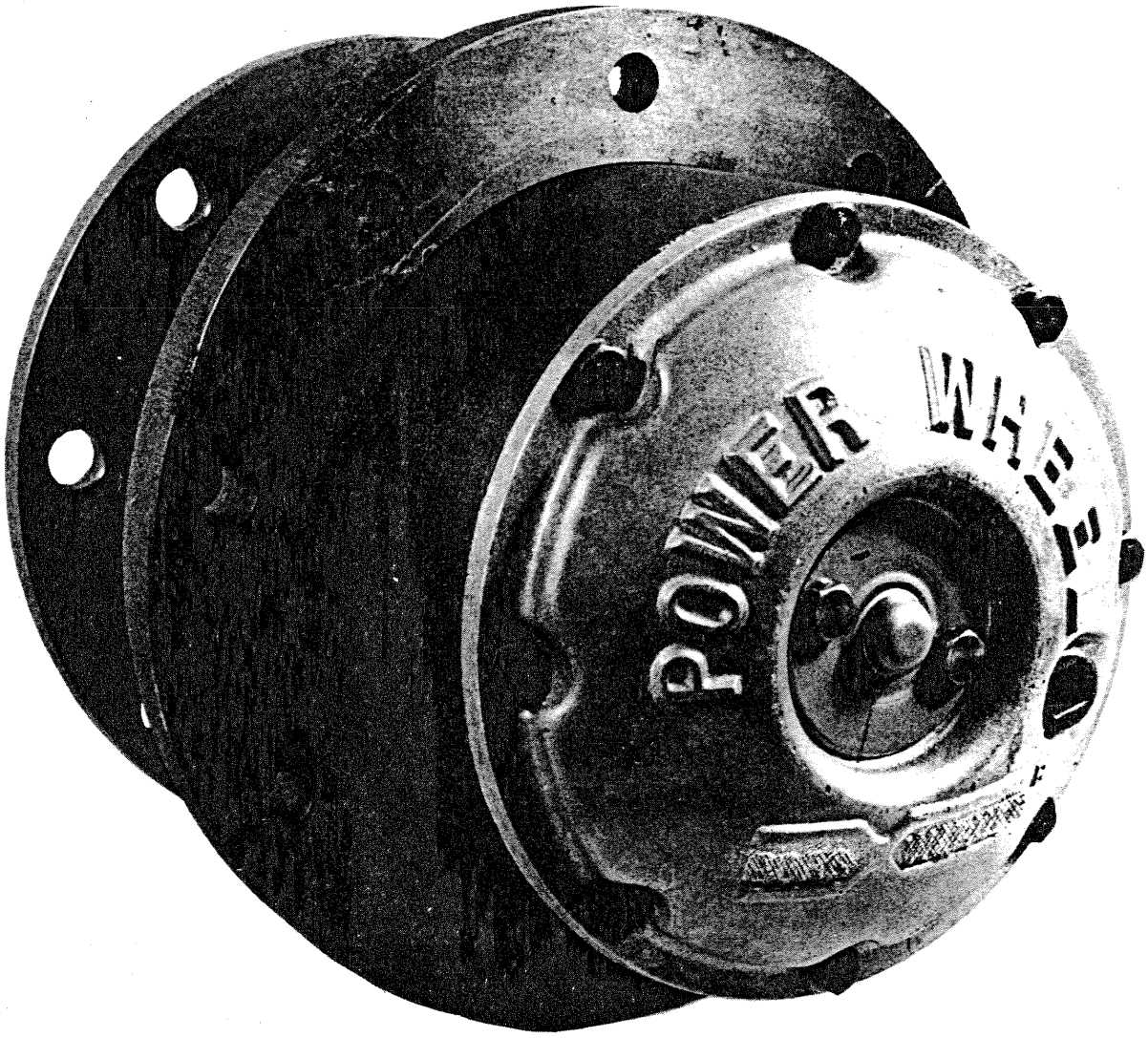
AUBURN

Power Wheel Service Manual Model 6



80-313 (1/87)

Allied MARINE CRANE
A Division of Allied Systems Company

Disassembly of Power Wheel

STEP 1 Slide the coupling from splines on input shaft, (Figure 15).

STEP 2 Position the assembly upright on face of spindle.

STEP 3 Remove the disengage cover, (Figure 14).

STEP 4 Remove bolts and large cover, (Figure 14). Disengage plunger usually remains with cover. Remove plunger and "O" ring from cover or end of input shaft.

STEP 5 A thrust washer will usually remain in position on thrust face of cover.

STEP 6 Remove sun gear and thrust washer from end of input shaft, (Figure 12).

STEP 7 Remove primary carrier. The sun gear may be removed from carrier assembly by expanding the snap ring located inside of carrier and sliding sun gear out of snap ring and carrier.

STEP 8 Remove the small snap ring from input shaft, (Figure 9).

STEP 9 Remove the secondary carrier assembly. It may be necessary to remove the ring gear first, if difficulty is encountered in removing the carrier.

STEP 10 Remove input shaft from spindle. Remove the snap rings, washers, and spring from input shaft only if replacement is required.

STEP 11 Remove the six bolts from hub and ring gear and remove ring gear.

STEP 12 Remove the large snap ring from in front of the tapered bearing and lift hub from spindle. If bearings are not a loose fit, it may be necessary to press spindle from hub.

STEP 13 Remove the oil seal and bearing cone from hub. Inspect bearing cup in position and remove only if replacement is required.

CARRIER ASSEMBLIES

The pinion shafts were staked in position in early carrier assemblies and for this reason, disassembly of the pinion cage assemblies was not recommended. A snap ring is now used to retain the pinion shafts in the primary and secondary carrier assemblies. The new assemblies can be disassembled and individual components may be replaced as required.

The number of serrations varies from one pinion shaft to another; therefore it is IMPORTANT that each shaft be replaced in the exact position that it was in prior to removal.

Assembly of Power Wheel

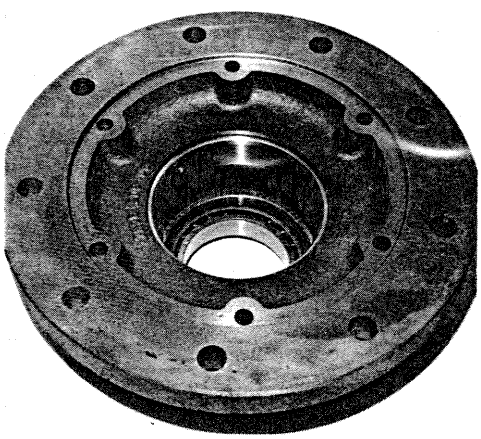


Figure 1 Press bearing cup into hub

STEP 1 Press a new bearing cup, (Figure 1) in each side of the hub.

STEP 2 Assemble a bearing cone into cup at seal end of hub and press a new seal into hub, (Figure 2).

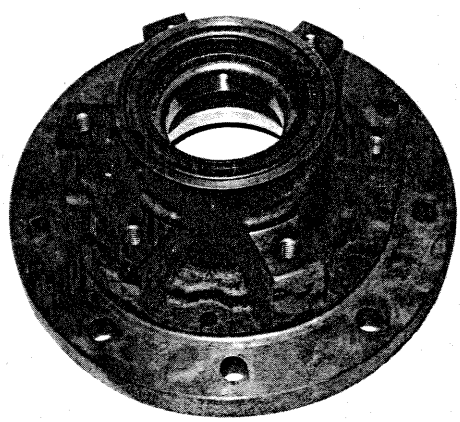


Figure 2 Press oil seal into hub

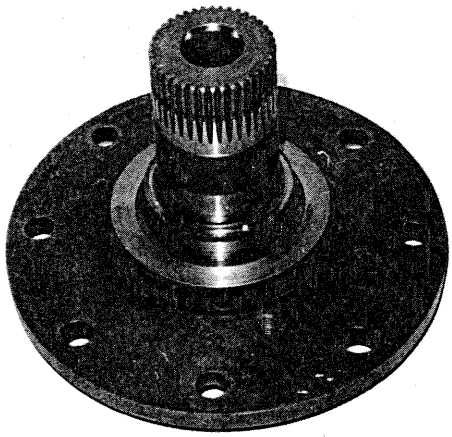


Figure 3 Position spindle on bench

STEP 3 Position spindle upright on bench as shown, (Figure 3).

STEP 4 Lubricate lips of seal and lower hub onto spindle. Hub should be centered as it is lowered over hub to prevent seal damage, (Figure 4).

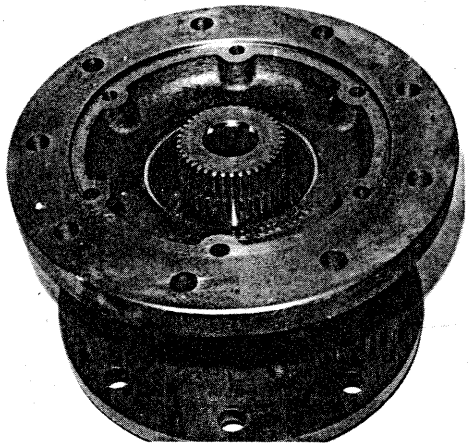


Figure 4 Lower hub onto spindle

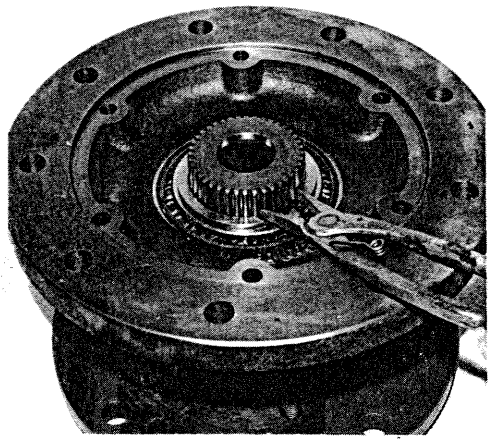


Figure 5 Assemble snap ring

STEP 5 Assemble bearing cone over spindle and into bearing cup. Select the thickest snap ring that can be assembled into ring groove of shaft above bearing cone, (Figure 5). Bearing should have from .000–.012 inches (.00–0.3 mm) end play when proper snap ring is installed.

STEP 6 Assemble a snap ring in one of the grooves of input shaft. Assemble a washer, spring, a second washer and a second snap ring in the other groove of input shaft, (Figure 6). Some shafts have a shoulder and require only one snap ring.

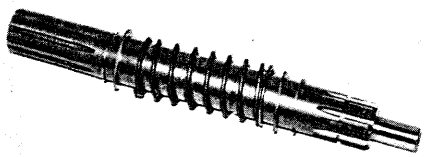


Figure 6 Assemble disconnect spring

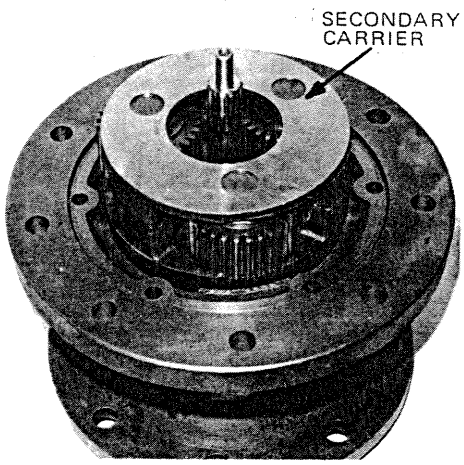


Figure 7 Assemble input shaft & secondary carrier

STEP 7 Assemble the splined end of the input shaft down into spindle, (Figure 7).

STEP 8 Assemble secondary carrier splines over splined end of spindle, (Figure 7).

STEP 9 The thrust washer, (Figure 8) remains with secondary carrier and is usually not removed.

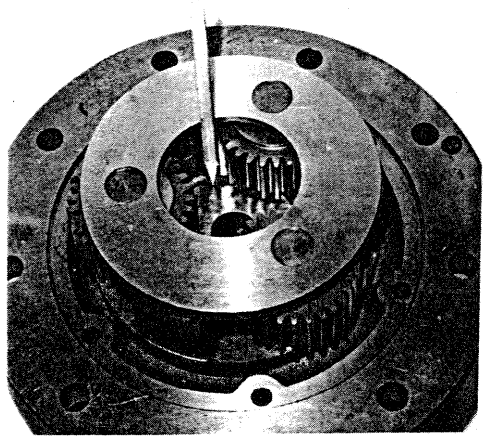


Figure 8 Thrust washer shown in position

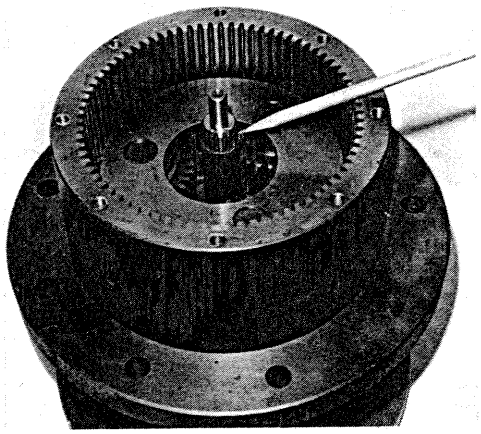


Figure 9 Assemble snap ring

STEP 10 Apply a bead of RTV compound to hub face that mates with ring gear. Assemble the end of ring gear having six bolt holes against hub with bolt holes of hub and ring gear aligned, (Figure 9). Assemble the six 3/8-24 x 1-7/8 inch hex head bolts and tighten to specified torque.

STEP 11 Assemble the snap ring in groove of input shaft, (Figure 9).

STEP 12 Assemble a snap ring into innermost groove of sun gear. Assemble sun gear splines into splines in carrier, (Figure 10).

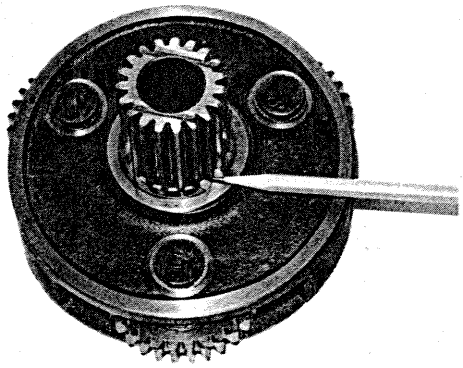


Figure 10 Assemble snap ring

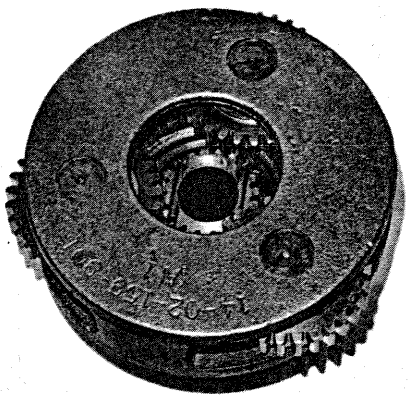


Figure 11 Assemble snap ring

STEP 13 Spread the snap ring which should be held centered as sun gear is assembled into position. Snap ring should be seated in groove of sun gear, (Figure 11).

STEP 14 Assemble the primary carrier and sun gear into ring gear, (Figure 12). It will be necessary to rotate carrier and pinion to align sun gear teeth with secondary pinion and primary pinions with ring gear teeth. Assemble the small sun gear over input shaft. Rotate sun gear to align shaft to gear splines and gear teeth.

STEP 15 Assemble the small thrust washer over input shaft and against shoulder of shaft, (Figure 12).

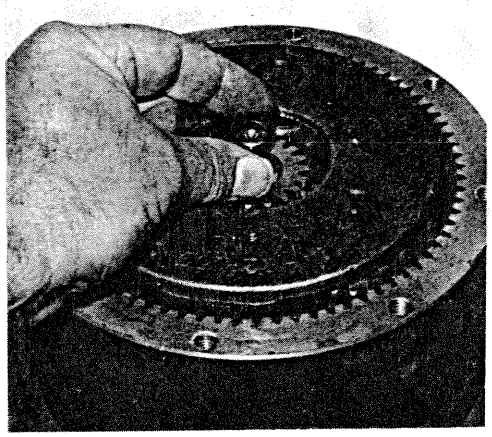


Figure 12 Assemble thrust washer

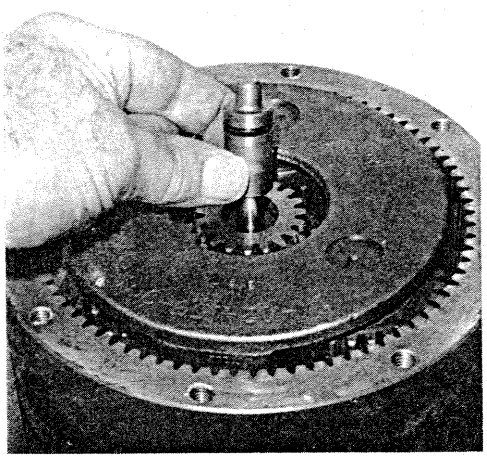


Figure 13 Assemble disconnect sleeve

STEP 16 Assemble an "O" ring in groove of the disengage plunger. Assemble plunger over end of input shaft and against thrust washer, (Figure 13).

STEP 17 Lubricate the "O" ring in groove of disconnect plunger. Assemble the thrust washer with tangs engaged with cover. Apply a bead of RTV compound to end face of ring gear. Assemble cover over plunger as holes of cover and ring gear are aligned, (Figure 14). Assemble the eight 5/16-18 x 1 inch hex head bolts. Tighten bolts to specified torque.

STEP 18 Assemble the disengage cover as shown if wheel is to be used to drive the vehicle, (Figure 14). Assemble and torque the two 5/16-18 x 3/4 inch bolts.

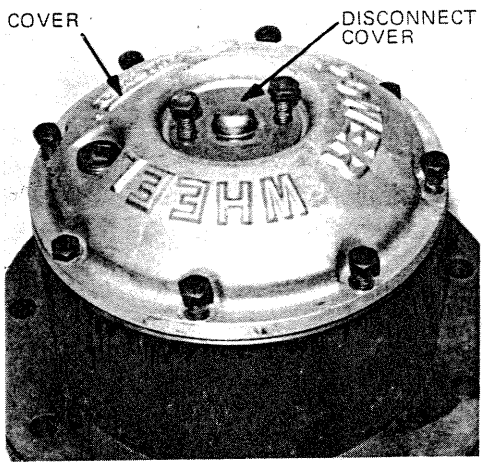


Figure 14 Assemble cover and disconnect cover

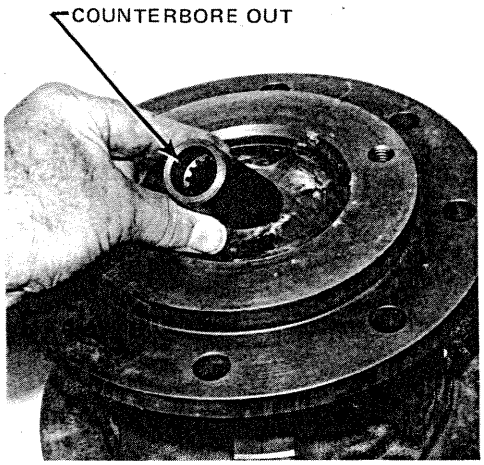


Figure 15 Assemble Coupling

STEP 19 Invert the Power Wheel assembly and assemble the coupling with end having splines extending to end of coupling located in as shown, (Figure 15).

TO DISCONNECT POWER WHEEL FROM SHAFT.

To disconnect the wheel from input shaft, assemble the disengaged cover with the dimpled center protruding inward as shown, (Figure 16).

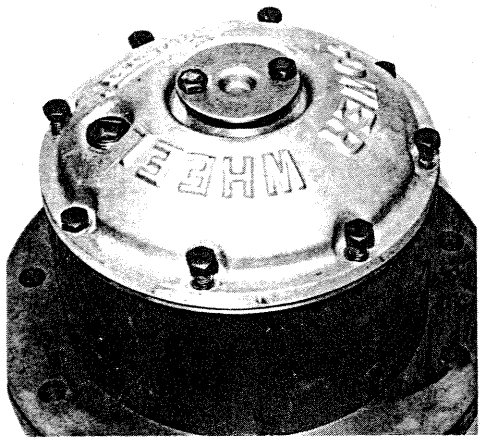


Figure 16 Disconnect cover in disconnect position

LUBRICATION RECOMMENDATIONS

Observe lubrication recommendations given by the original equipment manufacturer. When specific recommendations are not available, use mild extreme pressure lubricant SAE No. 80 or 90 for filling the Power Wheel.

SPECIFICATIONS

Approx. Weight . . . . . 103 lbs. (46.7 kg)

Oil Capacity . . . . . 30 oz. (840 ml.)

RTV SEALING COMPOUND

Silastic RTV 732 sealer and General Electric Silimate RTV No. 1473 are currently recommended for sealing gasket surfaces.

The RTV should be applied in a continuous bead, which should be centered on the surface to be sealed but should move to the inside of the hole at each bolt hole location.

TOWING VEHICLE

The Power Wheel will not normally be damaged by towing; however the hydraulic drive components may be damaged unless the Power Wheel is disengaged from the drive motor. Road speeds in excess of 25 MPH should be avoided unless clearly specified to be permissible by the equipment manufacturer.

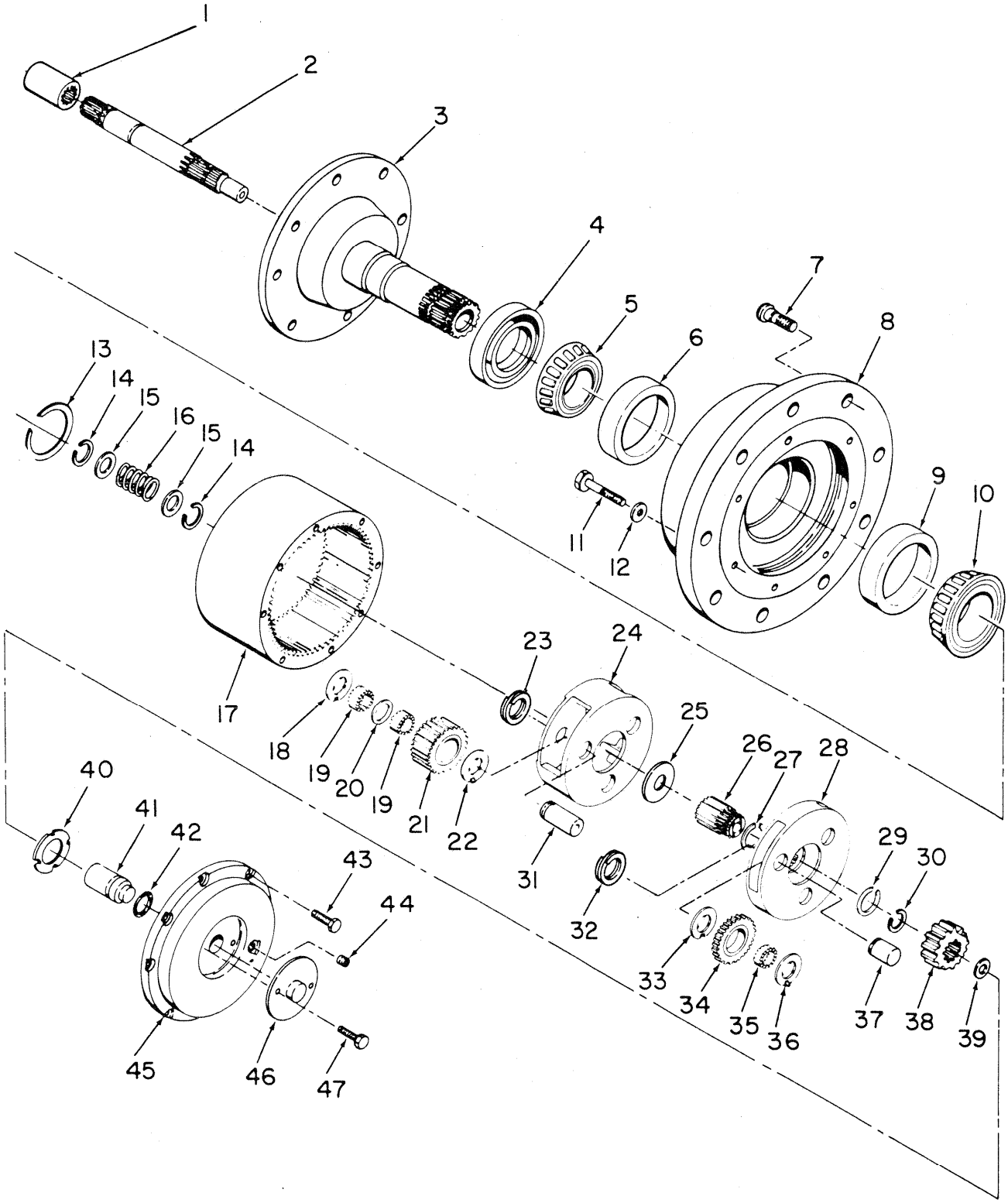
MODEL 6 POWER WHEEL BOLT TORQUE CHART

BOLT SIZE	WHERE USED	BOLT TORQUE LBS. FEET	BOLT TORQUE Nm
5/16-18 x 3/4	Disconnect Cover	10-20	13.6-27.1
5/16-18 x 1	Cover to Ring Gear	20-25	27.1-33.9
3/8-24 x 1-7/8	Hub to Ring Gear	39-49	52.9-66.4
5/16-18 x 4-3/4	Cover & Drive Gear	20-25	27.1-33.9
3/8-24 x 1-7/8	Hub to Ring Gear	52-60	70.5-81.3

1-Grade 5 – has 3 radial lines on bolt head
2-Grade 8 – has 5 radial lines on bolt head

AUBURN MODEL 6 PARTS LIST
(FOR PART NUMBERS SEE PARTS SECTION)

1. Coupling
2. Input Shaft
3. Spindle
4. Oil Seal
5. Bearing Cone
6. Bearing Cup
7. Bolt, 9/16
8. Hub
9. Bearing Cup
10. Bearing Cone
11. Bolt, 3/8
12. Flatwasher, 7/8
13. Retaining Ring
14. Retaining ring
15. Washer
16. Disengage Spring
17. Ring Gear
18. Thrust Washer
19. Needle Roller
20. Separating Ring
21. Planetary Gear
22. Thrust Washer
23. Retaining Ring
24. Secondary Carrier
25. Thrust Washer
26. Large Sun Gear
27. Retaining Ring
28. Primary Carrier
29. Retaining Ring
30. Retaining Ring
31. Pinion Shaft
32. Retaining Ring
33. Thrust Washer
34. Planet Gear
35. Needle Roller
36. Thrust Washer
37. Pinion Shaft
38. Small Sun Gear
39. Thrust Washer
40. Thrust Washer
41. Disengage Plunger
42. O-Ring
43. Bolt, 5/16
44. Pipe Plug
45. Large Cover
46. Disengage Cover
47. Bolt, 5/16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SUBJECT: GASKETS AT EACH END OF RING GEAR REPLACED BY SILASTIC 732 RTV ADHESIVE/SEALANT AND REMOVAL OF THE OIL LEVEL PLUG IN THE SMALL COVER.

The large gaskets used at both ends of the ring gear have been removed and Silastic 732 RTV adhesive/sealant is now used at these two locations on all Power Wheels. The Silastic material is much thinner than the gaskets which were removed, therefore, two additional (three) gaskets are required under the small cover to compensate for the reduction in end play of the gear sets in these assemblies. The changes just described may be used when older units are serviced. No gaskets are required under the small cover on Model 6 Power Wheels which have the quick disconnect.

The 1/2-14 pipe plug part number 03-04-101-01 has been removed from the small cover and the dimensions of the cover have been changed to permit a single gasket to be used when Silastic 732 is used at each end of the ring gear. The cover without the pipe plug should never be used when gaskets are used at each end of the ring gear.

The oil level should be maintained at the level of the horizontal center line of the Power Wheel, therefore, it is necessary to rotate the wheel to a position where the plug in the large cover is on the horizontal center line of the wheel. The hole is used to fill the wheel and check the oil level.

To summarize:

1. Power Wheels with a large gasket at each end of ring gear should use the small cover with a pipe plug and a single gasket.
2. Power Wheels without large gaskets but using Silastic 732 RTV may use the small cover with the filler plug and three small gaskets or the small cover without the filler plug and one small gasket.
3. Never use the small cover without the filler plug when two large gaskets are used at ends of ring gear.