

System Assembly

The following is a typical system set up procedure for use with the hopper arrangement.

- 1) Select the appropriate location for the hopper and place it on solid level ground. Ideally the hopper should be about 6' (2m) from the excavation. Check the wheels if necessary to stabilize the hopper. **(Figure 11)**
- 2) Install the vacuum pump so that it points away from persons in the area. Be sure that an exhaust bag is securely installed. Secure pump with elastic hold down. (Inset) Check all neoprene sealing surfaces (upper lid, lower door) for snug fit. Damaged seals or improper attachment will rob system performance. **(Figure 12)**
- 3) Connect the hand operated compressed air control valve assembly to the vacuum generator. Attach hand tight only. **(Figure 13)**
- 4) Attach the 4' material pickup hose and SDR35. Remember to use the tapered bushing to connect the hose to the gulper tube. The straight bushing is used to connect hose to the hopper. **(Figure 14)**



Fig. 11



Fig. 12



Fig. 13



Fig. 14

Part 3: System Maintenance

The Utilivac® system is nearly maintenance free and requires only regular cleaning of its internal air passages and inspection of its sealing surfaces.

Cleaning

The vacuum generator should be cleaned often depending upon the amount of use, types of material being vacuumed, or when you notice that the unit is not performing as well as usual. As dirt builds up on the inside of the vacuum generator, it changes the critical dimensions of the entrainment tubes. This buildup eventually will cause a loss of performance if not removed. Do not use abrasive, steel brushes or sandblasting equipment. Remove the back plate and clean out the primary cone and tube with a small brush. A power washer is very helpful in cleaning the vacuum generator if a lot of buildup has been allowed to form. Do not clean the neoprene check valves with the pressure washer as it will be damaged. Occasionally you should also wash out the area around the neoprene valves. If your air compressor has a very oily discharge, your vacuum generator will tend to get dirty faster.



Fig. 15

Figure 15 - Clean the back of the hopper with a watering hose



Fig. 16

Figure 16 - Cleaning the under-side with a watering hose. Use soap and water.



Fig. 17

Figure 17 – Clean the nozzle of the hopper with a watering hose.

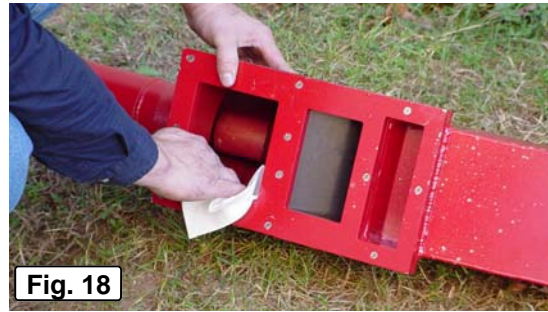


Fig. 18

Figure 18 - Keeping the check valve sealing area clean is vital to performance. Thoroughly remove any buildup but do not use a pressure washer around this area.

Maintenance

Clean and oil the actuator valve as needed to keep it working smoothly. You should regularly inspect the gaskets on the sealing surfaces, and replace as needed. Replacement gasket material may be obtained from the factory or similar materials can be purchased locally as long as the gasket material provides a good air tight seal. Check the neoprene valves on the vacuum generator for free movement and signs of delimitation. If the valves do not move freely the unit is probably dirty. In the rare event that the valves have delaminated or broken in some way, a replacement can be ordered from the factory. A new valve can be installed in a matter of minutes. Complete instructions come with the valve replacement kit. Under normal use, the valve should last for several years. The air lance set requires only minimal attention. Oil the valve occasionally with air tool oil and check the connectors for wear. Keep the barrels as straight as possible. Check the gap and condition of the nozzle and replace it if it is excessively worn. Do not substitute other materials for the supplied air lance barrels as an unsafe condition may result. Worn nozzles will consume excessive air and be ineffective at digging. The nozzle can be reshaped with a grinding wheel to its concave shape, but you must be careful not to heat the tip too much as this will undo the heat treating and soften the steel.