Ed. 1987

ARCHERY MANUFACTURERS ORGANIZATION

STANDARDS

In February of 1968, the Archery Manufacturers Organization introduced voluntary industry wide standards. The purpose was to reduce confusion, promote interchangeability of accessories and give the dealer and archer confidence in the equipment they purchase.

Member manufacturers of AMO who convert to these standards will identify their products with the “AMO” symbol.

In the event the AMO symbol does not appear, the manufacturer’s specifications always supply.

The archery manufacturers are striving to improve and promote the sport of archery; develop, improve, and promote the business of archery manufacturers; to further the business interests of and to promote friendly relationships with its members; to study ways and means of improving business methods; to establish trade standards and to compile and distribute to its members statistics and information regarding the archery manufacturing industry; and to fund the operation of the American Archery Council.

ARCHERY MANUFACTURERS ORGANIZATION

Reprints of AMO Standards may be obtained by writing to the Archery Manufacturers Organization, 200 Castlewood Road, North Palm Beach, Florida 33408. Enclose 50¢ to cover the cost of materials and postage.

ARCHERY MANUFACTURERS ORGANIZATION

AMO CONVENTIONAL BOW LENGTH STANDARD

AMO Bow Length Standard is designated to be three inches longer than AMO Bow String Master that braces bow at proper String or Brace Height. Bow String Master will carry only the bow length designation. Example: A Bow String Master designated as AMO 66" (bow length) will have an actual length under tension of 63".

Cable length is determined by placing loops over ¼" diameter steel pins and stretching under 100 pound load and measuring from outside of pin to outside of pin. Tolerance is ± 1/16". End loops of cable will be 1¼" long and plastic coated.

Bow String Master shall have the following material specifications or equivalent: 1/16" 7 x 7 galvanized (Mil-C-1511) or stainless (Mil-C-5424) steel aircraft cable of 480 lb. test.

A Bow String Master Set shall consist of twenty-five Bow String Masters to measure bow lengths in one inch increments ranging from 48" to 72"; (i.e. actual string lengths 45" to 69").

Editor's Note: The "Bow String Master Set" referred to in this section may be purchased from the Archery Manufacturers Organization, 200 Castlewood Road, North Palm Beach, Florida 33408, for $75.00. Each set consists of 25 master cables, as specified, to measure bow lengths in one-inch increments from 48" to 72" (actual string length of 45" to 69").

The AMO prefix to bow lengths in inches means that the bow has been manufactured to a length that properly uses a bow string designated with the identical AMO marking. (i.e. A bow marked, "AMO 60", 50 lbs. will brace to the proper string height with a string marked "AMO 60", 45 lb. to 55 lb.)

ARCHERY MANUFACTURERS ORGANIZATION

AMO CONVENTIONAL
BOW WEIGHT MARKING STANDARD

In accordance with the AMO Bow Weight Standard, the manufacturer has the option to mark his bow with actual draw weight at 28" (26¼" DLPP) draw or to use the following bow weight markings, especially on hunting models and middle, and low end bows.

Example: Bows weighing 19 - 20 - 21 lbs. – will be marked 20 lbs.

Bows weighing 22 - 23 lbs. – will be marked 20X lbs.

Bows weighing 24 - 25 - 26 lbs. – will be marked 25 lbs.

Bows weighing 27 - 28 lbs. – will be marked 25X lbs.

Bows weighing 29 - 30 - 31 lbs. – wail be marked 30 lbs.

All other conventional bow weights not shown would follow this same formula.

ARCHERY MANUFACTURERS ORGANIZATION

AMO STRING HEIGHT STANDARD

String height is *the* perpendicular distance from the bow string to the Pivot Point of the bow handle (low point on the handle just below the *arrow shelf,* see sketch) when bow is in strung condition.

Bows made to AMO Specifications should have string height indicated to a plus or minus ½ inch.

AMO CONVENTIONAL BOW STRING LENGTH STANDARD

Bow string length is three inches less than bow length designation (example: 72" bow length requires 69" string length) when loaded as per Bow String Tension Chart and stretched by placing string loops over ¼" diameter steel pins. Measurement is taken from outside of pin to outside of pin. Tolerance is ± ¼" after 20 seconds under tension load of chart.

The bow string will be labeled with only the bow length designation and the bow weigh category. Example: AMO 66", 35-45 lbs.

AMO CONVENTIONAL BOW STRING TENSION CHART

Bow Length	String Length	*Bow Weights					
		+ (8)	+ (10)	+ (12)	+ (14)	+ (16)	+ (18)
		20-30 lbs.	25-35 lbs.	35-45 lbs.	45-55 lbs.	55-75 lbs.	75-100 lbs.
72	69	80 lbs.	90 lbs.	110 lbs.	130 lbs.	150 lbs.	170 lbs.
71	68	"	"	"	"	145	165
70	67	75	85	105	125	"	"
69	66	"	"	"	"	"	"
68	65	"	"	"	"	140	160
67	64	70	80	100	120	"	"
66	63	"	"	"	"	"	"
65	62	"	"	"	"	135	"
64	61	65	75	95	115	"	155
63	60	"	"	"	"	"	"
62	59	60	70	90	110	130	"
61	58	"	"	"	"	"	150
60	57	"	"	"	"	"	"
59	56	55	65	85	105	125	"
58	55	"	"	"	"	"	145
57	54	"	"	"	"	"	"
56	53	50	60	80	100	120	"
55	52	"	"	"	"	"	"
54	51	"	"	"	"	"	140
53	50	45	55	75	95	115	"
52	49	"	"	"	"	"	"
51	48	40	50	70	90	"	135
50	47	"	"	"	"	110	"
49	46	"	"	"	"	"	"
48	45	35	45	65	85	"	130

* Bow weight categories are based upon bow weigh: at 28" draw length.

\+ Number in parenthesis is suggested number of strands in type B or V207 dacron or equivalent.

ARCHERY MANUFACTURERS ORGANIZATION

How to Use Spine Selection Charts

Draw Length is the distance, at archer's full draw, from nocking point on string to back of bow. For standardization purposes, all bows are weighed and marked at 28" draw length. To determine bow weight at draw length longer or shorter than 28" use the draw weight correction factor al 20 in the following formula: Bow weight at 28" divided by 20 and multiplied by the number of inches draw length differs from 28". Subtract or add this amount: to the bow weight at 28", depending on whether or not draw length is shorter or longer than 28".

Examples.

1) Bow Weight = 42 lbs. Draw Length = 25½" .
   42 lbs. ÷ 20 = 2.1 lbs. x 2.5 = 5.25 lbs.
   42 lbs. – 5.25 lbs. = 36.75 lbs. at 25½" draw length.

2) Bow Weight = 38 lbs. Draw length = 30".
   38 lbs. ÷ 20 = 1.9 lbs. x 2 = 3.8 lbs. + 38 lbs.
   = 41.8 lbs. at 30" draw length.

NOTE: The spine recommendations shown here serve as a basic guide for wood arrow spine determination. The best spine for a particular need may not al ways correspond with the charts.

AMO Wood Arrow Spine Deflection Values

+ DEFLECTION	*
1.20 to 1.00	A
1.00 to .85	B
.85 to .75	C
.75 to .65	D
.65 to .58	E
.58 to .52	F
.52 to .47	G
.47 to .43	H
.43 to .40	I
.40 to .37	J
.37 to .35	K

\+ Deflection is measured in inches with shaft supported on 26" centers and depressed with a two pound weight.

* AMO spine symbol designation.

AMO Wood Arrow Spine Selection Charts

TARGET ARROWS

Bow Wt at Draw Lth.	*Arrow Length								
	24	25	26	27	28	29	30	31	32
20-25	A	A	A	A	A	B	B	C	D
25-30	A	A	A	A	B	C	D	D	E
30-35	A	A	A	B	C	D	E	E	F
35-40	A	A	B	C	D	E	F	G	H
40-45	A	B	C	D	E	F	G	H	I
45-50	B	C	D	E	F	G	H	I	J
50-55	C	D	E	F	G	H	I	J	K
55-60	D	E	F	G	H	I	J	K	
60-65	D	E	G	H	I	J	K		
65-70	E	F	G	I	J	K			

FIELD & HUNTING ARROWS

Bow Wt at Draw Lth.	*Arrow Length								
	24	25	26	27	28	29	30	31	32
20-25	A	A	A	A	B	B	C	D	E
25-30	A	A	A	B	C	D	D	E	F
30-35	A	A	B	C	D	E	E	F	G
35-40	A	B	C	D	E	F	G	H	I
40-45	B	C	D	E	F	G	H	I	J
45-50	C	D	E	F	G	H	I	J	K
50-55	D	E	F	G	H	I	J	K	
55-60	E	F	G	H	I	J	K		
60-65	E	G	H	I	J	K			
65-70	F	G	I	J	K				

* For all practical purposes arrow length and draw length may be considered the same.

AMO BOW SIGHT & ACCESSORY MOUNTING HOLES STANDARD

Two holes located on the outside of the bow window are to be 10-24 threaded holes spaced 1.312 ± .010 center to center. Minimum thread depth shall be .250. Mounting holes in sights or other side mounting accessories should conform to these dimensions. A line through the axis of the holes shall be parallel to the bowstring.

EXPLANATION: 10-24 threaded holes are used to provide a secure fastening for bow quivers, fishing reels, etc.

AMO STABILIZER & ACCESSORY MOUNTING HOLE STANDARD

All threaded holes or inserts (other than the AMO Bow Sight and Accessory Mounting Holes Standard) that are used to mount stabilizers, weights, or accessory items (such as bow quivers, fish reels, etc.) shall be 5/16" – 24 threaded holes. Minimum thread depth shall be 9/16".

EXPLANATION: The 5/16" – 24 threaded holes provide an adequate margin of strength needed to cope with the greater stress loads imposed by the compound bow, heavier and longer stabilizers and kevlar bowstrings. The 9/16" minimum thread length Is compatible with the maximum stud length of the stabilizer. This limitation is imposed for the express purpose of limiting the hole depth to minimize the weakening effect of holes in the handle castings.

AMO STABILIZER ROD STANDARD

The Stabilizer stud that mates with the stabilizer mounting hole (base end) shall be 5/16" – 24 thread with a length of 1/2" ± 1/16". The stud to which the stabilizer weight attaches (outer end) shall be 1/4" – 20 thread with a length of 3/8"± 1/16".

EXPLANATION: The base end stud is limited in length to assure mating with depth of mounting hole. The stud at outboard end is limited to a shorter, but adequate. length to accommodate the dimensionally small weighting elements. Also, the 1/4" – 20 thread at the weight end Is quite adequate considering the relatively low load factor.

AMO COMPOUND B0W STRING LENGTH STANDARD

Compound bow string length shall be designated by its stretched length as determined by placing the string loops over 1/4" diameter steel pins and stretching with 100 lbs. of tension. Measurement Is taken from outside of pin to outside of pin. Tolerance is ± 1/4" after 20 seconds under tension load. Compound bow string lengths will be in one inch, on the inch, increments when measured under tension, and shall be designated with this measurement.

The bow string package shall be marked as follows:
AMO COMPOUND STRETCHED BOW STRING LENGTH_____

The bow shall be marked with the string length as follows:
AMO COMPOUND STRETCHED BOW STRING LENGTH _____

EXPLANATION: Compound bow string lengths have no particular relationship to bow length and therefore actual string length under load is used for length designation. Most compound strings are relatively short (36" to 44") or approximately 8" spread compared with about 22" spread (48" to 72") for conventional bows. Because of the short length and narrow spread – and in the interest of simplicity – a fixed tension load is deemed adequate.

AMO DRAW LENGTH STANDARD

A. For Manufacturers:

Draw length is a specified distance, or the distance at the archer's full draw, from the nocking point on the string to the pivot point of the bow grip (or the theoretical vertical projection of a tangency line to the pivot point parallel to the string) plus 1¾". Draw length from pivot point shall be designated as DLPP and shall be called TRUE DRAW LENGTH.

EXAMPLE: 26¼" DLPP plus 1¾" is the equivalent of 28" draw.

B. For Dealers and General Use:

For practical reasons not requiring precise terms, draw length is the distance, at the archer's full draw, from the nocking point on the string to the back of the bow at the arrow rest.

EXPLANATION: The standard for Manufacturers is consistent with the Bow Weight Standard as related to the pivot point. The DLPP plus 1¾" is compatible to previous concepts of draw length. (See handle illustration.) Draw length for Dealers and General Use relieves the burden of preciseness not required for general use and facilitates determining arrow length. THIS STANDARD SUPERSEDES THE PREVIOUS STANDARD.

AMO BOW WEIGHT STANDARD

A. For Conventional Bows:

Bow weight is the force required to draw the nocking point of the bow string a given distance from the pivot point of the bow grip (or the theoretical vertical projection of a tangency line to the pivot point parallel to the string). Draw length from pivot point shall be designated as DLPP and shall be referred to as TRUE DRAW LENGTH.

For the purpose of uniform bow weight designation, bow weight is the force required to draw the bow string 26¼" from the pivot point. This weight will be marked on bow as being taken at 28" draw (26¼" plus 1¾" = 28"). See DRAW LENGTH STANDARD.

B. For Compound Bows:

Bow weight is designated by peak weight or, in the case of adjustable weight bows, the peak weight range. Holding (relaxed) weight may also be stated. Draw length limit or draw length range shall also be specified based on DLPP plus 1¾". See DRAW LENGTH STANDARD.

EXAMPLE: Weight Adjustment Range: 45/55 lbs.
Weight Set At: 50 lbs.; Hold 32 lbs.
Draw Length Range: 29" – 30"

EXPLANATION: The pivot point is a more realistic measuring point (when compared to the variations of profile of the backs of bows at the handle section) for establishing bow weight since the pivot point is a constant in all bows as well as the contact point of the bow hand from which the true draw length is generated. The 26¼" DLPP is the approximate equivalent of the 28" draw used previously on the more massive wooden handle bows. (See handle illustration.) THIS STANDARD SUPERSEDES THE PREVIOUS STANDARD.

AMO BROADHEAD & FIELD ARROW FLETCHING STANDARD

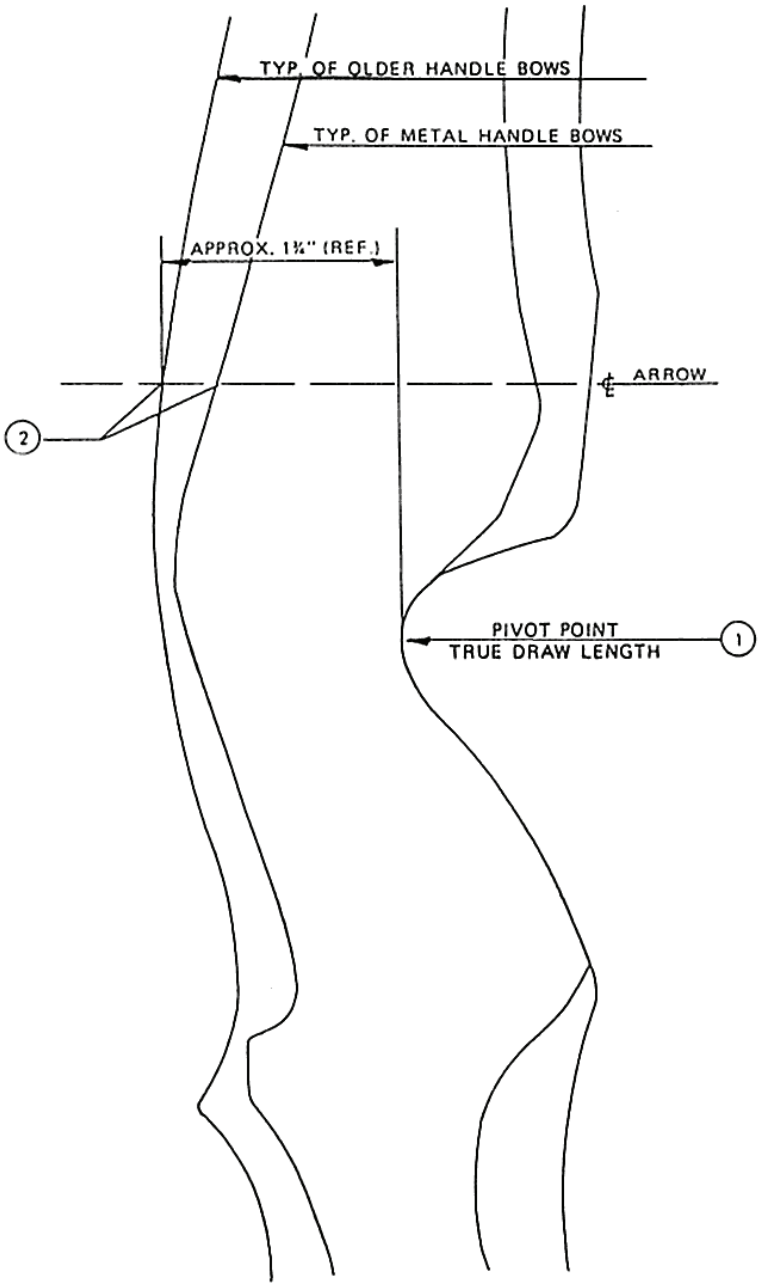
1. Fletching for three vane arrows
   a) Length 5” minimum
   b) Square inches 1.9 minimum
   c) Height 5/8” maximum

2. Fletching for four vane arrows
   a) Length 4” minimum
   b) Square inches 1,4 minimum
   c) Height 5/8” maximum

3. Fletching shall be spiraled within the limits of one revolution in 2½ feet to one revolution in 6 feet.

4. Compliance with other AMO arrow standards, such as arrow length, tapers, adaptors, etc.

EXPLANATION: Accurate broadhead flight requires adequate fletching for true guidance. The combined dimensions of length and height plus area size assures a vane configuration sufficient to stabilize arrow flight and minimize vane flutter. True spiral fletching (helical) is recommended for hunting arrows rather than diagonal (or straight) fletching. Diagonal fletching is limited by arrow shaft diameter as to the amount of rotation it can produce, resulting in limited guidance effect. Excessive spiral (less than 2½ feet per revolution) creates excessive drag (deceleration), wind drift and vane noise. The term Field Arrow is a broad term which, considering the almost universal use of the inter-changeable point system, becomes synonymous with the broadhead arrow and therefore requires the same specifications.



HANDLE ILLUSTRATION

Reference for draw length
and bow weight determination

(1) PIVOT POINT

The point at which True Draw Length and Manufacturer's Draw Length and Draw Weight are determined.

True Draw Length is the Draw Length from Pivot Point and is designated as DLPP.

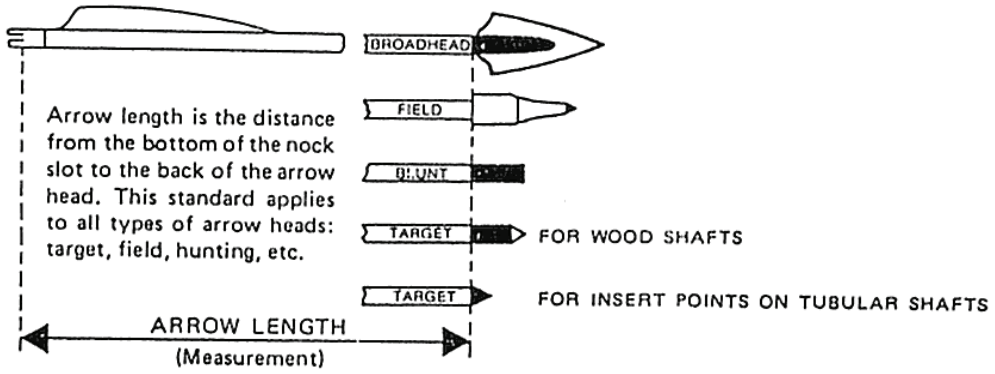
Manufacturer's Draw Length is the distance to Pivot Point plus 1¾". This establishes a constant when compared to the variations of profile of the back of bows. Thus – 26¼" from Pivot Point is equivalent to 28" draw length and is the draw length at which manufacturers weigh and mark conventional bows.

(2) BACK OF BOW

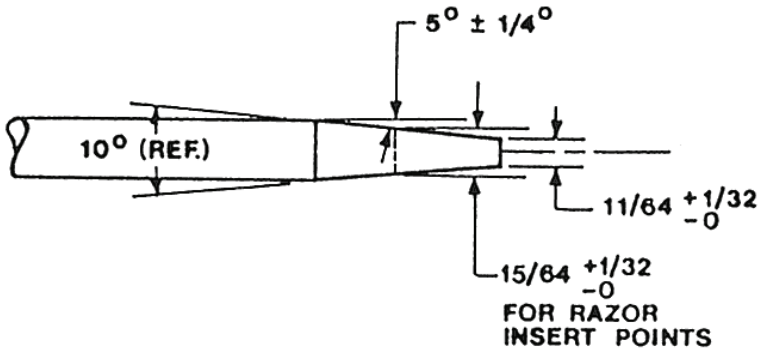
Point at which Dealer and General Use Draw Length is determined – distance at full draw from the nocking point on the string to the back of the bow at the arrow rest.

ARCHERY MANUFACTURERS ORGANIZATION

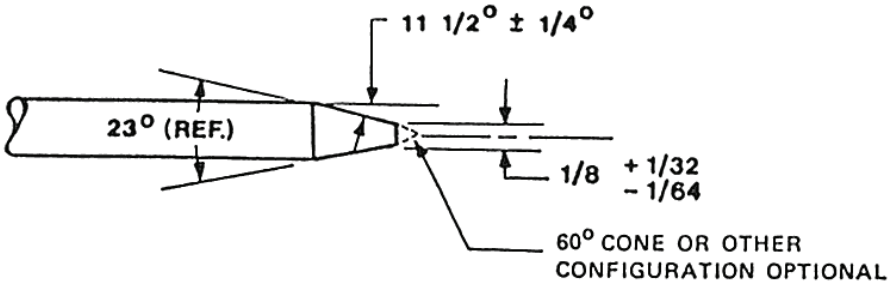
AMO
ARROW LENGTH STANDARD



AMO
5° TAPER ARROW POINT STANDARD

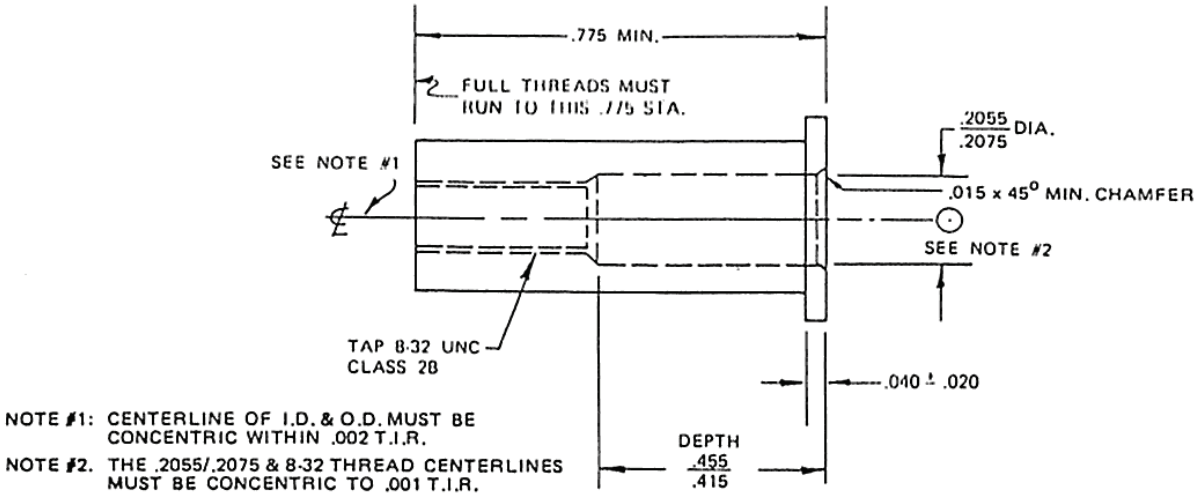


AMO
ARROW NOCK TAPER STANDARD



AMO INTERCHANGEABLE POINT SYSTEM STANDARD

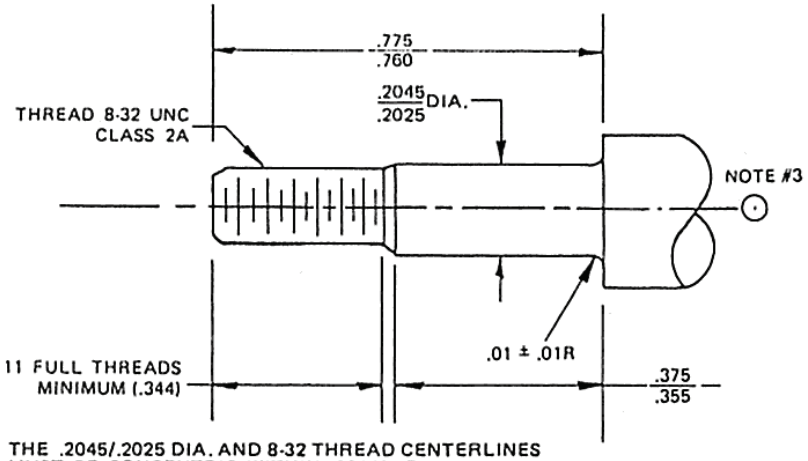
SHAFT INSERT



NOTE #1: CENTERLINE OF I.D. & O.D. MUST BE CONCENTRIC WITHIN .002 T.I.R.

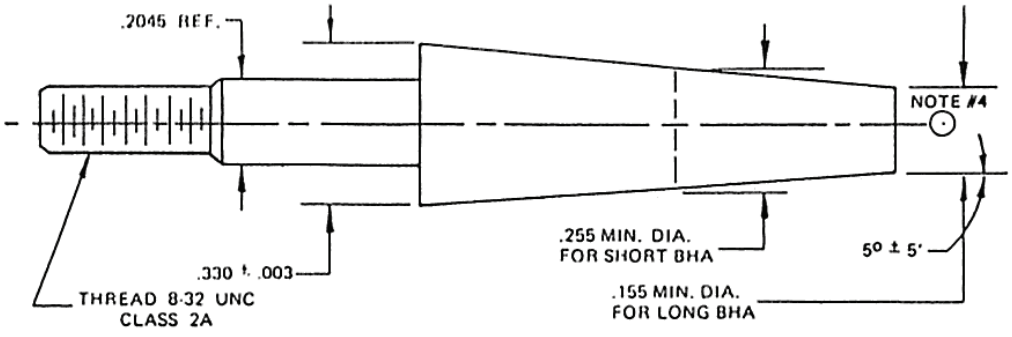
NOTE #2. THE .2055/.2075 & 8-32 THREAD CENTERLINES MUST BE CONCENTRIC TO .001 T.I.R.

BROADHEAD ADAPTER & POINT SHANK

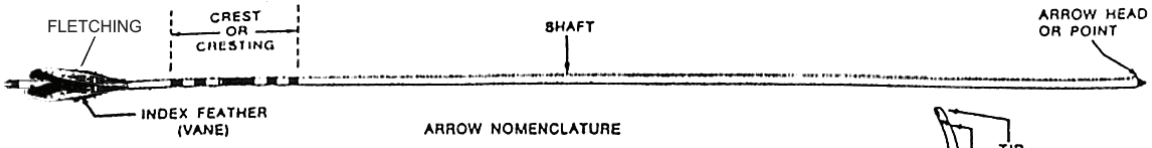


NOTE #3: THE .2045/.2025 DIA. AND 8-32 THREAD CENTERLINES MUST BE CONCENTRIC WITHIN .001 T.I.R.

BROADHEAD ADAPTER



NOTE #4: THE .2045 DIA. AND 5° TAPER MUST BE CONCENTRIC WITHIN .002 T.I.R.



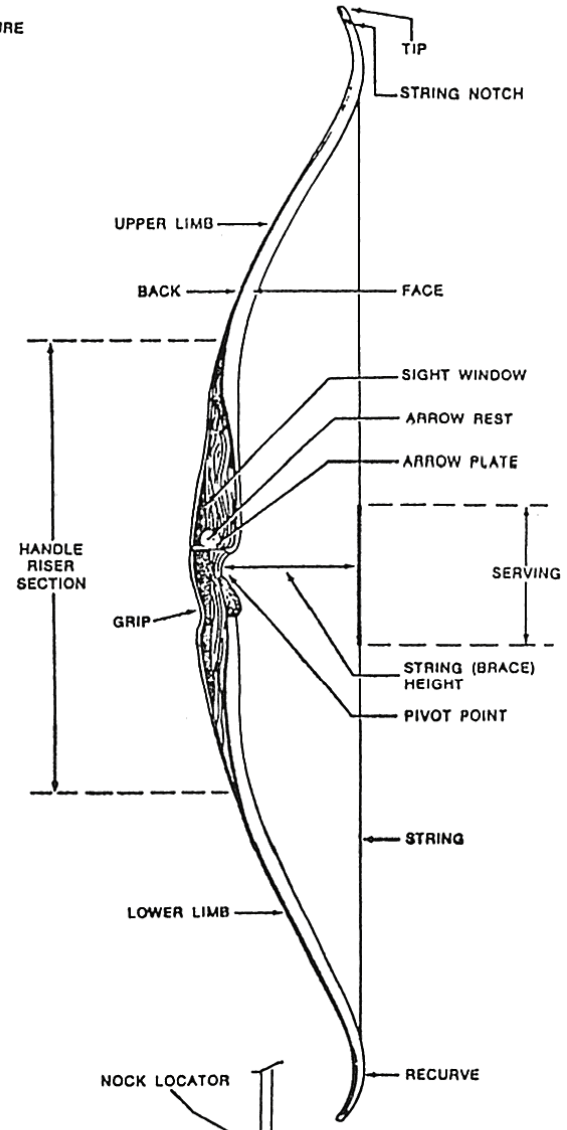
ARROW NOMENCLATURE

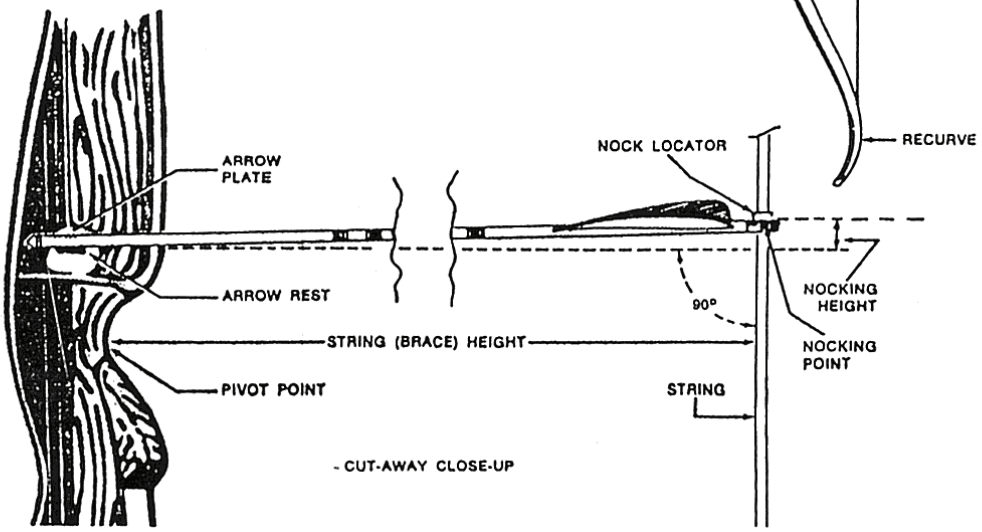
BOW AND ARROW NOMENCLATURE

In February 1968, the Archery Manufacturers Organization officially adopted these AMO Manufacturing Standards for Bows, Bow Strings and Wood Arrows.

As part of this program, the nomenclature or words used to describe the many parts of a bow and an arrow were agreed on. Archers, dealers and the public have been confused by the industry's use of interchangeable words (i.e. Fistmele and String Height). By using common simple terms this confusion will be lessened.

This diagram illustrates the Standard Nomenclature as approved by the Archery Manufacturers Organization and recommended by the American Archery Council.





- CUT-AWAY CLOSE-UP