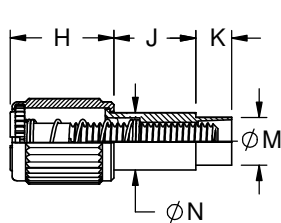


# Alcoa Fastening Systems & Rings

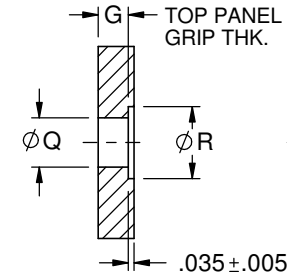


CURRENT DESIGN ACTIVITY  
 CAGE CODE 0HWD7  
 AFSR TUCSON OPERATIONS  
 3724 EAST COLUMBIA STREET  
 TUCSON, ARIZONA 85714  
 PHONE (520) 519-7400  
 FAX (520) 519-7454

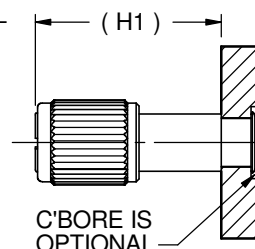
# TURN-LOC® ENGINEERING STANDARD



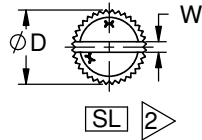
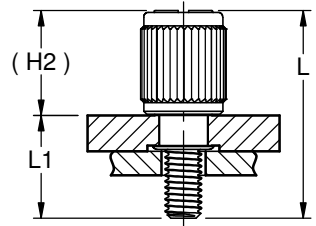
SCREW ASSEMBLY BEFORE MOUNTING



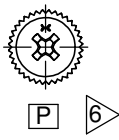
PANEL PREPARATION



SCREW ASSEMBLY AFTER MOUNTING



SL 2



P 6



TS



HS



TW



PZ 6

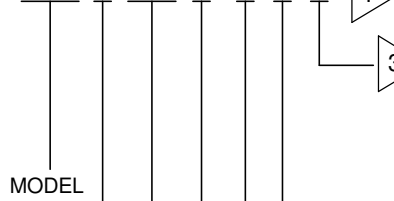


NR

THREAD SIZE CODE	Ø D	H		(H1)		(H2)		J	Ø M ±.005	Ø N ±.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	.444	.374	.721	.651	.456	.386	.265	.177	.206	.187	.281	.040	4	2	2	3/32
6, 6F, M3.5	.356	.449	.379	.739	.669	.469	.399	.280	.202	.241	.209	.312	.044	4	3	4	7/64
8, 8F, M4	.420	.559	.489	.961	.891	.581	.511	.385	.215	.258	.223	.343	.049	6	4	6	9/64
10, 10C, 10F, M5	.451	.599	.529	1.036	.966	.616	.546	.427	.250	.297	.257	.375	.055	8	5	8	5/32
12, 12C, 12F, M6	.531	.604	.534	1.041	.971	.616	.546	.428	.313	.371	.323	.437	.062	10	6	10	3/16

### PART NUMBER CALLOUT

DRSS ( ) 7500 ( ) - ( ) - ( ) - ( )



LENGTH CODE	4, 4F, M3		6, 6F, M3.5		8, 8F, M4		10, 10C, 10F, M5		12, 12C, 12F, M6	
	L +.025 - .015	L <sub>1</sub>	L +.025 - .015	L <sub>1</sub>	L +.025 - .015	L <sub>1</sub>	L +.025 - .015	L <sub>1</sub>	L +.025 - .015	L <sub>1</sub>
1	.639	.253	.650	.251	.685	.174	.832	.286	.745	.199
2	.764	.378	.775	.376	.810	.299	.957	.411	.870	.324
3	.889	.503	.900	.501	.935	.424	1.082	.536	.995	.449
4	1.014	.628	1.025	.626	1.060	.549	1.207	.661	1.120	.574
5	1.139	.753	1.150	.751	1.185	.674	1.332	.786	1.245	.699
6	1.264	.878	1.275	.876	1.310	.799	1.457	.911	1.370	.824
7	1.389	1.003	1.400	1.001	1.435	.924	1.582	1.036	1.495	.949

MODEL	SERIES
NONE	CLEAR
B	BLACK

THREAD SIZE CODE	THREAD SIZE	5	LEAD	THREAD SIZE CODE	THREAD SIZE	5	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		
12	.250-28 UNF-3A	SINGLE (COARSE)		M3.5	M3.5 x 0.6-4h6h	METRIC	
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			M6	M6 x 1.0-4h6h		
6F	.138-32 UNC-3A	DOUBLE					

GRIP CODE	G (TOP PANEL GRIP THICKNESS)	K ±.005
AA	.030-.055	.100
A	.031-.062	.125
B	.063-.125	.187
C	.125-.187	.250
D	.188-.250	.312
E	.251-.312	.375
F	.313-.375	.437

RECESS CODE	DRIVING RECESS AND SPECIFICATION	RECESS CODE	DRIVING RECESS AND SPECIFICATION
	SLOT RECESS PER ANSI B18.6.3	PZ	RECESS PER TYPE 1A ANSI B18.6.3
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		

**V** PER DCN 12953, CHANGED FROM Alcoa Fastening Systems AND AFS TO Alcoa Fastening Systems & Rings AND AFSR

TURN-LOC®, HIGH PROFILE, OPTIONAL RECESS, OPTIONAL SIZE

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

**DRSS7500**  
**S-0551**

ISSUED: 9/29/2004  
 REVISED: 3/31/2015  
 PAGE: 1 OF 2

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V

# 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

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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	6	7	1	2	3	4	5	6	7	1	2	3	4	5	6	7	1	2	3	4	5	6	7	1	2	3	4	5	6	7
AA																																			
A																																			
B																																			
C																																			
D																																			
E																																			
F																																			

- 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 EQ.

SLEEVE: 304 CRES PER AMS QQ-S-763 OR AMS 5639

SPRING: 302 CRES PER ASTM-A-313 OR AMS 5688

### FINISH

NONE: STUD, SPRING & SLEEVE: PASSIVATE PER AMS2700  
KNOB: 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:

- 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.
- 8 MAY BE USED WITH .020 DEEP C'BORE.

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)

V	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 9/29/2004	TURN-LOC®, HIGH PROFILE, OPTIONAL RECESS, OPTIONAL SIZE	DIMENSIONS IN INCHES	CHECKED BY SIGNATURE ON FILE
	REVISED 3/31/2015			<b>DRSS7500</b>
PAGE 2 OF 2				<b>S-0551</b>

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