

Workshop Service Manual

MF 5600



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5A27 - GBA50/PowerShuttle – Disassembly/reassembly

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1 Preliminary steps

1. Drain the transmission oil.
2. Separate the gearbox from the tractor (see chapter 2).
3. Separate the Powershift module and the robotic mechanical gearbox.
4. Place the robotic mechanical gearbox vertically on a stable support.

2 Removing and refitting the PowerShuttle module

Removal

1. Remove the shaft and reverse gear assembly (11).

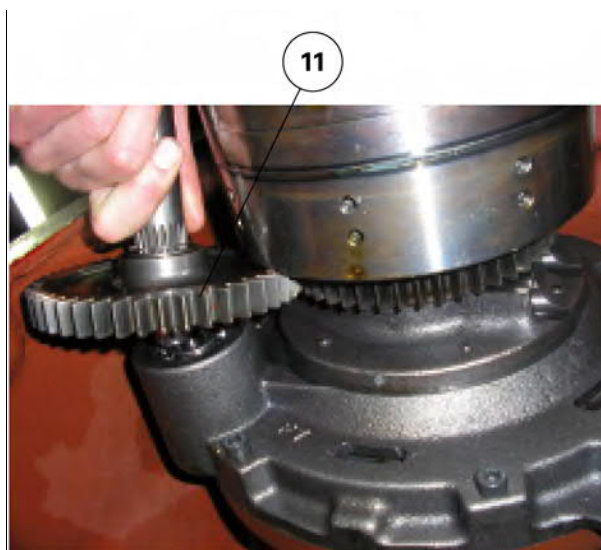


Fig. 1.

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2. Remove the two forward and reverse pressure connector unions (13).



Fig. 2.

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3. Remove the two circlips (14) using very small pliers.

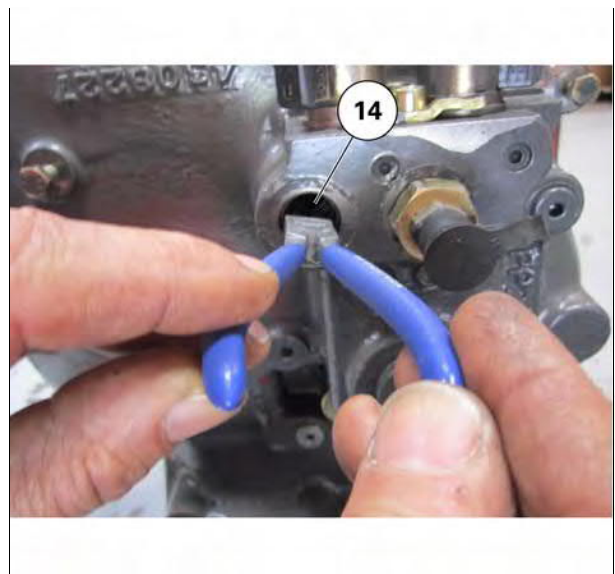


Fig. 3.

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4. Remove the two pipes (15) through the holes in the transmission housing.

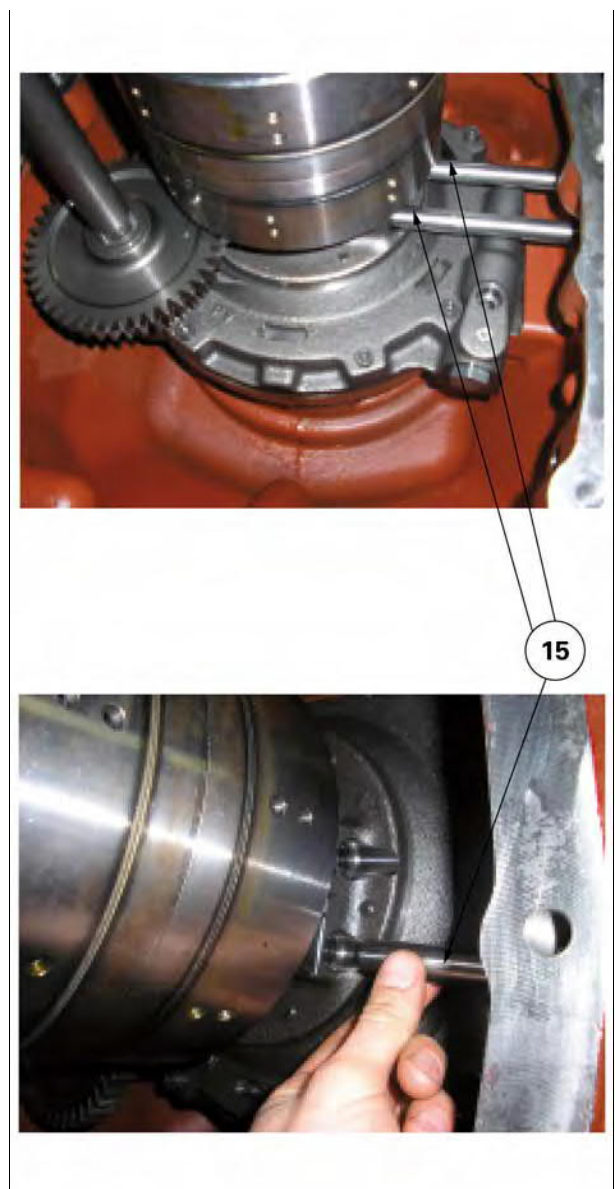


Fig. 4.

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5. Loosen the screws (16) (tightening torque 67 Nm and Loctite 242 or equivalent).



Fig. 5.

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6. Remove the circlip from the reverse shuttle clutch.

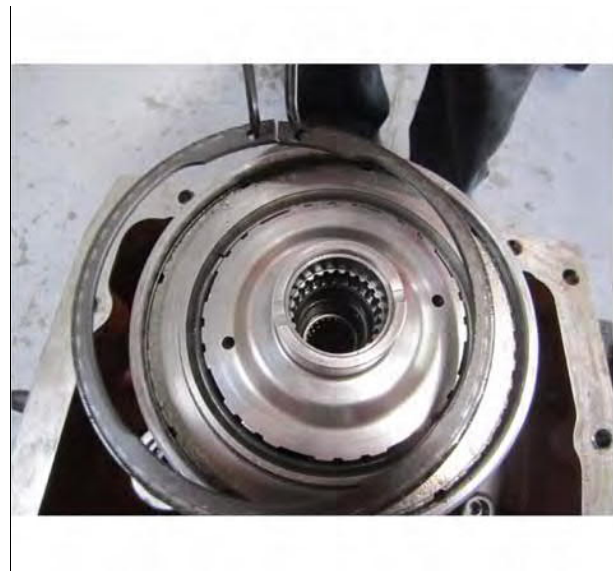


Fig. 6.

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7. Remove the flange from the reverse shuttle.



Fig. 7.

I030592

8. Fit service tool 4346856M1.
9. Refit the circlip in order to immobilise the tool.



Fig. 8.

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10. Remove the reverse shuttle using a lifting tool.



Fig. 9.

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11. Place the assembly on a clean surface in order to disassemble Powershift no. 2 completely.



Fig. 10.

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12. Remove the piston (17).

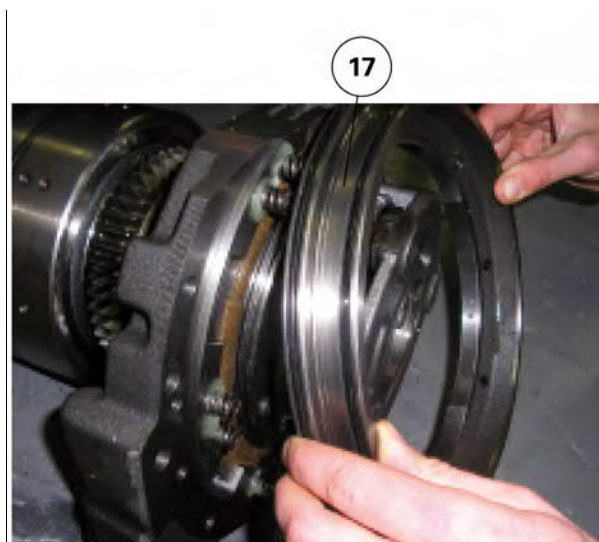


Fig. 11.

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13. Remove the bronze ring (18).

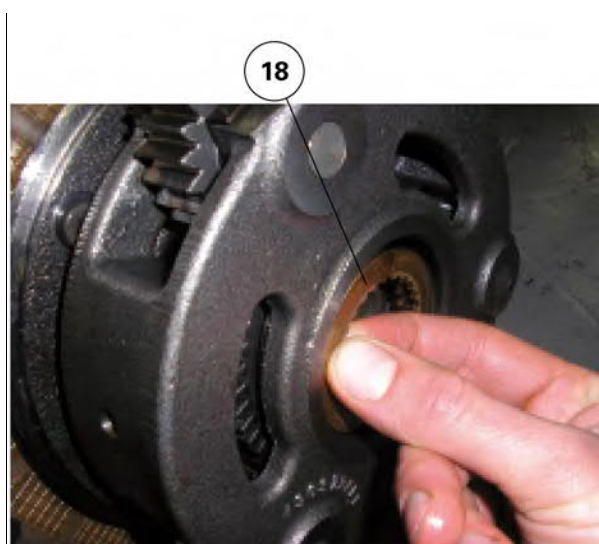


Fig. 12.

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14. Remove the snap ring (19), then remove the complete planet carrier.

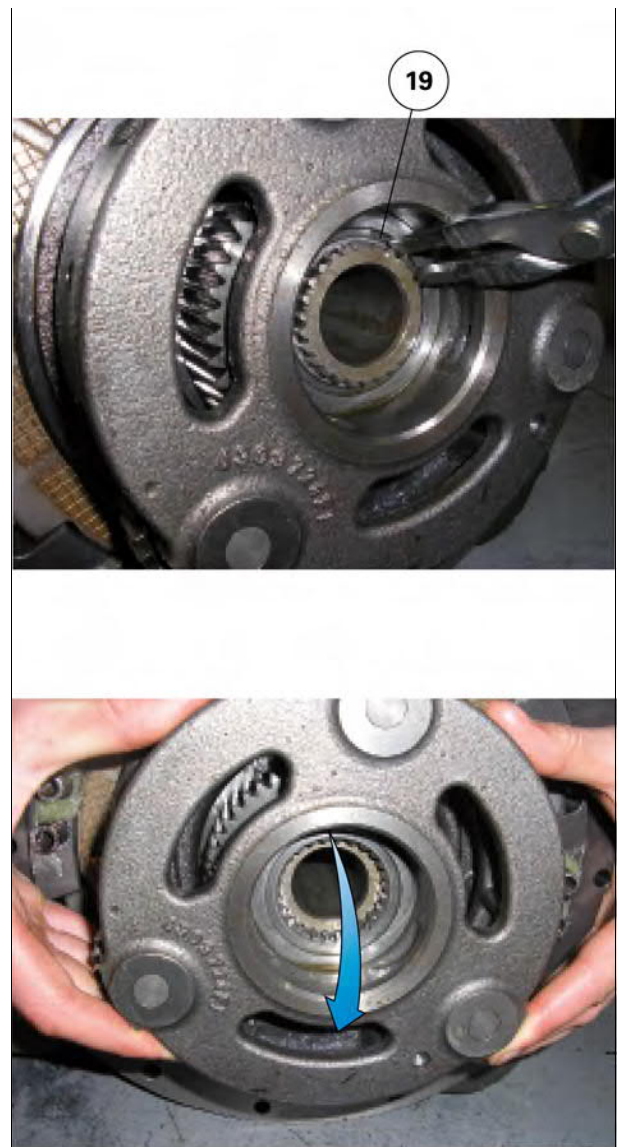


Fig. 13.

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15. Remove the hub/discs assembly (B).

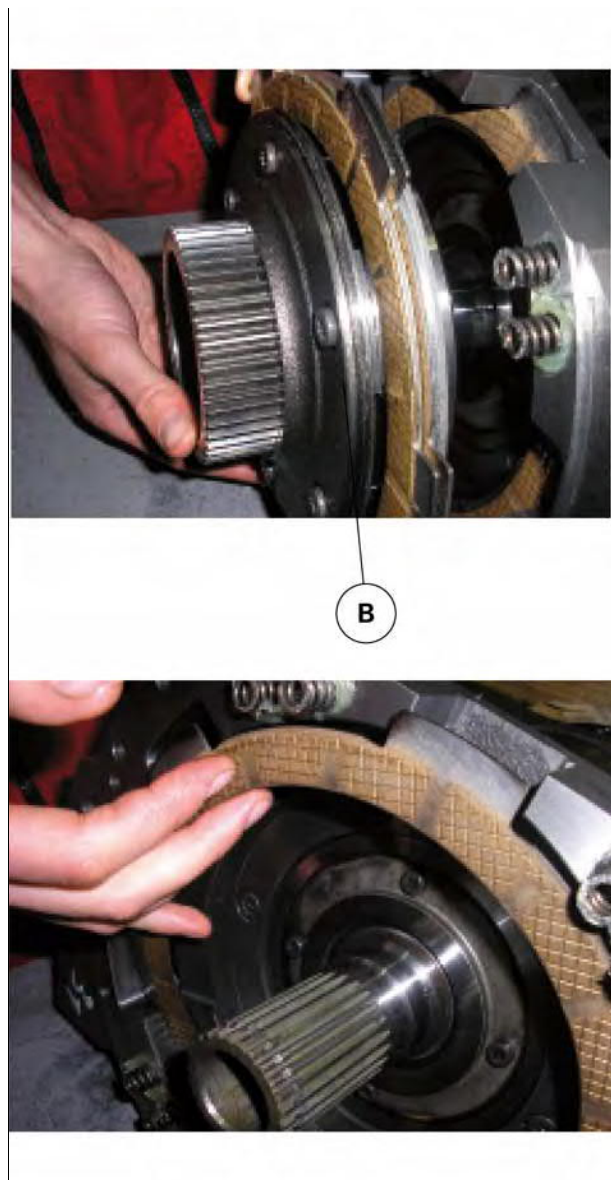


Fig. 14.

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3 Removing/refitting the reverse clutch

1. Loosen the six screws (20), then remove the flange (21). Tighten the screws to a torque of 33 Nm, using Loctite 241 threadlock.

NOTE: When refitting the flange, ensure that it matches up with the port reference (A).

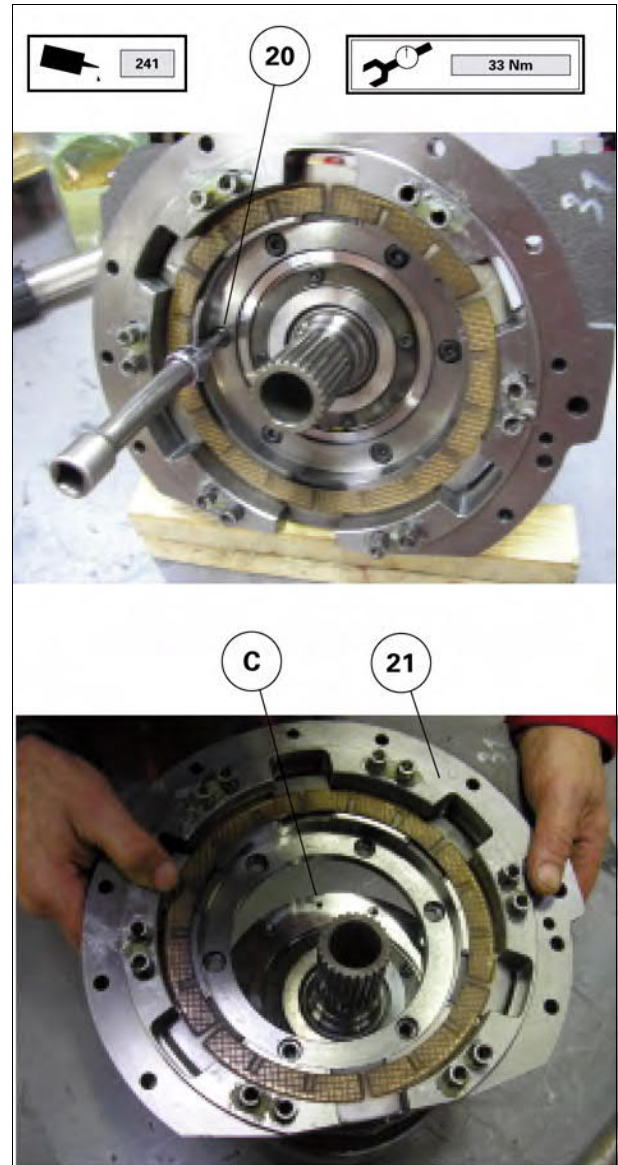


Fig. 15.

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2. Loosen the four screws (22), retaining the bearing thrust washer (23). Tighten the screws to a torque of 14 Nm, using Loctite 241 threadlock.

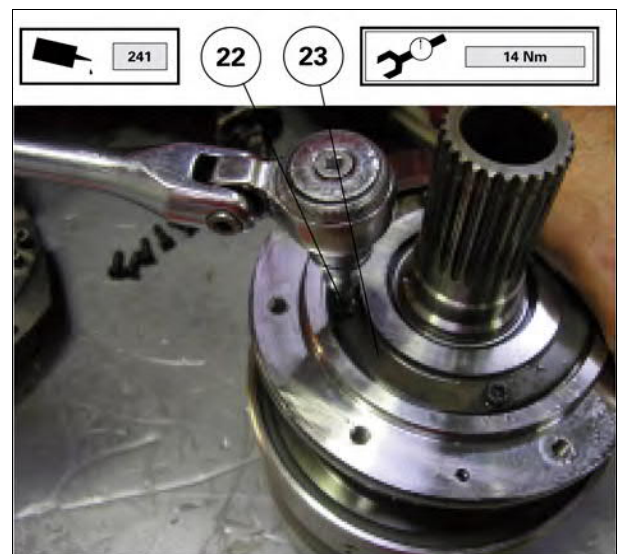


Fig. 16.

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3. Remove the snap ring (24).

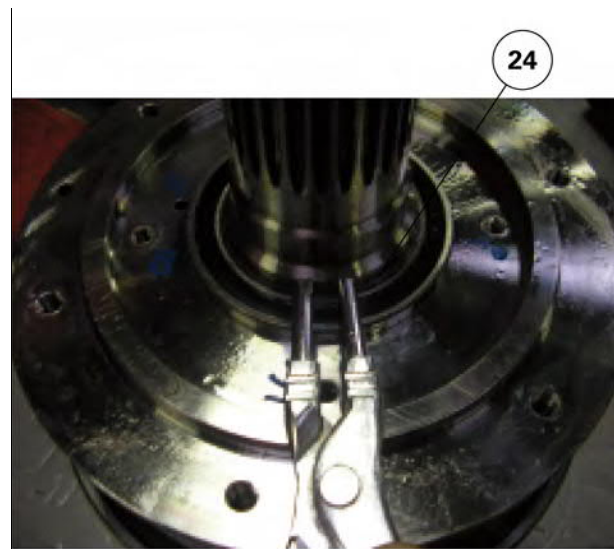


Fig. 17.

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4. Gently tap the hub (25) with a mallet to remove the reverse gear assembly and extract the bearing (26). The bearing (26) will need to be refitted using assembly grease.

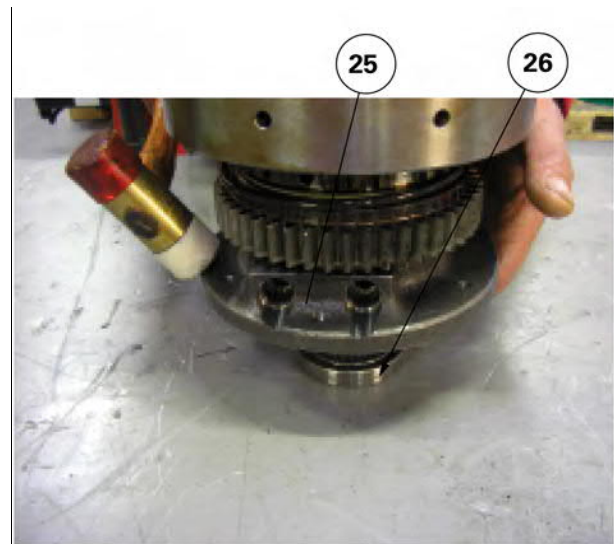


Fig. 18.

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5. Use pliers to remove the circlip (27) securing the bearing (28).

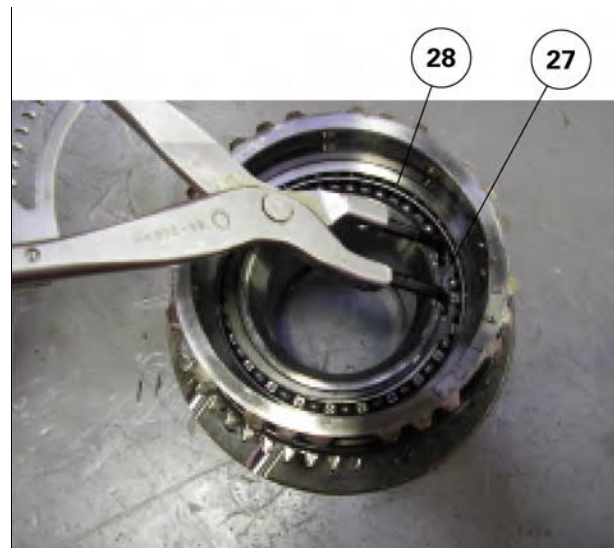


Fig. 19.

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6. Tap the reverse gear (29) with a mallet to separate the hub (25).



Fig. 20.

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7. Use a bearing puller to remove the ball bearing (28) from the hub (25). The bearing (28) will need to be refitted using assembly grease.

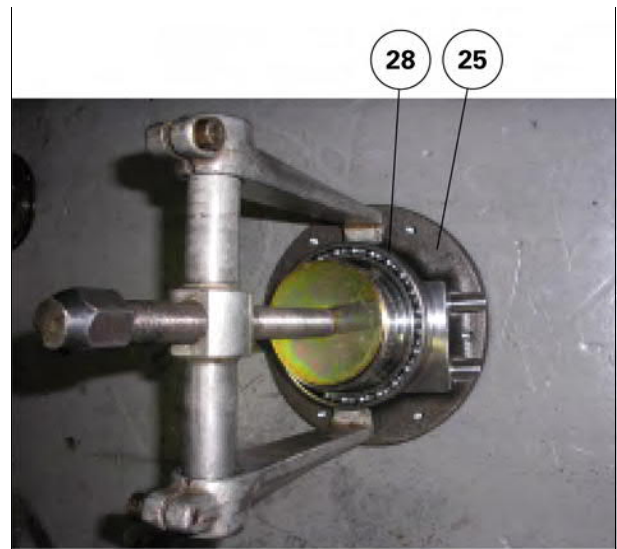


Fig. 21.

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8. Remove the snap ring (30) to release the bearing (31) and the cup (32).

NOTE: When reassembling the cup (32), it is important to observe the direction shown in the photo.



Fig. 22.

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9. Use a press and a large socket to extract the bearing. The bearing will need to be refitted using assembly grease.



Fig. 23.

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10. Remove the circlip (33) to extract the discs and thrust plates, which should be stored in the order they were removed.



Fig. 24.

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11. Using a press and the ATP 3002 service tool, compress the four Belleville washers, then remove the snap rings (34) and thrust washer (35) to release everything. The thrust washer (36) and the four Belleville washers will become accessible following decompression.

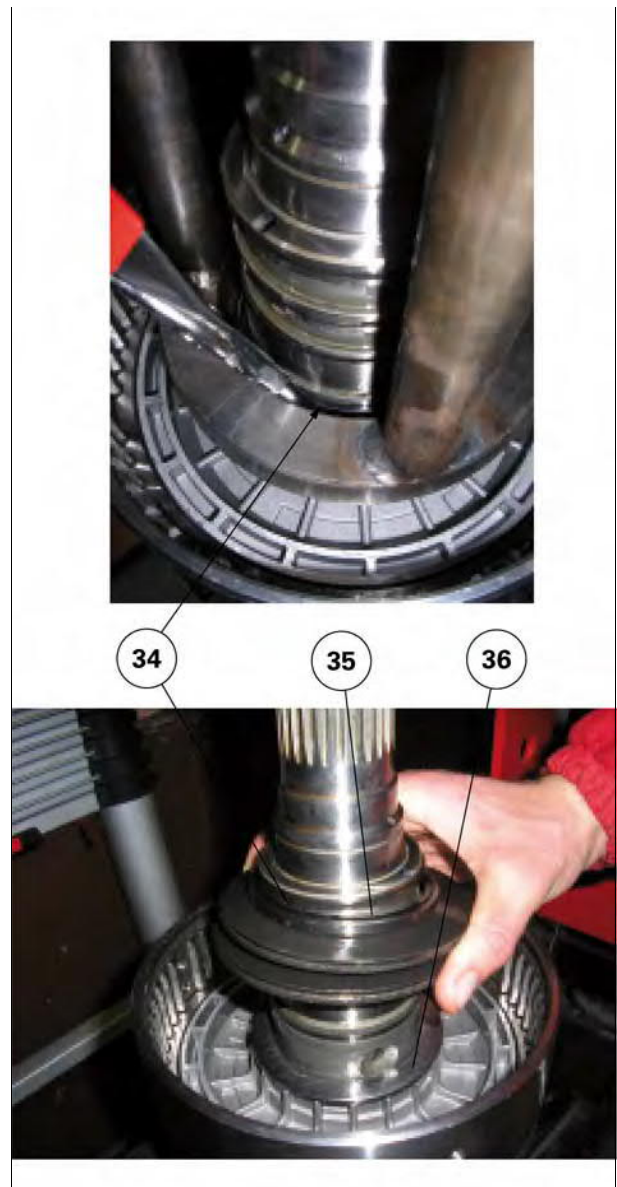


Fig. 25.

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12. Using compressed air from the workshop, push the reverse piston outwards. If the seals need to be changed, use miscible assembly grease when fitting them.



Fig. 26.

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13. Remove the three rings (37) fitted to the shaft.

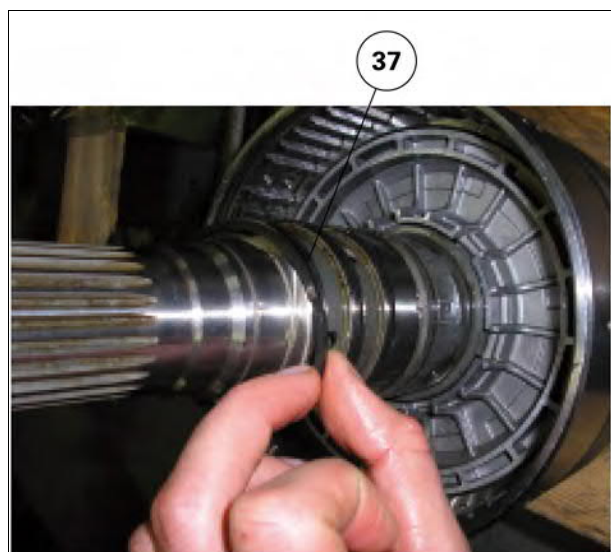


Fig. 27.

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14. To reassemble, carry out the disassembly steps in reverse order, referring to the assembly instructions.

4 Removing/refitting the forward clutch

Removing/refitting the forward clutch

For this section, please refer to all the operations used to remove/refit the reverse clutch ([see 5A27, §3, page 89](#)).

1. Remove the circlip (38), then extract the disc and thrust plate assembly, as well as the splined hub (39) and the seal ring (40).

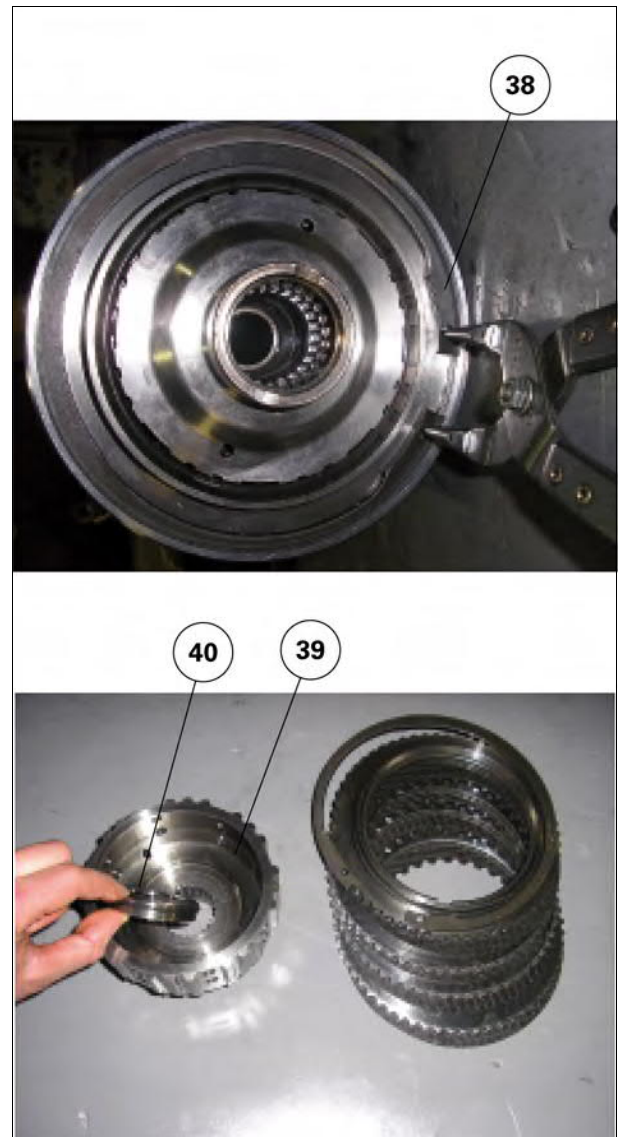


Fig. 28.

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