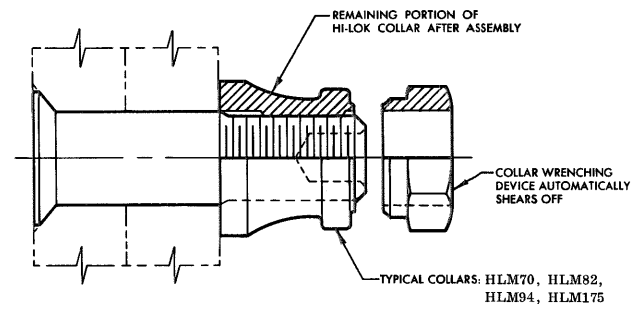
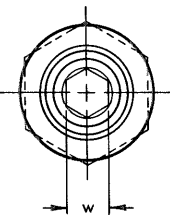
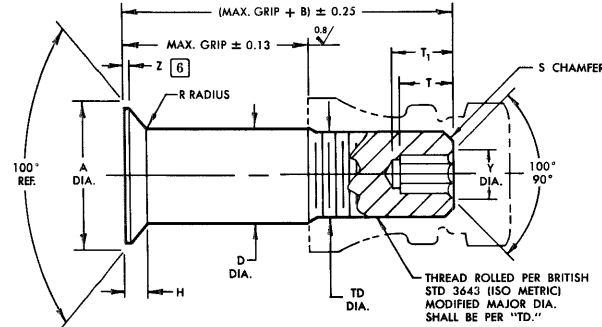
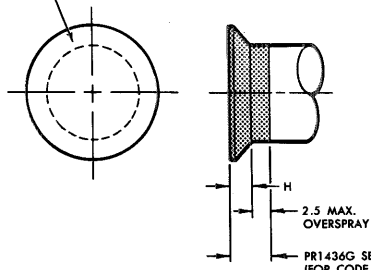


**STANDARDS COMMITTEE
FOR HI-LOK® PRODUCTS**
2600 SKYPARK DRIVE, TORRANCE, CALIFORNIA 90509

① HI-SHEAR CORPORATION, U.S.A. (Patent Holder) — U.S. Federal Code I.D. No. 73197
 Division of HI-Shear Industries Inc., U.S.A. (Licensee)
 AIRCRAFT FASTENERS (Forged Parts) LTD., U.K. (Licensee)
 Division of HI-Shear Industries Inc., U.S.A. (Licensee)
 YOI-SHAN, Division of VSI Corp., U.S.A. (Licensee) U.S. Federal Code I.D. No. 82215
 SPS TECHNOLOGIES, U.S.A. (Licensee) U.S. Federal Code I.D. No. 86878
 LITTON FASTENING SYSTEMS, U.S.A. (Licensee) U.S. Federal Code I.D. No. 97829
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 ST. CHAMOND-GRANAT, S.A. France (Licensee—EEC Countries)
 KANAX-WERKE, Germany (Licensee—EEC Countries)
 Rudolph Koller GmbH & Co. (Licensee—EEC Countries—Collars)
 SIMMONDS, S.A. France (Licensee—EEC Countries—Collars)
 TOKYO SCREW COMPANY, Japan (Licensee—Japan)
 WEST COAST AEROSPACE INC., U.S.A. (Licensee—Oversize Pins & Steel Collars)
 U.S. Federal Code I.D. No. 60519

INDENTED HEAD MARKING AS TABULATED, MAXIMUM DEPTH 0.25, ARRANGEMENT OPTIONAL.
 "hs" indicates HI-SHEAR trademark.
 "VS" indicates YOI-SHAN trademark.
 "SPS" indicates STANDARD PRESSED STEEL trademark.



FIRST DASH NO.	HEAD MARKING	NOM. DIA.	A DIA.	B REF.	D DIA.		TD DIA.	F	H	R RAD.	Z MAX.	S CHAMFER REF.	THREAD (MODIFIED)	SOCKET				DOUBLE SHEAR NEWTONS MINIMUM	TENSION NEWTONS MINIMUM
					HLM11	HLM11AP AND HLM11HA								* W HEX.	T HEX DEPTH MIN.	T ₁ DEPTH MAX.	Y DIA.		
-04	HLM11M4	4	6.49 6.35	8.35	3.990 3.978	3.990 3.965	3.91 3.86	0.11	1.05 0.99	0.65 0.40	0.25	0.8 x 37°	M4 x 0.7-4h	1.64 1.61	1.80	2.95	2.30 1.90	16400	6200
-05	HLM11M5	5	7.85 7.71	8.65	4.990 4.978	4.990 4.965	4.90 4.84	0.13	1.20 1.14	0.75 0.50	0.38	0.8 x 37°	M5 x 0.8-4h	2.05 2.01	2.00	3.05	3.05 2.60	25700	9300
-06	HLM11M6	6	9.68 9.54	10.70	5.990 5.978	5.990 5.965	5.88 5.81	0.16	1.55 1.49	0.75 0.50	0.38	0.8 x 37°	M6 x 1.0-4h	2.46 2.40	2.25	3.40	3.60 3.10	37000	14700
-08	HLM11M8 x 1	8	12.73 12.59	12.95	7.987 7.972	7.987 7.962	7.88 7.80	0.18	1.99 1.93	1.00 0.75	0.38	1.2 x 37°	M8 x 1.0-4h	3.29 3.22	2.80	4.15	4.60 4.05	65800	24400
-10	HLM11M10 x 1	10	15.68 15.54	15.20	9.987 9.972	9.987 9.962	9.88 9.80	0.21	2.39 2.33	1.00 0.75	0.38	1.2 x 37°	M10 x 1.0-4h	4.11 4.02	3.80	5.35	5.55 5.00	102900	37800
-12	HLM11M12 x 1.25	12	18.42 18.28	18.15	11.984 11.966	11.984 11.959	11.87 11.76	0.23	2.70 2.64	1.25 1.00	0.56	1.2 x 37°	M12 x 1.25-4h	4.90 4.81	4.55	6.30	6.45 5.90	148100	52000

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

- GENERAL NOTES:
- Head edge out of roundness shall not exceed "F."
 - Concentricity: Conical surface of head to "D" diameter within 0.08 FIR.
 - "H" is dimensioned from maximum "D" diameter.
 - Surface texture per ISO/R468.
 - Dimensions to be met after finish.
 - Curved or flat edge manufacturer's option.
 - Use HLM311 for oversize replacement.
 - Parts made prior to this revision are OK to use.

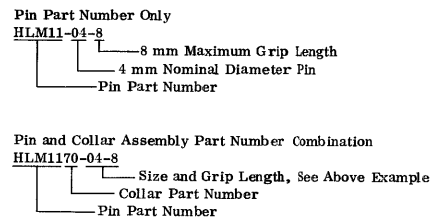
CODE: First dash number indicates nominal diameter in 1 mm.
 Second dash number indicates maximum grip in 1 mm.
 See "Finish" note for explanation of code letters.

MATERIAL: 6Al-4V titanium alloy per Spec. AMS4928 or AMS4967 for all sizes.
 6Al-6V-2Sn titanium alloy per Spec. AMS4971 is acceptable for -10 size and larger.

HEAT TREAT: 655 MPa shear minimum.

FINISH: HLM11-()-() = Surface coating per Hi-Shear Spec. 306, Type I, color blue-violet (equivalent to LN9368 Blatt 4), and cetyl alcohol lube per Hi-Shear Spec. 305.
 HLM11AP-()-() = Hi-Kote 1 aluminum coating per Hi-Shear Spec. 294 and cetyl alcohol lube per Hi-Shear Spec. 305.
 HLM11HA-()-() = Hi-Kote 1 aluminum coating per Hi-Shear Spec. 294 and apply precoat No. PR1436G sealant (.051-.127 mm thick) plus cetyl alcohol lube per Hi-Shear Spec. 305.

HOW TO ORDER
 EXAMPLES:



* INCH STANDARD HEX.

U.S. patents 3,390,906; and foreign patents.
 "Hi-Lok" and "HL" are Registered Trademarks of Hi-Shear Corporation.

DRAWN	DATE	hi-lok PIN (METRIC SERIES)
<i>Noy</i>	4-17-70	
APPROVED	DATE	100° FLUSH SHEAR HEAD TITANIUM 1 mm GRIP VARIATION
<i>R. Lopez</i>	4-20-70	
REVISION	DATE	DRAWING NUMBER
(16)	D. P. S. 5-21-82	HLM11

HLM11