

TECHNICAL BULLETIN

WARRANTY PROGRAM

FOR

**WATER PURIFICATION UNIT, REVERSE OSMOSIS,
3,000 GPH TRAILER MOUNTED, FLATBED CARGO,
22 1/2 TON, 8 WHEEL TANDEM
MODEL NUMBER: ROWPU-1
NSN: 4610-01-371-1790**

DISTRIBUTION STATEMENT A: Approved for public release; distribution is unlimited.

***This manual supersedes TB 10-4610-232-24, dated 4 May 1992.**

**HEADQUARTERS, DEPARTMENT OF THE ARMY
25 APRIL 1996**

Department of the Army Technical Bulletin

WARRANTY PROGRAM

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WATER PURIFICATION UNIT, REVERSE OSMOSIS, 3,000 GPH

TRAILER MOUNTED, FLATBED CARGO, 22 1/2 TON, 8 WHEEL TANDEM

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NSN: 4610-01-371-1790

**Headquarters, Department of the Army
Washington, D.C.**

25 APRIL 1996

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 these 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. You may also submit your recommended changes by E-mail directly to <mpmt/oavma28@st-louis-emh7.army.mil>. A reply will be furnished directly to you. Instructions for sending an electronic 2028 may be found at the back of this manual immediately preceding the hard copy 2028.

1. GENERAL. The purpose of this technical bulletin is to outline the procedures for identifying warranted items of the Reverse Osmosis Water Purification Unit (ROWPU) Model Number ROWPU-1. This bulletin defines a material and workmanship warranty for the equipment described within this document.

2. EXPLANATION OF TERMS. The definitions that apply to this Warranty Technical Bulletin can be found in Appendix A.

3. COVERAGE. The contractor, KECO Industries, guarantees the ROWPU as described within Table 1-1 and all parts thereof, at the time of acceptance or delivery, to be free from all defects in material and workmanship for 18 months from the date unit is placed into service not to exceed 36 months from acceptance date. Expendable items such as filters (air, fuel and oil), or any expendable items provided as part of spares, are not covered under the warranty on this contract.

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Table 1-1. Covered Item.

Nomenclature:	Water Purification Unit Reverse Osmosis, 3,000 GPH Trailer Mounted, Flatbed Cargo, 22 1/2 Ton, 8 Wheel Tandem
Line Item Number:	0001
Model Number:	ROWPU-I
NSN:	4610-01-371-1790
Manufacturer and Part Number:	KECO Industries 7375 Industrial Road Florence, KY 41402 CAGEC: 94833 Part Number: 13229E0000
Serial Numbers:	93001 through 93078
Contract Number:	DAAK01-93-D)0008
Coverage Period:	18 months from date unit is placed into service.
Type of Coverage:	Material and Workmanship

4. CONTRACTOR RESPONSIBILITIES. The contractor is responsible for providing repair or replacement of warranted items as prescribed by this Technical Bulletin upon receipt, within the warranty period, of a properly completed Maintenance Request Form (DA Form 2407) along with the hardware to be repaired or replaced.

a. The contractor shall repair or replace all defective parts within 30 days of receipt as above provided, or within such additional time as the contractor and contracting officer shall agree is reasonable under all circumstances.

b. If the contractor fails to accomplish the repair or replacement within the prescribed time limits, the government may procure the required parts from another source and the contractor shall be responsible to reimburse the government the costs of such procurement as well as reasonable labor charges to effect the repair. In such event, the contractor may retain the items which were

returned and not timely repaired or replaced.

c. If the government determines that a defective warranted item is within the maintenance capability of the user, but is within the responsibility of the contractor as prescribed herein, the user may proceed to repair or replace. Any parts which are shown to be defective at the time of delivery, may be returned to the contractor for replacement and the contractor will replace them at no cost to the government.

d. In all situations where repair or replacement requires transportation of the nonconforming or defective item(s), shipping costs from the original line item delivery point to the contractor's plant and return shall be at the expense of the contractor.

5. GOVERNMENT RESPONSIBILITIES. The Government will initiate warranty claim actions (WCA) for warranted items and material deficiency reporting (MDR) actions for system failures in accordance with DA PAM 738-750. The ATCOM warranty administration office (WARAO), AMSAT-A-TCB, DSN 693-2819, CMCL (314) 263-2819, will handle warranty claims that are generated by the using units. The ATCOM WARAO, in conjunction with the ATCOM Contracting Officer will generate action with the contractor to resolve the WCA's.

a. Government Maintenance. Using units are allowed to perform troubleshooting, preventive maintenance and replacement of defective components as authorized by Technical Manuals TM 10-4610-232-12 and TM 10-4610-232-34 and the Maintenance Allocation Chart included in those manuals.

b. Owning Unit Responsibilities. Owning unit will initiate warranty claim actions (WCA) for warranted items in accordance with DA PAM 738-750.

c. Warranty Administration Office (WARAO) Responsibilities. The WARAO for the ROWPU is the U. S. Army Aviation and Troop Command, 4300 Goodfellow Blvd., St. Louis, MO. WARAO responsibilities are identified in the Government Responsibilities paragraph 5. above.

d. Army Oil Analysis Program (AOAP). Not applicable.

e. Alterations/Modifications. Alterations and/or modifications shall not be made unless expressly authorized or directed by: U.S. Army Aviation and Troop Command (ATCOM), ATTN: AMSAT-I-MC, 4300 Goodfellow Blvd., St. Louis, MO 63120-1798, DSN 693-3117, CMCL (314) 263-3117.

6. DESIGN / PERFORMANCE SPECIFICATIONS.

Equipment performance is as specified in the appropriate technical manual.

7. NULLIFICATIONS TO WARRANTY. This warranty does not apply to equipment performance deficiencies attributable to:

a. Installation, utilization or operation not in accordance with the operating instructions and technical data provided with the unit.

b. Operation, repair or alteration by individuals not trained in proper operation or maintenance of the unit.

c. Repairs with, or an addition of, items not supplied by or approved by KECO Industries.

d. Failure to perform operation and maintenance in accordance with Technical Manuals TM 10-4610-232-12, TM 10-4610-232-34, and the Maintenance Allocation Chart included in those manuals.

e. Transportation or storage of a ROWPU unit under conditions determined to be detrimental to the performance of the unit.

f. Operation of the ROWPU or its components outside stated performance parameters.

g. Operation of the ROWPU for purposes other than intended (as a water purification system).

h. Removal of components from one serial-numbered ROWPU for reinstallation on a different serial-numbered ROWPU (cannibalization). (Installation of components that have been repaired under this warranty program being an exception.)

i. Modifications or retrofit of components or equipment not expressly authorized by KECO Industries.

j. Failure to maintain appropriate documentation that would resolve, conclusively, any question concerning the use, maintenance, or deployment of the ROWPU resulting in a warranty claim.

k. Any abuse or misuse of the equipment.

l. Damage caused by combat conditions.

8. ABUSE DETERMINATION. When abuse is suspected but not obvious, it is the Government's responsibility to provide documentation of the item to allow the contractor or a joint contractor/Government panel to determine if the abuse has occurred. If abuse (as defined in this bulletin) becomes evident, the Government will reimburse the contractor for the repair and associated repair and transportation costs. Warranties for replacement parts will be the same as the warranty on the replacements parts supplied in non-abuse situations.

9. CLAIMS PROCEDURES. DA Forms 2402 (Exchange Tag) and 2407 (Maintenance Request) shall be used by the field in reporting warranty claim actions. The purpose of these forms is for the seller to repair or replace any defective part so the equipment can be returned to an operational readiness mode. Warranty claims from using field units shall be forwarded to the ATCOM Maintenance Directorate (IMMC), Field Data Division, Operations Branch, Attn AMSAT-I-MDO, 4300 Goodfellow Boulevard, St. Louis, MO 63120-1798, DSN 693-1955, CMCL (314) 263-1955. Data FAX number DSN 693-1761, CMCL (314) 263-1761. Upon receipt of these forms ATCOM will initiate and forward an MDR to the Contractor.

a. Identification of Failed Item. All failed warranty items shall be tagged/identified to prevent improper repair or use. All failed items shall be tagged using DA Form 2402, Exchange Tag, and DA Form 2407, Maintenance Request, will be completed in accordance with DA PAM 738-750.

b. Disposition. In the event of a failed warranty item, all procedures for handling, repair, and evacuation of the failed item shall be as determined by the applicable WARAO.

c. False Returns. If items are returned to the Contractor that are found to be serviceable, nullified in accordance with paragraph 3.1, or it is determined that the failure was not subject to the guarantee set forth, KECO Industries will notify the contracting officer requesting an equitable adjustment to the contract price.

d. Receipt/Verification of Contractor Repairs. After a warranted item has been repaired by the contractor, the Contract Administrator of KECO Industries shall provide acceptable quality control and inspection documentation to the Government that all covered repairs have been completed.

e. Reimbursement for Army Repair. Refer to paragraph 4. for definition of contractor reimbursement for Army repair.

f. Claims / Denials / Disputes. In the event the Contractor denies or disputes a warranty claim, the claim shall be referred to the WARAO who initiated the warranty claim for final disposition. When a dispute arises, settlement will be established by negotiation between ATCOM and the Contract Administrator of KECO Industries.

g. Reporting. Reporting or recording action on a failed item shall be as specified in DA PAM 738-750.

10. STORAGE / SHIPMENT / HANDLING. Storage and handling of the equipment or its components shall be as prescribed in Technical Manuals TM 10-4610-232-12 and TM 104610-232-34. Instructions for shipment of components will be provided by the ATCOM Warranty Administration Office. No shipment shall be made without direct authority from the WARAO.

APPENDIX A

TERMS

1. **Abuse.** The improper use, repair, or handling of warranted items such that the warranty may become void.
2. **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.
3. **Alterations/Modifications.** Any alteration after production such as retrofit, conversion, remanufacture, design change, engineering change and the like.
4. **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.
5. **Failed Item.** A part, component, or end item that fails to perform its intended use.
6. **False Return Rate.** The return of suspected defective warranty items to the manufacturer that are eventually determined to be serviceable.
7. **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.
8. **Repair.** To restore an item to serviceable condition without affecting the warranty.
9. **Repairable.** An item that may be reconditioned or economically repaired for reuse when it becomes unserviceable.
10. **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.
11. **WARAO.** Warranty Administration Office established at the intermediate 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 WARAO.
12. **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 purposes of a warranty in a government contract are to outline the rights and obligations of the contractor and the government for defective items and services. It also serves to foster quality performance by the contractor but is not a substitute for an adequate quality assurance program.
13. **Warranty Claim.** Action started by the equipment user for authorized warranty repair, replacement, or reimbursement made from the local dealer or manufacturer.
14. **Warranty Period.** Time during which the warranty is in effect. Normally measured as the maximum number of years, months, days, miles, or hours used.
15. **Warranty Start Date.** The date the warranty is put into effect.

APPENDIX B
U.S. ARMY AVIATION AND TROOP COMMAND (ATCOM)
WARRANTY POINTS OF CONTACT

Warranty Administration
Office (WARAO)

Commander, ATCOM
ATTN: AMSAT-A-TCB
4300 Goodfellow Blvd.
St. Louis, MO 63120-1798

DSN 693-2819
CMCL (314) 263-2819

Warranty Control
Office (WARCO)

Commander, ATCOM
ATTN: AMSAT-A-AB
4300 Goodfellow Blvd.
St. Louis, MO 63120-1798

DSN 693-0532
CMCL (314) 263-0532
Data FAX DSN 693-9001
e-mail address:
<urbanc/oacq@emh7.army.mil>

By Order of the Secretary, of the Army:

Official: 

JOEL B. HUDSON
*Administrative Assistant to the
Secretary of the Army*
01883

DENNIS J. REIMER
*General, United States Army
Chief of Staff*

DISTRIBUTION:

To be distributed in accordance with DA Form 12-25-E, block no. 5091, requirements for TB 1 0-4610-232-24.

These are the instructions for sending an electronic 2028

The following format must be used if submitting an electronic 2028. The subject line must be exactly the same and all fields must be included; however only the following fields are mandatory: 1, 3, 4, 5, 6, 7, 8, 9, 10, 13, 15, 16, 17, and 27.

From: 'Whomever' <whomever@avma27.army.mil>
To: mpmt%avma28Ost-louis-emh7.army.mil

Subject: DA Form 2028

1. *From: Joe Smith*
2. *Unit: home*
3. *Address: 4300 Park*
4. *City: Hometown*
5. *St: MO*
6. *Zip: 77777*
7. *Date Sent: 19-OCT-93*
8. *Pub no: 55-2840-229-23*
9. *Pub Title: TM*
10. *Publication Date: 04-JUL-85*
11. *Change Number: 7*
12. *Submitter Rank: MSG*
13. *Submitter FName: Joe*
14. *Submitter MName: T*
15. *Submitter LName: Smith*
16. *Submitter Phone: 123-123-1234*
17. *Problem: 1*
18. *Page: 2*
19. *Paragraph: 3*
20. *Line: 4*
21. *NSN: 5*
22. *Reference: 6*
23. *Figure: 7*
24. *Table: 8*
25. *Item: 9*
26. *Total: 123*
27. *Text:*

This is the text for the problem below line 27.

This page only for NON-SOFTWARE-related TM errors/improvements.

RECOMMENDED CHANGES TO EQUIPMENT TECHNICAL PUBLICATIONS



THEN...JOT DOWN THE DOPE ABOUT IT ON THIS FORM. CAREFULLY TEAR IT OUT. FOLD IT AND DROP IT IN THE MAIL.

SOMETHING WRONG WITH THIS PUBLICATION?

FROM: (PRINT YOUR UNIT'S COMPLETE ADDRESS)

DATE SENT

PUBLICATION NUMBER

PUBLICATION DATE

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:

TEAR ALONG PERFORATED LINE

PRINTED NAME GRADE OR TITLE AND TELEPHONE NUMBER

SIGN HERE

DA FORM 2028-2
1 JUL 79

PREVIOUS EDITIONS
ARE OBSOLETE

P.S.—IF YOUR OUTFIT WANTS TO KNOW ABOUT YOUR
RECOMMENDATION MAKE A CARBON COPY OF THIS
AND GIVE IT TO YOUR HEADQUARTERS

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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PIN: 069722-000