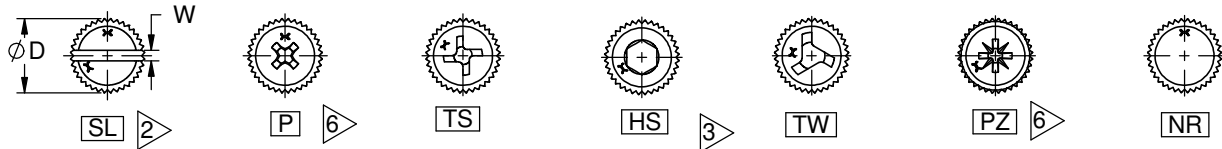
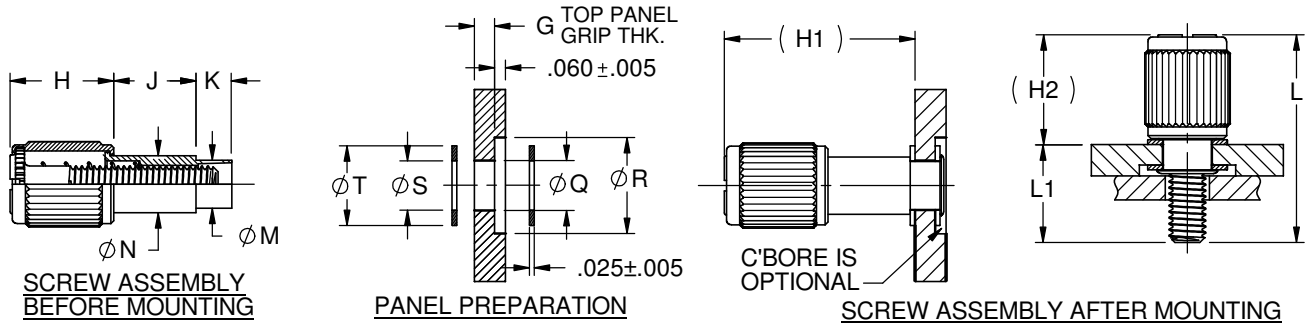


Alcoa Fastening Systems & Rings



CURRENT DESIGN ACTIVITY
 CAGE CODE 0HDW7
 AFSR TUCSON OPERATIONS
 3724 EAST COLUMBIA STREET
 TUCSON, ARIZONA 85714
 PHONE (520) 519-7400
 FAX (520) 519-7454

TURN-LOC® ENGINEERING STANDARD



THREAD SIZE CODE	Ø D	H		(H1)		(H2)		J	Ø M ±.005	Ø N ±.005	Ø Q +.004 - .001	Ø R	Ø S +.004 - .001	Ø T ±.010	W	RECESS SIZE			
		HS	P, PZ, SL, TS, TW, NR	HS	P, PZ, SL, TS, TW, NR	HS	P, PZ, SL, TS, TW, NR									P, PZ	TW	TS	HS
4, 4F, M3	.325	.444	.374	.746	.676	.481	.411	.265	.177	.206	.250	.390	.185	.309	.040	4	2	2	3/32
6, 6F, M3.5	.356	.449	.379	.764	.694	.494	.424	.280	.202	.241	.272	.406	.209	.333	.044	4	3	4	7/64
8, 8F, M4	.420	.559	.489	.986	.916	.606	.536	.385	.215	.258	.281	.468	.223	.385	.049	6	4	6	9/64
10, 10C, 10F, M5	.451	.599	.529	1.061	.991	.641	.571	.427	.250	.297	.316	.500	.257	.415	.055	8	5	8	5/32
12, 12C, 12F, M6	.531	.604	.534	1.066	.996	.641	.571	.428	.313	.371	.386	.578	.323	.495	.062	10	6	10	3/16

PART NUMBER CALLOUT

FRSS () 7500 () - () - () - ()

MODEL
 SERIES

LENGTH CODE	4, 4F, M3		6, 6F, M3.5		8, 8F, M4		10, 10C, 10F, M5		12, 12C, 12F, M6	
	L +.025 - .015	L1	L +.025 - .015	L1	L +.025 - .015	L1	L +.025 - .015	L1	L +.025 - .015	L1
1	.639	.228	.650	.226	.685	.149	.832	.261	.745	.174
2	.764	.353	.775	.351	.810	.274	.957	.386	.870	.299
3	.889	.478	.900	.476	.935	.399	1.082	.511	.995	.424
4	1.014	.603	1.025	.601	1.060	.524	1.207	.636	1.120	.549
5	1.139	.728	1.150	.726	1.185	.649	1.332	.761	1.245	.674

THREAD SIZE CODE	THREAD SIZE	5	LEAD	THREAD SIZE CODE	THREAD SIZE	5	LEAD
4	.112-40 UNC-3A	SINGLE	8F	8F	.164-32 UNC-3A	QUAD	M3
6	.138-32 UNC-3A			10F	.190-32 UNF-3A		
8	.164-32 UNC-3A			12F	.250-28 UNF-3A		
10	.190-32 UNF-3A			M3.5	M3.5 x 0.6-4h6h		
12	.250-28 UNF-3A			M3.5	M3.5 x 0.6-4h6h		
10C	.190-24 UNC-3A	SINGLE (COARSE)	M4	M4	M4 x 0.7-4h6h	METRIC	M5
12C	.250-20 UNC-3A			M5	M5 x 0.8-4h6h		
4F	.112-40 UNC-3A			M6	M6 x 1.0-4h6h		
6F	.138-32 UNC-3A	DOUBLE					

GRIP CODE	G (TOP PANEL GRIP THICKNESS)	K ±.005
A	.020-.031	.125
B	.032-.093	.187
C	.094-.155	.250
D	.156-.217	.312
E	.218-.279	.375
F	.280-.341	.437

CODE	FINISH
NONE	CLEAR
B	BLACK

RECESS CODE	DRIVING RECESS AND SPECIFICATION	RECESS CODE	DRIVING RECESS AND SPECIFICATION
2	SLOT RECESS PER ANSI B18.6.3	PZ	RECESS PER TYPE 1A ANSI B18.6.3
6	HS HEX SOCKET RECESS PER ANSI B18.3	TS	RECESS PER NASM 33781
	NR NO RECESS	TW	RECESS PER NAS 4000
	P CROSS RECESS PER NASM 9006		

ISSUED 9/28/2004 REVISED 3/31/2015 PAGE 1 OF 2	PER DCN 12953, CHANGED FROM Alcoa Fastening Systems AND AFS TO Alcoa Fastening Systems & Rings AND AFSR	TOLERANCE UNLESS OTHERWISE NOTED: .X = ±.05 .XX = ±.02 .XXX = ±.015 ANGLES ±0.5°	DRAWN BY J. SCHLOBOHM
	TURN-LOC®, HIGH PROFILE, OPTIONAL RECESS, ALUM KNOB, .031 RADIAL FLOAT	DIMENSIONS IN INCHES	CHECKED BY SIGNATURE ON FILE
			FRSS7500 S-1051

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Alcoa Fastening Systems & Rings



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TURN-LOC® ENGINEERING STANDARD

AVAILABILITY TABLE																									
GRIP CODE	4, 4F, M3					6, 6F, M3.5					8, 8F, M4					10, 10C, 10F, M5					12, 12C, 12F, M6				
	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
A																									
B																									
C	O					O					O	O				O					O	O			
D	O					O					O	O				O					O	O			
E	O	O				O	O				O	O	O			O	O				O	O	O		
F	O	O	O			O	O				O	O	O			O	O				O	O	O		

- ASSEMBLIES NOT AVAILABLE
- FULLY RETRACTABLE ASSEMBLIES
- ASSEMBLIES NOT FULLY RETRACTABLE (STUD WILL PROTRUDE BELOW MINIMUM TOP PANEL THICKNESS)

MATERIAL

STUD: HS, NR, P, PZ, & SLOT RECESSES
 ALL SIZES - 302 CRES PER ASTM-A-493 OR AMS 5636
 STUD: TS AND TW RECESSES
 ALL SIZES - A-286 CRES PER AMS 5737, HEAT TREAT TO 160 KSI MIN. ULTIMATE TENSILE STRENGTH
 KNOB : 6061 ALUMINUM ALLOY PER AMS QQ-A-225/8, OR AMS 4117, OR EQUIVALENT
 SLEEVE: 304 CRES PER AMS QQ-S-763 OR AMS 5639
 SPRING: 302 CRES PER ASTM-A313 OR AMS 5688
 WASHERS: 301 CRES PER ASTM A 666 OR AMS 5519 OR EQUIVALENT

FINISH

NONE: STUD, SPRING, SLEEVE & WASHERS: PASSIVATE PER AMS2700
 KNOB: ANODIZE PER MIL-A-8625, TYPE II, CLASS I
 B: STUD & WASHERS:
 BLACK OXIDE PER MIL-DTL-13924, CLASS 4 (300 SERIES)
 BLACK OXIDE PER MIL-DTL-13924, CLASS 3 (A-286)
 KNOB: BLACK ANODIZE PER MIL-A-8625, TYPE II, CLASS 2

NOTES:

- 1 ▶ LETTERS AT THE END OF PART NUMBER DESIGNATE SPECIAL ASSEMBLIES:
 DL - ASSEMBLIES WITH DRI LUBE THREADS PER AS5272
 PL - ASSEMBLIES WITH PATCH LOCK PER MIL-DTL-18240
- 2 ▶ NO CODE REQUIRED FOR SLOTTED HEADS
- 3 ▶ WHEN USING THE HEX SOCKET CONFIGURATION, ADD .070 TO "L" LENGTH.
- 4 ▶ FOR LONGER LENGTHS, ADD .125 INCREMENTS PER LENGTH CODE
- 5 ▶ -3A THREADS PER ASME B1.1. "M" THREADS PER ANSI/ASME B1.13M.
- 6 ▶ RECESS IS ONE SIZE SMALLER THAN NOMINAL SIZE REQUIRED FOR 100° FLAT HEAD.
- 7 ▶ COMPONENTS ARE FINISHED PRIOR TO THE ASSEMBLY PROCESS. DISCOLORATION OF THE BLACK ANODIZE MAY OCCUR ON THE CRIMPED PORTION OF THE KNOB DURING ASSEMBLY. A HIGH-ADHESION BLACK PAINT IS PERMITTED FOR TOUCH-UP AFTER ASSEMBLY.

INSTALLATION TOOLS: () INDICATES THREAD SIZE CODE

ARBOR PRESS TOOL HW7600-(), REMOVAL ADAPTER TOOL FNR7505-(), NOSE PIECE HN7513-(), PULLER HP7523-(), HANDLE ASSEMBLY TA7533;
 COMPLETE HAND TOOL ASS'Y: H8603-() (INCLUDES NOSE PIECE, PULLER & HANDLE)

M	PER DCN 12953, CHANGED FROM Alcoa Fastening Systems AND AFS TO Alcoa Fastening Systems & Rings AND AFSR		TOLERANCE UNLESS OTHERWISE NOTED: .X = ±.05 .XX = ±.02 .XXX = ±.015 ANGLES ±0.5°	DRAWN BY	J. SCHLOBOHM
	ISSUED	9/28/2004		CHECKED BY	SIGNATURE ON FILE
	REVISID	3/31/2015		FRSS7500	
PAGE	2 OF 2	TURN-LOC®, HIGH PROFILE, OPTIONAL RECESS, ALUM KNOB, .031 RADIAL FLOAT		S-1051	
			DIMENSIONS IN INCHES		

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