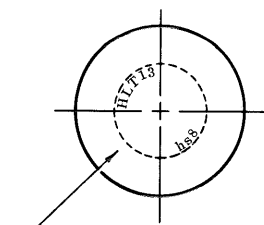


STANDARDS COMMITTEE FOR HI-LOK® HI-TIGUE® PRODUCTS 2600 SKYPARK DRIVE, TORRANCE, CALIFORNIA 90509

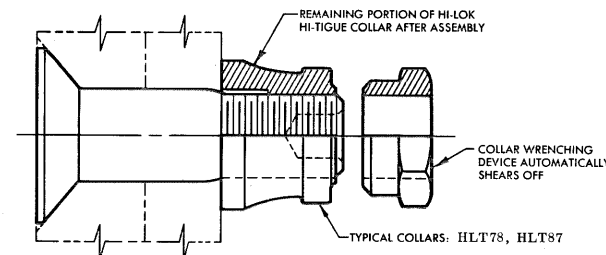
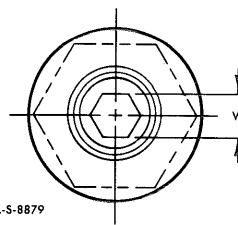
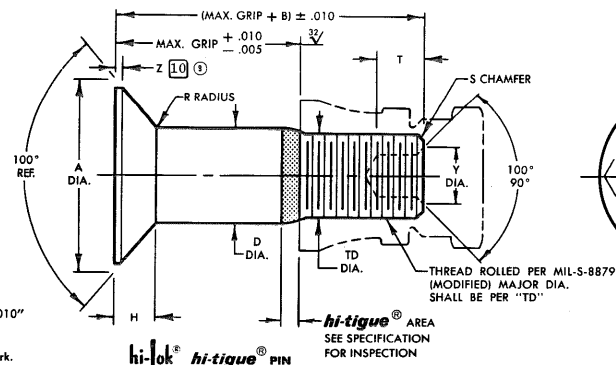
LI SI AEROSPACE - Please refer to Central Documentation Website to check validity

① HI-SHEAR CORPORATION, U.S.A. (Patent Holder) U.S. Federal Code I.D. No. 73197
Division of Hi-Shear Industries Inc.
VOI-SHAN, Division of VSI Corp., U.S.A. (Licensee) U.S. Federal Code I.D. No. 92215
SPS TECHNOLOGIES, U.S.A. (Licensee) U.S. Federal Code I.D. No. 56878
LITTON FASTENING SYSTEMS, U.S.A. (Licensee) U.S. Federal Code I.D. No. 97928
Division of Litton Systems, Inc.

KAMAX-WERKE, Germany (Licensee)
Rudolph Kellerman GmbH & Co.
ST. CHAMOND-GRANAT, S.A. France (Licensee)
TOKYO SCREW COMPANY, Japan (Licensee)



INDENTED HEAD MARKING MAXIMUM DEPTH .010"
"hs" indicates HI-SHEAR trademark.
"VS" indicates VOI-SHAN trademark.
"SPS" indicates STANDARD PRESSED STEEL trademark.
The number or numbers following the trademark indicate first dash number.



hi-tigue® PIN AND COLLAR AFTER ASSEMBLY

FIRST DASH NO.	NOM. DIA.	A DIA.	B REF.	D DIA.		TD DIA.	F	H	R RAD.	Z MAX.	S CHAMFER REF.	THREAD	SOCKET			DOUBLE SHEAR POUNDS MINIMUM	TENSION POUNDS MINIMUM	MIN. GRIP LENGTH
				WITHOUT SOLID FILM LUBE	WITH SOLID FILM LUBE								W HEX.	T DEPTH	Y DIA.			
-5	5/32	.3304 .3256	.312	.1695 .1690	.1695 .1685	.1595 .1570	.004	.0675 .0655	.025 .015	.010	1/32" x 37°	8-32UNJC-3A Modified	.0645 .0635	.100 .080	.090 .075	4,210	2,180	-2
-6	3/16	.3813 .3765	.325	.1955 .1950	.1955 .1945	.1840 .1810	.005	.0780 .0760	.030 .020	.015	1/32" x 37°	10-32UNJF-3A Modified	.0806 .0791	.100 .080	.119 .104	5,550	2,750	-3
-8	1/4	.5066 .5018	.395	.2555 .2550	.2555 .2545	.2440 .2410	.006	.1054 .1034	.030 .020	.015	1/32" x 37°	1/4-28UNJF-3A Modified	.0967 .0947	.110 .090	.142 .122	9,620	5,820	-3
-10	5/16	.6335 .6287	.500	.3180 .3175	.3180 .3170	.3060 .3020	.007	.1324 .1304	.040 .030	.015	3/64" x 37°	5/16-24UNJF-3A Modified	.1295 .1270	.130 .110	.180 .160	14,890	9,200	-3
-12	3/8	.7604 .7556	.545	.3805 .3800	.3805 .3795	.3680 .3640	.008	.1594 .1574	.040 .030	.015	3/64" x 37°	3/8-24UNJF-3A Modified	.1617 .1582	.160 .140	.217 .197	21,430	14,000	-4
-14	7/16	.8884 .8812	.635	.4430 .4425	.4430 .4420	.4310 .4260	.009	.1869 .1839	.050 .040	.022	3/64" x 37°	7/16-20UNJF-3A Modified	.1930 .1895	.190 .170	.253 .233	29,000	18,900	-5
-16	1/2	1.0139 1.0068	.685	.5055 .5050	.5055 .5045	.4930 .4880	.010	.2133 .2103	.050 .040	.022	3/64" x 37°	1/2-20UNJF-3A Modified	.2242 .2207	.220 .200	.289 .269	37,900	25,500	-5

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

- ① GENERAL NOTES:
- Head edge out of roundness shall not exceed "F."
 - Concentricity: Conical surface of head to "D" diameter within .005 FIR.
 - "H" is dimensioned from maximum "D" diameter.
 - Dimensions to be met after finish.
 - Surface texture per ANSI B46.1.
 - Hole preparation per NAS618 (Column "B") for interference application.
 - Use HLT113 for oversize replacement.
 - Install per Hi-Shear Spec. 299.
 - Minimum required for head and Hi-Tigue feature.
 - Curved or flat edge manufacturer's option.

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 EXAMPLES:

Pin Part Number Only
HLT13-8-8
8/16 or 1/2 Maximum Grip Length
8/32 or 1/4 Nominal Diameter Pin
Pin Part Number

Pin and Collar Assembly Part Number Combination
HLT1378-8-8

Size and Grip Length, See Above Example
Collar Part Number
Pin Part Number

MATERIAL: 6Al-4V titanium alloy per Spec. AMS4928 or AMS4967.

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

FINISH: HLT13-()-() = Cetyl alcohol lube per Hi-Shear Spec. 305.
HLT13AP-()-() = HI-Kote 1 per Hi-Shear Spec. 294 and cetyl alcohol lube per Hi-Shear Spec. 305.
HLT13TB-()-() = HI-Kote 2 solid film lube per Hi-Shear Spec. 292 and cetyl alcohol lube per Hi-Shear Spec. 305.

SPECIFICATION: Hi-Lok Hi-Tigue Product Specification 342.

U.S. patents 3,138,987; 3,390,906; 3,578,367; and foreign patents. "Hi-Lok," "HL," "Hi-Tigue," and "HLT" are Registered Trademarks of Hi-Shear Corporation.

DRAWN VAN	DATE 7-1-68	hi-tigue® PIN 100° FLUSH MS24694 TENSION HEAD TITANIUM 1/16" GRIP VARIATION DRAWING NUMBER HLT13
APPROVED R. TING	DATE 7-25-68	
REVISION 9	DATE D. P. S. 10-29-81	

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HLT13