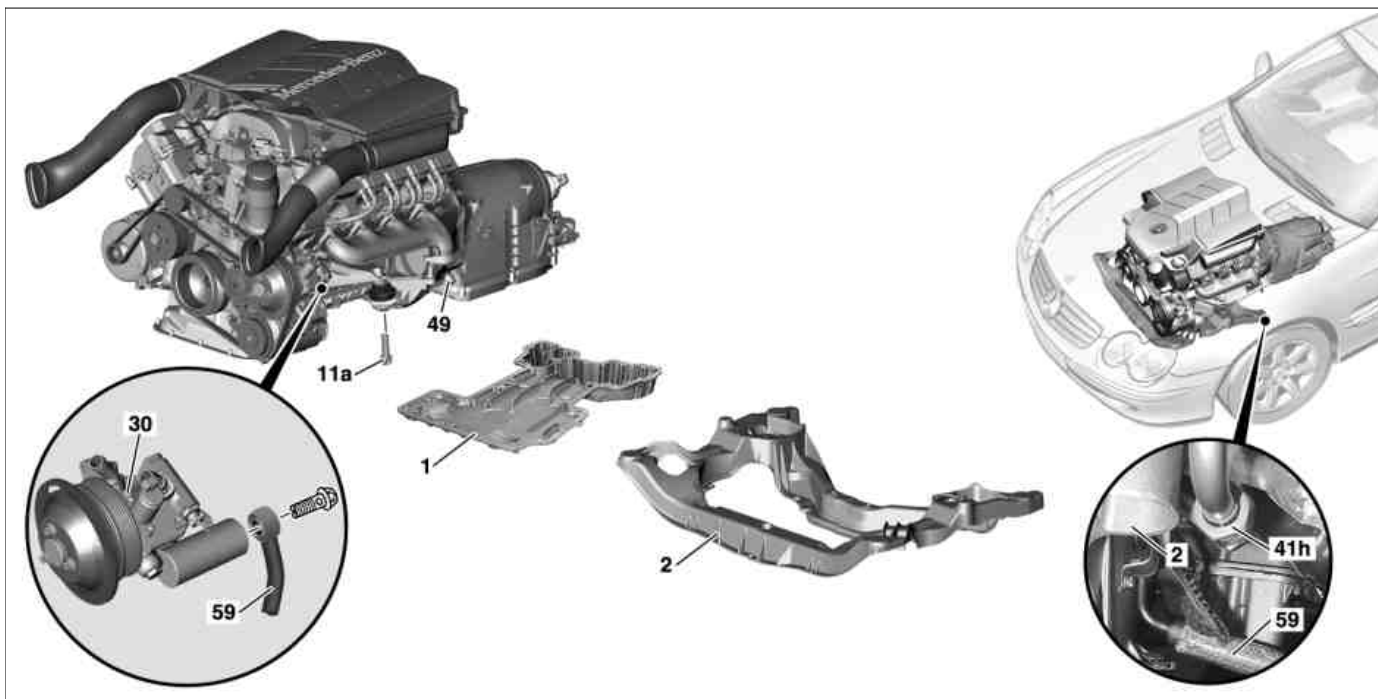


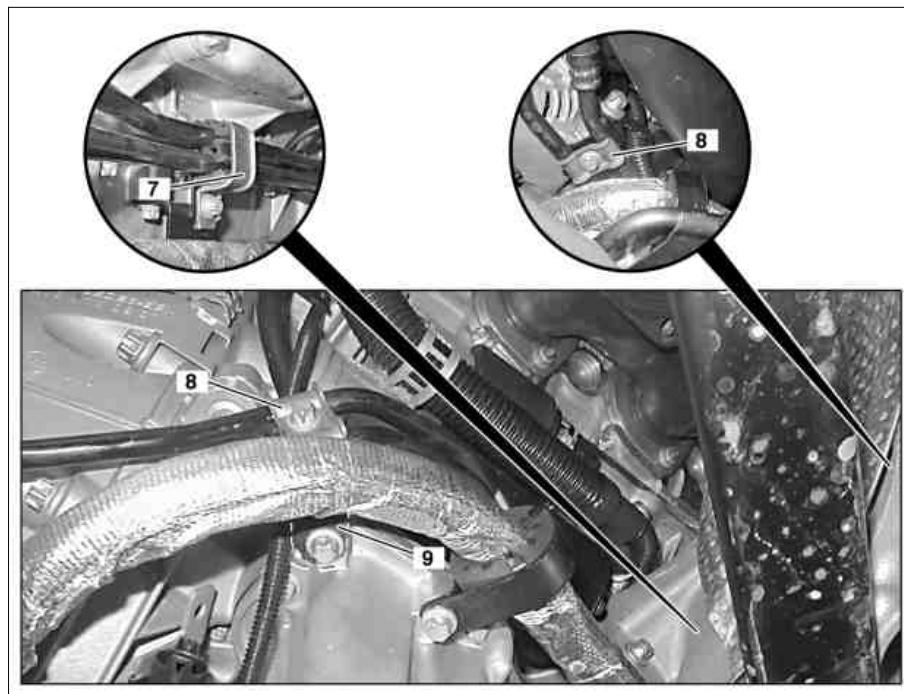
ENGINES 113.963 in MODEL 230.475  
 ENGINES 113.992 in MODEL 230.474  
 ENGINES 113.990 in MODEL 211.076 /276  
 ENGINES 113.991 in MODEL 215.374, 220.074 /174  
 ENGINES 113.995 in MODEL 230.472



P01.45-2078-09

- 1 Oil pan bottom section
- 2 Front axle carrier
- 11a Bolt, engine mount to front-axle carrier
- 30 Tandem pump
- 7 Retaining clip
- 8 Clamping plates
- 9 Bracket

- 41h Union nut of high pressure expansion hose of ABC system
- 49 Automatic transmission oil lines
- 59 High pressure expansion hose of ABC system














































P27.10-2053-06

**Modification notes**

13.6.08	Clean sealing surfaces - added	Step 23	
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	<b>Remove/install</b>		
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 <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
1.1	Deactivate easy entry/exit function for driver seat and steering wheel	In vehicles with driver seat, steering column and electrically adjustable outside mirror with memory code 275  When easy entry/exit for the driver seat and steering wheel is activated, the seat will move into the memory position when the ignition is switched on or the driver door is opened and closed; thus the top frame can be damaged when the holding device is installed.  Deactivation is performed via the instrument cluster. Select Individual Settings in the main menu and follow menu instructions.	
2.1	Move the electrically adjustable steering column all the way out	In vehicles with driver seat, steering column and electrically adjustable outside mirror with memory code 275	
2.2	Open lock of steering column and pull out steering column fully, close lock	Not on vehicles with driver seat, steering column and electrically adjustable outside mirror with memory code 275	
3	Rotate the steering wheel to the center position	 Place front wheels in straight-ahead position.	
4	Lock steering wheel	 The steering wheel must not be turned when the steering coupling is detached, otherwise the clock spring contact will be destroyed.  Holding device	*129589012100
5.1	Extract oil from reservoirs of the tandem pump (30)	Model 215, 220, 230  Hand pump	*210589007100
6.1	Unscrew oil dipstick guide tube from bracket at exhaust gas recirculation valve	Model 211, 220, 230	
7.1	Pull oil dipstick guide pipe out slightly	Model 211, 220, 230	
8	Remove engine compartment paneling	Model 211 Model 215, 220 Model 230	AR61.20-P-1105T AR61.20-P-1105M AR61.20-P-1105R
9	Unscrew bolt for front engine mount on front axle carrier (11a)	 Model 215  Model 211, 220  Model 230	*BA22.10-P-1001-01L *BA22.10-P-1002-03A *BA22.10-P-1001-03H
10.1	Bolt bracket together with compressor	Engine 113.990 /991 /992 /995  Bracket	*112589006200
11	Attach engine support bracket and raise engine	Model 211 Model 215, 220, 230	AR33.10-P-0100-01T AR33.10-P-0100-01R
12.1	Slacken suspension strut at spring control arm	Model 211.076 / 276  Residual pressure in suspension strut must be maximum 3.5 bar after emptying.  When working on the front axle, ensure that surfaces of all aluminum parts do not suffer any scratches, cracks and notches. Otherwise the service life of the of the parts will be reduced.	AR32.25-P-1017TA
13.1	Remove front axle carrier (2)	Model 215, 220 Model 230	AR33.10-P-0100N AR33.10-P-0001R
13.2	Lower front axle carrier (2)	Model 211	AR33.10-P-0001T
14.1	Remove bracket for high pressure line on power steering pump	Model 211, 220, 230  Remove at oil pan bottom section (1).	
15	Drain/collect engine oil  <b>BT</b> Measure concerning oil drain screw	 Observe technical information since it could also come to leaks on the oil drain screw. Engine 113.990 from 1.3.04 in model 211.076/276 Engine 113.992 as of 1.3.04 in model 230.474	BT01.45-P-7500-01R

	Engine oil change and filter change Engine oil change and filter change	Engine 113.963 in model 230 Engine 113.990 in model 211.076/276 Engine 113.991 in model 220.074/174, 215.374 Engine 113.992 in model 230.474 Engine 113.995 in model 230.472  	AP18.00-P-0101AF <b>AP18.00-P-0101R</b>  <b>*BA01.45-P-1003-01B</b> <b>*BF18.00-P-1001-01H</b>
16	Disconnect electrical coupling at oil sensor		
17	Unscrew automatic transmission oil lines (49) from transmission housing	 <b>Installation:</b> Replace sealing rings, in order to avoid oil leakage through leakage.  Seal the connections.  Set of stop plugs	<b>*129589009100</b>
18	Loosen clamping plates (8) and turn through 90°		
19	Remove oil lines for automatic transmission (49)	 Unscrew retaining bracket (7), bracket (9) and place automatic transmission oil lines (49) to the side.  Do not bend or buckle automatic transmission oil lines (49), otherwise they could get leaky.	
20.1	Attach high pressure expansion hose ABC system (59)	Model 215, 220, 230  Detach at tandem pump (30).  <b>Installation:</b> Replace gasket, in order to avoid leakage.  Seal the connections.  Model 230  Model 215, 220  Set of stop plugs	<b>*BA46.30-P-1009-01S</b> <b>*BA46.30-P-1012-01C</b> <b>*129589009100</b>
21.1	Remove high pressure expansion hose ABC system (59)	Model 215, 220, 230  Unscrew union nut for high pressure expansion hose ABC system (41h). Unscrew retaining clips of high pressure expansion hose for ABC system (59) at oil pan.	
22	Unscrew oil pan bottom section (1), remove  Notes on sealant path for oil pan	 In the process slide the oil dipstick guide pipe slightly to one side.   <b>Installation:</b> Pay attention to the correct seating of the oil dipstick guide pipe gasket in the oil pan top section in order to prevent leaks.  Loctite sealant 5970	<b>AH01.45-P-0001-01R</b>  <b>*BA01.45-P-1002-01B</b> <b>*BR00.45-Z-1013-01A</b>
	<b>Clean</b>		
23	Clean sealing surfaces	 Do not use any sharp-edged tools or abrasive paper as this will damage the sealing surfaces. Loctite 7200 Cleaning spray, Loctite 7063 (150ml)	<b>AR01.00-P-0050-01A</b>  <b>*BR00.45-Z-1038-04A</b> <b>*BR00.45-Z-1046-04A</b>
24	Install in the reverse order 		
25	Read out fault memory and erase   Connect STAR DIAGNOSIS and read out fault memory	 Stored faults which may be caused by assembly work, test work, removed lines or a simulation, must be processed and erased in fault memories after completing the work.	<b>AD00.00-P-2000-04A</b>
26	Fill and bleed ABC system	Model 215, 220, 230	AR32.50-P-0021N
27	Pour oil into reservoirs of tandem pump (30), check oil level  Power steering - checking and correcting oil level  Power steering - checking and correcting oil level	Model 215, 220, 230  Model 211	AP46.00-P-4611N <b>AP46.00-P-4611BB</b>
28	Check oil level in automatic transmission, correct if necessary		AR27.00-P-0100AC

<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 Check for leaks with engine 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
29			
30.1	Check engine oil level using a workshop oil dipstick	Engine 113.963 in model 230  Engine 113.990 in model 211 AMG Engine 113.992 in model 230 AMG Engine 113.995 in model 230 AMG Engine 113.991 in model 215, 220 AMG	AR18.00-P-3035-01CC  AR18.00-P-3035-01O  AR18.00-P-3035-01DA
30.2	Check engine oil level over the control system	Engine 113.963 in model 230 Engine 113.992 in model 230.474 Engine 113.995 in model 230.472 Engine 113.991 in model 220.074/174, 215.374 Check engine oil level Engine 113.990 in model 211.076/276 Check engine oil level	AR54.30-P-1000-02OPM     AR54.30-P-1000-02OPT

#### **Nm** Oil pan

Number	Designation		Engine 113.940/941/ 942/943/944/ 945/946/960/ 961/962/963/ 965/967/968/ 969/980/981/ 982/984/986/ 992/995	Engine 113.987/ 988/991	Engine 113.990	
BA01.45-P-1002-01B	Self-tapping screw, oil pan to oil pan	Thread not pre-tapped	Nm	14	-	-
		Thread pre-tapped	Nm	10	10	10
BA01.45-P-1003-01B	Oil drain screw to oil pan	M14	Nm	30	30	30

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

Number	Designation		Model 230 with engine 113
BA46.30-P-1009-01S	Banjo bolt/union nut high pressure expansion hose (line) to tandem pump/ power steering pump	Nm	40

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

Number	Designation		Model 215.374/ 375/378/ 379	Model 220.074/174
BA46.30-P-1012-01C	Banjo bolt, high pressure expansion hose (Active Body Control) to power steering pump	Nm	45	45

**Nm** Engine mounts, engine supports

Number	Designation	Engine 113.991 in model 215
BA22.10-P-1001-01L	Bolt, front engine mount to front axle carrier	Nm 35

**Nm** Engine mount, engine support (engine side)

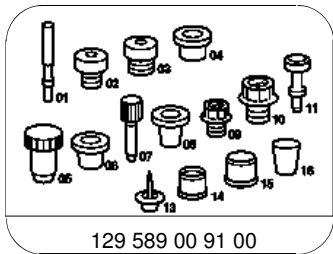
Number	Designation	Model 211 except 4 MATIC	Model 220
BA22.10-P-1002-03A	Front engine mount to front axle carrier	Nm 35	35

**Nm** Engine mount, engine support (engine side)

Number	Designation	Model 230 except model 230.476/477/479
BA22.10-P-1001-03H	Bolt, front engine mount to front axle carrier	Nm 35

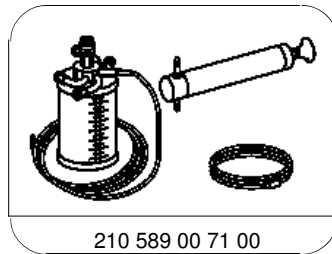
**Engine lubrication**

Number	Designation	Engine 113.963/965/968	Engine 113.987/988/ 990/992/993/ 995	Engine 113.944/980/981 /984/986/991	
BF18.00-P-1001-01H	Engine oil Filling capacity with oil filter	Liters 7.5	8.5	7.5	
	Filling capacity without oil filter	Liters 7.0	8.0	-	
	Specifications for Operating Fluids	Sheet	BB00.40-P-0229-01A	-	-
		Sheet	BB00.40-P-0229-03A	-	-
		Sheet	BB00.40-P-0229-05A	BB00.40-P-0229-05A	BB00.40-P-0229-05A



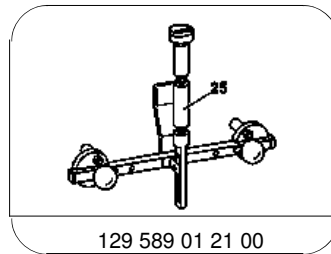
129 589 00 91 00

Set of stop plugs



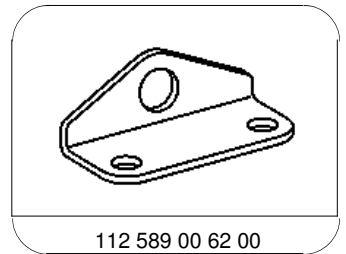
210 589 00 71 00

Hand pump



129 589 01 21 00

Holding device



112 589 00 62 00

Bracket

### Repair materials

Number	Designation	Order number
BR00.45-Z-1013-01A	Loctite sealant 5970	A 003 989 98 20
BR00.45-Z-1038-04A	Loctite 7200	Henkel Loctite Deutschland GmbH Arabellastrasse 17 81925 München Germany Tel. +49 899268-0 Fax + 49 899101978 www.Loctite.de
BR00.45-Z-1046-04A	Cleaning spray, Loctite 7063 (150ml)	A 001 986 71 71 10