lisi AEROSPACE
hi-shear corporation
2600 SKYPARK DRIVE, TORRANCE, CALIFORNIA 90509 U.S.A.

HI-SHEAR Corporation, USA
a LISI AEROSPACE Company
Design Holder
CAGE No. 73197

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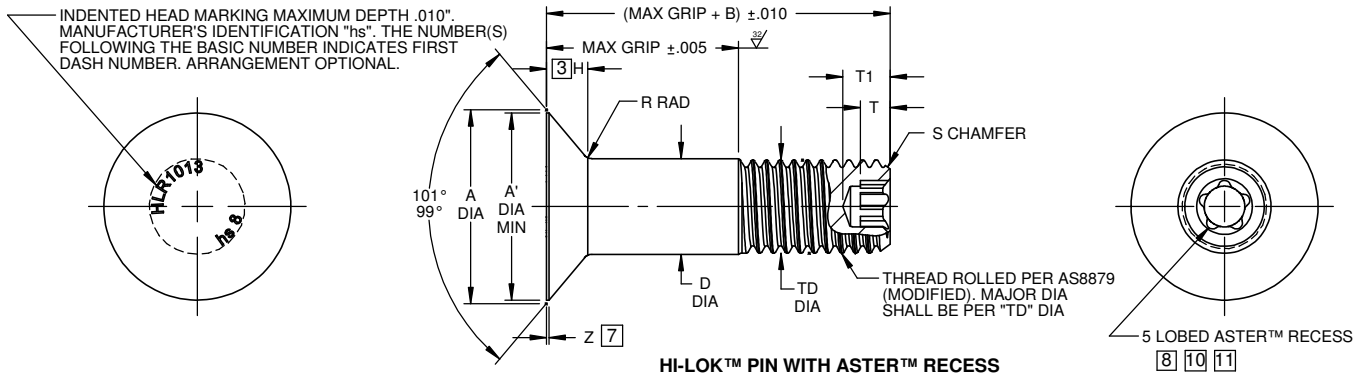
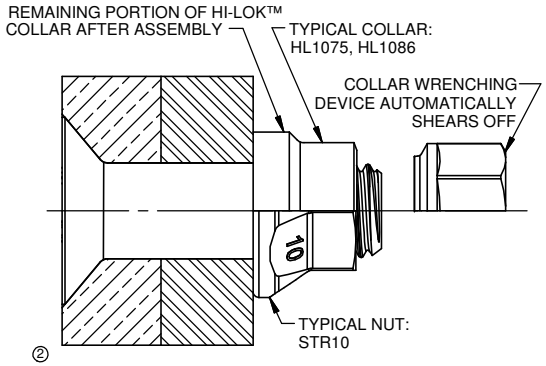
HTTP://WWW.LISI-AEROSPACE.COM/LICENSES



HI-LOK™ PIN WITH ASTER™ RECESS



② **RECOMMENDED COLLAR OR NUT FOR ASSEMBLY**

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

1 7

FIRST DASH NO.	PIN NOM DIA	A DIA	A' DIA MIN	B REF	D DIA		TD DIA	F	H	R RAD	Z MAX	S CHAMFER REF	THREAD MODIRED	ASTER™ RECESS			DOUBLE SHEAR POUNDS MINIMUM	TENSION POUNDS MINIMUM
					WITHOUT ALUMINIM COATING	WITH ALUMINUM COATING								RECESS SIZE CODE	T1 DEPTH MAX	T DEPTH MIN		
5	5/32	.3304 .3256	.311	.312	.1635 .1630	.1635 .1625	.1595 .1570	.004	.0700 .0680	.025 .015	.012	1/32 X 37°	.1640-32 UNJC-3A	A5L-05	.118	.072	4,010	2,180
6	3/16	.3813 .3765	.350	.325	.1895 .1890	.1895 .1885	.1840 .1810	.005	.0805 .0785	.030 .020	.015	1/32 X 37°	.1900-32 UNJF-3A	A5L-06	.116	.069	5,380	3,180
7	7/32	.4425 .4378	.413	.355	.2182 .2177	.2182 .2172	.2100 .2070	.006	.0940 .0920	.030 .020	.015	1/32 X 37°	.2160-28 UNJF-3A	A5L-07	.117	.069	7,194	4,000
8	1/4	.5066 .5018	.475	.395	.2495 .2490	.2495 .2485	.2440 .2410	.006	.1080 .1060	.030 .020	.015	1/32 X 37°	.2500-28 UNJF-3A	A5L-08	.118	.069	9,300	5,820
10	5/16	.6335 .6287	.602	.500	.3120 .3115	.3120 .3110	.3060 .3020	.007	.1350 .1330	.040 .030	.015	3/64 X 37°	.3125-24 UNJF-3A	A5L-10	.127	.070	14,600	9,200
12	3/8	.7604 .7556	.729	.545	.3745 .3740	.3745 .3735	.3680 .3640	.008	.1620 .1600	.040 .030	.015	3/64 X 37°	.3750-24 UNJF-3A	A5L-12	.147	.087	21,000	14,000
14	7/16	.8884 .8812	.840	.635	.4370 .4365	.4370 .4360	.4310 .4260	.009	.1895 .1865	.050 .040	.022	3/64 X 37°	.4375-20 UNJF-3A	A5L-14	.196	.116	28,600	18,900
16	1/2	1.0139 1.0068	.969	.685	.4995 .4990	.4995 .4985	.4930 .4880	.010	.2160 .2130	.050 .040	.022	3/64 X 37°	.5000-20 UNJF-3A	A5L-16	.236	.139	37,300	25,600

"HI-LOK", "HLR", AND "HI-KOTE", ARE TRADEMARKS OF HI-SHEAR CORPORATION. ASTER™ IS A TRADEMARK OF LISI AEROSPACE.

DRAWN BY	DATE	TITLE
F.CARINGELLA	2016-07-07	HI-LOK™ PIN, ASTER™ RECESS 100° FLUSH MS24694 TENSION HEAD TITANIUM 1/16 GRIP VARIATION
APPROVED	DATE	
C.REITZ	2016-07-07	
REVISION	DATE	DRAWING NUMBER
②	F.CARINGELLA 2017-12-05	**HLR1013** 1 OF 2

HLR1013

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GENERAL NOTES:
1. Head edge out of roundness shall not exceed "F"
2. Concentricity: Conical surface of head to "D" diameter within .003 FIM.
3. "H" is dimensioned from maximum "D" diameter.
4. Dimensions are in inches and to be met after finish.
② 5. Surface texture per ASME B46.1.
6. Hole preparation per NAS618.
7. Curved or flat edge manufacturer's option.
8. US patent 6632057; other US & foreign patents granted and pending property of Lisi AEROSPACE.
9. Use HLR1023 for oversize replacement.
10. Broach petals removed.
② 11. 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:
HLR1013NKJ( )-( ) = 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.
HLR1013NKK( )-( ) = 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.
HLR1013NKL( )-( ) = 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
② **EXAMPLE:** Pin Part Number
HLR1013NKJ8-8