MAXPRO200®
Chopper Replacement

Field Service Bulletin

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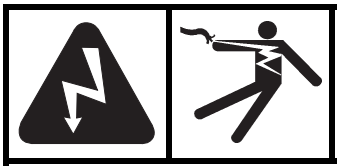
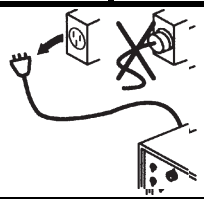


DANGER!

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 Field Service Bulletin explains how to replace the chopper assembly in the MAXPRO200 power supply.

Kit contents

Chopper replacement - 428036

Part number	Description	Quantity
229468	Chopper assembly	1

Required tools and materials

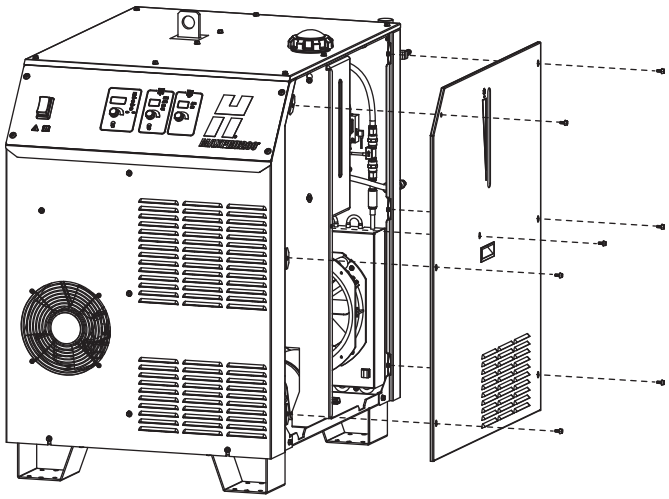
- Number 2 Phillips head screwdriver
- T-20 Torx driver
- 3/8 inch wrench

CAUTION!

Use extreme care when working near the chopper modules. Each large electrolytic capacitor (blue-cased cylinder) stores large amounts of electrical energy. Even if the power is off, dangerous voltages may remain at the capacitor terminals, on the chopper, and the diode heatsinks. Never discharge any capacitor with a screwdriver or other implement… explosion, property damage and/or personal injury will result.

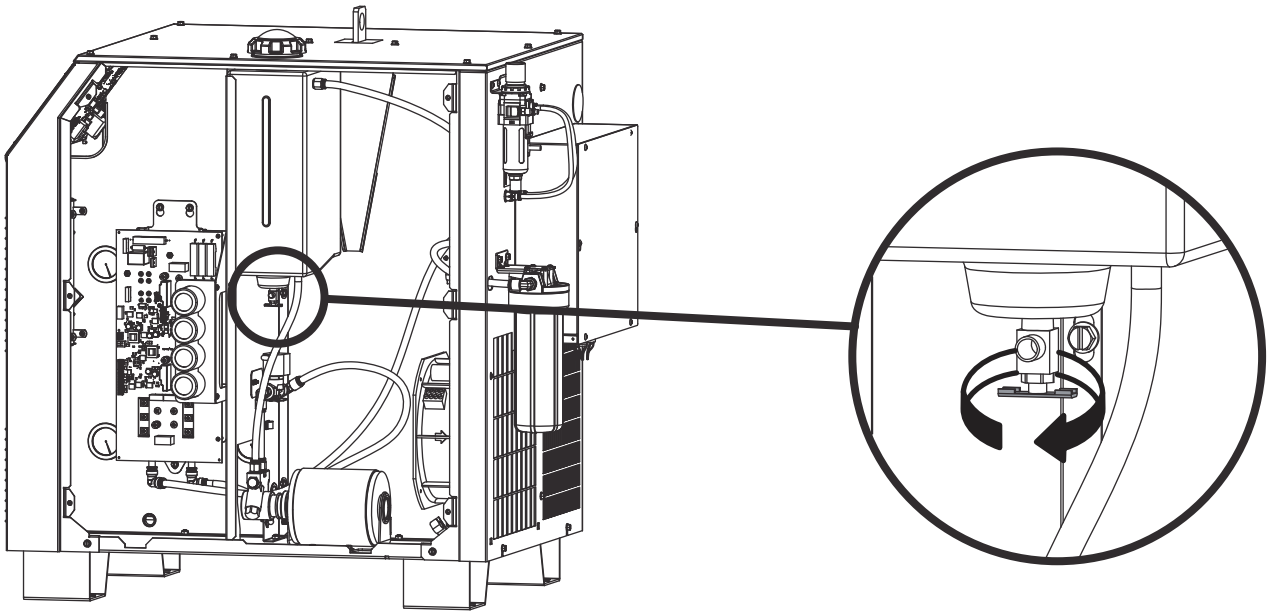
Remove right-side panel

1. Turn OFF power to the system.
2. Disconnect line power by turning OFF the main disconnect switch.
3. Using a 3/8 inch wrench, remove the side panel screws.



Drain the coolant system

Locate the coolant drain valve and use a 20 liter (5 gallon) container to catch the coolant. Coolant will flow as soon as the drain is opened. Close the drain valve when the coolant stops flowing.

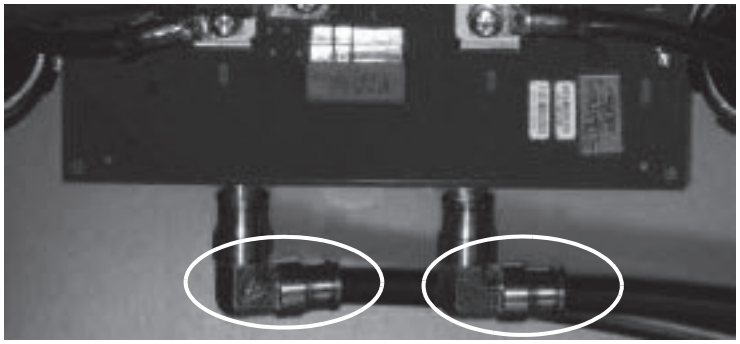


If the coolant does not contain any dirt or particulates, you can reserve it for refilling the coolant system after replacing the chopper. If you fill the system with new coolant, dispose of used coolant according to local and national codes.

Disconnect coolant hoses from the chopper assembly

The coolant hoses are located at the bottom of the chopper assembly. To disconnect a fitting, pull the connector-collar toward the fitting, and pull the hose away from the fitting.

Note: Some coolant will drain from the connections when the hoses are removed.



Remove chopper assembly

1. Using the following photo, disconnect the wires and cables from the chopper assembly. Each cable and connection is identified in the following table.

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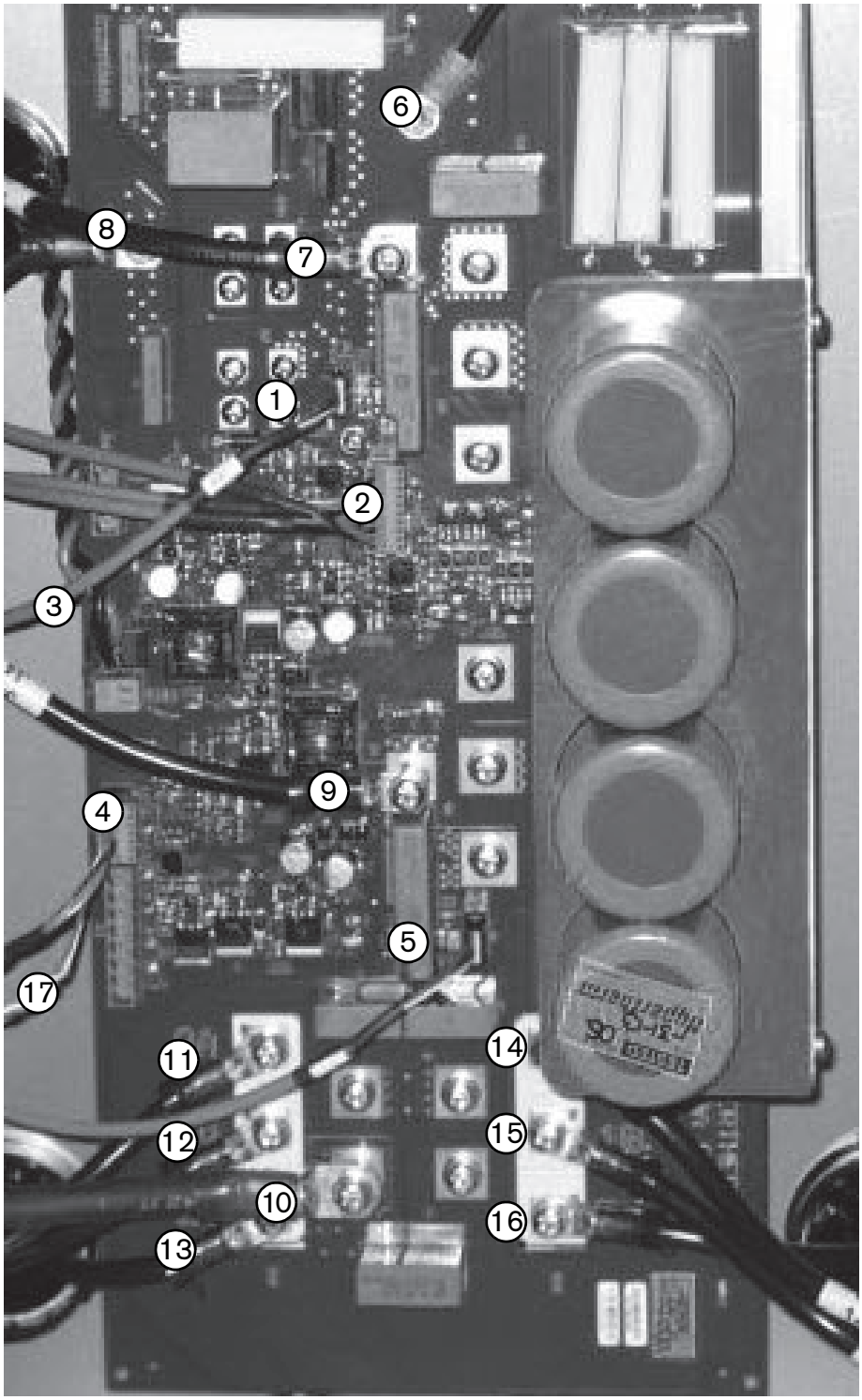
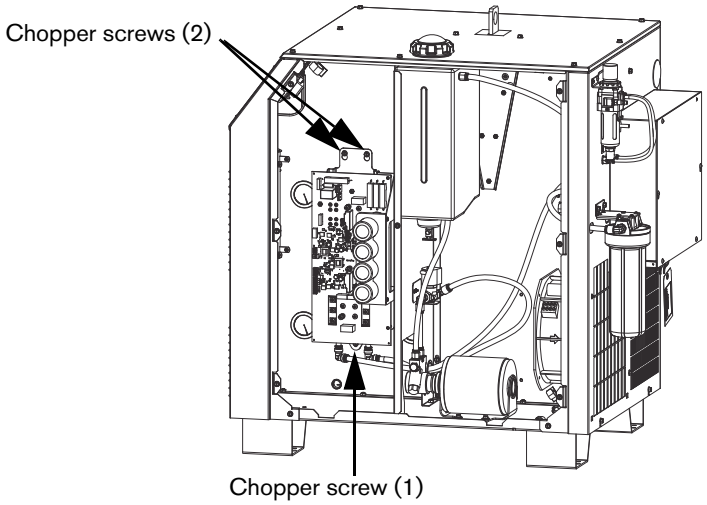


Number on photo	Connection ID on chopper	Label on wire or cable	Description
1	J6	J2.6	Chopper B current sensor – 4-pin wire connector with grey cable
2	J3	J2.3	Pulse width modulation signals from control board – 10-pin wire connector with 3 grey cables
3	J8	J2.8	Chopper 15 VAC power in – 2 -pin connector with red and black wires
4	J10	J2.10	Chopper temperature and bus voltage – 7-pin wire connector with blue, white, red, and gray wires
5	J1	J2.1	Chopper A current sensor – 4-pin connector with grey cable
6	J2	J2.2	Pilot arc collector – Black cable with #10 ring terminal
7	J5	J2.5	Chopper B output – Black cable with 1/4 inch ring terminal
8	J7	J2.7	Pilot arc nozzle – Black cable with #10 ring terminal or 1/4 inch ring terminal underneath black wire from J5
9	J4	J4	Chopper A output – Black cable with 1/4 inch ring terminal
10	J2	J2.9	Work lead – Black cable with 1/4 inch ring terminal
11	2A	2A	3-phase AC from main transformer – Black cable with 1/4 inch ring terminal
12	2B	2B	3-phase AC from main transformer – Black cable with 1/4 inch ring terminal
13	2C	2C	3-phase AC from main transformer – Black cable with 1/4 inch ring terminal
14	1A	1A	3-phase AC from main transformer – Black cable with 1/4 inch ring terminal
15	1B	1B	3-phase AC from main transformer – Black cable with 1/4 inch ring terminal
16	1C	1C	3-phase AC from main transformer – Black cable with 1/4 inch ring terminal
17	J11	none	Test connector / no connection

2. Using a 3/8 inch wrench, loosen the screws attaching the chopper assembly to the center panel.
3. Lift the chopper assembly up and off of the screws.



Replace chopper assembly

1. Align the keyholes on the chopper assembly with the three screws in the center panel and slide the chopper into place.
2. Tighten the three screws to torque of 8-10 Nm (75-85 inch-lbs).
3. Reconnect all wires and cables to the chopper assembly. Use the table as a guide to identifying the cables and connectors. Recommended torque for most hex standoffs and screws is 3 to 4 Nm (25 to 35 inch-lbs). Note the following exceptions:

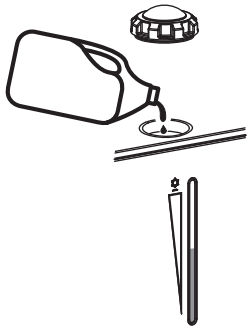
Number on photo	Label on cable	Notes
6	J2.2	KEP nut torque is 1 to 1.5 Nm (10 to 15 inch-lbs)
7	J5	Verify that the hex standoff is not loose.
8	J2.7	KEP nut torque is 1 to 1.5 Nm (10 to 15 inch-lbs)
9	J4	Verify that the hex standoff is not loose.
10	J2.9	Verify that the hex standoff is not loose.

4. Reconnect the coolant hoses: For each coolant hose, slide the hose into the fitting and push until it stops.
5. Replace the right-side panel.
6. Reconnect the line power by turning ON the main disconnect switch. See *Fill the power supply with coolant* on the next page before turning ON the power switch on the power supply control panel.

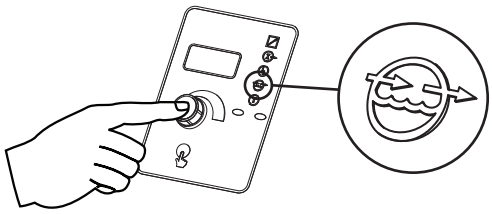
Fill the power supply with coolant

The system will take 14.2 liters to 17.0 liters (3.75 to 4.5 gallons) of coolant depending on the length of the torch leads.

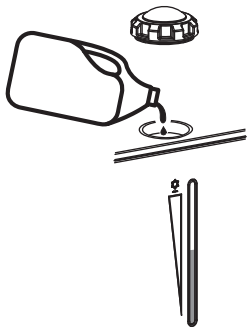
1. Add coolant to the power supply until the tank is full.



2. Turn ON the power supply, then press and release the amps selector knob as many times as needed until the flow symbol is selected. The flow rate will be shown in the three digit display. There is a 45 second delay before the system will report a low coolant flow error. If the flow rate has not reached 0.5 gallons per minute (gpm) the system will turn off the pump.



3. If the system displays an error, turn OFF the power to the system and add coolant to the tank until it is full again. Repeat steps 2 and 3 until no error is displayed.



4. Add coolant to the power supply until the tank is full and replace the filler cap.