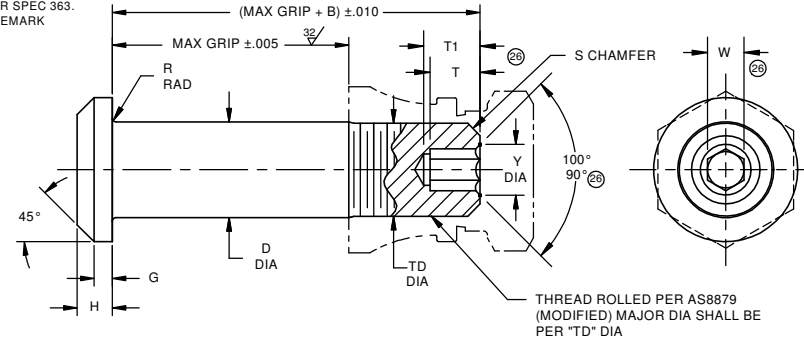
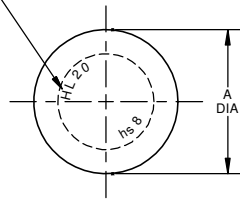
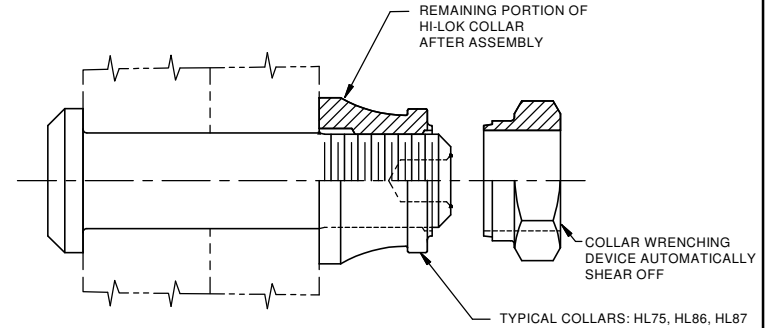


|                                                                |                                       |                  |                                                                   |                                                                                                   |                                                                                        |
|----------------------------------------------------------------|---------------------------------------|------------------|-------------------------------------------------------------------|---------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|
| Hi-Shear Corporation, U.S.A.<br>a LISI AEROSPACE Company       | Design Holder                         | CAGE No. 73197   | SPS TECHNOLOGIES, UK<br>SPS TECHNOLOGIES, USA                     | Licensee                                                                                          | CAGE No. K5673                                                                         |
| BLANC AERO INDUSTRIES UK Ltd<br>a LISI AEROSPACE Company       | Licensee                              | CAGE No. U6300   | MINBEA, Japan<br>AFSR City of Industry, USA                       | Licensee (Japan)<br>Licensee                                                                      | CAGE No. 56878<br>CAGE No. SB962<br>CAGE No. 1RC86<br>CAGE No. 06950<br>CAGE No. 60516 |
| BLANC AERO INDUSTRIES SA, France<br>a LISI AEROSPACE Company   | Licensee                              | CAGE No. F0188-C | WEST COAST AEROSPACE, USA                                         | Licensee                                                                                          |                                                                                        |
| LISI AEROSPACE CANADA, Canada<br>a LISI AEROSPACE Company      | Licensee                              | CAGE No. L4528   | Air Industries CO., USA<br>FTB Fastener Technology Bestas, Turkey | Licensee (oversize: WW except Japan<br>normal: USA & Canada<br>Licensee (USA, Canada)<br>Licensee | CAGE No. 06725<br>CAGE No. T0802                                                       |
| BLANC AERO TECHNOLOGIES SA, France<br>a LISI AEROSPACE Company | Licensee                              | CAGE No. FA1X3   | a LISI AEROSPACE Company<br>AFSR Hildesheim, Germany              | Licensee                                                                                          | CAGE No. C4233<br>CAGE No. 17446                                                       |
| ANKIT FASTENERS Ltd, India                                     | Licensee (Steel WW; Titanium - India) | CAGE No. SEM10   | AFSR Carson, USA                                                  | Licensee                                                                                          |                                                                                        |

INDENTED HEAD MARKING MAXIMUM DEPTH .010".  
MANUFACTURER'S TRADEMARK "hs" PER SPEC 363.  
THE NUMBER(S) FOLLOWING THE TRADEMARK  
INDICATES FIRST DASH NUMBER.  
ARRANGEMENT OPTIONAL.



HI-LOK™ PIN



HI-LOK™ PIN AND COLLAR AFTER ASSEMBLY

| FIRST<br>DASH<br>NO. | PIN<br>NOM<br>DIA | A<br>DIA       | B<br>REF | D<br>DIA       | TD<br>DIA      | G<br>REF | H            | R<br>RAD     | S<br>CHAMFER<br>REF | THREAD<br>MODIFIED   | SOCKET         |              |                    |              | DOUBLE<br>SHEAR<br>POUNDS<br>MINIMUM | TENSION<br>POUNDS<br>MINIMUM |
|----------------------|-------------------|----------------|----------|----------------|----------------|----------|--------------|--------------|---------------------|----------------------|----------------|--------------|--------------------|--------------|--------------------------------------|------------------------------|
|                      |                   |                |          |                |                |          |              |              |                     |                      | W<br>HEX       | T<br>DEPTH   | T1<br>DEPTH<br>MAX | Y<br>DIA     |                                      |                              |
| 5                    | 5/32              | .322<br>.306   | .312     | .1635<br>.1625 | .1595<br>.1570 | .030     | .065<br>.055 | .025<br>.015 | 1/32 x 45°          | .1640-32<br>UNJC-3A  | .0801<br>.0791 | .135<br>.115 | .165               | .119<br>.104 | 4,010                                | 2,180                        |
| 6                    | 3/16              | .377<br>.357   | .325     | .1895<br>.1885 | .1840<br>.1810 | .035     | .074<br>.064 | .025<br>.015 | 1/32 x 45°          | .1900-32<br>UNJF-3A  | .0806<br>.0791 | .135<br>.115 | .175               | .119<br>.104 | 5,380                                | 3,180                        |
| 8                    | 1/4               | .440<br>.415   | .395     | .2495<br>.2485 | .2440<br>.2410 | .045     | .090<br>.077 | .025<br>.015 | 1/32 x 45°          | .2500-28<br>UNJF-3A  | .0967<br>.0947 | .150<br>.130 | .200               | .142<br>.122 | 9,300                                | 5,820                        |
| 10                   | 5/16              | .502<br>.472   | .500     | .3120<br>.3110 | .3060<br>.3020 | .055     | .112<br>.098 | .030<br>.020 | 3/64 x 45°          | .3125-24<br>UNJF-3A  | .1295<br>.1270 | .170<br>.150 | .240               | .180<br>.160 | 14,600                               | 9,200                        |
| 12                   | 3/8               | .565<br>.530   | .545     | .3745<br>.3735 | .3680<br>.3640 | .065     | .140<br>.130 | .030<br>.020 | 3/64 x 45°          | .3750-24<br>UNJF-3A  | .1617<br>.1582 | .200<br>.180 | .275               | .217<br>.197 | 21,000                               | 14,000                       |
| 14                   | 7/16              | .627<br>.592   | .635     | .4370<br>.4360 | .4310<br>.4260 | .075     | .160<br>.150 | .030<br>.020 | 3/64 x 45°          | .4375-20<br>UNJF-3A  | .1930<br>.1895 | .230<br>.210 | .315               | .253<br>.233 | 28,600                               | 18,900                       |
| 16                   | 1/2               | .752<br>.717   | .685     | .4995<br>.4985 | .4930<br>.4880 | .085     | .188<br>.178 | .030<br>.020 | 3/64 x 45°          | .5000-20<br>UNJF-3A  | .2242<br>.2207 | .260<br>.240 | .360               | .289<br>.269 | 37,300                               | 25,600                       |
| 18                   | 9/16              | .877<br>.842   | .770     | .5615<br>.5605 | .5550<br>.5500 | .125     | .210<br>.200 | .040<br>.025 | 1/16 x 45°          | .5625-18<br>UNJF-3A  | .2555<br>.2520 | .290<br>.270 | .400               | .326<br>.306 | 47,200                               | 32,400                       |
| 20                   | 5/8               | .953<br>.918   | .825     | .6240<br>.6230 | .6180<br>.6120 | .140     | .238<br>.228 | .040<br>.025 | 1/16 x 45°          | .6250-18<br>UNJF-3A  | .2555<br>.2520 | .330<br>.305 | .440               | .326<br>.306 | 58,300                               | 41,000                       |
| 24                   | 3/4               | 1.150<br>1.110 | 1.050    | .7490<br>.7480 | .7430<br>.7370 | .200     | .335<br>.320 | .045<br>.030 | 1/16 x 45°          | .7500-16<br>UNJF-3A  | .3185<br>.3150 | .395<br>.365 | .520               | .398<br>.378 | 83,900                               | 59,500                       |
| 28                   | 7/8               | 1.330<br>1.290 | 1.210    | .8740<br>.8730 | .8680<br>.8610 | .250     | .385<br>.370 | .050<br>.035 | 5/64 x 45°          | .8750-14<br>UNJF-3A  | .3820<br>.3780 | .400<br>.370 | .560               | .471<br>.451 | 114,000                              | 81,500                       |
| 32                   | 1                 | 1.510<br>1.470 | 1.390    | .9990<br>.9980 | .9930<br>.9860 | .300     | .435<br>.420 | .060<br>.045 | 5/64 x 45°          | 1.0000-12<br>UNJF-3A | .5100<br>.5040 | .520<br>.490 | .715               | .618<br>.598 | 149,000                              | 106,000                      |

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

"HI-LOK", "HL", and "HI-KOTE",  
are Trademarks of Hi-Shear Corporation.

|                    |                         |                                                                                       |  |
|--------------------|-------------------------|---------------------------------------------------------------------------------------|--|
| DRAWN BY<br>Ric    | DATE<br>3-11-63         | TITLE<br>HI-LOK™ PIN<br>PROTRUDING TENSION HEAD<br>ALLOY STEEL<br>1/16 GRIP VARIATION |  |
| APPROVED<br>Cessna | DATE<br>3-13-63         | DRAWING NUMBER<br>HL20                                                                |  |
| REVISION<br>(26)   | DATE<br>F.C.<br>2-25-16 | 1 OF 2                                                                                |  |

**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 Non-lubed pins must be used with sealant or lubed collars.  
 6 Evidence of broken edge across points.  
 7. Use HL64 for oversize replacement.

**MATERIAL:** Alloy steel per AMS6415, AMS6349 or AMS6382, AMS6322.

**HEAT TREAT:** 160,000 - 180,000 psi tensile per AMS-H-6875.

**FINISH:**
 HL20(-)(-) = Cadmium plate per AMS-QQ-P-416, Type I, Class 2, and cetyl alcohol lube per Hi-Shear Spec. 305.  
 HL20N(-)(-) = Diffused nickel-cadmium plate per AMS2416, and cetyl alcohol lube per Hi-Shear Spec. 305.  
 HL20PB(-)(-) = Cadmium plate per AMS-QQ-P-416, Type II, Class 2, and cetyl alcohol lube per Hi-Shear Spec. 305.  
 5 HL20PN(-)(-) = Cadmium plate per AMS-QQ-P-416, Type II, Class 2.  
 HL20RB(-)(-) = Cadmium plate per AMS-QQ-P-416, Type II, Class 2, color violet to purple, 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:**
 Pin Part Number Only  
 HL20PB8-8
 

8/16 or 1/2 Maximum Grip Length

8/32 or 1/4 Nominal Diameter Pin

Type II, Class 2 Cadmium Plate

Pin Basic Part Number

HL20

DRAWING NUMBER

HL20