

Alcoa Fastening Systems & Rings

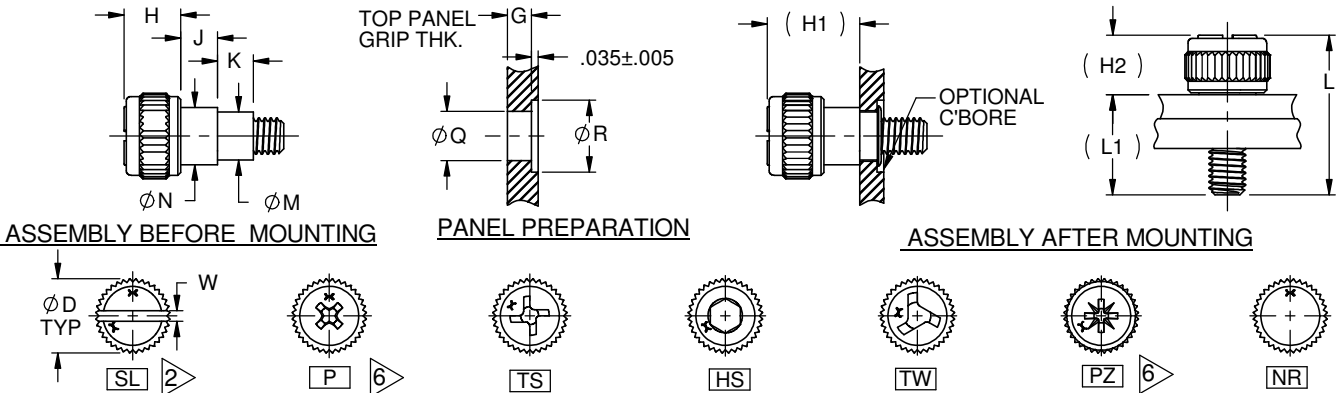


CURRENT DESIGN ACTIVITY
 CAGE CODE 0HWD7
 AFSR TUCSON OPERATIONS
 3724 EAST COLUMBIA STREET
 TUCSON, ARIZONA 85714
 PHONE (520) 519-7400
 FAX (520) 519-7454

TURN-LOC® ENGINEERING STANDARD

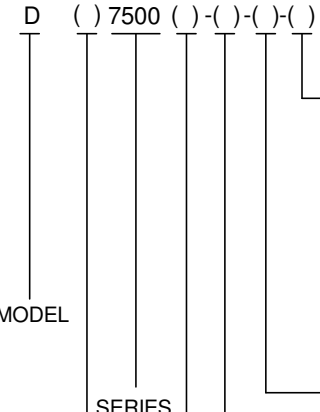
AC

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THREAD SIZE CODE	Ø D	H		(H1)		(H2)		J	Ø M +.005 -.005	Ø N +.005 -.005	Ø Q +.004 -.001	Ø R	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	.339	.269	.524	.454	.364	.294	.176	.177	.206	.187	.281	.040	4	2	2	3/32
6, 6F, M3.5	.356	.339	.269	.524	.454	.364	.294	.176	.202	.241	.209	.312	.044	4	3	4	7/64
8, 8F, M4	.420	.354	.284	.554	.484	.379	.309	.188	.215	.258	.223	.343	.049	6	4	6	9/64
10, 10C, 10F, M5	.451	.374	.304	.594	.524	.399	.329	.204	.250	.297	.257	.375	.055	8	5	8	5/32
12, 12C, 12F, M6	.531	.374	.304	.594	.524	.399	.329	.204	.313	.371	.323	.437	.062	10	6	10	3/16

PART NUMBER CALLOUT



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	.576	.282	.587	.293	.622	.316	.644	.335	.682	.353
1.5	.607	.313	.619	.325	.655	.349	.676	.367	.714	.385
2	.639	.345	.650	.356	.685	.379	.707	.398	.745	.416
2.5	.702	.408	.713	.419	.748	.442	.770	.461	.808	.479
3	.764	.470	.775	.481	.810	.504	.832	.523	.870	.541
3.5	.827	.533	.838	.544	.873	.567	.895	.586	.933	.604
4	.889	.595	.900	.606	.935	.629	.957	.648	.995	.666
4.5	.952	.658	.963	.669	.998	.692	1.020	.711	1.058	.729
5	1.014	.720	1.025	.731	1.060	.754	1.082	.773	1.120	.791
6	1.139	.845	1.150	.856	1.185	.879	1.207	.898	1.245	.916
7	1.264	.970	1.275	.981	1.310	1.004	1.332	1.023	1.370	1.041
8	1.389	1.095	1.400	1.106	1.435	1.129	1.457	1.148	1.495	1.166

GRIP CODE	G (TOP PANEL GRIP THICKNESS)	K ±.005
AAA	.015-.029	.055
AA	.030-.055	.095
A	.031-.062	.125
B	.063-.125	.187
C	.126-.187	.250
D	.188-.250	.312
E	.251-.312	.375
F	.313-.375	.437

THREAD SIZE CODE	THREAD SIZE	LEAD	THREAD SIZE CODE	THREAD SIZE	LEAD
4	.112-40 UNC-3A	SINGLE	8F	.164-32 UNC-3A	QUAD
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	M3 x 0.5-4h6h	METRIC
12	.250-28 UNF-3A	M3.5	M3.5 x 0.6-4h6h		
10C	.190-24 UNC-3A	M4	M4 x 0.7-4h6h		
12C	.250-20 UNC-3A	M5	M5 x 0.8-4h6h		
4F	.112-40 UNC-3A	DOUBLE	M6	M6 x 1.0-4h6h	
6F	.138-32 UNC-3A				

CODE	FINISH
NONE	CLEAR
B	BLACK

RECESS CODE	DRIVING RECESS AND SPECIFICATION	RECESS CODE	DRIVING RECESS AND SPECIFICATION
HS	SLOT RECESS PER ANSIB18.6.3	PZ	RECESS PER TYPE 1A ANSIB18.6.3
NR	NO RECESS	TS	RECESS PER NASM 33781
P	CROSS RECESS PER NASM 9006	TW	RECESS PER NAS 4000

AC

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°
 DIMENSIONS IN INCHES

DRAWN BY: J. SCHLOBOHM
 CHECKED BY: SIGNATURE ON FILE
D()7500
S-0206

TURN-LOC®, LOW PROFILE, OPTIONAL RECESS

ISSUED: 9/27/2004
 REVISED: 3/31/2015
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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	1.5	2	2.5	3	3.5	4	4.5	5	6	1	1.5	2	2.5	3	3.5	4	4.5	5	6	1	1.5	2	2.5	3	3.5	4	4.5	5	6	7
A																															
B																															
C																															
D	O	O	O							O	O									O											
E	O	O	O	O						O	O	O								O	O	O									
F	O	O	O	O						O	O	O	O							O	O	O	O								

- ASSEMBLIES NOT AVAILABLE
- ARBOR PRESS FORMING TOOL
- INSTALLATION TOOL H8603-() OR ARBOR PRESS FORMING TOOL

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: 6061 ALUMINUM ALLOY PER AMS QQ-A-225/8, OR AMS 4117, OR EQUIVALENT

SPRING: 302 CRES PER ASTM-A313 OR AMS 5688

FINISH

NONE: STUD & SPRING: PASSIVATE PER AMS2700
 KNOB & SLEEVE: ANODIZE PER MIL-A-8625, TYPE II, CLASS I

B: STUD:
 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 UNLESS SPECIFIED OTHERWISE:

- 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 MAY BE USED WITH .020 DEEP C'BORE.
- 6 RECESS IS ONE SIZE SMALLER THAN NOMINAL SIZE REQUIRED FOR 100° FLAT HEAD.
- 7 -3A THREADS PER ASME B1.1. "M" THREADS PER ASME B1.13M.
- 8 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: () = THREAD SIZE CODE
 ARBOR PRESS TOOL HW7600-(), NOSE PIECE HN7513-(), PULLER HP7523-(), HANDLE ASSY TA7533;
 COMPLETE HAND TOOL ASS'Y H8603-() (INCLUDES NOSE PIECE, PULLER & HANDLE)

AC	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	9/27/2004		CHECKED BY	SIGNATURE ON FILE
	REVISID	3/31/2015		TURN-LOC®, LOW PROFILE, OPTIONAL RECESS	
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			DIMENSIONS IN INCHES		

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