SAE Aerospace
An SAE International Group

# AEROSPACE STANDARD

SAE AS1852

REV. C

Issued 1984-12
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Superseding AS1852B

## (R) Nozzles and Ports - Gravity Fueling Interface Standard for Civil Aircraft

### RATIONALE

A new turbine fuel service port is required on SAE Aerospace Standard AS1852 to prevent misfueling of civil aircraft powered by new diesel engines, and turbine aircraft that require the exclusive use of turbine fuels for safe operation.

1. SCOPE:

This SAE Aerospace Standard (AS) defines the maximum allowable free opening dimensions for airframe fueling ports on civil aircraft that require the exclusive use of gasoline as an engine fuel, and the minimum free opening dimensions for airframe fueling ports on civil aircraft that operate with turbine fuels as the primary fuel type and with gasoline as the emergency fuel type. This SAE Aerospace Standard (AS) also defines the features and dimensions for airframe refueling ports on civil aircraft that require the exclusive use of turbine fuel as an engine fuel.

In addition, this document defines the minimum fuel nozzle spout dimensions for turbine fuel ground service equipment, and the maximum fuel nozzle spout diameter for gasoline ground service equipment.

1.1 Purpose:

This document establishes the essential interface dimensions for airframe fueling ports and ground fueling nozzle spouts that are intended for use on civil aircraft with gravity fuel servicing provisions.

Primary intent of the standardized interface limits and features detailed in this document is the prevention of misfueling civil aircraft that require the exclusive use of a single aviation fuel type for safe operation.





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2. REFERENCES:

There are no referenced publications specified herein.

3. GENERAL STANDARDS:

3.1 Airframe Fueling Ports:

The following airframe fuel port dimensions represent standard limits. Use of ports with other dimensions that fall within prescribed limits are considered in compliance with the guidelines of this document.

TABLE 1 - Airframe Fueling Ports

| Type of Fuel | Standardized Limitations | Fueling Port - Free Opening | |
|---|---|---|---|
| | | Metric Units (mm) | English Units (inch) |
| Gasolines | Maximum Opening Diameter | 60 | 2.36 |
| Turbine and Gasoline Fuels | Minimum Opening Diameter | 75 | 2.95 |
| Turbine Fuels | Refer to Figure 1 for Features and Dimensions[1] | | |
| [1] Turbine fuel ports must adopt an elongated or elliptical opening, fence and door(s) provisions within dimensional limits in full compliance with details of Figure 1. | | | |

3.2 Ground Fueling Nozzle Spouts:

The following ground fueling nozzle spout dimensions represent standard limits. Use of nozzle spouts with dimensions that fall within the prescribed limits are considered to be in compliance with the guidelines of this document.

TABLE 2 - Ground Fueling Nozzle Spouts

| Type of Service | Standardized Limitations | Fueling Nozzle Spout Dimensions | |
|---|---|---|---|
| | | Metric Units (mm) | English Units (inch) |
| Gasolines | Maximum Nozzle Spout Diameter | 50 | 1.97 |
| Turbine Fuels | Minimum Nozzle Spout Length[1] | 67.6 | 2.66 |
| Turbine Fuels | Maximum Nozzle Spout Width[1] | 29.7 | 1.17 |
| [1] Turbine fuel nozzle spouts must adopt an elongated or elliptical cross section with maximum and minimum axes within dimensional limits noted above and in full compliance with the details of Figure 2. | | | |

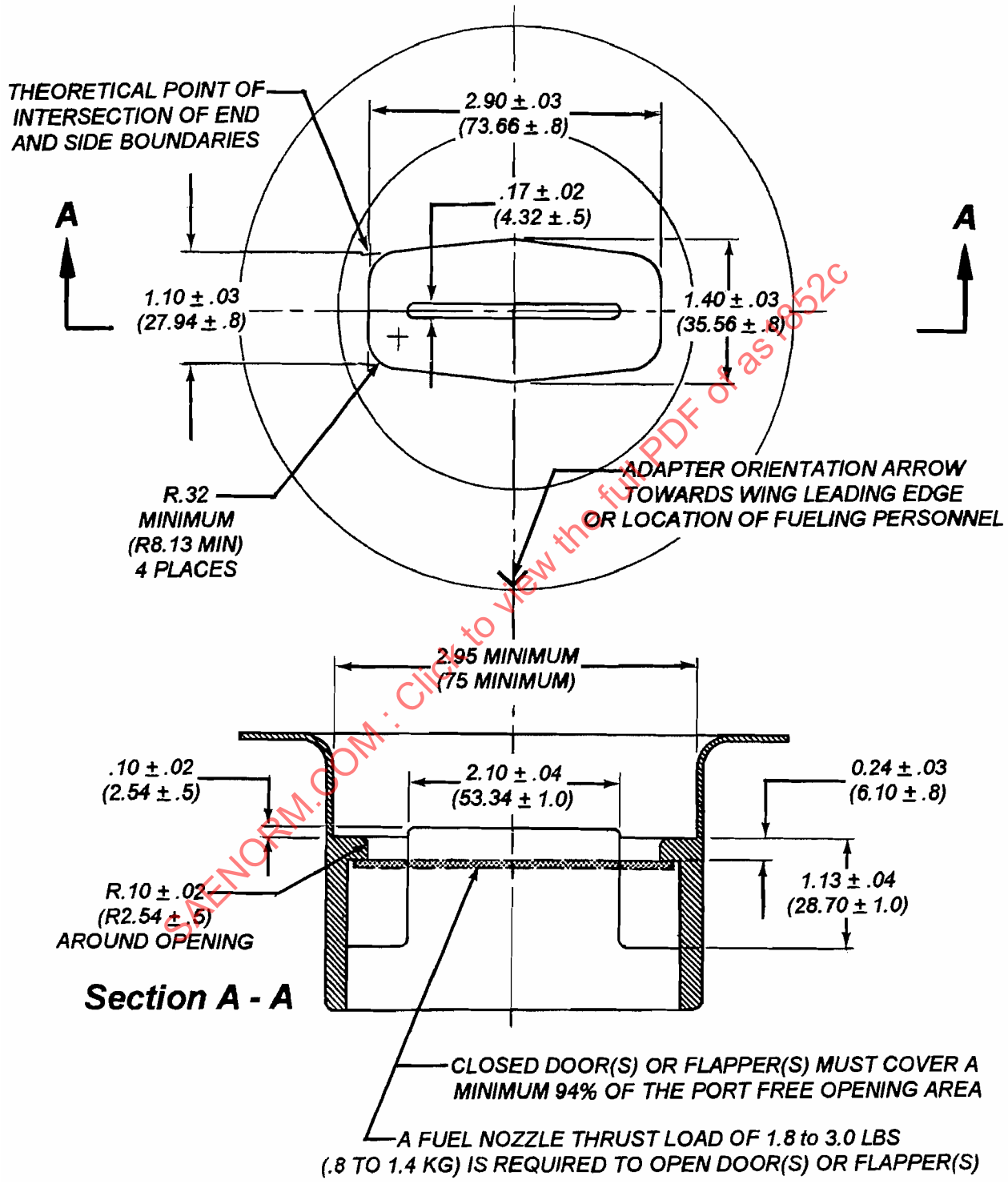




FIGURE 1 - Turbine Fuel Service Port

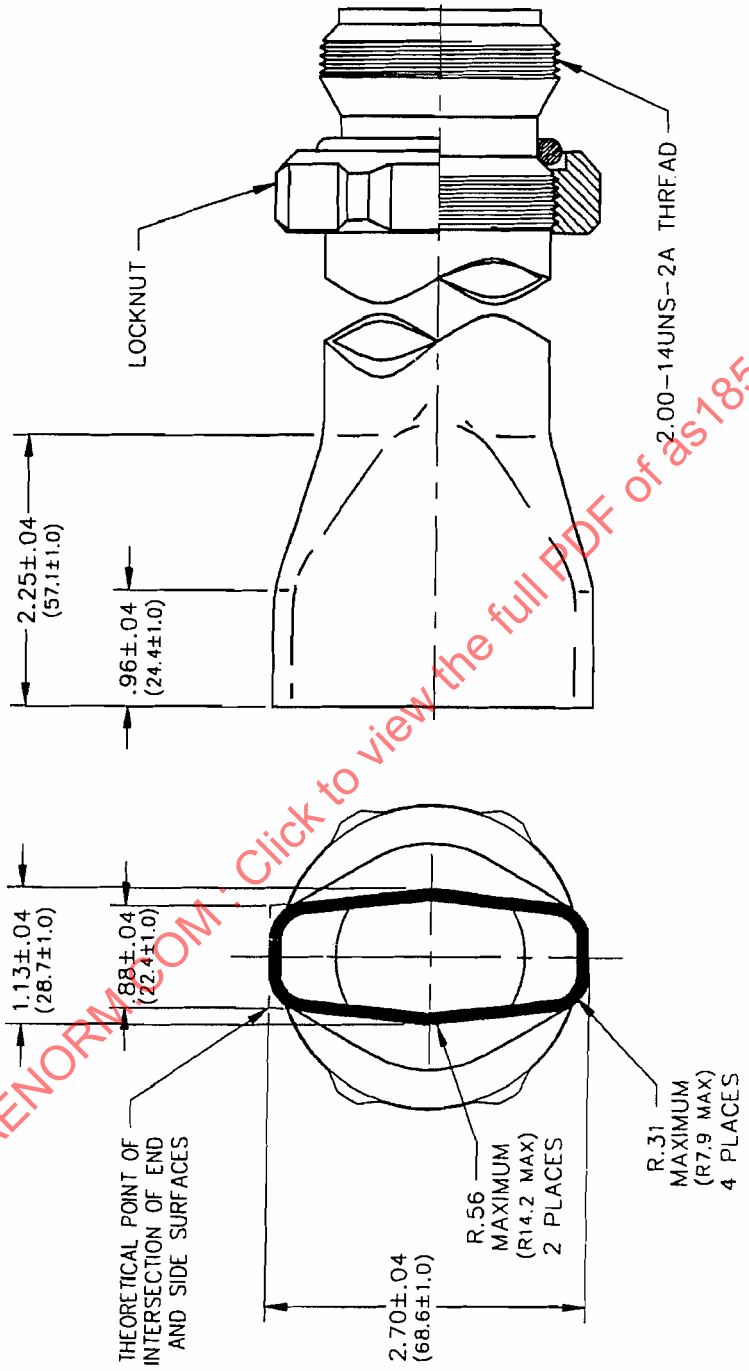


FIGURE 2 - Turbine Fuel Nozzle Spout