

A Product of the  
Cooperative Engineering Program

**SAE J829 FEB88**

**Fuel Tank Filler Cap  
and Cap Retainer**

SAE Standard  
Reaffirmed February 1988

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**FUEL TANK FILLER CAP AND CAP RETAINER**

1. PURPOSE:

The purpose of this SAE Standard is to provide dimensions for vented, nonvented, and pressure-vacuum fuel tank filler caps and cap retainers. Use of these dimensions will preclude the use of a vented or nonvented cap with a pressure-vacuum cap retainer. In addition, these dimensions insure that if use of a pressure-vacuum cap is attempted with a vented cap retainer, it will not seal. They will, however, allow the use of a pressure-vacuum cap on a nonvented cap retainer.

2. SCOPE:

This standard was developed primarily for passenger car and truck applications for the sizes indicated, but it may be used in marine, industrial, and similar applications.

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TABLE I - Cap and Retainer Dimensions

| Nominal<br>Filter Pipe<br>Size (at<br>Fuel Inlet) |                   | A         |           | B         |           | C         |           | D         |         | E         |           | F         |         |
|---------------------------------------------------|-------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|---------|-----------|-----------|-----------|---------|
| in                                                | mm                | in        | mm        | in        | mm        | in        | mm        | in        | mm      | in        | mm        | in        | mm      |
| Nonvented                                         |                   |           |           |           |           |           |           |           |         |           |           |           |         |
| 1.75 <sup>a</sup>                                 | 44.5 <sup>a</sup> | 1.21-1.23 | 30.7-31.2 | 1.46-1.49 | 37.1-37.8 | 0.47-0.51 | 11.9-13.0 | 0.28-0.31 | 7.1-7.9 | 0.36-0.38 | 9.1-9.7   | 0.01-0.03 | 0.3-0.8 |
| 2.00                                              | 50.8              | 1.37-1.40 | 34.8-35.6 | 1.64-1.69 | 41.7-42.9 | 0.47-0.51 | 11.9-13.0 | 0.30-0.33 | 7.6-8.4 | 0.39-0.41 | 9.9-10.4  | 0.01-0.03 | 0.3-0.8 |
| 2.25                                              | 57.2              | 1.52-1.55 | 38.6-39.4 | 1.90-1.96 | 48.3-49.8 | 0.47-0.51 | 11.9-13.0 | 0.34-0.37 | 8.6-9.4 | 0.45-0.48 | 11.4-12.2 | 0.01-0.03 | 0.3-0.8 |
| Vented                                            |                   |           |           |           |           |           |           |           |         |           |           |           |         |
| 1.75 <sup>a</sup>                                 | 44.5 <sup>a</sup> | 1.21-1.23 | 30.7-31.2 | 1.46-1.49 | 37.1-37.8 | 0.26-0.30 | 6.6-7.6   | 0.13-0.16 | 3.3-4.1 | 0.20-0.22 | 5.1-5.6   | 0.01-0.03 | 0.3-0.8 |
| 2.00                                              | 50.8              | 1.37-1.40 | 34.8-35.6 | 1.64-1.69 | 41.7-42.9 | 0.26-0.30 | 6.6-7.6   | 0.11-0.14 | 2.8-3.6 | 0.20-0.22 | 5.1-5.6   | 0.01-0.03 | 0.3-0.8 |
| 2.25                                              | 57.2              | 1.52-1.55 | 38.6-39.4 | 1.90-1.96 | 48.3-49.8 | 0.26-0.30 | 6.6-7.6   | 0.09-0.12 | 2.3-3.0 | 0.20-0.22 | 5.1-5.6   | 0.01-0.03 | 0.3-0.8 |
| Pressure Vacuum                                   |                   |           |           |           |           |           |           |           |         |           |           |           |         |
| 2.00                                              | 50.8              | 1.37-1.40 | 34.8-35.6 | 1.64-1.69 | 41.7-42.9 | 0.26-0.30 | 6.6-7.6   | 0.30-0.33 | 7.6-8.4 | 0.39-0.41 | 9.9-10.4  | 0.01-0.03 | 0.3-0.8 |
| 2.25                                              | 57.2              | 1.52-1.55 | 38.6-39.4 | 1.90-1.96 | 48.3-49.8 | 0.26-0.30 | 6.6-7.6   | 0.34-0.37 | 8.6-9.4 | 0.45-0.48 | 11.4-12.2 | 0.01-0.03 | 0.3-0.8 |

| Nominal<br>Filter Pipe<br>Size (at<br>Fuel Inlet) | G                 |           | H. Min    |      | J   |           | K         |           | L         |           | Deq X<br>+ 4 |     |
|---------------------------------------------------|-------------------|-----------|-----------|------|-----|-----------|-----------|-----------|-----------|-----------|--------------|-----|
|                                                   | in                | mm        | in        | mm   | in  | mm        | in        | mm        | in        | mm        |              |     |
| Nonvented                                         |                   |           |           |      |     |           |           |           |           |           |              |     |
| 1.75 <sup>a</sup>                                 | 44.5 <sup>a</sup> | 0.48-0.51 | 12.2-13.0 | 0.12 | 3.0 | 1.40-1.43 | 35.6-36.3 | 1.17-1.19 | 29.7-30.2 | 0.36-0.40 | 9.1-10.2     | 130 |
| 2.00                                              | 50.8              | 0.54-0.57 | 13.7-14.5 | 0.12 | 3.0 | 1.57-1.63 | 39.9-41.4 | 1.33-1.36 | 33.8-34.5 | 0.36-0.40 | 9.1-10.2     | 140 |
| 2.25                                              | 57.2              | 0.60-0.63 | 15.2-16.0 | 0.12 | 3.0 | 1.80-1.86 | 45.7-47.2 | 1.48-1.51 | 37.6-38.4 | 0.36-0.40 | 9.1-10.2     | 140 |
| Vented                                            |                   |           |           |      |     |           |           |           |           |           |              |     |
| 1.75 <sup>a</sup>                                 | 44.5 <sup>a</sup> | 0.30-0.33 | 7.6-8.4   | 0.12 | 3.0 | 1.40-1.43 | 35.6-36.3 | 1.17-1.19 | 29.7-30.2 | 0.21-0.24 | 5.3-6.1      | 130 |
| 2.00                                              | 50.8              | 0.30-0.33 | 7.6-8.4   | 0.12 | 3.0 | 1.57-1.63 | 39.9-41.4 | 1.33-1.36 | 33.8-34.5 | 0.21-0.24 | 5.3-6.1      | 140 |
| 2.25                                              | 57.2              | 0.30-0.33 | 7.6-8.4   | 0.12 | 3.0 | 1.80-1.86 | 45.7-47.2 | 1.48-1.51 | 37.6-38.4 | 0.21-0.24 | 5.3-6.1      | 140 |
| Pressure-Vacuum                                   |                   |           |           |      |     |           |           |           |           |           |              |     |
| 2.00                                              | 50.8              | 0.54-0.57 | 13.7-14.5 | 0.12 | 3.0 | 1.57-1.63 | 39.9-41.4 | 1.33-1.36 | 33.8-34.5 | 0.21-0.24 | 5.3-6.1      | 140 |
| 2.25                                              | 57.2              | 0.60-0.63 | 15.2-16.0 | 0.12 | 3.0 | 1.80-1.86 | 45.7-47.2 | 1.48-1.51 | 37.6-38.4 | 0.21-0.24 | 5.3-6.1      | 140 |

<sup>a</sup>The 1.75 in (44.5mm) filter pipe inlet size is not recommended for passenger cars and trucks. Application refers to SAE J1140, MAR80, Filter Pipe and Openings of Motor Vehicle Fuel Tanks.

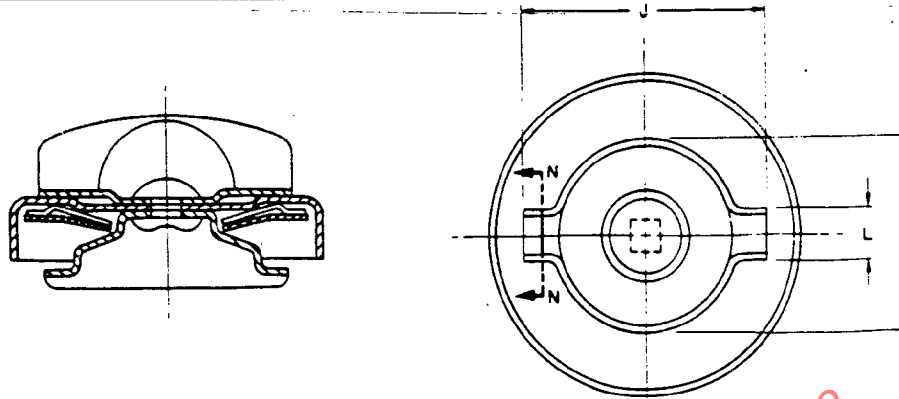


FIGURE 1 - Cap

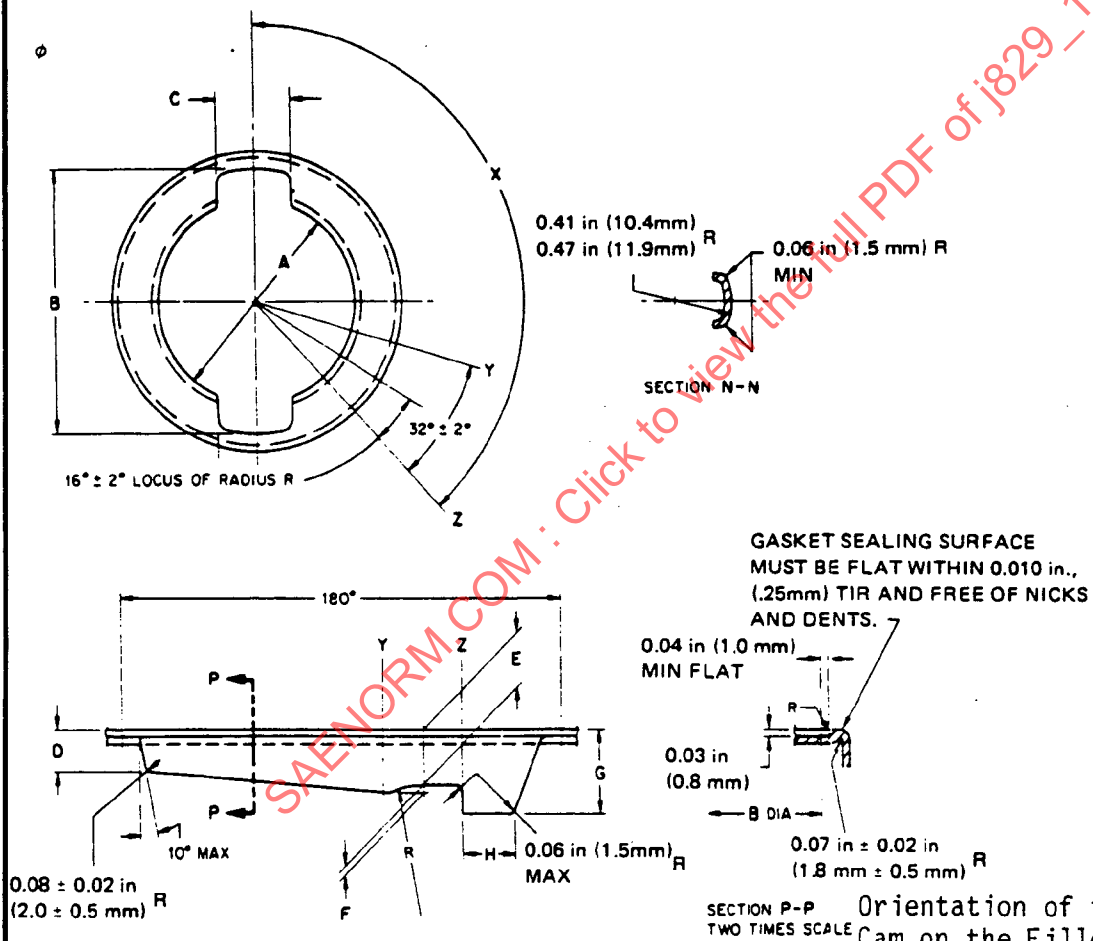


FIGURE 2 - Cap Retainer

RATIONALE:

Not applicable.

RELATIONSHIP OF SAE STANDARD TO ISO STANDARD:

Not applicable.

REFERENCE SECTION:

SAE J1140, MAR80, Filler Pipes and Openings of Motor Vehicle Fuel Tanks

APPLICATION:

This standard was developed primarily for passenger car and truck applications for the sizes indicated, but it may be used in marine, industrial, and similar applications.

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