



Flight Shooting Equipment

1. FLIGHT BOW

The Flight Bow rules below are to be used in tandem with the [World Archery Rule Book Flight Rules](#) (Please refer to article 33.5.7.2 in Book 5).

A. BOW

- i) The Flight Bow is defined as a hand-held bow which is constructed so that there is no mechanical advantage obtained by the use of accessory limbs, levers, pulleys, eccentrics, or other similar mechanical devices.
- ii) Keyhole bows, forward handle extensions, and overdraws are allowed.
- iii) There are no bow length restrictions.
- iv) Multi-piece takedown bows with variable tiller adjustment are allowed.
- v) The bow may have attached accessories such as stabilizers, draw-check indicators (clicker), angle finders, protective shields, and sights.
- vi) Bow draw weights are as follows:
 - **18 kg (39.7 lbs.)** – Women, Men, and Youth
 - **25 kg (55.1 lbs.)** – Women, Men, and Youth
 - **33 kg (72.8 lbs.)** – Men
 - **Unlimited** – Women, Men, and Youth

B. BOW STRING

- i) There are no restrictions on the bow string construction or type of materials used.

C. RELEASE

- i) Release aids must be hand-held non-mechanical types.
- ii) Acceptable examples of non-mechanical release aids are: hook types (six-gold ring), flipper, fixed hook & loop, strap tab, rope-type release, shooting tab, thumb ring, or shooting glove.

D. ARROWS

- i) Arrows, points, and fletching may be constructed of any natural or synthetic material.
- ii) Minimum arrow length measured from the floor of the nock to point is 14 inches (35.6cm).

E. ARROW REST

- i) An overdraw, siper, and elevated rest is allowed.
- ii) A protective glove for the bow hand is permitted as long as it is not attached directly to the bow.

2. COMPOUND FLIGHT BOW

The Compound Flight Bow rules below are to be used in tandem with the [World Archery](#) Flight Archery rules (See article 33.5.7.5 in Book 5).

A. BOW

- i) A Compound Flight bow is a hand-shot bow which is constructed so that a mechanical advantage is obtained by the use of accessory limbs, levers, pulleys, eccentrics, or other similar mechanical devices.
- ii) Keyhole bows, forward handle extensions, and overdraws are allowed.
- iii) Attached accessories such as protective shields, angle finders, stabilizers, and sights are allowed.
- iv) Bow draw weights are as follows:
 - **18 kg (39.7 lbs.)** – Women, and Youth
 - **25 kg (55.1 lbs.)** – Women, Men, and Youth
 - **33 kg (72.8 lbs.)** – Men
 - **Unlimited** – Women, Men, and Youth

B. BOW STRING

- i) There are no restrictions on the bow string construction or type of materials used.

C. RELEASE

- i) Mechanical release aids are allowed.
- ii) A flight release is to be hand-held. No release attachments or anchors above the wrist are permitted.

D. ARROWS

- i) Arrows, points, and fletching may be constructed of any natural or synthetic material.
- ii) Minimum arrow length measured from the floor of the nock to point is 14 inches (35.6cm).

E. ARROW REST

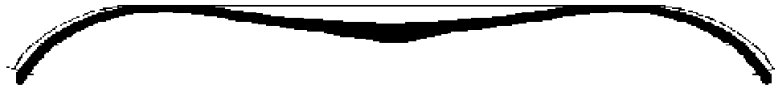
- i) An elevated rest and overdraw is allowed, but must not extend past the brace height of the bow.
- ii) A protective glove for the bow hand is permitted as long as it is not attached directly to the bow.

3. TARGET BOW

The Target Bow rules below are to be used in tandem with the [World Archery Flight Archery rules](#) (See Flight specific rules defined in Article 33.5.7.1 in Rule Book 5, and Target Bow rules defined in Article 11.1 in Rule Book 3).

A. BOW

- i) Target Bows consist of a handle, riser, and two flexible limbs attached with a single string.
- ii) Keyhole bows and forward handles are not allowed.
- iii) Minimum bow length is 64 inches. The bow is measured around the curves on the belly side of the bow at the tips and straight across from imaginary lines intersecting the nock grooves on the back.



- iv) Bow draw weights are as follows:
 - **35 lbs. (15.9 kg)** – Women, Men, and Youth
 - **50 lbs. (22.7 kg)** – Women, Men, and Youth

B. BOW STRING

- i) There are no restrictions on the bow string construction or type of materials used.

C. RELEASE

- i) Release is fingers only.
- ii) Athletes normal finger protection such as a tab, finger stalls, or shooting glove is permitted. A release aid of any type is prohibited.

D. ARROWS

- i) Arrows, arrow points, nocks, and fletching may be made from any synthetic or natural material.
- ii) Athletes shall use their own commercially available standard length target arrows and points. Absolute minimum arrow length measured from the floor of the nock to point is 14 inches (35.6 cm).

E. ARROW REST

- i) An adjustable elevated arrow rest with moveable pressure button is allowed providing the pressure point is not more than 1-5/8 inches (4cm) inside the throat of the handle (pivot point) of the bow. Reference: [Figure 1](#).
- ii) An overdraw is not allowed.

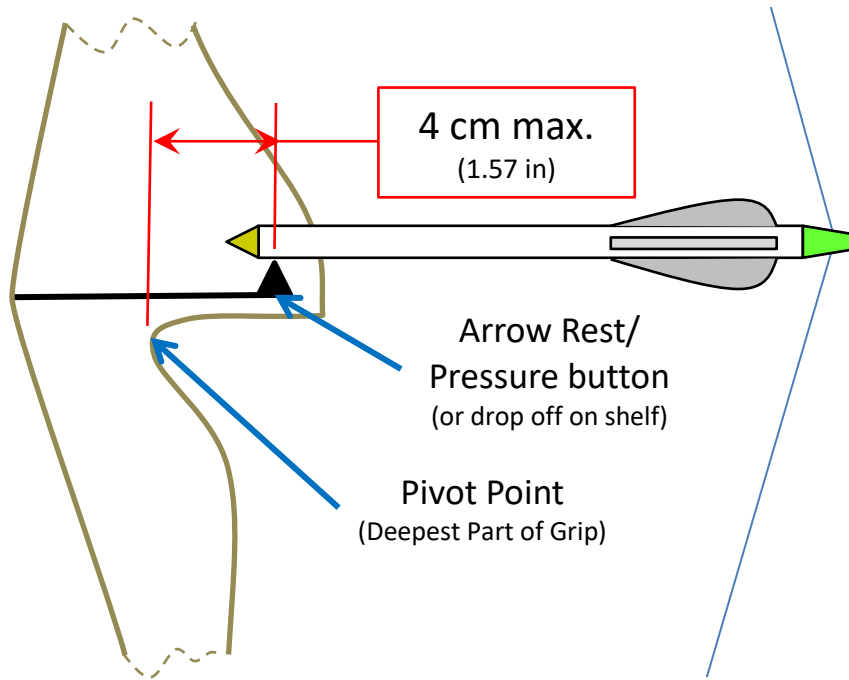


Figure 1 Arrow Rest Location for Target and Field Bow

4. COMPOUND TARGET BOW

The Compound Target Bow rules below are to be used in tandem with the [World Archery](#) Flight Archery rules (See Flight specific rules defined in Article 33.5.7.6 in Book 5, and Target bow rules defined in Article 11.2 in Book 3).

A. BOW

- i) Compound target bows allow the draw to be mechanically varied by a series of pulleys or cams.
- ii) Keyhole bows, forward handles, and overdraws are allowed.
- iii) Bow draw weights are as follows:
 - **45 lbs. (20.4 kg)** – *Women, Men, and Youth*
 - **60 lbs. (27.2 kg)** – *Women, Men, and Youth*

B. BOW STRING

- i) There are no restrictions on the bow string construction or type of materials used.

C. RELEASE

- i) Mechanical release aids are allowed.
- ii) Release attachments or anchors above the wrist but below the elbow are permitted.

D. ARROWS

- i) Commercially available standard target arrows and points only are allowed without restriction in vane selection.
- ii) Absolute minimum arrow length measured from the floor of the nock to point is 14 inches (35.6cm).

E. ARROW REST

- i) An adjustable elevated arrow rest with moveable pressure button is allowed providing the pressure point is not more than 2-3/8 inches (6 cm) inside the throat of the handle (pivot point) of the bow.

5. MODERN AMERICAN LONGBOW

The Modern American Longbow rules below are to be used in tandem with the [World Archery Flight Archery rules](#) (See Article 33.5.7.3 in Book 5).

A. BOW

- i) The bow shall be a minimum of 64 inches (162.6 cm) in length for men and 62 inches (157.5 cm) in length for women measured from string groove along the curvature on the belly side (side of the athlete) of the bow. A tolerance of 1/8 inch (3 millimeters) shall be allowed.
- ii) Longbow limbs in the unstrung position may show reflex. The strung bow cannot have the string touching the limb anywhere other than in the nock grooves.
- iii) A maximum handle riser length of 24 inches (61 cm) is allowed, including fade-out inserts.
- iv) Single piece bows or two piece take down bows are allowed.
- v) The maximum riser depth, measured at the arrow shelf or track is 2-3/4 inches (7 cm).
- vi) The bow must be free of attached accessories such as stabilizers, draw check indicators, and sights.
- vii) Bow draw weights are as follows:
 - **35 lbs. (15.9 kg)** – Women, Men, and Youth
 - **50 lbs.(22.7 kg)** – Women, Men, and Youth
 - **70 lbs. (31.8 kg)** – Women, Men, and Youth (**USA Archery Only**)
 - **Unlimited** – Women, Men, and Youth

B. BOW STRING

- i) There are no restrictions on the bow string construction or type of materials used.

C. RELEASE

- i) Release shall be by fingers only. Finger protection such as a shooting tab or glove may be used. Release aids of any type are prohibited.

D. ARROWS

- i) Arrows must be constructed of wood. Bamboo is considered a “wood” in this case.
- ii) Fletching must consist of feathers only.
- iii) Arrow nocks and points may be made from any synthetic or natural material.
- iv) Minimum arrow length measured from the floor of the nock to point is 14 inches (35.6cm).

E. ARROW REST

- i) A cut-out shelf or arrow ledge is the only rest allowed. It may be covered by natural materials or cloth.
- ii) An elevated or collapsible arrow rest is not allowed.
- iii) An overdraw is not allowed.

6. ENGLISH LONGBOW

The English Longbow rules below are to be used in tandem with the [World Archery Flight Archery rules](#) (See Article 33.5.7.4 in Book 5).

A. BOW

- i) The bow shall be the traditional longbow made from wood, either self, backed, or laminated with stacked belly and nocks.
- ii) The bow must not be less than 60 inches (152.4 cm) in length for an arrow of less than 27 inches (68.6 cm) long and not less than 66 inches (167.6 cm) in length for a 27 inches, or longer arrow, this being measured along the back between the string nocks.
- iii) At no point shall the depth of the bow, measured from back to belly, be less than 5/8 of the width of the bow at the same cambered D-shaped cross-section. Bows of bamboo, constructed in conformity with the above, shall be permitted.
- iv) Bows must use one-piece construction. Takedown bows are not allowed.
- v) Marks on the bow limb, or rubber bands, are permitted, but sights are not allowed.
- vi) The bow must be free of attached accessories such as stabilizers, draw check indicators, and sights.
- vii) Bow draw weights are as follows:
 - **35 lbs. (15.9 kg)** – Women, Men, and Youth
 - **50 lbs. (22.7 kg)** – Women, Men, and Youth
 - **70 lbs. (31.8 kg)** – Women, Men, and Youth (**USA Archery Only**)
 - **Unlimited** – Women, Men, and Youth

B. BOW STRING

- i) Strings may be of either natural or synthetic substance, and may, if desired, embody a "kisser" at any point as required, to facilitate a consistent draw position.

C. RELEASE

- i) Release is by fingers only.
- ii) Finger protection such as a tab or shooting glove is permitted.
- iii) The use of an extended "platform" tab for this purpose is not allowed.

D. ARROWS

- i) Arrows must be constructed of wood. Bamboo is considered a "wood" in this case.
- ii) Fletching must consist of feathers only.
- iii) Arrow nocks and points may be made from any synthetic or natural material.
- iv) Minimum arrow length measured from the floor of the nock to point is 14 inches (35.6cm).

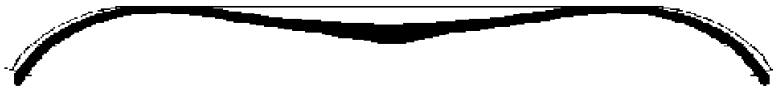
E. ARROW REST

- i) The bow will carry no features to support the arrow. No arrow rest, shelf, or ledge of any kind is allowed. Arrows are shot off the bow hand.
- ii) A protective glove for the bow hand is permitted as long as it does not facilitate drawing the point of the arrow beyond the belly of the bow.

7. FIELD BOW (USA Archery)

A. BOW

- i) The Field Bows represents bows commonly used for hunting, 3D, or field competitions, and consist of a handle, riser, and two flexible limbs attached with a single string.
- ii) The bow may be constructed of a combination of natural and synthetic materials.
- iii) The minimum bow length is 52 inches (132.1 cm).
- iv) The bows are measured around the curves on the belly side of the bow at the tips and straight across from imaginary lines intersecting the nock grooves on the back.



- v) "Keyhole" Target Bows are not allowed.
- vi) Multi-piece takedowns with variable tiller adjustment are allowed.
- vii) The bow may have attached accessories such as stabilizers, draw-check indicators (clicker), and sights.
- viii) Bow draw weights are as follows:
 - **35 lbs. (15.9 kg)** – Women, Men, and Youth
 - **50 lbs. (22.7 kg)** – Women, Men, and Youth
 - **70 lbs. (31.8 kg)** – Women, Men, and Youth
 - **Unlimited** – Women, Men, and Youth

B. BOW STRING

- i) There are no restrictions on the bow string construction or type of materials used.

C. RELEASE

- i) Release is fingers only.
- ii) Finger protection such as a tab, stall, or shooting glove is permitted. Release aids of any type are prohibited.

D. ARROWS

- i) Arrows, arrow points, nocks, and fletching may be made from any synthetic or natural material.
- ii) Fletching must consist of feathers or vanes.
- iii) Vanes shall be those provided commercially. Vanes cannot be altered.
- iv) Minimum arrow length measured from the floor of the nock to point is 14 inches (35.6 cm).

E. ARROW REST

- i) An adjustable elevated arrow rest with a moveable pressure button is allowed.
- ii) An overdraw is not allowed.
- iii) An adjustable elevated arrow rest with moveable pressure button is allowed providing the pressure point is not more than 1-5/8 inches (4cm) inside the throat of the handle (pivot point) of the bow. See: [Figure 1](#)

8. MODERN ASIATIC (USA Archery)

A. BOW

- i) The design of the bow reflects some form of traditional composite design originating from Asia. The side profile may be either reflexed with static ears or double curved.
- ii) Modern Asiatic Bows are Asian-style bows constructed from any combination of natural and synthetic materials.
- iii) There are no minimum or maximum bow length limitations.
- iv) Bows must use one-piece construction. Takedowns are not allowed.
- v) The bow handle must left/right symmetrical as viewed from the front or back of the bow (See [figure 2](#)).
- vi) The bow must be free of attached accessories such as stabilizers and sights.
- vii) Overdraws and forward handle extensions are not permitted.
- viii) Bow draw weights are as follows:
 - **35 lbs. (15.9 kg)** – Women, Men, and Youth
 - **50 lbs. (22.7 kg)** – Women, Men, and Youth
 - **70 lbs. (31.8 kg)** – Women, Men, and Youth
 - **Unlimited** – Women, Men, and Youth

B. BOW STRING

- i) There are no restrictions on the bow string construction or type of materials used.

C. RELEASE

- i) Release is by thumb or fingers only. A thumb ring or finger protection such as a tab or shooting glove is permitted.

D. ARROWS

- i) Arrows shafts may be constructed of wood, bamboo, carbon, or carbon-aluminum.
- ii) Fletching must consist of feathers only.
- iii) Arrow nocks and points may be made from any synthetic or natural material.
- iv) Minimum arrow length measured from the floor of the nock to point is 14 inches (35.6 cm).

E. ARROW REST

- i) The bow will carry no features to support the arrow. No arrow rest, shelf, or ledge of any kind is allowed. Arrows are shot off the bow hand ([figure 2](#)).
- ii) A protective glove for the bow hand is permitted as long as it does not facilitate drawing the point of the arrow beyond the belly of the bow.

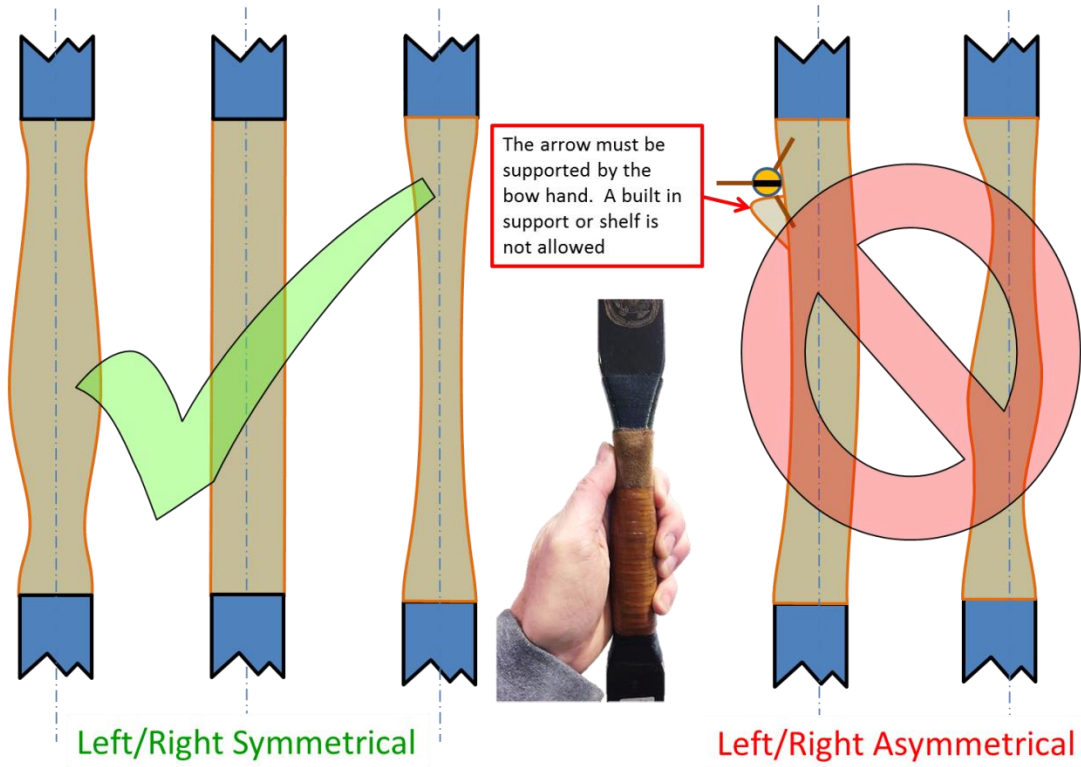


Figure 2 Modern Asiatic: Handle Shape Examples, Viewed From the Belly of the Bow

10. YUMI (USA Archery)

A. BOW

- i) The design of the bow must reflect the traditional asymmetric form of the Japanese Yumi-style bow.
- ii) The bow must be constructed from a combination of wood and bamboo.
- iii) The top limb constitutes approximately 2/3 of the bow length and the lower limb 1/3.
- iv) The minimum bow length is 215 cm (84-5/8 inches).
- v) Bows must use one-piece construction. Takedowns are not allowed.
- vi) The bow must be free of attached accessories such as stabilizers and sights.
- vii) Bow draw weights are as follows:
 - **15 kg (33 lbs.)** – *Women, Men, and Youth*
 - **18 kg (40 lbs.)** – *Women, Men, and Youth*
 - **Unlimited** – *Women, Men, and Youth*

B. BOW STRING

- i) The bow string may use any natural or synthetic material.
- ii) The bow string must be constructed in the form of a tsuru (traditional string with top and bottom knots used on yumis).

C. RELEASE

- i) The bow must be shot with the traditional Japanese shooting glove called yugake. No other release types are permitted.

D. ARROWS

- i) Arrows shafts must be constructed of single piece (non-laminated) bamboo.
- ii) Fletching must consist of legal natural feathers only.
- iii) Arrow nocks and points may be made from any natural or synthetic material.

E. ARROW REST

- i) The bow will carry no features to support the arrow. No arrow rest, shelf, or ledge of any kind is allowed. Arrows are shot off the bow hand.
- ii) A protective glove for the bow hand is permitted as long as it does not facilitate drawing the point of the arrow beyond the belly of the bow.

11. FOOT BOW

The Foot Bow rules below are to be used in tandem with the [World Archery Flight Archery rules](#) (See Article 33.5.7.7 in Book 5).

A. BOW

- i) The Foot Bow is shot with both feet placed upon the bow or in the bow stirrups and drawn by hand(s).
- ii) The drawing of the arrow by the shooter must not be aided or augmented by any mechanical device such as wheels or pulleys.
- iii) There are no minimum or maximum bow length limitations.
- iv) Multi-piece takedown bows with variable tiller adjustment are allowed.
- v) The bow is not restricted to a particular style or by materials used.
- vi) Keyhole bows and foot stirrups are allowed.
- vii) There is no restriction to attached accessories such as sights or stabilizers.
- viii) Bow draw weights are as follows:
 - **Unlimited** – Women, Men, and Youth

B. BOW STRING

- i) There are no restrictions on the bow string construction or type of materials used.

C. RELEASE

- i) In drawing and releasing, no mechanical aid or device shall be permitted.
- ii) Non-mechanical flight release aids shall be held in the hand.
- iii) No attachments or anchor above the wrist shall be permitted.

D. ARROWS

- i) Arrows, points, and fletching may be constructed of any natural or synthetic material.
- ii) The arrow must be a fin stabilized projectile with no minimum or maximum arrow length.

E. ARROW REST

- i) An overdraw with adjustable elevated rest is allowed.
- ii) Crossbow type arrow tracks are not allowed.

12. UNLIMITED FOOT BOW (USA Archery)

A. BOW

- i) The Foot Bow is shot with both feet placed upon the bow or in the bow stirrups and drawn by hand(s).
- ii) There are no bow design restrictions, provided the archer draws and shoots the bow without assistance.
- iii) There is no restriction to attached accessories such as sights or stabilizers.
- iv) Bow draw weights are as follows:
 - ***Unlimited*** – *Women, Men, and Youth*

B. BOW STRING

- i) There are no restrictions on the bow string construction or type of materials used.

C. RELEASE

- i) Mechanical release aids may be used to release the arrow.
- ii) Full draw must be achieved by the archer's power without assistance. No aid of any kind will be permitted to assist the archer in the drawing the bow.

D. ARROWS

- i) Arrows, points, and fletching may be constructed of any natural or synthetic material.
- ii) The arrow must be a fin stabilized projectile with no minimum or maximum arrow length.

E. ARROW REST

- i) An overdraw with adjustable elevated rest is allowed.
- ii) Crossbow type arrow tracks are allowed.

13. CROSSBOW (USA Archery)

A. BOW

- i) The US Flight Crossbow conforms to the standard crossbow form in basic design and function.
- ii) There are no bow design restrictions, provided the archer draws and shoots the bow without mechanical aid or other form of assistance.
- iii) There are no restrictions to bow mounted accessories such as a sight, palm rest, or stabilizers.
- iv) Bow draw weights are as follows:
 - **Unlimited** – *Women, Men, and Youth*

B. BOW STRING

- i) There are no restrictions on the bow string construction or type of materials used.

C. RELEASE

- i) Mechanical trigger release aids may be used to release the arrow.
- ii) The archer is to cock the bow by hand. No aid of any kind will be permitted to assist the archer in the drawing the bow.
- iii) Hand protection during drawing of the bow (such as a glove or finger stalls) is acceptable.
- iv) The archer shall shoot from a standing position.

D. ARROWS

- i) Arrows, points, and fletching may be constructed of any natural or synthetic material.
- ii) The arrow or bolt must be a fin stabilized projectile with no minimum or maximum length.

E. ARROW REST

- i) An overdraw with adjustable elevated rest is allowed.
- ii) Crossbow type arrow tracks are allowed.

14. PRIMITIVE BOWS (USA Archery)

The primitive divisions require equipment to be made from natural materials only.

A. BOW (ALL PRIMITIVE DIVISIONS)

- i) Primitive bows must be constructed with natural materials only (plant or animal).
- ii) Bows utilizing materials such as fiberglass, plastic, nylon, etc. shall be disqualified.
- iii) Metallic materials may not be used for the bow.

B. ARROWS (ALL PRIMITIVE DIVISIONS)

- i) Only natural materials may be used for Primitive Flight Arrows.
- ii) Metals may be used only for Arrow Points.
- iii) Fletching shall consist of legal feathers or other natural materials.
- iv) The minimum arrow length is 23 inches (58.4 cm) measured from the floor of the nock to the tip.

C. STRING (ALL PRIMITIVE DIVISIONS)

- i) Strings must be made of natural plant or animal materials such as flax, linen, gut, sinew, rawhide, bamboo, etc.
- ii) Primitive Bows equipped with synthetic strings shall be disqualified.

D. PRIMITIVE SELF BOW

- i) Primitive SELF Bows are totally constructed from a single, non-laminated natural material, plant, or animal.
- ii) Spliced billets are accepted.
- iii) Wooden handle built-up blocks may be added, providing the built up portion of the handle does not bend or additional blocks act as an additional laminate in the working/bending areas of the bow limbs. See figure 3 below.
- iv) The bow handle may be wrapped with leather or other natural materials. Maximum handle depth at the arrow pass is 2 inches (5.1 cm).
- v) A bow tip overlay may be added to the back only, not to exceed 2 inches (5.1 cm) in length.
- vi) Bow draw weights are as follows:
 - **35 lbs. (15.9 kg)** – Youth and Women only
 - **50 lbs. (31.8 kg)** – Women, Men, and Youth
 - **70 lbs. (22.7 kg)** – Women, Men, and Youth
 - **Unlimited** – Women, Men, and Youth
- vii) RELEASE - Leather glove, finger tab or bare fingers only.
- viii) ARROW REST - An arrow shelf cut out or non-laminated side rest is the only arrow rest allowed. The arrow rest may be covered with natural materials only. An elevated or collapsible arrow rest is not allowed.

Bow Handle Side View Shown

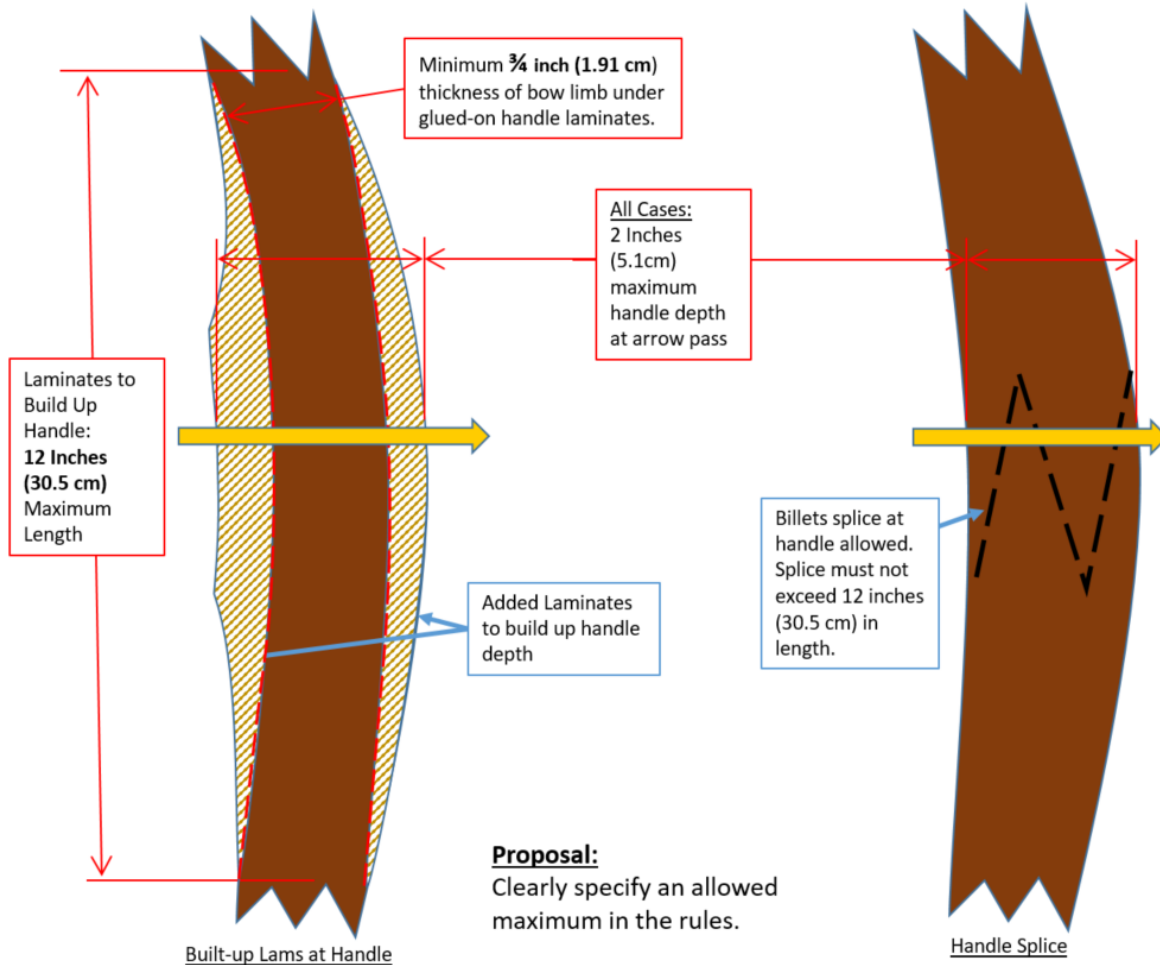
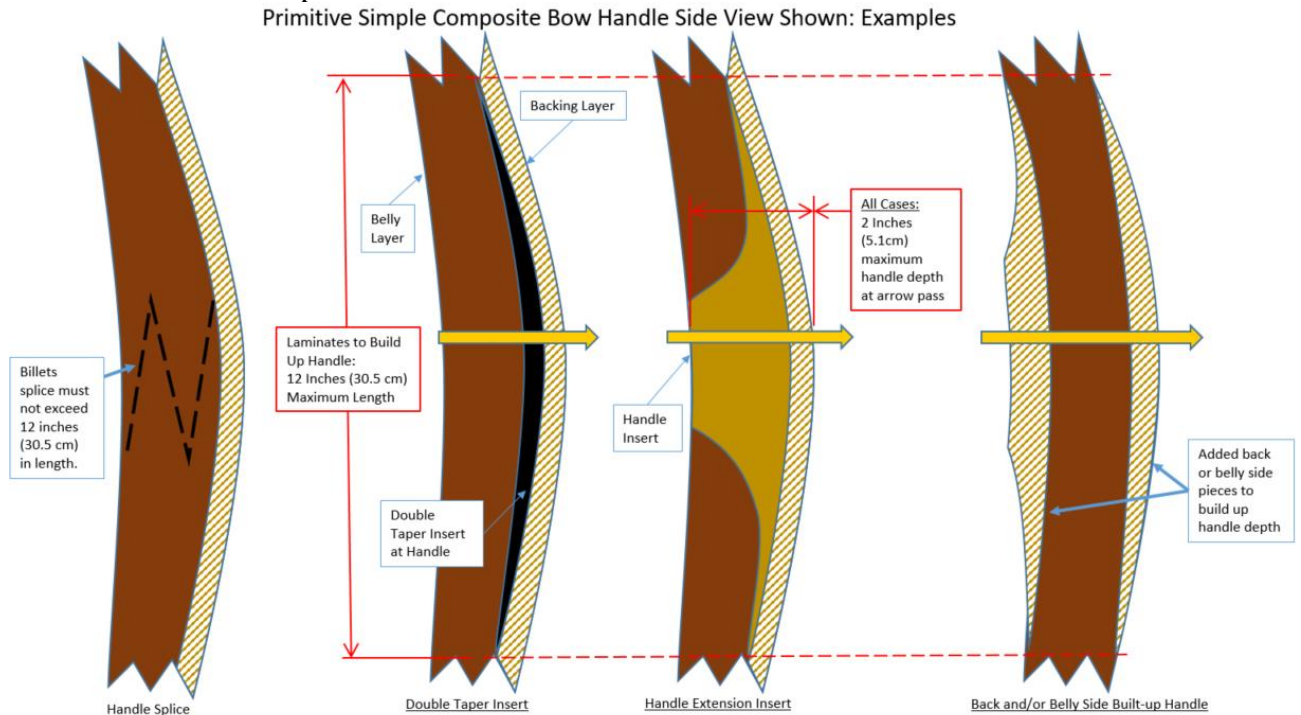


Figure 3 - Self Bow Handle Examples

E. PRIMITIVE SIMPLE COMPOSITE BOW

- i) Primitive SIMPLE COMPOSITE Bows are totally constructed with a maximum of 2 constructed with a maximum of 2 natural material laminations. Examples include wood, bamboo, horn, bone, etc.
- ii) Sinew, linen or silk cloth, rawhide, or any other type of “skin” backing are considered a lamination.
- iii) Wooden handle built-up blocks may be added, providing the built up portion of the handle does not bend or additional blocks act as an additional laminate in working/bending areas of the bow limbs. See figure 4 below.
- iv) The bow handle may be wrapped with leather or other natural materials. Maximum handle depth at the arrow pass is 2 inches (5.1 cm).
- v) Bow tip nock overlays may be added, back and belly, not to exceed 2 inches (5.1 cm) in length.
- vi) Bow draw weights are as follows:
 - **35 lbs. (15.9 kg) – Youth and Women Only**

- **50 lbs. (22.7 kg)** – Women, Men, and Youth
 - **70 lbs. (31.8 kg)** – Women, Men, and Youth
 - **Unlimited** – Women, Men, and Youth
- vii) RELEASE - Leather glove, finger tab, or bare fingers only.
- viii) ARROW REST - A cut-out arrow shelf or non-laminated side rest is the only arrow rest allowed. The arrow rest may be covered with natural materials only. An elevated or collapsible arrow rest is not allowed.



Proposal: Specify Maximum Length For Built-up Pieces at the Bow Handle, Allow Any Combination of the Above Examples

Figure 4 Primitive Simple Composite Bow Handle Examples

F. PRIMITIVE COMPLEX COMPOSITE BOW

- i) Primitive COMPLEX COMPOSITE Bows are constructed without restriction to the quantity of laminations.
- ii) Back, belly, and core laminations are allowed.
- iii) A backing layer is allowed.
- iv) Bow tip nock overlays may be added, back and belly.
- v) Horn nocks are allowed.
- vi) The addition of wedges and fade-outs are allowed.
- vii) Wooden handle built-up blocks may be added and the handle may be wrapped with leather or other natural materials.
- viii) Bow draw weights are as follows:
 - **35 lbs. (15.9 kg)** – Youth and Women Only
 - **50 lbs. (22.7 kg)** – Women, Men, and Youth
 - **70 lbs. (22.7 kg)** – Women, Men, and Youth
 - **Unlimited** – Women, Men, and Youth

- ix) RELEASE - Glove, tab, hook, rope, thumb ring, finger ring, non-adjustable hook and loop, and flipper are allowed for Primitive Complex Composite Bows. These items shall not be made from synthetic materials. Metal is allowed for a release aid.
- x) ARROW REST – **An overdraw is allowed**, not to exceed 4 inches (10.2 cm) in length, measured from the back of the bow to the terminal point of the rest. **An elevated or collapsible arrow rest is allowed.**

G. PRIMITIVE TURKISH BOW

- i) The TURKISH Style bow construction and materials must conform to the Primitive Complex Composite Bow requirements.
- ii) Bow draw weights are as follows:
 - ***Unlimited*** – *Women, Men, and Youth*
- iii) RELEASE - A thumb release shall be used for the Turkish Style Primitive Flight category. The thumb ring used to draw the bow can be made from horn, stone, wood, leather, metal, or other natural materials.
- iv) ARROW REST - A siper overdraw shall be used.