



Standard Specification for Tanks, 5 and 10-Gal (20 and 40-L) Lube Oil Dispensing¹

This standard is issued under the fixed designation F 670; the number immediately following the designation indicates the year of original adoption or, in the case of revision, the year of last revision. A number in parentheses indicates the year of last reapproval. A superscript epsilon (ϵ) indicates an editorial change since the last revision or reapproval.

This standard has been approved for use by agencies of the Department of Defense.

^{ε1} NOTE—Section 9 was added editorially in December 1994.

1. Scope

1.1 This specification covers the material, dimensions, and construction of 5 and 10-gal (20 and 40-L) tanks purchased to store and dispense lubricating oils. The tanks are industrial safety cans mounted on a T-bar bracket, complete with drip tray. Fig. 1. They meet or exceed current marine safety regulations.²

1.2 This equipment design has been shock tested in accordance with MIL-S-901 as follows:

- 1.2.1 Grade B,
- 1.2.2 Light weight,
- 1.2.3 Mounting fixture (4A),
- 1.2.4 Class I, and
- 1.2.5 Test Report No. (Letter N-2027/9936 SER 200-4622, dated Sept. 24, 1985³).

1.3 The values stated in inch-pound units are to be regarded as the standard. The values given in parentheses are for information only.

2. Referenced Documents

2.1 ASTM Standards:

- A 36/A36M Specification for Structural Steel⁴
- A 108 Specification for Steel Bars, Carbon, Cold Finished, Standard Quality⁵
- A 164 Specification for Electrodeposited Coatings of Zinc on Steel⁶
- A 167 Specification for Stainless and Heat-Resisting Chromium-Nickel Steel Plate, Sheet, and Strip⁷
- A 308 Specification for Steel Sheet, Cold-Rolled, Long

¹ This specification is under the jurisdiction of ASTM Committee F-25 on Shipbuilding and is the direct responsibility of Subcommittee F25.03 on Outfitting. Current edition approved March 27, 1987. Published August 1987. Originally published as F 670 – 80. Last previous edition F 670 – 80 (1984).

² Regulations Governing Use of Dangerous Articles as Ship's Stores and Supplies on Board Vessels, available from Standardization Documents Order Desk, Bldg. 4 Section D, 700 Robbins Ave., Philadelphia, PA 19111-5094, Attn: NPODS.

³ Available from Supervisor of Shipbuilding, New Orleans, LA.

⁴ Annual Book of ASTM Standards, Vol 01.04.

⁵ Annual Book of ASTM Standards, Vol 01.05.

⁶ Discontinued—Replaced by B 633, Annual Book of ASTM Standards, Vol 02.05.

⁷ Annual Book of ASTM Standards, Vol 01.03.

Terne (Lead-Tin Alloy) Coated by the Hot-Dip Process⁸
A 569/A569M Specification for Steel, Carbon (0.15 Maximum, Percent), Hot-Rolled Sheet and Strip Commercial Quality⁷

2.2 Military Standard:

MIL-S-901 Requirements for Shock Test, High-Impact; Shipboard Machinery, Equipment and Systems⁹

3. Ordering Information

3.1 Orders for tanks under this specification shall include the following:

- 3.1.1 Quantity (number),
- 3.1.2 Size, either 5 or 10 gal (20 or 40 L),
- 3.1.3 Purchase option for finished tank materials: Terne plate (4.1.2), and
- 3.1.4 ASTM designation and year of issue.

3.2 If only size, quantity, and ASTM designation are specified and no purchase options are specified, then suppliers shall furnish all stainless steel tanks, brass faucets with flame arrestors, and painted steel mounting columns with bolt-on drip tray assemblies, which include perforated steel tray liners, drain plugs, drilled mounting holes, and mounting bolts.

4. Materials and Manufacture

4.1 Materials:

4.1.1 316 Stainless Steel Sheet (Specification A 167), minimum thickness 24 gage (0.6 mm) on tank body, 22 gage (0.8 mm) on tank top and bottom; body bracket, filler spout, flash arrestor, vacuum breaker valve and linkage.

4.1.2 316 Stainless Steel Cast, Wrought, or Forged Flanges, faucet and drain.

4.1.3 Terne Plate Sheet (purchase option), minimum thickness 22 gage (0.8 mm) on tank body, top and bottom; body bracket, filler spout (Specification A 308).

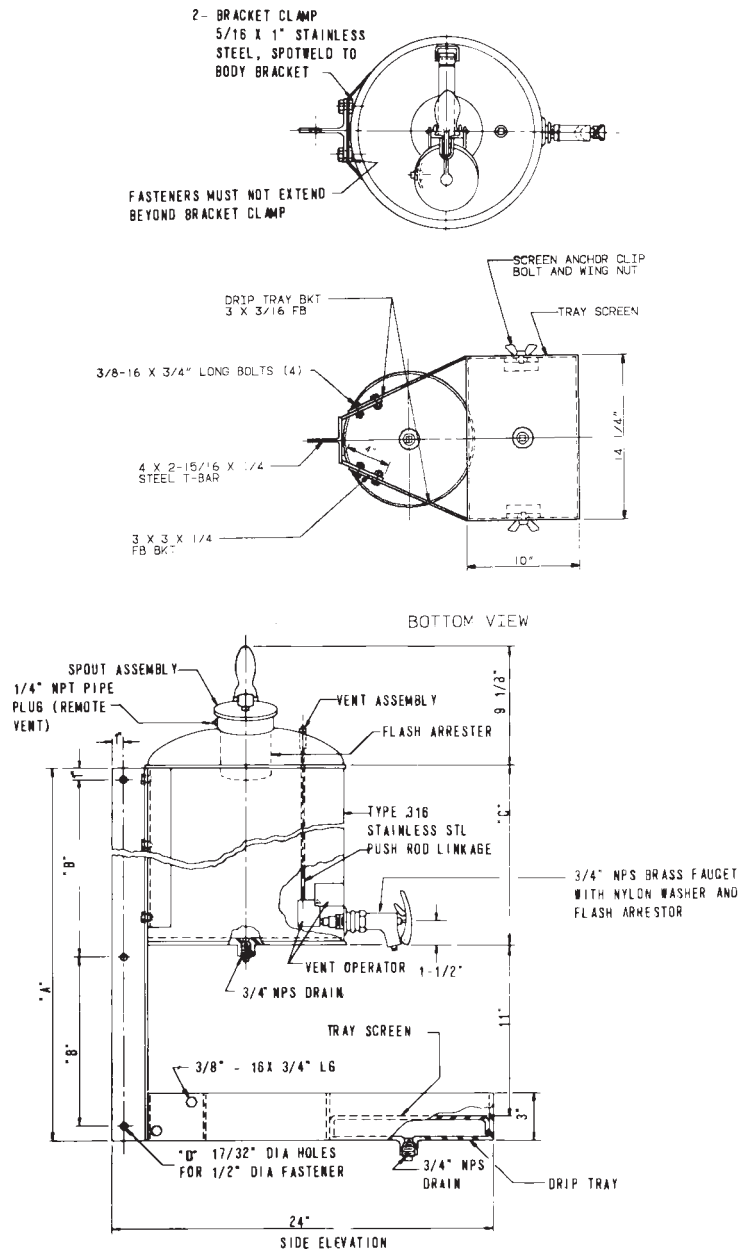
4.1.4 Mild Steel:

4.1.4.1 Bolt-On Column Stand, T-section, hot-rolled (Specification A 36/A 36M); minimum thickness 0.160 in. (4 mm).

⁸ Annual Book of ASTM Standards, Vol 01.06.

⁹ Available from Standardization Documents Order Desk, Bldg. 4 Section D, 700 Robbins Ave., Philadelphia, PA 19111-5094, Attn: NPODS.

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Dimensions

Size	A Height, in.	B Bolt Hole Spacing, in.	C Number of Bolt Holes	D Tank Height, in.	Weight, lb	
					Dry	Wet (Water)
5-gal	22 1/2	10 1/2	3	20 7/8	39	81
10-gal	33 3/4	10 1/2	4	31 7/8	49	132

Note 1—Dimensions and construction for guidance only.

Note 2—1 in. = 25.4 mm.

Note 3—1 lb = 0.4536 Kg.

FIG. 1 Dimension of Tank

4.1.4.2 *Drip Tray Bracket*, round edge, hot-rolled (Specification A 569/A569M).

4.1.4.3 *Drip Tray Assembly*, hot or cold-rolled (Specification A 108).


4.1.4.4 *Drip Tray Liner*, 11-gage (3 mm), zinc-plated

(Specification A 164).

4.1.4.5 *Filler Spout Cover*, zinc-plated steel (Specification A 164).

4.1.4.6 *Drip Tray Drain*, 3/4-in. (20 mm) NPS drain.

4.1.5 *Cast Brass*:

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4.1.5.1 *Faucet*, lever-lock, self-closing, 3/4-in. (20 mm) outside diameter, male threaded.¹⁰

4.1.5.2 *Drip Tray Drain Plug and Tank Bottom Drain Plug*, 3/4-in. (20 mm) NPS.

4.1.6 *Cast Aluminum*, self-closing, spring-action type, one-piece, filler spout cover lever.

4.2 *Manufacture*—All sheet metal seams shall be welded.

5. Dimensions and Weight

5.1 The dimensions in Fig. 1 are recommended nominal dimensions. Weights are estimated and are not critical. Volume of tanks shall be 5 and 10 gal (20 and 40 L), respectively.

6. Workmanship, Finish, and Appearance

6.1 Workmanship on tank, stand, and drip pan shall be of sufficient quality to prevent dirt accumulation. Welding shall

have small, even beading, free of slag and spatter. Surface of all castings shall be of uniform texture, without cracks, pitting, or flashing. Stand and drip tray shall have corners broken and all burrs removed.

6.2 Tank, column, bracket, and tray shall be covered with one coat 1.5 mils (0.05 mm) thick of a zinc rich primer. The stainless steel tank shall have no paint.

7. Testing Methods

7.1 Test each tank and subject to an internal air pressure of 5 psi (35 kPa) with no visible seam leakage when subjected to underwater or soap bubble test.

8. Packaging

8.1 If required for shipping, tanks shall be packaged individually in cartons suitable for freight handling.

9. Keywords

9.1 lubricating oil tanks; marine; marine storage tanks; marine technology; oil dispensers; ships; tanks

¹⁰ Protectoseal 531G, available from The Protectoseal Co., 225 Foster Ave., Bensenville, IL 60106, or equivalent, has been found suitable for this purpose.

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