

# Removal and Installation of Propeller Shaft

## Checking Proper Alignment of Transmission and Rear Axle

Type 220

Operation No.
GW 1

### Special Tools:

Test instrument for checking true run of three arm flange on transmission and rear axle	136 589 04 21
Rigid length of shaft for alignment	187 589 00 27
Alignment plate for propeller shaft	187 589 01 27

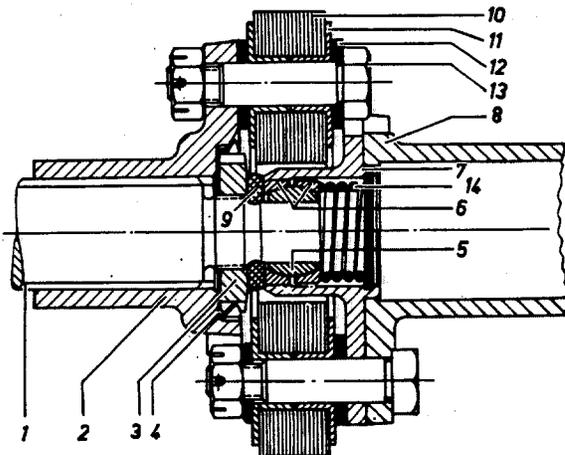


Fig. GW 1/01

1 Mainshaft	8 Propeller shaft
2 Three-arm flange	9 Sealing ring
3 Slotted nut	10 Shaft plate
4 Lock plate	11 Sleeve
5 Centering ball	12 Shim
6 Ball socket	13 Pilot screw with nut
7 Centering star with lock washer	14 Pressure spring

### Procedure:

1. Remove rear axle (see Operation No. H 1).
2. Separate propeller shaft from transmission, disconnect central lubricating hose on intermediate bearing, loosen intermediate bearing at frame floor and move propeller shaft out towards the rear.

**Note:** In the case of Convertible A the fuel tank must also be removed.

3. Before installing the propeller shaft again, check flange on transmission and rear axle for true run. Use test instrument 136 589 04 21

and a dial gauge. The out of true must not be more than 0.03 mm (0.0012") when checked at outer radius of flange (see also Operation No. G 3/73).

Fill hollow space in centering star of propeller shaft on transmission and rear axle with grease.

Do not forget sealing ring (9) between slotted nut and centering star on transmission and rear axle (see Fig. GW 1/01).

4. After the propeller shaft has been installed, first screw intermediate bearing to frame floor. Loosen fastening screws for support and bracket of intermediate bearing and turn side stop screws back (Fig. GW 1/4).

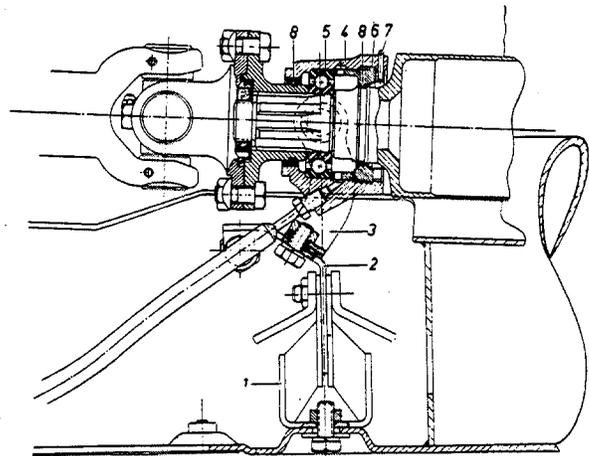


Fig. GW 1/4

1 Rubber bearing	5 Grooved collar bearing
2 Support	6 Threaded ring
3 Bracket	7 Cotter pin
4 Intermediate bearing housing	8 Grease retainer

5. Align front and rear propeller shaft and tighten fastening screws on the support and bracket.
6. Bring side stop screws with rubber bumper into contact with right and left-hand frame side member, then back each screw off by one thread (compression 1 mm = 0.04"). See Fig. GW 1/6. Tighten check nut.

GW 1/1

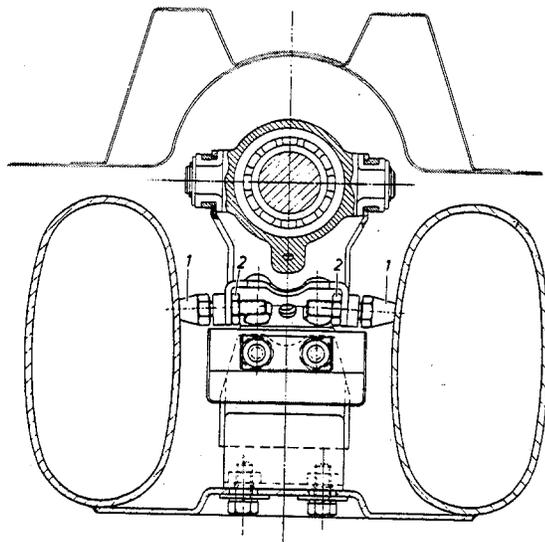


Fig. GW 1/6

1 Stop screw with rubber bumper  
2 Check nut

7. Connect central lubrication hose.
8. Install rear axle, vent brake system, adjust hand brake and check camber of rear wheels.

#### Checking Proper Alignment of Transmission and Rear Axle

**Note:** Perform the operations described in the following only if required.

9. Separate propeller shaft from transmission and rear axle (remove shaft plate completely) and loosen intermediate bearing at frame floor.
10. Separate front and rear propeller shaft. In the place of front propeller shaft screw rigid length of shaft 187 589 00 27 to rear propeller shaft. Install alignment plate 187 589 01 27

on the rear axle in the place of the shaft plate.

11. It must be possible to push the movable sleeve on the rigid length of shaft onto the journal of the transmission mainshaft without exerting pressure. Small deviations as to the height can be offset by adding shims to the rear axle suspension. Lateral deviations can be compensated at the engine suspension.  
If the shaft is out of true, check flange on rear axle; when checked at the outer diameter the lateral out of true must not be more than 0.03 mm (0.0012"). In the event of major deviations the flange must be displaced or reworked; if this is not possible, it must be replaced.
12. Bolt rubber bearing to frame floor. See that the stop screws do not contact the frame side members.
13. Bring intermediate bearing into middle position and see that it is free from any stress, then tighten the screws.
14. Loosen rubber bearing on frame floor again, remove rigid length of shaft and alignment plate.
15. Screw front and rear propeller shaft together, flange to transmission and rear axle and screw rubber bearing to frame floor.
16. Bring side stop screws into contact with frame and back off each screw by one turn (compression 1 mm = 0.04"). Tighten check nut.
17. Secure all screws.