

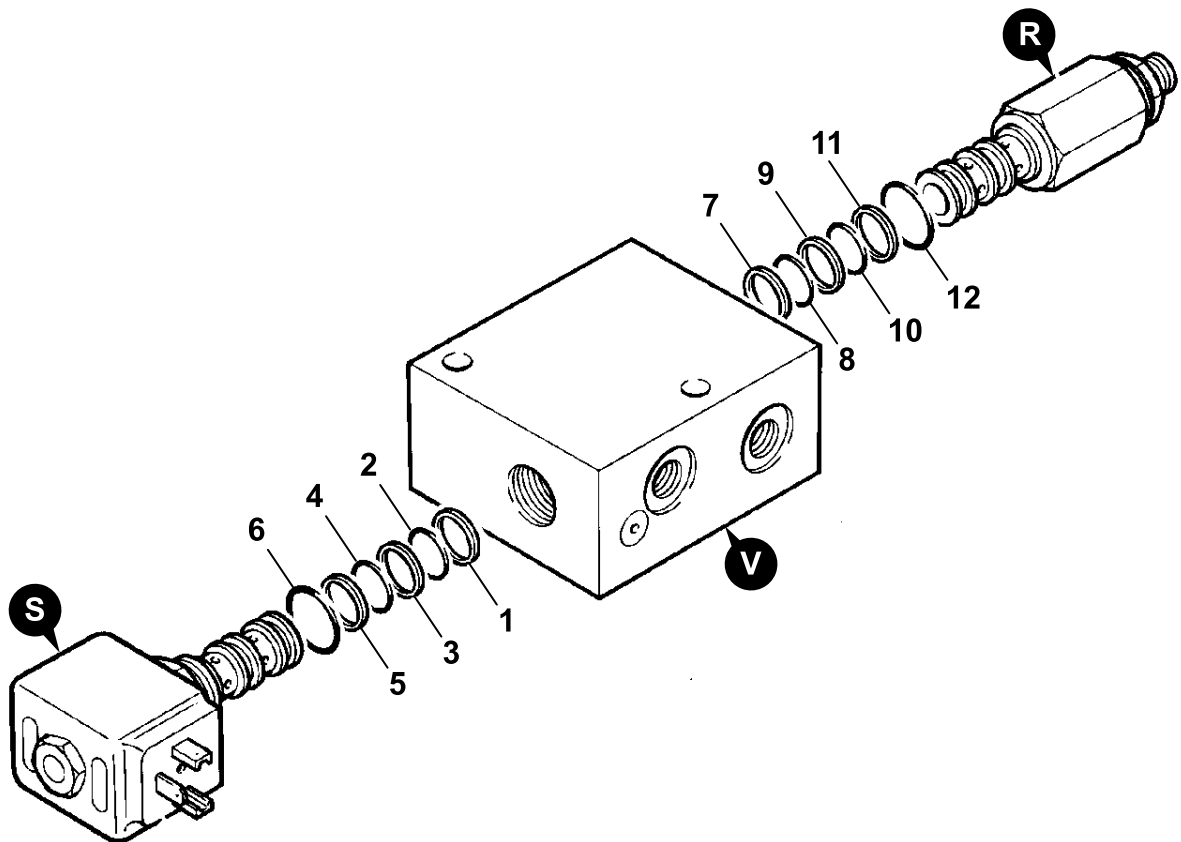
Dismantling and Assembly

Dismantling

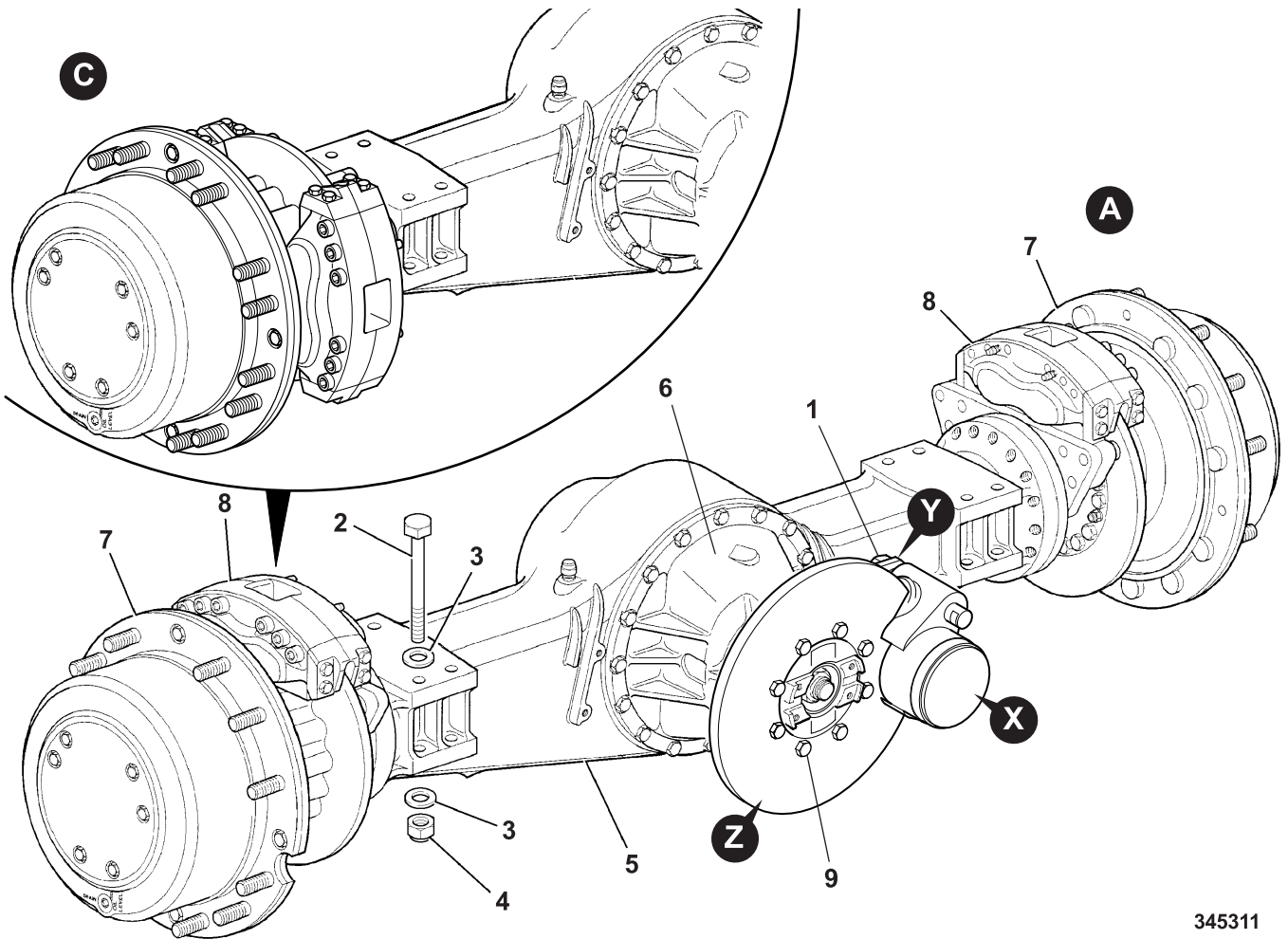
- 1 Unscrew the solenoid **S** from the transmission disconnect valve body.
- 2 Remove and discard the O-ring seals **2, 3** and **4** and backing rings **1, 3** and **5**.
- 3 Unscrew and remove the relief valve **R** from the transmission disconnect valve body.
- 4 Remove and discard the O-ring seals **8, 10** and **12** and backing rings **7, 9** and **11**.
- 5 Check the relief valve **R** and solenoid **S** for wear and damage. Replace if necessary.

Assembly

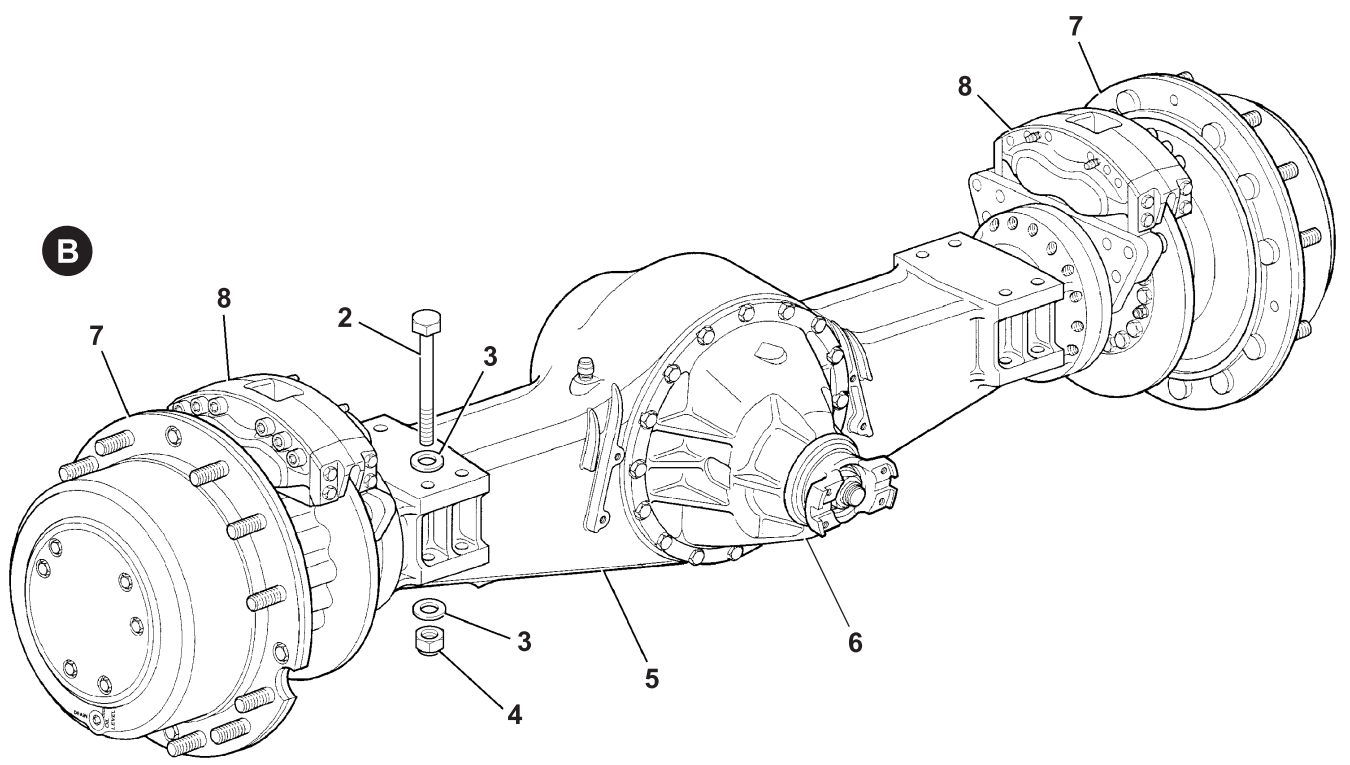
Assembly is the reverse of dismantling. Use new O-rings and backing rings throughout.



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Description

Both the front and rear axles are very similar. The main differences being:-

- i The front axle **A** has the parking brake disc, caliper and mounting plate located on the input flange to the drive shaft.
- ii The helix angle of the crown wheel and pinion of the rear axle **B** differs from the helix angle on the front axle **A** which makes the rear axle rotate in the same direction as the front axle.
- * iii The front axle of the 718 machine is shown at **C**. It has two service brake calipers and is attached to the chassis via the hydraulic suspension system (refer to **Section S**).

Note: if dismantling both axles, care must be taken to ensure the correct crown wheel and pinion is replaced in the correct axle.

* Removal and Replacement (ADT 714 Machine Only)

- * **Note:** For the removal procedure of the front axle of the 718 machine, refer to **Front Axle (718 Machine Only) - Removal and Replacement**.

WARNING

A raised and badly supported machine can fall on you. Position the machine on a firm, level surface before raising one end. Ensure that the other end is securely chocked. Do not rely solely on the machine hydraulics or jacks to support the machine when working under it.

Isolate the battery, to prevent the engine being started while you are beneath the machine.

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Removal

The removal and replacement procedure for both the front and rear axles is similar. The front axle requires the removal of the parking brake. To avoid unnecessary resetting of the parking brake, it is recommended that the parking brake assembly is removed while the axle is still fitted to the machine.

To remove the parking brake, proceed as follows:

- 1 Operate the parking brake control at least 10 times to vent the hydraulic pressure from the parking brake accumulator.
- 2 Raise and support the front end of the machine. Remove the front road wheels.
- 3 Mark up the companion flange connections at the propshaft/front axle joint to ensure correct re-connection (see **Section F, Propshafts** for details on removal and replacement of the propshafts). Disconnect the propshaft from the front axle flange.
- * 4 Remove the nuts **1** securing the parking brake **X** to the mount plate **Y**.

- 5 Remove the screws **9** securing the parking brake disc **Z** to the front axle.

- 6 Remove the parking brake assembly as a single unit from the front axle and support on a suitable block to avoid excess strain on the hydraulic hose and connections.

Replacement is the reverse of removal.

Remove the axle as follows:

- 1 Operate the service brake pedal at least 10 times to ensure that hydraulic pressure has been vented from the brake accumulator valves.

- 2 Disconnect the brake hoses at their connections at the axle. Blank exposed connections.

- 3 Disconnect the propshaft at axle yoke.

Note: This will have been done as part of the procedure for removing the parking brake if working on the front axle

- 4 Support the axle on a trolley jack at the point of balance.

- 5 Remove nuts **4**, washers **3** and bolts **2** securing the axle to the chassis.

- 6 Remove the axle from the machine.

- 7 If dismantling of the axle is to be carried out, drain the axle as detailed in Section 3.

Replacement

For assembly the removal sequence should be reversed.

If working on the front axle, replace the parking brake before reconnecting the front propshaft.

Refit the road wheels and carry out wheel nut tightness check.

Bleed the brake system.

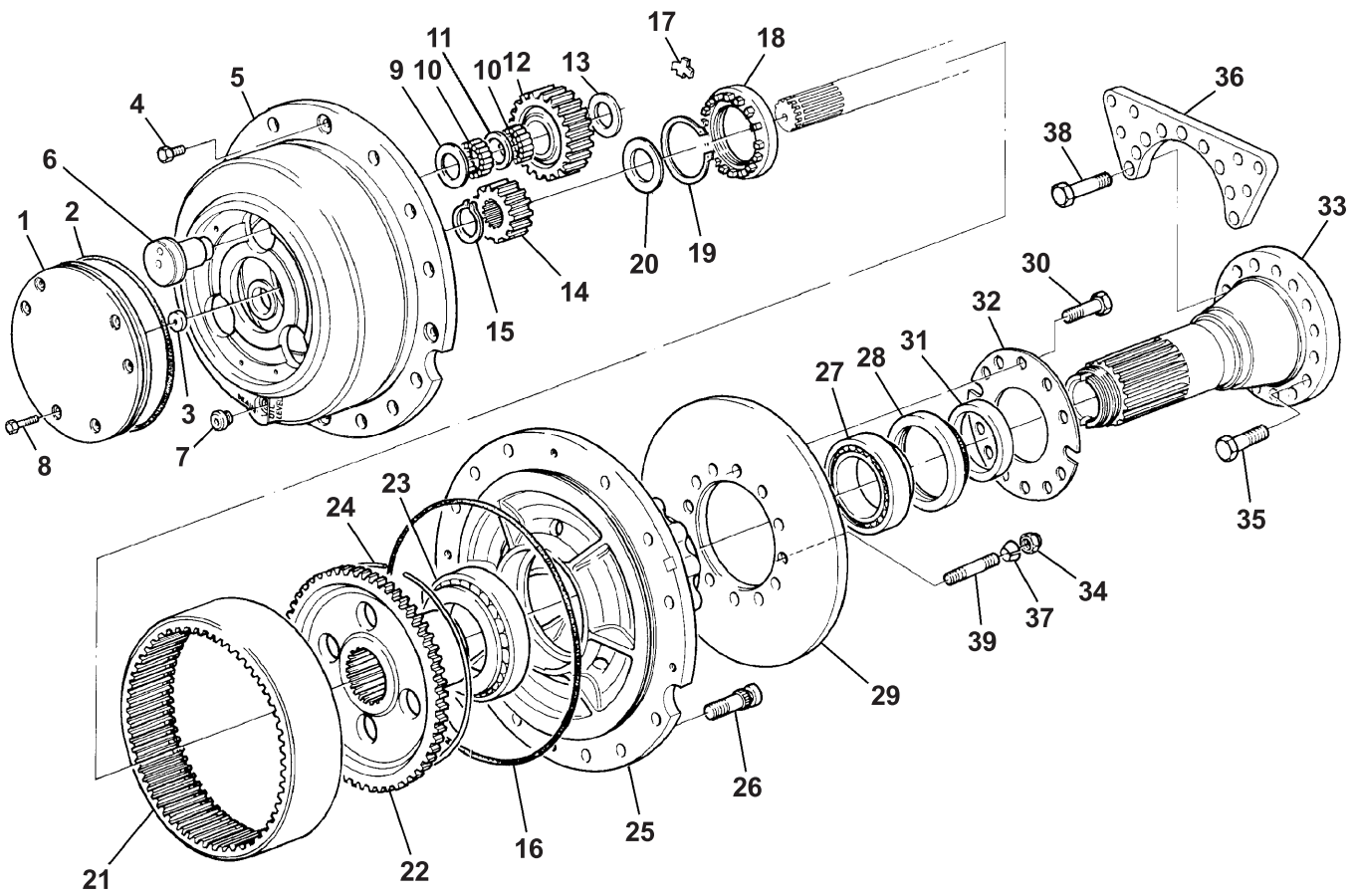
Check the axle and hubs are filled to the correct level with * the appropriate oil, see **Section 3** for the recommended oil.

* Torque Settings - ADT 714 Machine Only

Item	Nm	Kgf m	lbf ft
2 Axle Securing Bolts (8 off)	476	48	352
9 Brake Disc Screws (10 off)	65-75	6.5-7.5	48-55

Torque Settings - ADT 718 Machine Only

Item	Nm	Kgf m	lbf ft
9 Brake Disc Screws (10 off)	140-160	14.3-16.3	103-118



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Hub and Driveshaft

Dismantling

- 1 If not already done, drain the oil from the axle and hub.
- 2 Remove the service brake caliper units from the axle. (Refer to **Section G, Brakes** for details of this procedure.)
- 3 Remove the six screws **8** and, using the three tapped holes provided, use screws to pull off the cover **1**. Remove and discard O-ring **2**.
- 4 Pull out the axle shaft backing plate **3** using a puller screw.
- 5 Remove the screws **4** and, suitably supporting the side gear carrier **5**, pry the carrier **5** from the wheel hub **25**.
- 6 Remove the lockring **15** retaining the sun gear **14** on the driveshaft and pull out the sun gear.
- 7 Remove the thrust washer **27** which rests against the wheel hub sleeve.
- 8 Remove the driveshaft.
- 9 Pull out the lockring **19** securing the ring nut lock plates **17**. Remove the lock plates.
- 10 Remove the ring nut **18**.
- 11 Suitably support the wheel hub **25** and pull out the ring gear unit **21** and support **22**.
- 12 Pry off the lockring **24** from the ring gear **21** by using a suitable screwdriver.
- 13 Disassemble the ring gear support **22** from the ring gear **21**.
- 14 Should the replacement of the outer wheel bearing **23** 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 the ring gear support **22**.
- 15 Pull out the complete wheel hub **25**. Remove and discard the O-ring **16**.
- 16 Remove the bolts **30** and nuts **34**. Remove the retaining plate **32** and spacer **31**.
- 17 Remove the spacers **37** and brake disc **29**.
- 18 Pry off the seal **28** from the wheel hub and remove the inner race with roller cage of the inner wheel bearing **27**.
- 19 Using a suitable press, press out the outer races of the outer and inner wheel bearings **23** and from hub **25**.

- 20 Should the sleeve **33** be damaged, it can be removed by undoing the fixing screws **35** and **38** and removing the plate **36**. At re-assembly, smear the recommended sealing compound (see **Section 1**) on the axle cast joining flange and tighten screws to a torque of 950 ± 47.5 Nm (97 ± 5 kgf m, 516 ± 26 lbf ft).

- 21 Mark the side gear pins **6**, accompanying components and seats for identification of original position at re-assembly.

- 22 Arrange the side gear carrier **5** on wooden blocks and, using a suitable press, push out the pins **6**.

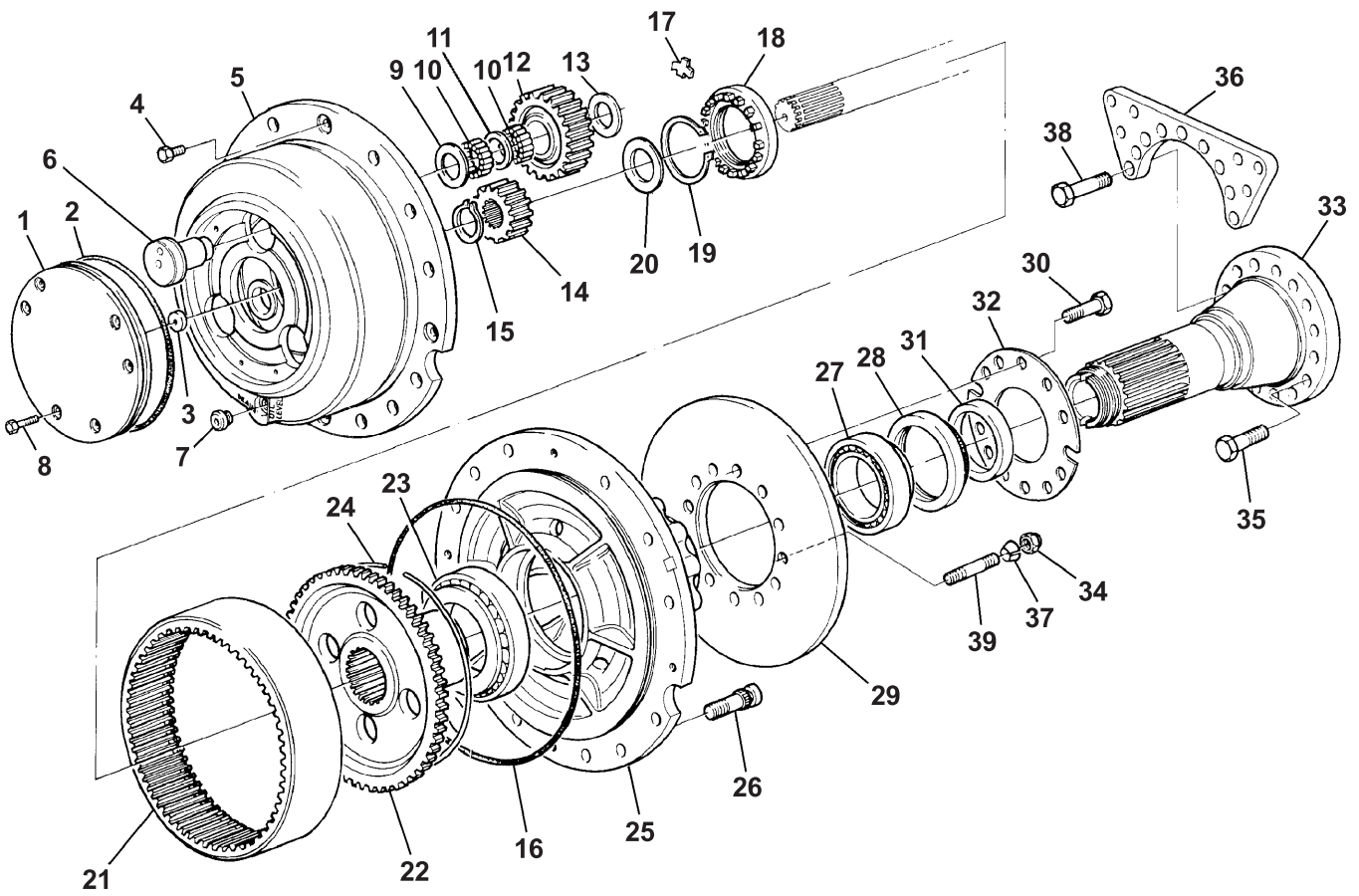
- 23 Pick up all the needle rollers **10** and **11**.

Note: It is important to keep matched needle rollers and thrust washers **9** with corresponding pin **6**, because of predetermined assembly tolerance limits.

- 24 Remove the side gears **12** and corresponding thrust washers.

* Torque Settings

Item	Nm	Kgf m	lbf ft
30	700 ± 35	71 ± 3.5	516 ± 26
35	950 ± 47.5	97 ± 5	700 ± 35
38	950 ± 47.5	97 ± 5	700 ± 35



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