

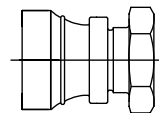
DASH NO.	PIN NOM DIA	THREAD	A DIA	A1 DIA (REF)	B DIA	L	L1 (REF)	L2 (REF)	L3 (REF)	P (REF)	W HEX	X (REF)	X1 (REF)	TENSION PRELOAD LBS. MIN.	UTS LBS. MIN	TORQUE-OFF INCH-POUNDS
5	5/32	.1640-32 UNJC-3B	.292 .288	.340	.173 .166	.447 .427	.270	.467	.300	.344	.314 .302	.107	.137	350	1,400	10-20
6	3/16	.1900-32 UNJF-3B	.307 .303	.360	.200 .192	.457 .437	.280	.477	.310	.344	.314 .302	.107	.137	500	1,600	20-30
8	1/4	.2500-28 UNJF-3B	.412 .408	.465	.261 .252	.552 .532	.340	.572	.370	.380	.346 .332	.112	.142	1,000	3,000	55-70
10	5/16	.3125-24 UNJF-3B	.518 .512	.575	.325 .314	.672 .652	.430	.692	.460	.484	.440 .425	.122	.152	1,650	5,000	100-125
12	3/8	.3750-24 UNJF-3B	.628 .622	.690	.388 .376	.744 .724	.470	.764	.500	.557	.503 .488	.122	.152	2,300	7,000	170-200
14	7/16	.4375-20 UNJF-3B	.713 .707	.770	.450 .442	.862 .842	.560	.882	.590	.624	.565 .550	.137	.167	3,100	9,500	220-270
16	1/2	.5000-20 UNJF-3B	.815 .809	.875	.513 .501	.942 .922	.610	.962	.640	.763	.690 .675	.137	.167	4,100	12,500	310-370

- GENERAL NOTES:**
- Go thread gage penetration shall be 3/4 of one revolution minimum.
  - Dimensions are in inches and apply after finish and before application of lubricants.
  - Use HL377 for oversize replacement.
  - Cetyl alcohol per Hi-Shear Spec. 305 maybe applied at manufacturer's option.
  - Use the following test bolts for thread lock inspection:  
TB075AA( )L for HL77-( ), HL77CM( ), HL77-( )D or HL77-( )DA, HL77FK( ), HL77TF( ),  
HL77-( )DDW or HL77-( )DADW, HL77TF( )NW, and HL77-( )TW.  
TB64VF( )L for HL77-( )TY.

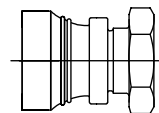
**MATERIAL:** Collar 2024 aluminum alloy per QQ-A-430 or AMS-QQ-A-225/6.  
Washer "DW" & "TW" = 2024 aluminum alloy per AMS-QQ-A-250/4 or AMS-QQ-A-250/5.  
"NW" & "TY" = 300 series stainless steel per ASTM A240/A240M.

**HEAT TREAT:** Collar Age to T6 condition per AMS2770.  
Washer "DW" & "TW" = Age to T6 condition per AMS2770 (for 2024 only).  
"NW" & "TY" = Anneal in vacuum furnace per AMS2759/4.

**FINISH:** Collar HL77-( ) = Collar only anodized per MIL-A-8625, dye color brown, and cetyl alcohol lube per Hi-Shear Spec. 305.  
HL77CM( ) = Collar only with chemical conversion coat per MIL-DTL-5541 class 1A and cetyl alcohol lube per Hi-Shear Spec. 305.  
HL77-( )D or HL77-( )DA = Collar only anodized per MIL-A-8625 and solid film lube per AS5272, Type I.  
HL77TF-( ) = Collar only anodized per MIL-A-8625 and HI-KOTE™ 2 solid film lube per Hi-Shear Spec. 292.  
Collar & Washer HL77-( )DDW or HL77-( )DADW = Collar finish same as HL77-D( ) or DA. Washer is anodized per MIL-A-8625 and solid film lube per AS5272, Type I.  
HL77TF-( )NW = Collar finish same as HL77TF-( ). Washer is passivated per AMS2700, Type 8, Method 1.  
HL77-( )TW = Collar finish same as HL77-( ). Washer is anodized per Spec. MIL-A-8625, dye color blue.  
HL77-( )TY = Collar finish same as HL77-( ). Washer is passivated per AMS2700, Type 8, Method 1 with "Kalgard" FC-2 teflon.



**VOI-SHAN**  
1 raised bead indicates  
**VOI-SHAN** identification



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

**SPECIFICATION:** HI-LOK™ Product Specification 345. except tension preload as tabulated and test bolt requirement exceptions per note 5 above. 30

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

**EXAMPLES:** HL77-8 = .2500-28 collar only, anodize and cetyl alcohol lube.  
HL77-8DADW = Assembly of HL77-8DA collar and HL77-8DW washer with solid film lube.

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

DATE	BY	TITLE	DRAWING NO.
DRAWN 1961-12-19	R.K.C.	<b>HI-LOK™ COLLAR</b>	<b>HL77</b>
APPROVED 1961-12-19	M.M.S.	2024 - T6 ALUMINUM ALLOY	
REVISION 2018-09-04	S. WILEY	1/16 GRIP VARIATION, SHEAR APPLICATION	
		FOR USE ON STANDARD SIZE ALUMINUM ALLOY HI-LOK™ PINS	