U.S. Department
of Transportation
Federal Aviation
Administration

Advisory Circular

Subject: REPLACING MIL-S-8879C WITH SAE AS8879

Date: 6/20/03 **AC No: 21-41A**
Initiated by: AIR-110 **Change:**

1. PURPOSE. This advisory circular (AC) informs, clarifies, and guides the civil aviation industry on using the Society of Automotive Engineers' (SAE) Aerospace Standard AS8879, *Screw Threads – UNJ Profile, Inch - Controlled Radius Root with Increased Minor Diameter*, instead of the Department of Defense's (DoD) MIL-S-8879C, *General Specification For Screw Threads, Controlled Radius Root with Increased Minor Diameter*.

2. CANCELLATION. This AC cancels AC 21-41, *Continued Use Of MIL-S-8879C, General Specification For Screw Threads, Controlled Radius Root With Increased Minor Diameter*; dated February 26, 1999.

3. USING THE CORRECT SPECIFICATION. In general, Federal Aviation Administration (FAA) design and production approval holders should use the latest revision of referenced specifications unless their design data specifically references a previous revision. However, the DoD has specified that users of MIL-S-8879C should instead use AS8879. The following table helps FAA design and production approval holders determine which specification to use, based on what is referenced in their FAA-approved design data:

If FAA-approved data specifies:	Then design and production approval holders should use:
MIL-S-8879 (no revision specified)	AS8879 (latest revision)
MIL-S-8879 revision C	AS8879 (latest revision)
MIL-S-8879C Other Thread	AS8879 Category 1 (latest revision)
MIL-S-8879C Safety Critical Thread	AS8879 Category 2 (latest revision)
MIL-S-8879 revision B	MIL-S-8879B
MIL-S-8879 revision A	MIL-S-8879A

4. BACKGROUND.

a. The FAA, on February 26, 1999, issued AC 21-41 to address problems stemming from the DoD inactivating MIL-S-8879C (Notice 2; August 12, 1997) without designating a replacement document. The SAE had issued Aerospace Standard AS8879 Revision A (as a possible replacement for MIL-S-8879C, but the DoD did not officially designate it as a replacement. At that time AC 21-41 advised the civil aviation industry to continue to use MIL-S-8879C if they referenced it in their FAA-approved data.

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b. The FAA Aviation Fastener Audit (FAA Report No. FAA-IR-01-02), conducted in 2000-2001, identified regulatory deficiencies with MIL-S-8879C and noted that the lack of a replacement specification harmed industry. In June 2001, industry stakeholders formed the Screw Thread Conformity Task Force (STC-TF) comprised of representatives from transport and general aviation aircraft and engine manufacturers, fastener manufacturers, FAA, DoD, and thread gage manufacturers. The STC-TF was tasked to develop a new specification that the DoD would designate as replacing MIL-S-8879C, would meet the FAA's regulatory needs, and would be accepted by the varied users of MIL-S-8879C.

c. The SAE published the STC-TF recommendation in January 2003 as AS8879C, *Screw Threads – UNJ Profile, Inch, Controlled Radius Root with Increased Minor Diameter*. The DoD accepted AS8879C and issued a Notice of Cancellation (Notice 3; February 24, 2003) which states in part:

> MIL-S-8879C dated 25 July 1991, and AMENDMENT 1 dated 2 September 1992, are hereby cancelled, and superseded by the Society of Automotive Engineers (SAE) Aerospace Specification AS8879.

5. AVAILABILITY OF RELATED DOCUMENTS.

a. You can buy copies of SAE Document AS8879 from SAE International, 400 Commonwealth Drive, Warrendale, PA 15096-0001; telephone 877-606-7323 (USA and Canada only) 724-776-4970 (outside USA and Canada), fax 724-776-0790. You can also obtain copies through the SAE Internet website at www.sae.org.

b. You can buy copies of the following Title 14 Code of Federal Regulation (CFR) sections from the Superintendent of Documents, P.O. Box 371954, Pittsburgh, PA 15250-7954; telephone 202-512-1800, fax 202-512-2250:

§ 21.53, Statement of Conformity.	§ 29.603, Materials.
§ 23.603, Materials and Workmanship.	§ 31.33(a) and (b), Materials.
§ 25.603, Materials.	§ 33.15(b), Materials.
§ 27.603, Materials.	§ 35.17(b), Materials.

NOTE: You can obtain free copies from the Government Printing Office electronic CFR Internet website at www.access.gpo.gov/ecfr/.

c. You can view a list of all ACs on the FAA's Regulatory and Guidance Library (RGL) at www.airweb.faa.gov/rgl. On the RGL website, click on "Advisory Circulars." To request free ACs, contact: U.S. Department of Transportation, Subsequent Distribution Office, Ardmore East Business Center, 3341 Q 75th Avenue, Landover, MD 20785. To add your name to FAA's mailing list for free ACs, contact: U.S. Department of Transportation, Distribution Requirements Section, SVC-121.21, Washington, D.C. 20590.

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