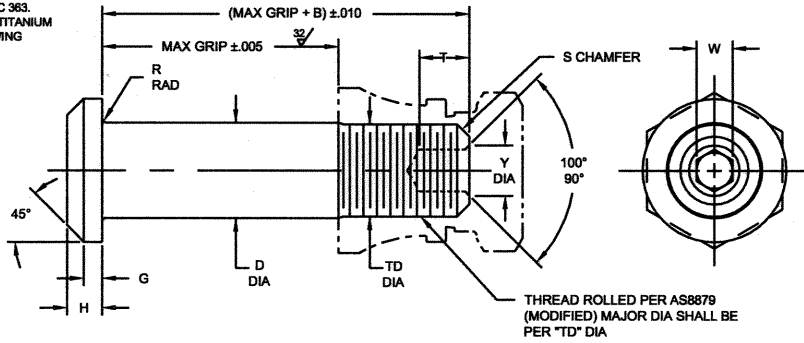
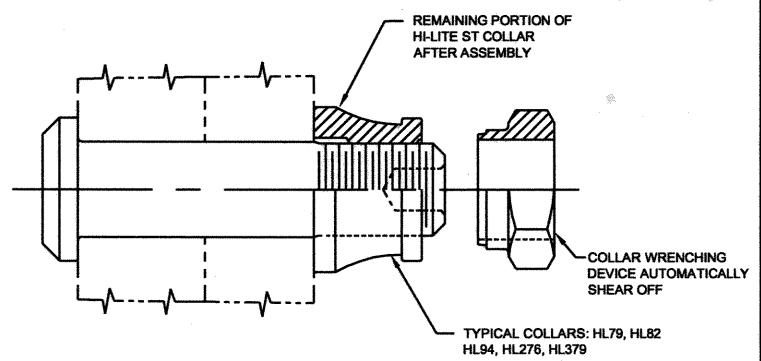


INDENTED HEAD MARKING MAXIMUM DEPTH .010".
 MANUFACTURER'S TRADEMARK PER hs SPEC 363.
 "Y" AFTER TRADEMARK INDICATES 6AL-4V TITANIUM
 ALLOY MATERIAL. THE NUMBER(S) FOLLOWING
 THE "Y" INDICATES FIRST DASH NUMBER.
 ARRANGEMENT OPTIONAL.



HI-LOK® PIN



HI-LOK® PIN AND COLLAR AFTER ASSEMBLY

| FIRST DASH NO. | PIN NOM DIA | A DIA | B REF | D DIA | | TD DIA | G REF | H | R RAD | S CHAMFER REF | THREAD | SOCKET | | | DOUBLE SHEAR POUNDS MINIMUM | TENSION POUNDS MINIMUM |
|-----------------------|-------------|----------------|-------|-------------------------------|----------------------------|----------------|-------|--------------|--------------|---------------|----------------------------|----------------|--------------|--------------|-----------------------------|------------------------|
| | | | | WITHOUT COATING OR SOLID FILM | WITH COATING OR SOLID FILM | | | | | | | W HEX | T DEPTH | Y DIA | | |
| 5 | | | | | | | | | | | | | | | | |
| NOTE: USE HL10V-6-() | | | | | | | | | | | | | | | | |
| 6 | 13/64 | .315 .295 | .325 | .2026 .2021 | .2026 .2016 | .1840 .1810 | .025 | .055 .045 | .025 .015 | 1/32" x 37° | 10-32UNJF-3A Modified | .0806 .0791 | .135 .115 | .119 .104 | 6,130 | 2,500 |
| 8 | 17/64 | .412 .387 | .395 | .2651 .2646 | .2651 .2641 | .2440 .2410 | .030 | .069 .059 | .025 .015 | 1/32" x 37° | 1/4-28UNJF-3A Modified | .0967 .0947 | .150 .130 | .142 .122 | 10,490 | 4,300 |
| 10 | 21/64 | .505 .475 | .500 | .3276 .3271 | .3276 .3266 | .3060 .3020 | .035 | .078 .068 | .030 .020 | 3/64" x 37° | 5/16-24UNJF-3A Modified | .1295 .1270 | .170 .150 | .180 .160 | 16,000 | 6,300 |
| 12 | 25/64 | .600 .565 | .545 | .3901 .3896 | .3901 .3891 | .3680 .3640 | .040 | .088 .078 | .030 .020 | 3/64" x 37° | 3/8-24UNJF-3A Modified | .1617 .1582 | .200 .180 | .217 .197 | 22,700 | 8,700 |
| 14 | 29/64 | .676 .641 | .635 | .4526 .4521 | .4526 .4516 | .4310 .4260 | .045 | .105 .093 | .030 .020 | 3/64" x 37° | 7/16-20UNJF-3A Modified | .1930 .1895 | .230 .210 | .253 .233 | 30,600 | 12,100 |
| 16 | 33/64 | .770 .735 | .685 | .5151 .5146 | .5151 .5141 | .4930 .4880 | .050 | .116 .103 | .030 .020 | 3/64" x 37° | 1/2-20UNJF-3A Modified | .2242 .2207 | .260 .240 | .289 .269 | 39,600 | 15,300 |
| 18 | 37/64 | .864 .829 | .770 | .5771 .5766 | .5771 .5761 | .5550 .5500 | .055 | .127 .112 | .040 .025 | 1/16" x 37° | 9/16-18UNJF-3A Modified | .2555 .2520 | .290 .270 | .326 .306 | 49,700 | 19,000 |
| 20 | 41/64 | .953 .918 | .825 | .6396 .6391 | .6396 .6386 | .6180 .6120 | .060 | .137 .122 | .040 .025 | 1/16" x 37° | 5/8-18UNJF-3A Modified | .2555 .2520 | .330 .305 | .326 .306 | 61,000 | 23,000 |
| 24 | 49/64 | 1.108 1.066 | 1.050 | .7646 .7641 | .7646 .7636 | .7430 .7370 | .070 | .151 .136 | .045 .030 | 1/16" x 37° | 3/4-16UNJF-3A Modified | .3185 .3150 | .395 .365 | .398 .378 | 87,200 | 30,700 |
| 28 | 57/64 | 1.285 1.241 | 1.210 | .8896 .8891 | .8896 .8886 | .8680 .8610 | .090 | .187 .172 | .050 .035 | 5/64" x 37° | 7/8-14UNJF-3A Modified | .3820 .3780 | .455 .425 | .471 .451 | 118,000 | 45,000 |
| 32 | 1-1/64 | 1.468 1.424 | 1.390 | 1.0146 1.0141 | 1.0146 1.0136 | .9930 .9860 | .110 | .218 .203 | .060 .045 | 5/64" x 37° | 1-12UNJF-3A Modified | .5100 .5040 | .580 .550 | .618 .598 | 154,000 | 60,900 |

SEE COLLAR STANDARDS FOR COLLAR STRENGTHS. LOWER STRENGTH (PIN OR COLLAR) DETERMINES SYSTEM STRENGTH.

HL110

| | | | |
|---|----------|--------------------------------------|--|
| "Hi-Lok" and "HL" are internationally registered trademark of Hi-Shear Corporation. | | | |
| DRAWN | DATE | TITLE | |
| D.P.S. | 11-4-63 | HI-LOK® PIN | |
| APPROVED | DATE | PROTRUDING SHEAR HEAD TITANIUM | |
| Cessna | 11-5-63 | 1/16" GRIP VARIATION, 1/64" OVERSIZE | |
| REVISION | DATE | DRAWING NUMBER | |
| (24) | 11-15-06 | HL110 | |
| | | SHEET 1 OF 2 | |

| | |
|---|---|
| HI-SHEAR CORPORATION, U.S.A. (Patent Holder) CAGE No. 73197 a LISI AEROSPACE Company | HI-SHEAR FASTENERS EUROPE, LTD., U.K. (Licensee) CAGE No. 0LB68 a LISI AEROSPACE Company |
| AIR INDUSTRIES CO., INC., U.S.A. (Licensee - U.S.A. & Canada) CAGE No. 06725 | HUCK S.A. France (Licensee - ECC Countries) |
| HUCK INTERNATIONAL, INC., U.S.A. (Licensee) CAGE No. 97928 | BLANC AERO S.A. France (Licensee - ECC Countries) |
| SPS TECHNOLOGIES, U.S.A. (Licensee) CAGE No. 56878 | a LISI AEROSPACE Company |
| FAIRCHILD Aerospace Fastener Division (Licensee) CAGE No. 92215 | TOKYO SCREW COMPANY, Japan (Licensee - Japan) |
| WEST COAST AEROSPACE INC., U.S.A. (Licensee) CAGE No. 60516 (Pins & Steel Collars) | |

GENERAL NOTES:

1. Concentricity: "A" to "D" diameter within .010 FIM.
2. Dimensions to be met after finish.
3. Surface texture per ANSI B46.1.
4. Hole preparation per NAS618.
5. Use HL410 for oversize replacement.
6. Maximum "D" diameter may be increased by .0002 to allow for solid film or aluminum coating application.
7. Non-lubed pins must be used with lubed collars or wet sealant.

MATERIAL:

6AL-4V titanium alloy per AMS4928 or AMS4967.

HEAT TREAT:

95,000 psi shear minimum.

FINISH:

- HL110K-() = Solid film lube per Lubeco 905.
- HL110V-() = Cetyl alcohol lube per Hi-Shear Spec. 305.
- HL110VAP-() = Hi-Kote 1 aluminum coating per Hi-Shear Spec. 294, and cetyl alcohol lube per Hi-Shear Spec. 305.
- HL110VAZ-() = Hi-Kote 1 aluminum coating per Hi-Shear Spec. 294, with color black on thread end, and cetyl alcohol lube per Hi-Shear Spec. 305.
- HL110VBJ-() = I.V.D. aluminum coating per MIL-DTL-83488, Type II, Class 3, and cetyl alcohol lube per Hi-Shear Spec. 305.
- HL110VBR-() = Color code white on thread end, and cetyl alcohol lube per Hi-Shear Spec. 305.
- HL110VBU-() = I.V.D. aluminum coating per MIL-DTL-83488, Type I, Class 3, with color code yellow on thread end.
- HL110VBV-() = I.V.D. aluminum coating per MIL-DTL-83488, Type II, Class 3, with color code blue on thread end.
- HL110VCB-() = I.V.D. aluminum coating per MIL-DTL-83488, Type I, Class 3, with color code black on thread end and cetyl alcohol lube per Hi-Shear Spec. 305.
- HL110VFB-() = Surface coating per Hi-Shear Spec. 306, Type I, color blue, and cetyl alcohol lube per Hi-Shear Spec. 305.
- HL110VHA-() = Hi-Kote 1 aluminum coating per Hi-Shear Spec. 294, with color code black on thread end, and apply Precoat No. PR1436G sealant (.002-.005 thick), and cetyl alcohol lube per Hi-Shear Spec. 305.
- HL110VHD-() = I.V.D. aluminum plating per BAC5315, with color code red on thread end, and cetyl alcohol lube per Hi-Shear Spec. 305.
- HL110VLJ-() = Surface coating per Hi-Shear Spec. 306, Type II, and solid film lube per AS5272.
- HL110VLV-() = Phosphate fluoride treat and Esna-Lube No. 382 (Evertube Corp).
- HL110VVR-() = Surface coating per Hi-Shear Spec. 306, Type II, and solid film lube per "Electrofilm" 4396.
- HL110VRA-() = Phosphate fluoride treat with color code red on thread end and cetyl alcohol lube per Hi-Shear Spec. 305.
- HL110VSY-() = Phosphate fluoride treat, solid film lube per AS5272, Type I, and color red on thread end.
- HL110VTF-() = Surface coating per Hi-Shear Spec. 306, Type I, color pink, and cetyl alcohol lube per Hi-Shear Spec. 305.
- HL110VTA-() = Anodize Ti-Shield III and Hi-Kote 2 solid film lube per Hi-Shear Spec. 292, and cetyl alcohol lube per Hi-Shear Spec. 305.
- HL110VTB-() = Hi-Kote 2 solid film lube per Hi-Shear Spec. 292, and cetyl alcohol lube per Hi-Shear Spec. 305.
- HL110VTF-() = Hi-Kote 2 solid film lube per Hi-Shear Spec. 292.
- HL110VTL-() = Anodize per Hi-Shear Ti-Shield III, solid film lube per DAG-258 and cetyl alcohol lube per Hi-Shear Spec. 305; or anodize per Tiodize Type II, solid film lube per TI-O-LUBE TAL-58, and cetyl alcohol lube per Hi-Shear Spec. 305.
- HL110VTT-() = Translube.
- HL110VUE-() = Surface coating per Hi-Shear Spec. 306, Type II, and cetyl alcohol lube per Hi-Shear Spec. 305.
- HL110VUU-() = Surface coating per Hi-Shear Spec. 306, Type II, and solid film lube per "Lubeco" 2123, Type II.
- HL110VV-() = Solid film lube per "Lubeco" 2123, Type II.

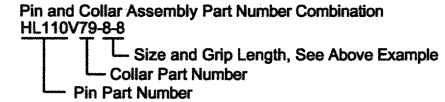
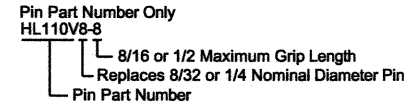
SPECIFICATION:

Hi-Lok Product Specification 342.

CODE:

First dash number indicates nominal diameter in 1/32nds of the pin which HL110 oversize pin replaces.
 Second dash number indicates maximum grip in 1/16ths.
 See Finish note for explanation of code letters.

HOW TO ORDER EXAMPLES:



HL110