



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 MODIFIED	SOCKET			DOUBLE SHEAR POUNDS MINIMUM	TENSION POUNDS MINIMUM
				WITHOUT COATING OR SOLID FILM	AFTER COATING OR SOLID FILM								W HEX	T DEPTH	Y DIA		
4	1/8	.2219 .2171	.294	.1375 .1370	.1375 .1365	.1335 .1310	.003	.0354 .0334	.025 .015	.010	1/32 x 37°	.1380-32 UNJC-3A	.0645 .0635	.100 .085	[10]	2,840	950
5	5/32	.2612 .2564	.312	.1635 .1630	.1635 .1625	.1595 .1570	.004	.0410 .0390	.025 .015	.010	1/32 x 37°	.1640-32 UNJC-3A	.0645 .0635	.135 .115	.090 .075	4,010	1,650
6	3/16	.3016 .2966	.325	.1895 .1890	.1895 .1885	.1840 .1810	.005	.0470 .0450	.030 .020	.015	1/32 x 37°	.1900-32 UNJF-3A	.0806 .0791	.135 .115	.119 .104	5,380	2,000
8	1/4	.3948 .3898	.395	.2495 .2490	.2495 .2485	.2440 .2410	.006	.0610 .0590	.030 .020	.015	1/32 x 37°	.2500-28 UNJF-3A	.0967 .0947	.150 .130	.142 .122	9,300	3,700
10	5/16	.4739 .4689	.500	.3120 .3115	.3120 .3110	.3060 .3020	.007	.0680 .0660	.040 .030	.015	3/64 x 37°	.3125-24 UNJF-3A	.1295 .1270	.170 .150	.180 .160	14,600	5,500
12	3/8	.5604 .5554	.545	.3745 .3740	.3745 .3735	.3680 .3640	.008	.0780 .0760	.040 .030	.015	3/64 x 37°	.3750-24 UNJF-3A	.1617 .1582	.200 .180	.217 .197	21,000	7,200
14	7/16	.6680 .6620	.635	.4370 .4365	.4370 .4360	.4310 .4260	.009	.0969 .0944	.050 .040	.022	3/64 x 37°	.4375-20 UNJF-3A	.1930 .1895	.230 .210	.253 .233	28,600	10,000
16	1/2	.7540 .7480	.685	.4995 .4990	.4995 .4985	.4930 .4880	.010	.1068 .1043	.050 .040	.022	3/64 x 37°	.5000-20 UNJF-3A	.2242 .2207	.260 .240	.289 .269	37,300	13,500
18	9/16	.8380 .8310	.770	.5615 .5610	.5615 .5605	.5550 .5500	.010	.1160 .1131	.050 .040	.022	1/16 x 37°	.5625-18 UNJF-3A	.2555 .2520	.290 .270	.326 .306	47,200	17,000
20	5/8	.9250 .9180	.825	.6240 .6235	.6240 .6230	.6180 .6120	.010	.1260 .1230	.050 .040	.022	1/16 x 37°	.6250-18 UNJF-3A	.2555 .2520	.330 .305	.326 .306	58,300	21,000
24	3/4	1.0970 1.0850	1.050	.7490 .7485	.7490 .7480	.7430 .7370	.012	.1460 .1410	.050 .040	.022	1/16 x 37°	.7500-16 UNJF-3A	.3185 .3150	.395 .365	.398 .378	83,900	30,700
28	7/8	1.3197 1.3030	1.210	.8740 .8735	.8740 .8730	.8680 .8610	.014	.1870 .1800	.050 .040	.022	5/64 x 37°	.8750-14 UNJF-3A	.3820 .3780	.455 .425	.471 .451	114,000	42,000
32	1	1.5186 1.4995	1.390	.9990 .9985	.9990 .9980	.9930 .9860	.014	.2180 .2100	.050 .040	.022	5/64 x 37°	1.0000-12 UNJF-3A	.5100 .5040	.580 .550	.618 .598	149,000	55,000

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

"HI-LOK", "HL", AND "HI-KOTE"  
 ARE TRADEMARKS OF HI-SHEAR CORPORATION

DRAWN BY J.F.OBISPO BRIEJ	DATE 2014-07-22 1962-11-26	TITLE <b>HI-LOK™ PIN</b> 100° FLUSH SHEAR HEAD TITANIUM 1/16 GRIP VARIATION
APPROVED CESSNA	DATE 1962-11-26	
REVISION (53)	DATE K. PHAM 2022-04-04	DRAWING NUMBER <b>HL11</b>

**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 Dimensions are in inches and to be met after finish.
- 4 Surface texture per ASME B46.1.
- 5 Hole preparation per NAS618.
- 6 "H" is dimensioned from maximum "D" diameter.
- 7 Maximum "D" diameter may be increased by .0002 to allow for solid film or aluminum coating application.
- 8 Broach petals removed.
- 9 Dimensions to be met before finish for "VY" code only.
- 10 Evidence of broken edge across points.
- 11 Non-lubed pins must be used with lubed collars or wet sealant.
- 12 Curved or flat edge manufacturer's option.
- 13 Use HL111 for oversize replacement.
- 14 After February, 21st of 2015, HI-KOTE™ 1 aluminum pigmented coating will be replaced by REACH compliant HI-KOTE™ 1 NC aluminum pigmented coating per Hi-Shear Spec. 294 on fasteners coated in UK and European Union.

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

**HEAT TREAT:** 160,000 psi tensile minimum (95,000 psi shear minimum for sizes up to 3/4; 90,000 psi shear minimum for 7/8 and larger).

**FINISH:** HL11V(-)(-)

= Cetyl alcohol lube per Hi-Shear Spec. 305.

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14 HL11VAP(-)(-)

= HI-KOTE™ 1 or HI-KOTE™ 1 NC aluminum pigmented coating per Hi-Shear Spec. 294, and cetyl alcohol lube per Hi-Shear Spec. 305.

(53)

14 HL11VAZ(-)(-)

= HI-KOTE™ 1 or HI-KOTE™ 1 NC aluminum pigmented coating per Hi-Shear Spec. 294, with color black on thread end, and cetyl alcohol lube per Hi-Shear Spec. 305.

HL11VBJ(-)(-)

= I.V.D. aluminum coating per MIL-DTL-83488, Type II, Class 3, and cetyl alcohol lube per Hi-Shear Spec. 305.

HL11VBR(-)(-)

= Color code white on thread end, and cetyl alcohol lube per Hi-Shear Spec. 305.

11 HL11VBU(-)(-)

= I.V.D. aluminum coating per MIL-DTL-83488, Type I, Class 3, with color yellow on thread end.

11 HL11VBV(-)(-)

= I.V.D. aluminum coating per MIL-DTL-83488, Type II, Class 3, with color blue on thread end.

HL11VCB(-)(-)

= I.V.D. aluminum coating per MIL-DTL-83488, Type I, Class 3, with color black on thread end, and cetyl alcohol lube per Hi-Shear Spec. 305.

8 HL11VDK(-)(-)

= Solid film lube per "KalGard™" FA. "KALGARD" is a trademark of Metal Improvement Company.

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HL11VF(-)(-)

= Anodize per Hi-Shear Spec. 306, Type I, color blue, and cetyl alcohol lube per Hi-Shear Spec. 305.

(53)

14 HL11VHA(-)(-)

= HI-KOTE™ 1 or HI-KOTE™ 1 NC aluminum pigmented coating per Hi-Shear Spec. 294, with color black on thread end, and apply Precoat No. PR1436G sealant (.002-.005 thick), and cetyl alcohol lube per Hi-Shear Spec. 305.

8 HL11VK(-)(-)

= Solid film lube per Lubeco 905.

(53)

HL11VLJ(-)(-)

= Anodize per Hi-Shear Spec. 306, Type II, and solid film lube per AS5272.

HL11VLV(-)(-)

= Phosphate fluoride treat and Esna-Lube No. 382 (Everlube Corp).

(53)

HL11VR(-)(-)

= Anodize per Hi-Shear Spec. 306, Type II, and solid film lube per "Electrofilm" 4396.

HL11VRA(-)(-)

= Phosphate fluoride treat with color red on thread end and cetyl alcohol lube per Hi-Shear Spec. 305.

HL11VSY(-)(-)

= Phosphate fluoride treat, solid film lube per AS5272, Type I, and color red on thread end.

(53)

HL11VT(-)(-)

= Anodize per Hi-Shear Spec. 306, Type I, color pink, and cetyl alcohol lube per Hi-Shear Spec. 305.

HL11VTA(-)(-)

= 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.

HL11VTB(-)(-)

= HI-KOTE™ 2 solid film lube per Hi-Shear Spec. 292, and cetyl alcohol lube per Hi-Shear Spec. 305.

HL11VTF(-)(-)

= HI-KOTE™ 2 solid film lube per Hi-Shear Spec. 292.

HL11VTL(-)(-)

= Anodize 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.

HL11VTT(-)(-)

= Translube.

(53)

HL11VUE(-)(-)

= Anodize per Hi-Shear Spec. 306, Type II, and cetyl alcohol lube per Hi-Shear Spec. 305.

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HL11VUU(-)(-)

= Anodize per Hi-Shear Spec. 306, Type II, and solid film lube per "Lubeco" 2123, Type II.

HL11VV(-)(-)

= Solid film lube per "Lubeco" 2123, Type II.

(53)

9 HL11VY(-)(-)

= Anodize per Hi-Shear Spec. 306, Type I, color blue, and solid film lubricant per MP1050.

(British Aircraft Corporation Spec. MP1071).

HL11VNKJ(-)(-)

= 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.

HL11VNKK(-)(-)

= 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.

HL11VNKL(-)(-)

= 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.

HL11VHK(-)(-)

= HI-KOTE™ 4 NC aluminum coating per Hi-Shear Spec. 397.

**SPECIFICATION:** HI-LOK™ Product Specification 342.

**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**

**EXAMPLE:**

Pin Part Number

HL11VAP8-8

8/16 or 1/2 Maximum Grip Length  
 8/32 or 1/4 Nominal Diameter Pin  
 Finish Code  
 Pin Basic Part Number

HL11

DRAWING NUMBER

**HL11**

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