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REV.
B

SAE MA3280

FEDERAL SUPPLY CLASS

RATIONALE

MA3280B HAS BEEN REAFFIRMED TO COMPLY WITH THE SAE FIVE-YEAR REVIEW POLICY.

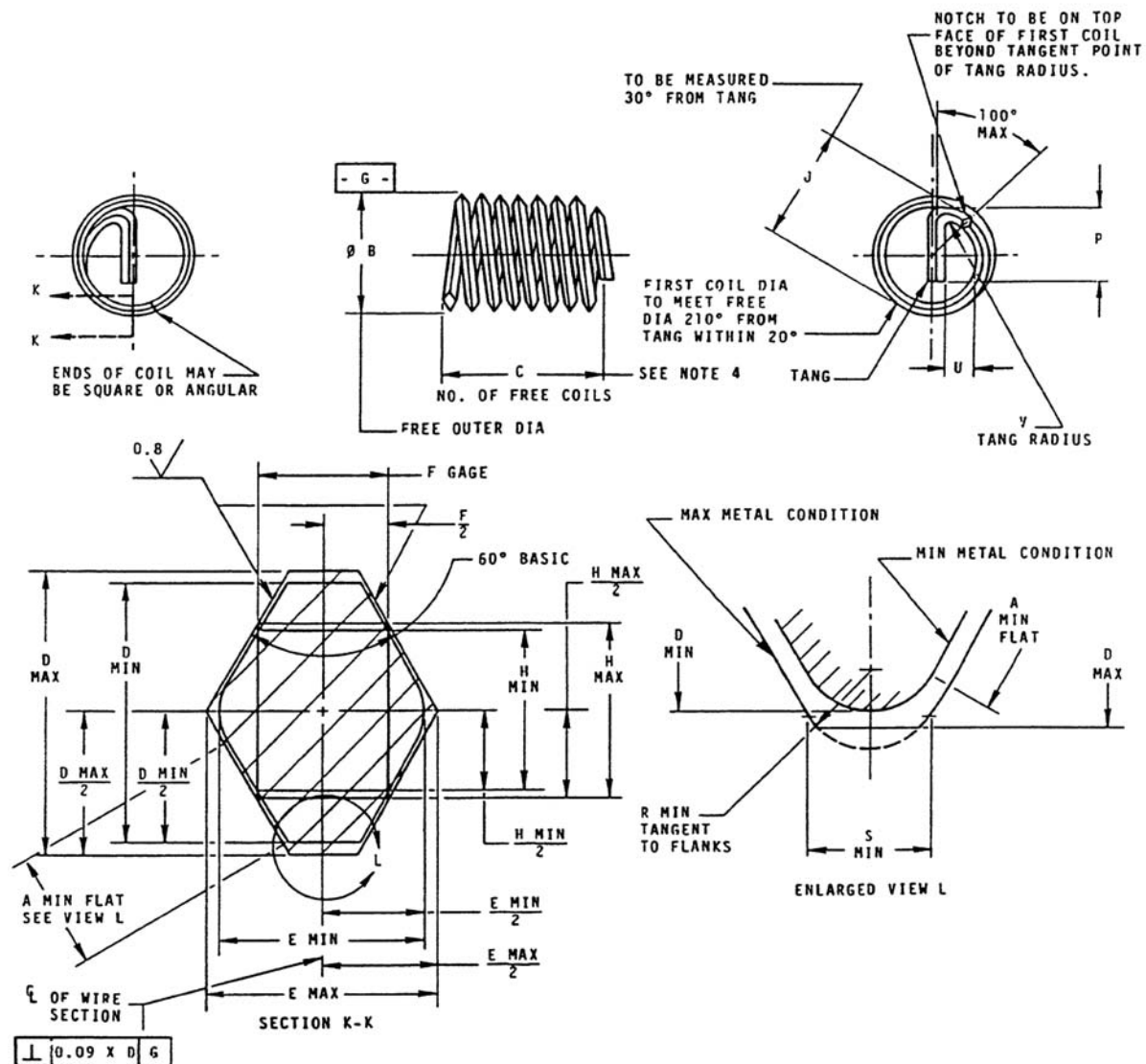
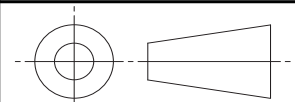


FIGURE 1

SAE values your input. To provide feedback on this Technical Report, please visit <http://www.sae.org/technical/standards/MA3280B>

THIRD ANGLE PROJECTION



CUSTODIAN: E-25

PROCUREMENT SPECIFICATION: NONE

SAE Aerospace
An SAE International Group

METRIC AEROSPACE STANDARD

INSERT, SCREW THREAD, HELICAL COIL, METRIC SERIES, FREE RUNNING, CRES, DRY FILM LUBRICATED

SAE MA3280
SHEET 1 OF 5

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B

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TABLE 1

[illegible]

METRIC AEROSPACE STANDARD

INSERT, SCREW THREAD, HELICAL COIL, METRIC
SERIES, FREE RUNNING, CRES,
DRY FILM LUBRICATED

SAE MA3280
SHEET 2 OF 5

REV.
B

TABLE 1 (CONTINUED)

THREAD SIZE DIA	THREAD SIZE PITCH	C ± .25 COIL 1 DIA	C ± .25 COIL 1.5 DIA	C ± .25 COIL 2 DIA	C ± .25 COIL 2.5 DIA	C ± .25 COIL 3 DIA	D MIN	D MAX	E MIN	E MAX	F GAGE	H MIN	H MAX	J MIN	J MAX
2	0.4	3.250	5.500	7.750	10.125	12.375	0.389	0.433	0.274	0.350	0.200	0.2495	0.2600	2.50	2.70
2.2	0.45	3.125	5.375	7.625	9.875	12.125	0.437	0.487	0.318	0.394	0.225	0.2820	0.2920	2.60	2.80
2.5	0.45	3.375	5.750	8.125	10.500	12.750	0.437	0.487	0.318	0.394	0.225	0.2820	0.2920	3.05	3.65
3	0.5	3.750	6.375	8.875	11.375	13.875	0.482	0.541	0.362	0.438	0.250	0.3145	0.3250	3.60	4.30
3.5	0.6	3.750	6.375	8.750	11.375	13.750	0.586	0.650	0.449	0.525	0.300	0.3795	0.3900	4.25	4.90
4	0.7	3.625	6.125	8.625	11.125	13.625	0.683	0.758	0.510	0.612	0.350	0.4445	0.4550	4.90	5.55
5	0.8	4.125	6.875	9.625	12.375	15.125	0.775	0.866	0.598	0.700	0.400	0.5085	0.5200	6.10	6.75
6	1	4.000	6.750	9.500	12.125	14.875	0.975	1.083	0.875	0.875	0.500	0.6370	0.6500	7.25	7.90
7	1	4.875	8.000	11.125	14.125	17.250	0.975	1.083	0.748	0.875	0.500	0.6370	0.6500	8.40	9.15
8	1	5.875	9.375	13.000	16.500	20.125	0.975	1.083	0.748	0.875	0.500	0.6370	0.6500	9.20	9.65
8	1.25	4.500	7.375	10.250	13.250	16.125	1.251	1.353	0.967	1.094	0.625	0.7990	0.8120	9.50	9.90
10	1	7.625	12.000	16.500	21.000	25.500	0.975	1.083	0.748	0.875	0.500	0.6370	0.6500	11.10	11.55
10	1.25	5.875	9.500	13.125	16.750	20.375	1.251	1.353	0.967	1.094	0.625	0.7990	0.8120	11.50	11.95
10	1.5	4.875	8.000	11.125	14.250	17.375	1.522	1.624	1.160	1.312	0.750	0.9615	0.9740	11.80	12.25
12	1.25	7.250	11.625	15.875	20.250	24.500	1.251	1.353	0.967	1.094	0.625	0.7990	0.8120	13.50	14.00
12	1.5	6.000	9.625	13.375	17.000	20.750	1.522	1.624	1.160	1.312	0.750	0.9615	0.9740	13.80	14.30
12	1.75	5.000	8.250	11.500	14.625	17.875	1.792	1.894	1.379	1.531	0.875	1.1240	1.1370	14.10	14.60
14	1.5	7.125	11.375	15.625	20.000	24.250	1.522	1.624	1.160	1.312	0.750	0.9615	0.9740	15.80	16.30
14	2	5.125	8.500	11.750	15.000	18.375	2.063	2.165	1.598	1.750	1.000	1.2865	1.2990	16.40	16.90
16	1.5	8.250	13.125	18.000	22.750	27.625	1.522	1.624	1.160	1.312	0.750	0.9615	0.9740	17.80	18.30
16	2	6.125	9.750	13.500	17.250	21.000	2.063	2.165	1.598	1.750	1.000	1.2865	1.2990	18.40	18.90
18	1.5	9.500	15.000	20.375	25.875	31.375	1.522	1.624	1.160	1.312	0.750	0.9615	0.9740	19.80	20.35
18	2	7.000	11.125	15.375	19.500	23.625	2.063	2.165	1.598	1.750	1.000	1.2865	1.2990	20.40	20.95
18	2.5	5.375	8.875	12.250	15.625	19.000	2.604	2.706	1.998	2.188	1.250	1.6110	1.6240	20.90	21.45
20	1.5	10.750	16.875	22.875	28.875	35.000	1.522	1.624	1.160	1.312	0.750	0.9615	0.9740	21.80	22.50
20	2	7.875	12.500	17.250	21.875	26.500	2.063	2.165	1.598	1.750	1.000	1.2865	1.2990	22.40	23.10
20	2.5	6.125	9.875	13.625	17.375	21.125	2.604	2.706	1.998	2.188	1.250	1.6110	1.6240	22.90	23.60
22	1.5	11.875	18.500	25.125	31.625	38.250	1.522	1.624	1.160	1.312	0.750	0.9615	0.9740	24.10	24.80
22	2	8.750	13.750	18.875	23.875	29.000	2.063	2.165	1.598	1.750	1.000	1.2865	1.2990	24.40	25.10
22	2.5	6.750	10.875	14.875	19.000	23.125	2.604	2.706	1.998	2.188	1.250	1.6110	1.6240	24.90	25.60
24	2	9.500	15.000	20.375	25.875	31.250	2.063	2.165	1.598	1.750	1.000	1.2865	1.2990	26.40	27.10
24	3	6.125	10.000	13.750	17.500	21.375	3.146	3.248	2.396	2.625	1.500	1.9360	1.9485	27.50	28.20
27	2	10.875	17.000	23.250	29.375	35.500	2.063	2.165	1.598	1.750	1.000	1.2865	1.2990	29.40	30.10
27	3	7.000	11.250	15.500	19.750	24.000	3.146	3.248	2.396	2.625	1.500	1.9360	1.9485	30.50	31.20
30	2	12.250	19.125	25.875	32.750	39.500	2.063	2.165	1.598	1.750	1.000	1.2865	1.2990	32.50	33.20
30	3	7.875	12.500	17.125	21.875	26.500	3.146	3.248	2.396	2.625	1.500	1.9360	1.9485	33.50	34.20
33	2	13.625	21.125	28.625	36.000	43.500	2.063	2.165	1.598	1.750	1.000	1.2865	1.2990	35.80	36.50
33	3	8.750	13.875	19.000	24.125	29.250	3.146	3.248	2.396	2.625	1.500	1.9360	1.9485	36.50	37.20
36	2	15.000	23.250	31.375	39.500	47.750	2.063	2.165	1.598	1.750	1.000	1.2865	1.2990	39.00	39.70
36	3	9.750	15.250	20.875	26.500	32.000	3.146	3.248	2.396	2.625	1.500	1.9360	1.9485	39.50	40.20
39	2	16.375	25.250	34.125	43.000	51.875	2.063	2.165	1.598	1.750	1.000	1.2865	1.2990	42.30	43.00
39	3	10.750	16.750	22.750	28.875	34.875	3.146	3.248	2.396	2.625	1.500	1.9360	1.9485	42.50	43.20

TABLE 1 (CONTINUED)

THREAD SIZE DIA	THREAD SIZE PITCH	P MIN	P MAX	R MIN	S MIN	U MAX	U MIN	V MAX	APPROXI- MATE MASS, KILO- GRAMS/100 1 DIA	APPROXI- MATE MASS, KILO- GRAMS/100 1.5 DIA	APPROXI- MATE MASS, KILO- GRAMS/100 2 DIA	APPROXI- MATE MASS, KILO- GRAMS/100 2.5 DIA	APPROXI- MATE MASS, KILO- GRAMS/100 3 DIA
2	0.4	1.30	1.90	0.072	0.125	0.66	0.37	0.22	0.002	0.003	0.005	0.007	0.008
2.2	0.45	1.40	2.00	0.081	0.141	0.91	0.62	0.25	0.004	0.004	0.006	0.008	0.009
2.5	0.45	1.60	2.25	0.081	0.141	1.22	0.81	0.30	0.003	0.006	0.008	0.010	0.012
3	0.5	1.95	2.80	0.090	0.156	1.33	0.86	0.30	0.006	0.009	0.012	0.016	0.019
3.5	0.6	2.20	3.00	0.108	0.188	1.47	0.92	0.30	0.009	0.014	0.020	0.026	0.031
4	0.7	2.50	3.55	0.126	0.219	1.67	1.02	0.45	0.014	0.022	0.031	0.039	0.048
5	0.8	3.15	4.55	0.144	0.250	2.09	1.41	0.60	0.025	0.040	0.055	0.070	0.085
6	1	3.70	4.85	0.180	0.312	2.55	1.65	0.60	0.044	0.072	0.099	0.126	0.153
7	1	4.30	5.50	0.180	0.312	3.10	2.09	0.75	0.062	0.099	0.136	0.173	0.210
8	1	4.75	6.50	0.180	0.312	3.88	2.27	0.75	0.083	0.132	0.180	0.228	0.277
8	1.25	4.75	6.50	0.226	0.391	3.60	2.02	0.75	0.100	0.160	0.221	0.281	0.342
10	1	5.50	8.00	0.180	0.312	4.90	2.95	0.75	0.136	0.212	0.288	0.362	0.439
10	1.25	5.50	8.00	0.226	0.391	4.77	2.86	0.75	0.162	0.257	0.352	0.446	0.541
10	1.5	5.50	8.00	0.271	0.469	4.54	2.56	0.75	0.188	0.302	0.416	0.530	0.643
12	1.25	6.70	9.75	0.226	0.391	5.84	3.77	1.00	0.240	0.376	0.512	0.649	0.785
12	1.5	6.70	9.75	0.271	0.469	5.58	3.50	1.20	0.281	0.444	0.608	0.772	0.935
12	1.75	6.70	9.75	0.316	0.547	5.36	3.23	1.40	0.318	0.509	0.700	0.890	1.081
14	1.5	7.20	11.25	0.271	0.469	6.76	4.34	1.15	0.391	0.614	0.836	1.059	1.282
14	2	7.20	11.25	0.361	0.625	6.26	3.79	1.40	0.497	0.794	1.091	1.368	1.685
16	1.5	8.30	12.75	0.271	0.469	7.78	5.32	1.45	0.519	0.810	1.101	1.392	1.682
16	2	8.30	12.75	0.361	0.625	7.30	4.76	2.70	0.665	1.053	1.441	1.828	2.216
18	1.5	9.30	14.00	0.271	0.469	8.83	6.26	1.75	0.665	1.033	1.401	1.769	2.137
18	2	9.30	14.00	0.361	0.625	8.30	5.74	2.70	0.856	1.347	1.838	2.328	2.819
18	2.5	9.30	14.00	0.451	0.781	7.79	5.20	2.85	1.031	1.645	2.258	2.872	3.486
20	1.5	10.40	14.50	0.271	0.469	9.77	7.19	2.85	0.830	1.284	1.739	2.193	2.647
20	2	10.40	14.50	0.361	0.625	9.40	6.65	2.85	1.072	1.678	2.284	2.890	3.495
20	2.5	10.40	14.50	0.451	0.781	8.89	6.11	2.85	1.297	2.054	2.812	3.569	4.326
22	1.5	11.40	16.00	0.271	0.469	11.10	8.01	2.85	1.013	1.563	2.113	2.662	3.212
22	2	11.40	16.00	0.361	0.625	10.45	7.61	2.85	1.313	2.046	2.779	3.512	4.245
22	2.5	11.40	16.00	0.451	0.781	9.94	7.07	2.85	1.593	2.510	3.426	4.342	5.259
24	2	12.50	16.50	0.361	0.625	11.46	8.60	2.85	1.576	2.448	3.321	4.193	5.065
24	3	12.50	16.50	0.541	0.938	10.45	7.51	2.85	2.239	3.548	4.857	6.166	7.474
27	2	14.00	17.50	0.361	0.625	13.14	9.93	2.85	2.017	3.121	4.225	5.329	6.433
27	3	14.00	17.50	0.541	0.938	12.13	8.85	2.85	2.884	4.540	6.196	7.853	9.509
30	2	15.00	19.00	0.361	0.625	14.81	11.26	2.85	2.513	3.876	5.238	6.601	7.964
30	3	15.00	19.00	0.541	0.938	13.65	10.32	2.85	3.611	5.656	7.700	9.745	11.782
33	2	17.00	21.00	0.361	0.625	16.35	12.74	2.85	3.063	4.712	6.361	8.010	9.659
33	3	17.00	21.00	0.541	0.938	15.19	11.78	2.85	4.420	6.894	9.367	11.841	14.315
36	2	18.50	22.50	0.361	0.625	17.77	14.29	2.85	3.671	5.633	7.595	9.557	11.519
36	3	18.50	22.50	0.541	0.938	16.73	13.23	2.85	5.316	8.260	11.204	14.147	17.091
39	2	20.00	24.00	0.361	0.625	19.28	15.77	2.85	4.331	6.634	8.936	11.239	13.542
39	3	20.00	24.00	0.541	0.938	18.28	14.68	2.85	6.290	9.745	13.200	16.654	20.109

NOTES:

1. NOMINAL LENGTHS ARE REFERENCE AND EQUAL MINIMUM LENGTH OF FULL THREAD INTO WHICH MAXIMUM INSERT CAN BE ASSEMBLED. THEY ARE 1, 1.5, 2, 2.5, AND 3 TIMES NOMINAL THREAD DIAMETER. SEE TABLE 1.
2. ASSEMBLED LENGTH OF INSERT TO BE AS SPECIFIED ON AEROSPACE STANDARD MA1567.
3. ASSEMBLED LENGTH OF INSERT TO BE MEASURED FROM NOTCH.
4. NUMBER OF FREE COILS TO BE COUNTED FROM NOTCH.
5. MATERIAL AND PROCUREMENT SPECIFICATION: MA1565, CRES
6. SURFACE TEXTURE: SYMBOLS PER ANSI Y14.36; REQUIREMENTS PER ANSI/ASME B46.1. UNLESS OTHERWISE SPECIFIED, SURFACES TO BE 3.2 μm Ra.
7. FINISH: DRY FILM LUBRICANT PER MIL-L-46010, TYPE I.
8. DIMENSIONING AND TOLERANCING: ANSI Y14.5M
9. LINEAR DIMENSIONS IN MILLIMETERS (mm).
10. INSERT CAN BE USED WITH M OR MJ EXTERNAL THREADS.
11. MARK PART NUMBER AND MANUFACTURER'S IDENTIFICATION PER AS478-37.
12. DO NOT USE UNASSIGNED PART NUMBERS.

SAE International Standard

 SAE Aerospace An SAE International Group	METRIC AEROSPACE STANDARD	 MA3280 SHEET 5 OF 5	REV. B
	INSERT, SCREW THREAD, HELICAL COIL, METRIC SERIES, FREE RUNNING, CRES, DRY FILM LUBRICATED		