



WARNING

Use lock out/tag out procedures to disable the electrical energy source before any service or work is done on the blower.



WARNING

Avoid extended exposure in close proximity to machinery with high intensity noise levels. Wear adequate ear protection.



NOTE

Use proper care and good procedures in handling, lifting, installing, operating, and maintaining the equipment.

5.3 LUBRICATION

Every blower from Tuthill Vacuum & Blower Systems is factory tested, oil drained and shipped dry to its installation point. Both independent oil reservoirs must be filled to the proper level before operation. Oil reservoirs are under vacuum.

Shaft bearings at the gear end of the blower are splash lubricated by one or both gears dipping into an oil reservoir formed in the gear end plate and cover. Shaft bearings at the drive end of the blower are lubricated by a slinger assembly dipping into an oil reservoir. Before starting the blower, fill oil sumps as shown below within the *Filling Procedure* section.

Add oil to the blower in the quantity shown within the *Specifications* Table. The oil level must be maintained within the notched area of the sight glass. See Figure 6. Lower drive units have “bull’s eye” type oil level gauges. Maintain oil levels at the center of the glass.



WARNING

Never attempt to change or add lubrication while the blower is running. Failure to heed this warning could result in damage to the equipment or personal injury. Oil must be checked when the blower is NOT running.



WARNING

Properly dispose of the spent lubricants. Refer to the manufacturer of the lubricant and any regulations to assure proper and safe disposal.



WARNING

Do not start the blower until you are sure oil has been put in the gear housing and rear cover. Operation of the blower without proper lubrication will cause the blower to fail and void the warranty.



NOTE

Assure oil is compatible with copper/yellow metals (if equipped with cooling coils).



NOTE

Refer to Table 1 for oil capacities.

5.3.1 FILLING PROCEDURE

See Figure 6. Recommended lubricants are shown on page 32.

1. Remove fill plugs or breathers from both gear end and drive end plates.
2. SLOWLY pour oil through fill until oil appears in the oil sight glass. Bring oil level to center of sight glass.
3. Verify oil level is at proper level in BOTH gear end and drive end sight glasses.
4. Replace fill plugs or breathers that were removed in step 1.

5.3.2 FREQUENTLY ASKED QUESTIONS REGARDING LUBRICATION

What is the functional detriment if the “wrong oil” is used?

The lubricant is selected based on bearing and gear speed, and operating temperature. Too light of a lubricant increases wear by not separating the sliding surfaces and it will not remove the heat adequately. If the lubricant is too thick, the drag in the bearings is increased causing them to run hotter. Since it is thicker, it will not flow as readily into the gears and it will reduce the available backlash. Lubricants at our conditions are incompressible.

What is the functional detriment if the oil is not serviced?

If the lubricant is not serviced at the proper interval the shearing action in the bearing and the gears will begin to take their toll and the lubricant will thicken, making matters worse. The unit will run hotter and the wear on running surfaces will increase. Generally, the lubricant will appear dirtier, this is actually material rubbed off the unit's components. The discoloration comes from overheating the additive package. An indicator of the breakdown of a lubricant is the increase in the TAN (Total Acid Number), and a change in the base viscosity of ten percent.

Several things are happening as the lubricant goes through the unit. First, it is absorbing frictional energy in the form of heat. This heat has to be dissipated through either surface contact with cooler materials, or in a rest volume of lubricant. While reducing the friction, the lubricant is also going through a shearing process and the molecular structure is broken down.

The result is that the lubricant will begin to thicken because of the shorter molecular chains and the drop out of additive packages. The thickened lubricant will cause more drag, increasing the friction and heat, and further degrading the lubricant.

Operation of the blower (environment, run time, speed, and pressure) has a direct effect on duty cycles. Our published cycles are based on worst-case conditions.

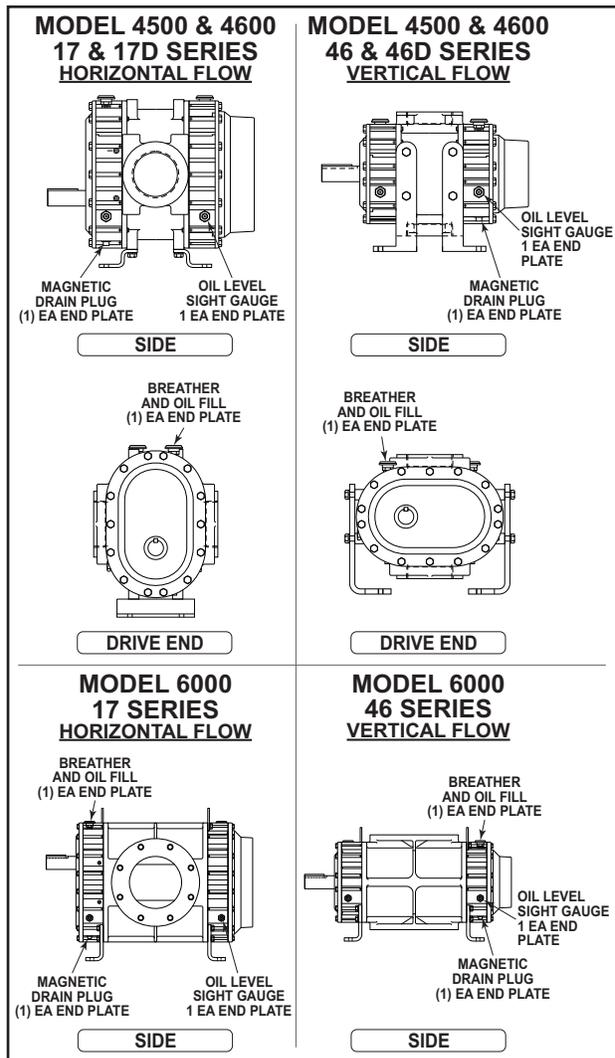


Figure 6 - Location of oil fill, drain, and level gauges