

Coolant Loop Solenoid Valve Replacement

HPR™, HPRXD™, HSD® Power Supplies

Field Service Bulletin

807670 – Revision 1 – November 2013

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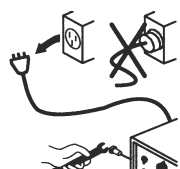
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Printed in USA

		DANGER ELECTRIC SHOCK CAN KILL
<div style="display: flex; align-items: center;">  <div> <p>Disconnect electrical power before performing any maintenance.</p> <p>All work requiring removal of the power supply cover must be performed by a qualified technician.</p> <p>See the <i>Safety</i> section of the system's manual for more safety precautions.</p> </div> </div>		

Introduction

Purpose

This Field Service Bulletin contains procedures for the following HPR™, HPRXD™, and HSD® power supplies or coolers explaining how to replace and correctly position the coolant loop solenoid valve in each:


- HPR130XD / HPR130
- HPR260XD
- HPR260
- HPR400XD
- HSD130

Kit contents

Part number	Description	Quantity
229229	Coolant loop solenoid valve	1

Required tools and materials

- For HPR/HPRXD models:
 - Wrenches in the following sizes: 7/8 inch (for HPR260 only), 11/16 inch (2), 1-1/16 inch
 - T20 Torx® screwdriver
 - Loctite® 571 (or equivalent) thread sealant
- For the HSD130:
 - Wrenches in the following sizes: 13/16 inch, 1-1/16 inch
 - Number 2 Phillips head screwdriver
 - Loctite 571 (or equivalent) thread sealant

	CAUTION Always use two wrenches to properly loosen and tighten the valve and hose fittings mentioned in these procedures.
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	CAUTION Never use PTFE tape on any joint preparation.
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Why proper orientation of the coolant loop solenoid valve is important

The coolant loop solenoid valve in HPR, HPRXD, and HSD power supplies and coolers must be oriented correctly when installed in order to properly control the flow of coolant to the torch. The green arrow painted on the valve will point to the rear wall of the power supply or cooler when the valve is installed correctly. Follow the procedures in this document to ensure that you connect the valve properly within the power supply or cooler. Figure 1 highlights the directional arrow painted on the valve:



Figure 1: Coolant loop solenoid valve – part number 229229

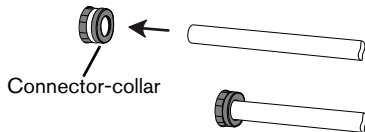
When the valve is installed incorrectly, the power supply may still appear to function normally. However, the improper orientation of the valve causes the coolant to be pulled through the coolant supply hose as if in a vacuum, rather than the flow of the coolant being properly regulated and capped. As a result, a build-up of coolant forms in the hose and pours out when the torch is disconnected from the lead assembly or when the electrode is removed.

Coolant loop solenoid valve removal and replacement

Before you begin

The black tube connectors mentioned in the following procedures are push-to-connect fittings.

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



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



HPR130XD, HPR130 power supplies

1. Turn OFF the power to the power supply.
2. Remove the right-side panel from the power supply.
3. Drain all coolant into a clean five-gallon (20 liter) container in case the coolant can be reused.
- Note:** For details on how to drain the coolant, refer to the procedure in the *HPR130XD Instruction Manual*.
4. Disconnect the black tubes from the elbow fitting and check valve.
5. Disconnect the blue coolant-out and coolant-in hoses from the fittings on the manifold using two 11/16 inch wrenches.
6. Disconnect the J5 wire connector (to the left of the coolant loop solenoid valve).
7. Remove the manifold from the center panel of the power supply using a T20 Torx screwdriver.
8. Remove the elbow fitting from the coolant loop solenoid valve. Use an 11/16 inch wrench for the fitting and a 1-1/16 inch wrench for the valve.
9. Remove the coolant loop solenoid valve from the reducer fitting. This disconnects the valve from the manifold. Use an 11/16 inch wrench for the fitting and a 1-1/16 inch wrench for the valve.
10. Install the new coolant loop solenoid valve by following this procedure in reverse order.

IMPORTANT: When installing the new coolant loop solenoid valve, be careful to:

- Orient the valve correctly; the green arrow painted on the valve should point towards the rear wall of the power supply, as shown in Figure 2 below.
- Apply Loctite 571 (or equivalent) thread sealant before reconnecting the fittings.
- Check the coolant you drained from the system. If you see any debris or dark coloration in the coolant, do not reuse it. Instead, refill the tank with new, clean coolant (028872).

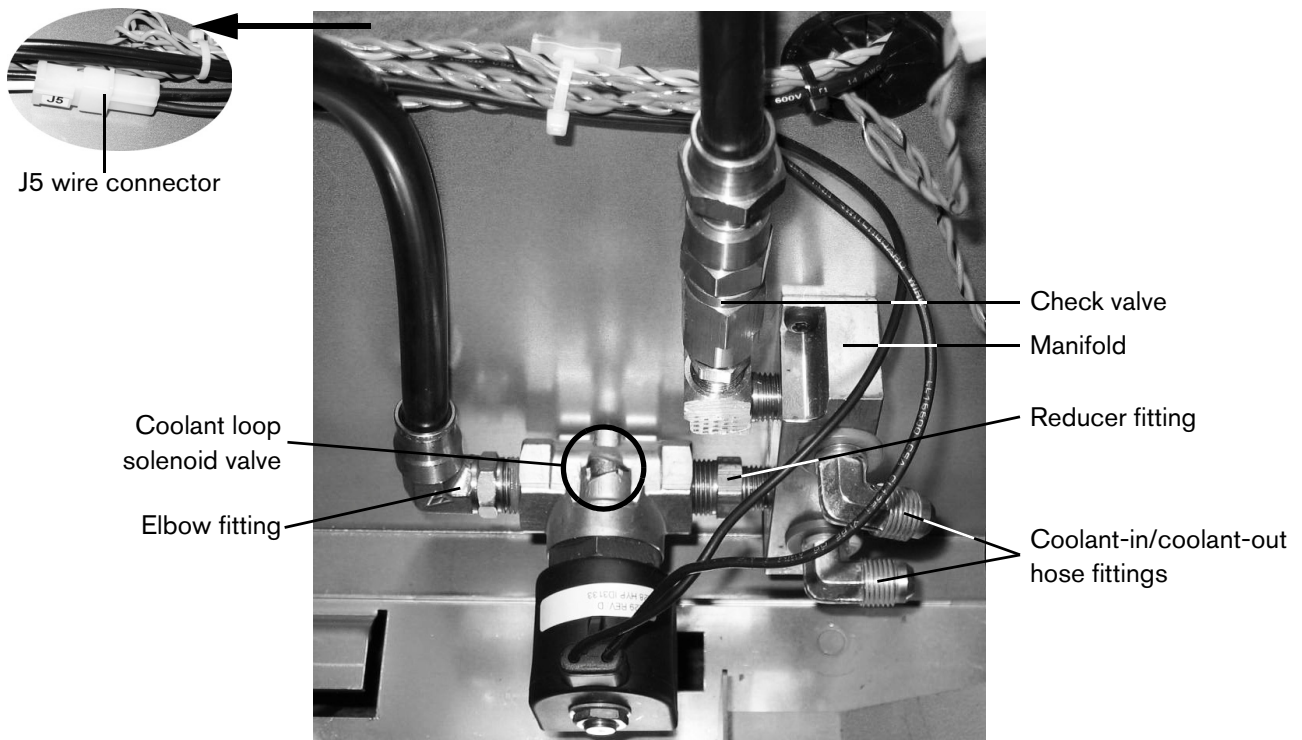


Figure 2: Coolant loop solenoid valve correctly positioned within the HPR130XD power supply

HPR260XD power supply

1. Turn OFF the power to the power supply.
2. Remove the right-side panel from the power supply.
3. Drain all coolant into a clean five-gallon (20 liter) container in case the coolant can be reused.
Note: For details on how to drain the coolant, refer to the procedure in the *HPR260XD Instruction Manual*.
4. Disconnect the black tubes from the elbow fitting, bypass valve, and check valve.
5. Disconnect the blue coolant-out and coolant-in hoses from the fittings on the manifold using two 11/16 inch wrenches.
6. Disconnect the J5 wire connector.
7. Remove the manifold from the center panel of the power supply using a T20 Torx screwdriver.
8. Remove the "T" fitting from the coolant loop solenoid valve. Use an 11/16 inch wrench for the fitting and a 1-1/16 inch wrench for the valve. You can leave the bypass valve and elbow fitting attached to the "T" fitting.
9. Remove the coolant loop solenoid valve from the reducer fitting. This disconnects the valve from the manifold. Use an 11/16 inch wrench for the fitting and a 1-1/16 inch wrench for the valve.
10. Install the new coolant loop solenoid valve by following this procedure in reverse order.

IMPORTANT: When installing the new coolant loop solenoid valve, be careful to:

- Orient the valve correctly; the green arrow painted on the valve should point towards the rear wall of the power supply, as shown in Figure 3 below.
- Apply Loctite 571 (or equivalent) thread sealant before reconnecting the fittings.
- Check the coolant you drained from the system. If you see any debris or dark coloration in the coolant, do not reuse it. Instead, refill the tank with new, clean coolant (028872).

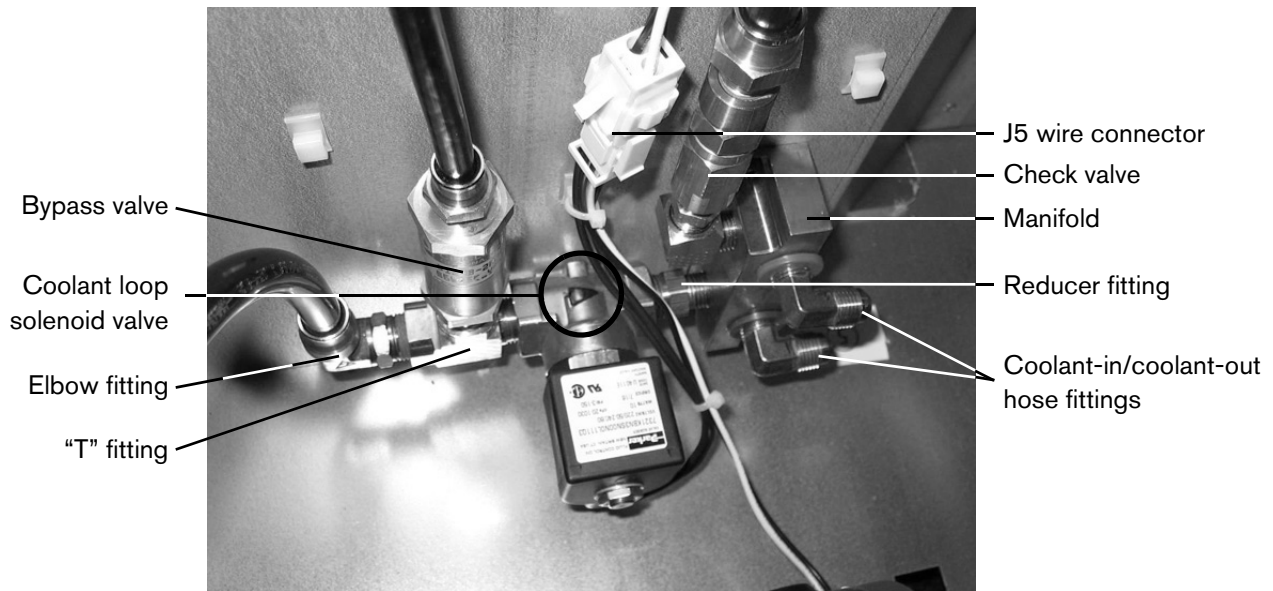


Figure 3: Coolant loop solenoid valve correctly positioned within the HPR260XD power supply

HPR260 power supply

1. Turn OFF the power to the power supply.
2. Remove the right-side panel from the power supply.
3. Drain all coolant into a clean five-gallon (20 liter) container in case the coolant can be reused.
Note: For details on how to drain the coolant, refer to the procedure in the *HPR260 Instruction Manual*.
4. Disconnect the black tubes from the elbow fitting, bypass valve, and check valve.
5. Disconnect the blue coolant-out and coolant-in hoses from the fittings on the right manifold using two 11/16 inch wrenches.
6. Disconnect the J5 wire connector and the transducer wire connector.
7. Remove the right manifold from the center panel of the power supply using a T20 Torx screwdriver.
8. Remove the transducer from the left manifold using a 1-1/16 inch wrench.
9. Remove the left manifold from the coolant loop solenoid valve. Use a 7/8 inch wrench for the manifold and a 1-1/16 inch wrench for the valve. You can leave the bypass valve and elbow fitting attached to the manifold.
10. Remove the coolant loop solenoid valve from the reducer fitting. This disconnects the valve from the right manifold. Use an 11/16 inch wrench for the fitting and a 1-1/16 inch wrench for the valve.
11. Install the new coolant loop solenoid valve by following this procedure in reverse order.

IMPORTANT: When installing the new coolant loop solenoid valve, be careful to:

- Orient the valve correctly; the green arrow painted on the valve should point towards the rear wall of the power supply. See Figure 4 below for reference.
- Apply Loctite 571 (or equivalent) thread sealant before reconnecting the fittings.
- Check the coolant you drained from the system. If you see any debris or dark coloration in the coolant, do not reuse it. Instead, refill the tank with new, clean coolant (028872).

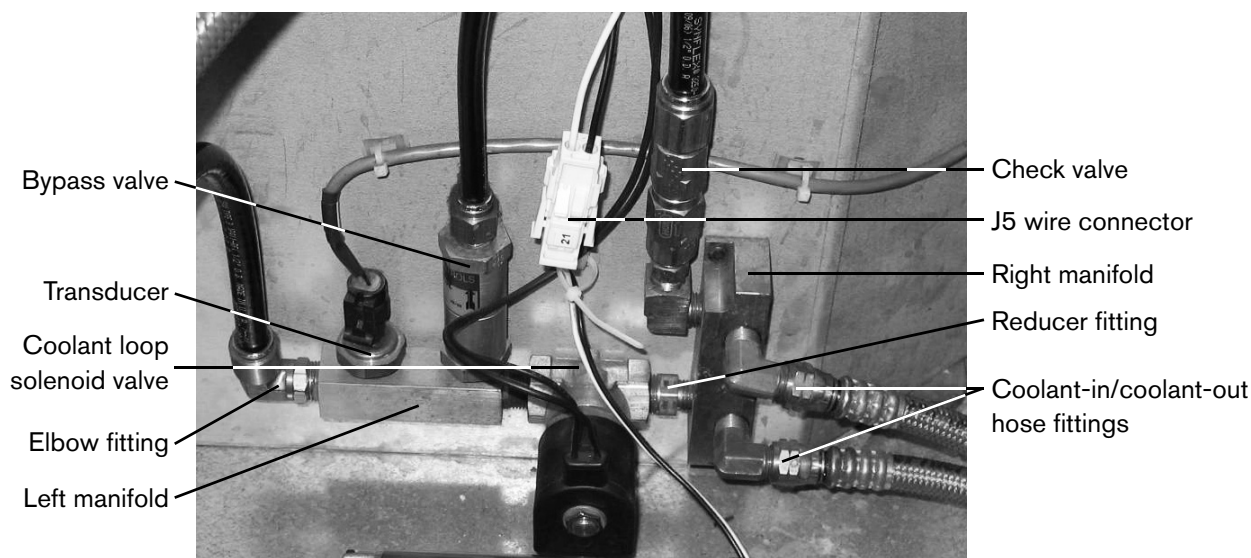


Figure 4: Coolant loop solenoid valve correctly positioned within the HPR260 power supply

HPR400XD cooler

1. Turn OFF the power to the power supply.
2. Remove the left-side panel from the cooler.
3. Drain all coolant into a clean five-gallon (20 liter) container in case the coolant can be reused.
Note: For details on how to drain the coolant, refer to the procedure in the *HPR400XD Instruction Manual*.
4. Disconnect the black tubes from the elbow fitting, the bypass valve, and the fitting on the manifold.

5. Disconnect the blue coolant-out and coolant-in hoses from the fittings on the manifold using two 11/16 inch wrenches. You can access the fittings from the outside of the rear wall of the cooler.
6. Disconnect the J5 wire connector near the base of the cooler (not pictured).
7. Remove the manifold from the rear wall of the cooler using a T20 Torx screwdriver. You can access the screws from the outside of the rear wall.

Note: If the elbow fitting is bundled to a blue hose by a plastic tie wrap, cut the tie wrap before continuing.

8. Remove the "T" fitting from the coolant loop solenoid valve. Use an 11/16 inch wrench for the fitting and a 1-1/16 inch wrench for the valve. You can leave the bypass valve and elbow fitting attached to the "T" fitting.
9. Remove the coolant loop solenoid valve from the reducer fitting. This disconnects the valve from the manifold. Use an 11/16 inch wrench for the fitting and a 1-1/16 inch wrench for the valve.
10. Install the new coolant loop solenoid valve by following this procedure in reverse order.

IMPORTANT: When installing the new coolant loop solenoid valve, be careful to:

- Orient the valve correctly; the green arrow painted on the valve should point towards the rear wall of the cooler, as shown in Figure 5 below.
- Apply Loctite 571 (or equivalent) thread sealant before reconnecting the fittings.
- Check the coolant you drained from the system. If you see any debris or dark coloration in the coolant, do not reuse it. Instead, refill the tank with new, clean coolant (028872).

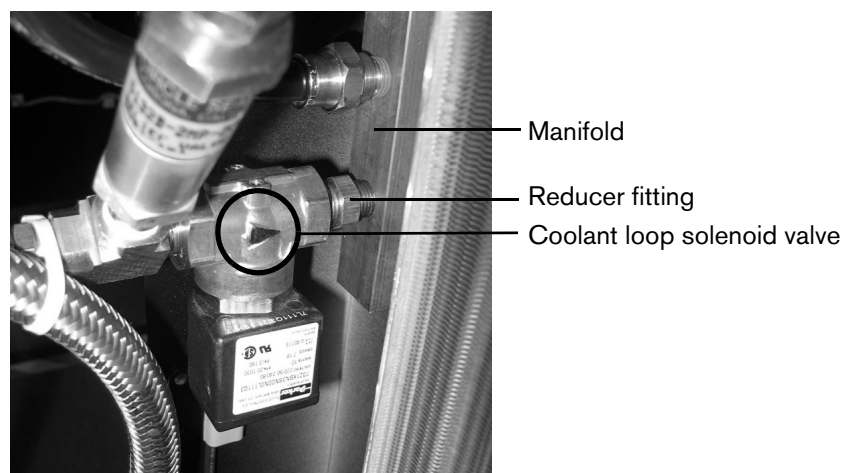
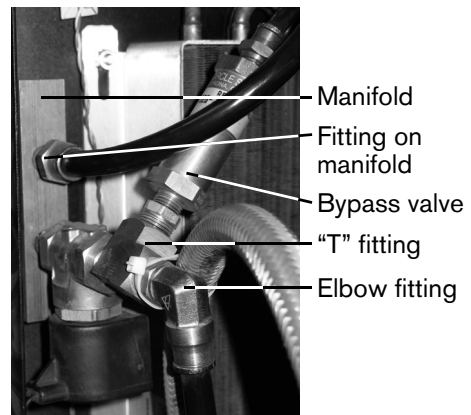
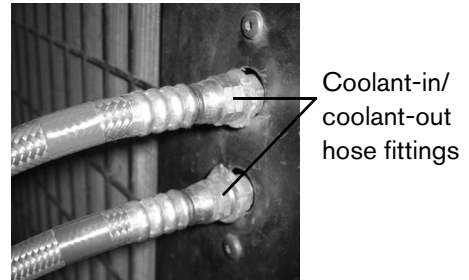


Figure 5: Coolant loop solenoid valve correctly positioned within the HPR400XD cooler

HSD130 power supply

1. Turn OFF the power to the power supply.
2. Remove the right-side and left-side panels from the power supply.
Note: On older HSD130 power supplies you will need to remove only the right-side panel if the screws used to secure the valve (see Step 6) are located underneath the valve rather than on the other side of the center panel.
3. Drain all coolant into a clean five-gallon (20 liter) container in case the coolant can be reused.
Note: For details on how to drain the coolant, refer to the procedure in the *HSD130 Instruction Manual*.
4. Disconnect the black tubes from the fittings on each side of the coolant loop solenoid valve.
5. Disconnect the J8 wire connector.
6. Remove the coolant loop solenoid valve from the center panel of the power supply using a number 2 Phillips head screwdriver. You can access the screws from the opposite side of the center panel.
7. Remove the fittings from each side of the coolant loop solenoid valve. Use a 13/16 inch wrench for the fittings and a 1-1/16 inch wrench for the valve.
8. Install the new coolant loop solenoid valve by following this procedure in reverse order.
IMPORTANT: When installing the new coolant loop solenoid valve, be careful to:
 - Orient the valve correctly; the green arrow painted on the valve should point towards the rear wall of the power supply, as shown in Figure 6 below.
 - Apply Loctite 571 (or equivalent) thread sealant before reconnecting the fittings.
 - Check the coolant you drained from the system. If you see any debris or dark coloration in the coolant, do not reuse it. Instead, refill the tank with new, clean coolant (028872).



Figure 6: Coolant loop solenoid valve correctly positioned within the HSD130 power supply