MIL-D-81227B
15 December 1976
SUPERSEDING
MIL-D-81227A
24 June 1971

MILITARY SPECIFICATION

DETECTOR KIT, WATER, AUTOMOTIVE - AVIATION FUEL

This specification is approved for use by all Departments and Agencies of the Department of Defense.

1. SCOPE

1.1 Scope. This specification covers two types of electrically operated free water kits, designated as Model MK II.

1.2 Classification. The detector kits shall be of the following types as specified (see 6.1 and 6.2).

Type I - Water detector, Mk II with viewer and pads.
Type III - Water detector, Mk II with viewer and battery case. Designated as KMU-352/E.

2. APPLICABLE DOCUMENTS

2.1 The following documents of the issue in effect on date of invitation for bids or request for proposal, form a part of this specification to the extent specified herein.

SPECIFICATIONS

FEDERAL

W-C-596 - Connector, Plug, Electrical, Connector, Receptacle, Electrical

QQ-C-320 - Chromium Plating (Electrodeposited)

QQ-N-290 - Nickel Plating (Electrodeposited)

QQ-P-416 - Plating, Cadmium (Electrodeposited)

PPP-B-585 - Box, Wood, Wirebound

Beneficial comments (recommendations, additions, deletions) and any pertinent data which may be of use in improving this document should be addressed to: Engineering Specifications and Standards Department (Code 93), Naval Air Engineering Center, Lakehurst, NJ 08733, by using the self-addressed Standardization Document Improvement Proposal (DD Form 1426) appearing at the end of this document or by letter.

FSC 6640

FEDERAL (Continued)

PPP-B-601 - Box, Wood, Cleated-Plywood

PPP-B-621 - Box, Wood, Nailed and Lock-Corner

PPP-B-636 - Box, Shipping, Fiberboard

MILITARY

MIL-E-5558 - Enamel, Wrinkle Finish, for Aircraft Use

MIL-M-7298 - Manual, Technical, Commercial Equipment

MIL-S-7742 - Screw Threads; Standard, Optimum Selected Series, General Specification for

MIL-S-8516 - Sealing Compound, Polysulfide Rubber Electric Connectors and Electric Systems, Chemically Cured

MIL-A-8625 - Anodic Coatings, for Aluminum and Aluminum Alloys

MIL-L-10547 - Liners, Case, and Sheet, Overwrap; Water-Vaporproof or Waterproof, Flexible

MIL-D-81248 - Detector Pad, Free Water

MIL-S-81282 - Standard, Free Water Detector

STANDARDS

FEDERAL

FED-STD-595 - Colors

MILITARY

MIL-STD-105 - Sampling Procedures and Tables for Inspection by Attributes

MIL-STD-129 - Marking for Shipment and Storage

MIL-STD-130 - Identification Marking of U.S. Military Property

MS35489 - Grommet, Rubber, Hot Oil and Coolant Resistant

PUBLICATIONS

U.S. AIR FORCE TECHNICAL ORDER

T.O. 42B-1.1 - Quality Control of Fuels and Lubricants

(Copies of specification, standards, drawings, and publications, required by suppliers in connection with specific procurement functions should be obtained from the procuring activity or as directed by the contracting officer.)

2.2 Other publications. The following documents form a part of this specification to the extent specified herein. Unless otherwise indicated, the issue in effect on the date of invitation for bids or request for proposal shall apply.

UNIFORM CLASSIFICATION COMMITTEE

Uniform Freight Classification

(Application for copies should be addressed to Uniform Classification Committee, Room 202 Union Station, 516 W. Jackson Blvd., Chicago, Illinois 60606.)

3. REQUIREMENTS

3.1 First article. The water detector kit furnished under this specification shall be a product which has been inspected and has passed the first article inspection specified herein (see 4.3).

3.2 Materials. Materials shall conform to the applicable specifications as listed or required herein. Materials which are not covered by specifications, or which are not specifically described herein, shall be of the best quality, of the lightest practical weight and suitable for the purpose intended.

3.2.1 Metals. Metals for all component parts shall be in accordance with those specified in Figure 1.

3.2.2 Fungusproof materials. Materials which are nutrients for fungi shall not be used in the detector kit where it is practical to avoid them. Where used and not hermetically sealed, they shall be treated with a fungicidal agent acceptable to the procuring activity.

3.2.3 Electrical.

3.2.3.1 Power requirement. The Mk II Free Water Detector shall be designed to operate on 120 volts DC, as indicated in Figure 1, or 120 volts A.C., 60 hertz.

3.2.3.2 Wiring. External and internal wiring shall be in accordance with Figures 1 and 3. The internal wiring shall be neat and accomplished in such a manner that individual wires may be easily traced.

3.2.4 Threads. Screw threads 0.060 inch in diameter or larger shall be in accordance with MIL-S-7742.

3.2.5 Weight. The weight of the completely assembled Water Detector Kit shall not exceed 5 pounds for Type I and 15 pounds for Type III. This weight does not include batteries.

3.2.6 Protective finishes.

3.2.6.1 Aluminum alloy protection. Unless otherwise specified, all aluminum alloy parts shall be coated with an anodic film, dyed matte black, in accordance with Class 2, MIL-A-8625.

3.2.6.2 Exterior finish. Where applicable, the exterior finish shall be in accordance with MIL-E-5558, Type I or II, using Federal Standard No. 595, Color 17038.

3.2.6.3 Interior finish. Unless otherwise specified, the interior requires only the coating specified in 3.2.6.1.

3.3 Identification of product. A nameplate, in accordance with Figure 2 shall be securely attached to the exterior of the case, and shall be legibly and durably marked with the NSN (see 6.5) and information as follows:

for Type I - Viewer Kit, Free Water Detector, Model No. MK II
for Type III - Viewer, Free Water Detector, Model No. KMU-352/E

3.4 Service data package. A service data package consisting of materials and manuals, as described below, shall be furnished, in an envelope, with each unit. Detector pads (3.4.2) while not physically in the envelope shall be considered part of the service data package.

3.4.1 Standards. A total of 3 standards conforming to MIL-S-81282, shall be provided with each unit. The standards shall be included in the envelope, or optionally, one may be attached to the unit as specified in 3.5.2.1. Instructions for attaching the standard to the unit shall be included. The standards shall be supplied to the contractor as Government furnished material (see 6.4).

3.4.2 Detector pads. Each Type I service data package shall contain 500 free water detector pads (47 mm) conforming to MIL-D-81248. The pads shall be supplied to the contractor as Government furnished material (see 6.4).

3.4.3 Technical manual. Each data package shall contain two copies of an approved technical manual (see 4.3.1.1). The manual shall be prepared in accordance with MIL-M-7298 and shall include a list of component parts; complete instructions for installation, operation, placement and replacement of batteries for Type III, standards and the fluorescent lamp; and maintenance of the unit.

3.4.3.1 Schematic drawing Type III only. Type III Technical Manual shall contain a schematic drawing of the battery case and free water detector. The manual shall include a statement: Air Force personnel shall consult AF Publication TO 42B-1.1 for additional information on the use of this detector.

3.5 Design and construction. The Free Water Detector shall be a portable unit capable of determining the amount of free or undissolved water suspended in fuels. The kit shall be capable of being handcarried by personnel to a fueling site for the purpose of analyzing fuel for water content. The instrument shall withstand the normal strains, jars, vibrations and any other conditions incident to service use. The detector (Type I and III) shall be constructed in accordance with Figures 1, 2, and 3 as applicable. Type III shall include the battery case described in 3.5.2.3.

3.5.1 Performance.

3.5.1.1 Slide. The slide shall move freely without binding on any part of the exterior of the box.

3.5.1.2 Electrical system. The electrical system shall be activated by holding both momentary switches in the "on" position until the ultraviolet bulb lights. At this time, the starter switch (see Figure 1) shall be released. The system shall deactivate when the second switch is released.

3.5.1.3 Standards. There shall be no decrease in fluorescence at the edges of the standard (as a result of positioning of the standard) when the detector is tested as described in 4.5.3.

3.5.2 Component parts. The component parts of the detector shall be as specified below and in the figures in this specification.

3.5.2.1 Standards. The standard shall conform to MIL-S-81282 and shall be capable of being securely attached to the retaining strip, mounted in such a manner that the edge is flush with the overhanging edge of the strip. Standards shall be Government furnished (see 6.4).

3.5.2.2 Viewer assembly. The viewer assembly shall have the capability of indicating water content of fuel samples in parts per million. This indication shall be made after the 47 mm detector pads which conform to MIL-D-81248 are subjected to the passage of 500 ml of fuel on the upstream surface of the sampling apparatus. When using the 37 mm diameter detector pads and taking line samples (i.e., the fuel sample is passed directly through the detector pad without first being collected in a sample bottle) only 300 ml of the fuel shall be passed through the detector pad. The viewer shall indicate the water content by comparing the detector pad with the four fluorescing standards. If water droplets are present in the sample, they will disperse on the pad and cause the sodium fluorescein treated pads to fluoresce under an ultraviolet light. The design of the viewer shall be in conformance with Figures 1, 2, and 3.

3.5.2.3 Battery case, Type III only. The battery case shall be fabricated from the same materials specified for the detector housing (Figure 1) except that the

thickness shall be not less than 1/16 inch. A synthetic or natural rubber pad shall be securely attached to each of the bottom corners of the case. The overall outer dimensions shall approximate those of the detector, except that the height shall not exceed 3 inches (not including rubber pads). The completed case shall be capable of supporting the total weight of the detector without evidence of distortion or buckling. The case shall not wobble or rock when placed on a flat surface. All component parts of the case shall be securely mounted to prevent movement when the case is carried or tipped to any angle.

3.5.2.3.1 Battery compartment. The battery compartment shall accommodate two (2) 69 volt batteries, each 8 by 2 by 2-1/2 inch (Burgess Battery Company Z-46) or equal. The batteries shall be easily inserted or removed from the compartment. When positioned within the compartment, the batteries shall be side by side, lengthwise, and shall make positive contact with the terminal board contacts (3.5.2.3.4). As positioned, the upper battery terminal shall be the positive pole. Unless otherwise specified (see 6.2), batteries shall not be supplied with the battery case.

3.5.2.3.2 Battery clamping device. The batteries shall be held in position by a device which maintains sufficient pressure for continuous electrical contact between the battery and terminal board regardless of movement or position of the battery case. The clamping or holding device shall be positioned within the battery case manually or by using only a screwdriver.

3.5.2.3.3 Resistor. A 600 (±10%) ohm, 10 watt, resistor shall be mounted within the battery case.

3.5.2.3.4 Terminal board. The battery terminal board shall be fabricated from phenolic fiberboard that has 1/4-inch minimum thickness. The battery terminal board shall have permanently mounted battery terminals with helical wire coil type compression springs to make electrical contact with the batteries; or optionally, flat beryllium copper or phosphor bronze leaf type springs may be used. The board shall be vertically mounted within the battery case so that it is parallel to the width of the case. The battery terminals on the terminal board shall be aligned so that each pair of contacts (for the individual battery) is in a vertical line which is perpendicular to the bottom of the battery case. A permanent marking, identifying the positive contact of each pair of contacts shall be conspicuously placed within the battery case.

3.5.2.3.5 Receptacle. A 125-volt, 15-ampere electrically rated receptacle, compatible with the plug specified for the detector, shall be securely mounted, to prevent movement, in a "cut-out" in the wall nearest the terminal board. The receptacle shall be situated to allow plug insertion or removal to be accomplished from the outside. All mounting hardware, brackets, and screws for the receptacle shall be corrosion resisting steel.

3.5.2.3.6 Wiring. Adequate electrical wiring (Figure 1 schematic) shall be provided entirely within the battery case to interconnect the terminal board contacts, the resistor and the receptacle. The terminal board wiring shall be such that the topmost contacts are for connection with the positive contact of the battery. There shall be no incomplete or cold solder joints, and no danger of electrical "shorting" of components with the metal case.

3.5.2.4 Coupling devices, Type III. The detector and battery case shall be coupled as specified below, to form a Type III unit. The battery case shall be bottom mounted. All mounting hardware shall be suitably plated to resist corrosion and shall be positioned so as not to interfere with the proper assembling of the internal components of the detector and battery case, including the batteries.

3.5.2.4.1 Hinges. The battery case shall be hinged to the detector along the length that is adjacent to the test pad holder. One 9-1/2 inch hinge, or 2 smaller hinges placed equidistant from the centerpoint shall be used. The hinges shall be designed to permit the top mounted detector to be opened a minimum of 174 degrees. In addition the smaller hinges shall permit quick assembly or disassembly of the two units.

3.5.2.4.2 Latches. Two toggle action draw bolt type latches shall be mounted on the front of the detector (the side opposite the hinges). When closed, the latches shall hold the components firmly, without any tendency to open. The latch release shall work easily without binding or distortion.

3.5.2.5 Viewer shield. When specified (see 6.2), the viewer shield and padding shall be in accordance with Figure 1. It shall exclude natural light and permit viewing of the detector pads under bright, sunny conditions. The shield shall be easily attached to and removed from the viewer.

3.5.2.6 Slide lock. The slide lock shall be preformed (Figure 2) to preset spring tension and shall lock the test pad holder to prevent movement when the viewer assembly is carried or tipped to any angle.

3.5.2.7 Carrying handle. Each end of the carrying handle shall be firmly attached, along the longitudinal center of the top of the viewer, with corrosion resisting screws (See Figure 1). The handle shall also serve as a coil around which power cord shall be wrapped.

3.6 Workmanship. Workmanship shall be first class throughout. Each water detector shall be free of defects which detract from appearance or may affect serviceability. The components shall be free of corrosion, sharp edges, burrs, cracks, dents and distortion. The line cord shall be adequately secured within the viewer housing, and shall be free of cuts, tears and abrasions. The blades of the plug shall be properly aligned.

4. QUALITY ASSURANCE PROVISIONS

4.1 Responsibility for inspection. Unless otherwise specified in the contract or purchase order, the supplier is responsible for the performance of all inspection requirements as specified herein. Except as otherwise specified in the contract or order, the supplier may use his own or any other facilities suitable for the performance of the inspection requirements specified herein, unless disapproved by the Government. The Government reserves the right to perform any of the inspections set forth in the specification where such inspections are deemed necessary to assure supplies and services conform to prescribed requirements.

4.2 Classification of inspections. The inspection requirements specified herein are classified as follows:

a. First Article Inspection (see 4.3)

b. Quality Conformance Inspection (see 4.4)

4.3 First article inspection. When specified (see 6.2), first article inspection of the detector Kits shall consist of all the tests, inspections and examinations of this specification. Instructions for testing and approving the first article sample shall be as specified in 6.3.

4.3.1 First article sample. When specified (see 6.2), the first article sample shall be one (1) complete unit for test, including the service data package as specified in 3.4. The first article sample shall be a representative production item. The sample shall be plainly identified by a securely attached durably marked tag containing the following information:

FIRST ARTICLE SAMPLE

ITEM IDENTIFICATION -
Manufacturer's Designation or Number (Type I or Type III)
Name of Manufacturer
Part Number and National Stock Number (When applicable)
Submitted by (Name) (Date) for First Article Inspection
in accordance with the requirements of
MIL-D-81227B under authorization (Reference letter
authorizing test)

4.3.1.1 Technical manual. As soon as practical, after the award of the contract, the supplier shall forward two (2) copies of the proposed technical manual (3.4.3) for review by representatives of the contracting officer. The manuals shall be submitted, reviewed by the government (30 day maximum), corrected and approved without causing any delay in delivery under the contract or purchase order. In addition, the supplier shall furnish 15 copies of the approved technical manual to the contracting officer.

4.3.1.1.1 Previously approved manuals. When the supplier has furnished an approved manual for the item within the previous two (2) years, the provisions of 4.3.1.1 may be waived upon written request by the supplier to the contracting officer.

4.3.2 First article test report. When required, three (3) copies of a complete test report showing quantitative results of first article testing shall be submitted to the procuring activity. The test report shall indicate degree of compliance with the requirements of this specification.

4.3.4 Manufacturer's data. The manufacturer shall maintain a file consisting of all test and examination results performed by or for the supplier. The file shall be readily accessible to cognizant Government personnel during the contract term and for a period of three (3) years after delivery of the last item.

4.4 Quality conformance inspection.

4.4.1 End item. Each water detector kit shall be subjected to the inspections and tests of 4.5.1, 4.5.2, and 4.5.3. Any defect or test failure shall be cause to reject the individual kit.

4.4.2 Examination of packaging. An examination shall be made to determine compliance with the packaging, packing and marking requirements of Section 5. Defects shall be scored as specified in Table I. Sampling shall be in accordance with MIL-STD-105. The sample unit shall be one container fully prepared for delivery. The lot shall be the number of containers offered for inspection at one time. The inspection level shall be S-2 with AQL of 4.0 expressed in terms of percent defective.

TABLE I. Examination of packaging

Examine	Defect
Contents	Not as specified.
Container	Not as specified.
Marking	Omitted; incorrect; illegible; improper size; location, sequence or method of application.
Packaging and packing materials	Component missing or damaged.
Workmanship	Bulging or distortion of containers.

4.5 Test methods.

4.5.1 Visual inspection. Each detector shall be examined internally and externally to determine conformance with Table II and other requirements and Figures of this specification.

TABLE II. Visual inspection

Defect
Unit not complete with all component parts.
Unit not free of cracks, tears, dents, or distortion.
Unit not free of rocking when placed on a flat surface.
Unit not free of sharp edges or burrs.
Component parts not properly secured to housing.
Test pad holder not capable of being inserted into housing, or secured within housing, or removed from housing.
Line cord not adequately secured within housing.
Line cord not free of cuts, tears or abrasions.
Blades of plug (line cord) not properly aligned.
Hinges not properly functioning so that detector kit can be opened or closed properly.
Latches not capable of being properly opened or closed.
Detector kit not capable of being easily attached and/or detached from the battery case (applicable only for detachable hinges).
Test pad holder not capable of being held in closed position when viewer assembly is tipped to any angle.
Handle not securely attached to top of viewer assembly.
Marking in battery case to indicate proper polarity positioning of batteries not complete, legible or permanent.
Identification marking not complete, legible or permanent.
Finish not free of scratches, chips, or blisters.
Unit not free of dirt, grease, or foreign matter.
Unit exceeds maximum permissible weight.
Service data package incomplete, pads missing (Type I), standards missing.

4.5.2 Operational test. Each unit shall be tested to determine proper operation of electrical components and the ultraviolet light by providing alternating-current power to the power cord in the viewer assembly, and also for Type III by providing direct-current power in the battery case. The direct-current power shall be provided by inserting two batteries in the battery case and connecting the power cord in the viewer assembly to the receptacle in the battery case. When batteries are being used, the battery compartment in the battery case shall be checked to assure that the batteries can be properly secured to maintain proper tension so that electrical contact is not broken as a result of the battery case being tipped to any angle.

4.5.3 Test of standards. The standards shall be positioned in the box so that the forward edge shall be flush with the overhanging edge of the standard retainer strip. The fluorescence shall be measured. The standard shall be moved to two other positions and the fluorescence measured. In lieu of actual performance of such testing by the contractor, the acceptance of the first article sample (see 4.3) shall be considered as complying with requirement of 3.5.1.3.

5. PACKAGING

5.1 Packaging. Packaging shall be Level A, B, or C as specified (see 6.2).

5.1.1 Unit of issue. One water detector kit, as specified, constitutes a unit of issue.

5.1.2 Level A.

5.1.2.1 Unit package. Each unit shall be inserted into a polyethylene bag or wrapped in a waterproof barrier material. The bag or barrier material shall be secured in such a manner as to prevent the direct entry of water. The unit shall be further packaged in a box of appropriate size constructed in accordance with PPP-B-636, Type CF, Class weather resistant. The box shall be designed with suitable interior fittings or shall include sufficient cushioning material to insure against shifting of or damage to the contents. Closure of the box shall be adequate to prevent loss of contents under normal handling.

5.1.3 Level B. Packaging shall be as for Level A, except that PPP-B-636, Class domestic container shall be used.

5.1.4 Level C. Units shall be packaged in standard commercial containers of the size and kind commonly used, which will afford the degree of protection required for shipment to the first receiving activity and immediate use of the product.

5.2 Packing. Packing shall be Level A, B, or C as specified (see 6.2).

5.2.1 Packing quantities. Four (4) unit packages shall be packed in each exterior container. When the required number of units in the entire shipment is less than the number of units specified to be overpacked in an exterior container, such units may be packed in an exterior container of suitable size and design.

5.2.2 Level A. Exterior container shall be designed for a Type 2 load and constructed in accordance with PPP-B-585, Class 3, Style 3; PPP-B-601, overseas type; or PPP-B-621, Class 2. Closure and strapping shall be in accordance with the applicable specification appendix.

5.2.2.1 Waterproofing. Each wood box shall be lined with a waterproof case liner conforming to MIL-L-10547. Closure and sealing of the liner shall be in accordance with the appendix thereto.

5.2.3 Level B. Exterior container shall be designed for a Type 2 load and constructed in accordance with PPP-B-585, Class 1, Style 3; PPP-B-601, domestic type; PPP-B-621, Class 1; or PPP-B-636, Class weather resistant. Closure of wood boxes shall be as specified in the appendix of the applicable box specification. Closure of fiberboard boxes shall conform to Method II of PPP-B-636. Special requirements as specified in Table I of PPP-B-636 shall apply for fiberboard boxes.

NOTE

Strapping shall not be required for shipments forwarded to a receiving activity within the continental limits of the United States for storage and redistribution.

5.2.4 Level C. The unit package shall be packed in substantial commercial containers of the type, size and kind commonly used for the purpose, so constructed as to insure acceptance and safe delivery by common or other carriers, at the lowest rate, to point of delivery called for in the contract or purchase order. Container shall comply with uniform freight classification rules, or regulations of other carriers as applicable to the mode of transportation.

5.3 Marking.

5.3.1 Unit packages. Unit packages shall be marked in accordance with MIL-STD-129. Contract or purchase order number and name of contractor shall be shown.

5.3.2 Exterior container. Exterior container shall be marked in accordance with MIL-STD-129.

6. NOTES

6.1 Intended use. The Free Water Detector covered by this specification is intended for use where fuel is dispensed. This detector may be used with either AC line current (all types) or batteries (Type III only) as shown in Figure 1.

6.1.1 Storage temperature. The Free Water Detector is intended to be stored at temperatures ranging from 20° F (-7° C) to 130° F (54° C).

6.1.2 Model and type differences. Model Mk II can be used without modification in place of Model Mk I. Type I is essentially Model Mk I with addition of viewer and pads and is to be used when line current is available. The addition of the battery case to Type I converts the unit to Type III, a battery powered portable unit. The Type III unit does not include any detector pads or batteries.

6.2 Ordering data. Procurement documents should specify the following:

a. Title and number of specification

b. Type of instrument

c. Quantity desired

d. Selection of applicable levels of preservation, packaging and packing

e. Alternate type of finish required (see 3.2.6.1)

f. Viewer shield required (see 3.5.2.5)

g. Batteries required for Type III (See 3.5.2.3.1)

h. Whether first article sample submission is required (see 4.3)

6.3 First article instructions. The procuring activity shall designate the laboratory to which the first article sample shall be forwarded. The first article sample size, and required manufacturer's data shall be as specified in 4.3.

6.4 Government furnished parts. To each successful bidder, the Government shall furnish the following for each unit:

a. Three standards conforming to MIL-S-81282

b. Type I unit only: Five-hundred free water detector pads conforming to MIL-D-81248

6.4.1 Federal supply catalog identification. The above items are identified in the Federal Supply Catalog as follows:

National Stock No.	Item Identification
6640-00-999-2784	STANDARD, FREE WATER
6640-00-999-2785	DETECTOR PAD, FREE WATER (47 mm dia.)

6.5 This specification covers the following items appearing in the Federal Supply Catalog:

National Stock No.	Type	Item Identification
6640-00-999-2786	I	VIEWER KIT, FREE WATER DETECTOR
6640-00-070-2627	III	VIEWER, FREE WATER DETECTOR

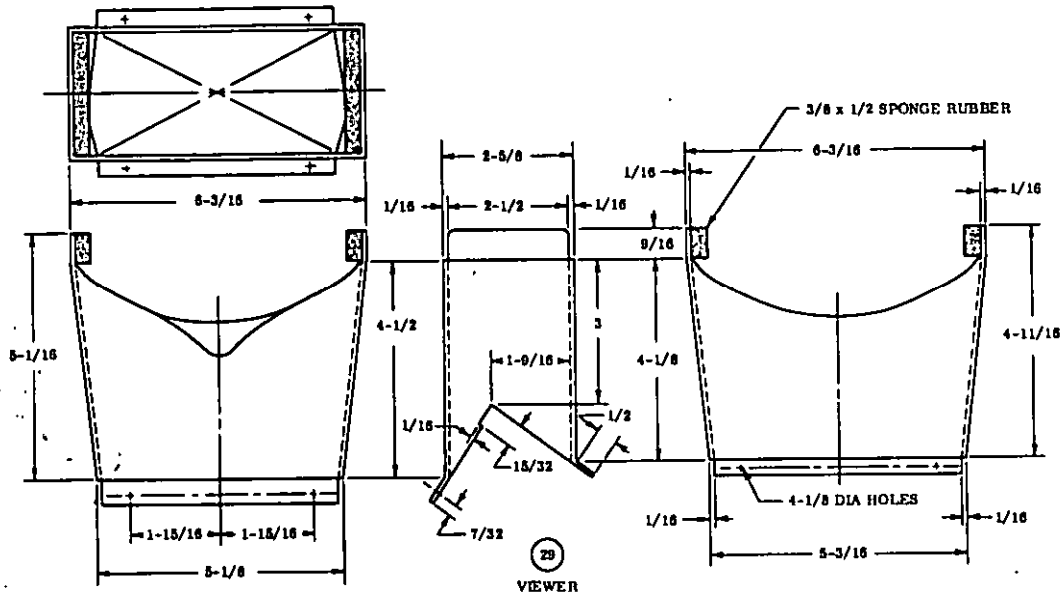
6.6 Supersession data. The following supersession data applies to MIL-D-81227B: Type II of MIL-D-81227A is not included in this specification.

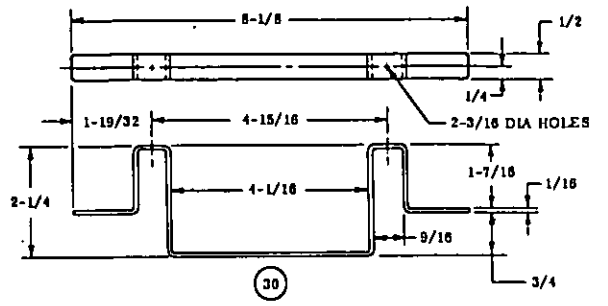
Custodians:
Army - AV
Navy - AS
Air Force - 11

Preparing Activity:
Navy - AS
(Project No. 6640-0955)

Review Activity:
Army - SM, MR
Air Force - 82, 68
DSC - DM

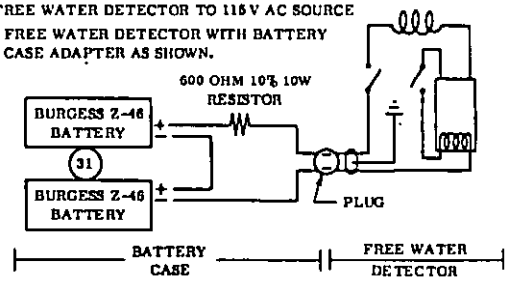
User Activity:
Army - ME
Navy - SH





HANDLE (SEE NOTE 10)

TYPE I - FREE WATER DETECTOR TO 115 V AC SOURCE
TYPE III - FREE WATER DETECTOR WITH BATTERY CASE ADAPTER AS SHOWN.

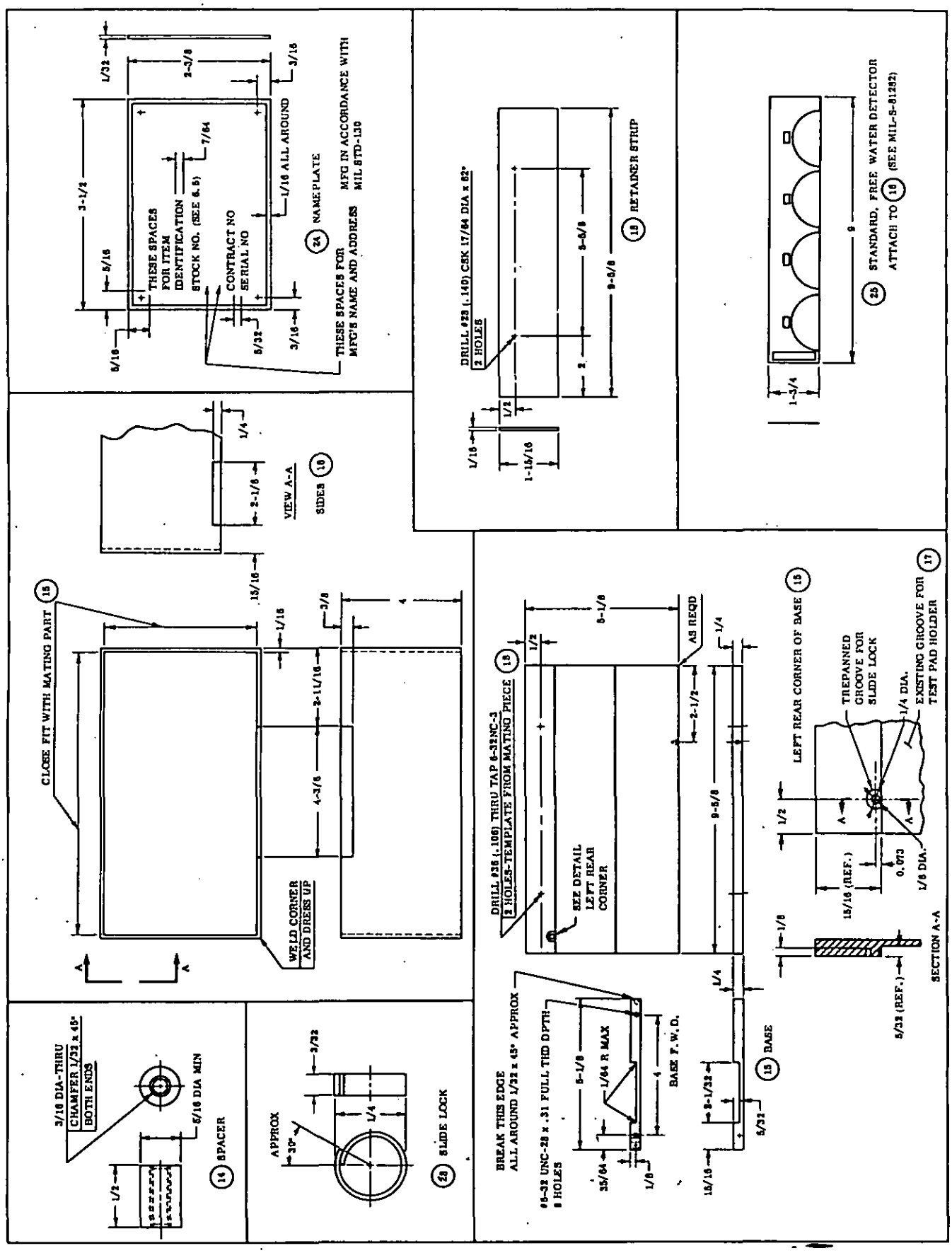


ELECTRICAL WIRING DIAGRAM

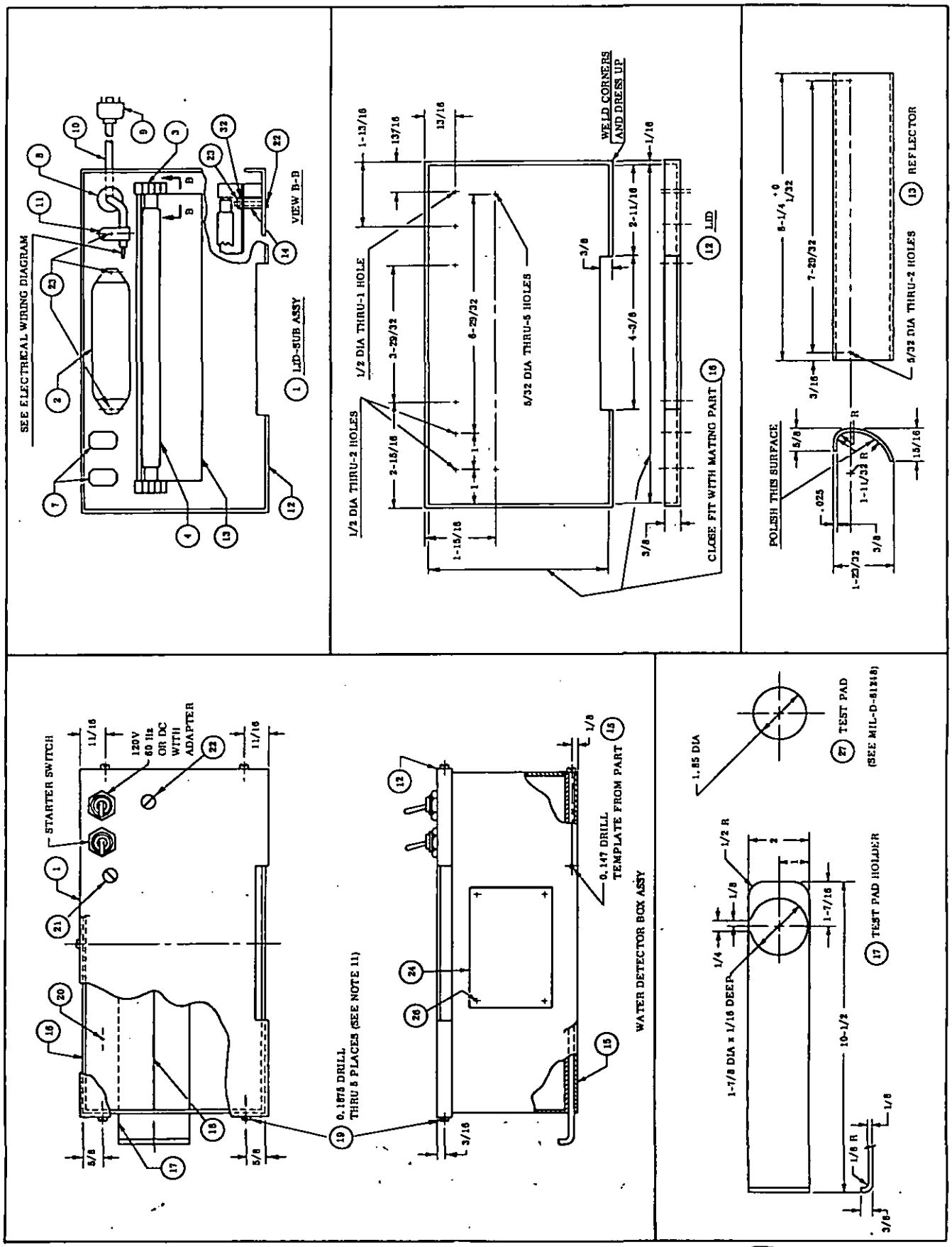
NOTES:

1. Break all sharp edges.
2. All aluminum alloy parts shall be anodized in accordance with MIL-A-8625.
3. All iron and steel parts shall be cadmium, chromium or nickel plated in accordance with QQ-P-416, QQ-C-320 or QQ-N-290.
4. All exposed electrical connections shall be coated with potting compound in accordance with MIL-S-8516.
5. The exterior finish of box shall be in accordance with MIL-E-8556 Type 1 or Type 2 using FED-STD-595 Color No. 17038. The interior finish of box shall be matte black in accordance with Class 2, MIL-A-8625.
6. Designed to operate on 115 V AC or batteries in conjunction with an adapter.
7. All mounting screws, lockwashers and nuts shall be stainless steel.
8. Location of holes on detector box are for items so designated. Should other equivalent items be used, then location and size of holes may be revised by the manufacturer.
9. Item 27 nonintegral. Part to be supplied in quantities of 500 in accordance with MIL-D-81248.
10. Item 30 handle - 1 inch wide by 1/8 inch is an acceptable alternate. Handle secured to lid using screws (Item 19), nuts (Item 23) and lockwashers (Item 32).
11. Figure 3 - Water Detector Box Assembly: Lid (Item 12): Drill 8 holes. Attach lid by securing screws (Item 19) to clinch nuts (Item 33) which are firmly attached to the inner sides. Base (Item 15): Drill 8 holes. Attach with screws (Item 19).
12. Reflector material: Stainless steel or Alzak specular anodized aluminum reflector sheet.

ITEM	DESCRIPTION	QTY	MATERIAL
1	LID SUBASSEMBLY	1	
2	TRANSFORMER 8 WATT, 115 V, 60 hz, Keystone Transformer Co. Phila. Pa. or equal	1	COMM'L
3	FLUOR. LAMP HOLDER *2903 75W, 250 V, Miniature, Black, Hubbell Inc. Bridgeport Conn. or equal	1	COMM'L
4	FLUOR. LAMP 8 in. long, Black, 8 W, *F8T5 DLD General Electric or equal	1	COMM'L
7	MOMENTARY SWITCH ON GOV *ST12C, Cutler Hammer *8417-K5 or equal	1	COMM'L
8	RUBBER GROMMET	1	COMM'L
9	ELEC, PLUG-3 prong Male, Series D, Style D25, Fed W-C-596		
10	POWER CABLE, Cat *815J, Belden Mfg Co. Chicago, Ill or equal	11' Lg	COMM'L
11	CABLE CLIP	1	PLASTIC COMM'L
12	LID	1	ALUM (3S-1/2 H)
13	REFLECTOR	1	SEE NOTE 12
14	SPACER	2	PHENOLIC OR ALUM
15	BASE	1	ALUM (3S-1/2 H)
16	SIDES	1	ALUM (3S-1/2 H)
17	TEST PAD HOLDER	1	ALUM (3S-1/2 H)
18	RETAINER STRIP	1	ALUM (24 ST)
19	PAN HEAD SCREW *6-32 NC by 3/8 lg	15	STAIN STL COMM'L
20	FLT HD SCREW *6-32NC-3 by 1/4 lg	2	STAIN STL COMM'L
21	RD. HD SCREW *6-32NC-3 by 7/16 lg	3	STAIN STL COMM'L
22	RD HD SCREW *6-32NC-3 by 3/4 lg	2	STAIN STL COMM'L
23	NUT *6-32NC-3	7	STAIN STL COMM'L
24	NAMEPLATE	1	ALUM (3S-1/2 H)
25	FREE WATER DETECTOR STDS DECAL	1	MIL-S-81282
26	RIVET, 1/8 inch	4	ALUM
27	DETECTOR PAD, FREE WATER	500	SEE NOTE 9
28	SLIDE LOCK	1	BERYLLIUM COPPER .010" by .053"
29	VIEWER	1	ALUM & RUBBER
30	HANDLE	1	ALUM
31	BATTERIES, 69 volt	2	BURGESS Z-4B OR EQUAL
32	LOCKWASHER *6 CRS	4	STAIN STL COMM'L
33	CLINCH NUT, PEM NO. CLS 632-2	8	STAIN STL COMM'L



Figu[illegible]



STANDARDIZATION DOCUMENT IMPROVEMENT PROPOSAL

(See Instructions – Reverse Side)

1. DOCUMENT NUMBER	2. DOCUMENT TITLE

3a. NAME OF SUBMITTING ORGANIZATION	4. TYPE OF ORGANIZATION *(Mark one)*
b. ADDRESS *(Street, City, State, ZIP Code)*	☐ VENDOR ☐ USER ☐ MANUFACTURER ☐ OTHER *(Specify)*:

5. PROBLEM AREAS

a. Paragraph Number and Wording:

b. Recommended Wording:

c. Reason/Rationale for Recommendation:

6. REMARKS

7a. NAME OF SUBMITTER *(Last, First, MI)* – Optional	b. WORK TELEPHONE NUMBER *(Include Area Code)* – Optional
c. MAILING ADDRESS *(Street, City, State, ZIP Code)* – Optional	8. DATE OF SUBMISSION *(YYMMDD)*

(TO DETACH THIS FORM, CUT ALONG THIS LINE.)

DD FORM 82 MAR 1426 PREVIOUS EDITION IS OBSOLETE.