**4-5. Battery Program.** The Division battery program is designed to provide policy guidance on the use and maintenance of military and commercial standard batteries and rechargeable/reusable batteries.

1. Lead-acid batteries. Commanders will use batteries prescribed by the equipment technical manual. Materiel developers will ensure that suitable sealed (maintenance free) batteries that support the performance specifications required by equipment technical manuals are available for use. Sealed (maintenance free) batteries will enhance unit and reduce logistics footprints.
2. Equipment operators/crews are responsible for visually inspecting installed lead-acid batteries for cleanliness and obvious damage in accordance with applicable operator technical manuals. Operators/crews will report faults using the TAMMS to their Field maintenance activity for action.
3. Field maintenance activities are authorized to inspect, add distilled water, install, remove, test, and conduct recharging of batteries installed in/on authorized equipment.
4. Field and Sustainment level maintenance activities retaining a battery maintenance and recovery mission are authorized to inspect, add distilled water, install, remove, test, and conduct recharging of batteries installed in/on authorized equipment, properly fill/activate, charge/recharge, issue/reissue, diagnose, test, recover, and temporarily store serviceable/unserviceable batteries and related support materiel. However, this is intended to be the exception rather than the rule. Ideally, the DLA consignment program or local contract will initially fill and charge batteries and issue them “wet” to units. Use of the DLA consignment program or other local contract is preferred and encouraged. Local command policy may augment these actions to take climate and other circumstances into consideration. Applicable host country turn-in and disposal procedures apply.
5. If the DLA consignment program or contractor support is unavailable (during or shortly after initial deployments to an area of operations), it may be desirable for a field-level, equivalent or higher level maintenance activity to temporarily operate a regulatory compliant battery shop (fixed or mobile). These maintenance activities can return unserviceable batteries to FDP SSA and/or supported units. If unable to return batteries to a serviceable condition, applicable unit turn-in and disposal procedures apply. During initial stages of deployment, a supply of automotive batteries can accompany the unit until more sustained support (units, contractors, DLA Battery consignment, and so on) can provide requisite support.
6. Commanders will ensure that all battery shops are operated in an Occupational Safety and Health Organization/Environmental Protection Agency compliant manner.
7. Commanders will use approved battery maintainers (plug-in or solar panels are examples) to sustain battery levels during periods of extended storage or inactivity.
8. Rechargeable communication-electronic batteries. All units will use rechargeable communications-electronics batteries for garrison duty and training (to include training at the combat training centers) and will develop rechargeable battery standard operating procedures.
9. Unit battery standard operating procedures will address the following:
   1. Which primary C–E batteries the units currently use and which rechargeable batteries to use instead of the primary.
   2. The number of primary and rechargeable communications and electronics batteries required annually for supporting the equipment on hand.
   3. The number of chargers required for supporting the equipment on hand.
   4. How best to logistically support the recharging of these batteries.
   5. Barriers to using rechargeable batteries and what actions will be taken to eliminate the barriers.
   6. Duties and responsibilities of soldiers relating to the use and management of rechargeable batteries.
   7. The proper use, care, and maintenance of rechargeable batteries.
   8. Locations using large numbers of primary batteries should develop a lithium (disposable) battery recovery and reuse program.
   9. Duties and responsibilities of soldiers relating to the collection and disposal of all batteries used in the unit.
   10. Commanders will maximize use of rechargeable batteries during Peacekeeping operations where appropriate.
10. Commanders may use rechargeable batteries during wartime as a viable alternative power source when rechargeable batteries and their logistics planning have been incorporated into the units’ training plan. Rechargeable/reusable batteries will not be used when:
11. Front line tactical units have adequate standard batteries for mission accomplishment. Commanders may utilize rechargeable batteries based upon short supply. Commanders may also utilize rechargeable batteries at tactical operation centers, support units, and rear echelons during wartime to free up primary assets for combat units.
12. Temperature exceeds the operational temperature range for rechargeable batteries, generally below -4°F and above 122 °F.
13. Recharging is not practical such as when the time between resupply actions requires users to stock an excessive amount of rechargeable batteries.
14. Rechargeable vehicle batteries. Units will ensure that all automotive vehicle batteries are properly tested for serviceability prior to replacement and turn in. Units are equipped with battery chargers and testers through the Standard Automotive Tool Sets (SATS).
15. PT 490 Conductance - If unit does not have a SATS, the PT 490 tester can be ordered using NSN 6130-01-510-9594. A suitable substitute conductance tester is the MICRO 700 Series tester, NSN 6625-01-477-4704.
16. Pro-4HD Battery Charger – If unit does not have a SATS, the PRO-4HD charger can be ordered using NSN 6130-01-500-3401.
17. Turn in of Rechargeable vehicle batteries. Verification inspections of rechargeable batteries ensure units are following the required checks prior to turn in preventing the turn in of serviceable non charged batteries.
18. Turn in of a rechargeable battery will require a statement stamped on the inspection form. The required data elements are:
19. Organization of the verifying inspector.
20. Inspector’s name and grade.
21. Date of inspection charge and test. Signature of Motor Sergeant or Battalion Maintenance Tech.
22. Maintenance of Valve Regulated Lead Acid (VRLA) Batteries.
23. To alleviate the disposal of serviceable VRLA batteries; field and sustainment maintenance unit commanders must ensure that the batteries are properly tested, charged and retested. This policy guidance outlines the types of VRLA battery systems and procedures to follow to maintain VLRA batteries.
24. There are three types of battery systems that a soldier must be aware of when testing, charging and retesting. they are:
25. 12-volt parallel system - all positive posts are connected together and all negative posts are connected together. Batteries will compensate for each other. To test individual batteries, you must break the parallel connection.
26. 24-volt series system - positive terminal of one battery is connected to the negative terminal of another battery. There is no need to remove battery connections to test individual batteries.
27. 24-volt series parallel system - first, two batteries are connected in parallel, positive to positive and negative to negative. Second, they are connected in series to two other batteries. The negative terminals of the second two batteries are connected in parallel and grounded. Disconnect one cable from each parallel connection to test the batteries.
28. Testing: Testing should be accomplished using the correct test equipment available in the Standard Automotive Tool Set (SATS).
29. Use a conductance tester such as the pulse tech (PT) 490 conductance tester when testing VRLA batteries. Conductance testers are very sensitive and can find defects or battery weaknesses long before any problem or capacity loss is evident. The PT 490 is available in the SATS or by ordering national stock number (NSN) 6130-01- 510-9594. This simple-to-use tester has a digital menu screen that allows the user to identify battery voltage, cold cranking amps, and condition of the battery. The PT 490 cannot analyze the condition of a battery pack circuit if it is connected in parallel. A suitable substitute conductance tester is the midtronic micro 700 series tester, NSN 6625-01-477-4704.
30. The Mini Battery Tester (MBT) is a micro-ohm load tester designed to be an effective diagnostic tool for the operator. A fixed post positive connector and coil cord moveable negative connector makes checking multiple batteries fast and simple. The four light-emitting diodes and corresponding information on the back of the tester gives the operator the information necessary to determine whether the battery is good or needs to be recharged. The MBT may be ordered using NSN 6130-01-463-8499.
31. Load testers give an indication of the batteries' ability to hold voltage while under load. Read the owner's manual before using load testers. Batteries need to be fully charged before using a load tester and must be recharged after using a load tester.
32. Charging VRLA batteries have stricter charging requirements than flooded batteries. Charging VRLA type batteries requires a constant voltage type charging system and will not work with other charging systems that do not have regulated output voltage. The most desired way to charge the batteries is on the weapon system. Complete all recharging in a well ventilated area. Immediately stop charging any battery that develops signs of melting or swelling or if the surface of the battery becomes too hot to comfortably touch with a bare hand. Some types of battery chargers are Pro-4HD, pulse charger world version plus, associated type f charger, and pallet charger.
33. The Pro-4HD automatically switches from 12 to 24-volts. It senses the battery's condition and provides only what the battery can accept. The pro-4hd comes with two charging cables: one for the North Atlantic Treaty Organization (NATO) connection and one with battery clamps. The charger will shut off when charging is complete. The charger is available in the SATS or by ordering NSN 6130-01-500-3401.
34. The pulse charger world version plus is a 12-volt charger only. The operator must select the type of battery being charged and the charging mode, either pulse and charge or pulse only. This charger only has battery clamps and therefore should only be used on batteries that are off the weapon system. The charger is available by ordering NSN 6130-01-477-4703.
35. The associated type F charger is a 12-volt and 24-volt battery charger that has two charging cables: one for the NATO connection and one with battery clamps. Operators must select the type of battery being charged and the required output voltage. When the batteries are fully charged, the charger will beep to alert the operator to disconnect the charger. This is not an automatic charger. This charger was issued with the first SATS.
36. The pallet charger is a 12-volt 12-station-charging unit. The charger can be connected to any type or size of 12-volt battery. Each charging station on the charger works in isolation from each other allowing any combination of batteries to be charged at the same time. Charging stations will shut off as each battery is fully charged. The charger is available by ordering NSN 6130-01-532-7711.
37. Retest prior to turning in batteries as unserviceable, batteries should be charged for at least 24-hours and retested. If the battery charges to proper voltage, it is good for reissue. If no change in battery voltage is detected after 24-hours of charging, the battery is considered unserviceable. Only batteries recharged and tested IAW TB 9-6140-252-13 sections 4 and 5 and failing to reach voltages above 12.5 VDC will be authorized for disposal.
38. Disposal personnel will dispose of batteries in accordance with appropriate technical manual, defense reutilization and marketing service, local, state and federal laws, and regulations or polices.