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078172 and 078536 RHF Ignition Console Upgrade Kit Installation Instructions for HSD®, HPR®, HPRXD® Cutting Systems

Field Service Bulletin

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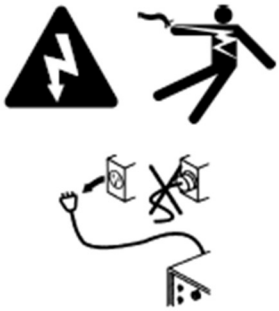
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Introduction

⚠ WARNING



ELECTRIC SHOCK CAN KILL

Disconnect electrical power before doing any installation or maintenance.

All work requiring removal of the plasma power supply outer cover or panels must be done by a qualified technician.

See the *Safety and Compliance Manual* (80669C) for more safety precautions.

⚠ WARNING



ELECTRIC SHOCK

Stored voltages in capacitors can exceed 20,000 V.

All work must be done by a qualified technician.

Purpose

This Field Service Bulletin explains how to upgrade the ignition circuit in the following consoles:

- HPR/HSD ignition consoles (Part Number **078172**)
- HPR800XD ignition consoles (Part Number **078536**).

10088560 Kit Contents

Part Number	Description	Quantity
Not for Sale	High-frequency panel assembly	1
Not for Sale	Replacement part label	1
10088680	078172 and 078536 RHF Ignition Console Upgrade Kit Installation Instructions	1

Required tools and materials

- T-20 TORX® driver
- 5/16-inch nut driver
- 3/8-inch nut driver
- 7/16-inch open-end wrench (078536 console only)
- #2 Phillips® screwdriver (078536 console only)

Instructions

Remove the coolant from the cutting system

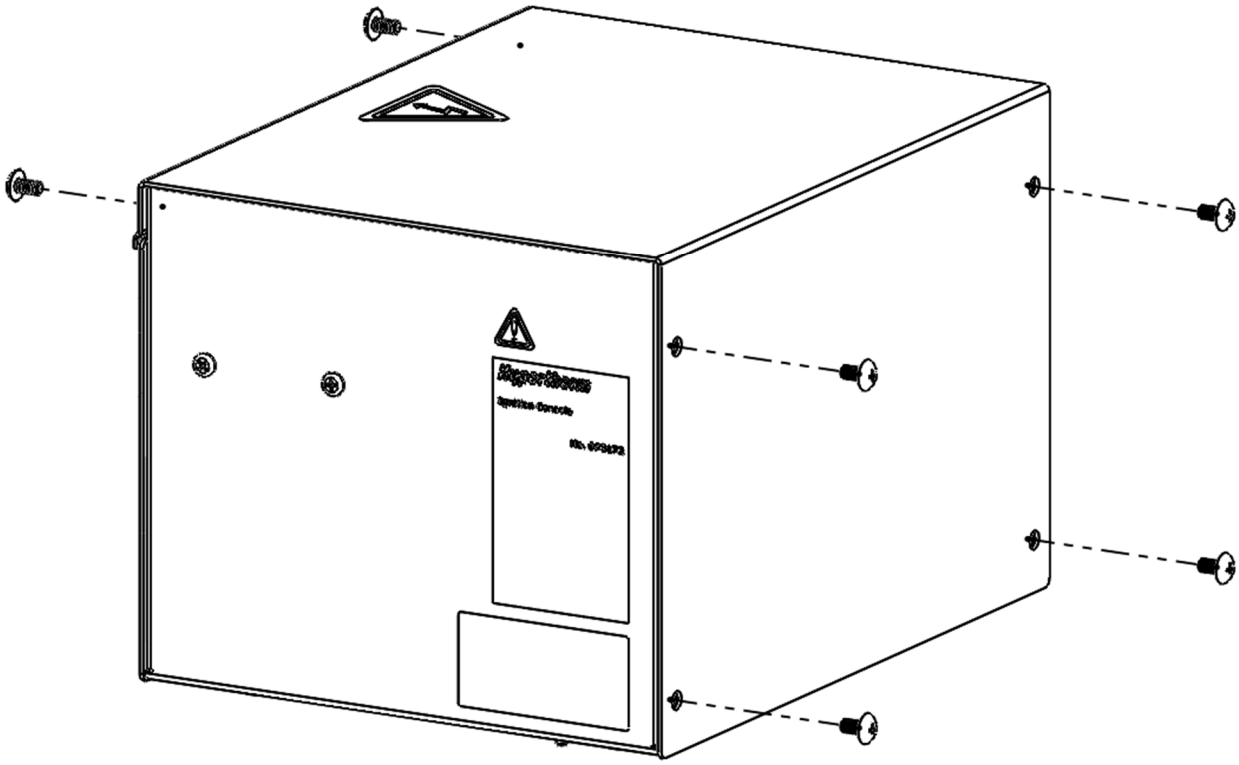
1. Remove the coolant from the cutting system. For information about how to do this, refer to the instruction manual that came with your cutting system. If you do not have your manual, it can be found in the Hypertherm Document Library: https://www.hypertherm.com/resources/documents-library/

Remove power from the cutting system

2. Remove power from the cutting system
   a. Set the line-disconnect switch for the cutting system to the OFF position.

Remove top cover

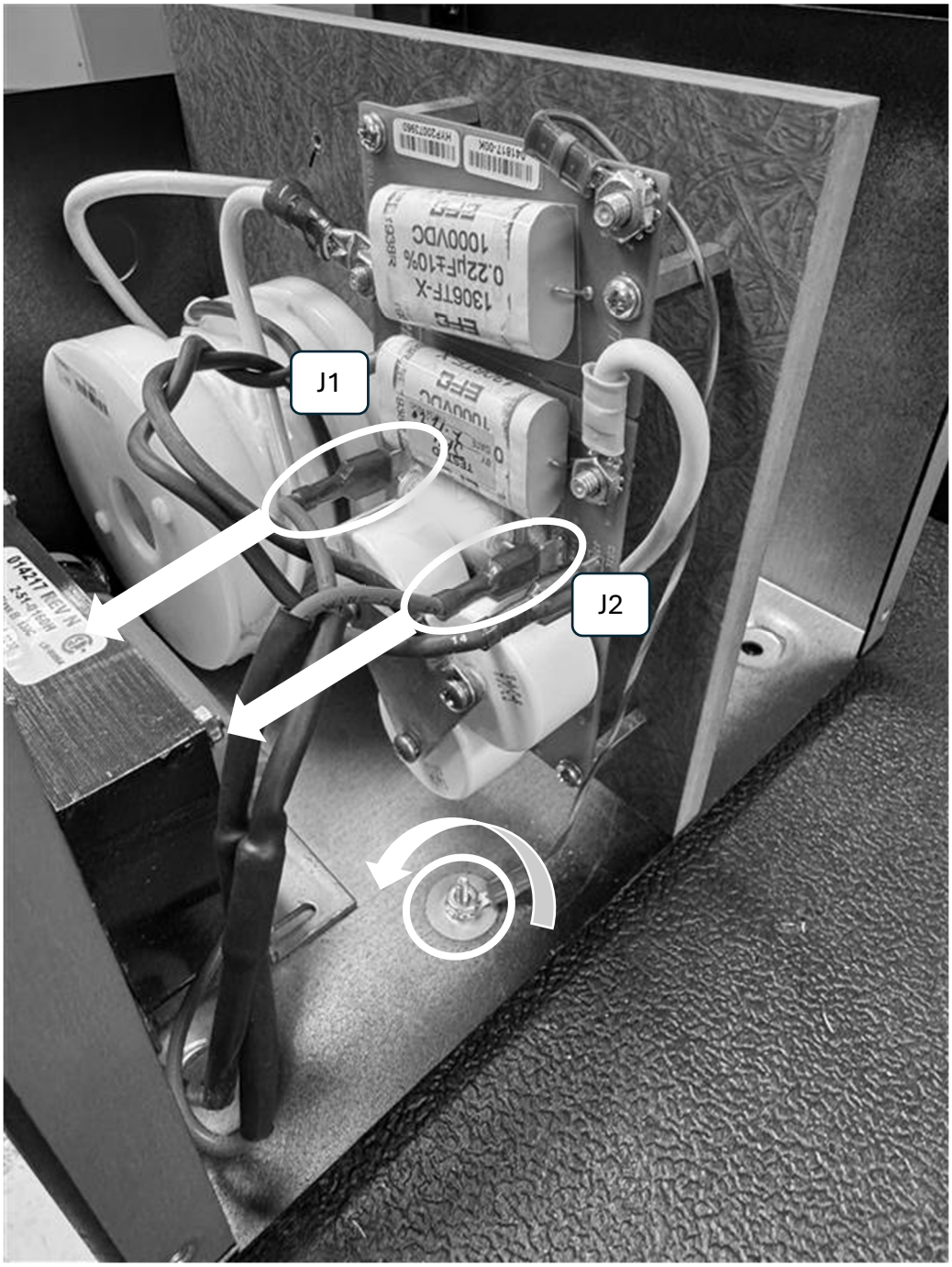
3. Use a T-20 TORX driver to remove the six screws from the top cover of the console.



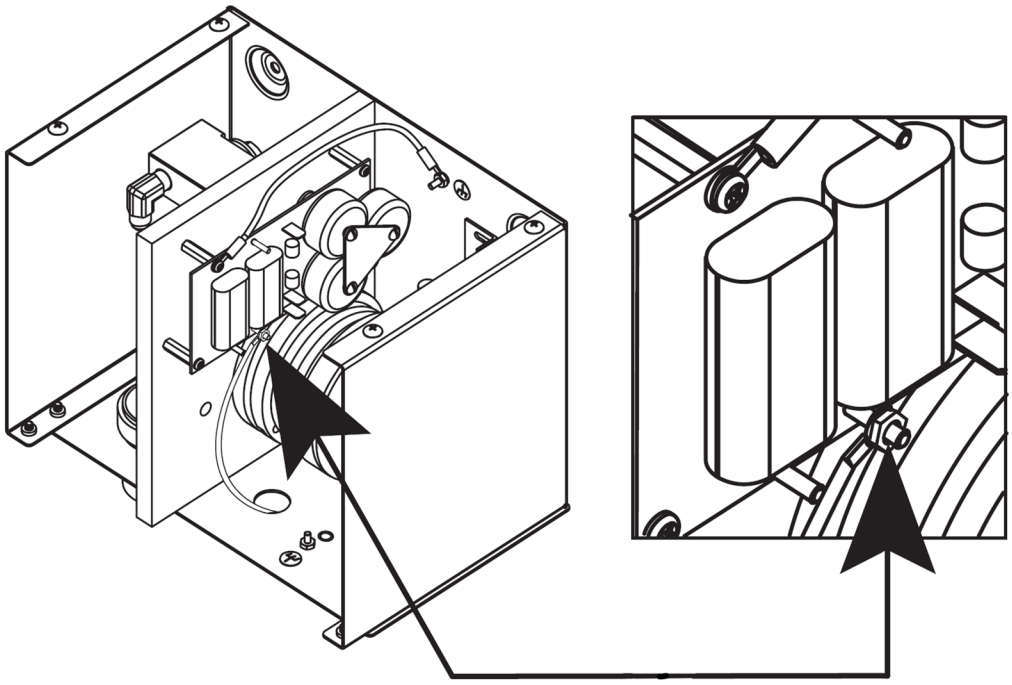
4. Remove the top cover from the console.

Disconnect PCB components

5. Remove the J1 connector and J2 connector from the PCB (red wires from the high-voltage, high-frequency transformer). The quick disconnect tabs can be removed by pulling on the connectors.
6. Use a 5/16-inch nut driver to remove the ground wire from the sheet metal.

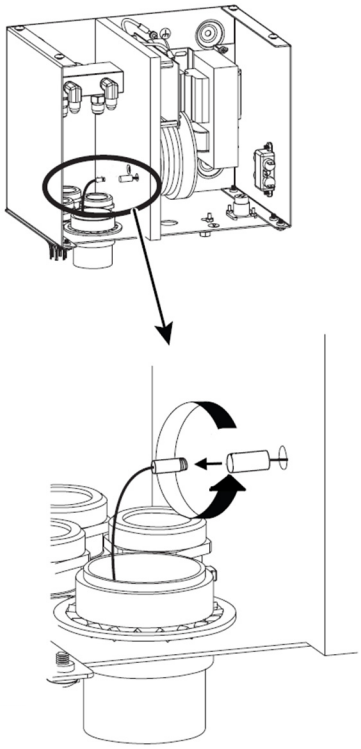


7. Use a 3/8-inch nut driver to remove the pilot arc wire.

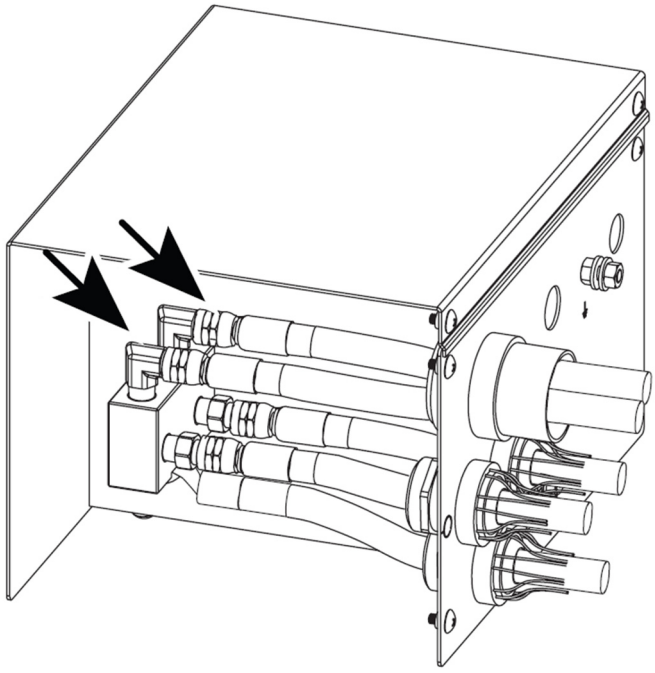


Remove the torch lead, negative lead and coolant hose connections

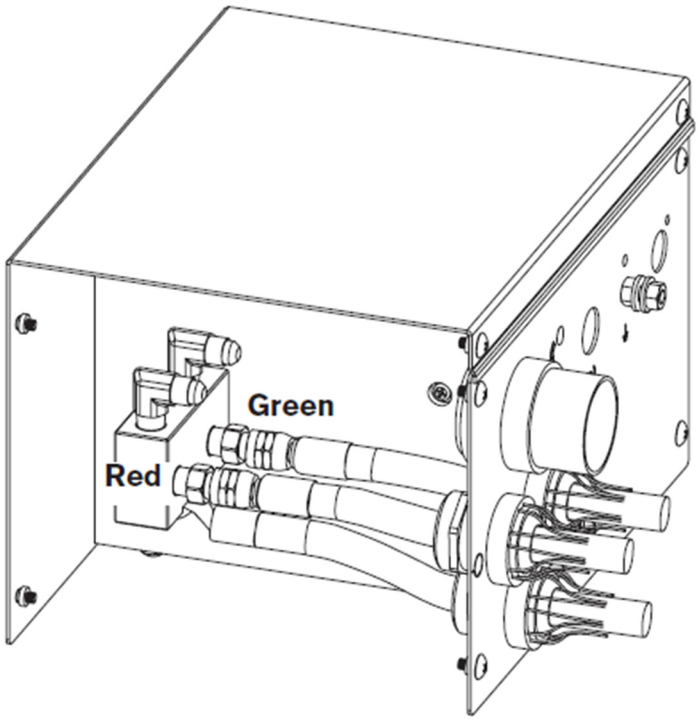
8. Remove the pilot arc connection from the torch lead.



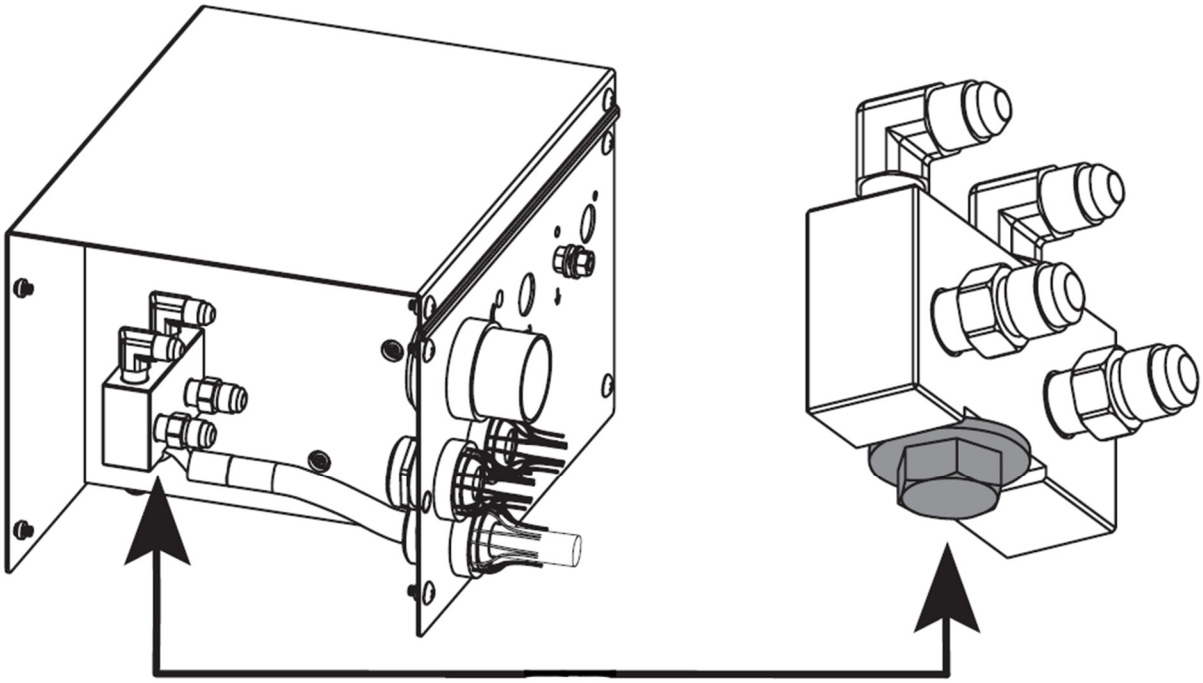
9. Remove the red coolant-return and green coolant-supply hoses.



10. Remove the red and green power-supply or cooler supply and return hoses.

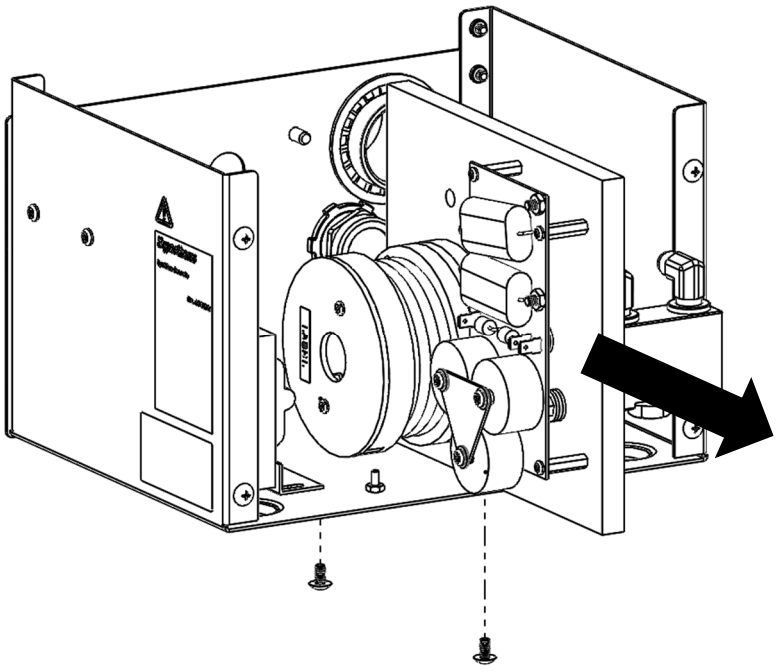


11. Remove the negative lead. If the console has two negative leads, remove both negative leads.



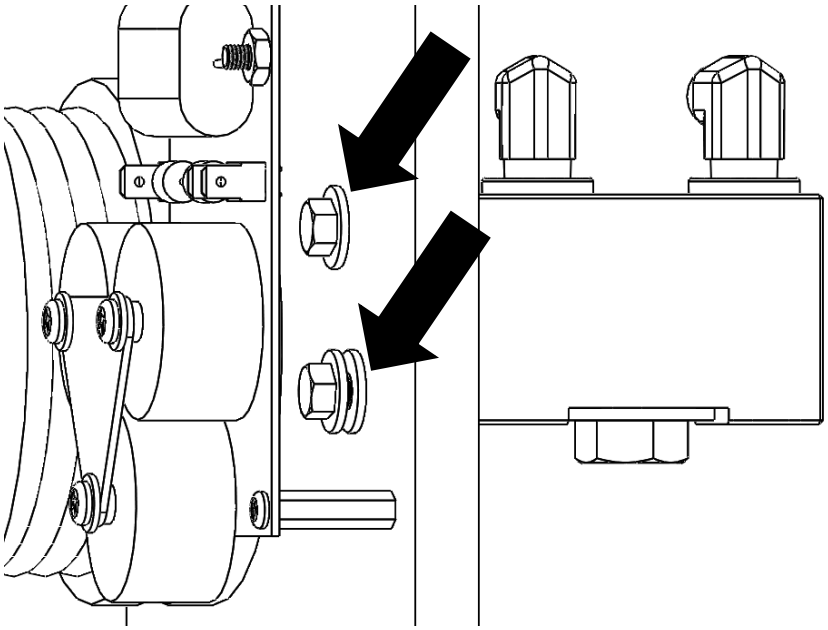
Remove the high-frequency panel assembly

12. Use a T-20 TORX driver to remove the two screws from the bottom of the console.
13. Pull the high-frequency panel out of the console.



Replace the cathode block (078536 console only)

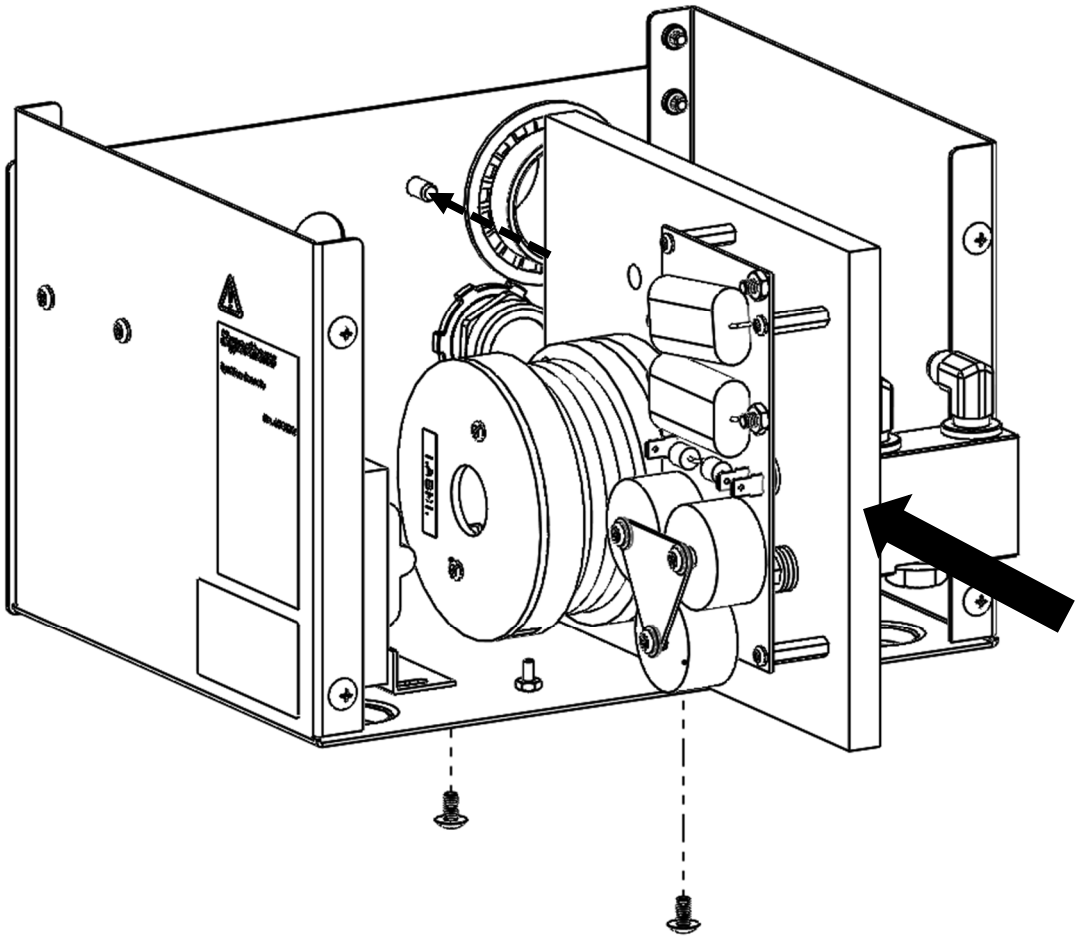
14. If the console has one negative lead, go to *Install the new high-frequency panel assembly* on the next page.
15. If the console has two negative leads, do these steps before going to *Install the new high-frequency panel assembly*. This is common in HPR800XD cutting systems.
    a. For HPR800XD systems with two negative leads, replace the cathode block with one from the high-frequency panel assembly that is being removed. The cathode block included in the kit only contains hardware for mounting one negative lead. If you need a new brass block, it can be purchased as part number **104432**.
    b. Use a #2 Phillips screwdriver to remove the PCB mounting screws from the high-frequency panel assembly that was removed from the system and then remove the PCB.
    c. Use a 7/16-inch open-end wrench to remove the two brass bolts that hold the cathode block in place. Save the cathode block to use again.



    d. Use a #2 Phillips screwdriver to remove the PCB mounting screws from the new high-frequency panel assembly from the kit. Save the mounting screws to use again and remove the PCB.
    e. Use a 7/16-inch open-end wrench to remove the two brass bolts that hold the cathode block.
    f. Install the cathode block that was removed from the system on the new high-frequency panel assembly. The cathode block should have two locations to attach the negative leads for HPR800XD systems.
    g. Make sure the white wire from the PCB is included when tightening the brass bolts. Tighten to 7 N·m to 9 N·m (62 lbf·in to 80 lbf·in).
    h. Use a #2 Phillips screwdriver and the PCB mounting screws you saved to install the PCB. Tighten to 0.8 N·m to 1.0 N·m (7 lbf·in to 9 lbf·in).

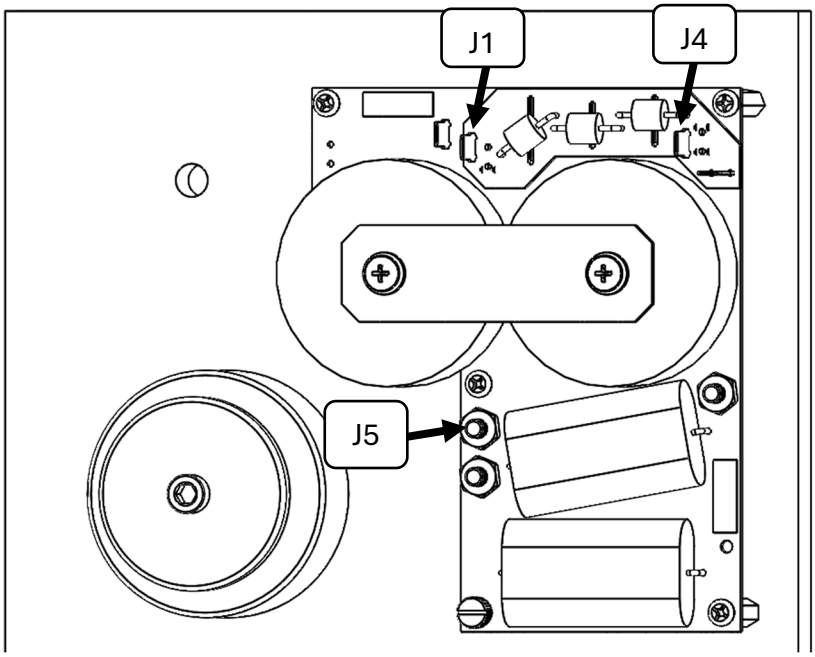
Install the new high-frequency panel assembly

16. Push the new high-frequency panel in the console. Make sure that the pin in the console engages with the hole in the panel.
17. Use a T-20 TORX driver to install the two screws through the bottom of the console to hold the high-frequency panel assembly. Tighten to 2.5 N·m to 3.0 N·m (22 lbf·in to 27 lbf·in).

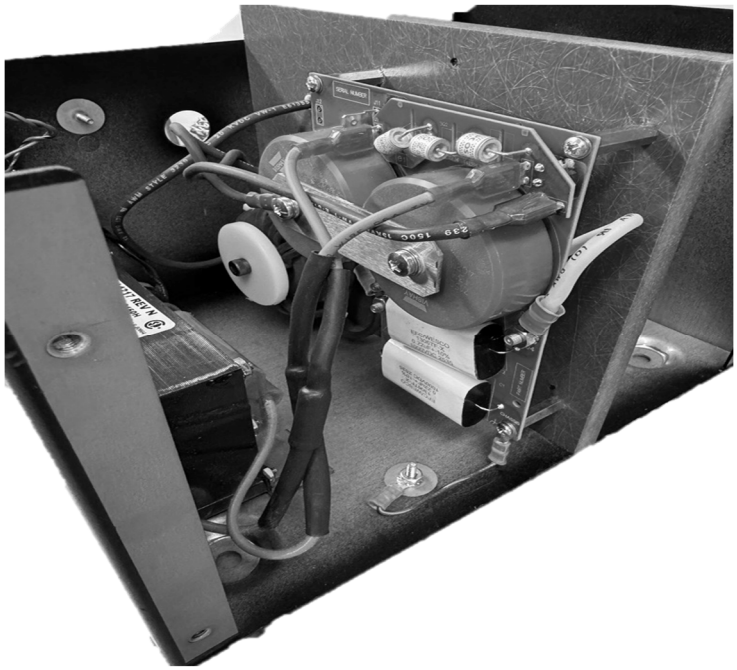


Connect the PCB components

18. Connect the two wires from the high-frequency, high voltage transformer to the 141595 spark gap PCB tabs labeled J1 and J4.



19. Use a 5/16-inch nut driver to connect the ground wire to the sheet metal. Tighten to 2.5 N·m to 3.0 N·m (22 lbf·in to 27 lbf·in).
20. Use a 3/8-inch nut driver to connect the pilot arc wire to J5 on the PCB using a 3/8-inch nut driver. Tighten to 0.8 N·m to 1.0 N·m (7 lbf·in to 9 lbf·in).



Connect the torch lead, negative lead(s) and coolant hoses

21. Install again the torch lead, negative lead(s) and coolant hoses. For information about how to do this, refer to the instruction manual that came with your cutting system. If you do not have your manual, it can be found in the Hypertherm Document Library: https://www.hypertherm.com/resources/documents-library/

Install the replacement part decal

22. Install the included decal for future reference for replacement parts. The decal can be installed inside the console or wherever convenient.

Install the top cover

23. Put the top cover on the console. Use a T-20 TORX driver to install the six screws. Tighten to 2.5 N·m to 3.0 N·m (22 lbf·in to 27 lbf·in).

