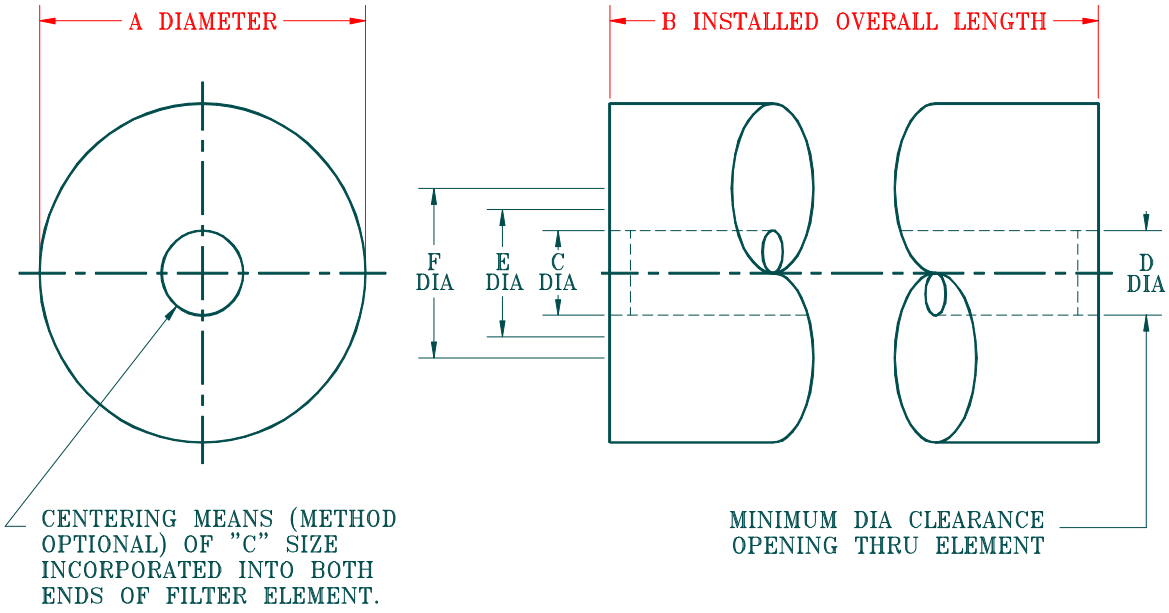
[INCH-POUND]
F-F-351/7A
September 1, 1999
SUPERSEDING
F-F-351/7
May 15, 1998

FEDERAL SPECIFICATION SHEET

FILTER ELEMENTS, FLUID PRESSURE-OIL, FULL FLOW

The General Services Administration has authorized the use of this federal specification sheet by all federal agencies.

The complete requirements for procuring the oil filter described herein shall consist of this document and the latest issue of Federal Specification F-F-351F.



FORMER MS NUMBER MS35802
SEE TABLE I FOR EQUIVALENT PART IDENTIFICATION NUMBERS (PINs)

FIGURE 1. Filter element dimensions.

TABLE I. Filter element dimensions.

PIN	CLASS	RATED FLOW FOR TEST PURPOSES gal/min (L/min) 1/	DIMENSIONS INCHES (MILLIMETERS)							
			A MAX	B MAX	B MIN	C MAX	C MIN	D MIN	E MAX	F MIN
FF351/7-1	1	2.0 (7.6)	3.00 (76.2)	4.00	3.88 (98.7)	.80 (20.3)	.76 (19.3)	.80	1.00 (25.4)	2.00
FF351/7-2	2	6.0 (22.5)	4.00 (101.6)	4.88 (123.9)	4.75 (114.3)	.80	.76	.80	1.00	2.50
FF351/7-3	3	12.0 (45.4)	4.56 (115.8)	9.04 (228.6)	8.90 (203.2)	1.44 (36.6)	1.41 (35.8)	1.44	1.63 (41.4)	3.50 (88.9)
FF351/7-4	4	40.0 (151.4)	6.75 (171.5)	18.06 (478.7)	17.94 (455.7)	2.56 (455.7)	2.50 (63.5)	2.56	3.00	4.00

1/ L/min = liters per minute.

REQUIREMENTS

1. Type IV of procurement specification (oil filter elements, full flow).
2. Filter dimensions shall be as specified in table I.
3. Gasket dimensions shall be as specified in table II.

NOTES:

1. Sealing elements are of “E” inside diameter and “F” outside diameter. No part of the element protrudes axially beyond the effective sealing surfaces.
2. One each of the appropriate flat-type and trapped-type housing cover gaskets shall be packaged with each class 1, 2 or 3 element. Each element package shall include an instruction card as follows:
   a. Class 1 and 2 elements
      “Two housing gaskets (a flat and a trapped type) are provided. Use only the one gasket that is appropriate for the installation.”
   b. Class 3 elements
      “Three housing gaskets (a flat and two trapped type with one each ID of 5.020-5.050 and 4.762-4.787 inches (in) (127.5-128.3 and 120.9-121.6 (millimeters (mm)) are provided. Use only the one gasket that is appropriate for the installation.”
3. Gasket material for housing cover gaskets shall be as follows:
   a. All flat type gaskets shall conform to ASTM D2000, M3CH910A25B14E016E036.
   b. All trapped type gaskets, except class 3, 5.020-5.050 ID shall conform to ATM D2000, M6BG910A14B14E014E034F17.
   c. Trapped type gasket, class 3, 5.020-5.050 ID shall conform to ASTM D2000, M3CH614A25B34E016E036.

4. One each of oil filter cover bolt gasket (see page 5) shall be packaged with each class 1 element.
5. Oil filter cover bolt gasket as shown on page 5, shall conform to the following:
    a. Gasket shall be annular in design, with a jacketed core.
    b. Gasket jacket shall be constructed of copper, 0.010 ± 0.003 in. (0.254 ± 0.08 mm), or of material with equivalent characteristics.
    c. Gasket core shall be composed of an asbestos-free largely inorganic fiber with filler, bound together with a suitable binder.
    d. The gasket shall be suitable for use in a temperature range of 150 to 500 degrees Fahrenheit (°F) (65.6 to 260 degrees Celsius (°C)) and pressures of up to 200 pounds per square inch (psi) (1379 kilopascals (kPa)).
    e. The loss in weight of the filler core shall not be more than 30 per cent when subjected to 600 ± 16°F (315.6 ± 8.8°C) for 60 ± 5 minutes as tested per ASTM F495.
6. Unless otherwise specified, dimensions are in inches.
7. This specification sheet is not intended to limit construction to features other than as shown hereon by dimensions, notations or referenced documents.
8. For design feature purposes, this specification slash sheet takes precedence over procurement documents referenced herein.

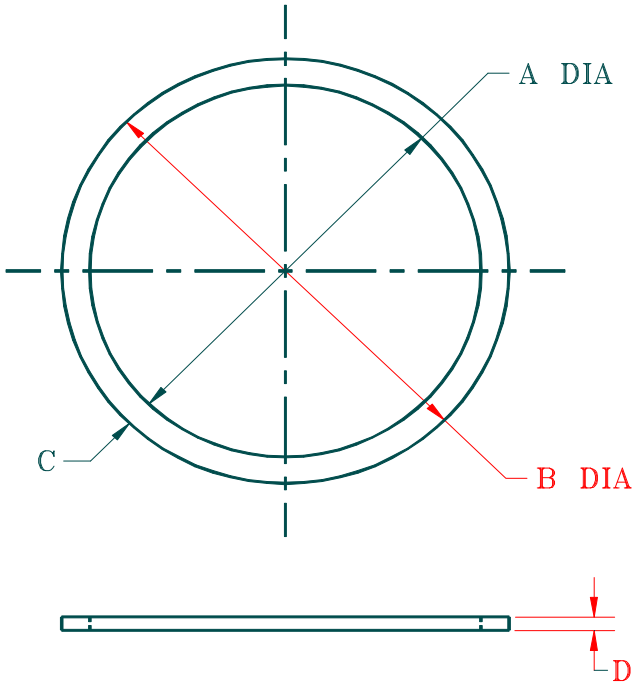


FIGURE 2. Housing cover gasket.

Table II. Housing Cover Gaskets For Class 1, 2, and 3 Full Flow Filter Elements.

Housing cover gasket dimensions, inches (millimeters)						
Flat type						
Class	A		B		D	
	Max	Min	Max	Min	Max	Min
1	3.26 (83)	3.24 (82.3)	3.74 (95)	3.73 (94.7)	0.083 (2.11)	0.063 (1.6)
2	4.40 (112)	4.39 (111.5)	4.96 (126)	4.95 (125.7)	0.065 (1.65)	0.055 (1.4)
3 1/	4.69 (119)	4.68 (119)	5.13 (130.3)	5.12 (130)	0.065	0.055
Trapped type						
Class	A		C		D	
	Max	Min	Max	Min	Max	Min
1	3.317 (84.25)	3.307 (84)	0.140 (3.56)	0.130 (3.30)	0.133 (3.38)	0.117 (2.97)
2	4.320 (109.7)	4.280 (108.7)	0.105 (2.67)	0.095 (2.41)	0.141 (3.58)	0.109 (2.77)
3 1/	5.050 (128.27)	5.020 (127.5)	0.183 (4.65)	0.174 (4.42)	0.139 (3.53)	0.125 (3.18)
2/	4.787 (121.6)	4.762 (120.9)	0.118 (2.99)	0.108 (2.24)	0.140 (3.56)	0.109

1/ See Note 2, page 2.

2/ The Class 3, trapped-type, 5.020 - 5.050 ID gasket must be used only in a completely captive type groove.

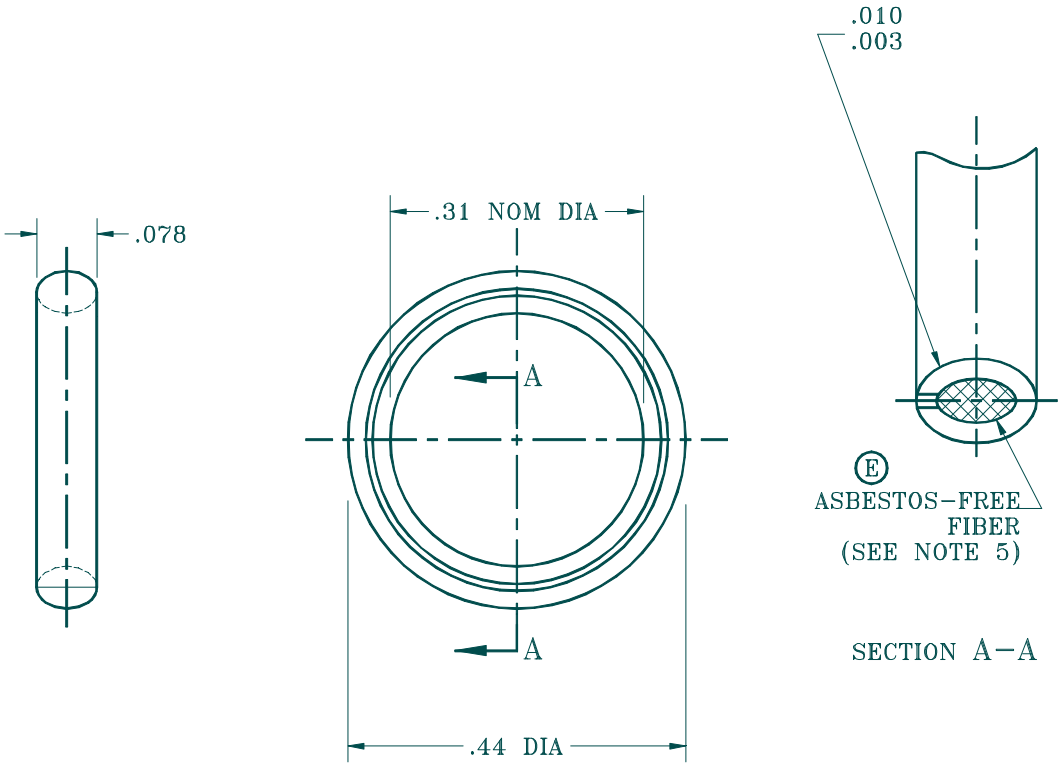


FIGURE 3. Oil filter cover bolt gasket.

MILITARY INTERESTS:

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

Review Activities:
Navy – MC
Air Force - 82
DLA - CC

CIVIL AGENCY COORDINATING ACTIVITY:
GSA - FSS

Preparing Activity:
Army - AT

(Project 2940-0185)