

①

For the current list of licensed manufacturers, please visit the LISI AEROSPACE website at:
[HTTP://WWW.LISI-AEROSPACE.COM/LICENSES](http://www.lisi-aerospace.com/licenses)

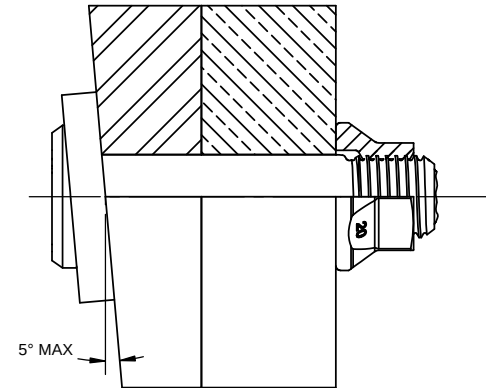
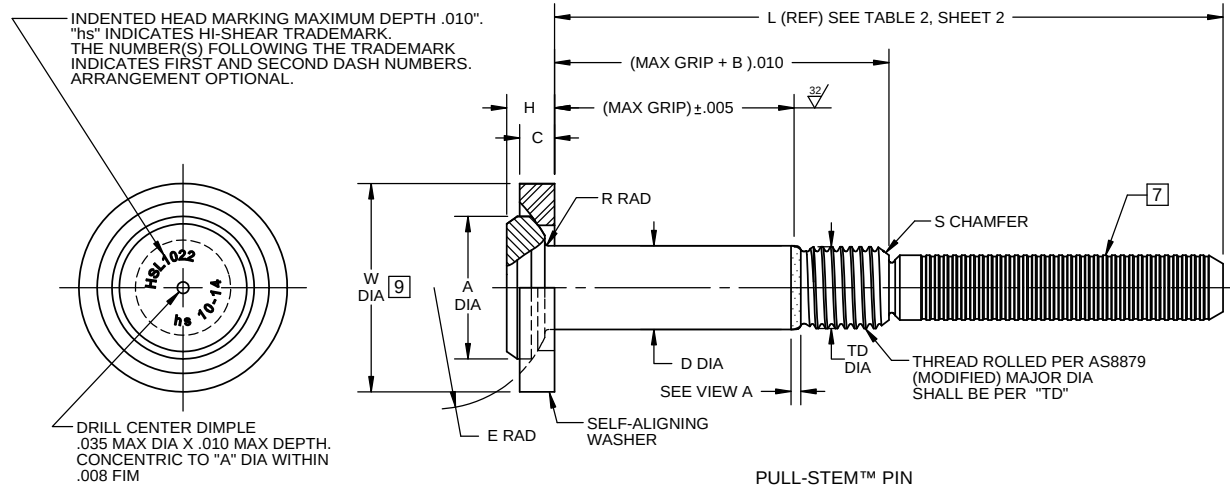


TABLE 1 9

FIRST DASH NO.	PIN NOM DIA	A DIA REF	B REF	C MAX	D DIA	TD DIA	W DIA		H MAX	R RAD	E RAD REF	S CHAMFER REF	THREAD MODIFIED	DOUBLE SHEAR POUNDS MINIMUM	TENSION POUNDS MINIMUM	TENSION-TENSION FATIGUE POUNDS MAX
							CODE NAT MAX	CODE NATB MAX								
6	13/64	.374	.300	.087	.2026 .2016	.1840 .1810	.463		.121	.025 .015	.315	1/32 x 37°	.1900-32 UNJF-3A	6,130	3,180	1,050
7	15/64	.411	.315	.092	.2338 .2328	.2100 .2070	.501		.130	.025 .015	.334	1/32 x 37°	.2160-28 UNJF-3A	8,160	4,128	1,360
8	17/64	.477	.330	.110	.2651 .2641	.2440 .2410	.571		.159	.025 .015	.377	1/32 x 37°	.2500-28 UNJF-3A	10,490	5,820	1,950
10	21/64	.567	.390	.127	.3276 .3266	.3060 .3020	.712	.668	.191	.030 .020	.440	3/64 x 37°	.3125-24 UNJF-3A	16,000	9,200	3,140
12	25/64	.656	.430	.145	.3901 .3891	.3680 .3640	.847	.764	.238	.030 .020	.502	3/64 x 37°	.3750-24 UNJF-3A	22,700	14,000	4,850
14	29/64	.746	.495	.162	.4526 .4516	.4310 .4260	.986	.894	.269	.030 .020	.565	3/64 x 37°	.4375-20 UNJF-3A	30,800	18,900	6,540
16	33/64	.835	.535	.181	.5151 .5141	.4930 .4880	1.193	1.062	.307	.030 .020	.627	3/64 x 37°	.5000-20 UNJF-3A	39,600	25,600	8,900

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

THIS AREA OF SPECIAL CONFIGURATION AND COLD WORKING TO MEET PHYSICAL REQUIREMENTS.



VIEW A
HI-LITE™ THREAD TRANSITION AREA.
SEE SPECIFICATION FOR INSPECTION

- GENERAL NOTES:**
1. Concentricity: "A" to "D" diameter within .010 FIM.
 2. Dimensions in inches and to be met after finish.
 - ① 3. Surface texture per ASME B46.1.
 4. Hole preparation per HSL/HPL-IS01: PULL-STEM™ / PULL-IN™ fastener installation specification for HSL/HPL pins.
 5. HSL1022 is the oversize replacement for HSL1012.
 6. Use HSL1032 for oversize replacement.
 - ⑦ 7. Coating and lube not mandatory on pintail.
 8. Product in accordance with LISI AEROSPACE Product Specification N°415.
 - ⑨ 9. Washer external diameter values vary according to material: Code NAT (Titanium) and Code NATB (Inconel).

"HI-KOTE", "HI-LITE", "PULL-STEM" AND "HSL", ARE TRADEMARKS OF HI-SHEAR CORPORATION

DRAWN BY F.CARINGELLA	DATE 2016-02-17	TITLE PULL-STEM™ PIN SELF-ALIGNING TENSION HEAD BREAK STEM, INTERFERENCE FIT TITANIUM 1/16 GRIP VARIATION, 1/64 OVERSIZE
APPROVED C.REITZ	DATE 2016-02-17	
REVISION ①	DATE M.BEARD 2017-10-30	DRAWING NUMBER HSL1022

1 OF 2

FINISH TABLE

Part	Finish, Lube, ID Code	Finish	Lube	Identification
Titanium Pin	NAP	HI-KOTE™ 1 NC Aluminum Pigmented Coating per Hi-Shear Spec. 294	Cetyl alcohol lube per Hi-Shear Spec. 305	None
Titanium Washer	NAT	HI-KOTE™ 1 NC Aluminum Pigmented Coating per Hi-Shear Spec. 294	None	None
Inconel Washer	NATB	HI-KOTE™ 1 NC Aluminum Pigmented Coating per Hi-Shear Spec. 294	None	Blue spot on outside diameter

MATERIAL: Pin = Titanium alloy 6Al-4V per AMS4928 or AMS4967.

Washer = 6Al-4V Titanium alloy per AMS4928 or AMS4967, code NAT.

Washer = Nickel base alloy (Inconel 718) per AMS5662 or AMS5962, code NATB.

HEAT TREAT: Pin = Titanium alloy 6Al-4V 160,000 psi tensile minimum and 95,000 psi shear minimum.

Washer (Titanium alloy 6Al-4V) = 160,000 psi tensile minimum and 95,000 psi shear minimum.

Washer (Nickel base alloy, Inconel 718) = 220,000 psi tensile minimum and 125,000 psi shear minimum.

CODE: First dash number indicates nominal diameter in 1/32nds of the pin which HSL1022 oversize pin replaces.
 Second dash number indicates maximum grip in 1/16ths.
 See "Finish" note for explanation of code letters.

HOW TO ORDER Pin-Washer Assembly Part Number

① **EXAMPLE:**

HSL1022 NAP 10 NATB 14

14/16 Maximum Grip Length
 Washer finish code
 10/32 or 5/16 Nominal Diameter Pin
 Finish Code
 Pin Basic Part Number

TABLE 2

SECOND DASH NUMBER	L (REF)						
	-6 DIA	-7 DIA	-8 DIA	-10 DIA	-12 DIA	-14 DIA	-16 DIA
1	-	-	-	-	-	-	-
2	1.000	1.000	1.000	-	-	-	-
3	1.125	1.125	1.125	1.250	-	-	-
4	1.250	1.250	1.250	1.375	1.375	-	-
5	1.375	1.375	1.375	1.500	1.500	1.625	-
6	1.500	1.500	1.500	1.625	1.625	1.750	1.750
7	1.625	1.625	1.625	1.750	1.750	1.875	1.875
8	1.750	1.750	1.750	1.875	1.875	2.000	2.000
9	1.875	1.875	1.875	2.000	2.000	2.125	2.125
10	2.000	2.000	2.000	2.125	2.125	2.250	2.250
11	2.125	2.125	2.125	2.250	2.250	2.375	2.375
12	2.250	2.250	2.250	2.375	2.375	2.500	2.500
13	2.375	2.375	2.375	2.500	2.500	2.625	2.625
14	2.500	2.500	2.500	2.625	2.625	2.750	2.750
15	2.625	2.625	2.625	2.750	2.750	2.875	2.875
16	2.750	2.750	2.750	2.875	2.875	3.000	3.000
17	2.875	2.875	2.875	3.000	3.000	3.125	3.125
18	3.000	3.000	3.000	3.125	3.125	3.250	3.250
19	3.125	3.125	3.125	3.250	3.250	3.375	3.375
20	3.250	3.250	3.250	3.375	3.375	3.500	3.500
21	3.375	3.375	3.375	3.500	3.500	3.625	3.625
22	3.500	3.500	3.500	3.625	3.625	3.750	3.750
23	3.625	3.625	3.625	3.750	3.750	3.875	3.875
24	3.750	3.750	3.750	3.875	3.875	4.000	4.000
25	-	-	-	4.000	4.000	4.125	4.125
26	-	-	-	4.125	4.125	4.250	4.250
27	-	-	-	4.250	4.250	4.375	4.375
28	-	-	-	4.375	4.375	4.500	4.500
29	-	-	-	-	4.500	4.625	4.625
30	-	-	-	-	4.625	4.750	4.750
31	-	-	-	-	4.750	4.875	4.875
32	-	-	-	-	4.875	5.000	5.000
33	-	-	-	-	5.000	5.125	5.125
34	-	-	-	-	5.125	5.250	5.250
35	-	-	-	-	5.250	5.375	5.375
36	-	-	-	-	5.375	5.500	5.500
37	-	-	-	-	5.500	5.625	5.625
38	-	-	-	-	5.625	5.750	5.750
39	-	-	-	-	5.750	5.875	5.875
40	-	-	-	-	5.875	6.000	6.000
41	-	-	-	-	6.000	6.125	6.125
42	-	-	-	-	6.125	6.250	6.250
43	-	-	-	-	6.250	6.375	6.375
44	-	-	-	-	6.375	6.500	6.500

DRAWING NUMBER

HSL1022

2 OF 2

©2017 Hi-Shear Corporation

HSL1022