1997-99 AUTOMATIC TRANSMISSIONS

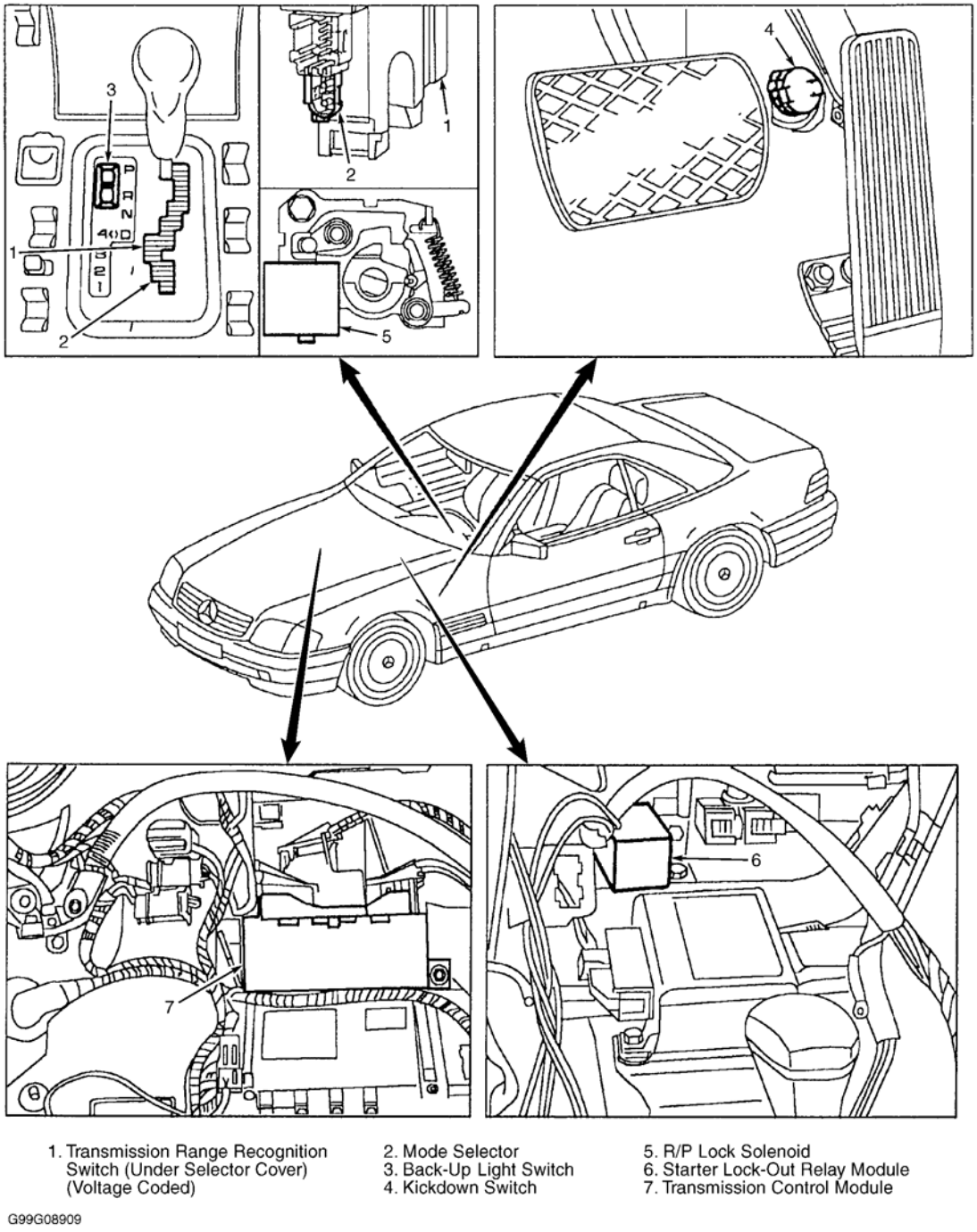
Mercedes-Benz W5A580/722.6 Series Diagnosis

APPLICATION

CAUTION: All models are equipped with a Supplemental Restraint System (SRS). When servicing vehicle, use care to avoid accidental air bag deployment. All SRS electrical connections and wiring harness are covered by Yellow insulation. SRS-related components are located in steering column, center console, instrument panel and lower panel on instrument panel. DO NOT use electrical test equipment on these circuits. If necessary, deactivate SRS before servicing components. See AIR BAG DEACTIVATION PROCEDURES article in GENERAL INFORMATION.

TRANSMISSION APPLICATION

Vehicle Model	Body Code	Transmission Model
1997		
C230	202.023	722.600
C280	202.028	722.604
E300	210.020	722.600
E320	210.055	722.605
E420	210.072	722.625
S320 (1)	140.032	722.605
S320 (2)	140.033	722.605
S420	140.043	722.622
S500	140.051	722.620
SL320	129.063	722.605
SL500	129.067	722.620
1998		
C230	202.023	722.600
C280	202.029	722.606
CL500	140.070	722.620
CLK320	112.940	722.607
E300	210.025	722.608
E320	210.065	722.664
E430	210.070	722.623
ML320	164.154	722.662
S320	140.032	722.605
S420	140.043	722.622
S500	140.051	722.620
SL500	129.067	722.620



1. Transmission Range Recognition Switch (Under Selector Cover) (Voltage Coded)
2. Mode Selector
3. Back-Up Light Switch
4. Kickdown Switch
5. R/P Lock Solenoid
6. Starter Lock-Out Relay Module
7. Transmission Control Module

Fig. 1: Component Locations (1997 SL320 & 1997-98 SL500)
Courtesy of MERCEDES-BENZ OF NORTH AMERICA

	replaced after being unscrewed from the rear axle center assembly. The new oil filler screw as well as the tapped hole must be cleaned with a special cleaning spray and the oil filler screw provided with a special sealing compound	level check at interior temperature. Model 129, 140, 170, 202, 208, 210 Model 203, 220	 **AR35.31-P-0520-03A** AR35.31-P-0520-03I

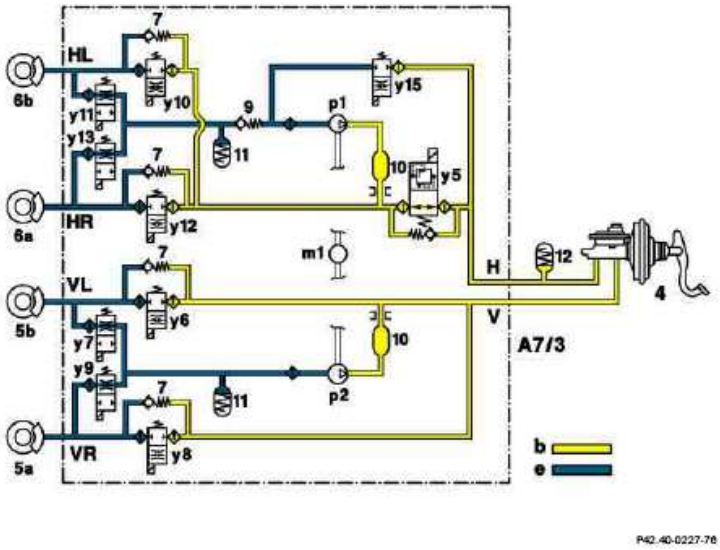
☒	**Removing**		
GF	**Risk of death** caused by vehicle slipping or toppling off of the lifting platform.	Align vehicle between the columns of the lifting platform and position the four support plates below the lifting platform support points specified by the vehicle manufacturer.	**AS00.00-Z-0010-01A**
1	Raise vehicle with lifting platform	 Model 203	 AR00.60-P-1000P
2	Drain oil from rear axle differential (50)	Models 129, 140, 170, 202, 208, 210 Cleaning spray, Loctite 7063 (150ml) Sealant, Omnifit 100H (50 g) ⚠ Danger! Oil drain screw Models 203, 220 Cleaning spray, Loctite 7063 (150ml) Sealant, Omnifit 100H (50 g) ⚠ Danger! Oil drain screw model 203 ⚠ Danger! Oil drain screw model 220	**AR35.31-P-0520-06A** ***BR00.45-Z-1046-04A** ***BR00.45-Z-1061-01A** ***BA35.31-P-1003-02A** AR35.31-P-0520-06I ***BR00.45-Z-1046-04A** ***BR00.45-Z-1061-01A** ***BA35.31-P-1002-02B** ***BA35.31-P-1003-02A**
BT	Oil filler/drain screw on rear axle differential	Phased in as of 19.01.04	**BT35.31-P-0015-01A**

27.1	Check drive pinion (47) and ring gear (47a) for match-up number	Model 129, 140, 170, 202, 208, 210 up to 30.06.95 Only lapped gear assemblies up to approx. 06/95 have a match-up number. Each lapped gear set is checked for the best possible smooth running and marked with a consecutive match-up number that is marked on both parts	**AR35.31-P-0550-11A**
BT	Ground ring gear and pinions	Phased in as of 06/95	**BT35.31-P-0011-01B**
	Assembly, adjusting ring gear and pinion		
28	Press tapered roller bearing inner race (46a) onto drive pinion (47)		**AR35.31-P-0550-12A**
WF	Press-on sleeve for tapered roller bearing-inner race (46a) of drive pinion gear (47)		**WF58.50-P-3531-03A**
29	Calculate shim (45) and installing in rear axle housing	Use data sheet: ? Data sheet, Adjusting rear axle gear set: Order No. B20.800.98.113.00C	**AR35.31-P-0550-13A**
30	Pull tapered roller bearing outer races (43e, 46b) into rear axle housing		**AR35.31-P-0550-14A**
31	Install spacer sleeve (44) on drive pinion (47) with double-sided thrust plates (48)	Always replace spacer sleeve (44) and thrust plates (48).	**AR35.31-P-0550-26A**
32	Insert drive pinion (47) into rear axle housing.	Support drive pinion (47) with removal and installation tool.	**AR35.31-P-0550-15A**
33	Place tapered roller bearing inner race (43d) onto drive pinion gear (47) and press in together with radial sealing	Replace radial sealing ring (42) and coat the lip with universal hypoid gear oil.	**AR35.31-P-0550-16A**

wheels.

The pressure reduction phase is introduced by actuating (opening) the solenoid valves (y7, y9, y11 and y13). The solenoid valves (y6, y8, y10 and y12) remain actuated (closed) in this control phase.

During the pressure reduction phase brake fluid flows back into the high-pressure pump/return pump (p1 and p2) via the accumulator (11). From there the high-pressure pump/return pump in the two brake circuits delivers the brake fluid back into the master brake cylinder against the existing pressure. This takes place in the rear axle brake circuit via the switchover solenoid valve (y5). A silencer (10) is fitted to each brake circuit to damp the delivery noise.



b Brake pressure
e Reduced pressure

Fig. 51: Identifying ABS Control Mode - Pressure Reduction Diagram

GF	Location/purpose/design/function of ASR V/ETS hydraulic unit	Models 129, 140, 170, 202, 208, 210 (except 210.08/28)	**GF42.40-P-4000A**
GF	Location/task/design/function of ETS hydraulic unit	Model 210.08/28	GF42.35-P-4000A
GF	Location/purpose/design/function of ASR V control module		**GF42.40-P-4500A**
GF	Location/purpose/design/function of ETS control module		**GF42.35-P-4500A**

ASR V/ETS CONTROL MODE, FUNCTION - GF42.40-P-3500A

MODEL 129, 140, 202 as of 1.6.94, 170, 208, 210 / (except, 210.08 /28) with CODE (471a) Acceleration slip regulation (ASR) with CODE (212a) Electronic traction support (ETS)

ASR or ETS control mode - pressure build-up

AH MASTER BRAKE CYLINDER

Number	Designation		Model 129	Model 140	Model 163	Model 170
BA42.10-P-1001-05A	Nut, brake master cylinder to brake booster	Nm	20	20	25	20
BA42.10-P-1002-05A	Bolt, brake booster hydraulic unit to firewall	Nm	-	18	-	-
BA42.10-P-1003-05A	Bolt, pendulum-type support to master brake cylinder	Nm	-	-	-	-

AH MASTER BRAKE CYLINDER

Number	Designation		Model 171	Model 202	Model 203	Model 208
BA42.10-P-1001-05A	Nut, brake master cylinder to brake booster	Nm	25	20	20	20
BA42.10-P-1002-05A	Bolt, brake booster hydraulic unit to firewall	Nm	-	-	-	-
BA42.10-P-1003-05A	Bolt, pendulum-type support to master brake cylinder	Nm	-	-	-	-

AH MASTER BRAKE CYLINDER

Number	Designation		Model 209	Model 210	Model 215	Model 220
BA42.10-P-1001-05A	Nut, brake master cylinder to brake booster	Nm	25	20	20	20
BA42.10-P-1002-05A	Bolt, brake booster hydraulic unit to firewall	Nm	-	-	-	-
BA42.10-P-1003-05A	Bolt, pendulum-type support to master brake cylinder	Nm	-	-	9	9

Brake disks, brake caliper dust shield - BA42.10-P-1000-06A

Model 129, 140, 170, 171, 163, 199, 202, 203, 208, 209, 210, 211, 215, 220, 230, 240

Application of sealant to bottom part of oil pan

The line drawn F marks the application of sealant.

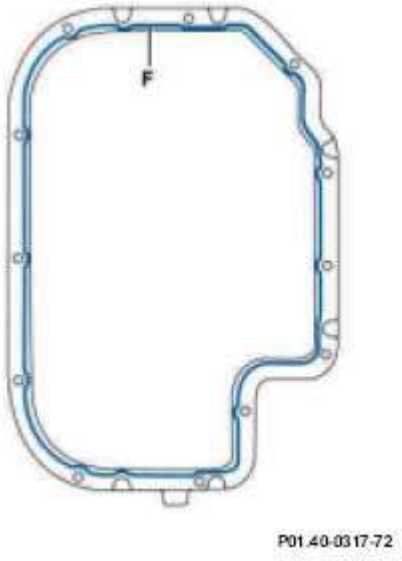


Fig. 14: Identifying Application Of Sealant To Bottom Part Of Oil Pan

Clean sealing surfaces, apply sealant only to the specified surfaces with a bead of 2.0 mm ± 0.5 mm.

The sealant must be applied within 10 minutes!

The silicone bead must not be spread. Only the silicone sealant listed in the section Repair products may be used.

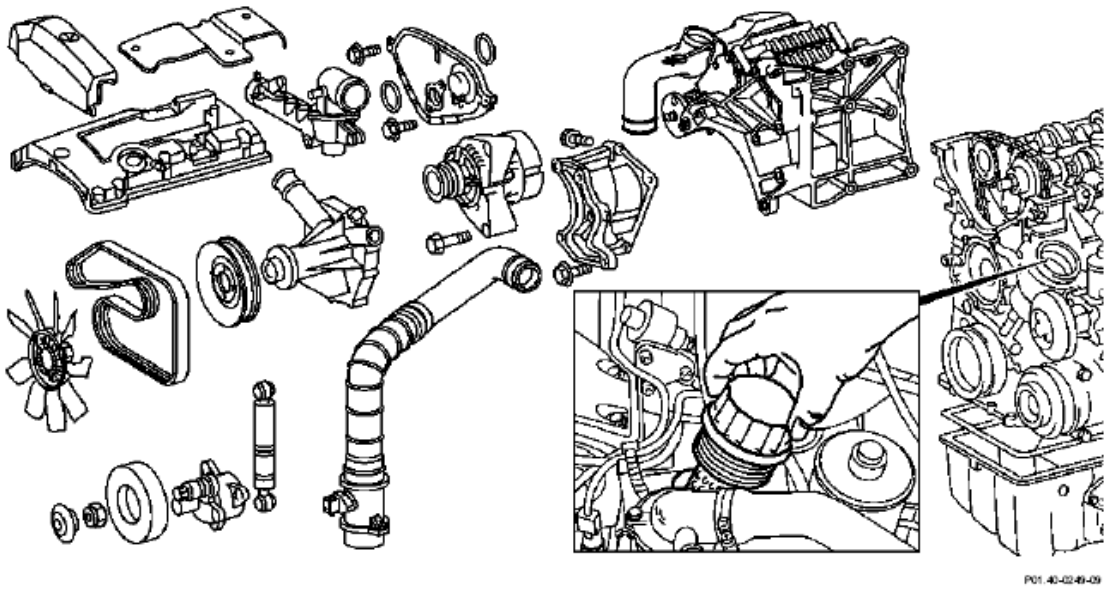


Fig. 175: Identifying Timing Case Cover Remove/Install Components (1 Of 4)

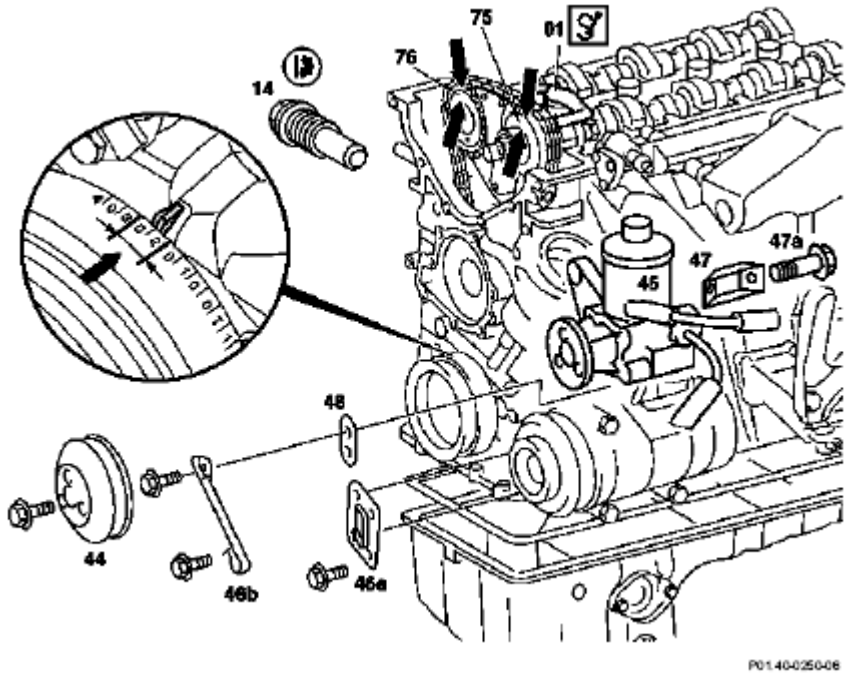


Fig. 176: Identifying Timing Case Cover Remove/Install Components (2 Of 4)

8	Remove engine mounts (2, 3)	AH The anti-twist locks (arrows) in the engine mounts (2) and (3) must engage in the retaining slots in the engine supports (4) and (6) (arrows). Danger! Dispose of engine mounts as mixed scrap	
9	Install in the reverse order		

ENGINE SUSPENSION, ENGINE MOUNTS, ENGINE SUPPORTS

Number	Designation			Engine 111 in Models 170, 202, 208
BA22.10-P-1001-01A	Bolt, engine mount to frame crossmember	M8	Nm	25
		M 10	Nm	-
BA22.10-P-1004-01A	Bolt, engine mount to engine carrier		Nm	55
BA22.10-P-1005-01A	Bolt of engine support to crankcase	Stage 1	Nm	20
		Stage 2	Nm	-
BA22.10-P-1007-01A	Bolt, shield to engine support	Size M 6	Nm	10

COMMERCIALLY AVAILABLE TOOLS

Number	Designation
WH58.30-Z-1001-07A	Shackle, DIN 82101

WORKSHOP EQUIPMENT

WE58.40-Z-1012-11A	Load regulator (engine hoist), self-locking

Remove/install front engine mounts and/or engine support - AR22.10-P-1260HA

ENGINE 111, 605, 606 in MODEL 124

ENGINE 606.961 in MODEL 140

ENGINE 111 in MODEL 170

ENGINE 111, 604, 605 in MODEL 202

ENGINE 111, 604, 605, 606.912 /962 in MODEL 210

ENGINE 111 in MODEL 208

REMOVING AND INSTALLING FLOOR SHIFT

TRANSMISSION 716.6 in MODEL 170, 202.081/087/088/089, 208, 210 except CODE (424) Sequentronic (SEQ) manual transmission.

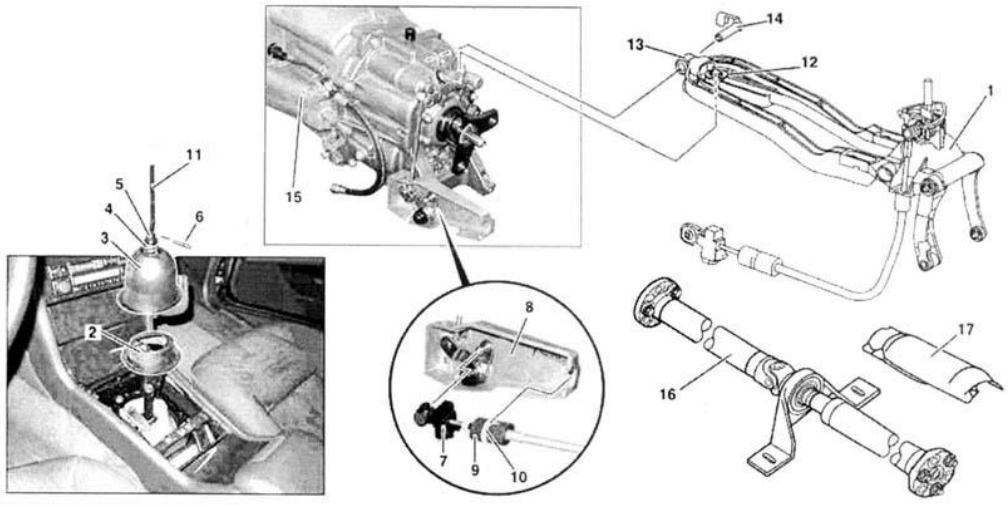


Fig. 20: Removing & Installing Floor Shift
Courtesy of MERCEDES-BENZ OF NORTH AMERICA.

Remove/Install

WARNING: Self-locking nuts and bolts, replace all self-locking nuts and bolts loosened during removal with NEW self-locking nuts and bolts.

1. Move transmission to neutral position.
2. Remove shift lever handle. See **DETACHING AND ATTACHING SHIFT LEVER** .
3. Remove cover on shift lever.

   For Model 170. See **REMOVE/INSTALL GEAR SHIFT LEVER COVER** .

4. Press down washer (5) with spring (4) and press out locking pin (6). See **Fig. 20** .
5. Unclip outer cup (3) and remove gearshift lever (11).

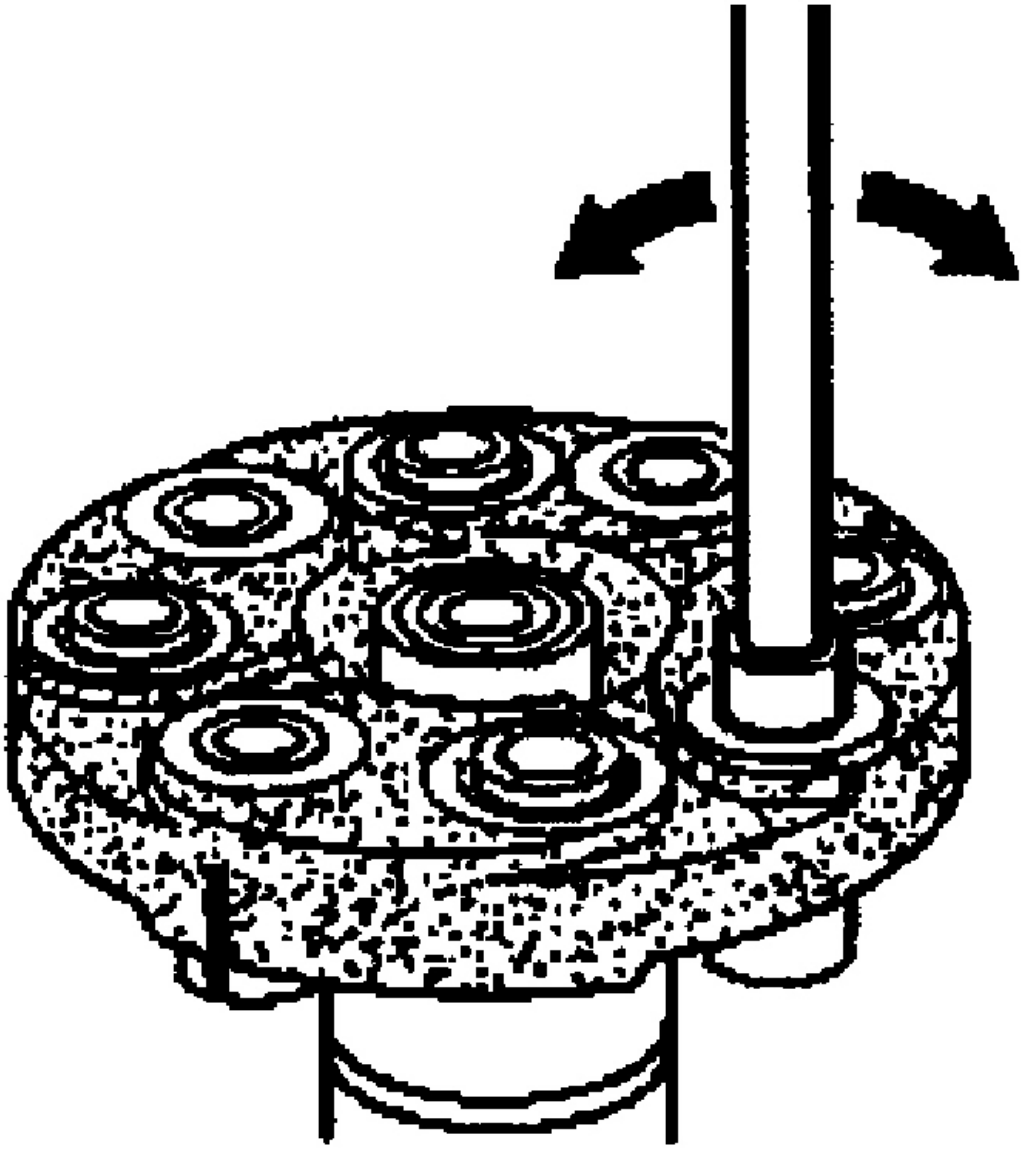


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Fig. 26: Releasing Guide Sleeves At Flexible Coupling Propeller Shaft Removed
Courtesy of MERCEDES-BENZ OF NORTH AMERICA.

		SFI fault code description		
P2010-001 P2010-002 P2010-004 P2011-001 P2011-002 P2011-004 P2012-001 P2012-002 P2012-004 P2013-001 P2013-002 P2013-004	(P0262) (P0261) (P0201) (P0268) (P0267) (P0203) (P0271) (P0270) (P0204) (P0265) (P0264) (P0202)	Fault code description for fuel injection valves, ME-SFI		**AD07.61-P-4000-10G**
P2014-001 P2014-002 P2014-004 P2014-008	(P0010) (P0010) (P0010) (P0010)	Adjustable camshaft timing solenoid, ME-SFI fault code description		**AD07.61-P-4000-44G**
P2015-001	(-)	Clutch pedal switch, ME-SFI fault code description		**AD07.61-P-4000-84G**
P2016-008	(P0443)	Purge control valve, ME-SFI fault code description	i Engine 111.981/983	**AD07.61-P-4000-19GA**
P2016-001 P2016-002 P2016-004	(P0445) (P0445) (P0444)	Purge control valve, ME-SFI fault code description		**AD07.61-P-4000-19G**
P2017-001 P2017-002 P2017-004	(-) (-) (-)	Fuel pump relay, ME-SFI fault code description		**AD07.61-P-4000-85G**
P2018-001 P2018-002 P2018-004	(P0414) (P0414) (P0413)	Air pump switchover valve, ME-SFI fault code description		**AD07.61-P-4000-78G**
P2019-001 P2019-002	(-) (-)	Air injection relay, ME-SFI fault code description	Engine 111.951/952	AD07.61-P-4000-69G
P201B-001 P201B-002 P201B-004 P201B-008 P201B-016 P201B-032 P201B-064 P201B-128	(P0301) (P0303) (P0304) (P0302) (-) (-) (-) (-)	Misfiring, ME-SFI fault code description	TWC-damaging	**AD07.61-P-4000-11GA**
P201C-001 P201C-002	(P0301) (P0303)	Misfiring, ME-SFI fault code description	Emission limit	**AD07.61-P-4000-11G**

L-SAPS, SAE 10W-40					Petrooli Oy, Hamina/Finland
Texaco Ursa TDX		X			Chevron Texaco Technology Ghent/Gent, Zwijnaarde, Belgium
Texaco Ursa Ultra		X			Chevron Texaco Technology Ghent/Gent, Zwijnaarde, Belgium
Tor Turbosynth		X	X		De Oliebron B.V., Zwijndrecht, Netherlands
Tor Turbosynth 10W-40 NF		X			De Oliebron B.V., Zwijndrecht, Netherlands
TOR Turbosynth LSP, 10W-40		X			De Oliebron B.V., Zwijndrecht, Netherlands
Total Rubia TIR 8600 10W-40		X			Total Lubrifiants, Paris la Defense Cedex, France
Total Rubia TIR 8900 10W-40		X			Total Lubrifiants, Paris la Defense Cedex, France
Total Rubia TIR 9200 FE 5W-30			X		Total Lubrifiants, Paris la Defense Cedex, France
Triathlon Super Cargo		X			Adolf Wurth GmbH & Co. KG, Kunzelsau, Germany
Truckmaster XPFE		X			Millers Oils Ltd., Brighouse West Yorkshire, England
Trucksynth			X		Millers Oils Ltd., Brighouse West Yorkshire, England
TURDUS POWERTEC SYNTHETIC SAE 5W/30			X		Grupa Lotos SA., Gdansk, Poland
Turdus Semisynthetic CF/SL 10W-40		X			Grupa Lotos SA., Gdansk, Poland
Turdus Semisyntetic XHPDO		X			Grupa Lotos SA., Gdansk, Poland
Ultra SHPDO Synthetic		X			Krafft S.A., Andoain (Guipuzcoa), Spain
Unil LCM XS		X			Unil S.A., Saumur, France
Unil Opal LCM 800		X			Unil S.A., Saumur, France
Unil Opal LCM 850		X			Unil S.A., Saumur, France
Unil Unimot		X			Unil Germany GmbH,

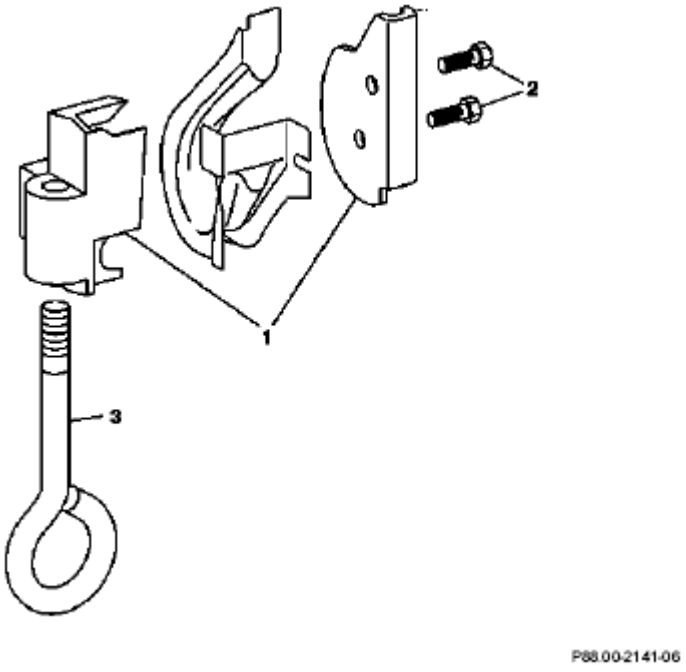


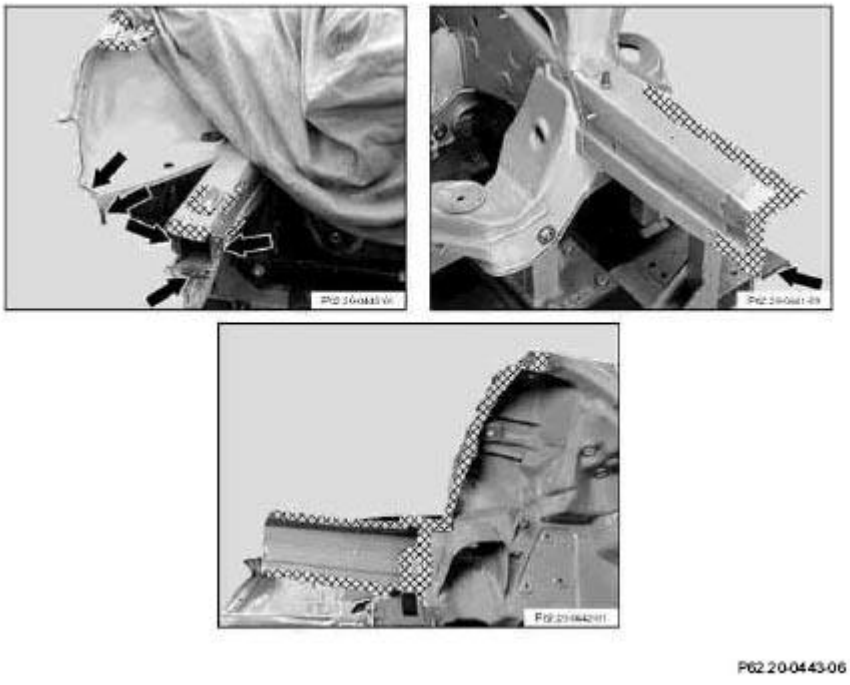
Fig. 105: Identifying Adapter & Towing Eye Ring

RETROFIT AMG REAR SPOILER - AZ88.50-P-0001A

MODEL 170

		The rear spoiler is painted in the accessories and replacement part delivery scope and must be ordered according to the color of the vehicle.	
OF	Rear spoiler certificate	After conversion, have proper installation confirmed by authorized workshop on form sheet "Excerpt from EU Type Approval". The form sheet is to be kept in the vehicle and to be handed over to the responsible persons if required. * for Germany only	OF88.30-P-1001-01A
GF	**Installation**		
1	Retrofit AMG rear spoiler		**AZ88.50-P-0001-01A**

PARTS ORDERING NOTES



P62.20-0443-06

Fig. 47: Identifying Grind Connection Areas

Preparing new parts - AR62.20-P-1250-02G

COMMERCIALLY AVAILABLE TOOLS

Number	Designation
WH58.30-Z-1002-02A	Hole punching pliers, dia. 7 mm
WH58.30-Z-1001-03A	Round wire brush, braided, dia. 70 mm
WH58.30-Z-1024-04A	Abrasive disk, dia. 115 mm, 80 m/s (max. 13,250 rpm)

WORKSHOP EQUIPMENT

WE58.40-Z-1001-03A	Drill (electric/pneumatic)
WE58.40-Z-1003-03A	Angle grinder (electric/pneumatic)
WE58.40-Z-1004-03A	Body saw (electric/pneumatic)