INCH-POUND

MIL-F-53091(ME)
7 February 1990

MILITARY SPECIFICATION

FILTER-SEPARATOR, LIQUID FUEL:

FRAME MOUNTED, 200 GPM CAPACITY,

ARCTIC SERVICE

This specification is approved for use within the USA Belvoir Research, Development and Engineering Center, Department of the Army, and is available for use by all Departments and Agencies of the Department of Defense.

1. SCOPE

1.1 Scope. This specification covers a 200-gallon per minute (gpm) capacity filter-separator for use at low temperature (-60 °F) environment in removing undissolved water and solid contaminants from petroleum fuels.

2. APPLICABLE DOCUMENTS

2.1 Government documents.

2.1.1 Specifications, standards, and handbooks. The following specifications, standards, and handbooks 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.
QQ-S-781	- Strapping, Steel and Seals.
PPP-B-601	- Boxes, Wood, Cleated-Plywood.
PPP-B-636	- Boxes, Shipping, Fiberboard.
PPP-T-60	- Tape: Packaging, Waterproof.

Beneficial comments (recommendations, additions, deletions) and any pertinent data which may be of use in improving this document should be addressed to: USA Belvoir Research, Development, and Engineering Center, ATTN: STRBE-TSE, Fort Belvoir, VA 22060-5606 by using the self-addressed Standardization Document Improvement Proposal (DD Form 1426) appearing at the end of this document or by letter.

AMSC N/A FSC 4330

MILITARY

MIL-P-116	- Preservation, Methods of.
MIL-T-704	- Treatment and Painting of Materiel.
MIL-F-8901	- Filter-Separators, Liquid Fuel: and Filter-Coalescer Elements, Fluid Pressure: Inspection Requirements and Test Procedure for.
MIL-C-46168	- Coating, Aliphatic Polyurethane, Chemical Agent Resistant.

STANDARDS

MILITARY

MIL-STD-105	- Sampling Procedures and Tables for Inspection by Attributes.
MIL-STD-129	- Marking for Shipment and Storage.
MIL-STD-810	- Environmental Test Methods.
MIL-STD-889	- Dissimilar Metals.
MIL-STD-1186	- Cushioning, Anchoring, Bracing, and Waterproofing; with Appropriate Test Methods.
MIL-STD-1472	- Human Engineering Design Criteria for Military Systems, Equipment and Facilities.

(Unless otherwise indicated, copies of federal and military specifications, standards, and handbooks are available from the Naval Publications and Forms Center, (ATTN; NPODS), 5801 Tabor Avenue, Philadelphia, PA 19120-5099.)

2.1.2 Other Government documents, drawings, and publications. The following other Government documents, drawings, and publications form a part of this document to the extent specified herein. Unless otherwise specified, the issues are those cited in the solicitation.

DRAWINGS

ME

TA13228E1770	- Filter/Separator Assembly, Fuel, 200 GPM, Arctic Service.

(Copies of drawings required by contractors in connection with specific acquisition functions should be obtained from the USA Belvoir Research, Development, and Engineering Center, ATTN: STRBE-FS, Fort Belvoir, VA 22060-

2.2 Non-Government publications. The following document(s) 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, Welding Qualifications.

(Application for copies should be addressed to the American Society of Mechanical Engineers, 345 East 47th Street, New York, NY 10017.)

(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 TA13228E1770 and as specified herein. The filter-separator shall consist essentially of a horizontal aluminum vessel with a removable side access cover, a manually operated air vent, inlet and outlet connections, filter elements, canisters, differential pressure gage, attaching hardware, and manually operated water drain valve. The filter-separator shall be mounted within an aluminum tubular rectangular frame with a defroster shroud.

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 insure 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. When specified (see 6.2), a sample shall be subjected to first article inspection (see 6.3) in accordance with 4.3.

3.3 Reliability. The specified mean-time-between-failure (MTBF) shall be 140 hours when the filter-separator is operated at rated capacity and tested as specified in 4.5.2.1.

3.4 Maintainability.

3.4.1 Maintenance support. Assemblages or support elements such as technical manuals, repair parts, special tools, or lubrication charts as specified (see 6.4 and 6.5), shall be adequate to perform the intended function of assisting or conducting maintenance operations on the filter-separator.

3.4.2 Maintenance ratio. The filter-separator shall have a maintenance ratio of not greater than 0.03. Maintenance ratio is defined as the ratio of the total active maintenance man-hours required (scheduled and unscheduled) to the total

operating time. Man-hours for repair of replaced components and scheduled before- and after-operation checks are excluded. A maintenance schedule shall be established prior to the start of any testing.

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

3.5.1 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 filter-separator may be exposed. Fuel wetted surfaces shall be compatible with all military hydrocarbon fuels. The use of copper, copper alloys or cadmium plating shall be discouraged.

3.5.1.1 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.

3.5.1.2 Identification of materials and finishes. The contractor shall identify the specific material, material finish or treatment for use with component and subcomponent, and shall make information available upon request to the contracting officer or designated representative.

3.5.2 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 meets all other requirements of this specification. Used, rebuilt or remanufactured components, pieces and parts shall not be incorporated in the filter-separator.

3.6 Performance. The filter-separator shall conform to the operating characteristics specified on drawing 13228E1765.

3.6.1 Mobility aids. The filter separator shall be provided with mobility aids (see 6.10). Transportability of the pump assembly would indicate that where feasible addition of mobilization devices should minimize the increase in outside dimensions. The mobility aids shall provide the filter separator the capability to negotiate a ramp angle of 15 degrees without any part of the filter separator dragging.

3.6.2 Retractable/removable tires/wheels. The filter separator shall be designed with low temperature, low ground pressure, removable/retractable wheels/tires.

3.6.3 Sled runners. Sled runners shall be welded to the skid base and designed to prevent the filter separator from diving into snow or ice.

3.6.4 Towing eyes. Towing eyes shall be welded to the front and rear of each assembly for attaching a towing cable for tandem towing.

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

3.8 Safety. The filter-separator shall present no uncontrolled hazards to the user.

3.9 Environmental requirements. The filter-separator shall conform to the following environmental requirements.

3.9.1 Operating temperature. The filter-separator shall permit a flow rate of 200, 150, 100, and 50 gpm at all ambient temperatures between +95 and -60 °F.

3.9.2 Storage temperature. The filter-separator shall not be damaged by storage in all ambient temperatures between +145 to -65 °F.

3.10 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 shall be camouflage green 383 conforming to MIL-C-46168.

3.11 Filter elements. Each filter separator shall be furnished with 30 filter elements, NSN 4330-00-983-0998 (see TA13228E1770), for each filter-separator; 15 to be installed in the filter-separator and 15 as replacements.

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

3.13 Workmanship. The filter-separators shall be free from defects such as misaligned components, incomplete welds, cracks, burns, leaks, and other defects that could impair the operation and serviceability of the filter-separator. All parts shall be clean and free from dirt, sand, grease, oil, and metal chips. Nonfunctional sharp edges and projecting points, which might present a hazard to personnel, shall be avoided.

3.13.1 Welding, The surface of parts to be welded shall be free from rust, scale, paint, grease, or other foreign matter other than mill scale that can be removed by chipping and wire brushing. Welds shall transmit stress without permanent deformation or failure when the parts connected by the welds are subjected to proof and service loading. Parent materials, weld filler metals, and fabrication techniques shall be required to enable the filter-separator to conform to the examination and test requirements specified in section 4. Parts to be joined by fillet welds shall be brought into as close contact as possible and in no event shall be separated by more than 3/16 inch, unless appropriate bridging techniques are used.

3.13.2 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 the following listed code for the materials joined and the type of welding operation to be performed and that such qualification is effective as defined by the particular code:

ASME Boiler and Pressure Vessel Code, Section IX.

Contractors who make only horizontal welds need not qualify welders for "all position welding". In the event of evidence of poor welds, the Government reserves the right to require retesting of any welder or welding operator. The test results shall be made available for review by the contracting officer or the contracting officer's representative.

3.13.3 Welding practices.

a. Preheat of materials being welded and maximum interpass temperature during welding shall be in accordance with the contractor's recommendations.
b. Tack welds shall be subject to the same quality requirements as final welds.
c. Work shall be positioned for flat welding whenever practicable.
d. Procedure and sequences shall be such that distortion and shrinkage will be held to a minimum. When straightening is required, caution shall be exercised to insure that the straightening process does not weaken the part.

3.13.4 Weld quality.

a. The contractor shall be responsible for determining the inspections needed to insure that when the welded parts are assembled together to make the filter-separator, the filter-separator shall conform to the inspection requirements specified in section 4.
b. All weldments shall be free of slag, flux, weld spatter, and other impurities detrimental to both the appearance and strength of the weldment.
c. Undercut in weldments shall be kept to a minimum, but shall not be more than 1/32 inch deep or 5 percent of the thickness of the parent metal, whichever is smaller.

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, the contractor 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 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 acceptance of defective material.

4.1.2 Acceptability criteria. Filter-separator which conform to all requirements in sections 3 and 5 and pass all examinations and tests in section 4 of this document will be considered acceptable by the Government.

4.1.3 Parts and components. Parts and components detailed on the drawings shall be inspected in accordance with the quality assurance provisions (QAP) shown on the drawings.

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. Inspection comparison (see 4.6).
d. Inspection of packaging (see 4.7).

4.3 First article inspection.

4.3.1 Examination. Each filter-separator shall be examined as specified in 4.5.1. Presence of one or more defects shall be cause for rejection.

4.3.2 Tests. Each filter-separator 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. Samples size shall be determined by using MIL-STD-105, table I and table IIa. A lot shall be accepted when 0 defects are found and rejected when 1 or more defects are found.

4.4.2 Examination. Samples selected in accordance with 4.4.1 shall be examined for the defects specified in 4.5.1.

4.4.3 Tests. Samples selected in accordance with 4.4.1 shall be tested as specified in 4.5.2.3.

4.5 Inspection procedure.

4.5.1 Examination. Filter-separators shall be examined as specified herein for the following defects:

101. Materials not as specified (see 3.5).
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 3.5.1).
103. Dissimilar metals as defined in MIL-STD-889 are not effectively insulated from each other (see 3.5.1.1).
104. Contractor does not have documentation available for identification of materials, material finishes, or treatment (see 3.5.1.2).

105. Used, rebuilt or remanufactured components, pieces, or parts incorporated in the filter-separator (see 3.5.2).
106. Any part (or component) not in accordance with the QAP requirements as shown on the drawings.
107. Any dimensions, other than those identified on the QAP requirements shown on the drawings, not as specified.
108. Treatment and painting not as specified (see 3.10).
109. Paint color not as specified (see 3.10).
110. Filter-separators not cleaned and air dried after testing (see 3.12).
111. Workmanship not as specified (see 3.13).
112. Welding not as specified (see 3.13).
113. Mobility aids not as specified (see 3.6.1).

4.5.2 Tests.

4.5.2.1 Reliability. The filter-separator(s) shall be tested as specified in 4.5.2.3 and 4.5.2.6 for 435 hours. The lower test value shall be 47 hours and the upper test value shall be 140 hours. Accept if 5 or fewer failures occur and reject if 6 or more failures occur. A failure is defined as any malfunction which causes or may cause:

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

Nonconformance to 3.3 shall constitute failure of this test.

4.5.2.2 Maintainability.

4.5.2.2.1 Maintenance support evaluation. Maintenance operations required during first article testing shall be accomplished to determine conformance to 3.4.1. Failure of the support elements to maintain the filter-separator as specified shall constitute failure of this test. Errors or inadequacies in the manuals shall not be considered in accessing the maintenance ratio or the MTBF.

4.5.2.2.2 Maintenance ratio. The maintenance ratio shall be computed during first article testing. Nonconformance to 3.4.2 shall constitute failure of this test.

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

a. Hydrostatic pressure.
b. Permanent separator stage (inside-to-outside design).
c. Differential pressure.
d. Water removal, 5 percent.

Nonconformance to 3.6 or to the applicable requirements of MIL-F-8901 shall constitute failure of this test.

4.5.2.4 Human factors. The filter-separator shall be evaluated for human factors requirements during the testing. Nonconformance to 3.7 shall constitute failure of this test.

4.5.2.5 Safety. The filter-separator shall be evaluated for safety requirements throughout testing as specified in 4.3.2. Nonconformance to 3.8 shall constitute failure of this test.

4.5.2.6 Environmental.

4.5.2.6.1 High temperature. The filter-separator shall be tested as specified in MIL-STD-810, method 501.2. The maximum ambient storage temperature shall be +145 °F and the maximum ambient operating temperature shall be +95 °F. The filter-separator shall be operated for a period of 2 hours at each ambient temperature of 35, 50, 70, and 95 °F. The flow rate during operation at each temperature for each hour shall be varied among four flow rates with 15 minutes at each rate. The four flow rates shall be 200, 150, 100, and 50 gpm. Nonconformance to 3.6 and 3.9 shall constitute failure of this test.

4.5.2.6.2 Low temperature. The filter-separator shall be tested as specified in MIL-STD-810, method 502.2. The minimum ambient storage temperature shall be -65 °F and the minimum ambient operating temperature shall be -60 °F. The filter-separator shall be operated for a period of 2 hours at each ambient temperature of -60, -50, -40, -30, -20, 0, 10, and 30 °F. The flow rate during operation at each temperature for each hour shall be varied among four flow rates with 15 minutes at each rate. The four flow rates shall be 200, 150, 100, and 50 gpm. Nonconformance to 3.6 and 3.9 shall constitute failure of this test.

4.6 Inspection comparison. The Government may select filter-separators at any time during the contract production period and subject these filter-separators to the examination and tests specified in 4.3. The inspection will be preformed by the Government, at a site selected by the Government, on filter-separators selected at random from those which have been accepted by the Government and will not include the previously inspected models. In addition to any test specified as part of the inspection comparison, the Government reserves the right to conduct any and all other tests contained in this specification as part of the inspection comparison and failure of such additional tests shall have the same effect as failure of those tests specified as inspection comparison.

4.6.1 Inspection failure. Failure of an inspection comparison filter-separator to meet any requirement specified herein during and as a result of the examination and tests specified in 4.5 shall be cause for rejection of the inspection comparison filter-separator and shall be cause for refusal by the Government to continue acceptance of production filter-separators until evidence has been provided by the contractor that corrective action has been taken to eliminate the deficiencies. Correction of such deficiencies shall be accomplished by the contractor at no cost to the Government on filter-separators previously accepted and produced under the contract. Any deficiencies found as a result of the inspection comparison will be considered prima facie evidence that all filter-separators accepted prior to the completion of inspection comparison are similarly deficient unless evidence to the contrary is furnished by the contractor and such evidence is acceptable to the contracting officer.

4.7 Inspection of packaging.

4.7.1 Quality conformance inspection of pack.

4.7.1.1 Unit of 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 MIL-STD-105, table I and table IIa. A lot shall be accepted when 0 defects are found and rejected when 1 or more defects are found.

4.7.1.3 Examination. Samples selected in accordance with 4.7.1.2 shall be examined for the following defects.

114.	Canisters and filter elements not installed.
115.	Dust plug and dust cap not installed.
116.	Drain valve not open.
117.	Extra elements not preserved by one of the methods specified.
118.	Extra O-rings not preserved as specified.
119.	Adapter and sampling probe not placed, cushioned, and secured within the box as specified.
120.	Consolidation of components not as specified.
121.	Components not secured within the box in a manner to prevent free movement and damage as specified for level A or C.
122.	Marking missing, illegible, incorrect, or incomplete for level A or C.

5. PACKAGING

5.1 Preservation. The arctic service filter-separator with canisters and filter elements installed shall not require preservation (see 6.9). The water drain valve shall be opened. Dust plug and cap shall be installed.

5.1.1 Extra elements. Each extra filter element shall be preserved by one of the following methods:

a. Each filter element shall be preserved in accordance with MIL-P-116, method IA-13.
b. 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, 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. Each extra O-ring shall be laid flat between two slightly larger pieces of fiberboard and each individually preserved in accordance with MIL-P-116, method IC-1.

5.1.3 Adapter and sampling probe. The adapter and sampling probe, when furnished, shall be placed in a close-fitting box conforming to PPP-B-636, W6c, style operational. The contents shall be cushioned and secured within the box in accordance with MIL-STD-1186 to prevent movement or damage.

5.1.4 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,

style optional. 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 or C as specified (see 6.2).

5.2.1 Level A. Each filter-separator and the boxes containing the extra O-rings, adapter and sampling probe, and the extra filter elements required shall be packaged together in a close-fitting box conforming to PPP-B-601, overseas type, style A, modified as described herein. The containers shall be designed to be reusable by assembling the sides, end, and top as a single unit which will serve as a reusable box cover. Battens, 2 by 2 inches in cross section, shall be positioned on the upper surface of the box base to provide a means to position the cover of the box properly and prevent lateral and longitudinal movement of the cover. Battens shall be located a distance from the edges of the box base equal to the thickness of the cleat and plywood of each side and end panel. The cover shall be secured to the container base with strapping conforming to QQ-S-781, class 1, type I or IV, finish B, size as applicable. Strapping shall encircle the box girthwise both laterally and longitudinally; those straps perpendicular to the skids shall be placed between the skids and the lower surface of the box bottom panel.

5.2.2 Level C. Each filter-separator and the boxes containing the extra O-rings, adapter and sampling probe, and the extra filter elements required shall be packed together as specified for level A, except the box shall be domestic type.

5.3 Marking. Marking for levels A and C shall be in accordance with MIL-STD-129 (see 6.9).

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 at low temperature (-60 °F) environment in airfield refueling systems, motor fuel servicing equipment, and military pipeline 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 the specification.
b. Issue of DODISS to be cited in the solicitation, and if required, the specific issue of individual documents referenced (see 2.1.1 and 2.2).
c. When a first article is required for inspection and approval and number units required (see 3.2).
d. When the Government will conduct any or all of the first article examination and tests. When the Government will conduct some but not all of the first article examination and tests, the contracting officer should specify which examination and tests will be conducted by the Government and which examination and tests shall be conducted by the contractor (see 3.2).

e. Top coat, when other than as specified (see 3.10).
f. Level of preservation and packing required (see 5.1 and 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 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 Control List (AMSDL) must be listed on a separate Contract 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.

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

6.6 Quality assurance provisions (QAP). The contracting officer should require the contractor to maintain records of all QAP inspections. A suggested paragraph is as follows:

"The contractor shall maintain complete records of all examinations and tests performed to verify the requirements of classified QAP characteristics. The records shall include, as a minimum, lot size, sample size, drawing requirements, actual measurements, number and type of deficiencies found, quantity approved, quantity rejected, and corrective action taken when applicable."

6.7 Definition.

6.7.1 Quality assurance provisions (QAP). A QAP is a contractual requirement that supplements section 4 of the specification. QAP's indicate the minimum requirements which must be inspected on the product drawings to verify the design objectives of the product and assure interchangeability of repair parts.

6.8 Preservation and packing level marking. Degrees of preservation have not been included since the protection specified is the minimum acceptable. For purposes of preservation and packing level marking, preservation shall be designated level A.

6.9 Subject term (key word) listing.

Filter
Fuel filter
Low temperature

6.10 Mobility aids. The contracting officer should specify that complete design drawings be provided to fully describe the mobility aids and interfaces or any resulting filter separator design modifications.

Custodian:
Army - ME

Preparing activity:
Army - ME

Project 4330-A052

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 letter should be given.
2. The submitter of this form must complete blocks 4, 5, 6, and 7.
3. The 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 requirements on current contracts. Comments submitted on this form do not constitute or imply authorization to waive any portion of the referenced document(s) or to amend contractual requirements.

I RECOMMEND A CHANGE:	1. DOCUMENT NUMBER	2. DOCUMENT DATE (YYMMDD)
	MIL-F-53091(ME)	900207

3. DOCUMENT TITLE

Filter-Separator, Liquid Fuel: Frame Mounted, 200 GPM Capacity, Arctic Service

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

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 (2) AUTOVON (If applicable)	7. DATE SUBMITTED (YYMMDD)

8. PREPARING ACTIVITY

a. NAME	b. TELEPHONE (Include Area Code) (1) Commercial	(2) AUTOVON
	(703) 664-5717	354-5717
c. ADDRESS (Include Zip Code) US Army Belvoir RDE Center ATTN: STRBE-TSE Ft. Belvoir, VA 22060-5606	IF YOU DO NOT RECEIVE A REPLY WITHIN 45 DAYS, CONTACT: Defense Quality and Standardization Office 5203 Leesburg Pike, Suite 1403, Falls Church, VA 22041-3466 Telephone (703) 756-2340 AUTOVON 289-2340	