

# Firenock

The Most Advanced Lighted Nock

## AEROVANE™ Jig User Manual

Congratulations on purchasing the world's most accurate fletching jig. No more guessing on whether the fletching is exactly 120 degrees apart. With the Aerovane Jig system and its accessories, every vane fletched is perfectly spaced every time.

The Aerovane Jig is available in 2 standard packages: the Enthusiast Set and the Ultimate Set. Additional accessories and optional parts can be purchased to make the Aerovane Jig meet your individual needs.

### Aerovane Jig, and its accessories available for purchase / upgrade (complete list):

1. Jig Body
2. Clamp
3. Adjustable Neck
4. Base Plate
5. Fixed Chuck
  - 0.166" (for VAP, G nock)
  - 0.204" (Axis, Kinetic)
  - 0.225" (H)
  - 0.244" (GT, CX)
  - 0.285" (CX bolts)
  - 0.300" (Bolts, 22 series)
6. Slide Hook (up to 1.5 degree offset capability)
  - 0.204" in red (Axis, Kinetic)
  - 0.244" in black (GT, CX)
  - 0.300" in gold (Bolts, 22 series)
7. Adjustable Chuck
8. Adjustable Hook
9. Arrow alignment Leveler
10. Laser Module
11. Camo case with water cut inserts
12. Long Feather Adaptor
13. 3 or 4, optional 7 Index

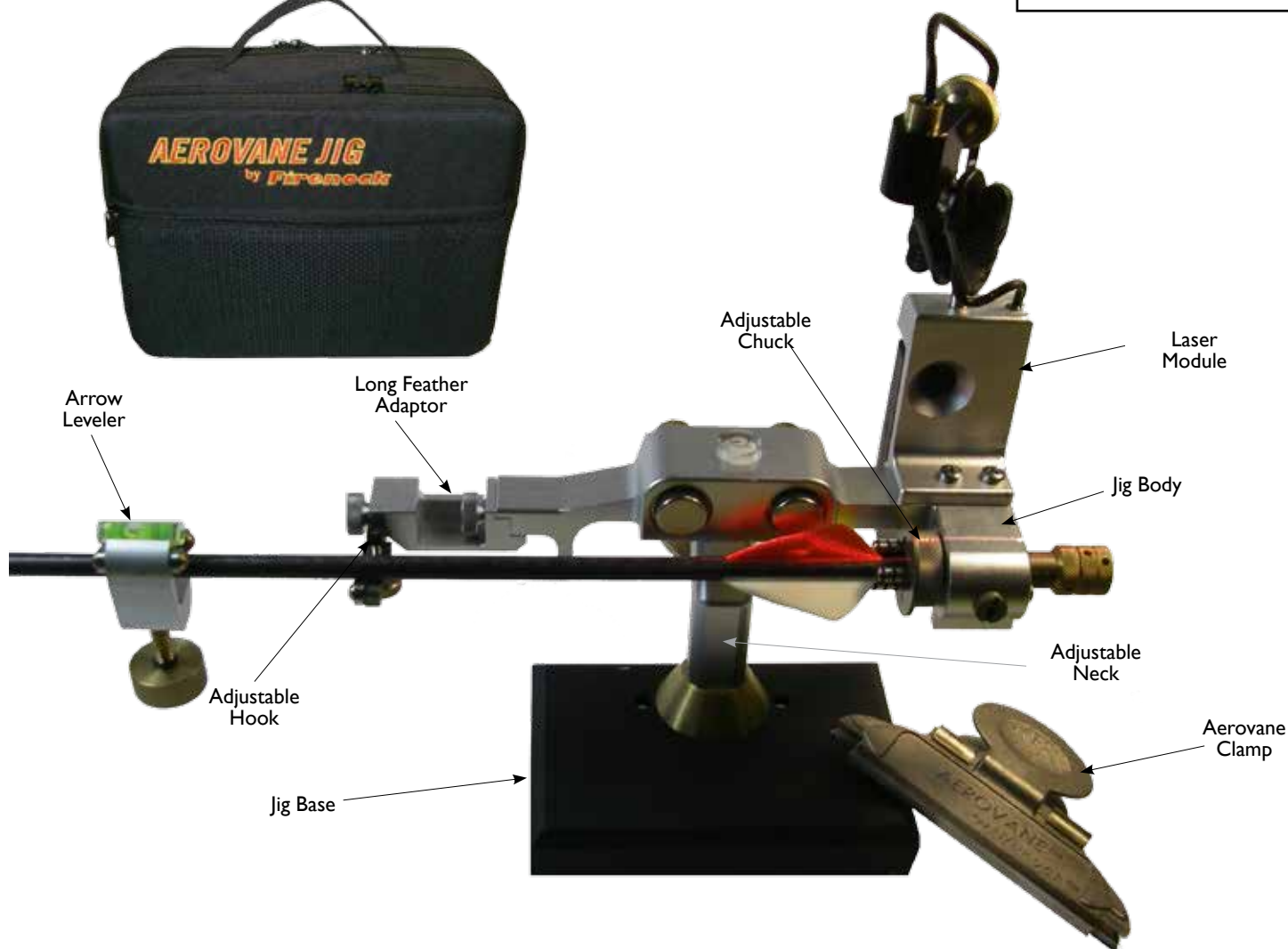
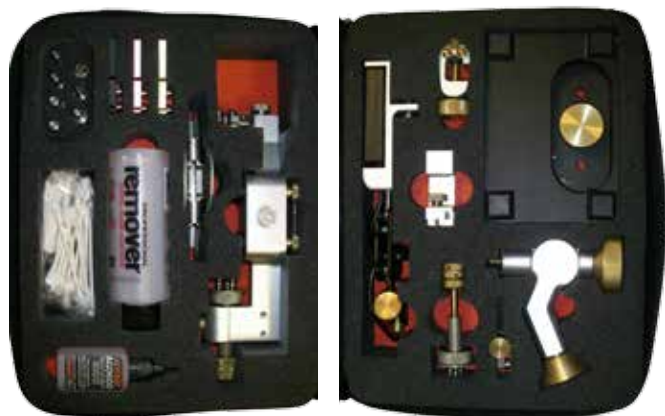
### Enthusiast Set includes:

1. Jig Body
2. Clamp
3. Adjustable Neck
4. Base Plate
5. 1 Fixed Chuck of your choice
6. 1 Hook of your choice
7. 3 or 4, optional 7 Index

### Ultimate Set includes:

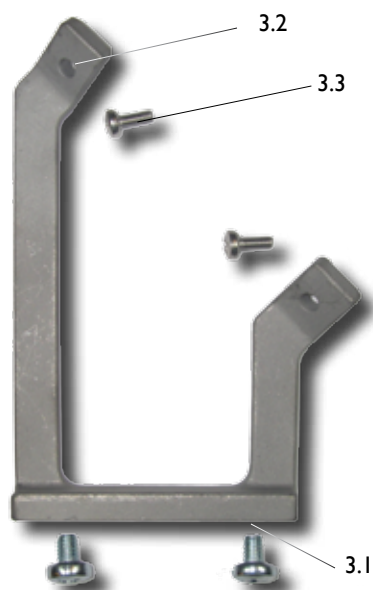
Enthusiast Set plus the following:

1. All 7 Fixed Chucks
2. All 3 Slide Hooks
3. Adjustable Chuck
4. Adjustable Hook
5. Arrow Leveler
6. Laser Alignment Module
7. Long Feather Adaptor
8. 3 or 4, optional 7 Index
9. Deluxe carrying case with water cut foam insert



## Setting up your Aerovane Jig

1. Attach the Neck to the Base by the brass 1. Attach the adjustable neck to the base by the brass knob located on the bottom side of the jig base.
2. Attach the adjustable neck to the back of the jig body at the neck attachment point using the brass knob on the adjustable neck.
3. Place the jig body at your desired fletching angle. Perfectly horizontal is recommended. You can achieve the perfect horizontal position by using the level bubble on the jig body.
4. Draw a straight line that is no less than 3 inches long on an unfletched arrow. A silver Sharpie pen works well for this step.
5. Hold the dial adjustment for the index settings knob in your right hand and push the marked arrow onto the chuck while slowly twisting counter-clockwise (away from you). Ensure the arrow is completely seated on the chuck.
6. Check to ensure your marks on the arrow line up with the guidelines
7. Place an Aerovane in the clamp. (Note: If you shoot a compound or recurve bow, place the back end of Aerovane to the back end of clamp as far as possible. If you shoot a crossbow, place the back end of Aerovane to the letter "K" on the clamp.)
8. Attach clamp to jig body / frame. Push the clamp down and let it rest completely on the arrow and make sure the rear end of the clamp is touching the rear inner section of the jig body / frame.
9. Look through the top of the clamp, down at the vane, to line up the marks you made on the arrow.
10. If you need to adjust the magnets to ensure the vane lines up with the marks, loosen the adjustment screw (do not remove), and then use a small screwdriver to adjust the magnet either in or out.
11. Once the magnets are set, tighten the magnet tightening knob.



### Production neck

- 3.1 Neck/Base attachment points
- 3.2 Neck/Jig body attachment points
- 3.3 Mount screws

## Fletching your first Aerovane

1. Once your jig is set with your desired offset, check to ensure the dial index reads "0".
2. Thoroughly clean the surface of the shaft by dipping the shaft into a bottle of 100% pure acetone.
3. Swirl the shaft in acetone for 10 seconds to remove all the particles and dissolve all the possible contaminants on the shaft.
4. Wipe the shaft dry with a clean paper towel.
5. Let air dry till the shaft is ready for fletching.
6. Hold the dial adjustment knob in your right hand and push the unfletched arrow onto the chuck while slowly twisting counter-clockwise (away from you) and be sure not to touch the area where you are fletching as the oils on your hand will contaminate the shaft). Then check whether the arrow is completely seated on the chuck.
7. Place an Aerovane in the clamp. (Note: If you shoot a compound or recurve bow line up the Aerovane with the back of the clamp as far as possible. If you shoot a crossbow line up the Aerovane with the letter "K" on the clamp.)
8. Dip one end of a Q-tip into the acetone and wipe down the base of the vane from one end to the other.
9. Take the dry end of the Q-tip and wipe the vane dry with the same direction as above.
10. Apply a small bead of glue down the length of the vane.
11. Place the back end of the clamp against the inner wall of the jig just above the arrow.
12. Slowly lower the clamp until the magnets grab hold of the clamp.
13. Firmly push the clamp all the way to the arrow, and wait the allotted time depending on the type of glue you are using. (Firenock Aerovane Glue sets in 15 seconds.)
14. After waiting the required time for your specific glue, remove clamp by pinching the top together with your left hand, then twist the dial adjustment knob towards the next index with your right hand. When the arrow rotates about 30 degrees lift the clamp up.
15. Continue to rotate the Dial Adjustment Knob counter-clockwise (towards yourself) until you see "120" in the index that aligns with the rear guide line (Note: this only pertains for a three fletch arrow. For a two fletch arrow, proceed directly to "180".)
16. Follow steps 2-14 above rotating the index to "240" for the final fletching.
17. Once you have completed fletching the arrow, and it is time to remove the arrow from the jig body / frame, rotate the Dial Adjustment Knob clockwise slightly, enough to go in between index settings, rotate the arrow counter-clockwise slightly, and pull straight off the chuck.

## Jig Body/Frame

Aerovane Jig is capable of high precision fletching with degree variances of 1/72 of a degree. This is possible because Aerovane Jig's index is made of titanium hard coated CNC aluminum matted with ABEC#5 ceramic ball bearing for perfect alignment and smoothness. For added durability, we added an index plug. Therefore, even though the jig has been used for years, just refresh the plug and your index will be accurate within 1/72 of a degree again. The Aerovane jig uses a dual magnet design that allows precision angle adjustment. Each magnet is supported by an independent 1 mm per turn brass machine screw which can be further tightened by hand for fine adjustment and locked down via an Allen key. The Aerovane jig also has a bulls eye level installed on the top. This allows the user to adjust their jig to be perfectly level.

### 4 Way Adjustable Neck

Attach the adjustable neck by using the brass knob on the base plate and screw it on by tightening it. Once you have done that, place the jig body on the 4 Way adjustable neck attachment point and tighten the bass knob into place. Once you have tightened the knob enough, you can adjust the neck over 4 axis giving you any position possible to fletch your arrows. Keeping the jig horizontal gives you the best results. Use the bulls eye level on the jig to help adjust it to the horizontal position.

### Production Neck

Attach the production neck to the base plate via production neck base attachment points using the screws provided. After attaching the neck to the base plate, use the production neck jig attachment points to attach the neck to the jig body. This is a neck in a fixed position. It is for the people who don't need anything fancy or are on a budget. It does the job just as good as the 4 way adjustable neck except without angle adjustment.

### Base

The base will allow the user to mount the jig to the neck and make it easier to fletch an arrow. The base has three holes in it allowing it to be compatible for both the 4 way adjustable neck and the production neck. When using the 4 way adjustable neck it will have a brass knob coming through the bottom of it to attach the neck to it. The brass knob itself will have a mil spec O-ring that sits in a groove not allowing the brass knob to be accidentally removed. When using the production neck, there will be mounting screws attaching the neck to the jig.

### Clamp

The Aerovane clamp is made of high precision die-casted and machined 303 stainless steel with precision straightness up to 0.001". For the pivot point, we utilize zirconium ceramic ball bearings for smooth operation, durability, and anti-rust. The extra thick spring system with a self aligning clamp provides a good hold of any vane even if the vane does not have an air channel like Aerovane does. The clamp is also made shorter to better fit today's popular shorter vane, but can still fletch vanes as long as 3.75". Perfectly straight fletching can be easily done with the use of the Aerovane clamp.

Note: You can use the Bitzenburger straight and helical clamps and other manufacturers' clamps with the Aerovane Jig. When fletching the Aerovane 2 with another clamp, please be sure to install 1/16" brass bar to the clamp.

## Fixed Chuck

The Aerovane jig is capable of accepting different chuck and hook combinations to fit all size arrows. The fixed chucks are made of 303 stainless with a set of 3 O-rings for perfect alignment and a wedge design to grip the arrow. In order to change the chuck, grasp the chuck with your left thumb and finger, at the same time rotating the Dial Adjustment Knob clockwise (away from yourself) until it is loose. When loose, lightly tap the dial adjustment knob squarely on a hard surface, and then continue unscrewing the dial adjustment knob clockwise. Once the chuck is free, attach the chuck you need for your arrow and rotate the dial adjustment knob counter-clockwise (towards yourself) until tight.

## Adjustable Hook

The adjustable hook is to be installed and removed similarly as the slide hook, and it also includes the same degree offset adjustment. (For details, please read the slide hook and arrow speed/index offset chart above. The adjustable hook is compatible with all arrow shafts. This makes it useful when one has to fletch different arrow sizes. The adjustable hook uses a level adjustment screw to set your arrow perfectly level with the help of the arrow leveler. Tighten the screw to adjust the hook up, or loosen the knob to adjust the hook down.

## Adjustable Chuck

To install the adjustable chuck, first thread the drive shaft through the chuck index at a downward angle. Once you see the threads from the drive shaft on the opposite side of the chuck index push the rest of the chuck through perpendicularly. After completing that screw the dial adjustment index settings knob on the drive shaft counter clockwise (towards you), now hold the front of the chuck and solidly tighten the dial adjustment index settings knob using the tightening hole with a thin allen key.

Then take the 4 or 5 O-rings starting with the smallest (M2x1 mm) and thread it on the drive shaft, then the next size up to form a stack of O-rings. Apply some string wax on the index knob and O-ring will make the tightening operation smoother and easier.

Take one of the shaft tightening knobs and hand tighten it on the drive shaft with no more than 0.5 mm space. The idea is to allow the O-rings to form enough friction between the knobs so when you open and close the shaft tightening knob, the system will not open or close by itself.

Screw on the remaining shaft tightening knob and use thin allen keys in the tightening holes on each of the shaft tightening knobs to tighten towards each other.

| Size     | Arrow ID        | Arrow                       |
|----------|-----------------|-----------------------------|
| 166      | 0.160" - 0.168" | Fits the "0"/G nock sizes   |
| 204      | 0.200" - 0.208" | Fits Firenock "A"           |
| 235      | 0.230" - 0.240" | Fits Firenock "E"           |
| 244      | 0.240" - 0.250" | Fits Firenock "S" style     |
| 285      | 0.282" - 0.287" | Fits Firenock "Y" style     |
| 300      | 0.295" - 0.305" | Fits Firenock "C,F,M,V,D,J) |
| Pin Nock |                 | Fits Pin Nocks              |

Adjustable 0.157" - 0.667" outside diameter

## Arrow Leveler

The water level is machined aluminum that includes 4 ball bearings and a brass knob. Its "C" shaped frame has an open design so you can place the level anywhere directly on the arrow shaft. There are 2 O-rings on the brass knob itself which allow you not to worry about the brass knob falling off when you unscrew it to set it on the arrow. To install the water level on your arrow, first loosen the knob, then place the arrow through the opening of the water level. The ball bearings allow the water level to balance very precisely on the arrow. With the combination of four ball bearings and center counter weight of the brass knob, the water level will stabilize itself and not fall off the arrow when rotating the dial index. Once finished completely placing the water level, adjust the jig until the arrow is leveled. The water level will let you know whether your arrow is perfectly level or not.

## Slide Hook

Place the brass washer on the knob screw and then insert the knob screw into the hole on the hook, then install the hook onto the jig and finger tighten the knob screw. To adjust the hook, loosen the knob enough to slide the hook to desired position and then tighten the knob to fix its position. On the hook, there are 4 offset marking lines (0, 0.5, 1, 1.5 degree). Recommended offset setting for Aerovane is listed below:

| Arrow Speed       | Offset for AV2 |
|-------------------|----------------|
| 260 fps and above | 0 degree       |
| 235 - 260 fps     | 0.5 degree     |
| 200 - 235 fps     | 1.0 degree     |
| under 200 fps     | 1.5 degree     |

Please take note that the above are a general reference. One should get reasonable results based on speed. Other factors such as arrow weight, spine, length, bow draw cycle, and cam design may have an effect on what the "best" offset angle needs to be.

## Precision Laser Alignment Module

Attach the laser with the two screws via the laser tools attachment holes. Remove the battery cover and insert three AAA batteries. Then turn the switch on to see if the laser is working properly. Once you test that it is working properly, unscrew the bottom knob to fix the laser over the chuck. The chuck has an alignment line (using this line will give you the best results) and once you adjust it to the right position tighten the knob. Loosen the top knob, this will allow you to adjust the head of the laser on the horizontal axis. Once loose, rotate the laser's head to let the red laser line align with the rear guide line. Proper adjustment of the laser will allow alignment of the marked spine of an arrow to be within 1/4 of a degree using the jig's index. The laser alignment module also gives you the ability to replace a single vane on your fletched arrow without removing the remaining vanes as the laser line can match the angle of the installed vane. Then the new vane can be refletched to the arrow using the index.

## Long Feather Adapter

The Aerovane Jig Long Vane/Feather Adapter adds 1.5" to what can be done with the standard Aerovane Jig. The adapter gives the Aerovane Jig the ability to handle longer vanes and feathers that are up to 5.25 inches long. It is designed to fit with every single version of the hook and chuck set which makes this a perfect companion accessory for shops that exclusively use the Aerovane Jig for fletching. The archery enthusiast now needs only one jig to handle all of their fletching needs.

