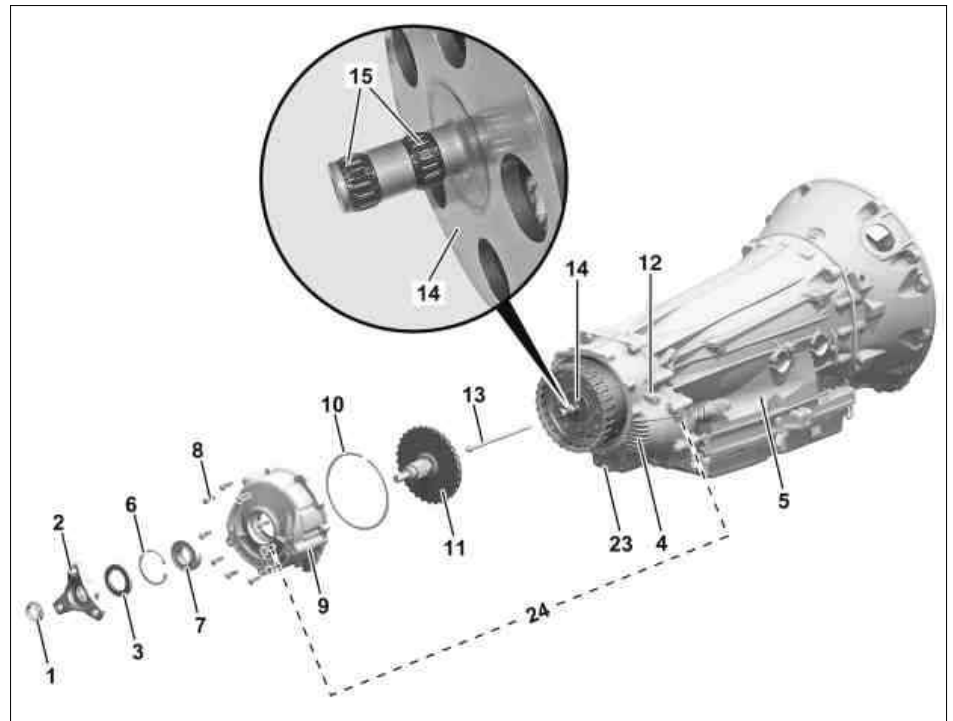


Model 212, 218 with transmission 722.96/97

Modification notes

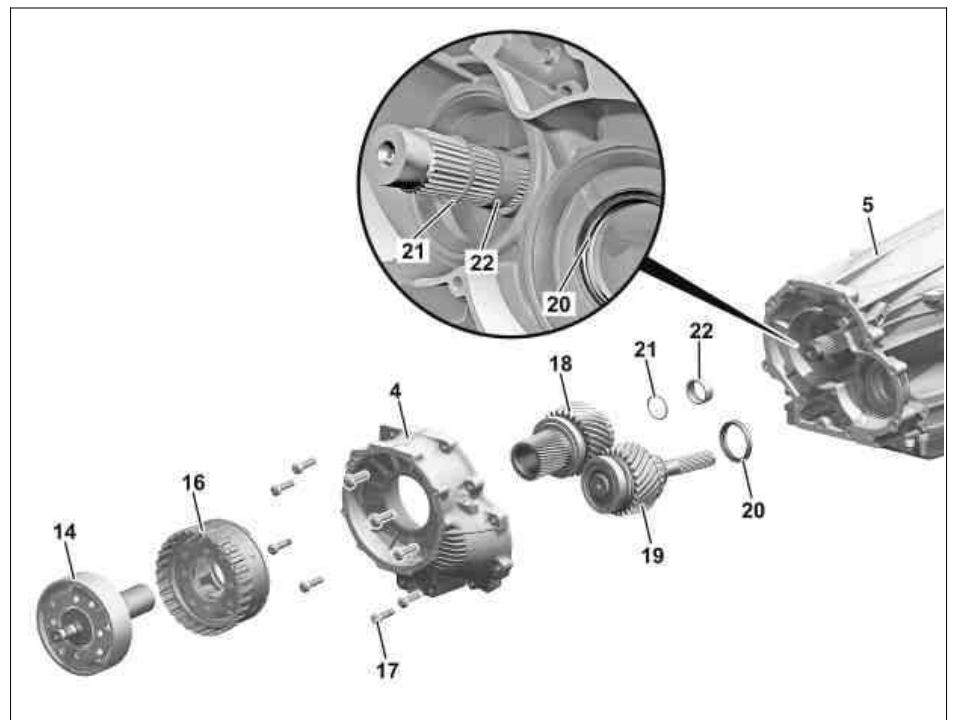
15.05.2014	Bolt, ring gear to two-part output shaft		BA28.10-P-1003-01F
21.06.2017	Bolt, ring gear to two-part output shaft		BA28.10-P-1003-01F

- 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



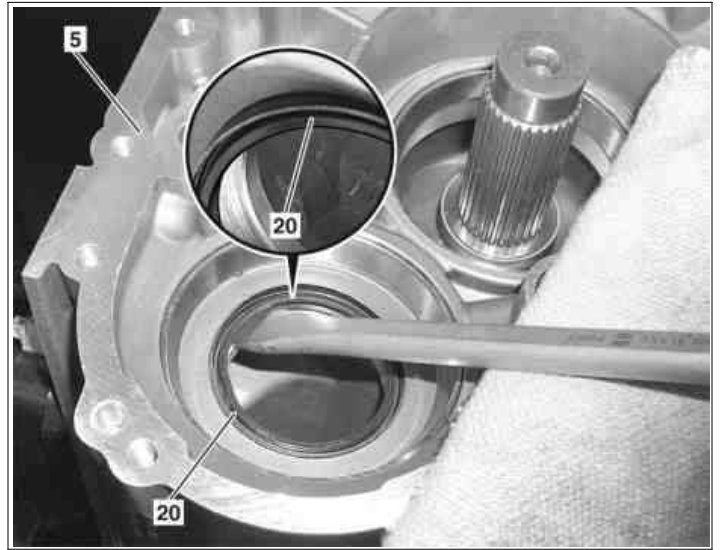
P28.10-2245-06

- 4 Intermediate housing
- 5 Automatic transmission
- 14 Ring gear with intermediate shaft
- 16 Planet carrier
- 17 Bolts
- 18 Drive pinion of transfer case
- 19 Differential side gear of front axle propeller shaft
- 20 Radial shaft sealing ring
- 21 Shim
- 22 Pilot bushing



P28.50-2202-06



















- 5 Automatic transmission
- 20 Radial shaft sealing ring








P28.10-2249-11

	General information on repair work on transmission		AH27.00-S-1000-01PS
	Remove/install		
1	Move DIRECT SELECT gear selector switch to "N" position		
2	Detach ground line from battery Notes on battery		AR54.10-P-0003EW AH54.10-P-0001-01A
3	Secure vehicle on vehicle lift		AR00.60-P-0100EWS
4.1	Remove right catalytic converter	Model 212 with engine 272 with transmission 722.96 Model 212 with engine 273 with transmission 722.96	AR49.10-P-7100EW
4.2	Remove diesel particulate filter	Model 212 with engine 642 with transmission 722.96 Model 212 with engine 651 with transmission 722.96 Model 218 with engine 642 with transmission 722.96 Model 212 with engine 642 with transmission 722.96 Model 212 with engine 651 with transmission 722.96 Model 218 with engine 642 with transmission 722.96	AR49.10-P-7100EWI AR14.40-P-1000OGE
4.3	Remove rear part of exhaust system	Model 212 with engine 157 with transmission 722.96/97 Model 212, 218 with engine 276 with transmission 722.96 Model 212, 218 with engine 278 with transmission 722.96 Model 218 with engine 157 with transmission 722.97	AR49.10-P-7100EL
5	Support automatic transmission (5) using telescopic lifter and transmission plate 000 588 10 62 00 Support plate 000 588 11 62 00 Major assembly mount		WS26.00-P-3309B WS01.00-P-0092B
6	Remove rear engine cross member Notes on bolted connections with self tapping screws	MODEL 212, 218	AR22.10-P-1180CW AH00.00-P-0007-01SF
7	Detach flexible coupling from transfer case (24) and propeller shaft		AR41.10-P-0050EW
8	Lower the automatic transmission (5)		

9	Remove front axle transmission propeller shaft	Model 212, 218 with transmission 722.97 Model 212.08/09/28/29, 218.39/99 with transmission 722.96 When replacing the radial shaft sealing ring (20) or during repair work on the automatic transmission (5)	AR41.10-P-0070EWX
10	Remove heat shield from underfloor in area of transfer case (24)		
11	Detach stiffening bridge from underfloor	Bolt, front reinforcement brace to frame floor assembly Bolt, rear reinforcement brace to frame floor assembly	*BA61.10-P-1002-01H *BA61.10-P-1003-01H
12	Drain oil out of transfer case (24); to do so, remove drain screw (23) from intermediate housing (4)	Installation: Replace seal. Model 212, 218 with transmission 722.96 Drain screw to intermediate housing Model 212, 218 with transmission 722.97 Drain screw to intermediate housing	*BA28.10-P-1006-01E *BA28.10-P-1006-01F
13	Remove intelligent servo module (ISM)	Only to remove the ring gear (14).	AR27.19-P-0550EW
	Disassemble/assemble		
14	Detach collar nut (1) from output flange (2)	Installation: Replace collar nut (1) and secure after tightening. Model 212, 218 with transmission 722.96 Collar nut, output flange to output shaft Model 212, 218 with transmission 722.97 Collar nut, output flange to output shaft Pin wrench Socket wrench bit Adapter	*BA28.10-P-1004-01E *BA28.10-P-1004-01F *129589010700 *126589020900 *100589025900
15	Detach output flange (2) from output shaft (11)	Check output flange (2) for wear and damage and replace if necessary. Use puller if output flange (2) is seized. Puller	*124589043300
16	Remove radial shaft sealing ring (3) from rear cover (9)	In the event of leakage or when replacing the grooved ball bearing (7). Do not damage seat of radial shaft sealing ring (3). Leaks may otherwise occur. Installation: Use drift to drive in new radial shaft sealing ring (3) until it abuts with the rear cover (9). Drift Check seat of radial shaft sealing ring (3) for wear and damage; in case of complaints, ↓ replace rear cover (9).	*140589121500
17	Remove rear cover (9); to do this, unscrew bolts (8) and remove rear cover (9)	Installation: The sealing surfaces on intermediate housing (4) and rear cover (9) must be free of oil and grease. This prevents leaks occurring. Model 212, 218 with transmission 722.96 Bolt, transmission cover to intermediate housing Model 212, 218 with transmission 722.97 Bolt, transmission cover to intermediate housing Loctite 7200 Sealant, Loctite 5970, 50 ml	*BA28.10-P-1002-01E *BA28.10-P-1002-01F *BR00.45-Z-1038-04A *BR00.45-Z-1013-01A
18	Remove grooved ball bearing (7); to do this, remove retaining ring (6) from rear cover (9) and press out grooved ball bearing (7)	The grooved ball bearing (7) only has to be replaced in the event of complaints or damage.	
19	Remove retaining ring (10) and remove output shaft (11)	Installation: Check retaining ring (10) for correct seat in planet carrier (16).	

		<p>Check retaining ring (10) for deformation and damage, if necessary:</p> <p style="text-align: center;">↓</p> <p>Replace retaining ring (10).</p>	
20	Using the assembly tool move the automatic transmission (5) into position "P" at the range selector shaft	<p>When removing the ring gear (14)</p> <p> Assembly tool</p>	*722589030900
21	Detach needle roller bearing (15) from ring gear (14)	<p>Check needle roller bearing (15) for wear and damage; if necessary,</p> <p style="text-align: center;">↓</p> <p>replace needle roller bearing (15).</p>	
22	Remove connecting bolt (13)	<p> Installation: Connecting bolt (13) must always be replaced.</p> <p> Model 212, 218 with transmission 722.96 Bolt, ring gear to two-part output shaft</p> <p> Model 212, 218 with transmission 722.97 Bolt, ring gear to two-part output shaft</p>	<p>*BA28.10-P-1003-01E</p> <p>*BA28.10-P-1003-01F</p>
23	Remove ring gear (14) using pulling device	<p> Pay attention to correct seat of pulling device on ring gear (14).</p> <p> Installation: Press on ring gear (14) by hand and pull in using new connecting bolt (13).</p> <p> Extraction tool</p>	<p>AR28.10-P-1001-02SYZ</p> <p>*722589013300</p>
24	Remove planet carrier (16)		
25	Remove bolts (17) and remove intermediate housing (4)	<p> Installation: Sealing surfaces on intermediate housing (4) and automatic transmission (5) must be free of oil and grease. This prevents leaks occurring.</p> <p> Installation: Assembly sleeve must be removed from differential side gear (19) before attaching the intermediate housing (4).</p> <p> Model 212, 218 with transmission 722.96 Bolt, intermediate housing to transmission housing</p> <p> Model 212, 218 with transmission 722.97 Bolt, intermediate housing to transmission housing</p> <p>Loctite 7200 Sealant, Loctite 5970, 50 ml</p>	<p>*BA28.10-P-1001-01E</p> <p>*BA28.10-P-1001-01F</p> <p>*BR00.45-Z-1038-04A</p> <p>*BR00.45-Z-1013-01A</p>
26	Remove differential side gear (19)	<p> Installation: Assembly sleeve must be used when installing differential side gear (19). This prevents the radial shaft sealing ring (20) of the differential side gear (19) from being damaged in the transmission housing.</p> <p> Installation: Pay attention to the correct seat of assembly sleeve on differential side gear (19).</p> <p> Assembly sleeve</p>	*722589061400
27	Remove drive pinion (18)		
28	Remove radial shaft sealing ring (20) of differential side gear (19) using a suitable tool	<p> Do not support tool for prying off radial shaft sealing ring (20) from the automatic transmission (5) without using a rag. The sealing surface on the automatic transmission (5) could otherwise be damaged (see picture 3).</p> <p> Installation: Replace the radial shaft sealing ring (20) and make sure that it is installed in the correct position (see enlarged detail in picture 3).</p> <p> Installation: Drive radial shaft sealing ring (20) into transmission housing using drift. Make sure that the radial shaft sealing ring (20) is seated correctly in the automatic transmission (5).</p> <p> Drift</p>	*722589141500

29	Remove pilot bushing (22) and shim (21) from output shaft (11)	The basic dimension must be determined before repair work on the automatic transmission (5): ↓ Measure end play between park pawl gear and grooved ball bearing End play between park pawl gear and grooved ball bearing Loctite 7200 Loctite 7063 cleaning spray (150 ml)  Parallel rest	AR27.50-P-0600-06SYZ *BE27.50-P-1004-01A *BR00.45-Z-1038-04A *BR00.45-Z-1046-04A *126589043100
30	Assembly in reverse order		
	Clean		
31	Clean all parts of the transfer case (24) thoroughly	Assembly cleaner	*BR00.45-Z-1028-04A
32	Install in the reverse order		
33	Prefill transfer case (24) with a prefill quantity of 0.7 l transmission oil and fill automatic transmission (5) with transmission oil	The transfer case (24) is connected to the oil circuit of the automatic transmission (5). The oil level can therefore only be checked and corrected via the automatic transmission (5): ↓ Fill automatic transmission with transmission oil  Model 212, 218 with transmission 722.96 Filling screw to intermediate housing  Model 212, 218 with transmission 722.97 Filling screw to intermediate housing	AR27.00-P-0270SYZ *BA28.10-P-1005-01E *BA28.10-P-1005-01F
 Warning	Risk of accident from vehicle starting off by itself when engine running. Risk of injury (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
34	Test run engine and check the automatic transmission (5) and transfer case (24) for leak tightness and function		

Check values for gear set

Number	Designation	Transmission 722.9
BE27.50-P-1004-01A	End play between park pawl gear and grooved ball bearing	mm 0,20...0,40

Complete transfer case

Number	Designation	Model 204, 205, 207, 212, 216, 217, 218, 221, 222 with transmission 722.96
BA28.10-P-1001-01E	Bolt, intermediate housing to transmission housing	Nm 20

Complete transfer case

Number	Designation	Model 205, 212, 217, 218, 222 with transmission 722.97
BA28.10-P-1001-01F	Bolt, intermediate housing to transmission housing	Nm 20

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
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Nm Complete transfer case

Number	Designation		Model 205, 212, 217, 218, 222 with transmission 722.97
BA28.10-P-1002-01F	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 205, 212, 217, 218, 222 with transmission 722.97
BA28.10-P-1003-01F	Bolt, ring gear to two-part output shaft	Stage 1	Nm 30
		Stage 2	Loosen ∠° 360
		Stage 3	Nm 5

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

Nm Complete transfer case

Number	Designation		Model 205, 212, 217, 218, 222 with transmission 722.97
BA28.10-P-1004-01F	Collar nut, output flange to output shaft	Nm	200

Nm Complete transfer case

Number	Designation		Model 204, 205, 207, 212, 216, 217, 218, 221, 222 with transmission 722.96
BA28.10-P-1005-01E	Filling screw to intermediate housing	Nm	20

Nm Complete transfer case

Number	Designation		Model 205, 212, 217, 218, 222 with transmission 722.97
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BA28.10-P-1005-01F	Filling screw to intermediate housing	Nm	20
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Nm Complete transfer case

Number	Designation		Model 204, 205, 207, 212, 216, 217, 218, 221, 222 with transmission 722.96
BA28.10-P-1006-01E	Drain screw to intermediate housing	Nm	30

Nm Complete transfer case

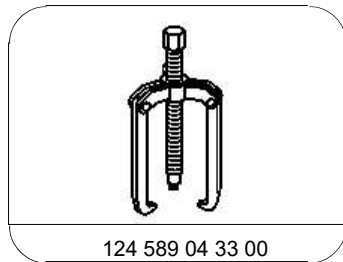
Number	Designation		Model 205, 212, 217, 218, 222 with transmission 722.97
BA28.10-P-1006-01F	Drain screw to intermediate housing	Nm	30

Nm Frame floor assembly

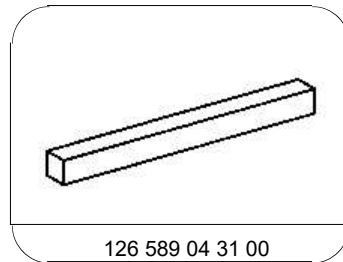
Number	Designation		Model 212	Model 218
BA61.10-P-1002-01H	Bolt, front reinforcement brace to frame floor assembly	Nm	30	30

Nm Frame floor assembly

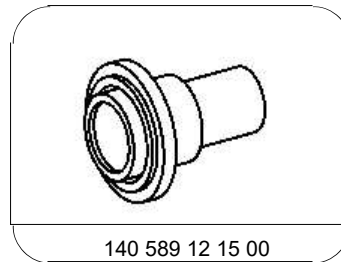
Number	Designation		Model 212	Model 218
BA61.10-P-1003-01H	Bolt, rear reinforcement brace to frame floor assembly	Nm	24	24



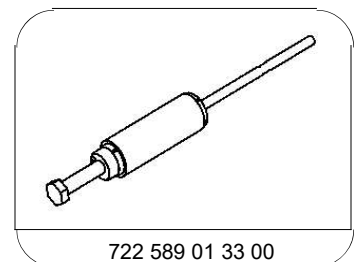
Puller



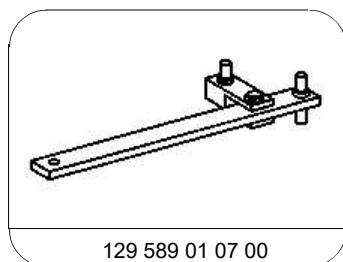
Parallel rest



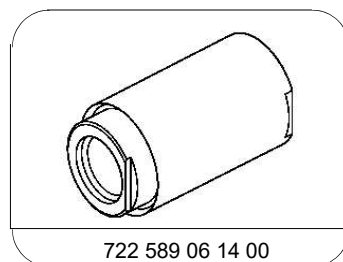
Drift



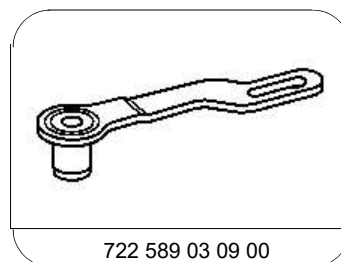
Extraction tool



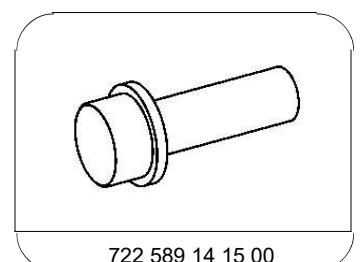
Pin wrench



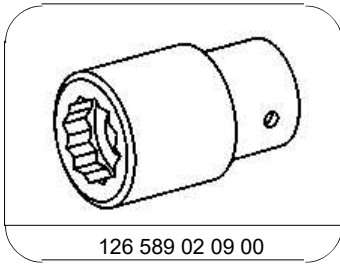
Assembly sleeve



Assembly tool

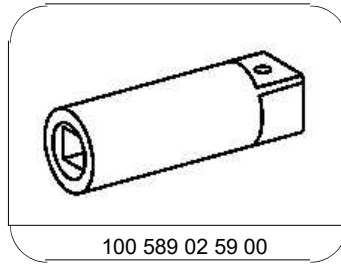


Drift



126 589 02 09 00

Socket wrench bit



100 589 02 59 00

Adapter

Repair materials

Number	Designation	Order number
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 http://www.wuerth.de
BR00.45-Z-1038-04A	Loctite 7200	Henkel AG & Co. KGaA http://www.loctite.de
BR00.45-Z-1046-04A	Loctite 7063 cleaning spray (150 ml)	A 001 986 71 71 10