

ASSEMBLY BEFORE MOUNTING

PANEL PREPARATION

PROTRUDING ASSEMBLY AFTER MOUNTING

THREAD SIZE CODE	(L)	Ø M MAX	Ø Q		Ø R1	Ø R2	(Ø U)	V	W	X MAX	Y	(Ø Z)
			SOFT	HARD								
2, 4 (), 6 ()	.062	.217	.218	.218	.312	.307	.192	.318	.295	.435	.192	.228
8 (), 10 ()	.068	.270	.272	.281	.375	.370	.245	.425	.390	.587	.228	.294
12 ()	.089	.335	.339	.348	.515	.437	.310	.496	.450	.665	.303	.363

PART NUMBER CALLOUT

FF 6010 ()-()-()

MODEL

SERIES

CODE	NUT TYPE
L	LOCKING
NL	NONLOCKING

THREAD SIZE CODE	THREAD SIZE	LEAD		
		60°	7°	
2	.086-56 UNJC-3B	SINGLE	.131	
4	.112-40 UNJC-3B		.131	
6	.138-32 UNJC-3B		.140	
8	.164-32 UNJC-3B		.365	
10	.190-32 UNJF-3B		.370	
12	.250-28 UNJF-3B		.682	
10C	.190-24 UNJC-3B		.370	
12C	.250-20 UNJC-3B		.682	
4F	.112-40 UNJC-3B		DOUBLE	.131
6F	.138-32 UNJC-3B			.140
10D	.190-32 UNJF-3B			.370
8F	.164-32 UNJC-3B		QUAD	.365
10F	.190-32 UNJF-3B	.370		
12F	.250-28 UNJF-3B	.682		

GRIP CODE	G1	G2	K ±.010
AA	N/A	.055 - .073	.073
A	.031 - .062	.074 - .106	.099
B	.063 - .094	.107 - .133	.130
C	.095 - .125	.134 - .165	.161
D	.126 - .156	.166 - .196	.192
E	.157 - .187	.197 - .227	.223
F	.188 - .218	.228 - .258	.254
G	.219 - .250	.259 - .289	.285
H	.251 - .281	.290 - .320	.316
J	.282 - .312	.321 - .351	.347
K	.313 - .343	.352 - .382	.378
L	.344 - .374	.383 - .413	.409
M	.375 - .405	.414 - .444	.440
N	.406 - .436	.445 - .475	.471
P	.437 - .467	.476 - .506	.502
R	.468 - .498	.507 - .537	.533
S	.499 - .529	.538 - .568	.564
T	.530 - .560	.569 - .599	.595
U	.561 - .591	.600 - .630	.626
V	.592 - .622	.631 - .661	.657
W	.623 - .653	.662 - .692	.688
X	.654 - .684	.693 - .723	.719
Y	.685 - .715	.724 - .754	.750

THIS DRAWING, THE STRUCTURAL DESIGN DISCLOSED THEREIN, THE TECHNICAL DATA AND ENGINEERING SERVICE REPRESENTED THEREBY ARE THE EXCLUSIVE PROPERTY OF HUCK INTERNATIONAL, INC.

J	DCN 9319	10-27-10
REV	DESCRIPTION/EC NO.	DATE
UNLESS OTHERWISE SPECIFIED ALL DIMENSIONS IN INCHES		
TOLERANCE UNLESS OTHERWISE NOTED:		
.X	= ±.05	ANGLES ±0.5°
.XX	= ±.02	
.XXX	= ±.015	

ALCOA Alcoa Fastening Systems

AEROSPACE FASTENER DIVISION
3724 EAST COLUMBIA STREET
TUCSON, ARIZONA 85714
PHONE 520 519-7400
FAX 520 519-7427

TITLE NUT PLATE, RIVETLESS, STANDARD, FLOATING			
DATE	06-21-04	PART NO.	FF6010
DRAWN	J. SCHLOBOHM	SIGNER INITIALS	
CHECK	J. CALLAWAY	DRAWING NO.	S-0774
APPROVE	J. HEIN	CAGE CODE	0HDW7
		REV	J
SCALE: 2.5:1		SHEET 1 OF 4	

REV

J

S-0774

DRAWING NO.

MATERIAL:

SLEEVE: CRES PER AMS 5639 (304) OR AMS 5514 (305)

NUT: 1050 CARBON STEEL PER AMS 5085, H.T. TO
160,000 PSI MIN ULTIMATE TENSILE STRENGTH

BRACKET: 1050 CARBON STEEL PER AMS 5085, H.T. TO HRC 42-47

FINISH CODE:

ALL COMPONENTS: CAD PLATE PER AMS QQ-P-416, TYPE II, CLASS 2 (YELLOW)

NUT: DRI-FILM LUBRICANT PER MIL-PRF-46010

NOTES:

- 1 "AA" GRIP RECOMMENDED PANEL PREPARATION:
SIZES 12, 12F, 12C NOT RECOMMENDED FOR LESS THAN .060 THICKNESSES
SIZES 8, 8F, 10, 10F, 10C, 10D C'SINK - "Q" DIMENSION .276-.281, "R2" DIMENSION .343
SIZES 2, 4, 4F, 6, 6F C'SINK - "R2" DIMENSION .275
- 2 SOFT - DIMENSION FOR SOFT ALUMINUM ALLOYS & PLASTICS
HARD - DIMENSION FOR HARD ALUMINUM ALLOYS & STEEL
(SEE PCD 160012 FOR MORE DETAILS)
- 3 A MINIMUM OF TWO THREADS ARE DEFORMED TO PRODUCE SELF-LOCKING
ACTION PER NASM25027 WHEN LOCKING FEATURE IS REQUIRED.
- 4 NUT ELEMENT HAS .060 TOTAL RADIAL FLOAT FOR GRIP LENGTHS "AA"
THRU "C" AND .046 MIN. FOR GRIP LENGTHS GREATER THAN "C".
- 5 FOR NUT ELEMENT REPLACEMENT P/N SEE DWG. S-0877.
- 6 NUT ELEMENT COLOR CODE: (PCD 160147)
NONE - LOCKING STANDARD THREADS
GREEN - NONLOCKING STANDARD THREADS
YELLOW - COARSE THREADS
ORANGE - FAST LEAD THREADS
SKY BLUE - "MJ" METRIC THREADS.
- 7 TO OBTAIN ADDITIONAL WEIGHTS ADD INCREMENTS OF .010 PER LETTER CODE FOR 4, 4F, 6, 6F;
.020 FOR 8, 8F, 10, 10F, 10C, 10D, 12, 12F, 12C.
- 8 THREAD SIZE CODE.
- 9 COMPLETE TOOL ASSEMBLY INCLUDES NOSE PIECE, PULLER, & HANDLE.
- 10 NUT ELEMENT REMOVAL TOOL AVAILABLE, P/N RB 6527.
- 11 FOR HIGH VOLUME INSTALLATION RATES, ALTERNATE POWER TOOLING IS AVAILABLE.
PLEASE CONTACT AFS INSTALLATION SYSTEMS FOR MORE INFORMATION.
- 12 THREAD DIMENSIONS APPLY PRIOR TO APPLICATION OF DRI-FILM LUBRICANT.
POSSIBLE THREAD TIGHTNESS DUE TO LUBE BUILDUP WILL DIMINISH FOLLOWING ENGAGEMENT
OF MATING PART.
- 13 MECHANICAL PROPERTIES PER NASM25027 WHEN INSTALLED PER NASM14200. APPLIES TO
SIZES LISTED IN NASM14200 ONLY.

9

HAND INSTALLATION TOOL SELECTION TABLE				
COMPLETE HAND TOOL ASSEMBLY		PULLER	NOSE PIECE	
C'BORE	C'SINK		C'BORE	C'SINK
DCBT8600(-)	DCST8600(-)	DTP86230(-)	DCBN86130(-)	DCSN86130(-)
() = THREAD SIZE CODE				

INSTALLATION TOOLS:

ARBOR PRESS TOOL HW (*) 7659(-) 8

ANVIL HW (*) 7658(-) 8

FORMER HW (*) 7657(-) 8

* "N" DESIGNATES C'BORE
"S" DESIGNATES C'SINK

HAND INSTALLATION TOOLS: 9

NOSE PIECE

PULLER

HANDLE ASSEMBLY TA7533

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J	DCN 9319	10-27-10
REV	DESCRIPTION/EC NO.	DATE

UNLESS OTHERWISE SPECIFIED
ALL DIMENSIONS IN INCHES

TOLERANCE UNLESS OTHERWISE NOTED:
.X = ±.05 ANGLES ±0.5°
.XX = ±.02
.XXX = ±.015

Alcoa Fastening
Systems

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TITLE

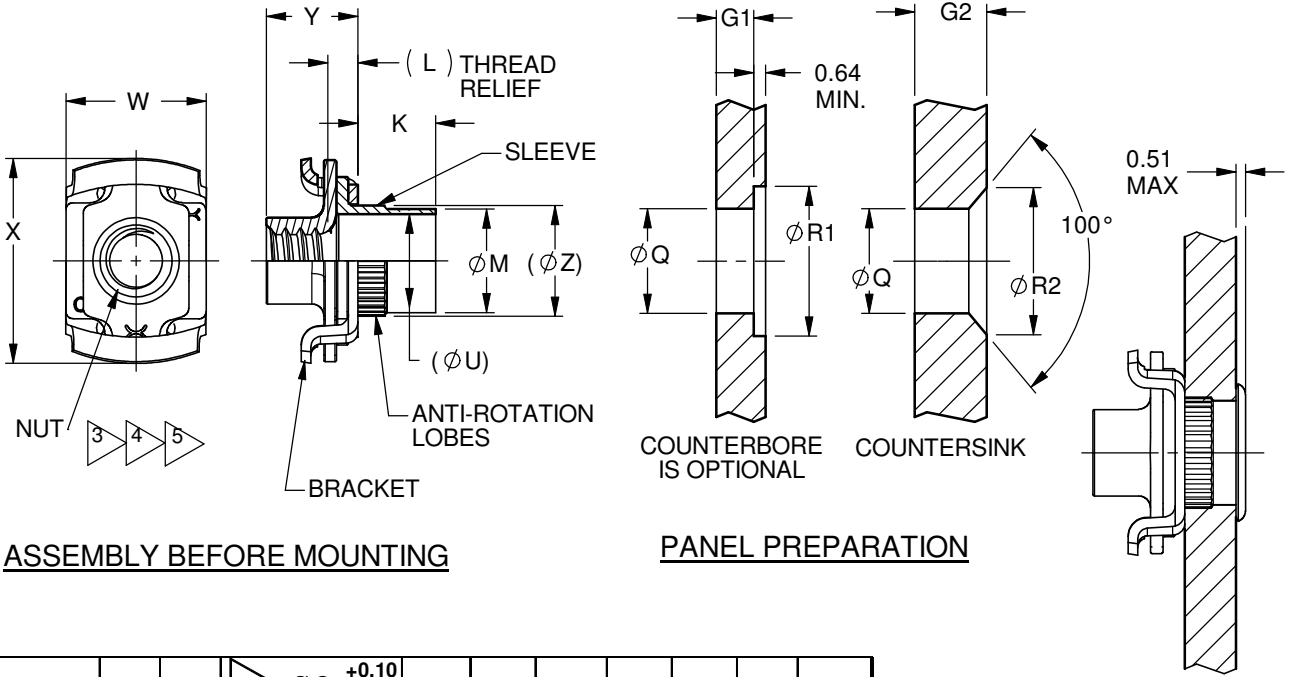
NUT PLATE, RIVETLESS,
STANDARD, FLOATING

DATE	06-21-04	PART NO.	FF6010
DRAWN	J. SCHLOBOHM	SIGNER INITIALS	
CHECK	J. CALLAWAY	DRAWING NO.	S-0774
APPROVE	J. HEIN	CAGE CODE	0HDW7
		REV	J
		SCALE: 2:1	SHEET 2 OF 4

REV J

S-0774

DRAWING NO.



ASSEMBLY BEFORE MOUNTING

PANEL PREPARATION

PROTRUDING

ASSEMBLY AFTER MOUNTING

THREAD SIZE CODE	(L)	Ø M MAX	Ø Q		Ø R1 +0.51 -0.00	Ø R2 ±0.13	(Ø U)	W	X MAX	Y ±0.64	(Ø Z)
			SOFT	HARD							
M2, M2.5, M3, M3.5,	1.57	5.51	5.54	5.54	7.92	7.80	4.88	7.49	11.05	4.80	5.79
M4, M5	1.73	6.86	6.91	7.14	9.53	9.40	6.22	9.91	14.91	6.22	7.47
M6	2.26	8.51	8.61	8.84	13.08	11.10	7.87	11.43	16.89	7.62	9.22

PART NUMBER CALLOUT

FF 6010 ()-()-()

MODEL

SERIES

CODE	NUT TYPE
L	LOCKING
NL	NONLOCKING

THREAD SIZE CODE	THREAD SIZE	LEAD	g/100
M2	MJ2 x 0.4-4h6h	METRIC	59
M2.5	MJ2.5 x 0.45-4h6h		59
M3	MJ3 x 0.5-4h6h		59
M3.5	MJ3.5 x 0.6-4h6h		64
M4	MJ4 x 0.7-4h6h		166
M5	MJ5 x 0.8-4h6h		168
M6	MJ6 x 1.0-4h6h	304	

GRIP CODE	GRIP RANGE	GRIP RANGE	K
AA	N/A	1.40 - 1.85	1.85
A	0.79 - 1.57	1.85 - 2.69	2.51
B	1.58 - 2.39	2.70 - 3.38	3.30
C	2.40 - 3.18	3.39 - 4.19	4.09
D	3.19 - 3.96	4.20 - 4.98	4.88
E	3.97 - 4.75	4.99 - 5.77	5.66
F	4.76 - 5.54	5.78 - 6.55	6.45
G	5.55 - 6.35	6.56 - 7.34	7.24
H	6.36 - 7.14	7.35 - 8.13	8.03
J	7.15 - 7.92	8.14 - 8.92	8.81
K	7.93 - 8.71	8.93 - 9.70	9.60
L	8.72 - 9.50	9.71 - 10.49	10.39
M	9.51 - 10.29	10.50 - 11.28	11.18
N	10.30 - 11.07	11.29 - 12.07	11.96
P	11.08 - 11.86	12.08 - 12.85	12.75
R	11.87 - 12.65	12.86 - 13.64	13.54
S	12.66 - 13.44	13.65 - 14.43	14.33
T	13.45 - 14.22	14.44 - 15.21	15.11
U	14.23 - 15.01	15.22 - 16.00	15.90
V	15.02 - 15.80	16.01 - 16.79	16.69
W	15.81 - 16.59	16.80 - 17.58	17.48
X	16.60 - 17.37	17.59 - 18.36	18.26
Y	17.38 - 18.16	18.37 - 19.15	19.05

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J	DCN 9319	10-27-10
REV	DESCRIPTION/EC NO.	DATE
UNLESS OTHERWISE SPECIFIED ALL DIMENSIONS IN MILLIMETERS		
TOLERANCE UNLESS OTHERWISE NOTED: .X = ±1.25 ANGLES ±0°30' .XX = ±0.5 .XXX = ±0.4		

ALCOA Alcoa Fastening Systems

AEROSPACE FASTENER DIVISION
3724 EAST COLUMBIA STREET
TUCSON, ARIZONA 85714
PHONE 520 519-7400
FAX 520 519-7427

TITLE METRIC NUT PLATE, RIVETLESS, STANDARD, FLOATING	
DATE 06-21-04	PART NO. FF6010
DRAWN J. SCHLOBOHM	DRAWING NO. S-0774
CHECK J. CALLAWAY	CAGE CODE 0HDW7
APPROVE J. HEIN	REV J
SCALE: 2.5:1 SHEET 3 OF 4	

REV

J

S-0774

DRAWING NO.

- 15 MATERIAL:
 SLEEVE: CRES PER AMS 5639 (304) OR AMS 5514 (305)
 NUT: 1050 CARBON STEEL PER AMS 5085, H.T. TO
 160,000 PSI MIN ULTIMATE TENSILE STRENGTH
 BRACKET: 1050 CARBON STEEL PER AMS 5085, H.T. TO HRC 42-47

FINISH CODE:
 ALL COMPONENTS: CAD PLATE PER AMS QQ-P-416, TYPE II, CLASS 2 (YELLOW)
 NUT: DRI-FILM LUBRICANT PER MIL-PRF-46010

NOTES:

- 1 "AA" GRIP RECOMMENDED PANEL PREPARATION:
 SIZES M6 NOT RECOMMENDED FOR LESS THAN 1.52 THICKNESS
 SIZES M4, M5 - "Q" DIMENSION 7.01-7.14; "R2" DIMENSION 8.71.
 SIZES M2, M2.5, M3, M3.5 C'SINK - "R2" DIMENSION 6.99.
- 2 SOFT - DIMENSION FOR SOFT ALUMINUM ALLOYS & PLASTICS
 HARD - DIMENSION FOR HARD ALUMINUM ALLOYS & STEEL
 (SEE PCD 160012 FOR MORE DETAILS)
- 3 A MINIMUM OF TWO THREADS ARE DEFORMED TO PRODUCE SELF-LOCKING
 ACTION PER NASM25027 FOR SIMILAR INCH SIZE NUTPLATE WHEN LOCKING
 FEATURE IS REQUIRED.
- 4 NUT ELEMENT HAS 1.52 TOTAL RADIAL FLOAT FOR GRIP LENGTHS "AA"
 THRU "C" AND 1.17 MIN. FOR GRIP LENGTHS GREATER THAN "C".
- 5 FOR NUT ELEMENT REPLACEMENT P/N SEE DWG. S-0877.
- 6 NUT ELEMENT COLOR CODE: (PCD 160147)
 SKY BLUE - "MJ" METRIC THREADS.
- 7 TO OBTAIN ADDITIONAL WEIGHTS ADD INCREMENTS OF 5g PER
 LETTER CODE FOR M2, M2.5, M3, M3.5; 9g FOR M4, M5, M6.
- 8 THREAD SIZE CODE.
- 9 COMPLETE TOOL ASSEMBLY INCLUDES NOSE PIECE, PULLER, & HANDLE.
- 10 NUT ELEMENT REMOVAL TOOL AVAILABLE, P/N RB 6527.
- 11 FOR HIGH VOLUME INSTALLATION RATES, ALTERNATE POWER TOOLING IS AVAILABLE.
 PLEASE CONTACT AFS INSTALLATION SYSTEMS FOR MORE INFORMATION.
- 12 'MJ' THREADS PER ISO 5855/1 AND ISO 5855/2.
- 13 ALL DIMENSIONS ARE IN MILLIMETERS.
- 14 THREAD DIMENSIONS APPLY PRIOR TO APPLICATION OF DRI-FILM LUBRICANT.
 FOLLOWING ENGAGEMENT OF MATING PART, POSSIBLE THREAD TIGHTNESS
 DUE TO LUBE BUILDUP WILL DIMINISH.
- 15 AISI 4130 PER SAE AMS 6348 MAY BE USED AS AN OPTIONAL NUT ELEMENT MATERIAL
 FOR ASSEMBLIES CERTIFIED TO ALCOA FASTENING SYSTEMS (FF6010 SERIES) PART
 NUMBERS ONLY.

HAND INSTALLATION TOOL SELECTION TABLE				
COMPLETE HAND TOOL ASSEMBLY		PULLER	NOSE PIECE	
C'BORE	C'SINK		C'BORE	C'SINK
DCBT8600(-)	DCST8600(-)	DTP86230(-)	DCBN86130(-)	DCSN86130(-)
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INSTALLATION TOOLS:

ARBOR PRESS TOOL HW (*) 7659(-) 8

ANVIL HW (*) 7658(-) 8

FORMER HW (*) 7657(-) 8

* "N" DESIGNATES C'BORE
 "S" DESIGNATES C'SINK

HAND INSTALLATION TOOLS: 9

NOSE PIECE

PULLER

HANDLE ASSEMBLY TA7533

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Systems**

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3724 EAST COLUMBIA STREET
TUCSON, ARIZONA 85714
PHONE 520 519-7400
FAX 520 519-7427

TITLE

**METRIC NUT PLATE,
RIVETLESS, STANDARD,
FLOATING**

DATE	06-21-04	PART NO.	FF6010
DRAWN	J. SCHLOBOHM	SIGNER INITIALS	
CHECK	J. CALLAWAY	CAGE CODE	OHDW7
APPROVE	J. HEIN	SCALE: 2:1	SHEET 4 OF 4
		DRAWING NO.	S-0774
		REV	J