

WRENCH PADS, FLUID FITTING, ALTERNATE MACHINED SHAPES OF, DESIGN STANDARD FOR
(THIS IS A DESIGN STANDARD, NOT TO BE USED AS A PART NUMBER)

SCOPE: THIS AEROSPACE STANDARD PROVIDES ALTERNATE DIMENSIONS AND SHAPES FOR FLUID FITTING BODIES MACHINED FROM BAR STOCK, OVERSIZE FORGINGS OR OTHER APPROVED ALTERNATE MATERIALS.

REFERENCES: FITTINGS PER MIL-F-18280, MIL-F-5509, AS1576 AND OTHER STANDARDS (SEE PAGE 8).

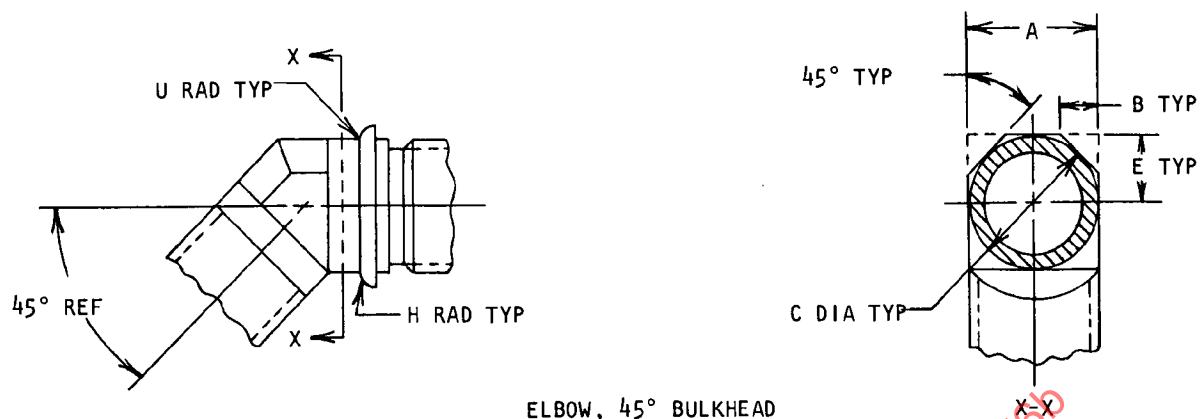
- REQUIREMENTS:
1. REMOVE ALL BURRS AND BREAK ALL SHARP EDGES.
 2. ALL MACHINED SURFACES SHALL BE SMOOTH TO 125 MICROINCHES R_a MAX PER ANSI B46.1.
 3. ALL DIMENSIONS ARE IN INCHES. TOLERANCES UNLESS OTHERWISE SPECIFIED: DECIMALS ± 0.016 ; ANGLES $\pm 5^\circ$.
 4. SLIGHT FLATS ON C DIA OF TRANSITION ZONE SHALL NOT BE CAUSE FOR REJECTION.
 5. ON ELBOWS AND TEES, 45° MILLING CUTS ARE TO BE MADE AS SHOWN TO REDUCE WEIGHT ON SIZE 8 AND LARGER STANDARD FITTINGS, SIZE 10 AND LARGER REDUCED ENVELOPE FITTINGS, AND SIZE 6 AND LARGER INTERNALLY THREADED FITTINGS.
 6. EXAMPLE OF DRAWING CALLOUT: WHEN MACHINED FROM ALTERNATE MATERIAL, THE CENTER BODY DIMENSIONS SHALL CONFORM TO AS1376, TABLE XX. (SIZE MAY BE SPECIFIED AFTER TABLE CALLOUT).

TABLE 1 STANDARD FITTING DIMENSIONS
SEE FIGURE 1

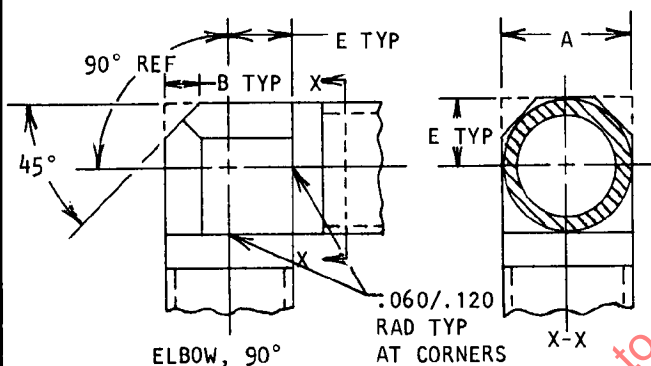
TUBE SIZE	TUBE O.D.	A	B	C DIA	E $\pm .008$	H RAD	U RAD
-02	1/8	.312	-	.312	.156	.062	.062
-03	3/16	.375	-	.375	.188		
-04	1/4	.438	-	.438	.219		
-05	5/16	.500	-	.500	.250	.094	.094
-06	3/8	.562	-	.562	.281		
-08	1/2	.750	.221	.750	.375		
-10	5/8	.875	.257	.875	.438	.125	.125
-12	3/4	1.062	.312	1.062	.531		
-16	1	1.312	.386	1.312	.656		.188
-20	1-1/4	1.625	.478	1.625	.812		
-24	1-1/2	1.875	.551	1.875	.938		
-32	2	2.562	.754	2.562	1.281		

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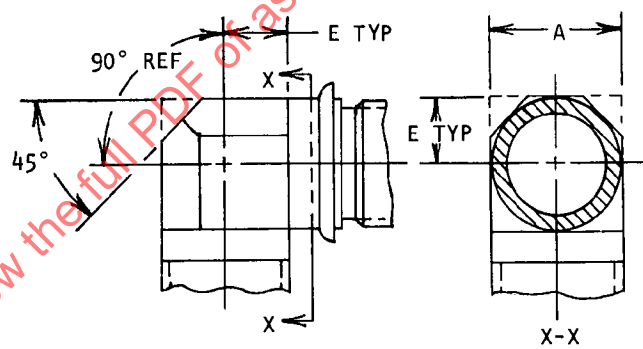
ELBOW, 45° BULKHEAD



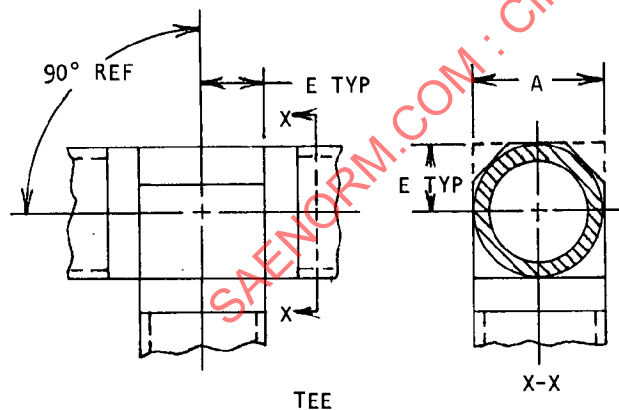
ELBOW, 90°

.060/.120
RAD TYP
AT CORNERS

X-X

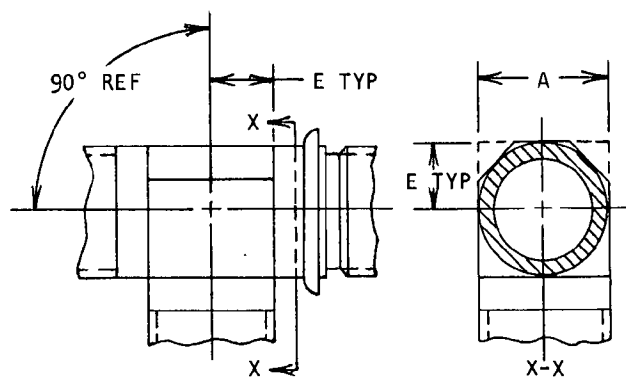


ELBOW, 90° BULKHEAD



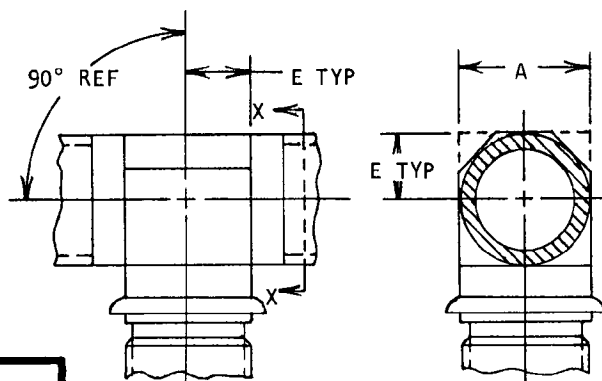
TEE

X-X



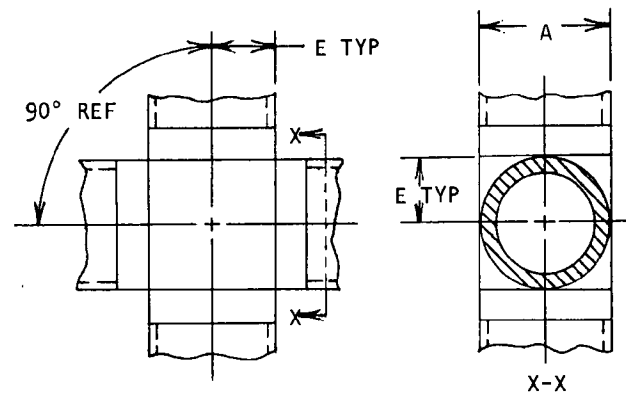
TEE, BULKHEAD ON RUN

X-X



TEE, BULKHEAD ON SIDE

X-X



CROSS

X-X

TABLE II
REDUCED ENVELOPE FITTING DIMENSIONS
SEE FIGURE I

TUBE SIZE	TUBE O.D.	A	B	C DIA	E ±.008	H RAD	U RAD
-04	1/4	.390	—	.350	.195	.062	.062
-06	3/8	.453	—	.453	.226		
-08	1/2	.577	—	.577	.288		.094
-10	5/8	.702	.206	.702	.351	.094	
-12	3/4	.890	.261	.890	.445		.125
-16	1	1.140	.334	1.140	.570	.125	
-20	1 1/4	1.290	.379	1.290	.645		.188

TABLE III
FLARED TO HOSE AND HOSE TO HOSE FITTINGS
SEE FIGURE I

DASH NO.	HOSE I.D.	TUBE O.D.	A	B	E ±.008
4	1/4	1/4	.438	—	.219
6	3/8	3/8	.562	—	.281
8	1/2	1/2	.750	.221	.375
10	5/8	5/8	.875	.257	.438
12	3/4	3/4	1.062	.312	.531
16	1	1	1.312	.386	.656
20	1 1/4	1 1/4	1.625	.478	.812
24	1 1/2	1 1/2	1.875	.551	.938

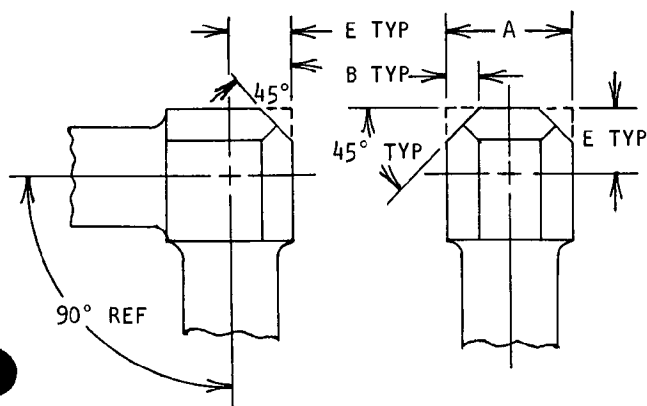
TABLE IV
DYNAMIC BEAM SEAL AND SHRINK-FIT
COMPATIBLE FITTING DIMENSIONS
SEE FIGURE I

TUBE SIZE	TUBE O.D.	A	B	C DIA	E ±.008	H RAD	U RAD
04	1/4	.375	—	.375	.188	.062	.062
06	3/8	.500	—	.500	.250		
08	1/2	.562	—	.562	.281		.094
10	5/8	.688	.202	.688	.344	.094	
12	3/4	.875	.257	.875	.438		.125
14	7/8	1.125	.331	1.125	.562		
16	1					.125	
20	1 1/4	1.375	.404	1.375	.688		.188
24	1 1/2	1.625	.478	1.625	.812		

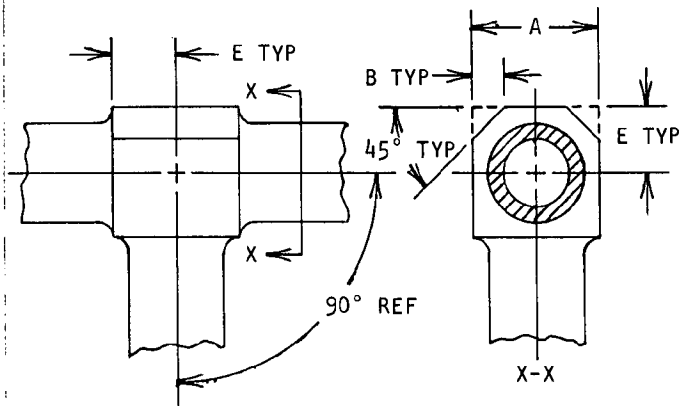
TABLE V
WELD FITTING DIMENSIONS
SEE FIGURE II

SIZE	TUBE O.D.	A	B	E ±.008
-04	1/4	.390	—	.195
-05	5/16	.453	—	.226
-06	3/8	.453	—	.226
-08	1/2	.577	—	.288
-10	5/8	.702	.206	.351
-12	3/4	.890	.261	.445
-16	1	1.140	.334	.570
-20	1 1/4	1.290	.379	.645

FIGURE II
WELD FITTINGS



ELBOW 90°



TEE

FIGURE III
FITTINGS WITH INTERNAL SCREW THREADS

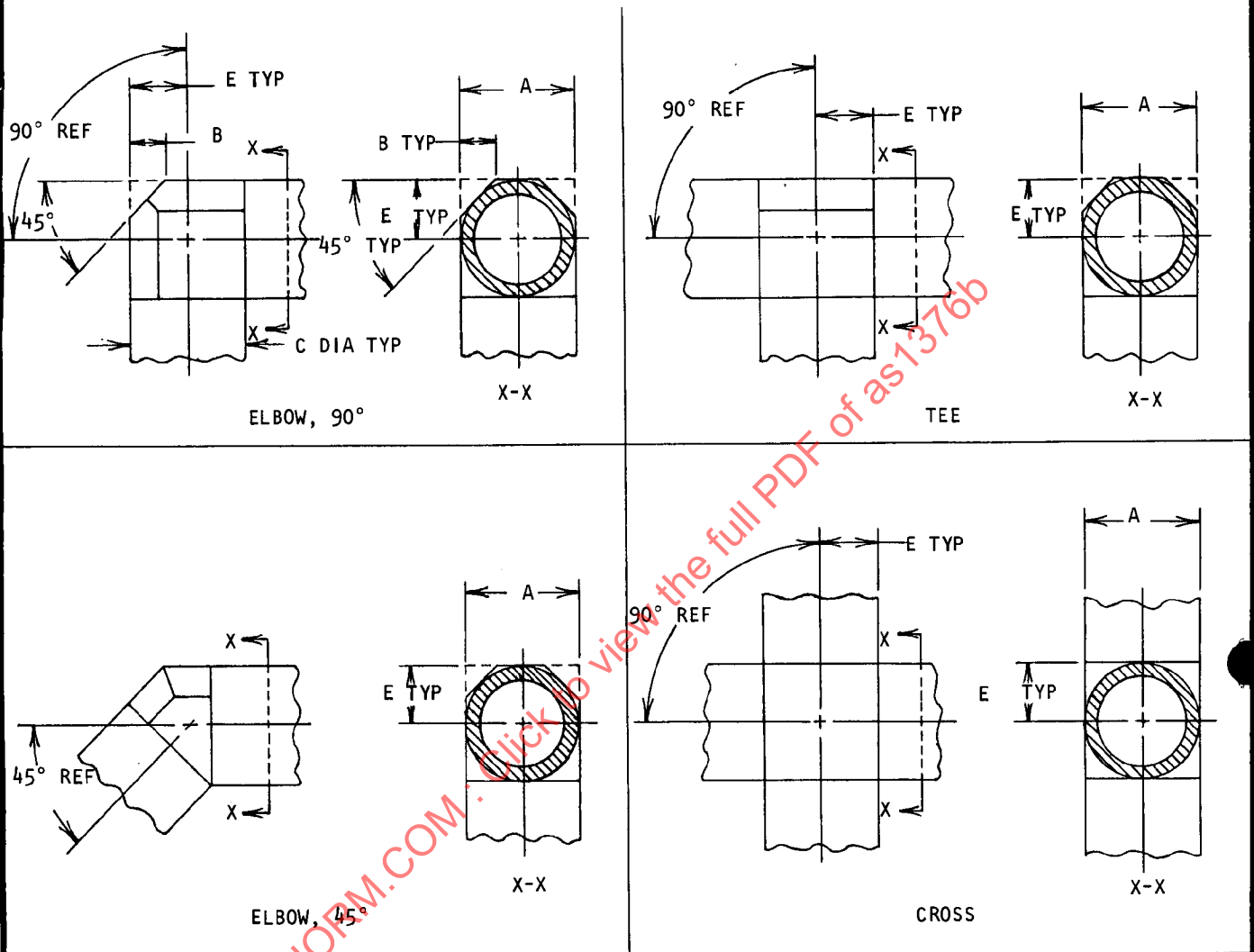


TABLE VI
INTERNAL SCREW THREAD FITTING DIMENSIONS
SEE FIGURE III

TUBE SIZE	TUBE O.D.	THREAD SIZE REF	A	B	C DIA	E ±.008
-04	1/4	.4375	.750	-	.688	.375
-05	5/16	.5000	.750	-	.750	.375
-06	3/8	.5625	.812	.239	.813	.406
-08	1/2	.7500	1.062	.313	1.062	.531
-10	5/8	.8750	1.188	.349	1.188	.594
-12	3/4	1.0625	1.438	.423	1.438	.719
-16	1	1.3125	1.688	.496	1.688	.844
-20	1 1/4	1.6250	2.000	.588	2.000	1.000

FIGURE IV
FITTINGS WITH INTERNAL PIPE THREADS

AS 1376

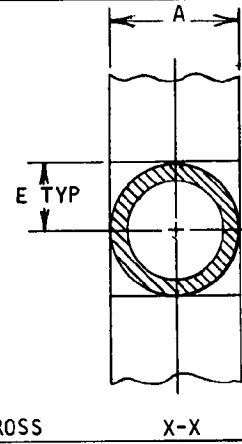
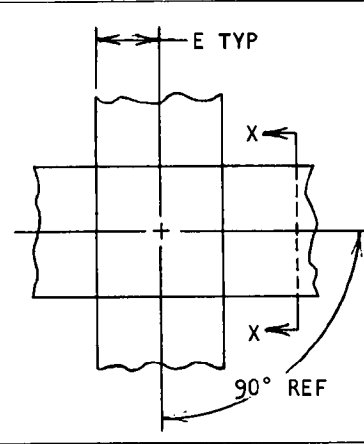
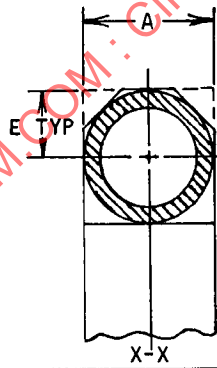
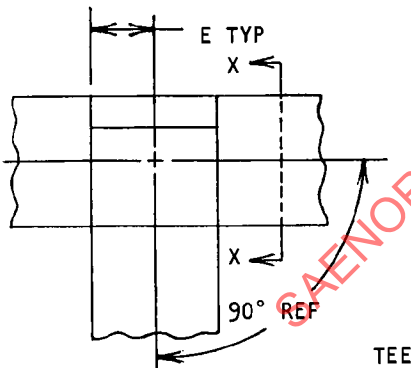
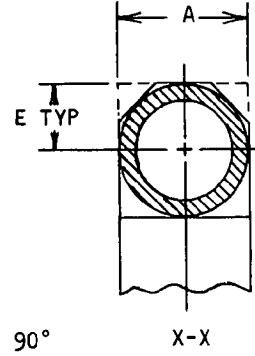
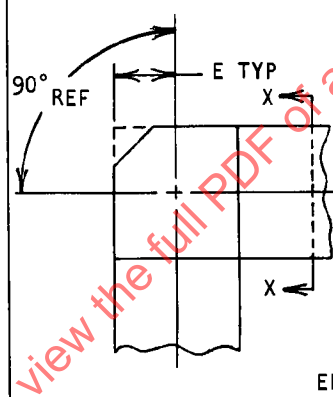
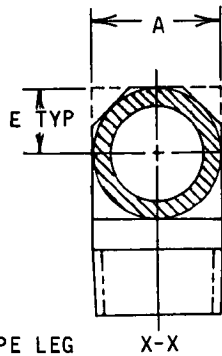
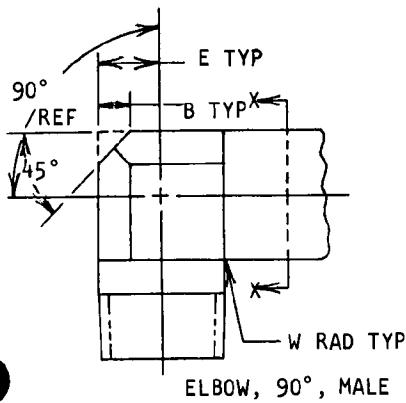
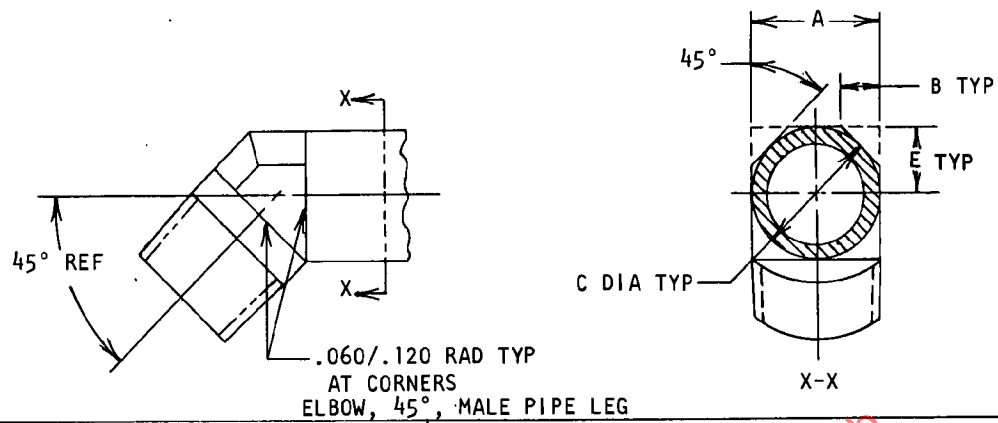


TABLE VII
INTERNAL PIPE THREAD FITTING DIMENSIONS
SEE FIGURE IV

DASH NUMBER *	PIPE THREAD SIZE REF.	A	B	C DIA	E ±.008	W
-1	1/8	.625	-	.578	.312	.063
-2	1/4	.813	-	.781	.406	.094
-3	3/8	.938	.276	.922	.469	
-4	1/2	1.188	.349	1.156	.594	.125
-6	3/4	1.375	.404	1.359	.688	
-8	1	1.750	.515	1.688	.875	
-10	1 1/4	2.156	.634	2.125	1.078	.156

*DASH NUMBER IS PIPE SIZE IN 1/8 INCHES

FIGURE V
MULTIPLE CONNECTOR AND UNIVERSAL FITTINGS
(BANJO FITTINGS)

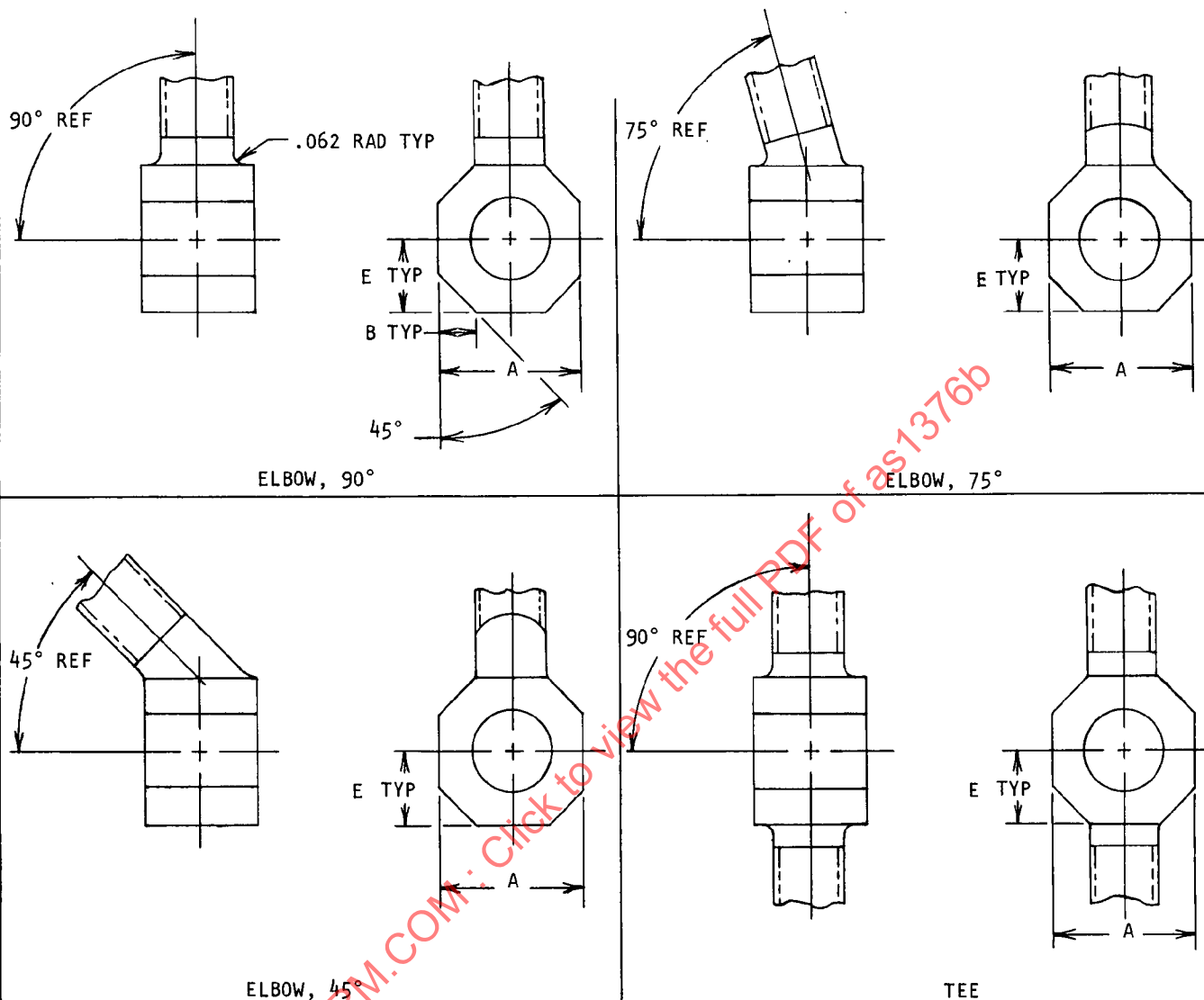


TABLE VIII
MULTIPLE CONNECTOR AND
UNIVERSAL FITTING DIMENSIONS
SEE FIGURE V

TUBE SIZE	TUBE O.D.	A	B	E ±.008
-04	1/4	.812	.238	.406
-05	5/16	.812	.238	.406
-06	3/8	1.000	.293	.500
-08	1/2	1.188	.348	.594
-10	5/8	1.375	.403	.688
-12	3/4	1.688	.494	.844
-16	1	2.062	.604	1.031