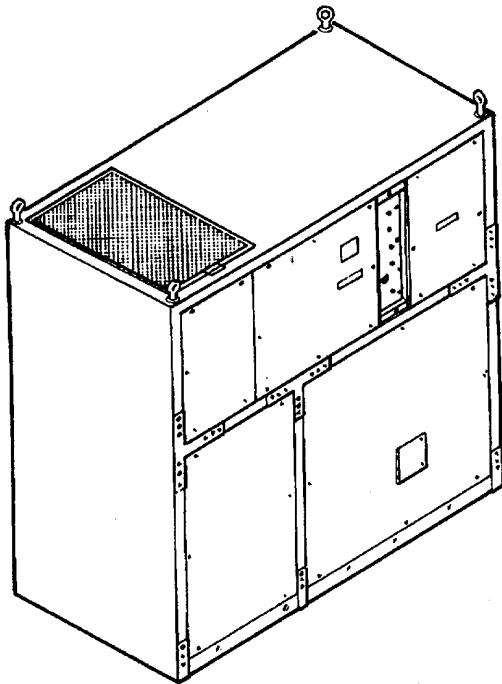


Operator's, Unit, Direct Support
and General Support Maintenance Manual



AIR CONDITIONER, 50,000 BTU
ELECTRIC MOTOR DRIVEN
208 V, 3-PHASE, 50/60 HZ
5 WIRE

MODEL MOAC 640
NSN 4120-01-157-0996

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HEADQUARTERS, DEPARTMENT OF THE ARMY, THE NAVY AND
THE AIR FORCE
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TECHNICAL MANUAL

NO. 9-4120-381-14

HEADQUARTERS
DEPARTMENTS OF THE ARMY, NAVY AND AIR FORCE
WASHINGTON D.C., 1 February 1994

**Operator, Unit Direct Support, and
General Support Maintenance
For
AIR CONDITIONER, 50, 000 BTU
ELECTRIC MOTOR DRIVEN
208 V, 3-PHASE, 50/60 HZ
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REPORTING ERRORS AND RECOMMENDING IMPROVEMENTS

You can help improve this manual. If you find any mistakes or if you know of a way to improve the procedures, please let us know. Mail your letter, DA Form 2028 (Recommended Changes to Publications and Blank Forms), or DA Form 2028-2 located in the back of this manual directly to: Commander, US Army Aviation and Troop Command, ATTN: AMSAT-I-MP, 4300 Goodfellow Blvd., St. Louis, MO 63120-1798. A reply will be furnished directly to you.

For Air Force, submit AFTO Form 22 (Technical Order System Publication Improvement Report and Reply) in accordance with paragraph 6-5, Section VI, T.O. 00-5-1. Forward to Commander, San Antonio Air Logistics Center, ATTN: SA-ALC/TIRTR, Kelly Air Force Base, TX 78241-5000.

For Navy, mail comments to the Commander, Naval Construction Battalion Center, ATTN: Code 157411, Bldg. 1443, Port Hueneme, CA 93043-5000.

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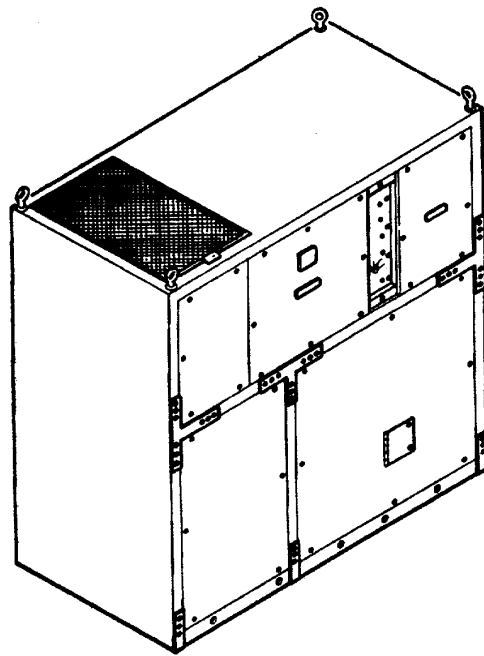
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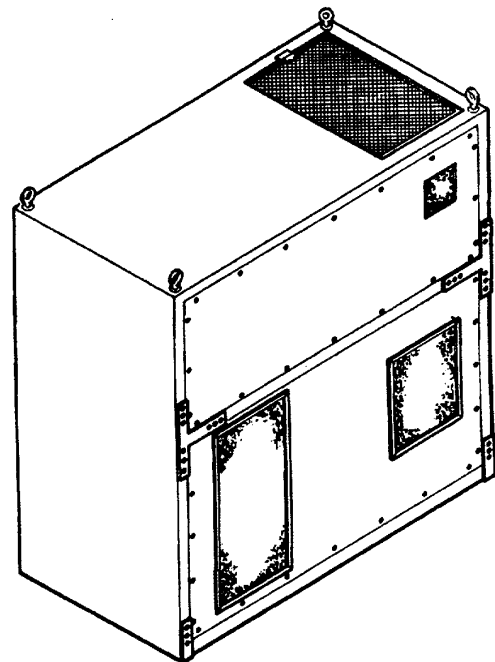
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FRONT VIEW



REAR VIEW

Figure 1-0. MOAC 640 50,000 BTU Air Conditioner

CHAPTER 1 INTRODUCTION

Section I. GENERAL INFORMATION

1-1. SCOPE. This manual is for use by personnel responsible for the operation and maintenance of the MOAC 640 air conditioner.

- a. Type of Manual. Operator, Unit, Direct Support and General Support Maintenance Manual.
- b. Model Number and Equipment Name. Ellis and Watts, Corporation, Model MOAC 640, 50,000 BTU/HR Cooling, 34,150 BTU/HR Heating, 208 volt, 3 Phase, 50/60 Hertz air conditioner.
- c. Purpose of Equipment. The air conditioner is designed for cooling and heating air to a desired predetermined range and circulating the conditioned air to provide heating and cooling of equipment and/or personnel within the conditioned area.

1-2. MAINTENANCE FORMS, RECORDS, AND REPORTS. Department of the Army forms and procedures used for equipment maintenance will be those prescribed by DA Pam 738-750, The Army Maintenance Management System (TAMMS). Air Force personnel will use AFR 66-1 for maintenance reporting and TO-00-35D54 for unsatisfactory equipment reporting. Navy personnel will report maintenance performed utilizing the Maintenance Data Collection Subsystem (MDCS) IAW OPNAVINST 4790.2, Vol 3 and unsatisfactory material/conditions (UR submissions) IAW OPNAVINST 4790.2, Vol 2, chapter 17.

1-3. REPORTING EQUIPMENT IMPROVEMENT RECOMMENDATIONS (EIR).

- a. Army. If your air conditioner needs improvement, let us know. Send us an EIR. You, the user, are the only one who can tell us what you don't like about your equipment. Let us know why you don't like the design or performance. Put it on an SF 368 (Product Quality Deficiency Report). Mail it to: Commander, US Army Aviation and Troop Command, ATTN: AMSAT-I-MDO, 4300 Goodfellow Blvd., St Louis, Mo. 63120-1798. We'll send you a reply.
- b. Air Force. Air Force personnel are encouraged to submit EIR's in accordance with AFR 900-4.
- c. Navy. Navy personnel are encouraged to submit EIR's through their local Beneficial Suggestion Program.

1-4. WARRANTY INFORMATION. The air conditioner, model MOAC 640, is warranted by Ellis and Watts Corporation for a period of one year from date of shipment when properly installed. Warranty starts on the date found in block 23 of DA Form 24089 in the logbook. Report all defects in material or workmanship to your supervisor who will take appropriate action.

1-5. LIFT OF ABBREVIATIONS.

CBR	Chemical, biological radiological hazard
CGV	Compound gage valve
EIR	Equipment Improvement Recommendation
EMI	Electro magnetic interference
CV	Charging valve
MAC	Maintenance Allocation Chart
MEK	Methyl ethyl ketone (solvent)
MTOE	Modified Table of Organization and Equipment
PGV	Pressure gage valve
PMCS	Preventive Maintenance Checks and Services
RFI	Radio frequency interference
TMDE	Test, Measurement and Diagnostic Equipment
VAC	Vacuum
VPV	Vacuum/purge valve

1-6. DESTRUCTION OF ARMY MATERIEL TO PREVENT ENEMY USE. Command decisions, according to tactical situation, will determine when destruction of the air conditioning unit will be accomplished. A destruction plan will be prepared by the user organization unless one has been prepared by higher authority. For general destruction procedures for this equipment, refer to TM 750-244-3, Procedures for Destruction of Equipment to Prevent Enemy Use.

1-7. PREPARATION FOR STORAGE OR SHIPMENT. Contact unit maintenance for air conditioning unit preparation for storage or shipment. See para 4-93 for instructions.

Section II. EQUIPMENT DESCRIPTION

1-6. EQUIPMENT CHARACTERISTICS, CAPABILITIES, AND FEATURES. The MOAC 640 air conditioning unit is designed to ventilate, cool or heat, and to filter and circulate air in enclosures.

- a. Provides a maximum of 50,000 BTU/HR of cooling and 34,150 BTU/HR of heating.
- b. Has one stage of heat.
- c. Provides a source of filtered outside (fresh) ventilation air.
- d. Is self contained in single cabinet that is suited for van, shelter or other enclosed areas.
- e. Operates in environmental conditions from arctic to tropic.
- f. Is EMI/RFI shielded; compatible with electronic equipment.
- g. Capable of control and interface for operation with remote control panel.
- h. Capable of supply or return air temperature control.
- i. Automatic unit shut down in fault condition, with manual reset.
- j. Provides for local and remote fault indications.
- k. The hot gas bypass system permits continuous running of the compressor.

1-9. LOCATION AND DESCRIPTION OF MAJOR COMPONENTS.

- a. External Components (Front View).

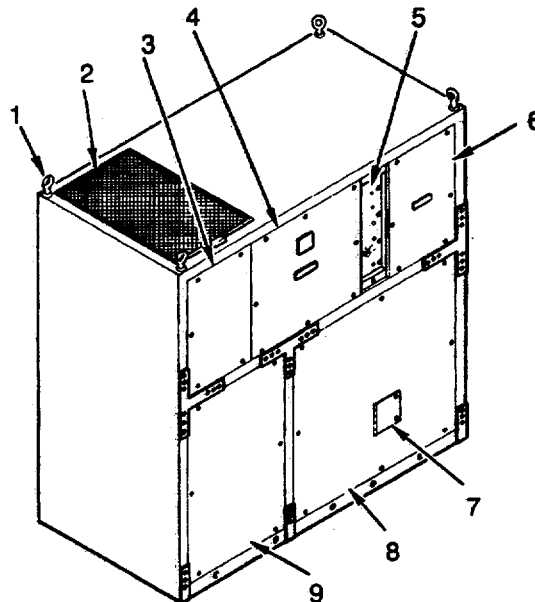


Figure 1-1. External Components (Front and Top Views).