Inspection

1. Discard the O-rings.

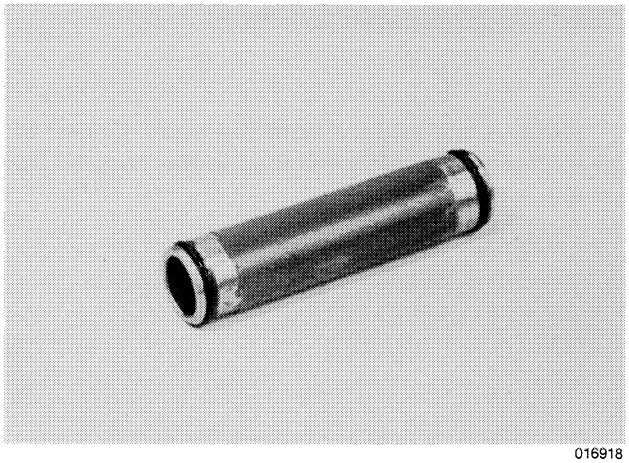
2. Clean all parts in cleaning solvent.

3. If spring test equipment is available, check the tension of each spring according to the specifications on page 6010-4.

4. Inspect the poppet and the seat for the poppet in the body for wear and damage.

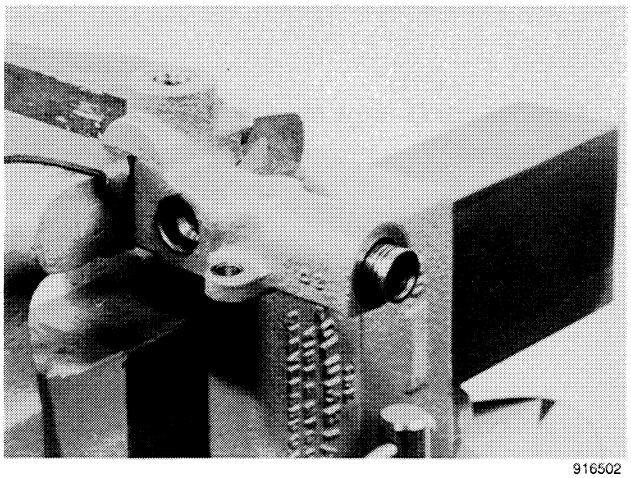
Assembly

1. Install new O-rings on the tube and plugs.



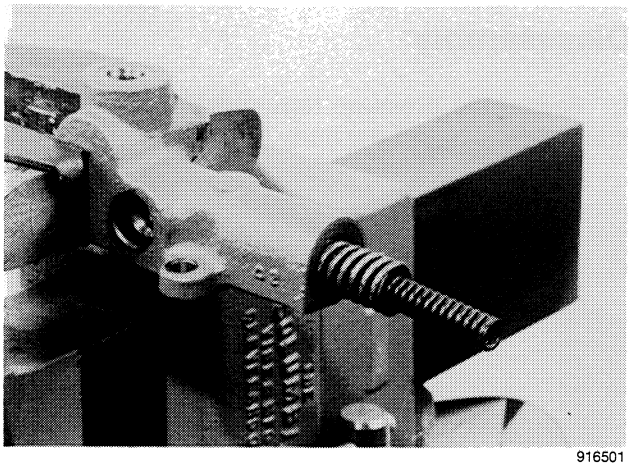
016918

2. Fasten the body in the vise. Then install the poppet in the body. If shims were removed from the poppet, make sure that the shims are installed in the poppet.



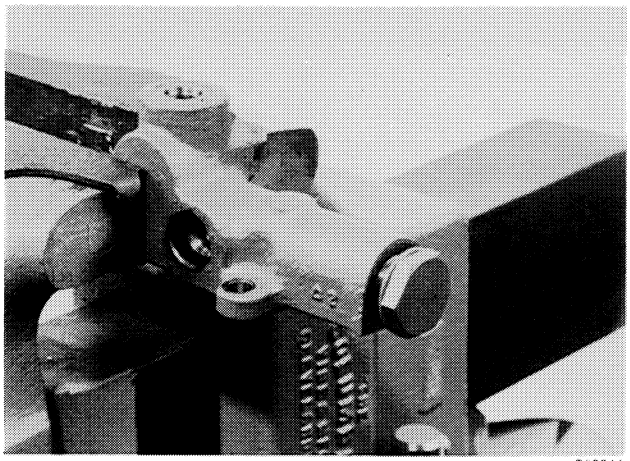
916502

3. Install the springs.



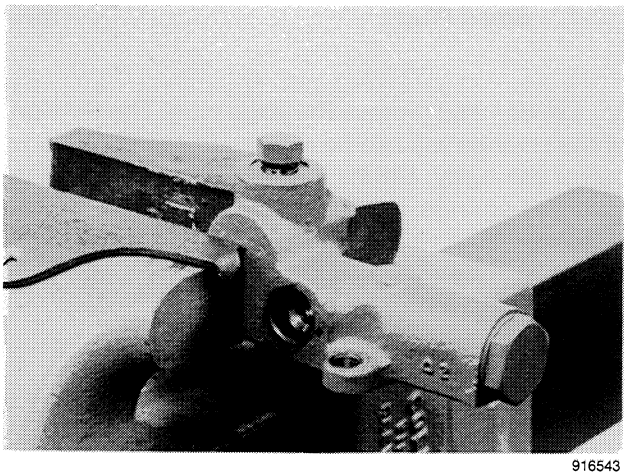
916501

4. Install and tighten the large plug.



916544

5. Lubricate the O-ring on the small plug. Then install and tighten the small plug.



916543

6. Lubricate an O-ring on the tube and the bore for the tube. Push the tube into the bore in the body.

6016

TRANSMISSION

TABLE OF CONTENTS

CASE CORPORATION

Bur 8-14630

Printed in U.S.A.
Issued February 1990

SPECIFICATIONS

Specified oil ..... Case TCH Fluid

Capacity of transmission ..... 8 U.S. gallons (30 litres)

End play for input shaft.....0.002 to 0.004 inch (0.05 to 0.10 mm)

End play for track speed shaft .....0.002 to 0.004 inch (0.05 to 0.10 mm)

End play for main shaft.....0.006 to 0.008 inch (0.15 to 0.20 mm)

End play for pinion shaft.....0.002 to 0.004 inch (0.05 to 0.10 mm)

Special torques

Cap screws for cover ..... 130 to 155 pound-feet (176 to 210 Nm)

Self-locking nuts for final drive ..... 95 to 105 pound-feet (128 to 142 Nm)

Cap screws for retainers .....360 to 420 pound-inches (41 to 47 Nm)

Ferry head screws for brake mount ..... 90 to 110 pound-feet (122 to 149 Nm)

Cap screws for brake cover ..... 80 to 90 pound-feet (102 to 122 Nm)

Ferry head screws for range housing .....420 to 540 pound-inches (47 to 61 Nm)

Ferry head screws for transmission control valve .....360 to 420 pound-inches (41 to 47 Nm)

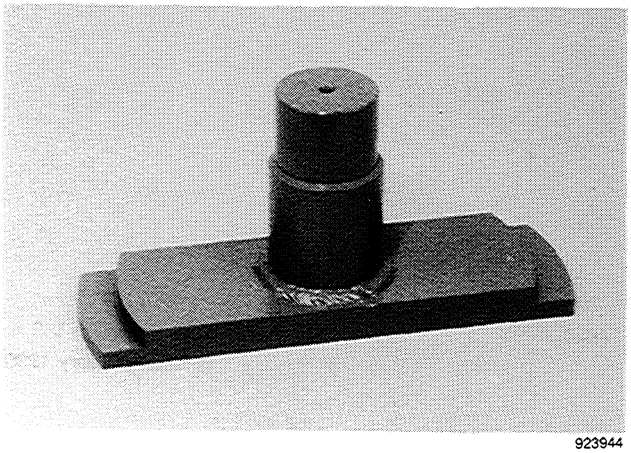
Self-locking nut for yoke ..... 150 to 165 pound-feet (203 to 223 Nm)

Ferry head screws for cover for input shaft of final drive ..... 90 to 110 pound-feet (122 to 149 Nm)

SPECIAL TOOLS

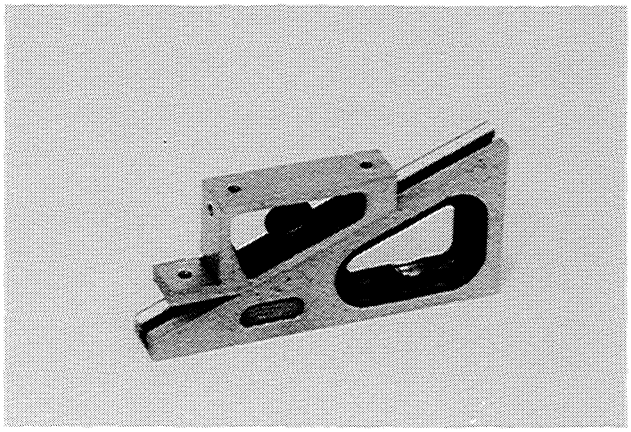
The first thirteen tools shown are available from Service Tools, P.O. Box 314, Owatonna, MN 55060 in the U.S. and from Jobborn Manufacturing Co., 97 Frid Street Hamilton, Ontario L8P 4M3 in Canada. See Special Tools in Section 1001 for the correct address.

The tool shown below is used to put the pinion shaft in the correct position. The part number of the tool is CAS-1102.



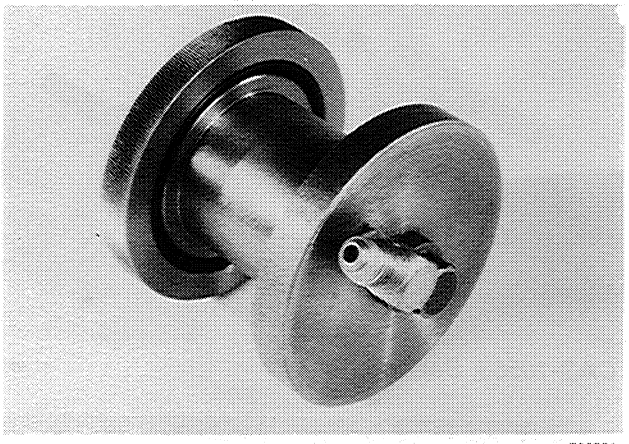
923944

The tool shown below is used to measure the distance between the pinion gear and the tool at the left. The part number of the tool is CAS-10279.



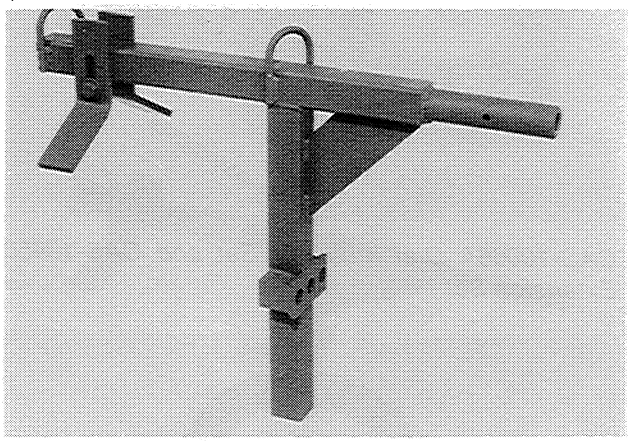
923903

The tool shown is used to remove and install the final drive. The part number is CAS-1553.

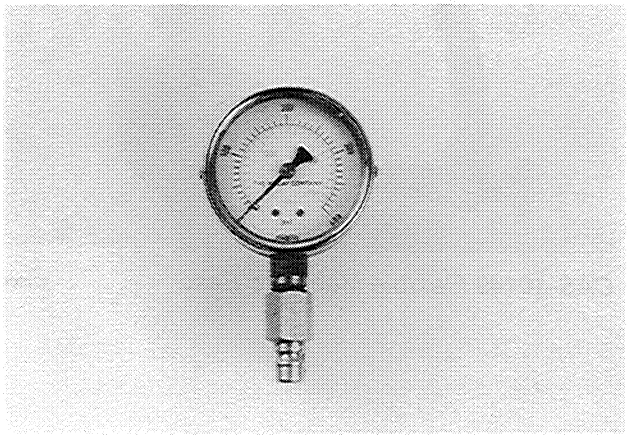


796772

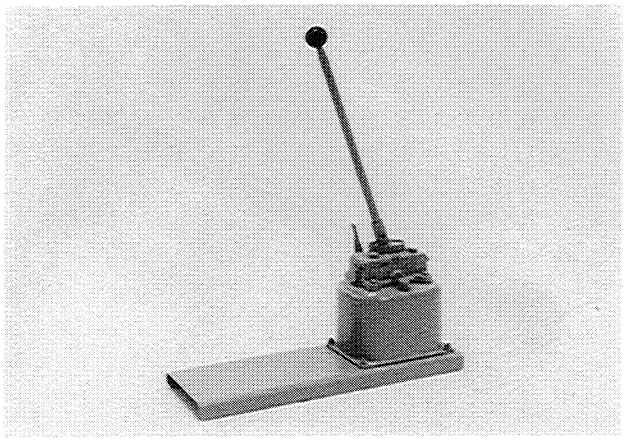
The tool shown and a hand pump are used to check the leakage of a clutch. The tool is part of kit CAS-1001. The tool is available separately. The part number is CAS-1001-1.



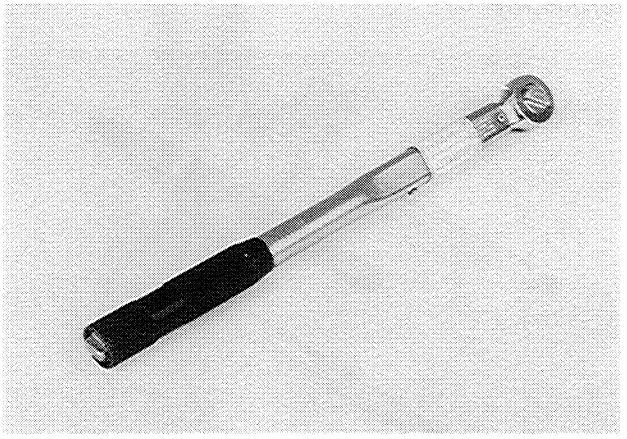
796933



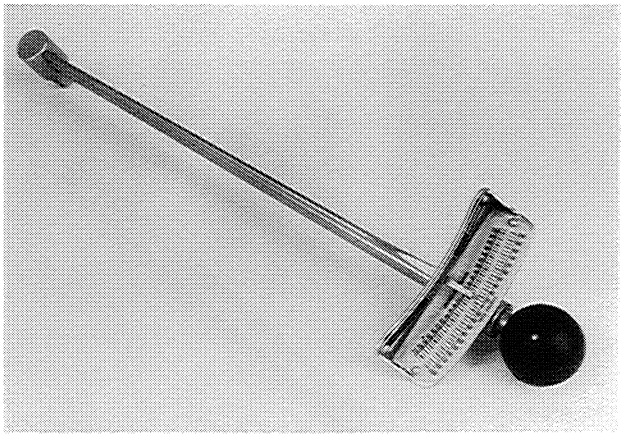
213168, 0 to 400 psi (0 to 2700 kPa) gauge 877827



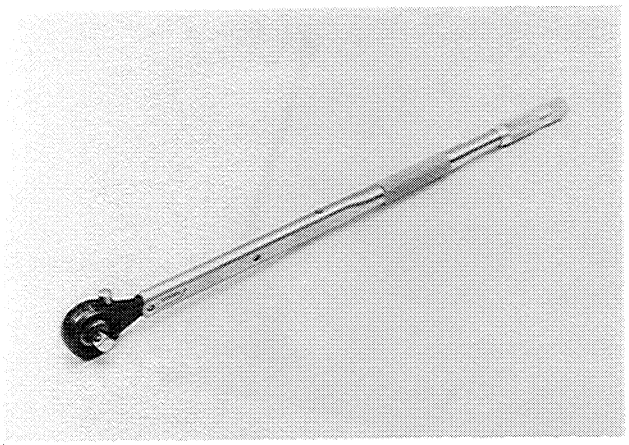
CAS-10090, Hand Pump 877895



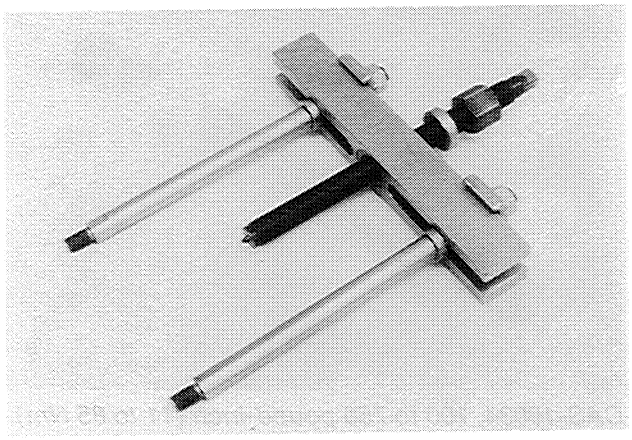
CAS-10034, 100 to 750 pound-inch (11 to 85 Nm) torque wrench 877829



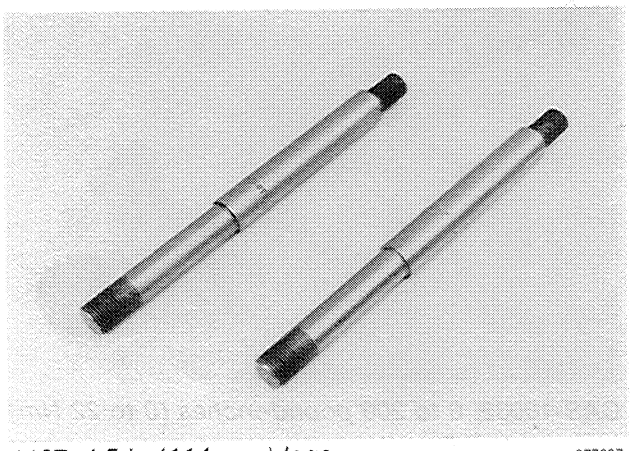
CAS-10032, 0 to 200 pound-inches (0 to 22 Nm) torque wrench 877828



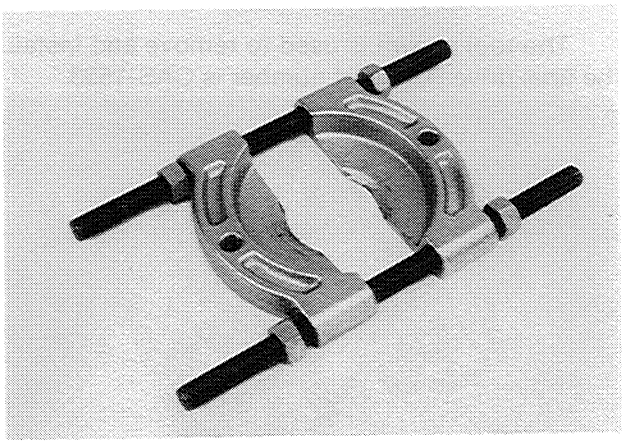
CAS-10036, 30 to 250 pound-feet (41 to 340 Nm) torque wrench 877891



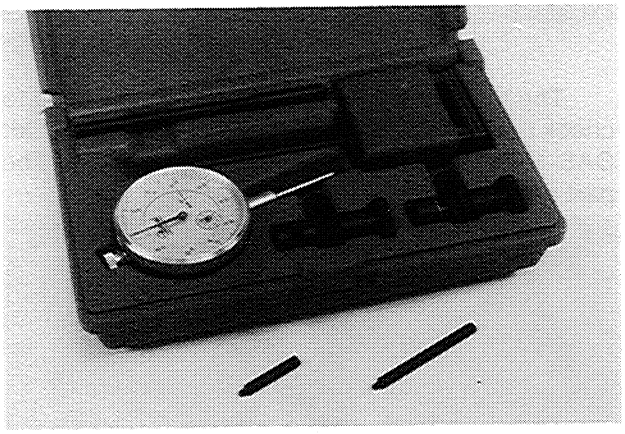
CAS-10592, Push-Puller with 1106, 9.5 in (241 mm) legs 877899



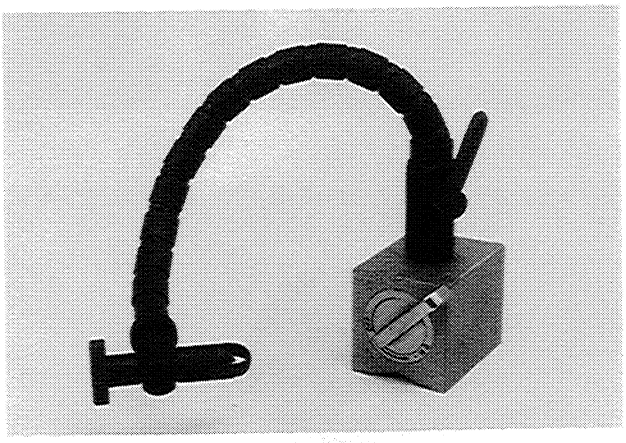
1107, 4.5 in (114 mm) legs 877897



CAS-10563, Bearing Puller 877900

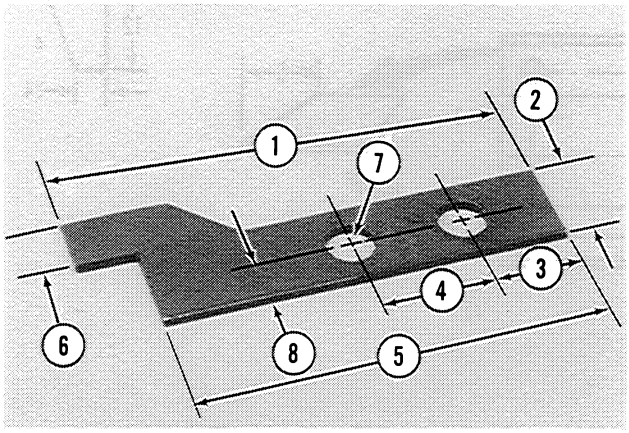


CAS-10066A Dial Indicator Set and CAS-10450 Extension Set 877907



CAS-10149 Flexible Magnetic Base 877906

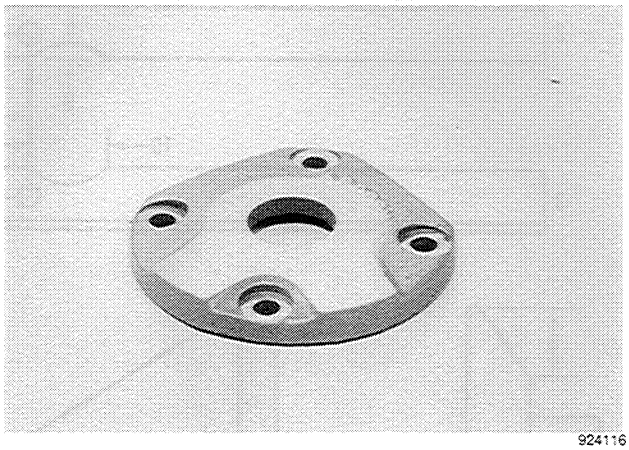
The tool shown below is used to measure the backlash of the bevel gear. Make this tool from 1/8 inch (3 mm) material.



205526

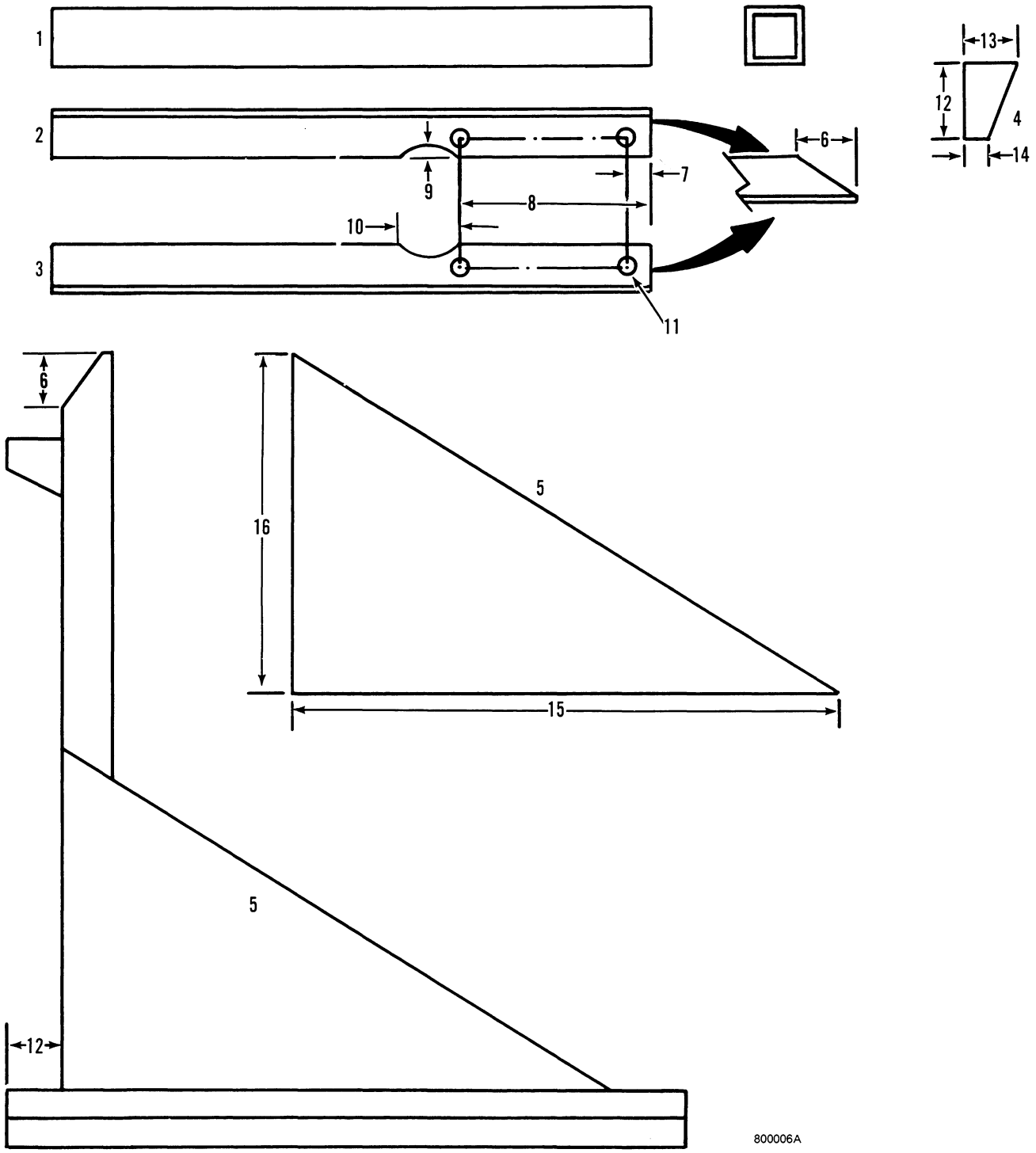
1. *5-1/8 Inches (130 mm)*
2. *1 Inch (25.4 mm)*
3. *1 Inch (25.4 mm)*
4. *1-1/4 Inches (31.7 mm)*
5. *4-7/16 Inches (112.7 mm)*
6. *5/8 Inch (16 mm)*
7. *1/2 Inch (12.7 mm)*
8. *9/16 Inch (14 mm)*

The tool shown below is used when the end play of the track speed shaft is measured. Make the tool from a G102244 retainer. Cut off the boss and oil passages.



924116

The supports shown on page 6016-6 are used to hold the transmission during disassembly and assembly. The supports can be made in you shop.



Make Two Stands. One RH and One LH. Part 5 Must Be On The Outside When Stand Is Fastened to Transmission.

1. *Make Two Pieces From 3 Inch (76 mm) x 1/4 Inch (6 mm) Square Tube x 36 Inches (914 mm) Long*
2. *Make From 2-1/2 Inch (63.5 mm) x 1/4 Inch (6 mm) Angle Iron 36 Inches (914 mm) Long*
3. *Make From 2-1/2 Inch (63.5 mm) x 1/4 Inch (6 mm) Angle Iron 36 Inches (914 mm) Long*
4. *Make Two Pieces 1/4 Inch (6 mm) Thick*
5. *Make Two Pieces 1/4 Inch (6 mm) Thick*
6. *3 Inches (76 mm)*
7. *1-1/4 Inch (32 mm)*
8. *10 Inches (254 mm)*
9. *1/2 Inch (13 mm)*
10. *3 Inches (76 mm)*
11. *7/8 Inch (22 mm)*
12. *4 Inches (101.6 mm)*
13. *3 Inches (76 mm)*
14. *1-1/2 Inch (38 mm)*
15. *29 Inches (736 mm)*
16. *18 Inches (457 mm)*

REMOVING THE TRANSMISSION

1. See the correct section in this service manual and remove the rear attachment. Also remove any mounting arms, etc.

2. If there is no rear attachment, loosen and remove the cap screws that hold the rear guard and remove the rear guard.

3. Remove the guards that are below and between the torque converter and the transmission.

   a. The weight of the front guard is approximately 63 pounds (27 kg) and the weight of the rear guard is approximately 22 pounds (10 kg).

   b. Use a jack to hold the guards in place while the cap screws are being removed.

   c. Lower the guard and remove the guard from the machine.

4. Loosen and remove the cap screws that hold the left floor plate.

5. Remove the left floor plate.

6. Loosen and remove the top cap screws that hold the right side panel for the engine compartment.

7. Loosen the bottom cap screws that hold the right side panel and remove the right side panel.

8. Remove the cotter pin and clevis pin that connect the accelerator rod to the cross shaft.

9. Loosen and remove the cap screws that hold the right floor plate.

10. Remove the right floor plate.

11. Clean the front of the transmission.

12. See Section 5509 and remove the sprockets.

13. Drain the oil from the transmission.

   a. The transmission holds approximately 8 U.S. gallons (30 litres).

   b. The drain plug is on the right rear side of the transmission.

14. Loosen and remove the cap screws that hold the seat mount.

15. Loosen and remove the cap screws that hold the bottom ends of the tether belts.

16. Remove the seat and seat mount.

17. Remove the cotter pin and clevis pin that fasten the brake cables to each brake arm.

18. Disconnect the tubes from the master cylinders at the front of the transmission control valve. Install a cap on each tube.

19. Remove the cotter pins and clevis pins that fasten the control linkage to the spools in the transmission control valve.

20. Loosen and remove the cap screws that fasten the drive shaft to the yoke on the torque converter and the yoke on the transmission.

21. Remove the drive shaft.

22. Remove the cotter pin and clevis pin that fasten the control linkage to the shift rod in the range housing.

23. Loosen the clamps on the hose in the suction line.

24. Disengage the hose from the suction tube in the transmission.

25. Turn the fitting all the way out of the transmission.

26. Loosen the clamp on the hose connected to the fitting in the range housing.

27. Disengage the hose from the fitting.

28. Disconnect the tee from the elbow in the modulator valve. Install a plug in the tee and a cap on the elbow.

29. Disconnect the breather hose between the transmission and filler tube at the transmission.

30. Loosen and remove the cap screws that hold the filler tube.

31. Remove the filler tube.

32. Put a jack or other acceptable lifting equipment below the transmission. Raise the lifting equipment into contact with the transmission. The lifting equipment must have a rating of at least 2 U.S. tons (1814 kg).

33. Use a chain hoist and lifting sling(s) to support the rear of the seat and tank frame. The four cap screws on each side of the transmission also support the seat and tank frame.

34. Loosen and remove the cap screws and hardened washers that fasten each final drive to the pivot shaft.

35. Loosen and remove the cap screws and hardened washers from each side of the transmission.

36. Carefully remove the transmission from the machine.

INSTALLING THE TRANSMISSION

1. Fasten the transmission to the lifting equipment.

2. Move the transmission into alignment with brackets on the pivot shaft and the engine frame.

3. Install the four cap screws and hardened washers that fasten the transmission and seat and tank frame to the engine frame. Do not tighten the cap screws now.

4. Install the four cap screws and hardened washers that fasten the bracket to each final drive.

5. Tighten the cap screws that hold the transmission and the cap screws that hold each final drive.

6. Remove the lifting equipment that held the transmission.

7. Remove the lifting equipment that held the seat and tank frame.

8. Clean all mounting surfaces of the filler tube and apply form-in-place gasket material to the mounting surface.

9. Install the filler tube and cap screws and tighten the cap screws.

10. Connect the breather hose to the transmission.

11. Connect the tee to the elbow in the modulator valve.

12. Push the hose onto the fitting in the range housing and tighten the clamp.

13. Start the fitting into the bottom of the transmission and tighten the fitting.

14. Tighten the clamp.

15. Push the hose onto the suction tube in the transmission and tighten both clamps.

16. Install the clevis pin and cotter pin that fastens the control linkage to the shift rod in the range housing.

17. Engage the drive shaft with the yoke on the transmission and torque converter.

18. Install and tighten the cap screws to 300 to 360 pound-inches (34 to 40 Nm).

19. Install the clevis pins and cotter pins that fasten the control linkage to the spools in the transmission control valve.

20. Connect the tubes from the master cylinder to the transmission control valve.

21. Install the clevis pins and cotter pins that fasten the brake cables to each brake arm.

22. Fill the transmission with 8 U.S. gallons (30 litres) of Case TCH Fluid.

23. See Section 5509 and install the sprockets.

24. Apply the parking brake and start the engine. Run the engine at 1000 rpm (r/min) for two minutes.

25. Stop the engine and check for oil leaks.

26. Use the jack and install the guards and cap screws that hold the guards.

27. Tighten the cap screws that hold the guards.

28. Install the right floor plate.

29. Install the clevis pin and cotter pin that fastens the accelerator rod to the cross shaft.

30. Install the right side panel for the engine compartment.

31. Install the top cap screws for the engine compartment and tighten all cap screws that hold the side panel.

32. Install the left floor plate.

33. Install and tighten the cap screws that hold the left floor plate.

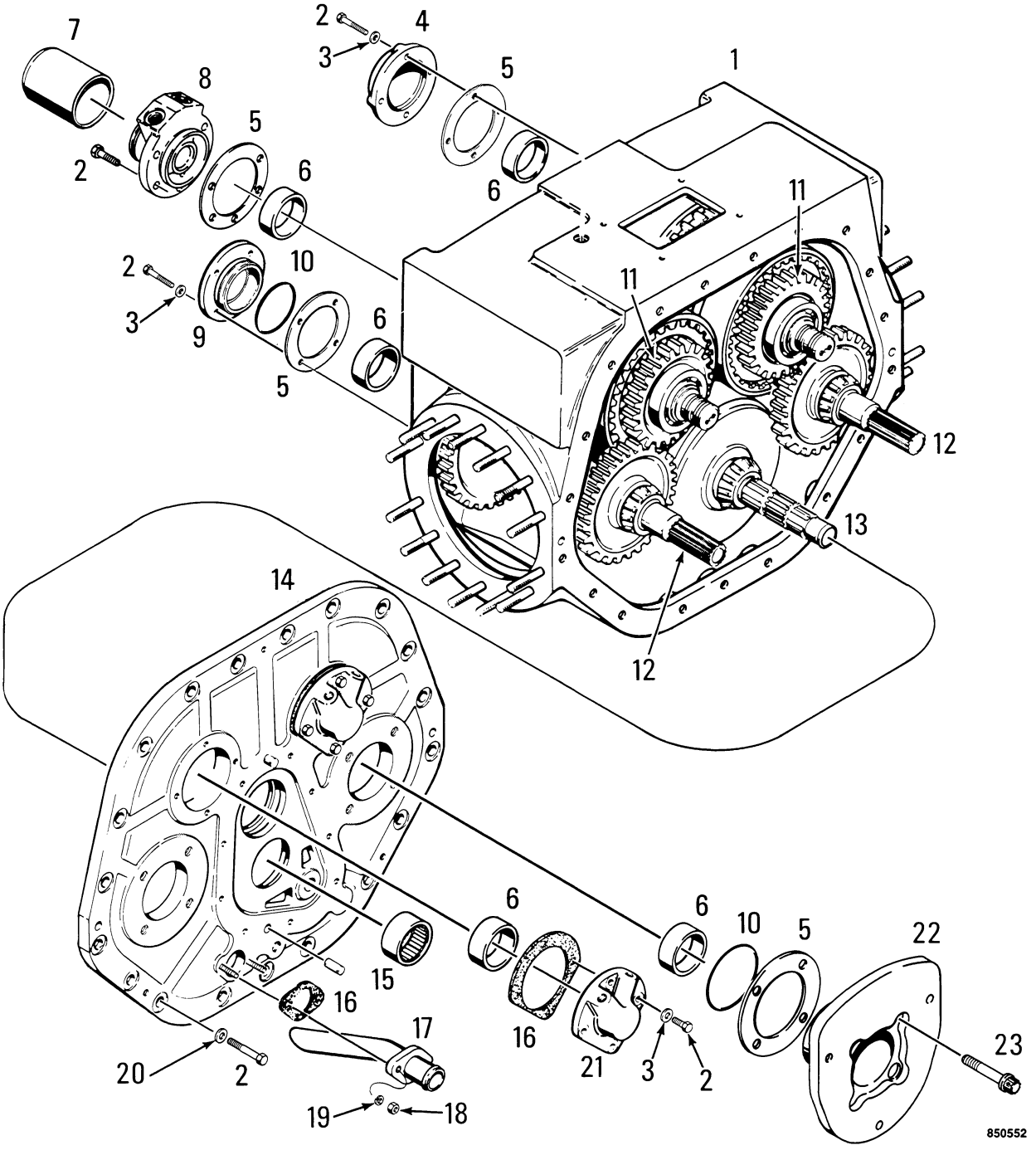
34. Install the seat and seat mount.

35. Install and tighten the cap screws that hold the tether belts.

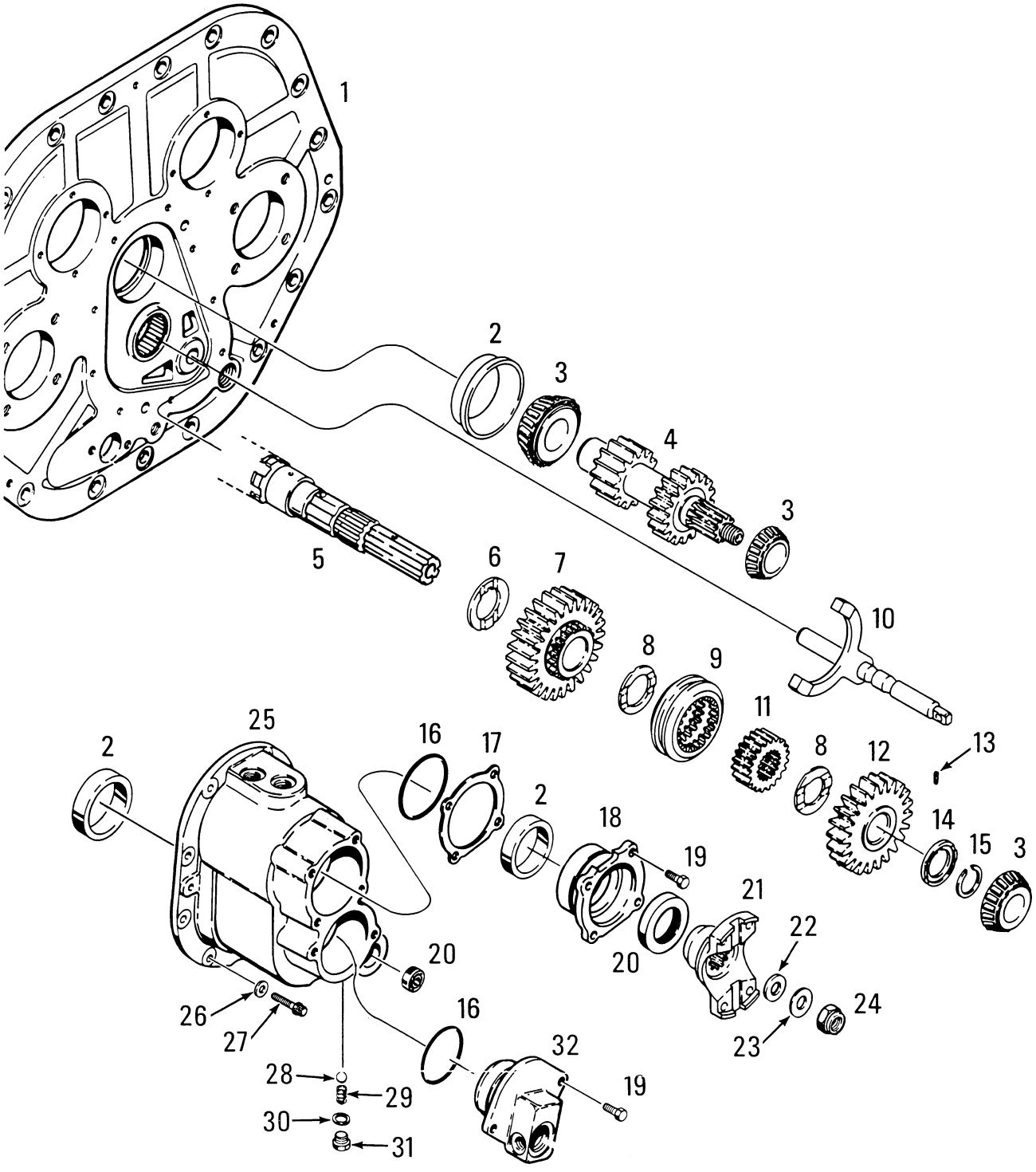
36. Install and tighten the cap screws that hold the seat mount.

37. If there is no rear attachment, install the rear guard and cap screws and tighten the cap screws.

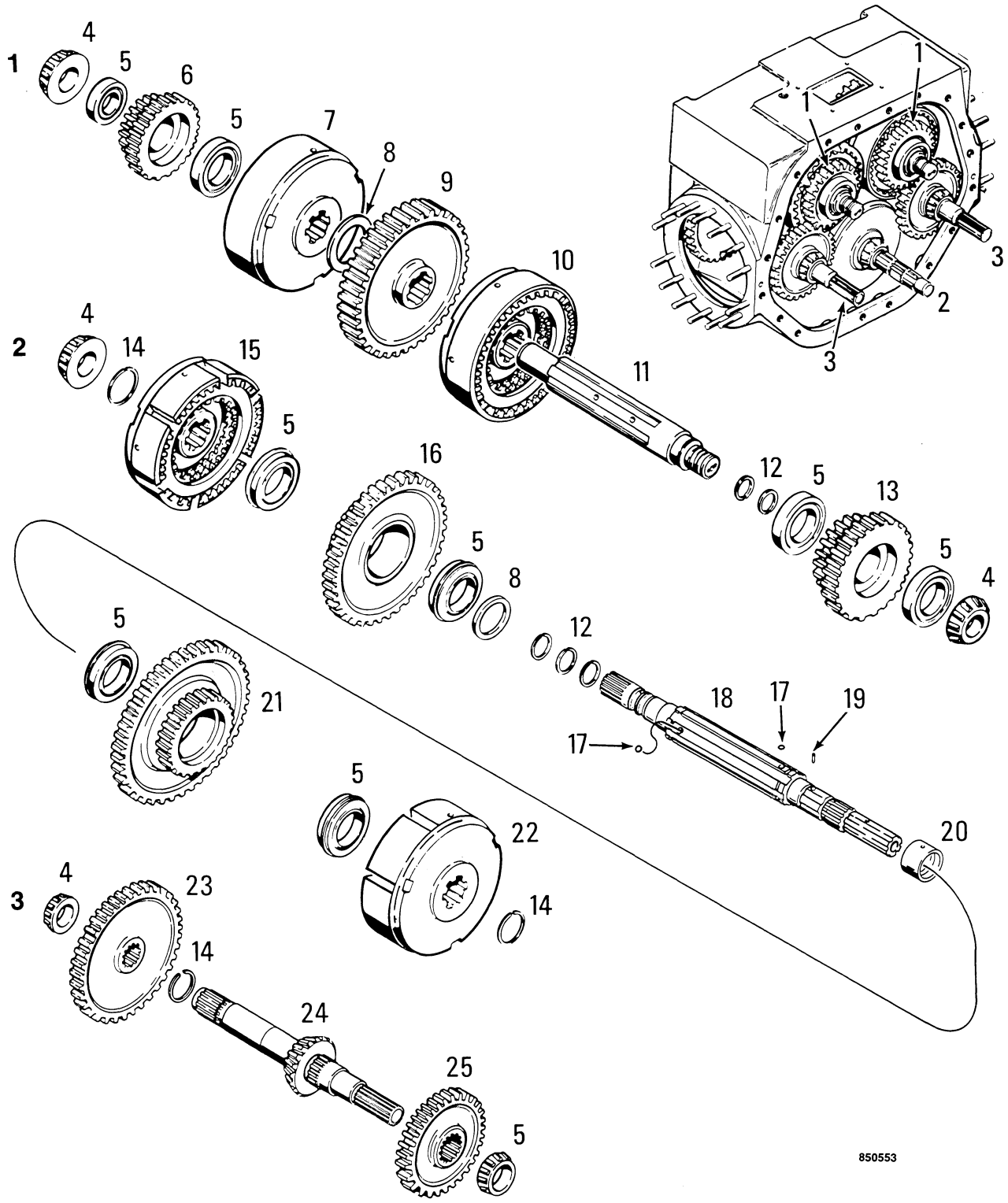
38. See the correct section in this service manual and install the rear attachment.



1. *Housing*
2. *Cap Screw*
3. *Copper Washer*
4. *Retainer, Track Speed Shaft*
5. *Shim*
6. *Bearing Cup*
7. *Cover*
8. *Retainer, Main Shaft*
9. *Retainer, Pinion Shaft*
10. *O-ring*
11. *Track Speed Shaft And High And Low Clutches*
12. *Pinion Shaft*
13. *Main Shaft And Forward And Reverse Clutches*
14. *Cover*
15. *Needle Bearing*
16. *Gasket*
17. *Suction Tube*
18. *Nut*
19. *Lock Washer*
20. *Flat Washer*
21. *Retainer, Track Speed Shaft*
22. *Brake Mount*
23. *Ferry Head Screw*



1. *Cover*
2. *Bearing Cup*
3. *Bearing*
4. *Input Shaft*
5. *Main Shaft*
6. *Thrust Washer With Tapered Side*
7. *Low Gear*
8. *Flat Thrust Washer*
9. *Sliding Collar*
10. *Shift Fork*
11. *Coupling*
12. *High Gear*
13. *Roll Pin*
14. *Thrust Washer With Counterbore*
15. *Snap Ring*
16. *O-ring*
17. *Shim(s)*
18. *Retainer*
19. *Cap Screw*
20. *Seal*
21. *Yoke*
22. *Cork Washer*
23. *Hardened Washer*
24. *Self-Locking Nut*
25. *Range Housing*
26. *Copper Washer*
27. *Ferry Head Screw*
28. *Steel Ball*
29. *Spring*
30. *Gasket*
31. *Plug*
32. *Cap*
33. *Stem*



1. *Track Speed Shaft And High and Low Clutches*
2. *Main Shaft and Forward And Reverse Clutches*
3. *Pinion Shaft and High and Low Gears*
4. *Tapered Roller Bearing*
5. *Ball Bearing*
6. *Low Gear*
7. *Low Clutch*
8. *Spacer*
9. *Drive Gear*
10. *High Clutch*
11. *Track Speed Shaft*
12. *Sealing Ring*
13. *High Gear*
14. *Snap Ring*
15. *Forward Clutch*
16. *Forward Gear*
17. *O-ring*
18. *Main Shaft*
19. *Roll Pin*
20. *Race*
21. *Reverse Gear*
22. *Reverse Clutch*
23. *High Gear*
24. *Pinion Shaft*
25. *Low Gear*