

long life battery and 1.275 plus or minus .010 for the standard battery.

Test Conclusions

(a) Battery specific gravity is less than 1.220, battery should be recharged.

(b) **Cells show more than 25 points (.025 Specific Gravity) Variation.**—Short circuit, low cell, or loss of electrolyte by leakage or excessive overcharge; try to recharge battery. See "Charging the Battery." See "Adjustment of Acid Gravity".

(c) Battery specific gravity is above 1.220 and all cells are even. Battery state of charge may be satisfactory. Test by making "High Rate Discharge Test of Battery Capacity". Make sure all electrical connections are clean and tight.

HIGH RATE DISCHARGE TEST OF BATTERY CAPACITY (Fig. 12)

Satisfactory capacity tests can be made only when battery equals or exceeds 1.220 specific gravity temperature corrected. If the reading is below 1.220, the battery should be slow charged until fully charged in order to obtain proper test results. If charging fails to bring the specific gravity up in any one or all of the cells, the battery is defective and must be replaced. Also before proceeding with test, battery electrolyte should be at room temperature $70^{\circ}\text{F} \pm 10^{\circ}$ ($21^{\circ} \pm 3^{\circ}\text{C}$).

Test Procedure

(1) Turn control knob of Battery-Starter-Tester to OFF position.

(2) Turn Voltmeter Selector Switch to the 16 Volt position on test units so equipped.

(3) Connect test ammeter and voltmeter positive leads to battery positive terminal. Connect ammeter

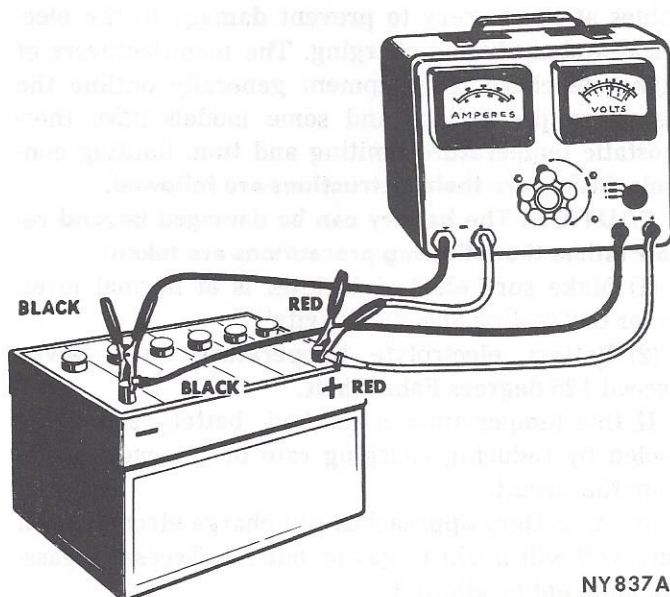


Fig. 12—High Rate Discharge Test

and voltmeter negative leads to battery negative terminal. Voltmeter clips must contact battery posts or cable clamps and not ammeter lead clips.

(4) Turn control knob clockwise until ammeter reading is equal to three times ampere hour rating of battery.

(5) Maintain the load for 15 seconds and note reading of the voltmeter.

Test Results

(a) If the voltmeter reading is 9.5 volts or more and the specific gravity was 1.220 or more before testing, the battery is in good condition and can be placed back into service. However, if it was necessary to charge the battery before testing thoroughly check the electrical system for short circuits, loose connections and corroded terminals and charging system operations.

(b) If the voltmeter reading is less than 9.5 volts, this indicates a possible defective condition and the battery should be given the three minute charge test.

Three Minute Charge Test (Fig. 13)

This test should not be used if battery temperature is below 60 degree F. **Do not perform this test on the battery unless it has failed the capacity test.**

(1) Connect Battery Charger positive lead to battery positive terminal and negative lead to battery negative terminal. **Important:** Be sure of correct polarity during this test.

(2) Turn the Battery Charger Power Switch to ON position. Turn timer switch past three minute mark then back to the three minute mark.

(3) Adjust Battery Charger Switch to highest possible rate not exceeding 40 amperes.

(4) When timer switch cuts off at the end of 3 minutes, turn timer switch back to Fast Charge.

(5) Use the 16 Volt scale of the Battery Starter Tester and measure total voltage of battery posts while battery is being fast charged, and note the voltmeter reading.

Test Results

If total voltage during charge exceeds 15.5 volts, battery is sulphated and should be cycled and slow-

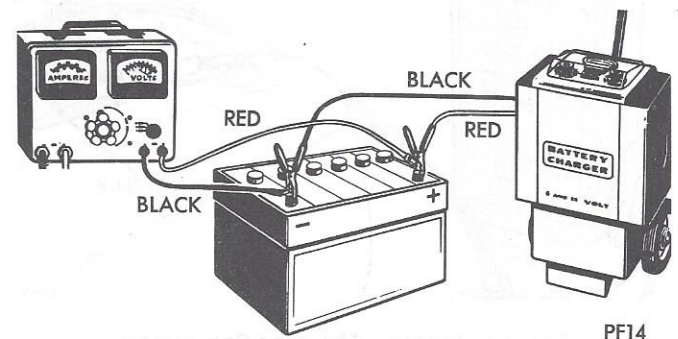


Fig. 13—Three Minute Charge Test