

SmartVac II Workholding System Installation and Operation Instructions

I. Installation

1. Mounting the Components

1. Starting with a clean machine table place the SmartVac II Base unit on the table and use the included bolts and toe clamps to secure the Base to the table. You will need to use your own T-slot nuts matched to your machine's table.
2. Mount the Vacuum Control Unit (VCU) to the table away from the machine's cutting area.
3. Mount the Air Regulator on the outside of the machine using the included magnetic bracket.
4. Use the included grommets if air lines are run through the machine's sheet metal enclosure.

2. Air Connections - The SmartVac II requires a minimum of 80 psi of compressed air at 0.8 CFM Use any of the included connectors (industrial quick disconnect, 1/4" Wye, 1/4" or 1/8" NPT instant tube fittings) to tap into a compressed air source.

1. Connect a section of tubing from the inlet of the Base to the left side connector on the VCU.
2. Connect a section of tubing from the right side connector on the Vacuum Control Unit to the outlet side of the air regulator. The outlet side of the regulator is the right hand side and is marked with an indented arrow in the casting.
3. Connect a section of tubing from the inlet of the air regulator to the air source.

II. Operation

1. Using the SmartVac II

1. Gluing the ends of the gasket material together is NOT required. As long as one of the ends butts up against the side of the gasket (Fig. 1) or other end (Fig. 2), a sufficient seal will occur.
2. If there are any sections in your part that require drilling through-holes, you'll need to isolate that section from the rest of the vacuum area. (Fig. 3-A)

2. Using Blank Top Plates

1. Blank Top Plates are easily configured and machined to hold your specific part shape. Using a .118" endmill (3mm) machine a slot .095" deep just inside the perimeter of the part preferably .100" in from the edge. (Fig. 3-B)
2. Drill a vacuum hole through the Top Plate to allow the vacuum to enter the area between your part and the Top Plate. (Fig. 3-C)
3. Machine shallow slots from the vacuum hole toward the perimeter of the gasket to allow the vacuum to flow across the entire surface. (Fig. 3-D)
4. If there are any sections in your part that require drilling through-holes, you'll need to isolate that section from the rest of the vacuum area. (Fig. 3-A)
5. Insert the gasket material in the slots you've created. Gluing the ends of the gasket material together is NOT required. As long as the ends butt up against each other, a sufficient seal will occur. (Fig. 2)

III. Maintenance – The SmartVac II is designed to pass particles and coolant through the VCU with no adverse affects, however buildup from dried coolant can accumulate over time and cause a degradation in performance. Follow these practices to keep the system fully functional.

1. After each use, disconnect the vacuum line on the left side of the VCU and allow the system to run for at least one minute to clear out any coolant that has entered the system.
2. The system can be reverse purged if you suspect performance is being affected due to trapped particles. Start by disconnecting the vacuum line from the left side of the VCU. Cover the exhaust port and turn the system on. This will force air backwards through the VCU to clear any particles.
3. If oil or coolant buildup is suspected, simply place the VCU's vacuum line in water or a mild degreaser and turn the system on. This will circulate fluid through the system and dissolve any buildup.

Included Items in Starter Package

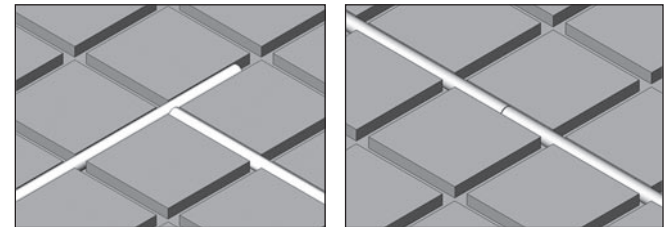
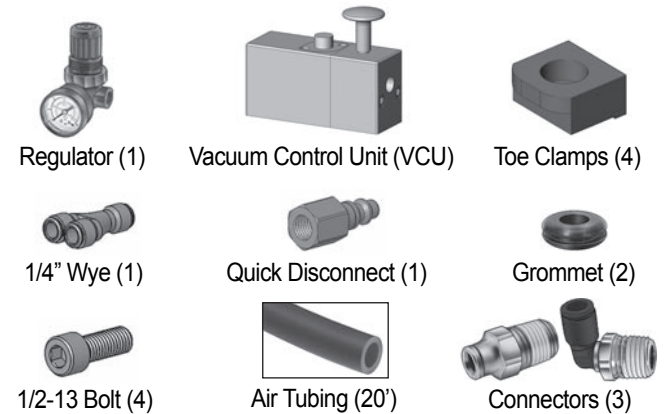


Fig.1

Fig. 2

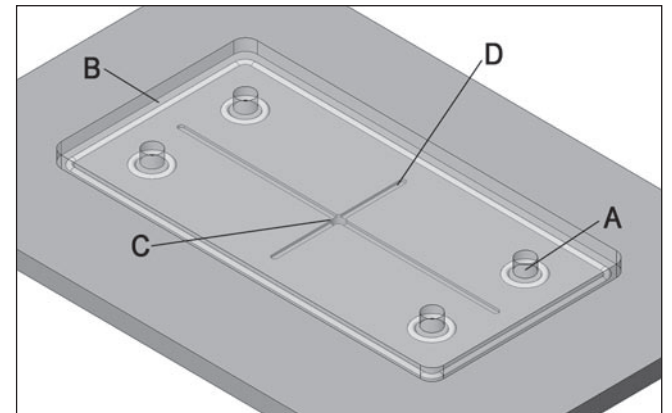


Fig. 3

