

SEC. 4 OPERATION AND MAINTENANCE

4.1. Daily Start-Up/Shut-Down Procedures

4.1.1. Pre Start-Up Check Points

- Inspect vacuum line and connections.
- Inspect gas discharge line (pipe or hose) and connections. The gas discharge line **MUST BE** either open to the atmosphere or connected to an unrestricted flare line.
- Inspect mud discharge line (pipe) for possible restrictions and air or gas leaks. Discharge end **MUST BE SUBMERGED BENEATH THE MUD LEVEL.**
- Check lubrication reservoir sight level gauges, add lubricant, if needed.

NOTE:

The lubrication reservoir should be checked every 24 hours of continuous operation.

- Drain the condensation from the gas discharge line. This should be done at the lowest point on the discharge line.

4.1. Daily Start-Up/Shut-Down Procedures (Contd.)

4.1.2. Starting the Degasser

- Check all electrical connections.



CAUTION

This procedure should be done only by a qualified electrician familiar with local codes and regulations.

- **START** the vacuum/blower first.
- Then, **START** the turbo-vac booster motor (if so equipped).

NOTE:

The vacuum/blower and turbo-vac booster motors can be started or stopped simultaneously.

- The Degasser will develop normal flow (within 15 to 20 seconds).
- Inspect the mud discharge line to see that it is full of mud.

4.1.3. Shutting Down the Degasser

- **STOP** the turbo-vac booster motor first.
- **STOP** the vacuum/blower.

4.1. Daily Start-Up/Shut Down Procedures (Contd.)

4.1.3. Shutting Down the Degasser

NOTE:

The vacuum/blower and turbo-vac booster motors can be started or stopped simultaneously.

- Flush the Degasser with water or suitable solvent. Refer to **Sec. 4.2.2.** (below) **Flushing**, for proper procedure.
- Drain the check valve.

4.2. Weekly Maintenance Checklist

The **BURGESS MAGNA-VAC™ DEGASSER** has been designed for maintenance-free operation. However, even the best mechanical equipment in today's demanding oilfield environment requires a minimal amount of scheduled maintenance to protect and ensure long, dependable service and performance. The following have been selected as weekly "key" maintenance items:

4.2.1. Gearbox Lubrication

The gearbox lubrication reservoir should be checked daily. Transmission fluid should be added, as required. See **Sec. 4.3.1.**

4.2. Weekly Maintenance Checklist (Contd.)

4.2.2. Flushing

The Degasser's vacuum chamber should be flushed out at shut down to remove any mud build-up that may clog or shot off the vacuum supply. Flushing the top lid with generous amounts of fresh water or solvent will clean the top lid gas collecting chamber and the top side of the foam separation impeller.

To flush the top lid, simply open the 1 in. ball valve on the top lid, and by inserting a fresh water or solvent line, flush for at least 5 minutes.

Close the 1 in. ball valve for continued operation.

4.2.3. Mud Handling Section Inspection and Flushing

TURN OFF the Degasser and disconnect the power supply cable from the generator (source).

Remove the inspection port covers and gaskets. Inspect the inside of the Degasser for any foreign material, such as LCM (lost circulation material) deposits, i.e., rags, sacks, gloves, rope, etc., and remove. Check "free-floating" operation of the mud scheduling ring.

Thoroughly wash all internal parts with fresh water or solvent.

4.2. Weekly Maintenance Checklist (Contd.)

4.2.3. Mud handling Section Inspection and Flushing (Contd.)

Direct a stream of water or solvent through the rectangular window openings in the rotor body to flood and backwash the suction line.

4.2.4. Flushing the Vacuum/Blower

Open the 1 in. ball valves (Fig 1 and Fig 2 on next page) and install the inspection cap. Direct a stream of clean water or solvent into the 1 in. ball valves. Allow the stream to continue until the fluid being discharged from the vacuum/blower is as clean as the fluid entering.

Stop the fluid flow and run the blower until the inside of the vacuum/blower is dry. **STOP** the Degasser, open the vacuum/blower inspection port - then, spray a stream of WD-40, diesel fuel, mineral spirits or light-weight oil into the vacuum/blower inspection ports to coat the inside of the housing and the impeller.

Re-install the inspection cap and close the 1 in. ball valves.

This should be done when the unit is shut down for any length of time.

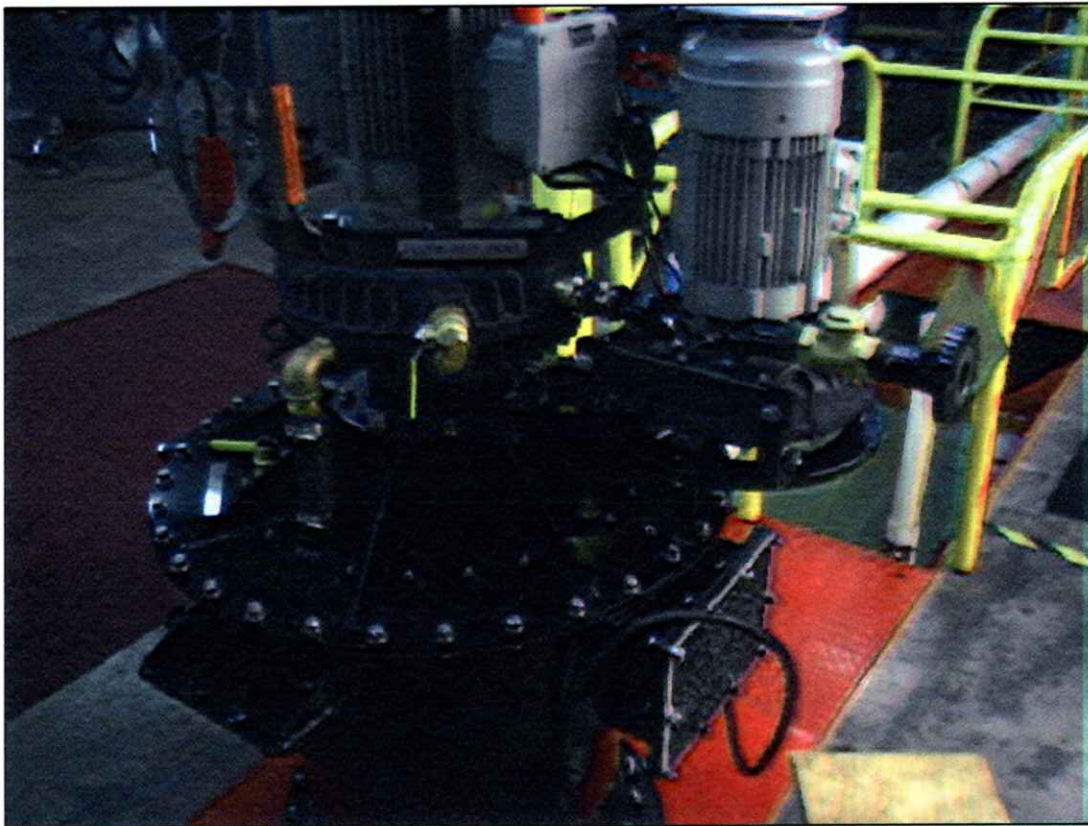


FIG 1

FLUSHOUT VALVE FOR MODEL 1500
NO SOUND SHIELD



FIG 2

FLUSHOUT MANIFOLD FOR MODEL 1500
FOR SOUND SHIELD

4.3. Other Maintenance Requirements

4.3.1. Gearbox Lubrication

Change lubricant and change or clean filter assembly at the lubrication reservoir every 1,000 operating hours.

The lubricant type is a multi-purpose ATF transmission fluid (or equivalent) such as:

Dextron III;
Mercon;
Allison C-4; and
Mobil Multi-Purpose ATF.

The system volume is 2 gallons (7.4 liters) and the proper lubricant level is about 25/64 in. (10 mm.) above the upper sight glass.

Gravity, API	31.3
Specific Gravity	0.869
Color	N/A
Flash Point °C ASTM D 92 188	188
Pour Point °C	-43
Viscosity Index	184
Viscosity cSt @ 40° C cSt @ 100° C Cp @ 40° C	36 7.5 17,400

4.4. Replacing Gearbox Seals

The following steps show how to install the upper and lower seals in the gearbox. This may be done with the gearbox completely assembled or the output and input housing sub-assemblies.

Components required for installing the seal in the upper housing are as follows:

Part #10111 - Seal, Upper

Part #10818 - Tool, Upper Seal Installation

Part #10913 - Sleeve

Components required for installing the seal in the lower housing are as follows:

Part #10124 - Seal, Lower

Part #10817 - Tool, Lower Seal Installation

Part #10913 - Sleeve

4.4.1. Bearing Replacement

Decades of experience has shown that the bearings in the **BURGESS MAGNA-VAC™ DEGASSER** gearbox will last a very long time when the lubrication system is properly maintained. The patented automatic lubrication circulation system keeps the bearings and gears both

4.4. Replacing Gearbox Seals (Contd.)

4.4.1. Bearing Replacement (Contd.)

lubricated and cooled extending the life of all the gearbox components. The bearings in the gearbox should be replaced on a five (5) year interval or after 15,000 hours of operation.

Replacing the two (2) cup and cone bearings on the output shaft requires both bearings, plus the inner and outer spacer. Therefore, these bearings must be replaced as a set, part #11468. Inspect the output shaft in the sealing area. Replace the output shaft, part #10123, if pitted and/or grooved.

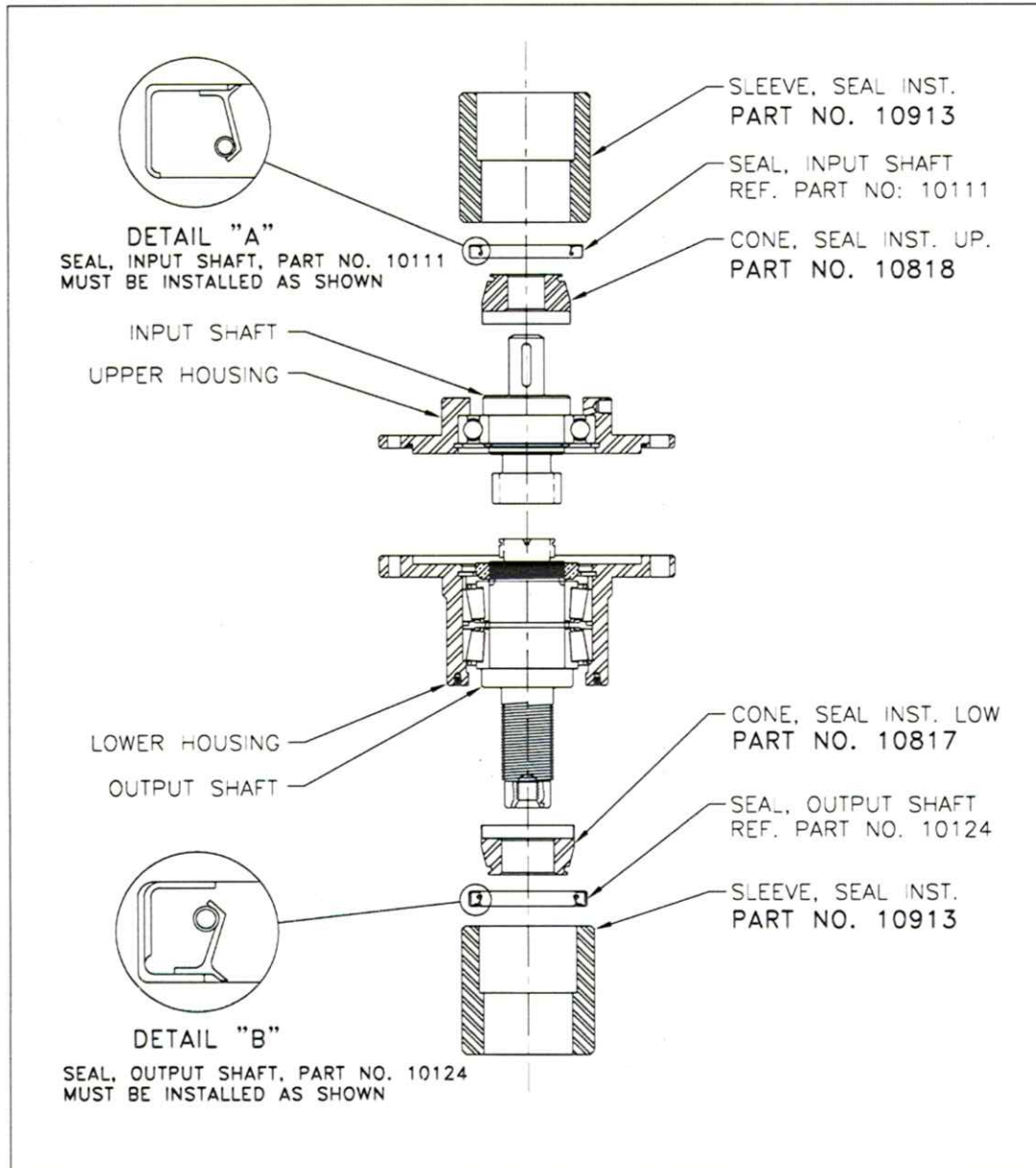
The inside diameter of the planet gear is the outer race and the outside diameter of the shaft around which the planet gear rotates is the inner race for the bearings in the planet carrier. The complete planet carrier assembly, part #11420, must also be replaced.


Replace the upper bearing, part #10137, on the input shaft. Inspect the input shaft in the sealing area. Replace the input shaft, part #10138, if pitted and/or grooved.

Replace both upper seal, part #10111, on the input shaft and the lower seal on the output shaft, part #10124.

TOOL KIT, SEAL INSTALLATION, GEARBOX

Drawing #11062



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GEARBOX LUBRICATION SYSTEM

Drawing #10846 - All Models

