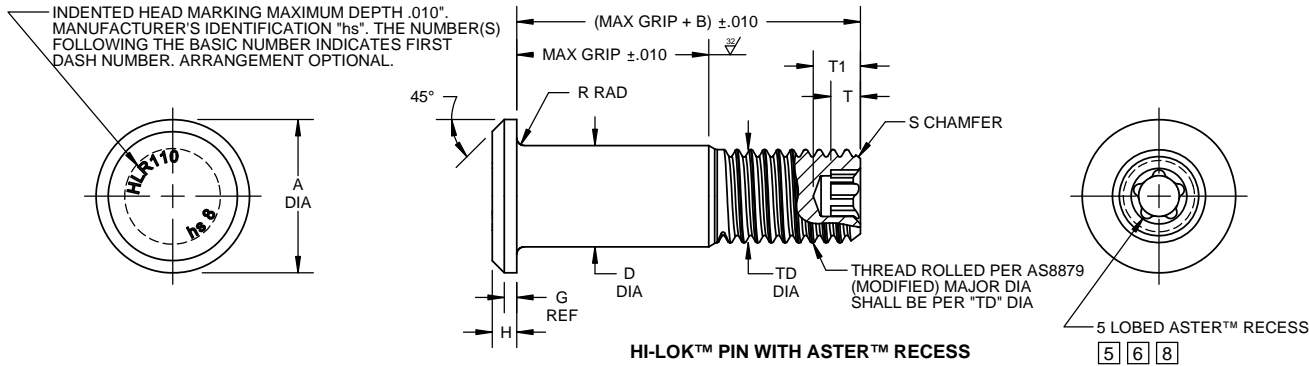
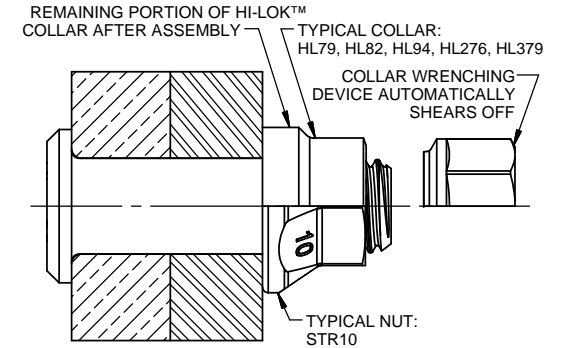


②

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)



HI-LOK™ PIN WITH ASTER™ RECESS



RECOMMENDED COLLAR OR NUT FOR ASSEMBLY

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							NOTE: USE HLR10( )6-( )									
6	13/64	.315 .295	.325	.2026 .2021	.2026 .2016	.1840 .1810	.025	.055 .045	.025 .015	1/32 X 37°	.1900-32 UNJF-3A	A5L-06	.116	.069	6,130	2,500
7	15/64	.351 .331	.355	.2338 .2333	.2338 .2328	.2100 .2070	.032	.059 .049	.025 .015	1/32 X 37°	.2160-28 UNJF-3A	A5L-07	.117	.069	8,100	3,100
8	17/64	.412 .387	.395	.2651 .2646	.2651 .2641	.2440 .2410	.030	.069 .059	.025 .015	1/32 X 37°	.2500-28 UNJF-3A	A5L-08	.118	.069	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°	.3125-24 UNJF-3A	A5L-10	.127	.070	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°	.3750-24 UNJF-3A	A5L-12	.147	.087	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°	.4375-20 UNJF-3A	A5L-14	.196	.116	30,600	12,100
16	33/64	.770 .735	.685	.5151 .5146	.5151 .5141	.4930 .4880	.050	.115 .103	.030 .020	3/64 X 37°	.5000-20 UNJF-3A	A5L-16	.236	.139	39,600	15,300

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

HLR110

"HI-LOK", "HLR", AND "HI-KOTE" ARE TRADEMARKS OF HI-SHEAR CORPORATION. ASTER™ IS A TRADEMARK OF LISI AEROSPACE.			
DRAWN BY F.CARINGELLA	DATE 2016-07-07	TITLE HI-LOK™ PIN, ASTER™ RECESS PROTRUDING SHEAR HEAD TITANIUM 1/16 GRIP VARIATION, 1/64 OVERSIZE	
APPROVED C.REITZ	DATE 2016-07-07		
REVISION ②	DATE M.BEARD 2017-12-06	DRAWING NUMBER <b>HLR110</b>	

- 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 5. US patent 6632057; other US & foreign patents granted and pending property of LISI AEROSPACE.
  - ⑥ 6. Broach petals removed.
  7. Oversize replacement for HLR10. Use HLR410 for oversize replacement.
  - ② ⑧ 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:** HLR110NKJ( )-( ) = 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.

HLR110NKK( )-( ) = 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.

HLR110NKL( )-( ) = 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 of the pin which HLR110 oversize pin replaces.  
 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:** HLR110 NKJ 8-8

