INCH-POUND

MIL-F-52429F
31 October 1994
SUPERSEDING
MIL-F-52429E
13 August 1982

MILITARY SPECIFICATION

FILTER-SEPARATOR, LIQUID FUEL:

SKID MOUNTED, 15 GPM (57 LITERS/MIN) CAPACITY

This specification is approved for use by all departments and agencies of the Department of Defense.

1. SCOPE

1.1 Scope. This specification covers a 15-gallon-per-minute (gpm) (57 liters/rein) filter-separator for use in removing undissolved water and solid contaminants from petroleum fuels.

2. APPLICABLE DOCUMENTS

2.1 Government documents.

2.1.1 Specifications and standards. The following specifications and standards form a part of this document to the extent specified herein. Unless otherwise specified, the issues of these documents are-those listed in the issue of the Department of Defense Index of Specifications and Standards (DoDISS) and supplement thereto, cited in the solicitation (see 6.2).

SPECIFICATIONS

FEDERAL

L-P-378	Plastic, Sheet and Strip, Thin Gauge, Polyolefin.
PPP-B-601	Boxes, Wood, Cleated-Plywood.
PPP-B-636	Boxes, Shipping, Fiberboard.
PPP-T-60	Tape: Packaging, Waterproof.

MILITARY

MIL-P-116	Presentation, Methods of.
MIL-T-704	Treatment and Painting of Materiel.
MIL-A-8625	Anodic Coatings, for Aluminum and Aluminum Alloys.
MIL-F-8901	Filter-Coalescer Elements, Fluid Pressure; and Separator Stages: Inspection Requirements and Test Procedures for.

MIL-W-22248	weldments, Aluminum and Aluminum Alloys
MIL-C-46168	Coating, Aliphatic Polyurethane, Chemical Agent Resistant.
MIL-F-52308	Filter-Element, Fluid Pressure.
MIL-C-53039	Coating, Aliphatic Polyurethane, Single Component, Chemical Agent Resistant.
MIL-C-81740	Coatings, Aluminum and Aluminum Alloys (Metallic Compound Decomposition).
MIL-C-83488	Coating, Aluminum, Ion Vapor Deposited.

STANDARDS

FEDERAL

FED-STD-H28	Screw-Thread Standards for Federal Services.

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 US Military Property.
MIL-STD-810	Environmental Test Methods and Engineering Guidelines.
MIL-STD-889	Dissimilar Metals.
MIL-STD-1472	Human Engineering Design Crlterla for Military Systems, Equipment and Facilities.

(Unless otherwise indicated, copies of federal and military specifications, standards, and handbooks are available from the STDZN DCMNT ORDER DESK, BLDG 4D, 700 ROBBINS AVE, PHILADELPHIA PA 19111-5094.)

2.1.2 Government drawings The following Government drawings form a part of this document to the extent specified herein. Unless otherwise specified, the issues are those in effect on the date of the solicitation.

DRAWINGS

ME

TA13217E6620	-	Filter-Separator, Liquid Fuel: Skid Mounted, 15-GPM (57 Liters/Mm) Capacity.

(Copies of specifications and drawings required by contractors in connection with specific acquisition functions should be obtained from the US ARMY TANK AUTOMOTIVE COMMAND, MOBILITY TECH CTR - BELVOIR, ATTN AMSTA RBWH, FT BELVOIR VA 22060-5843.)

2.2 Non-Government publications . The following documents form a part of this document to the extent specified herein. Unless otherwise specified, the issues of the documents which are DoD adopted are those listed in the issue of the DoDISS cited in the solicitation. Unless otherwise specified, the issues of documents not listed in the DoDISS are the issues of the documents cited in the solicitation (see 6 2).

AMERICAN SOCIETY OF MECHANICAL ENGINEERS (ASME)

Boiler and Pressure Vessel Code, Section IX, Qualifications Standards for Welding and Brazing Procedures, Welders, Brazers, and Welding and Brazing Operators.

(Application for copies should be addressed to the AMERCN SCTY OF MECHANICAL ENGINEERS, 345 E 47TH STRET, NEW YORK NY 10017.)

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

D 3953	Flat Steel Strap and Connectors.
D 4675	Selection and Use of Flat Strapping Material.

(Application for copies should be addressed to the AMERCN SCTY FOR TEST & MTRLS , 1916 RACE STRET, PHILADELPHIA PA 19103.)

AMERICAN WELDING SOCIETY, INC. (AWS)

D1.2	- Structural Welding Code - Aluminum.

(Application for copies should be addressed to the AMERCN WELD SCTY, 550 NW LEJEUNE RD, PO BOX 351040, MIAMI FL 33135.)

NATIONAL MOTOR FREIGHT TRAFFIC ASSOCIATION INC., AGENT

National Motor Freight Classification Rules.

(Application for copies should be addressed to the AMERCN TRCKNG ASSN, INC, ATTN TRFC ORDR SECT, 2200 MLL RD, ALEXANDRIA VA 22314.)

UNIFORM CLASSIFICATION COMMITTEE AGENT

Uniform Freight Classification Rules.

(Application for copies should be addressed to the UNFRM CLASS CMMTE, ATTN TARIFF PBLSHNG OFCR, ROOM 1106, 222 S RIVSIDE PLZ, CHICAGO IL 60606.)

(Non-Government standards and other publications are normally available from the organizations that prepare or distribute the documents. These documents also may be available in or through libraries or other informational services.)

2.3 Order of precedence . In the event of a conflict between the text of this document and the references cited herein, the text of this document takes precedence. Nothing in this document, however, supersedes applicable laws and regulations unless a specific exemption has been obtained.

3. REQUIREMENTS

3.1 Description. The filter-separator shall be in accordance with top assembly TA13217E6620 and as specified herein. The filter-separator shall consist essentially of a vertical aluminum vessel with removable head, a manually operated air vent, inlet and outlet connections, filter-coalescer element, separator stage such as a canister, a differential pressure gauge, a water level sight gauge, a manually operated water drain valve, and a ground rod, a ground cable, and attaching hardware. The filter-separator shall be mounted on a skid The general requirements, operating and environmental conditions shall be in accordance with MIL-F-8901. The filter-separator shall have a rated flow of 15 gpm (57 liters per minute) and a maximum working pressure of 25 pounds per square inch (psi) (1.7 bars).

3.1.1 Drawings. The drawings forming a part of this specification are end product drawings. No deviation from the prescribed dimensions or tolerances is permissible without prior approval of the contracting officer. Where tolerances could cumulatively result in incorrect fits, the contractor shall provide tolerances within those prescribed on the drawings to ensure correct fit, assembly. and operation of the filter-separator Any data (e.g., shop

drawings, layouts, flow sheets, processing procedures, etc.) prepared by the contractor or obtained from a vendor to support fabrication and manufacture of the production item shall be made available upon request, for inspection by the contracting officer or the designated representative.

3.2 First article. Unless otherwise specified (see 6.2), a sample shall be subjected to first article inspection (see 4.3 and 6.3). Any changes or deviations of filter-separators from the approved first article during production shall be subject to the approval of the contracting officer. Approval of the first article shall not relieve the contractor's obligation to furnish filter-separators conforming to this specification.

3.3 Materials. Materials shall be as specified herein and as shown on the applicable drawings. Materials not specified shall be selected by the contractor, and shall be subject to all provisions of this specification.

3.3.1 Material deterioration prevention and control. The filter-separator shall be fabricated from compatible materials, inherently corrosion resistant or treated to provide protection against the various forms of corrosion and deterioration that may be encountered in any of the applicable operating and storage environments to which the filter-separator may be exposed.

3.3.1.1 Dissimilar metals. Dissimilar metals shall not be used in intimate contact with each other unless protected against galvanic corrosion. Dissimilar metals and methods of protection are defined and detailed in MIL-STD-889.

3.3.2 Recovered materials. For the purpose of this requirement, recovered materials are those materials which have been collected from solid waste and reprocessed to become a source of raw materials, as distinguished from virgin raw materials. The components, pieces and parts incorporated in the filter-separator may be newly fabricated from recovered materials to the maximum extent practicable, provided the filter-separator produced still meets all other requirements of this specification. Used, rebuilt or remanufactured components, pieces and parts shall not be incorporated in the filter-separator.

3.4 Design.

3.4.1 Environmental conditions.

3.4.4.l Operating temperatures. The filter-separator shall permit flow in any ambient temperature in the range of +125 °F (+52 °C) to -25 °F (-32 °C)

3.4.1.2 Storage temperatures. The filter-separator shall not be damaged by storage at ambient temperatures from +160 'F (+71 °C) to -50 °F (-46 °C).

3.4.2 Human factors. The filter-separator shall conform to the applicable human factors engineering criteria as specified in MIL-STD-1472, and shall be operable and maintainable by the 5th percentile females through 95th percentile males (stature).

3.4.3 Maintainabililty.

3.4.3.1 Maintenance support Assemblages or support elements such as technical manuals, repair parts, special tools, or lubrication charts as specified (see 6.6 and 6.7) shall be adequate to perform the intended function of assisting or conducting maintenance operations on the filter-separator.

3.4.3.2 Maintenance ratio The filter-separator shall have a maintenance ratio of no greater than 0.03.

3.4.4 Reliability. The specified mean-time-between-fa~lure (MTBF) shall be 140 hours when the filter-separator is operated at rated capacity and tested as specified in 4.6.4.

3.4.5 Transportability. The filter-separator shall withstand the dynamic vibrational stresses encountered in transportation and service. The filter-separator shall operate as specified herein when tested as specified in 4.6.5.

3.5 Performance.

3.5.1 Vessel (tank). The filter-separator vessel shall be fabricated of aluminum alloy as specified on the drawings. The vessel shall withstand a hydrostatic pressure of 60 psi (4.14 bars) for a period of 10 minutes without leakage, permanent deformation, or other defects that could harmfully affect the performance and serviceability of the filter-separator.

3.5.1.1 Fuel inlet manifold. The fuel inlet manifold shall be fabricated of aluminum alloy as specified on the drawings. The manifold shall withstand a minimum of 30 psi (2.07 bars) for a period of 10 minutes without leakage, permanent deformation, or other defects that could harmfully affect the performance and serviceability of the filter-separator.

3.5.2 Differential pressure. The maximum differential pressure across the filter-separator shall not exceed that specified by MIL-F-8901, table III (see 4.5.2.1a).

3.5.3 Reusable separator stage. The reusable separator stage shall be as specified by MIL-F-8901, table 111, and as specified on the drawings. The direction of flow shall be inside-to-outside (see 4.5.2.1b).

3.5.4 Water removal. The filter-separator shall remove water as specified by MIL-F-8901, table III from influent fuel containing up to one percent (by volume) water (see 4.5.2.1c) . The discharge water shall contain not more than O 50 percent fuel by volume.

3.6 Differential Pressure dial gauge. The differential pressure gauge shall conform to the dimensions shown and the requirements specified on the applicable drawing. The gauge shall provide the actual reading of the differential pressure across the filter-separator without manipulation of valves or subtraction of readings, and shall perform without structural fallure or leakage. The accuracy of the gauge shall be such that any error shall not exceed $\pm$2 psi (0.138 bars).

3.7 Government furnished property. The media shall consist of one filter-coalescer element conforming to MIL-F-52308, and one canister as shown on the applicable drawings. The Government shall furnish two filter-coalescer elements conforming to MIL-F-52308 for each filter-separator in the contract or purchase order (see 6.4) , one to be installed in the filter-separator and one as replacements (see 5.1.1).

3.8 Hardware. Bolts, nuts, and washers that do not come into contact with the flowing fuel being processed shall be fabricated from materials as specified on the applicable drawings. When ferrous materials are specified, the bolts, nuts, and washers shall be aluminum coated in accordance with MIL-C-81740, type II, class 1, or MIL-C-83488, type II, class 2 Threads shall conform to FED-STD-H28.

3.9 Cover gasket replacements. One O-ring, as specified on the applicable drawings, shall be furnished with each filter-separator in the contract or purchase order as replacement items (see 5.1.2).

3.10 Sight gauge gasket replacement. One gasket, as specified on the applicable drawing, shall be furnished with each filter-separator in the contract or purchase order as a replacement item (see 5.1.2).

3.11 Identification marking. The filter-separator shall be identified in accordance with MIL-STD-130. The identification and instruction plates and markings shall be in accordance with the applicable drawings.

3.12 Treatment and Painting. The exterior of the filter-separator normally painted shall be cleaned, treated, and painted in accordance with MIL-T-704, type F or G, as applicable Unless otherwise specified (see 6.2), the top coat color shall be camouflage green 383 conforming to MIL-C-46168 or MIL-C-53039.

3.12.1 Chemical coating. The interior of the filter-separator vessel and all components fabricated from aluminum alloy, which are in direct contact with the petroleum fuels, shall be anodized in accordance with MIL-A-8625, type II, class 1, to a thickness of at least 0.0007 inch for wrought aluminum alloys, or at least 0.0004 inch for cast aluminum alloys.

3.13 Cleaning and drying after tests. After conclusion of all tests, and after removal of the canisters and elements, the filter-separators, along with the canisters, shall be wiped clean and air dried at room temperature to exhaust all traces of fuel and water.

3.14 Workmanship. The filter-separator shall be free from defects such as misaligned components, incomplete welds, cracks, burrs, leaks, and other defects that could impair the operation and serviceability of the filter-separators. All parts shall be clean and free from dirt, sand, grease,oll, and metal chips. Parts containing nonfunctional sharp edges and projecting points, which might present a hazard to personnel, shall be cause for rejection.

3.14.1 Welders and welding.

3.14.1.1 Welders. Before assigning any welder or welding operator to welding work covered by this specification, the contractor shall obtain certification that the welder or welding operator has passed qualification tests as prescribed by either of the following listed codes for the materials joined and the type of welding operations to be performed, and that such qualification is effective as defined by the particular code: ASME Boiler and Pressure Vessel Code, Section IX, Qualification Standards for Welding and Brazing Procedures, Welders, Brazers and Welding and Brazing Operators, and AWS D1 2, Structural Welding Code - Aluminum.

Certification shall be made available for review by the contracting officer or designated representative.

3.14.1.2 Welding (aluminum). Welding performance in the fabrication of filter-separators shall be in accordance with MIL-W-22248 and the applicable codes specified in 3.14.1.1. Classes of welds shall be as specified on the drawings. Welds shall transmit stress without permanent deformation or failure when the parts connected by the welds are subjected to proof and service loading.

4. QUALITY ASSURANCE PROVISIONS

4.1 Responsibility for inspection. Unless otherwise specified in the contract or purchase order, the contractor is responsible for the performance of all inspection requirements examinations and tests) as specified herein Except as otherwise specified in the contract or purchase order, and unless disapproved by the Government the contractor's own or any other facilities.

suitable for the performance of the inspection requirements specified herein, may be used. The Government reserves the right to perform any of the inspections set forth in this specification where such inspections are deemed necessary to ensure supplies and services conform to prescribed requirements.

4.1.1 Responsibility for compliance. All items shall meet all requirements of sections 3 and 5 The inspection set forth in this specification shall become a part of the contractor's overall inspection system or quality program. The absence of any inspection requirements in the specification shall not relieve the contractor of the responsibility of ensuring that all products or supplies submitted to the Government for acceptance comply with all requirements of the contract. Sampling inspection, as part of manufacturing operations, is an acceptable practice to ascertain conformance to requirements, however, this does not authorize submission of known defective material, either indicated or actual, nor does it commit the Government to accept defective material.

4.1.2 Components and material inspection, The contractor is responsible for ensuring that components and materials used are manufactured, examined, and tested in accordance with referenced specifications and standards, as applicable.

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).
c. Design (see 4.6).
d. Inspection of packaging (see 4.7).

4.3 First article inspection. The first article inspection shall be performed on one complete filter-separator assembly (see 3.2 and 6.3).

4.3.1 Examination. The first article shall be examined as specified in 4.5.1 Presence of one or more defects shall be cause for rejection.

4.3.2 Tests. The first article shall be tested as specified in 4.5.2. Failure of any test shall be cause for rejection.

4.4. Quality conformance inspection.

4.4.1 Sampling for examination. Sample size shall be determined by using tables I and IIa of MIL-STD-105. A lot shall be accepted when zero defects are found and rejected when one or more defects are found.

4.4.2 Examination. Sample selected in accordance with 4.4.1 shall be examined for the defects specified in 4.5.1. Presence of one or more defects shall be cause for rejection.

4.4.3 Test. Each filter-separator shall be tested as specified in 4.5.2.1b and 4.5.2.1.1. Failure of either test shall be cause for rejection.

4.5 Inspection procedure.

4.5.1 Examination. The filter-separator shall be examined as specified herein for the following defects:

101	Materials not as specified (see 3.3).
102	Materials not resistant to corrosion and deterioration, or treated to be resistant to corrosion and deterioration of the applicable storage and operating environments (see 3.3.1).

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103. Dissimilar metals as defined in MIL-STD-889 are not effectively insulated from each other (see 3.3.1.1).
104. Used, rebuilt, or remanufactured components pieces, or parts incorporated in the filter-separator (see 3.3.2).
105. Differential pressure dial gauge not as specified (see 3.6).
106. Hardware such as bolts, nuts, washers, and screw threads not as specified (see 3.8).
107. Cover gasket replacement not as specified (see 3.9).
108. Sight gauge gasket replacement not as specified (see 3.10).
109. Chemical coating not as specified (see 3.12.1).
110. Filter-separators not cleaned and air dried after testing (see 3.13).
111. Workmanship not as specified (see 3.14).
112. Weldments and castings not as specified (see 3.14.1).
113. Welder certification not available as specified (see 3.14.1.1).
114. Dimensions not as specified.
115. Identification marking incorrect, illegible, or missing (see 3.11).
116. Instruction plates are not as specified (see 3.11).
117. Treatment and painting not as specified (see 3.12).
118. Color not as specified (see 3.12).

4.5.2 Tests.

Table I. Test schedule.

First Article	Quality Conform	Test	Test Para	Reqmt Para
1	2	3	4	5
X	X	Hydrostatic pressure	4.5.2.1.1	3.5.1
X	-	Differential pressure	4.5.2.1a	3.5.2
X	X	Separator stage	4.5.2.1b	3.5 3
X	-	1% water removal	4.5.2.1c	3.5.4
X	-	Differential pressure dial gauge	4.5.2.2	3 6
X	-	Design	4.6	3.4

4.5.2.1 Performance. The filter-separators shall be tested to the following performance requirements as specified in MIL-F-8901, table III.

a. Differential pressure.
b. Permanent separator stage (inside to outside design).
c. Water removal, one percent.

Nonconformance to any requirements of 3.5.2 through 3.5.4 or to the applicable requirements of MIL-F-8901 shall constitute failure of this test.

4.5.2.1.1 Hydrostatic pressure. The hydrostatic pressure test shall conform to the requirements specified in 3.5.1 and 3.5.1 1 of this specification. Nonconformance to 3.5.1 and 3.5.1.1 shall constitute failure of this test.

4.5.2.2 Differential pressure dial gauge. Subject the gauge to a hydrostatic pressure equal to the maximum scale pressure, and hold at this pressure for a minimum of 30 minutes Within 10 minutes after the pressure is released and without recalibration or adjustment, readings shall be taken at three intervals on the scale the anticipated initial operating pressure, the pressure at which the elements are to be changed, and the maximum scale pressure The gauge shall be tapped sharply with the finger at approximately the center of the scale area before each reading. A dead-weight tester or mercury manometer with air pressure or calibrated check gauge shall be used in calibrating the gauge. Testing of the gauge shall be in an ambient temperature of 68 ±10 °F Nonconformance to 3.6 shall constitute failure of this test.

4.6 Design. When specified (see 6.2), the following tests shall be performed.

4.6.1 Environmental conditions.

4.6.1.1 High temperature. The filter-separator shall be tested as specified in MIL-STD-810, method 501.3, procedures I and II. The maximum test temperature for storage shall be 160 °F (71 °C), and the maximum operating temperature shall be 125 'F (52 'C). The operating period of procedure II shall be one hour or the operating time required to check for any component failure due to high temperature.

4.6.1.2 Low temperature. The filter-separator shall be tested as specified in MIL-STD-810, method 502.3, procedures I and II. The minimum test temperature for storage shall be -25 °F (-46 °C), and the minimum operating temperature shall be -25 °F (-32 °C) The operating period of procedure II shall be one hour or the operating time required to check for any component failure due to low temperature.

4.6.1.3 Failure criteria. Nonconformance to 3.4.1 or to the applicable requirements of MIL-STD-810 shall constitute failure of either temperature test.

4.6.2 Human factors. The filter-separator shall be evaluated to determine conformance to 3.4.2. Nonconformance shall constitute failure of this test.

4.6.3 Maintenance ratio. The maintenance ratio shall be computed during first article testing or during the configuration control testing to determine the total active maintenance man-hours (scheduled and unscheduled) required, to the total operating time. Nonconformance to 3.4.3 shall constitute failure of this test.

4.6.4 Reliability. Using the MTBF specified in 3.4.4, the filter-separator(s) shall be tested as specified in 4.5.2.1, 4.5.2.1.1, and 4.5.2.2, with "accept" and "reject" criteria in accordance with figure 1 At the completion of above testing, continue testing in accordance with 4.5.2.1c until an "accept" or "reject" decision is reached. A failure is defined as any malfunction which causes or may cause:

a. Failure to commence operation, cessation of operation, or performance below specified levels.
b. Damage to the filter-separator by continued operation.
c. Safety hazard to personnel.

Nonconformance to 3.4.4 shall constitute failure of this test. Dependent failures or malfunctions occurring as the result of improper maintenance procedures or operator error are excluded from consideration as chargeable failures. Replacement of filter-coalescer elements shall not be considered a failure.

4.6.5 Transportability. The filter-separator shall be transported by a 5-ton cargo truck over cross-country tactical terrain at an average speed of 8 mph (13 Kph) for a total of 100 miles (161 kilometers). Damage to the filter-separator or components when examined in accordance with 4.5.1 or nonconformance to 3 4.5 shall constitute failure of this test.

4.7 Inspection of packaging.

4.7.1 Quality conformance inspection of pack.

4.7.1.1 Unit product. For the purpose of inspection, a completed pack prepared for shipment shall be considered a unit of product

4.7.1.2 Sampling. Sample size shall be determined by using table I and table IIa of MIL-STD-105. A lot shall be accepted when zero defects are found and rejected when one or more defects are found.

119. Filter-coalescer element and canister not installed (see 5.1).
120. Dust plug and dust cap not installed (see 5.1).
121. Drain valve not closed (see 5.1).
122. Extra elements not preserved as specified (see 5.1.1).
123. Extra O-ring and sight gauge gasket not preserved as specified (see 5.1.2).
124. Consolidation of components not as specified (see 5.1.3).
125. Each filter-separator and components not secured within the box in a manner to prevent free movement and damage as specified for level A or B (see 5.2.1 and 5.2.2).
126. Shipping container not as specified for level A and level B.
127. Level C packing not in accordance with the reference document (see 5.2.3).
128. Marking missing, illegible, incorrect, or incomplete for level A, B, or C (see 5 3).

5. PACKAGING

5.1 Preservation. The filter-separator with filter-coalescer elements and canisters installed shall not require preservation (see 6.7). The water drain valve shall be closed after cleaning and drying has been completed in accordance with 3.13. Dust plug and cap shall be installed.

5.1.1 Extra filter-coalescer elements. Each extra element, except Government-furnished elements that meet this requirement when delivered to the contractor (see 3.7), shall be preserved by the following method:

Each filter element shall be inserted in a polyethylene bag fabricated from material conforming to L-P-378, type I, class 1, grade and finish optional, thickness not less than 0.0040 inches, and closed by heat sealing. The bag containing the element shall be placed in a close-fitting box conforming to PPP-B-636, W6c. The box shall be closed and sealed as specified for method V in the appendix to the box specification using tape conforming to PPP-T-60, type IV.

5.1.2 Extra O-rings and extra sight gauge gasket. Each extra O-ring and the extra sight gauge gasket shall be laid flat between two slightly larger pieces of fiberboard and each individually preserved in accordance with MIL-P-116, submethod IC-1.

5.1.3 Consolidation. The extra filter elements, O-rings, sight gauge gasket, and the adapter and sampling probe, when furnished, shall be consolidated together in one or more boxes as applicable, conforming to PPP-B-636, W5c. The contents shall be blocked, braced, or cushioned as applicable to prevent movement or damage Box closure and sealing shall be as specified for method V in accordance with the appendix to the box specification.

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

5.2.1 Level A. Each filter-separator and the boxes containing the extra O-rings, sight gauge gasket, adapter and sampling probe, and the extra filter elements required shall be packed together in a close-fitting box conforming to PPP-B-601, overseas type, style optional. The contents shall be secured wit hin the box in a manner to prevent free movement and damage. The box shall be closed in accordance with the appendix to the box specification. Strapping shall be in accordance with ASTM D 3553. type 1, finish B, size as applicable.

5.2.2 Level B. Each filter-separator and the boxes containing the extra O-rings, sight gauge gasket, adapter and sampling probe, and the extra filter elements required shall be packed together as specified for level A (see 5.2.1), except that the box shall be domestic type.

5.2.3 Level C. Each filter-separator and consolidated components shall be packed together to assure carrier acceptance and safe delivery to destination at the lowest rating in compliance with the Uniform Freight Classification or National Motor Freight Classification Rules.

5.3 Marking. In addition to any special markings specified in the contract or purchase order, marking shall be in accordance with MIL-STD-129.

6. NOTES
(This section contains information of a general or explanatory nature that may be helpful, but is not mandatory.)

6.1 Intended use. The filter-separator is intended for use in portable refueling systems, for the removal of undissolved water and solid contaminants from aviation, diesel, or motor fuels.

6.2 Acquisition requirements. Acquisition documents should specify the following:

a Title, number, and date of this specification.
b Issue of DoDISS to be cited in the solicitation, and, if required, the specific issue of individual documents referenced (2.1.1 and 2.2).
c. When the Government will conduct any or all of the first article examination and tests. The contracting officer should specify which examination and tests will be conducted by the contractor (see 3.2)
d. Time frame required for submission of the first article (see 3.2).
e. Finish paint when other than as specified (see 3.12).
f. When the filter-separator will be camflage painted (see 3.12).
g. Level of packing required (see 5.2).

6.3 First article. When a first article inspection is required, the item(s) should be a preproduction model. The first article should consist of one or more units The contracting officer should include specific instructions in acquisition documents regarding arrangements for examinations, approval of the first article test results, and disposition of the first articles. Invitation for bids should provide that the Government reserves the right to waive the requirement for samples for first article inspection to those bidders offering a product which has been previously acquired or tested by the Government, and that bidders offering such products, who wish to rely on such production or test, must furnish evidence with the bid that prior Government approval is presently appropriate for the pending contract. Bidders should not submit alternate bids unless specifically requested to do so in the solicitation.

6.4 Government- furnished property. The contracting officer should arrange to furnish the property specified in 3.7.

6.5 Levels of preservation. Levels of preservation have not been included since the protection specified is the minimum acceptable. For the purpose of preservatlon level marking, preservation shall be designated level A.

6.6 Technical manuals. The requirement for technical manuals should be considered when this specification is applied on a contract. If technical manuals are required, military specifications and standards that have been cleared and listed in DoD 5010 12-L, acquisition management systems and data

requirements list (DD Form 1423) , which is included as an exhibit to the contract. The technical manuals must be acquired under separate contract line item in the contract.

6.7 Provisioning. The contracting officer should include provisioning requirements for repair parts and maintenance tools as necessary (including any special tools), and instructions on shipment of filter-separators.

6.8 Subject term (key word) listing

Filter-separator, aviation fuel
Filter-separator, diesel fuel
Filter-separator, motor fuel
Filter-separator, motor fuel servicing equipment
Filter-separator, portable refueling systems
Filter-separator, 50 gpm capacity

6.9 Changes from Previous issue. Marginal notations are not used in this revision to identify changes with respect to the previous issue due to the extensiveness of the changes.

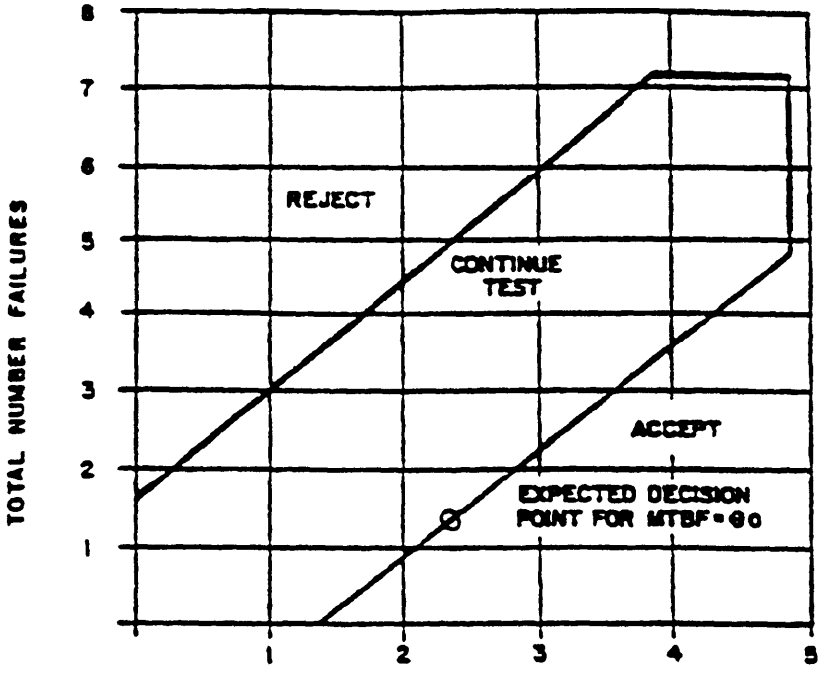
Custodians :
Army - ME
Air Force - 99
Navy - AS

Preparing activity:
Army - ME

Project 4330-0118

Review activities
Army - AT, AV
Navy - YD1
Air Force - 84
DLA - CS

DECISION RISKS 20 %
DISCRIMINATION RATIO 2.0:1



NO. OF FAILURES	TOTAL TEST TIME REJECT (EQUAL OR LESS)	ACCEPT EQUAL OR MORE
0	N/A	1.40
1	N/A	2.09
2	.35	2.79
3	1.04	3.48
4	1.73	4.17
5	2.43	4.87
6	3.12	4.87
7	3.81	4.87
8	4.87	N/A

TOTAL TEST TIME IS TOTAL UNIT HOURS OF "EQUIPMENT ON" TIME AND IS EXPRESSED IN MULTIPLES OF THE SPECIFIED MTBF.

FIGURE 1. Accept-reject criteria.

X-3499

STANDARDIZATION DOCUMENT IMPROVEMENT PROPOSAL

INSTRUCTIONS

1. The preparing activity must complete blocks 1, 2, 3, and 8. In block 1, both the document number and revision be given.
2. submitter of this form must complete blocks 4, 5, 6, and 7.
3. preparing activity must provide a reply within 30 days from receipt of the form.

NOTE: This form may not be used to request copies of documents, nor to request waivers, or clarification of requir current contracts. Comments submitted on this form do not constitute or imply authorization to waive any portion o referenced document(s) or to amend contractual requirements.

RECOMMEND A CHANGE:	1. DOCUMENT NUMBER MIL-F-52429F	2. DOCUMENT DATE (YYMMDD) 941031

3. DOCUMENT TITLE
FILTER-SEPARATOR, LIQUID FUEL: SKID-MOUNTED, 15 GPM (57 LITERS/MIN0 CAPACITY

4. NATURE OF CHANGE (Identify paragraph number and include proposed rewrite, if possible. Attach extra sheets as

5. REASON FOR RECOMMENDATION

6. SUBMITTER

a. NAME (Last, First, Middle Initial)	b. ORGANIZATION	
c. ADDRESS (Include Zip Code)	d. TELEPHONE (Include Area Code) (1) Commercial (if applicable) (2) DSN	7. DATE SU

8. PREPARING ACTIVITY

a. NAME Carolyn B. Johnson	b. TELEPHONE (Include Area Code) (1) Commercial (703) 704-3468	(2) DSN 654-3468
c. ADDRESS (Include Zip Code) U 0BILITY TECHNOLOGY BELVOIR CTR A .MSTA-RBE 10115 GRIDLEY RD STE 228 FT BELVOIR VA 22060-5849	IF YOU DO NOT RECEIVE A REPLY WITHIN 45 DAYS, CO DEFNS QLTY & STDZN OFC 5203 LEESBURG PIKE STE 1403 FLS CHURCH VA 22041-3466 Telephone (703) 756-2340	DSN