Power Wheel® Service Manual
Model 60 Triple Reduction
Internal Brake Wheel Drives

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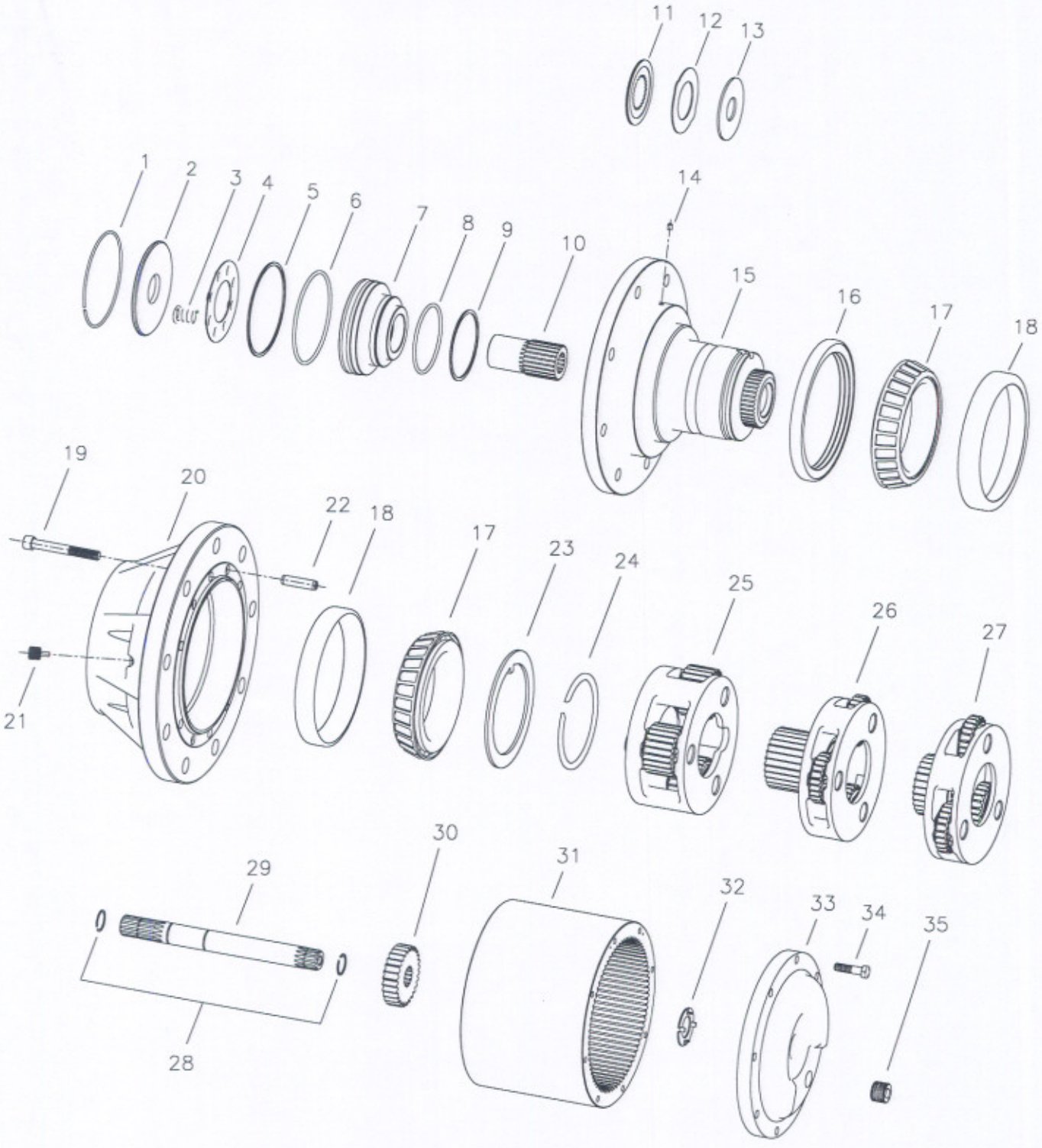

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IDENTIFICATION

IMPORTANT: All Power Wheel units and kits are shipped with a label that includes the Auburn Gear part number and order code.

Example:

In addition to the label, Power Wheel drives are stamped with date code and work order number, which appears on the cover or hub flange as shown.

Example: **D4 15 SAT, 134565**

When ordering parts, the information included on the label or the stamped identification number is necessary to accurately identify the drive and obtain the correct replacement parts. Once this information has been obtained, contact Auburn Gear for the appropriate parts list.

DISASSEMBLY OF POWER WHEEL

STEP 1

Position the assembly upright on face of spindle (15).

STEP 2

Remove eight bolts (34) and the large cover (33) from the unit. The thrust washer (32) usually remains attached to the large cover (33) when it is removed. Remove thrust washer (32) from the large cover.

STEP 3

Remove primary sun gear (30) from end of input shaft (29).

STEP 4

Remove the third carrier assembly (27).

STEP 5

Remove the primary carrier assembly (26).

STEP 6

Remove the secondary carrier assembly (25).

STEP 7

Remove the input shaft (29) from spindle (15). Remove the retaining rings (28) from input shaft (29) only if replacement is required.

STEP 8

Remove the retaining ring (24) from in front of the bearing cone (17) and lift hub (20) and ring gear (31) from spindle (15). If bearings are not a loose fit, it may be necessary to press spindle (15) from hub (20) and ring gear (31). NOTE: Use a retaining ring expander tool to remove retaining ring (24).

STEP 9

Remove the oil seal (16) and bearing cone (17) from hub (20). Inspect bearing cups (18) in position and remove only if replacement is required.

ASSEMBLY OF POWER WHEEL

STEP 1

Press new bearing cups (18) in each side of the hub (20). It is recommended that bearing cups (18) and cones (17) be replaced in sets.

STEP 2

Assemble bearing cone (17) into cup (18) at seal end of hub (20) and press a new seal (16) into hub (20).

STEP 3

Position spindle (15) upright on bench. Lubricate lips of seal (16) and lower hub (20) onto spindle (15). Hub (20) should be centered as it is lowered over spindle (15) to prevent seal damage.
NOTE: [On heavy duty seals there is to be no lubricate on seal (16), spindle (15), or hub (20)].

STEP 4

Assemble bearing cone (17) over spindle (15) and into bearing cup (18). If bearings (17 & 18) hub (20) or spindle (15) is replaced, a new retaining ring (24) is required for proper bearing setting. Do not re-use snap ring after it has been installed and removed from unit. Select the thickest retaining ring (24) that can be assembled into the ring groove of the splined end of spindle (15) above bearing cone (17). Bearing should have from .000 – .006 inches (.00 – .15mm) of endplay when proper retaining ring (24) is installed.

STEP 5

Assemble retaining rings (28) in the two outer grooves of input shaft (29).

STEP 6

Assemble the long splined end of the input shaft (29) down into spindle (15).

STEP 7

Assemble the secondary carrier assembly (25) to spindle (15).

STEP 8

Assemble the primary carrier assembly (26) into the ring gear (31). It will be necessary to rotate carrier to align secondary sun gear {part of primary carrier assembly (26)} with planet gear teeth in secondary carrier assembly (25).

STEP 9

Assemble the third carrier assembly (27) into the ring gear (31). It will be necessary to rotate carrier to align secondary sun gear {part of third carrier assembly (27)} with planet gear teeth in primary carrier assembly (26). Assemble sun gear (30) over input shaft (30). Rotate sun gear (31) to align input shaft (30) to gear splines and gear teeth in third carrier assembly (27).

STEP 10

Assemble the thrust washer (32) with tangs engaged with cover (33). NOTE: A small amount of grease applied to the backside of thrust washer (32) will hold washer in place. Apply a bead of silicone sealant to end face of ring gear (31). Assemble cover (33) aligning holes of cover and ring gear. Assemble the eight 5/16-18 x 1 inch hex head bolts (34). Torque bolts to 20 – 25 lb. ft. (27 – 34 Nm).

STEP 11

After motor is assembled to drive or drive is sealed at spindle, fill with lubricant to proper level and install pipe plug (35) torque to 11-25 lb.-ft.

NOTE: When installing a hydraulic motor to the Power Wheel drive it is necessary to place an "O" ring or gasket (not supplied by Auburn Gear) between the motor and the planetary drive. "O" ring sizes: SAE A 2-042, SAE B 2-155, SAE C 2-159.

CARRIER ASSEMBLIES

It is recommended that the third, primary and secondary carrier assemblies (25, 26 & 27) be serviced in their entirety to protect the integrity of the Power Wheel drive.

LUBRICATION RECOMMENDATIONS

IMPORTANT: POWER WHEEL PLANETARY DRIVES ARE SHIPPED WITHOUT LUBRICANT AND MUST BE FILLED TO THE PROPER LEVEL PRIOR TO START UP.

Observe lubrication recommendations given by the original equipment manufacturer. When specific recommendations are not available, use mild extreme pressure lubricant API-GL-5, No. 80 or 90 when filling the Power Wheel under normal temperature ranges between 0 - 120°F (-18 to 49°C). Power Wheel is to be half full of oil when unit is mounted level and horizontal. Use drain and fill plugs located in cover and ring gear. Oil is to be changed after first 50 hours of operation with subsequent changes every 1000 hours or yearly, which ever comes first. If unit is to be operated vertically, if ambient conditions are outside the specified range, or if the oil temperature exceeds 200°F (93°C) contact Auburn Gear for oil and level recommendations.

TOWING VEHICLE

CAUTION: 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.

TO DISENGAGE POWER WHEEL

CAUTION: For units equipped with the standard spring disconnect, assemble the disengage cover (31) with the dimpled center protruding inward. For units equipped with the optional quick disconnect, push in center plunger of disconnect.

STORAGE

A protective film is applied to the Power Wheel at the factory to prevent rust during shipment. Additional protection may be required if the Power Wheel is to be stored for an extended period of time.

SEALING COMPOUND

Silastic RTV732 sealer and General Electric Silimate RTV No. 1473 or RTV No. 1503 are currently recommended for sealing gasket surfaces. Sealant 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 bolthole location. For service requirements order Auburn Gear part number 604101.

SPECIFICATIONS

Maximum intermittent output torque	60,000 lb. in. (6,870 Nm)
Maximum input speed	5,000 RPM
Oil capacity	36 oz (1063 ml)

ITEM NO.	DESCRIPTION*	NO. USED IN ASS'Y.
1	Assy-Spindle C-Ring (81932) Ausco	1
2	Assy-Spindle Plate-End (81933) Ausco	1
3	Assy-Spindle Spring (81867) Ausco	8
4	Assy-Spindle Spring-Retainer (82398) Ausco	1
5	Assy-Spindle Ring-Backup (86736) Ausco	1
6	Assy-Spindle Ring-O (27418) Ausco	1
7	Assy-Spindle Piston (81971) Ausco	1
8	Assy-Spindle Ring-O (84274) Ausco	1
9	Assy-Spindle Ring-Backup (84277) Ausco	1
10	Coupling 60208919	1
11	Assy-Spindle Rotating-Disc (83344) Ausco	8
12	Assy-Spindle Stationary-Disc (84433) Ausco	9
13	Assy-Spindle Washer-Thrust (84469) Ausco	1
14	Assy-Spindle Pin-Plug (30844) Ausco	1
15	Spindle	1
16	Oil Seal	1
17	Bearing Cone	2
18	Bearing Cup	2

ITEM NO.	DESCRIPTION*	NO. USED IN ASS'Y.
19	Screw-SKT HD Cap	6
20	Hub	1
21	Pipe Plug	2
22	Pin Coiled Spring	4
23	Thrust Washer	1
24	Ring-Retaining Kit # 60241002	1
25	Secondary Carrier Assembly	1
26	Primary Carrier Assembly	1
27	Third Carrier Assembly	1
28	Ring-Retaining	2
29	Input Shaft	1
30	Primary Sun Gear	1
31	Gear-Ring	1
32	Washer-Thrust	1
33	Cover	1
34	Hex Head Bolt	8
35	Pipe-Plug	1

* Contact Auburn Gear with part number and order code of drive to obtain the appropriate parts list. Refer to parts list for the specific part numbers and quantities.

Model 60 Internal Brake Power Wheel® Service Kits

Part No.	Description	Included Items
60241002	Kit Retaining Rings	14 (9 Retaining Rings)
60241003**	Kit Seals & Retaining Rings	4, 14, 24, 26 and 29
60241004**	Kit Bearings, Seals and Retaining Rings	4, 5, 6, 11, 12, 14, 24, 26 and 29

** Indicates kit also includes a tube of sealant, part number 604101.