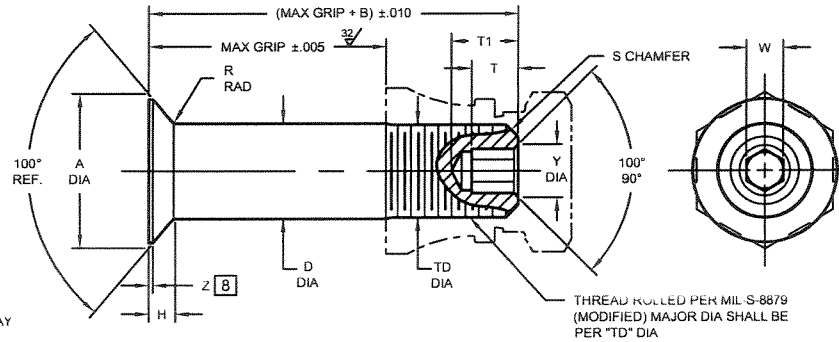
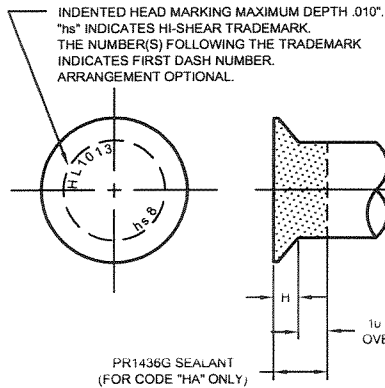


# STANDARDS COMMITTEE FOR HI-LOK® PRODUCTS

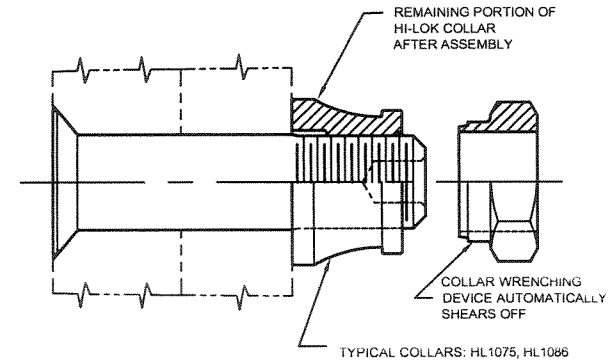
2600 SKYPARK DRIVE, TORRANCE, CALIFORNIA 90509 U.S.A.

HI-SHEAR CORPORATION, U.S.A. (Patent Holder) CAGE No. 73197  
 a LISI AEROSPACE Company  
 AIR INDUSTRIES CO., INC., U.S.A. (Licensee - U.S.A. & Canada) CAGE No. 06725  
 HUCK INTERNATIONAL, INC., U.S.A. (Licensee) CAGE No. 97928  
 SPS TECHNOLOGIES, U.S.A. (Licensee) CAGE No. 56878  
 FAIRCHILD Aerospace Fastener Division (Licensee) CAGE No. 92215  
 WEST COAST AEROSPACE INC., U.S.A. (Licensee) CAGE No. 60516  
 (Pins & Steel Collars)

BLANC AERO INDUSTRIES UK LIMITED (Licensee) CAGE No. 0L658  
 a LISI AEROSPACE Company  
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 a LISI AEROSPACE Company  
 TOKYO SCREW COMPANY, Japan (Licensee - Japan)



HI-LOK® PIN



HI-LOK® PIN AND COLLAR AFTER ASSEMBLY

| FIRST DASH NO. | PIN NOM DIA | A DIA            | B REF | D DIA           |                | TD DIA         | F    | H              | R RAD        | Z MAX | S CHAMFER REF | THREAD                     | SOCKET         |              |              |              | DOUBLE SHEAR POUNDS MINIMUM | TENSION POUNDS MINIMUM |
|----------------|-------------|------------------|-------|-----------------|----------------|----------------|------|----------------|--------------|-------|---------------|----------------------------|----------------|--------------|--------------|--------------|-----------------------------|------------------------|
|                |             |                  |       | WITHOUT COATING | WITH COATING   |                |      |                |              |       |               |                            | W HEX          | T DEPTH      | T1 DEPTH MAX | Y DIA        |                             |                        |
| 5              | 5/32        | .3304<br>.3256   | .312  | .1635<br>.1630  | .1635<br>.1625 | .1595<br>.1570 | .004 | .0700<br>.0680 | .025<br>.015 | .010  | 1/32" x 45°   | 8-32UNJC-3A<br>Modified    | .0801<br>.0791 | .100<br>.080 | .140         | 7            | 4,010                       | 2,180                  |
| 6              | 3/16        | .3813<br>.3765   | .325  | .1895<br>.1890  | .1895<br>.1885 | .1840<br>.1810 | .005 | .0805<br>.0785 | .030<br>.020 | .015  | 1/32" x 45°   | 10-32UNJF-3A<br>Modified   | .0806<br>.0791 | .100<br>.080 | .140         | .119<br>.104 | 5,380                       | 3,180                  |
| 8              | 1/4         | .5066<br>.5018   | .395  | .2495<br>.2490  | .2495<br>.2485 | .2440<br>.2410 | .006 | .1080<br>.1060 | .030<br>.020 | .015  | 1/32" x 45°   | 1/4-28UNJF-3A<br>Modified  | .0967<br>.0947 | .110<br>.090 | .160         | .142<br>.122 | 9,300                       | 5,820                  |
| 10             | 5/16        | .6335<br>.6287   | .500  | .3120<br>.3115  | .3120<br>.3110 | .3060<br>.3020 | .007 | .1350<br>.1330 | .040<br>.030 | .015  | 3/64" x 45°   | 5/16-24UNJF-3A<br>Modified | .1295<br>.1270 | .130<br>.110 | .200         | .180<br>.160 | 14,600                      | 9,200                  |
| 12             | 3/8         | .7604<br>.7556   | .545  | .3745<br>.3740  | .3745<br>.3735 | .3680<br>.3640 | .008 | .1620<br>.1600 | .040<br>.030 | .015  | 3/64" x 45°   | 3/8-24UNJF-3A<br>Modified  | .1617<br>.1582 | .160<br>.140 | .235         | .217<br>.197 | 21,000                      | 14,000                 |
| 14             | 7/16        | .8884<br>.8812   | .635  | .4370<br>.4365  | .4370<br>.4360 | .4310<br>.4260 | .009 | .1895<br>.1865 | .050<br>.040 | .022  | 3/64" x 45°   | 7/16-20UNJF-3A<br>Modified | .1930<br>.1895 | .190<br>.170 | .280         | .253<br>.233 | 28,600                      | 18,900                 |
| 16             | 1/2         | 1.0139<br>1.0068 | .685  | .4995<br>.4990  | .4995<br>.4985 | .4930<br>.4880 | .010 | .2160<br>.2130 | .050<br>.040 | .022  | 3/64" x 45°   | 1/2-20UNJF-3A<br>Modified  | .2242<br>.2207 | .220<br>.200 | .320         | .289<br>.269 | 37,300                      | 25,600                 |
| 18             | 9/16        | 1.1408<br>1.1337 | .770  | .5615<br>.5610  | .5615<br>.5605 | .5550<br>.5500 | .010 | .2430<br>.2400 | .050<br>.040 | .025  | 1/16" x 45°   | 9/16-18UNJF-3A<br>Modified | .2555<br>.2520 | .260<br>.240 | .360         | .326<br>.306 | 47,200                      | 32,400                 |
| 20             | 5/8         | 1.2723<br>1.2651 | .825  | .6240<br>.6235  | .6240<br>.6230 | .6180<br>.6120 | .010 | .2720<br>.2690 | .050<br>.040 | .025  | 1/16" x 45°   | 5/8-18UNJF-3A<br>Modified  | .2555<br>.2520 | .260<br>.240 | .400         | .326<br>.306 | 58,300                      | 41,000                 |
| 24             | 3/4         | 1.5308<br>1.5236 | 1.050 | .7490<br>.7485  | .7490<br>.7480 | .7430<br>.7370 | .012 | .3280<br>.3250 | .050<br>.040 | .025  | 1/16" x 45°   | 3/4-16UNJF-3A<br>Modified  | .3185<br>.3150 | .330<br>.300 | .425         | .398<br>.378 | 83,900                      | 59,500                 |

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

\*\* The Double Shear values shown are based on cross sectional area for nominal diameter pin.

- GENERAL NOTES:**
- Head edge out of roundness shall not exceed "F".
  - Concentricity: Conical surface of head to "D" diameter within .003 FIM.
  - "H" is dimensioned from maximum "D" diameter.
  - Dimensions to be met after finish.
  - Surface texture per ANSI B46.1.
  - Hole preparation per NAS618.
  - Evidence of broken edge across points
  - Curved or flat edge manufacturer's option.
  - Use HL1023 for oversize replacement.

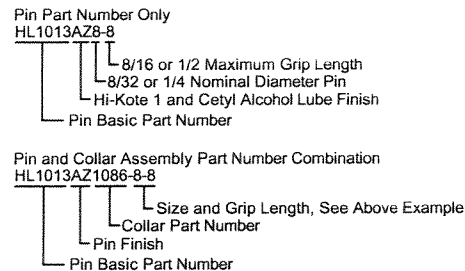
**MATERIAL:** 6Al-4V titanium alloy per AMS4928 or AMS4967.  
**HEAT TREAT:** 160,000 psi tensile minimum (95,000 psi shear minimum).

- FINISH:**
- HL1013(-)(-) = Cetyl alcohol lube per Hi-Shear Spec. 305.
  - HL1013VF(-)(-) = Surface coating per Hi-Shear Spec. 306, Type I, color blue, and cetyl alcohol lube per Hi-Shear Spec. 305.
  - HL1013AZ(-)(-) = Hi-Kote 1 aluminum coating per Hi-Shear Spec. 294, with color black on the thread end, and cetyl alcohol lube per Hi-Shear Spec. 305.
  - HL1013HA(-)(-) = Hi-Kote 1 aluminum coating per Hi-Shear Spec. 294, with color black on the thread end, and apply precoat No. PR1436G sealant (.002-.005 thick), and cetyl alcohol lube per Hi-Shear Spec. 305.
  - HL1013RA(-)(-) = Phosphate fluoride treat with color code red on the thread end, and cetyl alcohol lube per Hi-Shear Spec. 305.

**SPECIFICATION:** Hi-Lok Product Specification 342.

**CODE:** First dash number indicates nominal diameter in 1/32nds. Second dash number indicates maximum grip in 1/16ths. See Finish note for explanation of code letters.

**HOW TO ORDER EXAMPLE:**



|                  |  |   |  |
|------------------|--|---|--|
| DRAWN DATE       |  | TITLE   |  |
| VAN 11-2-73      |  | HI-LOK® PIN<br>100° FLUSH MS24694 TENSION HEAD<br>TITANIUM<br>1/16" GRIP VARIATION<br>(SPECIAL APPLICATION) |  |
| APPROVED DATE    |  | DRAWING NUMBER  |  |
| JGWilcox 11-2-73 |  | HL1013  |  |
| REVISION DATE    |  | SHEET 1 OF 1  |  |
| 8 JO 10-31-02    |  |   |  |