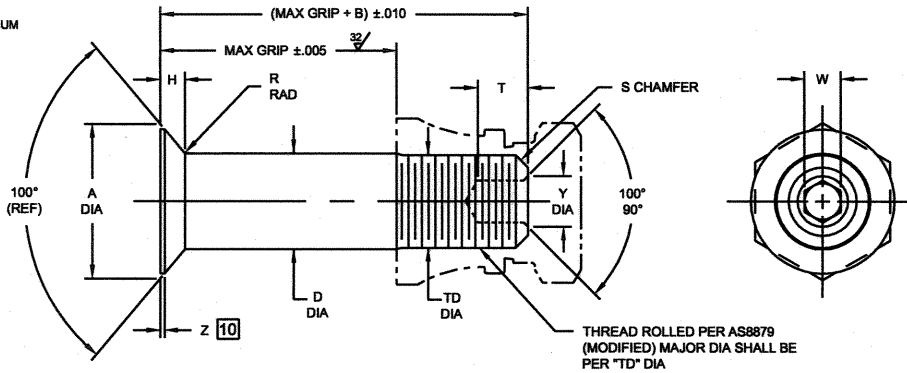
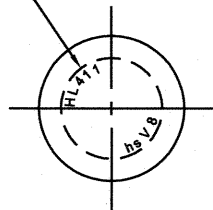
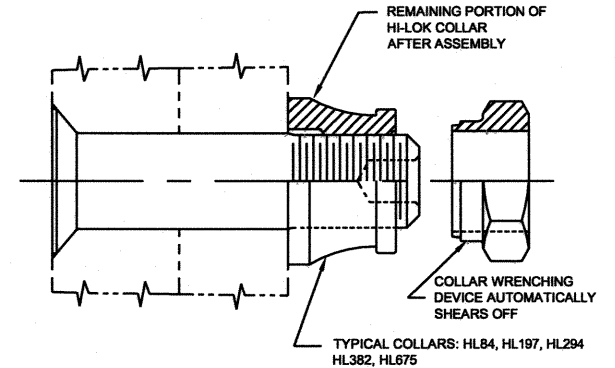


INDENTED HEAD MARKING MAXIMUM DEPTH .010".
 MANUFACTURER'S TRADEMARK PER AS SPEC 363.
 "V" AFTER TRADEMARK INDICATES 6AL-4V TITANIUM
 ALLOY MATERIAL. THE NUMBER(S) FOLLOWING
 THE "V" INDICATES FIRST DASH NUMBER.
 ARRANGEMENT OPTIONAL.



HI-LOK PIN



HI-LOK PIN AND COLLAR AFTER ASSEMBLY

FIRST DASH NO.	PIN NOM DIA	A DIA	B REF	D DIA		TD DIA	F REF	H	R RAD	Z MAX	S CHAMFER REF	THREAD	SOCKET			DOUBLE SHEAR POUNDS MINIMUM	TENSION POUNDS MINIMUM
				WITHOUT COATING OR SOLID FILM	WITH COATING OR SOLID FILM								W HEX	T DEPTH	Y DIA		
NOTE: USE HL111V6-() (22)																	
6	7/32	.3303 .3253	.325	.2182 .2177	.2182 .2172	.1840 .1810	.005	.0470 .0450	.030 .020	.015	1/32" x 37°	10-32UNJF-3A Modified	.0806 .0791	.135 .115	.119 .104	7,100	2,000
8	9/32	.4260 .4210	.395	.2807 .2802	.2807 .2797	.2440 .2410	.006	.0610 .0590	.030 .020	.015	1/32" x 37°	1/4-28UNJF-3A Modified	.0967 .0947	.150 .130	.142 .122	11,800	3,700
10	11/32	.5051 .5001	.500	.3432 .3427	.3432 .3422	.3060 .3020	.007	.0680 .0660	.040 .030	.015	3/64" x 37°	5/16-24UNJF-3A Modified	.1295 .1270	.170 .150	.180 .160	17,600	5,000
12	13/32	.5916 .5866	.545	.4057 .4052	.4057 .4047	.3680 .3640	.008	.0780 .0760	.040 .030	.015	3/64" x 37°	3/8-24UNJF-3A Modified	.1617 .1582	.200 .180	.217 .197	24,600	7,200
14	15/32	.6992 .6932	.635	.4682 .4677	.4682 .4672	.4310 .4260	.009	.0970 .0945	.050 .040	.022	3/64" x 37°	7/16-20UNJF-3A Modified	.1930 .1895	.230 .210	.253 .233	32,700	10,000
16	17/32	.7852 .7792	.685	.5307 .5302	.5307 .5297	.4930 .4880	.010	.1070 .1045	.050 .040	.022	3/64" x 37°	1/2-20UNJF-3A Modified	.2242 .2207	.260 .240	.289 .269	42,000	13,500
18	19/32	.8692 .8622	.770	.5927 .5922	.5927 .5917	.5550 .5500	.010	.1160 .1130	.050 .040	.022	1/16" x 37°	9/16-18UNJF-3A Modified	.2555 .2520	.290 .270	.326 .306	52,400	17,000
20	21/32	.9562 .9492	.825	.6552 .6547	.6552 .6542	.6180 .6120	.010	.1260 .1230	.050 .040	.022	1/16" x 37°	5/8-18UNJF-3A Modified	.2555 .2520	.330 .305	.326 .306	64,100	21,000
24	25/32	1.1282 1.1162	1.050	.7802 .7797	.7802 .7792	.7430 .7370	.012	.1460 .1410	.050 .040	.022	1/16" x 37°	3/4-16UNJF-3A Modified	.3185 .3150	.395 .365	.398 .378	90,900	30,700
28	29/32	1.3509 1.3342	1.210	.9052 .9047	.9052 .9042	.8680 .8610	.014	.1870 .1800	.050 .040	.022	5/64" x 37°	7/8-14UNJF-3A Modified	.3820 .3780	.455 .425	.471 .451	122,000	42,000
32	1-1/32	1.5498 1.5307	1.390	1.0302 1.0297	1.0302 1.0292	.9930 .9860	.014	.2180 .2100	.050 .040	.022	5/64" x 37°	1-12UNJF-3A Modified	.5100 .5040	.580 .550	.618 .598	158,000	55,000

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

HL411

"Hi-Lok" and "HL" are internationally registered trademark of Hi-Shear Corporation.		
DRAWN Briej	DATE 4-7-86	TITLE HI-LOK® PIN 100° FLUSH SHEAR HEAD TITANIUM 1/16" GRIP VARIATION, 1/32" OVERSIZE
APPROVED Miller	DATE 4-7-86	DRAWING NUMBER HL411
REVISION (22)	DATE JO 2-1-07	SHEET 1 OF 2

HI-SHEAR CORPORATION, U.S.A. (Patent Holder) CAGE No. 73197 a LISI AEROSPACE Company	HI-SHEAR FASTENERS EUROPE, LTD., U.K. (Licensee) CAGE No. 0LB68 a LISI AEROSPACE Company
AIR INDUSTRIES CO., INC., U.S.A. (Licensee - U.S.A & Canada) CAGE No. 06725	HUCK S.A. France (Licensee - ECC Countries)
HUCK INTERNATIONAL, INC., U.S.A. (Licensee) CAGE No. 97928	BLANC AERO S.A. France (Licensee - ECC Countries)
SPS TECHNOLOGIES, U.S.A. (Licensee) CAGE No. 55878	a LISI AEROSPACE Company
FAIRCHILD Aerospace Fastener Division (Licensee) CAGE No. 92215	TOKYO SCREW COMPANY, Japan (Licensee - Japan)
WEST COAST AEROSPACE INC., U.S.A. (Licensee) CAGE No. 60516 (Pins & Steel Collars)	

GENERAL NOTES:

- 1 Head edge out of roundness shall not exceed "F".
- 2 Concentricity: Conical surface of head to "D" diameter within .005 FIM.
- 3 "H" is dimensioned from maximum "D" diameter.
- 4 Dimensions to be met after finish.
- 5 Surface texture per ANSI B46.1.
- 6 Hole preparation per NAS618.
- 7 Oversize replacement for HL11 and HL111.
- 8 Maximum "D" diameter may be increased by .0002 to allow for solid film or aluminum coating application.
- 9 Broach petals removed.
- 10 Curved or flat edge manufacturer's option.
- 11 Non-lubed pins must be used with lubed collars or wet sealant.

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

HEAT TREAT: 95,000 psi shear minimum.

2 FINISH:

- 9 HL411K(-) = Solid film lube per Lubeco 905.
- HL411V(-) = Cetyl alcohol lube per Hi-Shear Spec. 305.
- HL411VAP(-) = Hi-Kote 1 aluminum coating per Hi-Shear Spec. 294, and cetyl alcohol lube per Hi-Shear Spec. 305.
- HL411VAZ(-) = Hi-Kote 1 aluminum coating per Hi-Shear Spec. 294, with color black on thread end, and cetyl alcohol lube per Hi-Shear Spec. 305.
- HL411VBJ(-) = I.V.D. aluminum coating per MIL-DTL-83488, Type II, Class 3, and cetyl alcohol lube per Hi-Shear Spec. 305.
- HL411VBR(-) = Color code white on thread end, and cetyl alcohol lube per Hi-Shear Spec. 305.
- HL411VBU(-) = I.V.D. aluminum coating per MIL-DTL-83488, Type I, Class 3, with color code yellow on thread end.
- HL411VBV(-) = I.V.D. aluminum coating per MIL-DTL-83488, Type II, Class 3, with color code blue on thread end.
- HL411VCB(-) = I.V.D. aluminum coating per MIL-DTL-83488, Type I, Class 3, with color code black on thread end and cetyl alcohol lube per Hi-Shear Spec. 305.
- 9 HL411VDK(-) = Solid film lube per Kalgard FA.
- HL411VF(-) = Surface coating per Hi-Shear Spec. 306, Type I, color blue, and cetyl alcohol lube per Hi-Shear Spec. 305.
- HL411VLJ(-) = Surface coating per Hi-Shear Spec. 306, Type II, and solid film lube per AS5272.
- HL411VLV(-) = Phosphate fluoride treat and Esna-Lube No. 382 (Everlube Corp).
- HL411VR(-) = Surface coating per Hi-Shear Spec. 306, Type II, and solid film lube per "Electrofilm" 4396.
- HL411VRA(-) = Phosphate fluoride treat with color code red on thread end and cetyl alcohol lube per Hi-Shear Spec. 305.
- HL411VSY(-) = Phosphate fluoride treat, solid film lube per AS5272, Type I, and color red on thread end.
- HL411VT(-) = Surface coating per Hi-Shear Spec. 306, Type I, color pink, and cetyl alcohol lube per Hi-Shear Spec. 305.
- HL411VTA(-) = Anodize Ti-Shield III and Hi-Kote 2 solid film lube per Hi-Shear Spec. 292, and cetyl alcohol lube per Hi-Shear Spec. 305.
- HL411VTB(-) = Hi-Kote 2 solid film lube per Hi-Shear Spec. 292, and cetyl alcohol lube per Hi-Shear Spec. 305.
- HL411VTF(-) = Hi-Kote 2 solid film lube per Hi-Shear Spec. 292.
- HL411VTL(-) = Anodize per Hi-Shear Ti-Shield III, solid film lube per DAG-258 and cetyl alcohol lube per Hi-Shear Spec. 305; or anodize per Tiodize Type II, solid film lube per TI-O-LUBE TAL-58, and cetyl alcohol lube per Hi-Shear Spec. 305.
- HL411VUE(-) = Surface coating per Hi-Shear Spec. 306, Type II, and cetyl alcohol lube per Hi-Shear Spec. 305.
- HL411VUU(-) = Surface coating per Hi-Shear Spec. 306, Type II, and solid film lube per "Lubeco" 2123, Type II.
- HL411VV(-) = Solid film lube per "Lubeco" 2123, Type II.

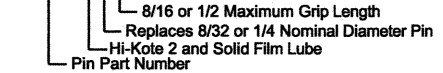
SPECIFICATION: HI-Lok Product Specification 342.

CODE:

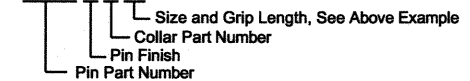
First dash number indicates nominal diameter in 1/32nds of the pin which HL411V oversize pin replaces.
 Second dash number indicates maximum grip in 1/16ths.
 See Finish note for explanation of code letters.

HOW TO ORDER EXAMPLES:

Pin Part Number Only
 HL411VTB8-8



Pin and Collar Assembly Part Number Combination
 HL411VTB84-8-8



HL411