

Xtreme MixTM Remote Manifold

309568 Rev.B

To mount mix manifold close to spray area.

Part No. 15E725

7250 psi (50 MPa, 500 bar) Maximum Working Pressure



Read warnings and instructions in Xtreme Mix Operation manual 309535 and the following component manuals:

- **310794, Proportioning Packages**
- **310797, Remote Mix Manifold**




The remote manifold consists of part no. 15E725. All other parts referred to in the following procedure are parts you remove from the standard manifold and reuse or parts the installer must supply.

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Installing

⚠ WARNING



Relieve air and fluid pressure before beginning installation. See Xtreme Mix operation manual 309535.

1. Relieve the pressure.
2. Disconnect fluid supply lines from metering valve inlets (E). FIG. 1.
3. Disconnect pneumatic tubing from metering valves (H).
4. Disconnect mixed material hose from mix manifold outlet (F).
5. Disconnect ground wires.
6. Remove nuts (A), screws (B, C) and lockwashers (D).
7. Remove metering valve manifold (G).

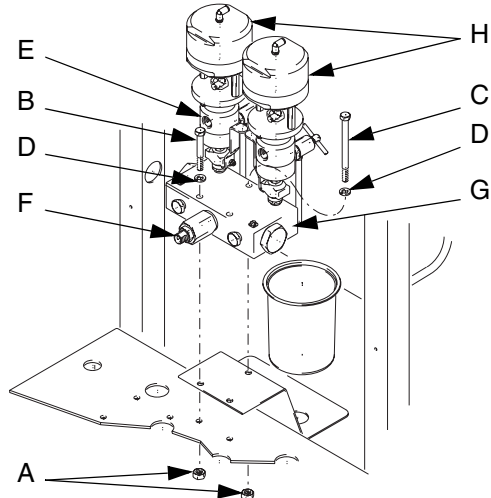


FIG. 1

8. Remove metering valves (H) and shutoff valves (J) from fluid manifold (G). FIG. 2.

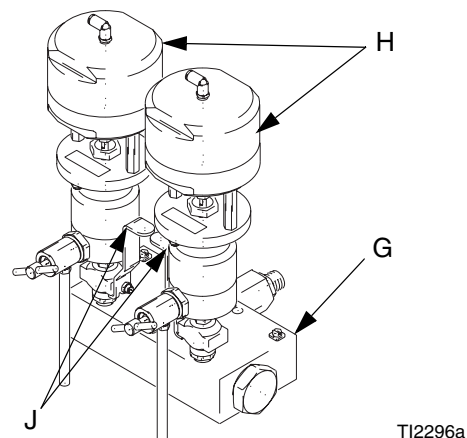
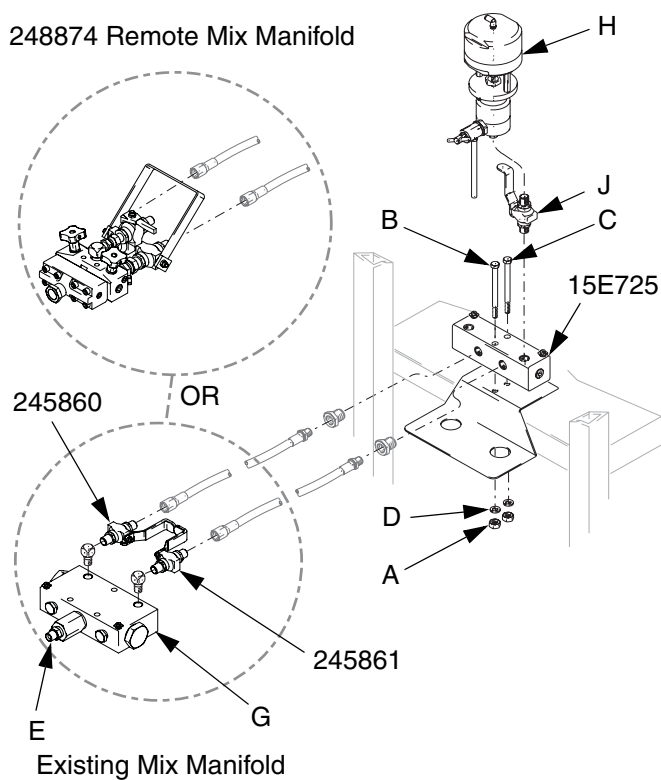


FIG. 2


248874 Remote Mix Manifold



TI5917a


FIG. 3


9. Install metering valves (H) and shutoff valves (J) onto fluid metering manifold 15E725. FIG. 3.

 Maximum length of tubing is 36" (914 mm). Locate fluid manifold as close as possible to control box for best performance.

10. Secure fluid metering manifold 15E725 on the cart with screws (B, C), washers (D) and nuts (A).

11. Screw ball valves (245860 and 245861 - purchased separately) into fluid mix manifold (G).
12. Select appropriate fittings and fluid hose sizes and lengths to connect between fluid metering manifold 15E725 and mix manifold (G).

 For full solvent flushing and restrictor balancing capabilities, use remote mix manifold 248874. See 310797.

 Balance pressure drops in the 2 lines as instructed on page 3 to assure an accurate mix ratio.

13. Reconnect fluid lines (provided by installer) between pumps and metering valves (H).
14. Reconnect or cut air line tubing to length needed to connect between metering valves (H) and solenoid outlets. FIG. 4.

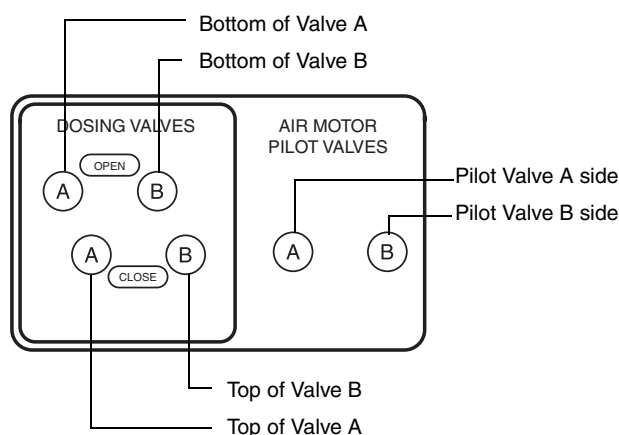



FIG. 4: Control Box - bottom (solenoid ports)

15. Connect mixed material hose to fluid mix manifold outlet (E).

 50 ft. (15.24 m) of 1/2" (13 mm) or 3/8" (9.5 mm) OD hose must be used between the manifold and fluid mixer.

16. Connect ground wires.

Using Shorter Mixed Material Whip Hoses

If you use at least 50 ft (15.2 m) of A and B hose between the Xtreme Mix and accessory remote mix manifold 248874, you may use a shorter mixed material whip hose. See manual 310797 to determine the correct restrictors required to balance the mix manifold.

Balancing Back Pressure with Hoses

Flow rates and/or viscosity differences between component materials can create different pressure drops from the proportioner to the manifold, causing unequal back pressure. This will effect mix ratio accuracy.

To calculate pressure loss:

$$\text{Pressure Loss} = \frac{0.000273 \times Q \times V \times L}{D^4}$$

Q = Flow (GPM)
 V = Viscosity in centipoise
 L = Length of pipe in feet
 D⁴ = Pipe diameter to the 4th power

Example: If you need to pump 1 gpm of high solids paint (40 seconds in a Zahn #2 cup = 100 cp) 100 ft. in a system using 1/4" pipe:

$$\text{Pressure Loss} = \frac{0.000273 \times 1 \text{ gpm} \times 100 \text{ cp} \times 100 \text{ ft.}}{(.364 \text{ ID}) .018 D^4 \text{ factor}}$$

$$\text{Pressure Loss} = 152 \text{ psi}$$

Reduce pressure loss by using:

- Large diameter pipe or tubing
- Constant tubing or pipe size
- Long runs without bends
- Long radius elbows

You can balance differences in component back pressure by adjusting hose diameter and length.

$$D^4 = \begin{array}{l} .018 \text{ for } 1/4" \text{ pipe} \\ .06 \text{ for } 3/8" \text{ pipe} \\ .15 \text{ for } 1/2" \text{ pipe} \end{array}$$

Using the previous example (.000273 x 1 x 100 x 100 = 2.73):

$$\text{Pressure drop: } \begin{array}{l} 1/4" \text{ pipe} = 152 \text{ psi} \\ 3/8" \text{ pipe} = 46 \text{ psi} \\ 1/2" \text{ pipe} = 18 \text{ psi} \end{array}$$

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Printed in USA 309568B

10/2004