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TECHNICAL MANUAL

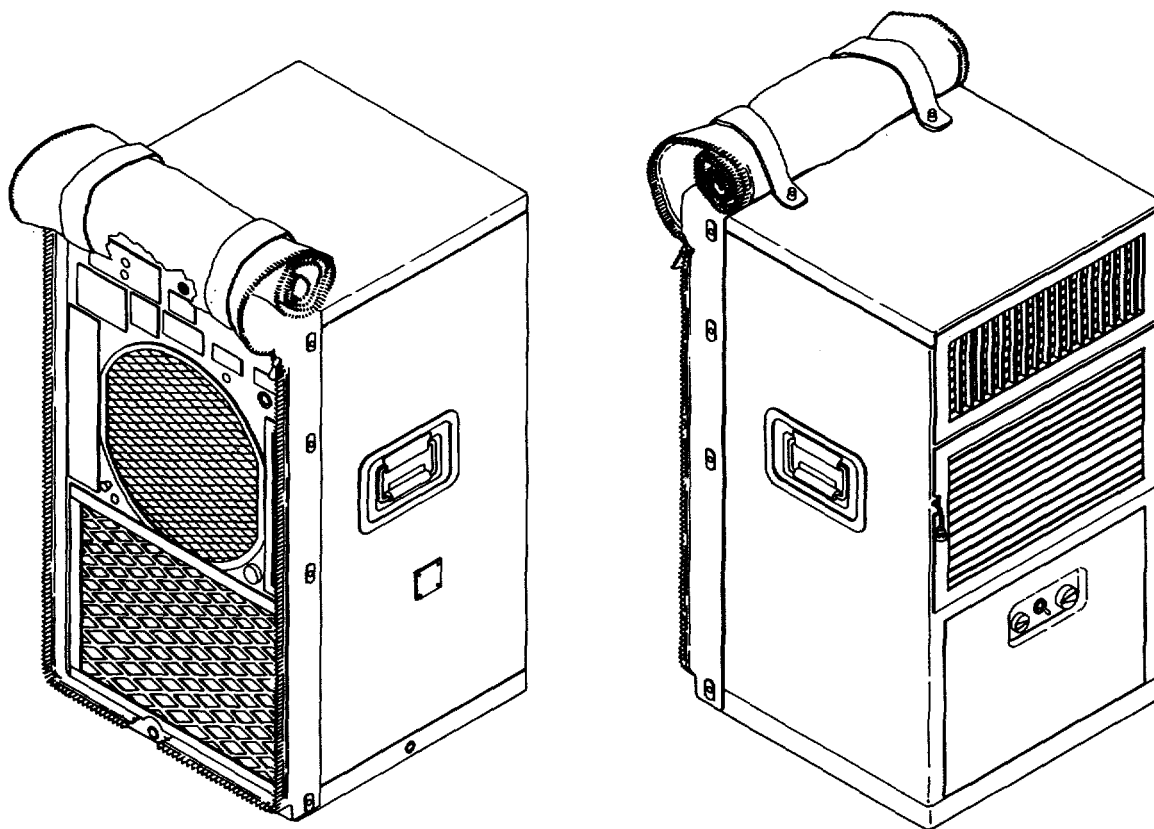
OPERATOR'S, ORGANIZATIONAL, DIRECT SUPPORT  
AND GENERAL SUPPORT MAINTENANCE MANUAL

This copy is a reprint, which includes  
current pages from Changes 1 through 3.

AIR CONDITIONER, VERTICAL COMPACT,  
9,000 BTU/HR, 208 VOLTS, 3-PHASE, 50/60 HZ

TIERNAY MODEL TM9KV-208-3-60

NSN 4120-01-091-9672



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HEADQUARTERS, DEPARTMENT OF THE ARMY  
23 OCTOBER 1981

OPERATOR'S, ORGANIZATIONAL, DIRECT SUPPORT AND  
GENERAL SUPPORT MAINTENANCE MANUAL

Air Conditioner, Vertical Compact,  
9,000 BTU/HR, 208 volt, 3-phase, 50/60 Hz.  
MODEL TM9KV-208-3-60 NSN 4120-01-091-9672  
MODEL F9000T3-2 NSN 4120-01-264-6295

**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. Reports shall be submitted as follows: A reply will be furnished to you.  
(A) Army - DA Form 2028 (Recommended Changes to Publications and Blank Forms), or DA Form 2028-2 located in the back of this manual direct to Commander, U. S. Army Troop Support Command, ATTN: AMSTR-MCTS, 4300 Goodfellow Boulevard, St. Louis, MO 63120-1798.  
(F) Air Force - AFTO Form 22 directly to: Commander, Sacramento Air Logistics Center, ATTN: MMST, McClellan Air Force Base, CA 95652 in accordance with TO-00-5-1.

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## CHAPTER 1

### INTRODUCTION

#### Section I. General

##### 1-1. SCOPE.

- a. Type of Manual: Operator's, Organizational, Direct Support and General Support Maintenance.
- b. Model Number and Equipment Name: TM9KV-208-3-60 or F9000T3-2 Air Conditioner, Multi-Purpose, 9000BTU/HR.
- c. Purpose of Equipment: The Air conditioner can be used in temporary buildings, shelters, mobile vans and trailers. The unit accomplishes three functions cooling, heating and ventilation.

##### 1-2. MAINTENANCE FORMS AND RECORDS.

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).

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

Destruction of the air conditioner to prevent enemy use shall be in accordance with TM 750-244-3, Procedure for Destruction of Equipment.

##### 1-4. PREPARATION FOR STORAGE OR SHIPMENT.

Seal all openings in the air conditioner cabinet with barrier material and sealing tape. Cover the entire cabinet with a protective barrier material. Store air conditioner in a dry, dust-free space. Storage of the air conditioner shall be in accordance with the following:

- a. Placement of equipment in administrative storage should be for short periods of time when a shortage of maintenance effort exists. Items should be in mission readiness within 24 hours or within the time factors as 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 completed, shortcomings and deficiencies 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.

##### 1-5. RADIO INTERFERENCE SUPPRESSION.

Essentially, suppression is attained by providing a low resistance path to ground for stray currents. The methods used include shielding the ignition and high frequency wires, grounding the frame with bonding straps, and using capacitors and resistors.

1-6. 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 or performance. Put it on an SF 368 (Quality Deficiency Report). Mail it to us at U.S. Army Troop Support Command, ATTN: AMSTR-QX, 4300 Goodfellow Boulevard, St. Louis, MO 63120-1798. We'll send you a reply.

1-7. HAND RECEIPT.

Hand receipts for Components of End Item (COEI), Basic Issue Items (BII), and Additional Authorization List (AAL) items are published in a Hand Receipt manual, TM 5-4120-339-14HR. This manual is published to aid in property accountability and is available through Commander, U.S. Army Adjutant General Publications Center, 2800 Eastern Blvd., Baltimore, MD 21220.

Section II. Equipment Description

1-8. EQUIPMENT PURPOSE.

The 9,000BTU/HR air conditioner is used primarily in van type enclosures. The unit accomplishes three functions: ventilating, cooling and heating.

1-9. CAPABILITIES AND FEATURES.

The air conditioner is semi-portable and has a capacity of 9,000 BTU/HR. The unit operates on 208 volts, 3-phase, 50/60 Hz power. Intake air for cooling and heating enters into the unit in either of two modes: 100 percent recirculated air, or partially recirculated air and partially fresh outside air. Air may be drawn directly from outside, or may be filtered if the unit is provided with a chemical biological filter unit. The unit is equipped with an air conditioner cover which is used for protection of the condenser coil and fan when the air conditioner is not in operation.

1-10. LOCATION AND DESCRIPTION OF MAJOR COMPONENTS.

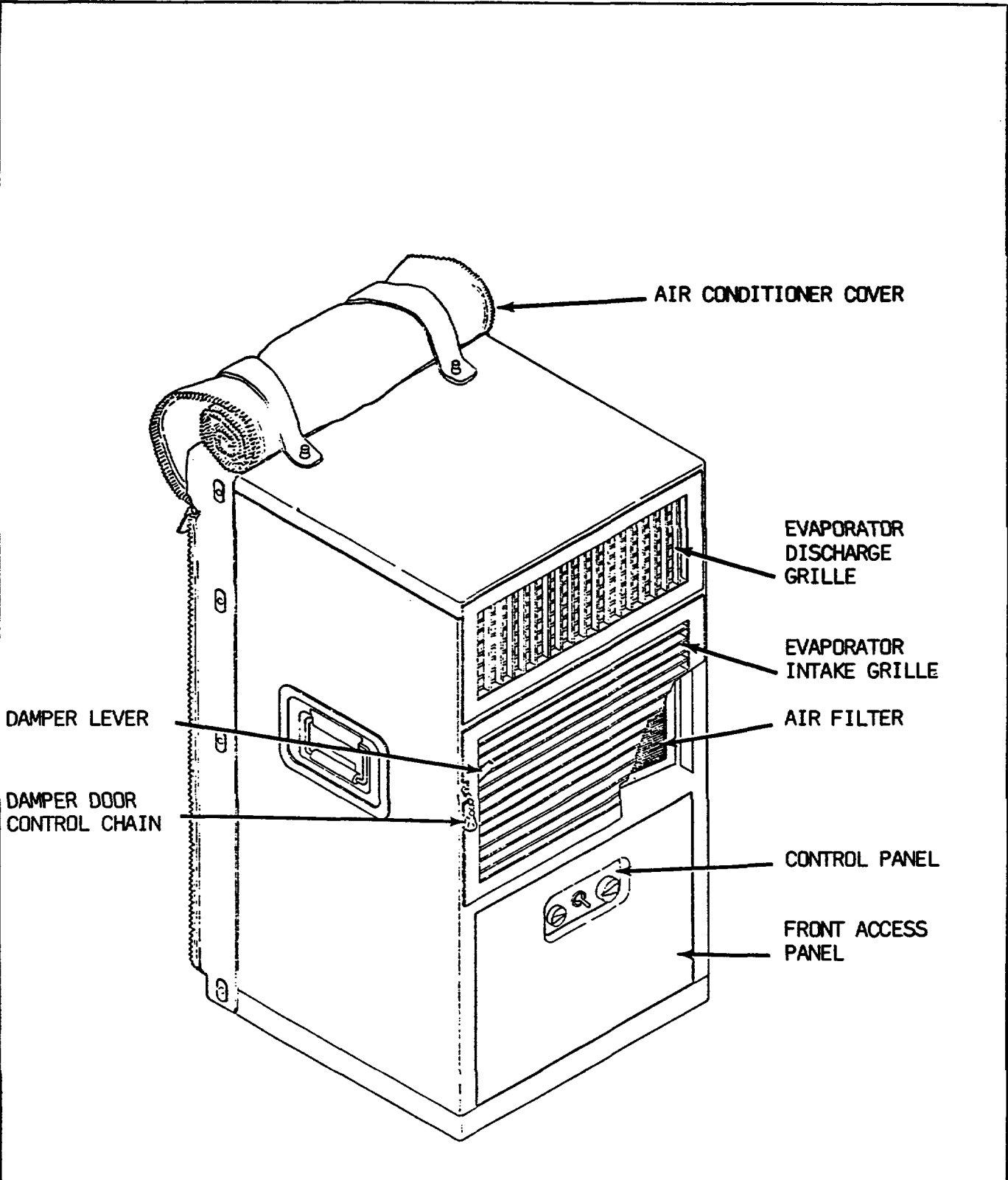
Figures 1-1 through 1-4 show the location of and describes the major components of the air conditioner.

1-11. DIFFERENCES BETWEEN MODELS.

This manual was prepared for the Tiernay Manufacturing model TM9KV-208-3-60 and Keco Industries, Inc. Model F9000T3-2 Air Conditioners. Differences between these two models are noted throughout this manual. Model TM9KV-208-3-60 has a condenser fan baffle and bracket that is not used on model F9000T3-2.

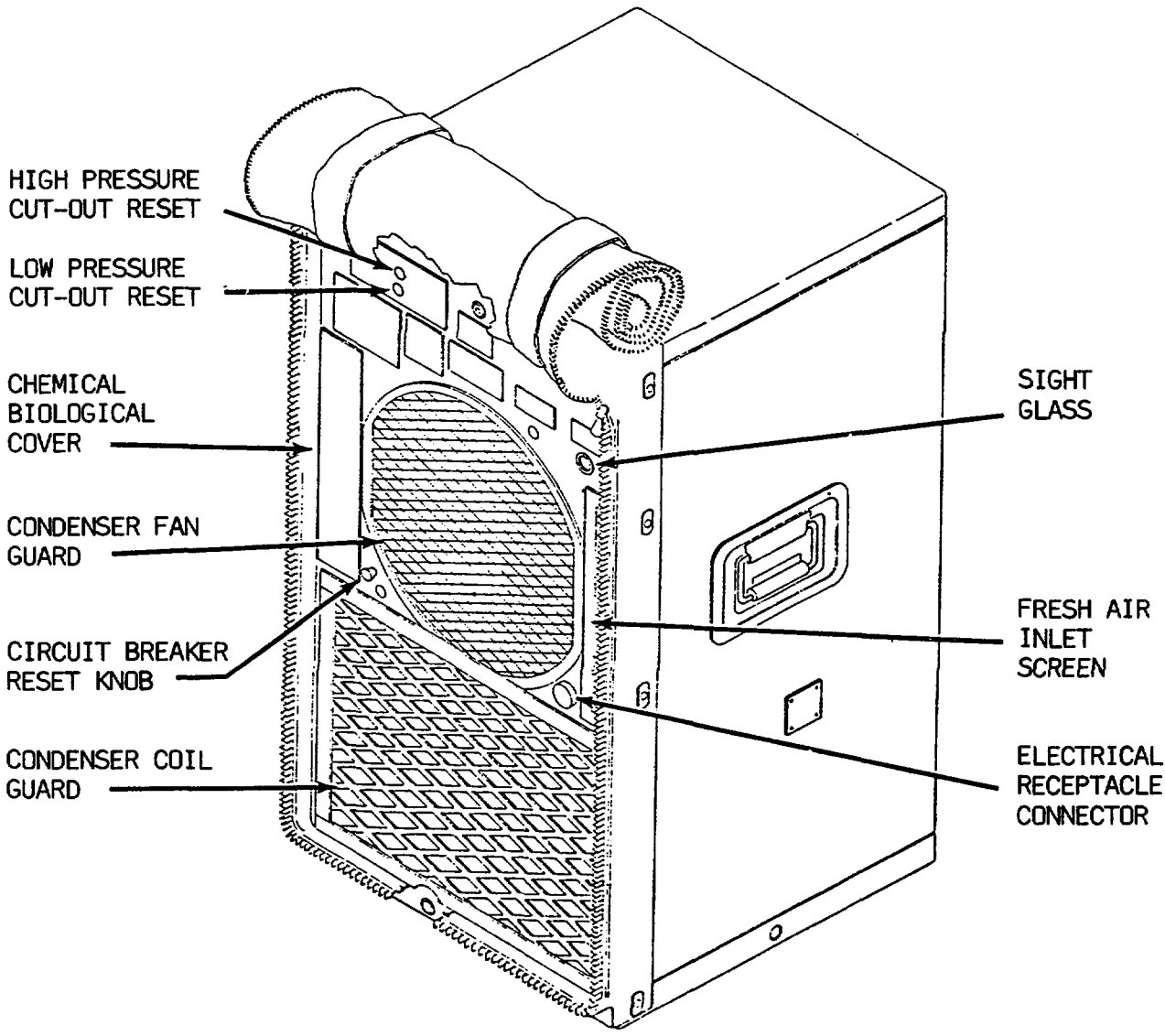
1-12. PERFORMANCE DATA.

Electrical Requirements:	208 volts, 50/60 Hz, 3-Phase	
Capacity:	9,000 BTU/HR	
Refrigerant Capacity:	3 pounds 5 ounces (1.48 kg) of refrigerant Specification BB-F-1421, Type 22	
Cabinet Dimensions:	Length:	17 inches (42cm)
	Width:	17 inches (42cm)
	Height:	32 inches (80cm)
	Weight:	180 pounds (81kg)



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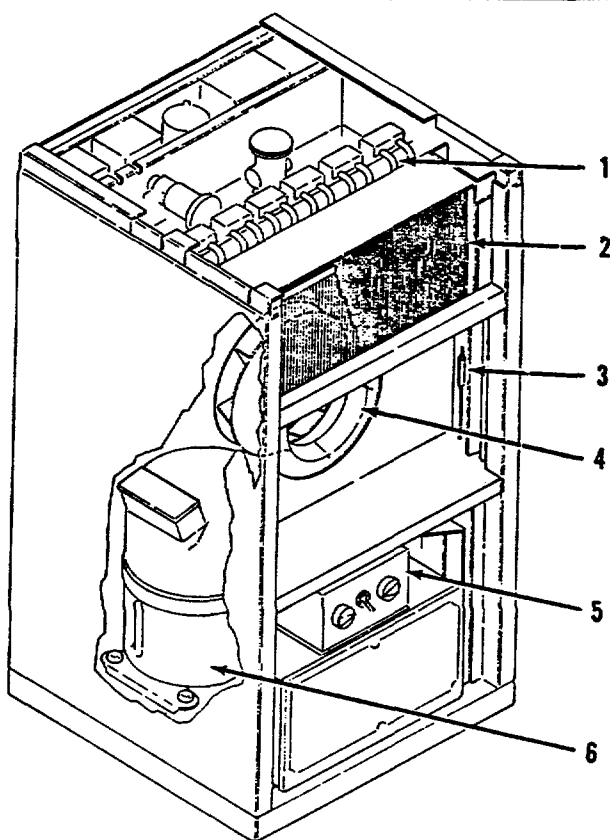
Figure 1-1. Right front three-quarter view of air conditioner



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Figure 1-2. Right rear three-quarter view of air conditioner





**HEATER ELEMENTS (1).** Consists of six electrical resistance heaters mounted directly behind the evaporator coil. The heater elements provide two ranges of heating.

**EVAPORATOR COIL (2).** Heat is absorbed from the air passing over the evaporator coil by the refrigerant passing through it. This action serves to cool the air as it flows through the evaporator coil.

**TEMPERATURE BULB (3).** Senses air temperature over the evaporator coil to maintain an even temperature of cooling air into the conditioned area.

**EVAPORATOR FAN (4).** The evaporator fan draws air through an filter, over the evaporator coil mounted in the evaporator section, and exhausts it into the conditioned area.

**CONTROL PANEL (5).** The control panel contains the manual thermostat control, the fan speed switch, and selector switch for controlling cooling, heating or ventilation, fan speed, temperature and mode of operation.

**COMPRESSOR (6).** A hermetically sealed electric motor driven compressor is used for pumping refrigerant through the system.

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Figure 1-3. Right front three-quarter view, location and description of major components