TASK DESCRIPTION INITIAL AND/OR FRESHENING CHARGE
BUILDER'S OR VENDOR'S MAINTENANCE INSTRUCTIONS MPI LOCOMOTIVE MAINTENANCE MANUAL, SECTION 9
SPECIAL TOOLS REQUIRED:
RELATED MAINTENANCE PROCEDURES MODIFICATIONS, POINTERS, ETC.
SAFETY PRECAUTIONS: CONTRACTOR TO ASSUME RESPONSIBILITY FOR SAFETY RULES AND COMPLIANCE.
PREPARATION:

PROCEDURE

Most chargers of modern design utilize the principle of constant voltage (potential) charging. The preferred charge method is to use a constant voltage of 2.50 volts per cell times the number of cells. If this voltage is too high for the equipment (load) connected to DC bus, then use a lower acceptable voltage (see table on page 3). Should the charge current cause electrolyte flooding out onto the cover, reduce the charge voltage at once.

Least desirable is to put the battery on float. Equalized charging at 2.33 volts per cell is the minimum acceptable procedure.

	**CAUTION** Do not attempt a freshening charge unless the electrolyte levels are near the low level line on open circuit. When necessary, remove electrolyte to that level from cells with high levels.

1. Determine the maximum voltage that may be applied to the system equipment (or maximum charger voltage if load is not yet connected). Refer to the recommendations of the manufacturer/supplier of system equipment connected to DC bus.

2. Divide the maximum total system voltage by the number of cells (not units) connected in series. This is the maximum volts per cell that may be used for the initial charge.

3. Check the nameplate to confirm the battery is a lead-antimony type.

4. Connect battery positive (+) terminal to charger bus positive (+) terminal.

5. Connect battery negative (-) terminal to charger bus negative (-) terminal.

6. Raise the voltage to the maximum value permitted by the equipment as shown in table below, which lists the hours of freshening charge to be given after charge current has stabilized for 24 hours.

7. When charging current has decreased and stabilized (i.e., no further reduction for 24 hours), charge for the hours shown in table below.

WARNING

Monitor the battery temperature during the charge. If the battery exceeds 110°F (43°C), stop the charge immediately and allow the temperature to decrease below 100°F (38°C). Failure to follow this warning may result in severe overcharge and damage to the cell/battery and potentially cause severe personal injury.

Minimum Hours of Charge after Current Stabilization	
Voltage Per Cell	**Charging Hours for Lead-Antimony Batteries with Specific Gravity = 1.250**
2.27	210
2.30	150
2.33	110
2.36	78
2.39	56

NOTE: Minimum Hours of Charge after Current Stabilization table applies for cell temperatures between 60ºF to 90ºF (16ºC to 32ºC). For cell temperatures 40ºF to 59ºF (5ºC to 15ºC), use twice the number of hours. For cell temperatures 39ºF (4ºC) or below, use four times the number of hours.

On “C,” “D,” “E,” “F,” and “G” cells, you may insert the thermometer in the funnel of the pilot cell’s flame arrestor and leave it there by adjusting the rubber washer to the correct height and leaving off the dust cap. Do NOT leave thermometers in place in seismic regions.