

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 revised, reaffirmed, stabilized, or cancelled. SAE invites your written comments and suggestions.

REV.
A

SAE AS5188

FEDERAL SUPPLY CLASS
4730

RATIONALE

AS5188A HAS BEEN REAFFIRMED TO COMPLY WITH THE SAE FIVE-YEAR REVIEW POLICY.

WARNING

THIS DOCUMENT INCLUDES CADMIUM AS A PLATING MATERIAL. THE USE OF CADMIUM HAS BEEN RESTRICTED AND/OR BANNED FOR USE IN MANY COUNTRIES DUE TO ENVIRONMENTAL AND HEALTH CONCERNS. THE USER SHOULD CONSULT WITH LOCAL OFFICIALS ON APPLICABLE HEALTH AND ENVIRONMENTAL REGULATIONS REGARDING ITS USE.

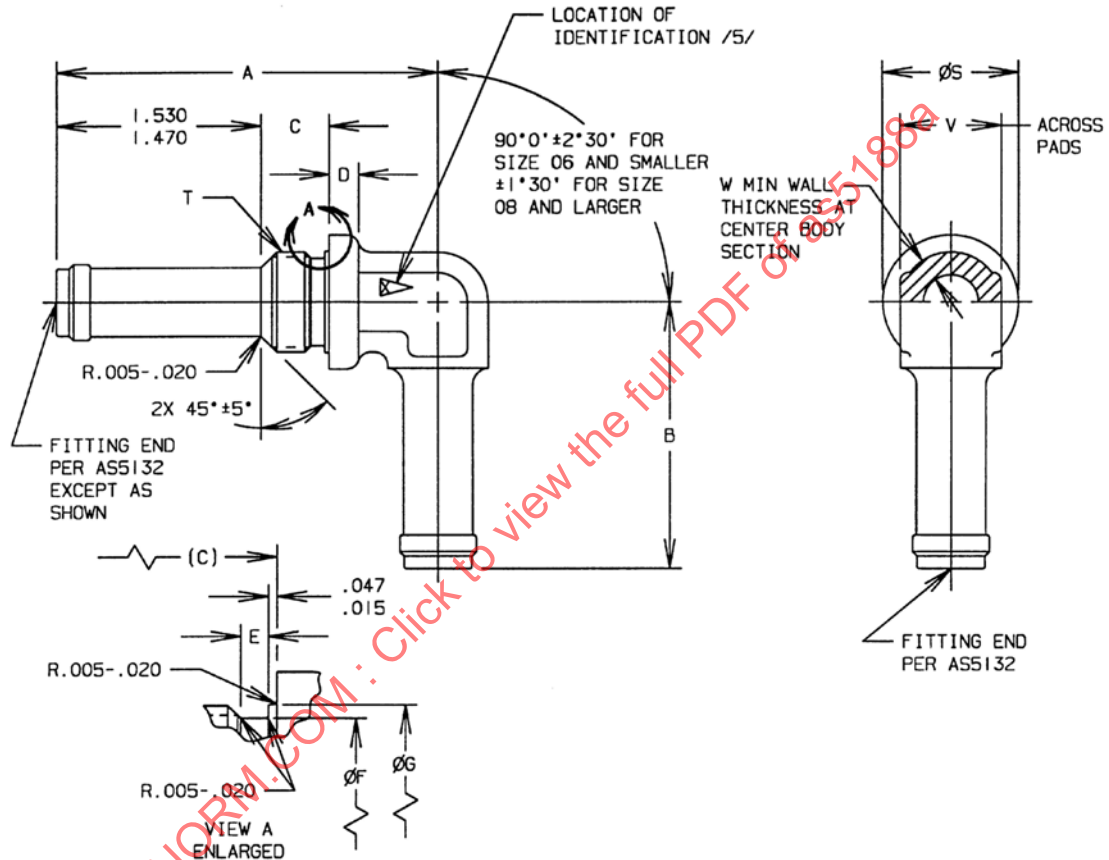
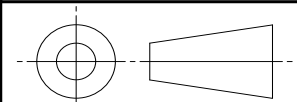


FIGURE 1 - FITTING, ELBOW, 90°

SAE values your input. To provide feedback
on this Technical Report, please visit
<http://www.sae.org/technical/standards/AS5188A>

THIRD ANGLE PROJECTION



CUSTODIAN: G-3/G-3B

PROCUREMENT SPECIFICATION: /4/ AS4843

SAE Aerospace
An SAE International Group

AEROSPACE STANDARD

FITTING, ELBOW, 90°,
BULKHEAD, HOSE

SAE AS5188
SHEET 1 OF 4

REV.
A

Copyright 2013 SAE International
All rights reserved. No part of this publication may be reproduced, stored in a retrieval system or transmitted, in any form or by any means, electronic, mechanical, photocopying, recording, or otherwise, without the prior written permission of SAE.

TO PLACE A DOCUMENT ORDER: Tel: 877-606-7323 (inside USA and Canada)
Fax: 724-776-0790

Tel: +1 724-776-4970 (outside USA)
Email: CustomerService@sae.org

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

ISSUED 2000-01 REVISED 2006-06 REAFFIRMED 2013-01

TABLE 1A - DIMENSIONS A - F

BASIC NO. AS5188 /13/ SIZE CODE	(NOMINAL HOSE SIZE)	T THREAD PER AS8879 CLASS 3A	A	B	C ±.016	D ±.016	E +.015 -.000	F +.000 -.005
04	.250	.4375-20 UNJF	2.461	1.805	.438	.156	.075	.359
06	.375	.5625-18 UNJF	2.649	1.899	.469	.188	.083	.476
08	.500	.7500-16 UNJF	2.805	1.992	.500	.219	.094	.654
10	.625	.8750-14 UNJF	2.992	2.086	.531	.250	.107	.767
12	.750	1.0625-12 UNJ	3.117	2.180	.563	.250	.125	.938
16	1.000	1.3125-12 UNJ	3.242	2.305	.563	.250	.125	1.188
20	1.250	1.6250-12 UNJ	3.555	2.524	.563	.281	.125	1.501
24	1.500	1.8750-12 UNJ	3.680	2.649	.563	.281	.125	1.750

TABLE 1B - DIMENSIONS G - W AND WEIGHTS

BASIC NO. AS5188 /13/ SIZE CODE	G	S ±.016	V	W	LB/EA APPROX REF AL	LB/EA APPROX REF CU	LB/EA APPROX REF STEEL
04	.4294- .4375	.625	.423- .440	.110	.0295	.0896	.0847
06	.5538- .5625	.813	.547- .565	.120	.0603	.183	.173
08	.7406- .7500	1.000	.735- .753	.150	.116	.354	.334
10	.8647- .8750	1.250	.860- .878	.170	.166	.505	.477
12	1.0511-1.0625	1.438	1.047-1.065	.185	.265	.805	.760
16	1.3011-1.3215	1.688	1.292-1.317	.205	.388	1.18	1.12
20	1.6136-1.6250	2.063	1.605-1.630	.240	.720	2.19	2.07
24	1.8636-1.8750	2.375	1.855-1.880	.250	.939	2.85	2.70

NOTES:

/1/ MATERIAL:

- DASH AS CODE LETTER - TYPE 4130 STEEL FORGING OR BAR PER AMS-S-6758 OR AMS 6370, OR TYPE 4140 PER AMS 6382. /2/
- CODE LETTER B - TYPE 377 COPPER ALLOY FORGING PER ASTM B 124 OR AMS 4614, OR HALF HARD FORGING OR BAR PER ASTM B 138.
- CODE LETTER D - TYPE 2014-T6 ALUMINUM ALLOY FORGING PER AMS 4134, OR TYPE 2024-T6 ALUMINUM ALLOY BAR PER AMS-QQ-A-225/6, OR TYPE 2024-T851 ALUMINUM ALLOY BAR PER AMS-QQ-A-225/6 OR AMS 4339. /2/
- CODE LETTER J - TYPE 304 CORROSION RESISTANT STEEL FORGING OR BAR PER AMS-QQ-S-763 OR AMS 5639.
- CODE LETTER K - TYPE 316 CORROSION RESISTANT STEEL FORGING OR BAR PER AMS-QQ-S-763 OR AMS 5648.
- CODE LETTER R - TYPE 321 CORROSION RESISTANT STEEL FORGING OR BAR PER AMS-QQ-S-763 OR AMS 5645.
- CODE LETTER W - TYPE 7075-T73 ALUMINUM ALLOY FORGING PER AMS 4141, OR TYPE 7075-T73 ALUMINUM ALLOY BAR PER AMS-QQ-A-225/9, OR TYPE 7075-T7351 ALUMINUM ALLOY BAR PER AMS 4124. /2/

 An SAE International Group	AEROSPACE STANDARD	SAE AS5188 SHEET 2 OF 4	REV. A
	FITTING, ELBOW, 90°, BULKHEAD, HOSE		

/2/ HEAT TREATMENT:

- a. DASH AS CODE LETTER - SEE HARDNESS REQUIREMENT PER PROCUREMENT SPECIFICATION.
- b. CODE LETTERS D AND W - SEE ELECTRICAL CONDUCTIVITY AND HARDNESS REQUIREMENT PER PROCUREMENT SPECIFICATION.
- c. OTHER CODE LETTERS - NONE.

3. FINISH:

- a. DASH AS CODE LETTER - CADMIUM PLATE PER AMS-QQ-P-416, TYPE II, CLASS 2, DYE BLACK AND COAT WITH A LIGHT FILM OF OIL PER PROCUREMENT SPECIFICATION.
- b. CODE LETTER B - CADMIUM PLATE PER AMS-QQ-P-416, TYPE II, CLASS 3 OR NONE.
- c. CODE LETTER D - ANODIZE PER MIL-A-8625, TYPE II, CLASS 2, DYE BLUE, DUPLEX SEAL PER PROCUREMENT SPECIFICATION.
- d. CODE LETTERS J, K AND R - PASSIVATE PER AMS 2700, TYPE 6 OR 7.
- e. CODE LETTER W - ANODIZE PER MIL-A-8625, TYPE II, CLASS 2, DYE BROWN, DUPLEX SEAL PER PROCUREMENT SPECIFICATION.

/4/ PROCUREMENT SPECIFICATION: AS4843 EXCEPT AS SPECIFIED ON THIS STANDARD. PRODUCT SUPPLIED TO THIS SPECIFICATION SHALL BE MANUFACTURED BY AN ACCREDITED MANUFACTURER LISTED IN THE PERFORMANCE REVIEW INSTITUTE (PRI) QUALIFIED MANUFACTURER LIST (QML) FOR THIS PRODUCT TYPE. THE QML IS AVAILABLE AT www.eAuditNet.com.

/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 A MAXIMUM OPERATING PRESSURE OF 600 psi. THIS STANDARD IS THE FUNCTIONAL EQUIVALENT OF AN848 AND IS INTENDED TO BE SUITABLE AS A REPLACEMENT STANDARD.
7. WHEN MACHINED FROM BAR OR OVERSIZED FORGING, THE CENTER BODY DIMENSIONS SHALL CONFORM TO AS1376, TABLE 1.
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. FORGED SURFACES 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 $\pm$.023, ANGULAR DIMENSIONS $\pm$ 0°30'.

 An SAE International Group	AEROSPACE STANDARD	SAE AS5188 SHEET 3 OF 4	REV. A
	FITTING, ELBOW, 90°, BULKHEAD, HOSE		