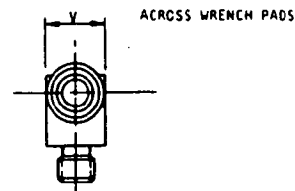
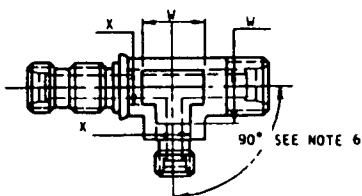
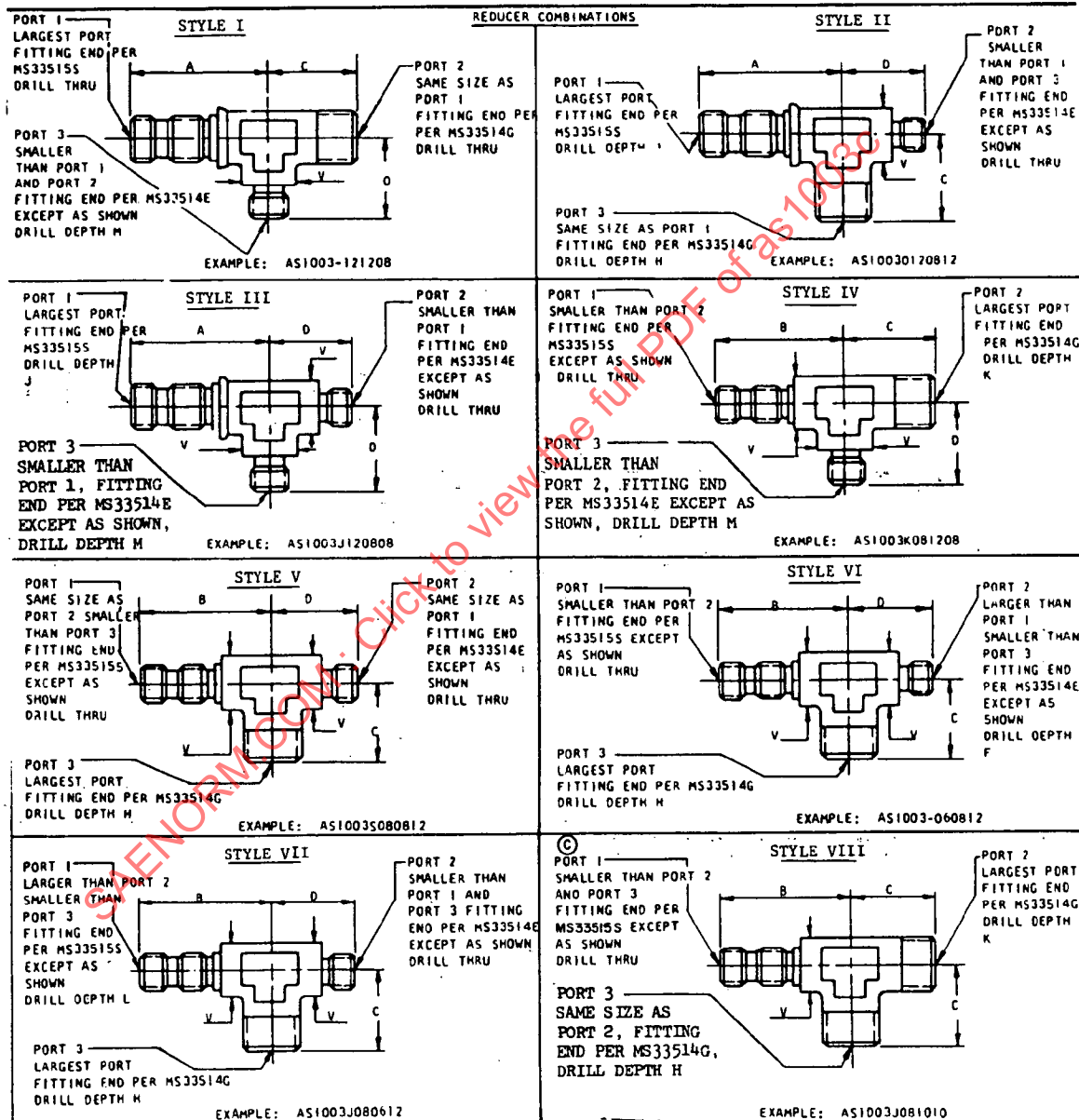


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SHEET	1	2	3
REV	C	C	C

CUSTODIAN: SAE G-3 / G-3B

PROCUREMENT: MIL - F - 18280

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For Advancing Mobility
Land Sea Air and Space

400 Commonwealth Drive
Warrendale, PA 15096

AEROSPACE STANDARD

TEE, REDUCER, BULKHEAD ON RUN,
FLARELESS TUBE

AS 1003

SHEET 1 OF 3

FORGING SIZE	A ±.016	C ±.016	H ±.016	V ±.016	W MIN	X MIN
3	1.414	.930	.969	.375	.375	.250
4	1.523	.961	1.000	.438	.375	.250
5	1.555	1.055	1.094	.500	.469	.312
6	1.711	1.086	1.125	.562	.500	.312
8	1.992	1.336	1.375	.750	.688	.438
10	2.273	1.524	1.562	.875	.781	.438
12	2.492	1.649	1.688	1.062	.906	.500
16	2.617	1.742	1.781	1.312	1.094	.625
20	2.898	2.023	2.062	1.625	1.312	.750
24	3.180	2.211	2.234	1.875	1.500	.875
32	3.773	2.398	2.438	2.562	2.032	1.094

LEG LENGTH B ±.016												
FORGING SIZE												
3	4	5	6	8	10	12	16	20	24	32		
1.367	1.413	1.445	1.555	1.664	1.804	1.914	2.039	2.320	2.602	2.992	2	
1.460	1.492	1.602	1.711	1.851	1.961	2.086	2.367	2.649	3.039	3		
		1.555	1.665	1.774	1.914	2.024	2.149	2.430	2.712	3.102	4	
			1.665	1.774	1.914	2.024	2.149	2.430	2.712	3.102	5	
				1.820	1.960	2.070	2.195	2.476	2.758	3.148	6	
					2.132	2.242	2.367	2.648	2.930	3.320	8	
						2.383	2.508	2.789	3.071	3.461	10	
							2.617	2.898	3.180	3.570	12	
								2.898	3.180	3.570	16	
									3.180	3.570	20	
										3.570	32	

LEG LENGTH D ±.016												
FORGING SIZE												
3	4	5	6	8	10	12	16	20	24	32		
RR3	RR3	.977	.992	1.149	1.274	1.335	1.429	1.710	1.898	2.085	2	
	.930	1.024	1.039	1.196	1.320	1.383	1.476	1.757	1.945	2.132	3	
		1.055	1.070	1.227	1.352	1.414	1.507	1.788	1.976	2.163	4	
			1.070	1.227	1.352	1.414	1.507	1.788	1.976	2.163	5	
				1.243	1.368	1.430	1.523	1.804	1.992	2.179	6	
					1.461	1.523	1.616	1.897	2.085	2.272	8	
						1.586	1.679	1.960	2.148	2.335	10	
							1.742	2.023	2.211	2.398	12	
								2.023	2.211	2.398	16	
									2.211	2.398	20	
										2.398	24	

DRILL DEPTH F ±.016												
FORGING SIZE												
4	5	6	8	10	12	16	20	24	32			
1.062	1.172	1.219	1.438	1.609	1.750	1.953	2.344	2.656	3.078	3		
	1.203	1.250	1.469	1.641	1.781	1.984	2.375	2.688	3.109	4		
		1.250	1.469	1.641	1.781	1.984	2.375	2.688	3.109	5		
			1.485	1.656	1.797	2.000	2.391	2.703	3.125	6		
				1.750	1.891	2.094	2.484	2.797	3.219	8		
					1.953	2.156	2.547	2.859	3.281	10		
						2.219	2.609	2.927	3.344	12		
							2.609	2.927	3.344	16		
								2.927	3.344	20		
									3.344	24		

DRILL DEPTH J ±.016												
FORGING SIZE												
3	4	5	6	8	10	12	16	20	24	32		
1.500	1.609	1.641	1.797	2.078	2.359	2.578	2.703	2.984	3.266	3.859	2	
1.516	1.625	1.656	1.812	2.094	2.375	2.594	2.719	3.000	3.281	3.875	3	
	1.656	1.703	1.844	2.125	2.406	2.625	2.750	3.031	3.312	3.906	4	
		1.703	1.859	2.141	2.422	2.641	2.766	3.047	3.328	3.922	5	
			1.891	2.172	2.453	2.672	2.797	3.078	3.359	3.953	6	
				2.234	2.516	2.734	2.859	3.141	3.422	4.016	8	
					2.562	2.781	2.906	3.188	3.468	4.062	10	
						2.859	2.984	3.266	3.547	4.141	12	
							3.094	3.375	3.656	4.250	16	
								3.484	3.766	4.359	20	
									3.891	4.484	24	
										4.719	32	

DRILL DEPTH K ±.016												
FORGING SIZE												
3	4	5	6	8	10	12	16	20	24	32		
.922	.922	1.016	1.031	1.188	1.312	1.375	1.469	1.750	1.938	2.125	2	
	.969	1.062	1.078	1.234	1.359	1.422	1.516	1.797	1.984	2.172	3	
		1.094	1.109	1.266	1.391	1.453	1.547	1.828	2.016	2.203	4	
			1.109	1.266	1.391	1.453	1.547	1.828	2.016	2.203	5	
				1.281	1.406	1.469	1.562	1.844	2.032	2.219	6	
					1.500	1.562	1.656	1.938	2.125	2.312	8	
						1.625	1.719	2.000	2.187	2.375	10	
							1.781	2.062	2.250	2.438	12	
								2.062	2.250	2.438	16	
									2.250	2.438	20	
										2.438	24	

DRILL DEPTH L ±.016												
PORT #1 SIZE												
24	20	16	12	10	8	6	5	4	3			
4.156	4.516	4.516	4.359	4.266	4.094	4.047	4.047	3.984	3.984	32		
	3.891	3.891	3.891	3.781	3.641	3.469	3.422	3.422	3.359	24		
		3.484	3.484	3.375	3.234	3.062	3.016	3.016	2.953	20		
			3.094	2.984	2.844	2.672	2.625	2.625	2.562	16		
				2.750	2.609	2.438	2.391	2.391	2.328	12		
					2.422	2.250	2.203	2.203	2.141	10		
						2.062	2.016	2.016	1.953	8		
							1.844	1.844	1.781	6		
								1.703	1.641	5		
									1.594	4		

AEROSPACE STANDARD

TEE, REDUCER, BULKHEAD ON RUN,
FLARELESS TUBE

AS 1003

SHEET 2 OF 3

NOTES:

1. MATERIAL, FINISH, MANUFACTURE, AND PERFORMANCE REQUIREMENTS SHALL BE IN ACCORDANCE WITH MIL-F-18280, LATEST REVISION, UNLESS OTHERWISE SPECIFIED ON PURCHASE ORDER BY PURCHASER.
2. SPECIFY END SIZES IN THIS ORDER: BULKHEAD END FIRST; OPPOSITE END SECOND; SIDE END THIRD.
3. LARGEST END SHALL DETERMINE THE FORGING SIZE.
4. MATERIAL CODE: IN PLACE OF FIRST DASH, ADD CODE LETTERS AS FOLLOWS:
 NO LETTER INDICATES 4130 STEEL (USE DASH " - ").
 LETTER "D" INDICATES TYPE 2014T6 ALUMINUM ALLOY.
 LETTER "J" INDICATES CORROSION RESISTANT STEEL, CLASS 304.
 LETTER "S" INDICATES CORROSION RESISTANT STEEL, CLASS 347.
 LETTER "K" INDICATES CORROSION RESISTANT STEEL, CLASS 316.
 LETTER "W" INDICATES TYPE 7075-T73 ALUMINUM ALLOY.
 LETTER "T" INDICATES TYPE 6AL-4V TITANIUM ALLOY.
5. EXAMPLE OF PART NUMBER: AS1003 D 06 02 10
 BASIC PART NUMBER
 ALUMINUM ALLOY TYPE 2014T6
 PORT 1: BULKHEAD END PER MS33515S6
 LEG LENGTH PER DIMENSION B, 1.960
 DRILL DEPTH PER DIMENSION L, 2.250
 PORT 2: SHORT END ON RUN PER MS33514E2
 LEG LENGTH PER DIMENSION D, 1.274
 DRILL DEPTH THRU
 PORT 3: SIDE END PER MS33514G10
 LEG LENGTH PER DIMENSION C, 1.524
 DRILL DEPTH PER DIMENSION H, 1.562
6. TOLERANCE ON 90° ANGLE: $\pm 2 \frac{1}{2}^\circ$ FOR TUBE SIZE 6 AND SMALLER, $\pm 1 \frac{1}{2}^\circ$ FOR TUBE SIZE 8 AND LARGER.
7. REMOVE ALL BURRS AND BREAK ALL SHARP EDGES.
8. IDENTIFY PER MIL-F-18280 EXCEPT SUBSTITUTE BASIC PART NUMBER AS/AS1003 MARKING IN PLACE OF MS/MSXXXXX AS APPLICABLE. PARTS PREVIOUSLY IMPRESSION STAMPED WITH AN, MS OR PROPRIETARY IDENTIFICATION SHALL BE ACCEPTABLE PROVIDED SUCH IDENTIFICATION IS OBLITERATED BY IMPRESSION STAMPING WITHOUT DAMAGING THE PART.

SAENORM.COM : Click to view the full PDF of AS1003C

AEROSPACE STANDARD

TEE, REDUCER, BULKHEAD ON RUN,
FLARELESS TUBE

AS 1003

SHEET 3 OF 3