
TECHNICAL MANUAL

**Operator and Organizational
Maintenance Manual**

**GENERATOR SET, DIESEL ENGINE DRIVEN, TACTICAL
SKID MTD., 500 KW, 3 PHASE, 4 WIRE, 120/208 AND 240/416 VOLTS**

<u>DOD MODELS</u>	<u>CLASS</u>	<u>HERTZ</u>	<u>NSN</u>
MEP-029A	UTILITY	50/60	6115-01-030-6085
MEP-029B	UTILITY	50/60	6115-01-318-6302

INCLUDING OPTIONAL KITS

<u>DOD MODELS</u>	<u>NOMENCLATURE</u>	<u>NSN</u>
MEP-029AHK	HOUSING KIT	6115-01-070-7550
MEP-029ACM	AUTOMATIC CONTROL MODULE	6115-01-275-7912
MEP-029ARC	REMOTE CONTROL MODULE	6110-01-070-7553
MEP-029ACC	REMOTE CONTROL CABLE	6110-01-087-4127

Approved for public release; distribution is unlimited.

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CHAPTER 1
INTRODUCTION
Section I. GENERAL

1-1. SCOPE. This manual is for your use in operating and maintaining the 500 KW Diesel Engine Driven Generator Set. The 50/60 Hertz, (Mode I) Tactical Utility (Type I, Class 2A) Set is used in applications where precise power is not required. This manual also includes a description of accessory modules and their functions in relations to other components.

1-2. LIMITED APPLICABILITY. Some portions of this publication are not applicable to all services. These portions are prefixed to indicate the services to which they pertain: (A) for Army, (F) for Air Force, (N) for Navy, and (MC) for Marine Corps. Portions not prefixed are applicable to all services.

1-3. MAINTENANCE FORMS AND RECORDS. The forms and records used for maintenance purposes by the various services are specified as follows:

- a. (A) Maintenance forms and records used by Army personnel are prescribed by DA PAM 738-750.
- b. (F) Maintenance forms and records used by Air Force personnel are prescribed in AFM-66-1 and the applicable 00-20 Series Technical Orders.
- c. (N) Navy users should refer to their service peculiar directives to determine applicable maintenance forms and records to be used.
- d. (MC) Maintenance forms and records used by Marine Corps personnel are prescribed by TM

4700-15/1

1-4. REPORTING OF ERRORS. Report of errors, omissions, and recommendations for improvement of this publication by the individual user is encouraged. Reports should be submitted as follows:

- a. (A) Army - DA Form 2028 directly to:
Commander, U.S. Army Troop Support

Command, ATTN: AMSTR-MCTS, 4300
Goodfellow Boulevard, St. Louis, MO 63120-
1798

- b. (F) Air Force - AFTO Form 22 directly to:
Commander, Sacramento Air Logistics Center,
ATTN: SM-ALC-MMEDTA, McClellan Air Force
Base, CA 95652-5609 in accordance with TO-00-
5-1.
- c. (N) Navy - by letter directly to: Commanding
Officer, Naval Construction Battalion Center,
ATTN: Code 15741 Bldg. 43, Port Hueneme, CA
93043-5000.
- d. (MC) Marine Corps - by NAVMC Form 10772
directly to: Commanding General, Marine Corps
Logistics Base, (Code 850) Albany, GA 31704-
5000.

1-5. LEVELS OF MAINTENANCE ACCOMPLISHMENT. The authorized maintenance and repair functions will be accomplished as follows:

- a. (AMC) Army and Marine Corps users shall refer to the Maintenance Allocation Chart (MAC) for tasks and levels of maintenance to be performed.
- b. (F) Air Force users shall accomplish maintenance at the user level consistent with their capability in accordance with policies established in AFM-66-1.
- c. (N) Navy users shall determine their maintenance levels in accordance with their service directives.

1-6. DESTRUCTION OF ARMY MATERIEL. (AMC) Demolition of material to prevent enemy use will be in accordance with the requirements of TM750-244-3. (Procedures For Destruction of Equipment to Prevent Enemy Use).

1-7. ADMINISTRATIVE STORAGE. (A,F,MC) Detailed information pertaining to administrative storage for the various services is contained in the following documents. Processing and Inspection of Aerospace Ground Equipment for Storage and Shipment, T035-1-4 is applicable to Air Force personnel, MCOP4450.7 is applicable to Marine Corps personnel and for Army personnel:

- a. Placement of equipment in administrative storage should be for short periods of time when a storage of maintenance effort exists. Items should be in mission readiness within 24 hours or within the time factors are determined by the directing authority. During the storage period appropriate maintenance records will be kept.
- b. Before placing equipment in administrative storage, current maintenance services and equipment serviceable criteria (ESC) evaluations

should be corrected, and all modification work orders (MWO's) should be applied.

- c. Storage site selection. Inside storage is preferred for items selected for administrative storage. If inside storage is not available, trucks, vans, conex containers and other containers may be used.

1-8. PREPARATION FOR SHIPMENT AND STORAGE. The requirements pertaining to the preparation for shipment and storage for the various services are contained in the following documents.

- a. (A) Army - Refer to TB740-97-2.
- b. (F) Air Force - Refer to T035-1-4 for end item generator sets and T038-1-5 for installed engine.
- c. (N,MC) Navy and Marine Corps refer to individual service directives for requirements.

Section II. DESCRIPTION AND DATA

1-9. DESCRIPTION.

- a. General. The generator set, military model MEP-029A and MEP-029B (figures 1-1, 1-2, 1-3, and 1-4), is a skid-mounted, self-contained unit. The generator is provided with controls, instruments and accessories necessary for operation as a single unit, or in parallel, with up to three additional units of the same class and mode. Housing kit (military model MEP-029 AHK) is available for field installation. The housing kit encloses the top, sides, and ends of the set and is removable to provide access for overhaul or replacement of the major components. The housing kit is attached to a skid base by bolted construction to provide a rain proof enclosure. When the doors, covers, and louvers are closed, rain, snow, and sand are excluded from the interior of the housing. An automatic control module (ACM), remote control module (RCM),

and remote control cable are also available for use with the generator set. The automatic control module provides for parallel operation of up to four generator sets. The automatic control module senses and initiates the unattended sequence when the normal 120V AC supply voltage varies more than plus or minus 10 percent and/or the frequency varies more than 3.0 percent. The remote control module permits remote start, stop, monitor, and control of the generator set from a location up to 100 feet (30 meters) via the remote control cable.

- b. Generator Set. A brief description of the major components comprising the generator set is provided in the following paragraphs:

- (1) Engine. The engine is a liquid-cooled, 12-cylinder,

1710 cubic inch (28 liter) displacement, four-stroke cycle, turbocharged diesel engine.

60 Hz output can be generated according to engine rpm.

- (2) Generator. The 50/60 Hz generator is a 417/500 kw, brushless, permanent magnet, single bearing, air-cooled, open drip-proof unit. It is a reconnectable generator capable of producing different voltages. Either 50 or

- (3) Control Cubicle. The control cubicle contains the engine control panel and the generator control panel. The engine control panel has controls, switches, and instruments necessary to start, stop, operate, and monitor the engine. The

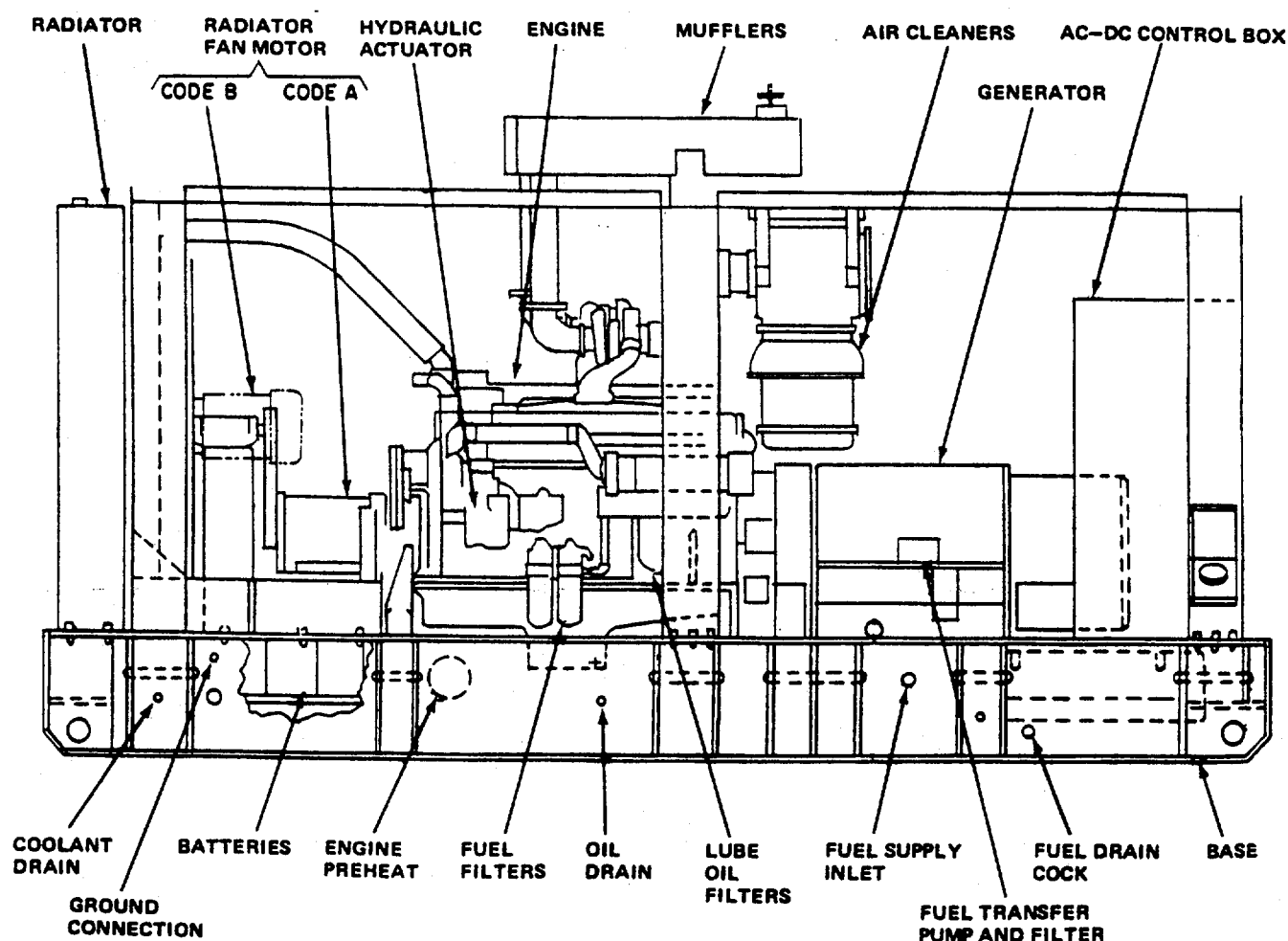


Figure 1-1. Generator Set, Left Side