

SAE AS5161

ADOPTION NOTICE

SAE AS5161, "Fitting, Bolt, Fluid Passage," was adopted on 28 September 1999 for use by the Department of Defense (DoD). Proposed changes by DoD activities must be submitted to the DoD Adopting Activity: Commander, Defense Supply Center, Columbus, DSCC-VAI, 3990 East Broad Street, Columbus, OH 43216-5000. DoD activities may obtain copies of this standard from the DoDSSP, Standardization Document Order Desk, 700 Robbins Avenue, Building 4D, Philadelphia, PA 19111-5094. The private sector and other Government agencies may purchase copies from the Society of Automotive Engineers International, 400 Commonwealth Drive, Warrendale, PA 15096-0001.

SAE AS5161 should be used instead of AN775 REV 13, which was cancelled on 28 September 1999.

Note: To the users of this document, it is recommended that the use of carbon steel and cadmium plating be used only when other materials and finishes specified in the document cannot meet performance requirements.

Custodians:

Army - AV
Navy - AS
Air Force - 99
DLA - CC

Adopting activity:

DLA - CC

(Project 4730-0773-001)

Review activity:

Air Force - 82

FSC 4730

DISTRIBUTION STATEMENT A. Approved for public release; distribution is unlimited.

AS5161

Submitted for recognition as an American National Standard

FEDERAL SUPPLY CLASS
4730

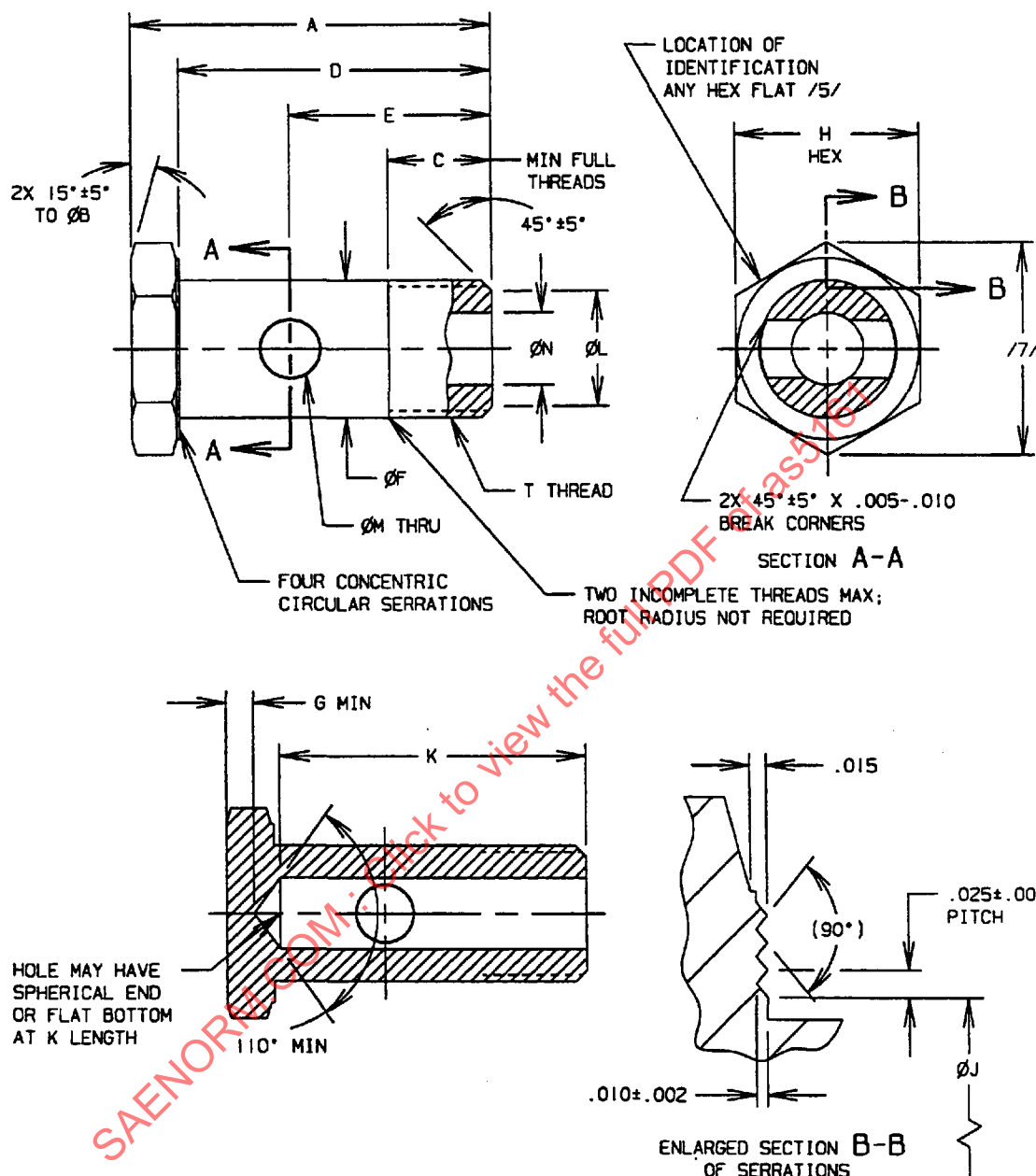
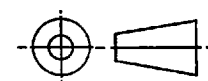


FIGURE 1 - FITTING, BOLT

THIRD ANGLE PROJECTION



CUSTODIAN: SAE G-3/G-3B

PROCUREMENT SPECIFICATION: AS4875 /4/

SAE The Engineering Society
For Advancing Mobility
Land Sea Air and Space
INTERNATIONAL
400 Commonwealth Drive, Warrendale, PA 15096-0001

AEROSPACE STANDARD

FITTING, BOLT, FLUID PASSAGE

AS5161
SHEET 1 OF 4

SAE Technical Standards Board Rules provide that: "This report is published by SAE to advance the state of technical and engineering sciences. The use of this report is entirely voluntary, and its applicability and suitability for any particular use, including any patent infringement arising therefrom, is the sole responsibility of the user."

SAE reviews each technical report at least every five years at which time it may be reaffirmed, revised, or cancelled. SAE invites your written comments and suggestions.

Copyright 1998 Society of Automotive Engineers, Inc.
All rights reserved.

QUESTIONS REGARDING THIS DOCUMENT:
TO PLACE A DOCUMENT ORDER:

(724) 772-8510
(724) 776-4970

FAX: (724) 776-0243
FAX: (724) 776-0790

Distributed under license from the IHS Archive

SAE WEB ADDRESS: <http://www.sae.org>

Printed in the U.S.A.

ISSUED 1998-03

AS5161

TABLE 1A - DIMENSIONS

BASIC NO. AS5161 /13/ SIZE CODE	(NOMINAL TUBE SIZE)	T THREAD PER MIL-S-8879 CLASS 3A	A	B ±.010	C	D	E ±.010	F ±.002	G
04	.250	.4375-20 UNJF	1.375	.668	.438	1.188	.781	.433	.109
05	.312	.5000-20 UNJF	1.375	.730	.438	1.188	.781	.496	.125
06	.375	.5625-18 UNJF	1.562	.792	.469	1.344	.875	.558	.125
08	.500	.7500-16 UNJF	1.938	.980	.562	1.688	1.094	.746	.156
10	.625	.8750-14 UNJF	2.250	1.103	.594	1.969	1.250	.871	.156
12	.750	1.0625-12 UNJ	2.625	1.352	.656	2.312	1.468	1.058	.188
16	1.000	1.3125-12 UNJ	3.188	1.603	.656	2.812	1.687	1.308	.188

TABLE 1B - DIMENSIONS AND WEIGHTS

BASIC NO. AS5161 /13/ SIZE CODE	H	J ±.005	K	L	M	N	LB/EA MAX AL	LB/EA MAX STEEL	LB/EA MAX TI
04	.678-.691	.474	1.156	.344	.188	.168-.175	.0112	.0322	.0178
05	.740-.753	.536	1.156	.406	.219	.230-.237	.0152	.0438	.0242
06	.802-.815	.599	1.312	.469	.250	.293-.301	.0234	.0672	.0371
08	.990-1.003	.786	1.656	.625	.312	.387-.395	.0448	.128	.0709
10	1.113-1.128	.911	1.938	.750	.375	.480-.488	.0713	.205	.113
12	1.363-1.380	1.099	2.156	.938	.438	.604-.614	.135	.387	.213
16	1.613-1.630	1.349	2.578	1.188	.625	.839-.851	.276	.791	.437

NOTES:

/1/ MATERIAL:

- DASH AS CODE LETTER - TYPE 1137 CARBON STEEL BAR PER ASTM A 108 OR TYPE 4130 PER MIL-S-6758 OR AMS 6370 OR TYPE 4140 PER MIL-S-5626 OR AMS 6382. /2/
- CODE LETTER D - TYPE 2024-T6 ALUMINUM ALLOY BAR PER QQ-A-225/6 OR AMS 4112 OR TYPE 2024-T851 ALUMINUM ALLOY BAR PER QQ-A-225/6.
- CODE LETTER J - TYPE 304 CORROSION RESISTANT STEEL BAR PER QQ-S-763 OR AMS 5639.
- CODE LETTER K - TYPE 316 CORROSION RESISTANT STEEL BAR PER QQ-S-763 OR AMS 5648.
- CODE LETTER R - TYPE 321 CORROSION RESISTANT STEEL BAR PER QQ-S-763 OR AMS 5645.
- CODE LETTER T - TYPE 6AL-4V TITANIUM ALLOY BAR PER AMS 4928.
- CODE LETTER W - TYPE 7075-T73 ALUMINUM ALLOY BAR PER QQ-A-225/9 OR TYPE 7075-T7351 ALUMINUM ALLOY BAR PER AMS 4124.

AS5161

NOTES (CONTINUED):

/2/ HEAT TREATMENT:

- a. DASH AS CODE LETTER - SEE HARDNESS REQUIREMENT PER PROCUREMENT SPECIFICATION.
- b. OTHER CODE LETTERS - NONE.

3. FINISH:

- a. DASH AS CODE LETTER - CADMIUM PLATE PER QQ-P-416, TYPE II, CLASS 2, DYE BLACK AND COAT WITH A LIGHT FILM OF OIL PER PROCUREMENT SPECIFICATION.
- b. CODE LETTER D - ANODIZE PER MIL-A-8625, TYPE II, CLASS 2, DYE BLUE, DUPLEX SEAL PER PROCUREMENT SPECIFICATION.
- c. CODE LETTERS J, K, AND R - PASSIVATE PER QQ-P-35, TYPE VI OR VII.
- d. CODE LETTER T - ANODIZE PER AMS 2488 OR FLUORIDE PHOSPHATE CONVERSION COAT PER AMS 2486 WITH COLOR PER PROCUREMENT SPECIFICATION.
- e. CODE LETTER W - ANODIZE PER MIL-A-8625, TYPE II, CLASS 2, DYE BROWN, DUPLEX SEAL PER PROCUREMENT SPECIFICATION.

/4/ PROCUREMENT SPECIFICATION: AS4875 EXCEPT AS SPECIFIED ON THIS STANDARD. THIS PART SHALL BE QUALIFIED TO THE PROCUREMENT SPECIFICATION IN A COMPLETE ASSEMBLY AS APPLICABLE. USERS OF THIS STANDARD ARE ADVISED TO CONTROL SOURCE APPROVAL(S) BY STANDARD PAGE SUPPLEMENT SHEET OR SIMILAR MEANS.

/5/ IDENTIFICATION AT LOCATION SHOWN: MARK PER AS478 CLASS C OR D OR METHOD 7A3, 15A3, OR 15B.

- a. FOR SIZE 06 AND SMALLER: MANUFACTURER'S NAME, CAGE CODE OR TRADEMARK, LETTER "AS" AND MATERIAL CODE LETTER.
- b. FOR SIZE 08 AND LARGER: MANUFACTURER'S NAME, CAGE CODE OR TRADEMARK, BASIC PART NUMBER AND MATERIAL CODE LETTER.

6. INTENDED USE: THIS PART IS DESIGNED FOR USE IN SYSTEMS WITH MAXIMUM OPERATING PRESSURES AS FOLLOWS:

- a. SIZES 04 THROUGH 16 IN CARBON STEEL, CORROSION RESISTANT STEEL AND TITANIUM ALLOY AT 300 psi.
- b. SIZES 04 THROUGH 16 IN ALUMINUM ALLOY AT 1500 psi.

THIS STANDARD IS THE FUNCTIONAL EQUIVALENT OF AN775 AND IS INTENDED TO BE SUITABLE AS A REPLACEMENT STANDARD.

/7/ THE HEX CORNERS MAY BE ROUNDED PER ARP1942.

8. INTERPRETATION OF DRAWING PER ARP4296.

9. SURFACE TEXTURE: SYMBOLS PER ASME Y14.36M; REQUIREMENTS PER ASME B46.1. UNLESS OTHERWISE SPECIFIED, MACHINED SURFACES TO BE 125 μ in Ra. SURFACES OF HEX FLATS MAY BE 250 μ in Ra.

10. BREAK EDGES .003 TO .015 UNLESS OTHERWISE SPECIFIED.

11. DIMENSIONING AND TOLERANCING: ASME Y14.5M-1994.

12. DIMENSIONS IN INCHES. UNLESS OTHERWISE SPECIFIED, TOLERANCES: LINEAR DIMENSIONS $\pm$.016, ANGULAR DIMENSIONS $\pm$ 0°30'.