

FED. SUPPLY CLASS

5340

**1. SCOPE**

1.1 Scope. This specification covers aircraft instrument mounting clamps.

1.2 Classification. The clamps shall be furnished in the following nominal sizes, as specified (see 6.2):

| Clamp Size (Inches) | Clamp MS Part No. |
|---------------------|-------------------|
| 1                   | MS28042-4A        |
| 1 1/2               | MS28042-3A        |
| 2                   | MS28042-1A        |
| 3                   | MS28042-2A        |

**2. APPLICABLE DOCUMENTS**

2.1 The following documents of the issue in effect on date of invitation for bids or request for proposal form a part of the specification to the extent specified herein.

**SPECIFICATIONS**

Federal

|             |                                                                                       |
|-------------|---------------------------------------------------------------------------------------|
| QQ-A-200/3  | Aluminum Alloy Bar, Rod, Shapes, Tube, and Wire, Extruded 2024                        |
| QQ-A-200/8  | Aluminum Alloy Bar, Rod, Shapes, Tube, and Wire, Extruded and Structural Shapes, 6061 |
| QQ-A-250/4  | Aluminum Alloy 2024, Plate and Sheet                                                  |
| QQ-A-250/11 | Aluminum Alloy 6061, Plate and Sheet                                                  |
| QQ-A-430    | Aluminum Alloy Rod and Wire, for Rivets and Cold Heading                              |

Military

|                |                                                       |
|----------------|-------------------------------------------------------|
| MIL-D-1000     | Drawings, Engineering and Associated Lists            |
| MIL-C-6390     | Clamps and Instruments, Aircraft, Installation of     |
| MIL-A-8625     | Anodic Coatings, for Aluminum and Aluminum Alloys     |
| MIL-STD-2073/1 | Standard Practice for Military Packaging              |
| MIL-PRF-46010  | Lubricant Solid Film, Heat Cured Corrosion Inhibiting |

**STANDARDS**

|             |                                                  |
|-------------|--------------------------------------------------|
| MIL-STD-130 | Identification Marking of U.S. Military Property |
| MIL-STD-810 | Environmental Test Methods                       |
| MS33639     | Cases, Instrument, Clamp Mounted, Aircraft       |

Copies can be obtained from the Department of Defense Single Stock Point (DODSSP). <http://dodssp.daps.dla.mil>

ASTM International

|            |                                            |
|------------|--------------------------------------------|
| ASTM D3951 | Standard Practice for Commercial Packaging |
|------------|--------------------------------------------|

Copies can be obtained from ASTM International, 100 Barr Harbor Drive, PO Box C700, West Conshohocken, PA 19428-2959. [www.astm.org](http://www.astm.org)

① COMPLETELY REVISED

THE INITIAL RELEASE OF THIS DOCUMENT SUPERSEDES MIL-C-6818, REVISION D.

|                                       |                                                           |                                                    |
|---------------------------------------|-----------------------------------------------------------|----------------------------------------------------|
| THIRD ANGLE PROJECTION                | CUSTODIAN<br>NATIONAL AEROSPACE STANDARDS COMMITTEE       | REVISION<br><b>1</b>                               |
| PROCUREMENT SPECIFICATION<br><br>NONE | TITLE<br><br><b>CLAMPS, INSTRUMENT MOUNTING, AIRCRAFT</b> | CLASSIFICATION SPECIFICATION<br><br><b>MSM6818</b> |

SHEET 1 OF 6

AEROSPACE INDUSTRIES ASSOCIATION OF AMERICA, INC.  
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FORM 09-01

REVISION DATE: APRIL 27, 2012

ISSUE DATE: APRIL 1998

Aerospace Industries Association

|           |                                                                                       |
|-----------|---------------------------------------------------------------------------------------|
| NASM24693 | Screw, Machine, Flat Countersunk Head, 100 Degrees, Cross Recessed, UNC-2A and UNF-2A |
| NASM28042 | Clamp, Instrument Mounting, Aircraft                                                  |
| NASM35214 | Screw, Machine-Pan Head, Cross-Recessed, Brass, UNC-2A                                |
| NASM35215 | Screw, Machine-Pan Head, Cross-Recessed, Brass, UNF-2A                                |

Copies can be obtained from the Aerospace Industries Association, 1000 Wilson Blvd., Suite 1700, Arlington, VA 22209. [www.aia-aerospace.org](http://www.aia-aerospace.org)

SAE International

|                |                                                                                                                                                    |
|----------------|----------------------------------------------------------------------------------------------------------------------------------------------------|
| AS5272         | Lubricant Solid Film, Heat Cured Corrosion Inhibiting                                                                                              |
| AMS4025        | Aluminum Alloy, Sheet and Plate 1.0Mg - .60Si - .28Cu - .20Cr (6061-0) Annealed (UNS A96061)                                                       |
| AMS4026        | Aluminum Alloy, Sheet and Plate 1.0Mg - .60Si - .28Cu - .20Cr (6061; -T4 Sheet, -T451 Plate) Solution Heat Treated and Naturally Aged (UNS A96061) |
| AMS4027        | Aluminum Alloy, Sheet and Plate 1.0Mg - .60Si - .28Cu - .20Cr (6061; -T6 Sheet, -T651 Plate) Solution and Precipitation Heat Treated (UNS A96061)  |
| AMS-QQ-A-200/3 | Aluminum Alloy 2024, Bar, Rod, Shapes, Tube, and Wire, Extruded (UNS A92024)                                                                       |
| AMS-QQ-A-200/8 | Aluminum Alloy 6061, Bar, Rod, Shapes, Tube, and Wire, Extruded (UNS A96061)                                                                       |
| AMS-QQ-A-250/4 | Aluminum Alloy 2024, Plate and Sheet                                                                                                               |

Copies can be obtained from SAE International, 400 Commonwealth Dr., Warrendale, PA 15096-0001. [www.sae.org](http://www.sae.org)

### 3. REQUIREMENTS

- 3.1 Material. Clamps covered by this specification shall be manufactured per NASM28042 from aluminum alloy 2024 (UNS A92024) plate and sheet specification ~~QQ-A-250/4~~ AMS-QQ-A-250/4 or aluminum alloy 6061 (UNS A96061) plate and sheet specification, ~~QQ-A-250/11~~ AMS4025, AMS4026 or AMS4027.
- 3.2 Design
- 3.2.1 Function. Each clamp shall be designed to be used for mounting an instrument whose case conforms to MS33639 for its respective nominal size, when installed on an instrument panel of any thickness up to and including 1/4 inches in accordance with MIL-C-6390. Each clamp shall conform to NASM28042. The clamp need not have the shape shown on NASM28042 but must be contained within the outline shown on NASM28042.
- 3.2.2 Roundness. The clamp shall be uniformly round when in the closed position. The inside surface of the clamp shall be clean, sound, smooth, and free from injurious imperfections.
- 3.2.3 Adjustability. The clamp shall be provided with a mechanism which will change the diameter of the clamp band within the limits specified on NASM28042 when it is actuated by a screw or another suitable means which is operated from the front of the panel.
- 3.2.4 Limiting. The mechanism shall be provided with a limiting action which will be effective when the clamp is installed on a panel of any thickness up to and including 1/4 inches and is tightened to a point where an instrument case conforming to MS33639 is held securely in place.
- 3.2.5 Self-spreading. The clamp shall be self-spreading when the mechanism is loosened. The mechanism shall have no tendency to stick or bind when operated. Dry film lubrication conforming to MIL-PRF-46010 AS5272 may be used to insure proper operation of the mechanism.
- 3.2.6 Disengagement. Each clamp shall be so designed that when the clamp is installed in the panel, no part of the clamp assembly, except the screw when one is used as an actuator, shall become disengaged from any other part by any operation of the actuator, whether or not an instrument is installed in the clamp.

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SHEET 2



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Full document details: AIA NASM6818 2012