

To B.O. Hall - Info

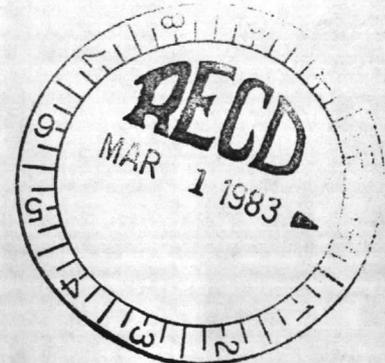
GENERAL DYNAMICS
Land Systems Division

P.O. Box 1901, Warren, Michigan 48090

Inter-Office Memo

GPD/lm:83-16
24 February 1983

To: R. Hill - ILS Management Operations
xc: N. Hammes - ILS, G. Rekowski
From: G. P. Dailey - Department 8163
Subject: Investigation of battery problems

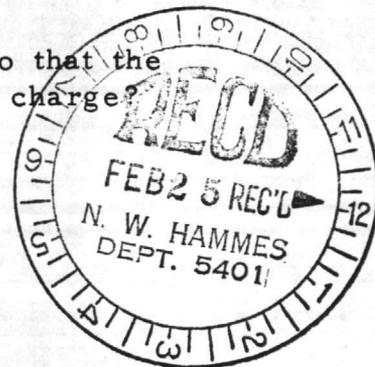
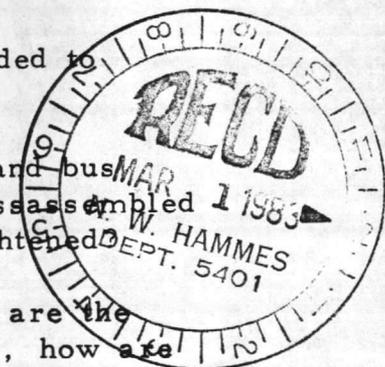


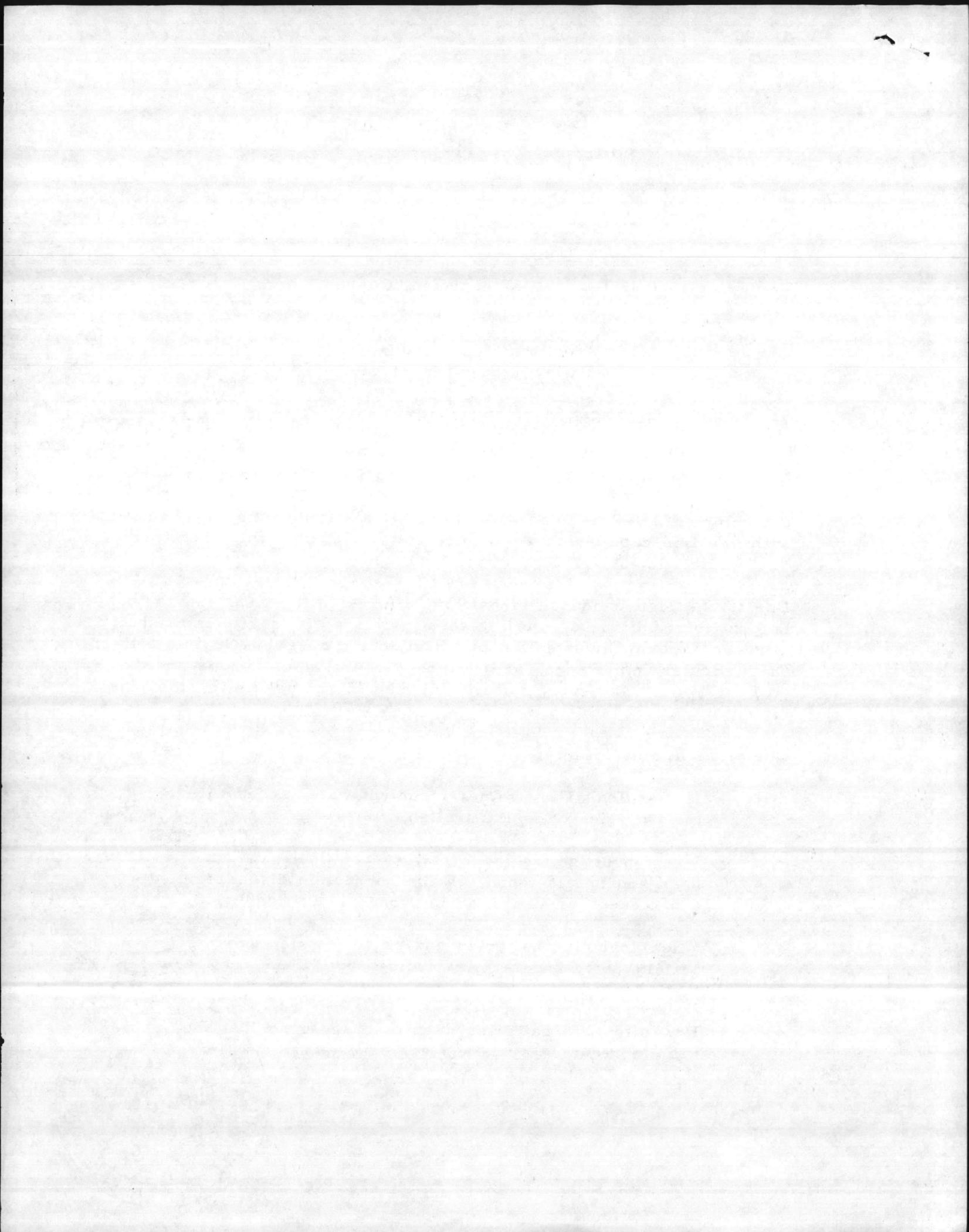
The existing bank of Reliability information of component field failures is insufficient for Engineering to properly evaluate/diagnose the component failure modes. The available information is statistical with one line captions that typically state: "Engine will not start" or "Starter defective/inoperative."

Due to the high incidence of battery failures in the field and the lack of information surrounding these failures, it is requested that Logistics provide information pursuant to the questions in this letter. Of particular importance, are failures occurring in Europe and at Fort Hood. However, information should not be limited to these sites.

Questions are as follows:

- 1.) Is distilled or low mineral content water added to the batteries of is it "available water" ?
- 2.) When investigating loose battery terminals and bus bars and one is found, is the connection disassembled and cleaned or is the connection merely tightened?
- 3.) When replacing batteries and/or terminals, are the battery posts and terminals cleaned? If so, how are they cleaned?
- 4.) How often are batteries deep discharged so that the vehicle requires a slave start or external charge?





- 5.) How often are batteries electrolyte checked and what procedure is used for adding electrolyte and charging?
- 6.) Is a torque wrench used to tighten bus bar connections?
- 7.) When new batteries are installed, is the electrolyte checked for proper specific gravity BEFORE filling the battery and after adding electrolyte. Is the battery charged if specific gravity is less than 1.25 in any cell prior to installation?
- 8.) What type of instrument is used to check specific gravity?
- 9.) What criteria constitutes a "failed battery" ?
- 10.) Are the tops of the batteries ever washed or wiped down to minimize a conductive path across the tops of the batteries?
- 11.) In new battery installation, what type of tool is used to remove the sealing plugs?

G. P. Dailey

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RR:lm

