TM 5-4120-259-15

DEPARTMENT OF THE ARMY TECHNICAL MANUAL

OPERATOR, ORGANIZATIONAL, DIRECT

AND GENERAL SUPPORT, AND DEPOT

MAINTENANCE MANUAL

AIR CONDITIONER: BASE MOUNTED, AIR COOLED, 208 VOLT, 3-PHASE, 60 CYCLE, AC, SINGLE PACKAGE 36,000 BTU/HR (YORK CORP MODEL MA 3-F23A) FSN 4120-926-1116

This reprint includes all changes in effect at the time of publication; Changes 1 through 7.

HEADQUARTERS, DEPARTMENT OF THE ARMY

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WASHINGTON, D. C., *17 October 1967*

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AIR CONDITIONER: BASE MOUNTED, AIR COOLED, 208 VOLT 3-PHASE, 60 CYCLES, AC, SINGLE PACKAGE, 36,000 BTU/HR (YORK CORP MODEL MA 3-F23A) FSN 4120-926-1116

CHAPTER 1

INTRODUCTION

Section I. GENERAL

1. Scope

a. These instructions are published for the use of the personel to whom air conditioner is issued. Chapters 1 through 5 provide information on the operation, preventive maintenance services, and organizational maintenance of the equipment, accessories, components, and attachments. Chapter 4 provides information for direct and general support and depot maintenance. Also included are descriptions of main units and their functions in relation to other components.

b. Appendix I contains a list of publications applicable to this manual, Appendix II contains the Maintenance Allocation Chart. Appendix III contains the list of Basic Issue Items authorized the operator of this equipment and the list of Maintenance and operating supplies required for initial operation.

c. Numbers in parentheses on illustrations indicate quantity. Numbers preceding nomenclature callouts on illustrations indicate the preferred maintenance sequence.

d. Reporting of Equipment Publication Improvements. DA Form 2028 (Recommended Changas to DA publications) shall be used for reporting discrepancies and recommendations for improving this equipment publication. The form shall be completed by the individual using the manual and forwarded direct to Commanding General, U. S. Army Mobility Equipment Command, ATTN.: AMSME-MP, 4300 Goodfellow Blvd. St. Louis, Mo. 63120.

2. Record and Report Forms

a. DA Form 2258 (Depreservation Guide of Engineer Equipment).

b. For other record and report forms applicable to operator, organizational, direct and general support and depot maintenance, refer to TM 38-750.

Note. Applicable forms, excluding Standard Form 46 (United States Government Motor Vehicles Operator's Identifications Card) which is carried by the operator shall be kept in a canvas bag mounted on the equipment.

Section II. DESCRIPTION AND DATA

3. Description

a. *General.* The York Model MA3-F23A air conditioner (figures 1, 2, 3 and 4) is a single package, base mounting unit designed primarily for use in van-type enclosures for providing filtered, conditioned air for the effioient operation of electronic equipment and the comfort of personnel. The unit is designed for continuous operation with varying loads.

b. Evaporator Section. The evaporator section, located in the top portion of the unit, contains the evaporator coil, evaporator fan, drip pan, air filters, expansion valve, and dfipers to regulate the amount of fresh and return air entering the air conditioner.

c. Condenser Section. The condenser section is located in the bottom portion of the unit. It contains the hermetically sealed compressor, condenser coil, condenser air inlet and outlet openings, control box, condenser fan,

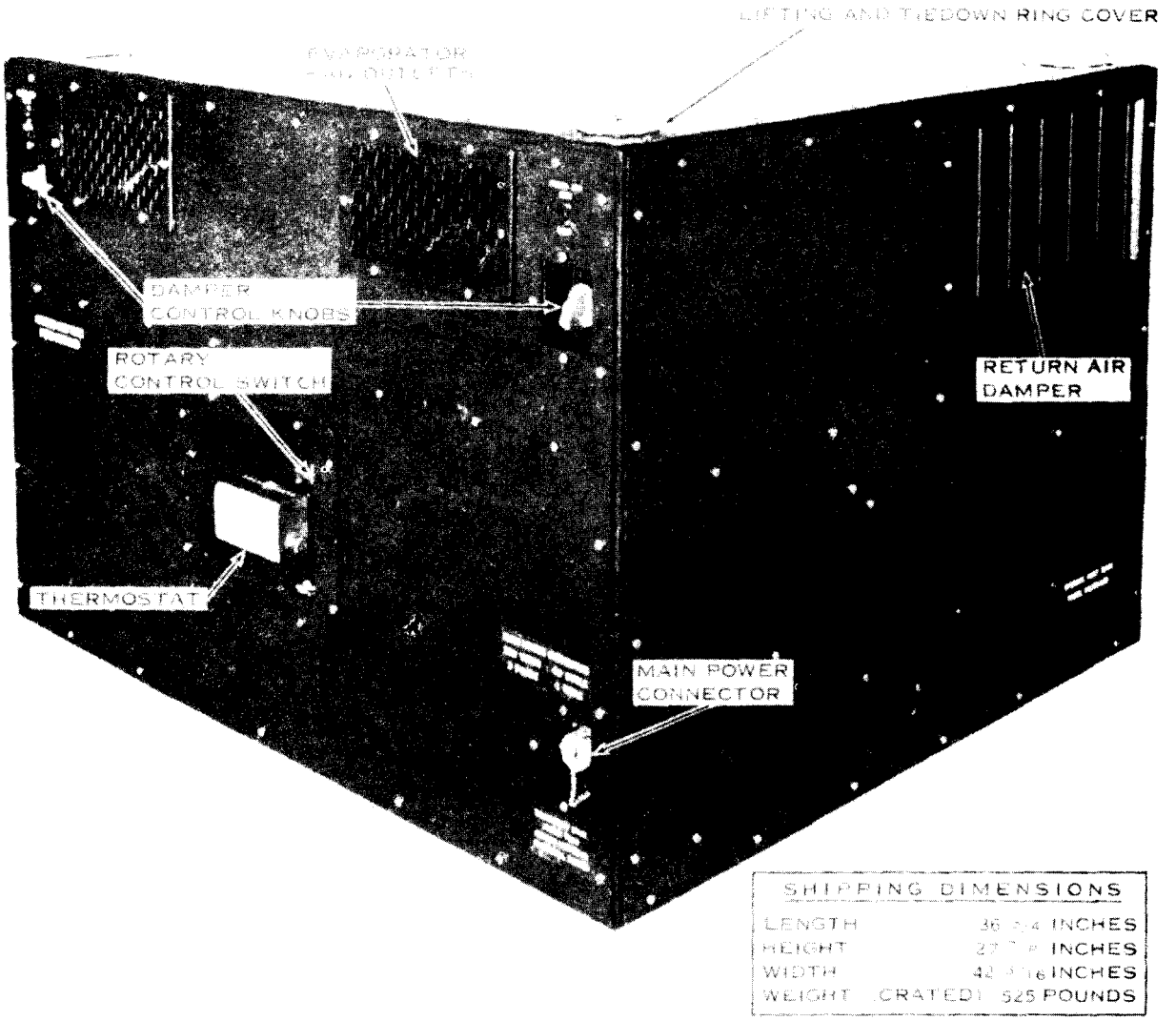

Figure 1. Air Conditioner, Right Front View, With Shipping Dimensions.

high-pressure cutout switch, motor starters, and the service valves.

4. Identification and Tabulated Data

a. Identification. There are three major identification plates on the air conditioner.

(1) *Corps of Engineers identification plate.* Located on the lower right corner of the front panel. Indicates nomenclature, manufacturer, model, serial number, contract number, and date manufactured.

(2) *Evaporator fan motor identification plate.* Located on the side of the motor. Specifies manufacturer, model, voltage, amperage, frame, phase, cycles, rpm, and horsepower.

(3) Condenser fan motor identification plate. Located on the motor. Specifies manufacturer, model, frame, serial number, class, phase, voltage, amperage, horsepower, cycles, service factor, and rpm.

b. Tabulated Data.

(1) *Corps of Engineers identification plate A.*

Nomenclature---------- Air Conditioner: Van Type, 36,000 btu/hr, Standard Weight, 60 cycles, 3 phase 208 volts
Manufacturer----------York
Model----------MA 3-F23A
Type----------Vapor-compression
Refrigerant----------Refrigerant-22
Capacity----------36,000btu/hr

(2) *Compression-Motor assembly.*

Manufacturer---------- ------Carrier Corporation
Model----------6A38M-109
Type----------Hermetically sealed
Lubrication----------VV-L-825, Type IV
RPM---------- 1725
Maximum Discharge----------675 psig
Volts----------208
Amperage----------27.0
Phase----------3
Cycles----------60

(3) *Evaporator Fan Motor.*

Manufacturer----------General Electric
Model----------5K42FG2504X
Serial----------ABL
Volts----------208
Phase----------3
Temp. rise----------55° C (Centigrade)
RPM (revolutions per minute). 1725

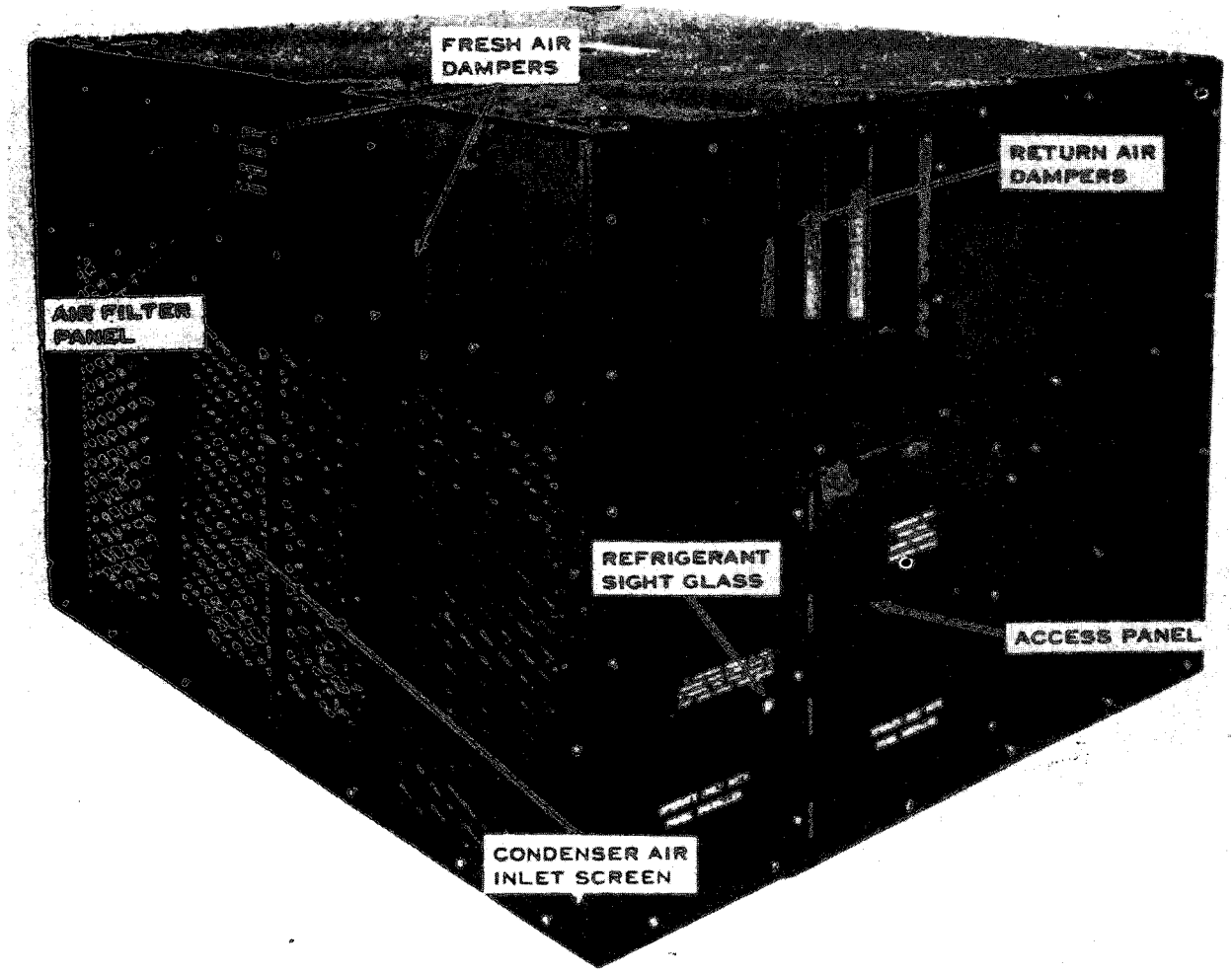

Figure 2. Air Conditioner, Left Rear View.

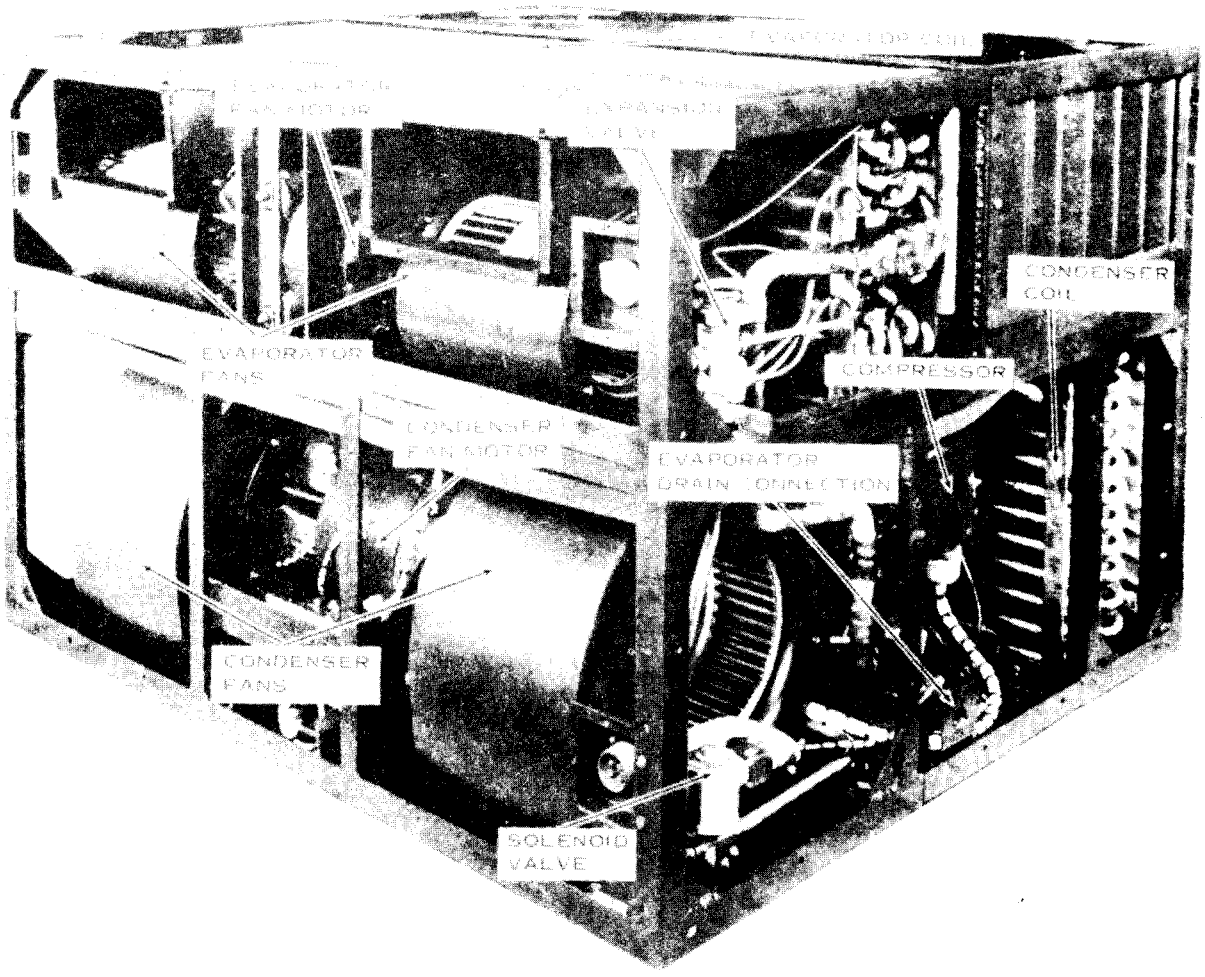

Figure 3. Air Conditioner, Right Front View, Panels Removed.

Duty----------Continuous
Cycles----------60
Amps (amperes) ----------1.6
Horsepower----------1/3
Code----------M

(4) *Condensor fan motor.*

Manufacturer----------General Electric
Model----------5K182HG4580T
Frame----------182K
Class----------H Insulation
Phase----------3
Horsepower----------1.5
Volts----------208
RPM----------1730
Cycles----------60
Amps----------4.7
Code_____M
Temp. rise----------75°C
Duty----------Continuous

(5) *Thermostat.*

Manufacturer----------Honeywell
Model----------T473C

(6) *Capacities.*

Refrigerant 22 charge----------13 lbs (pounds)
Compressor oil charge----5 pts (pints) VV-L-825, Type IV. (FSN 9150-823-7905)

(7) *Dimensions and Weight. See figure* 1.

Length (depth) ----------26-3/4 in. (inches)
Height----------27-7/8 in.
Width----------42-3/16 in.
Shipping weight (crated). 525 lb.

(8) *Base Plan.* See figure 6.

(9) *Wiring Diagram.* See figure 5.

(10) *Refrigerant Flow Diagram.* See figure 27.