

Installing 2-Ampere Battery Charger Kit in:
LT Series Transfer Switches
(Spec J and Later)
OT Series Transfer Switches
(Spec G and Later)

Kit Number	Switch Rating
300-3507	120 VAC
300-3508	208 VAC
300-3509	240 VAC
300-3510	347 VAC
300-3511	380 VAC
300-3512	416 VAC
300-3513	480 VAC
300-3514	600 VAC

INSTALLING THE BATTERY CHARGER

These instructions give the procedure for installing a 12/24-volt, 2-ampere battery charger kit in an LT transfer switch (Spec J and later) or in an OT transfer switch (Spec G or later). Because the transfer switch presents a severe shock hazard, this kit is to be installed by technically qualified personnel only.

⚠ WARNING *The transfer switch presents a shock hazard that can cause severe personal injury or death unless all AC power is removed. Before beginning the installation, remove all sources of AC power. If a generator set provides emergency power, move the generator set operation selector switch to Stop, disconnect AC line power, and disconnect the starting battery (negative [-] lead first).*

1. Turn the operation selector switch to Stop. (The selector switch is located on the generator set control panel on two-wire start systems and inside the cabinet door on three-wire start systems.)

Disconnect all sources of AC power from the transfer switch.

Disconnect the set starting battery (negative [-] lead first).

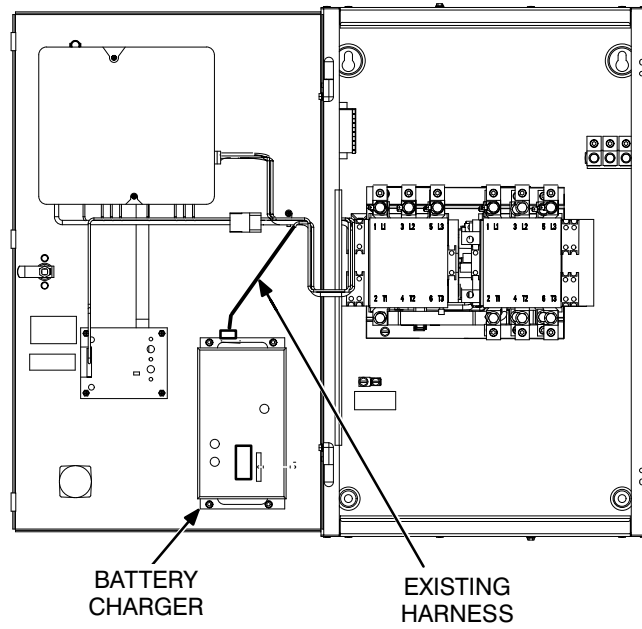
⚠ WARNING *Ignition of explosive battery gases can cause severe personal injury. Do not smoke or cause any spark, arc, or flame while servicing batteries.*

If you are also installing a 3-Wire Start module, do so now. Follow the instructions provided with the kit.

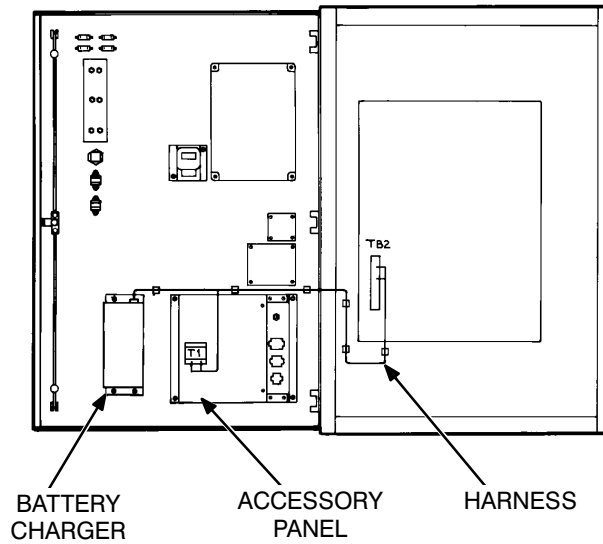
2. **OT Models:** Remove the accessory panel cover.
3. Mount the battery charger as shown in Figure 1, using the four nuts provided.
4. Place the 12V/24V selector switch in the desired position.
5. **LT Models:** Connect the P6 connector from the existing wire harness in the transfer switch to the battery charger. Discard the wire harness supplied in the battery charger kit. Proceed to step 12.
6. **OT Models:** Plug the kit wiring harness into the receptacle on the charger.
6. **OT Models:** Route the kit wiring harness along the main harness as shown in Figure 1.

A 2-wire start system, with B+ and GND wires routed to TB2, is shown in Figure 1. When a 3-wire start system is used, B+ and GND wires are routed to TB3.

LT 30 – 260 AMP



OT 150 – 1000 AMP



OT 40 – 125 AMP

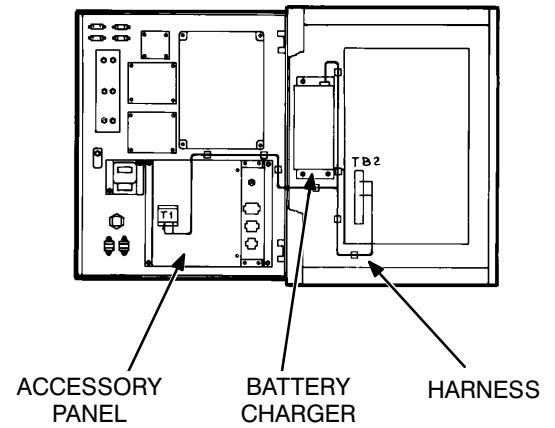


FIGURE 1. MOUNTING LOCATION

7. **OT Models:** Cut each harness lead to a suitable length. Terminate the transformer and TB2 (2-wire start) leads with the spade terminals provided. Strip 3/8 inch of insulation off the TB3 (3-wire start) leads.
8. **OT Models:** Connect the kit harness leads to transformer T1 (on the accessory control panel) and to TB2 or TB3 as shown in Figure 2 (2-wire start) or Figure 3 (3-wire start).
9. **OT Models:** Reinstall the accessory panel cover.
10. **OT Models:** Place cable tie mounts in the cabinet as shown in Figure 1.
11. **OT Models:** Tie all wires neatly into the main wiring harness and to the cable tie mounts using the cable ties provided.
12. Connect the generator set starting battery (negative [-] lead last).

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13. Connect AC line power to the transfer switch. Place the generator set operation selector switch in the Auto (3-wire start) or Remote (2-wire start) position.
14. Check the system for proper operation as described in the installation manual.

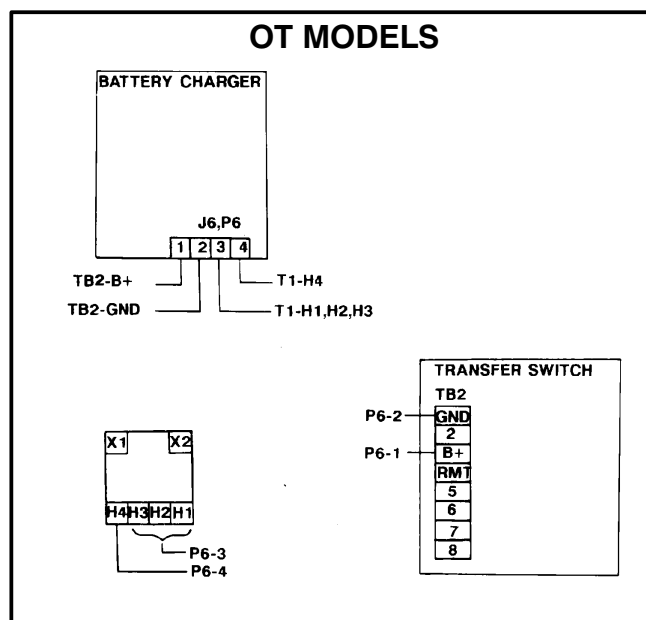


FIGURE 2. WIRING DIAGRAM 2-WIRE START

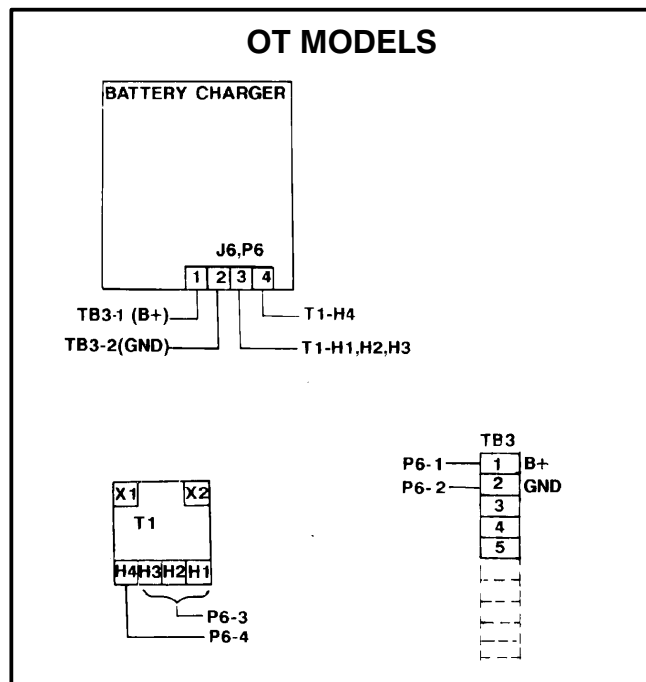


FIGURE 3. WIRING DIAGRAM 3-WIRE START

ADJUSTING THE FLOAT VOLTAGE

The float voltage is set at the correct value at the factory and should not require adjustment. However, if the battery shows signs of being overcharged or undercharged, the float voltage can be adjusted. A high specific gravity, bubbling of electrolyte, and loss of water indicate a high float voltage. A low specific gravity indicates a low float voltage.

To change the float voltage, a small screwdriver and an accurate voltmeter (0.5% accuracy) are needed. Use the following procedures to adjust the float voltage.

1. Connect the voltmeter directly to the battery terminals and measure the voltage.

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2. Compare the voltage reading with the value shown in Table 1. If the voltage is above or below the recommended float voltage, open the cabinet door and adjust as specified in step 3.

⚠ WARNING *AC power within the cabinet and the rear side of the cabinet door presents an electrical shock hazard that could cause severe personal injury or death. Use extreme caution to avoid touching electrical contacts whenever the cabinet door is open.*

3. Use a small screwdriver to turn the adjustment potentiometer on the charger panel (Figure 4) counterclockwise to decrease the float voltage and clockwise to increase the float voltage. Adjust in small steps and wait five minutes for the voltage to stabilize before making additional adjustments.
4. When adjustments are complete, remove the voltmeter and close and lock the transfer switch cabinet door.

TABLE 1. BATTERY FLOAT VOLTAGES

Lead-Acid Batteries	
Battery Voltage	Float Voltage
12	13.3
24	26.6

Nickel-Cadmium Batteries	
Float Voltage Charge Per Cell	
1.38 to 1.45 volts	
Example: Float charge for 10 cell battery should be 13.8 to 14.5 volts.	

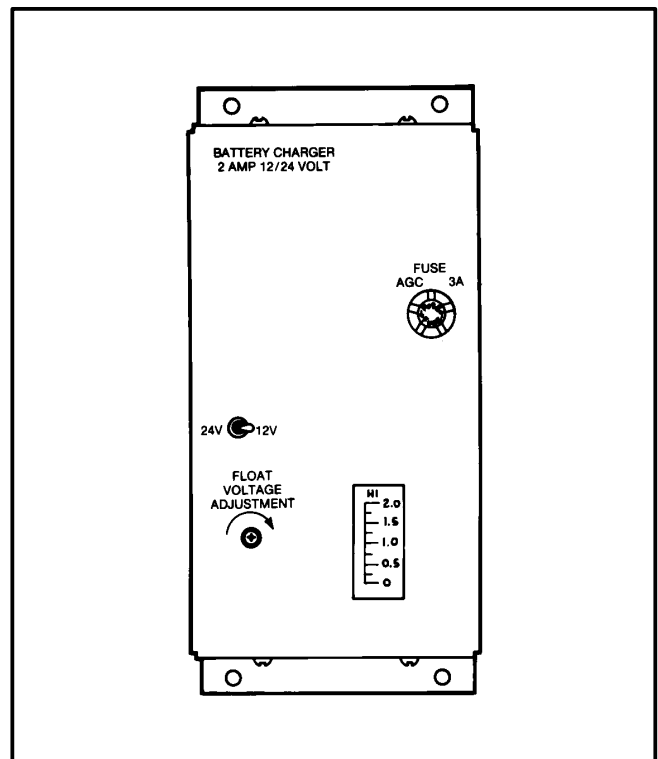


FIGURE 4. BATTERY CHARGER