

SAE The Engineering
Resource For
Advancing Mobility

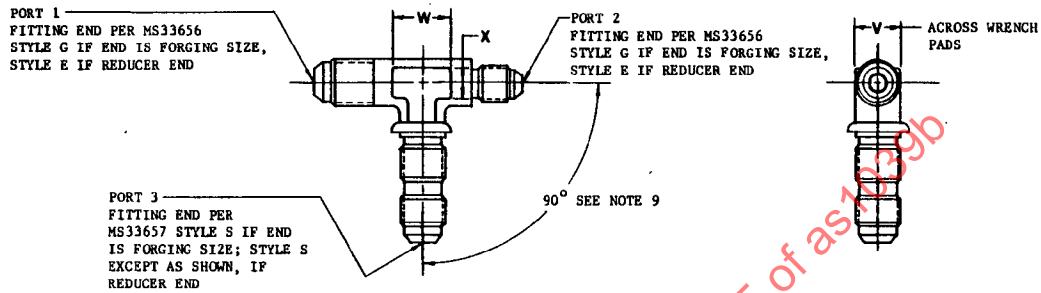
400 COMMONWEALTH DRIVE, WARRENDALE, PA 15096

AEROSPACE STANDARD

AS 1039B

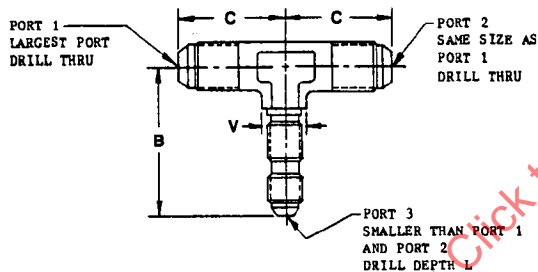
Issued 8-15-62
Revised 4-4-83

TEE, REDUCER, BULKHEAD ON SIDE, FLARED TUBE

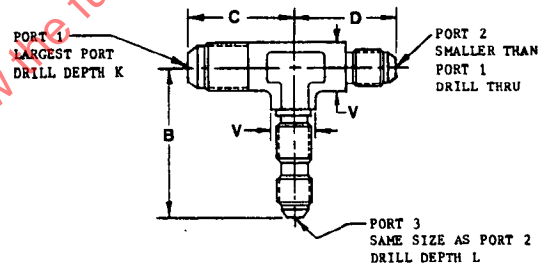


REDUCER COMBINATIONS

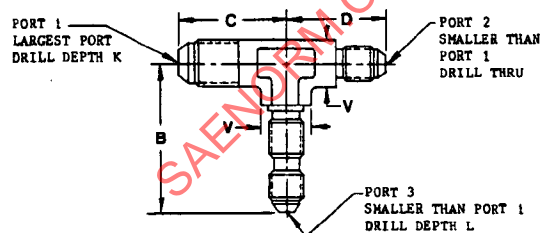
STYLE I
EXAMPLE: AS1039-121208



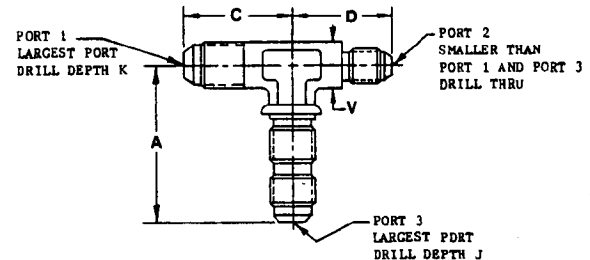
STYLE II
EXAMPLE: AS1039J120808



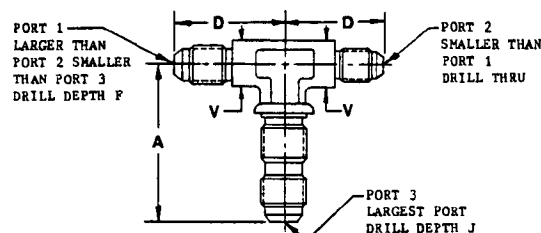
STYLE III
EXAMPLE: AS1039S120806



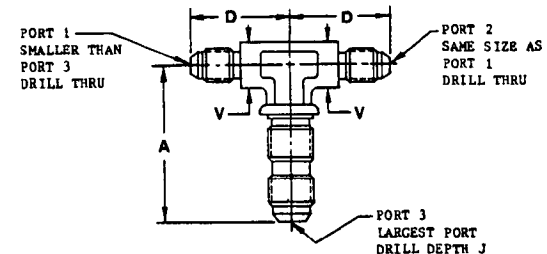
STYLE IV
EXAMPLE: AS1039K120612



STYLE V
EXAMPLE: AS1D39D080612



STYLE VI
EXAMPLE: AS1039S060610



REAFFIRMED
APRIL 1993

AS1039B

FORGING SIZE	A	C	J	V	W	X
	±.016	±.016	±.016	±.016	APP	APP
3	1.461	.914	1.500	.375	.312	.250
4	1.601	.976	1.641	.438	.375	.250
5	1.632	1.039	1.672	.500	.500	.312
6	1.820	1.101	1.859	.562	.500	.312
8	2.117	1.367	2.156	.750	.625	.438
10	2.398	1.570	2.438	.875	.750	.438
12	2.679	1.789	2.719	1.062	.875	.500
16	2.804	1.945	2.844	1.312	1.062	.625
20	3.132	2.179	3.172	1.625	1.250	.750
24	3.429	2.351	3.469	1.875	1.438	.875
32	4.117	2.898	4.156	2.562	1.938	1.188

LEG LENGTH B ±.016												
FORGING SIZE												
3	4	5	6	8	10	12	16	20	24	32		
1.461	1.507	1.538	1.648	1.789	1.929	2.039	2.164	2.445	2.726	3.133	2	
	1.507	1.538	1.648	1.789	1.929	2.039	2.164	2.445	2.726	3.133	3	
		1.632	1.742	1.883	2.023	2.133	2.258	2.539	2.820	3.227	4	
			1.742	1.883	2.023	2.133	2.258	2.539	2.820	3.227	5	
				1.961	2.101	2.211	2.336	2.617	2.898	3.305	6	
					2.257	2.367	2.492	2.773	3.054	3.461	8	
						2.508	2.633	2.914	3.195	3.602	10	
							2.804	3.085	3.366	3.773	12	
								3.085	3.366	3.773	16	
									3.413	3.820	20	
										3.836	24	

SIZE OF #1 PORT

LEG LENGTH D ±.016												
FORGING SIZE												
3	4	5	6	8	10	12	16	20	24	32		
.883	.883	.937	.993	1.158	1.260	1.373	1.482	1.669	1.716	2.031	2	
	.905	.968	1.024	1.189	1.291	1.404	1.513	1.700	1.747	2.044	3	
		1.039	1.095	1.260	1.362	1.475	1.584	1.771	1.818	2.115	4	
			1.095	1.260	1.362	1.475	1.584	1.771	1.818	2.115	5	
				1.266	1.368	1.481	1.590	1.777	1.824	2.121	6	
					1.469	1.582	1.691	1.878	1.925	2.222	8	
						1.683	1.792	1.979	2.026	2.323	10	
							1.898	2.085	2.132	2.429	12	
								2.132	2.179	2.476	16	
									2.226	2.523	20	
										2.648	24	

SIZE OF #2 PORT

DRILL DEPTH F ±.016												
FORGING SIZE												
4	5	6	8	10	12	16	20	24	32			
1.031	1.125	1.219	1.422	1.578	1.750	1.969	2.281	2.438	2.969	3		
	1.188	1.281	1.500	1.641	1.812	2.047	2.344	2.516	3.047	4		
		1.281	1.500	1.641	1.812	2.047	2.344	2.516	3.047	5		
			1.500	1.641	1.828	2.047	2.359	2.516	3.047	6		
				1.750	1.922	2.156	2.453	2.625	3.156	8		
					2.031	2.250	2.562	2.719	3.250	10		
						2.359	2.656	2.828	3.359	12		
							2.703	2.875	3.406	16		
								2.922	3.453	20		
									3.578	24		

SIZE OF #1 PORT

DRILL DEPTH K ±.016												
FORGING SIZE												
3	4	5	6	8	10	12	16	20	24	32		
.984	1.047	1.109	1.172	1.438	1.641	1.859	2.016	2.250	2.422	2.969	2	
1.016	1.078	1.141	1.203	1.469	1.672	1.891	2.047	2.281	2.453	3.000	3	
	1.094	1.156	1.219	1.484	1.688	1.906	2.062	2.312	2.469	3.016	4	
		1.188	1.250	1.516	1.719	1.938	2.094	2.328	2.500	3.047	5	
			1.281	1.547	1.750	1.969	2.125	2.359	2.531	3.078	6	
				1.594	1.797	2.016	2.172	2.406	2.578	3.125	8	
					1.844	2.062	2.219	2.453	2.625	3.172	10	
						2.125	2.281	2.516	2.688	3.234	12	
							2.406	2.641	2.812	3.359	16	
								2.750	2.922	3.469	20	
									3.047	3.394	24	
										3.823	32	

SIZE OF #3 PORT

DRILL DEPTH L ±.016												
FORGING SIZE												
3	4	5	6	8	10	12	16	20	24	32		
1.500	1.547	1.578	1.688	1.828	1.969	2.078	2.203	2.484	2.766	3.172	2	
	1.547	1.578	1.688	1.828	1.969	2.078	2.203	2.484	2.766	3.172	3	
		1.672	1.781	1.922	2.062	2.172	2.297	2.578	2.859	3.266	4	
			1.781	1.922	2.062	2.172	2.297	2.578	2.859	3.266	5	
				2.000	2.141	2.250	2.375	2.656	2.938	3.344	6	
					2.297	2.406	2.531	2.812	3.094	3.500	8	
						2.547	2.672	2.953	3.234	3.641	10	
							2.844	3.125	3.406	3.812	12	
								3.125	3.406	3.812	16	
									3.453	3.859	20	
										3.875	24	

SIZE OF #3 PORT

- SPECIFY END SIZES IN THE FOLLOWING ORDER: (1) LARGEST END ON RUN; (2) OPPOSITE END ON RUN; (3) BULKHEAD END.
- LARGEST TUBE SIZE DETERMINES FORGING SIZE.
- MATERIAL CODING:
 - STEEL 1137 OR 1141 PER QQ-S-637 (OPTIONAL: 4130/MIL-S-6758). FINISH CADMIUM PLATE PER QQ-P-416. TYPE II, CLASS 2. COLOR BLACK.
 - S CRES TYPE 347. CRES PER QQ-S-763 SURFACE TREAT PER MIL-S-5002.
 - J CRES TYPE 304. CRES PER QQ-S-763 SURFACE TREAT PER MIL-S-5002.
 - K CRES TYPE 316. CRES PER QQ-S-763 SURFACE TREAT PER MIL-S-5002.
 - D ALUMINUM ALLOY 2014-T6 PER QQ-A-367 (OR 2024-T851). ANODIZE PER MIL-A-8626, TYPE II, CLASS 2. DYE BLUE.
 - W ALUMINUM ALLOY 7075-T73 PER QQ-A-225/9 (OPTIONAL: QQ-A-367). ANODIZE PER MIL-A-8625. TYPE II, CLASS 2. DYE BROWN.
 - T TITANIUM ALLOY (6AL-4V) PER AMS 4928. FLUORIDE PHOSPHATE COAT PER AMS 2486.
- PART NUMBER EXAMPLE:

ALUMINUM ALLOY 1.313 WRENCH FLATS				
AS 1039 D 16 08 10	A	B	C	D
MS33657-10		2.633		
MS33656-8				1.691
MS33656-16			1.945	
				2.234

- PROC. SPEC. MIL-F-5509, LATEST REVISION, UNLESS OTHERWISE SPECIFIED ON PURCHASE ORDER BY PURCHASER.
- REMOVE ALL BURRS AND BREAK ALL SHARP EDGES.
- THIS STANDARD TAKES PRECEDENCE OVER REFERENCED DOCUMENTS HEREIN.
- MANUFACTURER'S TRADEMARK AND BASIC PART NUMBER (EXCLUSIVE OF SIZE) TO APPEAR PERMANENTLY ON FINISHED PARTS. BASIC PART NUMBER MAY BE REDUCED TO "AS" ON FORGINGS SIZE 6 AND SMALLER. 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.
- TOLERANCE ON 90° ANGLE: ±2-1/2° FOR TUBE SIZE 6 AND SMALLER, ±1-1/2° FOR TUBE SIZE 8 AND LARGER.
- WHEN FITTING IS MADE FROM BAR, THE CONTOUR OF THE BODY SECTION SHALL BE PER AS 1376 FOR FORGING SIZES DASH 3 THROUGH DASH 8, AND AS 1376 CODE M FOR SIZES DASH 10 AND LARGER.