

**CRITICAL DESIGN INFORMATION**

**START EVERY DESIGN BY FINDING "Lnom"**

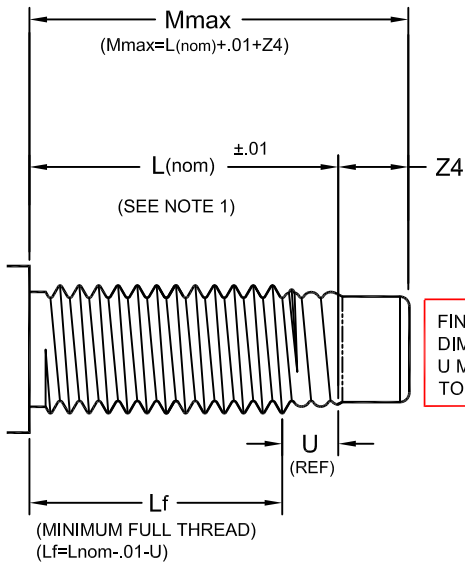
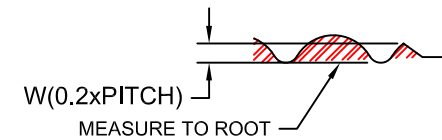
IF "Lnom" IS NOT GIVEN ON THE CUSTOMER DRAWING, USE EITHER THE MAXIMUM LENGTH (Mmax) OR MINIMUM FULL THREAD LENGTH (Lf) FROM THE CUSTOMER DRAWING TO CALCULATE IT USING ONE OF THE FOLLOWING EQUATIONS

PREFERRED:         $L_{nom} = M_{max} - Z_4 - .01$   
 SECONDARY:        $L_{nom} = L_f + U + .01$

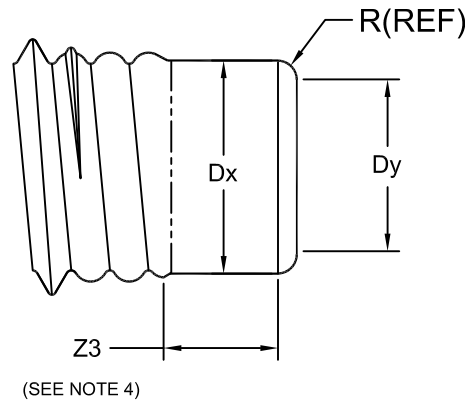
**Lnom MUST BE ON EVERY PART DRAWING**  
**DO NOT CHANGE ANY DIMENSION GIVEN WITHOUT CONSULTING MATHREAD**

**INSPECTION INFORMATION:**

1. Lnom ON ROLLED PART IS MEASURED TO THE POINT ON THE LEAD THREAD WHERE IT FIRST REACHES A HEIGHT OF "W" (0.2xPITCH) WHEN MEASURED FROM THE ROOT OF THE THREAD. (see sketch above)
2. MATHread SHALL HAVE A MINIMUM OF 1.5 COMPLETE TURNS OF RADIUSED THREAD. THREAD MUST BE FULLY FORMED, WITH NO UNDER FILL (FLATS, FISSURES) AT PEAK OF THREAD. WHEN VIEWED IN THE DESIGNATED INSPECTION POSITION, FOUR COMPLETE RADIUSED THREAD PROFILES MUST BE VISIBLE.
3. APPROPRIATE "GO" GAGE MUST COMPLETELY PASS OVER MATHread SECTION OF THREAD WITH MINIMAL DRAG BEFORE PLATING. GAGE MUST HAVE MINOR DIAMETER VERIFIED TO ANSI/ASME B1.2-1983 BEFORE USE.
4. "Z3" MUST BE MEASURED TO TANGENT POINT OF "R", USING MATHread APPROVED RADIUS CHART FROM POINT "W" TO TANGENT.



FINISHED PART DIMENSIONS Z3, Dx, & U MUST NOT BE USED TO DESIGN THE BLANK!



THREAD SIZE & PITCH	R MIN.	Dy MAX	W ±.0004	Dx	Z <sub>3</sub>	Z <sub>4</sub>	U	
					MIN	MAX	REF	
COARSE THREAD	1/4-20	0.02	.154	.0100	.189 .193	.065	.100	.150
	5/16-18	0.03	.190	.0111	.245 .249	.085	.130	.167
	3/8-16	0.05	.205	.0125	.301 .305	.115	.180	.188
	7/16-14	0.07	.220	.0143	.352 .356	.135	.220	.214
	1/2-13	0.08	.260	.0154	.409 .413	.165	.260	.231
	9/16-12	0.10	.275	.0167	.464 .468	.180	.295	.250
5/8-11	0.12	.290	.0182	.519 .523	.215	.350	.273	
DIMENSIONS ARE IN ENGLISH (inch)								
FINE THREAD	1/4-28	0.02	.174	.0071	.204 .208	.093	.150	.108
	5/16-24	0.03	.217	.0083	.259 .263	.117	.195	.125
	3/8-24	0.04	.272	.0083	.322 .326	.180	.276	.125
	7/16-20	0.06	.325	.0100	.375 .379	.197	.295	.150
	1/2-20	0.07	.365	.0100	.438 .442	.240	.358	.150
	9/16-18	0.09	.414	.0111	.494 .498	.275	.404	.167
5/8-18	0.10	.474	.0111	.557 .561	.308	.466	.167	