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### **DESCO Air Hat Air Train Installation Instructions**

The DESCO Air Hat Air Train consists of the inside air elbow, copper tube, air control valve, and air diffuser/muffler.

#### **Installation:**

##### **Air Diffuser/muffler;**

The Air Diffuser/muffler is loosely packed with Lambswool. It is pressed (using arbor press) or screwed onto the outlet of the Air Control Valve with the holes faced 180 degrees away from the valve stem.

##### **Inside elbow;**

Thread the inside elbow into the outside elbow 3-4 turns. It should screw in with little resistance. Remove the inlet compression nut and ferrules in preparation for installing the copper tube.

##### **Air Control Valve;**

The cap, spacer, retaining nut, Brass washer, and two Lead washers are removed from the valve. Place some tape on the valve stem to prevent the packing rings from falling off the stem.

Place one lead washer on the valve body and insert into the helmet snout. Place the second Lead washer, Brass washer, and retaining nut on the valve. Leave the assembly loose for the next assembly step.

##### **Copper Tube;**

To install the copper tube place the end with the longer straight length into the elbow, then line the other end up with but outside of the valve inlet. Check the tube length. If it is too long remove equal amounts from each end, and when the tube is the correct length deburr both ends. The tube should have a small amount of end play when installed in the assembly before all is secured.

Install the nuts, thin ferrules, then thick ferrules with the Stainless Steel ones to the valve, and the brass ones to the elbow. The tapers on the ferrules should point to the tube ends.

##### **Final Assembly;**

Remove the copper tube and inside elbow. Using two part epoxy cement the inside elbow into the helmet. The epoxy should be the 10 – 15 minute type to allow time for reassembly. Make sure no epoxy covers the end of the valve or the opening in the helmet. A method of assuring there is no epoxy blocking the opening is to blow compressed air into the double elbow from the outside before the copper tube is reinstalled. Reinstall the copper tube and hand tighten all joints. If the copper tube is in contact with the helmet shell place a piece of cardboard box under the tube as a spacer. Allow the epoxy to completely set.

# DESCO Air Hat Air Train Installation Instructions continued.

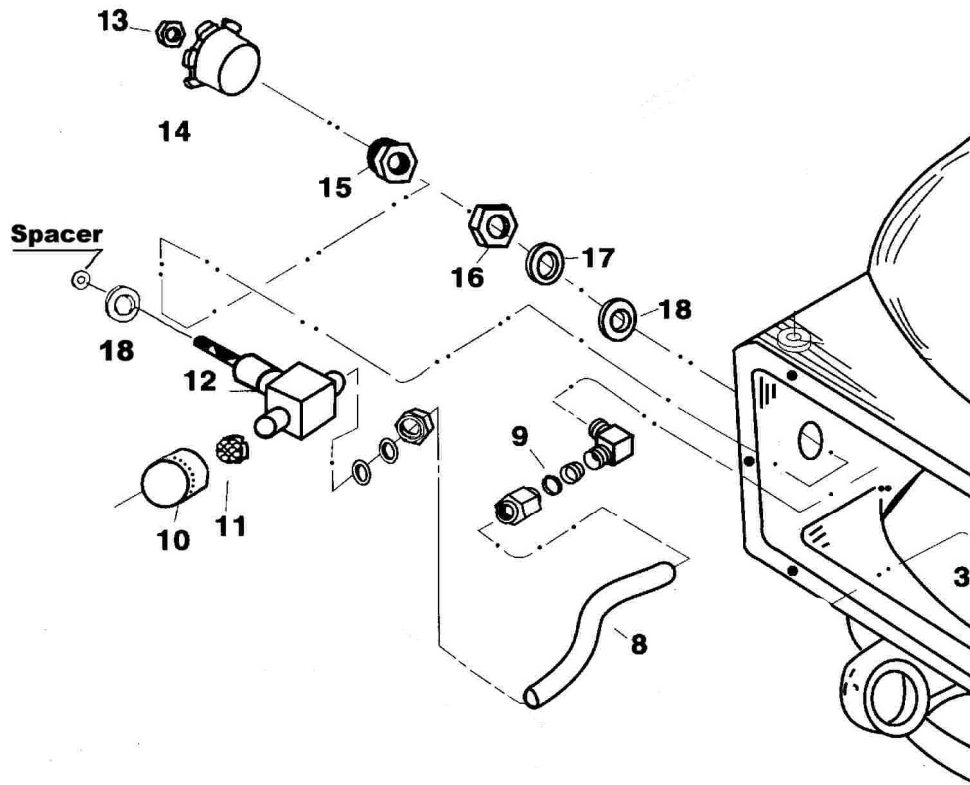
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Remove the cardboard spacer from under the copper tube (if used).

Tighten all connections starting with the air control valve retaining nut. The copper tube and inside elbow can force the air control valve to cock if tightened first. It is important to align the air control valve with the snout to insure the valve handle will not hit the snout.

Install the spacer and cap on the Air Control Valve stem.

After the Non-Return Valves are installed on the outside elbow the assembly can be pressure tested by attaching a 100psi air source to the helmet. With the ACV closed use dish soap and water solution to check each joint for leakage.



8-Copper Tube, 9-Inside Elbow, 10-Air Diffuser, 11-Lambswool, 12-Air Control Valve, 13-Handle Retaining Nut, 14-Handle, 15- Cap Nut, 16-Valve Retaining Nut, 17-Brass Washer, 18-Lead Washer