

Recall Campaign Bulletin



Mercedes-Benz

Campaign No. 2024040012, June 2024

TO: ALL MERCEDES-BENZ CENTERS

SUBJECT: **Model G-Class (463 platform)**
Model Year 2022 – 2023

Replace Rear Axle Differential Housing – Wave 2

Mercedes-Benz AG, the manufacturer of Mercedes-Benz vehicles, has determined that on certain MY 2022-2023 AMG G63 (463 platform) special edition 4x4² (squared) vehicles, the rear axle differential housing might not meet the strength requirements. Cracks in the rear axle differential housing might occur during vehicle operation, which may lead to differential oil leaking onto the roadway. In this case, a risk of a crash for following vehicle traffic may be increased. Further, fracturing of the housing cannot be ruled out and could lead to an interruption of the power transmission on the rear axle, in which a loss of wheel guidance and a loss of propulsion without warning cannot be ruled out. In this case, the risk of a crash or injury could be increased. An authorized Mercedes-Benz dealer will replace the rear axle on the affected vehicles.

Prior to performing this Campaign:

- **VMI must be checked before performing campaigns to verify that the campaign is required on a specific vehicle. Always check for any other open campaigns and perform accordingly.**
- Please review the entire Campaign bulletin and follow the repair procedure exactly as described.

Approximately 15 vehicles are affected.

Order No. P-RC-2024040012

Recall Campaign Bulletin

Recall Campaign Bulletin

Recall Campaign Bulletin

Recall Campaign Bulletin

Recall Campaign Bulletin

Replace Rear Axle Differential Housing – Wave 2 – 463 4x4²

Rear Axle Redocumentation

i After the **rear axle centerpiece** has been replaced, the new **serial number** and **item number** must be documented in **VeDoc**. This can be done by opening a “**Vehicle Data/VeDoc**” XSF ticket and providing a picture of the new serial number and item number.

i Serial number (**Figure 1, 1**) and item number (**Figure 1, 2**).

i The new serial number (**Figure 1, 1**) and item number (**Figure 1, 2**) are documented in the VeDoc system in the tab “**VPD & SerienNr. (VPD & Serial no.) (Figure 2, 3)**” – “**Seriennummern (Serial numbers) (Figure 2, 4)**” – “**Hinterachse 1 Fremdhersteller -VPD-Ident (Rear axle 1 other manufacturer -VPD identification) (Figure 2, 5)**”.



Figure 1

| Benennung | Seriennummer | Sachnummer |
|--|---------------------------------------|-------------------|
| Freierleer Vorderr rechts | 1403320690 72319200009301003000000000 | 1403320690 |
| Katalysator 1 | 4634902604222329200697 | 4634902604 |
| Katalysator 2 | 4634903304222329201834 | 4634903304 |
| Katalysator 5 | 4634906204222321405621 | 4634906204 |
| Katalysator 6 | 4634906104222320001954 | 4634906104 |
| FBS4-Seriennummer Komponente 4 (Motor-Steuergerät) | 100016688609201013012301 | |
| ASD-Modul 1 vorne/ASD komplett/S HD | 46378031009H93231016014060662 | 4637803100 |
| Inertisierungssystem | 4638608500902328300425 | 4638608500 |
| Querlenker Vorderachse oben links | 46333023020N20232300390 | 4633302302 |
| Querlenker Vorderachse oben rechts | 46333024020N20232318800043 | 4633302402 |
| Hinterachse 1 Fremdhersteller | 0N24073016 | 4633501402 |
| Lenksäule | 4634603801132328210280 | 4634603801 |

Figure 2

Work Procedure

1. Lift the vehicle and use the tension belts on **all four (4)** jack points to secure it against falling off.
i For basic data, see **AR00.60-P-1005-01D**.
2. When the vehicle wheels are **lifted** off the ground, engage the rear axle differential lock actuator and then disconnect the electrical plug on the rear axle lock actuator while the lock is engaged.
i **The rear axle must be removed with the lock actuator set to lock position.**
i **To do this:** Start the engine – Release the parking brake – Engage Neutral position (N) – Engage Low Range (**Figure 3**) – Engage Drive position (D) – Engage Center Differential Lock (**Figure 4, 1**) – While wheels are rotating slowly, Engage Rear Axle Differential Lock (**Figure 4, 2**) – Ensure red confirmation light is illuminated for Center and Rear Differential Lock (**Figure 4**) – Switch 'OFF' Ignition – Disconnect electrical plug on Lock Actuator of rear axle and leave disconnected (**Figure 5**).



Figure 3

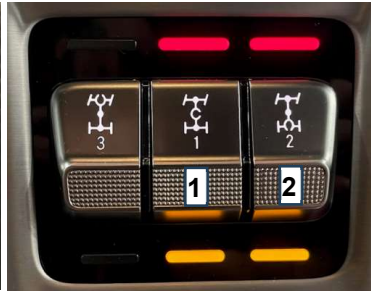


Figure 4



Figure 5

3. Bring the brake pads of the rear axle into "change mode," and put the transmission into permanent Neutral position.
 - a) To bring the brake pads of the rear axle into "brake pad change mode", see **AR42.10-P-1710-01LWE**.
 - b) To put the transmission into permanent Neutral position, perform the following:
 - Press the Start button twice without actuating the brake pedal (Ignition 'ON').
 - Depress the brake pedal and move select lever to "N" position and hold for 1 second to engage permanent Neutral position.
 - Switch off Ignition (key MUST remain in vehicle).

i **Attention: The vehicle is now in permanent "N" position (Figure 6).**

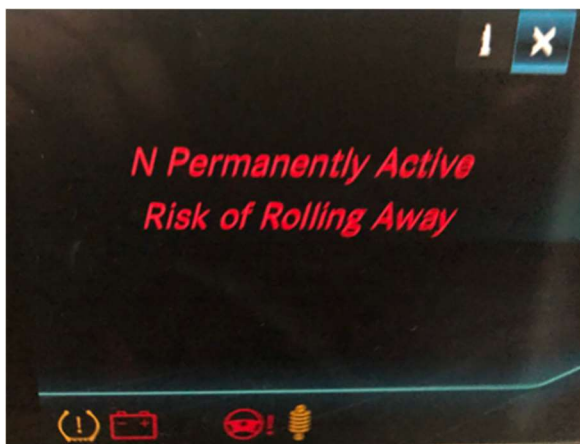


Figure 6

4. Disconnect ground line from battery.

i For basic data, see **AR54.10-P-0003XG**.

5. Remove cover caps of wheel nuts on all four wheels (**Figure 7**).

i To do this, clean cover caps then press Butyl Tape firmly against the cover cap and pull off the cap.

i Damaged cover caps must be replaced.



Figure 7

6. Remove all four wheel and tire assemblies using a wheel lift dolly.

i For basic data, see **AR40.10-P-1100GWX**.

i The wheel nuts are reused.

Nm Light alloy wheel nut: **150 Nm**

7. Drain rear axle oil (**Figure 8**).



Figure 8

8. Disconnect electrical connectors of rear axle wiring harness on rear axle components (**Figure 9**).

Nm Brake sensor screw (**Figure 9, A**): 8 Nm

9. Unscrew the two holders for electrical wiring harness from the rear axle tube. (**Figure 10**).

Remove the complete rear axle wiring harness with holders and cable ties/clips from the rear axle and working area.

i Only replace defective cable ties/clips when installing the wiring harness onto the new axle bridge to ensure that the positioning of the wiring harness remains identical.

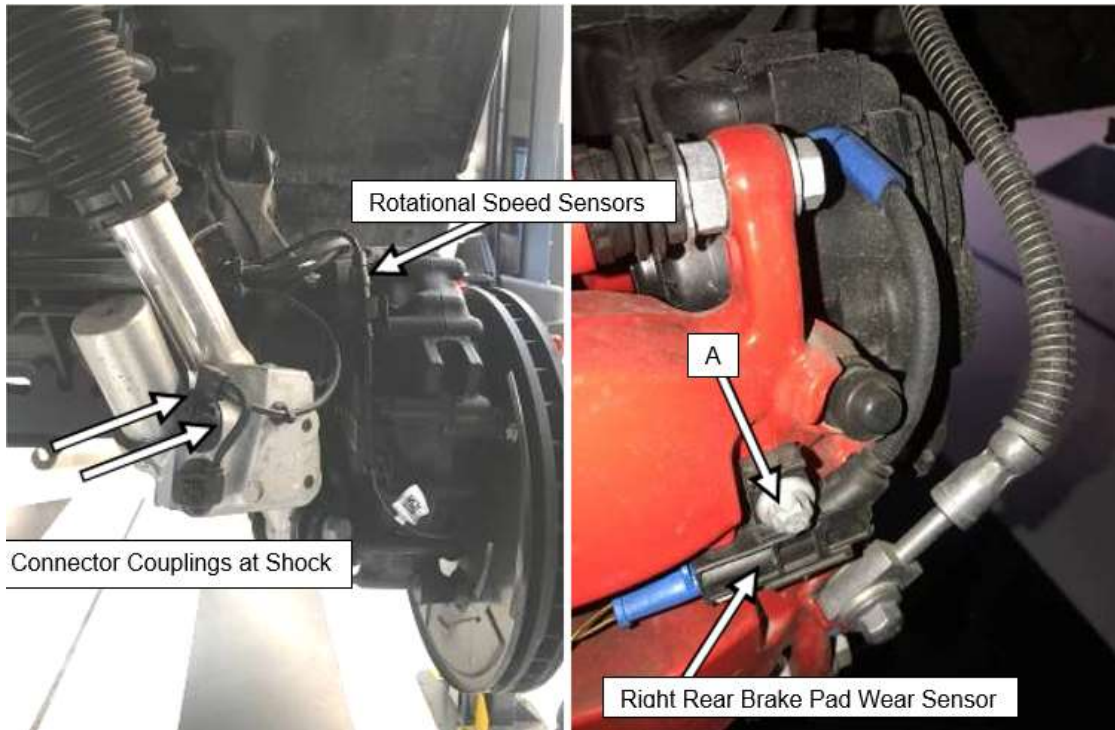


Figure 9



Figure 10

10. Unscrew banjo bolts for bleed lines at left and right rear axle hub reduction gears (**Figure 11**).

Nm M10 bleed line banjo bolt to rear axle hub reduction gear: **15 Nm**.

i **Seal thread openings** on rear axle hub reduction gears with suitable stop plug/screw **immediately** to prevent oil from leaking out.

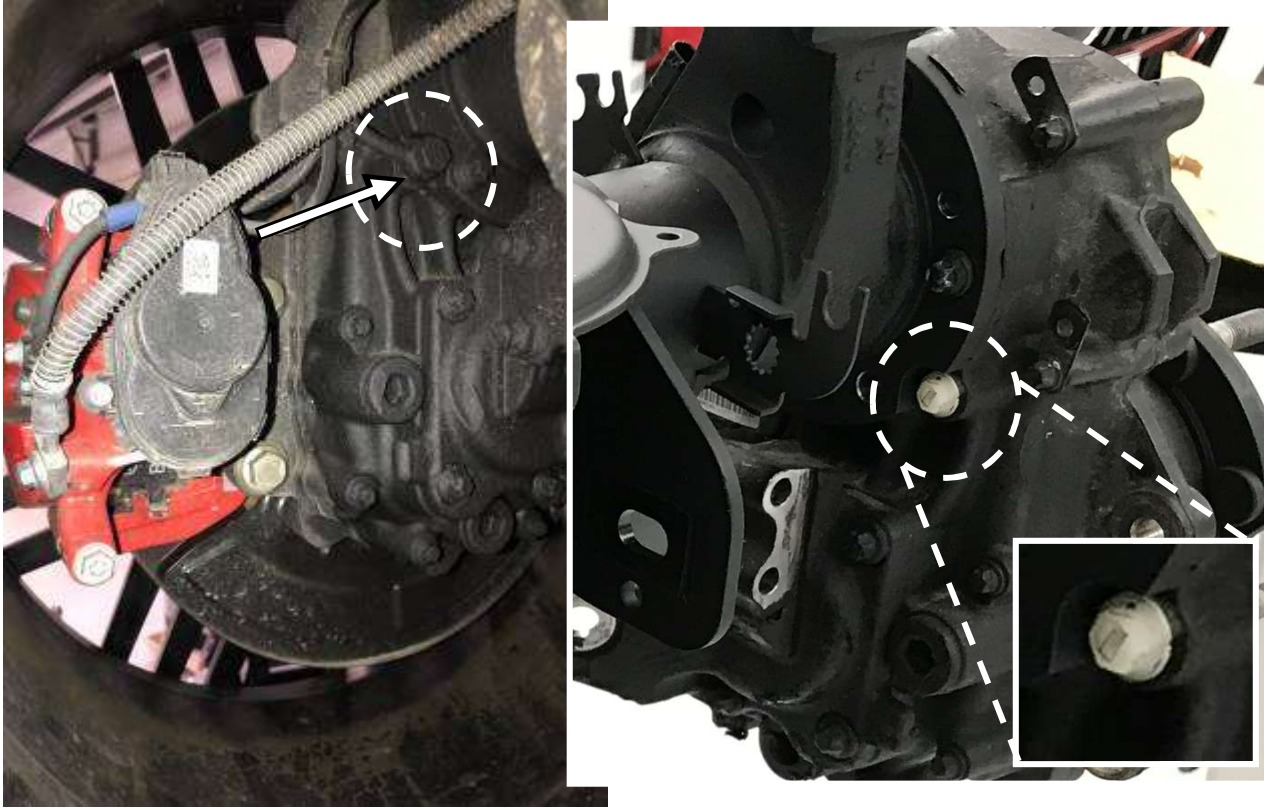


Figure 11

11. Unscrew banjo bolt of bleed lines at axle bridge above lock actuator (**Figure 12**).

Nm M8 bleed line banjo bolt to axle bridge: **8 Nm**

i **Seal thread openings** at axle bridge with suitable stop plug/screw **immediately**.

⚠ Important! A total of **three (3) copper sealing rings** are installed with banjo bolt of bleed lines above lock actuator.

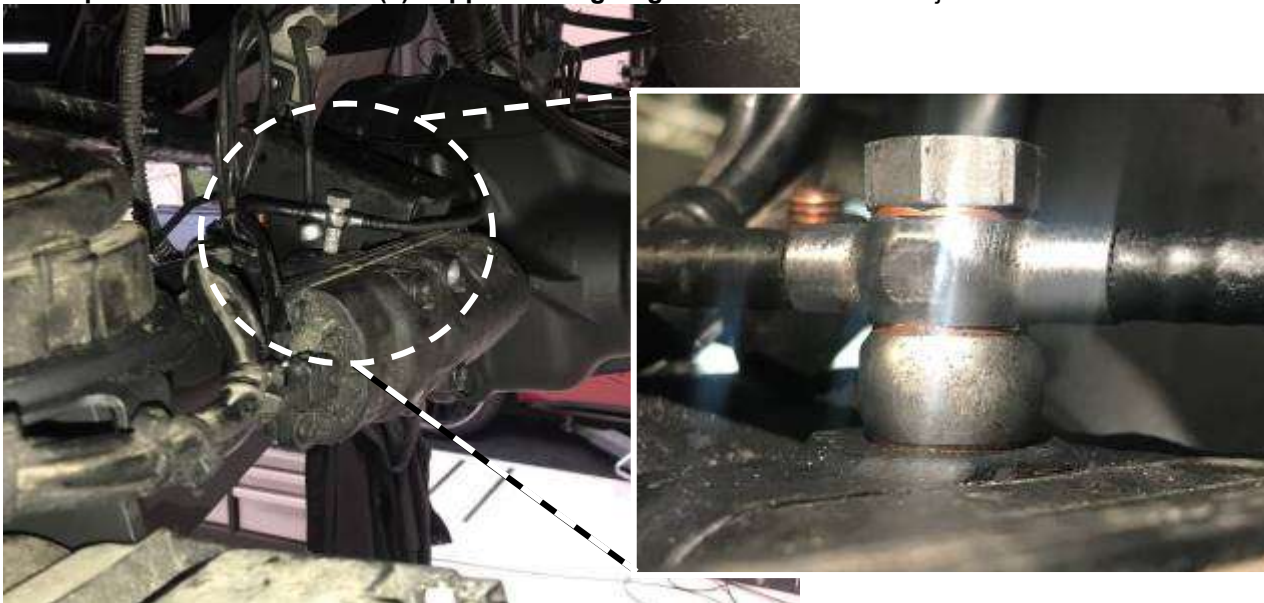


Figure 12

12. Unscrew brake hoses from brake lines on inside of axle (**Figure 13**) and seal open brake lines with suitable stop plugs (e.g. W129 589 00 91 10).



Figure 13

13. Unscrew propeller shaft at rear axle differential, and secure from falling by tying to the top (**Figure 14**).

Nm Propeller shaft screws at rear axle differential: **Stage 1: 40 Nm**
Stage 2: 90°



Figure 14

14. Position Lift table (W 000 588 03 62 00) under rear axle and use tension belt (**Figure 16**) to secure against falling.
- i** Place a support block with a width of approx. 5.5 cm (e.g. a hardwood block), under the axle at the left and right and under the center front section of the differential to ensure that the rear axle is evenly supported (**Figure 15**).



Figure 15



Figure 16

15. Lift major assembly lifting platform approx. 10 cm and bring rear axle to level of suspension.
- i** This way, the screw connections can be released and tightened again without distortions.

16. Remove transverse control arm of rear axle (**Figure 17**).

i For basic data, see **AR35.20-P-0140XG**.

Nm Transverse control arm screw to rear axle: **Stage 1: 150 Nm**
Stage 2: 90°

Nm Transverse control arm screw to frame: **Stage 1: 150 Nm**
Stage 2: 90°

i During installation, the transverse control arm at the rear axle **must be fit into the bearing using a shim**.

i The previously installed original adjusting plate shim can be reused.



Figure 17

17. Unscrew left and right shock absorbers at bottom axle (**Figure 18**).

i The shock absorbers remain on the vehicle and need not be removed completely.

Nm Shock absorber screw to holder (axle tube): **Stage 1: 100 Nm**
Stage 2: 90°



Figure 18

18. Release screw connection of top left and right trailing arms at rear axle (**Figure 19 and 20**).

i For basic data, see **AR35.15-P-0320XG**.

Nm Upper trailing arm screw to rear axle: **Stage 1: 100 Nm**
Stage 2: 90°

i **Important!** The **new** screw on rear axle to the upper trailing arm is inserted inwards, from wheel side towards the rear axle spring (**Figure 19**).



Figure 19

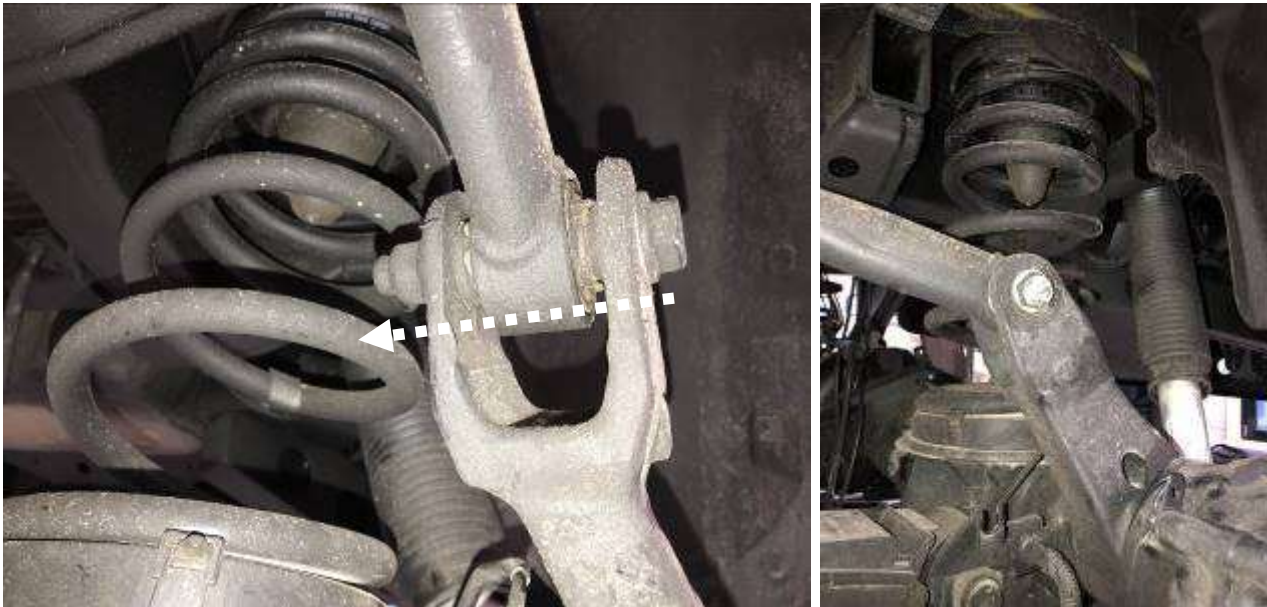


Figure 20: Assembly of trailing arm screw from wheel side inward to rear axle spring

19. Mark adjusting plates for adjusting the drive line angle, disconnect level sensors on trailing arms (**Figure 21**) and unscrew connection of the rear axle at left and right lower trailing arms (**Figure 22**).

i For basic data, see **AR35.15-P-0330XG**.

Nm Lower trailing arm screw to rear axle: **Stage 1: 100 Nm**
Stage 2: 180°

i **Important!** Mark adjusting plates and install in the same location and same installation position on the new axle.

i **Installation:** Install adjusting plates with opening pointing downward.

i **Installation:** The notch on the adjusting plate should point in the direction of travel.

i The protective cover on the trailing arm is not removed.



Figure 21



Figure 22

20. Slowly lower lift table with rear axle, including brake system and springs, until tension is relieved from the springs.

i Pay attention to surrounding component parts while lowering and lifting the rear axle.

21. Mark the springs, as well as the upper and lower spring retainer, then remove the springs completely (**Figure 23, A**).

i **Installation:** Align installation position (**Figure 23, A**).

i A tensioning device is not needed.



Figure 23

22. Fully lower rear axle and remove from underneath vehicle (**Figure 24**).

i For basic data, see **AR35.10-P-0010XG**

i Pay attention to surrounding component parts when lowering and lifting the rear axle.

i Unthread lower trailing arms while lowering.

i Helper required.



Figure 24

23. Remove brake disks with brake caliper, including caliper supports, brake hoses, and brake cover plates from rear axle.

i For basic data, see **AR42.10-P-0025XGS** and **AR42.10-P-0240XGS**

i Brake hose should be separated at brake line and remains on brake caliper.

i Brake pads **do not** need to be removed and should remain in the brake caliper.

Nm Brake line to brake hose: **14 Nm**

Nm Brake caliper support screw to steering knuckle: **Stage 1: 50 Nm**
Stage 2: 60°

Nm Brake disk safety screw to wheel hub: **10 Nm**

Nm Brake cover plate screw to steering knuckle: **23 Nm**

24. Remove brake lines with retaining clips from axle tube.

25. Remove rear axle actuator (**Figure 25**).

i For basic data, see **AR35.40-P-0001XGA**.

i Rear axle actuator is in **lock engaged position**.

i **Installation:** The slide in the axle tube for actuating the lock must be slid in the direction of the axle centerpiece. One of the wheel flanges must be turned at the same time.

Nm Locking Actuator screw to axle tube **Stage 1: 10 Nm**
Stage 2: 20 Nm
Stage 3: 60°



Figure 25

26. Unscrew and remove the mounting support between the hub reduction gear and rear axle tube (**Figure 26**).

Note: Mounting support cannot be removed due to clearances until hub reduction gear is partially removed.

Nm Threaded connection between hub reduction gear mounting support and rear axle: **Stage 1: 50 Nm**
Stage 2: 135°

i **Installation:** All contact surfaces of threaded connections must be free of grease and wax when being tightened.

i **Installation:** Mounting support should be positioned on the rear axle with 2 bolts first (**Figure 26, A**), then the reduction gear can be installed, and mounting support attached.

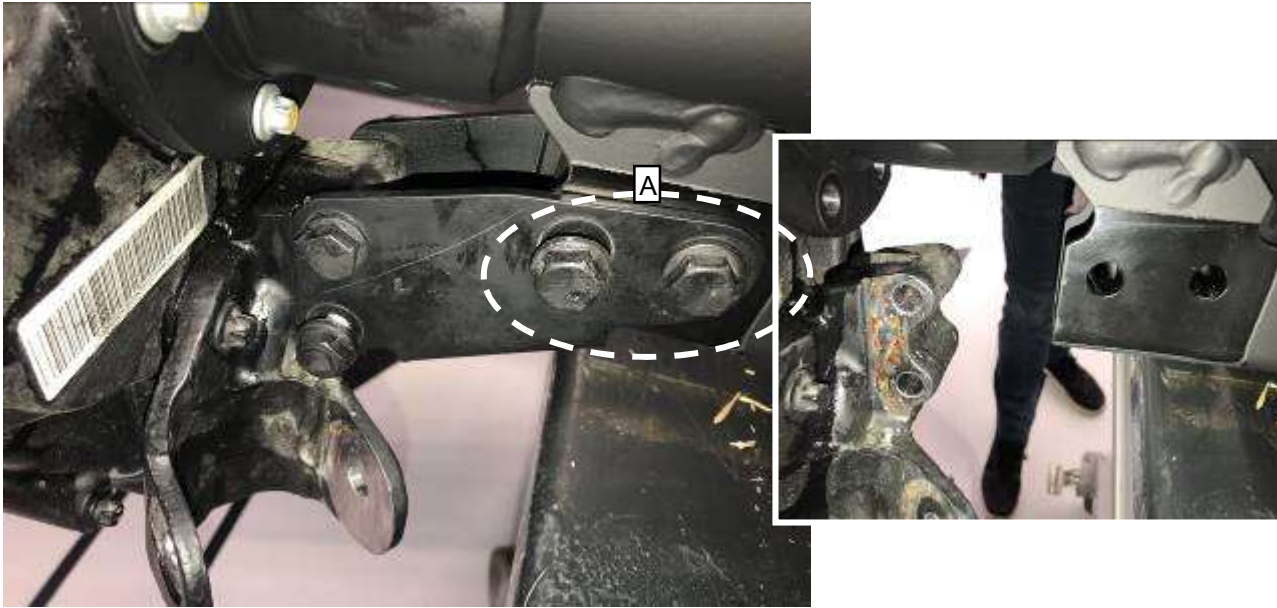


Figure 26

27. Remove left and right hub reduction gears (**Figure 27**).

i For basic data, see **AR35.25-P-0645XGS**

Nm Hub reduction gear screw to axle tube: **Stage 1: 40 Nm**
Stage 2: 45°

i **Installation:** Carefully slide hub reduction gear with axle shaft into rear axle differential while turning at the same time so that the gearing engages.

i **Installation:** Exercise particular caution when inserting the right (passenger side) portal axle to ensure the slide for the lock actuation is not damaged.

i **Installation:** To install the right-side portal axle, **position the lock actuator temporarily** so that the lock tube has better guidance into the new axle centerpiece.

i **Installation:** All contact surfaces of threaded connections must be clean and free of grease and wax when being tightened.

28. Replace sealing rings on hub reduction gears and install axle hubs (**Figure 28**).

i New sealing rings are included in the delivery package of the new axle centerpiece.



Figure 27

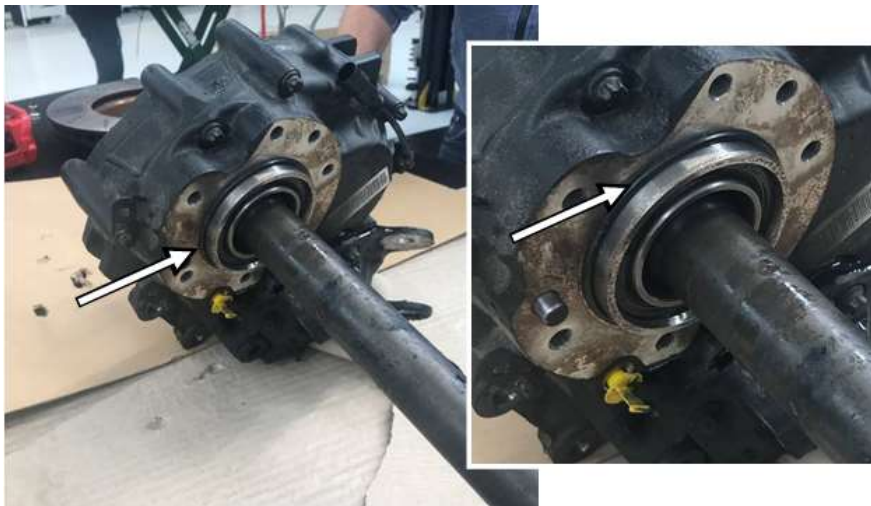


Figure 28

29. Position new axle centerpiece on lift table and secure with tension belts.

i Place old axle centerpiece back in transportation box.

30. Check installed dimension of drive shafts (**Figure 29 & 30**) in hub reduction gears prior to installing into new axle centerpiece.

i For basic data, see **AR35.30-P-0100-01XGS**

i If the drive shaft has moved out of the hub reduction gear, it must be removed completely and reinstalled with a new snap ring.

i Installed dimension of left rear axle drive shaft **727.2mm ±1.5mm (Figure 29, A)**.

i Installed dimension of right rear axle drive shaft **743.3mm ±1.5mm (Figure 30, B)**.

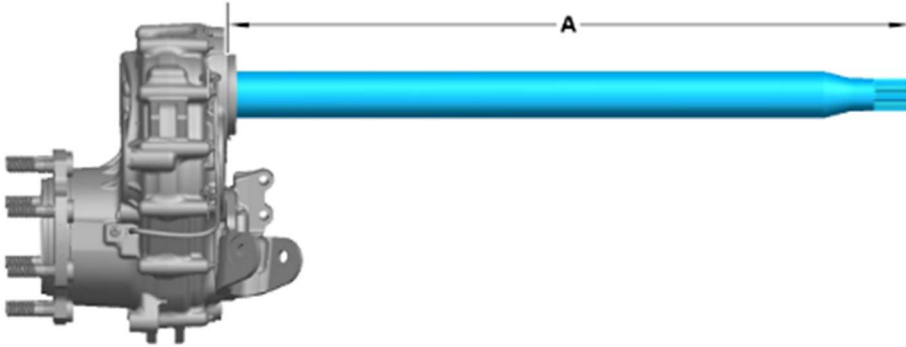


Figure 29: Left hub reduction gear, A installed dimension: 727.2 mm ±1.5 mm

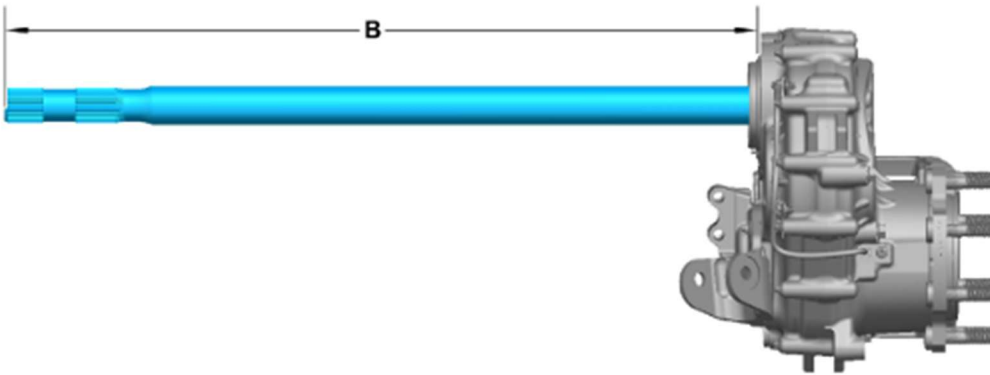


Figure 30: Right hub reduction gear, B installed dimension: 743.3 mm ±1.5 mm

31. Assemble all parts to the new rear axle centerpiece in reverse order (Work Procedure Steps 26-22).

i For the installation of the right hub reduction gear, it is required to back out the bolt (**Figure 31, A**) on the new axle until there are no threads protruding into the axle shaft housing (**Figure 32, B**).

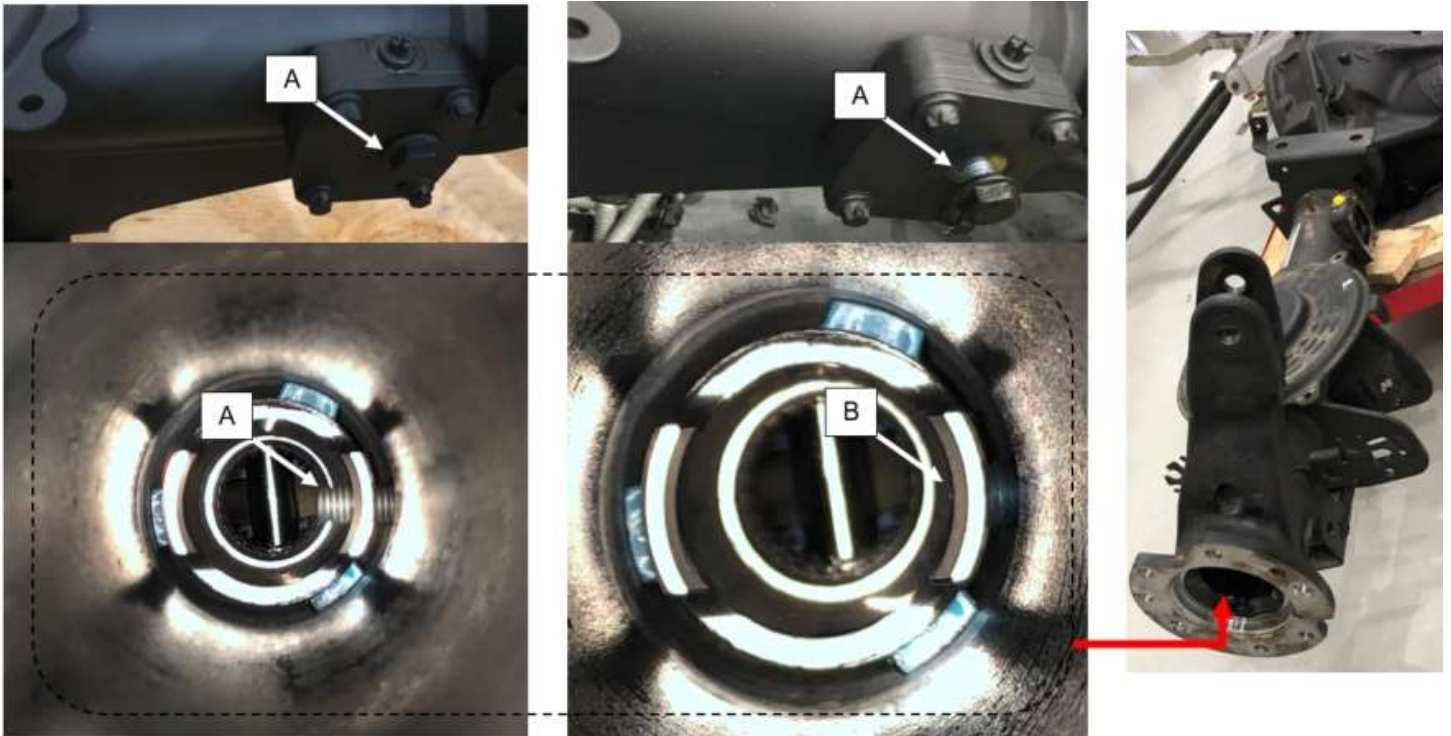


Figure 31 (delivery condition of bolt)

Figure 32 (backed out bolt for mounting position)

32. Fill rear axle centerpiece with 1.5 liters of oil and rotate the differential drive pinion multiple times for **at least 30 seconds** with the drive pinion tilted downward by **at least 5–10°** (**Figure 33**).

i **Attention, very important:** This ensures the bearing of the drive pinion is sufficiently lubricated prior to initial use.

i **After the rear axle has been installed, the oil level must be checked and in a ready-to-drive condition.**



Figure 33

33. Install adjusting plate (if necessary) for transverse control arm on new axle bridge (**Figure 34, 35**).

i The left bearing of the transverse control arm must be installed with suction and with almost zero clearance, into the retaining tab of the axle bridge.

i The fit for the transverse control arm can be adjusted as required, either **without** an adjusting plate, **with a 0.5 mm** adjusting plate, or **with a 0.8 mm** adjusting plate.

i **The previously installed original adjusting plate can be reused.**

i A maximum of one adjusting plate may be installed.



Figure 34



Figure 35

34. Assemble all remaining parts in reverse order.

i Ensure the suspension is at the proper ride height and supporting the vehicle weight **before tightening/torquing**.

i **Note:** Torquing of transverse control arm & trailing arms should be done on alignment rack before wheel alignment.

35. Perform brake bleeding procedure.

i The brake system must be bled before the wheels are mounted.

i For basic data, see **AR42.10-P-0010XG**.

36. Perform quick test and clear fault memory.

37. Perform wheel alignment check.

i Wheel alignment specifications may not be correct in the alignment machines and need to be overwritten manually, it is important to refer to WIS/WAO for the correct specifications.

i For basic data, see **AR40.20-P-0200XG**.

i The drive line angle **AR40.20-P-0200-14XG** is considered separately.

38. Perform a workshop test drive and leak check.

i Check the differential and differential locks for proper operation.

39. Apply wax **A 000 986 32 01 09** to rear axle in area between axle tube and differential (**Figure 36**).



Figure 36

40. Apply black wax **A 004 989 79 20** all over new rear axle carrier and all threaded connections in line with new vehicle delivery.

41. The old rear axle centerpiece must be shipped back to the QEC via the regular parts return process.

| <u>Installation Torque Specifications</u> | |
|--|---|
| Light alloy wheel nut: | 150 Nm |
| Brake sensor screw (Figure 9, A): | 8 Nm |
| M10 bleed line banjo bolt to rear axle hub reduction gear: | 15 Nm |
| M8 bleed line banjo bolt to axle bridge: | 8 Nm |
| Propeller shaft screws at rear axle differential: | Stage 1: 40 Nm Stage 2: 90° |
| Transverse control arm screw to rear axle: | Stage 1: 150 Nm Stage 2: 90° |
| Transverse control arm screw to frame: | Stage 1: 150 Nm Stage 2: 90° |
| Shock absorber screw to holder (axle tube): | Stage 1: 100 Nm Stage 2: 90° |
| Upper trailing arm screw to rear axle: | Stage 1: 100 Nm Stage 2: 90° |
| Lower trailing arm screw to rear axle: | Stage 1: 100 Nm Stage 2: 180° |
| Brake line to brake hose: | 14 Nm |
| Brake caliper support screw to steering knuckle: | Stage 1: 50 Nm Stage 2: 60° |
| Brake disk safety screw to wheel hub: | 10 Nm |
| Brake cover plate screw to steering knuckle: | 23 Nm |
| Actuator screw to axle tube: | Stage 1: 10 Nm Stage 2: 20 Nm Stage 3: 60° |
| Threaded connection between hub reduction gear mounting support and rear axle: | Stage 1: 50 Nm Stage 2: 135° |
| Hub reduction gear screw to axle tube: | Stage 1: 40 Nm Stage 2: 45° |

NOTE: These are the relevant torque specifications outlined within this document. Torque specifications outlined in WIS must always be followed.

Primary Parts Information

| Qty. | Part Name | Part Number |
|-------------|---|--------------------|
| 1 | Repair axle | A 463 350 14 02 |
| 2 | Shock absorber screw | N 000000 002353 |
| 2 | Shock absorber nut | N 000000 008268 |
| 4 | Bleed line sealing ring (10 x 13.5 mm) | N 007603 010110 |
| 4 | Lock actuator screw | N 000000 003967 |
| 1 | Lock actuator seal | A 463 335 00 00 |
| 3 | Bleed line sealing ring (8 x 1.5 mm) | A 000 997 87 20 |
| As required | Cable tie clips | A 007 997 56 90 |
| As required | Line clip | A 000 995 53 00 |
| 1 | Transverse control arm adjusting plate (guide strut) | A 463 357 14 00 |
| 1 | Adjusting plate (guide strut) | A 463 357 15 00 |
| 2 | Guide strut screw | N 000000 008623 |
| 1 | Guide strut nut | N 000000 008267 |
| 2 | Lower control arm screw | N 910105 014014 |
| 2 | Lower control arm nut | N 000000 008268 |
| 2 | Upper control arm screw | N 910105 014016 |
| 2 | Upper control arm nut | N 000000 008268 |
| 8 | Nut, portal to mounting support | N 000000 003275 |
| 8 | Screw, portal to mounting support | A 000 990 20 37 |
| 14 | Screws, portal to axle tube | N 910142 010006 |
| 4 | Brake caliper screw | N 000000 006443 |
| 2 | Cable strap | A 006 997 28 90 |
| 5 | Cable strap | A 007 997 56 90 |
| 1 | Brake wear sensor screw | N 910143 006002 |
| 2 | Brake disk centering screw | A 001 990 0914 |
| 8 | Brake cover plate screw | N 000000 007857 |
| 3 | Propeller shaft screw | A 463 410 16 00 |
| 3 | Hypoid gear oil SAE75W-140 (0.5 liter container) | A 001 989 52 03 10 |
| 1 | Advance preservation – wax spray can | A 000 986 32 01 09 |
| 1 | Final preservation – 1 liter black | A 004 989 79 20 |

i Small parts such as screws, lock nuts, sealing rings, cable ties, fluids, sealant, etc. are not listed in the parts list. The required small parts are taken into account in the budgeting.

i **Note:** The following allowable labor operation should be used when submitting a warranty claim for this repair:

Warranty Information

| Damage Code | Operation Number | Description | Labor Time (hrs.) |
|-------------|------------------|---|-------------------|
| 35 910 05 | 12-2108 | Replace center piece of rear axle. Includes: Remove/install rear axle, modify hub reduction gear, bleed brake system, wax rear axle, perform wheel alignment measurement. | ZM |

i **Note:** Always check Xentry Operation Time (XOT) for the current OP-Code times. Labor times are subject to change and updates may not be reflected in this document.