

S6161 - NQ - FSE - 010/35550

STOCK NUMBER
0910 - LP - 376 - 7300

TECHNICAL MANUAL

INSTALLATION

OPERATION

AND

MAINTENANCE

INSTRUCTIONS

KETTLE, TILTING, STEAM JACKETED
ELECTRICALLY HEATED, TABLE MOUNTED
LEGION MODEL TEH-20 AND TEH-40

CONTRACT NO. DLA441-93-M-CH02

NSN: 7310-01-104-0929

440 VOLTS, 60 HZ, 3 PHASE



APPROVAL: MARCH 1990

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COMMANDER, NAVAL SEA SYSTEMS COMMAND, SEA 09, WASHINGTON, D.C. 20362

0910LP3767300



S6161-NO-FSE-010

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APPROVAL AND PROCUREMENT RECORD PAGE

APPROVAL DATA FOR: KETTLE, TILTING, STEAM JACKETED, ELECTRICALLY HEATED,
TABLE MOUNTED, MODEL TEH-20 AND TEH-40

TITLE: TECHNICAL MANUAL - INSTALLATION, OPERATION AND MAINTENANCE
INSTRUCTIONS

APPROVAL AUTHORITY: DEFENSE GENERAL SUPPLY LETTER DATED 03/09/90

CONTRACT NO.	NSN	NO. OF UNITS	CID / APL
DLA441-93-M-CH02	7310-01-104-0929	5	

REMARKS:

DATE: 3/9/90

CERTIFICATION: "IT IS HEREBY CERTIFIED THAT THE TECHNICAL MANUAL PROVIDED UNDER CONTRACT DLA400-89-C-1781 FOR THE LEGION MODEL TEH-20 AND TEH-40 HAS BEEN APPROVED BY THE APPROVAL DATA SHOWN ABOVE."

Rex W. Dickey
Quality Assurance Technician
Legion Industries, Inc.
P.O. Box 728
Waynesboro, GA 30830

FSCM 35550

IDENTIFYING TECHNICAL PUBLICATION SHEET

IDENTIFICATION DATA: LEGION MODEL TEH-20 AND TEH-40

PURPOSE: THIS TECHNICAL PUBLICATION IS ISSUED FOR THE PURPOSE OF IDENTIFYING AN AUTHORIZED COMMERCIAL MANUAL FOR NAVY USE AND FOR PROVIDING SUPPLEMENTAL TECHNICAL INFORMATION THERETO.

MANUFACTURER: LEGION INDUSTRIES, INC.
P.O. BOX 728
WAYNESBORO, GA 30830

CONTRACT NO.: DLA441-93-M-CH02

EQUIPMENT: KETTLE, TILTING, STEAM JACKETED,ELECTRICALLY HEATED, TABLE MOUNTED, MODEL TEH-20 AND TEH-40

REQUISITION NO.:

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INSERT LATEST CHANGED PAGES. DESTROY SUPERSEDED PAGES

LIST OF EFFECTIVE PAGES

NOTE: THE PORTION OF THE TEST AFFECTED BY THE CHANGES IS INDICATED BY A VERTICAL LINE IN THE OUTER MARGINS OF THE PAGE. CHANGES TO ILLUSTRATIONS ARE INDICATED BY MINIATURE POINTING HANDS. CHANGES TO DIAGRAMS ARE INDICATED BY SHADED AREAS.

DATE OF ISSUE FOR ORIGINAL AND CHANGED PAGES ARE:

ORIGINALMARCH, 1990

TOTAL NUMBER OF PAGES IN THIS PUBLICATION IS 20 CONSISTING OF THE FOLLOWING:

PAGE NO.	CHANGE NO.*	PAGE NO.	CHANGE NO.*
COVER	0	4	0
	0	5	0
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*ZERO IN THIS COLUMN INDICATES AN ORIGINAL PAGE.

FETY SUMMARY

◆ GENERAL SAFETY NOTICES

THE FOLLOWING GENERAL SAFETY NOTICES SUPPLEMENT THE SPECIFIC WARNINGS AND PRECAUTIONS APPEARING ELSEWHERE IN THIS MANUAL. THEY ARE RECOMMENDED PRECAUTIONS THAT MUST BE UNDERSTOOD AND APPLIED DURING OPERATION AND MAINTENANCE OF THE EQUIPMENT COVERED HEREIN. SHOULD SITUATIONS ARISE THAT ARE NOT COVERED IN THE GENERAL OR SPECIFIC SAFETY PRECAUTIONS, THE COMMANDING OFFICER OR OTHER AUTHORITY WILL ISSUE ORDERS AS DEEMED NECESSARY TO COVER THE SITUATION.

◆ DO NOT REPAIR OR ADJUST ALONE

UNDER NO CIRCUMSTANCES SHOULD REPAIR OR ADJUSTMENT OF ENERGIZED EQUIPMENT BE ATTEMPTED ALONE. THE IMMEDIATE PRESENCE OF SOMEONE CAPABLE OF RENDERING AID IS REQUIRED. BEFORE MAKING ADJUSTMENTS, BE SURE TO PROTECT AGAINST GROUNDING. IF POSSIBLE, ADJUSTMENTS SHOULD BE MADE WITH ONE HAND, WITH THE OTHER HAND FREE AND CLEAR OF THE EQUIPMENT. TO AVOID INJURIES, ALWAYS DISCONNECT POWER AND GROUND A CIRCUIT BEFORE WORKING ON IT.

◆ TEST EQUIPMENT

MAKE CERTAIN TEST EQUIPMENT IS IN GOOD CONDITION. IF A TEST METER MUST BE HELD, GROUND THE CASE OF THE METER BEFORE STARTING MEASUREMENT.

◆ INTERLOCKS

INTERLOCKS ARE PROVIDED FOR SAFETY OF PERSONNEL AND EQUIPMENT, AND SHOULD BE USED FOR THE PURPOSE INTENDED. THEY SHOULD NOT BE BYPASSED, OR OTHERWISE MODIFIED EXCEPT BY AUTHORIZED MAINTENANCE PERSONNEL. WHENEVER POSSIBLE, DISCONNECT POWER AT POWER DISTRIBUTION SOURCE.

◆ RESUSCITATION

PERSONNEL WORKING WITH OR NEAR HIGH VOLTAGES SHOULD BE FAMILIAR WITH MODERN METHODS OF RESUSCITATION. SUCH INFORMATION MAY BE OBTAINED FROM THE BUREAU OF MEDICINE AND SURGERY.

SAFETY SUMMARY

THE FOLLOWING WARNINGS AND CAUTIONS APPEAR IN THE TEXT IN THIS MANUAL, AND ARE REPEATED HERE FOR EMPHASIS.

CAUTION: CARE SHOULD BE TAKEN WHEN VENTING LIVE STEAM.

WARNING: DISCONNECT POWER BEFORE ATTEMPTING TO SERVICE THIS EQUIPMENT. DO NO SERVICE A KETTLE THAT IS HOT.

CAUTION: TAKE WHEN CLEANING SO AS NOT TO WASH OR RINSE HEAVILY ON ELECTRICAL COMPONENT AREAS. "NEVER HOSE DOWN EQUIPMENT."

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GENERAL INFORMATION

THE "LEGION DESIGNED TABLE TOP TILTING ELECTRIC KETTLE FEATURES SEAMLESS DRAWN SHELLS, FULL BODY INSULATION AND A CONTROLLED TEMPERATURE RANGE OF 150 TO 290° F.

EACH KETTLE IS FITTED WITH A PRESSURE GAUGE, SAFETY RELIEF VALVE, AND WATER LEVEL SIGHT GLASS. IT COMES COMPLETELY EQUIPPED WITH A SEPARATE CONNECTION, FITTED WITH A CHECK VALVE AND STOP VALVE, FOR ADDING WATER TO THE JACKET (THE WATER MAY BE ADDED WHILE THE VESSEL IS NOT UNDER PRESSURE); AN ELECTRIC HEATER CONTROL CONTROLLED BY TEMPERATURE TO MAINTAIN THE STEAM PRESSURE IN THE JACKET BELOW THE SAFETY VALVE SETTING; A LOW WATER CUTOFF THAT WILL CUT OFF THE POWER TO THE ELECTRIC HEATING ELEMENTS IF THE WATER IN THE JACKET DROPS BELOW THE LOWEST PERMISSIBLE WATER LEVEL ESTABLISHED BY THE MANUFACTURER; AUTOMATIC TILT CUT-OUT CONTROL AND RIGHT OR LEFT HAND TILTING HANDLE. IN ADDITION, THE HEATING ELEMENTS ARE FIELD REPLACEABLE.

THESE INSTRUCTIONS SHOULD BE READ THOROUGHLY BEFORE ATTEMPTING INSTALLATION, OPERATION OR MAINTENANCE. LEGION INDUSTRIES, INC. RESERVES THE RIGHT TO RENDER VOID ANY WARRANTY ON EQUIPMENT NOT INSTALLED IN ACCORDANCE WITH THE MANUAL BY A QUALIFIED SERVICE TECHNICIAN (A PERSON EXPERIENCED IN AND KNOWLEDGEABLE CONCERNING THE INSTALLATION OF COMMERCIAL STEAM, GAS AND/OR ELECTRICAL COOKING EQUIPMENT).

OPTIONAL ACCESSORIES INCLUDE:

1 PIECE LIFT-OFF COVER

◆ BASKET INSERT

◆ TABLE MOUNTED

WARRANTY STATEMENT

LEGION ONE YEAR LIMITED WARRANTY TO AGENCIES OF THE DEPARTMENT OF DEFENSE PURCHASERS

Legion food service equipment has been skillfully designed and manufactured, carefully inspected and packaged to meet rigid standards of excellence. Legion Industries, Inc. warrants its Equipment to be free from defects in material and workmanship for twelve months from installation or fifteen months from date of shipment, whichever is sooner, on the following conditions and subject to the following limitations.

1. This warranty is limited to Legion equipment sold to the original Agency of the Department of Defense purchaser/users (but not original equipment manufacturers), at its original place of installation in the continental United States and Hawaii.
2. Damage during shipment is to be reported to the carrier, and is not covered under this warranty.
3. Legion Industries, Inc. or an authorized service representative, will repair or replace, at Legion's sole election, any Legion equipment, including but not limited to, draw-off valves, safety valves, gas and electric components found to be defective during the warranty period. As to warranty service in the territory described above, the buyer will be liable for repair labor and portal to portal transportation costs (time and mileage) during the warranty period.
4. This warranty does not cover normal maintenance, calibration, or regular adjustments as specified in operating instructions or manuals (see operating manual for specific product); consumable parts such as scraper blades, gaskets, or packing; and/or labor involved in moving adjacent objects to gain access to the equipment. This warranty does not cover defects caused by improper installation; damage caused by poor water quality (see recommended water standards); or the results of abuse, careless operation, or improper maintenance of the equipment.
5. ***THIS WARRANTY IS EXCLUSIVE AND IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING ANY IMPLIED WARRANTY OF MARKETABLE VALUE OR FITNESS FOR A PARTICULAR PURPOSE, EACH OF WHICH IS HEREBY EXPRESSLY DISCLAIMED. THE REMEDIES DESCRIBED ABOVE ARE EXCLUSIVE, AND IN NO EVENT SHALL LEGION INDUSTRIES, INC. BE LIABLE FOR SPECIAL, CONSEQUENTIAL OR INCIDENTAL DAMAGES FOR THE BREACH OR DELAY IN PERFORMANCE OF THIS WARRANTY.***
6. Legion equipment is for commercial use only. If sold as a component of another (O.E.M.) manufacturer's equipment, or if used as a consumer product, such Equipment is sold AS IS and without any warranty.

PARTS RETURN POLICY

No returns will be accepted without prior written authorization by an authorized representative of Legion Industries, Inc. All returns must be shipped, freight prepaid.

Standard products are subject to a 20% restocking charge. Non-Standard products are subject to a 50% restocking charge and/or may not be returned. These will be handled on a case by case basis. The key determining factor concerning standard and non-standard product for this purpose will be sales history. The determination will be the sole discretion of Legion Industries, Inc.

II

INSTALLATION

UNCRATE THE UNIT CAREFULLY. CHECK FOR ANY DAMAGE THAT MAY HAVE OCCURRED DURING SHIPMENT. IF DAMAGE IS FOUND, NOTIFY THE DELIVERING CARRIER AND FILE A CLAIM IMMEDIATELY.

POSITION EQUIPMENT IN PERMANENT LOCATION, ALLOWING ENOUGH SPACE AROUND UNIT TO PERFORM ROUTING CLEANING AND MAINTENANCE, AS WELL AS PROPER OPERATION. REFER TO INSTALLATION DRAWING INCLUDED WITH THESE INSTRUCTIONS FOR PROPER LOCATION OF ANCHOR BOLTS.

NOTE:

NSF STANDARDS REQUIRE THE BASE TO BE SEALED TO THE TABLE TOP TO PREVENT SEEPAGE FROM ACCUMULATING UNDER UNIT. USE A GOOD GRADE OF SILICONE SEALANT.

ANCHOR THE UNIT SECURELY.

STRICT ADHERENCE MUST BE PAID TO THE ELECTRICAL REQUIREMENTS OF YOUR UNIT AS LISTED ON THE NAMEPLATE. MAKE SURE THAT THE AVAILABLE POWER SUPPLY IS CAPABLE OF POWERING THE UNIT PROPERLY, I.E. THE CORRECT VOLTAGE AND ADEQUATE WIRE SIZE FOR THE AMPERAGE DRAW. THE NEC REQUIRES SUPPLY WIRES RATED A 125% OF FULL LOAD. ELECTRICAL CONNECTIONS MUST BE IN ACCORDANCE WITH LOCAL CODES OR IN THE ABSENCE OF LOCAL CODES, THE NATIONAL ELECTRIC CODE, ANSI/NFPA NO. 70 - LATEST EDITION.

CONNECT THE POWER SUPPLY LINE TO THE UNIT. IT IS ADVISED, AND MOST ELECTRICAL CODES REQUIRE, THAT AN ELECTRICAL CUT-OFF DEVICE, SUCH AS A FUSED DISCONNECT SWITCH OR EQUIVALENT, BE INSTALLED IN THE POWER SUPPLY LINE BETWEEN THE MAIN AND THE UNIT.

NOTE:

THIS KETTLE IS RATED FOR 440 VOLTS AC, 60 HERTZ, 3 PHASE, 12KW, 3 WIRE BALANCED, 3 PHASE POWER AND IS AN "UNGROUNDING" SYSTEM FOR NAVAL SHIPBOARD INSTALLATION.

III

OPERATION

BEFORE OPERATING, ALL EQUIPMENT MUST BE WASHED WITH MILD DETERGENT AND RINSED THOROUGHLY WITH WATER.

CHECK WATER LEVEL IN THE WATER GAUGE GLASS. REFILLING THE STEAM JACKET IS SELDOM NECESSARY, HOWEVER SHOULD THE WATER LEVEL GO BELOW THE MINIMUM LEVEL, ADD WATER TO THE MID POINT OF THE WATER GAUGE GLASS.

YOUR KETTLE WAS SHIPPED WITH THE STEAM JACKET FILLED WITH A MIXTURE OF DISTILLED WATER AND GLYCOL, A NON-TOXIC SUBSTANCE. IF IT SHOULD BECOME NECESSARY TO ADD WATER TO THE JACKET, FILL WITH DISTILLED WATER THROUGH THE SEPARATE WATER FILL CONNECTION.

NOTE:

THE TEH-20 REQUIRES \approx 11 QUARTS TO REACH THE MID POINT OF THE SIGHT GLASS. THE TEH-40 REQUIRES \approx 15 QUARTS.

YOUR KETTLE IS NOW READY FOR USE. MAKE SURE THE MAIN POWER SUPPLY TO THE UNIT HAS BEEN TURNED "ON".

TURN THE TEMPERATURE CONTROL THERMOSTAT CLOCKWISE TO THE DESIRED TEMPERATURE. THE SMALL RED LAMP ADJACENT TO THE THERMOSTAT KNOB WILL LIGHT, INDICATING THAT THE HEATING ELEMENTS HAVE BEEN ENERGIZED. THIS LIGHT WILL CYCLE ON AND OFF WITH THE HEATING ELEMENTS AS THE DESIRED TEMPERATURE IS MAINTAINED.

ALLOW THE UNIT TO CYCLE SEVERAL TIMES TO ALLOW THE COOKING SURFACE TO REACH AND STABILIZE AT THE DESIRED TEMPERATURE. THIS IS PARTICULARLY NECESSARY WHEN THE UNIT IS COLD. NATURALLY, A COVER WILL SPEED UP THE HEAT UP TIME. IF A NEW TEMPERATURE IS DESIRED DURING THE COOKING OPERATION, TURN THE THERMOSTAT CONTROL TO THE DESIRED SETTING.

ALL TEH MODEL KETTLES ARE DESIGNED WITH LOW WATER CUT-OFF PROTECTION AS WELL AS AUTOMATIC SHUT-OFF WHEN THE KETTLE IS TILTED. THIS IS INDICATED BY AN AMBER LIGHT, LOCATED ADJACENT TO THE THERMOSTAT KNOB. CARE SHOULD BE TAKEN WHEN TILTING UNIT FILLED WITH HEATED PRODUCT. WE RECOMMEND TURNING OFF THE POWER WHEN POURING.

OPERATION

IT IS SUGGESTED THAT THE EXCESS AIR WITHIN THE KETTLE JACKET BE VENTED AFTER INITIAL FILLING AND START-UP, BY LIFTING RELEASE LEVER OF THE SAFETY VALVE.

CAUTION: CARE SHOULD BE TAKEN WHEN VENTING LIVE STEAM.

IV

GENERAL MAINTENANCE

WARNING - DISCONNECT POWER BEFORE ATTEMPTING TO SERVICE THIS EQUIPMENT. DO NOT SERVICE A KETTLE THAT IS HOT.

CLEANING OF EQUIPMENT IS SUGGESTED BEFORE AND AFTER EACH USE. USE HOT SOAPY WATER, RINSE THOROUGHLY WITH CLEAN WATER. USE OF A MILD DETERGENT SHOULD BE SUFFICIENT. DO NOT USE HARSH ABRASIVE AGENTS OR STEEL WOOL PRODUCTS.

**CAUTION: TAKE CARE WHEN CLEANING SO AS NOT TO WASH OR RINSE HEAVILY ON ELECTRICAL COMPONENT AREAS.
NEVER HOSE DOWN EQUIPMENT.**

NOTE: THE SAFETY VALVE SHOULD BE TEST PERIODICALLY BY LIFTING THE RELEASE LEVER AND ALLOWING TO DROP INTO NORMAL POSITION RAPIDLY. THIS SHOULD BE DONE PREFERABLY WHEN UNIT IS COOL.

CORRECTIVE MAINTENANCE

WARNING - DISCONNECT POWER BEFORE ATTEMPTING TO SERVICE THIS EQUIPMENT. DO NOT SERVICE A KETTLE THAT IS HOT.

NO SPECIAL TOOLS ARE REQUIRED FOR REMOVAL OF, OR REPLACEMENT OF MALFUNCTIONING COMPONENTS.

MOST ELECTRICAL CONTROL COMPONENTS ARE LOCATED INSIDE THE CONSOLE. THE THERMOSTAT AND THERMOSTAT LIGHT AND LOW WATER INDICATOR LIGHT ARE LOCATED IN THE LOWER FRONT OF THE KETTLE BODY. THE HEATING ELEMENTS AND LOW WATER ELECTRODE PROBE ARE LOCATED IN THE LOWER REAR OF KETTLE. ALL ARE EASILY ACCESSIBLE WHEN THE COVERS ARE REMOVED.

MOST "ELECTRICAL COMPONENT" FAILURES CAN BE EASILY DIAGNOSED BY FOLLOWING A LOGICAL PROCESS OF ELIMINATION. THE THERMOSTAT AND PRIMARY COIL ON THE TRANSFORMER (480 VOLT ONLY) CAN BE TESTED FOR CONTINUITY. HEATING ELEMENTS ARE CHECKED FROM INSIDE THE CONSOLE BY DISCONNECTING THE HEATING ELEMENT WIRES FROM THE CONTACTOR AND CHECKING FOR CONTINUITY. AN OPEN CIRCUIT INDICATED THAT THE COMPONENT HAS FAILED.

THE COILS ON THE LOW WATER CONTROL RELAY, CONTACTOR(S); SECONDARY COIL OF THE TRANSFORMER (480 VOLT ONLY), LOW WATER INDICATOR LIGHT, AND TILT SWITCH CAN ALSO BE TESTED FOR CONTINUITY; HOWEVER, IT WILL BE NECESSARY TO DISCONNECT THESE COMPONENTS FROM THE CIRCUIT BEFORE TESTING. ALSO CHECK THE TRANSFORMER FOR COIL TO COIL SHORTING IF ANY CONTROL CIRCUIT COMPONENTS HAVE FAILED.

NOTE: MARK OR NOTE "WIRING CONNECTIONS" BEFORE REMOVING FROM COMPONENTS.

HEATER ELEMENTS

HEATER ELEMENT FAILURE MAY BE ATTRIBUTED TO CHATTERING OF THE CONTACTOR(S) OR THE LOW WATER CONTROL RELAY. BE SURE TO CHECK FOR BURNED OR PITTED POINTS IN THE CONTACTOR(S), IF ELEMENT(S) NEED REPLACING.

INDICATOR LIGHT

THE INDICATOR LIGHT NEON BULB IS REPLACED BY UNSCREWING THE LENS, PUSHING THE BULB IN AND TURNING IT COUNTER-CLOCKWISE. INSTALL NEW BULB AND REPLACE LENS. TO REPLACE THE LAMP ASSEMBLY, REMOVE WIRES, UNSCREW LOCKNUT AND REMOVE ASSEMBLY FROM THE FRONT OF THE KETTLE. INSTALL NEW LAMP ASSEMBLY IN THE HOLE AND RECONNECT WIRES.

CORRECTIVE MAINTENANCE

COMPONENT REPLACEMENT

TO REPLACE THE LOW WATER CONTROL RELAY, CONTACTOR(S), TILT SWITCH, OR TRANSFORMER (480 VOLT ONLY), MARK AND DISCONNECT WIRING TERMINALS. REMOVE MOUNTING SCREWS AND DEFECTIVE COMPONENTS FROM THE CONSOLE. MOUNT NEW COMPONENT IN POSITION, REINSTALL MOUNTING SCREWS, AND REPLACE WIRING TERMINALS.

ROUBLESHOOTING

SYMPTOM	POSSIBLE CAUSE	REMEDY
NO HEAT	POWER SUPPLY TO UNIT OFF	CHECK POWER SUPPLY
	KETTLE TILTED OR TILT SWITCH OUT OF ADJUSTMENT	STRAIGHTEN KETTLE OR ADJUST TILT SWITCH TO PROPER ORIENTATION
	WATER LEVEL IN JACKET TOO LOW	REFILL SO WATER LEVEL IS IN CENTER OF SIGHT GLASS
	SCALE ON LOW WATER ELECTRODE	REMOVE ELECTRODE AND CLEAN OR IF CRACKED, REPLACE
	COMPONENT FAILURE THERMOSTAT CONTACTOR(S) HEATERS LOW WATER RELAY TRANSFORMER (480 VOLT ONLY) LOW WATER ELECTRODE TILT SWITCH	TEST CIRCUIT FOR CONTINUITY. IF CIRCUIT IS OPEN, COMPONENT HAS FAILED. REMOVE AND REPLACE. DISCONNECT THESE COMPONENTS FROM CIRCUITRY AND TEST CONTINUITY. IF OPEN, COMPONENT HAS FAILED. REMOVE AND REPLACE.
LOW HEAT (SLOW HEAT UP)	AIR TRAPPED IN STEAM JACKET	VENT JACKET BY LIFTING RELEASE LEVER OF SAFETY VALVE
	SAFETY VALVE LEAKING	OPERATE RELEASE LEVER SEVERAL TIMES TO BLOW OUT FOREIGN MATERIAL
	THERMOSTAT OUT OF CALIBRATION	RE CALIBRATE THERMOSTAT
	HEATERS FAILURE	REPLACE DEFECTIVE HEATERS

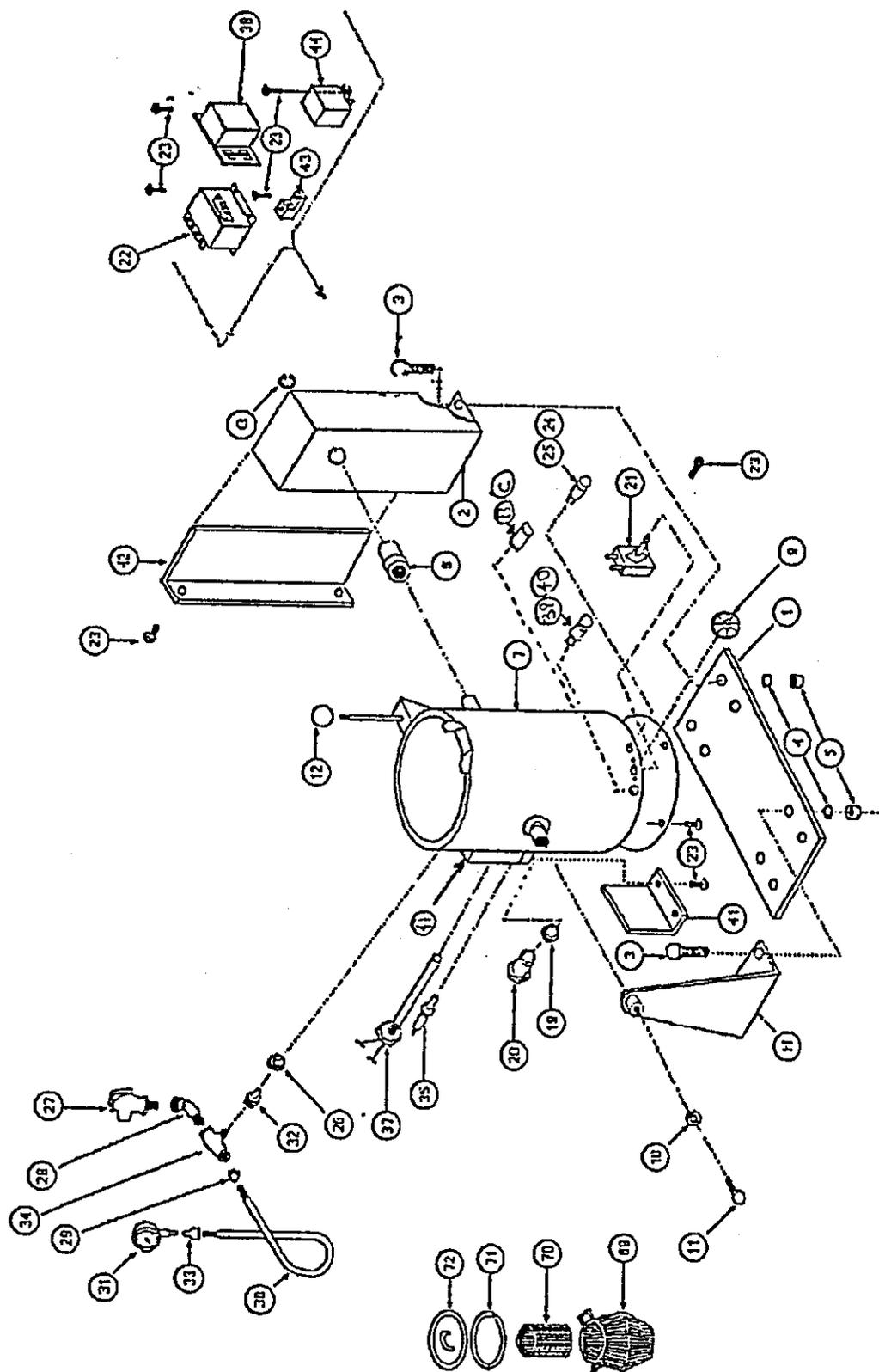
VI

RTS

ITEM NO.	PART NO.	DESCRIPTION	QTY.
1	C404110-001	BASE PLATE WELDMENT,TEH-20	1
	C404110-002	BASE PLATE WELDMENT, TEH-40	1
2	C404119-001	CONTROL COLUMN WELDMENT	1
3	ND450424	BOLT HEX HD 3/8-16X1" STN STL	10
4	ND450739	WASHER LOCK SPLIT 3/8 STL	8
5	ND450736	NUT HEX HD 3/8-16 STL	10
6	A404517	BEARING BRONZE GROOVED 1-1/4"	1
7	D404121-001	KETTLE WELDMENT,TEH-20	1
7		KETTLE WELDMENT,TEH-40	1
8	A460291	THERMOSTAT DIAL	1
	A405093	DISC,RETAINING	1
11	ND400448	BOLT HEX HD 1/4-20X1/2 STN STL	1
12	A450025	KNOB BLACK THREADED	1
19	A404243-10	WASHER, HOLE TRIM	1
	A404226	SIGHT GLASS	1
21	A404244	THERMOSTAT	1
22	A404299	TRANSFORMER, 480-240V (480 VOLT ONLY)	1
23	ND450437	SCR,PHIL HD "F" #8-32 X 1/2" STN STL	AS REQD
	A430126	PILOT LAMP RED	1
25	A430128	BULB NEON	1
26	A404243-11	WASHER, HOLE TRIM	1
27	A440173	VALVE, SAFETY 55 P.S.I.	1
28	ND440049	ELBOW ST 3/4-90 BCP	1
29	ND404245	BUSHING RED 1/2-1/4 BCP	1
30	A440280	SIPHON-90 DEG X 1/4 NPT BCP	1
31	A406732	GAUGE PRESSURE	1
32	ND440260	NIPPLE CLOSE 1/2 BCP	1
	ND400260	REDUCER BELL 1/4X1/8 BCP	1
34	ND400075	TEE 3/4 X 1/2 X 1/2 BCP	1
35	A420064	ELECTRODE, LOW WATER	1
36	A404227-10	COVER, BOTTOM JACKET TEH-20	1
	A404227-11	COVER, BOTTOM JACKET TEH-40	1

PARTS (CONTINUED)

EM NO.	PART NO.	DESCRIPTION	QTY.
37	B404230-10	HEATER CARTRIDGE 240V/2KW TEH-20	3
37	B404230-11	HEATER CARTRIDGE 480V/2KW TEH-20	3
37	B404230-12	HEATER CARTRIDGE 240V/4KW TEH-40	3
37	B404230-13	HEATER CARTRIDGE 480V/4KW TEH-40	3
38	A430031	RELAY, LOW WATER	1
39	A430125	PILOT LAMP AMBER	1
40	A430128	BULB NEON	1
41	B404220-10	COVER, HOOD TEH-20	1
41	B404220-11	COVER, HOOD TEH-40	1
42	A404027	COVER CONTROL COLUMN	1
43	A400749	TERMINAL LUG GROUND	1
44	A430019	CONTACTOR, 40 AMP TEH-20	1
44	A406567	CONTACTOR, 50 AMP TEH-40	1
69	404490-001	WIRE BASKET ASSY TEH-20	1
69	404489-001	WIRE BASKET ASSY TEH-40	1
70	400262	BAG NYLON TEH-20	1
	400263	BAG NYLON TEH-40	1
71	404510-10	SPREADER RING TEH-20	1
71	404510-11	SPREADER RING TEH-40	1
72	324923	LIFT OFF COVER TEH-20	1
2	324924	LIFT OFF COVER TEH-40	1
B	A404498	BRACKET TILT SWITCH	1
C	A404497	SWITCH, TILT	1
G	A404516	RING RETAINING	1
H	A404039-003	KETTLE SUPPORT WELDMENT TEH-20	1
H	A404039-004	KETTLE SUPPORT WELDMENT TEH-40	1



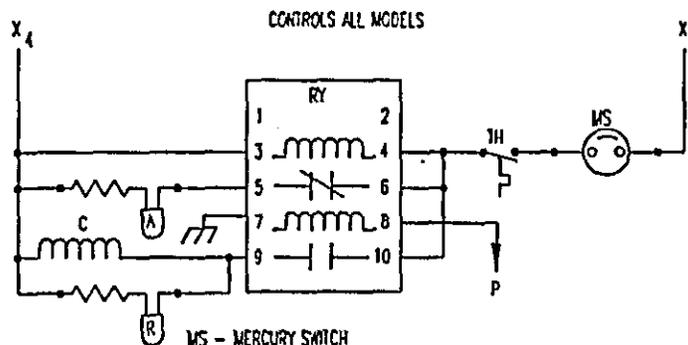
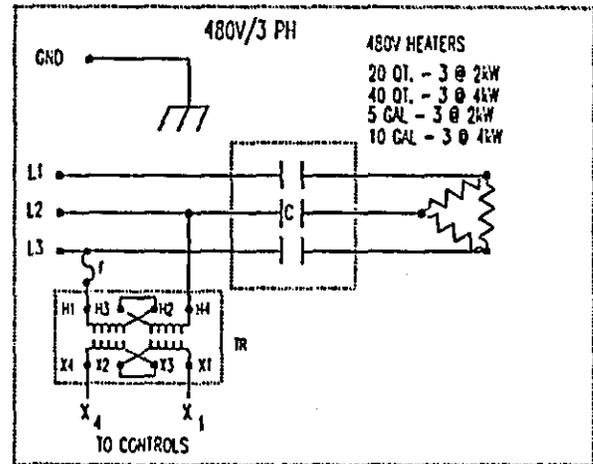
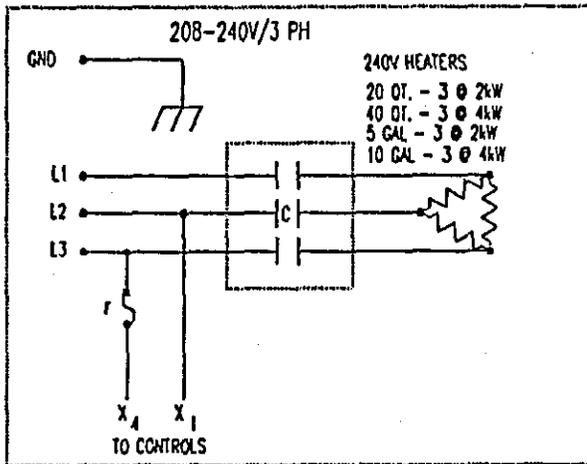
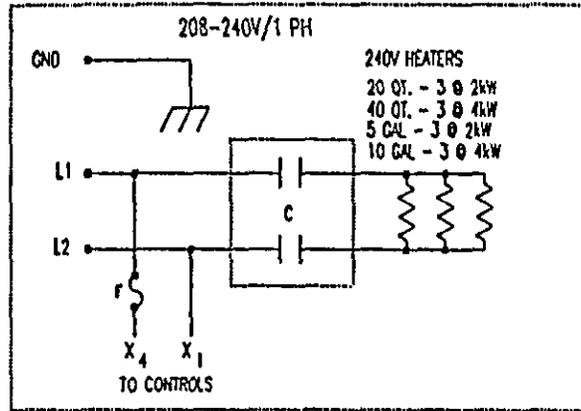
LEGION INDUSTRIES, INC.

 WAYNESBORO, GEORGIA

PARTS ILLUSTRATION
 MODEL TEH

FIGURE 1

WIRING SCHEMATIC



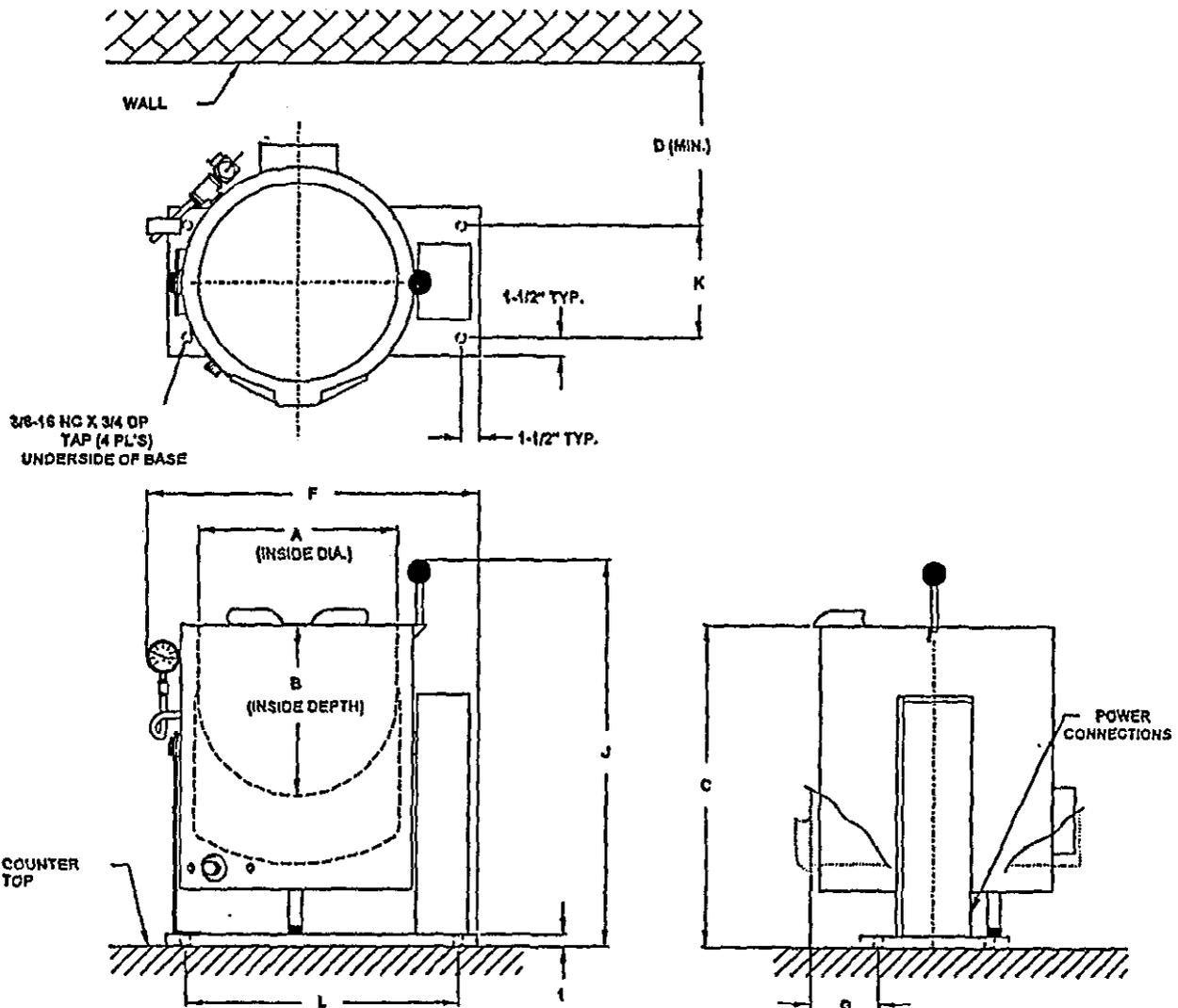
- MS - MERCURY SWITCH
- RY - INDUCTION RELAY
- TH - PRIMARY THERMOSTAT
- TR - TRANSFORMER
- A - LOW WATER INDICATOR
- C - CONTACTOR COIL
- F - FUSE
- P - LOW WATER ELECTRODE
- R - POWER "ON" INDICATOR

20 & 40 QT REFERENCES TEH & TEH-MV MODELS ONLY
 5 & 10 GAL REFERENCES TEH-F MODELS ONLY

WIRING SCHEMATIC FOR
 TEH, TEH-MV, 20 & 40 (A404295)

LEGION INDUSTRIES, INC.
 WAYNESBORO, GA 30830

SPECIFICATION DRAWING



ELECTRICAL DATA										
KETTLE MODEL	208V/1PH		240V/1PH		208V/3PH		240V/3PH		480V/3PH	
	KW	AMPS								
TEH-20	4.5	22	6	25	4.5	13	6	14	6	7
TEH-40	9	43	12	60	9	25	12	29	12	14

KETTLE MODEL	DIMENSIONS									
	A	B	C	D	F	G	J	K	L	
TEH-20	14	9 7/8	23 3/4	10 1/2	24 7/8	3 1/2	29	9	20	
TEH-40	16	14	26 1/4	11	26 5/8	6 1/2	31 1/2	9	22	

**MODEL TEH
ELECTRIC SELF CONTAINED TABLE TOP
TILTING STEAM JACKETED KETTLE**

**LEGION INDUSTRIES, INC.
SCALE: N.T.S.
DWG. NO. R-559-A**

PROVISIONING PARTS LIST

ITEM NO.	MANUFACTURER'S PART NO.	QTY.	MANUFACTURER'S NAME & ADDRESS	FEDERAL CODE NO.
1	KXP-27-24	1	ROBERTSHAW CONTROLS NEWSTANTON DIV. YOUNGWOOD PA 15697	77857
22 (480V ONLY)	SBW, CAT. NO. W100 FORM R	1	SOLA BASIC INDUSTRIES, 328 INDUSTRIAL AVE. CHESHIRE, CT 06410	55814
24	52-5808-0991-381	1	DIALIGHT CORP., 60 STEWART AVENUE, NEW YORK, NY 10437	72619
25	10-301-49	1		
27	10-301-49	1	CONBRACO, P.O. BOX 247, MATTHEWS, SC 28105	72219
31	MR-J7614P	1	MARSH INSTRUMENT CO. SKOKIE, IL 60076	
35	3B1A	1	CHARLES F. WARRICK CO. 1960 W. ELEVEN MILE ROAD BERKELEY, MI 48072	
	1D2D0	1		
37	404230-10	PER MODEL	LEGION INDUSTRIES, INC., P.O. BOX 728, WAYNESBORO, GA 30830	35550
	404230-11			
	404230-12			
	404230-13			
39	DGTA-250V-3-C8	1	OSLO CONTROLS, 328 INDUSTRIAL AVE., CHESHIRE, CT 06410	
40	DLA1-A-250V-1-C8	1		
44	9560-H-1409-50	1	CUTLER HAMMER, INC., 4201 N. 27TH STREET, MILWAUKEE, WI 53216	15605
D	2TMT28-4A-Y	1	UNIMAX SWITCH CORP., P.O. BOX 152, IVES RD., WALLINGFORD, CT 06492	80207

(Insert Classif. of TMDER Here and At Bottom of Page) CLASSIFICATION:

**NAVSEA (USER) TECHNICAL MANUAL DEFICIENCY/EVALUATION REPORT (TMDER)
(NAVSEA S0005-AA-GYD-030/TMMP & NAVSEAINST 4160.3)**

INSTRUCTIONS: Insert classification at top and bottom of page. Read the following before completing this form. Continue on 8 1/2" x 11" paper if additional space is needed.

1. USE THIS REPORT TO INDICATE DEFICIENCIES, USER REMARKS, AND RECOMMENDATIONS RELATING TO PUBLICATION.
2. BLOCKS MARKED WITH "*" ARE TO BE FILLED IN BY THE CONTRACTOR BEFORE PRINTING.
3. FOR UNCLASSIFIED TMDER'S, FILL IN YOUR RETURN ADDRESS IN SPACE PROVIDED ON THE BACK, FOLD AND TAPE WHERE INDICATED. AND MAIL. (SEE OPNAVINST 5510.1 FOR MAILING CLASSIFIED TMDER'S)

1. NAVSEA NO. *	2. VOL. PART *	3. TITLE *
-----------------	----------------	------------

4. REV. DATE OR TM CH. DATE	5. SYSTEM/EQUIPMENT	6. IDENTIFICATION/NOMENCLATURE (MK/MOD AN)
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7. USER'S EVALUATION OF MANUAL (Check Appropriate blocks)

A. EXCEL- LENT	B. GOOD	C. FAIR	D. POOR	E. COM- PLETE	F. INCOM- PLETE
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8. GENERAL COMMENTS

9. RECOMMENDED CHANGES TO PUBLICATION

PAGE NO A	PARA- GRAPH B	LINE NO. C	FIG. NO. D	TABLE E	F. RECOMMENDED CHANGES AND REASONS

10. ORIGINATOR AND WORK CENTER (PRINT)	11. ORIGINATOR'S RANK, RATE OR GRADE, AND TITLE	12. DATE SIGNED
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13. SIGNATURE OF WORK CENTER HEAD	14. SIGNATURE OF DEPARTMENT OFFICER	15. AUTOVON/COMM. NO.
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16. SHIP HULL NO. AND/OR STATION ADDRESS (DO NOT ABBREVIATE)

17. THIS SPACE ONLY FOR NSDSA

A. CONTROL NO.	B. COG ISEA	C. DATE	D. PRIORITY	E. TRANSMITTED TO			
		<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 33%;">RECEIVED</td> <td style="width: 33%;">FORWARDED</td> <td style="width: 33%;">DUE</td> </tr> </table>	RECEIVED	FORWARDED	DUE		
RECEIVED	FORWARDED	DUE					

PLEASE CLOSE WITH TAPE -- DO NOT STAPLE -- THANK YOU

Fold Here

DEPARTMENT OF THE NAVY



Official Business
Penalty for Private Use \$300

COMMANDING OFFICER
NAVAL SHIP WEAPON SYSTEMS ENGINEERING STATION
NAVAL SEA DATA SUPPORT ACTIVITY (Code 5H00)
PORT HUENEME, CA 93043-5007

Fold Here