Gas Console Manifold Replacement

HPRXD Systems

Field service bulletin

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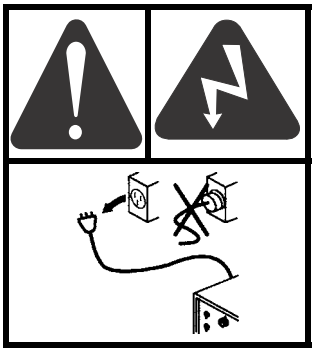


WARNING
ELECTRIC SHOCK CAN KILL

Disconnect electrical power before performing any maintenance.
All work requiring removal of the power supply cover must be performed by a qualified technician.
See the Safety Section of the system's Manual for more safety precautions.

Introduction

Purpose

This document describes the steps necessary to replace the gas manifold in an HPRXD manual gas console or the two manifolds in the HPRXD auto gas console.

Tools required

Torx driver - T20
Phillips head screwdriver - number 2

228946 (Auto gas console) – Kit Contents

Part number	Description	Quantity
229524	Manifold subassembly: HPRXD auto gas inlet	1
229525	Manifold subassembly: HPRXD auto gas outlet	1

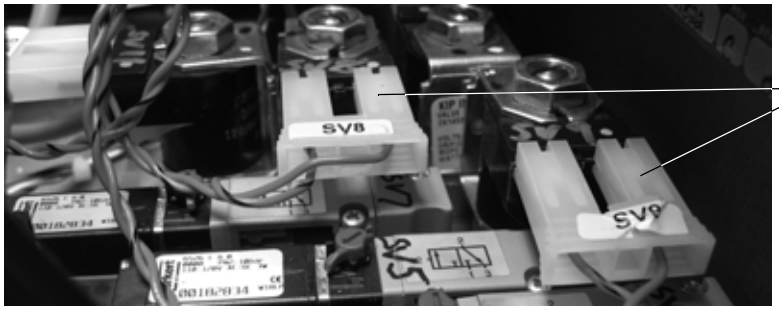
228947 (Manual gas console) – Kit Contents

Part number	Description	Quantity
229526	Manifold subassembly: HPRXD manual gas inlet	1

Manual gas console (078532)

Remove the old manifold

1. Turn OFF all power to the system.
2. Turn off all supply gases and disconnect the supply gas hoses from the console.
3. Remove the cover from the gas console.
4. Remove the connectors from the nine solenoid valves (SV2, SV3, SV4, SV6, SV8, SV9, SV10, SV11, and SV12). They can be very difficult to remove, but do not use pliers or other tools that can pinch or damage the wires.



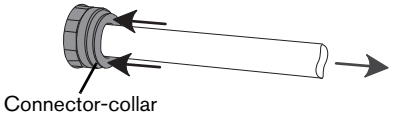
Two of the nine SV connectors

5. Disconnect the four hoses (blue, red, green, and black) on the open (right side) side of the enclosure.

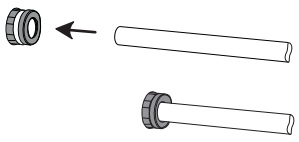
Blue Red Green Black

Note: The hose connections use push-to-connect fittings.

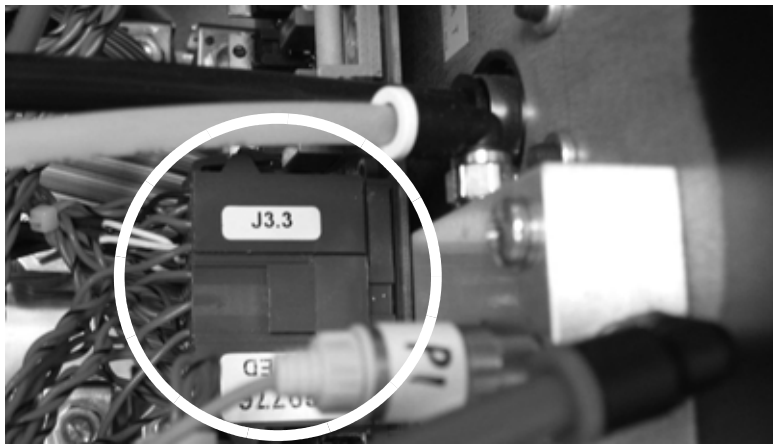
To disconnect a hose, push the connector-collar toward the fitting, and pull the hose away from the fitting.



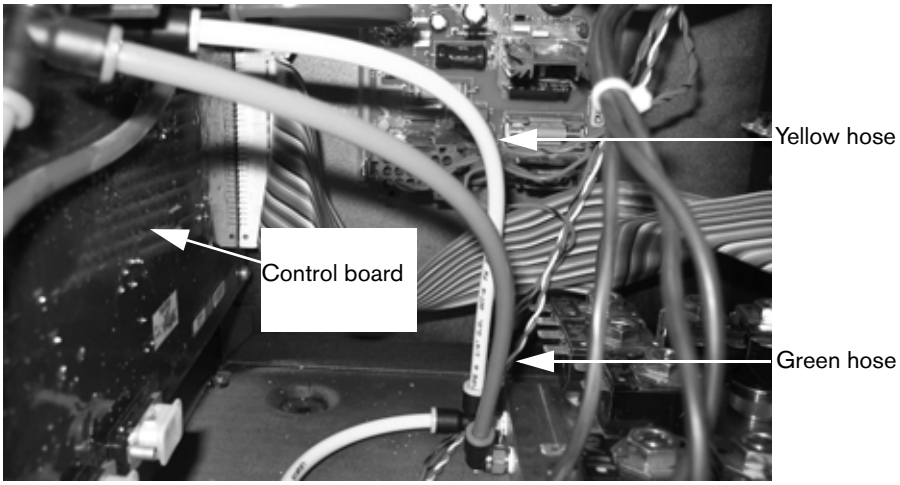
To make a connection, push the hose into the appropriate connector until it stops, about 12 mm (0.472 in).



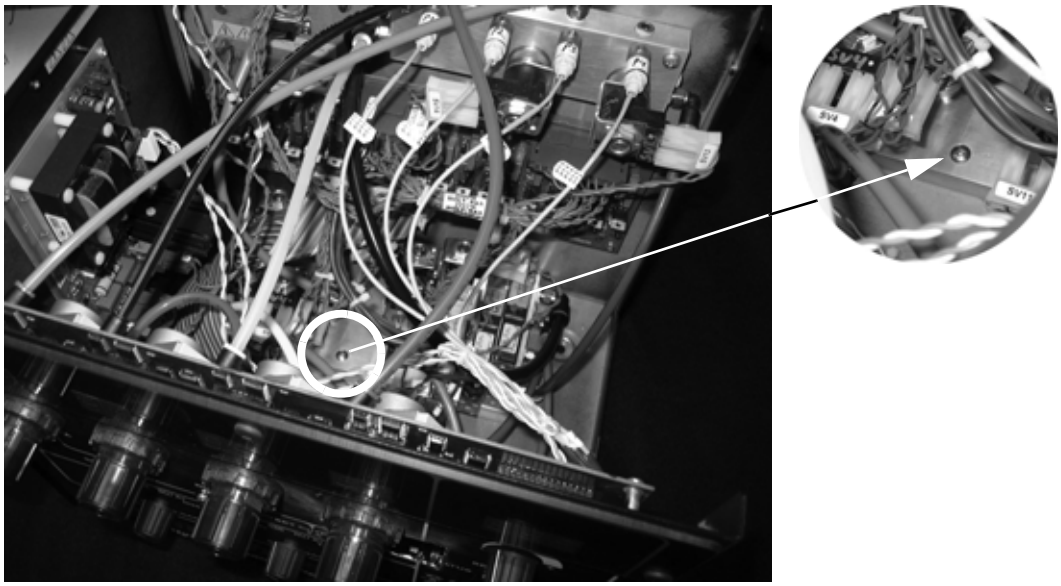
6. Disconnect the valve power connector J3.3 and the communication cable connector.



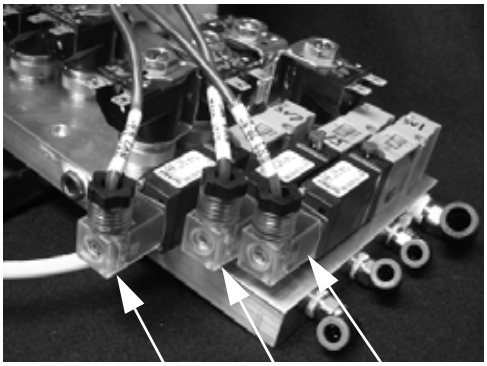
7. The two hoses (yellow and green) that attach to the control board from the manifold should be disconnected at the manifold.



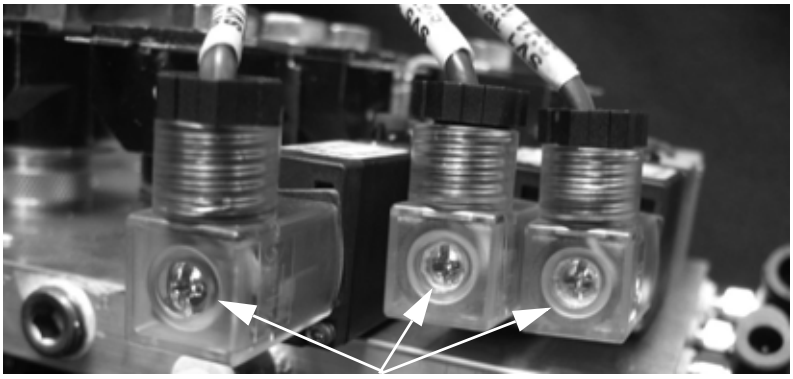
8. Remove the phillips head screw that secures the manifold to the base of the enclosure.



9. Carefully pull the manifold out the side of the enclosure to access valves SV1, SV5, and SV7. Remove the connectors by loosening the phillips head screw and pulling off the connector.

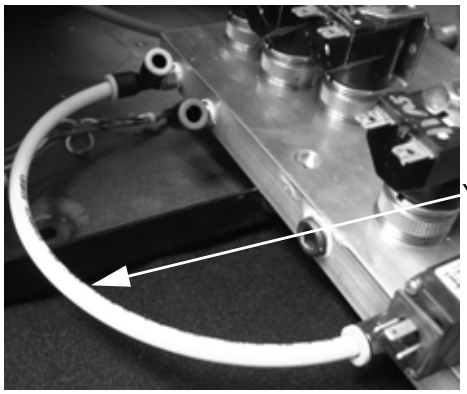


SV7 SV5 SV1



Phillips head screws (3)

10. Remove the yellow hose loop from the old manifold and install it onto the new manifold. The old manifold can be discarded.



Install the new manifold

NOTES:

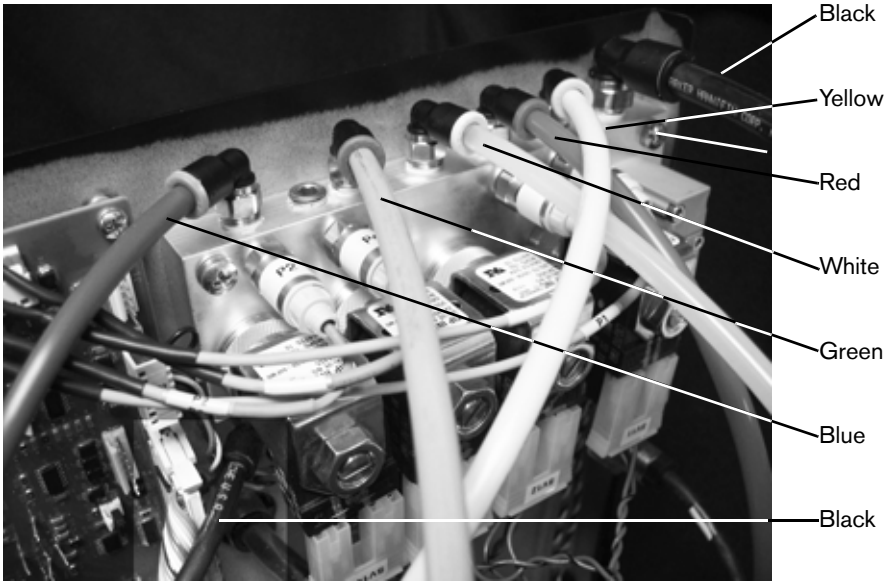
- Always make sure the number on the valve matches the number on the connector
- Refer to the pictures shown during the removal process when installing the new manifold

1. Attach the connectors to valves SV1, SV5, and SV7 and tighten the phillips head screw to 0.7 Nm (6 in-lbs).
2. Attach the connectors to valves SV2, SV3, SV4, SV6, SV8, SV9, SV10, SV11, and SV12.
3. Attach the yellow hose and then the green hose to the front of the manifold.
4. Slide the manifold back into place and secure it to the base of the enclosure with the phillips head screw that was removed previously.
5. Reconnect the communication cable and the valve power connector.
6. Reconnect the hoses (red, green, black, and blue). Make sure the hoses are fully seated into the valve connection. There is a mark on the hoses that indicates when the hose is fully inserted, but it may not still be visible in the field. The tubing is fully seated when the mark is no longer visible.
7. Reconnect the supply gas hoses and turn on the supply gases.
8. Run the gas leak tests for the system. See your HPRXD instruction manual for details.

Auto gas console (078533)

Remove the old upper manifold

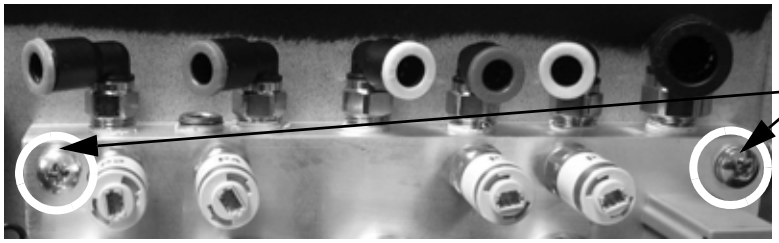
1. Turn OFF all power to the system.
2. Turn off all supply gases and disconnect the supply gas hoses from the console.
3. Remove the cover from the gas console.
4. Disconnect the gas hoses (7).



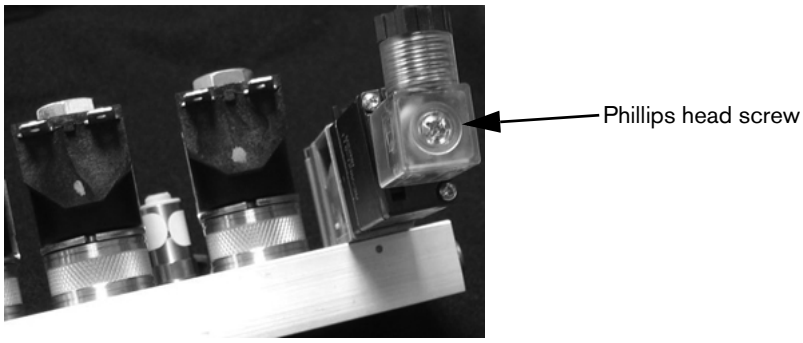
5. Disconnect the wire harness from the pressure transducers P1, P2, P3, and P4 by turning the connector ring a 1/4 turn counter-clockwise.

6. Remove the connectors (4) from the valves.

7. Remove the 2 phillips head screws that secure the manifold to the rear panel and pull the manifold out of the enclosure.



8. Loosen the phillips head screw that secures the connector to valve SV10 and remove the connector.



Install the new upper manifold

NOTE: refer to the pictures shown during the removal process when installing the new manifold

1. Attach the connector to the valve marked SV10 first.
2. Mount the manifold onto the rear wall of the enclosure. The mounting screws should be tightened to 3.3 Nm (29 in-lbs).

   NOTE: Make sure the yellow, black, and red wires are not trapped under the manifold when it is installed

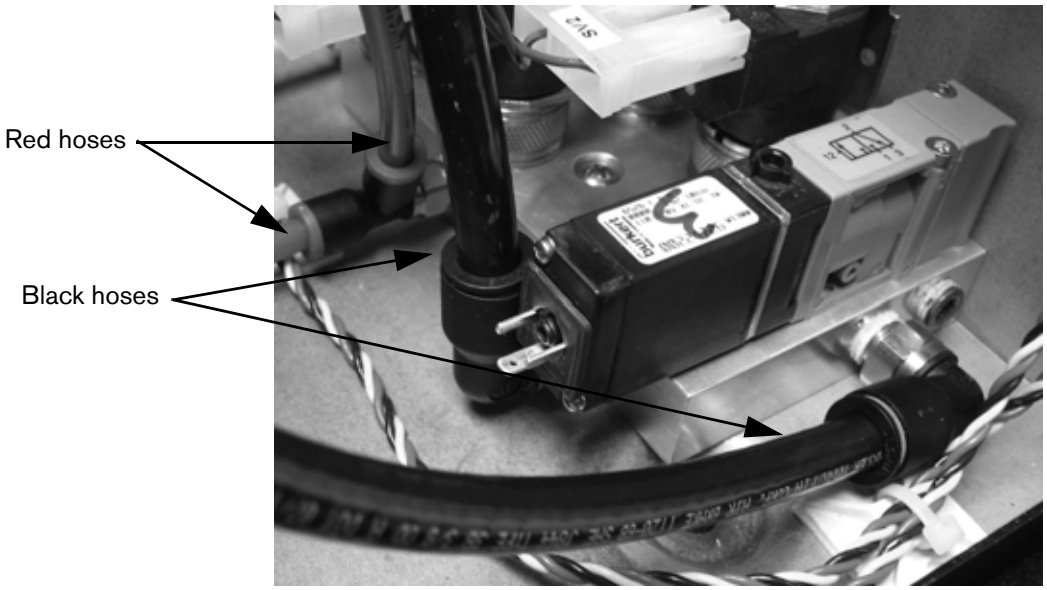
3. Reconnect the gas hoses (7).
4. Attach the black 1/4 inch hose (the short one) to the manifold.
5. Install the connectors to the solenoid valves, SV11, SV12, SV13, and SV14.

   NOTE: Make sure the yellow, black, and red wires are not trapped under the manifold when it is installed.

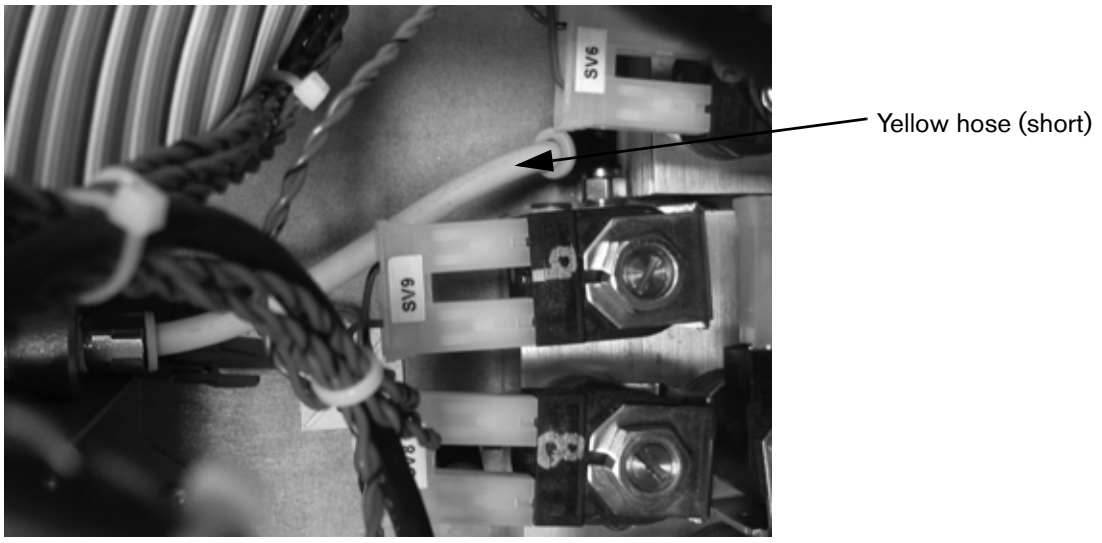
6. Attach the connectors to the pressure transducers, P1, P2, P3, and P4.

Remove the old lower manifold

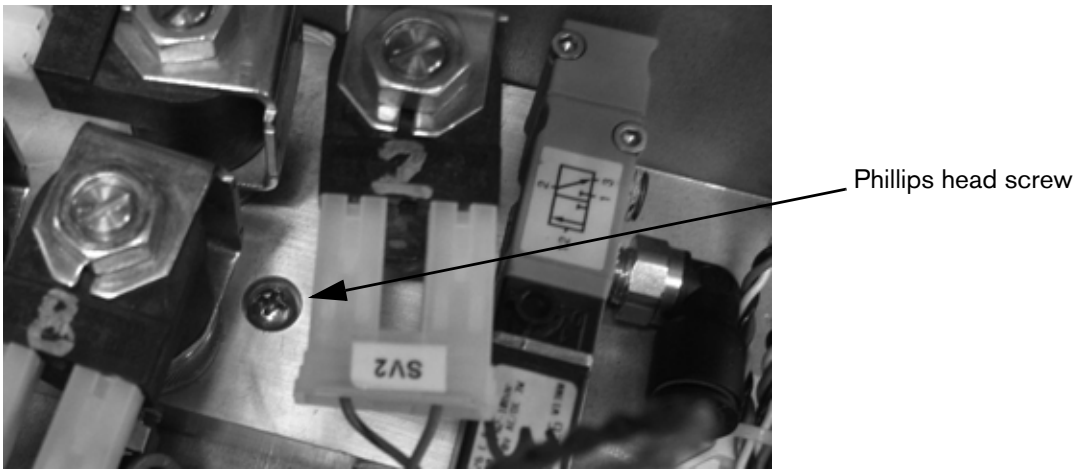
1. Disconnect the red and black gas hoses from the manifold.



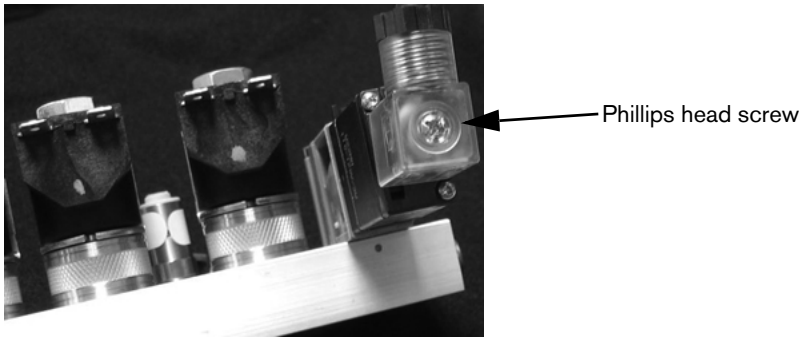
2. Disconnect the short yellow hose from the non-manifold side, leaving it connected to the manifold.



3. Remove the phillips head screw that secures the manifold to the bottom of the enclosure and slide the manifold out far enough to access the screw that secures valve SV3.



4. Loosen the phillips head screw that secures the connector to valve SV10 and remove the connector. Discard the old manifold.



Install the new lower manifold

NOTE: refer to the pictures shown during the removal process when installing the new manifold

1. Place the manifold about half way into the enclosure. Route the yellow hose between valve 4 and valve 5, and the red hose between valve SV2 and SV8.
2. Attach the connectors to valves SV1, SV2, SV8, and SV9
3. Attach the connector to valve SV3.
4. Connect the hoses to the manifold in the following order; the shorter yellow hose, the red hose, and the shorter black hose.
5. Reconnect the supply gas hoses and turn on the supply gases.
6. Run the gas leak tests for the system. See your HPRXD instruction manual for details.