Red

Arrow

WORLD ARCHERY BEGINNERS MANUAL

CURRICULUM FOR THE WA **RED ARROW** AWARD

PERFORMANCE:

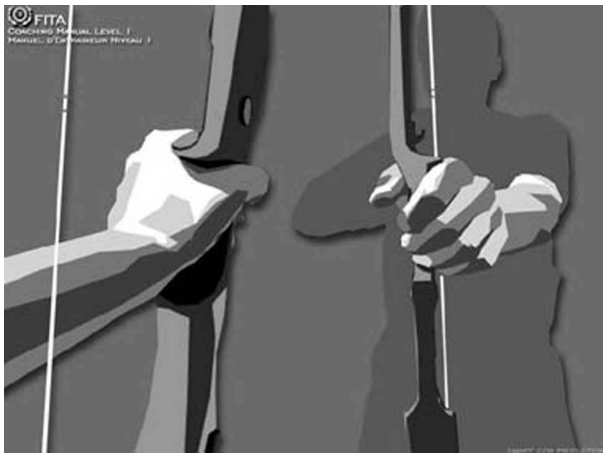
Shooting distance: 22 meters
Minimum required score: 115 points

SKILLS – Your shooting sequence should include the following:

Bow hand and arm.

- *Objective:*
  * Consistent bow hand contact with bow grip;
  * Apply a minimum of constraints to the bow grip with your bowhand;
  * Sufficient string clearance during the shot (this later objective will be better described in the Gold Arrow curriculum).

- *Form:*
  Fingers are relaxed, a bit folded they do not grip, or choke the bow. The wrist is flexed. The "V" between forefinger and thumb is centered on the forearm axis. The bow pushes on the centre of the "V" made by the thumb axis and the life line. The main pressure zone is at about 1 to 2.5 cm lower than the "V" point. The other side of the palm from the life line should not press on the centre of the grip.

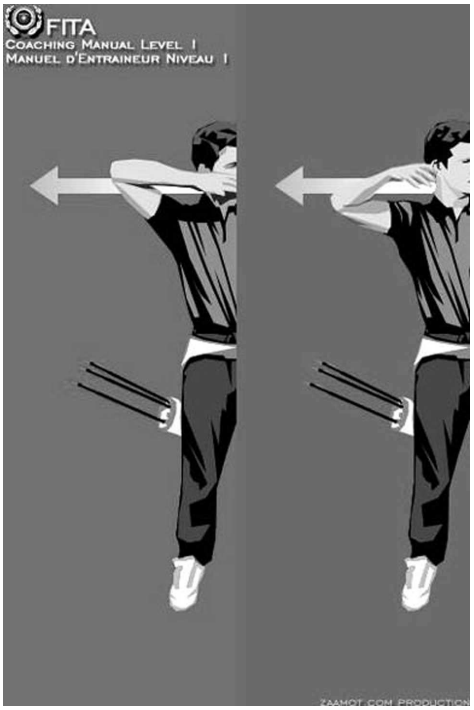


The bow forearm is straight but not stretched. The bow elbow is fixed, not bent The elbow point must be turned toward left for right hand archers, not toward the ground.

- *Rationale:*
  The bow hand grip requires very little muscle contraction promoting relaxation. The more relaxed the archer is, the better they can perform, and are less likely to produce a counter axis pressure on the bow.

Release – What happen on the <u>string side</u> of the archer:

- *Objective:*
  Continue all on-going activities, but release of the string.



- *Form:*
  Upon the string release, the string hand immediately runs off backwards, in the shooting plan. It moves along either the jaw (in the "Straight line" and "Triangle" methods) or neck (in the quadrilateral method). . The string hand stops at a vertical axis passing by and usually against the string ear. The area where the string hand ends is called the "back end." The string arm ends in the shoulders axis.

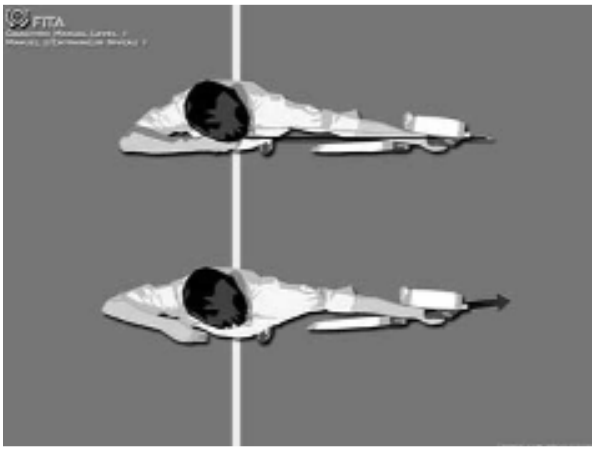
- *Rational:*
  Because the muscles of the back part of the string shoulders and of the back pursuit their contractions, the entire string arm pursuits its backwards motion that it was implementing during the « full draw ».

Release – What happen on the <u>bow side</u> of the archer:

* <u>About your bow arm.</u>

- *Objective:*
  Continue all on-going activities, but release of the string. The bow arm and even the whole body move slightly forward.

- *Form:*
  Upon string release, the bow arm moves towards the back of the archer after the release.

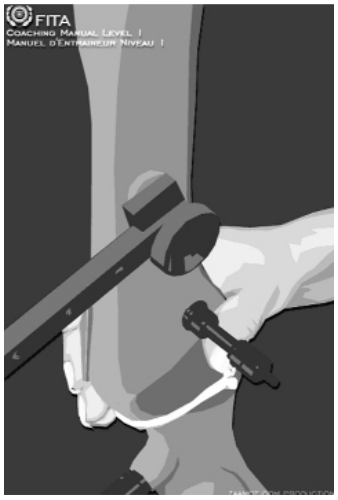


- *Rational:*
  The deviation of the bow arm towards your back side is mainly due to the continuous action of the posterior muscles of the bow shoulder.
  The forwards motions to the target are is due to the continuous push effort produced during the "full draw" by all the whole body from the bow arm to the string leg.

* <u>About your bowhand.</u>

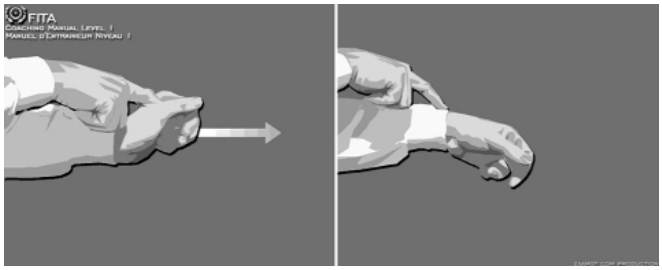
- *Objectives :*
  * Continue all on-going physical activities during the arrow propulsion period (just after release).
  * Develop a passive bow hand and fingers, to get the propulsion of the arrow be done without any force being applied to the riser which could create torque in the bow at full draw and during the arrow propulsion period (just after release, during the arrow propulsion).

- *Form:*
  When the bow is propelled forwards after the release, your wrist gets inflexed; it is stretched carried by the sling. Then when the bow cants forward and drops down, your wrist gets flexed down.



Example of a bowhand that has been well kept relaxed until the end of the shot. The use of a sling helps a lot to achieve this.

- *Rational:*
  The bow presses on your relaxed hand and wrist. When the support of these latest disappears (when the bow is propelled forwards due to end of the string run), the hand remains totally relaxed and follows the motions o f the bow.



Simulation of the explanation on the left.

KNOWLEDGE&/OR KNOW-HOW

Archery disciplines.

- Outdoor Target Archery:
  The WA Outdoor Target Archery rounds may be shot by both the Recurve and Compound Division in separate division. In the Olympic Games only the Recurve division may compete. The WA standard Round may only be shot by athletes of the WA Standard Bow Division.

  The WA Outdoor Target Archery Round consists of 36 arrows from each of the following distances shot in this order:
  - 60.50.40.30 meters for Cadet Women;
  - 70,60,50,30 meters for Women, Cadet Men, Junior Women and Master Women;
  - 90,70,50,30 meters for Men, Junior Men and Masters Men.

  Or in the order:
  - 30,40,50,60 meters for Cadet Women;
  - 30,50,60,70 meters for Women, Cadet Men, Junior Women and Masters Women;
  - 30,50,60,70 meters for Men, junior Men and Masters Men.

  The 122cm target face is used for the 90, 70, 60m (and 50m for Cadet Women) distances and the 80cm face shall be used for the 50 (other than Cadet Women), 40 and 30m distances. The 80cm multiple centre set-up may be used at 30m. The 80cm triangular triple centre set-up is mandatory at WA Championship.

- Indoor Target Archery:
  WA Indoor Target Rounds may be shot by both the Recurve and Compound Divisions in separate Division.
  The 25 meter WA Indoor Round consists of 60 arrows on a 60cm diameter faces or the 60cm triple centre set-up, for all classes.
  The 18 meter WA Indoor Round consists of 60 arrows on a 40cdm diameter daces or 40cm triple faces for all classes.
  The combined WA Indoor Round consists of the above two rounds shot in succession in the order listed above.

- Field Archery:

The WA Field Archery Rounds may be shot by the Bare-bow, Recurve and Compound Divisions, in separate divisions.

The WA Field Round consists of any number of targets totaling between 12-24 targets which is divisible by four (4), and three (3) arrows to be shot per target. These targets will be arranged along a course with such difficulties in aiming and shooting as the terrain presents and the spirit and traditions of the discipline require. The distances for target butts are set 5 meters to 50 meters for Bare-bow and 10 meters to 60 meters for Recurve and Compound. The course may be marked or unmarked and be shot with any number of walk-ups or fan targets.

The WA Arrowhead Round consists of any number of targets totaling between 24-48 targets which is divisible by four (4), that is, two complete WA Field Rounds. The rounds may be shot on marked and unmarked courses or one of each.

Arrow reparation

Removing points (or/and inserts)

When removing a metal point (insert and point in one piece) or an insert and point in two pieces, you must:

1 - Lightly heat the exposed end of the point for 3-5 seconds over a small gas flame.
CAUTION: Do not overheat the component or the shaft.
2 - Immediately grip the point with a pair of pliers.
3 - Twist and pull out the point (and insert if any).
4 - If the point or insert cannot be removed, reheat for 3-5 seconds and try to remove again.
5 - Repeat procedure step 4 until adhesive softens enough to remove the component.

Installing points and insert in the shaft

Material needed for installation:

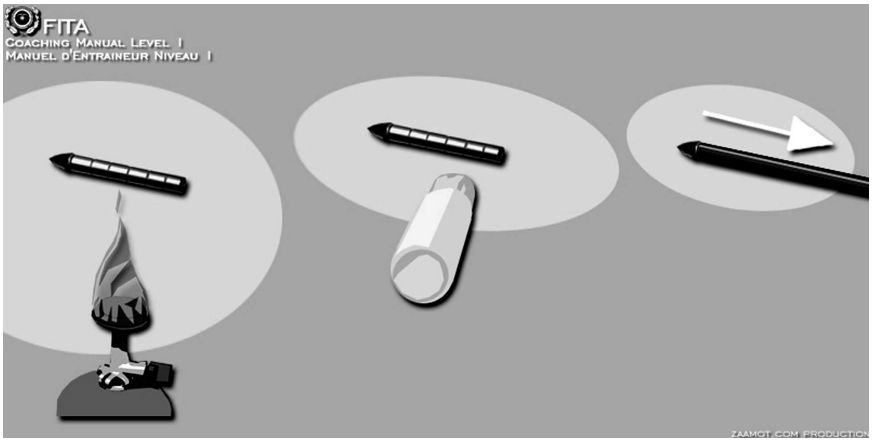
- 91 % isopropyl alcohol paper towels.
- Cotton swabs.
- Hot-melt (special for archery)
- Torch or burner.

The instruction that follow can be used for one piece points or for aluminum inserts with a screwed point in.

After cutting your shaft to length as described, follow the point installation procedure carefully to prevent overheating the point. Overheating points can destroy the shaft's epoxy bond between the carbon and the aluminum tube (in an aluminum/carbon shaft), or change the endurance of the aluminum in this area (if there is an aluminum shaft) or destroy the epoxy bond that glues the carbon fibers (in a carbon arrow). For gluing the points and insert, use hot-melt adhesive.

1. Clean approximately two inches inside the point end of the shaft using a cotton swab dipped in 91 % alcohol. Repeat the process until a fresh cotton swap is free of cutting dust residue or other contaminants. Let the shaft dry thoroughly before bonding.

2. Carefully heat a stick of hot-melt adhesive over a small gas flame; then apply a ring of hot adhesive to inside of the point-end of the shaft.



CAUTION: Do not apply heat directly to the shaft.

The melting point of hot-melt adhesive is low enough that the shaft will not be damaged during installation and high enough to keep the point securely bonded during the frictional heating caused when the arrow penetrates the target mat. Arrow points can come out in the target mat if lower melting temperature hot-melt adhesives are used.

3. Hold the end of the point with your fingers. (Do not hold with pliers because it is then possible to overhead the point.) Heat the exposed portion of the point shank or insert until you feel it getting warm. It should be just hot enough Hot-melt the adhesive.

   CAUTION: Do not overheat the points. If the point becomes too hot to hold in your fingers, it is too hot to put in the shaft. Set the point on a non-combustible surface until cool.

4. Heat the hot-melt adhesive and apply a generous layer of adhesive to the shank of the point or insert.

5. Without delay, while the adhesive is still fluid, push the point and/or insert into the shaft with rotating motion until the point flange seats against the end of the shaft. To assure an even distribution of adhesive, rotate the point 2 more revolution after it has seated against the shaft.
   NOTE: Do not force a point and/or insert into a shaft. If it does not seat fully, reheat the point immediately for 2-3 seconds and try pushing it in again.

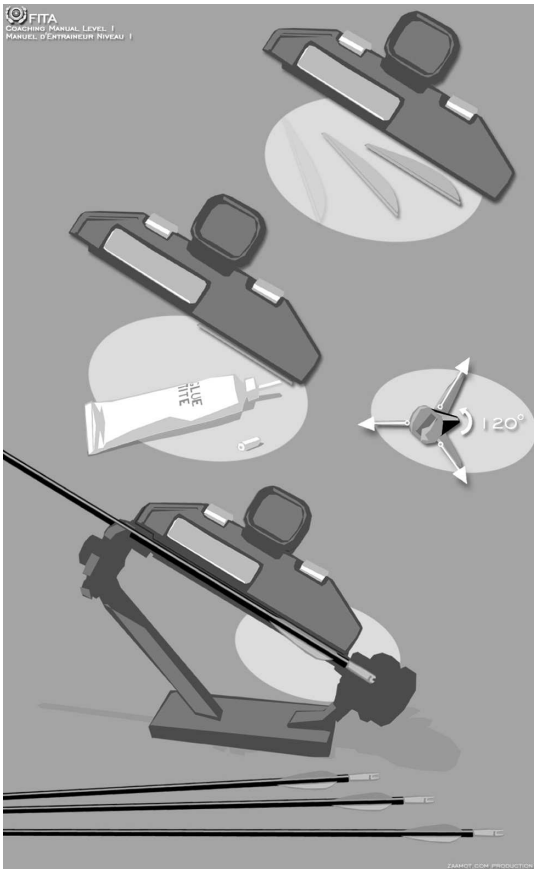
6. With a paper towel quickly wipe off excess adhesive while it is still hot.

CAUTION: Do not apply heat directly to the shaft of any type because it could destroy the carbon fibers and change the endurance of the aluminum in this area. Do not overheat the points, because it could also cause damage in the shaft.

If the head of the shaft is damaged on the point side, you will may be able to use this arrow again, if its initial length before the "problem" was enough long. If so, it is advisable to cut all your arrows down to the new length.

Fletching a shaft

Feathers or vanes can be replaced with a fletching jig. Without this device it is difficult to keep the vane straight on the shaft until the glue is dry. Most archery dealers re-fletch arrows, which is less expensive than buying new ones. Ideally your club should own a fletching jig.



Fletching a shaft.

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EVALUATION FORM FOR **RED ARROW** CANDIDATES.

Name of the beginner: _____ Form F

Date: ____ / ____ / 200__ Make up date: ____ / ____ / 200__

Shooting distance for score evaluation	**Required minimum score**	**Achieved ***	***Not yet achieved**	Final number of hits.
22 meters	115 points			
SKILLS	**Key elements** (What should be done)	**Achieved ***	***Not yet achieved**	**References to the WA Level 1 Coaching manual**
Release	Along jaw or neck.			#7.1.2.10
	Backwards motion generated by the follow-up contraction of the back and posterior string shoulder muscles			#7.1.2.10
Bow hand	*Consistent bow hand on grip*			*#7.1.2.3.b*
	Relaxed bow hand allowing the use of a sling			*#7.1.2.3.*b & #10 Exercises "Bowhand" & "Test for finger relaxation"
Bow arm	Elbow properly orientated			*#7.1.2.3.b*
	Stationary upon release or moving a little toward the back due the follow-up contraction of the back and posterior bow shoulder muscles.			#9.5
Subjects 2 evaluations	**Required knowledge or know-how's**	**Achieved ***	***Not yet achieved**	**Comments &/or references**
Archery disciplines knowledge	Can give the overall description of 3 archery disciplines.			WA C & R #4.1 et #4.5
Arrow reparation	*Know how to fit and glue a point, and fletch an arrow*			*#11.4.2*
TOTAL	***9 positive evaluations are required***			** Awarded ____ or Not awarded yet ____

* Checkmark if the score / skill / knowledge is positively evaluated (Achieved) or not (Not yet achieved).
Write in the TOTAL row of these two columns the accumulated number of checkmarks.

** Just checkmark the final result of this evaluation.

Name and signature of the assessor/evaluator: _____

Red Arrow award