

CH130

Chopper Field Installation ***(CH130 Replaces CH120)***

Field Installation Bulletin
802090- Rev. 0



CH130

Chopper Field Installation (CH130 Replaces CH120)

Field Installation Bulletin

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HT2000/4000/4100/MAX200 CHOPPER REPLACEMENT

INTRODUCTION

This section will describe how to replace the old 029320 chopper assembly with the new 029922 CH130 chopper assembly in the HT2000, HT4000, HT4100 or MAX200 power supplies.

Tools required:

7/16" nut driver or open-end wrench
Phillips head screwdriver

CH130 Chopper Replacement Kit:

<u>Part No.</u>	<u>Description</u>
028810	CH130 Chopper Retrofit Kit
029922	CH130 Chopper
041461	CH130 Retrofit Assembly
023865	AC Adapter Cable for CH130
802090	CH130 Chopper Replacement Field Installation Bulletin

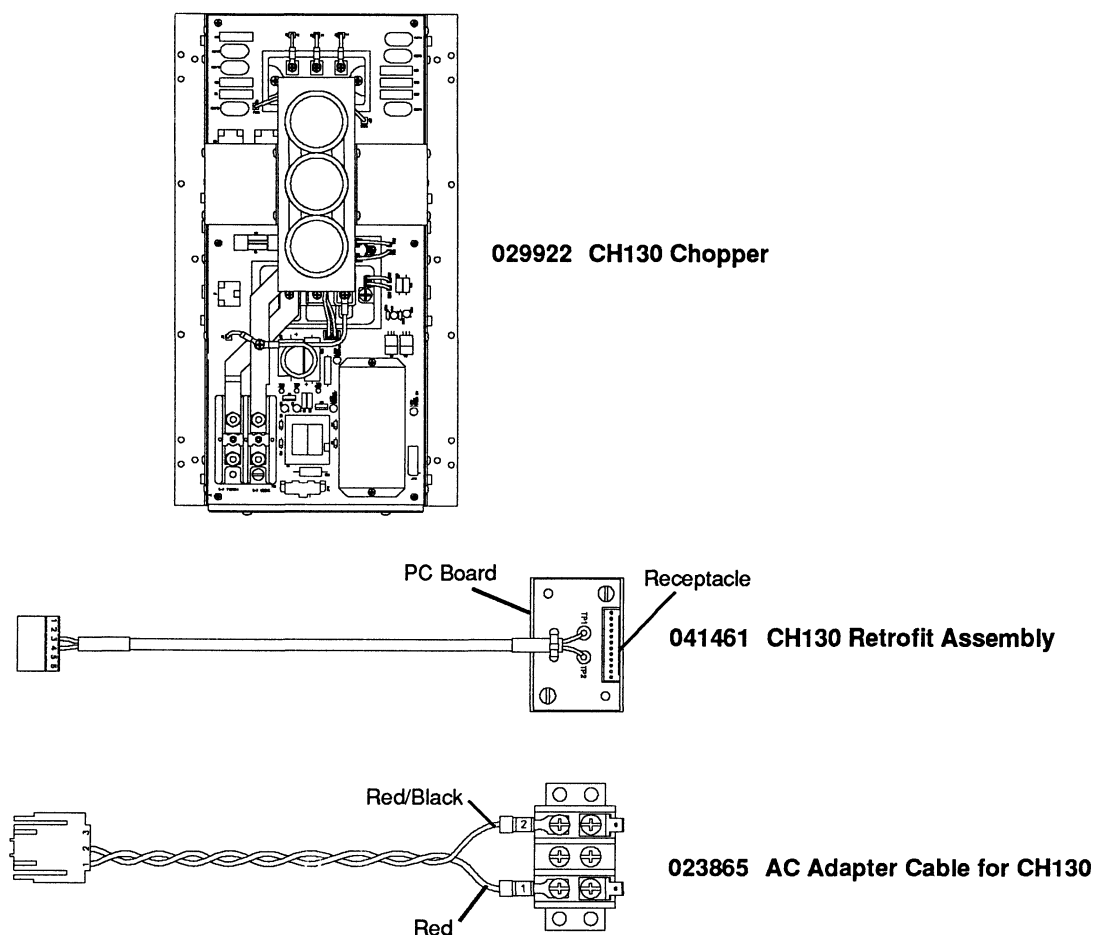


Figure 1-1 - CH130 Chopper Retrofit Kit Components

HT2000/4000/4100/MAX200 CHOPPER REPLACEMENT

HT2000/4000/4100/MAX200 CHOPPER REPLACEMENT

Note: If replacing choppers in both master and slave units of the HT4000 or HT4100 systems, repeat instructions for each power supply unit.

Disconnect Choppers and Connect New Harnesses to Power Supply

1. Turn off all power to system! Ensure that the power will remain off for the entire chopper replacement procedure.
2. Remove both side plates and top plate from power supply.
3. Remove output cables labeled 39 and 48A from the right side chopper assembly and/or cables 39 and 48B from the left side chopper assembly. See Fig. 1-2.
4. Remove three-phase input cables labeled A1, B1 and C1 from the right side chopper and/or cables A2, B2, and C2 from the left side chopper assembly. See Fig. 1-2.
5. Unplug the wire harness assembly connector attached to the chopper module. Plug this same connector into the receptacle on the PC board portion of the 041461 assembly that came with the kit. See Figs. 1-2b & 1-1.

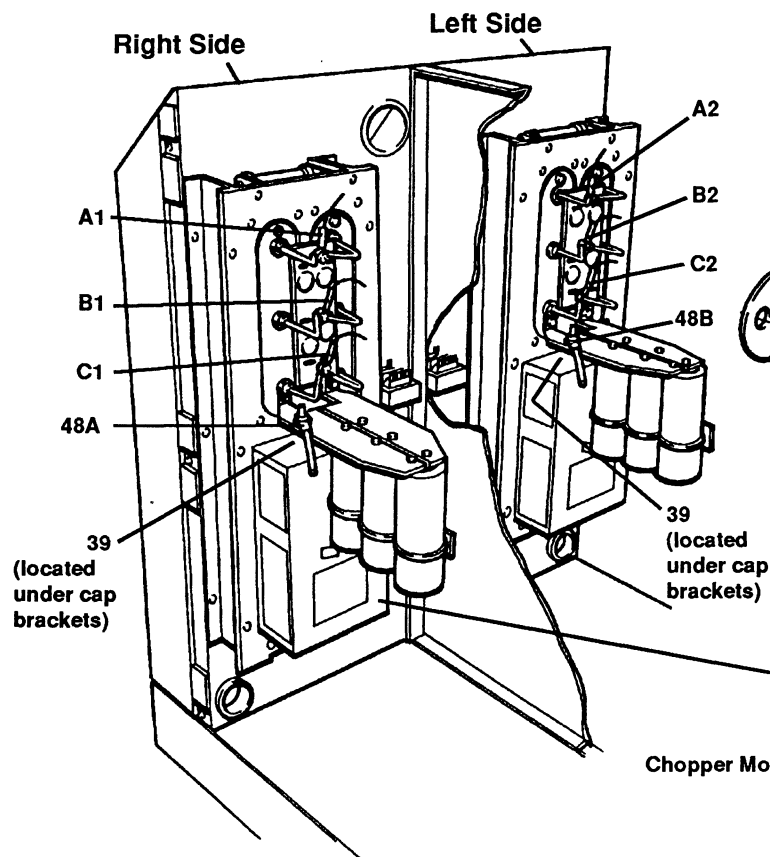


Figure 1-2 - Power Supply - Inside Front Wall

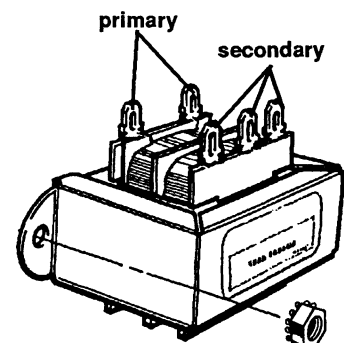


Figure 1-2a - Chopper Transformer

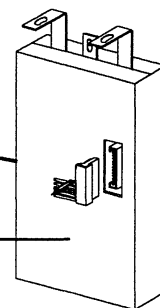


Figure 1-2b - Chopper Harness Location

HT2000/4000/4100/MAX200 CHOPPER REPLACEMENT

6. Remove wires from chopper transformer primary and secondary, then remove transformer and discard. Save transformer mounting hardware. See Fig. 1-2a.
7. Tape the ends of the three wires removed from the transformer secondary. Tuck wires into wiring harness. (Wires are not required anymore.)
8. Take the AC adapter cable assembly (023865) from kit and mount one side of terminal board end to where the transformer was located using hardware removed in step 6. Attach the two wires removed from the chopper transformer primary and connect to terminal board (match red wire to red wire; red w/black wire to red w/black wire). See Figs. 1-2a & 1-1.

Remove Old Choppers and Connect New Choppers to Power Supply

1. Loosen the six nuts (six screws on older MAX200s) that secure each chopper module assembly to the power supply front wall and remove chopper. (Fig.1-3)
2. Position the chopper(s) with large capacitors up as in Fig. 1-4 and line up mounting holes from the new chopper assembly to the lower four chopper mounting studs. Screw on the nuts to secure the new chopper in place. On older MAX200s line up mounting holes from the new chopper assembly to the lower four chopper mounting holes. Secure the new chopper in place with screws. Note: The chopper mounting brackets are universal, make sure the brackets are mounted as shown in Fig. 1-4. If not, remove the six screws (three each side and remount the brackets as shown in Fig. 1-4.

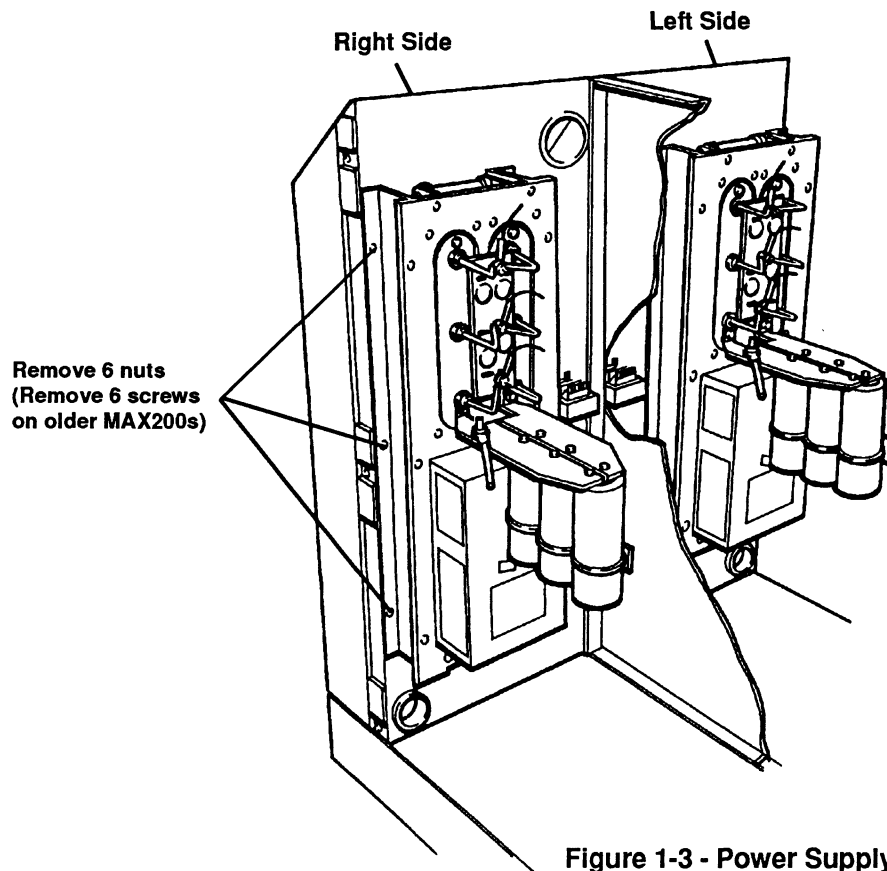


Figure 1-3 - Power Supply - Chopper Removal

HT2000/4000/4100/MAX200 CHOPPER REPLACEMENT

3. Remove smaller cables from chopper to bridge and connect three-phase input cables labeled A1, B1 and C1 (right side) or A2, B2, C2 (left side) to the bridge of the new chopper. Replace smaller cables from chopper on top of three-phase input cables and screw down. See Fig.1-4.
4. Connect harness assembly with small PC board (041461) to JP9. See Figs. 1-4 & 1-1.
5. Connect AC adapter cable (023865) to JP6. See Figs. 1-4 & 1-1
6. Connect negative output cable labeled 39 to terminal marked "(-) TORCH".
7. Connect positive output cable labeled 48A (right side) or 48B (left side) to terminal marked "(+) WORK".

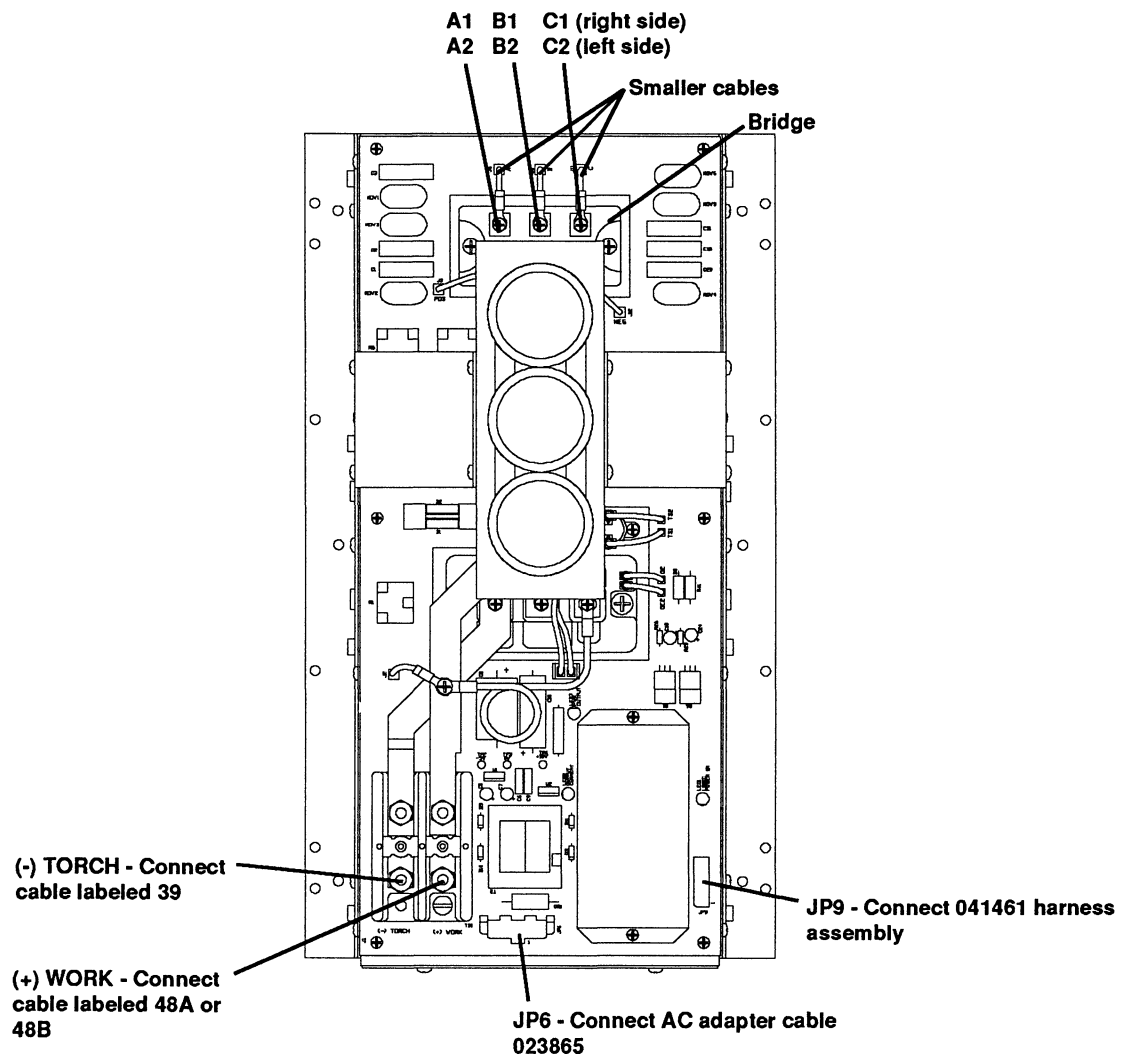


Figure 1-4 - CH130 Chopper Assembly

HT2000/4000/4100/MAX200 CHOPPER REPLACEMENT

TURN ON POWER SUPPLY AND CHECK CHOPPERS

1. Turn main disconnect switch ON and power up the unit.
2. Press START button.
3. There should be two red lights lit if the choppers were connected correctly.
4. If a green light comes on:
 - Check that the control board harness to the chopper(s) is (are) connected at JP9.
5. Replace side panels and top plate to power supply.

Section 2 MAX100/100D CHOPPER REPLACEMENT

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MAX100/100_D CHOPPER REPLACEMENT

INTRODUCTION

This section will describe how to replace the old 029278 chopper assembly with the new 029922 CH130 chopper assembly in either the MAX100 or MAX100_D power supplies.

Tools required:

7/16" nut driver or open-end wrench
Phillips head screwdriver

CH130 Chopper Replacement Kit:

<u>Part No.</u>	<u>Description</u>
028810	CH130 Chopper Retrofit Kit
029922	CH130 Chopper
041461	CH130 Retrofit Assembly with PC Board
023865	AC Adapter Cable for CH130
802090	CH130 Chopper Replacement Field Installation Bulletin

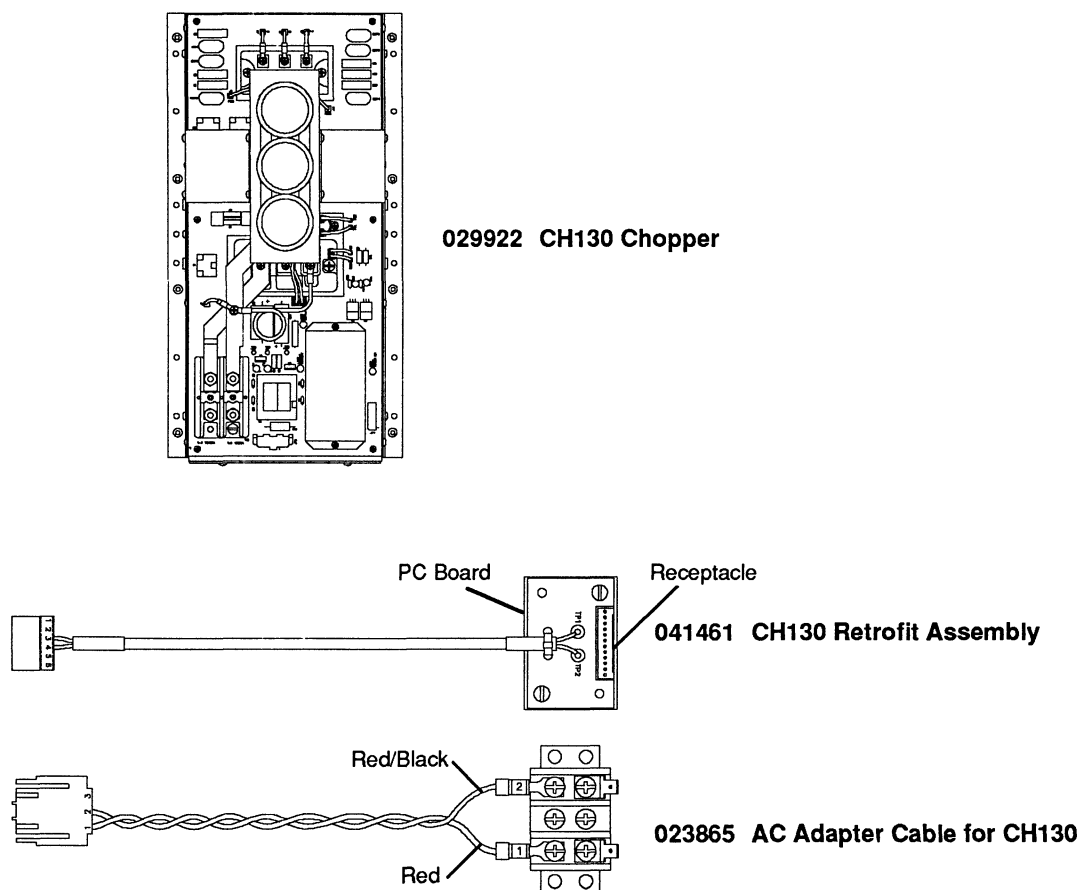


Figure 2-1 - CH130 Chopper Retrofit Kit Components

MAX100/100b CHOPPER REPLACEMENT

MAX100/100b CHOPPER REPLACEMENT

Disconnect Old Chopper and Connect New Harnesses to Power Supply

1. Turn off all power to MAX100/100b system! Ensure that the power will remain off for the entire chopper replacement procedure.
2. Remove right side plate and front plate from power supply.
3. Remove cables labeled 39 and 48 from the chopper assembly. See Fig. 2-2.
4. Remove cables labeled A, B and C from the chopper assembly. See Fig. 2-2a.

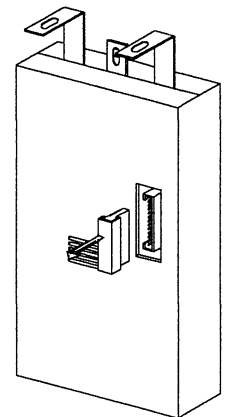
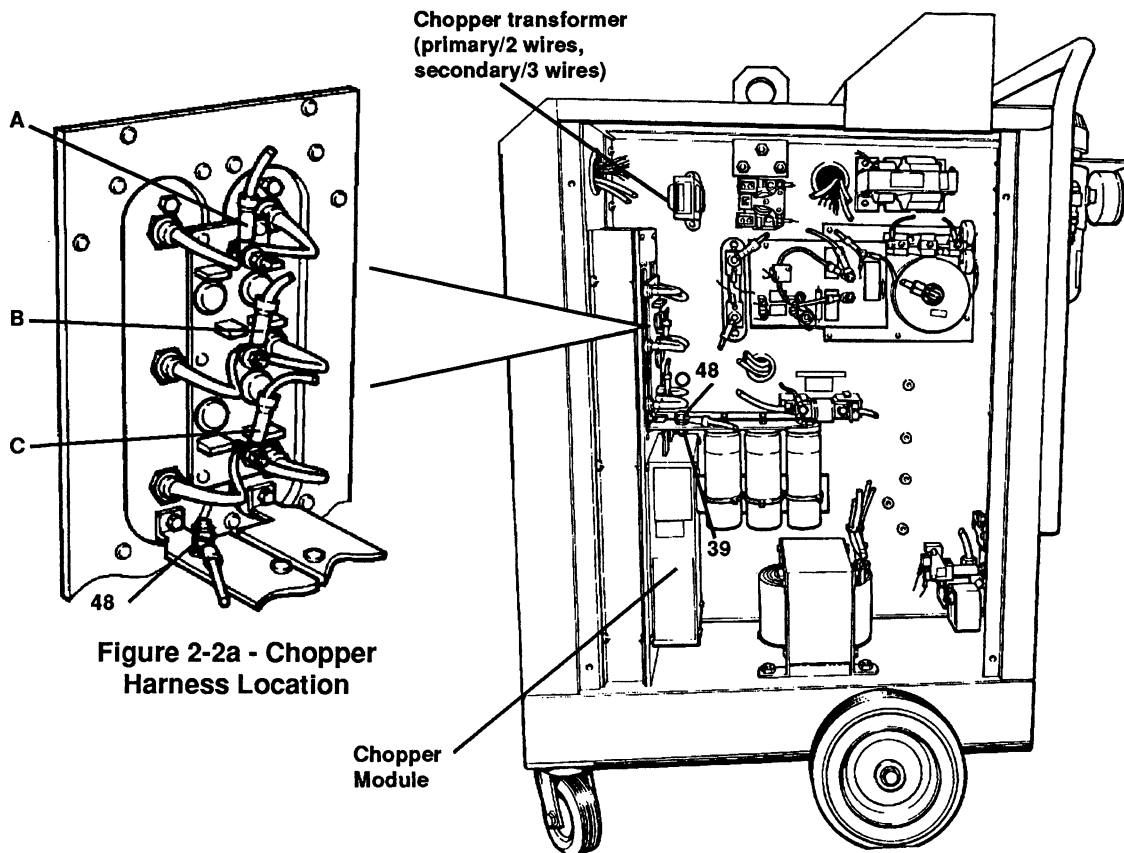


Figure 2-2 - Power Supply Right Side (MAX100b shown)

5. Unplug wire harness assembly from the chopper module - Fig. 2-2b. Plug this same connector into the receptacle on the small PC board portion of the 041461 assembly that came with the kit - Figs. 2-1.
6. Remove wires from chopper transformer primary and secondary, then remove transformer and discard. Save transformer mounting hardware. See Fig. 2-2.
7. Tape the ends of the three wires removed from the transformer secondary. Tuck wires into wiring harness. (Wires are not required anymore.)

MAX100/100b CHOPPER REPLACEMENT

8. Take the AC adapter cable assembly (023865) from kit and mount one side of terminal board end to where the transformer was located using hardware removed in step 6. Attach the two wires removed from the chopper transformer primary and connect to terminal board (match red wire to red wire; red w/black wire to red w/black wire). See Figs. 2-2 & 2-1.

Remove Old Chopper and Connect New Chopper to Power Supply

1. Remove PL5 and PL7 from the control board for easier access to the screws that secure the chopper to the front panel. See Fig. 2-3.
2. Remove six screws to chopper assembly and remove old chopper. See Fig. 2-3.

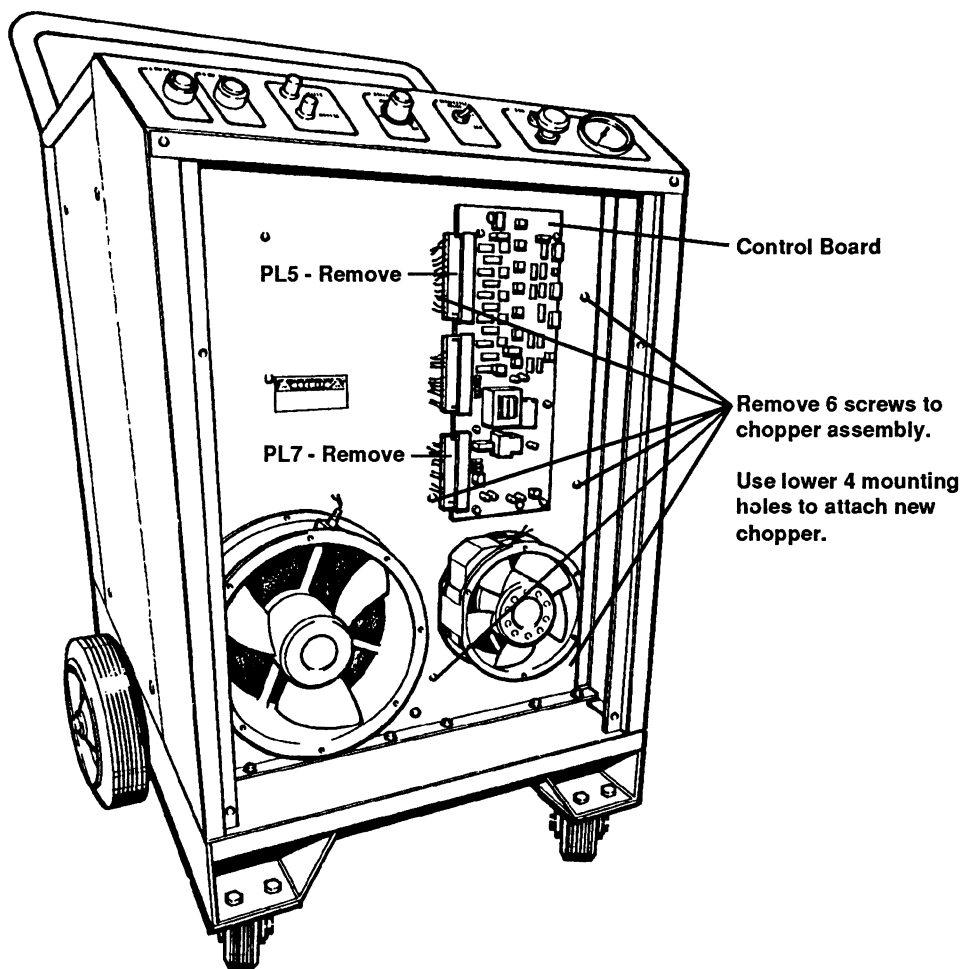


Figure 2-3 - Power Supply Front (MAX100 shown)

3. Position new chopper with large capacitors up as in Fig. 2-4 and line up mounting holes from the new chopper assembly to the lower four holes on the front panel of the power supply. Note: The chopper mounting brackets are universal, make sure the brackets are mounted as shown in Fig. 2-4. If not, remove the six screws (three each side) and remount the brackets as shown in Fig. 2-4. Screw new chopper in place.

MAX100/100D CHOPPER REPLACEMENT

4. Remove smaller cables from chopper to bridge and connect three-phase input cables labeled C, B and A (in that order) to the bridge of the new chopper. Replace smaller cables from chopper on top of larger cables and screw down. See Fig. 2-4.
5. Connect harness assembly with small PC board (041461) to JP9. See Figs. 2-4 & 2-1.
6. Connect AC adapter cable harness (023865) to JP6. See Figs. 2-4 & 2-1.
7. Connect cable labeled 39 to terminal marked "(-) TORCH".
8. Connect cable labeled 48 to terminal marked "(+) WORK".
9. Reconnect PL5 and PL7 to control board. See Fig. 2-3.

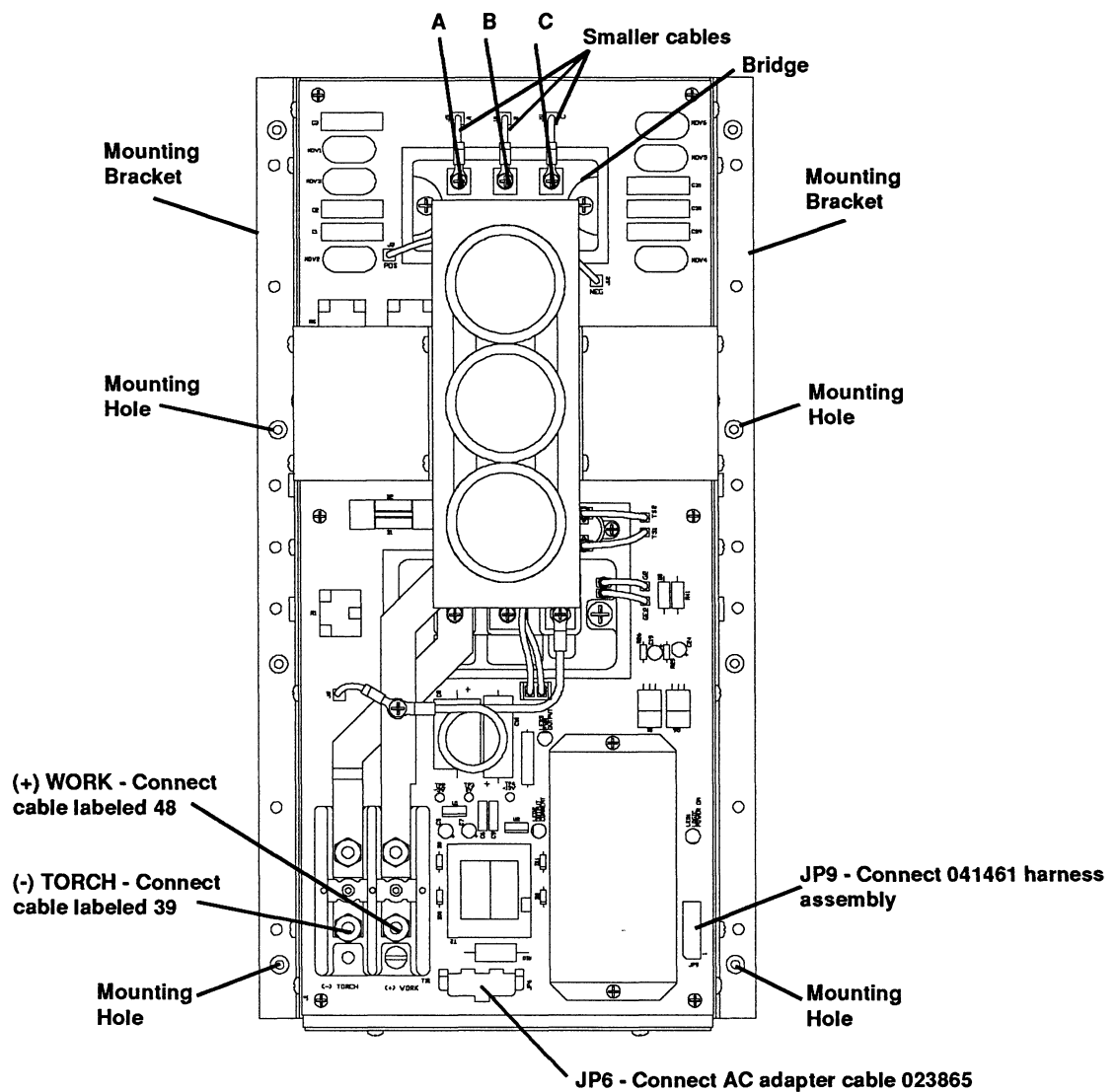


Figure 2-4 - CH130 Chopper Assembly

MAX100/100_D CHOPPER REPLACEMENT

TURN ON POWER SUPPLY AND CHECK CHOPPER

1. Turn main disconnect switch ON and power up the MAX100 or MAX100_D.
2. Press START button on the torch or from machine interface.
3. There should be two red lights lit if the chopper was connected correctly.
4. If a green light comes on:
 - Check to see if PL5 and PL7 on the control board are plugged in correctly.
 - Check that the control board harness to the chopper is connected at JP9.
5. Replace front and right side power supply panels.

Section 3 HD-1070/2070 CHOPPER REPLACEMENT

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HD-1070/2070 CHOPPER REPLACEMENT

INTRODUCTION

This section will describe how to replace the old 029278 chopper assembly with the new 029922 CH130 chopper assembly in either the HD-1070 or HD-2070 power supplies.

Tools required:

7/16" nut driver or open-end wrench
Phillips head screwdriver

CH130 Chopper Replacement Kit:

<u>Part No.</u>	<u>Description</u>
028810	CH130 Chopper Retrofit Kit
029922	CH130 Chopper
041461	CH130 Retrofit Assembly with PC Board
023865	AC Adapter Cable for CH130
802090	CH130 Chopper Replacement Field Installation Bulletin

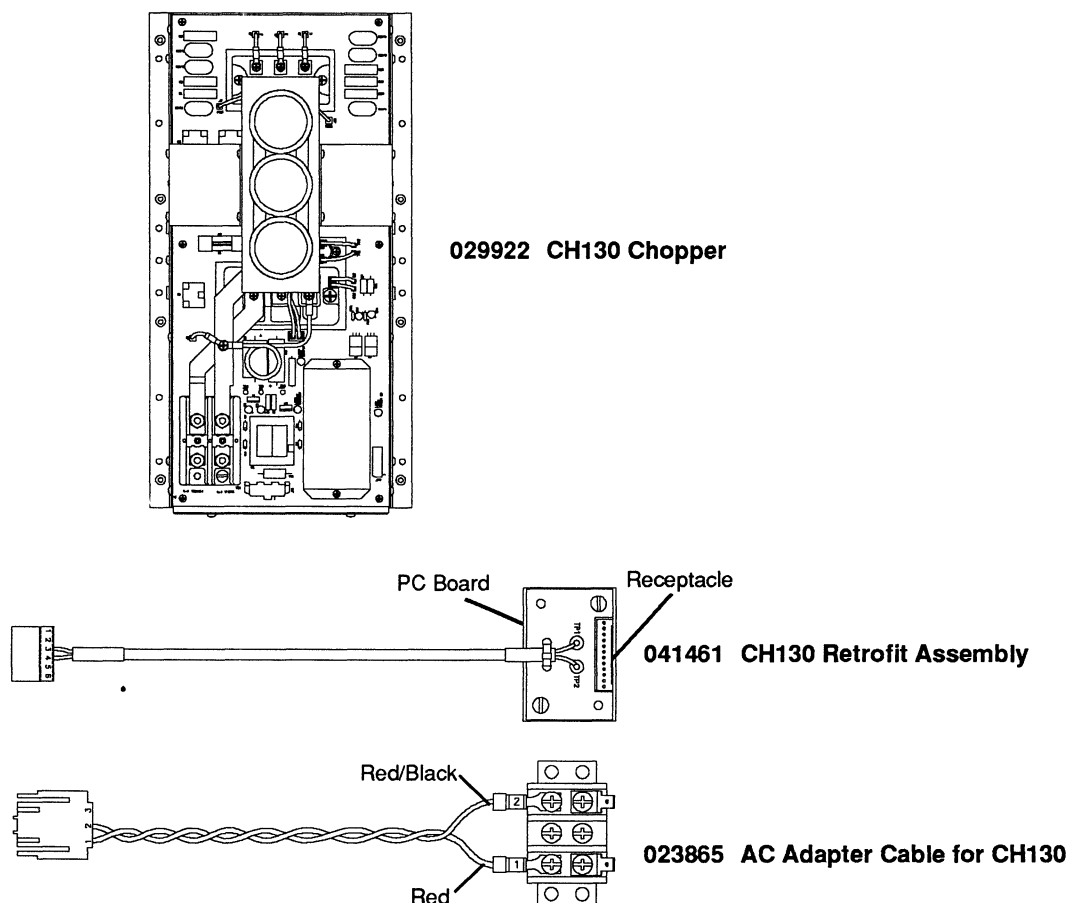


Figure 3-1 - CH130 Chopper Retrofit Kit Components

HD-1070/2070 CHOPPER REPLACEMENT

HD-1070/2070 CHOPPER REPLACEMENT

Disconnect Old Chopper and Connect New Harnesses to Power Supply

1. Turn off all power to HD-1070/2070 system! Ensure that the power will remain off for the entire chopper replacement procedure.
2. Remove right side plate and front plate from power supply.
3. Remove cables labeled 39 and 48 from the chopper assembly. See Fig. 3-2.
4. Remove cables labeled A, B and C from the chopper assembly. See Fig. 3-2a.

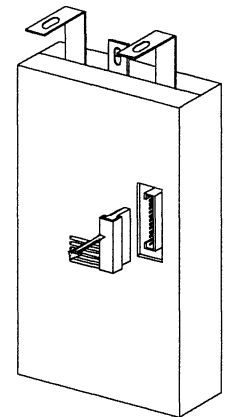
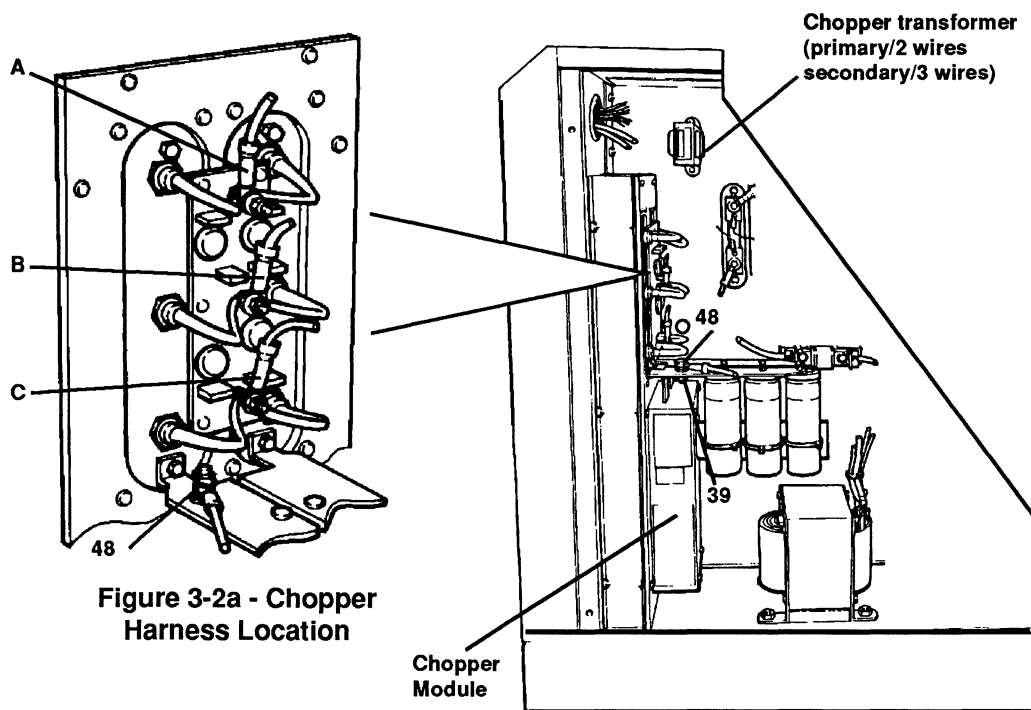


Figure 3-2 - Power Supply Right Side (HD-1070 shown)

5. Unplug wire harness assembly from the chopper module - Fig. 3-2b. Plug this same connector into the receptacle on the small PC board portion of the 041461 assembly that came with the kit - Figs. 3-1 & 3-2b.
6. Remove wires from chopper transformer primary and secondary, then remove transformer and discard. Save transformer mounting hardware. See Fig. 3-2.
7. Tape the ends of the three wires removed from the transformer secondary. Tuck wires into wiring harness. (Wires are not required anymore.)
8. Take the AC adapter cable assembly (023865) from kit and mount one side of terminal board end to where the transformer was located using hardware removed in step 6. Attach the two

HD-1070/2070 CHOPPER REPLACEMENT

wires removed from the chopper transformer primary and connect to terminal board (match red wire to red wire; red w/black wire to red w/black wire). See Fig. 3-1.

Remove Old Chopper and Connect New Chopper to Power Supply

1. Remove PL19 (PL20 on HD-2070), PL18, PL17 and PL16 from relay board 1XPCB4. Remove eight screws that secure the relay board to the front panel in order to access one of the chopper mounting screws. See Fig. 3-3.
2. Remove six screws to chopper assembly and remove old chopper. See Fig. 3-3.

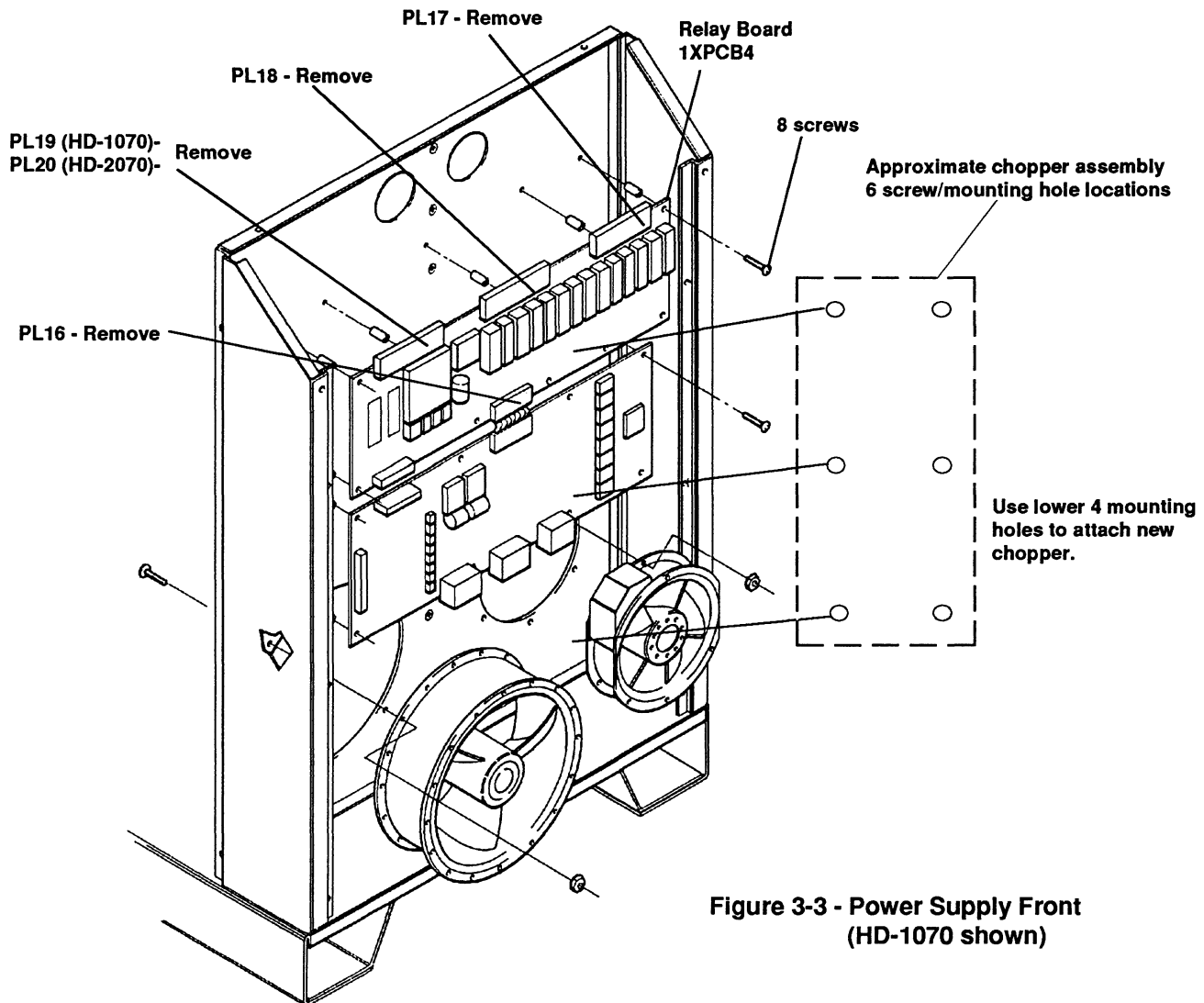


Figure 3-3 - Power Supply Front
(HD-1070 shown)

3. Position new chopper with large capacitors up as in Fig. 3-4 and line up mounting holes from the new chopper assembly to the lower four holes on the front panel of the power supply. Note: The chopper mounting brackets are universal, make sure the brackets are mounted as shown in Fig. 3-4. If not, remove the six screws (three each side) and remount the brackets as shown in Fig. 3-4. Screw new chopper in place.

HD-1070/2070 CHOPPER REPLACEMENT

4. Remove smaller cables from chopper to bridge and connect three-phase input cables labeled C, B and A (in that order) to the bridge of the new chopper. Replace smaller cables from chopper on top of larger cables and screw down. See Fig. 3-4.
5. Connect harness assembly with small PC board (041461) to JP9. See Figs. 3-4 & 3-1.
6. Connect AC adapter cable harness (023865) to JP6. See Figs. 3-4 & 3-1.
7. Connect cable labeled 39 to terminal marked "(-) TORCH".
8. Connect cable labeled 48 to terminal marked "(+) WORK".
9. Secure the relay board 1XPCB4 to the front panel with the eight screws. Reconnect PL19 (PL20 on HD-2070), PL18, PL17 and PL16 to relay board. See Fig. 3-3

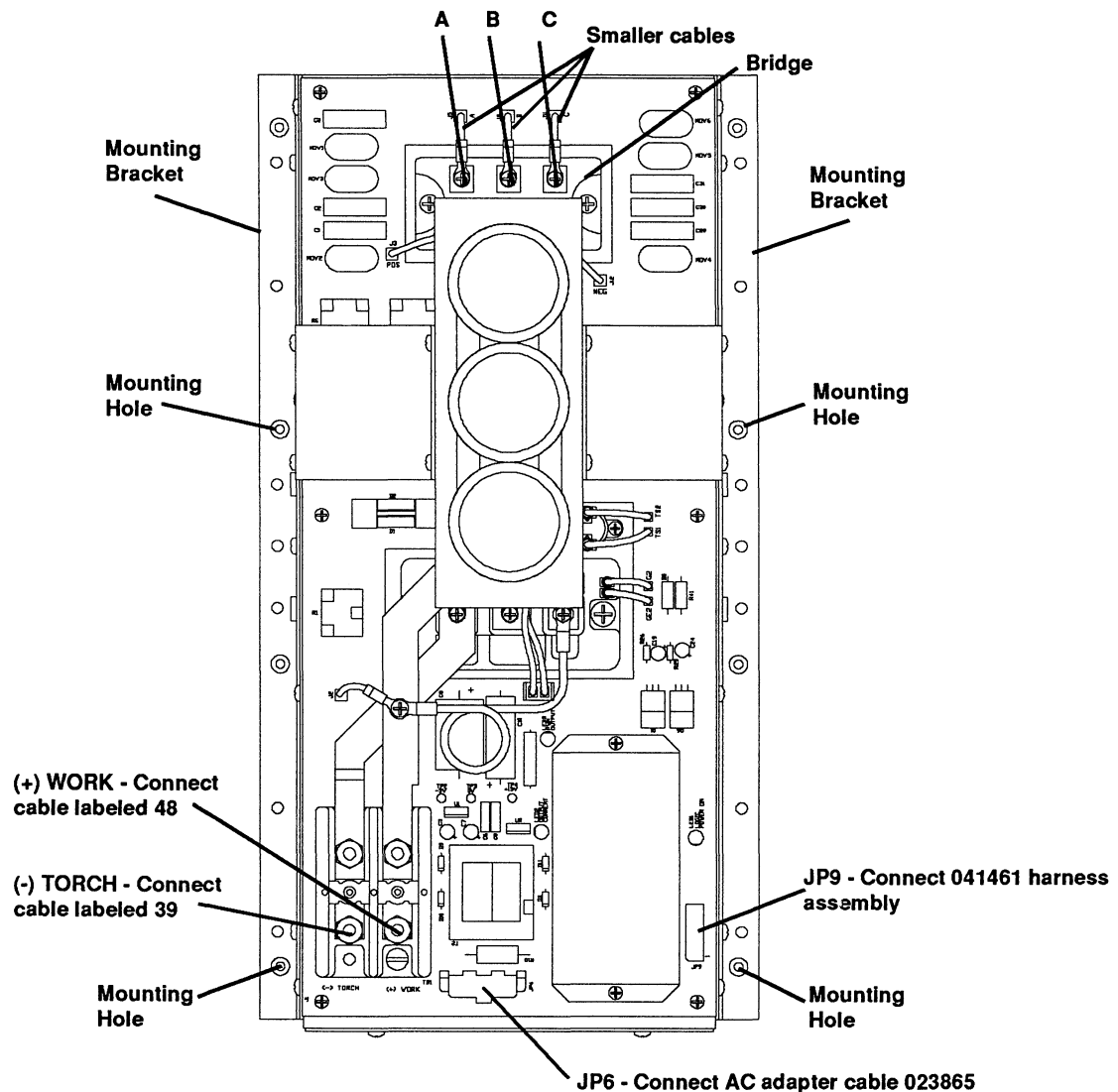


Figure 3-4 - CH130 Chopper Assembly

HD-1070/2070 CHOPPER REPLACEMENT

TURN ON POWER SUPPLY AND CHECK CHOPPER

1. Turn main disconnect switch ON and power up the HD-1070 or HD-2070.
2. Press START from machine interface.
3. There should be two red lights lit if the chopper was connected correctly.
4. If a green light comes on:
 - Check that the control board harness to the chopper is connected at JP9.
5. Replace front and right side power supply panels.