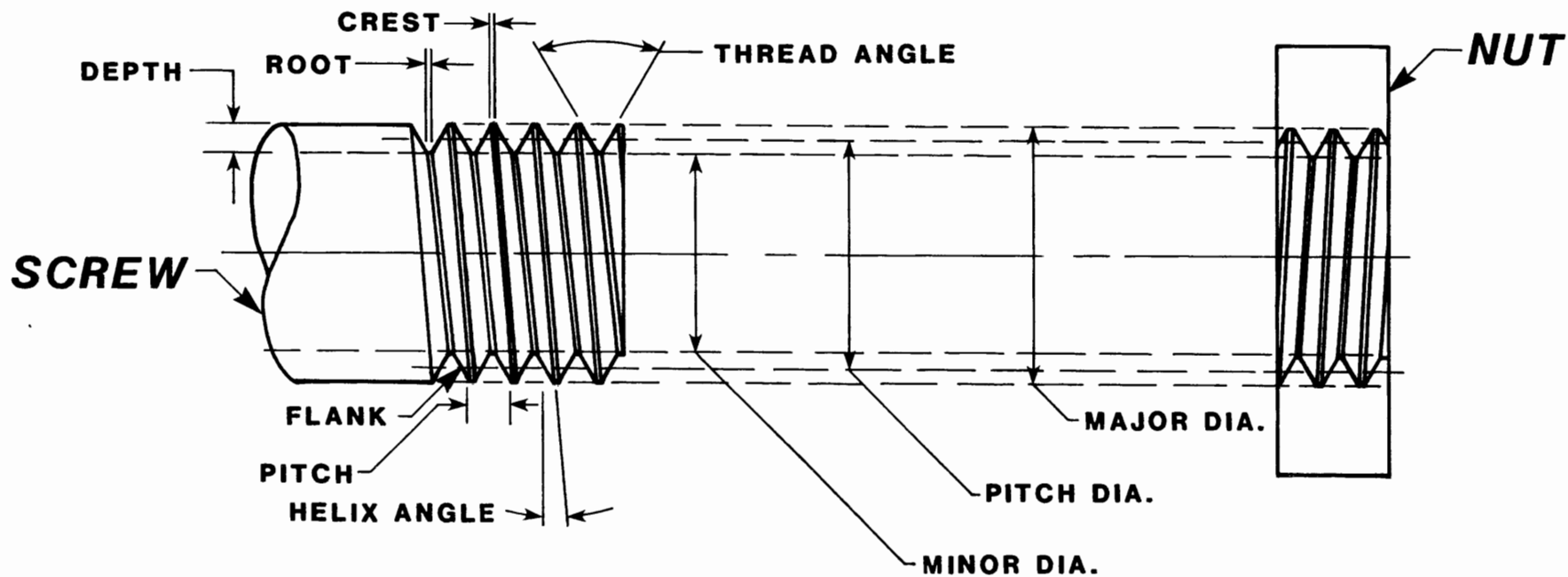
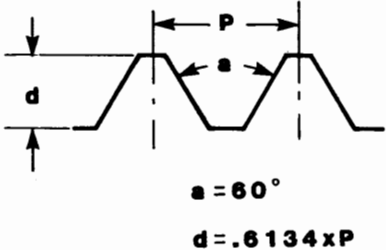


PARTS OF A THREAD

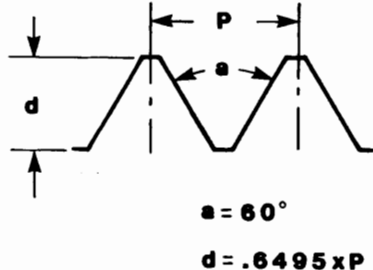


BASIC THREAD SHAPES

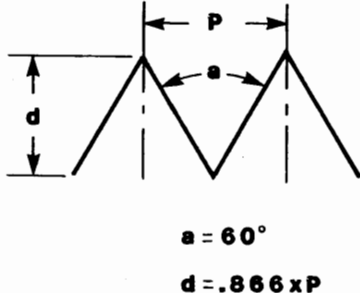
UNIFIED



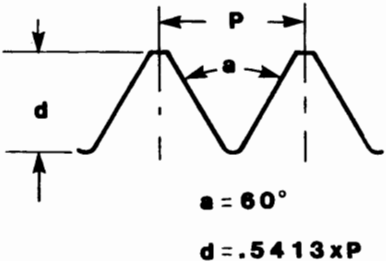
AMERICAN NATIONAL



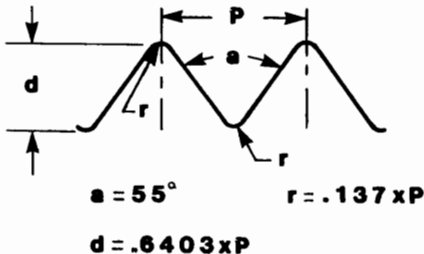
SHARP "V"



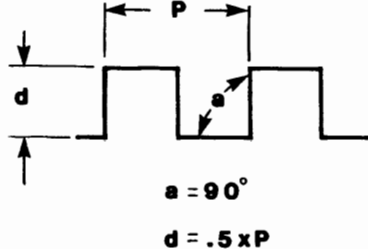
ISO METRIC



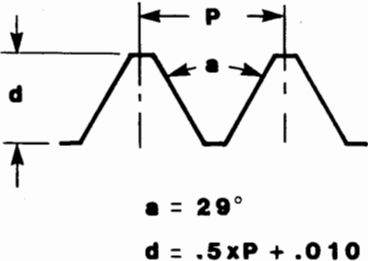
WHITWORTH



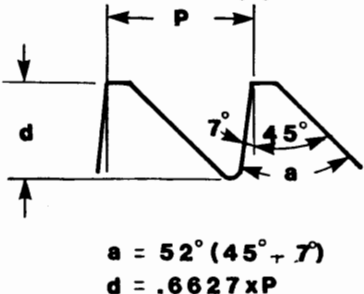
SQUARE



ACME



BUTTBRESS

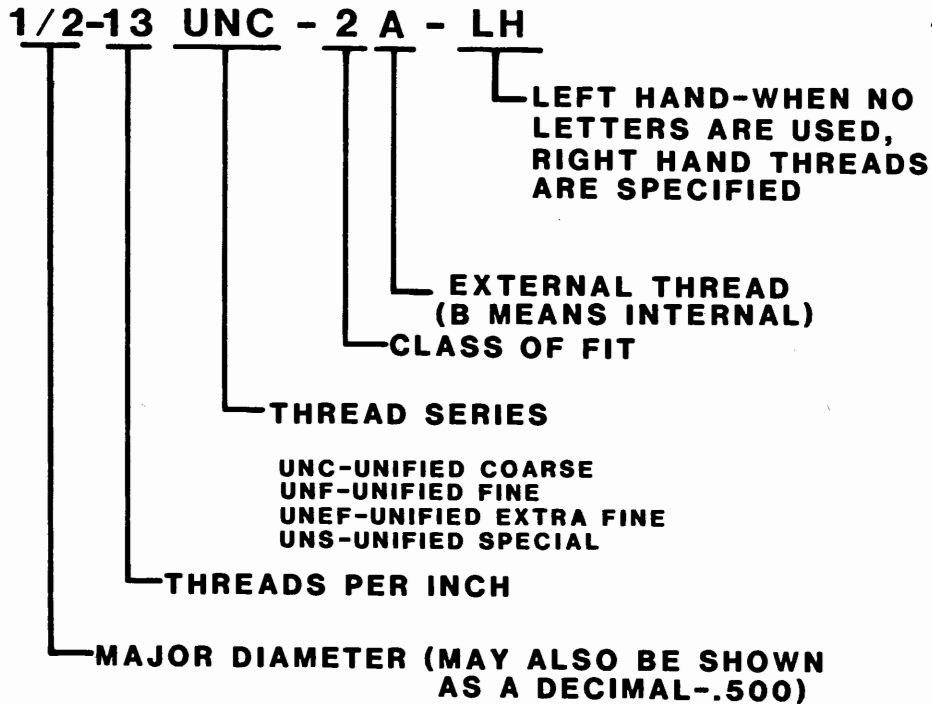


LEGEND

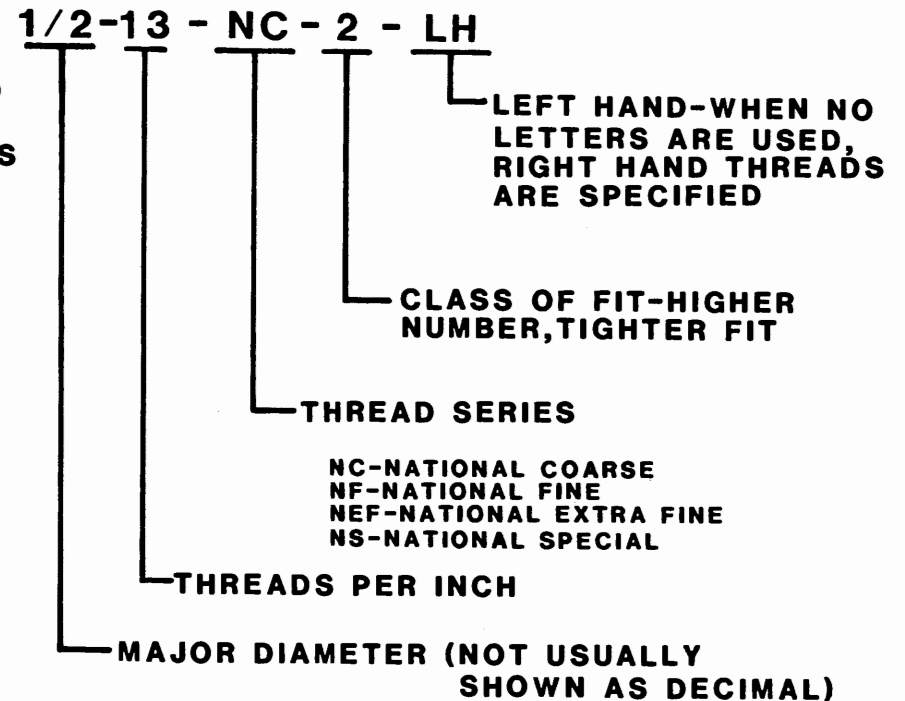
- P = PITCH**
- a = ANGLE OF THREAD**
- d = DEPTH OF THREAD**
- r = RADIUS OF ROOT OR CREST**

READING THREAD DESIGNATIONS

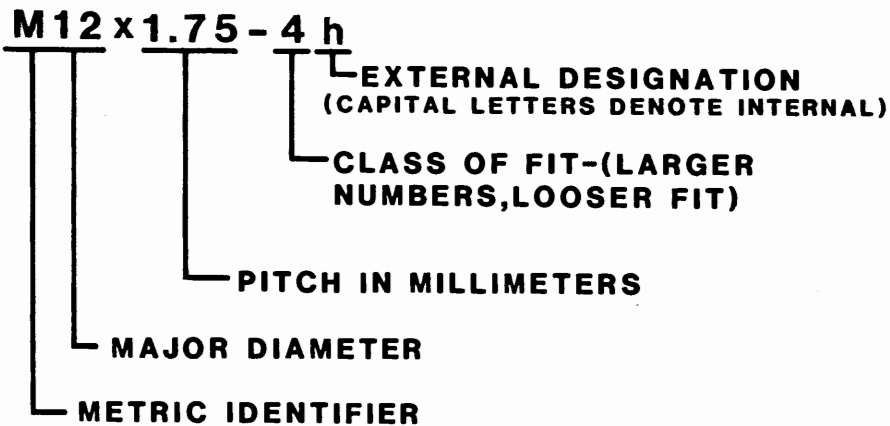
UNIFIED



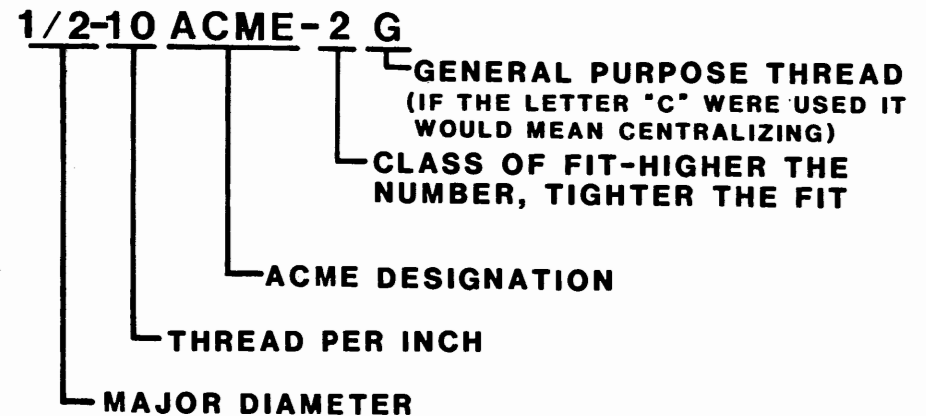
AMERICAN NATIONAL



ISO METRIC



ACME



GENERAL THREADING FORMULAS

PITCH DIAMETERS

UNIFIED THREADS	= $Dm - .6134 \times P$ OR $Dm - .6134 / n$
AMERICAN STANDARD THREADS	= $Dm - .6495 \times P$ OR $Dm - .6495 / n$
SHARP "V" THREADS	= $Dm - .866 \times P$ OR $Dm - .866 / n$
ISO METRIC THREADS	= $Dm - .6134 \times P$ OR $Dm - .6134 / n$
WHITWORTH THREADS	= $Dm - .6403 \times P$ OR $Dm - .6403 / n$
SQUARE THREADS	= $Dm - .5000 \times P$ OR $Dm - .5000 / n$
ACME THREADS	= $Dm - .5000 \times P$ OR $Dm - .5000 / n$

TAP DRILL SIZES

UNIFIED THREADS	= $Dm - 1.0825 \times P \times \%$
AMERICAN STANDARD THREADS	= $Dm - 1.2990 \times P \times \%$
ISO METRIC THREADS	= $Dm - 1.0825 \times P \times \%$

(ALL VALUES IN mm)

DETERMINING PERCENTAGE OF THREAD

UNIFIED THREADS	= $\frac{Dm - S}{1.0825 - P}$
AMERICAN STANDARD THREADS	= $\frac{Dm - S}{1.2990 - P}$
ISO METRIC THREADS	= $\frac{Dm - S}{1.0825 - P}$

(ALL VALUES IN mm)

NUMBER OF THREADS PER INCH = $1/P$

PITCH = $1/n$

DETERMINING MACHINE SCREW SIZES

$$N = \frac{Dm - .060}{.013}$$

$$Dm = N \times .013 + .060$$

LEGEND

Dm = MAJOR DIAMETER

P = PITCH

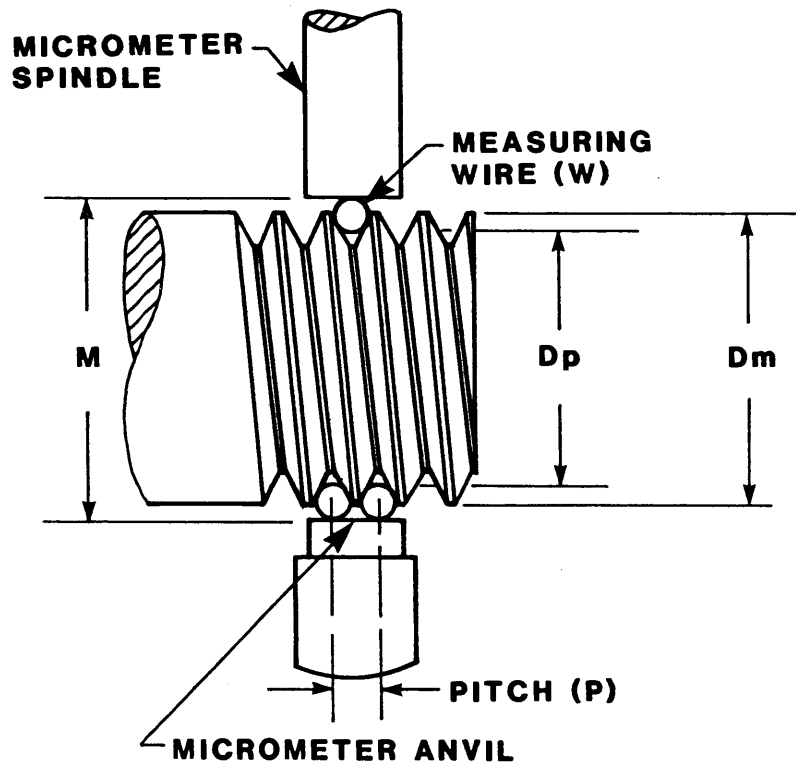
n = NUMBER OF THREADS PER INCH

% = PERCENTAGE OF FULL THREAD

S = SIZE OF SELECTED TAP DRILL

N = NUMBER OF MACHINE SCREW

THREE WIRE METHOD OF MEASURING THREADS (BASED ON PITCH DIAMETERS)



WIRE SIZES

**UNIFIED, AMERICAN NATIONAL, ISO METRIC,
AND SHARP "V" THREADS**

BEST = $.5774 \times P$ OR $.5774/n$
 SMALLEST = $.5660 \times P$ OR $.5660/n$
 LARGEST = $.9000 \times P$ OR $.9000/n$

WHITWORTH THREADS

BEST = $.5637 \times P$ OR $.5637/n$
 SMALLEST = $.5400 \times P$ OR $.5400/n$
 LARGEST = $.7600 \times P$ OR $.7600/n$

**TO FIND THE REQUIRED MEASUREMENT OVER
THE WIRES USING THE PITCH DIAMETER**

**UNIFIED, AMERICAN NATIONAL, ISO METRIC,
AND SHARP "V" THREADS**

$$M = D_p - (.866 \times P) + (3 \times W)$$

WHITWORTH THREADS

$$M = D_p - (.961 \times P) + (3.1657 \times W)$$

**TO FIND THE PITCH DIAMETER FROM
THE SIZE MEASURED OVER THE WIRES**

**UNIFIED, AMERICAN NATIONAL, ISO METRIC,
AND SHARP "V" THREADS**

$$D_p = M + (.866 \times P) - (3 \times W)$$

WHITWORTH THREADS

$$D_p = M + (.961 \times P) - (3.1657 \times W)$$

LEGEND

M = MEASUREMENT OVER THE WIRES
 Dp = PITCH DIAMETER
 P = PITCH (1/n)
 W = WIRE SIZE
 n = NUMBER OF THREADS PER INCH