

Model 166 with engine 157, 276, 278, 642, 651

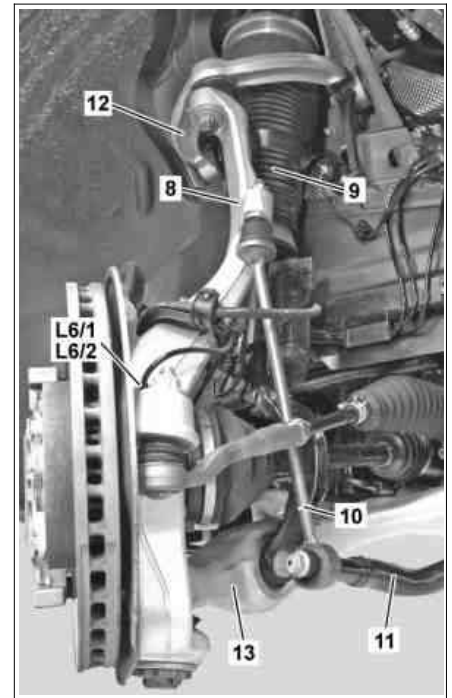
Model 292 with engine 157, 276, 278, 642

Shown on model 166.057

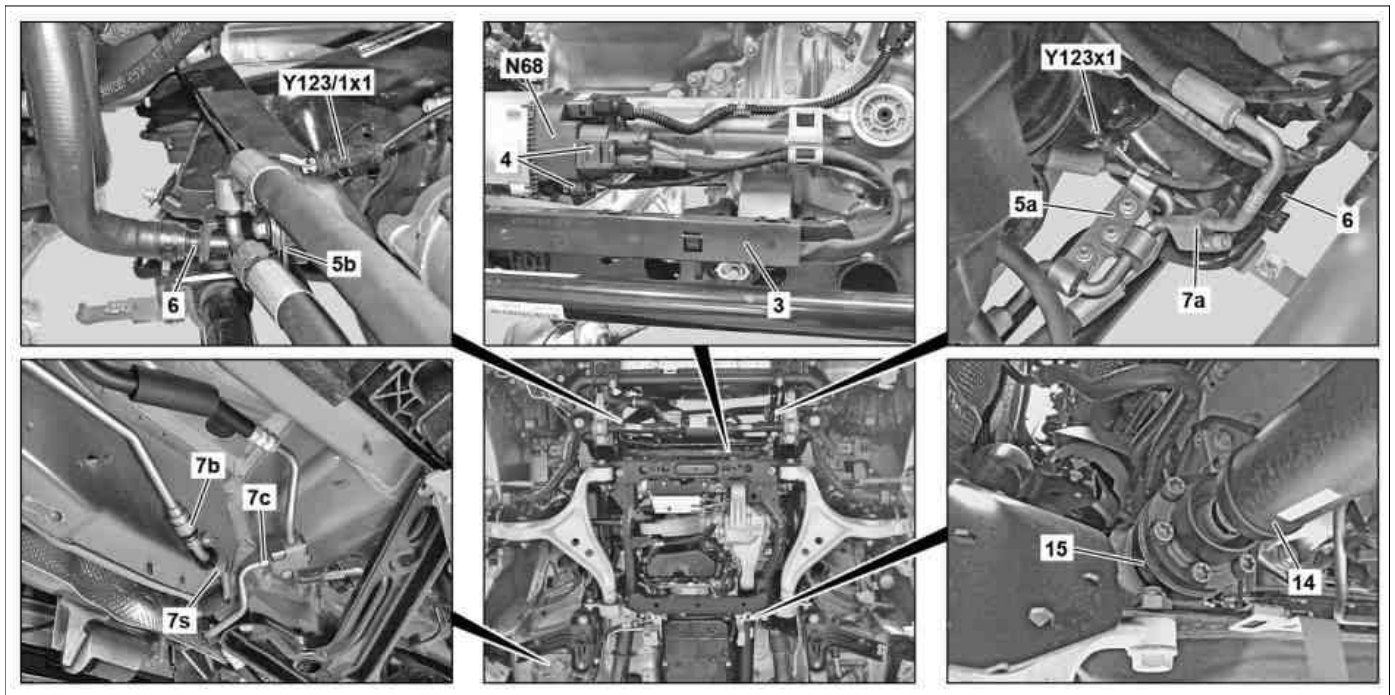
- 2 Vent hose
- 8 Steering knuckle
- 9 Suspension strut
- 10 Shift rail
- 11 Torsion bar
- 12 Upper transverse control arm
- 13 Lower control arm
- L6/1 Left front axle rpm sensor
- L6/2 Right front axle rpm sensor



P33.10-2369-03



P33.20-2250-03



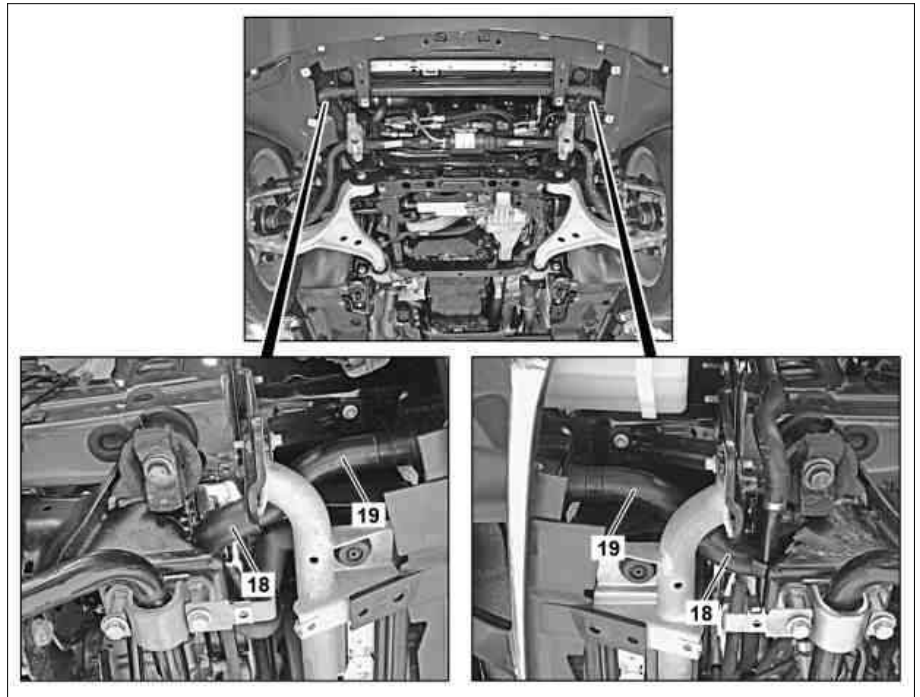
P33.10-2368-09

Shown on model 166.024

- | | | | | | |
|----|-----------------------|----|--------------------|----------|--|
| 3 | Cable duct | 7a | Connection fitting | 15 | Flange |
| 4 | Electrical connectors | 7b | Connection fitting | N68 | Electrical power steering control unit |
| 5a | Bracket | 7c | Connection fitting | Y123x1 | Left switchable engine mount electrical connector |
| 5b | Bracket | 7s | Clip | Y123/1x1 | Right switchable engine mount electrical connector |
| 6 | Coolant line | 14 | Propeller shaft | | |

Shown on model 166.057

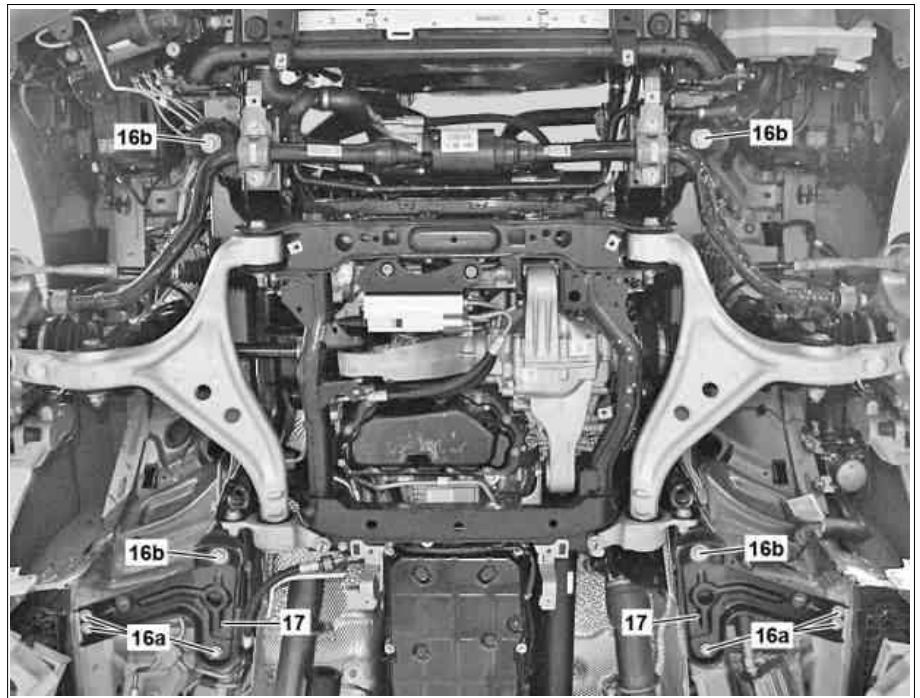
- 18 Hose
- 19 Cooling air duct



P33.10-2391-06









Shown on model 166.024


























- 16a Bolts
- 16b Screw
- 17 Centering panel



P33.10-2367-06

<p>⚠ Warning</p>	<p>Risk of injury to skin or eyes from hydraulic fluid spraying out under pressure. Risk of poisoning from swallowing hydraulic fluid.</p>	<p>Depressurize hydraulic system completely before starting any work on it. Wear protective clothing and safety glasses.</p>	<p>AS00.00-Z-0013-01A</p>
<p>⚠ Warning</p>	<p>Risk of injury. Skin or eye injuries may result when handling hot or glowing objects.</p>	<p>Wear protective gloves, protective clothing and safety glasses, if necessary.</p>	<p>AS00.00-Z-0002-01A</p>
	<p>Notes on self-locking nuts and bolts</p>		<p>AH00.00-N-0001-01A</p>
	<p>Notes on active roll stabilization</p>	<p>Model 166 with engine 157, 276, 278, 642, 651 with code 468 (ACTIVE CURVE SYSTEM) Model 166 with engine 157, 276, 278, 642, 651 with code 468 (Active driving stability (stability)) Model 292 with engine 157, 276, 278, 642 with code 468 (ACTIVE CURVE SYSTEM)</p>	<p>AH32.34-P-0001-01A</p>
	<p>Evaluating steering gear when repairing accident vehicles</p>		<p>AH46.20-P-9409-01A</p>

	Notes on AIRmatic	Model 166 with engine 157, 276, 278, 642, 651 with code 489 (AIRMATIC) Model 292 with engine 157, 276, 278, 642 with code 489 (AIRMATIC)	AH32.22-P-1000-02GZ
	Notes on repair work on suspension components		AH00.00-P-0100-01A
	Remove/install		
1	Secure vehicle on vehicle lift and raise until wheels are clear of ground.		AR00.60-P-1000GZ
2	Connect vehicle diagnosis system and vent AIRMATIC.	Model 166 with engine 157, 276, 278, 642, 651 with code 489 (AIRMATIC) Model 292 with engine 642 with code 489 (AIRMATIC)  Empty and fill the AIRMATIC as per the specifications; the complete wheels must not be touching the ground. The air springs can otherwise be damaged and fail later.	AD00.00-P-2000-04A
3	Remove steering coupling from firewall.		AR46.10-P-8000GQ
4	Attach engine support fixture.		AR33.10-P-0105EW
5	Extract oil from expansion reservoir of active roll stabilization.	Model 166 with engine 157, 276, 278, 642 with code 468 (ACTIVE CURVE SYSTEM) Model 292 with engine 642 with code 468 (ACTIVE CURVE SYSTEM)  Hand pump	*210589007100
6	Unclip vent hose (2) from heat shield.		
7	Remove underfloor panels.		AR61.30-P-1001GQ
8	Remove both fender liners in fenders.		AR88.10-P-1321GQC
9	Remove front engine mount from front axle carrier.	Model 166, 292 with engine 157, 278 Model 166 with engine 276.8 Model 166 with engine 276.9 Model 166, 292 with engine 642 Model 166 with engine 651	AR22.10-P-4330MLJ AR22.10-P-4330GQC AR22.10-P-1260GQ AR22.10-P-1260OGR AR22.10-P-1260GQA
10	Remove cable duct (3) from front axle carrier.		
11	Release and disconnect electrical connectors (4) from electrical power steering control unit (N68).		
12	Remove valve support from active roll stabilization.	Model 292 with engine 642 with code 468 (ACTIVE CURVE SYSTEM) Model 166 with engine 157, 276, 278, 642 with code 468 (ACTIVE CURVE SYSTEM)	AR32.34-P-5031GQC AR32.34-P-5030GQA
13	Expose electric feed lines of active roll stabilization valve support and attach to cable duct (3).	Model 166, 292 with engine 642 with code 468 (ACTIVE CURVE SYSTEM)	
14	Disconnect electrical connector for left switchable engine mount (Y123x1) and electrical connector for right switchable engine mount (Y123/1x1), and remove feed lines from front axle carrier and rack-and-pinion steering.	Model 166, 292 with engine 642 If installed.	
15	Remove holders (5a, 5b) of oil lines from front axle carrier.	Model 166, 292 with engine 642 with code 468 (ACTIVE CURVE SYSTEM)	
16	Remove coolant line (6) at left and right of front axle carrier.		
17	Detach hoses (18) from cooling air ducts (19).	Model 166, 292 with engine 642	
18	Remove clamp (7s).	Model 166, 292 with engine 642 with code 468 (ACTIVE CURVE SYSTEM)	
19	Disconnect connection fittings (7a, 7b, 7c) and seal openings with stop plugs.	Model 166 with engine 157, 276, 278, 642 with code 468 (ACTIVE CURVE SYSTEM) Model 292 with engine 157, 276, 278, 642 with code 468 (ACTIVE CURVE SYSTEM)  Screw/bolt, oil line to rotary actuator on front axle/rear axle  Screw/bolt, oil line to valve block on front axle/rear axle  Bolt, hydraulic line to hydraulic pump  Bolt, mounting plate to distributor hydraulic line  Screw/bolt, oil line to oil line Assembly cleaner	AR32.00-P-0001-01A *BA32.34-P-1007-01A *BA32.34-P-1008-01A *BA32.00-P-1006-01A *BA32.00-P-1007-01A *BA32.34-P-1011-01A *BR00.45-Z-1028-04A

		 Detaching tool  Detaching tool  Record plug	*230589013300 *221589013300 *129589009100
20	Remove left front axle rpm sensor (L6/1) and right front axle rpm sensor (L6/2) from steering knuckle (8), unclip feed line from holder and attach to suspension strut (9).	 Self-locking bolt, rpm sensor on front axle to steering knuckle	*BA42.30-P-1001-01G
21	Remove feed line of front right brakepad wear sensor from brake caliper and steering knuckle (8) and attach to suspension strut (9).	 Bolt, brake pad contact sensor to brake caliper	*BA42.10-P-1004-10L
22	Remove brakepads.	Model 166 (except 166.074/874) with engine 276, 278, 642, 651 Model 292 with engine 642 Model 166.074/874 with engine 157  Fasten brake caliper at upper transverse control arms (12).	AR42.10-P-1600GQ AR42.10-P-1610GQA
23	Attach guard plates.	 Guard plate	*220589013100
24	Remove left and right shift rail (10) from torsion bar (11).	 Remove shift rail (10) carefully; torsion bar (11) is under tension.  Bolt, link rod to torsion bar	*BA32.20-P-1002-02Q
25	Remove left and right steering knuckles (8) from upper transverse control arms (12).	 Removal: Secure steering knuckle (8) against falling down.  Self-locking nut, upper ball joint out of upper transverse control arm to steering knuckle	*BA33.20-P-1001-01R
26	Remove left and right suspension strut (9) from lower control arm (13).	 Self-locking nut, shock absorber to wishbone	*BA32.25-P-1002-01O
27	Mark position of propeller shaft (14) relative to flange (15) of front axle differential.	If installed.  To be able to reproduce the original position when installing.	
28	Remove propeller shaft (14) from flange (15) and attach to vehicle.	If installed. Tightening procedure for front propeller shaft Model 166 (except 166.006/058) with engine 157, 276, 278, 642, 651 Model 292 with engine 642  Installation: Observe tightening procedure. Otherwise vibrations and noise can occur.  Self-locking bolt, drive shaft to transfer case (to front axle)  Self-locking bolt, drive shaft to front axle gear  Retainer wrench	AR41.10-P-0070-03GZ *BA41.10-P-1003-01F *BA41.10-P-1004-01F *164589020700
29	Support front axle using lifting platform and secure against falling down.  WS 000 588 03 62 00 Lifting platform		WS01.00-P-0091A
30	Remove decoupling element of diesel particulate filter from right centering panel (17).	Model 166 (except 166.006/058) with engine 642, 651 Model 292 with engine 642  Model 166 (except 166.006/058) with engine 642, 651 Model 292 with engine 642 Nut, exhaust rubber mount to exhaust system/centering plate/strut	*BA49.10-P-1006-01AK
31	Remove bolts (16a, 16b).	 Installation: Before positioning the screws/bolts (16b), use lifting platform to move the front axle to its final installation position. Do not bring front axle into position by tightening the screws/bolts (16b). The threaded connections can otherwise fail.  Installation: Before tightening the bolts (16a, 16b), use a drift set to center centering panels (17).  Bolt, front axle carrier to longitudinal member  Bolt, stiffening plate to longitudinal member  Bolt, stiffening plate to body  Drift set	*BA33.10-P-1001-01I *BA33.10-P-1002-01I *BA33.10-P-1003-01I *164589011500
32	Lower front axle.		AR33.10-P-0101GQ

		⚠ Carefully lower front axle. Do not crush any lines or hoses or subject them to tensile loads. Otherwise damage will occur.	
33	Recut and blow out thread for bolts (16b) in frame floor assembly.	⚠ Always recut and blow out thread. The threaded connections can otherwise fail.	
☐	Check		
34	Check bearings of front axle carrier for wear and damage, and replace if necessary.		AR33.10-P-0040GQ
35	Install in the reverse order.		
36	Fill and bleed active roll stabilization.	Model 166 with engine 157, 276, 278, 642 with code 468 (ACTIVE CURVE SYSTEM) Model 292 with engine 642 with code 468 (ACTIVE CURVE SYSTEM)	AR32.34-P-0021GQ
☐	Check		
37	Check oil level in front axle differential and correct, if necessary.	Model 166 (except 166.006/058) with engine 642, 651 Model 292 with engine 642 📄 Filling capacity Nm Front axle transmission filling screw	*BF33.30-P-1001-03D *BA33.30-P-1001-03F
38	Perform chassis alignment.		AR40.20-P-0200GQ
39	Check headlamp adjustment and correct if necessary.	Model 166 with engine 157, 276, 278, 642, 651 as of model year 2016 Model 292 with engine 157, 276, 278, 642 Model 166 with engine 157, 276, 278, 642, 651 up to model year 2016	AP82.10-P-8260I AP82.10-P-8260GZA

Nm Hydraulic pump

Number	Designation		Model 166 with engine 157	Model 166 with engine 276
BA32.00-P-1006-01A	Bolt, hydraulic line to hydraulic pump	Nm	9	10

Nm Hydraulic pump

Number	Designation		Model 166 with engine 278	Model 166 with engine 642
BA32.00-P-1006-01A	Bolt, hydraulic line to hydraulic pump	Nm	9	10

Nm Hydraulic pump

Number	Designation		Model 292 with engine 157	Model 292 with engine 276
BA32.00-P-1006-01A	Bolt, hydraulic line to hydraulic pump	Nm	9	10

Nm Hydraulic pump

Number	Designation		Model 292 with engine 278	Model 292 with engine 642
BA32.00-P-1006-01A	Bolt, hydraulic line to hydraulic pump	Nm	9	10

Nm Hydraulic pump

Number	Designation		Model 166 with engine 157	Model 166 with engine 276
BA32.00-P-1007-01A	Bolt, mounting plate to distributor hydraulic line	Nm	8	8

Nm Hydraulic pump

Number	Designation		Model 166 with engine 278	Model 166 with engine 642
BA32.00-P-1007-01A	Bolt, mounting plate to distributor hydraulic line	Nm	8	8

Nm Hydraulic pump

Number	Designation		Model 292 with engine 157	Model 292 with engine 276
BA32.00-P-1007-01A	Bolt, mounting plate to distributor hydraulic line	Nm	8	8

Nm Hydraulic pump

Number	Designation		Model 292 with engine 278	Model 292 with engine 642
BA32.00-P-1007-01A	Bolt, mounting plate to distributor hydraulic line	Nm	8	8

Nm Front axle torsion bar

Number	Designation		Model 166 except code 468 (ACTIVE CURVE SYSTEM)	Model 166 with code 468 (ACTIVE CURVE SYSTEM)	
BA32.20-P-1002-02Q	Bolt, link rod to torsion bar	Stage 1	Nm	80	80
		Stage 2	⌵°	90	90

Nm Front axle torsion bar

Number	Designation		Model 292 except code 468 (ACTIVE CURVE SYSTEM)	Model 292 with code 468 (ACTIVE CURVE SYSTEM)	
BA32.20-P-1002-02Q	Bolt, link rod to torsion bar	Stage 1	Nm	80	80
		Stage 2	⌵°	90	90

Nm Front axle shock absorber

Number	Designation		Model 166	Model 292	
BA32.25-P-1002-01O	Self-locking nut, shock absorber to wishbone	Stage 1	Nm	100	100
		Stage 2	⌵°	180	180

Nm Active roll stabilization

Number	Designation		Model 166	Model 292
BA32.34-P-1007-01A	Screw/bolt, oil line to rotary actuator on front axle/rear axle	Nm	20	20

Nm Active roll stabilization

Number	Designation		Model 166	Model 292
BA32.34-P-1008-01A	Screw/bolt, oil line to valve block on front axle/rear axle	Nm	20	20

Nm Active roll stabilization

Number	Designation		Model 166	Model 292
BA32.34-P-1011-01A	Screw/bolt, oil line to oil line	M8 Nm	20	20

Nm Front axle carrier

Number	Designation			Model 166	Model 292	
BA33.10-P-1001-01I	Bolt, front axle carrier to longitudinal member	M14 × 1.5	Stage 1	Nm	100	100
			Stage 2	∠°	120	120
			Stage 3	∠°	-180	-180
			Stage 4	Nm	100	100
			Stage 5	∠°	90	90

Nm Front axle carrier

Number	Designation			Model 166	Model 292	
BA33.10-P-1002-01I	Bolt, stiffening plate to longitudinal member	M10		Nm	60	60

Nm Front axle carrier

Number	Designation			Model 166	Model 292	
BA33.10-P-1003-01I	Bolt, stiffening plate to body	M8		Nm	20	20

Nm Wheel control, hub

Number	Designation			Model 166	Model 292	
BA33.20-P-1001-01R	Self-locking nut, upper ball joint out of upper transverse control arm to steering knuckle		Stage 1	Nm	100	100
			Stage 2	∠°	45	45

Nm Front axle transmission

Number	Designation			Model 166	Model 292	
BA33.30-P-1001-03F	Front axle transmission filling screw			Nm	35	35

Nm Propeller shaft

Number	Designation			Model 166	Model 292	
BA41.10-P-1003-01F	Self-locking bolt, drive shaft to transfer case (to front axle)		Stage 1	Nm	40	40
			Stage 2	∠°	90	90

Nm Propeller shaft

Number	Designation			Model 166	Model 292	
BA41.10-P-1004-01F	Self-locking bolt, drive shaft to front axle gear		Stage 1	Nm	40	40
			Stage 2	∠°	90	90

Nm Front axle brake caliper


Number	Designation			Model 166	Model 292	
BA42.10-P-1004-10L	Bolt, brake pad contact sensor to brake caliper	M6		Nm	8	8

Nm Front axle rpm sensor


Number	Designation			Model 166	Model 292	
BA42.30-P-1001-01G	Self-locking bolt, rpm sensor on front axle to steering knuckle			Nm	8	10

Nm Exhaust system

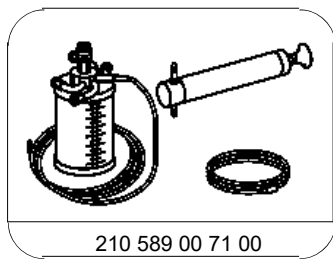
Number	Designation		Engine 642 in model 166	Engine 642 in model 292
BA49.10-P-1006-01AK	Nut, exhaust rubber mount to exhaust system/centering plate/strut	Nm	20	20

 Exhaust system

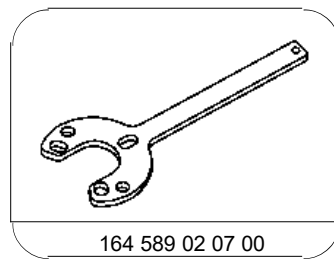
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BA49.10-P-1006-01AK	Nut, exhaust rubber mount to exhaust system/centering plate/strut	Nm	20

 Front axle gear

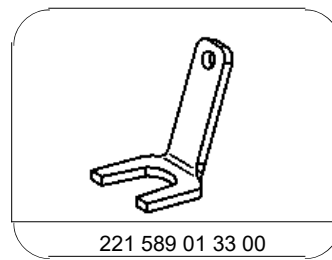
Number	Designation		Model 166	Model 292	
BF33.30-P-1001-03D	Filling capacity	Front axle gear	Liter	0,8	0,8
		Overview of axle gear oils		BB00.40-P-0231-01A	BB00.40-P-0231-01A
		Approved axle gear oils		BB00.40-P-0235A	BB00.40-P-0235A



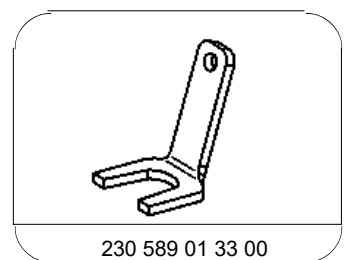
Hand pump



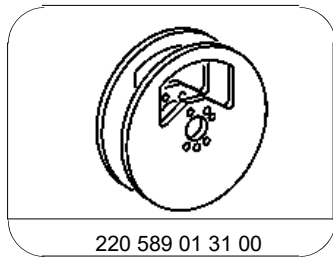
Retainer wrench



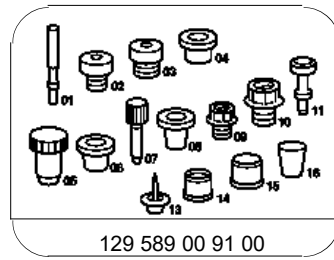
Detaching tool



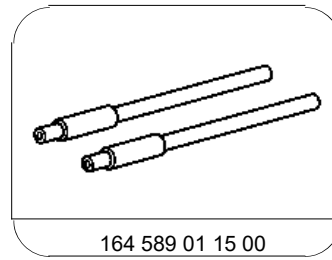
Detaching tool



Guard plate



Record plug



Drift set

Repair materials

Number	Designation	Order number
BR00.45-Z-1028-04A	Assembly cleaner	Adolf Würth GmbH & Co. KG Reinhold-Würth-Str. 12-17 74653 Künzelsau-Gaisbach Germany Tel. +49 7940 15-0 Fax +49 7940 15-1000 http://www.wuerth.de