

Installing 10-Ampere Battery Charger Kit in:
LT Series Transfer Switches
(Spec J and Later)
OT Series Transfer Switches
(Spec G and Later)

Kit	DC Output	Switch Rating	Kit	DC Output	Switch Rating
300-3515	12 VDC	120 VAC 60 Hz	300-3529	24 VDC	120 VAC 60 Hz
300-3516	12 VDC	208 VAC 60 Hz	300-3530	24 VDC	208 VAC 60 Hz
300-3517	12 VDC	240 VAC 60 Hz	300-3531	24 VDC	240 VAC 60 Hz
300-3518	12 VDC	380 VAC 60 Hz	300-3532	24 VDC	380 VAC 60 Hz
300-3519	12 VDC	480 VAC 60 Hz	300-3533	24 VDC	480 VAC 60 Hz
300-3520	12 VDC	600 VAC 60 Hz	300-3534	24 VDC	600 VAC 60 Hz
300-3521	12 VDC	200 VAC 50 Hz	300-3535	24 VDC	200 VAC 50 Hz
300-3522	12 VDC	220 VAC 50 Hz	300-3536	24 VDC	220 VAC 50 Hz
300-3523	12 VDC	240 VAC 50 Hz	300-3537	24 VDC	240 VAC 50 Hz
300-3524	12 VDC	347 VAC 50 Hz	300-3538	24 VDC	347 VAC 50 Hz
300-3525	12 VDC	380 VAC 50 Hz	300-3539	24 VDC	380 VAC 50 Hz
300-3526	12 VDC	400 VAC 50 Hz	300-3540	24 VDC	400 VAC 50 Hz
300-3527	12 VDC	416 VAC 50 Hz	300-3541	24 VDC	416 VAC 50 Hz
300-3528	12 VDC	440 VAC 50 Hz	300-3542	24 VDC	440 VAC 50 Hz

INSTALLING THE BATTERY CHARGER

These instructions give the procedure for installing a 12- or 24-volt, 10-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.

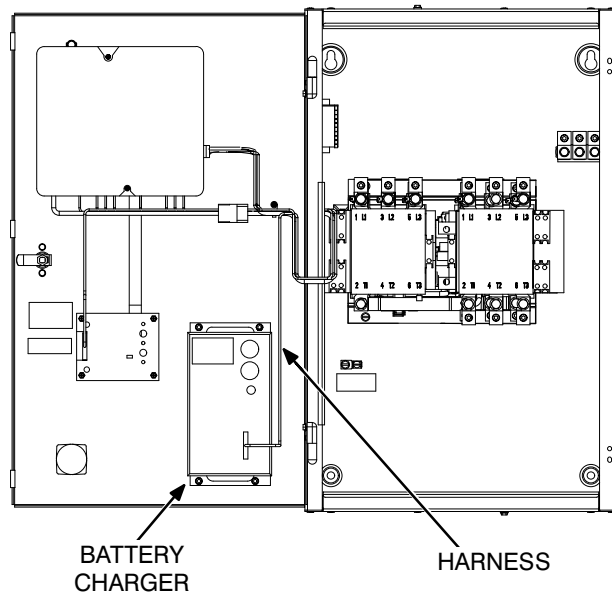
Disconnect the set starting battery (negative [-] lead first).

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

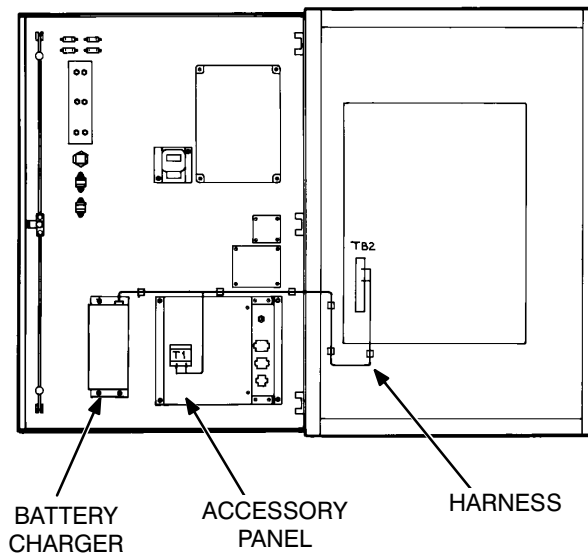
If you are also going to install a 3-Wire Start module, do so now. Follow the instructions provided with the kit.

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.

LT 30 – 260 AMP



OT 150 – 1000 AMP



OT 40 – 125 AMP

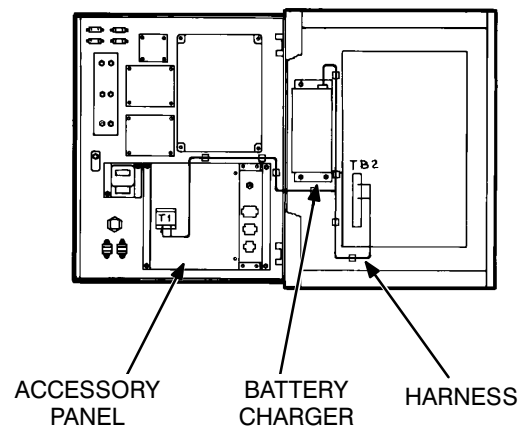


FIGURE 1. MOUNTING LOCATION

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.

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.

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).

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

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.

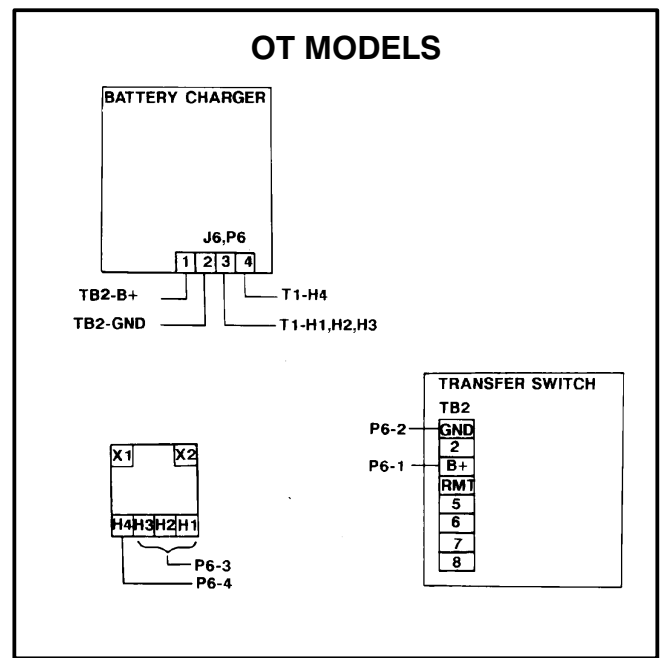


FIGURE 2. WIRING DIAGRAM 2-WIRE START

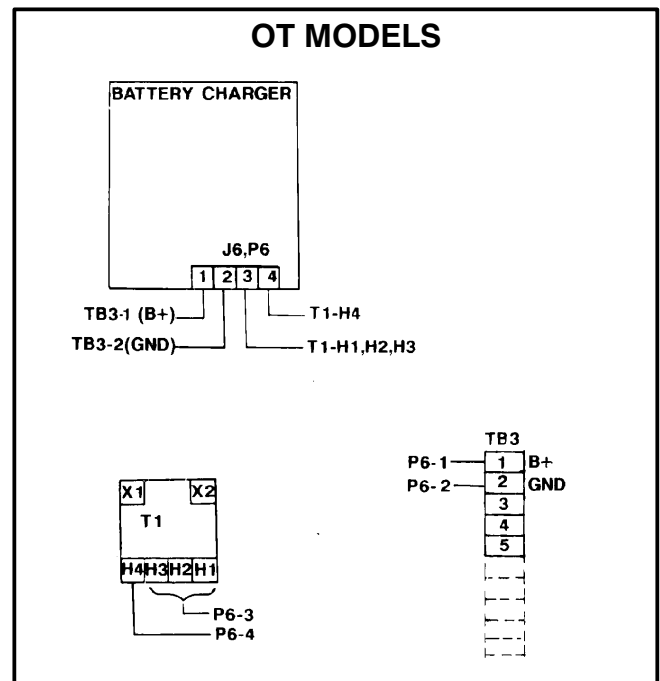


FIGURE 3. WIRING DIAGRAM 3-WIRE START

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.

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

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.	

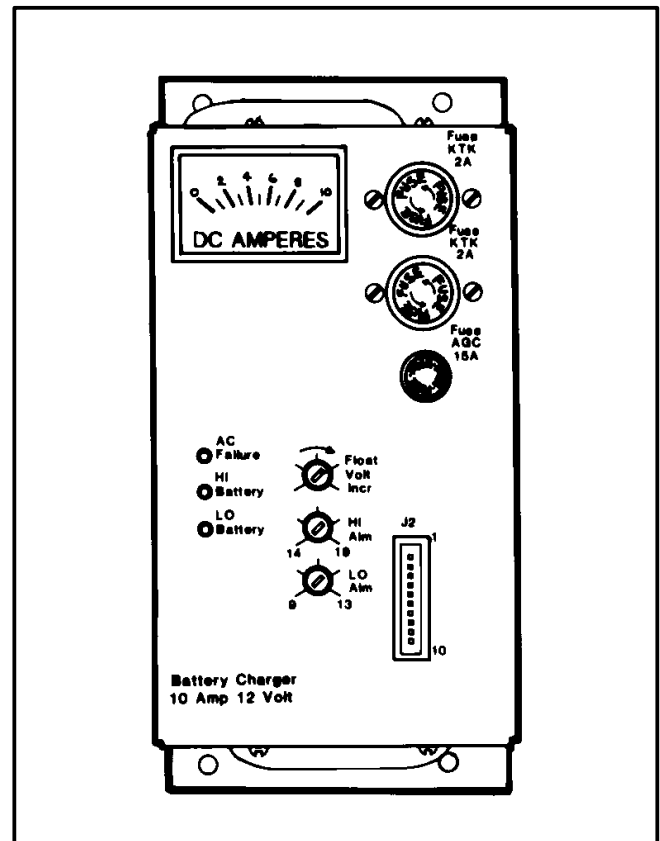


FIGURE 4. BATTERY CHARGER

ADJUSTING THE ALARM SETTINGS

If the battery voltage rises above the HI alarm setting or drops below the LO alarm setting for 90 seconds, the corresponding (HI or LO) battery alarm LED is lit and a corresponding (optional) set of form C relay contacts is activated.

These contacts can be wired by the installer to energize other audible or visual alarms. The procedure for installing an external alarm contact kit (300–3543 or 300–3544) is described in instruction sheet C314.

⚠WARNING *High voltages within the cabinet and the rear side of the cabinet door present a shock hazard that can cause severe personal injury or death. Use extreme caution to avoid touching electrical contacts whenever the cabinet door is open.*

The high and low alarm adjustments are set at the factory. The ranges and factory settings are:

12-volt charger

9 VDC to 13 VDC (LO Alarm)
Factory Setting: 12.5 VDC

14 VDC to 19 VDC (HI Alarm)
Factory Setting: 14.5 VDC

24-volt charger

18 VDC to 25 VDC (LO Alarm)
Factory Setting: 25 VDC

27 VDC to 36 VDC (HI Alarm)
Factory Setting: 29 VDC

⚠WARNING *High voltages within the cabinet present an electrical shock hazard that can cause severe personal injury or death. Use extreme caution when making adjustments to avoid touching high-voltage components.*

1. Open the cabinet door.
2. Use a small screwdriver to turn the HI Alm or LO Alm adjustment potentiometers on the charger panel counterclockwise to decrease the alarm voltage and clockwise to increase the alarm voltage (Figure 4).

The graduations on the adjustment potentiometers are approximate (± 1 volt).

3. When finished, close and lock the cabinet door.