



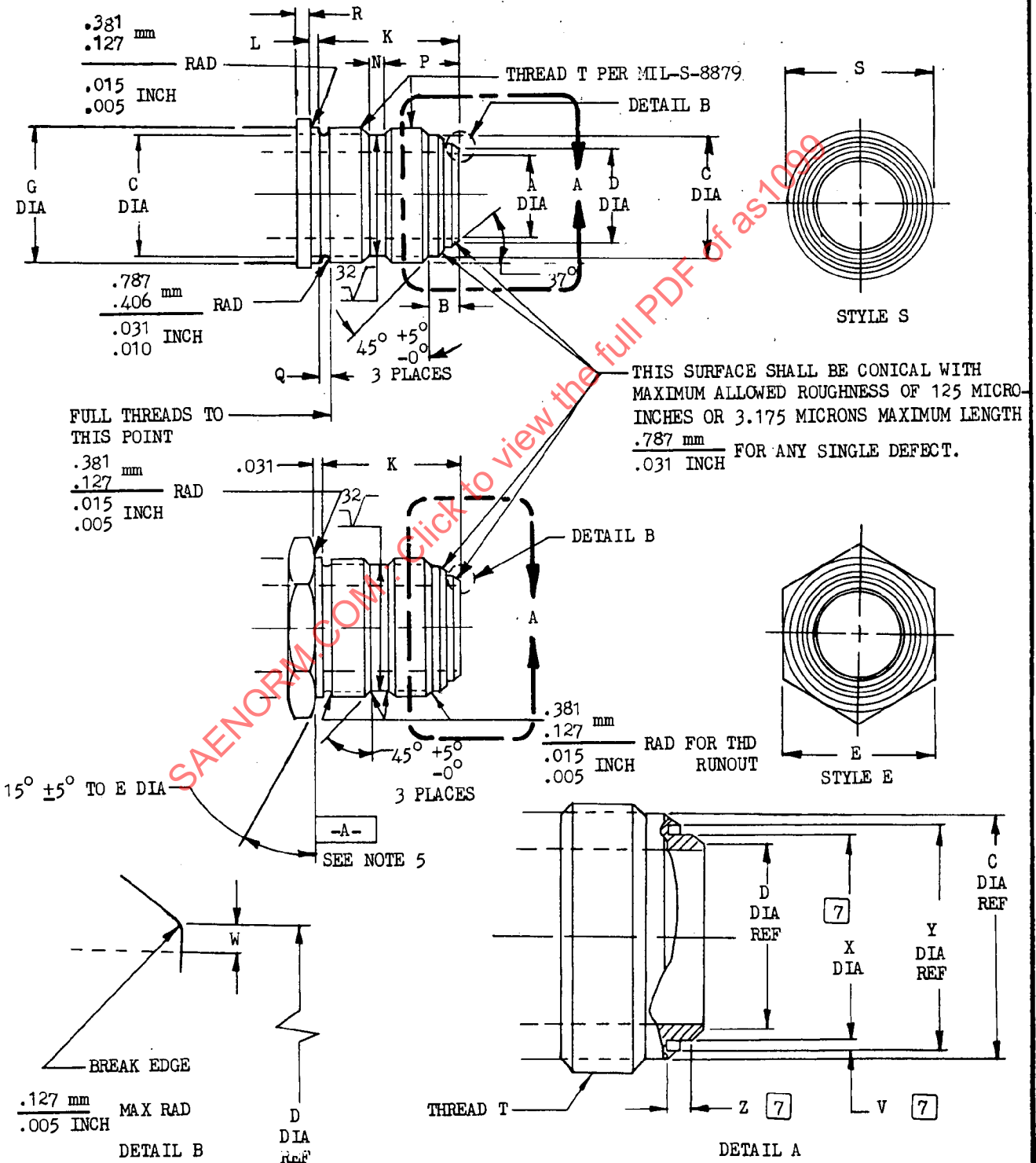
AEROSPACE STANDARD

Society of Automotive Engineers, Inc.
400 COMMONWEALTH DRIVE, WARRENDALE, PA. 15096

AS 1099

Issued 1-15-76
Revised

FITTING END STANDARD DIMENSIONS, FOR BULKHEAD 37 DEGREE FLARED TUBE CONNECTIONS FOR SEAL RING



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 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."

TABLE I
(INCHES)

DASH NO.	TUBING OD	THREAD T	A DIA	B +.015 -.000	C +.000 -.005 DIA	D DIA REF	E	F +.002 -.003 DIA	G		K	L	N +.010 -.000	P ±.005
									MAX	MIN				
4	1/4	.4375-20UNJF-3A	.172 +.003 -.004	.193	.359	.193	.688 +.003 -.004	.364	.4375	.4294	1.016	.094	.140	.443
6	3/8	.5625-18UNJF-3A	.297 ±.004	.198	.476	.318	.813	.481	.5625	.5538	1.094	.094	.156	.476
8	1/2	.7500-16UNJF-3A	.391 ±.004	.253	.654	.426	1.000	.660	.7500	.7406	1.250	.125	.187	.565
10	5/8	.8750-14UNJF-3A	.484 ±.004	.266	.767	.539	1.125	.773	.8750	.8647	1.391	▲	.219	.623
12	3/4	1.0625-12UNJ -3A	.609 ±.005	.315	.938	.664	1.375 +.003 -.004	.945	1.0625	1.0511	1.562	▲	.234	.732
16	1	1.3125-12UNJ -3A	.844 +.007 -.005	.315	1.188	.913	1.625 ±.016	1.195	1.3125	1.3011	1.562	▲	.234	.732
20	1-1/4	1.6250-12UNJ -3A	1.078 +.008 -.005	.367	1.501	1.47	1.875 ±.016	1.507	1.6250	1.6136	1.609	▲	.234	.784
24	1-1/2	1.8750-12UNJ -3A	1.312 +.008 -.005	.378	1.750	1.381	2.125 ±.020	1.756	1.8750	1.8636	1.625	▲	.234	.795

TABLE I (CONTINUED)

Q +.015 -.000	R	S DIA	V ±.001	W MIN	X ±.002	Y (REF)	Z ±.001	DASH NO.
.075	.125	.562	.020	.005	.220	.220	.053	4
.083	.141	.688	.032	.005	.336	.400	.068	6
.094	.156	.875	▲	.012	.450	.514	▲	8
.107	.172	1.000	▲	.022	.560	.624	▲	10
.125	.188	1.188	▲	.022	.685	.750	▲	12
.125	.188	1.438	.032	.029	.968	1.032	.068	16
.125	.188	1.750	.040	.029	1.200	1.280	.071	20
.125	.188	2.000	.040	.029	1.450	1.530	.071	24

TABLE II
(MILLIMETERS, EXCEPT THREAD T)

DASH NO.	TUBING OD	THREAD T	A DIA	B + .381 - .000	C + .000 - .127 DIA	D DIA REF	E	F + .051 - .076 DIA	G		K	L	N + .254 - .000
									MAX	MIN			
4	6.350	.4375-20UNJF-3A	4.369 + .076 - .102	4.902	9.119	4.902	17.475 + .076 - .102	9.246	11.112	10.807	25.806	2.388	3.556
6	9.925	.5625-18UNJF-3A	7.544 + .102 - .127	5.029	12.090	8.077	20.650	12.217	14.287	14.066	27.888	2.388	3.962
8	12.700	.7500-16UNJF-3A	9.931 + .102 - .127	6.426	16.612	10.820	25.400	16.764	19.050	18.811	31.750	3.175	4.750
10	15.875	.8750-14UNJF-3A	12.294 + .102 - .127	6.756	19.482	13.691	28.575	19.634	22.225	21.943	35.331	3.175	5.563
12	19.050	1.0625-12UNJF-3A	15.469 + .127 - .152	8.001	23.825	16.866	34.925	24.003	26.987	26.698	39.675	3.175	5.944
16	25.400	1.3125-12UNJF-3A	21.438 + .178 - .127	8.001	30.175	23.190	41.275	30.353	33.348	33.048	39.675	3.175	5.944
20	31.750	1.6250-12UNJF-3A	27.381 + .203 - .127	9.322	38.125	29.134	47.625	38.278	41.275	40.982	40.869	3.175	5.944
24	38.100	1.8750-12UNJF-3A	33.325 + .203 - .127	9.601	44.450	35.077	53.975	44.602	47.625	47.335	41.275	3.175	5.944

TABLE II (CONTINUED)

P ± .127	Q + .381 - .000	R	S DIA	V ± .025	W MIN	X ± .051	Y (REF)	Z ± .025	DASH NO.
11.252	1.905	3.175	14.275	.508	.127	5.588	6.604	1.346	4
12.090	2.108	3.581	17.474	.813	.127	8.534	10.160	1.727	6
14.351	2.388	3.962	22.225	.813	.305	11.430	13.056	1.727	8
15.824	2.718	4.369	25.400	.813	.559	14.224	15.850	1.727	10
18.593	3.175	4.775	30.175	.813	.559	17.399	19.050	1.727	12
18.593	3.175	4.775	36.525	.813	.737	24.587	26.213	1.803	16
19.914	3.175	4.775	44.450	1.016	.737	30.480	32.512	1.803	20
20.193	3.175	4.775	50.800	1.016	.737	36.830	38.862	1.803	24