

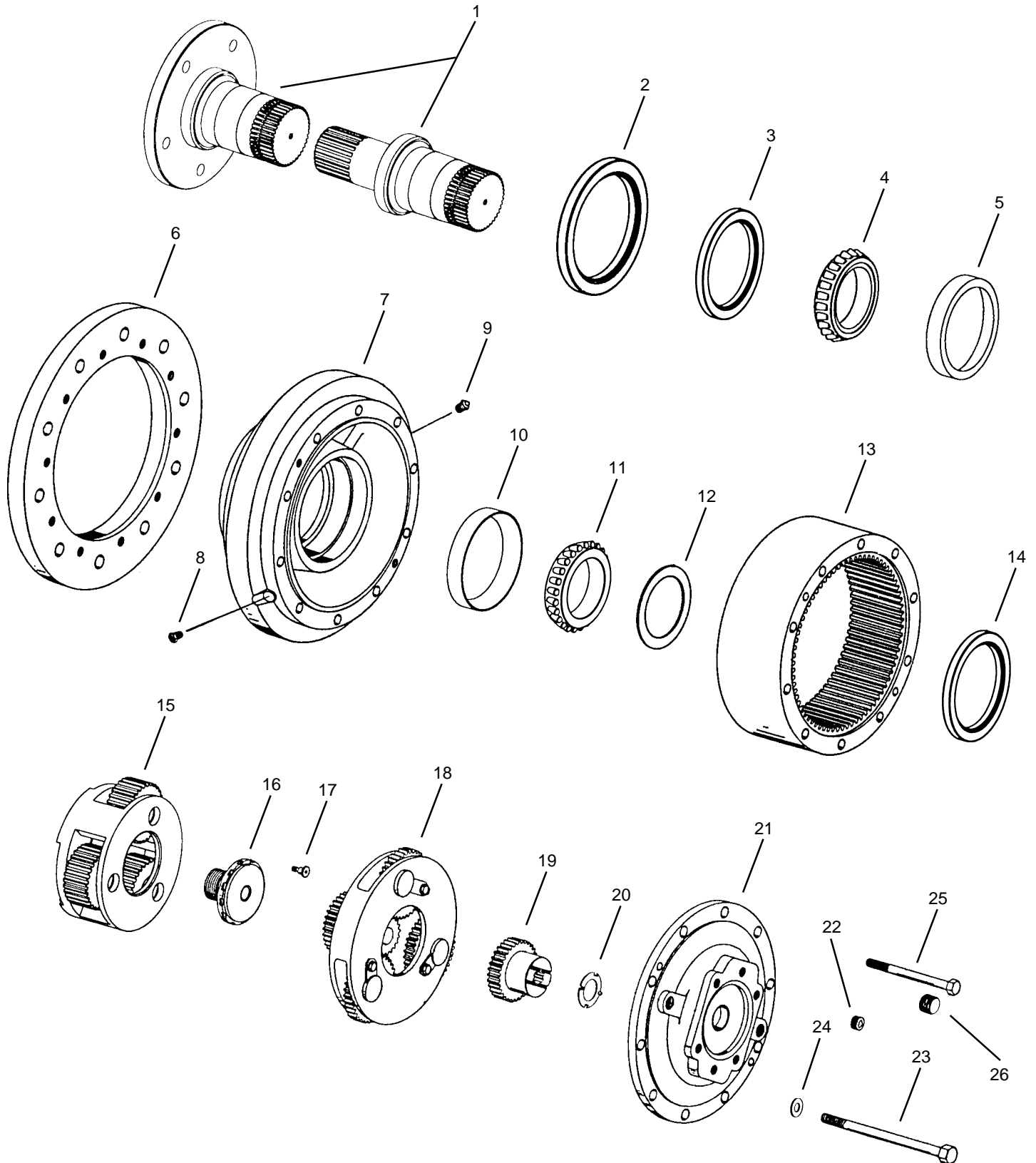
Power Wheel® Service Manual

Model 10 Double Reduction

Shaft and Spindle Output 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

Remove twelve hex head bolts (23) and washers (24) from cover (21). Units with adapter ring (6) DO NOT have flat washers (24) included in assembly. Thrust washer (20) usually remains with cover.

STEP 2

Lift sun gear (19) from primary carrier assembly (18).

STEP 3

Remove primary carrier assembly (18) from ring gear (13).

STEP 4

Remove the secondary carrier assembly (15). Removal is accomplished by loosening the lock screw (17) and bearing locknut (16) until the carrier assembly can be removed from the output shaft (1) splines. Loosen lock screw (17) with 3/16 hex drive. It may be necessary to remove the ring gear (13) first if difficulty is encountered in removing the carrier. **NOTE:** A special service tool, part number 592Y, is required for removal of the bearing locknut. Contact Auburn Gear for procurement of service tool.

STEP 5

Remove ring gear (13) from hub (7). It may be necessary to strike ring gear (13) with a rubber mallet to loosen from hub (7).

STEP 6

Remove thrust washer (12) from in front of the bearing cone (11). If unit is equipped with the grease cavity option (Order Code "V") it will be necessary to first remove grease cavity seal (14). Pull output shaft (1) from hub (7). If bearings are not a loose fit, it may be necessary to press output shaft or spindle (1) from hub.

STEP 7

Remove oil seal (3) and bearing cones (4 & 11) from hub (7). Inspect bearing cups (5 & 10) in hub (7) and remove only if replacement is required.

(See Special Instructions for Adaptor Ring and Shaft Bearing Grease Cavity.)

ASSEMBLY OF POWER WHEEL

STEP 1

Press new bearing cups (5 & 10) into each side of hub (7). It is recommended that bearing cups (5 & 10) and cones (4 & 11) be replaced in sets.

STEP 2

Assemble bearing cone (4) into cup (5) at seal end of hub (7) and press a new seal (3) into hub (7). For spindle output units, install boot seal (2) on hub (7) if unit is so equipped.

STEP 3

Lubricate lips of seal (3) and lower hub (7) onto output shaft (1). Keep hub centered to prevent damage to oil seal (3).

STEP 4

Assemble bearing cone (11) over output shaft (1) and into bearing cup (10). Install thrust washer (12) over splined end of output shaft (1). When in place, thrust washer (12) will rest on bearing cone (11).

STEP 5

For Drives equipped with the grease cavity option (Order Code "V"), press a new seal (14) into hub (7) until flush with surface of hub where seal is installed.

STEP 6

Assemble secondary carrier assembly (15) splines over splined end of output shaft (1). Install bearing locknut (16). Tighten locknut to 75 lb. ft. (101.9 Nm) while rotating the hub (7) to seat the bearings. Loosen the locknut (16) 1/2 turn then retighten locknut (16) to 85 – 90 lb ft. (115.2 – 121.9 Nm) while rotating the hub (7). Loosen the locknut (16) to the nearest locking notch and secure with lockscrew (17). Tighten lockscrew (17) to 10 lb. ft. (13.6 Nm). Assembly must rotate freely with a bearing preload of .000 in. (.00 mm) to an end play of .004 in. (.10 mm).

STEP 7

Clean mating surfaces and apply a bead of silicone sealant to face of hub (7) that mates with ring gear (13). See instructions on sealant package.

STEP 8

Assemble ring gear (13) to hub (7) being careful to align all the bolt holes.

STEP 9

Assemble the primary carrier assembly (18) into the ring gear (13). It will be necessary to rotate carrier to align secondary sun gear, which is part of the primary carrier assembly (18) with planet gear teeth in secondary carrier assembly (15).

STEP 10

Install primary sun gear (19) into primary carrier assembly. Sun gear (19) should turn freely by hand when assembled.

STEP 11

Apply a bead of silicone sealant to cover face of ring gear (13). Secure thrust washer (20) with tangs engaged in cover (21).

NOTE: Washer (20) can be secured to cover (21) with a small

amount of grease or silicone sealant. Assemble cover (21) to ring gear (13). Align cover (21) with hub (7) such that pipe plug holes on cover align with mounting holes in hub.

STEP 12

Install twelve Grade 8 hex head bolts (23) and washers (24) and torque to 40 – 45 lb. ft. (54 – 61 Nm) with dry threads. Lubed threads torque to 20 – 25 lb. ft. (27 – 34 Nm).

STEP 13

Position filler opening horizontally and fill unit to oil level hole in hub (7). Install pipe plugs (22 & 26).

STEP 14

If the drive includes the grease cavity option, fill entire cavity with Lubriplate MAG-1 or MAG-00 or equivalent lithium based grease.

SPECIAL INSTRUCTIONS FOR MOUNTING ADAPTOR RING

Certain models utilize an adaptor ring (6) for mounting the Power Wheel. A Power Wheel with an adaptor ring (6) can be removed in its entirety for service by removing the ten 9/16 – 12 hex head bolts (23) from cover (21) leaving the two 1/2 – 13 hex head bolts (25) to hold the Power Wheel Assembly together. Complete unit disassembly may be accomplished by removing the two 1/2 – 13 hex head bolts (25) from the cover (21). Proceed with instructions to disassemble and assemble the Power Wheel.

SPECIAL INSTRUCTIONS FOR SHAFT BEARING GREASE CAVITY

Certain models utilize a grease seal (14), grease fitting (9) and pressure relief fitting (8) to provide a separate grease cavity for the output shaft bearings which is necessary for vertical shaft up applications. Bearings should be greased on a regular basis with interval depending on duty cycle and operating conditions. Lubricate with Lubriplate MAG-1 or MAG-00 or equivalent lithium based grease through fitting (9) until grease is purged from relief fitting (8). Always grease bearings if drive is to be stored or shut down for an extended period.

CARRIER ASSEMBLIES

It is recommended that the carrier assemblies (15 & 18) 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. 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.

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 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 (4,435ml)

ITEM NO.	DESCRIPTION*	NO. USED IN ASS'Y.	ITEM NO.	DESCRIPTION*	NO. USED IN ASS'Y.
1	Output Shaft or Spindle	1	14**	Internal Grease Seal 604410	1
2	Boot Seal 604411	1	15	Secondary Carrier Assembly	1
3	Oil Seal 604404	1	16***	Locknut (Serviced as part of the Carrier Assembly)	1
4	Bearing Cone 613305	1	17***	Lock Screw 618304 (Serviced as part of the Carrier Assembly)	1
5	Bearing Cup 613306	1	18	Primary Carrier Assembly	1
6**	Adaptor Ring 617203	1-2	19	Primary Sun Gear	1
7	Hub	1	20	Thrust Washer	1
8**	Pressure Relief Fitting 621802	1	21	Cover	1
9**	Grease Zerk 621801	1	22	Magnetic Plug 14-00-052-002	1-3
10	Bearing Cup 613313 or 613308 [◇]	1	23	Hex Head Bolt (Grade 8)	10 or 12
11	Bearing Cone 613312 or 613307 [◇]	1	24**	Flat Washer 604703	12
12	Thrust Washer 619304	1	25**	Hex Head Bolt 618311	2
13	Ring Gear	1	26	Pipe Plug 03-04-101-09	1

◇ Used in assemblies 6000479 and 6000480 only.

* Contact Auburn Gear with part number and order code of drive to obtain the appropriate parts list.

** Not required in all assemblies.

*** Serviced as part of secondary carrier assembly.

Refer to parts list for the specific part numbers and quantities.

Model 10 Power Wheel® Service Kits

Part No.	Description	Included Items
641013 [▲] 592Y	Bearing and Seal Kit Model 10 Bearing Locknut Tool	3, 4, 5, 10, 11 and 17 Not Shown

▲ Indicates kits also includes a tube of sealant, part number 604101. For use with assemblies 6000479 and 6000480 only.