



AEROSPACE RECOMMENDED PRACTICE

ARP5862™

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Shipping Caps, Covers and Plugs

RATIONALE

ARP5862 has been reaffirmed to comply with the SAE Five-Year Review policy.

INTRODUCTION

This document recommends the definition and utilization requirements for shipping and storage caps, covers, plugs and related shipping hardware. These items are commonly used on aircraft engines and associated hardware but may be used elsewhere.

1. SCOPE

The primary purpose of the shipping closure is to protect the aircraft parts or system from damage and foreign material ingress/egress (e.g., dust, dirt or other contaminants) during transport and storage. Shipping closures are not airworthy items. Therefore, their usage is defined as preventative for the parts to be protected as opposed to operational.

Military and commercial customer requirements for the prevention of damage or contamination to stored parts are generally limited to the generic instructions "all openings should be sufficiently covered to prevent the entrance of dust, dirt, moisture or other foreign contaminants". This recommended practice outlines basic minimum parameters for suggested item construction and usage. Additionally, this recommended practice provides instruction on how to apply these closures to various openings.

2. REFERENCES

There are no referenced publications specified herein.

2.1 Definitions, Acronyms, Abbreviations

2.1.1 BLOCKING

Adhesion of material to a surface it was not intended to adhere to.

2.1.2 ACCESSORY DRIVE OPENING

Any opening where an assembled item is attached.

2.1.3 PVC

Polyvinylchloride

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2.1.4 FOD

Foreign Object Debris or Damage

2.1.5 CLOSURE

Any cap, cover or plug that blocks, covers or seals off an opening.

2.1.6 EC

Electrical Connector

3. SHIPPING ITEM DESIGN AND CONSTRUCTION

For commercial-off-the-shelf (COTS) bulk purchased shipping items, specifications controlling the manufacture and construction of an item will always default to the manufacturer. For end user specified covers, this section details best practices in the design and manufacture of those items.

GENERAL - The following recommendations apply to all classifications of shipping hardware closures.

Color - The color of caps, covers and plugs for engine transport and storage is for the most part irrelevant. Color can be determined by customer request, individual corporation requirements or material availability. If directed by customer request or corporation requirements, cap or cover color can be used to identify specific systems on an engine. The usage of one single color for all caps, covers and plugs on any given system is preferable but NOT REQUIRED. The following are current industry examples of specific colors for specific systems:

- a. Yellow = Electrical
- b. Blue = Hydraulic
- c. Red = Fuel
- d. Black = Electro Static Discharge (ESD) or Conductive
- e. Clear Pink = Static Dissipative

The utilization of individual corporation logos on covers, provided that they in no way inhibit the items functionality, is acceptable.

MATERIAL - Closure materials used to prevent ingress/egress are based on application and material compatibility. Material used for shipping items falls into three distinct categories.

Commercial Grade Plastic - Primary usage would be for commercially purchased standard caps, covers and plugs. Usage can determine the material used. Standard materials are as follows:

- a. High/low density conductive or static dissipative polyethylene
- b. High/low density conductive or static dissipative polypropylene
- c. Poly-vinyl-chloride (PVC)

NOTE: Silicone rubber or products that contain silicone oils shall NOT be used. Silicone oil may cause degradation to the parts being protected.

The prime concern for the material is a resistance to fluids including but not limited to oil, hydraulic fluid and fuel. Additionally, it should have a high resistance to peeling, chipping, abrasion, blocking, or to chemical degradation when in contact with engine fluids, sharp or rough edges and surfaces.