INCH-POUND
A-A-52470A
January 20, 2011
SUPERSEDING
A-A-52470
August 5, 1993

COMMERCIAL ITEM DESCRIPTION

FILTER, FLUID, PRESSURE AND FILTER ELEMENT, FLUID, PRESSURE-AUTOMOTIVE FUEL (45 GPH FILTRATION)

The General Services Administration has authorized the use of this commercial item description (CID) as a replacement for MS51088B and MS51090A, which are canceled. This CID also replaces the portions of canceled MIL-F-45356B which apply to MS51088B and MS51090A.

1. SCOPE. This CID covers requirements for a filter assembly with a coarse filtration element and the replacement element for use in the fuel system of internal combustion engines and accessories.

2. SALIENT CHARACTERISTICS

2.1 Materials. Unless otherwise specified herein, the materials used shall be in accordance with the manufacturer's material specifications for pressure fluid filters. The use of recovered materials made to conform with regulatory requirements is acceptable providing that all the requirements of this CID are met (see 3).

2.1.1 Cover (head). The cover shall be made of a material which shall allow the filter assembly to perform to the requirements of this CID. If made of steel, cover material shall be zinc coated and the finished cover shall be treated with a corrosion resistant inhibitor as per ASTM D6386.

2.1.2 Bowl. The filter bowl material shall be made of either brass, annealed, Unified Numbering System (UNS) C21000, C22000, or C23000 per ASTM B36/B36M; or zinc coated steel strip, carbon, cold rolled, as per ASTM A109/A109M. Steel bowls shall be treated with a corrosion resistant inhibitor as per ASTM D6386.

Beneficial comments, recommendations, additions, deletions, clarifications, etc. and any data that may improve this document should be sent to DAMI_STANDARDIZATION@conus.army.mil or U.S. Army RDECOM, Tank Automotive Research, Development and Engineering Center, ATTN: RDTA-EN/STND/TRANS MS #268, 6501 E. 11 Mile Road, Warren, MI 48397-5000. Since contact information can change, you may want to verify the currency of this address information using the ASSIST Online database at https://assist.daps.dla.mil.

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2.1.3 Filter element. The filter element shall be made of a material which shall allow the filter assembly to perform to the requirements of this CID.

2.1.4 Filter bowl and filter element gaskets. The materials for the filter bowl and filter element gaskets (see figures 1 to 3), old MS 51091-1 to -3, are superseded by the new PINs A52468-1 to -3 and shall be in accordance with A-A-52468.

2.1.5 Filter head center bolt gasket. The filter head center bolt gasket, PIN 52470-3 (see figures 1 and 3) shall be made of soft annealed copper, cold rolled, sheet or strip, Rockwell B-55 maximum per ASTM B152/B152M.

2.2 Design and construction.

2.2.1 Envelope. Unless otherwise specified in figures 1 and 2, the filter assembly and the replacement element shall be constructed in accordance with the manufacturer's specifications/ drawings. The filter assembly shall be compatible with the center bolt and with the called-out gaskets.

2.2.2 Gaskets. The design and construction of the gaskets shall be to the form, fit, and dimensions as shown in figures 1 and 3.

2.2.3 Servicing. Servicing, including cleaning and reassembly shall be easily accomplished without disturbing the filter assembly's connection to the engine and shall be designed to prevent improper assembly.

2.3 Performance.

2.3.1 Pressure-temperature resistance. The filter assembly shall show no signs of leakage or permanent deformation after being pressure tested at minus (-) 65±3 degrees Fahrenheit (°F), 80±3 °F, and 160±3 °F. The pressure used in this test shall be 40 pounds per square inch (psi). Test fluids shall be used for all tests. For all tests, the pressure shall be applied for 5 minutes and reduced to zero.

2.3.2 Flow rate. The flow rate of the filter assembly or the replacement element shall be 45 gallons per hour (gph). The maximum differential pressure across the filter assembly or replacement element shall not exceed 8 psi at end completion the filtering efficiency test (see 2.3.3).

2.3.3 Filtering efficiency. The filtering efficiency shall conform to the requirements specified in table I. Filters shall be tested with coarse contaminants in accordance with table II. Test fluids shall have a solid contaminant content of no more than 5 milligrams per liter (mg/l) and temperature of 90±10 °F.

TABLE I. Filtering efficiency.

Test duration (hours)	Flow rate-gph	Maximum contaminant add rate-grams/hour	Minimum Filtering efficiency (%) at 0.1 hour	Minimum Filtering efficiency (%) at 1.0 hour	Minimum Filtering efficiency percent (%) at end of test
5	45	35.0	65	85	95

TABLE II. Contaminant size.

Coarse contaminant	
Particle size in micrometer	Percent by weight
0-5	12±2
5-10	12±3
10-20	14±3
20-40	23±3
40-80	30±3
80-200	9±3

2.3.4 Vibration resistance. The fuel filter assembly shall show no evidence of cracking, deformation, loosening, or leakage in the body at the gasket or at the fittings after exposure to a sinusoidal motion for 3 hours along each axis. A frequency range of 5 to 500 cycles per second shall be used. The sweep time for the frequency range of 5 Hertz (Hz) to 500 Hz and return to 5 Hz shall be 15 minutes.

2.4 Identification and marking. Identification and marking of filter assemblies and replacement elements shall be permanent and legible and shall include, as a minimum, the part identification number (PIN) and the manufacturer's CAGE code and part number (see 6.2 and 6.3).

3. REGULATORY REQUIREMENTS. The offeror/contractor is encouraged to use recovered materials to the maximum extent practicable, in accordance with paragraph 23.403 of the Federal Acquisition Regulation (FAR).

4. PRODUCT CONFORMANCE PROVISIONS

4.1 Responsibility for inspection. The contractor is responsible for the performance of all inspections (examinations and tests).

4.2 Contractor certification. The contractor shall certify and maintain substantiating evidence that the product offered meets the salient characteristics of this CID and that the product conforms to the producer's own drawings, specifications, workmanship standards, and quality assurance practices. Items with known defects shall not be submitted for Government acceptance. The Government reserves the right to require proof of such conformance prior to the

first delivery and thereafter as may be otherwise provided for under the provisions of the contract.

5. PACKAGING. Preservation, packaging, packing, labeling, and marking for the desired level shall be as specified in the contract (see 6.2).

6. NOTES

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

6.1 Addresses for obtaining copies of referenced publications.

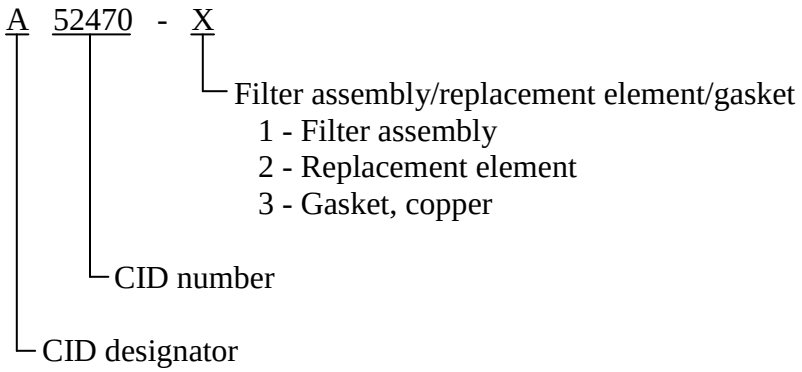
6.1.1 Government publications. Copies of the Federal Acquisition Regulation (FAR) can are available from Government Printing Office, 732 North Capitol St. NW, Washington, DC 20401 or website: http://www.acquisition.gov/FAR/.

6.1.2 Non-Government publications. ASTM A109/A109M "Standard Specification for Steel Bars, Carbon, Cold Rolled"; ASTM B36/B36M "Standard Specifications for Brass Plate, Sheet, Strip, and Rolled Bar"; ASTM B152/B152M "Standard Specification for Copper Sheet, Strip, Plate, and Rolled Bar";and ASTM D6386 "Standard Practices for Preparation of Zinc (Hot-Dip Galvanized) Coated Iron and Steel Product and Hardware Surfaces for Painting" are available from www.astm.org or ASTM International, P.O. Box C700, West Conshohocken, PA 19428-2959.

6.2 Ordering data. Acquisition documents should specify the following:

a. Title, number, and date of this CID.
b. If required, the specific issue of individual documents referenced (see 6.1)
c. PIN number and quantity required.
d. Selection of applicable level and packaging requirements (see 4).

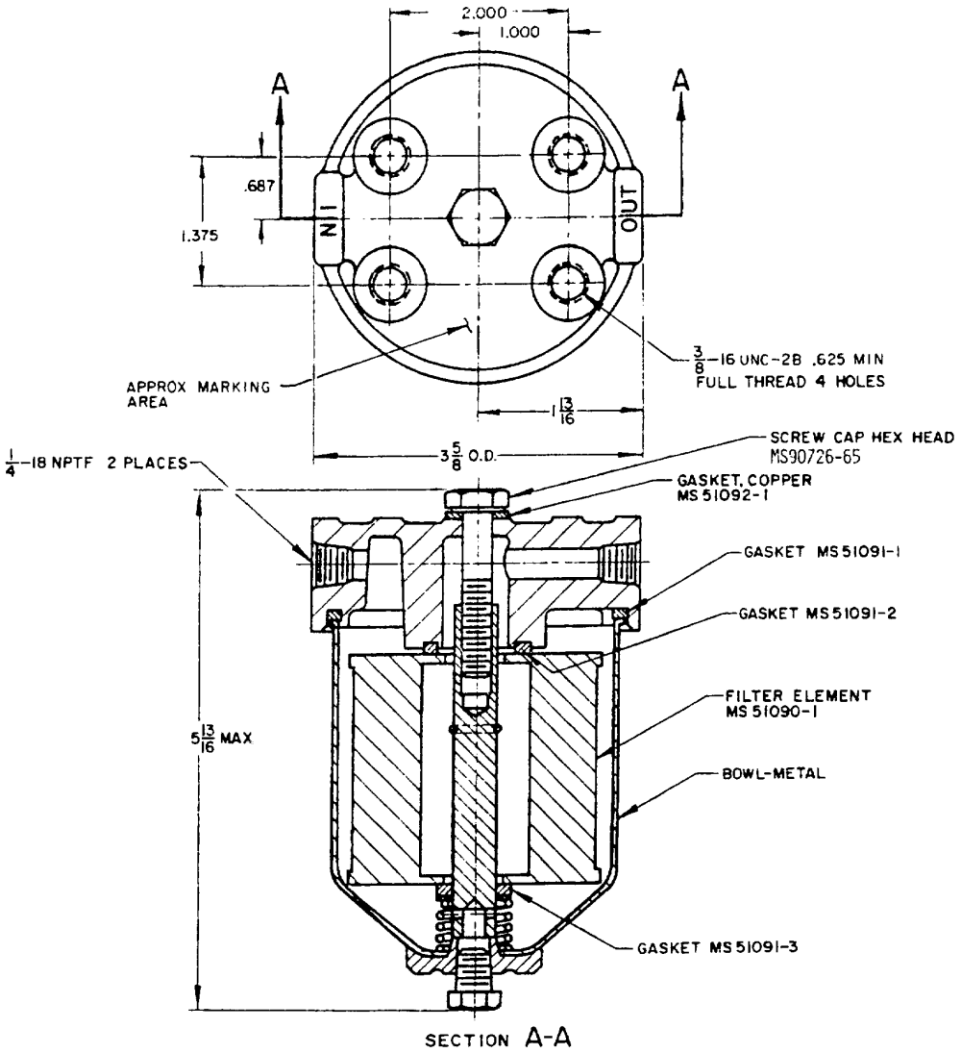
6.3 Part or identification number (PIN). The PIN's to be used for filters acquired by this CID are created as follows:



6.4 Supersession and cross-reference data. This CID supersedes and is interchangeable/ substitutable with MS51088B dated 15 June 1979, MS51090A dated 23 August 1962, and MIL-F-45356B dated 25 July 1984, as applicable.

6.5 Key words.

Assembly
Internal Combustion Engine

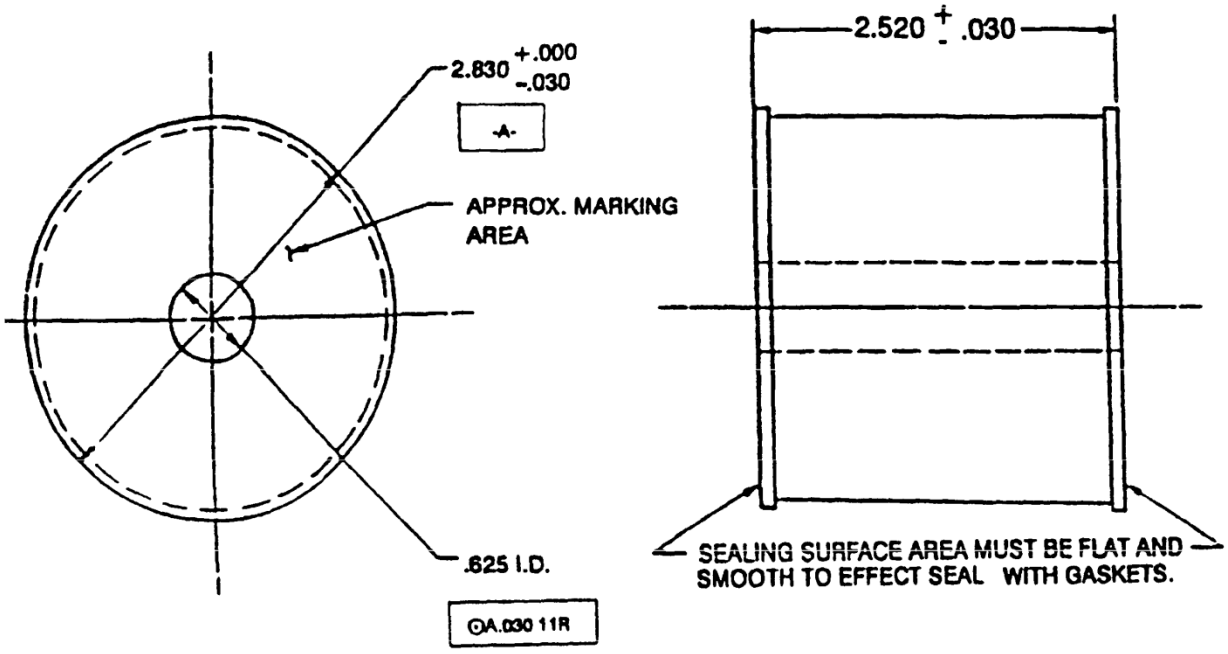


Cross reference	
PIN	Former MS part number
A52470-1	MS51088-1

NOTES:

1. Dimensions are in inches. Unless otherwise specified, tolerances are ±.015.
2. O.D. = outside diameter.
3. 3/8-24 UNF-2A, 1.75 inches long, grade 5, zinc plated steel. For replacement bolt use MS90726-65.

FIGURE 1. Filter, fluid, pressure.

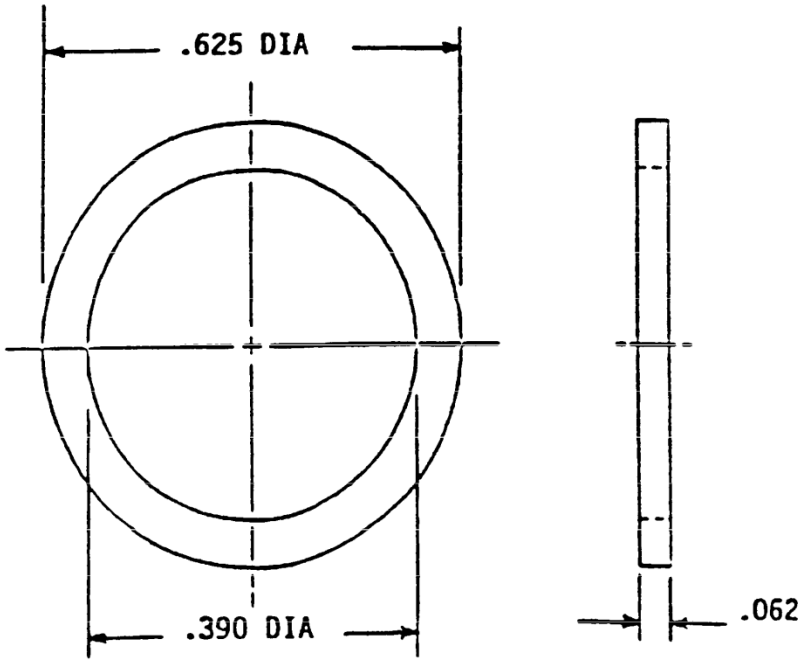


Cross reference		
PIN number	Former MS part number	Former ordnance part number
A52470-2	MS51090-1	10866236

NOTES:

1. Dimensions are in inches. Unless otherwise specified, tolerances are ±.010.

FIGURE 2. Fuel filter replacement element.



Cross reference		
PIN number	Former MS part number	Former ordnance part number
A52470-3	MS51092-1	10866237

NOTE:
1. DIA = diameter.

FIGURE 3. Filter head centerbolt gasket (washer, flat).

MILITARY INTERESTS:

Custodians:
Army - AT
Navy - YD
Air Force - 99

Review Activities:
Navy - MC
Air Force - 70
DLA - CC

CIVIL AGENCY COORDINATING ACTIVITY:
GSA - FAS

Preparing Activity:
Army - AT

(Project 2910-2010-008)

NOTE: The activities listed above were interested in this document as of the date of this document. Since organizations and responsibilities can change, you should verify the currency of the information above using the ASSIST Online database at https://assist.daps.dla.mil.