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REV.
B

AS21908

FEDERAL SUPPLY CLASS
4730

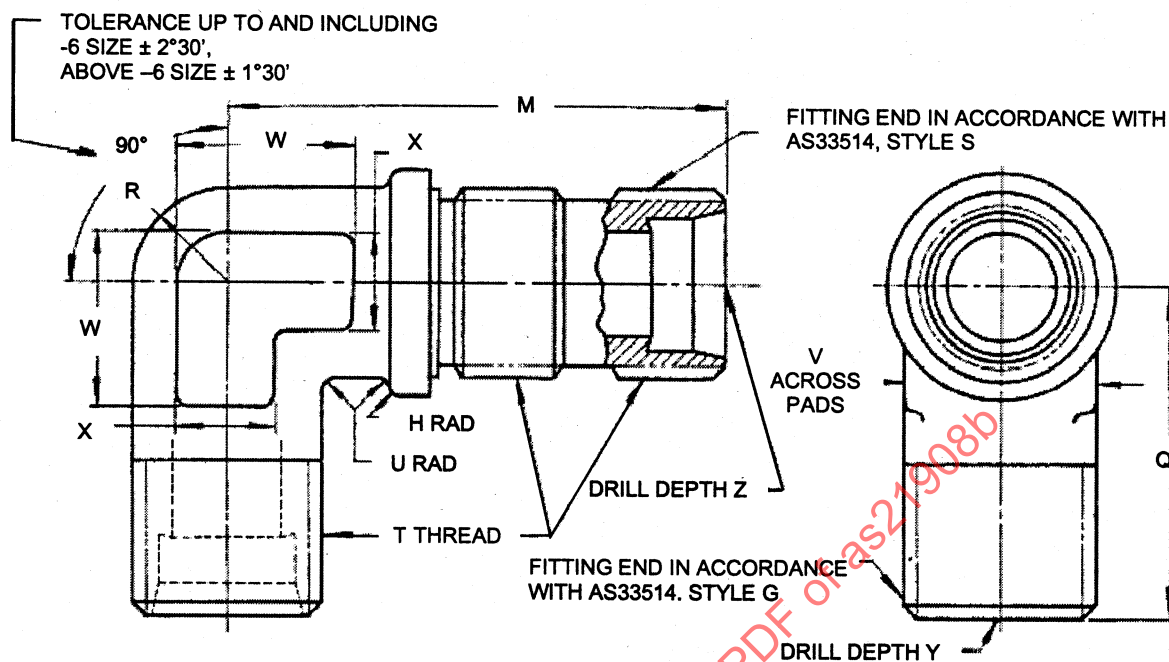


FIGURE 1 - ELBOW, BULKHEAD UNIVERSAL 90°, FLARELESS TUBE

CUSTODIAN: SAE G-3/G-3B

PROCUREMENT SPECIFICATION: AS18280

SAE Aerospace
An SAE International Group

AEROSPACE STANDARD
(R)
ELBOW, BULKHEAD UNIVERSAL 90°, FLARELESS TUBE

AS21908
SHEET 1 OF 4

**REV.
B**

AS21908

DASH NO.	NOMINAL	T THREAD AS8879	H RAD	M	Q	R RAD
	TUBE SIZE			+.047 -.000	+.047 -.000	
-2	.125	.3125-24 UNJF-3A	.063	1.313	.781	.156
-3	.188	.3750-24 UNJF-3A	.063	1.391	.906	.188
-4	.250	.4375-20 UNJF-3A	.063	1.500	.938	.219
-5	.313	.5000-20 UNJF-3A	.094	1.531	1.031	.250
-6	.375	.5625-18 UNJF-3A	.094	1.688	1.063	.281
-8	.500	.7500-16 UNJF-3A	.094	1.969	1.313	.375
-10	.625	.8750-14 UNJF-3A	.094	2.250	1.500	.438
-12	.750	1.0625-12 UNJ-3A	.094	2.469	1.625	.531
-16	1.000	1.3125-12 UNJ-3A	.125	2.594	1.719	.656
-20	1.250	1.6250-12 UNJ-3A	.125	2.875	2.000	.813
-24	1.500	1.8750-12 UNJ-3A	.125	3.156	2.188	.938
-32	2.000	2.5000-12 UNJ-3A	.125	3.750	2.375	1.250

DASH NO.	U RAD	V	W APPROX	X APPROX	Y	Z	WEIGHT, LB/EA, APPROX, REF.		
					+0.047 -.000	+0.047 -.000	STEEL	AL ALLOY	TI ALLOY
-2	.063	.313	.313	.188	.813	1.344	.048	.017	.027
-3	.063	.375	.313	.250	.938	1.422	.064	.023	.036
-4	.063	.438	.375	.250	.969	1.531	.071	.025	.040
-5	.063	.500	.500	.313	1.063	1.563	.102	.038	.058
-6	.094	.563	.500	.313	1.094	1.719	.123	.054	.070
-8	.094	.750	.625	.438	1.344	2.000	.237	.091	.136
-10	.125	.875	.750	.438	1.563	2.344	.400	.133	.230
-12	.125	1.063	.875	.500	1.719	2.578	.530	.190	.305
-16	.125	1.313	1.063	.625	1.813	2.688	.920	.310	.530
-20	.188	1.625	1.250	.750	2.125	3.000	1.330	.524	.767
-24	.188	1.875	1.438	.875	2.359	3.359	1.960	.700	1.130
-32	.188	2.563	1.938	1.188	2.438	4.063			

1. MATERIAL:

- SEE PROCUREMENT SPECIFICATION.
ALLOY STEEL
ALUMINUM ALLOY
CORROSION RESISTANT STEEL
TITANIUM ALLOY
2. FINISH: SEE PROCUREMENT SPECIFICATION
3. BREAK EDGES .003 TO .015 UNLESS OTHERWISE SPECIFIED.
4. DIMENSIONS ARE IN INCHES. UNLESS OTHERWISE SPECIFIED. TOLERANCES: DECIMALS $\pm .016$, ANGLES $\pm 0^{\circ}30'$.

5. PART NUMBERS:

DASH “-” IN PART NUMBER FOR 4130 ALLOY STEEL IS CANCELLED AND REPLACED, SEE 7 /A/
 ADD “V(SIZE)P” IN PLACE OF DASH FOR CORROSION RESISTANT STEEL (15-5PH), CADMIUM PLATED
 ADD “V” IN PLACE OF DASH FOR CORROSION RESISTANT STEEL (15-5PH), NOT CADMIUM PLATED
 ADD “D” IN PLACE OF DASH FOR ALUMINUM ALLOY (2014): CANCELLED AND REPLACED, SEE 7 /C/
 ADD “W” IN PLACE OF DASH FOR ALUMINUM ALLOY (7075)
 ADD “J” IN PLACE OF DASH FOR CORROSION RESISTANT STEEL (TYPE 304)
 ADD “K” IN PLACE OF DASH FOR CORROSION RESISTANT STEEL (TYPE 316)
 ADD “R” AFTER DASH NUMBER FOR CORROSION RESISTANT STEEL (TYPE 321)
 ADD “S” AFTER DASH NUMBER FOR CORROSION RESISTANT STEEL (TYPE 347): CANCELLED, SEE 7 /D/
 ADD “T” AFTER DASH NUMBER FOR TITANIUM ALLOY (6AL-4V)

EXAMPLES OF PART NUMBERS:

MS21908-4 ELBOW, .250 TUBING, 4130 ALLOY STEEL IS CANCELLED AND REPLACED, SEE 7 /A/
 MS21908V4P ELBOW, .250 TUBING, CORROSION RESISTANT STEEL (15-5PH), CADMIUM PLATED
 MS21908V4 ELBOW, .250 TUBING, CORROSION RESISTANT STEEL (15-5PH), NOT CADMIUM PLATED
 MS21908D4 ELBOW, .250 TUBING, ALUMINUM ALLOY (2014) IS CANCELLED AND REPLACED, SEE 7 /C/
 MS21908W4 ELBOW, .250 TUBING, ALUMINUM ALLOY (7075)
 MS21908J4 ELBOW, .250 TUBING, CORROSION RESISTANT STEEL (TYPE 304)
 MS21908K4 ELBOW, .250 TUBING, CORROSION RESISTANT STEEL (TYPE 316)
 MS21908-4R ELBOW, .250 TUBING, CORROSION RESISTANT STEEL (TYPE 321)
 MS21908-4S ELBOW, .250 TUBING, CORROSION RESISTANT STEEL (TYPE 347) IS CANCELLED, SEE 7 /D/
 MS21908-4T ELBOW, .250 TUBING, TITANIUM ALLOY (6AL-4V)

6. TITANIUM NOT RECOMMENDED FOR USE IN OXYGEN SYSTEMS.

7. SEE TABLE 2 FOR CANCELLED AND SUPERSEDED DOCUMENT AND PART NUMBERS.

TABLE 2 - CANCELLED AND SUPERSEDED DOCUMENT AND PART NUMBERS

CANCELLED DOCUMENT NUMBER	PART NUMBERS	SUPERSESSON NOTES	SUPERSEDING DOCUMENT NUMBER	SUPERSEDING PART NUMBERS
MS21908	MS21908-(2 THRU 32)	/A/	AS21908	MS21908V(2 THRU 32)P
MS21908	MS21908C(2 THRU 32)	/B/	AS21908	MS21908J(2 THRU 32), MS21908K(2 THRU 32), OR MS21908-(2 THRU 32)R
MS21908	MS21908D(2 THRU 32)	/C/	AS21908	MS21908W(2 THRU 32)
MS21908	MS21908W(2 THRU 32)	NONE	AS21908	MS21908W(2 THRU 32)
MS21908	MS21908J(2 THRU 32)	NONE	AS21908	MS21908J(2 THRU 32)
MS21908	MS21908K(2 THRU 32)	NONE	AS21908	MS21908K(2 THRU 32)
MS21908	MS21908-(2 THRU 32)R	NONE	AS21908	MS21908-(2 THRU 32)R
MS21908	MS21908-(2 THRU 32)S	/D/	AS21908	MS21908-(2 THRU 32)R
MS21908	MS21908-(2 THRU 32)T	NONE	AS21908	MS21908-(2 THRU 32)T

/A/ PARTS CODED “-” FOR 4130 ALLOY STEEL ARE NOT TO BE MANUFACTURED. PARTS CODED “V(SIZE)P” FOR CORROSION RESISTANT STEEL (15-5PH) WITH CADMIUM PLATE SHALL BE FURNISHED IN LIEU OF “-” CODED (4130) PARTS. PARTS CODED “-” FOR 4130 ALLOY STEEL MAY BE PROCURED UNTIL 12-31-06.

/B/ PARTS CODED “C” FOR CORROSION RESISTANT STEEL (TYPE 303) ARE NOT TO BE MANUFACTURED. PARTS CODED “J”, “K” OR “R” FOR CORROSION RESISTANT STEEL (TYPES 304, 316, OR 321, RESPECTIVELY) SHALL BE FURNISHED IN LIEU OF “C” CODED PARTS AT SUPPLIERS OPTION.

/C/ PARTS CODED “D” FOR ALUMINUM ALLOY 2014 ARE NOT TO BE MANUFACTURED. PARTS CODED “W” FOR ALUMINUM ALLOY 7075 SHALL BE FURNISHED IN LIEU OF 2014 (D CODE) PARTS. PARTS CODED “D” FOR ALUMINUM ALLOY 2014 MAY BE PROCURED UNTIL 12-31-06.

/D/ PARTS CODED “S” FOR CORROSION RESISTANT STEEL (TYPE 347) ARE NOT TO BE MANUFACTURED. PARTS CODED “S” MAY BE USED UNTIL EXISTING STOCK IS DEPLETED. PARTS CODED “R” FOR CORROSION RESISTANT STEEL (TYPE 321) SHALL BE FURNISHED IN LIEU OF “S” CODED PARTS.