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Subject: TACOM LCMC MI 14-044, BRADLEY FIGHTING VEHICLE BUSK BATTERY CHARGING CRITERIA (UNCLASSIFIED)

DTG: 111528Z Aug 14

Precedence: PRIORITY

DAC: General

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Subject: Maintenance Information (MI) Message, TACOM Life Cycle Management Command, (TACOM LCMC) Control No. MI 14-044, (Informational), Bradley Fighting Vehicle BUSK Battery Charging Criteria.

Models Affected:

M2A3, NSN 2350-01-436-0005, LIN F60564; M3A3, NSN 2350-01-436-0007, LIN F90796, M2A2, NSN 2350-01-248-7619, LIN F40375; M2A2-ODS, NSN 2350-01-405-9886, LIN F40375; M3A2, NSN 2350-01-248-7620, LIN F60530; M3A2-ODS, NSN 2350-01-405-9887, LIN F60530; M7 BFIST, NSN 2350-01-432-1526, LIN F86571; A3 BFIST, NSN 2350-01-506-0132, LIN F86571; BCV, NSN 2350-01-514-7601, No LIN; A3 BFIST-FS3 NSN 2350-01-563-9444, LIN A70576; M2 ODS-SA NSN 2350-01-565-3460, LIN P19727; M3 ODS-SA NSN 2350-01-565-3464, LIN P19795 and M7 BFIST-SA NSN 2350-01-572-5988, LIN A40164.

Total Density of Equipment Affected is 5848, and Density of Equipment affected in SWA is 0.

XX
X "ATTENTION" X
X THIS MESSAGE CONTAINS INFORMATION THAT IS VITAL X
X TO THE SAFETY OF ARMY PERSONNEL AND THE OPERATION X
X OR MAINTENANCE OF ARMY EQUIPMENT X
XX

REFERENCES: None

1. Distribution:

This is a Maintenance Information (MI) Message. Commanders/Directors of Army Commands (ACOM)/Army Service Component Commands (ASCC)/Direct Reporting Units (DRU), Army National Guard (ARNG), US Army Reserve (USAR) Command, US Navy (USN), US Air Force (USAF), US Marine Corps (USMC) and other Service Commanders and Responsible Offices will retransmit this message to all subordinate Commanders/Activities.

2. Message Library:

This message will be available on the Maintenance Messages Web site located on the TACOM Unique Logistics Support Applications (TULSA) portal within twenty-four hours of transmission. Access to the Maintenance Messages Web site requires CAC authentication. You must first request access to the Maintenance Messages Web site. To request access go to <https://tulsa.tacom.army.mil>. For assistance, email the TULSA Helpdesk at TACOM-LCMC.ILSC_TULSA@mail.mil. The Maintenance Messages Web site also has the capability to email maintenance messages directly to your inbox. To subscribe to the mailing list, click on, -E-Mail Subscriptions-, on the Navigation bar.

3. Issue:

a. A systemic problem associated with the Bradley Fighting Vehicle (BFV) BUSK batteries has led to not only battery shortages but also misunderstandings with regards to differences between the typical maintenance procedures used on Flooded Lead Acid vs. Absorbent Glass Matt (AGM) batteries.

b. It is important that all units follow the below guidance to assist with battery longevity ultimately leading to less frequent replacement.

Attachments:

<https://tulsa.tacom.army.mil/Maintenance/?t=mam&f=BatteryChargeChart.pdf>

4. User Actions:

a. Replacing batteries: Contrary to previously published guidance or information flow, it is no longer necessary to replace all (8) batteries on the BFVs if one battery is found to be bad. Batteries should be tested using a battery analyzer for an acceptable Open Circuit Voltage (OCV) and replaced in a series of 2 batteries if the OCV is not acceptable. For a new battery, OCV shall be greater than or equal to 12.80 Vdc; for previously charged and recovered batteries, OCV shall be greater than or equal to 12.60 Vdc. The suspect battery or battery pair should be charged for a minimum of four hours with a proper charger in accordance with the TM/TB (listed below) before moving on to more advanced battery recovery attempts. This is to be performed to help determine serviceability of battery or battery pair identified for repair or replacement.

b. Proper battery charger: TM 9-2350-403-13&P and TB 9-2350-395-13&P remain the current publications that authorize battery charger Pulse Tech Pro-HD, NSN 6130-01-500-3401, for use on the BFVs to charge the Exide battery (AGM). This charger is part of the Standard Automotive Tool Set (SATS).

c. Battery Charging: Batteries will remain in an optimal State of Charge (SOC) if the vehicle's charging system is functioning properly. Batteries can either be removed from the vehicle or kept on-vehicle for charging purposes (while operating vehicle). To maximize usable battery life, batteries should be maintained at full charge. Extended periods of time in a partially charged state will reduce the usable battery life.

d. Charging vehicle batteries using the NATO slave receptacle is not authorized at the unit maintenance level. TB 9-6140-252-13 provides procedures for on-vehicle charging via the NATO slave port; however, this is a general reference and does not apply to complex electrical distribution systems such as the Bradley electrical distribution design. Slave charging cannot be performed on the Bradley Fighting vehicle Systems without the use of specifically designed equipment and detailed procedures such as what is used in manufacturing facilities.

e. If batteries charged on-vehicle are done so with the engine running, recommendation is to first measure a battery's OCV to estimate the State of Charge (SOC). The attached table shows estimated engine run time to fully charge batteries (see the linked attachment reflecting battery charging times).

f. When batteries fall below 12.60 Vdc, it is recommended to recharge batteries off vehicle for 24-48 hours. The recovery time for AGM batteries can be longer than traditional lead-acid flooded batteries. AGM battery recovery time depends on the charger's output Amperage, the length of time the battery sat discharged, and the battery OCV before charging is started. The maximum output of the Pro HD battery charger is 45 Amps. Charging more than 8 batteries at a time is not authorized due to pushing the maximum output amperage of the charger.

g. If batteries are not recovered to a serviceable SOC after 48 hours, tag and turn in batteries to the Brigade Battery Maintenance Management Program (BMMP) for follow-on recovery and include the number of attempted recovery hours on tag.

h. Vehicle Shut-Down Procedures: Shut down BFV in accordance with applicable Technical Manual (TM). Often times it has been confirmed that vehicles with drained batteries were a result of Master or Turret power switches being left in the ON position after the vehicle has been secured. Take time to review shut-down procedures to ensure all switches and controls are in the OFF position before securing the vehicle.

i. For long term storage, ensure the TM guidelines are followed for "AFES Power Down." If AFES is left ON, the batteries will have a continuous parasitic current draw which will deplete batteries and likely result in the vehicle's inability to start.

5. Unit Commanders:

a. Unit Commanders shall ensure this information flows down to all maintenance activities responsible for maintenance of batteries.

b. Contact your local TACOM LCMC Logistics Assistance Representative (LAR) or your State Surface Maintenance Manager upon receipt of this message for assistance. For assistance in locating your TACOM LCMC LAR, see paragraph 8d.

6. TACOM LCMC/PM actions:

a. Publications: None

b. Follow-up action(s): None

c. Assistance to the field: Efforts are currently underway to qualify other battery types but until that is completed, the only authorized batteries for the Bradley are the Exide Absorbent Glass Matt type.

7. Supply Status:

a. There are no supply concerns/requirements.

8. POCs:

a. The originator of this message is Terry Smart, terry.d.smart2.civ@mail.mil, Commercial 586-282-7849, DSN 786-7849, SFAE-GCS.

b. The Electrical Engineer POC is Shannon Durbin, shannon.g.durbin.civ@mail.mil, Commercial 586-282-7823, DSN 786-7823, AMSRD-TAR-R.

c. The appropriate PM/PEO/PSID Equipment Manager is The TACOM Integrated Logistics support center (ILSC) Item Manager representative for this message is Mr Barry Tabron, AMSTA-LCG-AI, DSN 786-2650, Commercial (586) 282-2650, email barry.l.tabron.civ@mail.mil

d. To find your TACOM LCMC LAR, contact the TACOM LCMC Senior Command Representative (SCR) for your area.

(1) CONUS-East Region includes all Active Duty, National Guard and Reserve Units in Wisconsin, Illinois, Michigan, Indiana, Ohio, Kentucky, Tennessee, Mississippi, Alabama, Georgia, Florida, Louisiana, South Carolina, North Carolina, Virginia, West Virginia, Maryland, Delaware, Pennsylvania, New Jersey, Connecticut, Rhode Island, Massachusetts, New York, New Hampshire, Vermont, Maine and FORSCOM. CONUS-East SCR can be reached at DSN 312-236-6921, Commercial 910-396-6921.

(2) CONUS-West Region includes all Active Duty, National Guard and Reserve Units in North Dakota, South Dakota, Minnesota, Nebraska, Iowa, Missouri, Kansas, Oklahoma, Arkansas, Texas, Colorado, Montana, and Wyoming. CONUS-West SCR can be reached at DSN 312-737-0263, Commercial 254-287-0263.

(3) Pacific Region includes all Active Duty, National Guard and Reserve Units in Washington, Oregon, Idaho, Nevada, Utah, Arizona, Alaska, Hawaii, California, New Mexico and Guam. Pacific SCR can be reached at DSN 312-357-2991, Commercial 253-967-2991.

(4) Europe Region includes all Active Duty, National Guard and Reserve Units in Great Britain, Germany, Belgium, Luxemburg, Italy, Bosnia, Kosovo, and Macedonia. Europe SCR can be reached at DSN 314-483-4090, Commercial 011-49-631-411-4090, in Germany, 0631-411-4090.

(5) Far East Region includes all Active Duty, National Guard and Reserve Units in Korea, Okinawa, Kwajalein, and Japan. Far East SCR can be reached at DSN 315-768-7970, commercial 011-82-53-470-7970.

(6) SWA - Kuwait includes all Active Duty, National Guard and, Reserve Units in Kuwait. SWA - Kuwait SCR at Camp Arifjan can be reached at DSN 318-430-4189.

(7) SWA OEF Region (Afghanistan) SWA, Region OEF includes all Active Duty, National Guard and Reserve Units in Afghanistan. SWA Region 401st AFSB OEF SCR can be reached at DSN 318-481-4814.

(8) For US Special Operations Command contact, Special Operations Forces Support Activity (SOFSA), USSOCOM Logistics Helpdesk, Daryl Ellis
Daryl.R.Ellis.ctr@lmco.sofsa.mil at DSN: 745-3114, Commercial 859-566-4198 or Toll Free 1-888-763-7259 or equipmenthelpdesk@sofsa.mil.