TECHNICAL MANUAL

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

AIR CONDITIONER, VERTICAL, COMPACT 9,000 BTU/HR 115 VOLT, 1-PHASE, 50/60 HERTZ (NSN 4120-01-193-4999)

* This manual supersedes TM 5-4120-385-14, dated 31 July 1986, including all changes.

HEADQUARTERS, DEPARTMENT OF THE ARMY
24 JUNE 1992

TECHNICAL MANUAL

NO. 4120-385-14

HEADQUARTERS
DEPARTMENT OF THE ARMY
WASHINGTON, D. C., 24 JUNE 1992

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

AIR CONDITIONER, VERTICAL COMPACT
9,000 BTU/HR
115 VOLT,
1-PHASE, 50/60 HERTZ
NSN 4120-01-193-4999

REPORTING ERRORS AND RECOMMENDING IMPROVEMENTS

You can help improve this manual. If you find any mistake or if you know of a way to improve the procedures, please let us know. Mail your letter or 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, U.S. Army Troop Support Command, ATTN: AMSTR-MMTS, 4300 Goodfellow Boulevard, St. Louis, MO 63120-1798. A reply will be furnished directly to you.

Approved for public release; distribution is unlimited.

TABLE OF CONTENTS

* This manual supersedes TM 5-4120-385-14, dated 31 July 1986, including all changes

TABLE OF CONTENTS (cont.)

LIST OF FIGURES

LIST OF FIGURES (cont.)

LIST OF TABLES

CHAPTER 1

INTRODUCTION

Section I. GENERAL INFORMATION

1-1. SCOPE

a. Type of Manual: Operator's, Unit, Direct Support and General Support Maintenance Manual.

b. Model Number and Equipment Name: Air Conditioner, 9,000 BTU/HR, Vertical, Compact, 115 Volt, 1-Phase, 50/60 Hertz, Model Number ECU-9VC116.

c. Purpose of Equipment: Cools and heats enclosed space (shelter or van). The unit covered by this manual is designed for cooling and heating air to a desired predetermined range and circulating the conditioned air to provide heating and cooling of equipment or personnel within the sheltered area.

1-2. MAINTENANCE FORMS, RECORDS, AND REPORTS

Department of the Army forms and procedures used equipment maintenance will be those prescribed by DA PAM 738-750, The Army Maintenance Management System (TAMMS).

1-3. DESTRUCTION OF ARMY MATERIEL TO PREVENT ENEMY USE

Command decisions, according to the tactical situation, will determine when destruction of the air conditioner will be accomplished. A destruction plan will be prepared by the using 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.

1-4. PREPARATION FOR STORAGE OR SHIPMENT

Administrative storage of the air conditioner shall conform generally with the provisions of TM 740-90-1, Administrative Storage of Equipment.

1-5. REPORTING EQUIPMENT IMPROVEMENT RECOMMENDATIONS (EIRs)

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. Tell us why a procedure is hard to perform. Put it on an SF-368 (Quality Deficiency Report). Mail it to us at Commander, Headquarters, U.S. Army Troop Support Command, ATTN: AMSTR-MOF, 4300 Goodfellow Boulevard, St Louis, MO 63120-1798. We'll send you a reply.

Section II. EQUIPMENT DESCRIPTION AND DATA

1-6. PURPOSE OF AIR CONDITIONER

Cools and heats enclosed space (shelter or van). The unit covered by this manual is designed for cooling and heating air to a desired predetermined range and circulating the conditioned air to provide heating and cooling of equipment or personnel within the sheltered area.

1-7. CHARACTERISTICS

- Heats or cools air into a shelter or van as required.
- Ventilates or circulates air in a shelter or van

1-8. CAPABILITIES AND FEATURES

- Cooling capacity on COOL, BTU/HR 9,000
- Heating capacity on HI HEAT, BTU/HR 6,000
- Heating capacity on LO HEAT, BTU/HR 3,000
- Power requirement

Voltage	115
Phases	1
Frequency, Hertz	50/60
Amperes (maximum)	
Cooling	33.0
Heating	33.0
Watts, running (maximum)	
Cooling	3.6 KW
Heating	3.6 KW
Refrigerant type	R-22
Amount of charge	3lb 5 oz (kg)

1-9. OPERATING TEMPERATURES

The air conditioner is capable of functioning as follows:

- Start, operate, and cycle on COOL mode up to 120° (49°C) ambient temperature with air up to 120° (49 °C) entering the evaporator and condenser.
- Operate on COOL mode without forming frost or ice on the evaporator at 55°F (13°C) ambient temperature with air at 67°F (19 °C) dry bulb and 57 °F (14 °C) wet bulb entering the evaporator.
- Operate on the HI-HEAT mode in ambient temperatures as low as -50°F (-10°C) and as high as 80 °F (27 °C).
- Start and operate on cooling mode at 0 °F (-18 °C) ambient temperature with air at 70 °F (21 °C) entering the evaporator.

1-10. LOCATION AND DESCRIPTION OF MAJOR COMPONENTS

a. CONDENSER AREA. See Figures 1-1 and 1-2.

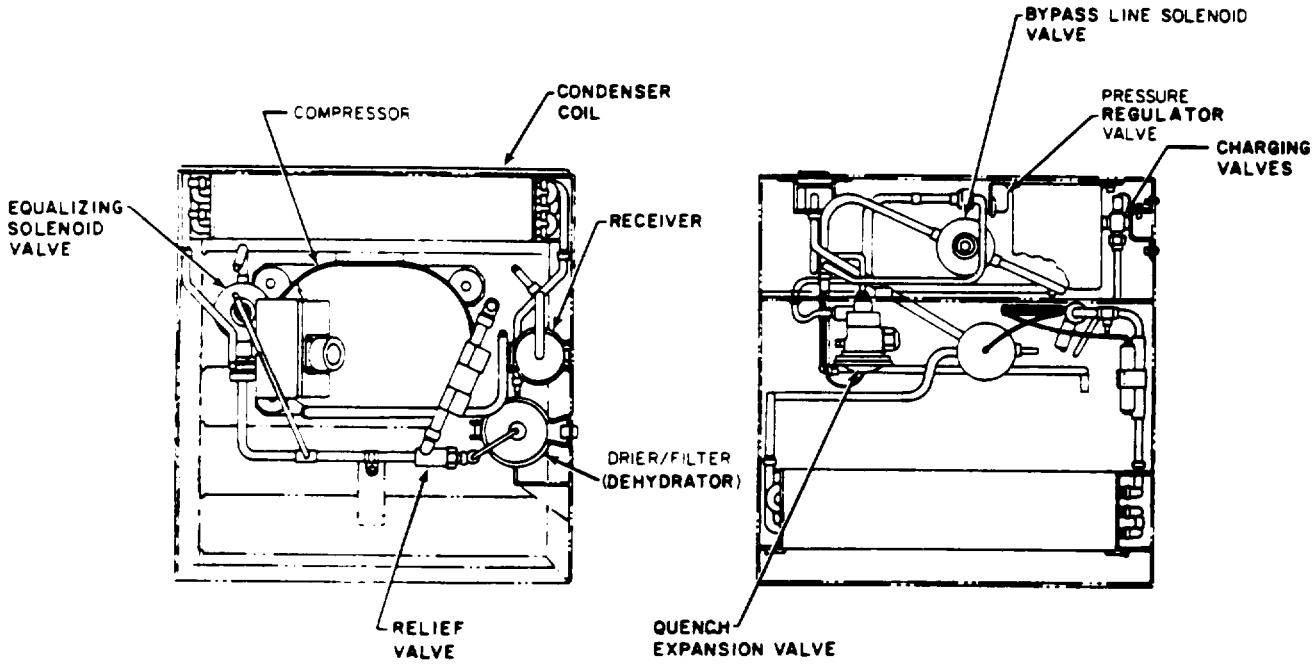

Figure 1–1. Air Conditioner, Condenser Section.

• EQUALIZING SOLENOID VALVE: This solenoid valve causes discharge and suction pressures to equalize whenever compressor is not operating.

• BYPASS LINE SOLENOID VALVE: This solenoid valve controls flow of liquid refrigerant to the evaporator coil.