lisi AEROSPACE
hi-shear corporation
2600 SKYPARK DRIVE, TORRANCE, CALIFORNIA 90509 U.S.A.

HI-SHEAR Corporation, USA
a LISI AEROSPACE Company

Design Holder

CAGE No. 73197

⑥

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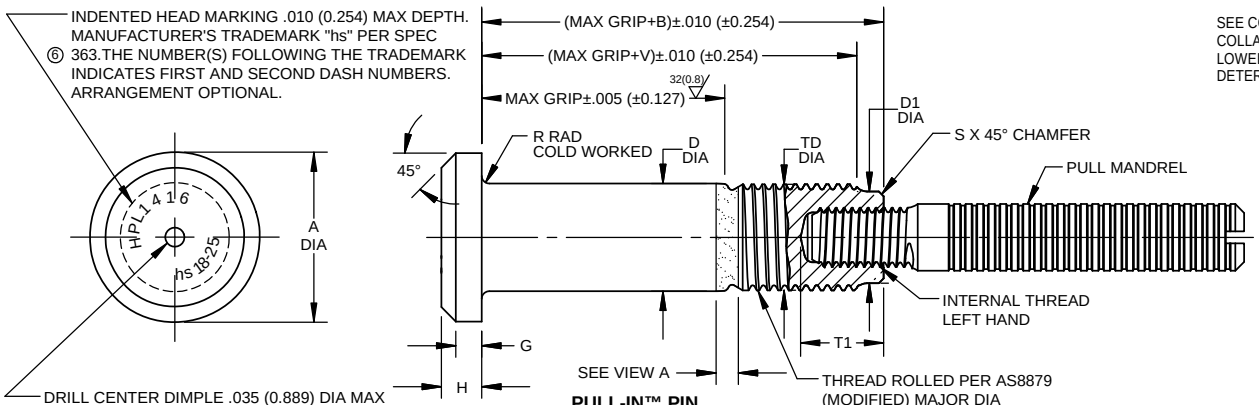
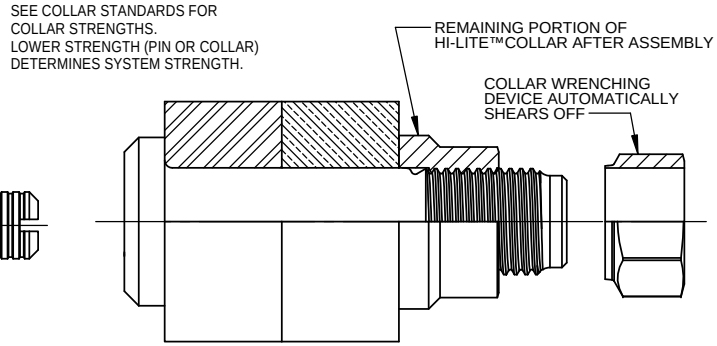
HTTP://WWW.LISI-AEROSPACE.COM/LICENSES

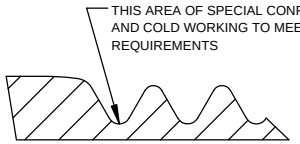


PULL-IN™ PIN



⑥ PULL-IN™ PIN AND COLLAR AFTER ASSEMBLY

FIRST DASH NO.	PIN NOM DIA	A DIA		B	D DIA		TD DIA		D1 DIA		G	H		R RAD ROLLED		S CHAMFER	V	THREAD MODIFIED	INTERNAL THREAD LEFT HAND		DOUBLE SHEAR POUNDS MINIMUN	TENSION POUNDS MINIMUM	TENSION TENSION FATIGUE POUNDS MAX
																			T1	THREAD SIZE UNJF-2B	LOAD POUNDS MAX			
		MAX	MIN	REF	MAX	MIN	MAX	MIN	MAX	MIN	REF	MAX	MIN	MAX	MIN	REF	REF		MAX					
16	1/2	.770 (19,56)	.735 (18,67)	.685 (17,40)	.4995 (12,687)	.4985 (12,662)	.4930 (12,522)	.4880 (12,395)	N/A		.100 (2,54)	.188 (4,78)	.178 (4,52)	.030 (0,76)	.020 (0,51)	.047 (1,19)	N/A	.5000-20 UNJF-3A	.325 (8,26)	1/4-SP	8 835 (39 300)	37 300 (165 919)	25 600 (113 874)	8 900 (39 589)
18	9/16	.877 (22,28)	.842 (21,39)	.844 (21,44)	.5615 (14,262)	.5605 (14,237)	.5537 (14,065)	.5500 (13,970)	.4783 (12,150)	.4764 (12,100)	.125 (3,18)	.210 (5,33)	.200 (5,08)	.040 (1,02)	.025 (0,64)	.020 (0,51)	.701 (17,81)	.5625-18 UNJF-3A	.465 (11,81)	5/16-SP	11 500 (51 155)	47 200 (209 956)	32 400 (144 122)	11 300 (50 265)
20	5/8	.953 (24,21)	.918 (23,32)	.935 (23,75)	.6240 (15,850)	.6230 (15,824)	.6165 (15,659)	.6120 (15,545)	.5413 (13,750)	.5394 (13,700)	.140 (3,56)	.238 (6,05)	.228 (5,79)	.040 (1,02)	.025 (0,64)	.020 (0,51)	.733 (18,63)	.6250-18 UNJF-3A	.520 (13,21)	3/8-SP	14 200 (63 165)	58 300 (259 331)	41 000 (182 377)	14 400 (64 054)
24	3/4	1.150 (29,21)	1.110 (28,19)	1.125 (28,58)	.7490 (19,025)	.7480 (18,999)	.7415 (18,834)	.7370 (18,720)	.6575 (16,700)	.6555 (16,650)	.200 (5,08)	.335 (8,51)	.320 (8,13)	.045 (1,14)	.030 (0,76)	.020 (0,51)	.927 (23,54)	.7500-16 UNJF-3A	.625 (15,88)	7/16-SP	19 109 (85 000)	83 900 (373 206)	59 500 (264 669)	21 000 (93 413)
28	7/8	1.330 (33,78)	1.290 (32,77)	1.315 (33,40)	.8740 (22,200)	.8730 (22,174)	.8663 (22,003)	.8610 (21,870)	.7717 (19,600)	.7697 (19,550)	.250 (6,35)	.385 (9,78)	.370 (9,40)	.050 (1,27)	.035 (0,89)	.020 (0,51)	1.021 (25,92)	.8750-14 UNJF-3A	.725 (18,42)	1/2-SP	31 500 (140 119)	111 100 (494 197)	77 500 (344 737)	28 800 (128 109)
32	1	1.510 (38,35)	1.470 (37,34)	1.500 (38,10)	.9990 (25,375)	.9980 (25,349)	.9913 (25,178)	.9860 (25,045)	.8819 (22,400)	.8799 (22,350)	.300 (7,62)	.435 (11,05)	.420 (10,67)	.060 (1,52)	.045 (1,14)	.020 (0,51)	1.151 (29,22)	1.0000-12 UNJF-3A	.830 (21,08)	9/16-SP	38 218 (170 000)	140 742 (625 972)	100 900 (448 825)	37 600 (167 253)



VIEW A

HI-LITE™ THREAD TRANSITION AREA
SEE SPECIFICATION FOR INSPECTION

"HI-KOTE", "HI-LITE", "PULL-IN" AND "HPL", ARE TRADEMARKS OF HI-SHEAR CORPORATION

DRAWN BY	DATE	TITLE
F.CARINGELLA	2013-06-10	PULL-IN™ PIN PROTRUDING TENSION HEAD INTERFERENCE FIT, TITANIUM 1/16 GRIP VARIATION
APPROVED	DATE	
D.GOLDING	2013-06-11	
REVISION	DATE	DRAWING NUMBER
⑥	M.BEARD 2017-11-03	**HPL1416** 1 OF 2

HPL1416

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GENERAL NOTES:

1. Concentricity: "A" dia to "D" diameter within .010 (0.254) FIM
2. Hole preparation per HSL/HPL-IS01: PULL-STEM™/PULL-IN™ fastener installation specification for HSL/HPL pins.
3. Dimensions in inches (millimeters) and to be met after finish. Strengths and loads are in LBS. (N).

⑥ 4. Surface texture per ASME B46.1.

[5] The maximum allowable installation load must not exceed the maximum load values in table or thread/mandrel failure may occur.

6. Use HPL1426 for oversize replacement.

[7] For Dash code 16 only: D1 DIA & V not applicable since the pin end is fully threaded.

[8] For Dash code 16 only: chamfer is as following: S x 37° CHAMFER.

[9] DELETED

[10] "NKA" is a duplicate code, use "NAP" for new design.

11. Product in accordance with LISI AEROSPACE Product Specification N°415.

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

HEAT TREAT: Pin = 160,000 psi (1103 MPa) tensile minimum and 95,000 psi (655 MPa) shear minimum for size up to 3/4.
150,000 psi (1034 MPa) tensile and 90,000 psi (620 MPa) shear minimum for 7/8 and larger.

FINISH: HPL1416KM( )-( ) = DELETED

[10] HPL1416NKA( )-( ) = HI-KOTE™ 1 NC aluminum pigmented coating per Hi-Shear Spec. 294, and cetyl alcohol lube per Hi-Shear Spec. 305.
HPL1416BJ( )-( ) = I.V.D. aluminum coating per MIL-DTL-83488, Type II, Class 3, and cetyl alcohol lube per Hi-Shear Spec. 305.
HPL1416NAP( )-( ) = HI-KOTE™ 1 NC aluminum pigmented coating per Hi-Shear Spec. 294, and cetyl alcohol lube per Hi-Shear Spec. 305.

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
⑥ **EXAMPLE:**

Pin Part Number
HPL1416NAP18-25

- 25/16 Maximum Grip Length
- 18/32 or 9/16 Nominal Diameter Pin
- Finish Code
- Pin Basic Part Number

HPL1416

DRAWING NUMBER
HPL1416