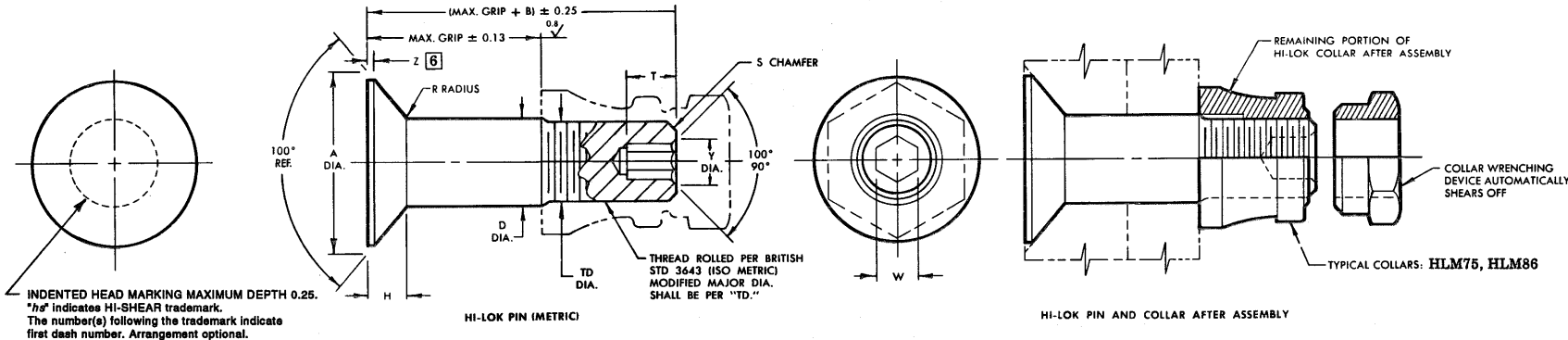


**STANDARDS COMMITTEE  
FOR HI-LOK® PRODUCTS**  
 2600 SKYPARK DRIVE, TORRANCE, CALIFORNIA 90509

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                              |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| HI-SHEAR CORPORATION, U.S.A. (Patent Holder) U.S. Federal Code No. 73197<br>Division of Hi-Shear Industries Inc., U.S.A.<br>AIR INDUSTRIES CO., INC. (Licensee - U.S. & Canada) U.S. Federal Code No. 06725<br>DEUTSCH FASTENER CO., INC. (Licensee) U.S. Federal Code No. 97928<br>SPS TECHNOLOGIES, U.S.A. (Licensee) U.S. Federal Code No. 56676<br>VOI-SHAR, Division of VSI Corp., U.S.A. (Licensee) U.S. Federal Code No. 92215<br>WEST COAST AEROSPACE INC., U.S.A. (Licensee) U.S. Federal Code No. 60516<br>Pins & Steel Collars | HI-SHEAR FASTENERS EUROPE, LTD., U.K. (Licensee)<br>Division of Hi-Shear Industries Inc., U.S.A.<br>KAMAX-WERKE, Germany (Licensee - EEC Countries)<br>Rudolph Kellerman GmbH & Co. (Licensee - EEC Countries)<br>ST. CHAMOND GRANAT, S.A. France (Licensee - EEC Countries)<br>SIMMONDS, S.A. France (Licensee - EEC Countries)<br>Collars<br>TOKYO SCREW COMPANY, Japan (Licensee - Japan) |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|



| 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 |
|----------------|---------------|-----------|----------------|--------|-------------------------|----------------------|----------------|------|--------------|--------------|--------|----------------|-------------------|--------------|--------------|--------------|------------------------------|-------------------------|
|                |               |           |                |        | WITHOUT SOLID FILM LUBE | WITH SOLID FILM LUBE |                |      |              |              |        |                |                   | *W HEX.      | T DEPTH      | Y DIA.       |                              |                         |
| -04            | HLM49M4       | 4         | 8.13<br>7.99   | 8.35   | 3.990<br>3.978          | 3.990<br>3.965       | 3.91<br>3.86   | 0.11 | 1.74<br>1.68 | 0.65<br>0.40 | 0.25   | 0.8 x 45°      | M4 x 0.7-4h       | 1.64<br>1.61 | 2.20<br>1.80 | 2.30<br>1.90 | 16400                        | 9800                    |
| -05            | HLM49M5       | 5         | 10.13<br>9.99  | 8.65   | 4.990<br>4.978          | 4.990<br>4.965       | 4.90<br>4.84   | 0.13 | 2.16<br>2.10 | 0.75<br>0.50 | 0.38   | 0.8 x 45°      | M5 x 0.8-4h       | 2.05<br>2.01 | 2.55<br>2.00 | 3.05<br>2.60 | 25700                        | 15600                   |
| -06            | HLM49M6       | 6         | 12.13<br>11.99 | 10.70  | 5.990<br>5.978          | 5.990<br>5.965       | 5.88<br>5.81   | 0.16 | 2.58<br>2.52 | 0.75<br>0.50 | 0.38   | 0.8 x 45°      | M6 x 1.0-4h       | 2.46<br>2.40 | 2.80<br>2.25 | 3.60<br>3.10 | 37000                        | 22200                   |
| -08            | HLM49M8x1     | 8         | 16.13<br>15.99 | 12.95  | 7.987<br>7.972          | 7.987<br>7.962       | 7.88<br>7.80   | 0.18 | 3.42<br>3.36 | 1.00<br>0.75 | 0.38   | 1.2 x 45°      | M8 x 1.0-4h       | 3.29<br>3.22 | 3.35<br>2.80 | 4.60<br>4.05 | 65800                        | 42000                   |
| -10            | HLM49M10x1    | 10        | 20.13<br>19.99 | 15.20  | 9.987<br>9.972          | 9.987<br>9.962       | 9.88<br>9.80   | 0.21 | 4.26<br>4.20 | 1.00<br>0.75 | 0.38   | 1.2 x 45°      | M10 x 1.0-4h      | 4.11<br>4.02 | 4.35<br>3.80 | 5.55<br>5.00 | 102900                       | 68000                   |
| -12            | HLM49M12x1.25 | 12        | 24.13<br>23.99 | 18.15  | 11.984<br>11.966        | 11.984<br>11.959     | 11.87<br>11.76 | 0.23 | 5.10<br>5.04 | 1.25<br>1.00 | 0.56   | 1.2 x 45°      | M12 x 1.25-4h     | 4.90<br>4.81 | 5.10<br>4.55 | 6.45<br>5.90 | 148100                       | 100200                  |
|                |               |           |                |        |                         |                      |                |      |              |              |        |                |                   |              |              |              |                              |                         |
|                |               |           |                |        |                         |                      |                |      |              |              |        |                |                   |              |              |              |                              |                         |
|                |               |           |                |        |                         |                      |                |      |              |              |        |                |                   |              |              |              |                              |                         |
|                |               |           |                |        |                         |                      |                |      |              |              |        |                |                   |              |              |              |                              |                         |
|                |               |           |                |        |                         |                      |                |      |              |              |        |                |                   |              |              |              |                              |                         |
|                |               |           |                |        |                         |                      |                |      |              |              |        |                |                   |              |              |              |                              |                         |
|                |               |           |                |        |                         |                      |                |      |              |              |        |                |                   |              |              |              |                              |                         |
|                |               |           |                |        |                         |                      |                |      |              |              |        |                |                   |              |              |              |                              |                         |
|                |               |           |                |        |                         |                      |                |      |              |              |        |                |                   |              |              |              |                              |                         |
|                |               |           |                |        |                         |                      |                |      |              |              |        |                |                   |              |              |              |                              |                         |

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.

**MATERIAL:** A-286 high temperature alloy per Spec. AMS5737 or AMS5731.

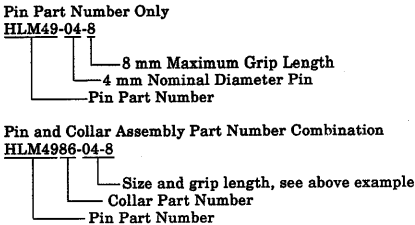
**HEAT TREAT:** 655 N/mm² shear minimum at room temperature.

- FINISH:**
 HLM49-( )-( ) = Passivate per Hi-Shear Spec. 258,  
 and cetyl alcohol lube per Hi-Shear Spec. 305.  
 HLM49TB-( )-( ) = Hi-Kote 2° solid film lube per Hi-Shear Spec. 292,  
 and cetyl alcohol lube per Hi-Shear Spec. 305.  
 HLM49TF-( )-( ) = Hi-Kote 2° solid film lube per Hi-Shear Spec. 292.

**SPECIFICATION:** Hi-Lok Product Specification M342.

**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.

**HOW TO ORDER  
EXAMPLES:**



\*INCH STANDARD HEX

|                                                                                        |        |                                    |
|----------------------------------------------------------------------------------------|--------|------------------------------------|
| "Hi-Lok" and "HL" are internationally<br>registered trademarks of Hi-Shear Corporation |        |                                    |
| DRAWN                                                                                  | DATE   | TITLE                              |
| D. P. S.                                                                               | 3-2-92 | <b>HI-LOK® PIN (Metric Series)</b> |
| APPROVED                                                                               | DATE   | 100° FLUSH TENSION HEAD            |
| A. BROWN                                                                               | 4-2-92 | A-286 HIGH TEMPERATURE ALLOY       |
| REVISION                                                                               | DATE   | 1 mm GRIP VARIATION                |
|                                                                                        |        | DRAWING NUMBER                     |
|                                                                                        |        | <b>HLM49</b>                       |