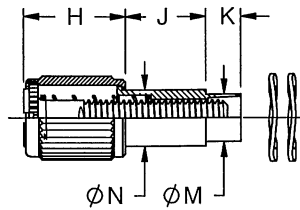
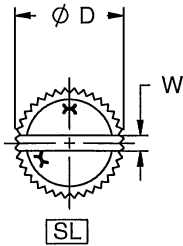


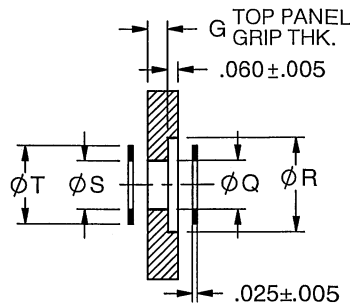
ORIGINAL
Rod Ink Indicator
Original Copy

REV **C**
S-3301

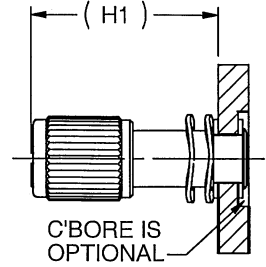
DRAWING NO.



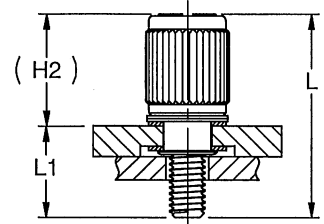
SCREW ASSEMBLY BEFORE MOUNTING



PANEL PREPARATION



SCREW ASSEMBLY AFTER MOUNTING



SCREW ASSEMBLY AFTER MOUNTING

| THREAD SIZE CODE | Ø D | H | (H1) | (H2) | J | Ø M ±.005 | Ø N ±.005 | Ø Q +.004 -0.001 | Ø R | Ø S +.004 -0.001 | Ø T ±.010 | W |
|------------------|------|------|------|------|------|-----------|-----------|------------------|------|------------------|-----------|------|
| 4 | .325 | .374 | .676 | .435 | .265 | .177 | .206 | .250 | .390 | .185 | .309 | .040 |
| 6 | .356 | .379 | .694 | .454 | .280 | .202 | .241 | .272 | .406 | .209 | .333 | .044 |
| 8 | .420 | .489 | .916 | .560 | .385 | .215 | .258 | .281 | .468 | .223 | .385 | .049 |
| 10 | .451 | .529 | .991 | .601 | .427 | .250 | .297 | .316 | .500 | .257 | .415 | .055 |
| 12 | .531 | .534 | .996 | .591 | .428 | .313 | .371 | .386 | .578 | .323 | .495 | .062 |

PART NUMBER CALLOUT

FRWS 7500 -() -() -()

MODEL

SERIES

| LENGTH CODE | 4 | | 6 | | 8 | | 10 | | 12 | |
|-------------|----------------|------|----------------|------|----------------|------|----------------|------|----------------|------|
| | L +.025 -0.015 | L1 | L +.025 -0.015 | L1 | L +.025 -0.015 | L1 | L +.025 -0.015 | L1 | L +.025 -0.015 | L1 |
| 1 | .639 | .204 | .650 | .196 | .685 | .125 | .832 | .231 | .745 | .154 |
| 2 | .764 | .329 | .775 | .321 | .810 | .250 | .957 | .356 | .870 | .279 |
| 3 | .889 | .454 | .900 | .446 | .935 | .375 | 1.082 | .481 | .995 | .404 |
| 4 | 1.014 | .579 | 1.025 | .571 | 1.060 | .500 | 1.207 | .606 | 1.120 | .529 |
| 5 | 1.139 | .704 | 1.150 | .696 | 1.185 | .625 | 1.332 | .731 | 1.245 | .654 |

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

| THREAD SIZE CODE | THREAD SIZE PER ASME B.1.1 | LEAD |
|------------------|----------------------------|--------|
| 4 | .112-40 UNC-3A | SINGLE |
| 6 | .138-32 UNC-3A | |
| 8 | .164-32 UNC-3A | |
| 10 | .190-32 UNF-3A | |
| 12 | .250-28 UNF-3A | |

NOTES:

- 1 LETTERS AT THE END OF PART NUMBER DESIGNATE SPECIAL ASSEMBLIES:
DL - ASSEMBLIES WITH DRI LUBE THREADS PER MIL-PRF-46010
PL - ASSEMBLIES WITH PATCH LOCK PER MIL-DTL-18240
- 2 FOR LONGER LENGTHS, ADD .125 INCREMENTS PER LENGTH CODE

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)

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

| | | |
|-----|--------------------|----------|
| C | DCN 2538 | 02-14-05 |
| 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

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

TITLE
**TURN-LOC, HIGH PROFILE,
OPTIONAL SIZE, RETRACTABLE
.031 RADIAL FLOAT, LOCKING**

| | |
|------------------------------|--------------------------------|
| DATE 02/14/2005 | PART NUMBER FRWS7500 |
| DRAWN JLS | DRAWING NO. S-3301 |
| CHECK <i>[Signature]</i> | CAGE CODE 0HDW7 |
| APPROVE | REV C |
| SCALE: 1:1 SHEET 1 OF 2 | |

ORIGINAL
 Red Ink Indicates
 Original Copy

REV **C**

DRAWING NO. **S-3301**

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

| AVAILABILITY TABLE | | | | | | | | | | |
|--------------------|---|---|---|---|---|---|---|---|---|---|
| GRIP CODE | 4 | | | | | 6 | | | | |
| | 1 | 2 | 3 | 4 | 5 | 1 | 2 | 3 | 4 | 5 |
| A | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| B | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| C | O | ■ | ■ | ■ | ■ | O | ■ | ■ | ■ | ■ |
| D | O | ■ | ■ | ■ | ■ | O | ■ | ■ | ■ | ■ |
| E | O | O | ■ | ■ | ■ | O | O | ■ | ■ | ■ |
| F | O | O | O | ■ | ■ | O | O | ■ | ■ | ■ |

| AVAILABILITY TABLE | | | | | | | | | | |
|--------------------|---|---|---|---|---|----|---|---|---|---|
| GRIP CODE | 8 | | | | | 10 | | | | |
| | 1 | 2 | 3 | 4 | 5 | 1 | 2 | 3 | 4 | 5 |
| A | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| B | O | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| C | O | ■ | ■ | ■ | ■ | O | ■ | ■ | ■ | ■ |
| D | O | O | ■ | ■ | ■ | O | ■ | ■ | ■ | ■ |
| E | O | O | ■ | ■ | ■ | O | O | ■ | ■ | ■ |
| F | O | O | O | ■ | ■ | O | O | ■ | ■ | ■ |

| AVAILABILITY TABLE | | | | | |
|--------------------|----|---|---|---|---|
| GRIP CODE | 12 | | | | |
| | 1 | 2 | 3 | 4 | 5 |
| A | ■ | ■ | ■ | ■ | ■ |
| B | O | ■ | ■ | ■ | ■ |
| C | O | ■ | ■ | ■ | ■ |
| D | O | O | ■ | ■ | ■ |
| E | O | O | ■ | ■ | ■ |
| F | O | O | O | ■ | ■ |

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

MATERIAL

STUD: ALL SIZES - 302 CRES PER ASTM-A-493 OR AMS 5636
 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
 WAVY WASHERS: 1075 SPRING STEEL PER AMS -QQ-S-700 OR EQUIVALENT

FINISH

STUD, SPRING, SLEEVE & FLAT WASHERS: PASSIVATE PER AMS-QQ-P-35
 KNOB: ANODIZE PER MIL-A-8625, TYPE II, CLASS I
 WAVY WASHERS: CAD PLATE PER AMS-QQ-P-416, TYPE II, CLASS 2

| | | | | | |
|-----|--------------------|----------|---|--|--|
| C | DCN 2538 | 02-14-05 |  Alcoa Fastening Systems AEROSPACE FASTENER DIVISION 3724 EAST COLUMBIA STREET TUCSON, ARIZONA 85714 PHONE 520 519-7400 FAX 520 519-7427 www.alcoafasteners.com | TITLE TURN-LOC, HIGH PROFILE, OPTIONAL SIZE, RETRACTABLE .031 RADIAL FLOAT, LOCKING | |
| REV | DESCRIPTION/EC NO. | DATE | | DATE 02/14/2005 DRAWN JLS CHECK  APPROVE | PART NUMBER FRWS7500 DRAWING NO. S-3301 CAGE CODE 0HDW7 |

UNLESS OTHERWISE SPECIFIED ALL DIMENSIONS IN INCHES
 TOLERANCE UNLESS OTHERWISE NOTED:
 .X = ±.05 ANGLES ±0.5°
 .XX = ±.02
 .XXX = ±.015