

## **Customer Design Standards**

## MAThread <sup>®</sup>- TYPE 'P' POINT - LONG

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: SECONDARY:

Lnom = Mmax-Z4-.01 Lnom = Lf+U+.01

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

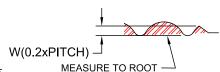
## INSPECTION INFORMATION:

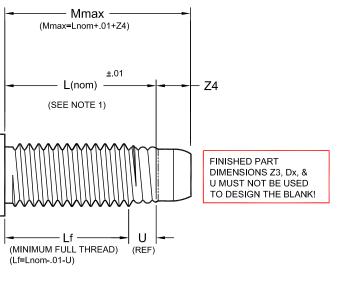
 Lnom ON ROLLED PART IS MEASURED TO THE POINT ON THE LEAD THREAD WHERE IT FIRST REACHES A HEIGHT OF 'W' (0.2xPITCH) WHEN MEASURED FROM THE ROOT OF THE THREAD. (see sketch above)

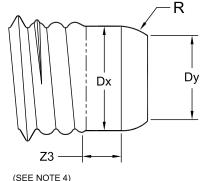
MAThread SHALL HAVE A MINIMUM OF 1.5 COMPLETE TURNS OF RADIUSED THREAD.
 THREAD MUST BE FULLY FORMED, WITH NO UNDER FILL (FLATS, FISSURES) AT PEAK OF
 THREAD. WHEN VIEWED IN THE DESIGNATED INSPECTION POSITION, FOUR COMPLETE
 RADIUSED THREAD PROFILES MUST BE VISIBLE.

 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.

 "Z3" MUST BE MEASURED TO TANGENT POINT OF 'R', USING MAThread APPROVED RADIUS CHART FROM POINT "W" TO TANGENT.







THREAD SIZE &	R MIN.	Dy MAX	<b>W</b> ±.0004	Dx	Z <sub>3</sub>	Z <sub>4</sub> MAX	U REF
PITCH							
1/4-20	.080	.154	.0100	189 193	.065	.150	.150
5/16-18	.100	.190	.0111	.245 .249	.085	.200	.167
3/8-16	.120	.205	.0125	.301 .305	.105	.240	.188
7/16-14	.145	.220	.0143	.352 .356	.130	.300	.214
1/2-13	.175	.260	.0154	.409 .413	.160	.350	.231
9/16-12	.205	.275	.0167	.464 .468	.190	.410	.250
5/8-11	.245	.290	.0182	.519 .523	.230	.480	.273
DIMENSIONS ARE IN ENGLISH (inch)							
1/4-28	0.10	.174	.0071	.204 .208	.090	.150	.108
5/16-24	0.12	.217	.0083	.259 .263	.120	.200	.125
3/8-24	0.16	.272	.0083	.322 .326	135	.250	.125
7/16-20	0.18	.325	.0100	.375 .379	.160	.275	.150
1/2-20	0.21	.365	.0100	.438 .442	.190	.338	.150
9/16-18	0.24	.414	.0111	.494 .498	.220	.384	.167
5/8-18	0.27	.474	.0111	.557 .561	.260	.446	.167
	SIZE & PITCH  1/4-20  5/16-18  3/8-16  7/16-14  1/2-13  9/16-12  5/8-11   1/4-28  5/16-24  3/8-24  7/16-20  1/2-20  9/16-18  5/8-18	SIZE & MIN. & PITCH  1/4-20 .080  5/16-18 .100  3/8-16 .120  7/16-14 .145  1/2-13 .175  9/16-12 .205  5/8-11 .245  DIMENS  1/4-28 0.10  5/16-24 0.12  3/8-24 0.16  7/16-20 0.18  1/2-20 0.21  9/16-18 0.24  5/8-18 0.27	SIZE & PITCH       MIN.       MAX         1/4-20       .080       .154         5/16-18       .100       .190         3/8-16       .120       .205         7/16-14       .145       .220         1/2-13       .175       .260         9/16-12       .205       .275         5/8-11       .245       .290         DIMENSIONS AF         1/4-28       0.10       .174         5/16-24       0.12       .217         3/8-24       0.16       .272         7/16-20       0.18       .325         1/2-20       0.21       .365         9/16-18       0.24       .414         5/8-18       0.27       .474	SIZE & PITCH       MIN.       MAX       ±.0004         1/4-20       .080       .154       .0100         5/16-18       .100       .190       .0111         3/8-16       .120       .205       .0125         7/16-14       .145       .220       .0143         1/2-13       .175       .260       .0154         9/16-12       .205       .275       .0167         5/8-11       .245       .290       .0182         DIMENSIONS ARE IN ENG         1/4-28       0.10       .174       .0071         5/16-24       0.12       .217       .0083         3/8-24       0.16       .272       .0083         7/16-20       0.18       .325       .0100         1/2-20       0.21       .365       .0100         9/16-18       0.24       .414       .0111         5/8-18       0.27       .474       .0111	SIZE & PITCH       MIN.       MAX       ±.0004         1/4-20       .080       .154       .0100       .189 / .193         5/16-18       .100       .190       .0111       .245 / .249         3/8-16       .120       .205       .0125       .301 / .305         7/16-14       .145       .220       .0143       .352 / .356         1/2-13       .175       .260       .0154       .409 / .413         9/16-12       .205       .275       .0167       .464 / .468         5/8-11       .245       .290       .0182       .519 / .523         DIMENSIONS ARE IN ENGLISH (inch         1/4-28       0.10       .174       .0071       .204 / .208         5/16-24       0.12       .217       .0083       .259 / .263         3/8-24       0.16       .272       .0083       .326 / .326         7/16-20       0.18       .325       .0100       .375 / .379         1/2-20       0.21       .365       .0100       .438 / .442         9/16-18       0.24       .414       .0111       .494 / .498         5/8-18       0.27       .474       .0111       .557 / .561	SIZE & PITCH       MIN.       MAX       ±.0004       MIN         1/4-20       .080       .154       .0100       .189 / .193       .065         5/16-18       .100       .190       .0111       .245 / .249       .085         3/8-16       .120       .205       .0125       .301 / .305       .105         7/16-14       .145       .220       .0143       .352 / .356       .130         1/2-13       .175       .260       .0154       .409 / .413       .160         9/16-12       .205       .275       .0167       .464 / .468       .190         5/8-11       .245       .290       .0182       .519 / .523       .230         DIMENSIONS ARE IN ENGLISH (inch)         1/4-28       0.10       .174       .0071       .204 / .208       .090         5/16-24       0.12       .217       .0083       .259 / .263       .120         3/8-24       0.16       .272       .0083       .322 / .326       .135         7/16-20       0.18       .325       .0100       .375 / .379       .160         1/2-20       0.21       .365       .0100       .438 / .438 / .438       .220         5/8-18 <td>SIZE &amp; PITCH       MIN.       MAX       ±.0004       MIN       MAX         1/4-20       .080       .154       .0100       .189 / .193       .065       .150         5/16-18       .100       .190       .0111       .245 / .249       .085       .200         3/8-16       .120       .205       .0125       .301 / .305       .105       .240         7/16-14       .145       .220       .0143       .352 / .356       .130       .300         1/2-13       .175       .260       .0154       .409 / .413       .160       .350         9/16-12       .205       .275       .0167       .464 / .468       .190       .410         5/8-11       .245       .290       .0182       .519 / .523       .230       .480         DIMENSIONS ARE IN ENGLISH (inch)         1/4-28       0.10       .174       .0071       .204 / .208       .090       .150         5/16-24       0.12       .217       .0083       .259 / .263       .120       .200         3/8-24       0.16       .272       .0083       .322 / .263       .120       .205         7/16-20       0.18       .325       .0100       .375 / .379</td>	SIZE & PITCH       MIN.       MAX       ±.0004       MIN       MAX         1/4-20       .080       .154       .0100       .189 / .193       .065       .150         5/16-18       .100       .190       .0111       .245 / .249       .085       .200         3/8-16       .120       .205       .0125       .301 / .305       .105       .240         7/16-14       .145       .220       .0143       .352 / .356       .130       .300         1/2-13       .175       .260       .0154       .409 / .413       .160       .350         9/16-12       .205       .275       .0167       .464 / .468       .190       .410         5/8-11       .245       .290       .0182       .519 / .523       .230       .480         DIMENSIONS ARE IN ENGLISH (inch)         1/4-28       0.10       .174       .0071       .204 / .208       .090       .150         5/16-24       0.12       .217       .0083       .259 / .263       .120       .200         3/8-24       0.16       .272       .0083       .322 / .263       .120       .205         7/16-20       0.18       .325       .0100       .375 / .379

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Date Issued: 12/1/99

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Revision Level: AC Date Revised: 3/1/09

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