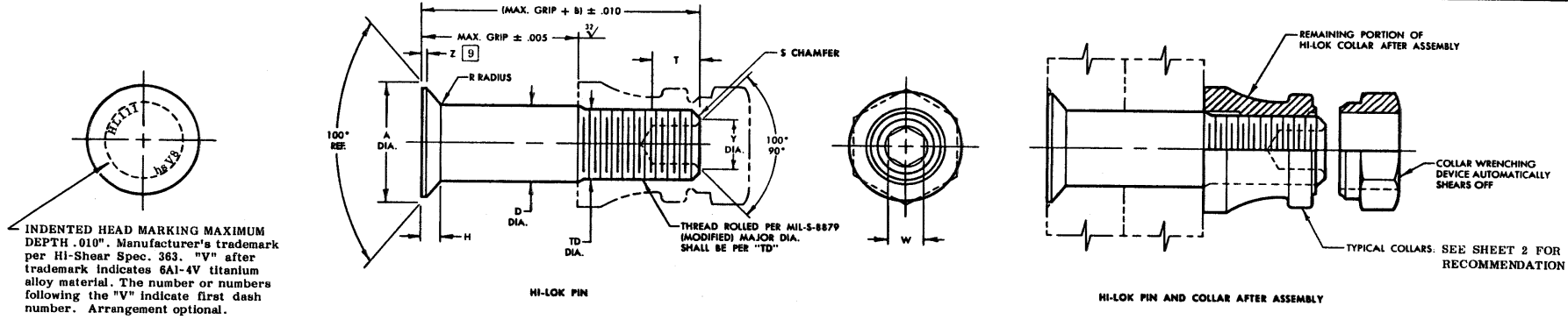


**STANDARDS COMMITTEE  
FOR HI-LOK® PRODUCTS**  
2600 SKYPARK DRIVE, TORRANCE, CALIFORNIA 90509

HI-SHEAR CORPORATION, U.S.A. (Patent Holder) U.S. Federal Code I D. No. 73197	HI-SHEAR FASTENERS EUROPE, LTD. U.K. (Licensee)
Division of Hi-Shear Industries Inc. U.S.A. (Licensee) U.S. Federal Code I D. No. 66725	Division of Hi-Shear Industries Inc. U.S.A. (Licensee—EEC Countries)
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WEST COAST AEROSPACE INC., U.S.A. (Licensee) U.S. Federal Code I D. No. 60516	TKDY SCREW COMPANY, Japan (Licensee—Japan)



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
				WITHOUT COATING OR SOLID FILM LUBE	WITH COATING OR SOLID FILM LUBE								W HEX.	T DEPTH	Y DIA.		
-5				NOTE: USE HL11V-6													
-6	13/64	.3016 .2966	.325	.2026 .2021	.2026 .2016	.1840 .1810	.005	.0415 .0394	.030 .020	.015	1/32" x 37°	10-32UNJF-3A Modified	.0806 .0791	.135 .115	.119 .104	6,130	2,000
-8	17/64	.3948 .3898	.395	.2651 .2646	.2651 .2641	.2440 .2410	.006	.0544 .0523	.030 .020	.015	1/32" x 37°	1/4-28UNJF-3A Modified	.0967 .0947	.150 .130	.142 .122	10,490	3,700
-10	21/64	.4739 .4689	.500	.3276 .3271	.3276 .3266	.3060 .3020	.007	.0614 .0593	.040 .030	.015	3/64" x 37°	5/16-24UNJF-3A Modified	.1295 .1270	.170 .150	.180 .160	16,000	5,000
-12	25/64	.5604 .5554	.545	.3901 .3896	.3901 .3891	.3680 .3640	.008	.0714 .0693	.040 .030	.015	3/64" x 37°	3/8-24UNJF-3A Modified	.1617 .1582	.200 .180	.217 .197	22,700	7,200
-14	29/64	.6680 .6620	.635	.4526 .4521	.4516 .4516	.4310 .4260	.009	.0904 .0879	.050 .040	.022	3/64" x 37°	7/16-20UNJF-3A Modified	.1930 .1895	.230 .210	.253 .233	30,600	10,000
-16	33/64	.7540 .7480	.685	.5151 .5146	.5151 .5141	.4930 .4880	.010	.1002 .0977	.050 .040	.022	3/64" x 37°	1/2-20UNJF-3A Modified	.2242 .2207	.260 .240	.289 .269	39,600	13,500
-18	37/64	.8380 .8310	.770	.5771 .5766	.5771 .5761	.5550 .5500	.010	.1094 .1065	.050 .040	.022	1/16" x 37°	9/16-18UNJF-3A Modified	.2555 .2520	.290 .270	.326 .306	49,700	17,000
-20	41/64	.9250 .9180	.825	.6396 .6391	.6396 .6386	.6180 .6120	.010	.1197 .1168	.050 .040	.022	1/16" x 37°	5/8-18UNJF-3A Modified	.2555 .2520	.330 .305	.326 .306	61,000	21,000
-24	49/64	1.0970 1.0850	1.050	.7646 .7641	.7646 .7636	.7430 .7370	.012	.1394 .1344	.050 .040	.022	1/16" x 37°	3/4-16UNJF-3A Modified	.3185 .3150	.396 .365	.398 .378	87,200	30,700
-28	57/64	1.3197 1.3030	1.210	.8896 .8891	.8896 .8886	.8680 .8610	.014	.1804 .1734	.050 .040	.022	5/64" x 37°	7/8-14UNJF-3A Modified	.3820 .3780	.455 .425	.471 .451	118,000	42,000
-32	1-1/64	1.5186 1.4995	1.390	1.0146 1.0141	1.0146 1.0136	.9930 .9860	.014	.2114 .2034	.050 .040	.022	5/64" x 37°	1-12UNJF-3A Modified	.6100 .6040	.580 .550	.618 .598	154,000	55,000

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

\*\* The Double Shear Values shown are based on cross sectional area for nominal pin diameter.

"Hi-Lok" and "HL" are internationally registered trademarks of Hi-Shear Corporation.

DRAWN	DATE	<b>hi-lok® PIN</b> 100° FLUSH SHEAR HEAD TITANIUM 1/16" GRIP VARIATION - 1/64" OVERSIZE
D.P.S.	11-4-63	
APPROVED	DATE	DRAWING NUMBER <b>HL111</b> SHEET 1 OF 2
Cobena	11-5-63	
REVISION	DATE	
(26)	D.P.S. 8-27-91	

HL111

GENERAL NOTES:

1. Head edge out of roundness shall not exceed ".F."
2. Concentricity: Conical surface of head to "D" diameter within .005 FIR.
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. Use HL411 for oversize replacement.
8. Maximum "D" diameter may be increased by .0002 to allow for solid film or aluminum coating application.
9. Curved or flat edge manufacturer's option.
10. Non-lubed pins must be used with lubed collars or with wet sealant.

MATERIAL:

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

HEAT TREAT:

95,000 psi shear minimum.

To prevent seizing and galling, the following combinations are recommended.

RECOMMENDED COLLARS

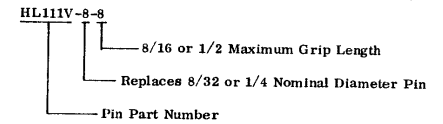
FINISH: ⑥ HL111TB-( )-( )	= Hi-Kote 2 solid film lube per Hi-Shear Spec. 292 and cetyl alcohol per Hi-Shear Spec. 305.	HL79, HL82, HL94, HL94TB
HL111V-( )-( )	= Cetyl alcohol lube per Hi-Shear Spec. 305.	HL79, HL82, HL94DU, HL94V, HL276, HL379, HL379V
HL111VAP-( )-( )	= Hi-Kote 1 aluminum coating per Hi-Shear Spec. 294 and cetyl alcohol lube per Hi-Shear Spec. 305.	HL79, HL82, HL94
HL111VAZ-( )-( )	= Hi-Kote 1 aluminum coating per Hi-Shear Spec. 294 with color code black on thread end plus cetyl alcohol lube per Hi-Shear Spec. 305.	HL79, HL82, HL94
HL111VBJ-( )-( )	= I. V. D. aluminum coating per MIL-C-83488, Type II, Class 3, and cetyl alcohol lube per Hi-Shear Spec. 305.	HL79, HL82, HL94
⑩ HL111VBU-( )-( )	= I. V. D. aluminum coating per MIL-C-83488, Type I, Class 3, with color code yellow on thread end.	HL79, HL82, HL94
⑩ HL111VBV-( )-( )	= I. V. D. aluminum coating per MIL-C-83488, Type II, Class 3, with color code blue on thread end.	HL79, HL82, HL94
HL111VCB-( )-( )	= I. V. D. aluminum coating per MIL-C-83488, Type I, Class 3, with color code black on thread end, and cetyl alcohol lube per Hi-Shear Spec. 305.	HL79, HL82, HL94
HL111VF-( )-( )	= Surface coating per Hi-Shear Spec. 306, Type I, color blue, and cetyl alcohol lube per Hi-Shear Spec. 305.	HL79, HL82, HL94DU, HL94V, HL276, HL379, HL379V
HL111VLJ-( )-( )	= Surface coating per Hi-Shear Spec. 306, Type II, and solid film lube per MIL-L-8937.	HL79, HL82, HL94
HL111VR-( )-( )	= Surface coating per Hi-Shear Spec. 306, Type II, and solid film lube per "Electrofilm" 4396.	HL79, HL82, HL94
HL111VRA-( )-( )	= Phosphate fluoride treat with color code red on thread end and cetyl alcohol lube per Hi-Shear Spec. 305.	HL79, HL82, HL94DU, HL97V, HL276, HL379, HL379V
HL111VSY-( )-( )	= Phosphate fluoride treat, solid film lube per MIL-L-8937 and color code red on thread end.	HL79, HL82, HL94, HL379, HL379V, HL379SY
HL111VT-( )-( )	= Surface coating per Hi-Shear Spec. 306, Type I, color pink, and cetyl alcohol lube per Hi-Shear Spec. 305.	HL79, HL82, HL94DU, HL94V, HL276, HL379, HL379V
HL111VTF-( )-( )	= Hi-Kote 2 solid film lube per Hi-Shear Spec. 292.	HL79, HL82, HL94, HL94TF
HL111VTL-( )-( )	= 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.	HL79, HL82, HL94
HL111VUE-( )-( )	= Surface coating per Hi-Shear Spec. 306, Type II, and cetyl alcohol lube per Hi-Shear Spec. 305.	HL79, HL82, HL94, HL94DU, HL94V, HL276, HL379, HL379V
HL111VV-( )-( )	= Solid film lube per "Lubeco" 2123, Type II.	HL79, HL82, HL94, HL94DU, HL94V

SPECIFICATION: Hi-Lok Product Specification 342.

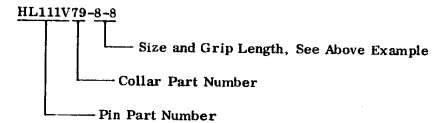
CODE: First dash number indicates nominal diameter in 1/32nds of the pin which HL111V oversize pin replaces. Second dash number indicates maximum grip in 1/16ths. See "Finish" note for explanation of code letters.

HOW TO ORDER

EXAMPLES: Pin Part Number Only



Pin and Collar Assembly Part Number Combination



**HL111**

SHEET 2 OF 2