Disassembly:

109. Remove the gear train (see Paras. 60—68).

Differential:

110. Pull the two taper roller bearings off the differential housing with Puller 180 589 01 33 (Fig. 35 — 4/40).

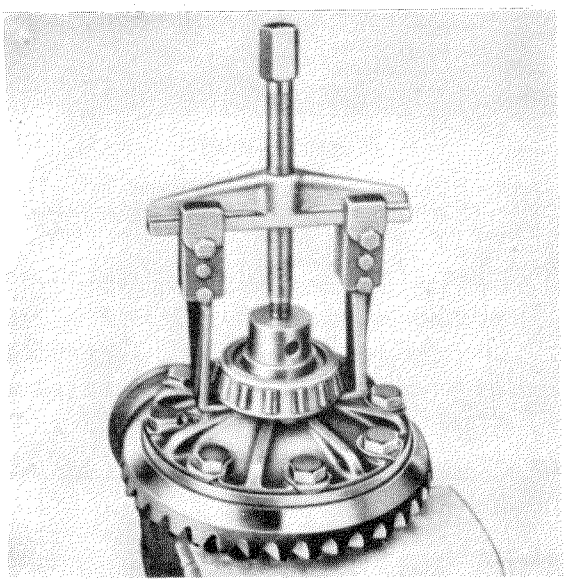

Fig. 35 — 4/40

111. If the ring gear or the differential housing has to be replaced, unlock the hexagon screws and unscrew them. Then press off the ring gear.

112. Counterbore the peened side of the locking pin for the differential pinion shaft with an 8 mm drill and drive out the locking pin (Fig. 35 — 4/41). Then press out the differential pinion shaft and take out the differential pinion gears, the differential side gears, the thrust washers and the dished washers.

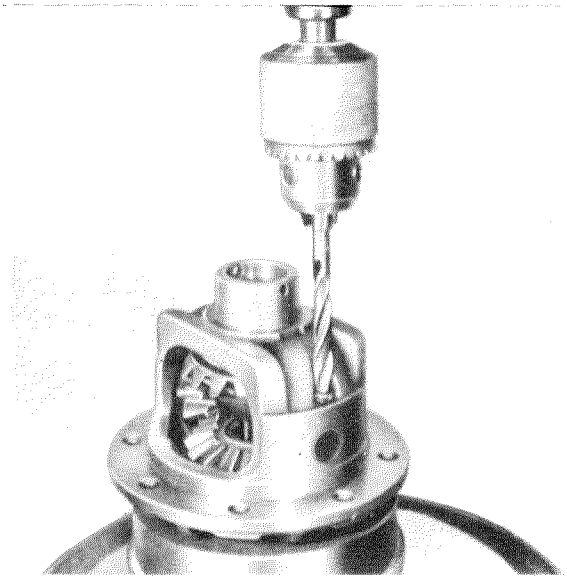

Fig. 35 — 4/41

Drive Pinion Shaft:

113. Fix Retaining Wrench 180 589 09 07 in the vise and put the drive pinion shaft with the joint flange on the retaining wrench (Fig. 35 — 4/42).

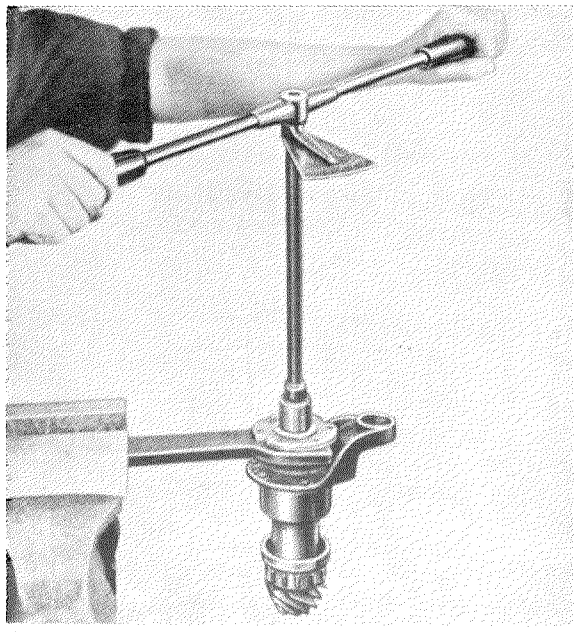

Fig. 35 — 4/42

114. Bend up the lock wedge and unscrew the grooved nut (8) for the joint flange (10), using Pin Wrench 120 589 01 07. Pull off the

joint flange, take off the cover (1) and the shoulder ring (2) (Fig. 35 — 4/43 and Fig. 35 — 4/42).

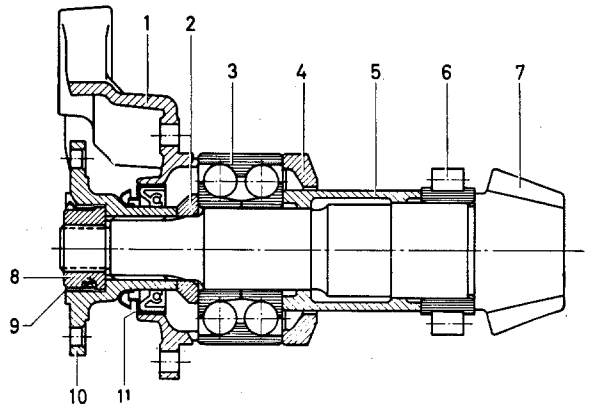

Fig. 35 — 4/43

1 Cover
2 Shoulder ring
3 Angular contact bearing
4 Thrust ring
5 Spacer sleeve
6 Cylindrical roller bearing
7 Drive pinion shaft
8 Grooved nut
9 Lock
10 Joint flange
11 Seal

115. Press the seal (11) out of the cover (1) (see Fig. 35 — 4/43).

116. Make in the workshop a jig in the form of a split-ring and a sleeve for pressing off the cylindrical roller bearing (Fig. 35 — 4/44).

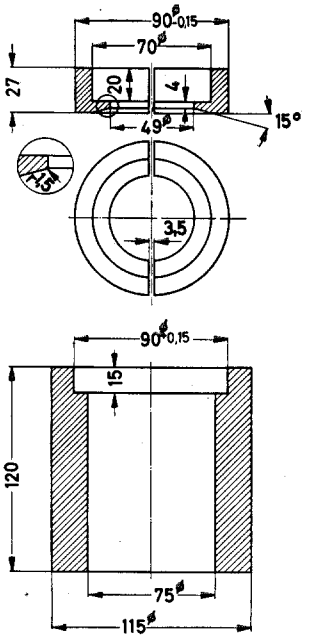

Fig. 35 — 4/44

Then mount the split-ring in such a way that the inner race of the cylindrical roller bearing is gripped and push the sleeve over the split-ring.

Use a suitable press to press the drive pinion shaft off the cylindrical roller bearing and at the same time off the angular contact bearing (Fig. 35 — 4/45).

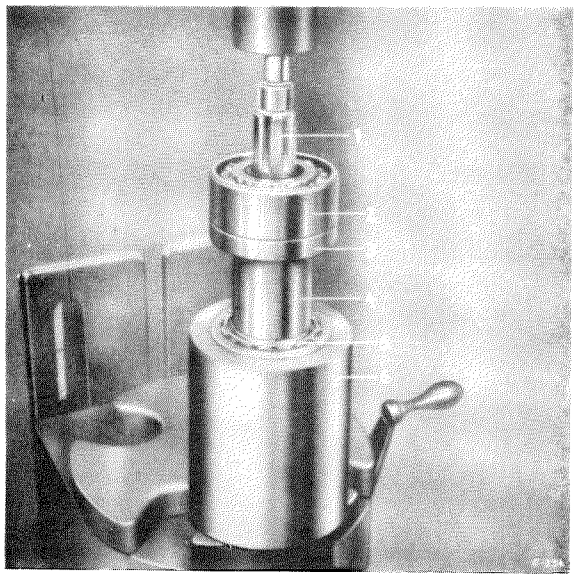

Fig. 35 — 4/45

1 Drive pinion shaft
2 Angular contact bearing
3 Thrust ring
4 Spacer sleeve
5 Cylindrical roller bearing
6 Auxiliary sleeve fixture

Caution! The angular contact bearing (2) must not be pressed or pulled off by itself since the bearing will not be gripped at the inner race and might be damaged as a result (see Fig. 35 — 4/45).

117. Check and repair the parts (see Job No. 35 — 5).

Reassembly:

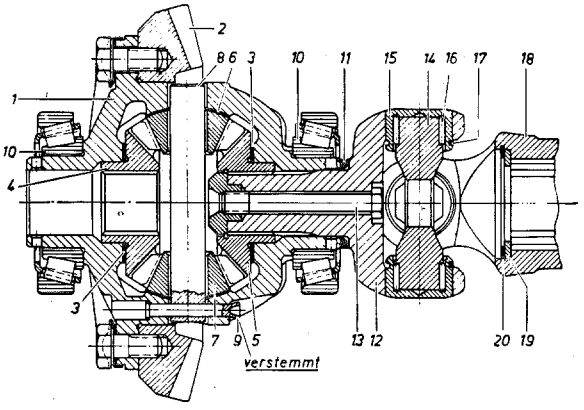

Fig. 35 — 4/46

1 Differential housing
2 Ring gear
3 Thrust washer
4 Left differential side gear
5 Right differential side gear
6 Dished washer
7 Differential pinion
8 Differential pinion shaft
9 Locking pin
10 Taper roller bearing
11 Compensating washer
12 Inner yoke
13 Clamping screw
14 Joint spider
15 Needle bearing bushing
16 Needles
17 Snap ring
18 Outer yoke
19 Washer
20 Lock washer

Differential:

118. Put the differential side gears (4) and (5) with the thrust washers (3) into the differential housing (Fig. 35 — 4/46).

Note: The differential side gear fitted with the slip coupling fixing nut is on the right side, seen in the direction of travel (Fig. 35 — 4/46).

119. Use Assembly Arbor 136 589 13 61 in place of the differential pinion shaft (8), to slide in the differential pinion gears (7) with the dished washers (6) (Fig. 35 — 4/47 and Fig. 35 — 4/48).

120. Check whether the differential side gears turn stiffly and without play. If this is not the case, install thicker thrust washers (3).

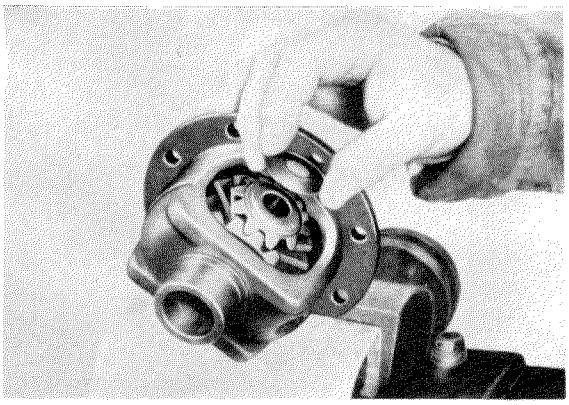

Fig. 35 — 4/47

The thrust washers are available in thicknesses ranging from 1.3 to 1.7 mm in steps of 0.1 mm.

Slide in the differential pinion shaft (8), install a new locking pin (9) and peen well with a punch at the drilled end (see Fig. 35 — 4/46).

121. Press the inner races of the taper roller bearings (10) onto the differential housing, using Assembly Arbor 180 589 01 39 (see Fig. 35 — 4/46).

122. Place a compensating washer (11) on the inner yoke (12) of the slip coupling — the beveled face toward the outer yoke (18) — and fix the yoke to the right differential side gear (5) by means of the clamping screw (13) (Fig. 35 — 46).

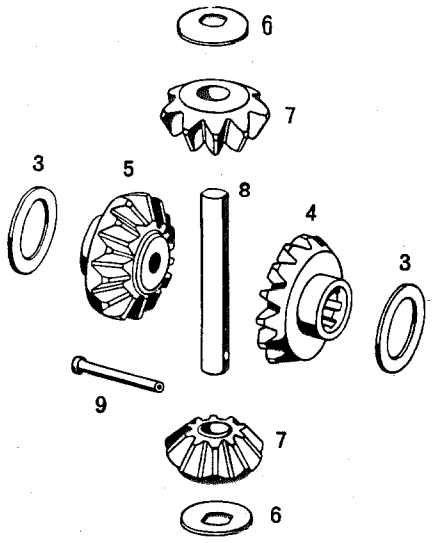

Fig. 35 — 4/48

3 Thrust washer
4 Left differential side gear
5 Right differential side gear
6 Dished washer
7 Differential pinion gear
8 Differential pinion shaft
9 Locking pin

123. Measure the play between the compensating washer and the differential housing. The play should be 0.05 to 0.10 mm. The correct play is obtained by selecting the appropriate thickness of compensating washer. Compensating washers are available ranging from 1 to 2 mm, in steps of 0.1 mm. After taking the measurement and selecting the correct compensating washer, unscrew the yoke (12) again.

124. If a new ring gear is to be fitted on the differential housing, the bore of the ring gear and the seat on the differential housing must be carefully cleaned.

Then heat the ring gear to approx. 60—70° C. and put it on the differential housing, using the two guide bolts (1) and (2) (Fig. 35 — 4/49).

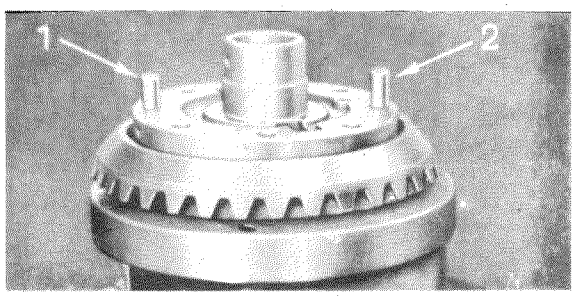

Fig. 35 — 4/49

Note: If the ring gear does not fall onto the differential housing of its own accord, it should be lightly tapped with a rubber hammer. Care must be taken to avoid chipping when this is done.

125. Tighten the fixing screws for the ring gear in the normal way and then give them a final tightening with a torque of 7—8 mkg (Fig. 35 — 4/50).

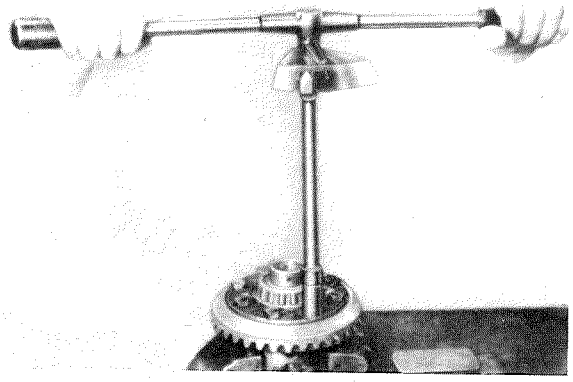

Fig. 35 — 4/50

Drive Pinion shaft:

126. Press the inner race of the cylindrical roller bearing (2) onto the drive pinion shaft (1), using a suitable sleeve. Then put on the spacer sleeve (4) and the thrust ring (3) and press on the angular contact bearing (5) (Fig. 35 — 4/51).

Only exert pressure on the inner race.

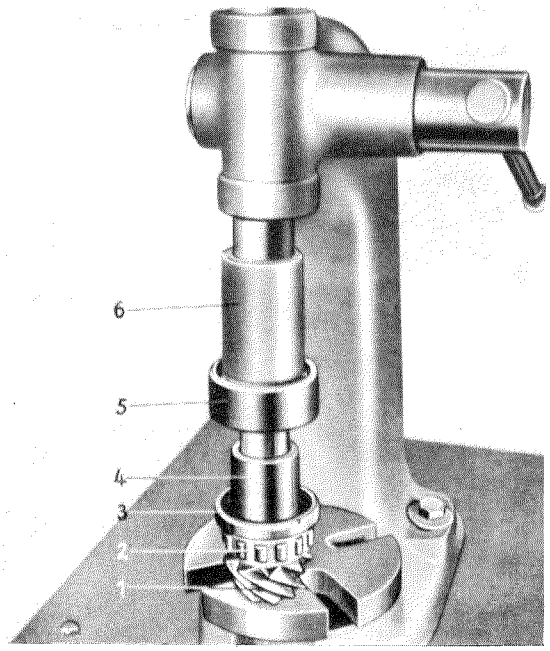

Fig. 35 — 4/51

1 Drive pinion
2 Cylindrical roller bearing
3 Thrust ring
4 Spacer sleeve
5 Angular contact bearing
6 Forcing sleeve

127. Press the seal into the cover (1) of the rear axle housing, having previously coated the sealing lip with grease. Push the shoulder ring (2) and the cover (1) onto the drive pinion shaft (7), having previously coated the splineway of the shaft with anti-friction bearing grease. Then press on the joint flange (10) (see Fig. 35 — 4/43).

128. Screw on the grooved nut together with the lock, using Pin Wrench 120 589 01 07. Place the fitted drive pinion shaft with the joint flange on Retaining Wrench 180 589 09 07 which is clamped in the vise and use Crowfoot Wrench Attachment 120 589 08 07 to tighten the grooved nut to a torque of 14—16 mkg (Fig. 35 — 4/52).

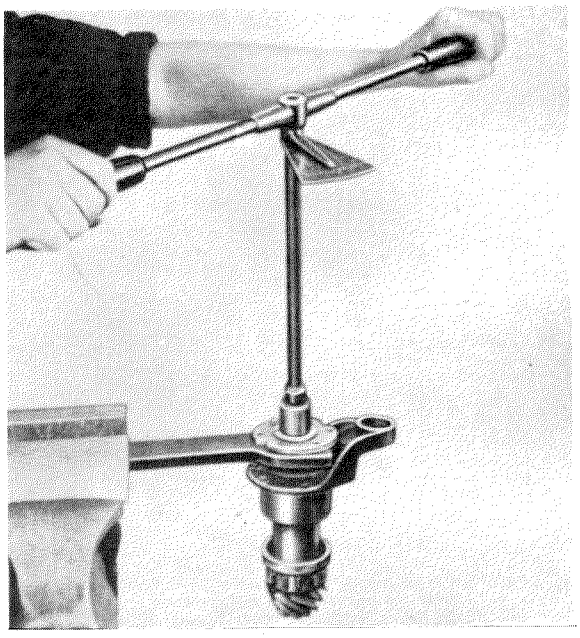

Fig. 35 — 4/52

129. Check the joint flange for lateral deflection. The run-out must not be more than 0.02 mm at the outer diameter.

Note: If the run-out is in excess of this, reposition the joint flange on the serrations and check again.

If no improvement is obtained, the joint flange must be re-turned (see Job No. 35—5, Section F, Para. 3).

130. Peen the locking plate in the groove of the joint flange and of the grooved nut.

131. Install the gear train (see Paras. 69—108).