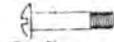
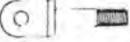
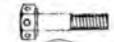
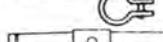
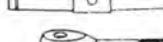
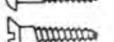
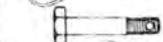
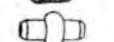
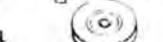
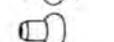
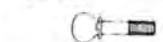
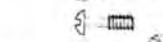
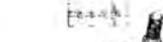
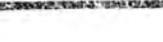


# AN - GUIDE

AN 3 thru AN 20 BOLT—HEX HD. AIRCRAFT		AN 360 NUT—PLAIN (Engine)		AN 509 SCREW—FL. HD. 100" (Structural) (ALLOY STEEL)	
AN 21 thru AN 36 BOLT—CLEVIS		AN 362 NUT—PLATE, SELF-LOCK. (Hi-Temp.)		AN 510 SCREW—FLAT HD. 82" (NF)	
AN 42 thru AN 49 BOLT—EYE		AN 363 NUT—HEX, SELF-LOCK. (Hi-Temp.)		AN 515 SCREW—RD. HD. (NC)	
AN 73 thru AN 81 BOLT—DR HD (Engine)		AN 364 NUT—HEX, SELF-LOCK. (Thin)		AN 520 SCREW—RD. HD. (NF)	
AN 100 THIMBLE—CABLE		AN 365 NUT—HEX, SELF-LOCK.		AN 525 SCREW—WASHER HD. (Alloy Stl.)	
AN 115 SHACKLE—CABLE		AN 366 NUT—PLATE, SELF-LOCK.		AN 526 SCREW—TRUSS HD. (NF & NC)	
AN 116 SHACKLE—SCREW PIN		AN 373 NUT—PLATE, SELF-LOCK. (100" CTSK)		AN 530 SCREW—RD. HD., SHEET METAL (TYPE B)	
AN 155 BARREL—TURNBUCKLE		AN 380 PIN—COTTER		AN 531 SCREW—FL. HD., 82" SHEET METAL (TYPE B)	
AN 161 FORK—TURNBUCKLE		AN 381 PIN—COTTER, STAINLESS		AN 535 SCREW—RD. HD. DRIVE (Type "U")	
AN 162 FORK—TURNBUCKLE (For Bearing)		AN 385 PIN—TAPERED, PLAIN		AN 545 SCREW—WOOD, RD. HD.	
AN 165 EYE—TURNBUCKLE (For Pin)		AN 386 PIN—THREADED TAPER		AN 550 SCREW—WOOD, FLAT HD.	
AN 170 EYE—TURNBUCKLE (For Cable)		AN 392 thru AN 406 PIN—CLEVIS		AN 565 SCREW—HDLESS, SET	
AN 173 thru AN 186 BOLT, CLOSE TOL.		AN 415 PIN—LOCK		AN 663 TERMINAL—CABLE, DBLE. SHK. BALL (FOR SWAGING)	
AN 210 thru AN 221 PULLEY—CONTROL		AN 416 PIN—RETAINING, SAFETY		AN 664 TERMINAL—CABLE, SGL. SHK. BALL (FOR SWAGING)	
AN 253 PIN—HINGE		AN 426 RIVET—100" FL. HD., ALUM.		AN 665 TERMINAL—CABLE, THDED. CLEVIS	
AN 254 SCREW—THUMB, NECKED		AN 427 RIVET—100" FL. HD., Steel, Monel, & Copper		AN 666 TERMINAL—CABLE, THDED. (FOR SWAGING)	
AN 255 SCREW—NECKED		AN 430 RIVET—RD. HD., ALUM.		AN 667 TERMINAL—CABLE, FORK END (FOR SWAGING)	
AN 256 NUT—SELF LOCK (Rt. Angle Plate)		AN 435 RIVET—RD. HD., Steel, Monel, & Copper		AN 668 TERMINAL—CABLE, EYE END (FOR SWAGING)	
AN 257 HINGE—CONTINUOUS		AN 442 RIVET—FL. HD., ALUM.		AN 669 TERMINAL—CABLE, TURNBUCKLE (FOR SWAGING)	
AN 276 JOINT—BALL & SOCKET		AN 450 RIVET—TUBULAR		AN 737 CLAMP—HOSE	
AN 280 KEY—WOODRUFF		AN 470 RIVET—UNIVERSAL HD., ALUM.		AN 741 CLAMP—TUBE	
AN 295 CUP—OIL		AN 481 CLEVIS—ROD END		AN 742 CLAMP—PLAIN, SUPPORT	
AN 310 NUT—CASTLE (Air Frame)		AN 486 CLEVIS—ROD END ADJ.		AN 900 GASKET—COP.—ASBESTOS, ANGULAR	
AN 315 NUT—PLAIN (Air Frame)		AN 490 ROD END—THREADED		AN 901 GASKET—METAL TUBE	
AN 316 NUT—CHECK		AN 500 SCREW—FILL. HD. (NC)		AN 931 GROMMET—ELASTIC	
AN 320 NUT—CASTLE, SHEAR		AN 501 SCREW—FILL. HD. (NF)		AN 935 WASHER—LOCK, SPRING	
AN 335 NUT—PL. HEX (NC) (Semi-Fin)		AN 502 SCREW—DR. FILL. HD. (Alloy Stl.) (NF)		AN 936 WASHER—LOCK TOOTH (Ext. & Int.)	
AN 340 NUT—HEX, MACH. SCREW (NC)		AN 503 SCREW—DR. FILL. HD. (Alloy Stl.) (NC)		AN 960 WASHER—FLAT, AIRCRAFT	
AN 341 NUT—HEX, BRASS (Elec.)		AN 504 SCREW—RD. HD. SELF TAP.		AN 961 WASHER—FLAT, BRASS (Elec.)	
AN 345 NUT—HEX, MACH. SCREW (NF)		AN 505 SCREW—FLAT HD., 82" (NC)		AN 970 WASHER—FLAT, LARGE AREA	
AN 350 NUT—WING		AN 506 SCREW—FLAT HD., 82" SELF TAP.		AN 975 WASHER—TAPER PIN	
AN 355 NUT—SLOTTED (Engine)		AN 507 SCREW—FLAT HD., 100" (NF & NC)		AN 996 RING—LOCK	
USAF 356 NUT—PAL		AN 508 SCREW—RD. HD. BRASS (Elec.)			

## SPENCER AIRCRAFT

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STERN UNION FAX



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SEATTLE, WASHINGTON 98108

# Spencer Aircraft INDUSTRIES

INCORPORATED

## ILLUSTRATIONS OF POPULAR HEAD STYLES AND STANDARD HEAD MARKINGS

<b>A</b> 2S (1100) NO MARK	AN430A°  ROUND HEAD	AN442A°  FLAT HEAD	AN426A  100° C'SUNK	AN455A°  BRAZIER	AN425A°  78° C'SUNK	AN456A°  BRAZIER	AN470A  UNIVERSAL
<b>AD</b> A17ST (2117-T) DIMPLE	AN430AD°  ROUND HEAD	AN442AD°  FLAT HEAD	AN428AD  100° C'SUNK	AN455AD°  BRAZIER	AN425AD°  78° C'SUNK	AN456AD°  BRAZIER	AN470AD  UNIVERSAL
<b>D</b> 17ST (2017-T) RAISED DOT	AN430D°  ROUND HEAD	AN442D°  FLAT HEAD	AN426D  100° C'SUNK	AN455D°  BRAZIER	AN425D°  78° C'SUNK	AN456D°  BRAZIER	AN470D  UNIVERSAL
<b>DD</b> 24ST (2024-T) RAISED DOUBLE-DASH	AN430DD°  ROUND HEAD	AN442DD°  FLAT HEAD	AN426DD  100° C'SUNK	AN455DD°  BRAZIER	AN425DD°  78° C'SUNK	AN456DD°  BRAZIER	AN470DD  UNIVERSAL
<b>B</b> 56S (5056) RAISED-CROSS	AN430B°  ROUND HEAD	AN442B°  FLAT HEAD	AN426B  100° C'SUNK	AN455B°  BRAZIER		AN456B°  BRAZIER	AN470B  UNIVERSAL
<b>C</b> COPPER NO MARK	AN435C  ROUND HEAD	AN441C  FLAT HEAD	AN427C  100° C'SUNK	AN420C  90° C'SUNK			
<b>F</b> STAINLESS STEEL AN427 Recessed Dash AN435 No Mark	AN435F  ROUND HEAD		AN427F  100° C'SUNK				
<b>M</b> MONEL NO MARK	AN435M  ROUND HEAD	AN441M  FLAT HEAD	AN427M  100° C'SUNK				
<b>STEEL</b> RECESSED TRIANGLE	AN435  ROUND HEAD	AN441  FLAT HEAD	AN427  100° C'SUNK	AN420  90° C'SUNK			

AN470 supercedes AN430, AN442, AN455 & AN456 in most application.

AN425 is inactive.

AN - When these two letters precede numbers, they indicate Army-Navy

Specifications. MS20--- supercedes AN numbers.

First three numbers indicate type of head, Letters following indicate



**WAYNE COMMUNITY COLLEGE  
STANDARD  
DRILL SIZES**

P.O. Drawer 1878, Goldsboro, North Carolina 27530 Telephone 735-5151

**MILLIMETER SIZES**

**TAP GUIDE  
BUSHINGS**

Drill	Decimal	Drill	Decimal	Drill	Decimal
80	.0135	1/8	.1250	O	.3160
79	.0145	30	.1285	P	.3230
1/64	.0156	29	.1360	21/64	.3281
78	.0160	28	.1405	Q	.3320
77	.0180	9/64	.1406	R	.3390
76	.0200	27	.1440	11/32	.3427
75	.0210	26	.1470	S	.3480
74	.0225	25	.1495	T	.3530
73	.0240	24	.1520	23/64	.3534
72	.0250	23	.1540	U	.3620
71	.0260	5/32	.1562	3/8	.3750
70	.0280	22	.1570	V	.3770
69	.0292	21	.1590	W	.3860
68	.0310	20	.1610	25/64	.3919
1/32	.0313	19	.1660	X	.4020
67	.0320	18	.1695	Y	.4040
66	.0330	11/64	.1719	13/32	.4062
65	.0350	17	.1730	Z	.4110
64	.0360	16	.1770	27/64	.4219
63	.0370	15	.1800	7/16	.4375
62	.0380	14	.1820	29/64	.4531
61	.0390	13	.1850	15/32	.4581
60	.0400	3/16	.1875	31/64	.4844
59	.0410	12	.1890	1/2	.5000
58	.0420	11	.1910	33/64	.5156
57	.0430	10	.1935	17/32	.5312
56	.0465	9	.1960	35/64	.5469
3/64	.0469	8	.1990	9/16	.5625
55	.0520	7	.2010	37/64	.5781
54	.0550	13/64	.2031	19/32	.5937
53	.0595	6	.2040	39/64	.6094
1/16	.0625	5	.2055	5/8	.6250
52	.0635	4	.2090	41/64	.6406
51	.0670	3	.2130	21/32	.6562
50	.0700	7/32	.2187	43/64	.6719
49	.0730	2	.2210	11/16	.6875
48	.0760	1	.2280	45/64	.7031
5/64	.0781	A	.2340	23/32	.7187
47	.0785	15/64	.2344	47/64	.7344
46	.0810	B	.2380	3/4	.7500
45	.0820	C	.2420	49/64	.7656
44	.0860	D	.2460	25/32	.7812
43	.0890	E	.2500	51/64	.7969
42	.0935	1/4	.2500	13/16	.8125
3/32	.0937	F	.2570	53/64	.8281
41	.0960	G	.2610	27/32	.8437
40	.0980	17/64	.2656	55/64	.8594
39	.0995	H	.2660	7/8	.8750
38	.1015	I	.2720	57/64	.8906
37	.1040	J	.2770	29/32	.9062
36	.1065	K	.2811	59/64	.9219
7/64	.1093	9/32	.2812	15/16	.9375
35	.1100	L	.2900	61/64	.9531
34	.1110	M	.2950	31/32	.9687
33	.1130	19/64	.2968	63/64	.9844
32	.1160	N	.3020	1	1.0000
31	.1200	5/16	.3125		

mm	Decimal	mm	Decimal	mm	Decimal
.35 mm	.0138	3.4 mm	.1339	8. mm	.3150
.4 mm	.0157	3.5 mm	.1378	8.1 mm	.3189
.45 mm	.0177	3.6 mm	.1417	8.2 mm	.3228
.5 mm	.0197	3.7 mm	.1457	8.25 mm	.3248
.55 mm	.0217	3.75 mm	.1477	8.3 mm	.3268
.6 mm	.0236	3.8 mm	.1496	8.4 mm	.3307
.65 mm	.0256	3.9 mm	.1535	8.5 mm	.3346
.7 mm	.0276	4. mm	.1575	8.6 mm	.3386
.75 mm	.0295	4.1 mm	.1614	8.7 mm	.3425
.8 mm	.0315	4.2 mm	.1654	8.75 mm	.3445
.85 mm	.0335	4.25 mm	.1674	8.8 mm	.3465
.9 mm	.0354	4.3 mm	.1694	8.9 mm	.3504
.95 mm	.0374	4.4 mm	.1732	9. mm	.3543
1. mm	.0394	4.5 mm	.1771	9.1 mm	.3583
1.05 mm	.0413	4.6 mm	.1811	9.2 mm	.3622
1.1 mm	.0433	4.7 mm	.1850	9.25 mm	.3642
1.15 mm	.0453	4.75 mm	.1870	9.3 mm	.3661
1.2 mm	.0472	4.8 mm	.1890	9.4 mm	.3701
1.25 mm	.0492	4.9 mm	.1929	9.5 mm	.3740
1.3 mm	.0511	5. mm	.1969	9.6 mm	.3780
1.35 mm	.0531	5.1 mm	.2008	9.7 mm	.3819
1.4 mm	.0551	5.2 mm	.2047	9.75 mm	.3839
1.45 mm	.0571	5.25 mm	.2067	9.8 mm	.3858
1.5 mm	.0591	5.3 mm	.2087	9.9 mm	.3898
1.55 mm	.0610	5.4 mm	.2126	10. mm	.3937
1.6 mm	.0630	5.5 mm	.2165	10.5 mm	.4134
1.65 mm	.0650	5.6 mm	.2205	11. mm	.4330
1.7 mm	.0669	5.7 mm	.2244	11.5 mm	.4528
1.75 mm	.0689	5.75 mm	.2264	12. mm	.4724
1.8 mm	.0709	5.8 mm	.2283	12.5 mm	.4921
1.85 mm	.0729	5.9 mm	.2323	13. mm	.5118
1.9 mm	.0748	6. mm	.2362	13.5 mm	.5315
1.95 mm	.0768	6.1 mm	.2401	14. mm	.5512
2. mm	.0787	6.2 mm	.2441	14.5 mm	.5709
2.05 mm	.0807	6.25 mm	.2461	15. mm	.5906
2.1 mm	.0827	6.3 mm	.2480	15.5 mm	.6102
2.15 mm	.0846	6.4 mm	.2520	16. mm	.6299
2.2 mm	.0866	6.5 mm	.2559	16.5 mm	.6496
2.25 mm	.0886	6.6 mm	.2598	17. mm	.6693
2.3 mm	.0905	6.7 mm	.2638	17.5 mm	.6890
2.35 mm	.0925	6.75 mm	.2658	18. mm	.7087
2.4 mm	.0945	6.8 mm	.2677	18.5 mm	.7283
2.45 mm	.0965	6.9 mm	.2716	19. mm	.7480
2.5 mm	.0984	7. mm	.2756	19.5 mm	.7677
2.55 mm	.1004	7.1 mm	.2795	20. mm	.7874
2.6 mm	.1024	7.2 mm	.2835	20.5 mm	.8071
2.65 mm	.1043	7.25 mm	.2855	21. mm	.8268
2.7 mm	.1063	7.3 mm	.2874	21.5 mm	.8465
2.75 mm	.1083	7.4 mm	.2913	22. mm	.8661
2.8 mm	.1103	7.5 mm	.2953	22.5 mm	.8858
2.85 mm	.1122	7.6 mm	.2992	23. mm	.9055
2.9 mm	.1142	7.7 mm	.3031	23.5 mm	.9252
2.95 mm	.1162	7.75 mm	.3051	24. mm	.9449
3. mm	.1181	7.8 mm	.3071	24.5 mm	.9646
3.05 mm	.1201	7.9 mm	.3110	25. mm	.9843
3.1 mm	.1221				

TAP SIZE	ACTUAL I.D.
0 - 80	.0616-.0619
1 - 64	.0746-.0749
1 - 72	.0746-.0749
2 - 56	.0876-.0879
2 - 64	.0876-.0879
3 - 48	.1011-.1014
3 - 56	.1006-.1009
4 - 40	.1146-.1149
4 - 48	.1141-.1144
5 - 40	.1276-.1279
5 - 44	.1271-.1274
6 - 32	.1411-.1414
6 - 40	.1406-.1409
8 - 32	.1671-.1674
8 - 36	.1666-.1669
10 - 24	.1941-.1944
10 - 32	.1931-.1934
12 - 24	.2201-.2204
12 - 28	.2196-.2199
1/4 - 20	.2551-.2555
1/4 - 28	.2536-.2540
3/8 - 18	.3181-.3185
3/8 - 24	.3166-.3170
1/2 - 16	.3811-.3815
1/2 - 24	.3791-.3795
5/8 - 14	.4446-.4450
5/8 - 20	.4426-.4430
1 - 13	.5076-.5080
1 - 20	.5051-.5055
3/4 - 12	.5701-.5705
3/4 - 18	.5681-.5685
1 - 11	.6331-.6335
3/4 - 18	.6306-.6310
1 - 10	.7592-.7596
1/2 - 16	.7562-.7566
1/2 - 9	.8852-.8856
1/2 - 14	.8822-.8826
1 - 8	1.0112-1.0116
1 - 14	1.0072-1.0076

MILLIMETER SIZES ARE PRICED AS SPECIALS

PRICED AS SPECIALS