

DASH NO.	PIN NOM DIA	THREAD	A DIA	B	C DIA (REF)	D DIA (REF)	L (REF)	L1 (REF)	R SPHER. RAD	M	P (REF)	W HEX	X MAX	UTS LBS. MIN	TORQUE-OFF INCH-POUNDS
6	3/16	.1900-32 UNJF-3B	.365 .355	.095 .085	.255	.210	.445	.280	.20	.420 .400	.380	.346 .332	.115	4,000	40-50
8	1/4	.2500-28 UNJF-3B	.475 .465	.120 .110	.333	.270	.540	.340	.26	.510 .490	.380	.346 .332	.121	7,500	115-130
10	5/16	.3125-24 UNJF-3B	.620 .610	.130 .120	.417	.333	.660	.430	.34	.617 .597	.484	.440 .425	.133	11,750	200-250
12	3/8	.3750-24 UNJF-3B	.790 .780	.145 .135	.490	.395	.730	.470	.38	.677 .657	.557	.503 .488	.133	18,000	360-440
14	7/16	.4375-20 UNJF-3B	.895 .885	.180 .170	.570	.456	.855	.562	.45	.772 .752	.624	.565 .550	.146	23,750	525-600
16	1/2	.5000-20 UNJF-3B	1.005 .995	.205 .195	.648	.518	.925	.612	.51	.842 .822	.763	.690 .675	.146	30,000	725-825
18	9/16	.5625-18 UNJF-3B	1.125 1.115	.270 .260	.763	.592	1.050	.700	.71	.960 .940	.970	.878 .861	.155	39,000	1000-1150
20	5/8	.6250-18 UNJF-3B	1.305 1.290	.315 .305	.855	.647	1.145	.765	.76	1.035 1.015	1.120	1.003 .986	.155	49,000	1350-1550
24	3/4	.7500-16 UNJF-3B	1.500 1.485	.390 .380	.985	.773	1.405	.980	.81	1.285 1.255	1.240	1.128 1.110	.165	70,000	1900-2200
28	7/8	.8750-14 UNJF-3B	1.740 1.720	.450 .435	1.155	.905	1.600	1.100	.92	1.470 1.440	1.520	1.380 1.356	.180	95,000	3200-3600
32	1	1.0000-12 UNJF-3B	2.000 1.980	.505 .490	1.345	1.035	1.900	1.300	1.11	1.755 1.725	1.650	1.504 1.480	.200	124,000	4500-5000

- NOTES:**
1. Go thread gage penetration shall be 3/4 of one revolution minimum.
 2. For use on sloped surfaces up to 7° maximum on standard and 1/64 oversize HI-LOK™ tension head pins.
 3. Dimensions are in inches and apply after finish and before application of lubricants.
 4. Use HL289 for oversize replacment.
 - 5 For -12,-14 and -16 washers chamfer or radius .040-.050.
 - 6 Use TB64VF ()L for HL89DU-()A.

MATERIAL: Collar - 17-4 PH stainless steel per AMS5643.
 Washer - 17-4PH stainless steel per AMS5643, or 17-7PH per AMS5528, for 15-7PH Mo per AMS5520.

HEAT TREAT: Collar - Age to H-1025 condition per AMS-H-6875.
 Washer - Age to H-1025 condition for 17-4PH, age to TH-1050 condition for 17-7PH and 15-7Mo per AMS-H-6875.

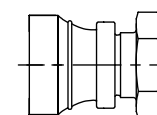
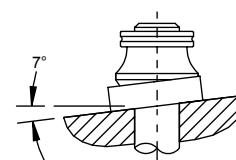
FINISH: Collar - HL89-()A = Silver plate per AMS2410 and cetyl alcohol lube per Hi-Shear Spec. 305.
 HL89PB-()A = Cadmium plate per AMS-QQ-P-416, Type II, Class 2, and cetyl alcohol lube per Hi-Shear Spec. 305.
 HL89DU-()A = Solid film lube per AS5272.

Washer - HL89-()W = Cadmium plate per AMS-QQ-P-416, Type II, Class 2.
 HL89-()GW = Silver plate per AMS2410 and cetyl alcohol lube per Hi-Shear Spec. 305.
 HL89-()PBW = Cadmium plate per AMS-QQ-P-416, Type II, Class 2.
 HL89-()DW = Solid film lube per AS5272.

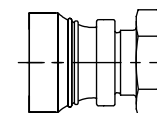
SPECIFICATION: HI-LOK™ Product Specification 345. Test bolt requirement exceptions per note 6 above. 15

CODE: Dash number indicates nominal thread size in 1/32nds.
 See the "Finish" note for explanation of code letters.

EXAMPLES: HL89-8AW = Assembly of HL89-8A collar and HL89-8W washer.
 HL89-8AGW = Assembly of HL89-8A collar and HL89-8GW washer.
 HL89DU-8ADW = Assembly of HL89DU-8A collar and HL89-8DW washer.



VOI-SHAN
 1 raised bead indicates VOI-SHAN identification



STANDARD PRESSED STEEL
 2 raised beads indicate STANDARD PRESSED STEEL identification.

"HI-LOK" AND "HL" ARE INTERNATIONAL REGISTERED TRADEMARKS OF HI-SHEAR CORPORATION

	DATE	BY	TITLE	DRAWING NO.
DRAWN	1963-11-26	BRLEJ	HI-LOK™ COLLAR SELF-ALIGNING COLLAR ASSEMBLY 17-4PH STAINLESS STEEL 1/16 GRIP VARIATION, TENSION APPLICATION	HL89 1 of 1
APPROVED	1963-11-22	CESSNA		
REVISION	2018-08-22	S. WILEY		