



**ELITE ARCHERY 2023  
TUNING & SETUP GUIDE**

## QUICK GUIDE SUMMARY:

1. Adjust S.E.T. (Simplified. Exact. Tuning) to the middle of the adjustment range.
2. Check Static cam lean by laying an arrow against the side of the cam. Confirm the arrow is running parallel to the string or slightly away from the LTR side of the bow. Check TOP and BOTTOM cam (see “static cam lean” section below)
  - A.) If the static cam lean is “IN” or toward the LTR, shim the cams to the right (toward LTR) by .03” and confirm acceptable static cam lean.
  - B.) If the static cam lean is too far “OUT” or away from the LTR, shim the cams to the left (away from LTR) by .03” and confirm acceptable static cam lean.
3. Confirm Arrow Spine.
  - A.) The bows using the new SP Cam System prefer a heavier spine arrow than previous bows models (i.e. EnVision, EnKore & Remedy). Keep in mind heavy FOC setups weaken dynamic spine of the arrow and will require an even stiffer arrow. Micro diameter arrows also can show a weaker dynamic spine. Guideline based on Elite Archery’s testing (Standard .246 Arrow):

**70lbs 24.5-27” = 350 Spine**

**70lbs 27.5- 29.5” – 300 Spine**

**70lbs 30” – 250/300 Spine**

**NOTE:** May need to go up one spine stiffness with a micro diameter arrow

- B.) Set The Arrow Rest’s Centershot: (See Rest Centershot section below)
  - i. Nominal starting point 7/8” from inside of riser to center of arrow shaft.
  - ii. “Eyeball” method. Align String with the center of the grip and adjust arrow rest until string, grip and arrow point are all aligned.

### 4. Shoot through paper and adjust using S.E.T + Arrow rest position to achieve bullet hole

- A.) For a Right Tear (Tail Right) Adjust TOP and BOTTOM S.E.T. drive screws clockwise & move arrow rest away from riser (increase centershot)
- B.) For a left Tear (Tail Left) Adjust TOP and BOTTOM S.E.T. drive screws counterclockwise & move arrow rest toward riser (decrease centershot)

### 5. Check grip pressure to make sure the hand is applying consistent pressure to the back of the grip and not to the finger side. Observe change in paper tear by adjusting grip position. (See GRIP PRESSURE section)

### 6. If excessive cable contact occurs, move LTR to the left and move arrow rest to the left to relieve cable tension and keep arrow rest position consistent. (See CABLE CONTACT section)

### 7. If a Right or Left tear remains, move the arrow rest position outside of center to correct remaining tear. Grip pressure can require the arrow rest to run slightly inside or outside of center to achieve proper arrow flight.

A.) Right Tear - Move arrow rest away from riser

B.) Left Tear - Move arrow rest toward riser



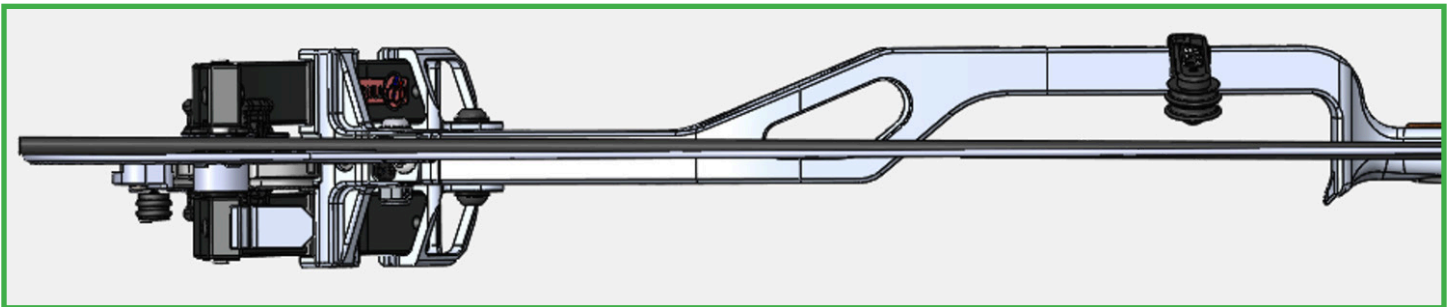
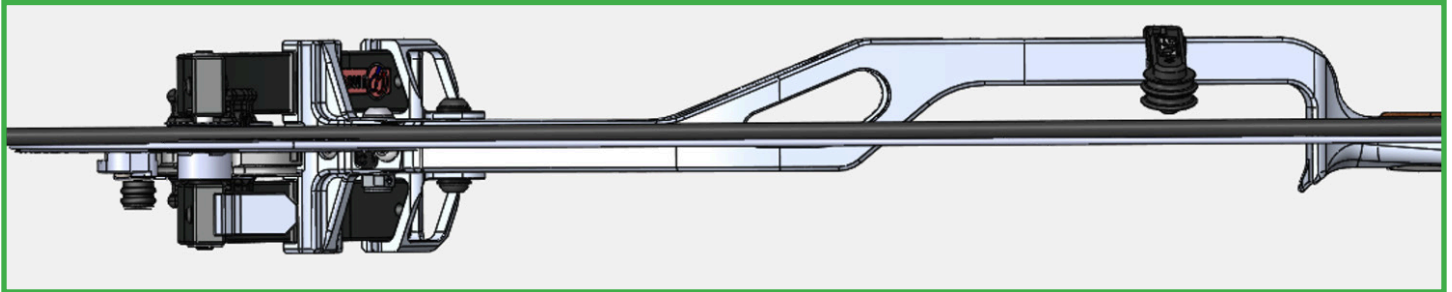
8. NOTE: The SP Cam System bow produces significant tension in the cables to store the energy required to shoot the speed with high let-off. This cable tension combined with grip pressure can create some rotation of the bow (points to the right at Full Draw) This can create the appearance of “excessive cam lean” at full draw, but in reality, it is the bow wanting to point to the right and not cam lean. Reducing cable tension can help this but it is normal and will be present on this bow. Adjusting lean to counteract the “rotation” of the bow will make it very difficult to tune. Cam Lean = cam tilt from top to bottom of cam.



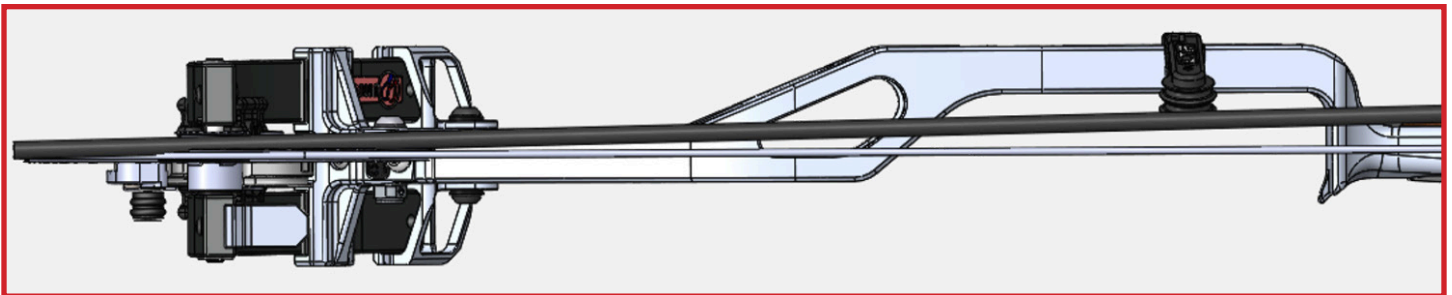
## STATIC CAM LEAN:

Cam Spacing, Limb Deflections, and S.E.T. adjustment all ultimately impact the cam attitude (lean) which is the driving factor along with rest position for how a bow tunes. Changing any of those variables and ending up with the same static lean will not have a significant impact on tuning. Changing rest position and lean of the cam will have the most significant impact.

Starting point for static cam lean: The cams (TOP and BOTTOM) at brace should be straight to slightly "OUT" when laying an arrow on the side of the cam. The images below (green) are a good target for a starting point for static cam lean.



The first image shows an arrow on the cam running parallel with the string, the image above shows a cam running slightly "OUT".



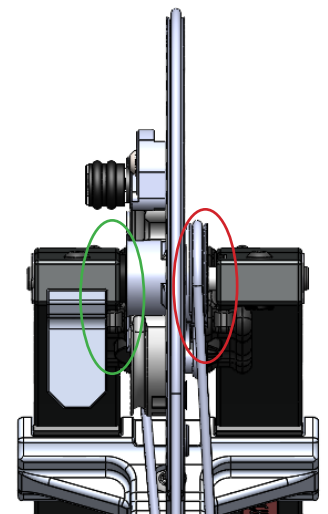
The image above in RED shows a cam running "IN". If the bow has static lean "IN" that has the S.E.T. system in the middle of its adjustment range, we recommend shimming the cam to the right (when looking at the bow from behind) by .03" so that the static lean looks like one of the green images when the bow is at brace. This will ensure full range of adjustment remaining.

Static cam lean should be checked on both TOP and BOTTOM cams. The nominal cam lean should be consistent from top to bottom. If the bow has lean in different directions or different levels from top to bottom this should be corrected prior to starting to tune your bow.

**Example:** A bow with "OUT" lean on the bottom cam and "IN" lean on the top cam. When starting to tune the bow a right tear is present.

Adjusting SET to correct the right tear will lean the cams further "OUT". This can cause cable contact on the Bottom cam as you will need to over-adjust to overcome the "IN" lean on the TOP cam.

If cam has static lean "IN" move .3" from red side to green side, moving the cam further to the right.



## GRIP PRESSURE:

Another factor that will be significant on the OMNIA is the grip pressure on the riser. With the shorter brace height of this bow, changes in grip pressure are magnified vs a longer brace height bow. For example, someone who puts more pressure on the grip with the thumb side of the hand will be less likely to get a right tear than someone with more pressure on the finger side of the grip. Getting even pressure on the flat back of the grip will yield the most consistent results. Left picture shows Finger side pressure, right picture shows more thumb side pressure. Adjust Grip pressure and note differences in arrow flight.

**FINGER SIDE PRESSURE**



**THUMB SIDE PRESSURE**



## REST CENTERSHOT:

A good starting point is to set the center shot so that your arrow is running parallel to the riser. The measurement from the inside of the riser to center of the arrow will vary depending on multiple other factors (S.E.T. Adjustment, Cam Spacing, Limb Deflections). A good starting point on the 2023 Elite bow models would be to set the center of the arrow at 7/8" from the inside of the riser. There is a range of what parallel looks like when eyeballing the rest position vs, the riser. You can have a bow which with the rest at 13/16" and 7/8" might both look parallel. In some situations, it may be necessary to run the arrow rest a little outside of parallel depending on other factors. The rest position is very responsive on this bow and moving it to where the bow needs it will make tuning much easier. The nominal centershot of this riser is 7/8" (.875") with other variables (S.E.T. Position, Grip pressure etc.) may result in it needing to be inside or outside of this number.

Another common way to set centershot is to eyeball the string down the center of the grip and adjust the rest position until the string is running down the center of the arrow on the rest. This method will also work on this bow and should help with getting the rest into the correct position. Using this method will likely end up with the rest being pushed outside further then running it parallel with the riser. (Images below)

The cable tension is trying to flex the riser and twist it to point to the right, therefore the arrow you are laying against the riser is likely pointed slightly to the right, and if you set your rest parallel to that arrow you may be starting off with the arrow a little inside of the nominal centershot.

Pictures below show the arrow rest at 7/8" centershot and how that looks against another arrow. The camera makes it look like the arrow is running slightly inside but in reality, it is straight.



The images below shows the “eyeball” method with the arrow rest set at 7/8” (same as examples above). The first image shows the string lined up with the middle of the grip. You can see the point of the arrow is still right of the string. If someone was to use this method they will move the rest to the left which will help in a right tear situation. The second image shows the arrow lined up with the string, on the same bow above and you can see the string to the right of the center of the grip.





## S.E.T. ADJUSTMENT:

Once you confirm that the static lean is where it needs to be with the S.E.T. Adjustment in the middle of the range, use S.E.T. Technology to dial in your paper tune. Adjust TOP and BOTTOM together to keep them in unison. It is important to reset centershot after each adjustment. If you put 1/2 TURN INTO the set drive screws it will move the string to the left as it adjusts the cam lean. When the string moves to the left the rest will also need to adjust to the left. Adjusting the S.E.T without moving the rest might fix the paper tear but you will need to adjust the cam lean further than necessary to get there, this can result in too much cam lean / cable contact.



## LTR ADJUSTMENT:

Adjusting the LTR is another method of fine tuning your bow. In that literature it will explain to apply more cable tension (MOVE LTR right) to help with a right tear. We would recommend NOT doing that on bows using the SP Cam System.

On bows with the SP Cam System, we recommend using the LTR adjustment to achieve fletching clearance and adjust the cable tension on the Bow.

Adjusting The LTR moves the position of the cables relative to the riser. In making this adjustment will also impact the string position relative to the riser. For this reason, the centershot will need to be re-set when the LTR adjustment is made.

Reducing cable tension using the LTR can help increase cable clearance on the cam. If your bow is tuned but experiencing contact between the cable and cam you can reduce the cable tension with the LTR and re-adjust arrow rest position. For example, bow is shooting bullet holes, but you have excessive cable contact. This can be corrected by reducing cable tension with the LTR and re-shooting through paper. Arrow rest will likely need to be moved slightly away from the riser due to the reduction in cable tension to return to a bullet hole.

The three images below show how adjusting the LTR can impact the position of the arrow. In all of these pictures the arrow rest is set at 7/8" and was not changed. The first image shows the LTR in the middle. The second picture has the LTR adjusted to the right (more tension) and the third image shows the LTR adjusted to the left (less tension). As you can see if you relieve tension on the cables with the LTR you will need to move the arrow rest to the left along with it or it could take a bullet hole to be a right tear.



## **CABLE CONTACT:**

Minor cable contact on the SP cam system bows is normal and to be expected. By cable contact we mean the cable touching the cam on the mod side of the cam. This can be classified into 4 categories:

1. No Cable Contact - GOOD

2. Slight Cable Contact – GOOD

A.) This means the cable will touch the cam for an instant at 1/3 draw (when the cable is transitioning to the mod), and rest against the cam at full draw

B.) Can't feel any contact

3. Medium Cable Contact – OK

A.) Can feel the cable contact the cam at the last ¼ of the draw cycle. This will likely be acceptable. The serving should flatten after 15-20 shots and no longer notice the cable touching the cam

4. Heavy Cable Contact – Likely not acceptable

A.) Cable hitting the cam for more than the last ¼ of the draw cycle. Noticeable heavy feel of contact during the draw cycle.

I. Check static cam lean

1. Might have one cam with more lean than the other, re-center static lean top and bottom to be even and adjust together from there

II. Reduce Cable Tension using LTR and move arrow rest to the left.

III. In some cases, you may need to shim the cams to the right, and use the S.E.T. to move the static lean back into spec per the information above. Moving the cams to the right alone could create more contact and lean but using the S.E.T. to adjust back to straight should help.

IV. Move arrow rest to the left (outside of parallel) and reduce cam lean using S.E.T. to reduce cable contact.



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