

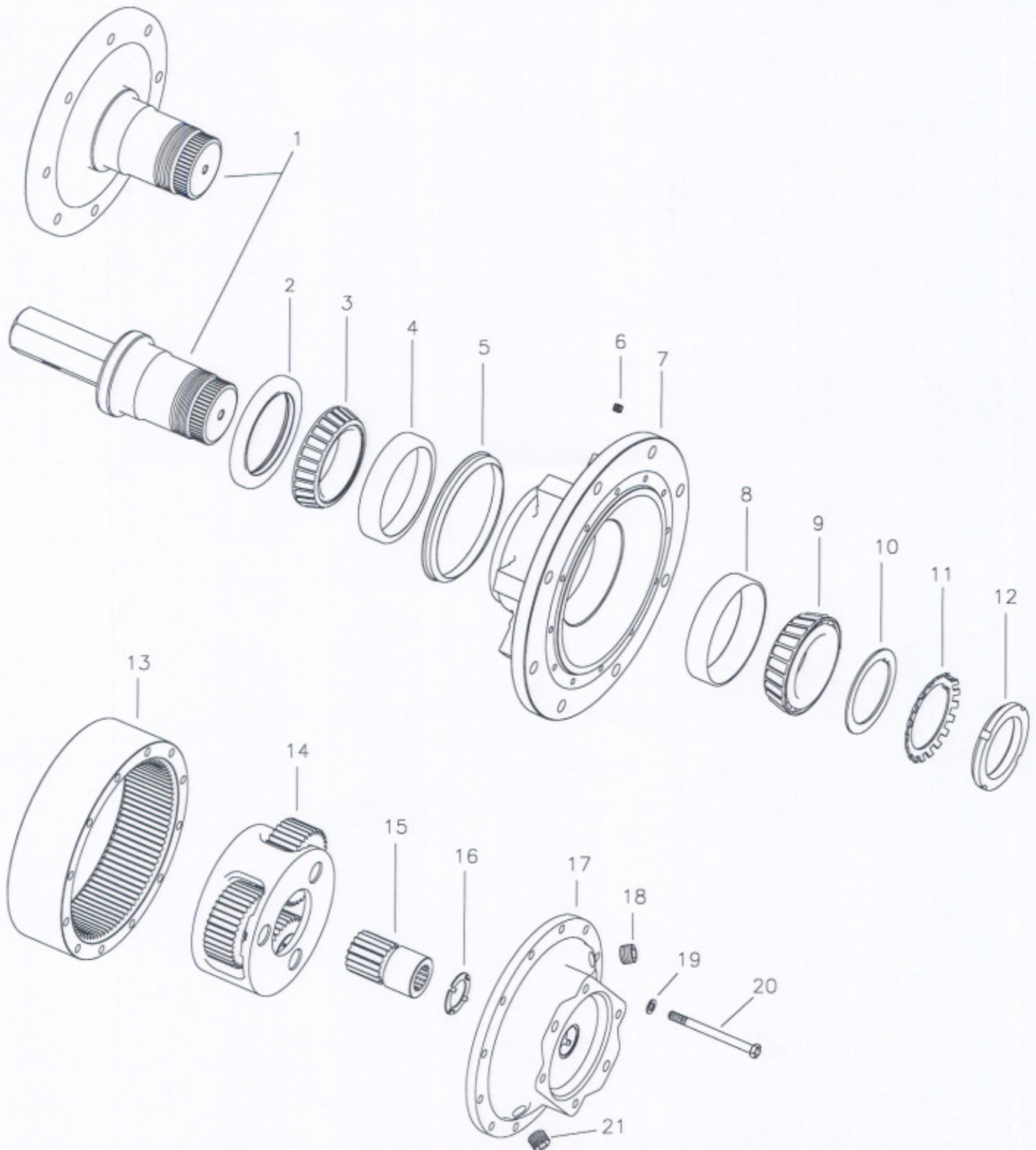
Power Wheel® Service Manual
Model 8 Series B
Single Reduction
Shaft and Spindle Output Drives



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IDENTIFICATION

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

Example:



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

Example: 60002233, D4 15 SAT

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

Remove twelve hex head bolts (20) and flat washers (19) from cover (17). Lift cover (17) from assembly. Thrust washer (16) usually remains with cover (17).

STEP 2

Lift sun gear (15) from secondary carrier assembly (14).

STEP 3

Remove secondary carrier assembly (14). It may be necessary to remove the ring gear (13) first, if difficulty is encountered in removing the carrier assembly (14).

STEP 4

If not previously removed (see step 3) remove ring gear (13) from hub (7). It may be necessary to strike the ring gear (13) with a rubber mallet to loosen from hub (7).

STEP 5

One tab of the lock washer (11) will be engaged in slot of bearing nut (12); bend back to release. Remove the bearing nut (12), lock washer (11) and thrust washer (10). Note: A special locknut wrench, 593RR, is required for the removal of the bearing locknut. Contact Auburn Gear for procurement of wrench and other service tools.

STEP 6

Bolt spindle/shaft drive tool, 598FF, to hub (7). Drive output shaft (1) from hub (7) by turning bolt in center of spindle/shaft drive tool. Care should be taken to avoid damaging splines and threads on output shaft. Note: Bearing cone (9) has been designed with a press fit with respect to output shaft (1). Considerable force will be required to remove cone from shaft.

STEP 7

Remove oil seal (2) and bearing cones (3 & 9) from hub (7). Inspect bearing cups (4 & 8) in hub (7) and remove only if replacement is required.

ASSEMBLY OF POWER WHEEL

STEP 1

Press new bearing cups (4 & 8) in each side of the hub (7). It is recommended that bearing cups (4 & 8) and cones (3 & 9) be replaced in sets.

STEP 2

Assemble bearing cone (3) into cup (4) at seal end of hub (7) and press a new seal (2) into hub (9). Install boot seal (5) on hub (7) if unit is so equipped.

STEP 3

Position output shaft (1) upright on bench. Lubricate lips of seals (5) and (2) and lower hub (7) onto output shaft (1). Hub (7) should be centered as it is lowered over output shaft (1) to prevent seal damage. **Note: [On heavy duty seals there is to be no lubricate on seal (2), output shaft (1), or hub (7)].**

STEP 4

Assemble bearing cone (9) over output shaft (1). Press bearing cone (9) over output shaft bearing journal using press and cylindrical bearing cone driver 598F. Press bearing cone (9) down until rollers just touch cup (8). Take care to avoid pressing cone (9) too far. Note: If a press is not available, place tool 598F over splined end of output shaft (1) on the edge of the bearing cone (9) and drive into place with hammer or mallet. If this method is used, care must be taken to avoid damage to bearing cone and output shaft.

STEP 5

Install thrust washer (10) and bearing nut (12). **DO NOT install lock washer (11) at this time.**

STEP 6

Place spindle/shaft drive tool, 598FF, over output shaft (1) and bolt or pin to hub (7).

STEP 7

Check initial rolling torque by installing a lb.-in. torque wrench (arm or dial type) on center nut of spindle/shaft drive tool and turning hub (7) slowly and steadily with the torque wrench. Note: mean torque. An initial bearing rolling torque of greater than 52 lb.-in. with boot seal installed or 48 lb.-in. without boot seal means that the cone (9) was pressed on too tightly in step 4. In this case, back off bearing cone (9) by pressing output shaft (1) out of cone (8) until initial preload is relieved. See step 6 of disassembly procedure.

STEP 8

Torque bearing nut (12) with bearing nut wrench 593RR until a bearing rolling torque of 44 – 52 lb.-in., with a boot seal installed, or 40 – 48 lb.-in., without boot seal, is reached. This may require several trials of pressing the cone (9) by torquing the nut (12) and then checking the rolling torque. Rotate hub (7) by hand as nut is being tightened in order to seat bearings. Note: Up to 250 lb.-ft. of torque

may have to be applied to bearing nut (12) in order to press cone (9) into position.

STEP 9

Remove bearing nut (12) and install lock washer (11). Replace bearing nut (12).

STEP 10

Re-torque bearing nut (12) to 65 – 75 lb.-ft. (88 – 100 Nm)

STEP 11

Secure bearing nut (12) by bending a lock washer (11) tab into one of four bearing nut slots. If no tab aligns with a slot, the nut may be tightened until one of the slots aligns with a lock washer tab.

STEP 12

Apply a bead of silicone sealant to face of hub (7) that mates with ring gear (13). See instructions on sealant package.

STEP 13

Assembly ring gear (13) to hub (7) being careful to align all the boltholes.

STEP 14

Place secondary carrier assembly (14) into ring gear (13) aligning the gear teeth. Carrier splines mesh with splines on output shaft (1).

STEP 15

Install primary sun gear (15) into secondary carrier assembly. Sun gear (15) should turn freely by hand when assembled.

STEP 16

Apply a bead of silicone sealant to cover face of ring gear (13). Secure thrust washer (16) with tangs engaged in cover (17) Note: Washer (16) can be secured to cover (17) with a small amount of grease or silicone sealant. Assembly cover (17) to ring gear (13). Align cover (17) with hub (7) such that pipe plugholes on cover (17) align with mounting holes in hub (7).

STEP 17

Install twelve 3/8-16 x 6 1/2 inch Grade 8 bolts (20) and flat washers (19) and torque to 45 – 50 lb.-ft. (61 – 67 Nm).

STEP 18

Install pipe plug (21) torque to 11-25 lb.-ft. Then position filler opening horizontally and fill unit to oil level hole in hub (7). Then install pipe plug (6) torque to 4-8 lb.-ft. and pipe plug (18) 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, and SAE C 2-159.

CARRIER ASSEMBLIES

It is recommended that the secondary carrier assembly (14) 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, whichever 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 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. (6,780 Nm)
Maximum input speed 3,500 RPM
Oil capacity 48 oz (1,420 cc)

ITEM NO.	DESCRIPTION*	NO. USED IN ASS'Y.	ITEM NO.	DESCRIPTION*	NO. USED IN ASS'Y.
1	Output shaft or Spindle	1	12	Lock Nut 614912	1
2	Oil Seal 14-00-044-011	1	13	Ring Gear	1
3	Bearing Cone 14-00-133-007	1	14	Secondary Carrier Assembly	1
4	Bearing Cup 14-00-133-006	1	15	Primary Sun Gear	1
5	Boot Seal 604405	1	16	Thrust Washer	1
6	Pipe Plug 03-04-101-09	1	17	Large Cover	1
7	Hub	1	18	Magnetic Plug 14-00-052-002	1
8	Bearing Cup 613314	1	19	Thrust Washer	12
9	Bearing Cone 613315	1	20	Hex Head Bolt	12
10	Thrust Washer 619320	1	21	Pipe Plug 03-04-101-01	1
11	Lock Washer 605003	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 8 Series B Power Wheel® Service Kits

Part No.	Description	Included Items
593RR	Bearing Locknut Tool	Not Shown
598F	Bearing Cone Driver	Not Shown
598FF	Spindle/Shaft Drive Tool	Not Shown
641026**	Bearing & Seal Kit	2,3,4,8,9,11
641025**	Seal Kit	2,11

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

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