

39. Apply a thin coat of sealing compound to the separating surface of the transmission case front cover.

Slide Installing Sleeve 198 589 00 61 onto the drive shaft and insert the front cover together with the appropriate shim. Screw down the front cover and remove the installing sleeve.

**On recent models, locking plates (part No. 180 994 00 15) are used for the fixing screws instead of lock washers.**

**Note:** Before installing the front cover, check the contact surface of the sealing ring on the drive shaft. If the contact surface is badly worn, the drive shaft must be removed and the contact surface refinished. See E. Removal and Installation of Gear Train, including Disassembly and Reassembly, and Job No. 26—5, Checking and Repair of Transmission, Paragraph 6, Drive Shaft.

## D. Removal, Installation, and Sealing of Transmission Case Rear Cover

### Removal:

40. Perform the operations necessary to remove the transmission case top cover (see Paragraphs 1—3).

**Note:** The transmission case rear cover must only be removed or sealed with the transmission removed from the vehicle in order to prevent the key on the main shaft from slipping out of the groove in the thrust washer or the stop ring when the grooved nut is removed.

41. Slide Retaining Fixture 136 589 14 61 into the small gear section of the first and second speed gears in such a way that the two gears are pushed toward the synchronizing unit; this is necessary to prevent the key from slipping out of the groove of the stop ring or the thrust washer (see Fig. 26—4/19).

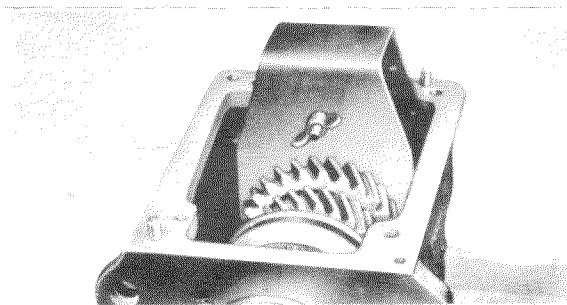


Fig. 26 — 4/19

42. Tap up the locking plate for the three-way flange at the main shaft. Engage reverse and fourth gear in order to block the transmission, or hold the three-way flange steady with Retaining Wrench 187 589 08 07. Then remove the grooved nut with Pin Wrench 186 589 11 07 and pull off the three-way flange by hand or, if necessary, by means of Bell-shaped Puller 136 589 03 33.

43. Unscrew transmission case rear cover and remove, together with speedometer drive gear, paying attention to the shims

44. Drive the sealing ring for the three-way flange out of the rear cover.

45. Use a screw driver to prize out the plug for the speedometer drive gear. Drive out the speedometer drive shaft and drive shaft sealing ring with a suitable drift and remove the small drive gear.

46. Thoroughly clean the transmission case rear cover and check the separating surface for evenness; if necessary, refinish by hand.

### Installation

47. Slide the sealing ring onto the speedometer drive shaft. Install the small drive gear in the rear cover. Coat the circumference of the sealing ring with sealing compound and press the shaft, together with the sealing ring, into the transmission case rear cover (shaft and sealing ring must be flush).

48. Coat the outer edge of the plug with sealing compound and press it into the transmission case rear cover. Rear cover and sealing ring must be flush (Fig. 26 — 4/20).

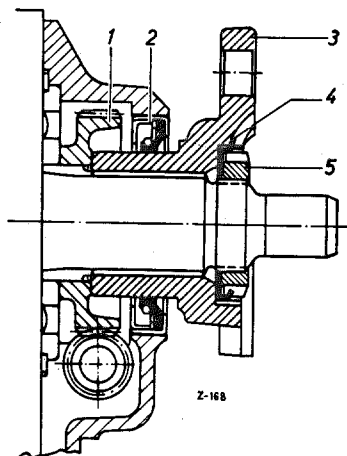


Fig. 26 — 4/20

- 1 Speedometer drive gear
- 2 Sealing ring
- 3 Three-way flange
- 4 Locking plate
- 5 Grooved nut

49. Check the contact surface of the sealing ring at the three-way flange.  
See Job No. 26 — 5 "Checking and Repairing Transmission", Paragraph 7 — Three-way Flange.

50. Tap the countershaft forward until the front annular grooved bearing rests against the transmission case rear cover.

Determine the clearance between the countershaft annular grooved bearing and the transmission case rear cover.

To do this, use a depth gage or a depth micrometer to measure the distance between the annular grooved bearing and the separating surface of the transmission case (Fig. 26 — 4/21) and the depth of the recess in the rear transmission case (Fig. 26 — 4/22).

The clearance between the countershaft annular grooved bearing and the transmission case rear cover must be 0.15—0.20 mm.

When measurements are made, the thickness of the gasket between transmission case and rear cover must be taken into account.

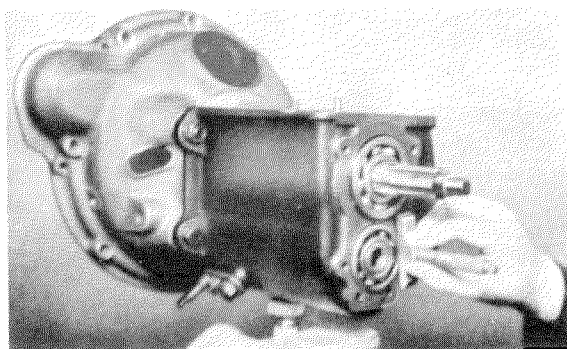


Fig. 26 — 4/21

The clearance should be adjusted by means of appropriate shims. These shims are available in the following thicknesses: 0.1, 0.25, 0.5, and 1.0.

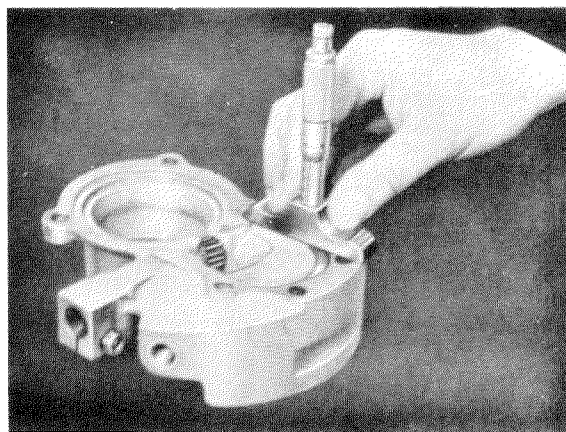


Fig. 26 — 4/22

51. Then check in the same way the clearance between the main shaft annular grooved bearing and the transmission case rear cover and select the appropriate shim. When measurements are made, the snap ring must be seated firmly against the transmission case; the thickness of the gasket must be taken into account. The clearance between the main shaft annular grooved bearing and the transmission case rear cover must be 0.00 to 0.05 mm. The shims are available in the following thicknesses: 0.1, 0.2, and 0.3 mm.
52. Slide the speedometer drive gear, together with spacer ring, onto the main shaft, with

the spacer ring in front. Gear and ring are cast integral of aluminium bronze.

**Note: The gear rotates clockwise; do not confuse it with the gear for Model 220 a which rotates anti-clockwise.**

53. Coat the separating surface of the transmission case with sealing compound and the separating surface of the transmission case rear cover with grease. Screw the rear cover, together with gasket and the required shims, to the transmission case (Fig. 26 — 4/23).

**On recent models, the lock washers for the fixing screws have been replaced by locking plates (Part No. 180 994 00 15).**

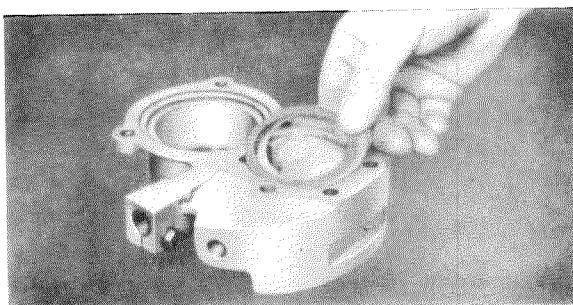


Fig. 26 — 4/23

54. Block the transmission by engaging the reverse and fourth speed. Thoroughly grease the three-way flange at the contact surface for the sealing ring and slide it on. Install the locking plate, screw on the grooved nut and tighten it by means of Pin Wrench 186 589 11 07 to a torque of 14—15 mkg.

55. Check the transmission three-way flange for run-out by means of Tester 136 589 04 21 (Fig. 26 — 4/24).

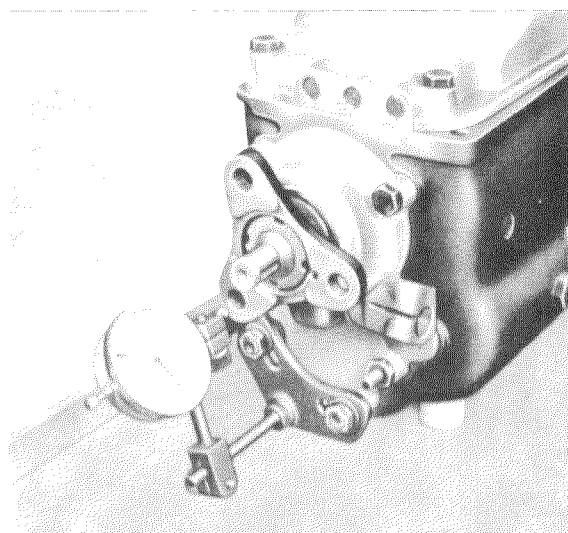


Fig. 26 — 4/24

Measured at the outer diameter, the run-out must not exceed 0.10 mm; if the run-out exceeds this amount, the position of the three-way flange must be changed on the splined journal in order to ensure that any additional eccentricity of the main shaft in relation to the three-way flange can be compensated. If, despite repositioning, the run-out of the three-way flange still exceeds 0.1 mm, the flange can be turned down to a thickness of 8.5 mm. Otherwise the three-way flange must be replaced. Lock the grooved nut by tapping down the locking plate.