



FLIGHT MAINTENANCE COMPUTER

B - 1B Lancer

Developed by MACRO Industries, Inc., Huntsville, Alabama
Contracted through The Boeing Company, Oklahoma City, Oklahoma

The Flight Maintenance Computer (FMC) assists the B-1B maintenance technician in fault detection, isolation, and diagnosis during ground maintenance on the Navigation/Offensive Radar System for the B-1B. Through two sources of data, 1553 bus monitoring on the ground, and previous flight data, faults are detected and recorded for fault diagnosis and isolation. The flight data, ground data, linked Technical Orders (T.O.), shop guides, schematics, and images are used in conjunction with each other to diagnose and/or isolate aircraft system failures. This tool is used in conjunction with current T.O. procedures to perform maintenance on the aircraft. The FMC program output provides fault detection, isolation, and diagnosis and produces storable electronic records containing maintenance activities and reports.

The FMC shall provide the maintenance technician (MT) with “visual based” operations to isolate a recorded fault and provide direction to either repair or replace the designated line replaceable unit (LRU) on the aircraft. Knowledge of system faults from computer maintenance codes to individual parameter maintenance codes are linked and preprogrammed into FMC. The MT will not need in-depth knowledge of system fault flow to accurately maintain and repair the aircraft.

The FMC dramatically:

INCREASES

- Fault detection
- Fault diagnosis
- Fault isolation
- Maintenance technician abilities
- Aircraft component repairs/replacements
- Aircraft readiness

DECREASES

- Down time waiting for flight maintenance tape downloads
- Required supply of stored replacement hardware
- Financial waste due to misdiagnosed failures