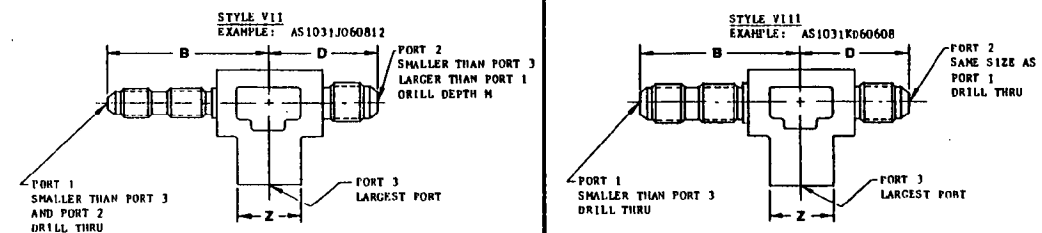
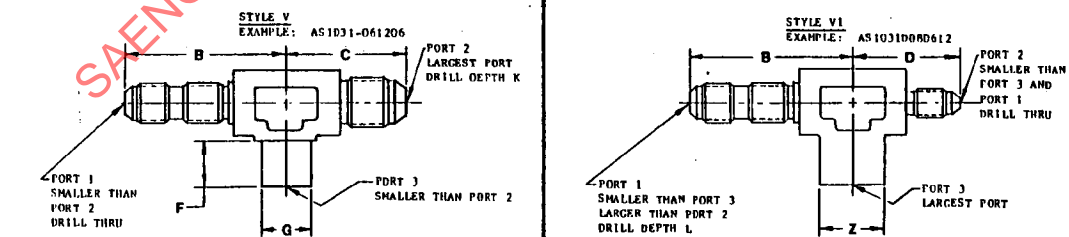
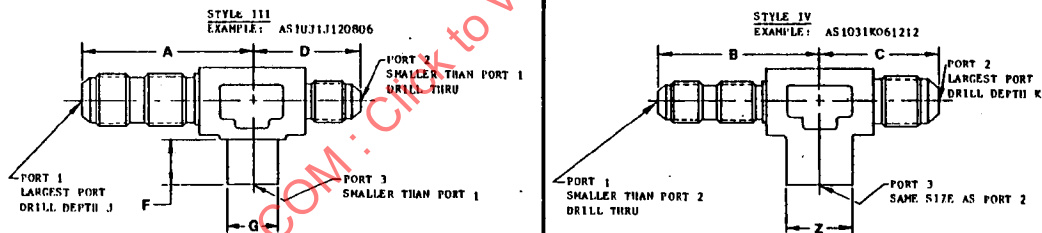
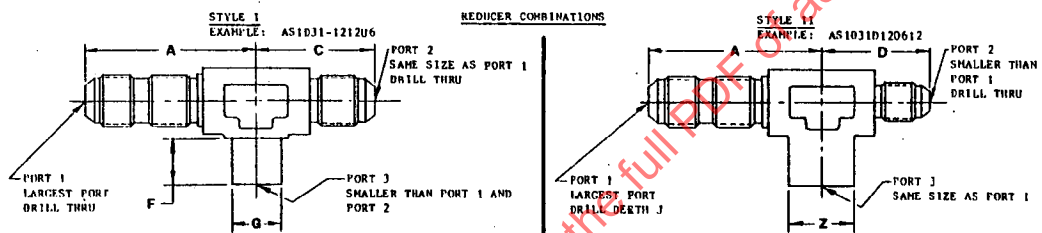
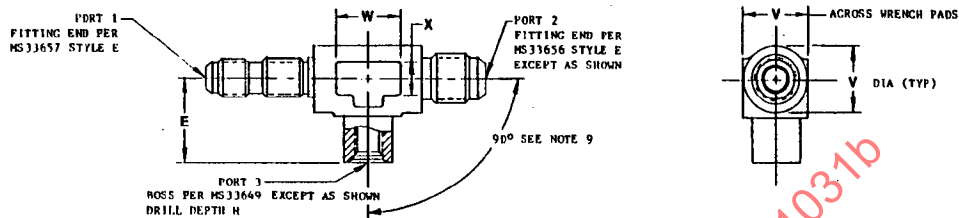


**REDUCER TEE - BULKHEAD ON RUN,
INTERNALLY THREADED SIDE PORT, FLARED TUBE**


SAE Technical Board rules provide that: "All technical reports, including standards approved and practices recommended, are advisory only. Their use by anyone engaged in industry or trade or their use by governmental agencies is entirely voluntary. There is no agreement to adhere to any SAE standard or recommended practice, and no commitment to conform to or be guided by any technical report. In formulating and approving technical reports, the Board and its Committees will not investigate or consider patents which may apply to the subject matter. Prospective users of the report are responsible for protecting themselves against liability for infringement of patents."

AS 1031B

-2-

FORGING SIZE	A	C	E	F	H	V	W	X	Z
	±.016	±.016	±.016	±.016	±.016	±.016	APPROX	APPROX	±.016
3	1.523	.992	.711	-	.750	.562	.500	.312	.625
4	1.773	1.211	.773	.375	.812	.750	.688	.438	.750
5	1.773	1.211	.773	.375	.812	.750	.688	.438	.750
6	2.023	1.273	.836	.375	.875	.875	.781	.438	.875
8	2.179	1.461	1.023	.469	1.063	1.063	.906	.500	1.063
10	2.398	1.648	1.180	.625	1.219	1.063	.906	.500	1.188
12	2.648	1.836	1.367	.688	1.406	1.312	1.094	.625	1.438
16	2.867	2.086	1.555	.719	1.594	1.625	1.312	.750	1.688
20	3.054	2.273	1.742	.781	1.781	1.875	1.500	.875	2.000

LEG LENGTH B ±.016									
FORGING SIZE									
3	4	5	6	8	10	12	16	20	
1.523	1.679	1.679	1.851	1.851	1.929	2.008	2.227	2.367	2
	1.679	1.679	1.851	1.851	1.929	2.008	2.227	2.367	3
		1.773	1.945	1.945	2.023	2.102	2.321	2.461	4
			1.945	1.945	2.023	2.102	2.321	2.461	5
				2.023	2.101	2.180	2.399	2.539	6
					2.257	2.336	2.555	2.695	8
						2.477	2.696	2.836	10
							2.867	3.007	12
								3.007	16

SIZE
OF
PORT
#1

LEG LENGTH D ±.016									
FORGING SIZE									
3	4	5	6	8	10	12	16	20	
.961	1.109	1.109	1.165	1.232	1.338	1.420	1.623	1.763	2
	1.140	1.140	1.196	1.283	1.369	1.451	1.654	1.794	3
		1.211	1.267	1.354	1.440	1.522	1.725	1.865	4
			1.267	1.354	1.440	1.522	1.725	1.865	5
				1.360	1.446	1.528	1.731	1.871	6
					1.547	1.629	1.832	1.972	8
						1.730	1.933	2.073	10
							2.039	2.179	12
								2.226	15

TURNED DIA G ±.016									
FORGING SIZE									
3	4	5	6	8	10	12	16	20	
-	.594	.594	.594	.594	.594	.594	.594	.594	2
	.656	.656	.656	.656	.656	.656	.656	.656	3
		-	.719	.719	.719	.719	.719	.719	4
			.781	.781	.781	.781	.781	.781	5
				.844	.844	.844	.844	.844	6
					-	1.062	1.062	1.062	8
							1.288	1.288	10
							1.438	1.438	12
								1.688	16

SIZE
OF
PORT
#3

DRILL DEPTH J ±.016									
SIZE OF NO. 1 PORT									
3	4	5	6	8	10	12	16	20	
1.703	1.953	1.953	2.203	2.359	2.578	2.828	3.046	3.234	2
1.734	1.984	1.984	2.234	2.391	2.609	2.859	3.078	3.266	3
	2.000	2.000	2.250	2.406	2.625	2.875	3.094	3.281	4
		2.031	2.281	2.438	2.656	2.906	3.125	3.312	5
			2.312	2.469	2.688	2.938	3.156	3.344	6
				2.562	2.781	3.032	3.250	3.438	8
					2.844	3.094	3.312	3.500	10
						3.172	3.391	3.578	12
							3.516	3.703	16
								3.859	20

DRILL DEPTH K ±.016									
SIZE OF NO. 2 PORT									
3	4	5	6	8	10	12	16	20	
1.172	1.391	1.391	1.453	1.641	1.828	2.015	2.266	2.453	2
1.203	1.422	1.422	1.484	1.672	1.859	2.046	2.297	2.484	3
	1.438	1.438	1.500	1.688	1.875	2.062	2.312	2.500	4
		1.469	1.531	1.719	1.906	2.094	2.344	2.531	5
			1.562	1.750	1.938	2.125	2.375	2.562	6
				1.844	2.031	2.218	2.469	2.656	8
					2.094	2.281	2.531	2.719	10
						2.359	2.609	2.797	12
							2.734	2.922	16
								3.078	20

SIZE
OF
PORT
#3

DRILL DEPTH L ±.016									
SIZE OF NO. 1 PORT									
16	12	10	8	6	5	4	3		
3.812	3.812	3.641	3.500	3.344	3.256	3.266	3.172	20	
	3.516	3.344	3.203	3.047	2.968	2.968	2.875	16	
		3.000	2.859	2.703	2.625	2.531	2.438	12	
			2.703	2.547	2.469	2.469	2.375	10	
				2.406	2.328	2.328	2.234	8	
					2.234	2.234	2.141	6	
						2.032	1.938	5	
							1.906	4	

DRILL DEPTH M ±.016									
SIZE OF NO. 2 PORT									
16	12	10	8	6	5	4	3		
3.031	2.984	2.875	2.781	2.688	2.672	2.672	2.609	20	
	2.588	2.594	2.484	2.390	2.375	2.375	2.312	16	
		2.266	2.156	2.062	2.046	2.046	1.984	12	
			1.984	1.891	1.875	1.875	1.812	10	
				1.750	1.734	1.734	1.672	8	
					1.562	1.562	1.484	6	
						1.469	1.406	5	
							1.375	4	

SIZE
OF
PORT
#3

- SPECIFY END SIZES IN THE FOLLOWING ORDER: (1) BULKHEAD END; (2) OPPOSITE END ON RUN; (3) INTERNALLY THREADED SIZE PORT.
- LARGEST TUBE SIZE DETERMINES FORGING SIZE.
- MATERIAL CODING:
 - STEEL 1137 OR 1741 PER QQ-S-637 (OPTIONAL: 4130/MIL-S-675B). 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-8625, 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 1.625 WRENCH FLATS									
AS 1031 D 10 16 08	A	B	C	D	E	F	C	DRILL DEPTH	
MS 33657E10					1.555	.719	1.062		1.594
MS 33656E16			2.086						2.469
MS 33649-B				2.696					THRU

- 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" FOR FORGING 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 CDDE M FOR SIZES DASH 10 AND LARGER.

PREPARED BY SUBCOMMITTEE G-3B, AEROSPACE FITTINGS OF
SAE COMMITTEE G-3, AEROSPACE FITTINGS & HOSE ASSEMBLIES