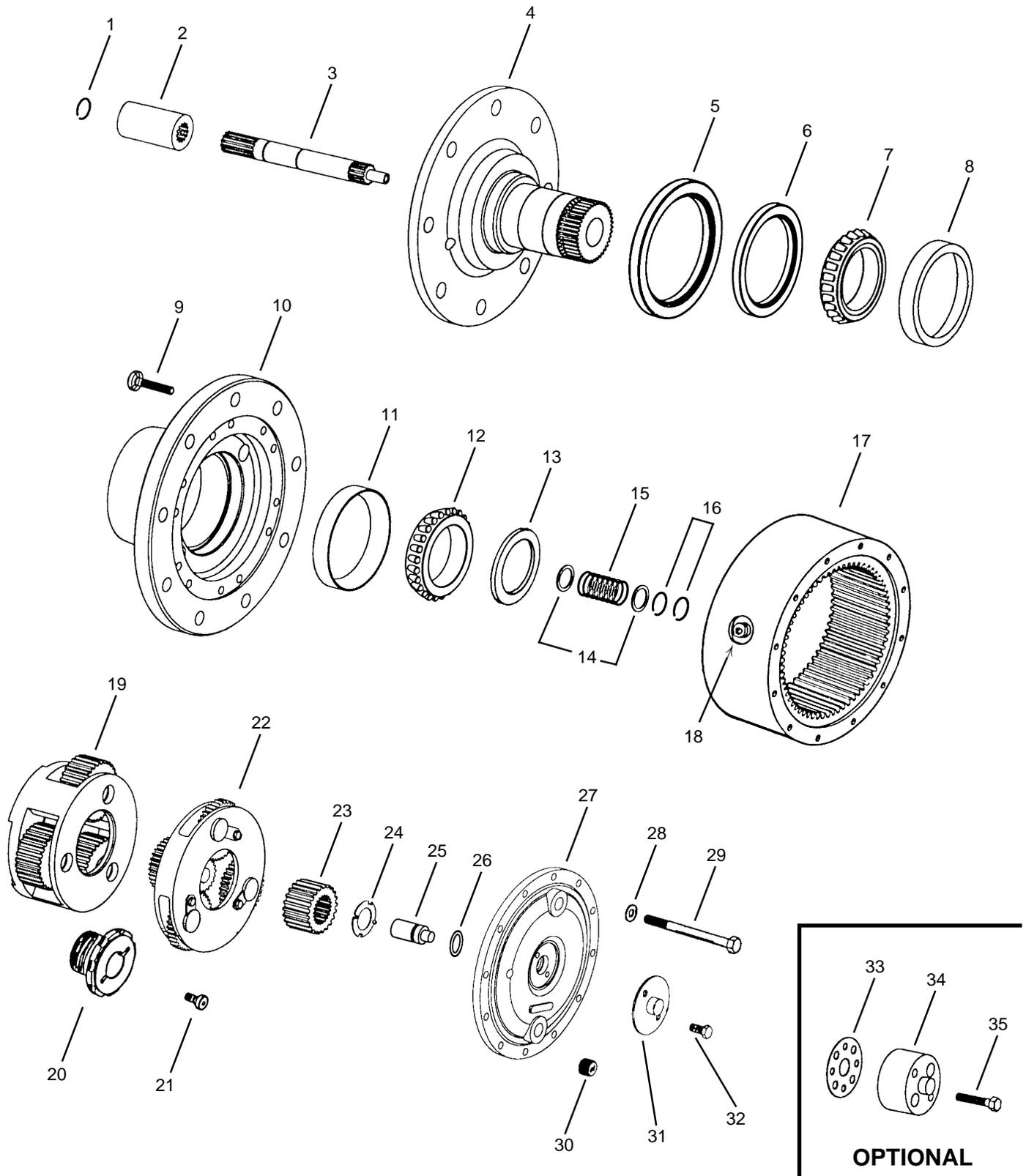


# Power Wheel® Service Manual

## Model 10 Double Reduction Wheel Drives



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## IDENTIFICATION

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

Example:



In addition to the nameplate, Power Wheel drives are stamped with an identification number which appears on the cover or hub flange as shown.

Example: **6000236-A-4-9**

When ordering parts, the information included on the nameplate 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

Slide the coupling (2) from splines on input shaft (3).

### STEP 2

Position the assembly upright on face of spindle (4).

### STEP 3

Remove the disengage cover (31) if necessary.

### STEP 4

Remove twelve bolts (29), flat washers (28) and large cover (27). Disengage plunger (25) usually remains with large cover (27). Remove plunger (25) and "O" ring (26) from cover or end of input shaft (3). The thrust washer (24) will usually remain in position on the thrust face of large cover (27).

### STEP 5

Remove primary sun gear (23) from end of input shaft (3).

### STEP 6

Remove the primary carrier assembly (22).

### STEP 7

Remove the input shaft (3) from the assembly. The disengage spring (15), thrust washers (14), and retaining rings (16) will remain intact on the input shaft. Remove these components only if replacement is required.

### STEP 8

Remove the bearing nut lock screw (21).

### STEP 9

Remove the secondary carrier assembly (19). Removal is accomplished by loosening the lock screw (21) and bearing locknut (20) until the carrier assembly can be removed from spindle (4) splines. Loosen lock screw (21) with 3/16 hex drive. It may be necessary to remove the ring gear (17) first, if difficulty is encountered in removing the carrier. **NOTE:** A special service tool is required for removal of the bearing locknut. Contact Auburn Gear for procurement of service tool, part number 592Y.

### STEP 10

Remove the ring gear (17). It may be necessary to strike ring gear (17) with a rubber mallet to loosen from hub.

### STEP 11

Remove thrust plate (13) from in front of the tapered bearings and lift hub (10) from spindle (4). If bearings are not a loose fit, it may be necessary to press spindle from hub.

### STEP 12

Remove the oil seal (6) and bearing cones (7 & 12) from hub (10). Inspect bearing cups (8 & 11) in position and remove only if replacement is required.

## ASSEMBLY OF POWER WHEEL

### STEP 1

Press new bearing cups (8 & 11) in each side of the hub (10). It is recommended that bearing cups (8 & 11) and cones (7 & 12) be replaced in sets.

### STEP 2

Assemble bearing cone (7) into cup (8) at seal end of hub (10) and press a new seal (6) into hub (10). Install boot seal (5) on hub (10) if unit is so equipped.

### STEP 3

Position spindle (4) upright on bench. Lubricate lips of seal (6) and lower hub (10) onto spindle (4). Hub (10) should be centered as it is lowered over spindle (4) to prevent seal damage.

### STEP 4

Assemble bearing cone (12) over spindle (4) and into bearing cup (11). Replace thrust plate (13) over spindle end splines and on bearing cone (12).

### STEP 5

Assemble secondary carrier assembly (19) splines over splined end of spindle (4). Install bearing locknut (20). Tighten locknut to 75 lb. ft. (101.9 Nm) while rotating the hub to seat bearings. Loosen the locknut 1/2 turn then retighten locknut to 85 – 90 lb ft. (115.2 – 121.9 Nm) while rotating the hub. Loosen the locknut to nearest locking notch and secure with lock screw (21). Tighten lock screw to 20 – 25 lb. ft. (27.2 – 34.0 Nm).

### STEP 6

Clean mating surfaces and apply a bead of silicone sealant to face of hub (10) that mates with ring gear (17). (See instructions on sealant package) Assemble ring gear (17) to hub (10) being careful to align all bolt holes.

### STEP 7

Assemble a washer (14), spring (15), a second washer (14), and a retaining ring (16) in the middle groove of input shaft (3). Install a second retaining ring (16) in groove near small end of input shaft (3).

### STEP 8

Place the input shaft (3) down into spindle (4) with the snap ring end of the shaft up.

### STEP 9

Assemble the primary carrier assembly (22) into the ring gear (17). It will be necessary to rotate carrier to align secondary sun gear (part of primary carrier assembly (22)) with planet gear teeth in secondary carrier assembly (19). Assemble primary sun gear (23) over input shaft (3). Rotate primary sun gear (23) to align input shaft (3) to gear splines and gear teeth in primary carrier assembly (22).

### STEP 10

Lubricate "O" ring (26) and assemble in groove inside cover hole, push plunger (25) into cover with pointed end facing inside of unit.

### STEP 11

Assemble the thrust washer (24) with tangs engaged with cover (27). **NOTE:** A small amount of grease applied to the back side of thrust washer (24) will hold washer in place. Apply a bead of silicone sealant to end face of ring gear (17). Assemble cover (27) aligning holes of cover and ring gear. Install the twelve Grade 8 bolts (29) and flat washers (28) which retain cover (27) and ring gear (17) to hub (10). Torque bolts to 120 – 130 lb. ft. (163.2 – 176.8 Nm).

**STEP 12**

Assemble the disengage cover (31) with dimpled center protruding out if wheel is to be used to drive the vehicle. Assemble and torque the two 5/16 - 18 x 1/2 inch bolts (32). Torque bolts to 10 - 20 lb. ft. (13 - 27 Nm).

**STEP 13**

If required, assemble a new retaining ring (1) into groove in inside diameter of coupling (2). Invert the Power Wheel assembly and assemble the coupling (2), with end nearest retaining ring out onto the input shaft (3). **NOTE:** Coupling (2) must be assembled to input shaft so that end with retaining ring is nearest motor or spindle side of drive.

**STEP 14**

After motor is assembled to drive or drive is sealed at spindle, fill with lubricant to proper level and replace all plugs.

**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 secondary and primary carrier assemblies (19 & 22) 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 in ward. For units equipped with the optional quick disconnect, push in center plunger of disconnect. **PARKING BRAKE WILL NOT FUNCTION IF UNIT IS DISENGAGED.**

**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 bolt hole location. For service requirements order Auburn Gear part number 604101.

**SPECIFICATIONS**

Maximum intermittent output torque .....	180,000 lb. in. (20,340 Nm)
Maximum input speed .....	5,000 RPM
Oil capacity .....	150 oz (4,435 ml)

ITEM NO.	DESCRIPTION*	NO. USED IN ASS'Y.	ITEM NO.	DESCRIPTION*	NO. USED IN ASS'Y.
1	Retaining Ring	1	19	Secondary Carrier Assembly	1
2	Coupling	1	20	Locknut (Serviced as part of the Carrier Assembly)	1
3	Input Shaft	1	21	Lock Screw 618304 (Serviced as part of the Carrier Assembly)	1
4	Spindle	1	22	Primary Carrier Assembly	1
5	Boot Seal 604411	1	23	Primary Sun Gear	1
6	Oil Seal 604404	1	24	Thrust Washer	1
7	Bearing Cone 613305	1	25	Disengage Plunger	1
8	Bearing Cup 613306	1	26	"O" Ring 614101	1
9	Wheel Bolt	12	27	Large Cover	1
10	Hub	1	28	Flat Washer 604703	12
11	Bearing Cup 613313	1	29	Hex Head Bolt (Grade 8)	12
12	Bearing Cone 613312	1	30	Pipe Plug 03-04-101-09	1
13	Thrust Plate 619304	1	31	Disengage Cover 14-02-039-005	1
14	Washer	2	32	Hex Head Bolt 618305	2
15	Disengage Spring 615603	1	33	Quick Disconnect Gasket	1
16	Retaining Ring	2	34	Quick Disconnect Assembly	1
17	Ring Gear	1	35	Hex Head Bolt	2
18	Magnetic Plug 14-00-052-002	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 10 Power Wheel® Service Kits

Part No.	Description	Included Items
592Y	Model 10 Bearing Locknut Tool	Not Shown