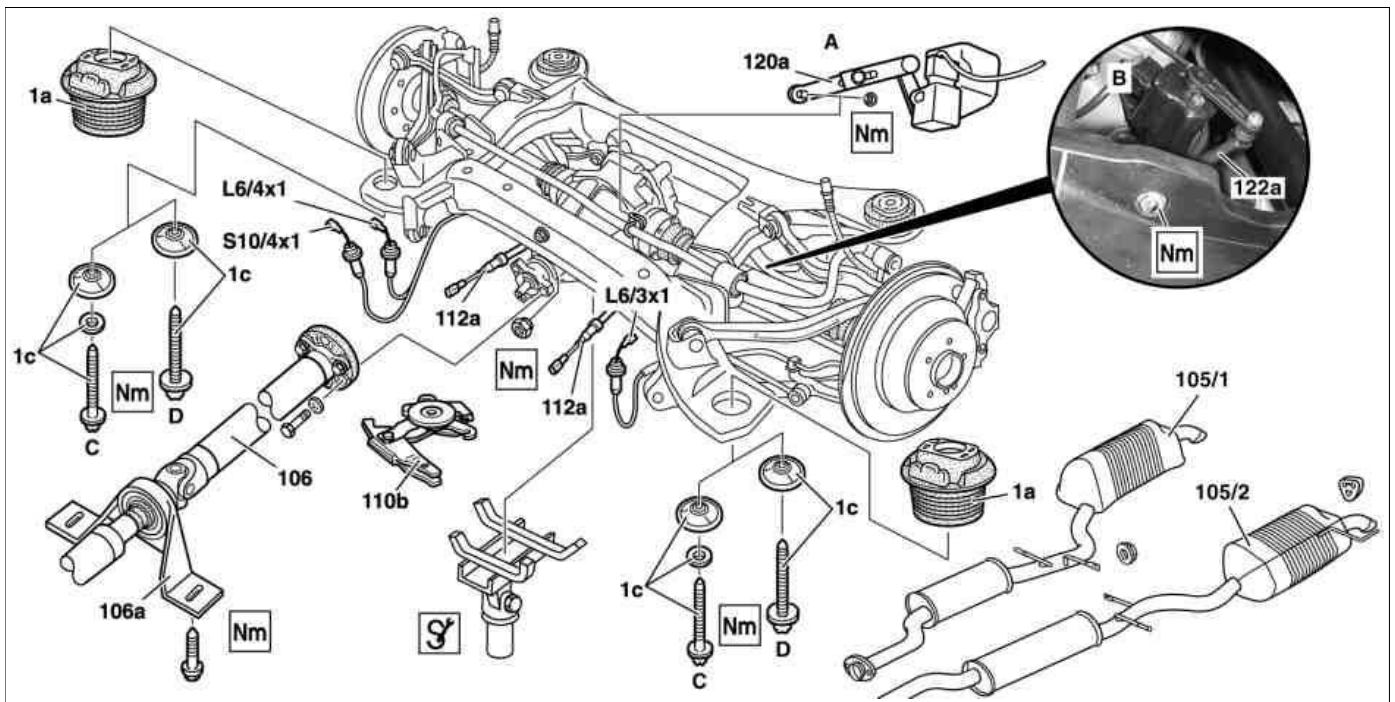


MODEL 215.375 /378, 220.025 /026 /028 /063 /065 /067 /070 /075 /083 /084 /087 /126 /128 /165 /167 /170 /175 /178 /183 /184 /187



P35.10-2132-09

- | | | | | | |
|----|---|-------|--------------------------------------|---------|---|
| A | Vehicles with AIRmatic | 1c | Rear axle mount bolts at front | 120a | Level sensor control rod |
| B | Vehicles with active body control (ABC) | 105/1 | Right muffler | 122a | Level sensor control rod |
| C | First version | 105/2 | Left muffler | L6/3x1 | Rpm sensor connector |
| D | Second version | 106 | Rear propeller shaft | L6/4x1 | Rpm sensor connector |
| 1a | Rear axle suspension front rubber mount | 106a | Propeller shaft intermediate bearing | S10/4x1 | Right rear brake pad contact sensor connector |
| | | 110b | Cable slack adjuster | | |
| | | 112a | Brake cables | | |

Modification notes

| | | | |
|---------|---|---|---------------------|
| 6.9.00 | Value changed from 95 Nm to: 1st stage 60 Nm 2nd stage 90° | Value in BA35.10-P-1001-01A changed for model 215 | *BA35.10-P-1001-01A |
| 6.9.00 | Value changed from 95 Nm to: 1st stage 60 Nm 2nd stage 90° | Value changed to BA35.10-P-1001-01A for model 220 | *BA35.10-P-1001-01A |
| 12.9.00 | Bolted connection changed, front and rear rubber mounts, rear axle carrier to frame floor | Refer to operation 11. | BT35.10-P-0004-01I |

| | Remove/install | | |
|----------------|--|--|--|
| Danger! | Risk of death 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 |
| | While working on the rear axle care must be taken to ensure that the surface of all aluminum components do not get any scratches, cracks and notches. Otherwise the service life of the parts will be affected | | |
| | Notes on self-locking nuts and bolts | | AH00.00-N-0001-01A |
| 1 AP | Remove rear wheels Remove/install wheels, rotate if necessary | | AP40.10-P-4050Z |
| 2 | Remove right rear muffler (105/1) | In order to prevent damage to the brake cable bracket at the rear axle, parts of the exhaust system must be removed, refer to section entitled "Removing entire exhaust system": ↓ Engine 112, 113 Engine 137 Engine 613 Engine 628 | AR49.10-P-7000AA AR49.10-P-7000L AR49.10-P-7000M AR49.10-P-7000MB |
| 3 | Detach rear rubber mount from left rear muffler (105/2) | | |

| | | | |
|-----|---|--|---|
| 4 | Detach, attach parking brake cables (112a) on automatic cable adjuster (110b) of parking brake | See: ↓ Remove rear brake cable | AR42.20-P-0525I |
| 5 | Remove bolts for propeller shaft intermediate bearing (106a). | Nm | *BA41.40-P-1001-01A |
| 6 | Remove rear propeller shaft assembly (106) from rear axle differential. | Flexible disk remains on propeller shaft. Installation: Connect rear propeller shaft to rear axle differential Nm | AR41.10-P-0050-04I *BA41.10-P-1002-01A |
| 7 | Slacken flexible coupling fitted sleeves on flange. Drift for loosening fitting sleeves in flex disks. | Tie up propeller shaft to one side. | AR41.10-P-0050-09I WF58.50-P-4110-01A |
| WF | | | |
| 8.1 | Unclip cables from right rear brake pad contact sensor connector (S10/4x1) and left (L6/3x1)/right (L6/4x1) rpm sensor connector at rear axle carrier and track rod | If necessary, depending on cable length. | |
| 9.1 | Detach level sensor control rod (120a) from torsion bar link | Vehicles with AIRmatic Nm | *BA82.10-P-1001-02A |
| 9.2 | Remove level sensor control rod (122a) from both spring control arms. | Vehicles with active body control (ABC) Nm | *BA82.10-P-1006-02A |
| 10 | Use assembly attachment, pit hoist or floor jack to support rear axle under final-drive unit. | Assembly attachment | *140589016200 |
| 11 | Remove rear axle mounting bolts, front (1c) Bolted connection changed, front and rear rubber mounts, rear axle carrier to frame floor | Installation: Recut thread on frame floor with tap. Tightening bolts or nuts to specified angles Nm | AR35.10-P-0010-08I *BA35.10-P-1001-01A BT35.10-P-0004-01I |
| BT | | | |
| 12 | Carefully lower rear axle | Take care not to trap brake cables and lines. | |
| 13 | Remove front rubber mounts (1a) in rear axle suspension | Always replace both front rubber mounts. Extractor tool Insertion tool Lubricant paste | AR35.10-P-0040-02I *220589024300 *140589043300 *BR00.45-Z-1002-06A |
| 14 | Install in the reverse order | | |

Rear axle carrier

| Number | Designation | | Model 215 | Model 220 | | |
|--------------------|--|--------------------------|-----------|-----------|----|----|
| BA35.10-P-1001-01A | Self-locking bolt, front rear axle carrier rubber mount to frame floor | – | Nm | – | – | |
| | | with bolt Flange Ø 24 mm | Stage 1 | Nm | 60 | 60 |
| | | | Stage 2 | ∠° | 90 | 90 |
| | | with bolt flange Ø 26 mm | Stage 1 | Nm | 60 | 60 |
| | | | Stage 2 | ∠° | 90 | 90 |

Propeller shaft

| Number | Designation | Model 215 | Model 220 |
|--------|-------------|-----------|-----------|
| | | | |

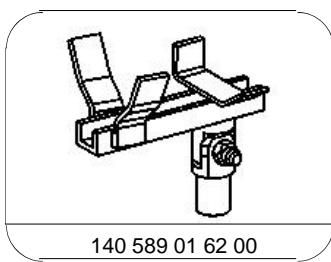
| | | | | | |
|--------------------|--|-----|----|----|----|
| BA41.10-P-1002-01A | Self-locking nut, flexible coupling to rear propeller shaft or rear axle differential. | M10 | Nm | - | - |
| | | M12 | Nm | 60 | 60 |

Nm Propeller shaft intermediate bearing

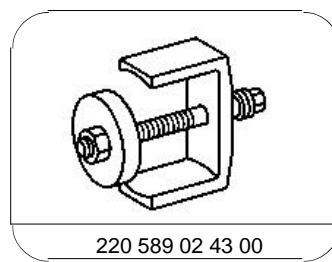
| Number | Designation | | Model 215 | Model 220 | |
|--------------------|--|---|-----------|-----------|----|
| BA41.40-P-1001-01A | Bolt, propeller shaft intermediate bearing to frame floor assembly | Self-tapping screw | Nm | - | - |
| | | Bolt with washer | Nm | 30 | 30 |
| | | Bolt with collar and self-centering tip | Nm | - | - |
| | | Bolt with collar and without self-centering tip | Nm | - | - |

Nm Rear axle level sensor

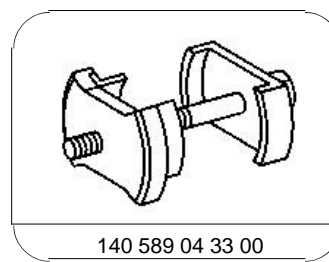
| Number | Designation | | Model 215 with code 487 | Model 220 except model 220 with code 487 | Model 220 with code 487 |
|--------------------|--|----|-------------------------|--|-------------------------|
| BA82.10-P-1001-02A | Nut, level sensor link rod to torsion bar intermediate lever | Nm | - | 10 | - |
| BA82.10-P-1006-02A | Nut, linkage rod bracket to spring control arm | Nm | 8 | - | 8 |



Assembly attachment



Extraction tool

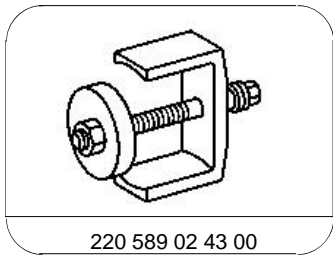


Insertion tool

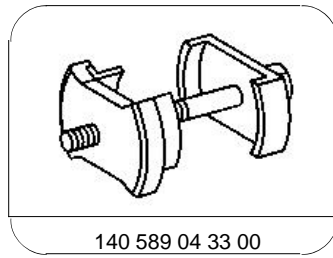
Repair materials

| Number | Designation | Order number |
|--------------------|---|-----------------|
| BR00.45-Z-1002-06A | Lubricating paste, rubber parts 2.5 kg, DB supply specification 6867.00 | A 000 989 01 60 |

| | | | |
|--------------------|--|--|--|
| AR35.10-P-0040-02i | Remove/install front rubber bushing in rear axle mount | | |
|--------------------|--|--|--|



Extraction tool



Insertion tool

Repair materials

| Number | Designation | Order number |
|--------------------|---|-----------------|
| BR00.45-Z-1002-06A | Lubricating paste, rubber parts 2.5 kg, DB supply specification 6867.00 | A 000 989 01 60 |

Remove rubber mount

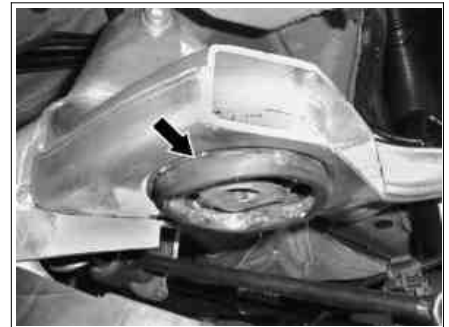


Always replace both front rubber mounts.

- 1 Cut off protruding rubber bead (arrow) on rubber mount (1a) using suitable knife (wear safety glasses and safety gloves).

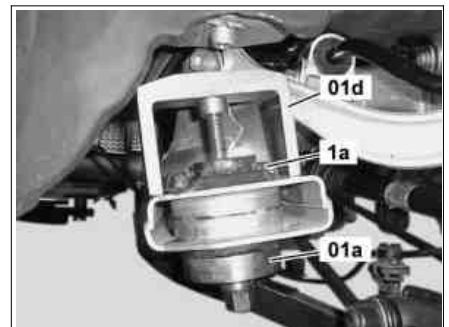


Bead must be cut off so that rubber mount is not sheared off when it is pushed out. Otherwise, this causes the pressure piece to become jammed in the rear axle carrier.



P35.10-2031-01

- 2 Place extraction tool (01a, 01d) on rear axle carrier.
- 3 Push rubber mount (1a) out of rear axle carrier.

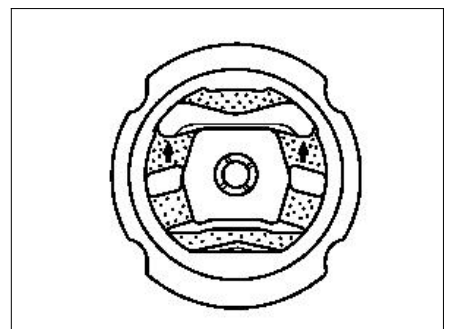


P35.10-2032-01

Install rubber mount



Pay attention to installation position. The arrows on the underside of the rubber mount must point in the direction of travel.



P35.10-2037-01

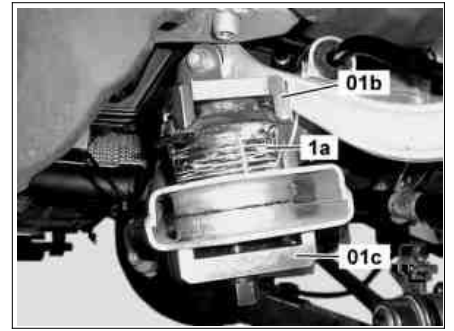
4 Grease rubber mount (1a) around circumference with lubricant.

5 Place insertion tool (01b, 01c) on rear axle carrier.



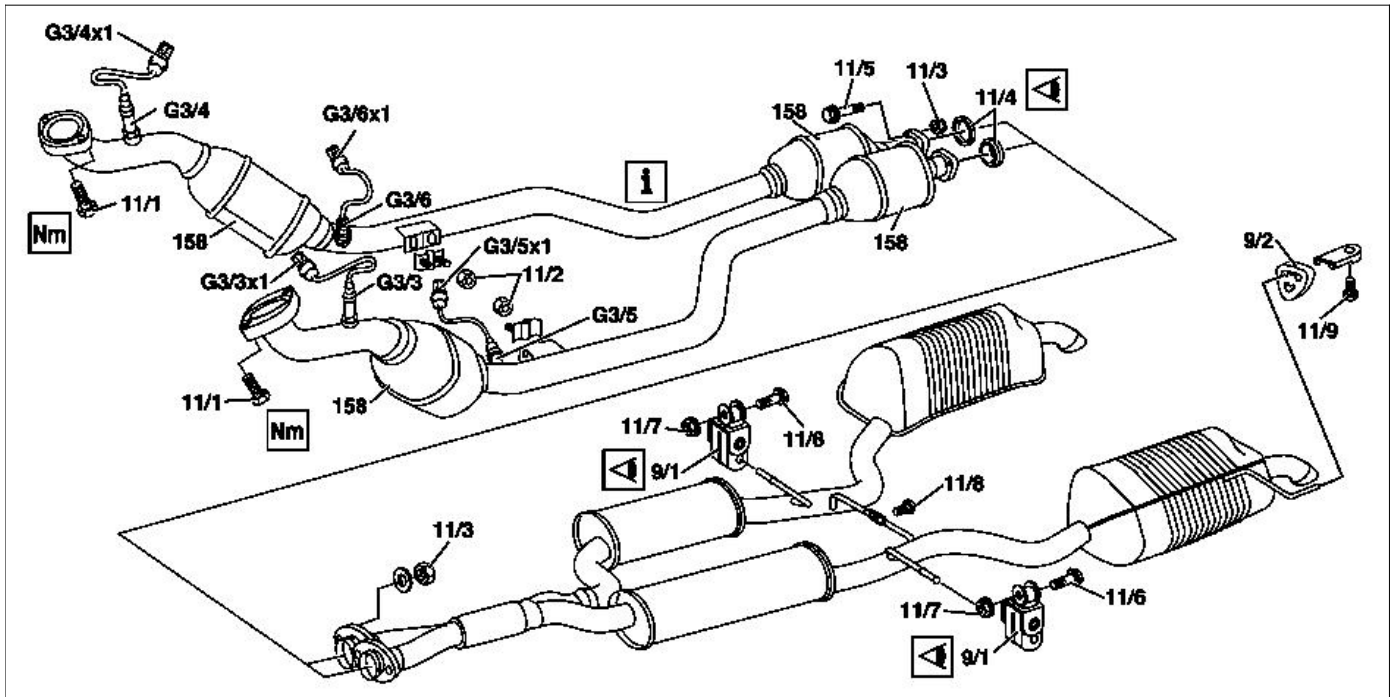
Arrows on insertion tool must point in direction of travel.

6 Insert rubber mount (1a) into rear axle carrier.



P35.10-2033-01

| | |
|--------|---|
| ENGINE | 112.922 in MODELS 220.063 /163 |
| ENGINE | 112.944 in MODELS 220.065 /165 |
| ENGINE | 113.941 in MODELS 220.070 /170 |
| ENGINE | 113.960 in MODELS 215.375, 220.075 /175 |
| ENGINE | 113.948 in MODELS 220.083 /183 |
| ENGINE | 113.966 in MODELS 220.084 /184 |
| ENGINE | 112.975 in MODELS 220.087 /187 |
| ENGINE | 113.991 in MODELS 215.374, 220.074 /174 |
| ENGINE | 112.972 in MODELS 220.067 /167 |
| ENGINE | 113.986 in MODELS 215.373, 220.073 /173 |



P49.10-2003-09

| | | | | | |
|------|---------------------------|--------|---|--------|--|
| 9/1 | Exhaust rubber mount | 158 | Catalytic converters | G3/5 | Left O ₂ sensor downstream TWC |
| 9/2 | Rear exhaust rubber mount | G3/3 | Left O ₂ sensor, before TWC | G3/5x1 | Left O ₂ sensor connector, downstream of TWC |
| 11/1 | Bolts | G3/3x1 | Left O ₂ sensor connector, before TWC | G3/6 | Right O ₂ sensor downstream of TWC |
| 11/2 | Copper nuts | G3/4 | Right O ₂ sensor upstream TWC | G3/6x1 | Right O ₂ sensor connector, downstream of TWC |
| 11/3 | Copper nuts | G3/4x1 | Right O ₂ sensor connector, before TWC | | |
| 11/4 | Sealing rings | | | | |
| 11/5 | Bolts | | | | |
| 11/6 | Bolts | | | | |
| 11/7 | Nuts | | | | |
| 11/8 | Bolt | | | | |
| 11/9 | Bolt | | | | |

| | Remove/install | | |
|------------------|---|--|--|
| ⚠ Danger! | Risk of death caused by vehicle slipping or toppling off the lifting platform. | Align vehicle between the columns of the lifting platform and position the four support plates at the lifting platform support points specified by the vehicle manufacturer. | AS00.00-Z-0010-01A |
| 1 | Raise vehicle with lifting platform | | |
| 2 | Separate the connectors (G3/3x1 to G3/6x1) of the O ₂ sensors (G3/3 to G3/6) | Except engine 112.975, 113.948/966/986 | AR14.00-P-5303AA |
| 3 | Unscrew bolts (11/1) at flange connection between front exhaust system / exhaust manifold | i If bolts are sluggish or thread is damaged: ↓ Replace rivet nuts in exhaust manifold. Nm | AR49.10-P-5531-01DA *BA14.10-P-1002-01B |
| 4 | Unscrew copper nuts (11/2) at bracket of exhaust system to transmission | i Support exhaust system with inspection pit lift. i Installation: Replace copper nuts (11/2). | |
| 5 | Unscrew bolt (11/9) at rear exhaust rubber mount (9/2) | ⚠ Inspect rear exhaust rubber mount (9/2) for damage, replace if necessary. | |

| | | | |
|----------------|---|--|--------------------|
| 6 | Unscrew bolts (11/6) with nuts (11/7) from exhaust-rubber mount (9/1) | Inspect exhaust rubber mount (9/1) for damage, replace if necessary. | |
| 7 | Lift out exhaust system complete | Installation: Install exhaust system free of tension. | |
| 8 | Install in the reverse order | | |
| Danger! | Risk of accident caused by vehicle starting off by itself when engine is running. Risk of injury caused by contusions and burns during starting procedure or when working near the running engine | Secure vehicle to prevent it from moving by itself. Wear closed and snug-fitting work clothes. Do not grasp hot or rotating parts. | AS00.00-Z-0005-01A |
| 9 | Conduct engine test run and check the exhaust system for leaks whilst the engine is running | In the event of a leak, determine and eliminate cause, otherwise malfunctions and serious environmental pollution may occur. | |

Exhaust manifold

| Number | Designation | | Engine 112 except 112.951/ 976 | Engines 113.940/941/ 942/943/944/ 945/946/948/ 960/961/962/ 963/964/965/ 966/967/968/ 969/971/980/ 981/982/984/ 986/992/993/ 995 | Engine 113.987/ 988/990/ 991 |
|--------------------|---|----|--|--|---------------------------------------|
| BA14.10-P-1002-01B | Flange connection, exhaust manifold and front exhaust pipes | Nm | 20 | 20 | 20 |

| | | | |
|--------------------|--|--|--|
| AR41.10-P-0050-04I | Connecting rear propeller shaft to rear axle center assembly | | |
|--------------------|--|--|--|

Modification notes

| | | | |
|---------|--|-----------|---------------------|
| 29.6.10 | Value modified: Self-locking nut, flexible coupling to rear propeller shaft or rear axle center assembly., M12 | Model 230 | *BA41.10-P-1002-01A |
|---------|--|-----------|---------------------|

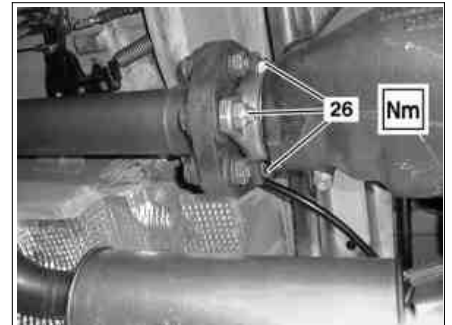
Nm Driveshaft

| Number | Designation | | | Model 211 | Model 215 | Model 220 | Model 230 |
|--------------------|---|-----|----|-----------|-----------|-----------|-----------|
| BA41.10-P-1002-01A | Self-locking nut, flexible coupling to rear propeller shaft or rear axle center assembly. | M10 | Nm | 40 | - | - | - |
| | | M12 | Nm | 60 | 60 | 60 | 68 |

Models 211/215/230 without vibration damper

i Replace self-locking nuts (26).

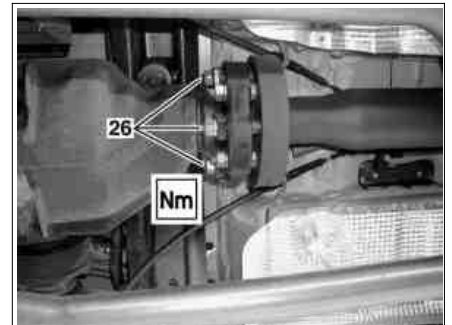
- 1 Mount rear propeller shaft on rear axle center assembly



P41.10-2004-01


Models 211, 220.028/128 with vibration damper

Shown on model 220.028




P41.10-2050-01


Important repair information

 Screws/bolts with locking splines, microencapsulated screws/bolts and self-locking nuts are to be replaced after being used once. In addition, the screws/bolts are always to be replaced for threaded connections with self-locking nuts.

When loosening microencapsulated screws/bolts, there is a greater risk of injury due to the sudden breakaway torque.

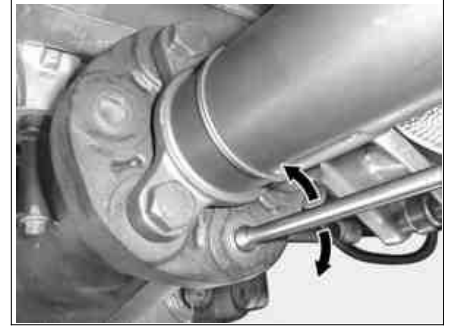
Before new microencapsulated screws/bolts are screwed in, the mating thread must be recut in order to remove all remains of the old thread locking material.

 No greases, oils, waxes or other lubricants may be introduced into or applied on the threaded connections and their contact surfaces. Otherwise the preload forces no longer correspond to the specifications.

 Threaded connections located in the splash zone are to be preserved with spray wax **after** tightening.

Propeller shaft installed**Models 215, 220, 230 without vibration damper at rear**

- 1 Loosen the fit sleeves of the flexible couplings using the drift (shop-made tool) on the three or four arm flange of the transmission or rear axle center assembly.



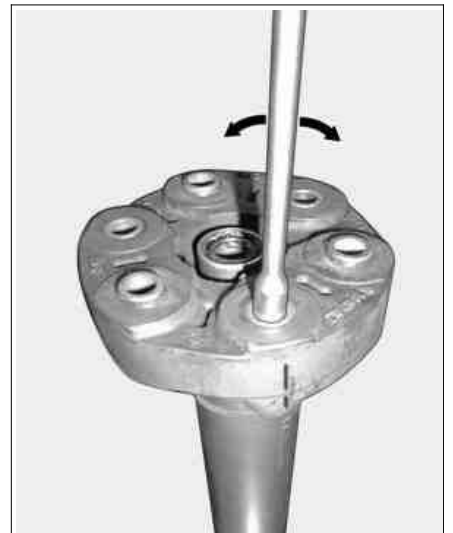
P41.10-2007-01

Model 220.028/128 with vibration damper at rear

P41.10-2049-01

Propeller shaft removed

- 2 Loosen the fit sleeves of the flexible couplings using the drift (shop-made tool) on the three or four arm flange of the transmission or rear axle center assembly.



P41.10-2008-02

| | | |
|--------------------|---|----|
| BT35.10-P-0004-011 | Bolted connection between rear axle carrier front and rear rubber mounts and frame floor modified | BT |
|--------------------|---|----|

MODELS 215.375 /378, 220.026 /028 /063 /065 /070 /075 /128 /165 /170 /175 /178 as of 9.10.00

As of October 2000 the bolted connection between the rear axle carrier front and rear rubber mounts and the frame floor has been modified.

The bolt head diameter (d) has been increased. The bolt flange diameter has also been increased from 24 mm (a) to 26 mm (b), meaning that the washer is not required.

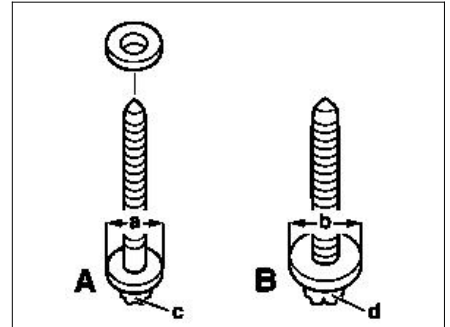
The tightening torque of the previous bolted connection has also been modified. The value of 95 Nm no longer applies.

- A Previous bolt
- B New bolt

- a Bolt flange diameter 24 mm
- b Bolt flange diameter 26 mm
- c Torx socket size E14
- d Torx socket size E18

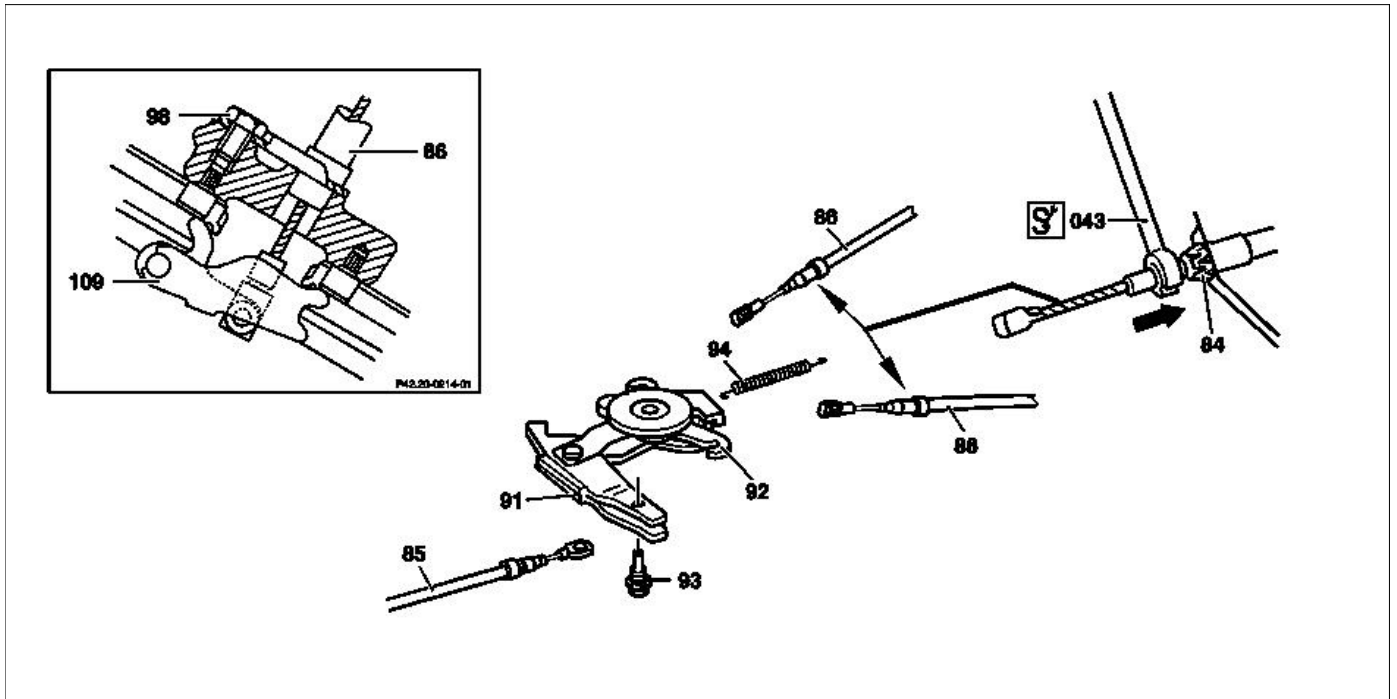


Please note modified tightening torque of previous bolted connection and tightening torque of new bolted connection. Otherwise crackling noise could occur at this bolted connection due to pushing and pulling stress.



P35.10-2134-01

MODEL 215, 220

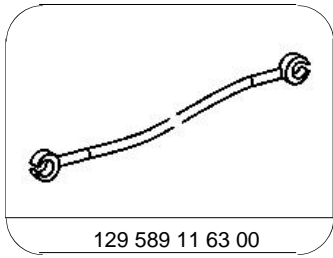


P42.20-0332-09

| | | | |
|------------------|--|--|-------------------------------------|
| | Remove/install | | |
| ⚠ Danger! | 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 at the lifting platform support points specified by the vehicle manufacturer. | AS00.00-Z-0010-01A |
| | Notes on repairs to brake system | All models | AH42.00-P-0003-01A |
| 1 | Raise vehicle | | |
| 2 | Remove parking brake shoes | Model 215 except 215.379, 220 except 220.179 Model 215.379, 220.179 | AR42.20-P-0530I AR42.20-P-0530IM |
| 3 | Detach front brake cable (85) at intermediate lever (91) | i Installation: Replace self-locking bolt (93) | |
| 4 | Detach brake cables (86) from equalizer arm (92) | | |
| 5 | Detach brake cables (86) from bracket on rear axle carrier | i Use snap-release tool (043). Snap-release tool | *129589116300 |
| 6 | Remove self-locking bolt (98) on wheel carrier. | i Installation: Install new self-locking bolt (98) Nm Self-locking bolt, brake cable to rear wheel carrier | *BA42.20-P-1002-01A |
| 7 | Remove brake cables (86) from wheel carrier | | |
| 8 | Install in the reverse order | i Installation: Install new grommet if necessary. Lubricant paste | *BR00.45-Z-1002-06A |

 Parking brake

| Number | Designation | Model 215 | Model 220 |
|--------------------|--|-----------|-----------|
| BA42.20-P-1002-01A | Self-locking bolt, brake cable at rear wheel carrier | Nm - | 12 |



Snap-release tool

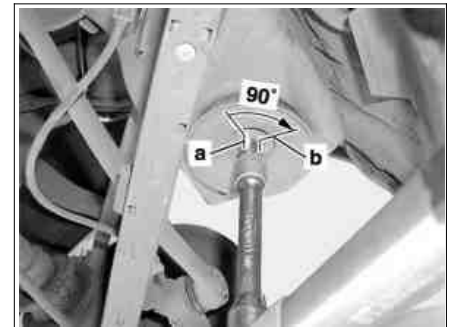
Repair materials

| Number | Designation | Order number |
|--------------------|---|-----------------|
| BR00.45-Z-1002-06A | Lubricating paste, rubber parts 2.5 kg, DB supply specification 6867.00 | A 000 989 01 60 |

Nm Rear axle carrier

| Number | Designation | | Model 215 | Model 220 | | |
|--------------------|--|--------------------------|-----------|-----------|----|----|
| BA35.10-P-1001-01A | Self-locking bolt, front rear axle carrier rubber mount to frame floor | - | Nm | - | - | |
| | | with bolt Flange Ø 24 mm | Stage 1 | Nm | 60 | 60 |
| | | | Stage 2 | ∟° | 90 | 90 |
| | | with bolt flange Ø 26 mm | Stage 1 | Nm | 60 | 60 |
| | | | Stage 2 | ∟° | 90 | 90 |
| | | | | | | |
| BA35.10-P-1002-01A | Self-locking bolt, rear axle carrier rear rubber mount to frame floor | - | Nm | - | - | |
| | | with bolt Flange Ø 24 mm | Stage 1 | Nm | 60 | 60 |
| | | | Stage 2 | ∟° | 90 | 90 |
| | | with bolt flange Ø 26 mm | Stage 1 | Nm | 60 | 60 |
| | | | Stage 2 | ∟° | 90 | 90 |
| | | | | | | |

- 1 Tighten bolt to tightening torque: 1st stage.
- 2 Mark plug-in socket relative to stop disk on front rubber mount or relative to the inner core of the rear rubber mount, marking (a).
- 3 Apply mark (b) offset by 90° to stop plate on front rubber mount or to inner core of rear rubber mount.
- 4 Tighten bolt to 90° angle, 2nd stage. Marking (a) and marking (b) must then match.



Shown on left front rear-axle suspension

P35.10-2135-01