INSTALLATION INSTRUCTIONS

Original Issue Date: **7/95**
Model: **Solid-State Logic Transfer Switches 30-4000 amps**
Market: **Industrial**
Subject: **Conversion of Solid-State Logic to Microprocessor Logic**

The solid state to microprocessor conversion kit converts a solid-state transfer switch to a microprocessor logic transfer switch. The conversion kit consists of a replacement door assembly, contact, plug, and pins. The standard 90 day service parts warranty applies.

⚠ DANGER

Hazardous voltage.
Will cause severe injury or death.

Do not open enclosure until all power sources are disconnected.

(600 Volt and above)

⚠ WARNING

Hazardous voltage.
Can cause severe injury or death.

Do not open enclosure until all power sources are disconnected.

(under 600 Volt)

Hazardous voltage can cause severe injury or death. Whenever electricity is present, there is the hazard of electrocution. Open main circuit breaker on all power sources before servicing equipment. Electrically ground the generator set and electrical circuits when in use. Never come into contact with electrical leads or appliances when standing in water or on wet ground, as the chance of electrocution is increased under such conditions.

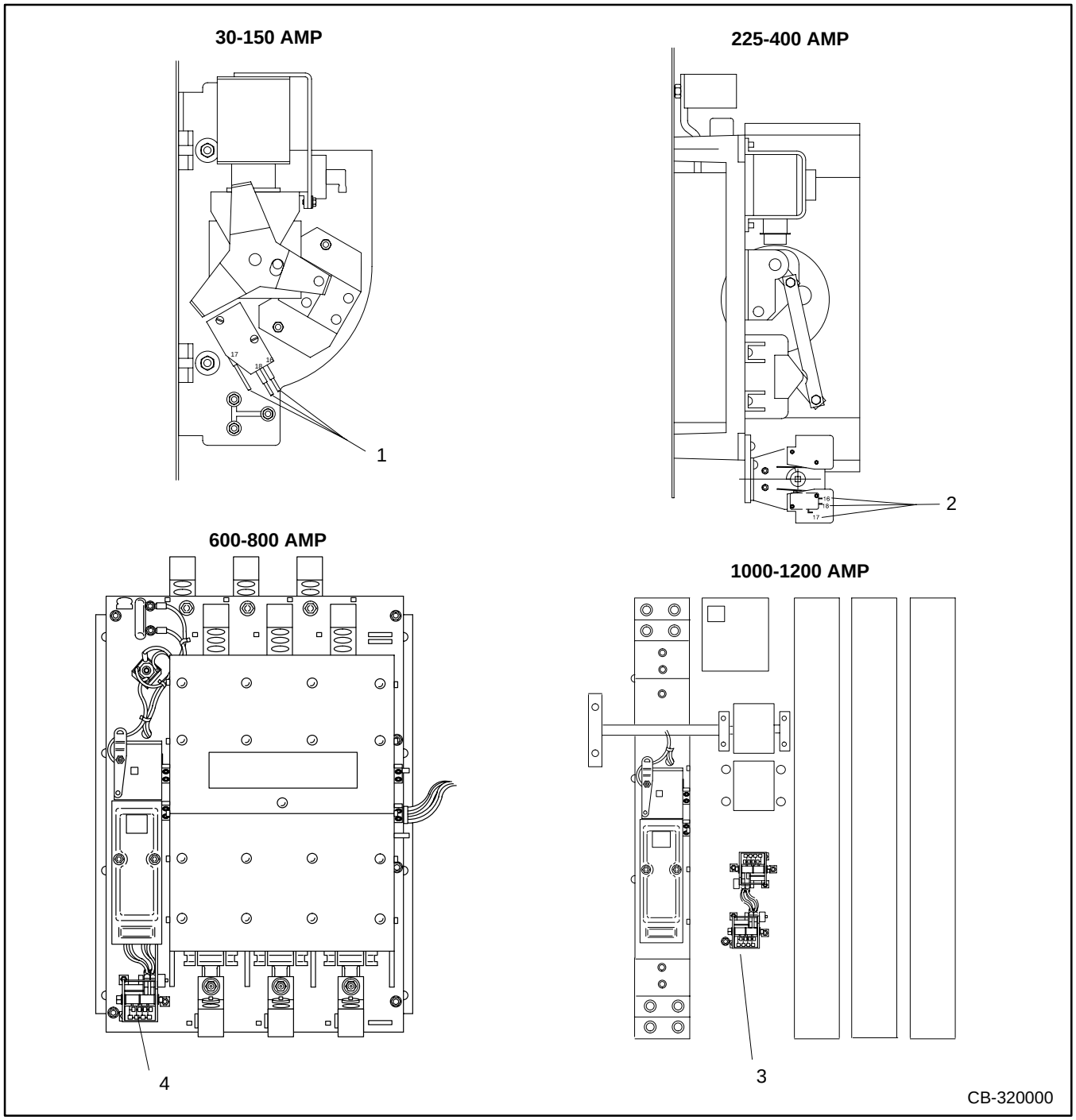
Hazardous voltage can cause severe injury or death. To prevent the possibility of electrical shock, disconnect harness plug before installing any accessories involving connection to transformer assembly primary terminals 76, 77, 78, and 79. Terminals are at line voltage!
(S340, R340, and R33 models only.)

Hazardous voltage can cause severe injury or death. To prevent the possibility of electrical shock, disconnect harness plug before installing any accessories involving connection to transformer assembly primary terminals on microprocessor logic models. Terminals are at line voltage!

Hazardous voltage can cause severe injury or death. De-energize both normal and emergency power sources before proceeding. Move generator set master switch on controller to OFF position and disconnect battery negative (–) before working on transfer switch! Turn the transfer switch selector switch to the OFF position.

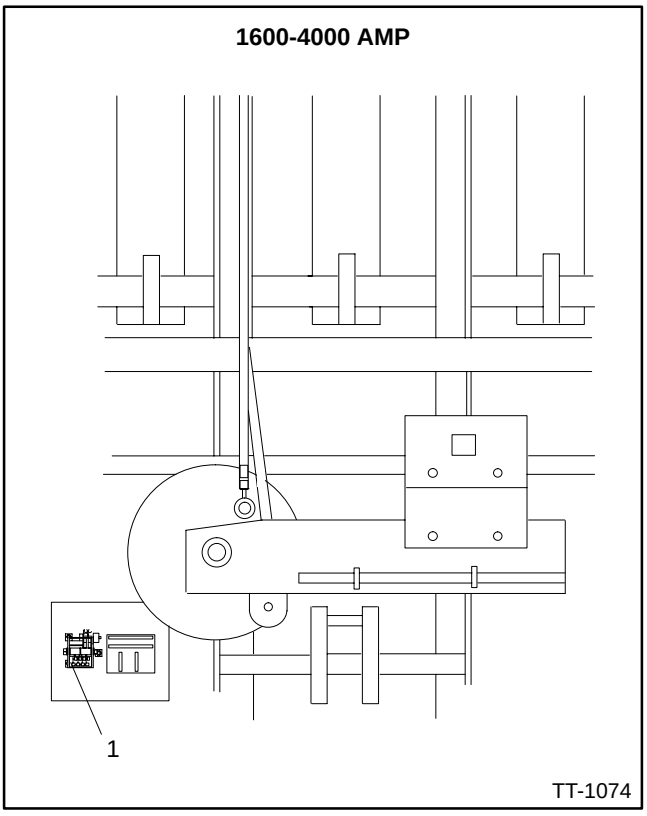
Installation

1. Refer to the solid state ATS operation manual and verify transfer switch operates according to the procedure in the manual.
2. Open main circuit breakers to disconnect normal and emergency power sources to transfer switch. Turn the generator set master switch to the OFF position. Disconnect generator set starting battery, negative (–) lead first.
3. Label connections as needed. Disconnect all plugs and leads connected to the transfer switch door.
4. Remove entire door assembly from the transfer switch. Lift the door from its hinges with the door open.



1. 30-150 amp auxiliary contacts
2. 225-400 amp auxiliary contacts
3. 1000-1200 amp auxiliary contacts
4. 600-800 amp auxiliary contacts

Figure 1. 30-1200 amp Auxiliary Contact Locations



1. 1600-4000 amp auxiliary contacts

Figure 2. 1600-4000 AMP

5. Replace auxiliary contact assembly with contact assembly provided in the kit. Contact to be replaced has terminal designations 16, 17, and 18. See Figure 1 or Figure 2 for auxiliary contact locations.
   a. Remove wires TS-16, TS-17, and TS-18 from auxiliary contact terminals 16, 17, and 18.
   b. Remove screws securing auxiliary contacts.
   c. Replace the original auxiliary contacts with the new contacts supplied in the kit. Secure contacts with previously removed screws.
   d. Reconnect wire TS-16 to terminal 16, wire TS-17 to terminal 17, and wire TS-18 to terminal 18.

NOTE

Label wires as necessary for identification purposes.

6. Locate pin 1 in plug P1. Cut terminal 1 wire 1 in. (25 mm) from the end of the plug. See Figure 3.

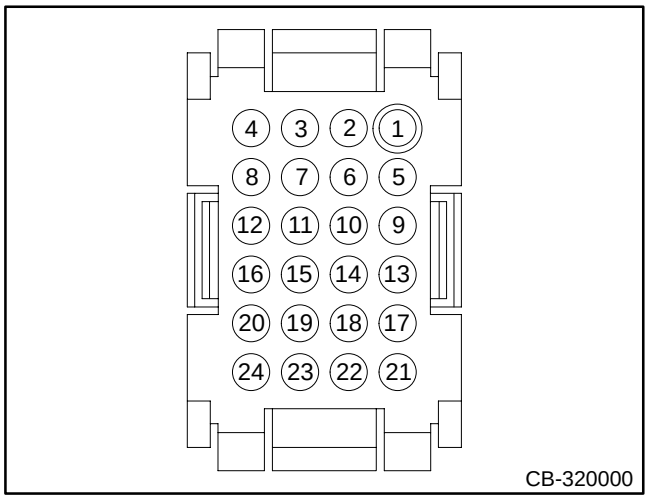


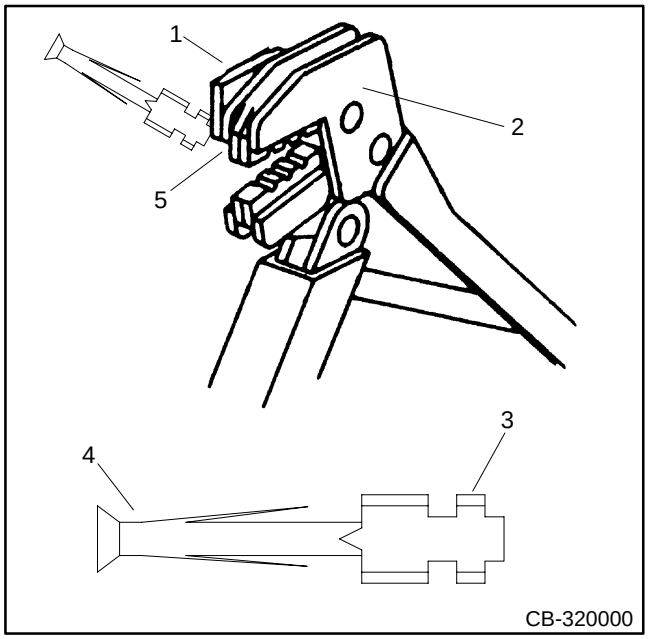
Figure 3. Plug P1

7. Strip 1/8 in. (3 mm) of insulation from the end of the wire.
8. Crimp the pin provided as follows:

NOTE

Crimper (service part number 346356) is not included in the kit. Use the specified crimper, or a compatible crimper for the following procedure.

   a. Hold the crimper with the wire side facing the operator. See Figure 4. Squeeze the handles together and allow them to fully open to reset the crimper.



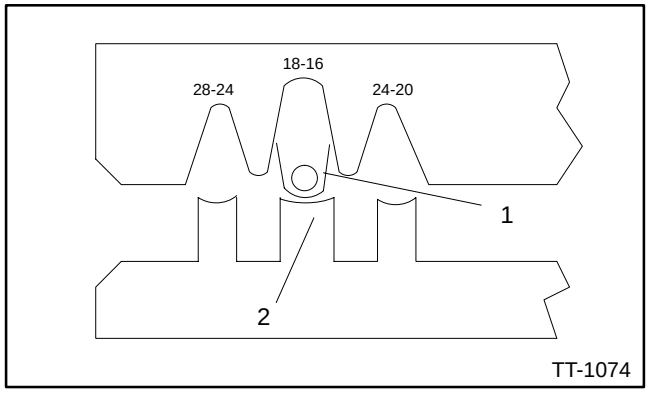
1. Pin support
2. Wire side of crimper
3. Insulation barrel
4. Mating end of pin
5. Locator

Figure 4. Crimper and Pin Positioning

b. Hold the pin by the mating end with the other hand. See Figure 4.

c. Place the pin (insulation barrel first) through the pin support side of the crimper into the nest section. See Figure 4.

d. The open U's of the pin must face the top of the crimper. See Figure 5.



1. Pin
2. Nest

Figure 5. Pin Position In Crimper

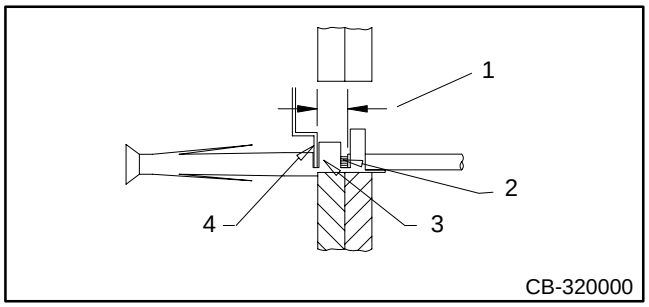
e. Rest the contact on the middle nest such that the edge of the insulation barrel is flush with the wire side edge of the nest. See Figure 5.

NOTE

Place both sides of the insulation barrel evenly into the crimping section. Do not attempt to crimp a misaligned contact.

f. Hold the pin in position and lightly squeeze the crimper's handles together until the ratchet clicks once. Do not apply pressure that will deform insulation barrel.

g. Insert stripped wire into pin insulation barrel until wire rests against the wire stop. See Figure 6.



1. Wire strip length 1/8 in. (3 mm)
2. Open U
3. Wire inserted to stop
4. Locator in wire stop slot

Figure 6. Pin Positioning

h. Hold wire in place and squeeze handles together until the ratchet releases. Remove crimped pin after crimper handles open.

NOTE

The crimped pin may stick in the crimping area of the crimper. Press down on the top of the locator to remove stuck pin.

9. Insert new pin into location 1 of new plug P1.
10. Repeat procedure for remaining wires in positions 2-24 consecutively.
11. Install new transfer switch door provided with the kit.
12. Remove clear plastic plug guide from original plug P1 and use on new plug P1.
13. Connect P1 to mating plug. Reattach leads that were disconnected earlier.
14. With generator set master switch in the OFF position, reconnect generator set starting battery, negative (–) lead last.
15. Close main circuit breaker to energize normal and emergency power sources to transfer switch.
16. Refer to transfer switch operation and installation manual for operating procedures. Verify correct transfer switch operation.
17. File a manufacturer's start-up notification form and required warranty forms after completing the installation of this kit.

Parts List

			Unique Parts	
Qty.	**Description**	**Common Parts**	**30-400 amp**	**600-4000 amp**
1	Auxiliary Contact		346249	
1	Auxiliary Contact			320488
30	Pins	292838		
1	Plug	295145		
1	Microprocessor, door assembly	*		

* Part number varies based on original switch configuration