AEROSPACE STANDARD

AS567™ REV. L

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Superseding AS567K

(R) Safety Cable, Safety Wire, Key Washers, and Cotter Pins for Propulsion Systems, General Practices for Use of

RATIONALE

Figures updated to make readable, some figure numbers changed, metric dimensions deleted, specs corrected where required.

1. SCOPE

This SAE Aerospace Standard (AS) covers devices whose primary function is the retention of fasteners, except for such devices that are integral with the item being retained.

1.1 The practices cover the types of retaining devices described in the following sections:

a. Section 3: Safety Cable and Safety Wire

b. Section 4: Key Washers

c. Section 5: Cotter Pins

1.2 Purpose

The purpose of this document is to establish the requirements and basic principles for retaining fasteners and other parts in aerospace propulsion systems.

2. REFERENCES

2.1 Applicable Documents

The following publications form a part of this document to the extent specified herein. The latest issue of SAE publications shall apply. The applicable issue of other publications shall be the issue in effect on the date of the purchase order. In the event of conflict between the text of this document and references cited herein, the text of this document takes precedence. Nothing in this document, however, supersedes applicable laws and regulations unless a specific exemption has been obtained.

2.1.1 SAE Publications

Available from SAE International, 400 Commonwealth Drive, Warrendale, PA 15096-0001, Tel: 877-606-7323 (inside USA and Canada) or +1 724-776-4970 (outside USA), www.sae.org.

AMS5687	Nickel Alloy, Corrosion and Heat-Resistant, Wire, 74Ni - 15.5Cr - 8.0Fe, Annealed
AMS5689	Steel, Corrosion and Heat Resistant, Wire, 18Cr - 10.5Ni - 0.40Ti (321), Solution Heat Treated
AS462	Shafts for Ball Bearing Retaining Spanner Nuts and Key Washers
AS919	Shallow Groove Shafts and Locking Devices for Bearing Retaining Spanner Nuts
AS3618	Cable, Safety, Ferrule, Elongated, Corrosion Resistant Steel, UNS S32100
AS3619	Cable, Safety, Ferrule, Elongated, Nickel Alloy, UNS N06600
AS4536	Safety Cable Kit Procurement Specification and Requirement for Use
AS7210	Pins, Cotter, Steel, Corrosion Resistant, UNS S30200, Procurement Specification for
AS7211	Pins, Cotter, Steel, Corrosion and Heat Resistant UNS S32100 Procurement Specification
AS9245	Pin, Cotter - CRES, AMS7211
AS9276	Washer, Key - 180 DEG, Locking, Cres, UNS S32100
AS9581	Washer, Key - 90 DEG, Locking, Cres, UNS S32100
AS9582	Washer, Key - 270 DEG, Locking, Cres, UNS S32100
AS9676	Bolt, Machine - Double Hexagon Extended Washer Head, PD Shank, Cup Washer Locked, Cres, UNS S66286, 130 ksi min, .1900-32 UNJF-3A
AS9677	Bolt, Machine - Double Hexagon Extended Washer Head, PD Shank, Cup Washer Locked, Cres, UNS S66286, 130 ksi min, .2500-28 UNJF-3A
AS9678	Bolt, Machine - Double Hexagon Extended Washer Head, PD Shank, Cup Washer Locked, Cres, UNS S66286, 130 ksi min, .3125-24 UNJF-3A
AS9679	Bolt, Machine - Double Hexagon Extended Washer Head, PD Shank, Cup Washer Locked, Cres, UNS S66286, 130 ksi min, .3750-24 UNJF-3A
AS123751-AS123850	Pin, Cotter - CRES, UNS S30200, AS7210
AS172201-AS172235	Washer, Key-Single, Bearing Retaining, AMS8350
AS172236-AS172270	Nut, Spanner, Bearing Retaining, Aeronautical, UNS G41400
AS172271-AS172320	Washer, Key-Single, AMS6350
AS172321-AS172370	Nut, Spanner, Aeronautical, UNS G41400

2.1.2 U.S. Government Publications

Copies of these documents are available online at https://quicksearch.dla.mil.

MS9081 Washer, Key-Double, Bearing Retaining, AMS6350

MS9274 Washer, Key-Double, Bearing Retaining, AMS5510

MS9684 Washer, Cup, Lock - CRES AMS 5510

MS9766 Nut, Double Hexagon, Cupwasher Locked, AMS5737, CRES

2.2 Definitions

2.2.1 SAFETY WIRE

Safety wiring is the securing together of two or more parts with a wire. The wire shall be installed so that any tendency for a part to loosen will cause an additional tightening of the safety wire. Safety wire is not a means of obtaining or maintaining torque, but a safety device used to prevent disengagement of the part. See Figure 1 for standard configurations and terms.

2.2.2 SAFETY CABLE

Safety cabling is the securing together of two or more parts with a cable and crimped ferrule which shall be installed so that any tendency for a part to loosen will cause an additional tightening of the safety cable. Safety cable is not a means of maintaining torque but a safety device used to prevent disengagement of the part. Refer to AS4536 for definitions and terms for safety cable.

2.2.3 ABRASION

Material worn, ground, or rubbed away from surface by frictional means. There is no sharp notch present; however, surface finish may be smooth or rough, raised material may or may not be visible.

2.2.4 KINK

Permanent deformation in the wire having a sharp radius less than or equal to the wire diameter and locally forming an angle less than 160 degrees. See Figure 2.

2.2.5 NICK

A surface impression that is greater than 0.003 inch in depth having a sharp notch at bottom.

2.2.6 PART

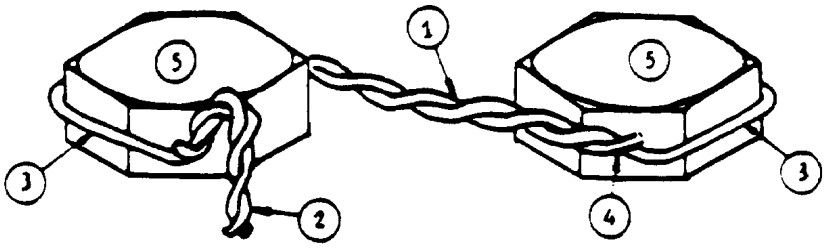
Parts or units that are bound by the safety cable or wire.

2.2.7 SCRATCH

A surface impression that is less than 0.003 inch in depth.

2.2.8 PIGTAIL

Termination point of safety wire. See Figure 3.



1 Double Twist Method - Common method where two strands of one continuous wire are twisted together over the installed length.

2 Pigtail - Termination point of safety wire.

3 Lower Loop or Strand - Portion of safety wire that extends around outside of fastener.

4 Uppermost Loop or Strand - Portion of safety wire that extends through the hole(s) in the fastener.

5 Fastener - There are multiple combinations of fasteners; shown is a hex head bolt with right hand threads (tightens clockwise). Safety wire is installed to apply tension in the wire should the fastener(s) loosen.

Figure 1 - Basic safety wire configuration