

SHIVERS CONVERT

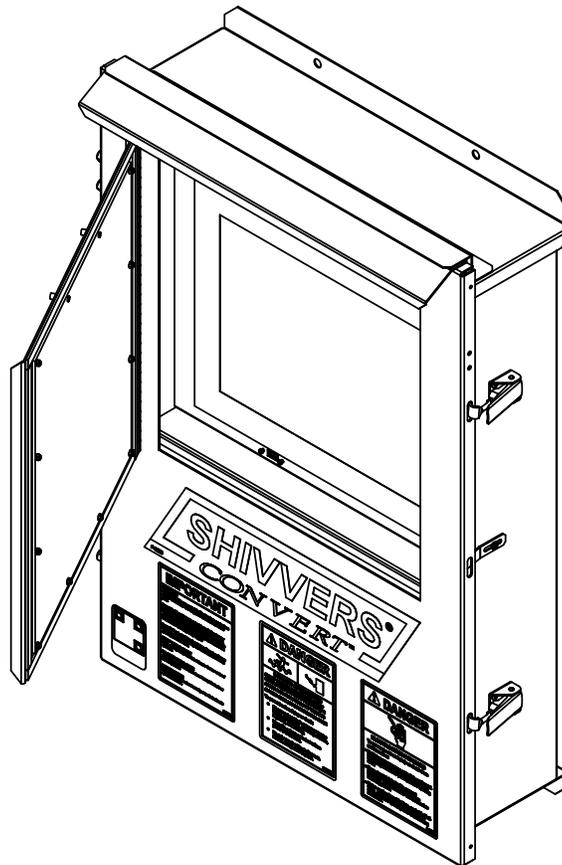
INSTALLATION INSTRUCTIONS

FOR

641AF-001A & 641AJ-001A

PREMIER CONVERT ASSEMBLY
(SHOWN)

ACCESSORY PARTS BOX, CONVERT



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SAFETY INFORMATION

The installer of this machinery must assume the responsibility for his own safety, and the safety of those working with him. He must also make sure that the equipment is installed as shown in this manual.

If any items covered in this manual are not completely understood, or there is a concern with the safety of the product, contact SHIVVERS at the address shown on the front page.



TAKE NOTE ANYTIME EITHER OF THESE SYMBOLS APPEAR. YOUR SAFETY, AND THAT OF PERSONS AROUND YOU IS AT STAKE.

ALL ELECTRICAL WIRING SHALL BE INSTALLED IN COMPLIANCE WITH THE LATEST EDITION OF THE ANSI/NFPA STANDARD 70. NATIONAL ELECTRICAL CODE, AS A MINIMUM REQUIREMENT, AND IN COMPLIANCE WITH LOCAL WIRING CODES AS APPLICABLE.

WIRING MUST BE DONE BY A COMPETENT ELECTRICIAN. A LICENSED ELECTRICIAN IS RECOMMENDED, AND MUST BE USED WHEN REQUIRED BY LOCAL OR STATE STATUTES.

Field installable safety decals are supplied with this unit. These decals may also be provided with other equipment. Consult the "Operator's Safety Manual" (P-10001) for complete instructions on where and how to place field installed safety decals. If more decals are needed, contact the factory for additional ones. Make sure all decals and the safety lock kits are installed on the system as shown in the safety manual.

Read this installation manual completely before starting.

INTRODUCTION

Read this manual, the operating instructions, and the operator's safety manual, completely before starting the installation.

The 641 Series Convert package changes a Compudry Command Center into basically the same dryer controller as the Shivers Premier. The only difference is that the Convert is housed in two individual enclosures instead of one. The Convert package was first available starting in 2016.

The circuit boards and printer are removed from the existing Command Center. They are replaced with a new Switch/Relay and Interface board. The existing motor and motor starting wiring stays the same. Some of the fan control and hi-limit wiring will need to be changed to different terminals, but most of the control and sensor wiring will already be in place.

A touchscreen controller in a separate enclosure is mounted (preferably in a building) near the old Command Center enclosure. A communication cable is connected between the two. If the old Command Center had a transformer kit installed in the lower right hand corner, that kit will need to be relocated, or eliminated, to make room for the Convert Interface board.

The Convert drying system is designed as a complete, automatic in-bin dryer control that gives the user access to their dryer data through any web interface device. In addition to the many features the Command Center already had, the touchscreen will also be able to text the user when an alert condition has been reached, so downtime can be reduced. A static pressure kit is included for monitoring grain dryer static pressure under the floor. An optional ambient temperature and humidity weather station can also be added.

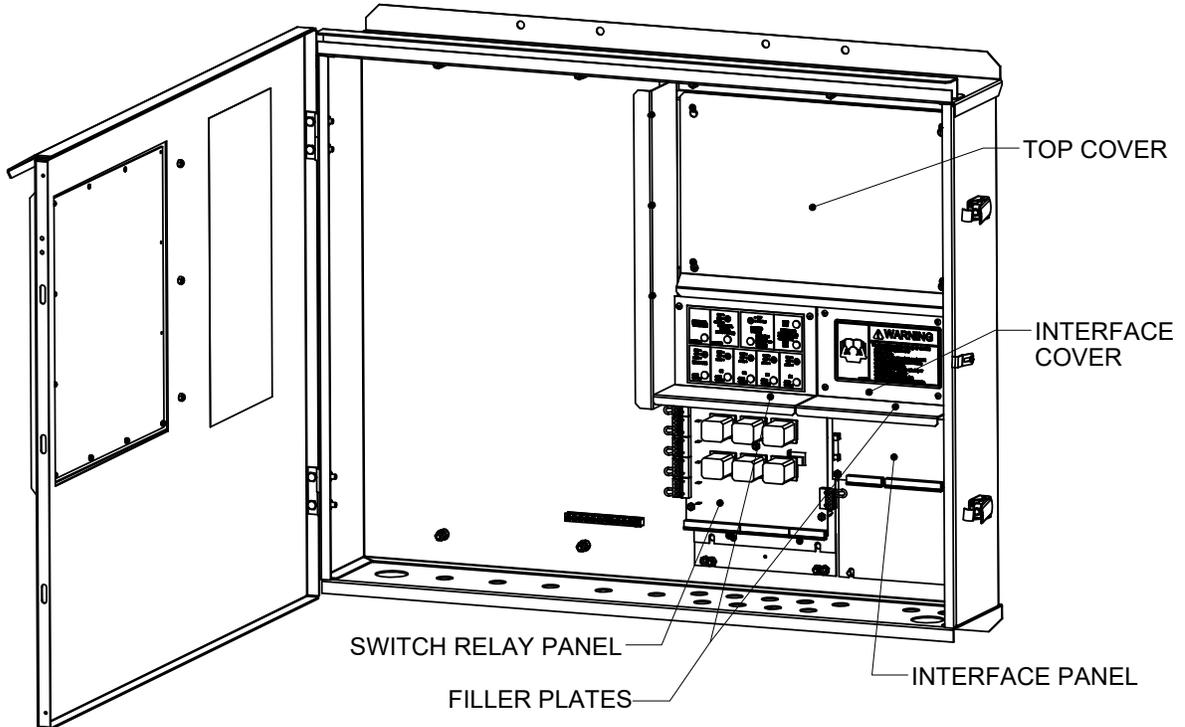
With the Convert drying system, the printer has been made obsolete because the touchscreen stores the last 600 records in onboard memory. Also, as mentioned before, all the records are sent to a database that can be accessed from any web interface device. There is no longer a need for the auxiliary timer, or any sequential timers that may have been installed in the old Command Center because this is now controlled by the touchscreen.

The touchscreens operating temperature is rated for -20 to 60 °C (-4 to 140 °F). The touchscreen storage temperature is rated for -30 to 70 °C (-22 to 158 °F). If temperatures cannot be maintained in this range, a climate controlled room is HIGHLY recommended. Temperatures inside the control panel can increase dramatically if exposed to direct sunlight. The touchscreen visibility will be very poor in bright sunlight. These are all reasons why it is best to mount it inside. Keep these things in mind when selecting a mounting location.

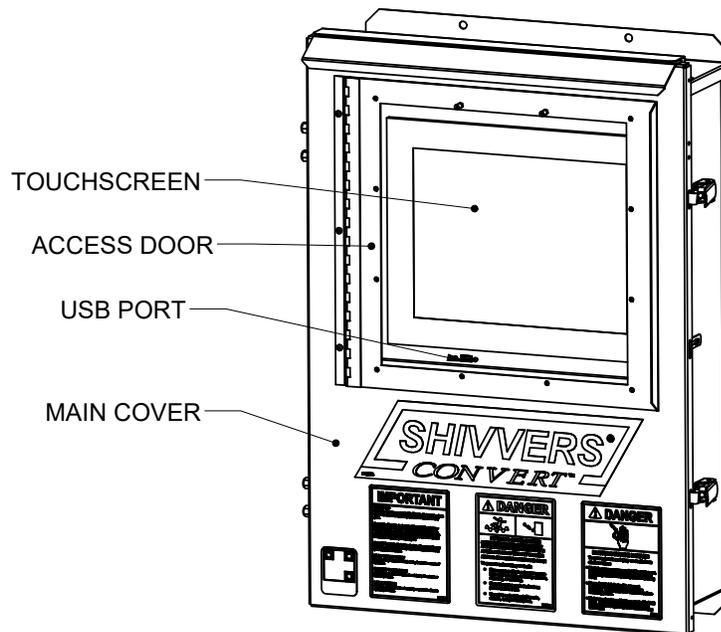
Every attempt is made to provide up to date instructions, but some items may change without notice. If in doubt about something, contact your dealer or the factory.

CONVERT CONTROL FEATURES

NEW PARTS IN EXISTING COMMAND CENTER OR NARROW COMMAND CENTER

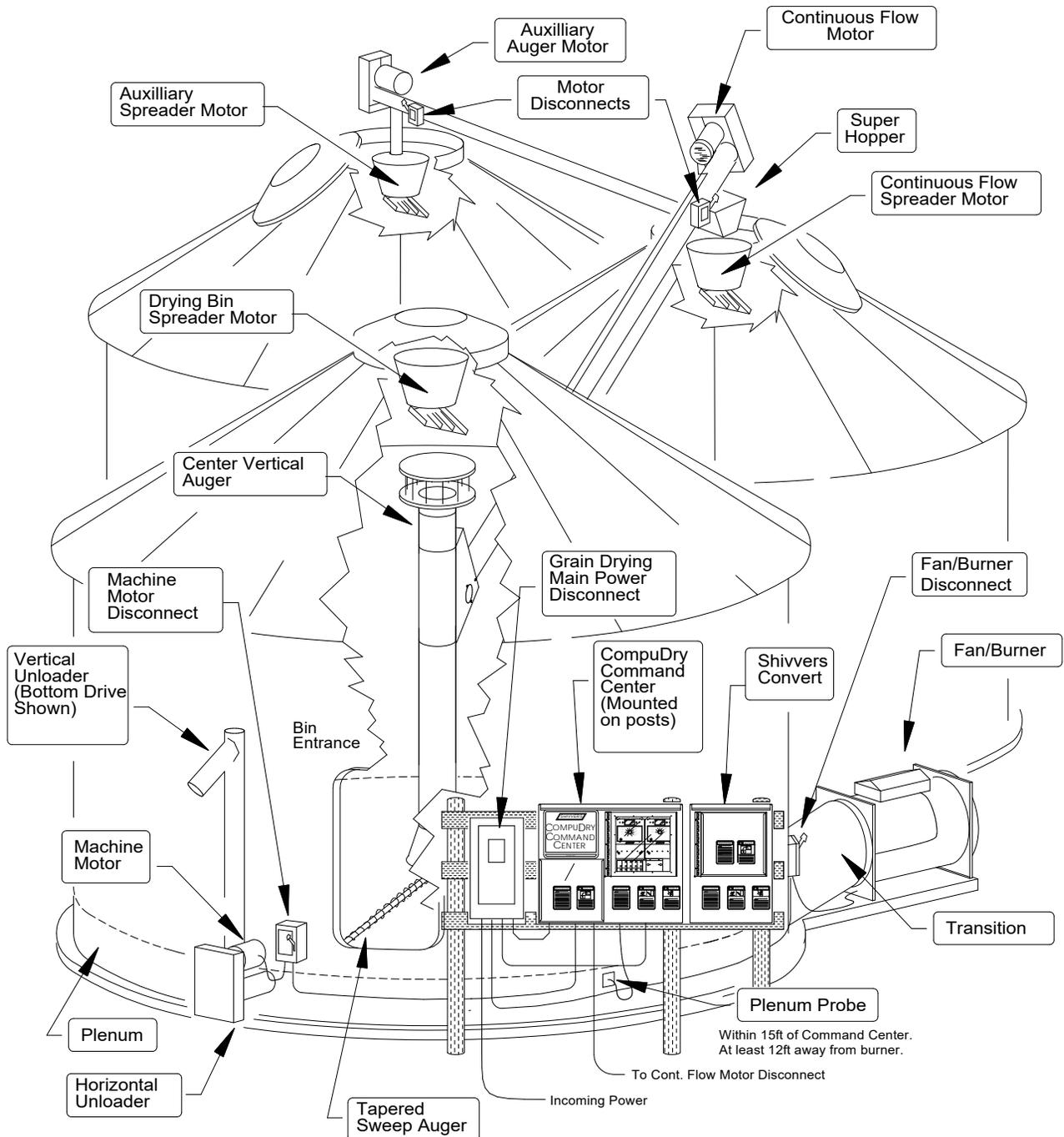


CONVERT ASSEMBLY



EQUIPMENT TERMINOLOGY

Note: Some supporting structures are omitted for clarity, this diagram is not to be used as an installation guide, but rather to quickly identify various parts & components of the system.



RECORD DATA

Record settings from Command Center so these settings can be transferred to Convert touchscreen. You can either look at the latest printer tape strip or you can power up the existing Command Center and record the settings.

PLENUM MODULE SETTINGS

FAN SHUT-DOWN TIME: _____

TARGET TEMP SETTING: _____

MAX TEMP SETTING: _____

MIN TEMP SETTING: _____

(DISPLAY TEMP CAL) PLENUM TEMP CAL: _____

MOISTURE MODULE SETTINGS

GRAIN TYPE: _____

0= CORN, WHEAT, MILO
1= SOYBEANS, OILSEEDS

TRANSFER MOISTURE: _____

GRAIN TEMP CAL: _____

MOISTURE CAL: _____

NUMBER OF SAMPLES IN AVE: _____

CONT. FLOW DELAY (SEC): _____

MACHINE TYPE: _____

0= BOTTOM UNLOAD
1= CENTER VERTICAL

SWEEP OFF TIME: _____

0 = 10 MIN
1 = 10-60 MIN
2 = 20 MIN
3 = 20=60 MIN
4 = AUTO ADJUST

MECHANICAL INSTALLATION

PREPARING THE COMMAND CENTER

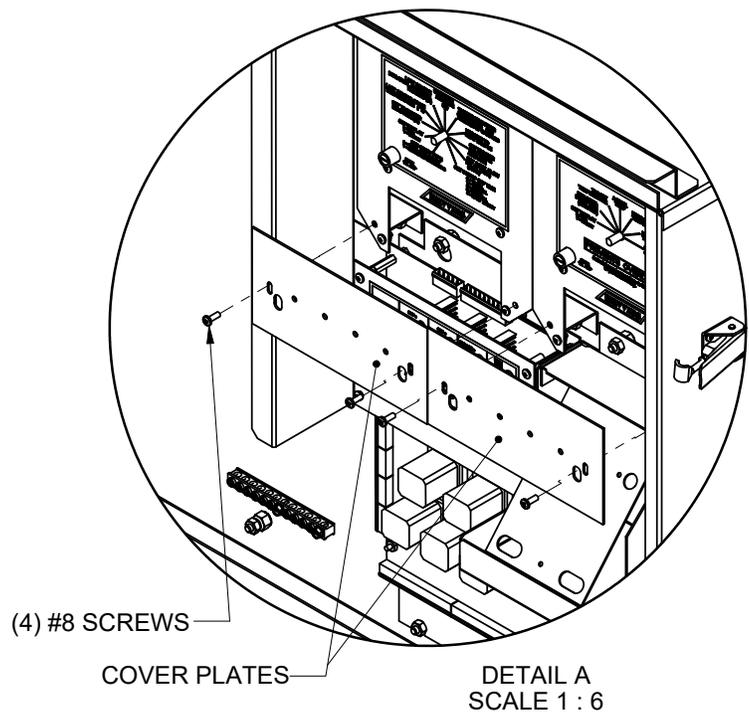
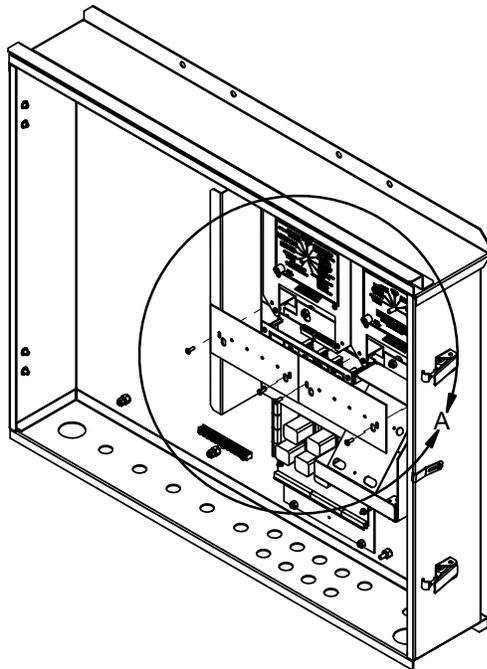
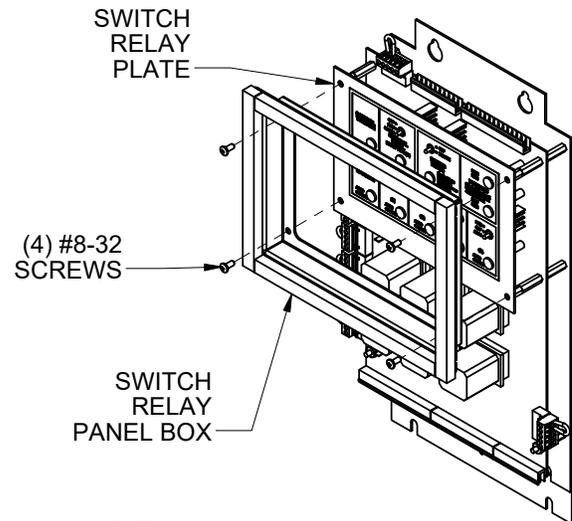


MAKE SURE THE MAIN POWER IS DISCONNECTED AND LOCKED OFF! THIS MUST INCLUDE THE POWER TO THE FAN(S).

1. Locate the Switch Relay Board Assembly (641-119A) from the Convert Parts Box (641AJ-001A). It is packed in one of the two larger boxes inside the parts box.

2. Remove the 4 screws holding the Switch Relay Panel Box on. Remove the panel box. Reinstall the 4 screws to secure the Switch Relay Plate. Set Switch Relay Board Assembly aside.

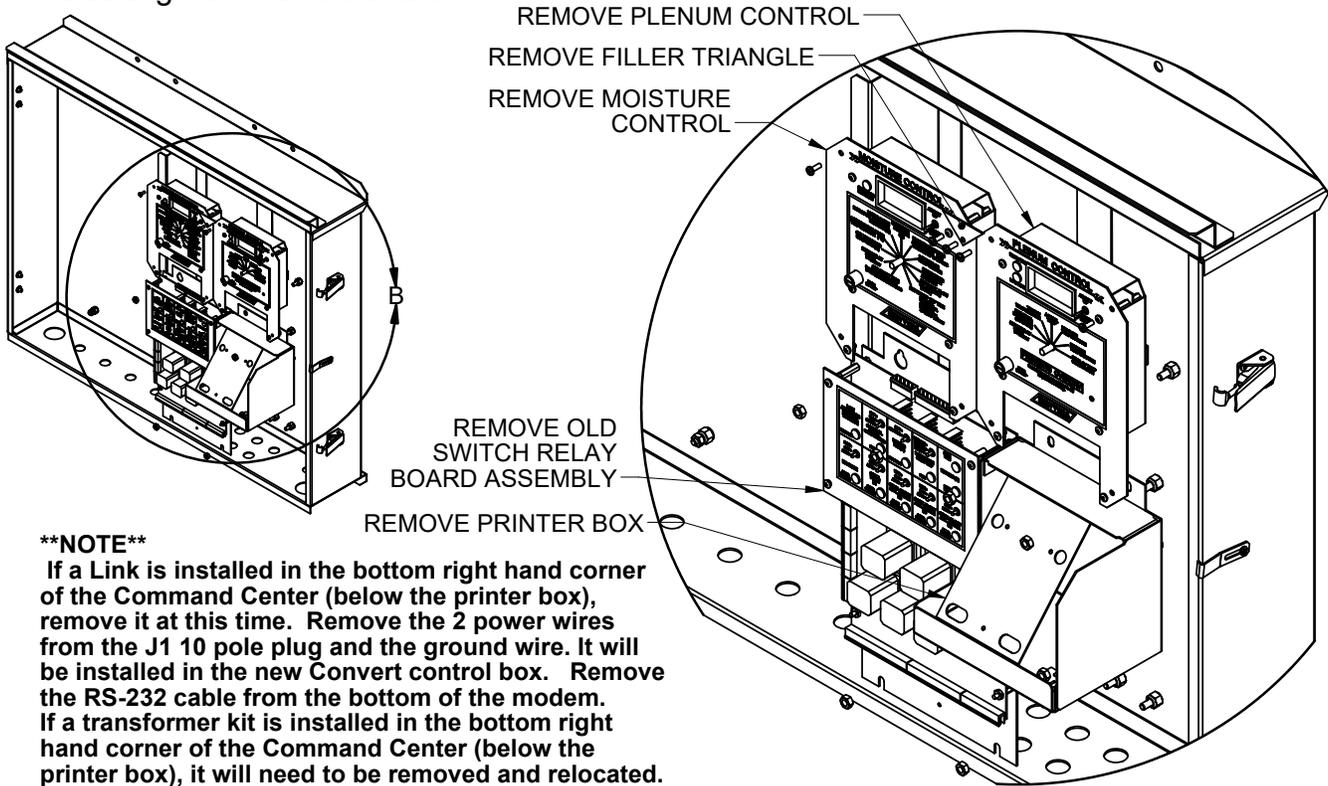
3. Remove the cover plates from the existing Command Center.



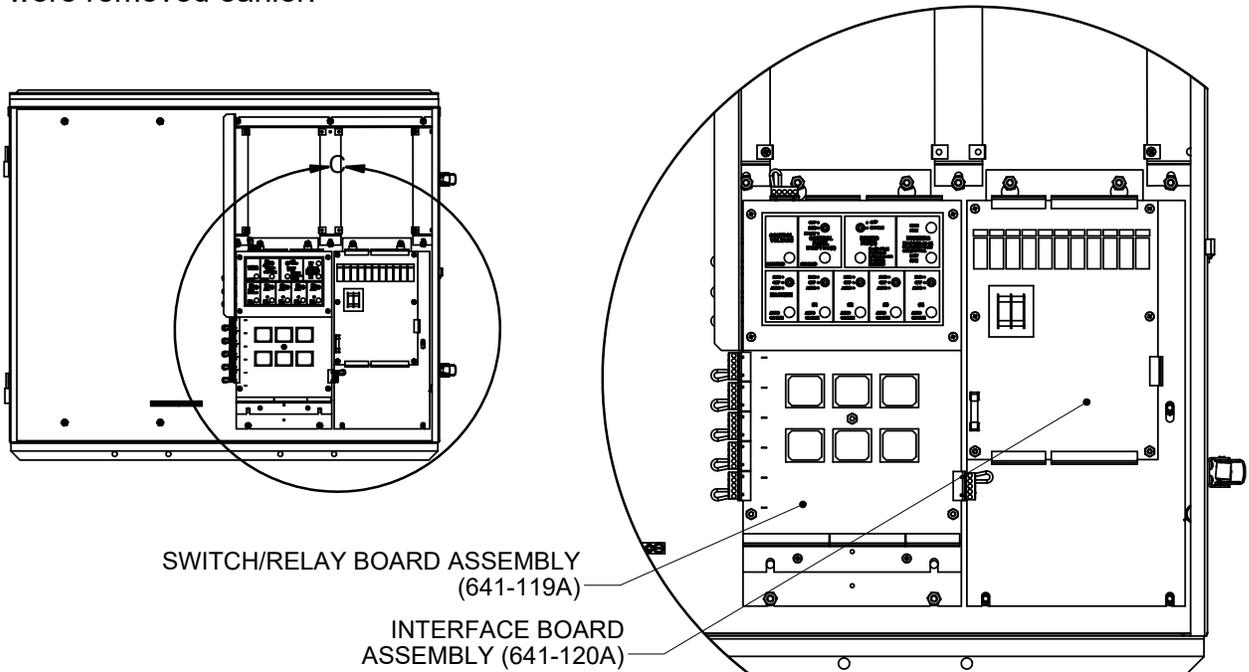
Note: The Command Center Front Cover and Convert Front Cover can be opened, lifted off it's hinges, and set aside for ease of assembly and wiring.

MECHANICAL INSTALLATION

4. Label, then unplug the 5 pole wire harnesses to motor starters from the switch relay board. Remove the control modules, switch relay board, and printer box from the existing Command Center.



5. Place the new switch relay board and interface board, as shown, using the same nuts that were removed earlier.

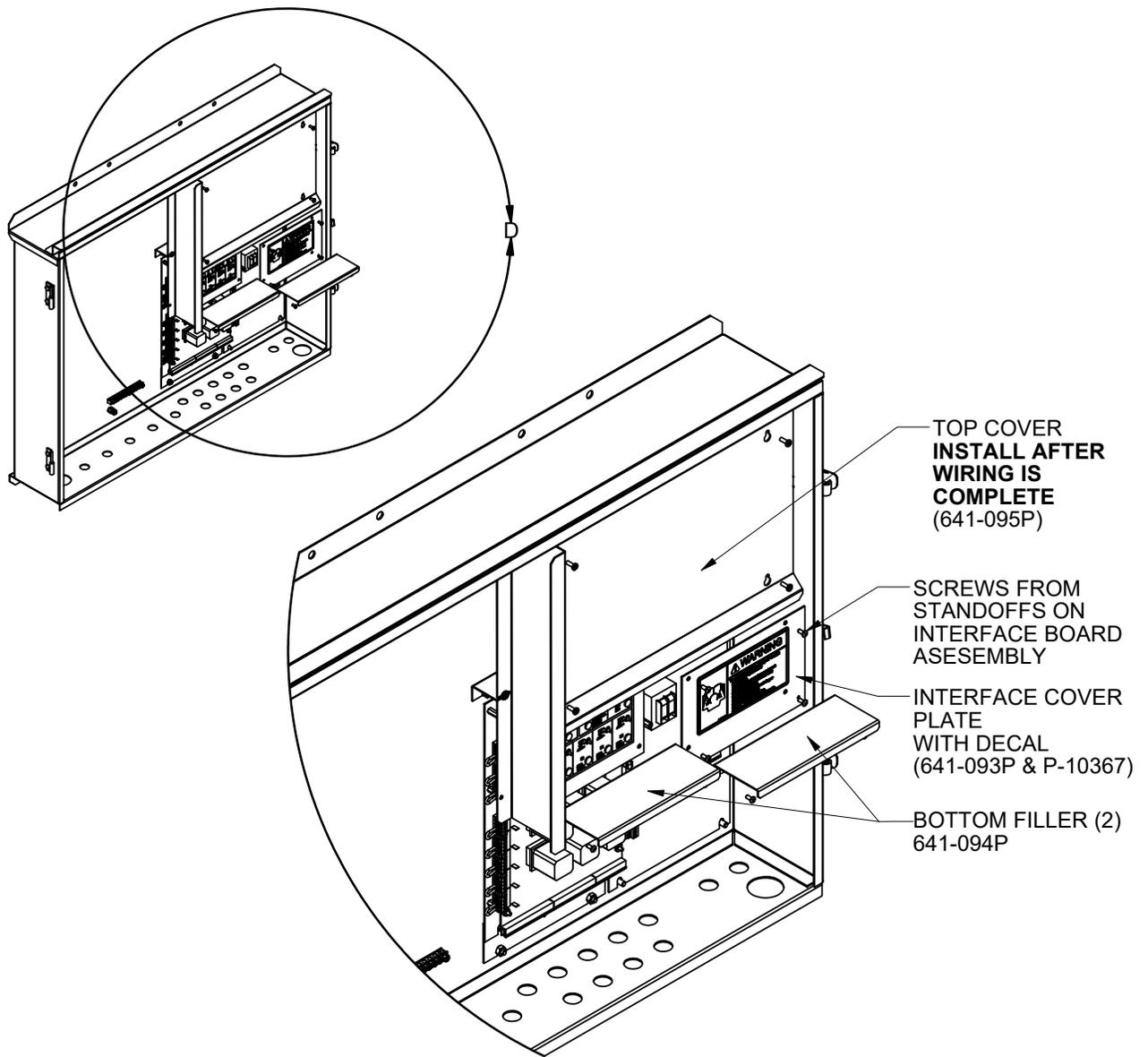


MECHANICAL INSTALLATION

6. Remove the (4) screws from the standoffs on the Interface Board Assembly. Install the Interface Cover Plate using those same screws to hold it in place.

Install the Bottom Filler Plates below the switches on the switch relay board and at the bottom of the Interface Cover Plate.

The Top Cover goes where the moisture control and plenum control modules were. Leave it off for now so that the wiring can be accessed. Re-use the screws that were removed from the control modules.

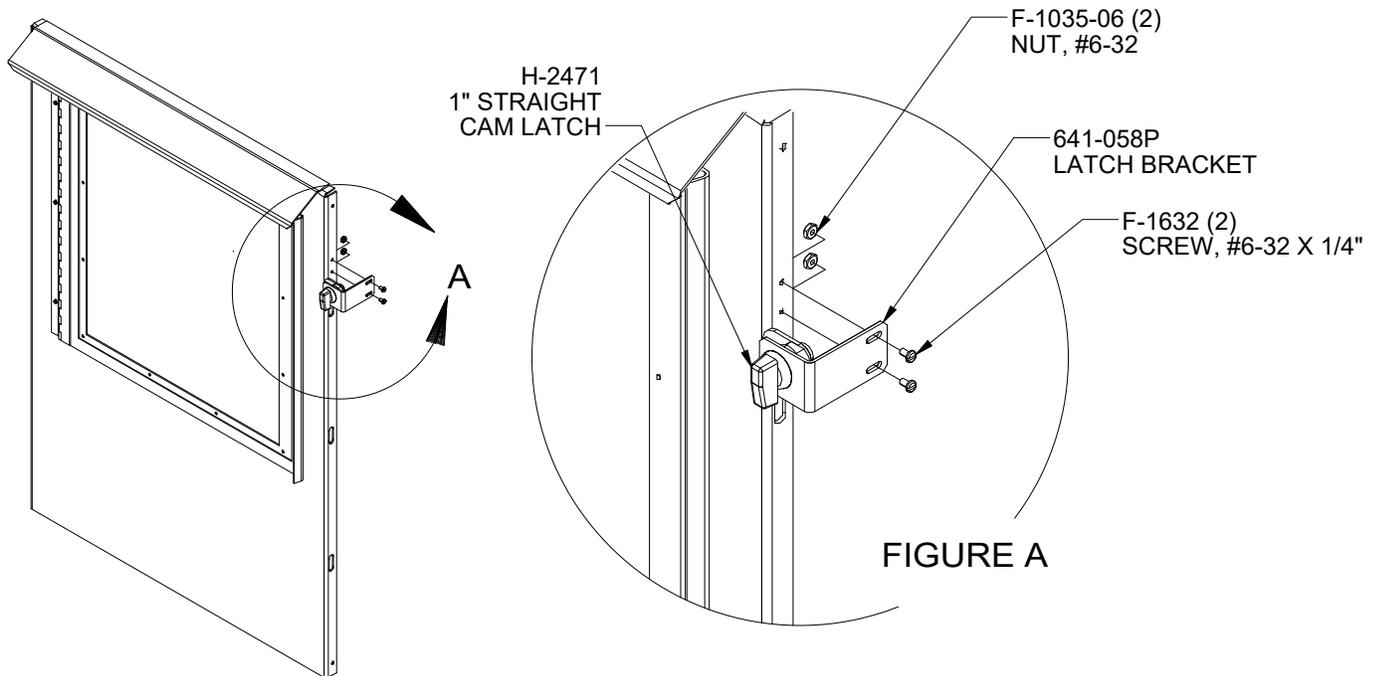


MECHANICAL INSTALLATION

DOOR LATCH KIT INSTALLATION (641P-002A)

(OPTIONAL)

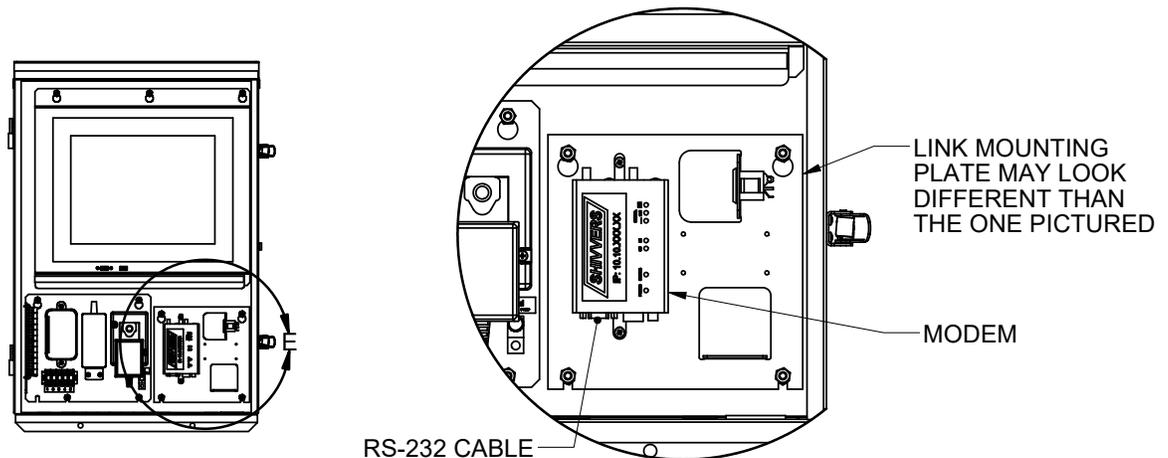
1. Locate the door latch kit (641P-002A) in the Convert Parts Box (641AJ-001A).
2. Use #6-32X1/4" screws (F-1632) and #6-32 nuts (F-1035-06) to attach latch bracket to front cover. Position and adjust latch as needed to prevent access door from coming open when not in use. Tighten screws.



MECHANICAL INSTALLATION

PREPARING THE CONVERT CONTROL BOX

1. Install the Link in the bottom right corner of the Convert Control Box. Use the nuts provided with the Link or reuse the nuts that were in the Command Center (if moving an existing Link). If the RS-232 cable is still attached to Modem, remove it.



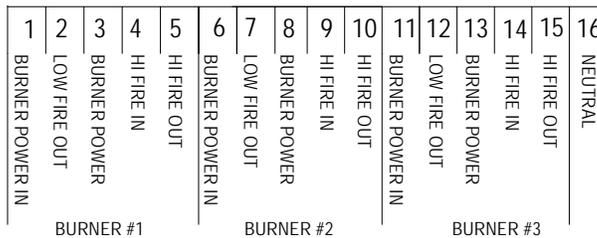
ELECTRICAL INSTALLATION



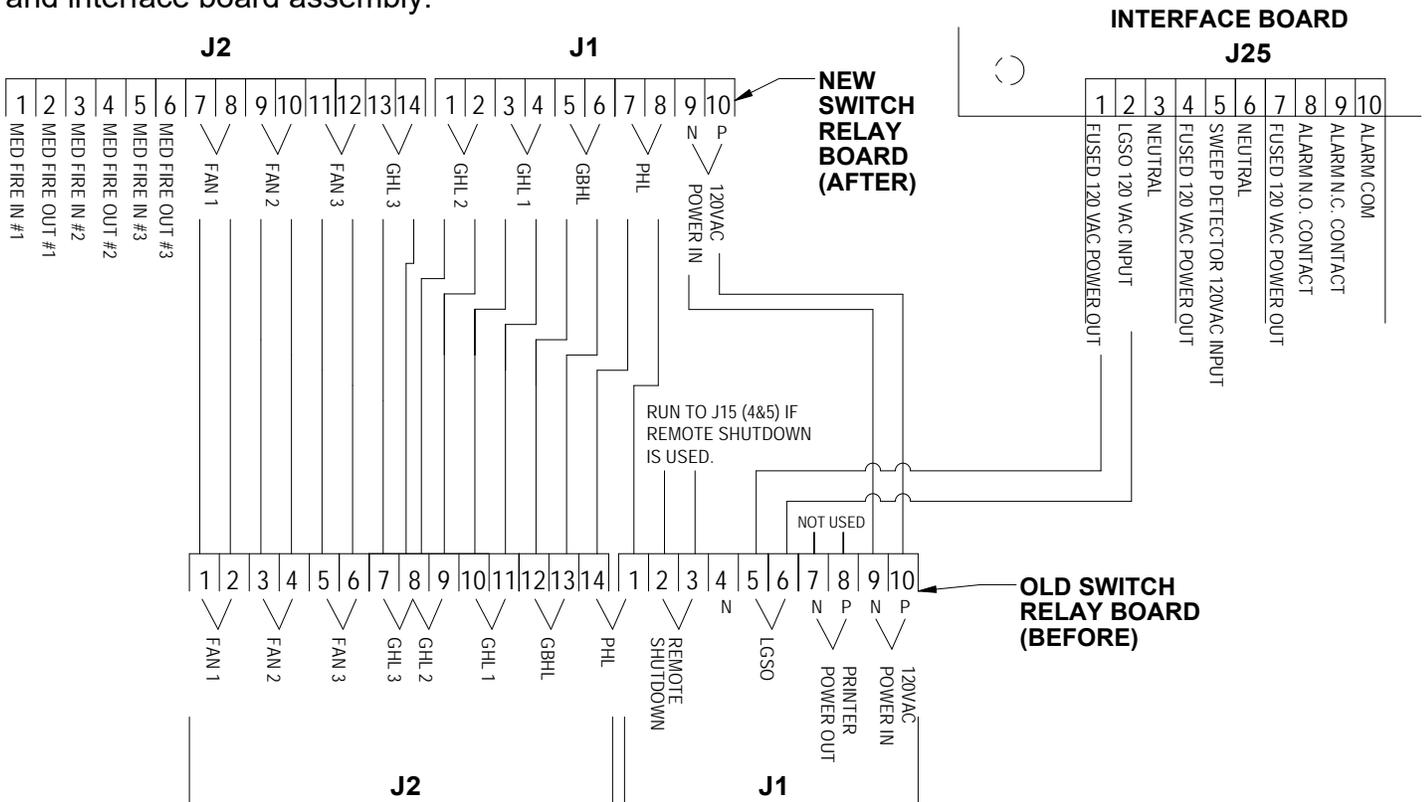
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1. Reinstall the J3 plug into the new switch relay board. J3 from the old board and J3 from the new board are wired the same. **J3**



2. Move wires on J2 and J1, as shown below, for the new switch relay board assembly and interface board assembly.



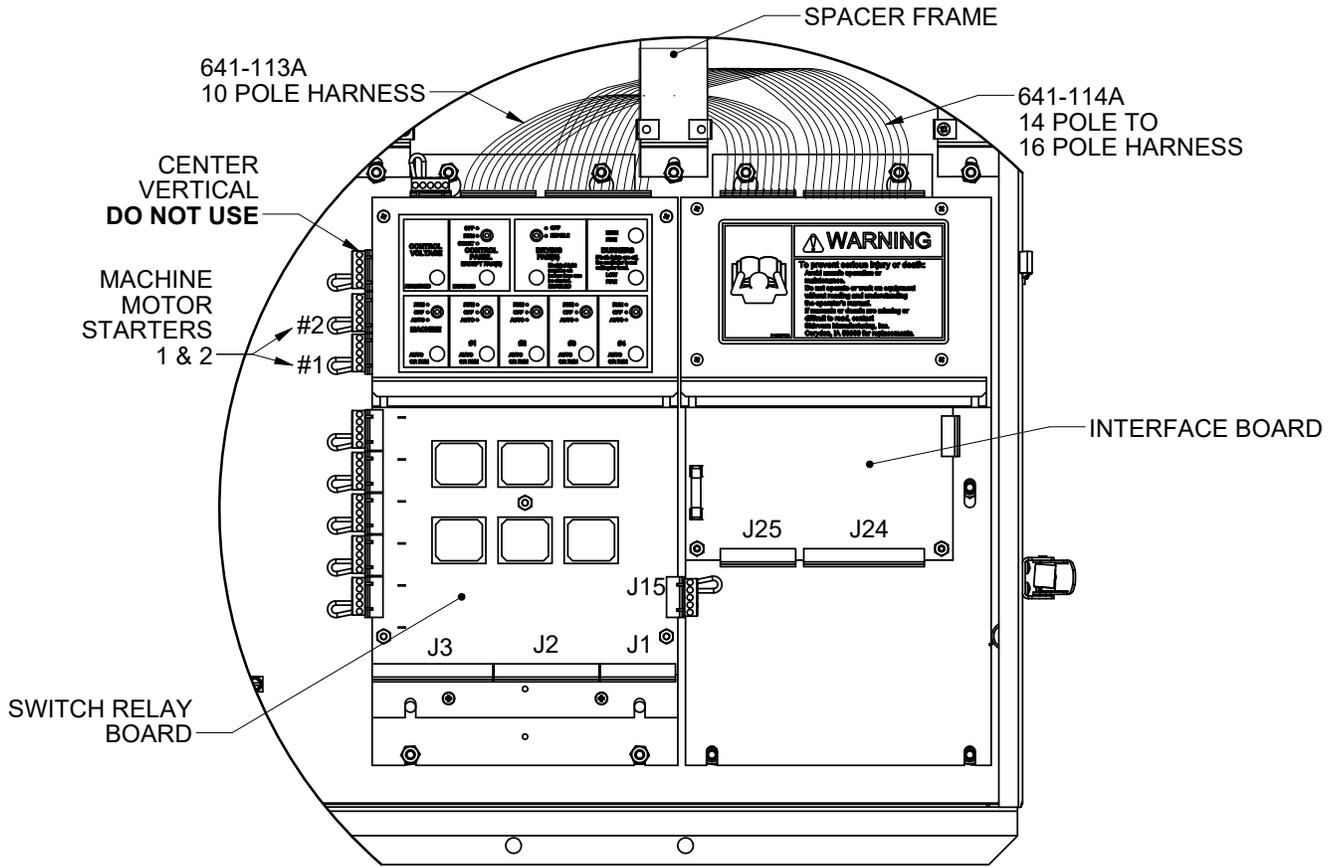
ELECTRICAL INSTALLATION

3. J24 (16 pole plug) on the interface board should be wired as shown below.

J24

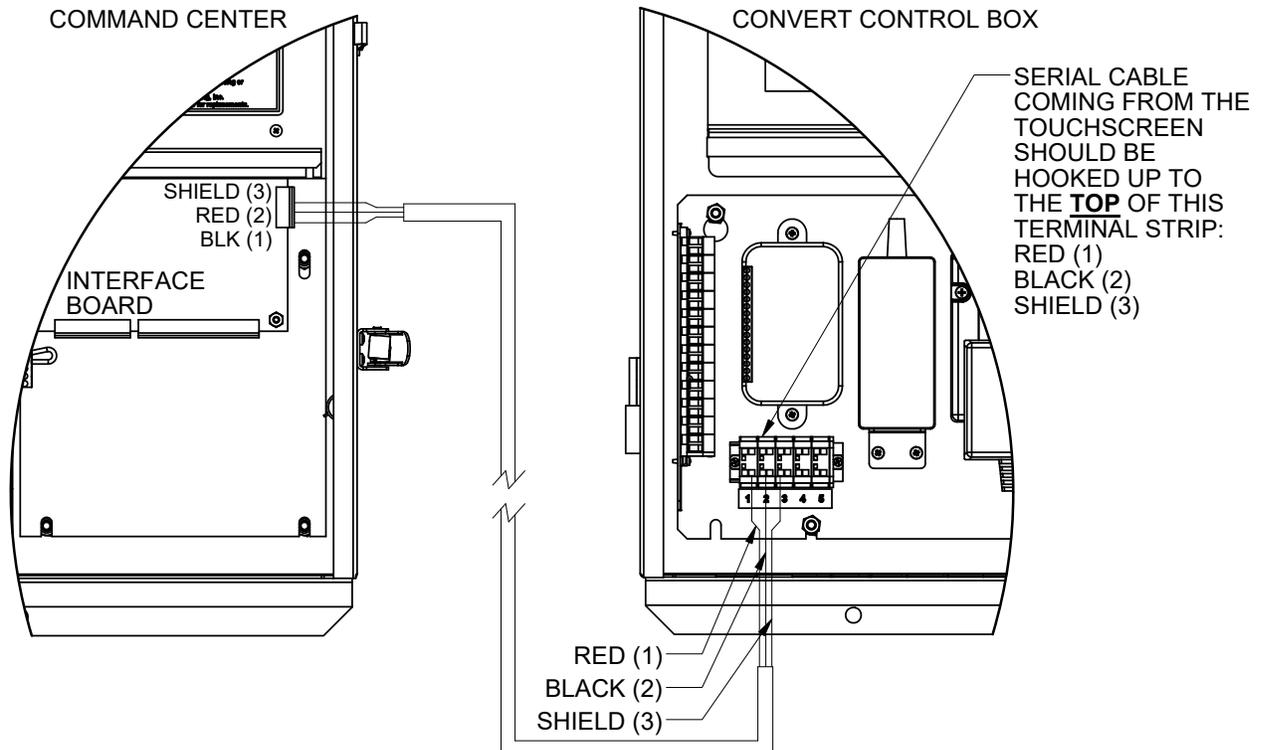
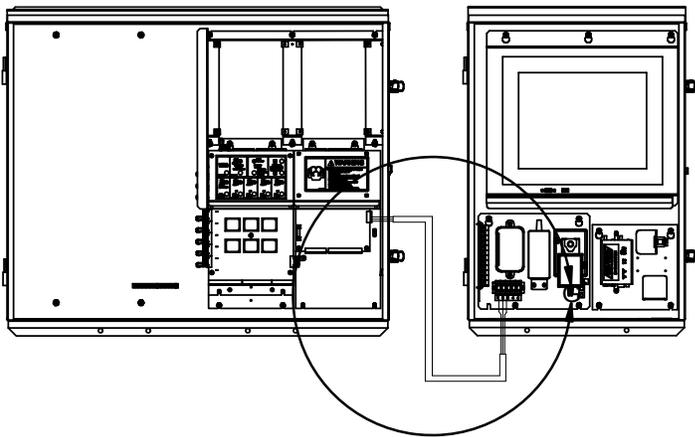
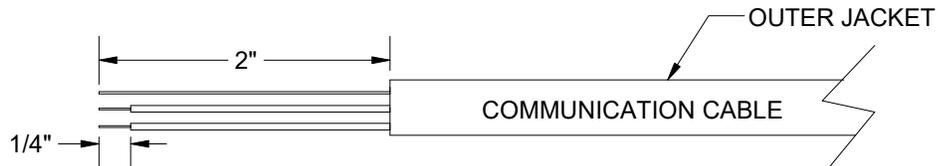
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
+12 VDC OUT	DC GROUND	NOT USED	DC GROUND	NOT USED	NOT USED	SHIELD	ORANGE/WHITE	WHITE/ORANGE	BLUE/WHITE	WHITE/BLUE	+5 VDC OUT	NOT USED	SHIELD	RED	BLACK	
							MOISTURE SENSOR							PLENUM TEMP PROBE		

4. Plug in the 5 pole motor starter wire harnesses. Do NOT use Center Vertical on the Switch Relay Board, but there must be a plug with a jumper in the socket. Use Machine Motor Starter 1 and if there is a second motor starter, use Machine Motor Starter 2. All other starters should be hooked up in the same spot as the other relay board. Locate the wire harnesses in the Convert Parts Box (641AJ-001A). Plug in the 10 pole harness and the 14 pole to 16 pole harness on top of the Switch Relay Board and Interface Board. Route them behind the Spacer Frame.



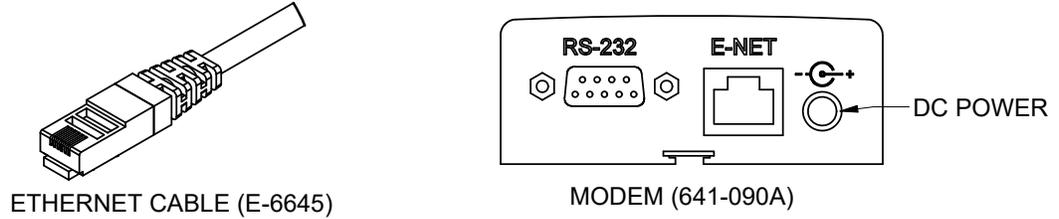
ELECTRICAL INSTALLATION

5. Run the communication cable located in the 641AJ-001A parts box from the Command Center to the Convert Control Box (50 feet is provided). Trim as necessary. Strip the outer jacket off each end of cable as shown below. Strip the wires and install them as shown. It is recommended that this cable be run inside a conduit.

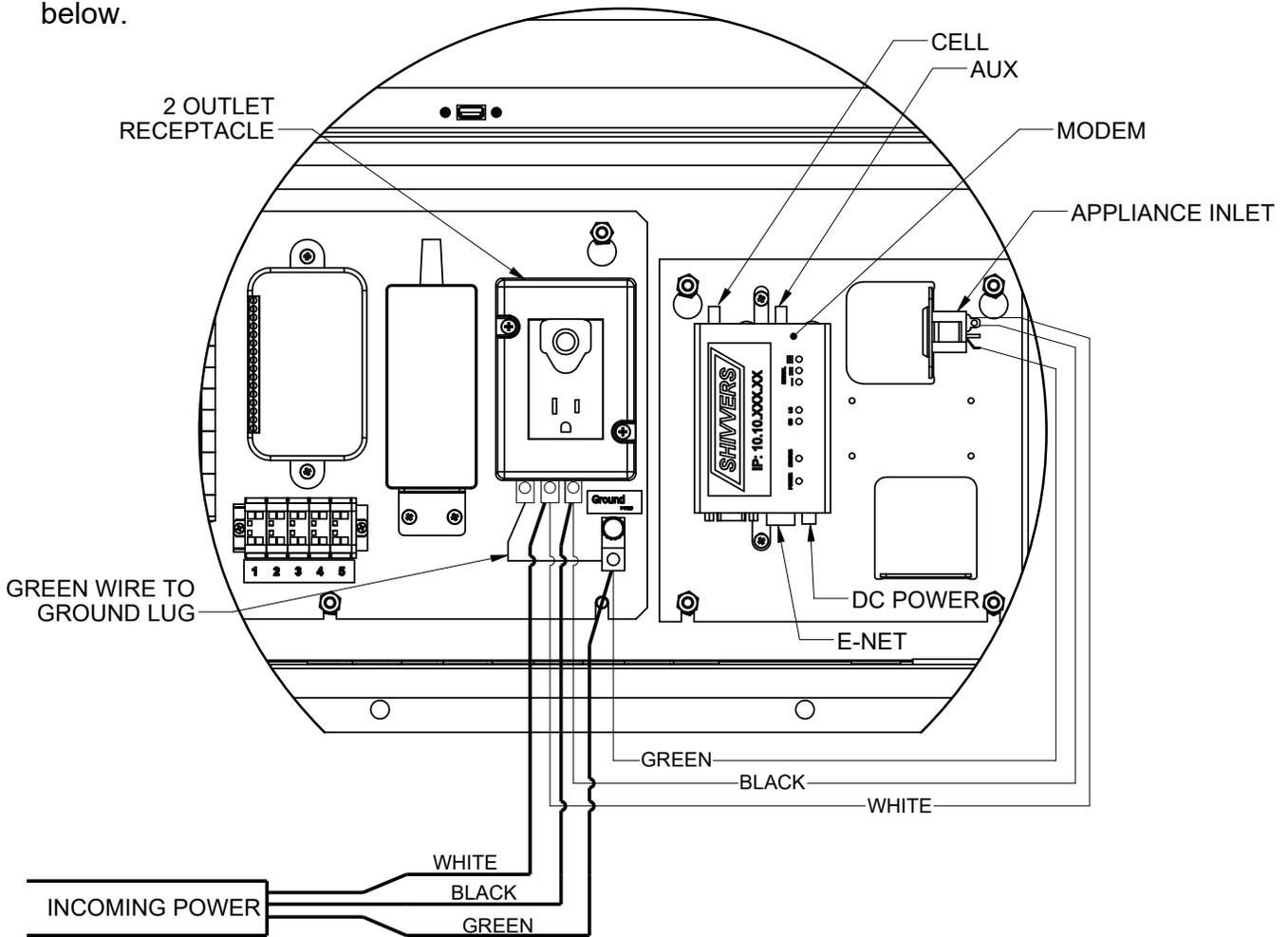


ELECTRICAL INSTALLATION

6. Plug in the Ethernet Cable from the back of the touchscreen to the bottom of the modem in the Convert Control Box to the spot marked E-NET.



7. Wire the Green, White, and Black wire from the appliance inlet to the bottom of the 2 outlet receptacle. Incoming power will also need to be wired to the bottom of the receptacle, as shown below.



Plug into an outlet or provide another means to switch it off.

8. Install the Modem Antennas, at the top of the Modem at the CELL and AUX ports.

ELECTRICAL INSTALLATION

9. With wiring complete, install the Top Cover in the Command Center. Refer to page 9.

10. Reinstall the Command Center Front Cover and the Convert Front Cover, if they were removed.

SEE OPERATING INSTRUCTIONS P-13281 pages 11-45.