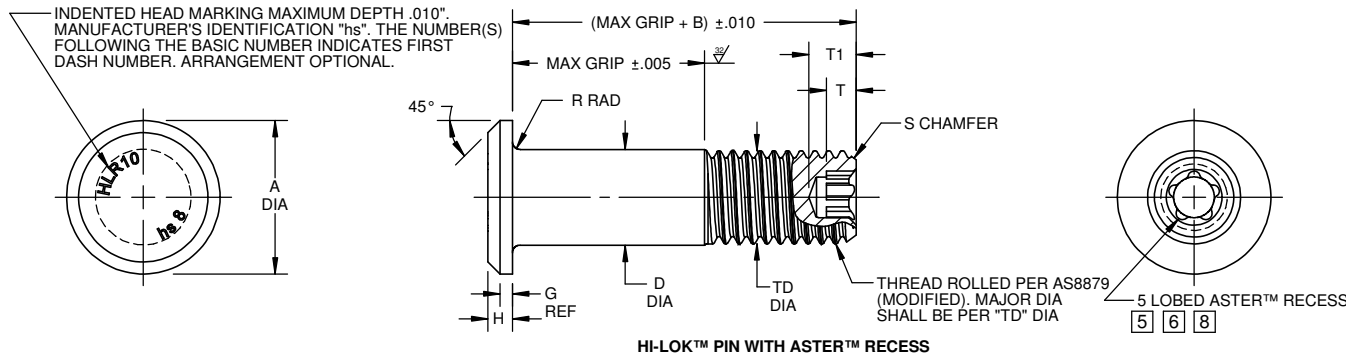


For the current list of licensed manufacturers, please visit the  
 LISI AEROSPACE website at:  
[HTTP://WWW.LISI-AEROSPACE.COM/LICENSES](http://www.lisi-aerospace.com/licenses)

②



HI-LOK™ PIN WITH ASTER™ RECESS

FIRST DASH NO.	PIN NOM DIA	A DIA	B REF	D DIA		TD DIA	G REF	H	R RAD	S CHAMFER REF	THREAD MODIFIED	ASTER™ RECESS			DOUBLE SHEAR POUNDS MINIMUM	TENSION POUNDS MINIMUM
				WITHOUT ALUMINUM COATING	WITH ALUMINUM COATING							RECESS SIZE CODE	T1 DEPTH MAX	T DEPTH MIN		
5	5/32	.262 .242	.312	.1635 .1630	.1635 .1625	.1595 .1570	.020	.047 .037	.025 .015	1/32 X 37°	.1640-32 UNJC-3A	A5L-05	.118	.072	4,010	1,940
6	3/16	.315 .295	.325	.1895 .1890	.1895 .1885	.1840 .1810	.025	.055 .045	.025 .015	1/32 X 37°	.1900-32 UNJF-3A	A5L-06	.116	.069	5,380	2,500
7	7/32	.351 .331	.355	.2182 .2177	.2182 .2172	.2100 .2070	.035	.059 .049	.025 .015	1/32 X 37°	.2160-28 UNJF-3A	A5L-07	.117	.069	7,194	3,100
8	1/4	.412 .387	.395	.2495 .2490	.2495 .2485	.2440 .2410	.030	.069 .059	.025 .015	1/32 X 37°	.2500-28 UNJF-3A	A5L-08	.118	.069	9,300	4,300
10	5/16	.505 .475	.500	.3120 .3115	.3120 .3110	.3060 .3020	.035	.078 .068	.030 .020	3/64 X 37°	.3125-24 UNJF-3A	A5L-10	.127	.070	14,600	6,300
12	3/8	.600 .565	.545	.3745 .3740	.3745 .3735	.3680 .3640	.040	.088 .078	.030 .020	3/64 X 37°	.3750-24 UNJF-3A	A5L-12	.147	.087	21,000	8,700
14	7/16	.676 .641	.635	.4370 .4365	.4370 .4360	.4310 .4260	.045	.105 .093	.030 .020	3/64 X 37°	.4375-20 UNJF-3A	A5L-14	.196	.116	28,600	12,100
16	1/2	.770 .735	.685	.4995 .4990	.4995 .4985	.4930 .4880	.050	.115 .103	.030 .020	3/64 X 37°	.5000-20 UNJF-3A	A5L-16	.236	.139	37,300	15,300

- GENERAL NOTES:**
1. Concentricity: "A" diameter to "D" diameter within .010 FIM.
  2. Dimensions are in inches and to be met after finish.
  - ② 3. Surface texture per ASME B46.1.
  4. Hole preparation per NAS618.
  - ⑤ US patent 6632057; other US & foreign patents granted and pending property of LISI AEROSPACE.
  - ⑥ Broach petals removed.
  7. Use HLR110 for oversize replacement.
  - ② ⑧ Identification colorant is not allowed in the ASTER™ Recess.

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

**HEAT TREAT:** 160,000 psi tensile minimum (95,000 psi shear minimum). ②

**FINISH:** HLR10NKJ(-)(-) = HI-KOTE™ 1 NC aluminum pigmented coating per Hi-Shear Spec. 294 with color silver on thread end and cetyl alcohol lube per Hi-Shear Spec. 305.

HLR10NKK(-)(-) = Sulfuric acid anodizing per ISO8080 and HI-KOTE™ 1 NC aluminum pigmented coating per Hi-Shear Spec. 294 on threads only with color silver on thread end and cetyl alcohol lube per Hi-Shear Spec. 305.

HLR10NKL(-)(-) = HI-KOTE™ 1 NC aluminum pigmented coating per Hi-Shear Spec. 294 on threads only with color silver on thread end and cetyl alcohol lube per Hi-Shear Spec. 305.

**SPECIFICATION:** HI-LOK™ Product Specification 409.  
 ASTER™ Recess per A5L-QA02.

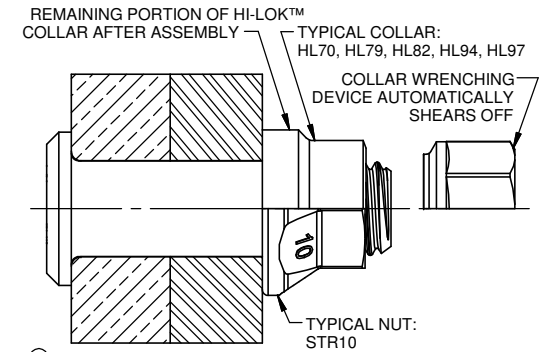
**CODE:** First dash number indicates nominal diameter in 1/32nds.  
 Second dash number indicates maximum grip in 1/16ths.  
 See Finish note for explanation of code letters.

**HOW TO ORDER** Pin Part Number

② **EXAMPLES:**

HLR10 NKJ 8-8

8/16 or 1/2 Maximum Grip Length  
 8/32 or 1/4 Nominal Diameter Pin  
 Finish Code  
 Pin Basic Part Number



②

RECOMMENDED COLLAR OR NUT FOR ASSEMBLY

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

HLR10

<p>"HI-LOK", "HLR", AND "HI-KOTE",          ARE TRADEMARKS OF HI-SHEAR CORPORATION.          ASTER™ IS A TRADEMARK OF LISI AEROSPACE.</p>			
<p>DRAWN BY DATE          F. CARINGELLA 2016-07-07</p>		<p>TITLE          HI-LOK™ PIN, ASTER™ RECESS          PROTRUDING SHEAR HEAD          TITANIUM          1/16 GRIP VARIATION</p>	
<p>APPROVED DATE          C. REITZ 2016-07-07</p>			
<p>REVISION          ②</p>		<p>DRAWING NUMBER  <b>HLR10</b></p>	
<p>DATE          F. CARINGELLA          2017-12-05</p>		<p>1 OF 1</p>	