

Electrically Controlled Timing Valve Upgrade Kit for Prodigy® Transfer Pump



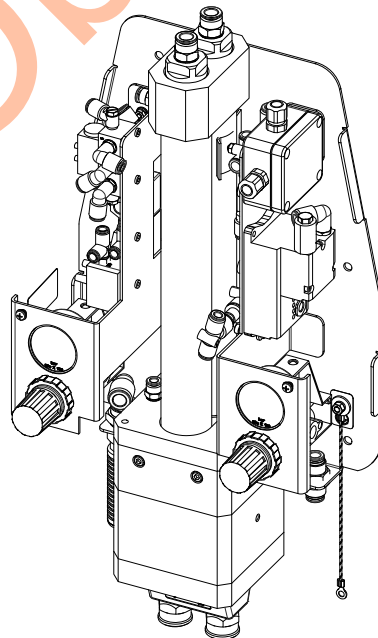
WARNING: Allow only qualified personnel to perform the following tasks. Follow the safety instructions in this document and all other related documentation.

The Electrically Controlled Timing Valve Upgrade Kit for Prodigy® Transfer Pump replaces the pneumatic timing valve for better control, enhanced reliability, and longer life. Use this instruction sheet to install the upgrade kit.

Two options of the kit are available: one with a turbine generator and one without.

- Kit with turbine generator – The turbine generator uses compressed air to generate 24 Vdc for the electrically controlled timing valve. Therefore, when the air is turned on, the pump turns on. When air is turned off, the pump turns off.
- Kit without turbine generator – The electrically controlled timing valve must be powered by an external source. The pump turns on when 24 Vdc turns on, and the pump turns off when 24 Vdc is turned off. Air must still be supplied to the pump, but the air does not trigger the pump on/off.

NOTE: For kits without turbine generator, an optional cable is available to wire out to external power supply. Cable must be ordered separately.



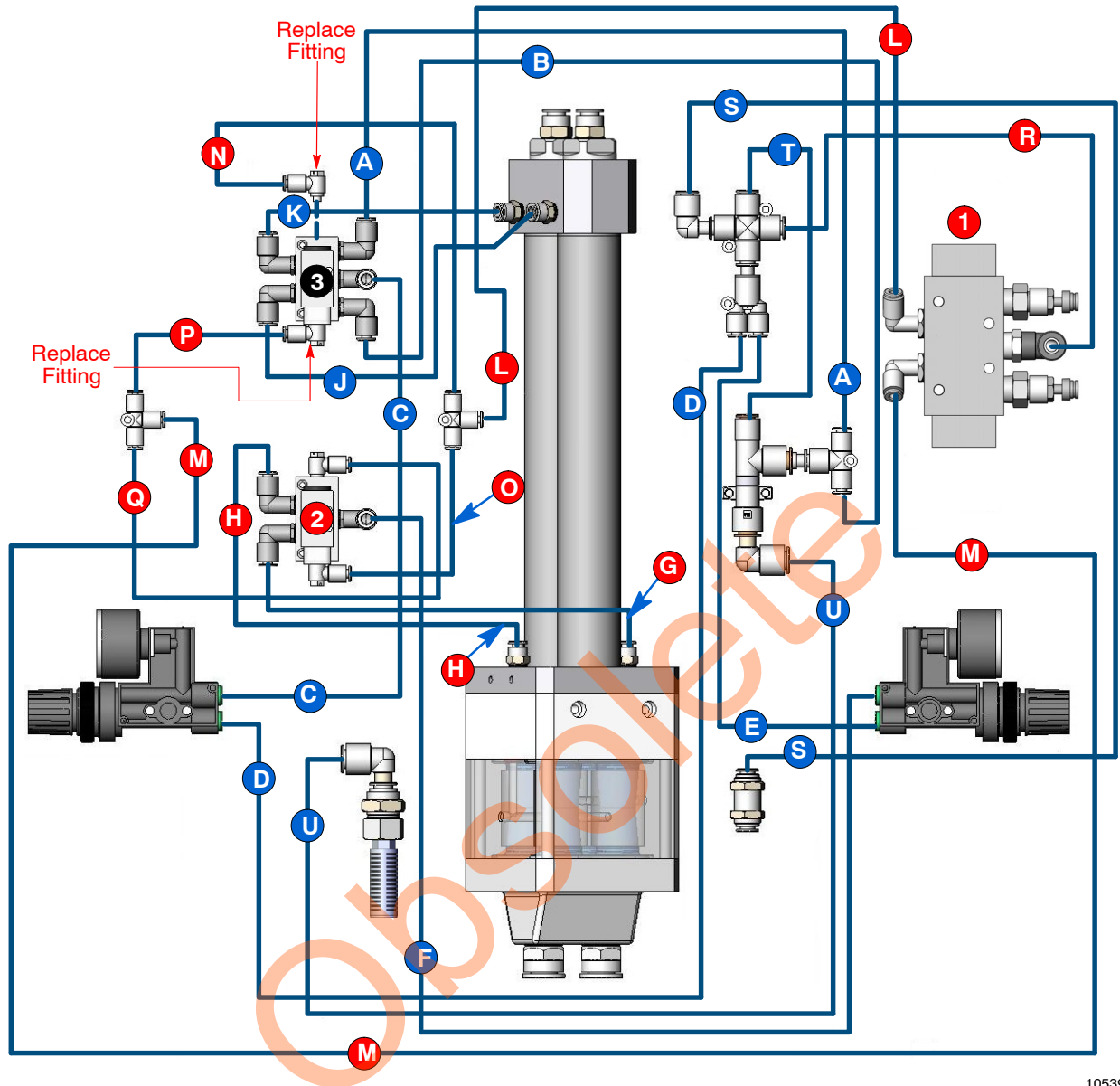
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Figure 1 Prodigy Transfer Pump with Upgrade Kit (shown with turbine generator)

Installation

1. Turn off the air supply and remove the transfer pump cover.
2. See Figure 2. Remove the following pieces of tubing and discard: G, H, L, M, N, O, P, Q, and R.
3. Remove the two 4-mm tube fittings from valve 3, and replace with 6-mm tube fittings. Do not over-tighten fittings.
4. Remove tubing F from valve 2. Do not discard tubing; the other end of tubing F will remain connected to regulator.
5. Remove valves 1 and 2. Discard valve 1. Valve 2 can be kept as a future spare for valve 3.

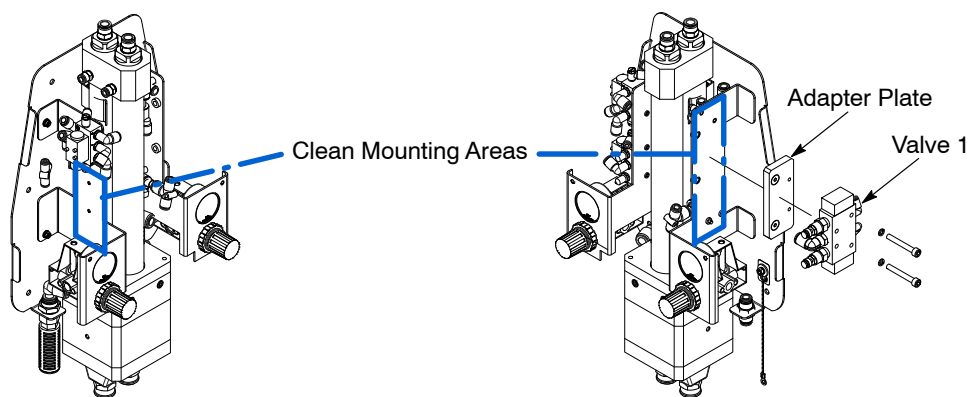
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Figure 2 Transfer Pump Tube Routing

6. Remove and discard valve 1 adapter plate, as shown in Figure 3.
7. Prepare mounting areas by cleaning with isopropyl alcohol.



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Figure 3 Removing Valve 1 Adapter Plate

8. See Figure 4. Remove the release paper from the double-sided tape on the back of the junction box. Align the top of the junction box to be flush with the top of the mounting bracket on the right side of the transfer pump. Carefully place and press the junction box to mount to the bracket.
9. **For kits with turbine generator complete the following:**
 - a. See Figure 4. Remove the release paper from the double-sided tape on the back of the turbine generator. Carefully place and press the generator in the shown mounting location on the right side of the transfer pump.
 - b. See Figure 5. With the kit, the junction box M8 connector cable comes connected to the generator. Disconnect the M8 connector from the generator in order to properly route the cable through space in bracket as shown in Figure 5. Once the cable is properly routed, reconnect the M8 cable connector to the generator.

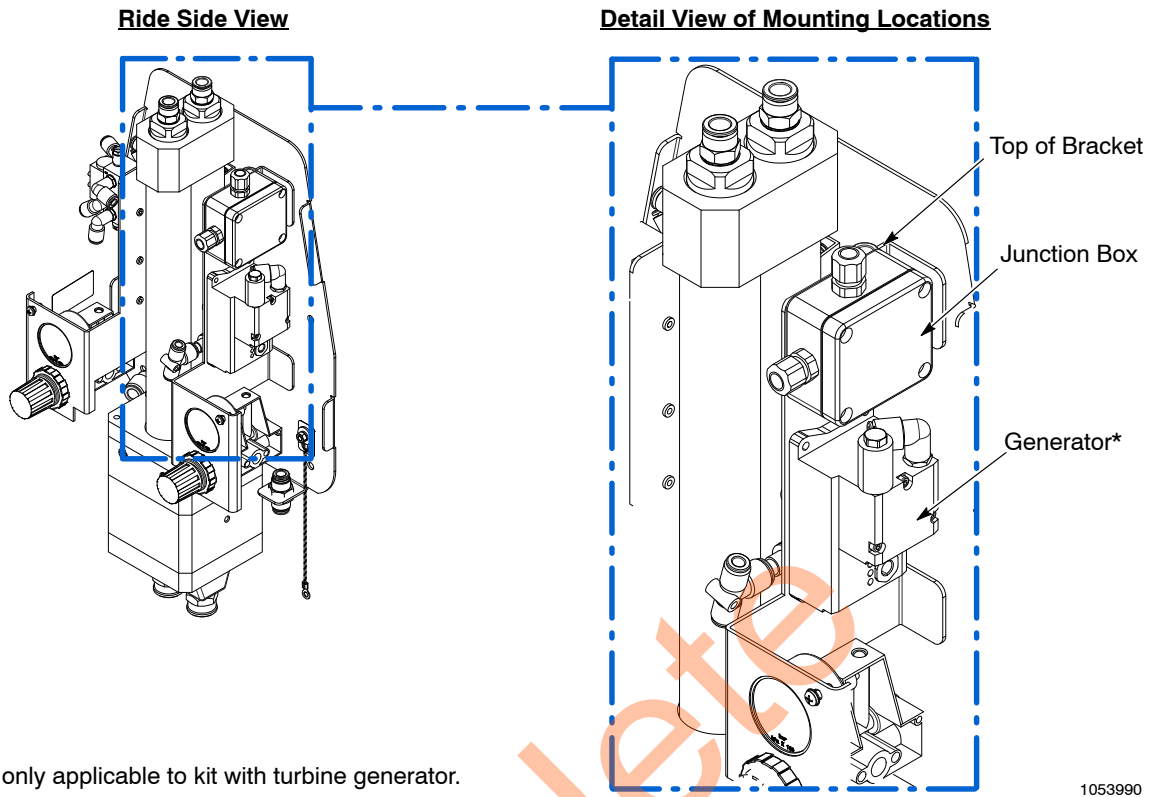


Figure 4 Mounting Junction Box and Generator

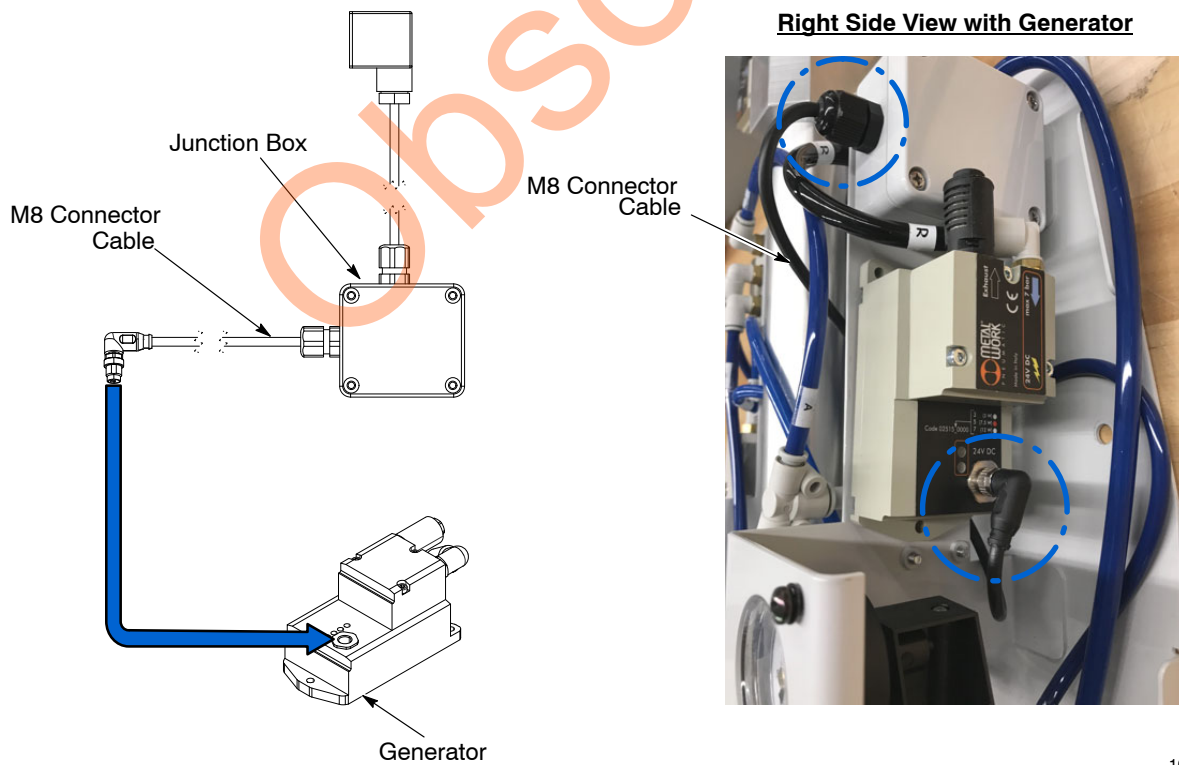
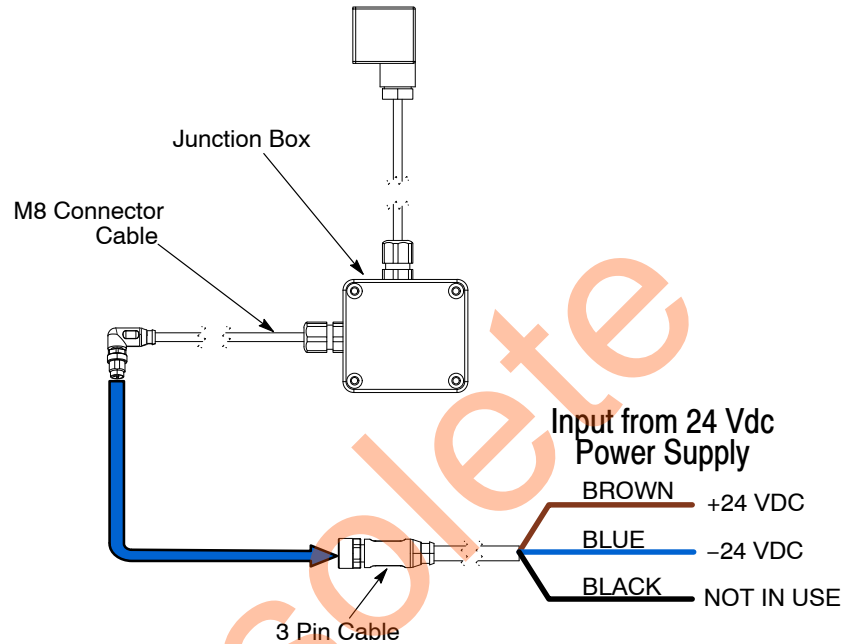


Figure 5 Junction Box M8 Connector to Generator

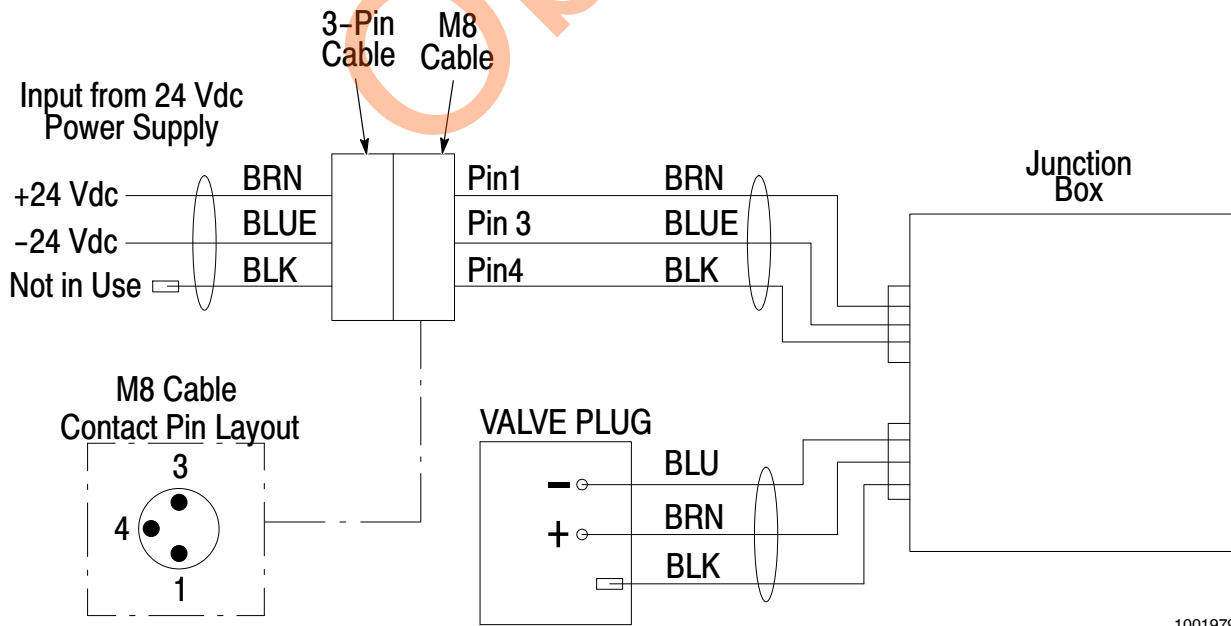
10. For kits without turbine generator complete the following steps:

- See Figure 6. Wire the 3-pin cable (ordered separately) to customer provided 24 Vdc power supply. For additional wiring reference, see Figure 7.
- See Figures 6. From the junction box, connect the cable with the M8 connector into the 3-pin cable (ordered separately). Make sure to align pins carefully.



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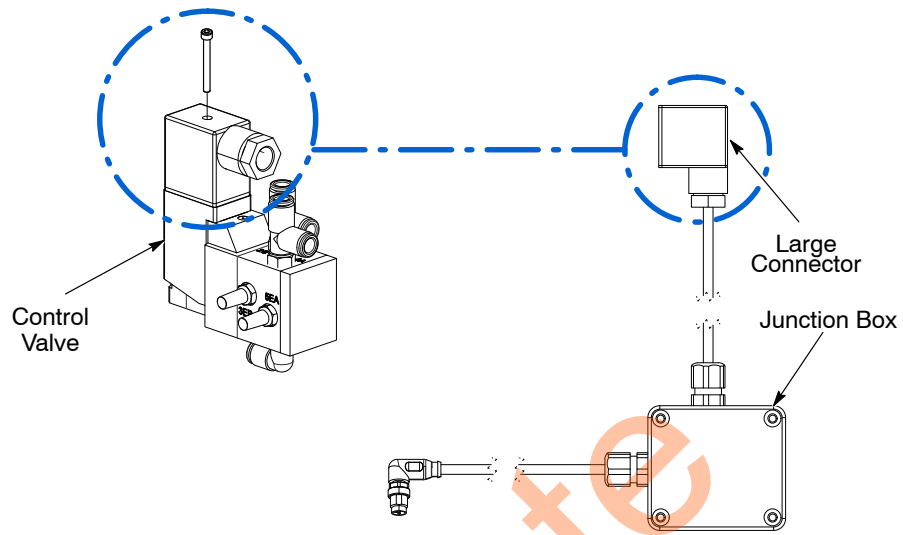
Figure 6 Junction Box M8 Connector to 3-Pin Cable to External Power Supply



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Figure 7 3-Pin Cable to 24 Vdc Power Supply Wiring Diagram for Kits without Turbine Generator

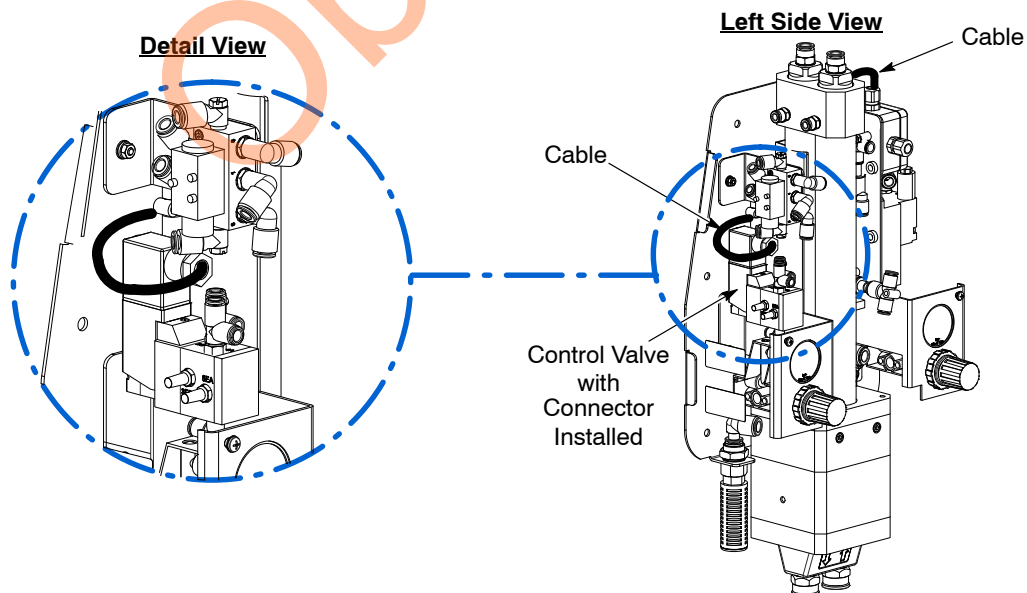
11. See Figure 8. With the kit, the junction box large connector comes connected to the control valve. Unscrew and disconnect the large connector from the control valve in order to properly route cable in next steps.



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Figure 8 Connect Junction Box Connector to Control Valve

12. See Figure 9. Remove the release paper from the double-sided tape on the back of the control valve. Carefully place and press the control valve in the designated location on the left side of the transfer pump.
13. From the junction box, route the large connector through opening in left bracket and shown in Figure 9.
14. See Figure 8. Reconnect the large connector to the control valve and secure with screw.



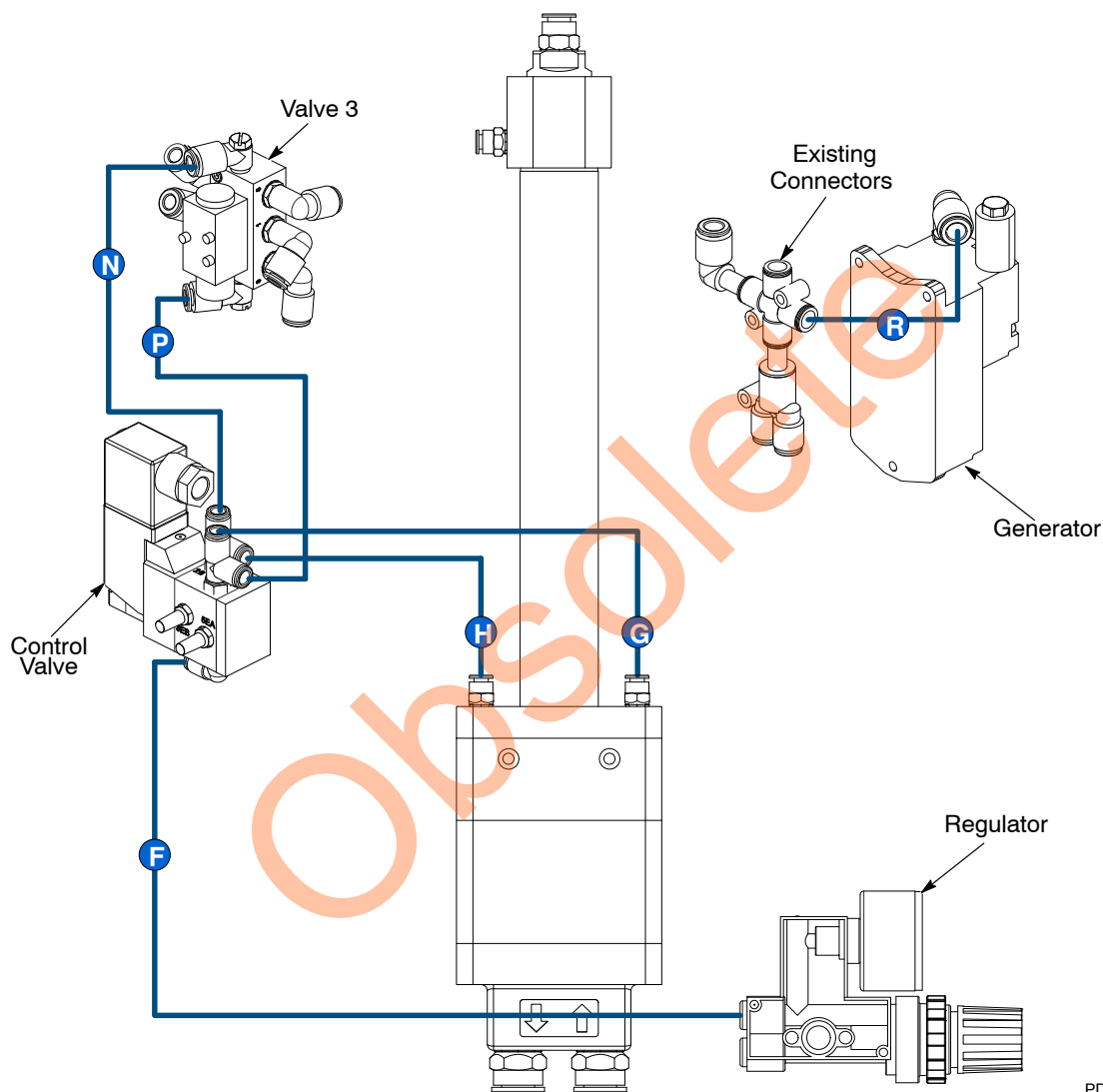
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Figure 9 Installing Control Valve and Routing Connector Cable

15. See Figure 10 and 11. Install new tubing lengths: G, H, N, P, and R (R connection is only required for kits with turbine generator). Connect tubing F from regulator to control valve.

16. **For kits without turbine generator:** Use the supplied 8-mm tube plug to plug into the existing connector in place of R.

17. Reinstall the transfer pump cover. The pump is now ready to put back in operation.



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Figure 10 Tubing Routings to New Components

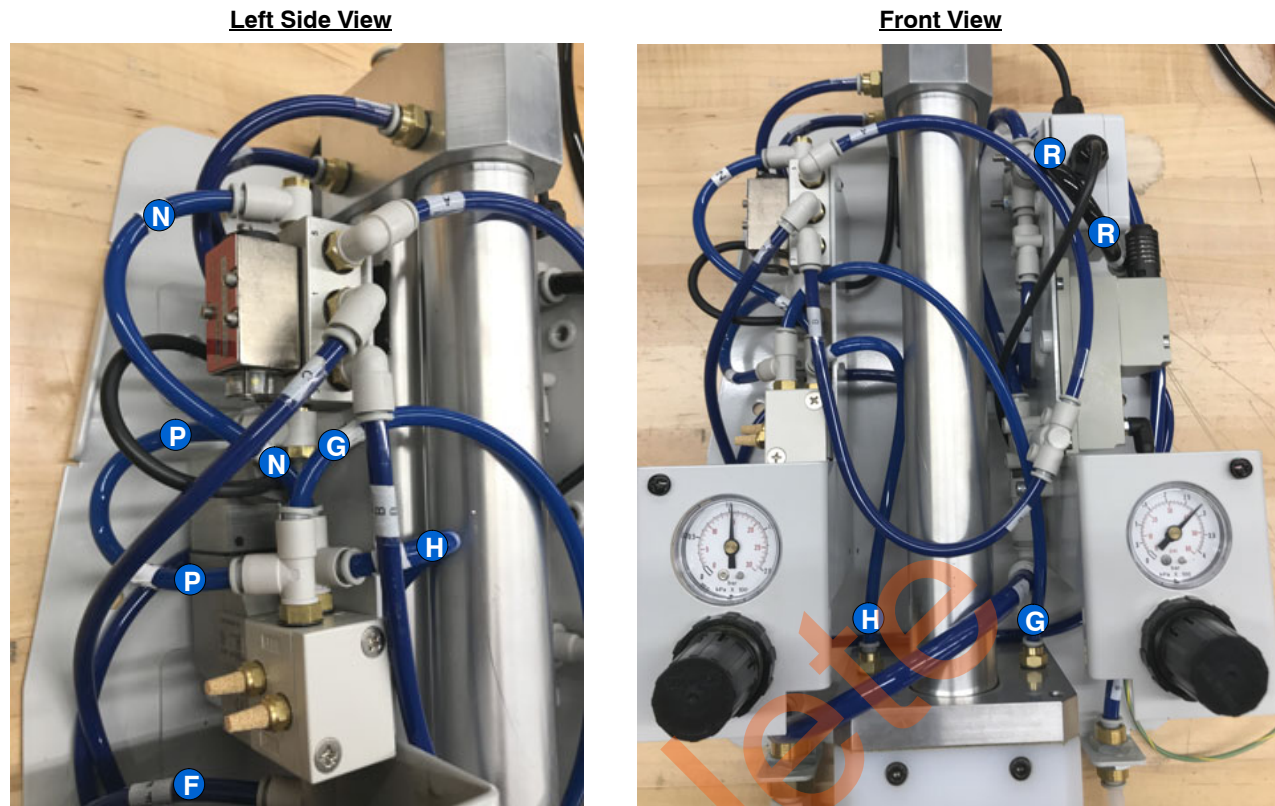


Figure 11 Pictures of Tube Routings

Parts

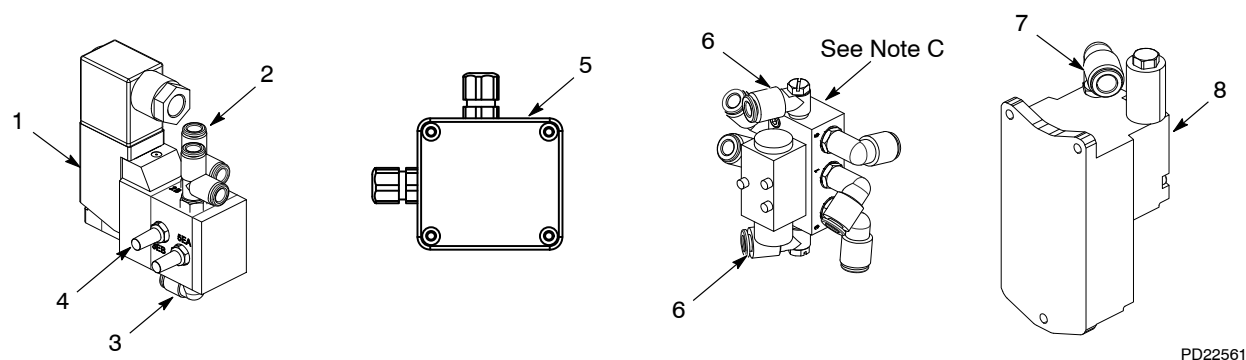


Figure 12 Prodigy Transfer Pump Upgrade Kit

Item	Part	Part	Description	Quantity	Note
—	1619498	—	KIT, HDLV, electric control, Prodigy, packaged	1	
—	—	1619748	KIT, HDLV, electric control, no generator, Prodigy, packaged	1	
1	1620576	1620576	• KIT, valve, 5 port, 2 position, NPTF, Prodigy	1	A
2	972840	972840	• CONNECTOR, male, run tee, 6 mm T x 1/8 UNI	2	
3	972126	972126	• CONNECTOR, male, elbow, 6 mm T x 1/8 UNI	1	
4	-----	-----	• MUFFLER, M5	2	
5	-----	-----	• BOX, grey, 2.52 x 2.28, Prodigy	1	B
6	972310	972310	• CONNECTOR, male, universal elbow, 6 mm T x M5	2	
7	1603927	—	• CONNECTOR, male, elbow, 8 mm x 1/8 RPT	1	
8	1620577	—	• KIT, generator, 12 Vdc, 7.5 W, Prodigy	1	
NS	-----	-----	• KIT, HDLV, electric control, tubing	1	
NS	—	972930	• PLUG, pushin, 8mm T, plastic	1	

NOTE A: If ordered separately, control valve comes with top connector attached. When ordered with electric control upgrade kit, the top connector is also connected to cable to junction box (item 5).

B: Comes with cables and connectors installed when ordered with electric control upgrade kit.

C: Shown for reference only. This valve is not included with the electric control upgrade kit.

NS: Not Shown

Optional Cable

Optional cable for use with kit without turbine generator (Kit 1619748).

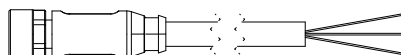


Figure 13 Optional Cable

Part	Description	Note
1619798	CABLE, M8, 3-pin to wire, 3M	

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