

Fig 3. Heavy Duty Axle Components

Hub and Driveshaft

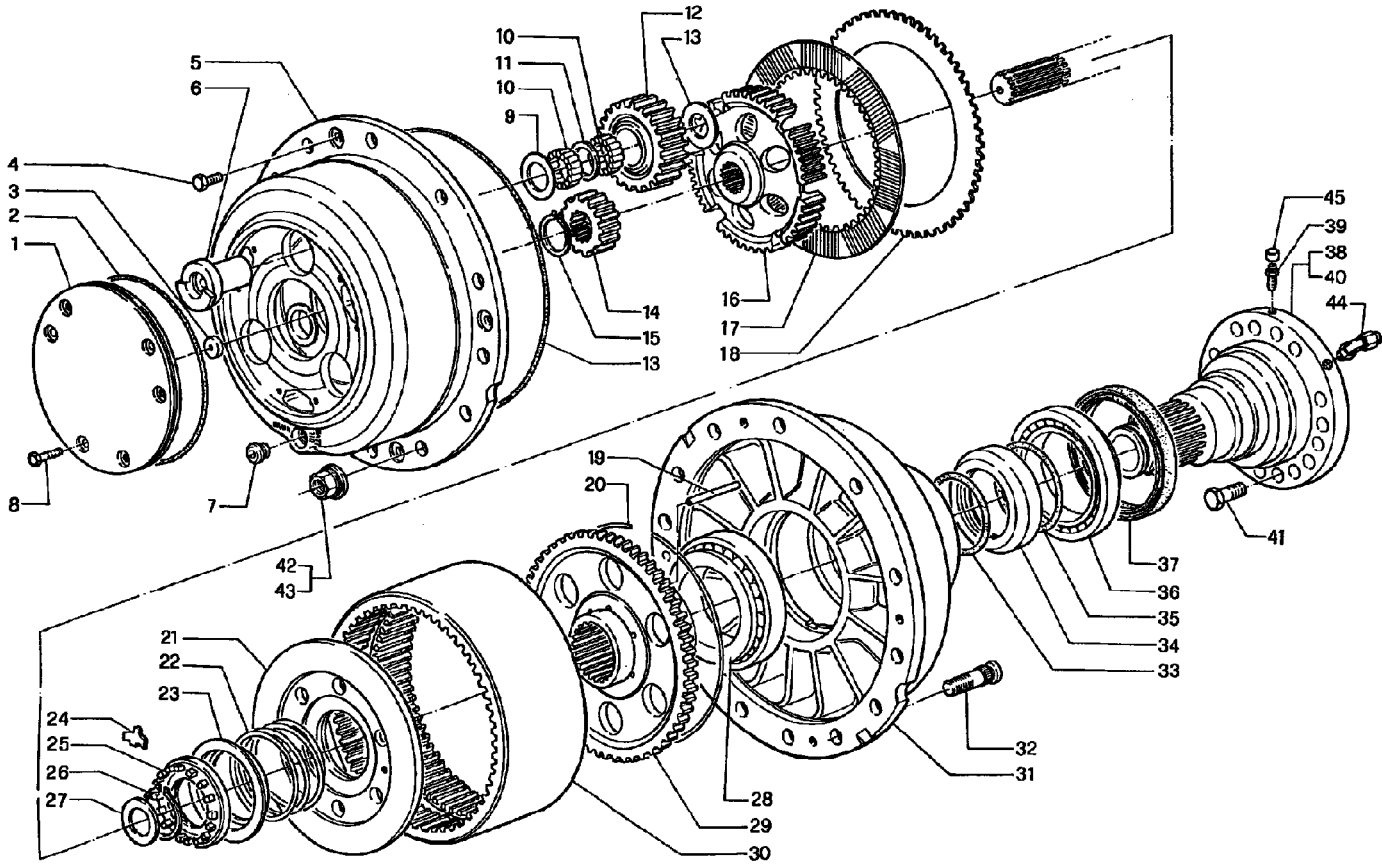


Fig 4.

Dismantling

- 1 If not already done, drain the oil from the axle and hub.
- 2 Remove six screws **4-8** and, using the three tapped holes provided, use screws to pull off cover **4-1**. Remove and discard O ring **4-2**.
- 3 Pull out axle shaft backing plate **4-3** using puller screw.
- 4 Remove screws **4-4** and, suitably supporting side gear carrier **4-5**, pry carrier from wheel hub **4-31**.
- 5 Remove lockring **4-15** retaining sun gear **4-14** on driveshaft and pull out sun gear.
- 6 Remove disk carrier hub **4-16** together with thrust washer **4-27** resting against wheel hub sleeve.
- 7 Remove solid and lined brake disks **4-17**, **4-18**.
- 8 Remove driveshaft.
- 9 Pull out lockring **4-26** securing ring nut lock plates **4-24**. Remove lock plates.
- 10 Install the spring retainer **5-A** (Part No. TBA) secured through the three tapped holes in the disk pressure plate **5-21** to compress brake return spring **5-22** (3 in each hub) and allow ring nut **5-25** to be removed.

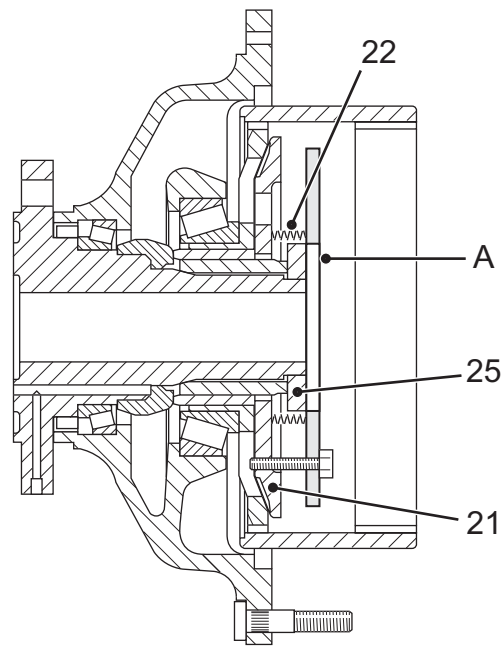


Fig 5.

- 11 Remove ring nut **4-25** from sleeve **4-38**.
- 12 Remove pressure plate **4-21** with brake return springs **4-22** together with their retainers **4-23**, spring clips **4-47** and pins **4-46**.
- 13 Suitably support wheel hub **4-31** and pull out ring gear unit **4-30** and support **4-29**.
- 14 Pick up the six rods **4-19** located in corresponding seats on ring gear support **4-29**.
- 15 Pry off lockring **4-20** from ring gear **4-30** by using a suitable screwdriver.
- 16 Disassemble ring gear support **4-29** from ring gear **4-30**.
- 17 Should replacement of outer wheel bearing **4-28** inner race be necessary, the bearing may be removed by a suitable puller or by a remover that can be inserted in the holes of ring gear support **4-29**.
- 18 Remove brake unit spring retainer **5-A**, disassemble spring **5-22**, retaining cup **4-23** and pressure plate **5-21**.

⚠ WARNING

If it is necessary to force out the piston, use only gentle pressure, ensuring that adequate safety precautions are taken. Severe injury can be caused by a piston being released suddenly.

BRAK-8-4

- 19 Remove brake actuating piston **4-34** from wheel hub sleeve **4-38** by using compressed air through brake oil ducting.
 - 20 Remove and discard the two O rings **4-33** and **4-35** in corresponding seats on brake actuating piston.
 - 21 Pull out the complete wheel hub **4-31**. Remove and discard O-ring **4-13**.
 - 22 Pry off seal **4-37** from wheel hub and remove inner race with roller cage of inner wheel bearing **4-36**.
 - 23 Using a suitable press, press out outer races of outer and inner wheel bearings **4-28** and **4-36** from hub **4-31**.
 - 24 Should sleeve **4-38** be damaged, it can be removed by undoing fixing screws **4-41**. At reassembly, smear recommended sealing compound (see **Section 1 - Service Consumables**) on axle case joining flange and tighten screws with torque of 60 da Nm (61.2 kgf m, 444 lbf ft).
 - 25 Mark side gear pins **4-6**, accompanying components and seats for identification of original position at reassembly.
 - 26 Arrange side gear carrier **4-5** on wooden blocks and, using a suitable press, push out pins **4-6**.
 - 27 Pick up all needle rollers **4-10**, **4-11**.
- Note:** It is important to keep matched needle rollers and thrust washers **4-9** with corresponding pin **4-6**, because of predetermined assembly tolerance limits.*
- 28 Remove side gears **4-12** and corresponding thrust washers.

Assembly

- 1 Fit outer races of wheel inner and outer bearings **4-36** and **4-28** into wheel hub **4-31**, ensuring that they are correctly seated. Position inner race with roller cage of wheel inner side bearing **4-36** before fitting lip seal **4-37**.
 - 2 Lubricate and fit a new O-ring **4-13**.
 - 3 Suitably support wheel hub **4-31** to prevent damage to seals and fit inner race of wheel inner bearing **4-36** onto sleeve **4-38**.
 - 4 Lubricate and fit new O-rings **4-33** and **4-35** on piston **4-34**, insert the piston onto wheel hub sleeve **4-38**.
 - 5 Press inner race of wheel outer bearing **4-28** on to ring gear support **4-29**, applying gentle heating if necessary; then mount support **4-29** in ring gear **4-30** and secure by locking **4-20**.
- Note:** When heating bearings, use heating plates, oven or an oil bath. Never heat parts by using a torch.*
- 6 Mount ring gear and support unit **4-30** and **29** on sleeve **4-38**.
 - 7 Fit the six rods **4-19** in their seats on ring gear support **4-29**.
 - 8 Install the spring retainer (see [⇒ Fig 5. \(□ F-12\)](#) in [⇒ Dismantling \(□ F-12\)](#)) and compress springs **4-22** (3 off) with relevant cup **4-23**, spring clips and pins with the pressure plate **4-21**.
 - 9 Mount the pressure plate-spring assembly on ring gear support **4-29**.
 - 10 Screw ring nut **4-25** on wheel hub sleeve **4-38** by hand. Tighten ring nut **4-25** using an accurately fitting wrench so as to reach the prescribed pre-load for wheel bearings, corresponding to a revolving torque of 2.5 to 3.5 da Nm, checking alignment for the lock plates **4-24**.

***Note:** To prevent wrong recording of torque values, it is advisable to seat bearing properly before checks by revolving the wheel hub repeatedly.*

- 11 Remove the spring retainer.