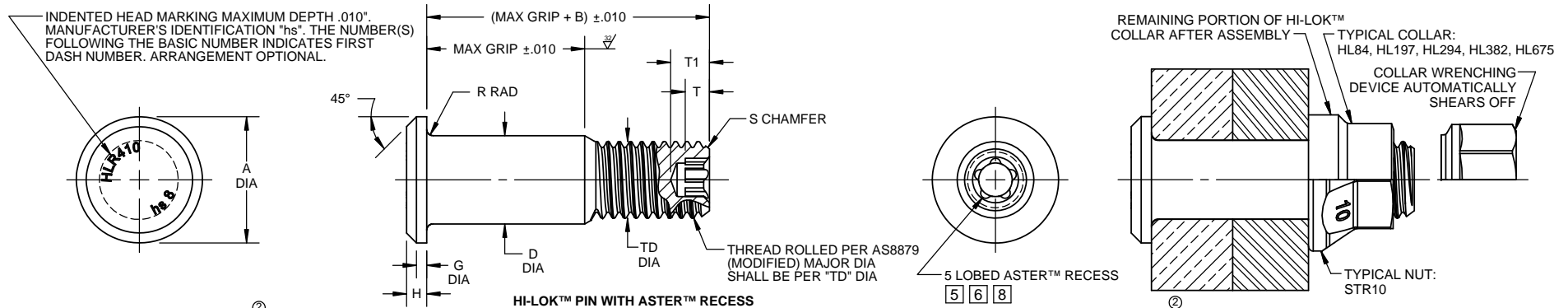


② For the current list of licensed manufacturers, please visit the LISI AEROSPACE website at:  
[HTTP://WWW.LISI-AEROSPACE.COM/LICENSES](http://WWW.LISI-AEROSPACE.COM/LICENSES)



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																
6	7/32	.315 .295	.325	.2182 .2177	.2182 .2172	.1840 .1810	.025	.055 .045	.025 .015	1/32 X 37°	.1900-32 UNJF-3A	A5L-06	.116	.069	7,100	2,500
7																
8	9/32	.412 .387	.395	.2807 .2802	.2807 .2797	.2440 .2410	.030	.069 .059	.025 .015	1/32 X 37°	.2500-28 UNJF-3A	A5L-08	.118	.069	11,800	4,300
10	11/32	.505 .475	.500	.3432 .3427	.3432 .3422	.3060 .3020	.035	.078 .068	.030 .020	3/64 X 37°	.3125-24 UNJF-3A	A5L-10	.127	.070	17,600	6,300
12	13/32	.600 .565	.545	.4057 .4052	.4057 .4047	.3680 .3640	.040	.088 .078	.030 .020	3/64 X 37°	.3750-24 UNJF-3A	A5L-12	.147	.087	24,600	8,700
14	15/32	.676 .641	.635	.4682 .4677	.4682 .4672	.4310 .4260	.050	.105 .093	.030 .020	3/64 X 37°	.4375-20 UNJF-3A	A5L-14	.196	.116	32,700	12,300
16	17/32	.770 .735	.685	.5307 .5302	.5307 .5297	.4930 .4880	.050	.116 .103	.030 .020	3/64 X 37°	.5000-20 UNJF-3A	A5L-16	.236	.139	42,000	15,300

## RECOMMENDED COLLAR OR NUT FOR ASSEMBLY

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

- GENERAL NOTES:**
1. Concentricity: "A" diameter to "D" diameter within .010 FIM.
  2. Dimensions are in inches and to be met after finish.
  - ③ 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 HLR110.
  - 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:** HLR410NKJ( )-( ) = 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.

HLR410NKK( )-( ) = 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.

HLR410NKL( )-( ) = 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 HLR410 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:** HLR410 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

"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, 1/32 OVERSIZE
APPROVED C.REITZ	DATE 2016-07-07	
REVISION ②	DATE M.BEARD 2017-12-06	DRAWING NUMBER <b>HLR410</b>