



The Original Engine Cooling Pump Since 1921

## 26000 Pump Series Technical Guide

### Identification



**G2601-01, G2603-01**

**Note:** G2603-01 has an integrated cam. (There is no cam screw as the cam is part of the housing.)



**G2602-01, G2604-01**

**Note:** G2604-01 has an integrated cam. (There is no cam screw as the cam is part of the housing.)



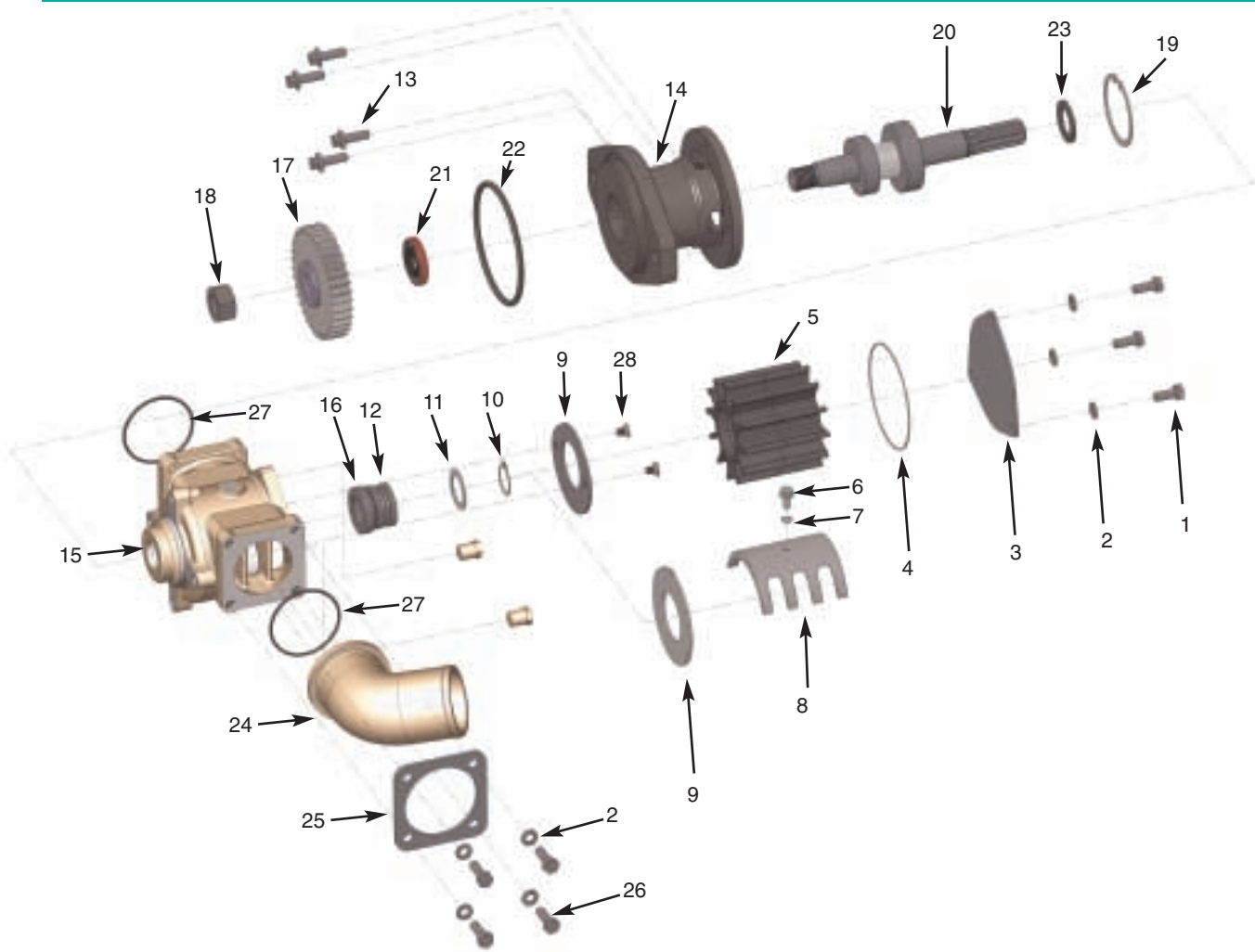
**G2601X, G2601-02, G2603-02**

**Note:** G2603-01 has an integrated cam. (There is no cam screw as the cam is part of the housing.)



**G2605-01**

# Assembly / Disassembly Instructions



## Disassembly

**Note:** It may not be necessary to perform the entire disassembly procedure for the intermediate and minor kits.

- A. Remove the bolts (1) and lockwashers (2) from the cover (3).
- B. Remove the cover, o-ring (4), and impeller (5), using puller number 23631 or 3/4" x 16 UNF bolt. Note the direction of the impeller blades to ensure proper replacement of the impeller during the assembly procedure.
- C. When applicable, remove the cam screw (6) and cam screw o-ring (7) from the cam. The cam (8) and wearplate (9) can now be taken out of the housing.
- D. For the G2603, G2604 and G2605 pump models with integrated cam designs, remove the two wearplate flat head screws (28) holding the wearplate in place.
- E. Using external snap ring pliers, remove the retaining ring (10) from the shaft.
- F. Slide the washer (11) and mechanical water seal (12) off of the shaft.
- G. Remove the bolts (13) holding the body (14) to the housing (15).
- H. Slide the housing off of the shaft and body assembly.
- I. Press the seal seat (16) out of the housing.
- J. Remove the drive gear assembly. While supporting the drive gear (17), remove the nut (18) from the shaft.
- K. Using internal snap ring pliers, remove the retaining ring (19) from the body.
- L. Press the bearing and shaft assembly (20) out of the body.
- M. Remove the lip seal (21) and o-ring (22) from the body.
- N. Inspect the shaft for grooving of the lip seal area and heavy fretting of the spline portion that drives the impeller. Inspect the bearings for loss of grease, corrosion and rough rotation. If the shaft or bearings exhibit such a wear, replace the entire shaft and bearing assembly (20) listed on page 3.

## Assembly / Disassembly Instructions (continued)

**Warning:** Do not try to build the shaft and bearing assembly from the individual parts, but instead purchase the kit with entire shaft and bearing assembly listed below. Special assembly procedures for this assembly must be followed to prevent galling of the shaft in the lip seal and mechanical seal area, which could cause premature seal leaks.

### Assembly

- A. Replace the o-ring (22) in the pump body (14), then press the lip seal (21) in place with the metal backing ring of the lip seal toward the housing (15) and away from the engine, until it is flush with the body surface. Care should be taken to ensure proper alignment of the lip seal to the pump body and that the lip seal is uniformly pressed to prevent distortion.
- B. Press the shaft and bearing assembly (20) into the pump body. Preferably, use a sleeve or piece of tubing, slightly bigger than the shaft (25mm) or about an 1" opening, to push against the inner race of the ball bearing.
- C. Using internal snap ring pliers, install the retaining ring (19) into the body. Then slide the slinger (23) onto the impeller end of the shaft to about 1/8" away from the bearings.
- D. Press the mechanical seal seat (15) into the housing with the gray silicon carbide face toward the impeller. Lubricate the outside of the seat boot with a water-soluble lubricant or soapy water for easier assembly. Oil or grease must not be used, as it will prevent the rubber cup assembly from properly gripping the housing. The seat should be inspected to ensure that the cup did not become partially dislodged during the assembly procedure.
- E. Slide the housing (15) over the shaft and body assembly. Use Loctite® Primer and Loctite® 262 or equivalent on the body to housing bolts. Fasten the three bolts (13) and torque them to 18 ft-lbs.
- F. When applicable, replace the drive gear assembly. Use Loctite® Primer and Loctite® 262 or equivalent on the gear nut. Slide the gear (17) on the shaft, and then tighten the nut (18) onto the shaft. While supporting the drive gear, torque the nut to 130-140 ft-lbs.
- G. Lubricate the inner rubber portion of the mechanical water seal (12) with a water soluble lubricant or soapy water and slide the seal onto the shaft, with the silicon carbide portion of the mechanical water seal (12) toward the seal seat (16).

**Note:** The two mating surfaces must be the gray silicon carbide portion of the seal to the gray silicon carbide portion of the seal seat. Oil or grease must not be used to prevent the mechanical seal from properly gripping the shaft.

- H. Place the washer (11) onto the shaft and then using external snap ring pliers, install the retaining ring (10) into the groove in the shaft to compress the mechanical seal.
- I. Install the wearplate (9) with the anti-rotation tab into the recess in the housing.
- J. For the G2603, G2604 and G2605 pump models with integrated cam designs, apply Loctite® 242 to the wearplate flat head screw threads (28), replace the two screws to secure the wear plate, and torque them to 50 in-lbs.
- K. When applicable, replace the cam (8) in the housing. Place the cam screw o-ring (7) onto the cam screw (6) and then fasten the cam screw in place.
- L. Insert the impeller (5) in the housing using a twisting motion. Ensure that the impeller blades are bent in the same direction as upon removal. For ease of installation, apply a silicon lubricant to the impeller.

**Caution:** DO NOT USE A PETROLEUM-BASED LUBRICANT (petroleum product will cause damage to the impeller).

- M. Insert the O-ring (4) into the groove, install the cover (3) on the housing, and then fasten the lockwashers (2) and bolts (1) to 8 ft-lbs. torque.
- N. If necessary to replace the port elbow, slide the port (24) through the bracket (25). Replace the o-ring (27). Fasten the lockwashers and bolts (26) through the port bracket to the housing and torque to 12 ft-lbs.
- O. Inspect the seals, housing, body and cam areas for leaks after installation.

# Assembly / Disassembly Instructions (continued)

	Sherwood #		G2601-01	G2601-02	G2601-03	G2601X	G2602-01
Item		QTY					
1	Cap Screw	3	19626	19626	19626	19626	19626
2	Lockwasher	3/7	21573	21573	21573	21573	21573
3	Cover Plate	1	24074	24074	24074	24074	24074
4	O-Ring	1	19879	19879	19879	19879	19879
5	Impeller	1	26000	26000	26000	26000	26000
6	Cam Screw	1	19714	19714	19714	19714	19714
7	O-Ring	1	19712	19712	19712	19712	19712
8	Cam	1	24075	24075	24075	24075	24075
9	Wear Plate	1	24073	24073	24073	24073	24073
10	Retaining Ring	1	19762	19762	19762	19762	19762
11	Washer	1	19866	19866	19866	19866	19866
12/16	Mechanical Seal Assy	1	23837	23837	23837	23837	23837
13	Bolt	4	19708	19708	19708	19708	19708
14	Body	1	24102	24102	24102	24102	24102
15	Housing	1	24072	24072	24072	24072	24072
17	Gear	1	24083	24083		24083	24083
18	Nut	1	24084	24084	24084	24084	24084
19	Retaining Ring	1	19867	19867	19867	19867	19867
20	Shaft and Bearing Assy	1	24223	24223	24223	24223	24223
21	Lip Seal	1	19869	19869	19869	19869	19869
22	O-Ring	1	1720-0212	1720-0212	1720-0212	1720-0212	1720-0212
23	Slinger	1	24079	24079	24079	24079	24079
24	Port Elbow	1	24076				24132
25	Bracket	1	24081				24081
26	Cap Screw	4	21484				21484
27	O-Ring	2	24052				24052
28	Screw	2					
	Minor Repair Kit		24227	24227	24227	24227	24227
	Major Repair Kit		24228	24228	24228	24228	24228

# Assembly / Disassembly Instructions (continued)

	Sherwood #		G2603-01	G2603-02	G2603-03	G2603X	G2604-01	G2605-01
Item		QTY						
1	Cap Screw	3	19626	19626	19626	19626	19626	19626
2	Lockwasher	3/7	21573	21573	21573	21573	21573	21573
3	Cover Plate	1	24074	24074	24074	24074	24074	24074
4	O-Ring	1	19879	19879	19879	19879	19879	19879
5	Impeller	1	26000	26000	26000	26000	26000	26000
6	Cam Screw	1	19714	19714	19714	19714	19714	19714
7	O-Ring	1	19712	19712	19712	19712	19712	19712
8	Cam	1						
9	Wear Plate	1	24790	24790	24790	24790	24790	24790
10	Retaining Ring	1	19762	19762	19762	19762	19762	19762
11	Washer	1	19866	19866	19866	19866	19866	19866
12/16	Mechanical Seal Assy	1	23837	23837	23837	23837	23837	23837
13	Bolt	4	19708	19708	19708	19708	19708	19708
14	Body	1	24102	24102	24102	24102	24102	24102
15	Housing	1	24789	24789	24789	24789	24789	24789
17	Gear	1	24083	24083			24083	24083
18	Nut	1	24084	24084		24084	24084	24084
19	Retaining Ring	1	19867	19867	19867	19867	19867	19867
20	Shaft and Bearing Assy	1	24223	24223	24223	24223	24223	24223
21	Lip Seal	1	19869	19869	19869	19869	19869	19869
22	O-Ring	1	1720-0212	1720-0212	1720-0212	1720-0212	1720-0212	1720-0212
23	Slinger	1	24079	24079	24079	24079	24079	24079
24	Port Elbow	1	24076				24132	24630
25	Bracket	1	24081		24081		24081	24081
26	Cap Screw	4	21484		21484		21484	21484
27	O-Ring	2	24052	24052	24052		24052	24052
28	Screw	2	24840	24840	24840	24840	24840	24840
	Minor Repair Kit		24841	24841	24841	24841	24841	24841
	Major Repair Kit		24842	24842	24842	24842	24842	24842

# Preventative Maintenance

*The #1 reason for premature engine wear is overheating. To maintain engine performance, insist upon genuine Sherwood impellers and service kits.*

Maintenance Schedule	Pleasure Boating (Low Hours)		Commercial/Fishing Use (High Hours)	
	Light Duty	Severe Duty (High RPM, Silt or Sand)	Heavy Duty	Severe Duty (High RPM, Silt or Sand)
Impeller Kit	Every year	6 months	6 months	3 months
Minor Kit	2 years	Every year	Every year	6 months
Major Kit	4 years	2 years	2 years	Every year

Impeller Kit 26000K	Minor Kit 24227	Minor Kit 24228	Minor Kit 24841	Minor Kit 24842
1-26000 Impeller	1-1710-0212 O-Ring	1-1710-0212 O-Ring	1-1710-0212 O-Ring	1-1710-0212 O-Ring
1-19879 O-Ring	1-19712 O-Ring	1-19712 O-Ring	1-19762 Snap Ring	1-19762 Snap Ring
	1-19714 Camscrew	1-19714 Camscrew	1-19866 Washer	1-19866 Washer
	1-19762 Snap Ring	1-19762 Snap Ring	1-19867 Snap Ring	1-19867 Snap Ring
	1-19866 Washer	1-19866 Washer	1-19879 O-Ring	1-19869 Lip Seal
	1-19867 Snap Ring	1-19867 Snap Ring	1-23631 Impeller Puller	1-19879 O-Ring
	1-19879 O-Ring	1-19869 Lip Seal	1-23837 Mech Seal	1-23631 Impeller Puller
	1-23631 Impeller Puller	1-19879 O-Ring	2-24052 O-Ring	1-23837 Mech Seal
	1-23837 Mech Seal	1-23631 Impeller Puller	1-24074 Cover Plate	2-24052 O-Ring
	2-24052 O-Ring	1-23837 Mech Seal	1-24790 Wear Plate	1-24074 Cover Plate
	1-24073 Wear Plate	2-24052 O-Ring	2-24840 Screw	1-24079 Slinger
	1-24074 Cover Plate	1-24073 Wear Plate	1-26000 Impeller	1-24223 Shaft/Brg Assy
	1-24075 Cam	1-24074 Cover Plate		1-24790 Wear Plate
	1-26000 Impeller	1-24075 Cam		2-24840 Screw
		1-24079 Slinger		1-26000 Impeller
		1-24223 Shaft/Brg Assy		
		1-26000 Impeller		

G2601-01	X	X	X	
G2601-02	X	X	X	
G2601-03	X	X	X	
G2601X	X	X	X	
G2602-01	X	X	X	
G2603-01	X			X
G2603-02	X			X
G2603-03	X			X
G2603X	X			X
G2604-01	X			X
G2605-01	X			X

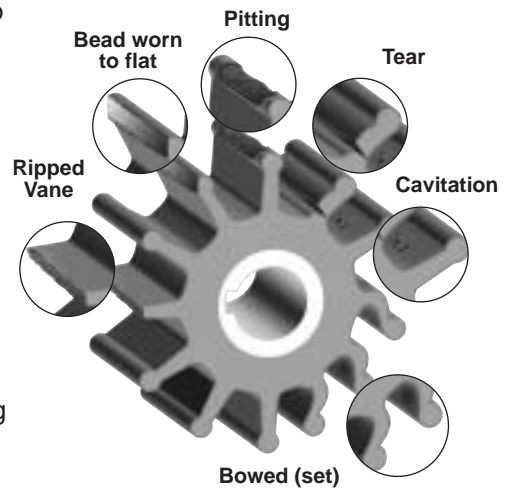
# Inspection

*The #1 reason for premature engine wear is overheating.*

*To maintain engine performance, insist upon genuine Sherwood impellers and service kits.*

## Recommended inspection to be performed at any service interval:

Impeller	Inspect for cracks or tears. Also, inspect for excessive abrasion of vane ends. Replace annually or if any of the conditions exist, as in the picture below.*
Wear Plate	Inspect for wear, flatness and pin for fatigue. Replace at major pump rebuild or if wear is evident to maintain pump flow and suction performance.
Cam	Replace at major pump rebuild or if pitting/wear is evident.
Cover	Replace at major pump rebuild or if wear exists to maintain pump flow and suction performance.
Mechanical Seal	Replace at minor and major pump rebuild or if leaking.
Lip Seal	Replace at major pump rebuild or if leaking.
Shaft	Inspect for wear in area of lip seal and rubber impeller. Grooving of lip seal area or heavy fretting of the impeller end shaft will require shaft/bearing assembly replacement.
Bearing	Inspect for loss of grease, corrosion or rough rotation. Replace the entire shaft and bearing assembly if these conditions exist or if the bearing integrity is in doubt.



## Genuine Sherwood Tech Tips

To maintain best engine performance and to prolong engine life - replace your impeller annually\*. Three tips to help you install your new impeller:

- Use a non-petroleum based lubricant (silicon or soapy water) to help slide the impeller into the housing.
- Install the impeller with a twisting motion onto the shaft. Never force an impeller onto the shaft. The impeller must be able to move freely on the shaft to properly prime and function.
- Use a small amount of non-petroleum based lubricant to help hold the o-ring when replacing the cover.

Proper storage of the impellers during a prolonged lay-up can help maintain the life of the impeller. Remove the impeller from the housing and store in a cool, dark place. This will avoid the following:

- Copper bonding of the impeller to the housing
- Vanes "setting" into position as stored in the housing
- Ultraviolet deterioration

\* See Maintenance Schedule on page 5