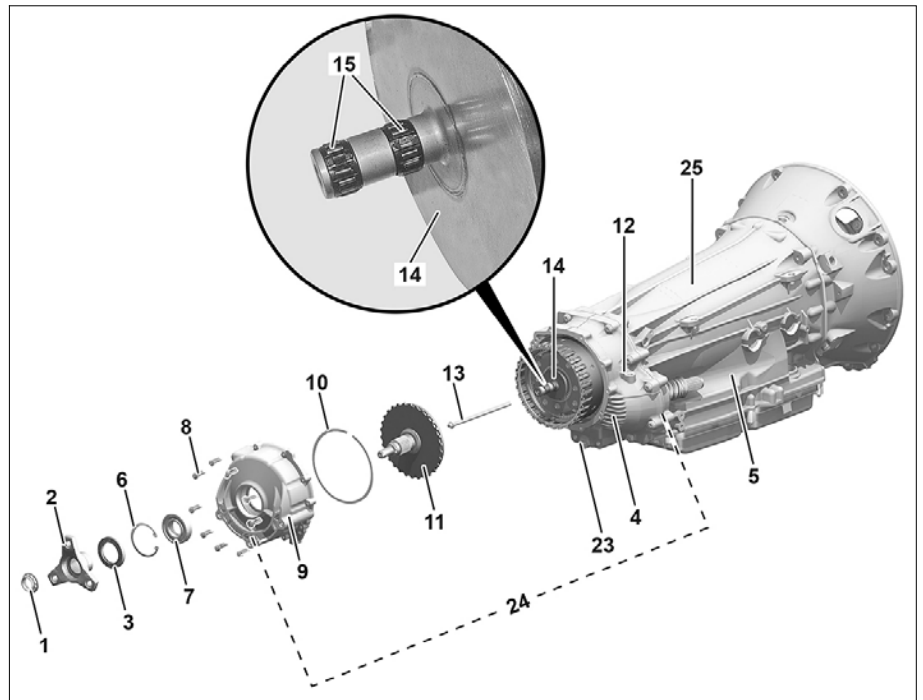


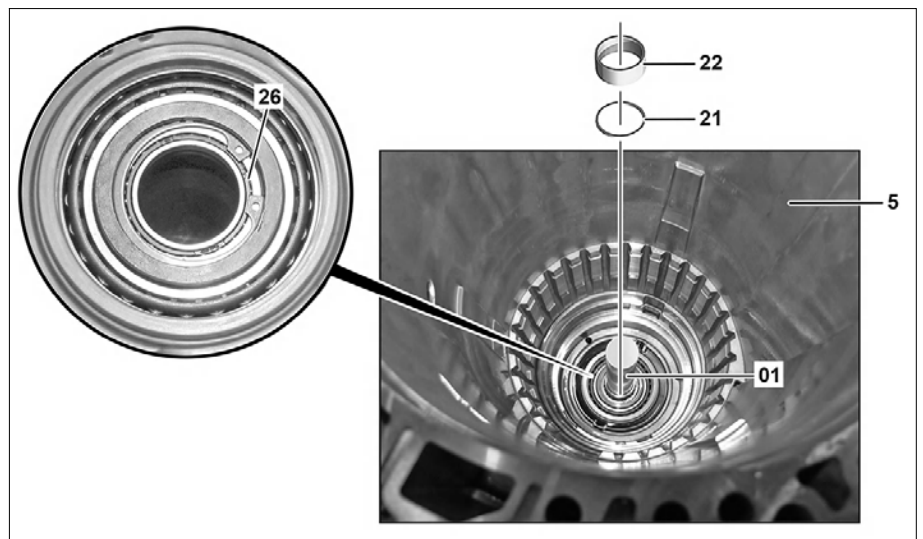
**Transmission 722.96**

- 1 Collar nut
- 2 Output flange
- 3 Radial shaft sealing ring
- 4 Intermediate housing
- 5 Automatic transmission
- 6 Retaining ring
- 7 Deep-groove ball bearing
- 8 Bolts
- 9 Rear cover
- 10 Retaining ring
- 11 Output shaft
- 12 Oil filler plug
- 13 Connecting bolt
- 14 Ring gear with intermediate shaft
- 15 Needle bearing
- 23 Drain screw
- 24 Transfer case
- 25 Transmission housing



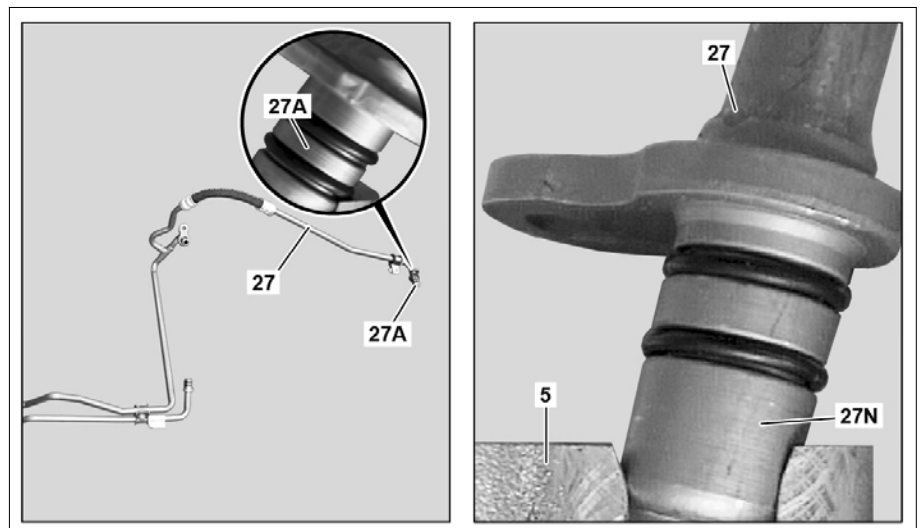
P28.10-2291-06

- 01 Assembly sleeve
- 5 Automatic transmission
- 21 Shim
- 22 Pilot bushing
- 26 Angular contact ball bearing












































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











- 5 Automatic transmission
- 27 Oil line
- 27A Old generation oil line connection
- 27N New generation oil line connection



	<b>Remove</b>		
1 	Drain fluid from transmission.		AP27.00-P-2702W
2	Drain oil from transfer case (24), to do so unscrew drain screw (23) from intermediate housing (4).		
3	Remove automatic transmission (5).	Transmission 722.96 in model 204, 205, 207, 212, 216, 217, 218, 221, 222 Transmission 722.96 in model 205 Transmission 722.96 in model 216, 221 Transmission 722.96 in model 222 Transmission 722.96 in model 204 Transmission 722.96 in model 207.3, 212, 218	AR27.10-P-0500LWY AR27.10-P-0500SYZ AR27.10-P-0500LHX AR27.10-P-0500CWX
4	Secure automatic transmission (5) on assembly stand.	Assembly stand Mounting plate	AR27.10-P-0600-01W *116589065900 *140589346300
5	Remove torque converter.	Handles	AR27.20-P-0500-01W *168589006200
6	Remove intelligent servo module ISM from automatic transmission (5).	Transmission 722.96 in model 205, 212, 216, 217, 218, 221, 222 Transmission 722.96 in model 222 with code Z07 (Top protection) Transmission 722.96 in model 205 with engine 651 Transmission 722.96 in model 216, 221 Transmission 722.96 in model 217 Transmission 722.96 in model 222 except code Z07 (Top protection) Transmission 722.96 in model 212, 218	AR27.19-P-0550LFS AR27.19-P-0550LWB AR27.19-P-0550SX AR27.19-P-0550LF AR27.19-P-0550EW
	<b>Disassemble/assemble</b>		
7	Remove oil pan from automatic transmission (5).	Transmission 722.96 in model 204, 205, 207, 212, 216, 218, 221 Transmission 722.96 in model 217, 222	AR27.10-P-7030W AR27.10-P-7031LFA
8 	Remove oil filter.	<b>Assembly:</b> Replace oil filter.	AP27.00-P-2702W
9	Remove electrohydraulic controller unit.	<b>Assembly:</b> Thoroughly clean electrohydraulic controller unit before assembly.	AR27.19-P-0200W
10	Remove collar nut (1) from output flange (2).	<b>Assembly:</b> Replace collar nut (1) and secure after tightening. Transmission 722.96 in model 204, 205, 207, 212, 216, 217, 218, 221, 222 Collar nut, output flange to output shaft Pin wrench Socket wrench bit Adapter	*BA28.10-P-1004-01E *129589010700 *126589020900 *100589025900
11	Remove output flange (2) from output shaft (11).	If an output flange (2) is found to be seized,  ↓ use a puller. Puller	*124589043300
12	Remove radial shaft sealing ring (3) from rear cover (9).	Do not damage seat of radial shaft sealing ring (3). Otherwise, leaks can occur at the rear cover (9). <b>Assembly:</b> Use drift to drive in new radial shaft sealing ring (3)  until it abuts with the rear cover (9). Drift	*140589121500
13	Remove deep-groove ball bearing (7).	<b>Assembly:</b> Replace grooved ball bearing(7). Collet chuck Puller	*140589063400 *001589503300

14	Remove bolts (8) and remove rear cover (9).	 <b>Assembly:</b> The sealing surfaces on the intermediate housing (4) and rear cover (9) must be free of oil and grease. Otherwise leaks may occur.  Thoroughly clean rear cover (9).  <b>Assembly:</b> Replace screws (8).  Transmission 722.96 in model 204, 205, 207, 212, 216, 217, 218, 221, 222 Bolt, transmission cover to intermediate housing Loctite 7200 Sealant, Loctite 5970, 50 ml	*BA28.10-P-1002-01E *BR00.45-Z-1038-04A *BR00.45-Z-1013-01A
15	Remove retaining ring (10) and remove output shaft (11).	 <b>Assembly:</b> Check retaining ring (10) is correctly seated in planet carrier.	
16	Move automatic transmission (5) using assembly tool to position "P" on the range selector shaft.	 Assembly tool	*722589030900
17	Remove needle bearings (15) from ring gear with intermediate shaft (14).		
18	Remove connecting bolt (13).	 <b>Assembly:</b> Replace connecting bolt (13).  Transmission 722.96 in model 204, 205, 207, 212, 216, 217, 218, 221, 222 Bolt, ring gear to two-part output shaft	*BA28.10-P-1003-01E
19	Remove ring gear with intermediate shaft (14).	Transmission 722.96 in model 204, 205, 207, 212, 216, 217, 218, 221, 222 Transmission 722.96 in model 204, 205, 207, 212, 216, 218, 221, 222  Check for correct seating of  pull-off device on ring gear with intermediate shaft (14).  <b>Assembly:</b> Press on ring gear with intermediate shaft (14) by hand and pull in using new connecting bolt (13).  Extraction tool	AR28.10-P-1001-02SYZ *722589013300
20	Remove planet carrier.		
 BB	Automatic transmission fluids (ATF) (specification 236.14)	Transmission 722.96 up to 6/18/10	BB00.40-P-0236-14A
 BB	Automatic transmission fluids (ATF) (specification 236.15)	Transmission 722.96 as of 6/21/10	BB00.40-P-0236-15A
		 The Specifications for Operating Fluids must be observed to ensure that the automatic transmission (5) is not damaged!  <b>Assembly:</b> Place planet carrier into fresh transmission oil before assembly.	
	<b>Clean</b>		
21	Thoroughly clean output flange (2), rear cover (9), retaining ring (10), output shaft (11), ring gear with intermediate shaft (14) and the planet carrier.	Assembly cleaner	*BR00.45-Z-1028-04A
22	Clean control solenoid valves of electrohydraulic controller unit.		AR27.19-P-0212A
 BB	Automatic transmission fluids (ATF) (specification 236.14)	Transmission 722.96 up to 6/18/10	BB00.40-P-0236-14A
 BB	Automatic transmission fluids (ATF) (specification 236.15)	Transmission 722.96 as of 6/21/10	BB00.40-P-0236-15A
		 The Specifications for Operating Fluids must be observed to ensure that the electrohydraulic controller unit is not damaged!	
23	Remove internal Torx bolts.	 Position automatic transmission (5) vertically with the torque converter housing facing downwards. Otherwise, the transmission housing (25) will fall down after the last internal Torx bolt is removed.  <b>Assembly:</b> Replace internal Torx bolts.  Bolt, transmission housing to torque converter housing	AR27.50-P-0601W *BA27.40-P-1015-01A
24	Remove transmission housing (25) with transfer case gear set from torque converter housing.		AR27.50-P-0601W

		<p> <b>Assembly:</b> Set down transmission housing (25) carefully. The transmission housing (25) must lie completely flush (without gaps) against the seal on the torque converter housing. Never pull the transmission housing (25) onto the torque converter housing using the internal Torx bolts. Otherwise, the disks of BR clutch pack and the multidisk brake B2 will break off.</p> <p> The following parts are included in the transfer case's (24) repair kit:</p> <ul style="list-style-type: none"> <li>- Collar nut (1)</li> <li>- Radial shaft sealing ring (3)</li> <li>- Intermediate housing (4)</li> <li>- Retaining ring (6)</li> <li>- Deep-groove ball bearing (7)</li> <li>- Bolts (8)</li> <li>- Connecting bolt (13)</li> <li>- Shim (21)</li> <li>- Pilot bushing (22)</li> <li>- Transmission housing (25)</li> <li>- Transfer case drive pinion</li> <li>- Front axle propeller shaft drive pinion</li> <li>- Inner Torx bolts (torque converter housing to transmission housing (25))</li> <li>- Bolts (multidisk brake B2)</li> </ul> <p> <b>Assembly:</b> Align disks in transmission housing (25). Plug ring gear with intermediate shaft (14) onto output shaft (11). By abruptly turning the ring gear with intermediate shaft (14) while simultaneously lifting up the transmission housing (25), the transmission housing (25) gradually slips onto the seal of the torque converter housing.</p>	
25  GF	Remove BR clutch pack. Survey of multiple-disc components, production details	<p> Check disks for scorch marks and wear.</p> <p> Observe disk sequence.</p>	AR27.50-P-0782W GF27.51-P-5200W
26	Remove disk spring.	 <b>Assembly:</b> Insert disk spring such that the curvature of the inner circumference faces towards the multidisk brake B2.	
27	Remove parking lock gear with pilot bushing (22) and shim (21).	<p> <b>Assembly:</b> Before mounting the parking lock gear, install shim (21) and pilot bushing (22) into transmission housing (25). Slide  assembly sleeve (01) automatically out of transfer case drive pinion when mounting transmission housing (25) and onto torque converter housing and remove.</p> <p> Assembly sleeve</p>	AR27.50-P-0782W  *722589041400
28	Determine shim size.	<p> Measure from face on transmission housing (25) up to inner race of angular contact ball bearing (26).</p> <p> The digital vernier caliper must be positioned centrally in the transmission housing (25) and absolutely vertically on the selected  parallel gauge. Repeat the measurement 3 times. The mean value is required for further calculations. The difference between the minimum and maximum value must not exceed 0.05 mm, otherwise repeat the measurement.</p> <p> Parallel support</p>	*168589032100
	<b>Clean</b>		
29  BB  BB	Clean all clutch packs or disks of automatic transmission (5) in fresh transmission oil until any soiling is removed. Automatic transmission fluids (ATF) (specification 236.14) Automatic transmission fluids (ATF) (specification 236.15)	Transmission 722.96 up to 6/18/10  Transmission 722.96 as of 6/21/10   The Specifications for Operating Fluids must be observed to ensure that the automatic transmission (5) is not damaged!	AR27.50-P-0610W  BB00.40-P-0236-14A  BB00.40-P-0236-15A

30	Replace intermediate panel of torque converter housing.		AR27.50-P-0721W
31	Assemble in the reverse order.		
	<b>Install</b>		
32	Install intelligent servo module ISM onto automatic transmission (5).	<p>Transmission 722.96 in model 205, 212, 216, 217, 218, 221, 222</p> <p>Transmission 722.96 in model 222 with code Z07 (Top protection)</p> <p>Transmission 722.96 in model 205 with engine 651</p> <p>Transmission 722.96 in model 212, 218</p> <p>Transmission 722.96 in model 217</p> <p>Transmission 722.96 in model 222 except code Z07 (Top protection)</p> <p>Transmission 722.96 in model 216, 221</p>	<p>AR27.19-P-0550LFS</p> <p>AR27.19-P-0550LWB</p> <p>AR27.19-P-0550EW</p> <p>AR27.19-P-0550LF</p> <p>AR27.19-P-0550SX</p>
33	Insert torque converter.	<p> Bolt, torque converter to flexible plate</p> <p>Installed height of torque converter</p> <p>Multi-purpose paste</p> <p> Parallel rest</p> <p> Handles</p>	<p>AR27.20-P-0500-01W</p> <p>*BA27.20-P-1003-01C</p> <p>*BE27.20-P-1001-01E</p> <p>*BR00.45-Z-1009-06A</p> <p>*126589043100</p> <p>*168589006200</p>
34	Remove automatic transmission (5) from assembly stand.		AR27.10-P-0600-01W
35	Check oil line (27) of automatic transmission (5).	<p> If an oil line (27) of the new generation (27N) is already installed, pull the spacer ring out of the new transmission housing (25) using 6 mm bolt before mounting the automatic transmission (5). For an oil line (27) of the old generation (27A) the spacer ring serves to bridge the oil line (27) on the transfer case (24).</p> <p> The new generation (27N) oil line (27) is equipped with a long connection that is pushed into the automatic transmission (5). The old generation (27A) oil line (27) has only a short connection that is pushed into the automatic transmission (5).</p>	
36	Install automatic transmission (5).	<p>Transmission 722.96 in model 204, 205, 207, 212, 216, 217, 218, 221, 222</p> <p>Transmission 722.96 in model 205</p> <p>Transmission 722.96 in model 204</p> <p>Transmission 722.96 in model 207.3, 212, 218</p> <p>Transmission 722.96 in model 216, 221</p> <p>Transmission 722.96 in model 222</p>	<p>AR27.10-P-0500LWY</p> <p>AR27.10-P-0500CWX</p> <p>AR27.10-P-0500SYZ</p> <p>AR27.10-P-0500LHX</p>
37	Fill transmission with oil.		AR27.00-P-0270SYZ
 BB	Automatic transmission fluids (ATF) (specification 236.14)	Transmission 722.96 up to 6/18/10	BB00.40-P-0236-14A
 BB	Automatic transmission fluids (ATF) (specification 236.15)	Transmission 722.96 as of 6/21/10	BB00.40-P-0236-15A
		 The Specifications for Operating Fluids must be observed to ensure that the automatic transmission (5) is not damaged!	
38	Flush automatic transmission (5) and torque converter with transmission flushing unit.		AR27.55-P-0100B
 BB	Automatic transmission fluids (ATF) (specification 236.14)	Transmission 722.96 up to 6/18/10	BB00.40-P-0236-14A
 BB	Automatic transmission fluids (ATF) (specification 236.15)	Transmission 722.96 as of 6/21/10	BB00.40-P-0236-15A
		 The Specifications for Operating Fluids must be observed to ensure that the automatic transmission (5) is not damaged!	
39	Check oil level in automatic transmission(5) and correct, if necessary.		AR27.00-P-0270SYZ
 Warning	<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.	AS00.00-Z-0005-01A
40	Perform engine test run and check automatic transmission (5) and transfer case (24) for leak tightness and for proper operation.		

#### Test values for torque converter

Number	Designation				Transmission 722.9
BE27.20-P-1001-01E	Installed height of torque converter	Distance, bolt flange to transmission housing flange	Helical screwed connection	mm	9,5
			See picture		AR27.20-P-0500-01 W
			Axial screwed connection	mm	19,5

**Nm** Torque converter

Number	Designation			Transmission 722.9
BA27.20-P-1003-01C	Bolt, torque converter to flexible plate	M10	Nm	58

**Nm** Housing

Number	Designation			Transmission 722.9
BA27.40-P-1015-01A	Bolt, transmission housing to torque converter housing	Stage 1	Nm	10
		Stage 2	∠°	90

**Nm** Complete transfer case

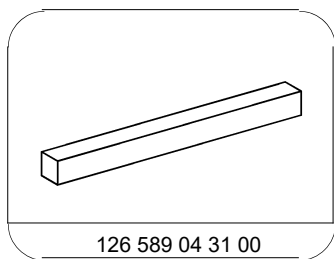
Number	Designation			Model 204, 205, 207, 212, 216, 217, 218, 221, 222 with transmission 722.96
BA28.10-P-1002-01E	Bolt, transmission cover to intermediate housing		Nm	8

**Nm** Complete transfer case

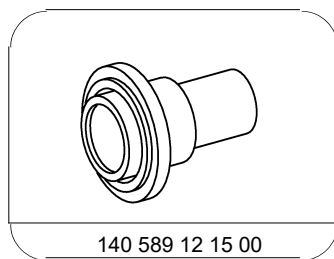
Number	Designation			Model 204, 205, 207, 212, 216, 217, 218, 221, 222 with transmission 722.96
BA28.10-P-1003-01E	Bolt, ring gear to two-part output shaft	Stage 1	Nm	30
		Stage 2	∠°	180

**Nm** Complete transfer case

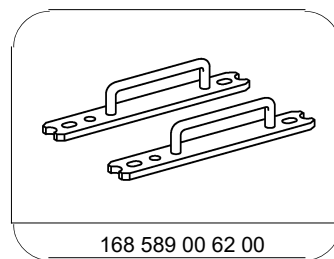
Number	Designation			Model 204, 205, 207, 212, 216, 217, 218, 221, 222 with transmission 722.96
BA28.10-P-1004-01E	Collar nut, output flange to output shaft		Nm	200



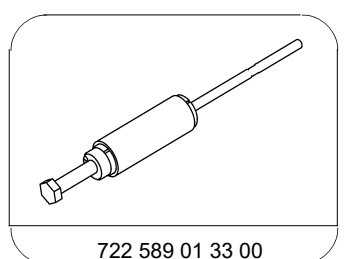
Parallel rest



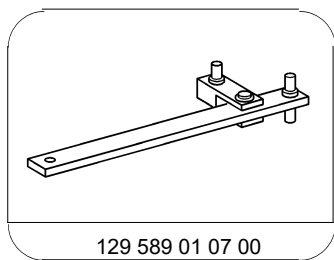
Drift



Handles

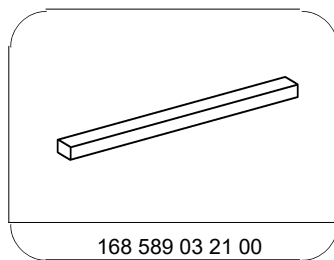


Extraction tool



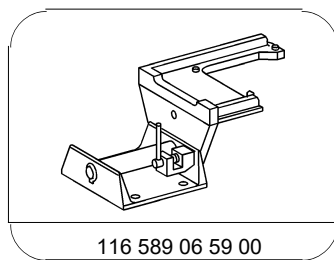
129 589 01 07 00

Pin wrench



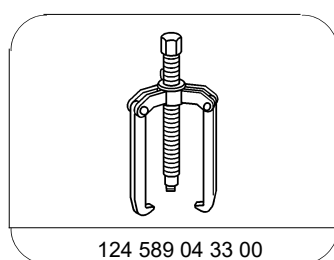
168 589 03 21 00

Parallel support



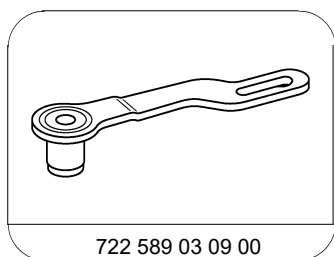
116 589 06 59 00

Assembly stand



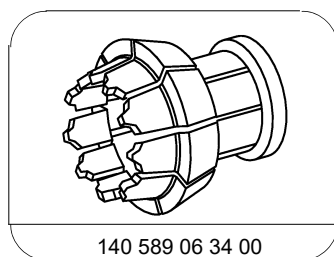
124 589 04 33 00

Puller



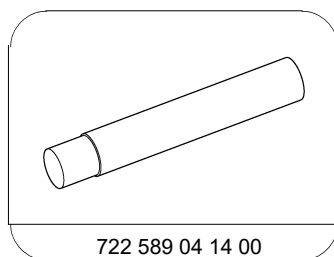
722 589 03 09 00

Assembly tool



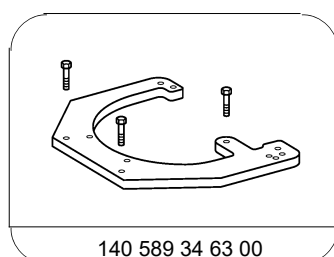
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Collet chuck



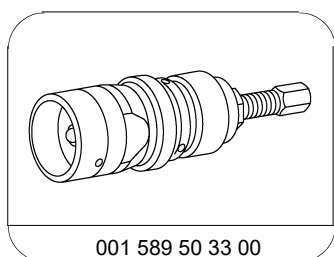
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Assembly sleeve



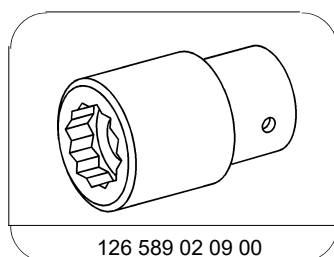
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Mounting plate



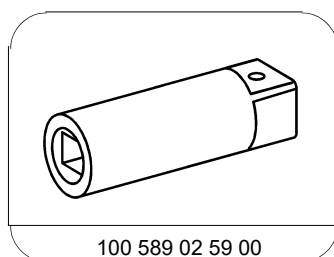
001 589 50 33 00

Puller



126 589 02 09 00

Socket wrench bit



100 589 02 59 00

Adapter

**Repair materials**

Number	Designation	Order number
BR00.45-Z-1009-06A	Multi-purpose paste	A 000 989 80 51
BR00.45-Z-1013-01A	Sealant, Loctite 5970, 50 ml	A 003 989 98 20 10
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 <a href="http://www.wuerth.de">http://www.wuerth.de</a>
BR00.45-Z-1038-04A	Loctite 7200	Henkel AG & Co. KGaA <a href="http://www.loctite.de">http://www.loctite.de</a>