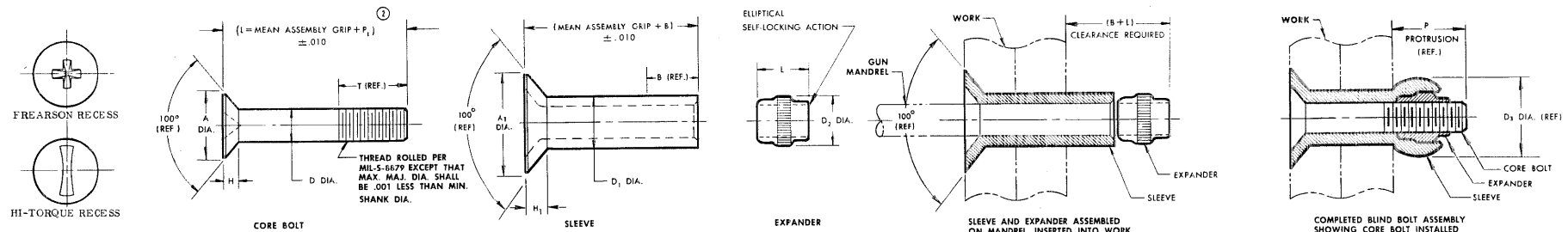




2600 SKYPARK DRIVE  
TORRANCE, CALIFORNIA 90509  
AREA CODE 213 • 775-3181 • 326-8110



BLIND BOLT ASSEMBLY		BB309 CORE BOLT								BB335 SLEEVE						BB415GA EXPANDER				SUGGESTED HOLE PREPARATION		PROTRUSION AFTER INSTALLATION		
FIRST DASH NUMBER	NOMINAL DIAMETER	FIRST DASH NUMBER	RECESS	A DIA.	D DIA.	H	P <sub>1</sub>	T (REF)	THREAD	FIRST DASH NUMBER	A <sub>1</sub> DIA.	B GRIP RANGE 0-3/4	B GRIP RANGE 3/4-1 1/4	B GRIP RANGE 1 1/4-1 3/4	D <sub>1</sub> DIA.	H <sub>1</sub>	DASH NUMBER	D <sub>2</sub> DIA.	L (LENGTH)	THREAD	HOLE DIA.	CORE BOLT INSTALLATION TORQUE	P	D <sub>2</sub> DIA. (REF)
-5	5/32	-5	Frearson	.2274 .2226	.1120 .1100	.048 .046	.208	.274	4-40UNJC-3A	-5	.3310 .3262	.210	—	—	.169 .166	.0680 .0660	-5	.167	.153	4-40UNJC-3B	.173 .170	8 10 IN. LBS.	.208	.210
-6	3/16	-6	Frearson	.2514 .2466	.1240 .1220	.053 .051	.239	.304	5-40UNJC-3A	-6	.3813 .3765	.250	—	—	.196 .193	.0780 .0760	-6	.194	.184	5-40UNJC-3B	.201 .197	10 14 IN. LBS.	.239	.253
-8	1/4	-8	Frearson	.3304 .3256	.1650 .1630	.069 .067	.316	.397	8-32UNJC-3A	-8	.5066 .5018	.315	.330	—	.257 .254	.1050 .1030	-8	.255	.245	8-32UNJC-3B	.264 .258	20 30 IN. LBS.	.316	.335
-10	5/16	-10	Hi-Torque #3	.4454 .4406	.2180 .2160	.095 .093	.414	.498	12-28UNJF-3A	-10	.6335 .6287	.380	.400	.420	.338 .335	.1240 .1220	-10	.328	.307	12-28UNJF-3B	.345 .339	50 80 IN. LBS.	.414	.438
-12	3/8	-12	Hi-Torque #4	.5066 .5018	.2490 .2470	.108 .106	.485	.567	1/4-28UNJF-3A	-12	.7604 .7556	.450	.450	.450	.390 .387	.1554 .1534	-12	.383	.368	1/4-28UNJF-3B	.397 .391	125 150 IN. LBS.	.485	.510

#### BB309 CORE BOLT

- GENERAL NOTES:
- Concentricity: Head to "D" diameter within .005 FIR.
  - Complete threads shall begin within two thread pitches maximum. Two thread pitch maximum may consist of incomplete thread and extrusion angle.
  - "H" is dimensioned from maximum "D" diameter.

MATERIAL: A-286 high temperature alloy per AMS5735.

HEAT TREAT: 95,000 psi shear minimum.

CODE: First dash number of core bolt indicates sleeve nominal diameter in 32nds. Second dash number indicates mean assembly grip length (thickness of work) in 16ths.

EXAMPLE: BB309-6-12 = 3/16 nominal sleeve diameter, 3/4 mean assembly grip length.

#### BB335 SLEEVE

- GENERAL NOTES:
- Concentricity: Hole to "D<sub>1</sub>" diameter within .005 FIR. Head to "D<sub>1</sub>" diameter within .005 FIR.
  - "H<sub>1</sub>" is dimensioned from maximum "D<sub>1</sub>" diameter.

MATERIAL: Type A-286 meeting composition limits of the AMS specifications.

HEAT TREAT: Heat treated to meet the requirements of AMS5736.

CODE: First dash number indicates nominal diameter of sleeve in 32nds. Second dash number indicates mean assembly grip length (thickness of work) in 16ths.

EXAMPLE: BB335-6-12 = 3/16 nominal sleeve diameter, 3/4 mean assembly grip length.

#### BB415 EXPANDER

GENERAL NOTES: 1. Threads per MIL-S-8879.

MATERIAL: A-286 alloy per AMS5731.

HEAT TREAT: 110,000 psi shear minimum.

FINISH: GA = Silver plate per AMS2411, .0002-.0004 thick.

TF = Solid film Hi-Kote 2.

CODE: Dash number indicates nominal diameter of Blind Bolt Assembly in 32nds.

EXAMPLE: BB415GA-6 = 3/16 nominal diameter Blind Bolt Assembly, silver plated.

#### BB445 BOLT ASSEMBLY

CODE: First dash number indicates nominal diameter of Blind Bolt Assembly in 32nds. Second dash number indicates mean assembly grip length (thickness of work) in 16ths.

EXAMPLE: BB445-6-12  
 3/4 Mean Assembly Grip Length  
 3/16 Nominal Diameter Blind Bolt Assembly  
 Blind Bolt Assembly which includes:  
 BB309 Core Bolt, BB335 Sleeve, and  
 BB415GA Expander

U.S. Patents 2,959,999; 2,677,985. Foreign patents issued and pending. "Hi-Torque" trademark. "Hi-Kote" trademark.

TITLE					
BLIND BOLT ASSEMBLY					
100° COUNTERSUNK AN509 HEAD STYLE					
A-286 ALLOY					
DRAWN	DATE	APPROVED	DATE	REVISION	DATE
Shrode	4-6-73	Shrode	4-6-73	2	Shrode 8-13-74
DRAWING NUMBER					BB445

CODE IDENTIFICATION NO. 73197

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