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**DEPARTMENT OF THE ARMY TECHNICAL BULLETIN**

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**WARRANTY PROGRAM****FOR****AIR CONDITIONER, VERTICAL, COMPACT, 18, 000 BTU/HR,****208 VOLT, THREE PHASE, 50/60 OR 400 HERTZ****NSN 4120-01-325-7062****MODEL F18T-MPI**

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**Headquarters, Department of the Army, Washington, DC**

31 March 1993

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**REPORTING OF ERRORS AND RECOMMENDING IMPROVEMENTS**

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**1. GENERAL.** This Warranty Technical Bulletin (WTB) describes the manufacturer's warranty for air conditioner model F18T-MPI. Keco Industries, Inc. warrants each air conditioner against defects in material or workmanship.

**2. EXPLANATION OF TERMS.** The following terms, applicable to this WTB, are explained to help the reader understand the application and extent of the warranty.

**a. Abuse.** The improper use, repair, or handling of warranted items such that the warranty may become void.

**b. Acceptance date.** The date an item of equipment is accepted into the Army's inventory by the execution of the acceptance block and signing of a DD Form 250, or approved acceptance document, by an authorized representative of the Government.

**c. Acquiring command or activity.** An activity which procures the items or materiel for a user.

**d. Alterations/Modifications.** Any alteration after production such as retrofit, conversion, remanufacture, design change, engineering change and the like.

**e. Contractor support.** Those services that are to be performed and those responsibilities that are placed upon the contractor by the government as specified in the warranty contract/provisions. This support, which may include such things as labor, parts, tools, training technical packages, etc., will be used in support of the warranted equipment during the specified warranty period.

**f. Defect.** Any condition or characteristic in any supplies or services furnished by the contractor under the contract that is not in compliance with the requirements of the contract.

**g. Failed Item.** A part, component, or end item that fails to perform its intended use.

**h. False return rate.** The return of suspected defective warranty items to the manufacturer that are eventually determined to be serviceable.

**I. Manufacturer's recall.**

(1) Safety recall. A manufacturer recalls an item to repair or replace a defective part or assembly which may affect public safety.

(2) Service recall. A manufacturer recalls an item to repair or replace a defective part or assembly which does not affect the safe use of the item.

**j. Primary damage.** The damage suffered by a part, component, or end item itself upon its failure.

**k. Prime contractor.** A party that enters into an agreement directly with the United States to furnish part or all of a system.

**l. Reimbursement.** A written provision in a warranty contract whereby the user may make the necessary repairs, with or without prior approval of the contractor, and the Government will be reimbursed for the repair parts and/or labor costs.

**m. Repair.** To restore an item to serviceable condition without affecting the warranty.

**n. Repairable.** An item that may be reconditioned or economically repaired for reuse when it becomes unserviceable.

**o. Secondary damage.** The damage suffered by an item because of a failure of another item within the same configuration.

**p. Serviceable.** The condition of an item which may be new or used that meets all the requirements and performs the functions for which it was originally intended.

**q. Subcontractor.** Any supplier, distributor, vendor or firm that furnishes supplies or service to or for a prime contractor or another subcontractor.

**r. Turnaround time.** That amount of time that is permitted for an item to be replaced/repared by the contractor/maintenance repair facility and returned to the user. The time is measured from the time the contractor/repair facility receives the request.

**s. Validation.** The process by which the contractor shall test/measure the WTB to assure its accuracy as it pertains to the warranty item(s).

**t. Verification.** The process of determining the accuracy and adequacy of the VWTB provided by the contractor. This process is performed by the Government/user.

**u. WARCO.** Warranty Control Offices established at the General Support/Director of Industrial Operations Level, or equivalent, who serve as the intermediary between the troops owning the equipment and the local dealer, contractor, or manufacturer. All warranty claim actions will be processed through the WARCO.

**v. Warranty.** A promise or statement of fact from a seller to a purchaser on the nature, usefulness, or condition of the supplies or performance of services to be furnished. The main purpose of a warranty in a government contract is to outline the rights and obligations of the contractor and the government for defective items or services. It also serves to foster quality performance by the contractor but is not a substitute for an adequate quality assurance program.

**w. Warranty claim.** Action started by the equipment user for authorized warranty repair, replacement, or reimbursement made from the local dealer or manufacturer.

**x. Warranty period.** Time during which the warranty is in effect. Normally measured as the maximum number of years, months, days, miles, or hours used.

**y. Warranty start date.** The date the warranty is put into effect.

**3. COVERAGES-SPECIFIC.** The specifics of coverage for this warranty are listed in Table 1. This

warranty applies only to Model F18T-MPI, Air Conditioners as defined in TM 9-4120-402-14 only.

**Table 1. Specifics of Coverage**

Nomenclature:	Air Conditioner, Vertical, Compact, 18, 000 BTU/HR 208 Volt, Three Phase, 50/60 or 400 Hertz
Line Item Number:	
Model Number:	F18T-MPI
National Stock Number:	NSN 4120-01-325-7062
Manufacturer and Part Number:	Keco Industries, Inc. (94833) 7375 Industrial Road Florence, Ky 41042-2911
Part Number:	(97403) 13229E4250
Serial Numbers:	905836 thru 906551, 909058 thru 909103, 91187 thru 91316, 91856 thru 91861, 91995 thru 911017, 911689 thru 911952, and 915357 thru 915359, 915843 thru 915853, 916371 thru 916701, 918412 thru 918478, and 918613 thru 919277
Contract Number:	DAAK01-90-D-0049
Length of Time Coverage: service by the Government. Not to exceed 24	12 months from the date the air conditioner is placed into months from the date of equipment acceptance as shown on the Material Inspection and Receiving Report (DD Form 250). This accounts for up to 12 months storage. The motor controller part number (97403) 13229E4211 and the logic box part number (97403) 13229E4180 are warranted for one additional year beyond that stated above
Type of Coverage:	Warrants that the supplies and parts of the air conditioner, at the time of acceptance or delivery, conform to the following: <ul style="list-style-type: none"> <li>a. Contract defined design and manufacturing requirements.</li> <li>b. Free from defects in materials and workmanship for the above time coverage.</li> <li>c. Conform to all contract defined performance requirements.</li> </ul>

**4. CONTRACTOR RESPONSIBILITIES.**

- a. Replacement Parts.** Only new or repaired parts will be used as replacement parts for warranted items.
- b. Cost to Government.** Replacements for warranted items will be furnished at no cost to the Government.
- c. Return Time.** Items covered by this warranty will be shipped within 10 days of receipt of failed item.
- d. Failure to Deliver Promptly.** If failed parts are not promptly replaced, the contractor will pay costs incurred by the Government in procuring such parts from another source. The Contracting Officer will determine when this applies.
- e. Warranty Status Report.** The contractor will prepare and furnish a warranty status report in accordance with Data Item DI-A01025 of the contract as long as this warranty is in effect.
- f. Unit Testing.** The contractor will repair, rework or modify all parts of the air conditioner used during testing to a like new condition. The warranty of those items will start at the time the item is installed.
- g. Warranty Coverage of Replaced or Repaired Items.** Supplies and parts that are replaced or repaired during the warranty period will be covered through the conclusion of the original air conditioner warranty.
- h. Shipping Costs.** The shipping costs from the original contract line item delivery point to the contractor and return is the contractor's responsibility for items that are replaced or repaired under this warranty.

**5. GOVERNMENT RESPONSIBILITIES.**

- a. User's Responsibility.** Using units are responsible for reporting failures to:

U.S. Army Aviation and Troop  
 Command  
 ATTN: SATBE-SSA  
 4300 Goodfellow Boulevard  
 St. Louis, MO 63120-1798  
 Autovon 693-3937  
 Commercial 314-263-3937

- b. Removal/Installation Labor.** The Government is responsible for the labor for field removal and reinstallation of components and parts.-d

- c. Inspection of Equipment.** Only trained or qualified personnel who have knowledge of the equipment and its requirements will inspect the equipment for nonconformance deficiencies.

- d. Documentation of Equipment.** The Government will fully document the cause, if known, and description of each defect. This information will be provided with the returned part.

- e. Packaging of Returned Items.** Returned items will be packaged in proper containers that will prevent shipping damage.

- f. Shipping Costs.** The Government is responsible for shipping costs for all items that are defective through no fault of the contractor.

**6. GOVERNMENT MAINTENANCE.** The Government is responsible to perform normal care, servicing and preventative maintenance in accordance with the requirements of TM 9-4120-402-14. See the Maintenance Allocation Chart (MAC) in that manual to determine maintenance level that is approved to perform these tasks.

**7. OWNING UNIT RESPONSIBILITIES.**

- a. Warranty Card.** The warranty card that is supplied (overpacked) with each unit must be filled out showing the warranty start date. This will be done when the unit is placed into service. A copy will be sent to:

U.S. Army Aviation and Troop  
 Command  
 (ATCOM)  
 ATTN: SATBE-SSA  
 4300 Goodfellow Blvd  
 St. Louis, MO 63120-1798

and

Keco Industries, Inc.  
 7375 Industrial Road  
 Florence, Ky 41042-2911

Failure to do this may void warranty.

<p><b>WARRANTY CARD</b>                  AIR CONDITIONER, VERTICAL, COMPACT, 18,000 BTUH,                  208 VOLT, THREE PHASE, 50/60 OR 400 HERTZ</p>
<p>PART NUMBER: 97403-13229E4250                  NSN: 4120-01-325-7062                  SERIAL NUMBER: _____                  DATE: _____ (DATE UNIT PLACED IN SERVICE)</p> <p>(SEE WARRANTY PLATE ON UNIT AND WARRANTY BULLETIN                  TB9-4120-402-24)                  KECO INDUSTRIES, INC. FLORENCE, KY</p> <p>THIS WARRANTY IS INVALID UNLESS BOTH CARDS ARE                  COMPLETED AND SENT TO THE APPROPRIATE AUTHORITY.                  (ADDRESS ON OTHER SIDE OF CARD)</p>
<p><b>WARRANTY CARD</b>                  AIR CONDITIONER, VERTICAL, COMPACT, 18,000 BTUH,                  208 VOLT, THREE PHASE, 50/60 OR 400 HERTZ</p>
<p>PART NUMBER: 97403-13229E4250                  NSN: 4120-01-325-7062                  SERIAL NUMBER: _____                  DATE: _____ (DATE UNIT PLACED IN SERVICE)</p> <p>(SEE WARRANTY PLATE ON UNIT AND WARRANTY BULLETIN                  TB9-4120-402-24)                  KECO INDUSTRIES, INC. FLORENCE, KY</p> <p>THIS WARRANTY IS INVALID UNLESS BOTH CARDS ARE                  COMPLETED AND SENT TO THE APPROPRIATE AUTHORITY.                  (ADDRESS ON OTHER SIDE OF CARD)</p>

Figure 1. Warranty Card

**10. DESIGN/PERFORMANCE SPECIFICATIONS.**

a. **Air Conditioner Specification.** See MIL-A-53089 dated 9 February 1989 for specific design, performance and testing requirements. Use information that applies to M53089, Type I, Size C.

b. **Routine Testing.** See TM 9-4120-402-14 for routine air conditioner acceptance at point of delivery or testing after service and maintenance.

c. **Testing Personnel Qualifications.** Should testing in accordance with MIL-A-53089 become necessary, it should be done only by qualified, experienced personnel. This type of testing also requires controlled conditions as outlined in the specification. Personnel used for testing in accordance with TM 9-4120-402-14 are governed by the Maintenance Allocation Chart in that manual.

d. **Warranty Label.** See TM 9-4120-402-14, figure 2-17 for location of warranty label.

e.

<p><b>WARRANTY ITEM</b></p>
<p>WARRANTY TECHNICAL BULLETIN TB9-4120-402-24</p> <p>WARRANTY EXPIRES [REDACTED] / [REDACTED]</p> <p>CONTRACT NUMBER DAAK01-90-D-0049</p> <p>THE ACTUAL WARRANTY IS ONE YEAR FROM DATE UNIT IS PLACED INTO SERVICE OR THE DATE STAMPED ABOVE, WHICHEVER OCCURS FIRST</p> <p>THE MOTOR CONTROLLER AND LOGIC BOX ASSEMBLIES ARE WARRANTED FOR TWO YEARS AFTER BEING PLACED INTO SERVICE OR THREE YEARS AFTER SHIP DATE, WHICH EVER OCCURS FIRST.</p> <p>FAILURE TO FILL OUT AND RETURN WARRANTY CARD WHEN UNIT IS PLACED INTO SERVICE MAY VOID WARRANTY</p>

Figure 2. Warranty Label

b. **Additional Requirements.** See paragraph 6.

**8. WARRANTY CONTROL OFFICE RESPONSIBILITIES.** The Warranty Control Office (WARCO) serves as intermediary between the troops owning the air conditioner and Keco. All warranty claim actions will be processed through WARCO.

**9. ALTERATIONS/MODIFICATIONS.** Alterations and modifications shall not be made unless expressly authorized or directed by:

U.S. Army Aviation and Troop  
 Command  
 ATTN: SATBE-SSA  
 4300 Goodfellow Blvd  
 St. Louis, MO 63120-1798  
 Autovon 693-3937  
 Commercial 314-263-3937

**11. NULLIFICATION.**

**a. Warranty Void** If. This warranty will not apply to supplies or parts that have been subject to:

- (1) Abuse
- (2) Misuse
- (3) Neglect
- (4) Accident
- (5) Items that have been repaired, maintained or altered in any way that has adversely affected their condition.
- (6) Combat damage.
- (7) Improper use or installation.(See TM 9-4120-402-14 for operation and installation instructions).

**12. ABUSE DETERMINATION.** When damage to warranted items is not obvious, but suspected to be the result of abuse, the activity responsible for the equipment shall carefully document the nature, extent, probable cause, and estimated time and place of occurrence of the damage. The documented data shall be analyzed, and compared to similar cases (if existent), to determine whether the damage was accidental or intentional. Appropriate action shall be taken to prevent recurrence of accidental or intentional abuse through training, added precautionary and/or handling and usage labeling or instruction, and personnel disciplinary measures.

**13. CLAIM PROCEDURES.**

**a. TAG FAILED ITEMS.** Failed warranty items will immediately be tagged/identified to prevent improper repair or use.

**b. TAGS AND FORMS.** See DA Pam 738- 750 for information pertaining to handling, processing and filling out the following tags and forms:

- (1) DA Form 2420-Exchange Tag.
- (2) DA Form 2407-Maintenance request form.
- (3) DA Form 5504-Maintenance request form.

**14. FALSE RETURNS.** In the event that it is determined that a failure was not subject to the guarantees described in this bulletin, Keco will be reimbursed for any and all expenses incurred by the Warranty Claim Action (WCA).

**a. The Submitting Government Unit May be Penalized In One or All of the Following Ways.**

- (1) Cost of item
- (2) Loss of time
- (3) Nonavailability of air conditioner

**b. Monitoring False Returns.** False returns will be monitored by the responsible activity, usually the commodity command.

**15. REPORTING.** Reporting or recording action on a failed item shall be as specified in DA Pam 738-750 or DA Pam 738-751. Contractor unique forms shall not be used.

**16. STORAGE/SHIPMENT/HANDLING.** See TM9-4120-402-14 for storage and packaging information pertaining to the total air conditioner.

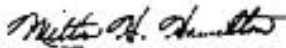
**a. Component Packaging.** Individual components must be carefully packaged in appropriate containers that will prevent damage during shipment or storage.

**b. Shipment.** Shipment of failed warranty items shall not be made without direct authority from the supporting warranty control office. Notify WARCO.

TM9-4120-402-14

Technical Manual, Operator's, Unit, Direct Support, and  
General Support Maintenance Manual for Air  
Conditioner, Vertical, Compact, 18, 000 BTU/HR, 208  
Volt, Three Phase, 50/60 or 400 Hertz, NSN 4120-01-  
325-7062, Model F18T-MPI

By Order of the Secretary of the Army:

Official: 

MILTON H. HAMILTON  
*Administrative Assistant to the  
Secretary of the Army*

6032

GORDON R. SULLIVAN  
*General, United States Army  
Chief of Staff*

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DATE SENT

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PUBLICATION TITLE

BE EXACT... PIN-POINT WHERE IT IS

PAGE NO.	PARA-GRAPH	FIGURE NO.	TABLE NO.
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IN THIS SPACE TELL WHAT IS WRONG AND WHAT SHOULD BE DONE ABOUT IT:

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PRINTED NAME, GRADE OR TITLE, AND TELEPHONE NUMBER

SIGN HERE:

DA FORM 2028-2  
1 JUL 78

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# The Metric System and Equivalents

## Linear Measure

1 centimeter = 10 millimeters = .39 inch  
 1 decimeter = 10 centimeters = 3.94 inches  
 1 meter = 10 decimeters = 39.37 inches  
 1 dekameter = 10 meters = 32.8 feet  
 1 hectometer = 10 dekameters = 328.08 feet  
 1 kilometer = 10 hectometers = 3,280.8 feet

## Weights

1 centigram = 10 milligrams = .15 grain  
 1 decigram = 10 centigrams = 1.54 grains  
 1 gram = 10 decigrams = .035 ounce  
 1 dekagram = 10 grams = .35 ounce  
 1 hectogram = 10 dekagrams = 3.52 ounces  
 1 kilogram = 10 hectograms = 2.2 pounds  
 1 quintal = 100 kilograms = 220.46 pounds  
 1 metric ton = 10 quintals = 1.1 short tons

## Liquid Measure

1 centiliter = 10 milliliters = .34 fl. ounce  
 1 deciliter = 10 centiliters = 3.38 fl. ounces  
 1 liter = 10 deciliters = 33.81 fl. ounces  
 1 dekaliter = 10 liters = 2.64 gallons  
 1 hectoliter = 10 dekaliters = 26.42 gallons  
 1 kiloliter = 10 hectoliters = 264.18 gallons

## Square Measure

1 sq. centimeter = 100 sq. millimeters = .155 sq. inch  
 1 sq. decimeter = 100 sq. centimeters = 15.5 sq. inches  
 1 sq. meter (centare) = 100 sq. decimeters = 10.76 sq. feet  
 1 sq. dekameter (are) = 100 sq. meters = 1,076.4 sq. feet  
 1 sq. hectometer (hectare) = 100 sq. dekameters = 2.47 acres  
 1 sq. kilometer = 100 sq. hectometers = .386 sq. mile

## Cubic Measure

1 cu. centimeter = 1000 cu. millimeters = .06 cu. inch  
 1 cu. decimeter = 1000 cu. centimeters = 61.02 cu. inches  
 1 cu. meter = 1000 cu. decimeters = 35.31 cu. feet

## Approximate Conversion Factors

To change	To	Multiply by	To change	To	Multiply by
inches	centimeters	2.540	ounce-inches	newton-meters	.007062
feet	meters	.305	centimeters	inches	.394
yards	meters	.914	meters	feet	3.280
miles	kilometers	1.609	meters	yards	1.094
square inches	square centimeters	6.451	kilometers	miles	.621
square feet	square meters	.093	square centimeters	square inches	.155
square yards	square meters	.836	square meters	square feet	10.764
square miles	square kilometers	2.590	square meters	square yards	1.196
acres	square hectometers	.405	square kilometers	square miles	.386
cubic feet	cubic meters	.028	square hectometers	acres	2.471
cubic yards	cubic meters	.765	cubic meters	cubic feet	35.315
fluid ounces	milliliters	29,573	cubic meters	cubic yards	1.308
pints	liters	.473	milliliters	fluid ounces	.034
quarts	liters	.946	liters	pints	2.113
gallons	liters	3.785	liters	quarts	1.057
ounces	grams	28.349	liters	gallons	.264
pounds	kilograms	.454	grams	ounces	.035
short tons	metric tons	.907	kilograms	pounds	2.205
pound-feet	newton-meters	1.356	metric tons	short tons	1.102
pound-inches	newton-meters	.11296			

## Temperature (Exact)

°F	Fahrenheit temperature	5/9 (after subtracting 32)	Celsius temperature	°C
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