

GENERAL DYNAMICS
Land Systems Division
P.O. Box 527, Warren, Michigan 48090

Inter-Office Memo

AJD/83-107
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TO: B. Hall
xc: J. McCuen, N. Hammes
FROM: A. J. De Stefano
SUBJ: M-1 and M-60 Consumption Data

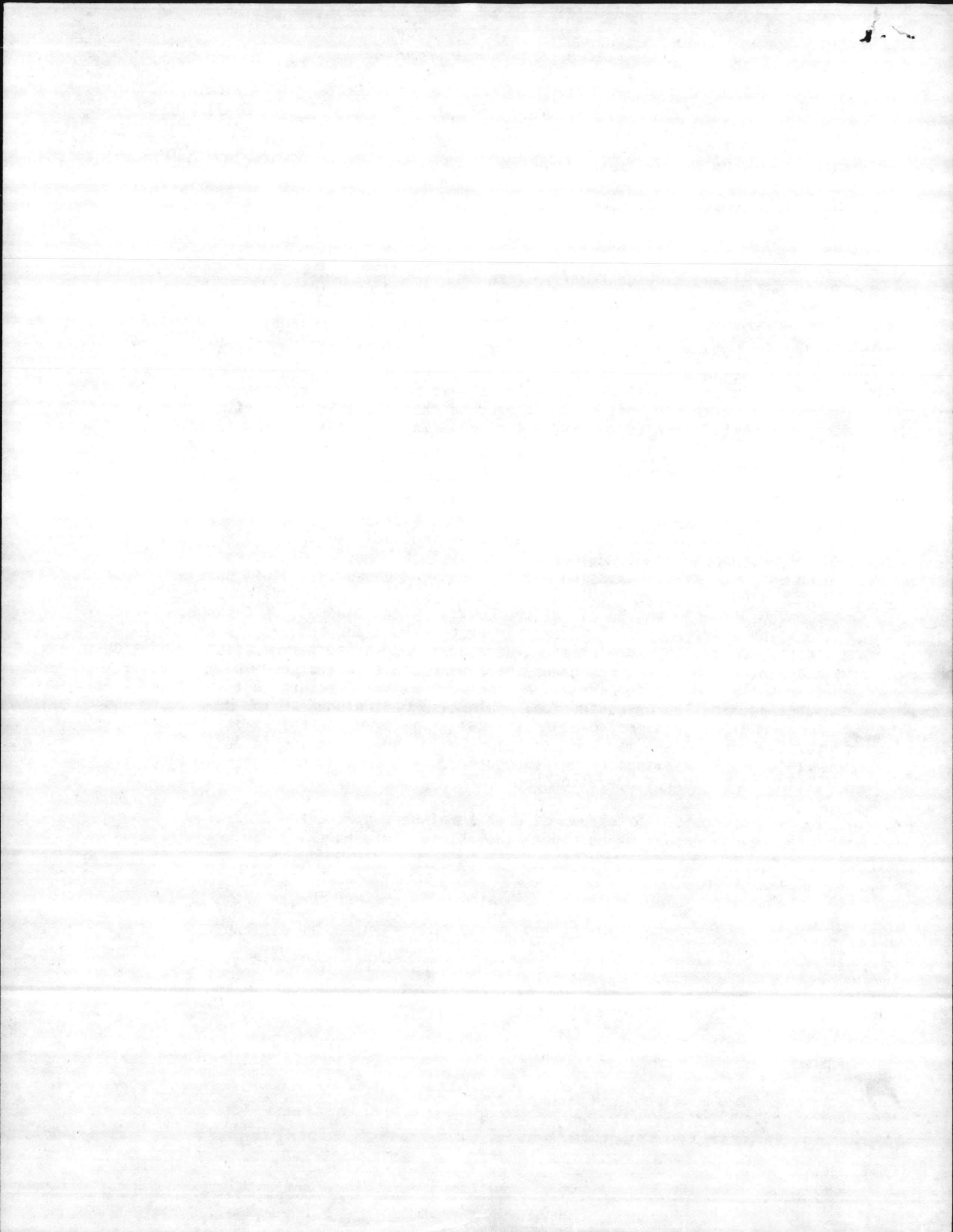
The Fort Hood TACOM Field Maintenance Technician on the M-60 reported that the M-60 fuel consumption averages .65 miles per gallon (mpg). The Oil Analysis Lab reported that an average of three (3) M-60 engines are changed per month based on the oil analysis. If the oil analysis does not warrant component change, a recommendation to the unit could be made to change oil at the next service. 2/8 Cavalry reported four (4) engine oil changes last month and estimate 12-15 per year for their fifty-six vehicles. (M-60 density is approximately 350 vehicles including the A-1, AVLB and CEV).

Information regarding the M-1 comes from several sources. Previously reported fuel consumption from PECO for the 2/67 Armor FTX Hardened Steel averaged .15 MPG. 2/67 Armor figures for the same period indicate .20 MPG. The BMT at the 1/66 Armor reported .125 MPG. The Oil Analysis Lab reported that one (1) M-1 engine and one (1) transmission had been changed based on the oil analysis since the beginning of the program. Approximately ten (10) recommendations are furnished per month to change engine oil at the next service. Consumption data from field units is an average of all typical armor operations and drivers are not fuel efficiency conscious. Acceleration, deceleration, varied terrain, soil conditions, vegetation, use of the smoke generator and personnel heater and the mission of the unit in the field (offensive vs. defensive) are all factors that influence fuel consumption. Spilled or wasted fuel would also be included in the MPG figure and at times could be considerable. Additionally, a large percentage of the fuel consumption on the M-1 may be attributed to idling the engine in order to keep the TIS running, a situation not encountered by M-60's at Fort Hood. Idling time is estimated at 80% of operating hours.

At the enclosure is a breakdown of data furnished by PECO and by 2/67 Armor concerning fuel usage during Hardened Steel VI, a field exercise conducted 12-17 May 83.


A. J. De Stefano
Site Manager
Fort Hood, Texas

AJD/sm



PECO

| <u>COMPANY</u> | <u>MILES</u> | <u>HOURS</u> | <u>GALLONS</u> | <u>MILES PER GALLON</u> |
|----------------|--------------|--------------|----------------|-------------------------|
| A | 899 | 319 | 7094 | .13 |
| B | 1168 | 321 | 7487 | .16 |
| C | 1194 | 463 | 10,268 | .12 |
| D | 1366 | 448 | 7120 | .19 |
| TOTAL | 4,627 | 1,551 | 31,969 | .145 |

2/67 Armor figures for same exercise

| | | | | |
|-------|------|-------|--------|-----|
| A | 1448 | 319 | 7094 | .20 |
| B | 2085 | 330 | 8999 | .23 |
| C | 2110 | 463 | 11,083 | .19 |
| D | 2248 | 494 | 11,950 | .19 |
| TOTAL | 7891 | 1,606 | 39,126 | .20 |

