



Firenock®

...NOT JUST A LIGHTED NOCK COMPANY

For the past decade, our catalogs were focused on the Firenock lightednock system. Further, since 2006, our company's registered tag-line was "The Most Advanced Lighted Nock." While our lightednocks are still the most advanced of their kind and one of our top-sellers, they are now only a small portion of what makes up our product lineup. Today, awarded with over thirty patents and counting, Firenock LLC uses a new tag-line: The Science of Archery™. For an in-depth look at how Firenock as a company grew, see the time-line below.

| Major Events | Product Introduction (I) & Retirement (R) |
|---|--|
| Firenock lightednock patent filed | 2006 (I): Firenock, Lightning Nock |
| Aerovane patent filed | 2007 (I): Hydro |
| | 2008 (I): Aerovane I, Firenock G-Series, Aerovane Jig |
| | 2009 (I): AeroBolt I, AG0600, Aerovane II, Titanium Upgrade Kits |
| | 2010 (I): AeroBolt II, AeroConcept System (ACS) |
| End caps standard for all Firenock system | 2012 (I): AeroInsert, AeroPoint, AeroRest, Arrow Preparation System (APS), iBowSight (R): Aerovane I, Lightning Nock |
| First Certified and Trained Pro Shop | 2013 (I): AeroOutsert, Aerovane III |
| Firenock lightednock pack codes changed | 2014 (I): AG0GEL, Professional Arrow Preparation System (PAPS) (R): iBowSight |
| EZ-Coil standard for all styles (excluding G) | 2015 (I): AeroBolt II, AeroConcept System (ACS), Tomahawk (now Traumahawk) |
| | 2016 (I): Arrow Chamfering Tool (ACT), Carbon Inner Tubes (CTI) |
| | 2017 (I): AeroBowString Serving Jig (ABSSJ), AeroConcept Points (ACP), AGUSSE, Dagger |
| | 2018 (I): Aero (now AeroWeave), AeroConcept Points 2.0 (ACP2), AeroConcept System 2.0 (ACS2), AeroCrank, AeroStab, Dagger Ti, SwingBlade |
| | 2019 (I): AeroBump, AeroCrank AD, AeroStab-H, SportWeave |

Firenock®
The Science of Archery™

To learn more about the Firenock lightednock system, visit <http://www.Firenock.com/firenock/>



Firenock Lighted Nock System Packs :

- 33 **Firenock 3-packs**
A3h-B, A3h-G, A3h-R, C3h-G, C3h-R, D3h-i, D3h-R, D²3i-R, D²3h-R, E3h-G, E3h-R, F3h-G, F3h-R, G3h-G, G3h-R, J3i-R, J3h-R, J3h-G, M3h-R, M3h-G, S3h-B, S3h-G, S3h-R, Q3i-R, Q3h-R, Q3h-G, U3h-R, U3i-R, V3h-G, V3h-R, Y3h-G, & Y3h-R
- 10 **Firenock 6-packs**
A6ht-R, D6ht-R, D²6ht-R, E6ht-R, G6ht-R, J6ht-R, Q6ht-R, S6ht-R, S6t-MC, & U6ht-R
- 3 **Battery Packs**
BR, BL, & BU
- 42 **Circuits Packs**
HB, HC, HG, HO, HR, HY, IB, IC, IG, IO, IR, IY, KB, KC, KG, KO, KR, KY, NB, NC, NG, NO, NR, NY, TB, TC, TG, TO, TR, TY, ZB, ZC, ZG, ZO, ZR, ZY, OB, OC, OG, OQ, OR, & OY
- 54 **Nock Packs**
AB, AC, AG, AR, AY, AS, AW, CC, CG, CR, DC, DG, DR, D²C, D²G, D²R, FC, FG, FR, GC, GG, GR, GS, GW, HC, HG, HR, JC, JG, JR, MC, MG, MR, QC, QG, QR, SB, SC, SG, SO, SR, SR, SS, SY, SW, UC, UG, UR, VC, VG, VR, YC, YG, & YR
- 7 **Extreme Shock End Cap Packs**
XA, XE, XF, XG, XS, & XY
- 14 **Extreme Shoc Practice Matched Weight Packs**
PAX, PCX, PDx, PD²x, PEx, PFx, PGx, PJx, PMx, PQx, PSx, PUX, PVx, & PYx
- 6 **End Cap O-ring Replacement Packs**
OAx, OEx, OFx, OGx, OSx, & OYx

WARRANTY

This service is only available in the USA.

A no-hassle, no-questions-asked, refresh/side-grade service is what we believe Firenock users prefer after the 30 days no-fault, unconditional exchange/refund period had ended.

LIFETIME REFRESH/SIDE-GRADE SERVICE

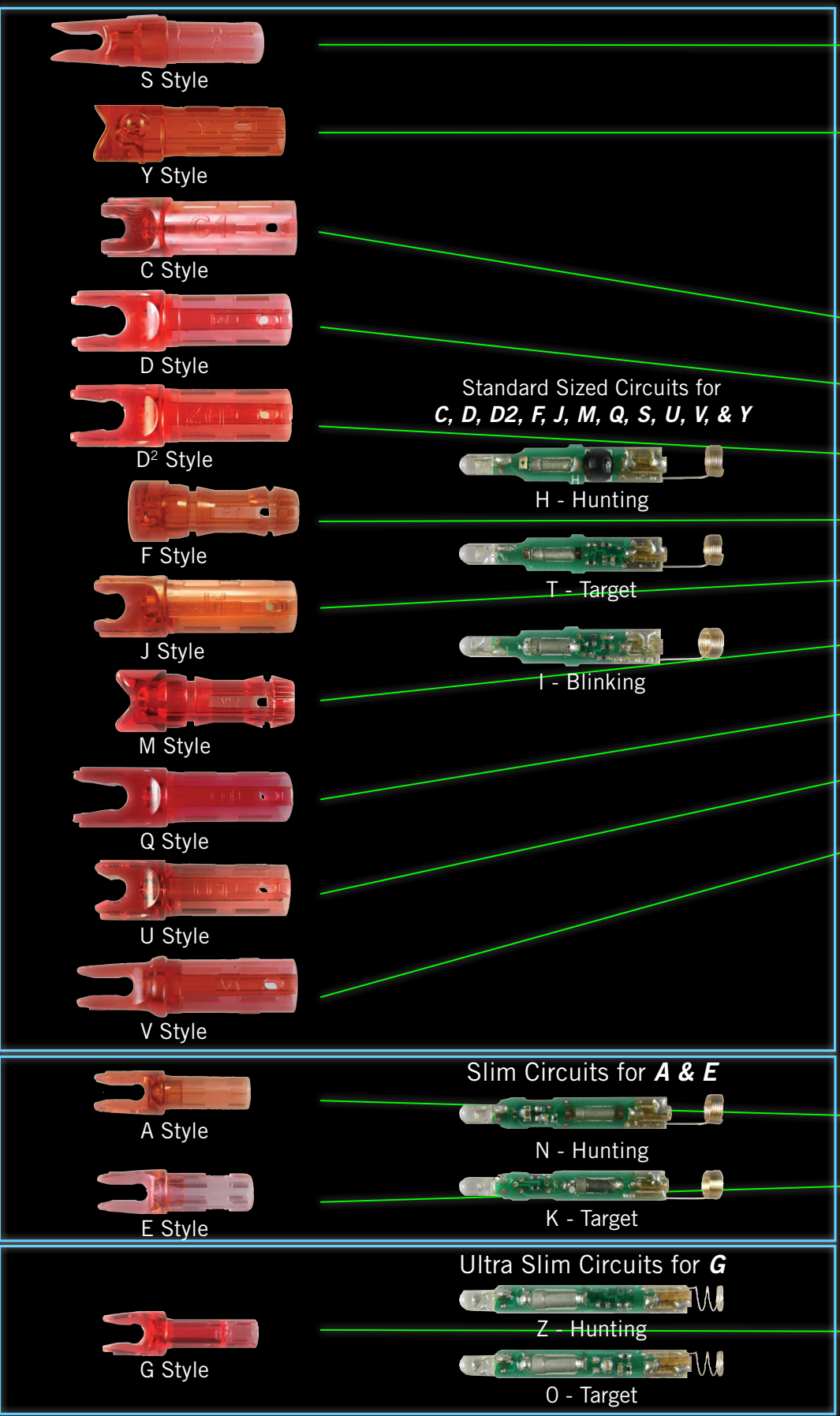
Firenock™ brand lightednocks are eligible for our refresh/side-grade service. In other words, you can get the latest offer of Firenock circuits (any function and color) and/or new polycarbonate nocks (any style) with a small service fee. This service is only valid when funds and a completed form (see below) are sent along with the lightednock(s) and/or circuit(s). Note that, for this specific service, accessories like O-rings and batteries should not be sent. We cannot be responsible for anything that is not part of the refresh service. Additional accessories can be purchased along with the refresher service at list prices with no additional shipping and handling fee. For more details, please visit <http://www.firenock.com/warranty/>.

To learn more about the Firenock lightednock system, visit <http://www.Firenock.com/firenock/>

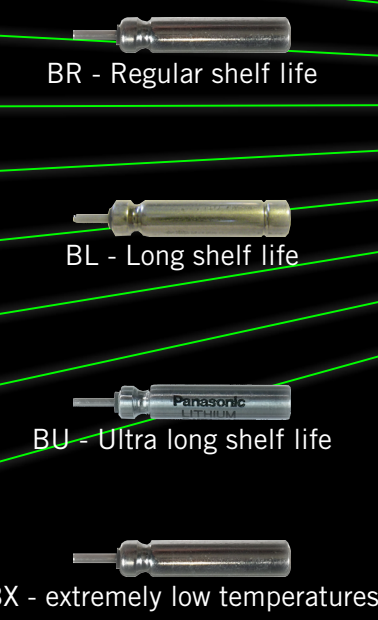
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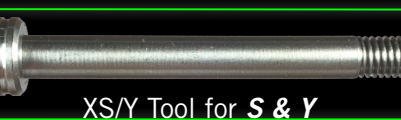
14 Styles of Firenock Nocks 7 Series of Firenock Circuits in
in up to 9 Colors per Style 6 LED Colors and up to 3 Functions



4 Battery Chemistries
to Fit All Firenock



Extreme Shock End Cap
Installation Tool

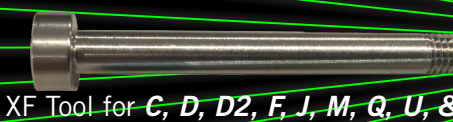


XS/Y Tool for *S & Y*

Extreme Shock
End Caps (ESEC)



ESEC
O-rings



XF Tool for *C, D, D2, F, J, M, Q, U, & V*

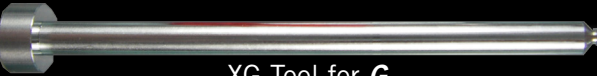
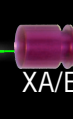
Firenock Fit Chart

This tool, as its name implies, was designed to help users identify what components "fit" or mate with others. We hope its addition in the catalog benefits you.

Dorge Huang
Dorge Huang, Founder



XA/E Tool for *A & E*



XG Tool for *G*



To learn more about the Firenock lighted nock system, visit <http://www.Firenock.com/firenock/>

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Firenock OUR PROVEN ADVANTAGE

The Most Advanced Lighted Nock

The Firenock lighted nock system is the most versatile and most advanced of its kind. There are currently 14 styles of Firenock lighted nocks available to fit and replace most arrows on the market. In 2018, with the addition of the "U" style nock (US Patent # D717389), we proudly announced that we have a lighted nock system for every known crossbow bolt serving size. For 2019, there are no new updates or additions to the lineup.

Firenock works both with Missile-Arming Technology, which means that it lights up once fired, and with a miniaturized directional G-switch, which means that it does not require any sort of actuator to turn on/off (US Patent # 7837380). Firenock is super durable, remaining lit after hitting hard objects (bone, stone or concrete), after game moves vigorously, or even if it is submerged into water for weeks equipped with a Hydro Bow-Fishing Adapter.

Interchangeability

Arguably the most significant feature of the lighted nock system, Firenock's complete interchangeability is truly what sets it apart from others. Our system boasts four interdependent components—(see the deconstructed "S" style, hunting Firenock system above) the nock, the circuit, the battery, and the Extreme Shock End Cap. The polycarbonate nocks are not only highly precise and highly light transmission-able, but also claim a patented shear lock/release system. This feature allows for the field replacement process to be very simple. When a nock has been shot through an animal or into the earth, it can easily be switched out for a new one after circuit removal. Further, note that all Firenock nock styles—C, D, D2, F, J, M, Q, S, U, V and Y; A & E; G—are compatible with all Firenock circuits—H, T and I; N & K; Z & O—respectively.

And, of course, for those who don't want to shoot a lighted nock but want to take advantage of the advanced design of the Firenock polycarbonate nocks, "plain" nocks in up to nine colors (red, green, clear blue, orange, yellow, pink, smoke, and wood) are also available at our web-store.

Durability

Another important feature of the Firenock lighted nock system is its extreme durability. The core of our system is the printed circuit board (PCB) and its G-switch which together have a lifespan of about 30,000 cycles; every circuit is hermetically sealed with UV epoxy and every connection wire is 24K gold-plated. Further, if your circuit does get damaged, we offer a lifetime refresh/side-grade service (see page 2). We at Firenock took every steps to ensure that your investment in our system exceeds itself.

Hydro™

For those who bow-fish and need Firenock to last in water for weeks instead of days, we designed the Hydro Bow-Fishing System adapters. Originally created in 2007, this series is made up of two adapters that mate the Firenock lighted nock system with either a 5/16" fiberglass bow-fishing arrow or a 0.300" ID carbon bow-fishing arrow.

Circuit Functions

There are three functions in up to three sizes currently available for Firenock. The list below breaks down the characteristics of each circuit and their suggested uses.

- Hunting (H, N, Z) is our most common function, staying lit up for up to 21 days. This capacity is perfect for any big game hunting (hence the name).
- Target (T, K, O) automatically turns off 17 seconds after activation. This capacity is perfect for practice, competition, and bow-tuning.
- Blinking (I) stays solidly lit for six seconds after activation and then blinks for up to 21 days.

With six LED colors, there are 54 possible color combinations.

To learn more about the Firenock lighted nock system, visit <http://www.Firenock.com/firenock/>

EZ-Coil System



Due to many requests for a simpler connection between the battery and the circuit, as of 2014, the dual-loop cross-lock system (left) has been replaced by our original standard: the EZ-Coil (center). As its name suggests, the EZ-Coil allows the processes of installation and removal to be easier than ever, involving a simple twist and push/pull motion.

Note that, for the ultra slim systems which do not have room for the EZ-Coil, the Stack-Coil (right) have been their standard since their release in 2013.

Batteries

We offer three custom battery chemistries. Our standard "BR" battery is the most powerful. Unfortunately however, it also has a relatively short shelf life and is only available for purchase from August to December. Alternatives to the BR batteries and their limited shelf life are the "BL" and "BU" batteries. The BL battery has three years of shelf life and the BU seven after the year of manufacture, but there is an exchange of power. For while BU is our most stable battery, it has about 85% of the power of the BL battery, which has about 60% of the power of the BR battery.

To understand why we at Firenock believe that we offer a complete power solution for archers, see the recommended uses list below.

- BR is the ideal winter season battery. It can handle temperatures as low as -17°F but no higher than +80°F.
- BL is the ideal all seasons battery, handling most low to the highest hunting temperatures in the USA.
- BU is the ultimate backup battery. You can keep it in your backpack for years and use it in emergencies.

Please remember that, although some Firenock batteries have a longer shelf life than one year, if you leave any battery installed for over nine months, they will be drained.

Extreme Shock End Caps

With the replacement of the dual-loop cross-lock system and the start of the EZ-Coil standard came a need for a new system standard. Due to the design of the EZ-Coil, Extreme Shock End Caps (ESEC), which were optional before, are now a must. Today, all styles of Firenock come with ESECs and ESEC installation tools. Extreme Shock End Caps, after years of testing, have proven again and again that they are truly the best insurance policy you can have for both normal and crossbow arrows for any speed or terms.

Practice Matched Weights

For those who would like to conserve their lighted nock systems (especially circuits) for hunting or competitions only, we at Firenock created an optional accessory, the Practice Matched Weight Packs. Included within each pack are three green nocks (for ease of identification), three weights with the same or "matched" distribution as a Firenock circuit and battery, and three ESECs plus their O-rings. No re-tuning necessary.

Conclusion

With all of the above features, we at Firenock believe that we have the most advanced lighted nock system. If you are looking for the finest quality lighted nocks, then you can't afford not to use Firenock.

Nock Characteristics FIRENOCK

Something we call the "Firenock Selector" has been on our website since day one. And running behind this tool is a large database that manages two groups of data: (1) the name and sizes of nearly all arrows and crossbow arrows on the market and (2) the detailed characteristics of all fourteen Firenock nock styles. Via these two groups and their relationships to one another, the Selector points users to a recommended system.

We added this new page this year to help users learn more about the "detailed characteristics of all fourteen Firenock nock styles." Below, three charts break them down similarly to how they are within our database. This first one involves all five of our vertical styles. Note that for the "Significant Size" column, only the inner diameter (ID) is listed because ideally, all vertical bows should have a serving size of 0.113". Specifically, these five styles fit servings from 0.110" - 0.125".

| Style | Significant Size | Weight | Colors | Arrow Examples |
|-------|---------------------|--------|--------|---|
| G | 0.165" - 0.1665" ID | ~18 gn | 30 | Black Eagle X-Impact, Easton Injection, Gold Tip Pierce Platinum, Victory VAP |
| A | 0.202" - 0.204" ID | ~21 gn | 42 | Black Eagle Rampage, Carbon Express SD, Easton Axis, Gold Tip Kinetic |
| E | 0.235" ID | ~23 gn | 18 | Easton 6mm (e.g. HEXX, ACC 3-39s) |
| S | 0.242" - 0.246" ID | ~27 gn | 54 | Black Eagle Carnivore, Firenock AeroWeave246, Gold Tip Pro Hunter |
| V | 0.300" ID | ~29 gn | 18 | Firenock AeroWeave300, Firenock SportWeave300 Gold Tip 22 |

There are nine Firenock nock styles available for crossbow. Of those nine, six use the shear lock/release system. Additionally, note that, for this chart and the next, the "Significant Size" column includes both the inner diameter (ID) as well as the serving.

| Style | Significant Size | Weight | Colors | Crossbow Examples |
|-------|-------------------------|--------|--------|--|
| D | 0.298" ID w 0.165" ser. | ~32 gn | 18 | PSE TAC 15, Jenning Devastator |
| C | 0.300" ID w 0.125" ser. | ~31 gn | 18 | any BowTech crossbow |
| U | 0.300" ID w 0.135" ser. | ~31 gn | 18 | most Ravin crossbows, Scorpyd Death stalker |
| Q | 0.300" ID w 0.145" ser. | ~32 gn | 18 | any Parker crossbow, some Scorpyd crossbows (metal barrel) |
| J | 0.300" ID w 0.155" ser. | ~31 gn | 18 | most Horton crossbows, most Mission crossbows, any Wicker Ridge crossbow |
| D2 | 0.300" ID w 0.165" ser. | ~32 gn | 18 | PSE TAC 15, Jenning Devastator |

The other three Firenock styles available for crossbow do not use the shear lock/release system. Instead, one is flat with micro-texturing while the other two are half-moon or crescent shaped.

| Style | Significant Size | Weight | Colors | Crossbow Examples |
|-------|---------------------|--------|--------|---|
| F | 0.298" - 0.306" ID. | ~31 gn | 18 | any Excalibur crossbow, TenPoint crossbows (-2012) |
| M | 0.298" - 0.306" ID. | ~29 gn | 18 | most Barnett crossbows and any general crossbow using a moon nock |
| Y | 0.285" ID | ~29 gn | 18 | any crossbow that can use Carbon Express crossbow arrows |

To learn more about the Firenock lighted nock system, visit <http://www.Firenock.com/firenock/>

FIRENOCK® Installation & Replacement Instructions

Though every Firenock lighted nock system 3-pack and 6-pack comes with detailed, style-specific instructions, we've decided to add a general version here within our catalog. Remember that all Firenock customers are always free to contact our office for support.

Firenock Extreme Shock End Cap Installation

1. Remove the plastic nock that comes with the arrow.
2. Remove broad-head/field point.

Note: If broad-head or field point is not removed, back pressure can cause the glue to not set.

3. Screw the extreme shock end cap onto the tool. (Fig. 1)

Note: As of 2015, every Firenock comes with an installation tool. These tools are used to install end caps. Do not over screw the end cap onto the tool because by doing so, the end cap will be installed too shallow within the shaft. We recommend a barely snug fit for easy tool removal.

4. Roll the O-ring into the groove of the end cap. (Fig. 2)

Note: Please practice inserting the end cap within the shaft before continuing to ensure fluency.

5. Clean the inside of the shaft with an acetone-soaked Q-tip, then let dry.
6. Apply a bead of super glue gel (AGOGEL recommended) to the inside surface of the shaft.
7. While the glue is still wet, insert the end cap into the arrow shaft. Push the tool until it is flush with the arrow shaft. (Fig. 3)

Note: The O-ring will ensure that most of the glue is pushed behind the end cap.

8. Hold the arrow nock side down for 30 seconds to ensure the glue sets around the O-ring.
9. Try to tighten the screw. If it feels finger tight, the end cap is installed properly.
10. Jig the end cap is still loose, repeat steps 6-9 as instructed above.
11. Unscrew the screw from the shaft. (Fig. 4)
12. Wait until glue dries before use.

Note: We recommend letting the glue dry overnight, as vapor from the super glue can form a film on the battery and/or the battery positive wire-holder and render both non-conductive.

13. Follow the rest of the instructions below to complete the installation of your lighted nock system.

Caution: The battery-pin O-ring is always needed, however do not apply a battery casing O-ring when an end cap is installed.

EZ-Coil Circuit Installation (1-3) and Replacement (4-7)

1. Align the PCB (Printed Circuit Board) with the click and lock hole in the nock as shown. (Fig. A)
2. Squeeze the nock cylinder to allow the PCB to be inserted into the nock.
3. Insert the PCB until a distinctive click is heard and/or felt.
4. Ensure the battery is and remains installed during nock replacement. Without it, damage to the battery wire connector may occur.
5. Squeeze the nock cylinder by hand as shown in Figure A to release the PCB from its anchors.
6. Hold the PCB, with the battery installed, and pull it out gently from the nock.
7. Repeat step 5 and install the new PCB, LED first. See steps 1-3.

Note: Too much pressure on the nock during installation or removal may cause the nock to crack or break.

EZ-Coil Battery Installation (1-2) & Replacement (3)

Caution: Do not allow the battery pin to come into contact with the battery wire connector.

Note: Battery should be removed from the PCB if not used for over 30 days or will be drained within a year.

1. Thread the battery-pin O-ring onto the pin of the battery. (Fig. B)
2. Insert the battery into the EZ-Coil with a counter clockwise action until the battery O-ring touches the battery and the pin connector on each end. (Fig. C)
3. Rotate the battery counter clockwise and gently pull the battery out and away from the EZ-Coil. (Fig. D).

EZ-Coil Firenock Lighted Nock Installation (1-3) & Removal (4)

1. Rotate and push the nock down into the shaft until it is flush to the end of the nock cylinder.
- Note: You might initially encounter some resistance. This is usually caused by the battery sitting on the edge of the ESEC instead of within it. To correct this, continue to carefully rotate and push; force will only damage the system.
2. Align nock via the desired fletching configuration.
3. Push the nock into the shaft until flush.
4. With a firm grip, rock and gently pull the lighted nock system from the shaft.

Stack Coil Firenock Lighted Nock Installation

1. Push the battery pin with its O-ring installed (Fig. A) into the circuit board pin connector to form a unified unit.
2. Slide the battery with the circuit board installed down the shaft and onto the end cap.
3. Align your nock via the desired fletching configuration.
4. Push the nock into the shaft until flush.

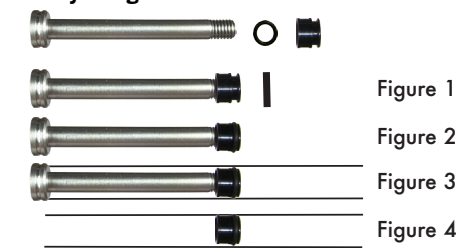
Stack Coil Battery Replacement

1. Remove the nock by using a twist and pull action.

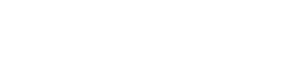
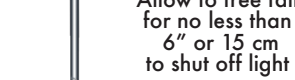
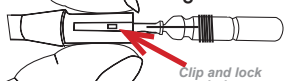
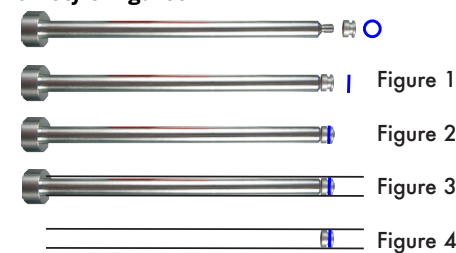
Caution: Using pliers with a ridged throat may cause the nock to be scratched, weakened and/or damaged.

2. Remove the circuit board by tapping the arrow on a hard surface, nock end first, until the LED appears.
3. Pull the circuit board out of the shaft. If the battery is not attached, tap the arrow again.
- Caution: Forcefully using pliers to remove the circuit board may damage the LED.
4. Follow Stack Coil Firenock Lighted Nock Installation directions above to install the nock with a new battery.

"S" Style Figures



"6" Style Figures

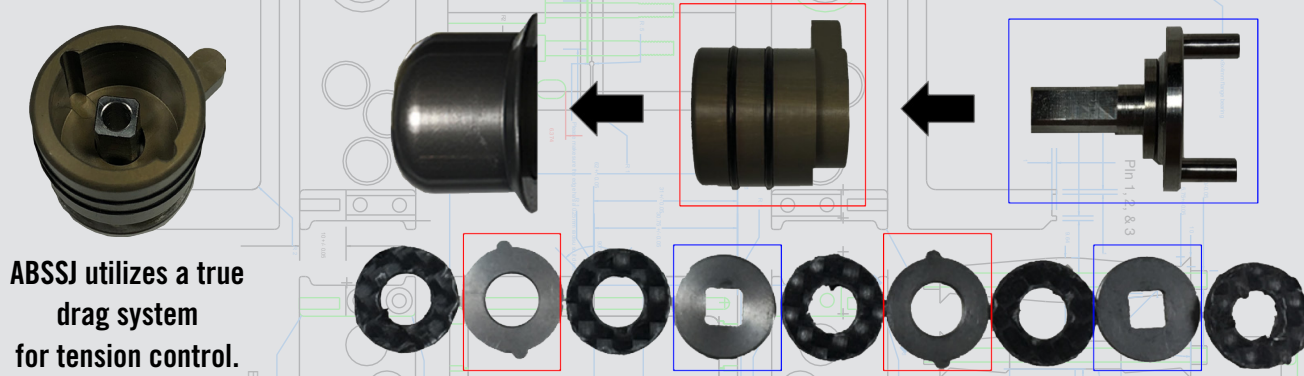


To find manuals and more, visit <http://www.Firenock.com/resources/>

AeroBowString Serving Jig ABSSJ™

Firenock, as a premium nock company, has always felt like a tire company. To fit every customer's needs, we must create "tires," or nocks, to fit "rims," or strings, of unknown shapes and sizes. Over the years, many of our customers have told us that our nock to string fit is not ideal. This led us to delve deeper and do some research. Quickly, we learned that there is nothing wrong with our nocks, but with, instead, string servings. We discovered that often, when strings are originally served, there is [1] an inconsistency in pressure and [2] a lack of pressure, which together cause servings meant to be perfectly round to go oval or pear-shaped.

We at Firenock present the AeroBow String Serving Jig (ABSSJ), designed to handle the high volume, high demand, and high tension process of string building that specifically involves the need to consistency hold pressure as high as 26 LbF (versus the average of 1.25 LbF) for an extended period of time.



ABSSJ utilizes a true drag system for tension control.

Just like most ultra high performance fishing reels, the ABSSJ has a nine-element drag system which consists of five graphite-woven drag washers and four titanium drag washers. Via this design, the serving tension can be set up to no less than 400% higher than most string serving jigs without any loss of control. Further, the drag knob is fitted with dual O-rings and each washer is pre-lubricated with DuPont® Krytox™ Teflon/PTFE drag grease, making the entire system ready to be oil-filled for use with a computer-controlled, brush-less motor-serving machine (~1,600 RPM), as used in a professional production string building environment.

ABSSJ 2.1



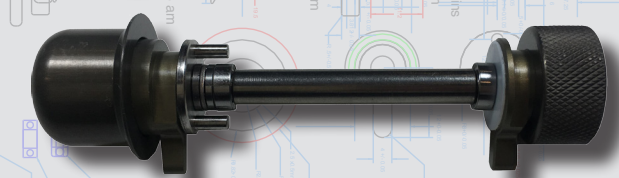
"U" Groove

For 2019, the ABSSJ 1.2.1's body's string groove is now a 0.170" half-moon instead of a "V" groove to relieve any additional pressure from string output and prevent premature string cutting.

Accessories

Spare Spool

Made of 7075-T5 aluminum with type II level III finish for durability and strength, ABSSJ spare spool is compatible with ABSSJ v1.0 and ABSSJ v1.2. Available separately as an add-on accessory for those who need multiple spools for different threads/setups.



Spare Shaft for Spool with Drag System

Available separately as an add-on option for those who would like to quickly swap the entire spool/drag unit without changing the spool in order to retain preset pressure.

To learn more about the Firenock lighted nock system, visit <http://www.Firenock.com/firenock/>

AEROVANE® II A New Spin on Arrow Flight

Designed in US Illinois,Aerovane is the first ever vane to employ Airfoil Technology for archery arrows (US Patent # 8105189). Aerovane does not look like and does not work like traditional vanes;it is not flat but instead is shaped like and works like an airplane wing. Traditional vanes use drag to induce arrow rotation which fundamentally causes a huge loss in energy and speed. Aerovane however, equipped our Airfoil Technology, not only induces or initiates arrow rotation, but also maintains it. With its ability to sustain arrow rotation, there is a minimum loss in energy and speed. Aerovane also flies quieter than traditional vanes. While its lower half is designed like an airplane wing, the Aerovane's frontal curvature, the wing itself, takes heavily from an owl, the only bird on earth that can fly in complete silence. Fletched with Aerovane, your archery projectile will fly flatter, straighter, and more accurately and quietly. You can shoot Aerovane with confidence.

Development

When the first Aerovane (Aerovane I) was introduced in the spring of 2008, a lot about the connection between aerodynamics and arrow dynamics was not fully understood. For example, Aerovane I's smooth surface was designed with the intention to decrease frictional air drag. We soon discovered a smooth surface area does the opposite—it increases frictional air drag. In order to resolve this problem, we went to consult subsonic airfoil expert, Professor Michael Selig of the University of Illinois at Urbana-Champaign (UIUC). Afterwards, Aerovane II was born. Along with new specifically calculated micro-textured zones (see following page), the main additional feature to the Aerovane II was its single airfoil design. After finally accomplishing a vane that could indeed decrease frictional drag with, again, the assistance of Professor Selig, we also took advantage of Aerodynamics Elasticity Memory (AEM). And via, AEM, not only could we minimize drag, but we also promote circular lift, allowing your arrow to shoot flatter and higher.

With the experience of building Aerovane I, Aerovane II, and with the launch of Aerovane Jig, Aerovane III was introduced in 2013. In brief, Aerovane III is a more aggressive design of Aerovane II. Aerovane III incorporates the results of our research in the aerodynamic and arrow dynamic relationship such as the decision to increase the size of the airfoil, to add another micro-textured zone, and to add a wing-let. Designed especially to virtually ignore strong crosswinds, Aerovane III is the ultimate vane for today's high speed arrows.

Fletching Procedure

Materials You Will Need

- Aerovane(s)
- Arrow shaft(s)
- A precision index vane jig (Firenock Aerovane Jig recommended)
- A precision straight clamp with a 1/16" brass bar installed (Firenock Aerovane Jig Clamp recommended)
- A bottle of 500 cP or higher viscosity super glue (e.g. Aerovane Firenock glue AG0600)
- 2 bottles, one large (16 oz) one small (4 oz), of 100% pure Acetone (can be purchased at Walmart)
- Non-plastic or synthetic Q-tips (cotton)
- Small container (e.g. 35mm film canister) to dip Q-tips into
- A roll of paper towel

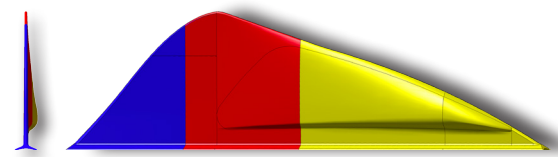
Procedure

1. Thoroughly clean the surface of the shaft(s) by dipping the shaft(s) into and swirling the shaft(s) in the large bottle of 100% pure acetone. This will loosen all unwanted particles and dissolve all possible contaminants
2. Remove shaft(s) and wipe dry with clean paper towel(s). Let air dry also.
3. Insert the Aerovane into the vane clamp.
4. Dip one end of the Q-tip into the small bottle of 100% acetone and wipe down the base of the vane from one end to the other.
5. Using the dry end of a the same Q-tip, wipe the vane from the same direction you chosen above, again from one end to the other.
6. Apply a small bead of glue down the center length of the vane base.
7. Place the back end of the clamp just above the arrow, right against the inner wall of the jig.
8. Slowly lower the clamp onto the arrow until the magnets on the jig grab hold of the clamp.
9. Firmly push the clamp, holding down for no less than five seconds, and then let go to allow whatever allotted wait time to pass, depending on the type of glue you are using. (AG0600 setting time is ~9 seconds under Aerovane Jig pressure without use of any primer.)
10. Open the clamp to free the vane from the clamp and rotate the vane away from the clamp while the clamp is still on the magnet.
11. With the vane away, slide the clamp away from the jig and away from the magnet at no less than 45 degree from the magnet.
12. Take another Q-tip with Acetone and wipe down the blade part of the clamp.
13. Wait a few seconds to allow the clamp to dry. Repeat steps 5-12 for the next vane.

To learn more about Aerovane, visit <http://www.Firenock.com/aerovane/>

Another Flight Revolution AEROVANE III

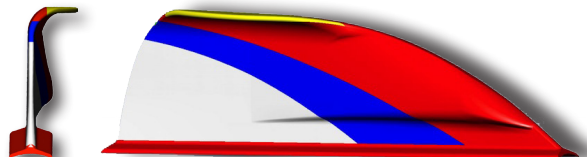
To best understand the difference between the two vanes, there first must be a clarification of similarities. Both Aerovane II and III integrate the same slim pyramid design that reduces wobble and flutter and provides a smoother flight. Both are made of the same 92 durometer hardness plastic and molded with the same aspect ratio as an owl's wing. Both are the same length at 50mm or 1.967 inches. And finally, as of 2018, both are designed in 12 colors (red, pink, orange, yellow, green, lime, mint, blue, violet, black, white and clear) each. Below are their differences.



Height : 12mm or 0.55"
Length : 50mm or 1.967"
Weight : 0.42 grams or 6.48 grain
Texture Zones : 3 (0.0150mm, 0.0201mm, 0.0402mm)
Design : Air-foil design
Minimum fps : > 260 fps *if fletched straight
Lift Efficiency : About 72,000 Reynolds
Crosswind Signature : About 1.25" in diameter
Structure : More rigid; more broad-head control
Rotation : About 60 turns in first 20 yards with 300fps arrows

Broad-heads

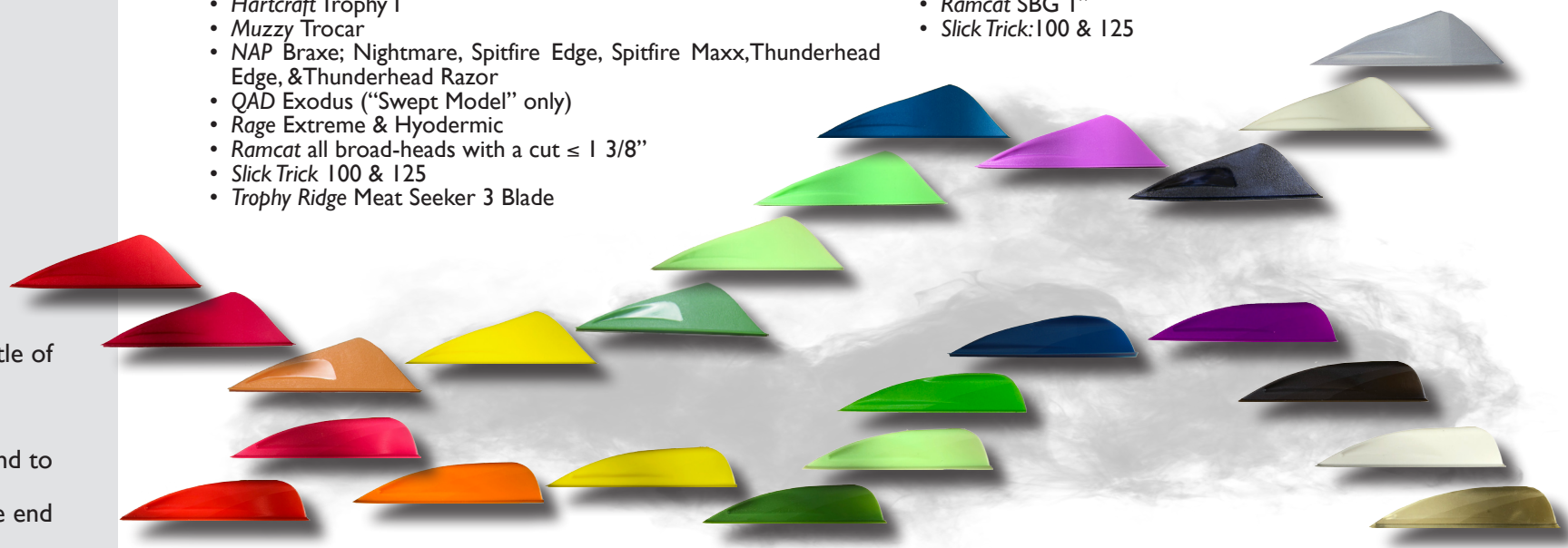
- Bloodsport VWrath™ Deep Cut
- Firenock Dagger 100, 125, Ti; Swingblade; Traumahawk
- Hartcraft Trophy I
- Muzzy Trocar
- NAP Braxe; Nightmare, Spitfire Edge, Spitfire Maxx, Thunderhead Edge, & Thunderhead Razor
- QAD Exodus ("Swept Model" only)
- Rage Extreme & Hyodermic
- Ramcat all broad-heads with a cut ≤ 1 3/8"
- Slick Trick 100 & 125
- Trophy Ridge Meat Seeker 3 Blade



Height : 10mm or 0.393"
Length : 50mm or 1.967"
Weight : 0.336 grams or 5.18 grain
Texture Zones : 4 (" + 0.0005mm)
Design : Air-foil with wing-let design
Minimum fps : > 270 fps *if fletched straight
Lift Efficiency : About 120,000 Reynolds
Crosswind Signature : About 1" in diameter
Structure : Less rigid; optimizes AEM
Rotation : About 90 turns in first 20 yards with 300fps arrow

Broad-heads

- Firenock Dagger 100, 125, Ti; Swingblade; Traumahawk
- Hartcraft Trophy I
- Ramcat SBG 1"
- Slick Trick 100 & 125



Notes:

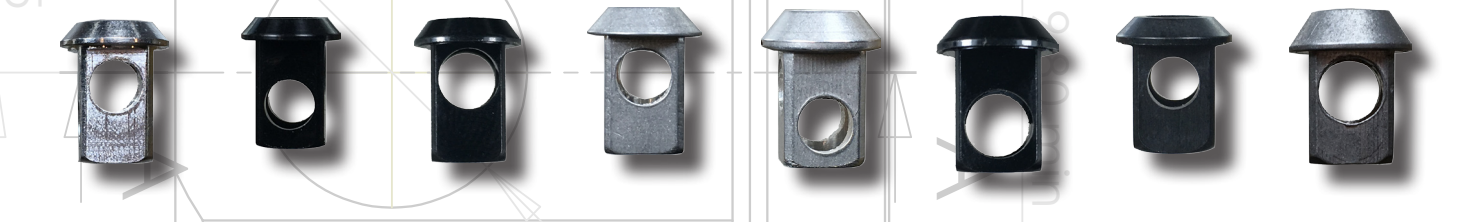
1. For best results, fletch Aerovane with the Aerovane Jig with the Aerovane Straight Stainless Steel Clamp for arrows shooting at no less than 280 fps.
2. For best results, fletch Aerovane by following these steps very carefully.
3. Aerovanes work best fletched straight.
4. Aerovanes can be fletched with a 1.5 degree offset if your arrows are shooting at low speeds (~150 fps).
5. Aerovanes work best with a bow with close to perfect nock travel.
6. Aerovanes work best with arrows that are about or longer than your draw length.
7. Aerovane II works best with a full containment rest (e.g. AeroRest, Hostage Pro, QuickTune 360) with uneven nock travel bows.
8. Aerovane II can work with a worn-down Whisker Biscuit Arrow rest as Aerovane II has a thick frontal end, which can open the bristles and let the vane pass through the rest with minimal drag.
9. Aerovane III cannot be shot with a worn out Whisker Biscuit arrow rest.
10. Aerovane III requires an aerodynamically efficient broad-head (see above for a complete list of workable broad-heads).

To learn more about Aerovane, visit <http://www.Firenock.com/aerovane/>

AEROSYSTEM™ AeroBushing™

AeroSystem is one of our two lines of AeroComponents, involving five patents worth of technology for four unique products: AeroBushings, AeroOutserts, AeroInsert-A, and AeroPoints. Note that AeroOutsert is not compatible with AeroConcept System components.

Loaded with Square in a Circle Technology (US Patent # 8591152) and Reverse Tapered "Umbrella" Collar Technology (US Patent # 9212875), AeroBushings address the need for ultra lightweight and consistent archery projectiles on the nock side.

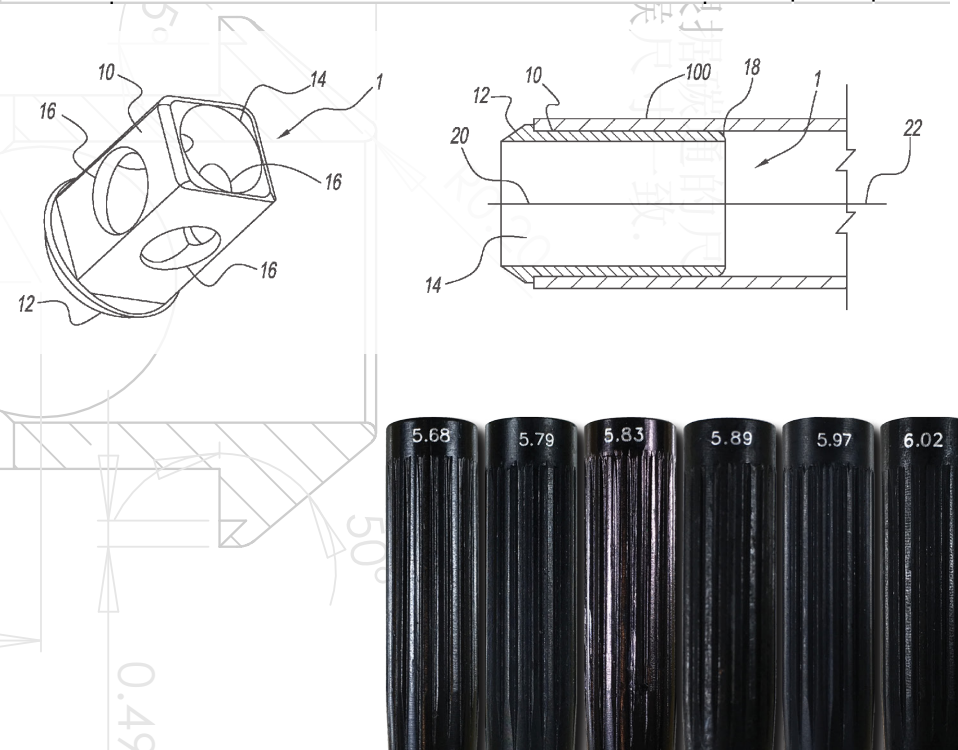


| ID Code | Compatible Arrow(s) | Weight | | Color |
|---------|---|--------|------|--------|
| | | gn | gram | |
| ABU23A | Carbon Express CXL; Easton Fat Boy | 8.50 | 0.55 | Silver |
| ABU23B | Black Eagle Challenger, P523; Element Rock; HCA Speed Pro Target; Firenock AeroWeave315 | 8.00 | 0.52 | Black |
| ABU235 | Easton Super Drive 23; Gold Tip 9.3 | 7.50 | 0.49 | Black |
| ABU24A | Carbon Express Line Jammer™; Gold Tip X Cutter | 9.40 | 0.61 | Silver |
| ABU26A | Gold Tip 30X | 14.00 | 0.91 | Silver |
| ABU260 | Black Eagle PS26 | 12.00 | 0.78 | Black |
| ABU265 | Gold Tip XXX | 15.50 | 1.00 | Black |
| ABU27A | Black Eagle Magnum; Easton Full Bore | 15.75 | 1.02 | Silver |

Traditionally, uni-bushings are made from bar stock, often weighing about 20-32 grain, and manufactured on a screw machine which only provides, at best, an approximate fit. Commonly, target archers will attempt to alleviate this problem by using materials like plastic bags to shim-fit a bushing however this approach is never consistent. Square in a Circle Technology is based off of the concept of "a square peg in a round hole," and is indeed our unique take on uni-bushings. Made of CNC machined aluminum, we created the perfect "square" to fit the diameter of your "circle" or arrow, to ensure your arrow is concentric.

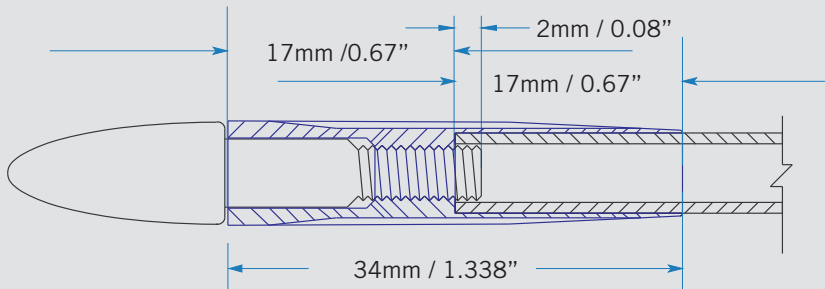
Additionally, our patented Reverse Tapered "Umbrella" Collar Technology assists in the enforcement of your arrow to minimize the possibility of carbon fiber fray due to back hits. See the bottom of page 14 for information on how to prepare your shaft.

AeroBushing can be used with nocks with a .0202" to .0204" OD, but was specially designed with Firenock style "A" nocks in mind. Along with the benefits of concentricity, the square shape of the AeroBushing also results in a lighter weight. With the Firenock "A" nock weighing a little less than 5 grain, and our AeroBushings weighing as light as 7 grain, the back of your arrow will weigh only about 12 grain, almost two-thirds lighter than the average minimum on the market (e.g. a uni-bushing, as aforementioned, of 20 grain and an "S" style nock of ~13 grain has a complete system weight of ~33 grain).



AeroOutsert™ AEROSYSTEM

AeroOutserts are specifically designed to strengthen the front of an ultra slim arrow.



Once upon a time, outserts were commonly found on the market. Why aren't they now? Put simply, ultra slim arrows were abandoned because they were made in a way that disabled concentricity between an outsert and a shaft. More specifically, this problem arose because an arrow's [1] outer diameter (OD) and [2] wall thickness were undependable. In the eighties when outserts were still in use, there was unfortunately a general lack of any precision grinding procedures. In 2012 however, with better technology and better manufacturing processes, we felt that it was time to re-introduce the outsert with our Firenock AeroOutsert.

Ultra slim arrows are just that—ultra slim. While the technological leaps made over the past few decades have rendered this class of arrows' outer diameters finally consistent, wall thicknesses remain irregular. Proof of this are the countless companies that have attempted and failed to create reliable ultra slim inserts or even half-outs, components that depend on wall thickness for inner diameter. Fortunately however, Firenock Outserts only depend on OD.

Made of high quality, forged 7075-T6 aluminum, AeroOutserts assist in perfecting concentricity and minimizing any perimeter wedging effects with its US patented (# 8668605) "Blood Channels." Our Blood Channels are a plurality of axial slots which are forged over the outer perimeter of an AeroOutsert, gradually tapering inward towards its center line (see the diagram above). And via these unique channels, AeroOutserts relieve most of the pressure that builds up over time, reducing that wedging effect.

Notes:

As of 2019, there are fifteen sizes of AeroOutsert due to the addition of the AOA680. See the chart to the right to discover if we have an outsert for your ultra slim arrow.

| Brand | Name | Spine | OD (in) | OD (mm) | AOA | Note | Update on | ID (in) | gr./inch |
|---------------|-------------------|-------|---------|---------|------|------|-----------|---------|----------|
| Black Eagle | Deep Insert | 250 | 0.241 | 6.12 | 6.33 | | 07/02/12 | 0.165 | 9.30 |
| Black Eagle | Deep Insert | 300 | 0.240 | 6.10 | 6.33 | | 07/02/12 | 0.165 | 11.00 |
| Black Eagle | Deep Insert | 350 | 0.240 | 6.10 | 6.33 | | 08/06/12 | 0.165 | 9.80 |
| Black Eagle | Deep Insert | 400 | 0.233 | 5.96 | 5.97 | | 11/26/15 | 0.165 | 8.60 |
| Black Eagle | Deep Insert | 450 | 0.236 | 5.99 | 5.96 | | 10/17/16 | 0.165 | 8.60 |
| Black Eagle | Deep Insert | 500 | 0.228 | 5.79 | 5.79 | | 06/04/16 | 0.165 | 7.60 |
| Black Eagle | Deep Insert | 600 | 0.223 | 5.66 | 5.68 | | 07/02/12 | 0.165 | 7.00 |
| Black Eagle | Deep Insert | 700 | 0.219 | 5.56 | 5.56 | N/A | 12/14/15 | 0.165 | 6.30 |
| Black Eagle | Insert | 250 | 0.240 | 6.10 | 6.31 | | 06/14/17 | 0.165 | 9.60 |
| Black Eagle | Insert | 300 | 0.236 | 5.99 | 6.02 | | 06/14/17 | 0.165 | 7.60 |
| Black Eagle | Insert | 400 | 0.231 | 5.87 | 5.89 | | 06/14/17 | 0.165 | 7.00 |
| Black Eagle | X-Insert | 300 | 0.214 | 5.44 | | | 08/13/15 | 0.165 | 5.30 |
| Black Eagle | X-Insert/LO | 300 | 0.210 | 5.33 | | | 12/14/15 | 0.165 | 5.30 |
| Black Eagle | X-Insert/LO | 350 | 0.240 | 6.10 | 6.12 | | 12/15/15 | 0.165 | 9.30 |
| Black Eagle | X-Insert/LO | 350 | 0.231 | 5.87 | 5.89 | | 08/13/15 | 0.165 | 8.10 |
| Black Eagle | X-Insert/LO | 400 | 0.228 | 5.79 | 5.79 | | 06/04/16 | 0.165 | 7.40 |
| Black Eagle | X-Insert/LO | 400 | 0.221 | 5.63 | 5.68 | | 03/04/14 | 0.165 | 6.70 |
| Bloodsport | HT1 | 700 | 0.220 | 5.59 | | N/A | 05/02/12 | 0.165 | 6.30 |
| Bloodsport | HT1 | 800 | 0.215 | 5.46 | | N/A | 05/02/12 | 0.165 | 6.00 |
| Bloodsport | HT1 | 900 | 0.211 | 5.36 | | N/A | 05/02/12 | 0.165 | 5.30 |
| Bloodsport | HT1 Evidence/Onyx | 350 | 0.209 | 5.31 | | | 05/02/12 | 0.165 | 5.10 |
| Bloodsport | HT1 Evidence/Onyx | 350 | 0.205 | 5.18 | 6.30 | | 01/09/16 | 0.165 | 10.20 |
| Bloodsport | HT1 Evidence/Onyx | 400 | 0.238 | 6.05 | 6.06 | | 01/09/16 | 0.165 | 9.80 |
| Bloodsport | HT1 Evidence/Onyx | 400 | 0.235 | 5.98 | 6.02 | | 01/09/16 | 0.165 | 9.50 |
| Deer Crossing | SD Hunter | 300 | 0.231 | 5.87 | 5.89 | | 01/09/16 | 0.165 | 8.20 |
| Deer Crossing | SD Hunter | 350 | 0.235 | 5.93 | 5.90 | | 03/18/14 | 0.165 | N/A |
| Deer Crossing | SD Hunter | 400 | 0.237 | 6.07 | 6.06 | | 03/17/14 | 0.165 | 9.45 |
| Deer Crossing | SD Hunter | 300 | 0.231 | 5.89 | 5.89 | | 03/17/14 | 0.165 | 8.27 |
| Easton | AC Ingestion | 330 | 0.242 | 6.13 | 6.13 | | 06/13/16 | 0.167 | 8.30 |
| Easton | AC Ingestion | 350 | 0.235 | 5.98 | 6.02 | | 06/13/16 | 0.167 | 9.50 |
| Easton | AC Ingestion | 400 | 0.230 | 5.84 | 5.81 | | 06/13/16 | 0.167 | 8.60 |
| Easton | Carbon ONE | 410 | No data | | | | 01/09/16 | 0.166 | 8.30 |
| Easton | Carbon ONE | 450 | No data | | | | 01/09/16 | 0.166 | 8.10 |
| Easton | Carbon ONE | 500 | 0.226 | 5.75 | 5.79 | | 06/04/16 | 0.166 | 7.40 |
| Easton | Carbon ONE | 550 | 0.222 | 5.64 | 5.68 | | 01/09/16 | 0.166 | 6.10 |
| Easton | Deep Six FMI | 280 | 0.244 | 6.18 | 6.22 | | 06/18/18 | 0.167 | 12.00 |
| Easton | Deep Six FMI | 330 | 0.240 | 6.10 | 6.12 | | 06/18/18 | 0.167 | 10.80 |
| Easton | Deep Six FMI | 400 | 0.233 | 5.92 | 5.97 | | 06/18/18 | 0.167 | 9.80 |
| Easton | Deep Six FMI | 450 | 0.227 | 5.77 | 5.79 | | 06/18/18 | 0.167 | 9.00 |
| Easton | Ingestion | 300 | 0.250 | 6.35 | 6.33 | | 06/18/18 | 0.167 | 11.20 |
| Easton | Ingestion | 330 | 0.244 | 6.19 | 6.22 | | 06/18/18 | 0.167 | 9.50 |
| Easton | Ingestion | 400 | 0.236 | 5.98 | 6.02 | | 06/18/18 | 0.167 | 8.90 |
| Easton | Ingestion | 450 | 0.230 | 5.83 | 5.83 | | 06/18/18 | 0.167 | 8.30 |
| Easton | Ingestion | 630 | 0.231 | 5.87 | 5.89 | | 09/04/17 | 0.166 | 7.90 |
| Element | The Storm | 300 | 0.230 | 5.84 | 5.83 | | 06/18/18 | 0.166 | 8.20 |
| Element | The Storm | 350 | 0.226 | 5.74 | 5.79 | | 08/19/17 | 0.166 | 7.60 |
| Element | The Storm | 400 | 0.222 | 5.64 | 5.68 | | 05/17/17 | 0.166 | 6.80 |
| Firenock | AeroWave | 300 | TBA | | | | 06/01/16 | 0.166 | 8.40 |
| Firenock | AeroWave | 350 | TBA | | | | 06/01/16 | 0.166 | 8.60 |
| Firenock | AeroWave | 400 | TBA | | | | 06/01/16 | 0.166 | 8.80 |
| Firenock | AeroWave | 450 | TBA | | | | 06/01/16 | 0.166 | 9.00 |
| Firenock | AeroWave | 500 | TBA | | | | 06/01/16 | 0.166 | 9.20 |
| Firenock | AeroWave | 550 | TBA | | | | 06/01/16 | 0.166 | 9.40 |
| Firenock | AeroWave | 600 | TBA | | | | 06/01/16 | 0.166 | 9.60 |
| Firenock | AeroWave | 650 | TBA | | | | 06/01/16 | 0.166 | 9.80 |
| Firenock | AeroWave | 700 | TBA | | | | 06/01/16 | 0.166 | 10.00 |
| Firenock | AeroWave | 750 | TBA | | | | 06/01/16 | 0.166 | 10.20 |
| Firenock | AeroWave | 800 | TBA | | | | 06/01/16 | 0.166 | 10.40 |
| Firenock | AeroWave | 850 | TBA | | | | 06/01/16 | 0.166 | 10.60 |
| Firenock | AeroWave | 900 | TBA | | | | 06/01/16 | 0.166 | 10.80 |
| Firenock | AeroWave | 950 | TBA | | | | 06/01/16 | 0.166 | 11.00 |
| Firenock | AeroWave | 1000 | TBA | | | | 06/01/16 | 0.166 | 11.20 |
| Firenock | AeroWave | 1050 | TBA | | | | 06/01/16 | 0.166 | 11.40 |
| Firenock | AeroWave | 1100 | TBA | | | | 06/01/16 | 0.166 | 11.60 |
| Firenock | AeroWave | 1150 | TBA | | | | 06/01/16 | 0.166 | 11.80 |
| Firenock | AeroWave | 1200 | TBA | | | | 06/01/16 | 0.166 | 12.00 |
| Firenock | AeroWave | 1250 | TBA | | | | 06/01/16 | 0.166 | 12.20 |
| Firenock | AeroWave | 1300 | TBA | | | | 06/01/16 | 0.166 | 12.40 |
| Firenock | AeroWave | 1350 | TBA | | | | 06/01/16 | 0.166 | 12.60 |
| Firenock | AeroWave | 1400 | TBA | | | | 06/01/16 | 0.166 | 12.80 |
| Firenock | AeroWave | 1450 | TBA | | | | 06/01/16 | 0.166 | 13.00 |
| Firenock | AeroWave | 1500 | TBA | | | | 06/01/16 | 0.166 | 13.20 |
| Firenock | AeroWave | 1550 | TBA | | | | 06/01/16 | 0.166 | 13.40 |
| Firenock | AeroWave | 1600 | TBA | | | | 06/01/16 | 0.166 | 13.60 |
| Firenock | AeroWave | 1650 | TBA | | | | 06/01/16 | 0.166 | 13.80 |
| Firenock | AeroWave | 1700 | TBA | | | | 06/01/16 | 0.166 | 14.00 |
| Firenock | AeroWave | 1750 | TBA | | | | 06/01/16 | 0.166 | 14.20 |
| Firenock | AeroWave | 1800 | TBA | | | | 06/01/16 | 0.166 | 14.40 |
| Firenock | AeroWave | 1850 | TBA | | | | 06/01/16 | 0.166 | 14.60 |
| Firenock | AeroWave | 1900 | TBA | | | | 06/01/16 | 0.166 | 14.80 |
| Firenock | AeroWave | 1950 | TBA | | | | 06/01/16 | 0.166 | 15.00 |
| Firenock | AeroWave | 2000 | TBA | | | | 06/01/16 | 0.166 | 15.20 |
| Firenock | AeroWave | 2050 | TBA | | | | 06/01/16 | 0.166 | 15.40 |
| Firenock | AeroWave | 2100 | TBA | | | | 06/01/16 | 0.166 | 15.60 |
| Firenock | AeroWave | 2150 | TBA | | | | 06/01/16 | 0.166 | 15.80 |
| Firenock | AeroWave | 2200 | TBA | | | | 06/01/16 | 0.166 | 16.00 |
| Firenock | AeroWave | 2250 | TBA | | | | 06/01/16 | 0.166 | 16.20 |
| Firenock | AeroWave | 2300 | TBA | | | | 06/01/16 | 0.166 | 16.40 |
| Firenock | AeroWave | 2350 | TBA | | | | 06/01/16 | 0.166 | 16.60 |
| Firenock | AeroWave | 2400 | TBA | | | | 06/01/16 | 0.166 | 16.80 |
| Firenock | AeroWave | 2450 | TBA | | | | 06/01/16 | 0.166 | 17.00 |
| Firenock | AeroWave | 2500 | TBA | | | | 06/01/16 | 0.166 | 17.20 |
| Firenock | AeroWave | 2550 | TBA | | | | 06/01/16 | 0.166 | 17.40 |
| Firenock | AeroWave | 2600 | TBA | | | | 06/01/16 | 0.166 | 17.60 |
| Firenock | AeroWave | 2650 | TBA | | | | 06/01/16 | 0.166 | 17.80 |
| Firenock | AeroWave | 2700 | TBA | | | | 06/01/16 | 0.166 | 18.00 |
| Firenock | AeroWave | 2750 | TBA | | | | 06/01/16 | 0.166 | 18.20 |
| Firenock | AeroWave | 2800 | TBA | | | | 06/01/16 | 0.166 | 18.40 |
| Firenock | AeroWave | 2850 | TBA | | | | 06/01/16 | 0.166 | 18.60 |
| Firenock | AeroWave | 2900 | TBA | | | | 06/01/16 | 0.166 | 18.80 |
| Firenock | AeroWave | 2950 | TBA | | | | 06/01/16 | 0.166 | 19.00 |
| Firenock | AeroWave | 3000 | TBA | | | | 06/01/16 | 0.166 | 19.20 |
| Firenock | AeroWave | 3050 | TBA | | | | 06/01/16 | 0.166 | 19.40 |
| Firenock | AeroWave | 3100 | TBA | | | | 06/01/16 | 0.166 | 19.60 |
| Firenock | AeroWave | 3150 | TBA | | | | 06/01/16 | 0.166 | 19.80 |
| Firenock | AeroWave | 3200 | TBA | | | | 06/01/16 | 0.166 | 20.00 |
| Firenock | AeroWave | 3250 | TBA | | | | 06/01/16 | 0.166 | 20.20 |
| Firenock | AeroWave | 3300 | TBA | | | | 06/01/16 | 0.166 | 20.40 |
| Firenock | AeroWave | 3350 | TBA | | | | 06/01/16 | 0.166 | 20.60 |
| Firenock | AeroWave | 3400 | TBA | | | | 06/01/16 | 0.166 | 20.80 |
| Firenock | AeroWave | 3450 | TBA | | | | 06/01/16 | 0.166 | 21.00 |
| Firenock | AeroWave | 3500 | TBA | | | | 06/01/16 | 0.166 | 21.20 |
| Firenock | AeroWave | 3550 | TBA | | | | 06/01/16 | 0.166 | 21.40 |
| Firenock | AeroWave | 3600 | TBA | | | | 06/01/16 | 0.166 | 21.60 |
| Firenock | AeroWave | 3650 | TBA | | | | 06/01/16 | 0.166 | 21.80 |
| Firenock | AeroWave | 3700 | TBA | | | | 06/01/16 | 0.166 | 22.00 |
| Firenock | AeroWave | 3750 | TBA | | | | 06/01/16 | 0.166 | 22.20 |
| Firenock | AeroWave | 3800 | TBA | | | | 06/01/16 | 0.166 | 22.40 |
| Firenock | AeroWave | 3850 | TBA | | | | 06/01/16 | 0.166 | 22.60 |
| Firenock | AeroWave | 3900 | TBA | | | | 06/01/16 | 0.166 | 22.80 |
| Firenock | AeroWave | 3950 | TBA | | | | 06/01/16 | 0.166 | 23.00 |
| Firenock | AeroWave | 4000 | TBA | | | | 06/01/16 | 0.166 | 23.20 |
| Firenock | AeroWave | 4050 | TBA | | | | 06/01/16 | 0.166 | 23.40 |
| Firenock | AeroWave | 4100 | TBA | | | | 06/01/16 | 0.166 | 23.60 |
| Firenock | AeroWave | 4150 | TBA | | | | 06/01/16 | 0.166 | 23.80 |
| Firenock | AeroWave | 4200 | TBA | | | | 06/01/16 | 0.166 | 24.00 |
| Firenock | AeroWave | 4250 | TBA | | | | 06/01/16 | 0.166 | 24.20 |
| Firenock | AeroWave | 4300 | TBA | | | | 06/01/16 | 0.166 | 24.40 |
| Firenock | AeroWave | 4350 | TBA | | | | 06/01/16 | 0.166 | 24.60 |
| Firenock | AeroWave | 4400 | TBA | | | | 06/01/16 | 0.166 | 24.80 |
| Firenock | AeroWave | 4450 | TBA | | | | 06/01/16 | 0.166 | 25.00 |
| Firenock | AeroWave | 4500 | TBA | | | | 06/01/16 | 0.166 | 25.20 |
| Firenock | AeroWave | 4550 | TBA | | | | 06/01/16 | 0.166 | 25.40 |
| Firenock | AeroWave | 4600 | TBA | | | | 06/01/16 | 0.166 | 25.60 |
| Firenock | AeroWave | 4650 | TBA | | | | 06/01/16 | 0.166 | 25.80 |
| Firenock | AeroWave | 4700 | TBA | | | | 06/01/16 | 0.166 | 26.00 |
| Firenock | AeroWave | 4750 | TBA | | | | 06/01/16 | 0.166 | 26.20 |
| Firenock | AeroWave | 4800 | TBA | | | | 06/01/16 | 0.166 | 26.40 |
| Firenock | AeroWave | 4850 | TBA | | | | 06/01/16 | 0.166 | 26.60 |
| Firenock | AeroWave | 4900 | TBA | | | | 06/01/16 | 0.166 | 26.80 |
| Firenock | AeroWave | 4950 | TBA | | | | 06/01/16 | 0.166 | 27.00 |
| Firenock | AeroWave | 5000 | TBA | | | | 06/01/16 | 0.166 | 27.20 |
| Firenock | AeroWave | 5050 | TBA | | | | 06/01/16 | 0.166 | 27.40 |
| Firenock | AeroWave | 5100 | TBA | | | | 06/01/16 | 0.166 | 27.60 |
| Firenock | AeroWave | 5150 | TBA | | | | 06/01/16 | 0.166 | 27.80 |
| Firenock | AeroWave | 5200 | TBA | | | | 06/01/16 | 0.166 | 28.00 |
| Firenock | AeroWave | 5250 | TBA | | | | 06/01/16 | 0.166 | 28.20 |
| Firenock | AeroWave | 5300 | TBA | | | | 06/01/16 | 0.166 | 28.40 |
| Firenock | AeroWave | 5350 | TBA | | | | 06/01/16 | 0.166 | 28.60 |
| Firenock | AeroWave | 5400 | TBA | | | | 06/01/16 | 0.166 | 28.80 |
| Firenock | AeroWave | 5450 | TBA | | | | 06/01/16 | 0.166 | 29.00 |
| Firenock | A | | | | | | | | |

AEROSYSTEM™ AerolInsert-A

While there are actually two types of AerolInsert®, only one is a part of the AeroSystem line—AerolInsert-A (AIA). And although AIA cannot be used in the AeroConcept System, its design and characteristics are not only essential to AerolInsert-H, it is a great standalone component for those who prefer a straightforward system.

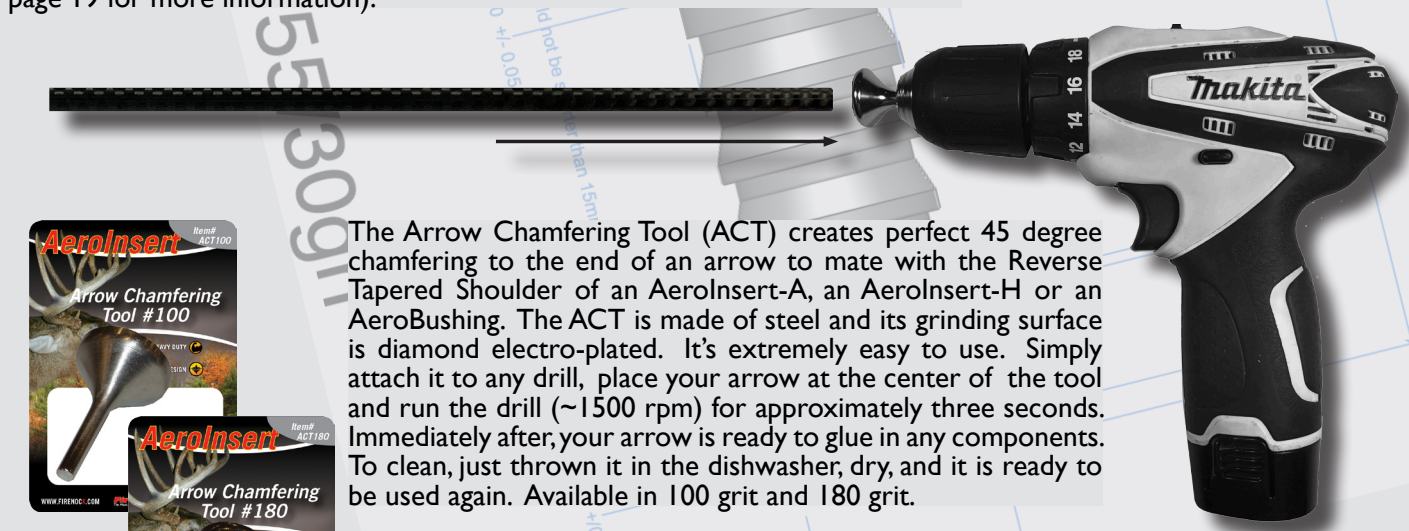
| Code | Compatible Shaft ID | Max Compatible Shaft OD | Weight | Material | Price / ds | Finish |
|--------|---------------------|-------------------------|---------|---------------|------------|----------------|
| AIA20A | 0.202" - 0.204" | 7.20 mm | ~ 22 gn | 7075-T5 AL | \$19.95 | Black Anodized |
| AIA20S | 0.202" - 0.204" | 7.20 mm | ~ 56 gn | 303 Stainless | \$39.95 | Natural |
| AIA20T | 0.202" - 0.204" | 7.20 mm | ~ 32 gn | GR5 Titanium | \$69.95 | Natural |
| AIA23S | 0.234" - 0.237" | 7.29 mm | ~ 31 gn | 303 Stainless | \$39.95 | Natural |
| AIA24A | 0.242" - 0.246" | 7.85 mm | ~ 11 gn | 7075-T5 AL | \$19.95 | Natural |
| AIA24S | 0.242" - 0.246" | 7.85 mm | ~ 30 gn | 303 Stainless | \$39.95 | Natural |
| AIA30B | 0.299" - 0.301" | 8.89 mm | ~ 85 gn | Brass | \$14.95 | Natural |
| AIA30S | 0.299" - 0.301" | 8.89 mm | ~ 90 gn | 303 Stainless | \$39.95 | Natural |
| AIA32A | 0.322" - 0.325" | 9.00 mm | ~ 28 gn | 7075-T5 AL | \$19.95 | Natural |

AerolInsert-A boasts Reverse Tapered Shoulder Technology (US Patent # 8403777).

What does that entail? First, consider the name. On any insert, whether it's standard or a half-out, a portion remains outside the arrow. We call that portion a "shoulder," which most significant part is where it meets with the front of a shaft. For after repeated use, any disparity in pressure at that contact point can cause mushrooming and/or splintering. There are two main reasons for these outcomes: [1] inconsistent insert and/or shaft sizing (i.e. if one is narrower or wider than the other, pressure can be distributed incorrectly) and [2] uneven squaring (i.e. if both are not perfectly square, one or both can shift around and, again, distribute pressure irregularly). And unfortunately no matter how closely matched the sizing or how thorough the squaring, arrow failure has proven inevitable.

But, what if those reasons could be hailed as null? If, instead of trying to avoid their causes, they could be used as an advantage? With Reverse Tapered Shoulder Technology, such is a reality. By simply preparing an arrow with a 45 degree chamfering (see our recommended Arrow Chamfering Tool below), an AerolInsert-A with a reverse 45 degree tapering can mate with it. Repeated use will only benefit concentricity—as energy and pressure from launch and/or impact transfer, the arrow further locks and sits deeper into the insert. Ultimately, sizing no longer depends past ID and squaring is no longer necessary since AIA requires chamfered shafts instead.

*AerolInsert-D or AID has been discontinued and replaced by AerolInsert-H (see page 19 for more information).



The Arrow Chamfering Tool (ACT) creates perfect 45 degree chamfering to the end of an arrow to mate with the Reverse Tapered Shoulder of an AerolInsert-A, an AerolInsert-H or an AeroBushing. The ACT is made of steel and its grinding surface is diamond electro-plated. It's extremely easy to use. Simply attach it to any drill, place your arrow at the center of the tool and run the drill (~1500 rpm) for approximately three seconds. Immediately after, your arrow is ready to glue in any components. To clean, just throw it in the dishwasher, dry, and it is ready to be used again. Available in 100 grit and 180 grit.

To learn more about AeroPoints, visit <http://www.Firenock.com/aerocomponents/>

AeroPoint™ AEROSYSTEM

AeroPoints, although a part of the AeroSystem line, are actually also an essential part of the AeroConcept System line as well. Nevertheless, all twenty-two AeroPoints (four not shown, see page 20 for information on the Destroyer Series), equipped with Firenock Arrow Concentric Technology (FACT), are still fantastic additions to any system.

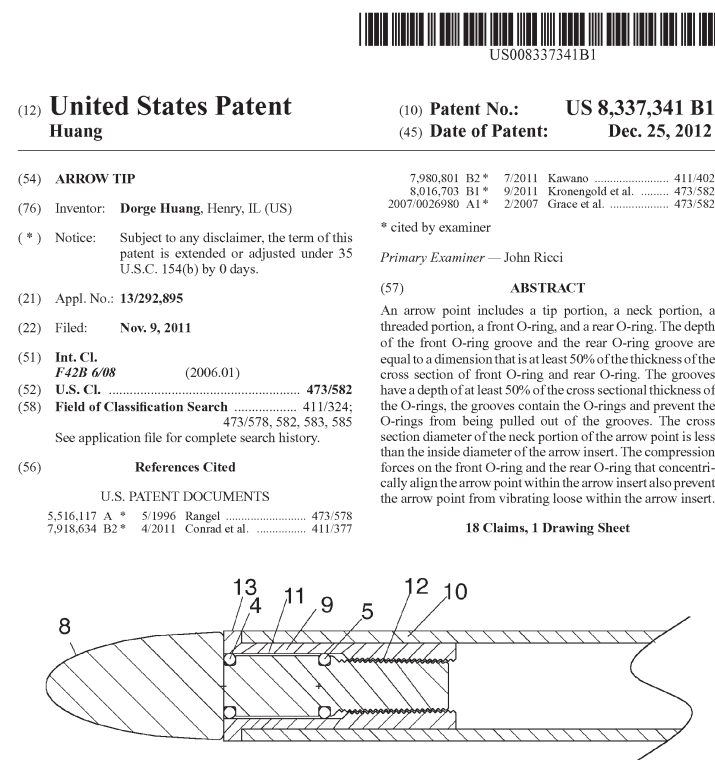
Most archers know aligning a field point or a broad-head and an arrow perfectly is near impossible because the neck and/or threads of a point often aren't concentric. A hopeful mindset of "good enough" and "acceptable" is adopted. With our Double O-ring System (FACT) (US Patent # 8337341) featured in every AeroPoint, such difficulties and attitudes are a thing of the past. With its specifically positioned O-rings at slightly under the neck of the arrow point (FACT 2.0) and just above the threads, the installation process will be effortless and flawless every time. Further, with every shot, just like the rest of our AeroSystem components, your point will only lock itself deeper into place, only this time via its double O-rings.

Each point was made with a specific purpose in mind. For example, the 250 grain, 9mm AeroPoint in stainless was designed for indoor target practice and competitions whilst the 175 grain, 9mm AeroPoint in stainless was designed to match the weight of the Firenock fixed high speed crossbow broad-head, the Traumahawk. Learn more about the design purposes of all our AeroPoints at our web-store.

Notes:

Like all Firenock products, AeroPoints, since their introduction in 2012, have been assigned a unique six character code for help in identification. "AP," the first two characters, of course, represent the capital letters in "AeroPoint." The next three stand for the grain weight (e.g. 045-250). The last character however, is perhaps a bit obscure. Exclusively a Firenock design feature, our points come in two insert contact point diameters—6mm (see page 20), 8mm and 9mm. These diameters are based on the width required for a point to sit flush with a compatible insert (note the head end of the AP1758 for example).

*For APT459, the "T" implies that the point is made of GR5 Titanium.



To learn more about AeroPoints, visit <http://www.Firenock.com/aerocomponents/>

8mm (Vertical Bow Arrows)

AP0458

AP0558

AP0658

AP0758

AP0858

AP1008

AP1258

AP1758

9mm (Crossbow Arrows)

APT459*

AP0459

AP0559

AP0659

AP0759

AP0859

AP1009

AP1259

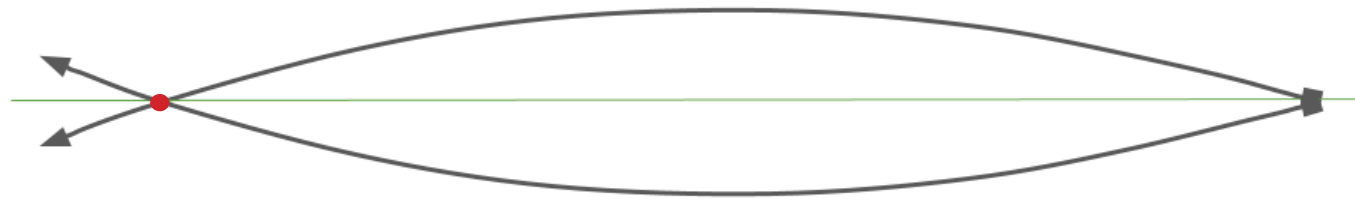
AP1759

AP2509

AEROFLIGHT 101

This year, our catalog has increased in size by twenty plus pages. One of the central reasons for this jump is our push to add more. More diagrams, more charts, and especially more explanation. It's been an entire year after re-branding as "Firenock:The Science of Archery" (at date of publication) and we've learned a lot about how best to share our products with our customers. But, most importantly, we've learned that most who want the best are willing to take the time to learn from and about the best. Therefore, welcome to the AeroFlight 101 spread. Here, we've broken down the foundational, key points of arrow flight—AeroFlight.

How does an arrow fly? Isn't that the truly the million dollar question? Here at Firenock, we've found the prior question could not be more true. For whether you're a recreational or competitive archer, how your arrow flies, or more specifically, how to ensure your arrow flies exactly where you want it to, is what matters the most. And while the list of factors that perfect flight depends on is quite long, this spread should clarify the most important ones.



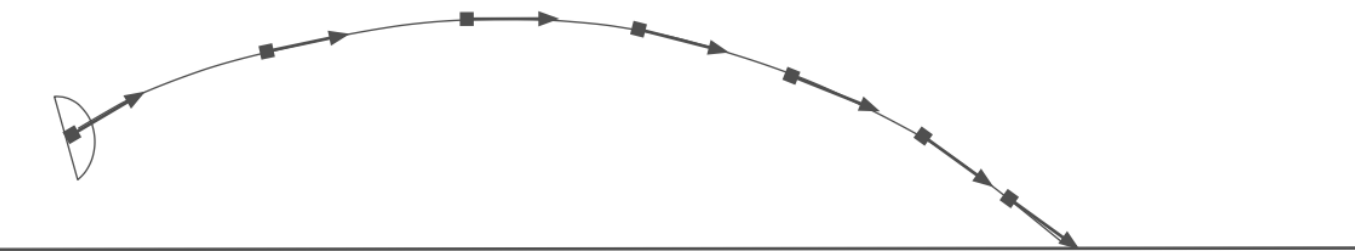
*This diagram exaggerates its subject for illustrative purposes

1. What matters before launch?

The factor that matters the most before launch is something called the null point or "node" (marked in red above). The node of an arrow is the unique point where no vertical or horizontal movement occurs at initial launch. But [1] how do you find it, [2] why should you find it, and [3] what do you do with it after you find it?

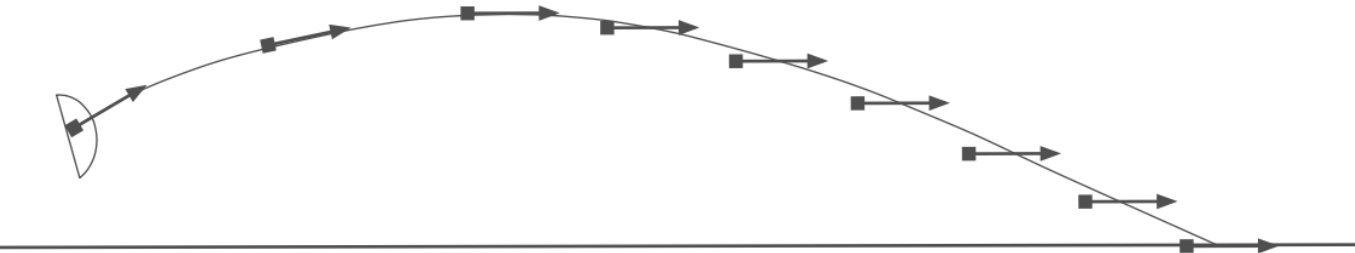
1. Loosely hold a complete arrow by its nock end and knock it on a hard surface from a few inches from the front of the shaft until you hear a solid shift in tone. The arrow should also bounce less.
2. Your arrow rest should match up with the node when you pull back. That way, there will be a minimal chance of your arrow skewing away from true center at initial launch.
3. To take full advantage of your arrow's inherited null point, use it when turning your archery set-up today.

2. What does the path or trajectory of flight of an average arrow look like?



*This diagram exaggerates its subject for illustrative purposes

The trajectory of flight for a standard arrow looks like the diagram above. After leaving your bow, your arrow flies on a parabolic path. It also will usually stick your target at an acute angle. Below, we've included the trajectory of flight for an identical set-up, but for an arrow equipped with the AeroConcept System. Learn more about what that means on the next spread.



*This diagram exaggerates its subject for illustrative purposes

To learn more about AeroInserts, visit <http://www.Firenock.com/aerocomponents/>

AEROFLIGHT 101

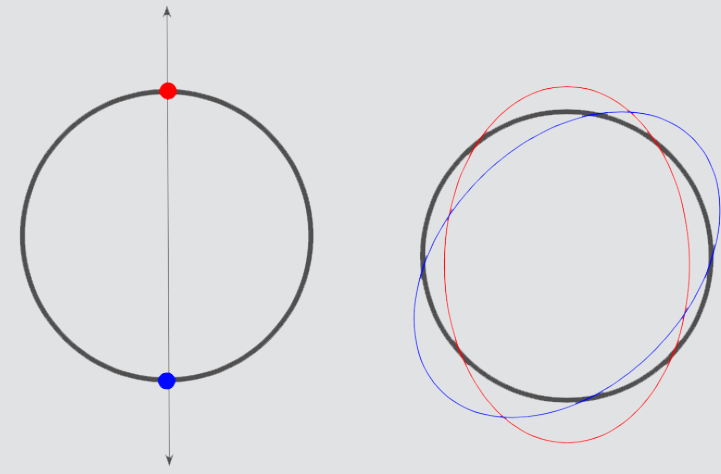
3. What happens (if anything) to that arrow during flight?

Consider this—your arrow oscillates during flight. And during this oscillation process, a lot of energy is lost. This is because your shot arrow, as any object with energy, needs to reach an equilibrium.

Pictured to the right, the ideal arrow motion scenario (and unfortunately the one most believe to always be the case) is a linear flex through a center point where the first and second dynamic bend are 180 degrees from one another. This would result in the expense of the minimum amount of elastic energy lost. Further, even if it was to flex in a parabolic motion, the true center of the shaft would always be maintained.

Unfortunately however, such a scenario is "ideal" and even a perfectly extruded aluminum arrow made with truly homogeneous material and a true linear spine would not move in this fashion. To reach that "equilibrium," an arrow, no matter how "perfect," will sporadically flex and bend during flight.

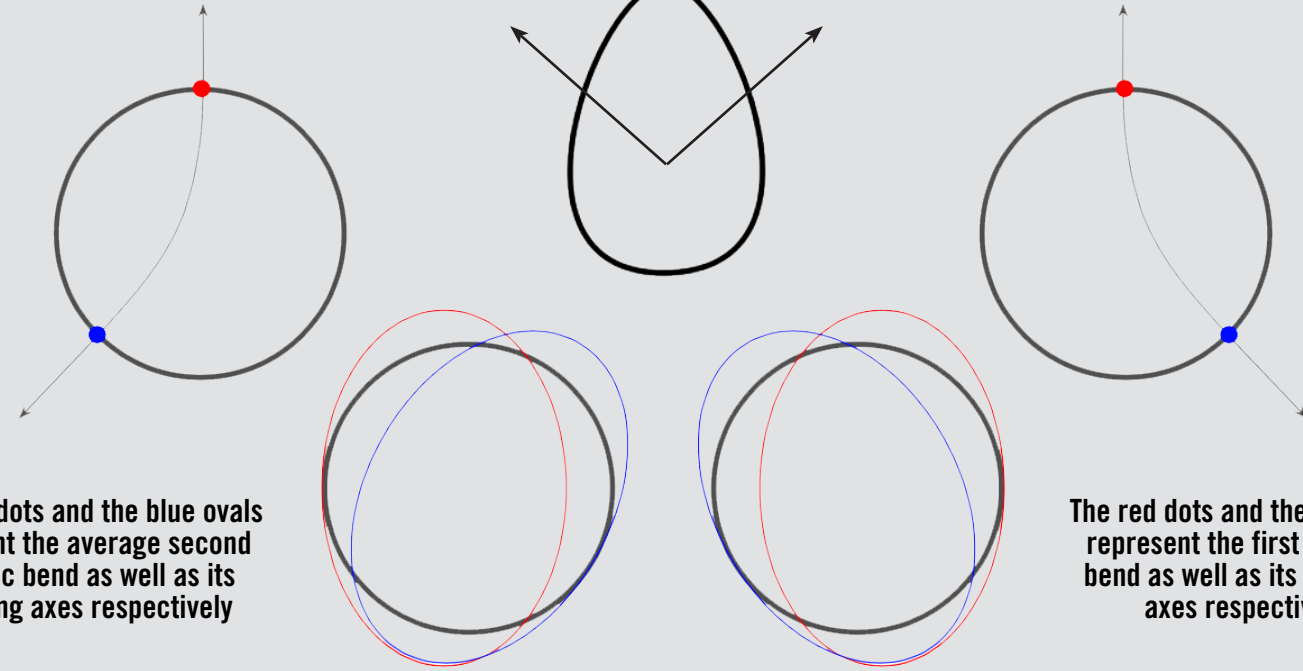
Exactly how sporadic an arrow's movement during oscillation depends on several factors. To the left, we've broken down the three central motions that occur during flight. Note that all motions happen simultaneously. Also, a visual break down of all these motions is below with helpful descriptions.



1. A linear flex results in the deformation of the center of the arrow from round to elliptical, and many cases off center elliptical.
2. A circular longitudinal arrow flex results in both ends of the arrow flexing in opposite directions, which is known as torsion
3. An off center rotation that follows a parabolic path that results in fluttering of the arrow shaft during flight.

This egg shape represents the resulting elliptical path of the arrow oscillation cycles below

The arrows represent the results force of each of the dynamic bends

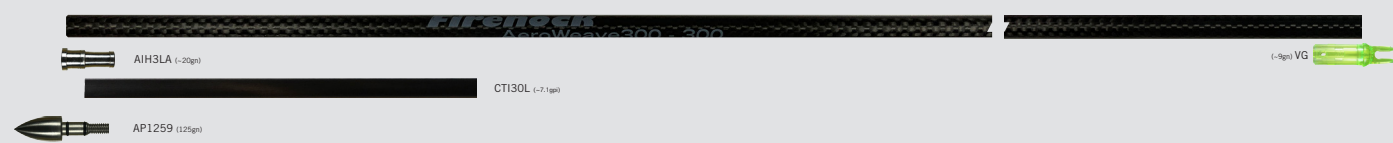


The blue dots and the blue ovals represent the average second dynamic bend as well as its resulting axes respectively

The red dots and the red ovals represent the first dynamic bend as well as its resulting axes respectively

To learn more about AeroConcept Points, visit <http://www.Firenock.com/aerocomponents/>

AEROCONCEPT SYSTEM™



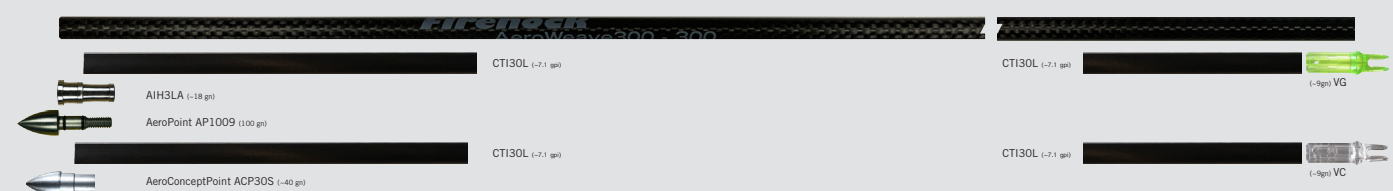
ACS Version 1.0

The AeroConcept System (ACS) involves four elements, three of which are familiar to most—an arrow shaft, an insert, and a point (see diagram above). The last element of the ACS, unique to Firenock, is a “Carbon Inner Tube” (see next page). This tube, as suggested, is made of carbon and is intended to sit within an arrow shaft. Specifically, its designed for installation with an AerolInsert-H (see next page) to create one large insert unit. The question still remains however, why include this Carbon Inner Tube? Well, the AeroConcept System, via this extra element, will not only strengthen your arrow's front end, but also gives your arrow a variable spine (i.e. spine at the front and at the back are different). These effects' cause is obvious. By adding—i.e. gluing with the intention of melding—a new, smaller carbon tube into your shaft, the overall wall thickness increases at the front, stiffening and generally reinforcing it. The reason why a variable spine matters is a bit trickier. To explain, first recall the oscillation cycle of a standard arrow from the AeroFlight 101 spread. Now, realize that due to the addition of the CTI, the spine is higher near the front than everywhere else. This distinction means that the radius of that oscillation is shortened significantly (see illustration below). And due to that shorter radius, the cycle of oscillation is dampened—in fact, harmonically dampened (US Patent # 9395166). Your arrow stops flexing significantly faster and thus begins flying flat faster. With your arrow equipped with the AeroConcept System and Aerovane II or III, it can even enter a gyro spin.



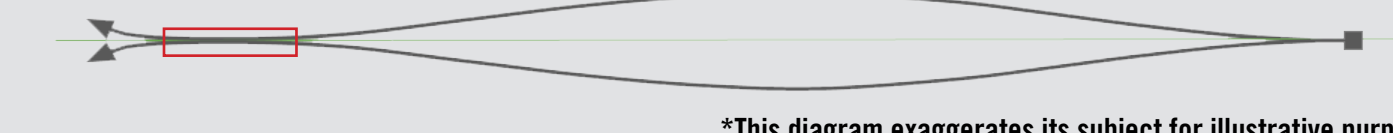
*This diagram exaggerates its subject for illustrative purposes

Additionally, an aftereffect of the AeroConcept System is how it extends a node into something we call a “null zone” (marked above in red). This shift allows for more arrow forgiveness since there's an actual entire area to accurately position your arrow rest at pull back instead of a singular point. Learn more about why this matters from the AeroFlight 101 spread.



ACS Version 2.0

The AeroConcept System 2.0 (ACS2), introduced in 2018, involves all four elements of the ACS but with the supplement of another Carbon Inner Tube at the back of an arrow behind the nock or Firenock lighted nock system (US Patent # 9982975). To understand the benefits of the ACS2, just imagine those of the ACS and then amplify them by 30-40%. The aforementioned radius of oscillation is even smaller (see illustration below), allowing for further energy retention. An arrow equipped with ACS2 will fly yet flatter and therefore with an even higher POI (point of impact).



*This diagram exaggerates its subject for illustrative purposes

To learn more about the ACS, visit <http://www.Firenock.com/aerocomponents/>

CTI & AerolInsert-H AEROCONCEPT SYSTEM



Highly modular, Firenock Carbon Inner Tubes are engineered to perfectly mate with AerolInsert-H to form the AeroConcept System. The AeroConcept System strengthens and stiffens (i.e. increases the spine) (an) end(s) of your arrow without adding too much weight to the entire shaft. An inner tube transforms your arrow, making it an arrow with a variable spine, promoting the initiation of harmonic dampening leading to oscillation cancellation (i.e. your arrow's amount of flexing cycles reduces and then begins to fly straight faster). Furthermore, though they are precut at 6 inches, you cut down a Carbon Inner Tube's length to precisely adjust the weight of your entire arrow (e.g. a longer tube for a larger weight, greater strength and faster arrow straightness recovery & vice versa).

Caution : Carbon Inner Tubes should not be longer than 50% of the length of the complete arrow.

| ID Code | for Arrow ID | Weight | Compatible Components |
|---------|-----------------|--------|--|
| CTI200 | 0.202" - 0.204" | 7.7 gr | AIH20A/S/T |
| CTI20L | 0.202" - 0.204" | 4.0 gr | AIH2LA/S/T |
| CTI240 | 0.242" - 0.246" | 5.2 gr | AIH24A/B/C/S |
| CTI300 | 0.300" | 8.5 gr | AIH30A/B/C/S |
| CTI30L | 0.300" | 7.1 gr | ACP30S, ADH30A, AIH3LA/B/C/S, AIH3GS, AIH3HS |
| CTI310 | 0.315" - 0.318" | 5.9 gr | ADH31A, AIH31A, ACP31S |
| CTI320 | 0.320" - 0.322" | 5.8 gr | AIH32A, ACP32S |

AerolInsert-H (AIH) is our insert for the AeroConcept System. Loaded not only with Reverse Tapered Technology (US Patent # 8403777) from AerolInsert-A which improves arrow self-concentricity (see page 14 for more information), but also Double Shoulder Technology (US Patent # 8337342) from the now discontinued AerolInsert-D, AerolInsert-H is truly the best of both worlds; “H” for hybrid.

To clarify, in this instance, a “shoulder” is a large indented surface. For Double Shoulder Technology, the first shoulder is designed to address the issue commonly found in other inserts—not enough adhesive space. Small adhesive surfaces can cause an insert to easily dislodge itself from an arrow and consequently force the insert and arrow tip to move rearward and mushroom. Beside the first shoulder, the second shoulder (hence “double shoulder”) is designed to perfectly mate with a smaller ID carbon shaft (i.e. Carbon Inner Tubes) to form the AeroConcept System. Further, with a Carbon Inner Tube, your adhesive surface increases exponentially.

| Code | Compatible Shaft ID | Associated CTI | Weight | Material | Price / dz | Finish |
|--------|---------------------|----------------|---------|---------------|------------|----------------|
| AIH20A | 0.202" - 0.204" | CTI200 | ~16 gr | 7075-T5 AL | \$19.95 | Natural |
| AIH20S | 0.202" - 0.204" | CTI200 | ~52 gr | 303 Stainless | \$39.95 | Natural |
| AIH20T | 0.202" - 0.204" | CTI200 | ~28 gr | GR5 Titanium | \$69.95 | Natural |
| AIH2LA | 0.202" - 0.204" | CTI20L | ~23 gr | 7075-T5 AL | \$19.95 | Black Anodized |
| AIH2LS | 0.202" - 0.204" | CTI20L | ~63 gr | 303 Stainless | \$39.95 | Natural |
| AIH2LT | 0.202" - 0.204" | CTI20L | ~33 gr | GR5 Titanium | \$69.95 | Natural |
| AIH24A | 0.244" - 0.246" | CTI240 | ~19 gr | 7075-T5 AL | \$19.95 | Natural |
| AIH24S | 0.244" - 0.246" | CTI240 | ~51 gr | 303 Stainless | \$39.95 | Natural |
| AIH30A | 0.300" | CTI300 | ~18 gr | 7075-T5 AL | \$19.95 | Natural |
| AIH30B | 0.300" | CTI300 | ~57 gr | Brass | \$14.95 | Natural |
| AIH30C | 0.300" | CTI300 | ~18 gr | 6061-T6 AL | \$14.95 | Natural |
| AIH30S | 0.300" | CTI300 | ~55 gr | 303 Stainless | \$39.95 | Natural |
| AIH3LA | 0.300" | CTI30L | ~18 gr | 7075-T5 AL | \$19.95 | Natural |
| AIH3LB | 0.300" | CTI30L | ~55 gr | Brass | \$14.95 | Natural |
| AIH3LC | 0.300" | CTI30L | ~18 gr | 6061-T6 AL | \$14.95 | Natural |
| AIH3LS | 0.300" | CTI30L | ~50 gr | 303 Stainless | \$39.95 | Natural |
| AIH3HS | 0.300" | CTI30L | ~75 gr | 303 Stainless | \$39.95 | Natural |
| AIH3GS | 0.300" | CTI30L | ~100 gr | 303 Stainless | \$39.95 | Natural |
| AIH31A | 0.315" | CTI310 | ~21 gr | 7075-T5 AL | \$19.95 | Natural |
| AIH32A | 0.320" | CTI320 | ~22 gr | 7075-T5 AL | \$19.95 | Natural |

To learn more about AerolInserts, visit <http://www.Firenock.com/aerocomponents/>

Rt 0.201" - 0.204" ID

AIH20A

AIH20S

AIH20T

AIH2LA

AIH2LS

AIH2LT

19

Rt 0.243 - 0.246" ID

AIH24A

AIH24S

Rt 0.300" ID

AIH30A

NEW AIH30B

NEW AIH30C

AIH30S

NEW AIH31A

NEW AIH31B

NEW AIH31C

NEW AIH31S

NEW AIH3HS

AIH3GS

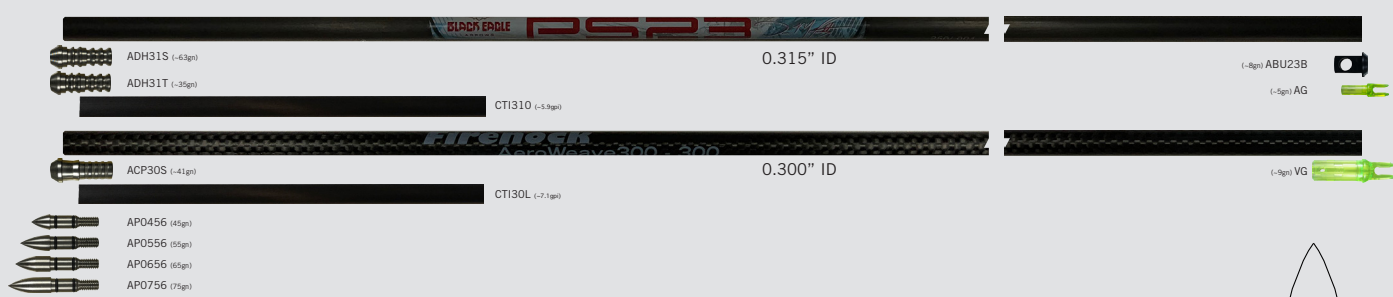
Rt 0.315" ID

AIH31A

Rt 0.320" ID

AIH32A

DESTROYER™ SERIES Inserts & Points



Loaded with every technology available for AeroInserts and AeroPoints used so far, the Destroyer Series components meet the challenge of the harsh environment of Hunter and Pro Class 3D competitions head on.

In total, there are three patents represented in the Destroyer Series. Starting with the AeroInserts, there are two technologies included in its design. Boasting the same technologies as the AeroInsert-H (see previous page), Reverse Tapered Technology (US Patent # 8403777) and Double Shoulder Technology (US Patent # 8337342), the Destroyer AeroInserts are also equipped with a forward 40 degree angle (marked in green) to perfectly mate with its AeroPoint counterpart which shoulder is at a reverse 40 degree angle (marked in blue). Additionally, the AeroPoints utilize the same FACT (US Patent # 8337341) Double O-ring System as our other AeroPoints.

Past all the awesome advantages packed into these components, we ensured that the Destroyer Series would be compatible with the AeroConcept System. With the installation of either the CTI300 (for 300" ID) or the CTI310 (for 315" ID) respectively, you can additionally experience the power of harmonic cancellation, shaft oscillation reduction, as well as a stronger frontal end.

Specifications

Currently offered components are built to fit either shafts with a 0.300" ID or a 0.315" ID. Examples of popular arrows with a 0.300" ID include Firenock AeroWeave300 or SportWeave300 and Gold Tip 22 Series. Examples of popular arrows with a 0.315" ID include the Black Eagle PS23 or Challenger, the Carbon-Express CXL, the Element Rock, or the Easton Fatboy (note that the Easton SuperDrive 23 and the Gold Tip 9.3 are not included in this list because they have a 0.320" ID). Firenock Destroyer AeroInserts are available in stainless steel and GR5 titanium. Destroyer AeroPoints, on the other hand, are only available in stainless steel and have an outer diameter of 6 mm. In terms of weight, our four AeroPoints come in 45 to 75 grain.

Fits 0.300" ID



AIH35S

Fits 0.315" ID



ADH31S



ADH31T

Fits both Destroyer Insert sizes



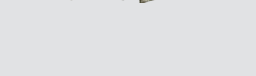
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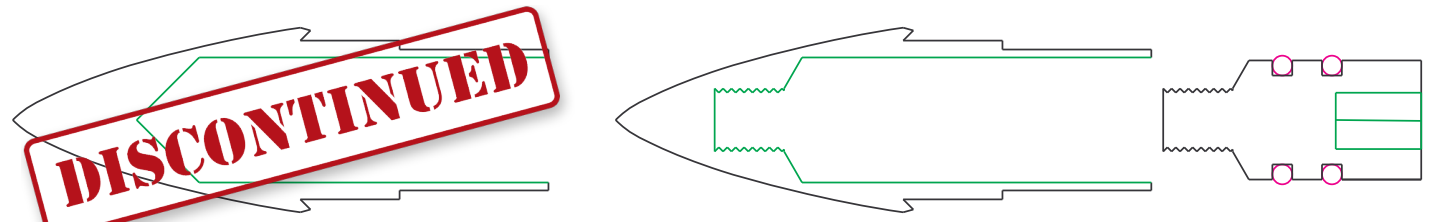
AP0456

To learn more about the Destroyer Series, visit <http://www.Firenock.com/aerocomponents/>

Points & Weights AEROCONCEPT SYSTEM



Indeed hollow in structure, the AeroConcept Point's (US Patent # 944197) unique paradox of strength and lightness takes a standard glue-in point to another level.



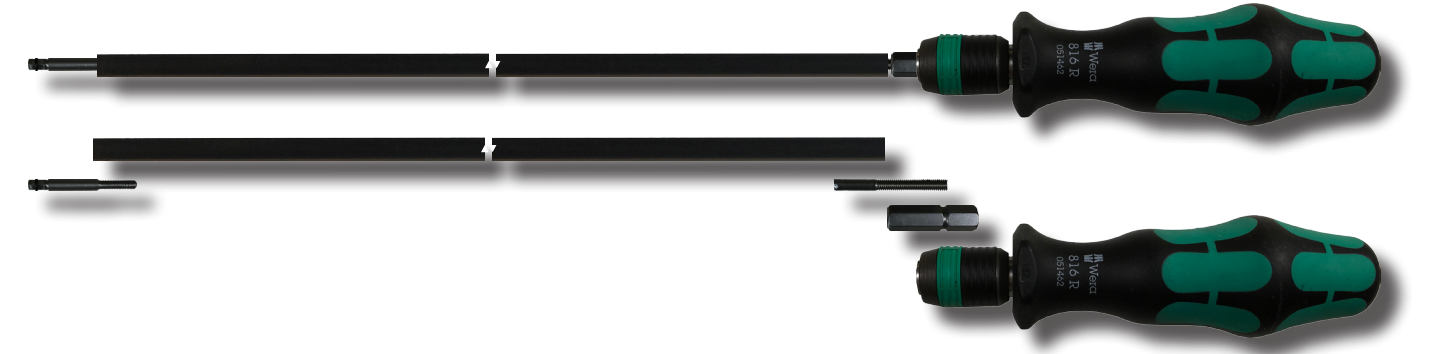
The AeroConcept Point (ACP) is a fusion of the original AeroInsert and AeroPoint. As a descendant of the AeroInsert-H, ACP features the same benefits—Reverse Tapered Shoulder Technology which assists in self-concentricity and Double Shoulder Technology which allows the point to mate immediately with a Carbon Inner Tube to form the AeroConcept System, excluding the AeroInsert and its weight from the equation entirely for those who prefer minimum frontal weight. Note that, because the ACP has a reverse taper, it must be chamfered first (we recommend the use of the Arrow Chamfering Tool, see page 14.)

Current AeroConcept Points weigh about 50-55 grain and are available in two sizes to fit either shafts with a 0.300" ID or a 0.315" ID. See the previous page for lists of popular arrows with these IDs.

AeroConcept Points 2.0

Just in case you haven't noticed, ACPs are not normal glue-in points. This is only proven more true by ACP2. Although our original standard AeroConcept Points (1.0) are now discontinued, the AeroConcept 2.0 has been and is a great replacement. The ACP2 is equipped with not only all the same technologies aforementioned but is also designed to add variable weight. With the use of an AeroConcept PointWeight (available in 10, 20, 30, or 40 grains), you can choose exactly how much weight you want at the front of your arrow. Additionally, ACP Weights boast a technology similar to FACT (patent pending) for concentricity and a more secure installation.

Note : ACPWeights must be installed via the AeroConcept PointWeight Installation Tool Set. See below.



AeroConcept Point Weight Installation Tool Set (ACPWTLS)

This tool involves two attachments that link a 1/4" Hex driver to a 0.166" arrow shaft (both not included) for easily installing or switching out ACPW weights into an AeroConcept Point.

To learn more about the Destroyer Series visit <http://www.Firenock.com/aerocomponents/>

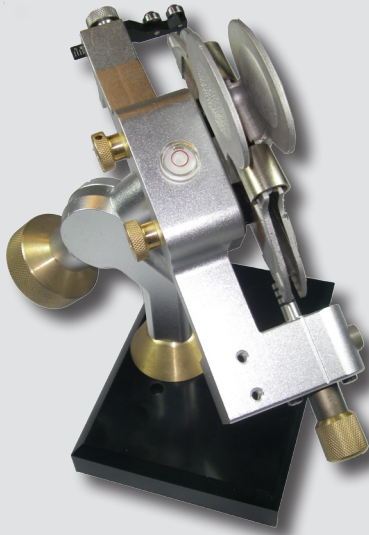
AEROVANE JIG by Firenock Jig, Accessories, & Case

Aerovane Jig is an advanced piece of equipment designed for perfectly fletching and re-fletching vanes and is the only jig that can unleash the full potential of the Firenock Aerovane. Like other Firenock products, Aerovane Jig can be customized with multiple genuine Firenock accessories to fit your needs. Examples of such accessories include the Aerovane Clamp, 9 Chucks, 3 Hooks, the Adjustable Hook, 3-Index, 7-Index, the Production Neck, the Four-Way Adjustable Neck, the Carrying Case, the Laser Alignment Module, the Long Feather Adapter, the Water Leveler, and more to let you fletch / re-fletch perfectly, easily, and quickly.



With **Aerovane Clamp**, perfectly straight fletching is made possible. A lot of magnetic based clamps are available for sale on the market, however none of them can satisfy today's archers with excellent fletching results. In response to this issue, Firenock built Aerovane Clamp. Though initially seemingly similar to other clamps, Aerovane Clamp is actually made of high precision die cast 303 stainless steel and then machined with a straightness of at least 0.001". For the pivot point, our clamp is installed with zirconia ABEC#5 Ceramic ball bearings for smooth operation, precision, and durability. Compared to other clamps, it is shorter, but this is to fit today's popular short vanes (as long as 3.7"). Finally, of course, our clamp in the only clamp that fletches Aerovane due to an additional two 1/16" bars machined into its body to grip our vanes by the wind channel at a perfect perpendicular angle.

Note: Aerovane Clamp is a straight clamp, and can do offset fletching via a slide hook, but cannot do helical fletch.



To learn more about the Aerovane Jig, visit <http://www.Firenock.com/jig/>

Firenock Aerovane Jig is designed for use with any of our **nine fixed chucks and four hooks** (three slide plus one adjustable). To allow the Aerovane Jig to be used with nearly every size of shaft, an interchangeable precision chuck and hook system was developed. All the chucks' bodies are tapered and precisely machined to ensure zero play between the chuck and index plug. Every chuck pin is made of 303 stainless and equipped with 3 O-rings (except for the pin and nock chucks) to ensure perfect alignment and a solid grip on your arrows. The arrow support hooks are made of aluminum, precision machined, anodized in different colors for easy size identification, and are fitted with ball bearings and brass shoulder bolts for smooth operation and zero tolerance.



Note: All slide hooks can slide to the right to allow an offset of up to 1.5 degrees. This design allows you to do offset fletching without the need to adjust the magnet and your offset will still be accurate (+/- 0.25 degree due to eyeballing). Also, the adjustable hook has laser markings to ensure accurate adjustment. We recommend offset fletchings for those who shoot slower speed arrows and/or use other vanes besides Aerovane.

The Aerovane Jig body is made of CNC machined aluminum. The true core of the Aerovane Jig, this precise piece of equipment has many features on its own. Outfitted with super strong neodymium magnets, the body pairs with the Aerovane Clamp perfectly every time. Within, there are also two ABEC#3 bearings and a ZrO2 ceramic ball that allows our index (3 or 7, see above) to have an accuracy of no less than 1/72th of a degree.

The Aerovane Jig comes standard with a **3-index** installed, allowing one to fletch a 3-vane configuration perfectly. This tool provides index points at 0, 120, and 240 degrees. For those who fletch multiple configurations (2, 3, 4, bow-tie 4, & 90 degree 4), we also offer a **7-index** which has index points at 0, 60, 90, 120, 180, 240, and 270 degrees. Note that the 7-index must be installed by Firenock LLC.



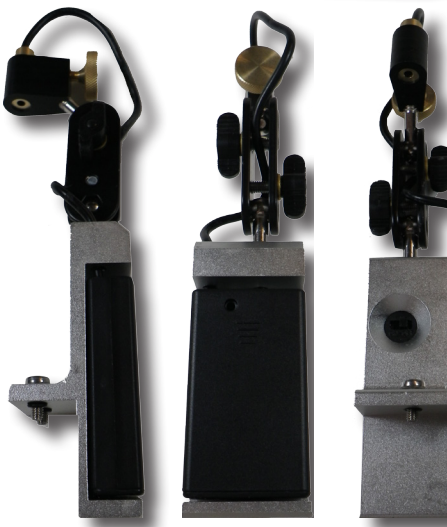
The **four-way adjustable neck** allows you to personally infinitely re-position your Aerovane Jig.



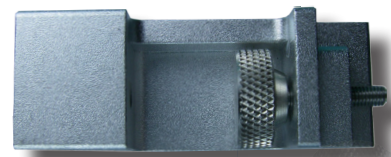
In a production environment, the four-way adjustable neck may not be necessary. In such cases, Firenock offers a solid 303 machined stainless steel **production neck** to mount your Aerovane Jig easily onto your worktable or fletching turntable.



For protection and ease of use, the **Aerovane Jig Carrying Case** is made with rip-stop fabric, fitted with water-cut foam and equipped with extra-large zippers. Proudly made in America, the water-cut foam is custom designed to securely stow away each and every available piece of the Aerovane Jig plus a small bottle of acetone. Double-sided, a zipper allows you to separate the essential components of your Jig from your other accessories when on the go.



Developed to re-fletch vanes, the **Laser Alignment Module** makes the alignment process effortless. The three-lens optic system emits a straight, thin red laser, allowing you to quickly and efficiently check your entire set up. With just your eyes and this module, you can align your vane, shaft, clamp, and jig with an accuracy up to 1/4-1/16 of a degree.



This **Long Feather Adapter**, as its name suggests, can be attached to the Aerovane Jig to render it able to handle long vanes and feathers up to 5.25" long. The adapter is designed to work with all Aerovane Jig hooks and chucks which make it a perfect companion accessory and good tool for your shop.

We at Firenock believe that acetone is the best medium to clean and prepare arrow shafts for fletching and re-fletching. Thus, for those who wish to use acetone, we offer the **Firenock Aerovane Fletching Flask Set**. Guaranteed to be acetone safe, our flasks are for the recommended uses listed below.

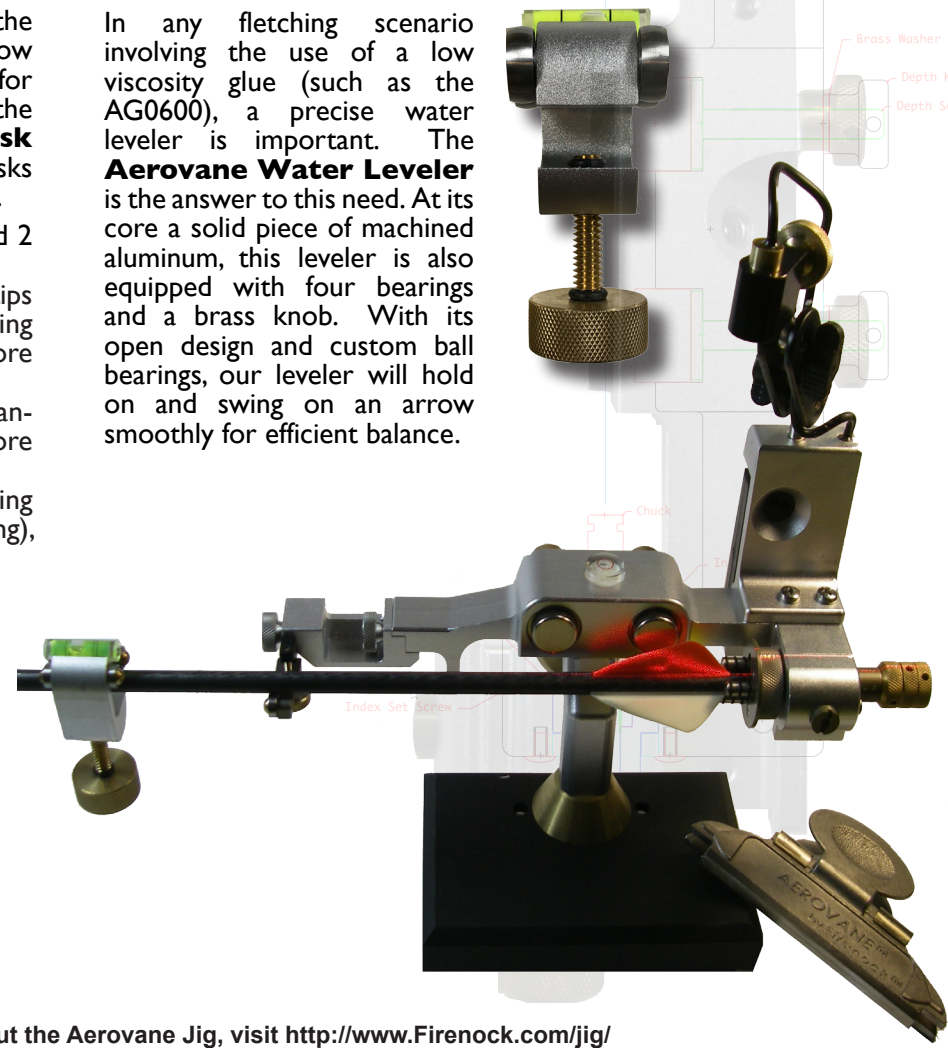
Our set consists of 3 flasks (1 x 125 ml and 2 x 500 ml):

1. The **125 ml flask** is for dipping Q-tips into acetone to clean a vane before using AG0600 or to clean your arrow before using AG0GEL.
2. The 1st **500 ml flask** is for dip cleaning brand new arrow shafts just before fletching.
3. The 2nd **500 ml flask** is for dip cleaning used shafts (i.e. shafts for re-fletching), which may have glue residue on them.



To learn more about the Aerovane Jig, visit <http://www.Firenock.com/jig/>

In any fletching scenario involving the use of a low viscosity glue (such as the AG0600), a precise water leveler is important. The **Aerovane Water Leveler** is the answer to this need. At its core a solid piece of machined aluminum, this leveler is also equipped with four bearings and a brass knob. With its open design and custom ball bearings, our leveler will hold on and swing on an arrow smoothly for efficient balance.



AEROVANE® GLUE AG0600, AG0GEL & AGUSSE

Firenock offers three specially formulated and contained adhesives for today's archers to fletch vanes and build arrows with truly excellent results.

Aerovane AG0600

To perfectly fletch Aerovane and other vanes, Firenock specially formulated AG0600.

Curing in nine seconds and ready to shoot in twelve, AG0600 is best used for fletching Aerovanes or other vanes with the use of the Firenock Aerovane Jig and the Aerovane Clamp at room temperature. As a standard, AG0600 comes with the industrial grade, high precision Luer-Lock System, which allows you to dispense glue precisely and accurately.

Custom built, the bottle is specifically designed for ease during both holding and squeezing, and the applicator, with a 22 gauge stainless tip, is also removable and replaceable. See the Notes for recommendations, tips, and warnings.

Aerovane AG0GEL

AG0GEL is best for installing Firenock Extreme Shock End Caps, re-fletching Aerovanes or other vanes, and fletching offset configurations.

AG0GEL is perfect for filling gaps and has a very quick dry time. AG0GEL is a single component cyanoacrylate instant super GEL glue, resulting in the bonds AG0GEL makes with most surfaces with gaps up to 0.2 mm in diameter happen in seconds. AG0GEL, like AG0600, contains no stabilizer and unlike AG0600 has a low viscosity, which allows it to be able to be applied in tricky places that require glue to not flow (e.g. re-fletching a surface that is not perfectly flat).

AG0GEL requires no mixing or heating and can be used on a wide variety of materials. Each package comes with three 24-gauge plastic Luer-Lock applicator tips. See the Notes for recommendations, tips, and warnings.

Aerovane AGUSSE

AGUSSE is best for building Firenock AeroConcept arrows, which involves gluing AeroInserts, AeroOutserts, and Carbon Inner Tubes, as well as gluing other outserts, halfouts and carbon internal tubings.

AGUSSE is a two-part epoxy that allows for a work time of about 90 minutes and will cure in 24-36 hours when at room temperature. It can fill gaps up to 1mm and has the ability to flex even when cured. See the Notes for recommendations, tips, and warnings.

Notes :

1. AG0600 and AG0GEL have no stabilizers so they have a shelf life of only one year after manufacture.
2. All Aerovane Glues are 100% dissoluble in acetone.
3. All Aerovane Glues should be stored when not in use within their original containers, at room temperature, and out of direct sunlight.
4. Luer-Lock tips are one time use only. Extra Luer-Lock tips can be purchased separately in a 12-pack.



To learn more about our glues, visit <http://www.Firenock.com/glue/>

Arrow Preparation System APS

Firenock designed APS to resolve the imperfections and shortcomings of the various current arrow preparation tools on the market. Today, in order to consistently build reliable arrow shafts, there are several preparation procedures that one must complete before continuing to installation and assembly. Usually, these preparations procedures include the use of several difference tools at different times—a squaring tool for both sides of the arrow before and after fletching or a spinner to make sure your shaft is concentric, for example. With the Arrow Preparation System (APS), arrow shafts can be prepared in both a time efficient and space efficient manner. A 6-in-1 tools—[1] nock end squaring tool, [2] insert end squaring tool, [3] fletched nock end squaring tool, [4] broad-head/field point spin checker, [5] outsert concentricity checker, and [6] general spin checker—APS is truly engineered with our customers in mind. We believe that, once you try APS, you will discover how essential a tool it is for precision arrow building.

Special Features

Adjustable Roller Track Base System

To guarantee that the APS can be used to square any length arrow or type of fletching, a unique track base system was developed. Involving up to four rollers, the system allows the user to change their position by simply loosening their lock screws, moving left or right, and locking them again.

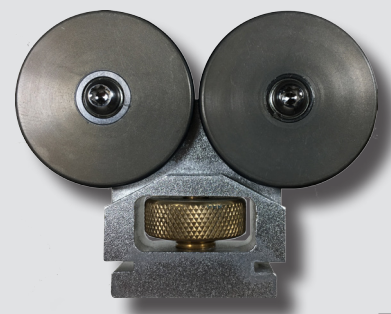
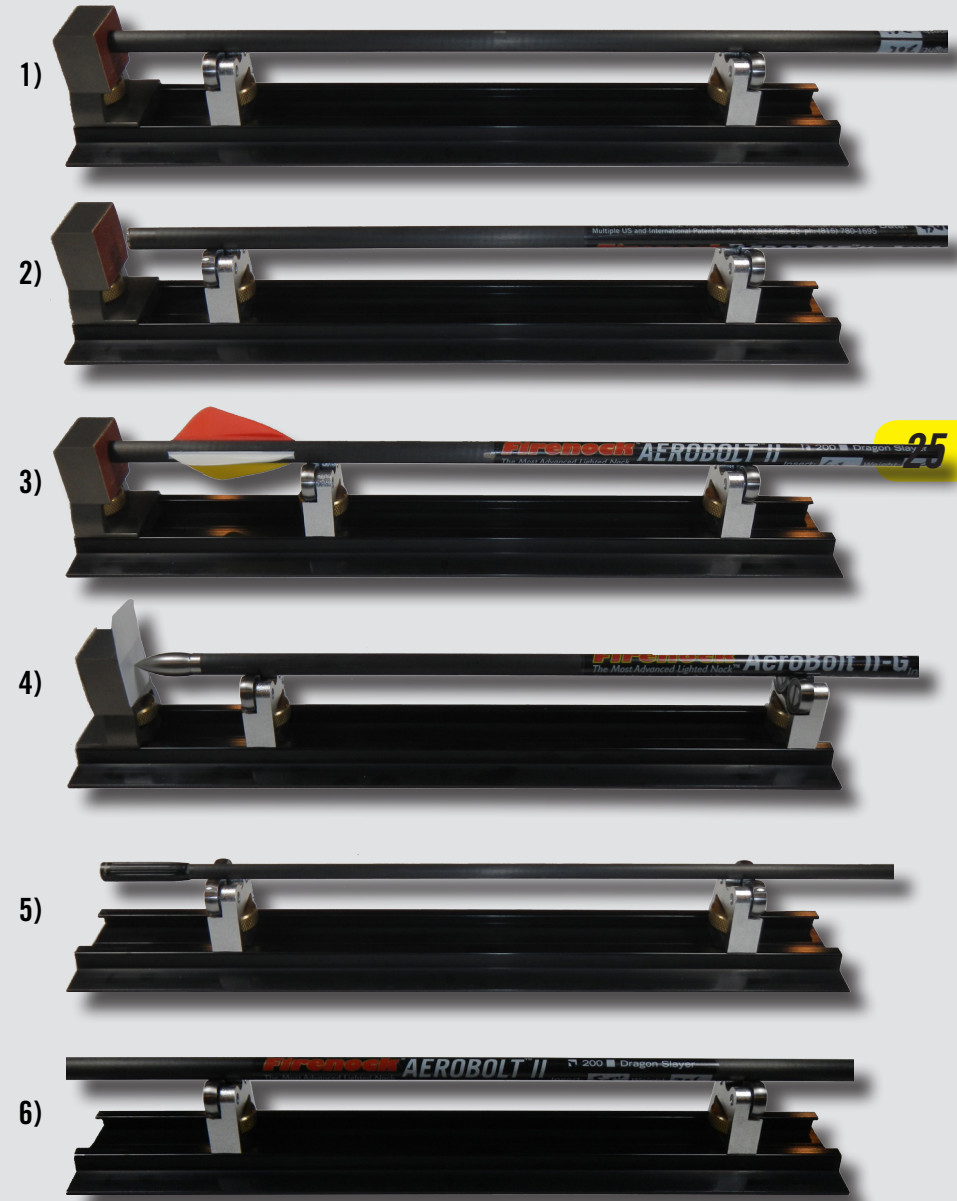
Never Wear Grinding Service

Made of a solid piece of aluminum that is hand anodized for durability, the APS grinding block is different from any other arrow preparation tool because of its longevity. Recommended with the use of common 3M adhesive back sand paper (cut into 1" x1" squares), APS's grinding surface is interchangeable. If the sand paper is worn out, just replace it and you have a fresh grinding surface again. The APS grinding block is made from a solid piece of aluminum and then hard anodized for durability, so there is no worry about the straightness of the block even after sticking and removing sand paper from the block repeatedly.

Supports with Custom Ball Bearings

As of 2015, the crowned ball bearings initially designed for the PAPS (the Professional Preparation System) have been adapted to suit the APS. The bearings provide a large surface to support the arrow and to allow smooth operation, even under high pressure. The large size of the crowned ball bearings also eliminate any lateral movement, especially while squaring. Sealed for durability and pre-fitted with mounting screws, these supports eliminate all play.

Licensed under Patent # 7013772.



Super Spinners

Due to requests for a support specifically for spinning arrows, we have designed the Super Spinner. With a diameter 400% larger than the original support, spin-checking has never been more easy. Let's break down how. In physics, the radius of a circle, and therefore its circumference, is directly related to the distance it takes to spin one full cycle. Here, in the instance of an arrow versus our Super Spinners, due to the radius of the Super Spinners being, on average, five times greater than that an arrow, they will spin once before your arrow spin five times. By literally making the bearings work less, Super Spinners allow you to take complete advantage of our unique bearings.

To learn more about the APS, visit <http://www.Firenock.com/aps/>

PAPS Professional Arrow Preparation System

Firenock PAPS is proudly designed in Illinois (US Patent# 9046452). A unique take on the ordinary arrow preparation tool, the PAPS acts as both your arrow's spine index (spine index = first dynamic bend) locator as well as your arrow deflection value (with optional digital gauge) tool. With PAPS (and some practice), you can easily do all complicated, but important arrow preparation procedures within seconds.

Why Is Locating An Arrow's Spine Index Important?

After locating the bending point of your arrow, you can use it as a reference point for your cock feather. By doing so, you can then predict how every one of your arrows will flex during launch because they will all flex in the same direction. With this new knowledge, your shooting accuracy will be enhanced.

Why Do YOU Need PAPS?

After the release of our ultra high performance arrow series AeroBolt, we at Firenock noticed a need for a unique, quality tool for arrow preparation. This prompted the creation of the APS (see page 25). While an excellent tool, we found that there was still a need for an even better tool. Specifically, a tool to simplify the tedious tasks of spine indexing, spine measuring, spine matching, etc. For without these arrow preparation procedures, shafts are not reliable foundations to install inserts, nocks, or vanes onto. Nor are they dependable enough to build high precision, high performance arrows from. Via the PAPS however, those essential steps can become effortless and straightforward. It is our belief that using the PAPS will become a significant part of your arrow preparation routine.

Main Components

The Tower

The large piece in the middle of the PAPS is the core of the dynamic first bend/spine locator. To provide the perfect perpendicular contact points between this tower and your shaft, there are two custom crowned ball bearings at the base of the tower. Three linear ball bearings make up the top portion. With these bearing, PAPS can apply perfectly vertical pressure to the exact center of the shaft during testing while still minimizing the horizontal pressure that may form during spine readings.

The Track

Proudly US made, the PAPS track is a 36 inch long double track system machined in a tripe box system. Made of 7000 series aluminum and finished with type two level three hard-anodizing, it's extremely durable. To even further ensure its durability and stability, especially at its long length, the bottom of the track has six 3M stoppers installed. Along both sides there are easy-to-read measuring tapes (in both inches and centimeters). On one side of the track, full length measurement (0-36" / 0-914mm) is provided while on the other side, it is center to each end measurements (18"-0-18" / 457mm-0-457mm). These two different measuring tapes are purposefully designed to simplify the process of measuring shaft length as well as of locating the middle point of the shaft. To doubly ensure your PAPS and bench is indeed level, at least one 7mm cylinder water level can be installed along the middle of the track.

The Supports

In the present market, most spine locator tools use off-the-shelf ball bearings to support and to rotate the shaft. There are two fundamental problems with their design:

1. Due to the straight edge of off-the-shelf ball bearings, when a shaft is bent during testing, it is forced to rest on that straight edge. This causes angular pressure to form between the two. This issue worsens as the shaft is pressed harder, soon deeming your ball bearings useless.
2. The typical hole in the middle of a ball bearing requires a screw to fasten it to a mount and/or jig. Because screws are typically not designed and built for any system, the available tolerance of those screw will not and do not provide a perfect fit for your ball bearings.

To solve the uneven pressure problem, our new ball bearings have a unique angle variable crowned outer edge. This also decreases overall pinch pressure on the shaft, or, in other words, the shaft can ride smoothly and freely all of the time. Further, this forces the shaft to stay perpendicular to the center of the custom ball bearings. To solve the second problem, the one about lack of screw tolerance, our bearings have a pre-built, ready to mount custom stud center.

All in all, PAPS comes with two supports which each have two of those custom crowned ball bearings installed. Additionally, there is a machined index line on both sides of our supports to ensure the correct position via the measuring tape.

Optional Accessories PAPS

The Vibration Module

For some shafts, it is necessary to have some assistance finding the first dynamic bend. With the help of the Vibration Module, by lowering the initial friction as well as adding energy to the system, we can better locate the most defined "valley." To expand, while some shafts may have more than one "valley," some may have one that you can't even find. With the Vibration Module, by amplifying only the "valleys" themselves and minimizing everything else, you can more easily pinpoint the first dynamic bend.

The Vibration Module's casing (1) is CNC machined brass. Inside the metal casing, it has a digital component (2) to control the operation timer and the vibrating frequency of the micro-motor. To operate the vibration module, you need only to press the red button located on the side of the casing. With that one push, a short wave of vibration is added to the system for a timed period. Requires AAA batteries, not included (3).

The Digital Gauge Module

(1) Mounting Arm : Made of CNC machined aluminum, it is securely mounted on the tower with two mounting screws equipped with O-ring retainers, while the digital gauge is mounted on the arm itself by a stainless tightening nut.

(2) Digital Gauge : Inserted by the gauge tip through the top of the tower, it can measure the deflection of your arrow easily and reliably. It is equipped with a large, easy-to-read LCD display and the reading can be set to "hold / memory / zero". Modes include inch (e.g., 0.0005"), metric (e.g. 0.1mm), fraction (e.g. 1/64"). The 40mm plunger is made of GR5 titanium for accurate measurement. The meter is powered by long lasting common 3V CR2032 batteries and it will auto shut off after five minutes of inactive operation.

(3) Zero Reference Support : To provide a reliable zero reference point before measurement, the zero reference support is available. Made of CNC machined aluminum, this device, as its name suggests, is to be placed beneath your shaft to support it so it becomes parallel to the support rollers for zeroing the digital gauge.

(4) Brass Weight : The brass weight is machined to provide constant weight to act on your shaft, thus allowing you to measure the deflection (stiffness) of different shafts. With the brass weight installed, the system resembles 1.92lb (880g) of pressure when suspended from the center of a 28 inch (0.71 m) arrow shaft (as is the standard method for such measurements via the American Society for Testing and Materials [ASTM] F203105).

Laser Mounting Module

The mounting module is a machined piece of aluminum to fit perfectly on the track and to hold the laser module solidly. With this module and its laser, after you can locate the position of the first bend without standing up.

To learn more about the PAPS, visit <http://www.Firenock.com/aps/>

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AEROBOLT® Behind the Build

The initial objective we had when making Aerobolt was to address the issue of the weak frontal end commonly found in high speed crossbow arrows. In 2009, we built Aerobolt I using common off-the-shelf components and while it performed well, we found that common off-the-shelf components had concentricity issues and also had fundamental design issues. Aerobolt I was good but we knew it wasn't great. With more time, research, testing, and the introduction of the Firenock AeroConcept System, Aerobolt II was not only built to overcome the afore issues, but with a stronger front end than ever before. We believe that Aerobolt is one of the best crossbow arrow available for today's archers.

Most people will find that many crossbow bolts perform decently well. But why is Aerobolt II better than the competitor's crossbow arrows? Why is the price of Aerobolt II significantly higher? To provide these answers, a short review of the development of Aerobolt is needed. Then, we will discuss the design approach and review the technologies that have been employed in the development of Aerobolt. With this information, we believe you will be convinced that Aerobolts are unique and their outstanding performance is worth the price.

The History of Harmonic Dampening

If asked for the main reason why Aerobolt Technology is so superior in performance and accuracy when compared to any other crossbow arrows, our answer would be because of its capacity for harmonic dampening. Harmonic dampening was observed when the first Aerobolt was shot in 2010. After only about five to ten feet, the oscillation of the Aerobolt stopped, which contrasted then and still contrasts with the standard minimum 15-18 yards it takes other arrows to cease oscillating. How could that be? The only difference between our Aerobolts and other crossbow arrows was our inclusion of a Carbon Inner Tube (CTI), which we (back then at least) only included to stiffen and strengthen the front end of a shaft. No archery experts could provide a definite answer. We finally received an answer after consulting material science/physics experts. We had discovered what is now the basis of our patented AeroConcept System (see page 18).

Preparing the Shafts

With our discovery of the true effect of a Carbon Inner Tube (CTI), we delved into research and testing. Now, for every Aerobolt, the first thing we do is cut the main arrow shaft and its corresponding CTI according to pre-determined, meticulously calculated specifications.

Next, we chamfer the front end of the main shaft (more on why in a mo') with our Arrow Chamfering Tool and a drill. With transport and handling, the shaft and CTI can become dirty. To start afresh, we ultrasound clean them. After, we square the CTI with our APS.

We chamfer the main shaft and then square the CTI to take advantage of all the awesome design features of our Aerolnsert-H. See, like most products in the Firenock line up, each insert series has grown and evolved over time. In the instance of the Aerolnsert Series, we have had three generations of inserts: Aerolnsert-A (AIA), Aerolnsert-D (AID), and Aerolnsert-H (AIH) respectively. AIA boasts Self-Concentric Technology while AID, now discontinued, boasted Double Shoulder Technology. AIH unites and takes advantage of the technologies from both prior inserts. And, due especially to that double shoulder, we can then mate the Carbon Inner Tube with our AIH perfectly using our two part epoxy AGUSSE. And that's the first step of our preparation process.

Building the Complete System

At the end of the standard preparation process we should have two* raw components: the chamfered main shaft as well as the CTI & Aerolnsert-H. These next steps are where our production process truly shines. After joining the CTI and Aerolnsert-H pairing to the main shaft via vacuum pumping, we take multiple measures of quality control. All in all, we believe in providing our customers with the best, money and time aside. We, therefore, stand by the importance of sorting our arrows after building them. Though we do, as noted before, vacuum pump our completed insert(s) into the main shaft to assist in efficient gluing, we know that there is still variance. To overcome this, we weigh, hand label, and sort every shaft.

Completing the AeroBolt II

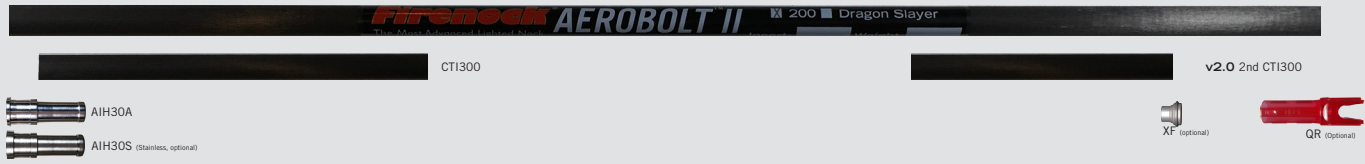
Now with a weight labeled, ACS equipped shaft, we begin the last steps of building an Aerobolt. Though before we claimed that its capacity to harmonically dampen was its most significant feature, there is arguably another very important feature about all our Aerobolts—they all are first dynamic bend indexed with our PAPS before fletching. See pages 26 and 27 to learn why this is such an important step. After this of course, we do fletch Aerovanes according to that index with our Aerovane Jig. Finally, we square the nock end of the completed AeroBolt one last time.

Notes :

All Aerobolt II are optimized (unless requested otherwise) for the Firenock lighted nock system and are fletched with Aerovane II or Aerovane III vanes. The standard vane configuration of Aerobolt II is 3 vanes (white, yellow and red). Custom vane color configuration, 2 vanes or 4 vanes, are also available but with extra charge. You can also order your Aerobolt II without vanes. All Aerovanes on Aerobolt II are fletched with the Firenock Aerovane Jig and glued on with Aerovane Glue AG0600. There is additionally an option of material for Aerolnsert: aluminum (~17 grain) or stainless (~50 grain). Lastly, you can even order and re-order your AB2 in a specific weight and length.

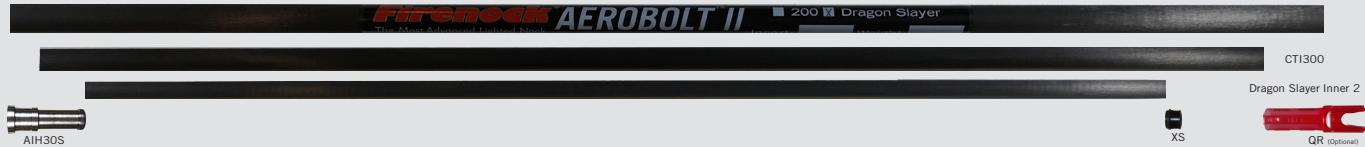
*As of 2018, like seen in the diagram for AB2-200, there is an option to add another Carbon Inner Tube at the back of the arrow. This addition makes up the AeroConcept System 2.0. Therefore, there might be a total of three raw components in the building of the standard Aerobolt (for clarification, Dragon Slayer does not use the AeroConcept System but always has three raw components).

II-200, II-DS, II-G & III AEROBOLT



AB2-200 crossbow arrow is engineered and designed for general purpose.

AB2-200 achieves maximum speed and flight stability with AeroPoints as well as any aerodynamic designed broad-heads like the Dagger. AB2-200 is offered in lengths from 20-26 inches and is built with a 0.001" straightness shaft. The amazingly straight flight of AB2-200 is due to its variable spine design as an effect of the AeroConcept System. AB2-200 has a spine in the front of 0.060" and a spine at the back of 0.200". The weight of AB2-200 with an Aerolnsert, and the AeroConcept System is about 285 grain excluding vanes, a nock, and a point. As a quality mark for all Aerobolt II, they are first dynamic bend indexed as well as hand-marked with complete shaft weight, overall length, and CTI length.



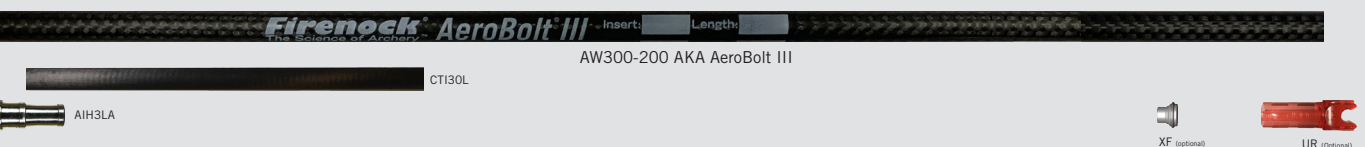
The AeroBolt II-Dragon Slayer crossbow arrow is the big brother of the AeroBolt II-200.

AB2-DS is engineered for maximum momentum and penetration power. Built for African big game, it is super heavy in weight as many African range game laws state that you must use an archery projectile of no less than a 1000 grain when hunting the African Big Five. AB2-DS is offered from 16-26 inches and, unlike any other crossbow arrows, has a 0.092" thickness of carbon throughout its entire length. Unlike AB2-200 which utilizes the AeroConcept System, AB2-DS has two inner shafts that sit nearly through the entire length of the main shaft. These two inner shafts are engineered to be super heavy and super stout. Additionally, AB2-DS comes standard with a stainless Aerolnsert-H and ready for the Firenock lighted nock system (C, D, F, J, M, Q, or U) with an extreme shock end cap always pre-installed. A 26-inch AB2-DS's expected total weight (excluding vanes, a nock and a point) is about 726 grain. Also, from our field staff reports, AB2-DS has been found to be the best crossbow for the 700lbs+ wild boars hunted in southern US states such as Georgia and Texas. As a quality mark for all Aerobolt II, they are first dynamic bend indexed as well as hand-marked with complete shaft weight, overall length, and CTI length.



The AeroBolt II-G is the best of both worlds crossbow arrow.

AB2-G is a companion product for the Firenock Traumahawk broad-head for true instant knock-down via blunt force trauma. AB2-G is offered in lengths from 20-26 inches and is built with a 0.001" straightness shaft. Lighter than AB2-DS whilst heavier than AB2-200, AB2-G is specially designed to give maximum frontal end mass and to transfer the amount of kinetic energy needed to penetrate deep into big game animals. A-22 inch AB2-G (excluding vanes, a nock and the Traumahawk) weighs in at about 352 grain. As a quality mark for all Aerobolt II, they are first dynamic bend indexed as well as hand-marked with complete shaft weight, overall length, and CTI length.



The AeroBolt III takes everything you love about Aerobolt to another level. **NEW!**

This year, with the introduction of the AeroWeave300 (page 30 and 31), we decided to combine the benefits of this high performance shaft with the technology behind the AeroBolt II-200. Due to the fact that AeroWeave is significantly more expensive, AeroPoint is not a part of the standard AB3 package to maintain the same price as the AB2-200.

To learn more about the AeroBolt, visit <http://www.Firenock.com/aerobolt/>

To learn more about the AeroBolt, visit <http://www.Firenock.com/aerobolt/>

AEROWEAVE™ Development

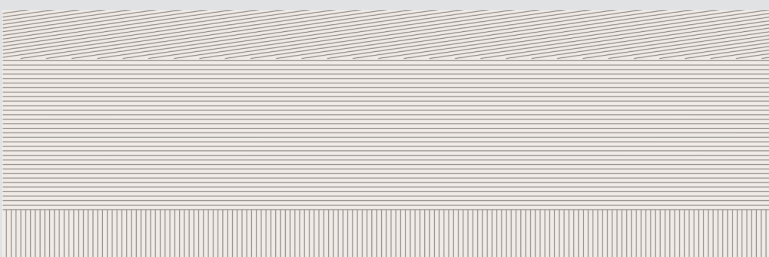
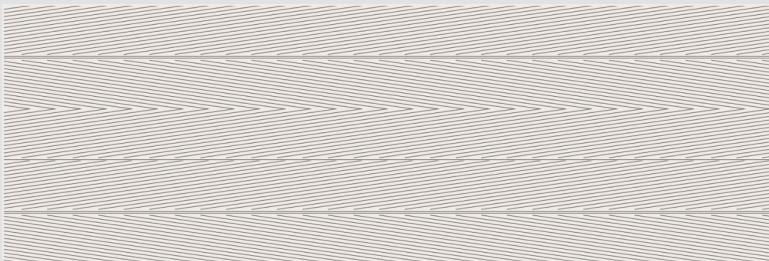
A long time awaited, the AeroWeave Series is Firenock's unique take on the arrow. Designed like all Firenock products, every aspect of this shaft's design has been optimized—spine, weight and strength. To comprehend how we exactly "optimized" today's carbon arrow, it is important to start at the beginning...

Carbon arrow making. What exactly makes a carbon arrow different from another? In most cases, one thinks of diameter, ID or OD, etc. In reality however, the central difference between arrows is unseen, in how the carbon was manipulated during production.

As aforementioned in the introduction, let's begin at the beginning, with how carbon arrows were originally created. Also, note that, for this breakdown, to help you fully comprehend the distinctions between each arrow, we are assuming they are all of the same weight.



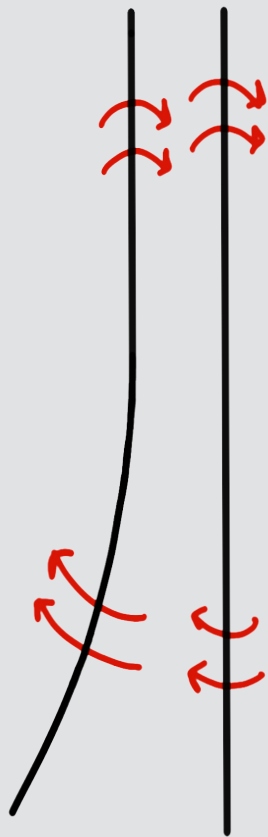
As you can see in the diagram above, the carbon fibers during this arrow production process have been set in a linear row and then rolled. This method, although indeed simple, does have benefits. Very light, these arrows will also have a very strong, very defined spine. There are issues too, however. But before going forward with what those issues are, it is important to clarify what measures are used to test the quality of an arrow. For this analysis, we will be using three measures: loop strength, torque strength, and torsion strength. Loop strength, simply put, is how much resistance an arrow has to direct compression. Torque and torsion strength, on the other hand, are a bit connected. Both have to do with how much resistance an arrow has to being bent. The difference between them however is that while torque strength is a bend via one axis, torsion strength is a bend at two or more axes (see drawing to the right).



To this generation of arrow production.

The main issue mentioned with the previous construction was how limited the aspect of the fibers were. Though this feature was actually what gave it its few pros (solidity/rigidity = strong spine), the cons truly outweigh the pros so arrow manufacturing companies quickly adopted the lay as seen to the top left. This lay is called a cross-directional or helix wrap. Though its spine is not as strong or as light as the original, it has some loop strength and torque strength. There are still issues, however. As its name implies, this construction is based on crossed—something with only two (maximum three if one part of the lay is uneven)—directions. As the chance for a hit from any angle is always possible in the world of archery, two or three protected angles is definitely not enough.

The bottom image to the left is another example of an arrow that is made today. A combination of the fiber lay of the original and previous constructions, this wrap's spine and loop strength are their compromise. Its benefit, however, lies in its weight. Due to the majority of the fibers being laid linearly, the main (and only) advantage of this design is its light weight.



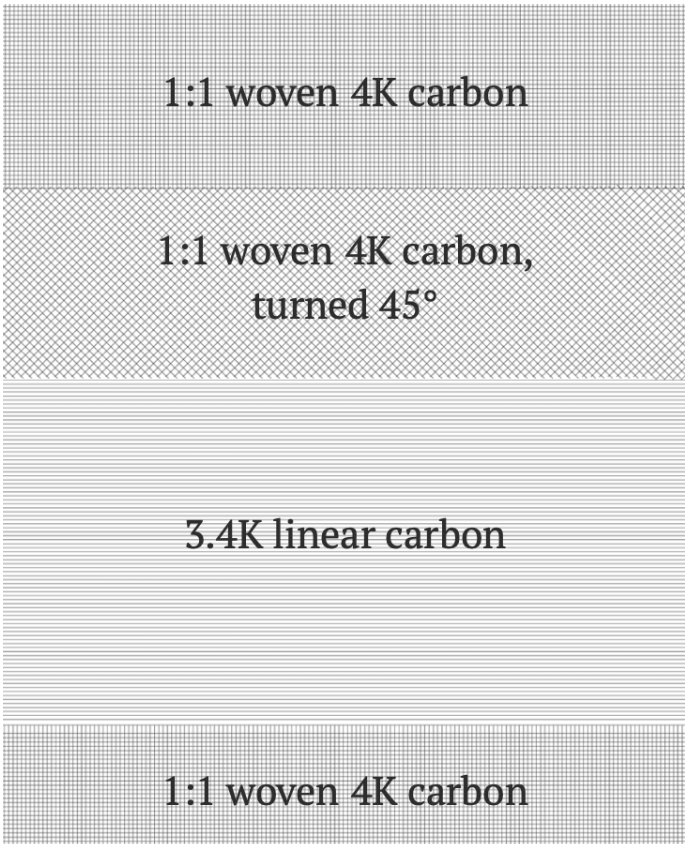
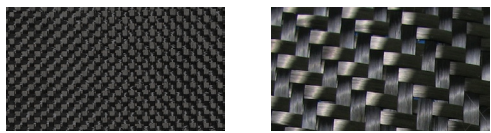
The Result & The Lineup AEROWEAVE

And, finally, to our AeroWeave arrow construction. First off, as you might of noticed, the diagram below is much longer than the others. This distinction was done purposely. See, the pre-impregnated carbon fibers that we use for our arrows are of a different class. Standard arrows use 2K or 2.5K carbon. Our arrows on the other hand are made from a special type of ultra thin 4K carbon. To give you an idea of the difference between these two fibers, here's some numbers: That 2K/2.5K carbon has a thickness of about 0.1mm. 4K carbon, on the other hand, has a thickness of 0.02-0.04mm—a fraction of standard. Further, there is at no sacrifice to strength. But, past all that, why use this thinner fiber? Because it gives us more lay for more manipulation.

The Weave

While a large section of our construction takes from the original in that it has a linear lay for spine strength, its most unique feature is in its complex lays, its weave. As mentioned previously, due to the harsh environment of archery, strength at every axis is crucial. If you look closely at the wrap lay to the right, three of the four sections involve small squares (or diamonds i.e. squares tilted 45 degrees). These squares are actually that "weave". And those "diamonds" are also that weave, but rotated 45 degrees. But why does a weave matter? Well, with a weave, multiple axes can be covered at once. Further, if you turn that weave and lay it on top of itself, as will happen during the rolling of the carbon fibers, even more, infinitely more, axes will be protected. And with our 4K carbon, our weave is 0.05mm thick, still half the standard.

But, of course, as many Firenock products go, we went a bit further. Note the right image below. This is an example of what most other weaves on the market look like. Do you see the difference between the two? Standard weave has a ratio of 2:1 (or sometimes even 3:1) and our weave has a ratio of 1:1. This allows for absolutely no gaps and balanced strength from all sides and axes. Again, a step further, but a step we at Firenock believe necessary, important, and worth it. No?



For 2019, the AeroWeave Series has three major tube sizes. The original AeroWeave246 (AW24xx), as the name implies, is based on a 0.246" ID shaft and comes in four spine ratings (250, 300, 350 and 400) at 32". This year, we added the AeroWeave300 (AW30xx) and AeroWeave315 (AW30xx). Since 0.300" ID shafts are the most common crossbow arrow size, there are several length options as well as spine ratings (see below for details). Note that we do not make and will not be making 400 spine shafts in this size due to the fact that the resulting wall thickness is not ideal in terms of weight and durability. Finally, for 0.315" ID shafts which are most often used in 3D archery, the AW31xx comes in three spine ratings (300, 350, and 400) at 32".

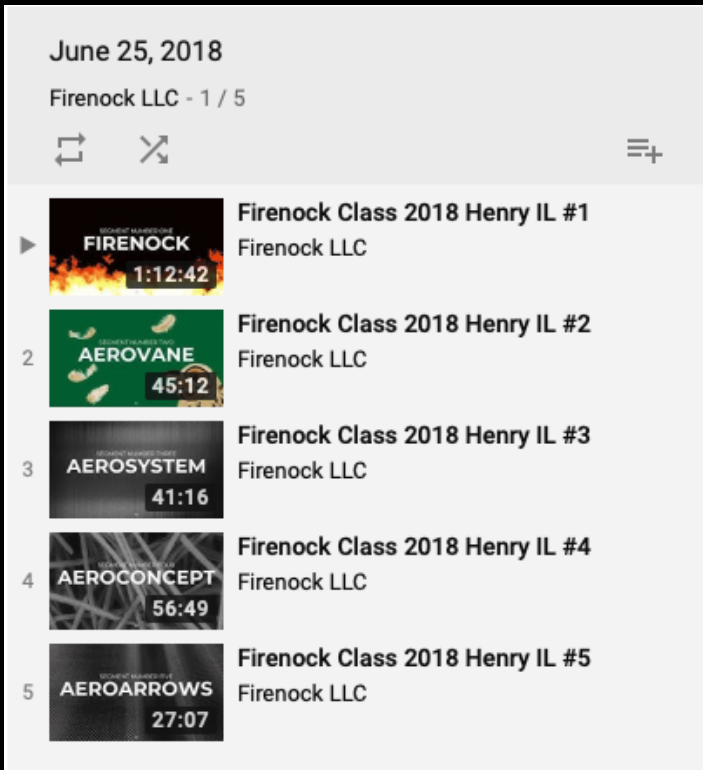
| Name | Spine | ID | OD | Color | Straightness | Weight tolerance Per Dozen | Factory Length | GPI | MSRP* (per dozen) |
|------------------|-------|--------|--------|------------------------------|--------------|----------------------------|----------------|------|-------------------|
| AeroWeave246-250 | 250 | 0.246" | 0.307" | Clear Coat on Black Graphite | < 0.0015" | +/- 1 grain | 32" | 11.1 | \$159.95 |
| AeroWeave246-300 | 300 | 0.246" | 0.304" | Clear Coat on Black Graphite | < 0.0015" | +/- 1 grain | 32" | 9.8 | \$159.95 |
| AeroWeave246-350 | 350 | 0.246" | 0.299" | Clear Coat on Black Graphite | < 0.0015" | +/- 1 grain | 32" | 9.0 | \$159.95 |
| AeroWeave246-400 | 400 | 0.246" | 0.292" | Clear Coat on Black Graphite | < 0.0015" | +/- 1 grain | 32" | 8.9 | \$159.95 |
| AeroWeave300-200 | 200 | 0.300" | 0.353" | Clear Coat on Black Graphite | < 0.0015" | +/- 1 grain | 22", 26" | 10.3 | \$159.95 |
| AeroWeave300-300 | 300 | 0.300" | 0.344" | Clear Coat on Black Graphite | < 0.0015" | +/- 1 grain | 32" | 8.5 | \$159.95 |
| AeroWeave300-350 | 350 | 0.300" | 0.340" | Clear Coat on Black Graphite | < 0.0015" | +/- 1 grain | 32" | 7.8 | \$159.95 |
| AeroWeave315-300 | 300 | 0.315" | 0.354" | Clear Coat on Black Graphite | < 0.0015" | +/- 1 grain | 32" | 8.4 | \$159.95 |
| AeroWeave315-350 | 350 | 0.315" | 0.349" | Clear Coat on Black Graphite | < 0.0015" | +/- 1 grain | 32" | 8.1 | \$159.95 |
| AeroWeave315-400 | 400 | 0.315" | 0.345" | Clear Coat on Black Graphite | < 0.0015" | +/- 1 grain | 32" | 8.0 | \$159.95 |

CERTIFIED & TRAINED DEALERS

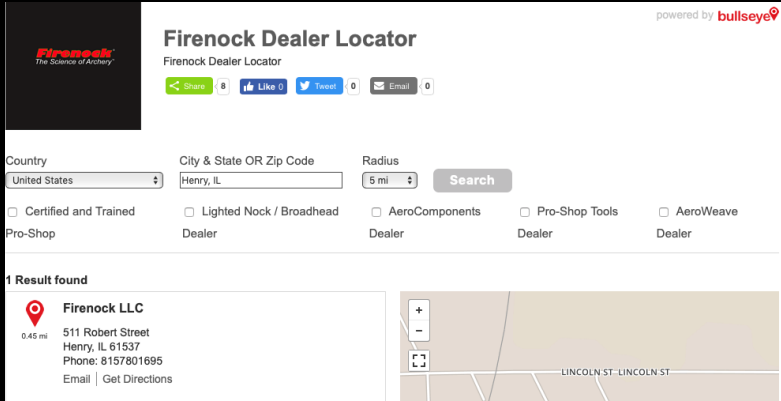
Again, after re-branding recently, our goal not only for this catalog but for our company has been to educate others about the science and mechanics behind archery. One of the most important resources we have as a company to help us do so is dealers. Specifically, those we call Certified and Trained Dealers/Pro Shops. Read on to learn why this distinction matters and how you can find one and/or become one.

Today, unfortunately, much of the ins and outs of the archery industry are heavily driven by price point items. Further, most transactions between people within our community are only a literal monetary one from the shelf to a shopping cart. At Firenock LLC however, we have had and cultivate a different mentality.

Instead of putting our money and efforts into marketing ads, we put them into the design of our products and the training of our pro shops. For us, saying "we make something better" wasn't and isn't enough. Because while we definitely do make something better, we understand that it is important also to make sure that our customers know how and why our products are better. Further, we want our customers to know how to not only use, but also optimize Firenock products. The most obvious example of how we accomplish this is how our products are only available through us or through Firenock certified and trained pro shops. To become a Firenock pro-shop, techs must undergo a minimum of five hours of intensive hands-on training and are required to stay engaged and updated. We believe only those who have invested and will invest their time to become Firenock pro shop techs can provide customers with what is necessary to sell our products. We want Firenock Pro Shops who can build something better and awesome with and for their customers. This is our philosophy.



To learn more about Firenock's dealer policies, visit <http://www.Firenock.com/dealer/>



FIND ONE

Powered behind our Dealer page is a handy locator. To find a certified and trained dealer near you follow the steps below.

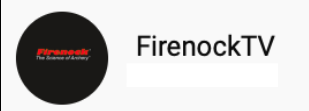
1. Navigate to the dealer page on our website.
2. Click the "Find One Now" button.
3. Pick your country, type in your location, and then, if you want, select how far you're willing to drive ("radius").
4. Check the "Certified and Trained Pro-Shop" option.
5. Click "Search".

BECOME ONE

The process to become certified and trained may seem daunting, especially for those who can't make it to in-person D/E classes, but they've fortunately been recorded in segments.

Since the very beginning of our Firenock classes, we've uploaded everything onto our YouTube channels. For our international or busy dealers and/or enthusiasts, we offer this alternative:

1. Watch an entire series of videos from either of the channels below. We highly recommend going for the most recent. A playlist of those from our last class (at print) is to the left but always check our website (see footer) for any updates.
2. Contact us to get tested on what you learned!



The Weave Outer Shell SPORTWEAVE

At date of print, the AeroWeave has been out for nearly a year and has become an integral part of many a shooter's kit. For those, however, who find AeroWeave's price tag a bit too hefty, we introduce the SportWeave Series. Designed with, just like AeroWeave, optimal spine, weight and strength, SportWeave went further especially with its 55% decrease in price from AeroWeave.

What's the difference many have asked? Simply put, the Weave Outer Shell.

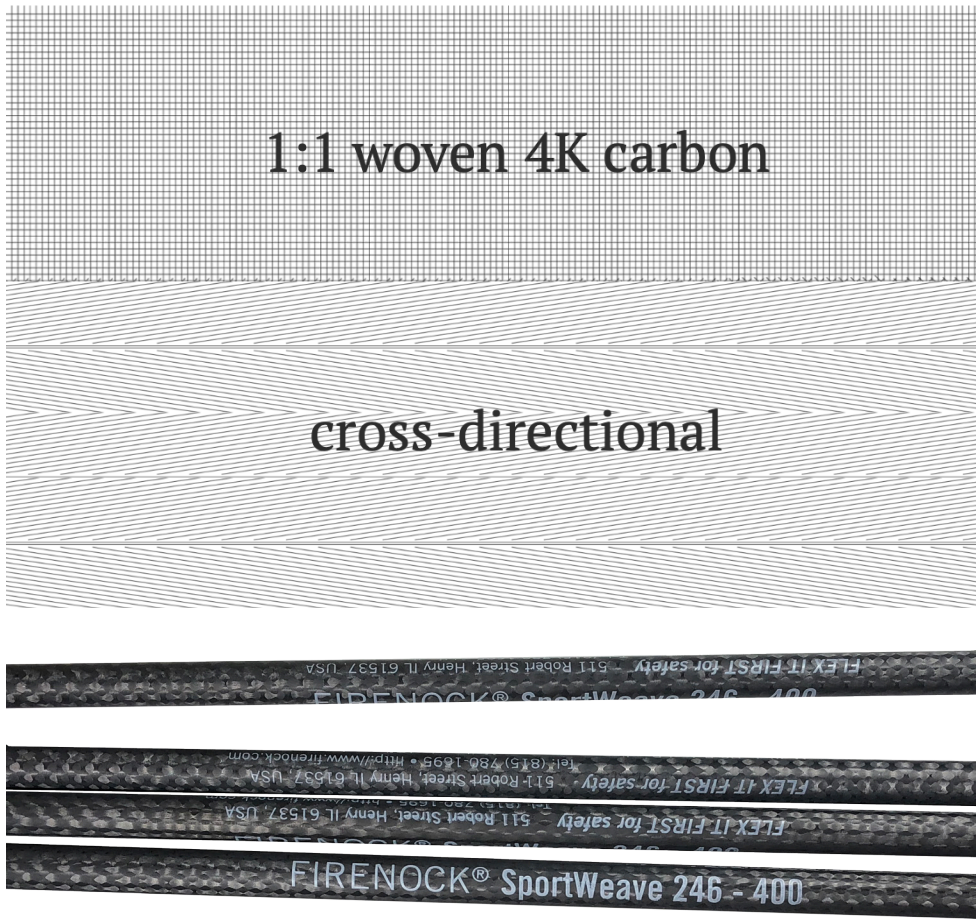
Before going forward, we highly suggest that you look to our AeroWeave page to learn more about our anomalous weave design.

Now, after understanding the basic characteristics and advantages of our weave, its important to note how and how much of this weave we use for the AeroWeave versus the SportWeave. To start, for the AeroWeave, there are actually three separate and unique layers of the 4K weave. However, like the image to the right suggests, for the SportWeave, our 4K weave only makes up one layer, hence the "weave outer shell." This means that SportWeave still has all the awesome benefits of AeroWeave such as torsion strength and ultra durability, just not to the same spectacular degree.

As for other details, here's a quick rundown. Due to our precision proprietary process, we believe it is now inconsequential to hone in on straightness. Why? Well, for those who are interested, the "worst" arrow we offer now has about a .00015" straightness. But further, we have also proven that any arrow that is within .0005" straightness can and will shoot identically like others of better straightness as long as it is built with the right tools, approach, and with the correct components. And what about consistency? Well, in addition to the fact that each batch of Firenock shafts are factory sorted and marked within +/- 1 grain of one another, we will try our best to ensure that each of the completed arrows in your batch will have the same weight all around.

| Name | Spine | ID | OD | Color | Straightness | Weight tolerance Per Dozen | Factory Length | GPI | MSRP* (per dozen) |
|-------------------|-------|--------|--------|------------------------------|--------------|----------------------------|----------------|------|-------------------|
| SportWeave246-300 | 300 | 0.246" | 0.304" | Clear Coat on Black Graphite | < 0.0015" | +/- 1 grain | 32" | 9.8 | \$89.95 |
| SportWeave246-350 | 350 | 0.246" | 0.299" | Clear Coat on Black Graphite | < 0.0015" | +/- 1 grain | 32" | 9.0 | \$89.95 |
| SportWeave246-400 | 400 | 0.246" | 0.292" | Clear Coat on Black Graphite | < 0.0015" | +/- 1 grain | 32" | 8.9 | \$89.95 |
| SportWeave300-200 | 200 | 0.300" | 0.351" | Clear Coat on Black Graphite | < 0.0015" | +/- 1 grain | 22" | 10.3 | \$89.95 |
| SportWeave300-300 | 300 | 0.300" | 0.343" | Clear Coat on Black Graphite | < 0.0015" | +/- 1 grain | 32" | 8.5 | \$89.95 |
| SportWeave300-350 | 350 | 0.300" | 0.339" | Clear Coat on Black Graphite | < 0.0015" | +/- 1 grain | 32" | 7.8 | \$89.95 |

To learn more about the SportWeave, visit <http://www.Firenock.com/sportweave/>



Carbon arrow assembly. What exactly makes a finished or complete carbon arrow different from another?

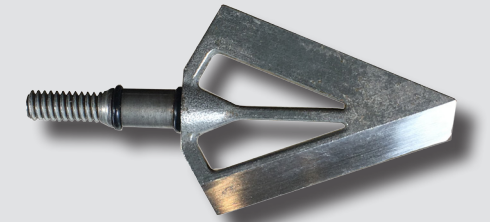
Variables such as type(s) of insert(s), type of shaft, workmanship, vane placement, etc. are often the things people first think about. And, this time, with the SportWeave, we agree! All those variables and more are indeed what we believe make a finished carbon arrow exceptional. For this reason, SportWeave carbon arrows will only be sold via our Certified and Trained Firenock Pro Shops. At Firenock, we have no doubt that in the hands of a real pro, SportWeave, though only the second best shaft on the market (just behind AeroWeave, of course), can give you the best "bang for your buck". Both literally and figuratively.

TRAUMAHAWK™ Fixed For High Speed Crossbows

Utilizing blunt force trauma, the Traumahawk is our invulnerable broad-head designed especially for high speed crossbows. To understand exactly how special it truly is, first, strip back every assumption you have about a broad-head should look like and act like...

A broad-head according to the Merriam-Webster dictionary is "a flat, pointed arrowhead having sharp edges and made of steel." Two significant characteristics are mentioned in this definition—pointed and sharp. Interestingly, neither apply to Firenock's Traumahawk.

Often, when the quality of a broad-head is discussed, its ability to pass through an animal is directly correlated to one's opinion of the broad-head. If we apply such a system of thought to the Traumahawk, most people's opinion would be really low. Why? Because our crossbow broad-head is not meant to "pass through" an animal.



Blunt force trauma.

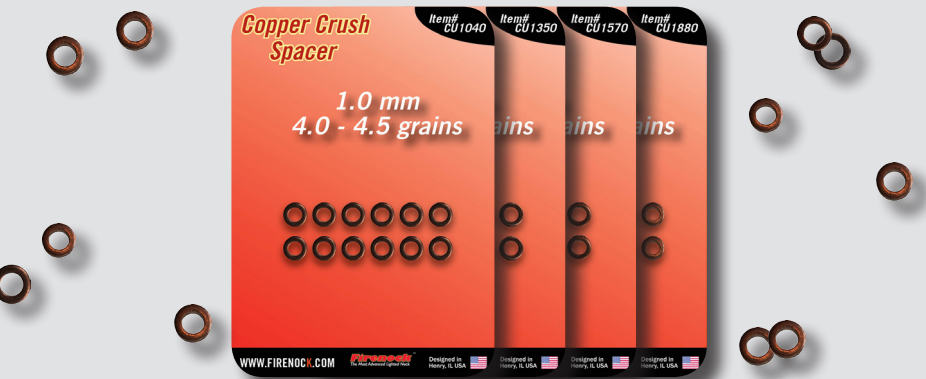
When most hear this phrase the first thing that comes to mind is usually some sort of injury. Such an understanding is definitely relevant here. Blunt force trauma is also known as the "initial trauma." See, unlike most broad-heads that boast how pointed or sharp they are, as you can see in the image above, Traumahawk is not pointed—its literal "point", if you could even call it that, is in fact an edge. Designed to working a bit like the Native American's lethal weapon, the tomahawk, our broad-head is designed to transfer the maximum amount of kinetic energy in the initial or first contact of your arrow to the game. Traumahawk, all in all, is designed indeed not to pass through but tear through.

Specifications

Made of solid stainless steel and weighing 175 grain (11.34 grams), the Traumahawk is machined through a high-pressure precision, die-cast process. This casting method results in a much stronger and tougher steel than machined or MIM (Metal Injection Molding) processed pieces of typical bar stock. To ensure concentricity when you are installing Traumahawk on your crossbow bolt, it is also equipped with FACT, which includes the Double O-ring System, on the neck of the Traumahawk.

To learn more about our broad-heads, visit <http://www.Firenock.com/broad-heads/>

While Firenock has had field points on the market for years now, we've only just entered the broad-head market. And with this new entrance, we've learned that, unfortunately, broad-heads sometimes need a little bit of help to reach their full potential. The three different series on this page and the next are our solution, the adjustment spacers.



Copper Crush Spacers

Recently, we noticed that many field points and broad-heads on the market are not exactly the same weight as claimed. Some 100 grain broad-heads are actually 96 grain, and we've found some up to 8 grains heavier than advertised. We also noticed that some inserts are not deep enough to accommodate a point, causing a small gap to appear. To address these issues, we now offer Copper Crush Spacers. Available in four sizes—[1] 1.0mm or 4.0-4.5gn, [2] 1.3mm or 5.0-5.5gn, [3] 1.5mm or 6.7-7.2gn, and [4] 1.8mm or 7.7-8.2gn.



Titanium Broad-head Alignment Spacers

As their label suggests, these spacers are designed to perfectly align your broad-head according to your own personal configurations. See, often times, when you fully screw in your broad-head into an insert, the broad-head will not sit where you'd like it to. Available in 0.10mm, 0.20mm, 0.25mm, 0.30mm 0.40mm, these GR2 titanium spacers all weigh less than a grain and will give just enough leeway to turn a broad-head that much less/more.

Fixed For Vertical Bows **DAGGER™**

The Dagger is our broad-head designed especially for vertical bows. To understand the compound single bevel grind that it is based on, it's important to start at the beginning, with a single bevel...



Aluminum Slant Spacers

These spacers are a companion product to most broad-heads and field points. 0.5mm thick, these spacers are "slanted" in shape with one side boasting a diameter of 8mm and the other 9mm. With this unique design, one can easily relieve the diameter difference between common vertical bow arrows (8mm) and crossbow arrows (9mm). For long-term durability and good looks, these 0.82+/-0.03 grain spacers are made of 7075-T5 aluminum and are Type II hard anodized.



Dagger Titanium

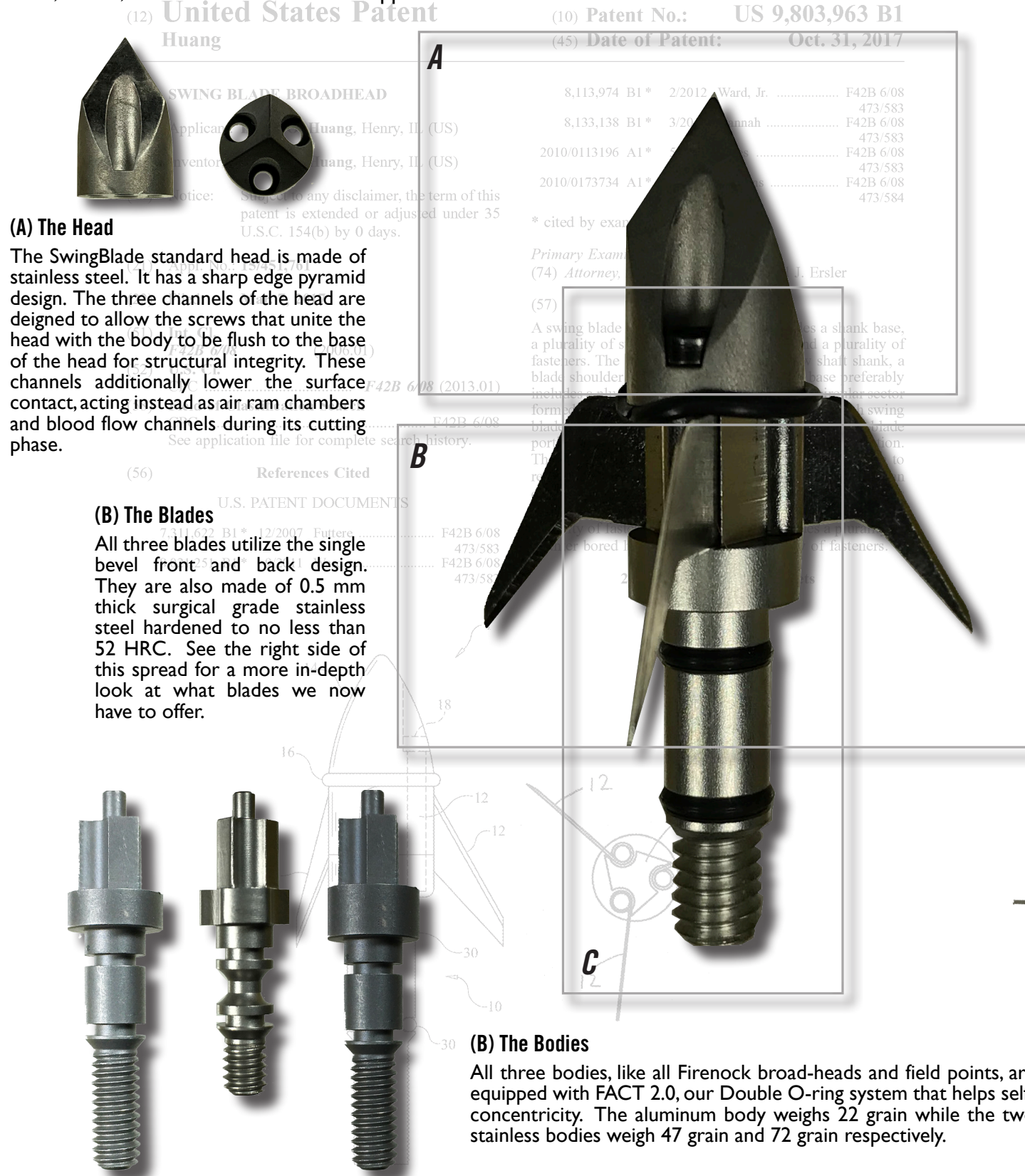
Dagger Titanium or Ti is made from die-cast GR5 titanium and then machined processed. Just like for its heavier cousin, this casting method is about the only way the complex geometry of it can be made correctly. For 2019, we updated and refined the design shape, making it near identical to that of the original Dagger 125. The reason for this change was to improve silent flight while still maintaining its weight at about 75 grains. All in all, this light weight makes it an ideal broad-head for those who are using the AeroConcept 1.0 or 2.0 system due to the carbon inner tube's(s') already added weight to your arrow. They come one per pack unlike the stainless Daggers, which come in packs of three.



To learn more about our broad-heads, visit <http://www.Firenock.com/broad-heads/>

SWINGBLADE™ *The Future's Mechanical Broad-head*

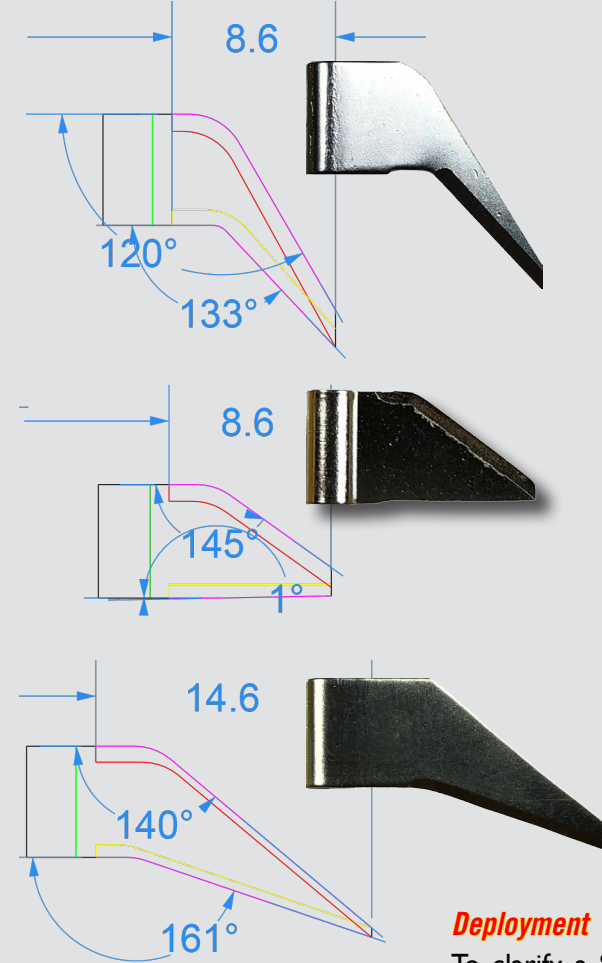
SwingBlade is a mechanical broad-head that utilizes a deployment system never before seen. As its name implies, the three blades on a SwingBlade deploy by swinging out from their clasped position upon impact (US Pat. # 9803963). This design allows it to be used on high speed archery projectiles (550 fps) with accuracy due to a minimum crosswind signature during flight ($\sim 3/4"$). Further, designed as a completely interchangeable series, the head, blades, and bodies can be field swapped.



To learn more about our broad-heads, visit <http://www.Firenock.com/broad-heads>

The Falcon, Raptor & Talon Blades **SWINGBLADE**

Last year with the introduction of the SwingBlade, two unique blades were announced: the Falcon and Raptor blades. This year, after hearing what our customers have to say about the previous lineup, we've added the Talon blade. Each have been detailed below.



The Falcon Blade

When SwingBlade is equipped with Falcon blades, it is the quietest of all Firenock broad-heads. Though these blades are designed with a high cutting angle, there is still a minimum amount of drag effect when it passes through the wind. For 2019, this blade upgraded from food grade 303 to 420 stainless harden to a minimum of a 53 HRC to address the concerns about blood trail when shot with lower speed bows. Falcon blades remain a great choice for archery projectiles up to 550 fps even at 35 mpg crosswinds.

The Raptor Blade

The Raptor Blade was designed to address very strict no-barbing laws. The fact that the backward angle of the Falcon Blade exceeds 90 degrees can make it illegal to use in some states. Therefore, although the Raptor Blade utilizes the same single bevel design, it has a backward angle of exactly 89 degrees. The stoutness of Raptor blades make it a great choice when durability of the blade is of import.

The Talon Blade **NEW**

The Talon Blade was designed to address the lack of blood trail. Specifically, we wanted to ensure that we could give our customers what they wanted without giving up much accuracy in bow speeds: lower than 315 fps. We believe that with its open cutting radius of over 1.66" compared to the 1.1875" of the Raptor or Falcon, we succeeded. Additionally, also like the updated Falcon Blade, Talon blades are made of 420 stainless and hardened to 53 HRC.

Deployment

To clarify a SwingBlade's blades will only deploy when there has been a change in density; the only thing actually keeping the blades from swinging open is a rubber O-ring. Therefore, only after contact with something of a different density than air such as flesh will the single level grind blades open via the hinge that is directly perpendicular to the impact surface. The hinge pin screw, although extremely tiny in diameter (0.175mm), is critical in this application, which is why we choose to make it from HRC60 CRMO steel. This pin also allows one to easily replace or switch out blades

For illustrative purposes, [1] shows a SwingBlade before deployment (~3/4"), [2] shows the SwingBlade equipped with the Falcon and Raptor blades deployed (1 3/16"), and [3] shows SwingBlade equipped with the Talon blades deployed (1.66"). Ratios correct, images enlarged for demonstrative purposes.

The Match-Weight Cylinders **NEW**

Due to its small crosswind signature, SwingBlade has proven to fly like a matched weight AeroPoint. For 2019 however, a Practice Weight Ring Set was created for those who still prefer to actually practice shooting with the actual body and head of the SwingBlade. This package includes three 303 stainless rings that as implied, match the weight of the three blades. It also includes three extra O-rings and 6 screws.



To learn more about our broad-heads, visit <http://www.Firenock.com/broad-heads>

Ti KITS Bow Upgrades

Our kits replace your bow's original heavy and rust-able bolts, screws and cam stops with titanium ones. All the components within the Titanium Fasteners Upgrade Kits are made up of high-grade titanium with the highest desired accuracy and are about half of the weight of the factory ones (or even a third with our titanium hollow fasteners) originally installed on your bow. Also, for any fasteners that are in need of an extra boost, we have them custom made.



Your bow will look new even after hunting in the harshest environments as titanium will never rust.



Your bow will become lighter, especially while you are holding your bow with your arm out straight.



Your bow will vibrate less as heavy focus masses are replaced by significantly lighter fasteners.

When purchasing Titanium Fastener Upgrade Kits, you can choose from two options: the Basic Kit or the Advanced Kit. The Basic Kit always includes limb bolts, sight screws and arrow rest screws. The quantity of each is according to your preference during checkout. The Advanced Kit, on the other hand, includes most to all of the bolts, screws, cam stops, and other specialty parts on your bow. You can discover if we have a kit for your bow at our website. If your bow is not in our database, you can always contact us so we can try our best to build a kit for your favorite bow.

Cam Stops (US Patent # 9097486)

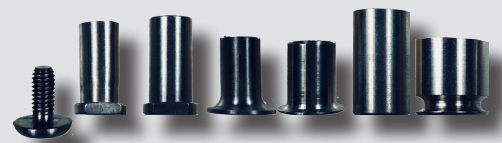
Firenock currently has six different designs of cam stops. (see right). Each boasts two or more of the forthcoming features. To start, all six exploit titanium by utilizing its properties of lightness and rigidity. Examples of this exploitation include increasing their diameter but decreasing their wall thickness to ultra-thin. Due to this special design, our cam stops weigh 80%+ lighter than factory. Another unique design detail used for some of our cam stops is a wider base, which increases the contact surface between the cam stop and the cam, thus minimizing the chance of cam deformation due to high pressure during tightening and pull back (and again, because of the properties of titanium, the extra materials used to make that base won't effect the weight too much). Lastly, arguably the most important feature is our use of O-rings. See, instead of the use of a sleeve of rubber on the cam for dampening, all Firenock titanium cam stops utilize multiple O-rings (no less than five). Continuously moving along their cam stops, these O-rings can and will never deform or crack.

With the installation of Firenock titanium cam stops, your cam will become lighter which not only increases the rotational speed of the cam, but also decreases the torque stress that is applied to the cam at each launch cycle. In short, your bow will become more stable, balanced, and efficient while your arrow will achieve a higher launch speed and point of impact (POI).

The scales to the right show a complete sample factory kit weight in comparison to a correlated complete Ti Kit weight.



To learn more about our upgrade kits, visit <http://www.Firenock.com/Titanium/>



Sample List of Custom Bow Parts

- Barrel Nut for 3/8"-16
- Bowtech Carbon Riser Limb Bolt
- Bowtech Hollow 3/8"-24 x 2 1/4" Bolt
- Bowtech Mating Limb Pocket Hold Set
- Bowtech Undercut Head 5/16"-18 x 2" Bolt
- Button 3/8"-24 x 3/4" Hollow Screw
- Button 5/16"-24 x 3/8" W1/2" Hollow Screw
- Cable Guard Bearing Long Shoulder Screw
- Cable Guard Bearing Short Shoulder Screw
- Expedition/Obsession Cam Stop
- Extra Heavy Duty Cam Stop w/Screw
- Flat 3/8"-24 x 3/4" Hollow Screw
- Flat 5/16"-18 x 2" Hollow Bolt
- Flat 5/16"-24 x 3/4" W1/2" Hollow Screw
- Flat Dome 3/8"-24 x 2" Hollow Bolt
- Large Hollow Cam Stop
- Mid Width Cam Stop
- PSE 2.78" Hollow Limb Pocket Bar
- PSE 3/8"-Hollow Limb Pocket Bar
- PSE 3/8"-24 Barrel Nut
- PSE Cam Stop with Screw
- PSE LAS™ Barrel with Side Control
- PSE LAS™ Side Control Nut
- PSE Old Style Quiver Hollow Screw
- PSE Tac 15 Elite Cable Guard
- PSE Tac 15i Hollow Cable Guard
- Slim Cam Stop w/Screw
- Socket 5/16"-18 x 2 1/4" Hollow Bolt
- Stabilizer Nut
- Stud 5/16"-24 x 1 1/2" Hollow Stabilizer Stud
- Stud 5/16"-24 x 1" Hollow Stabilizer Stud
- Stud 5/16"-24 x 2 3/4" Hollow Stabilizer Stud

Sample Custom Upgrades Ti KITS

This year, with the introduction of our online bow kit finder came too the creation of our formal bow fastener database. Due to this event, our ability to not only keep up with new bows but to also improve on and develop specialty parts exponentially increased. We've hand-selected 17 of those specialty parts below.

1. Socket Head 5/16"-18 x 1.25" Hollow : Used on Ravin crossbows as a limb bolt, total weight reduction is from 210 grain to under 100 grain.
2. Dome Head 3/8"-16x2.5" Hollow : Used on some Mathews and Mission bows as a limb bolt, total weight reduction of ~50%.
3. Mating Bolt and Screw with Flange Head : Used on Bowtech RPM as limb pivot anchor.
4. Patented Extra Wide Bottom Hollow Narrow Cam Stop : Used on vertical bows that need the extra rigid back-wall and more cycle travel.
5. 5/16"-18 Barrel Nut w/ Depth Side Window : Used on most APA bows.
6. Button Head 5/16"-24 x 3/4" Hollow : Used on most vertical bows as an arrow rest fastener. Due to its 1/2" head diameter, two of them can be used side by side with no modification and still be lighter than a single steel one.
7. Socket Head Shoulder Screw : Used on some Hoyt's roller guards.
8. Stabilizer Adapter : Used on any bow that needs a stronger, sturdier stabilizer hole that can accept a 7/16"-20 thread on the outside diameter while still conforming to the ATA standard of a 5/16"-24 thread hole.
9. Button Head 3/8"-24 x 2" Hollow : Used on Bowtech vertical bows like the Boss, etc.
10. Low Socket 3/8"-16 Hollow : Used on older PSE quivers, total weight reduction of ~65%.
11. Low Socket Slant 3/8"-24 Hollow : Used on BowTech bows like the Reign.
12. Hollow Bar Nut with Button Head : Used on most PSE Airs or on any PSE bows with limb pocket support bars. It comes in 2.75" and 3.07".
13. Barrel Nut with Lateral Adjustment Anchor : Used on PSE bows with LAS.
14. Patented Large OD Cam Stop : Used on bows that lack a distinct large groove. This cam stop averages a total weight reduction of 75% and a 50% increase in rigidity of the back wall.
15. Low Flat Head 5/16"-24 x 3/4" Hollow : Used on a vertical bow that needs a flat head screw and needs to be low profile like the QAD brand specific arrow rest. This screw is only 27 grains.
16. Hollow Axle Nut : Used on a Ravin cam axle with 8-32" thread, total reduction weight of 50% and significantly lower the vibration at the limb tip due to lesser mass.
17. Semi-Hollow String Pump : Used on PSE TAC15/15i crossbow..



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To learn more about our upgrade kits, visit <http://www.Firenock.com/Titanium/>

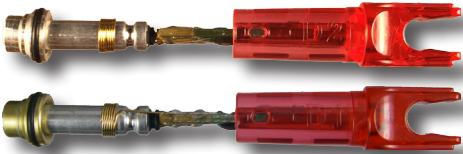
PSE TAC Series Upgrades

The PSE TAC crossbows, though now discontinued, are still many an archer's go-to. To supplement and optimize your favorite crossbow, we offer many accessories including AeroBolt, Firenock, AeroRest, Titanium Fastener Upgrade Kits, and titanium cable guards with rollers.

AeroBolt

The TAC10 crossbow needs a 24.25" projectile and for the TAC15, 15i, Elite, and Ordnance crossbows, a 26.25" projectile. Custom-built, the Firenock AeroBolt II Series crossbow arrows can be cut down to any length and thus can be used on any PSE TAC crossbow. Additionally, all AeroBolts, at purchase, can be of 3 or 4 vanes (i.e. TAC specific "bow-tie" configuration to clear the scope rail). For those who want to use the TAC for ultra big game, the AeroBolt II Dragon Slayer is also available.

Note : Like all common crossbow arrows on the market, the internal diameter of all Aerobolt is 0.300" for simple and easy nock style and crossbow exchanges.



Firenock

As of today, Firenock offers a total of 14 nock styles. Of those 14, two are well suited for the TAC Series Crossbows. As always, to ensure that the system will shoot correctly, it is necessary for the nock to clip onto the string perfectly. For all TAC crossbows which boast a 0.165" OD serving, "D" and "D2" are the best options. Between the two, the only difference is the required arrow shaft ID and thus the arrow that you decide to use along with our lighted nock system. To be more specific, "D" has a 0.298" ID, which fits the PSE TAC factory crossbow arrows, while "D2" has a 0.300" ID (which perfectly matches AeroBolts, for example).

For those who decide to use the Firenock with TAC factory arrows, it is important to note that the process of installation is a little more involved than usual. Due to the fact that TAC factory arrows come with basic components already installed via glue, it is sometimes harmful and in some instances impossible to remove them. Nonetheless, for those who decide to try to remove the original components and succeed, please install a Carbon Express CXL 250 bull-dog collar.

Often, even when one is able to clear the back of the arrow, it can become flimsy and cause the Firenock to shuffle into the shaft and ultimately destroy both the shaft and the Firenock itself.

Finally, like many of our Firenock styles, "D" and "D2" are offered in a plethora of colors. With three options for color of nock and six options for color of LED, there is a total of 18 color combinations for each style. Additionally, there are up to three different functions of light (solidly lit, solidly lit for 6 seconds and then blink, and auto shut-off after 17 seconds).

AeroRest

Many who had used the PSE TAC crossbows for long range precision shooting understand it takes a lot of effort to tune one. A specific problem that arises is that, unfortunately, because of the short-lived nature of the factory rest, accuracy suffers as the rest wears. Fortunately however, due to Firenock's patented three-fingered AeroRests' core material being ceramic, wear is not an issue.



Please note that, due to its unique design, all projectiles using AeroRest (ARTAC0) on a TAC crossbow must have a three vanes configuration with cock vane up. Due to this requirement, some alterations must be made to the crossbow. Particularly, 1.75" of the scope rail must be cut off. Then, due to the now very short scope rail, something such as the HHA optimizer must be purchased and installed. A sample photo of this entire set-up [minus the AeroRest] is shown above.

Titanium Kits

Here, while its light weight is indeed utilized for a 50% reduction in weight, titanium's rigidity is the less known but much more significant characteristic. Although admittedly acknowledged and employed for years, the application of it within the archery sphere has only been correctly apprehended by Firenock. See, with such rigidity, overall vibration is minimized which leads to the consumption of excess energy. Why might you want to have excess energy absorbed? Because then your bow will then shake less and shoot calmer. Learn more about this specific concept on page 50.



Cable Guards

For those who love the PSE TAC but are unhappy with how the two main cables can rub against each other, we at Firenock now offer a solution. Our Cable Guard Upgrade Kit replaces the clunky factory aluminum cable bumpers with two custom-designed GRS titanium bars, two LimbSaver string stops, and two nylon cable rollers. This system minimizes cable wear and friction (with up to 5fps gain), and is also lighter than what the factory offers.

Series Upgrades RAVIN

The Ravin crossbows, loved by many, leave a lot of room for customization, optimization, and upgrades. For all current series (R9, R15, R10, and R20), we offer many accessories: Aerobolt, Firenock, AeroRest, Titanium Fastener Upgrade Kits, and hollow titanium axles.

AeroBolt

All Ravin crossbows, with the exception of the R10 (20"), require a minimum of a 21" projectile. With the use of a Ravin AeroRest however, that minimum changes. In addition, we suggest a 22" projectile.

The Firenock AeroBolt Series (II & III) crossbow arrows can be cut down to any length and thus can be used on any Ravin crossbow. Additionally, all AeroBolts, at purchase, can be built for a 2, 3 or 4 vane configuration. For those who want to use the Ravin for ultra big game, the AeroBolt II Dragon Slayer is also available.

Note : Like all common crossbow arrows on the market, the internal diameter of all Aerobolt is 0.300" for simple and easy nock style and crossbow exchanges.

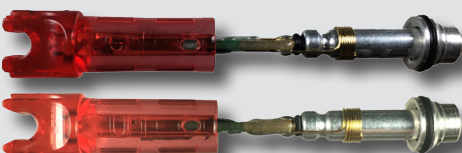
Titanium Kits

Here, while its light weight is indeed utilized for a 50% reduction in weight, titanium's rigidity is the less known but much more significant characteristic. Although admittedly acknowledged and employed for years, the application of it within the archery sphere has only been correctly apprehended by Firenock. See, with such rigidity, overall vibration is minimized which leads to the consumption of excess energy. Why might you want to have excess energy absorbed? Because then your bow will then shake less and shoot calmer. Learn more about this specific concept on page 50.

Axles

An option available at purchase with a titanium fastener kit for Ravin crossbows are the hollow titanium axles. Why should you purchase a pair? Well, first off, there is an 80% reduction in weight. Next, like all products made of titanium, these axles will last forever—they're rust-proof and like aforementioned in the Titanium Kits section, ultra rigid. Consider this: your cam is the focal point of the kinetic energy being exerted on your crossbow and at 400+ fps, there's a lot of that energy to go around. With a hollow titanium axle as the backbone for each of your cams, the output of all that energy will be more focused.

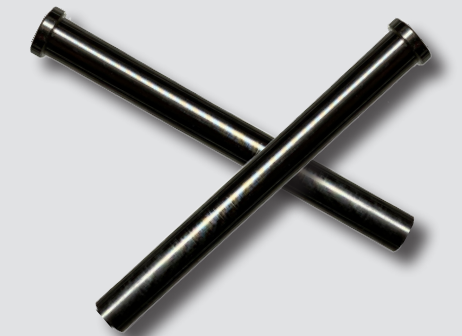
Firenock



As of today, Firenock offers a total of 14 nock styles. Of those 14, two are well-suited for serving sizes often found on crossbows such as Ravin. As always, to ensure that the system will shoot correctly, it is necessary for the nock to clip onto the string perfectly. Note the next couple of sentences to understand how a crossbow's serving size will effect your Firenock nock's clip capacity. For any Ravin crossbows which boast a 0.132" OD serving, "U" is the best option. On the other hand, for any Ravin crossbows which boast a 0.125" OD serving, "C" is the best option.

Finally, like many of our Firenock styles, "C" and "U" are offered in a plethora of colors. With three options for color of nock and six options for color of LED, there is a total of 18 color combinations for each style. Additionally, there are up to three different functions of light (solidly lit, solidly lit for 6 seconds and then blink, and auto shut-off after 17 seconds).

Disclaimer : Firenock does not make nocks for Ravin crossbows or any specific type of crossbows. All Firenock nocks are and have always been designed to fit specific IDs and ODs. Please check and double check the exact fit of your nocks or bodily harm could occur.



AeroRest

Many who have used the Ravin crossbows for long range precision shooting understand it takes a lot of effort to tune and maintain one. In some cases, the plastic rollers on the factory rests can and will wear out to the point of disuse. The Ravin AeroRests are our solution.

Like all AeroRests, the Ravin AeroRests are long-lasting. Their bodies are made of 7075-T5 aluminum and each of their three fingers are full of spring-loaded ceramic ball bearings. But what unique features do the Ravin AeroRests have that others do not? Well, all three, to fit snugly at the front of the crossbow, have a uniquely designed and machined frame. And upon that frame, a water level. The vertical placement of that water level, however, depends on the model of the Ravin AeroRest. On the RAV1, the water level is right beside the top finger. On the RAV2 (see below for a top down view) and RAM1, the water level is elevated about an inch up for scope clearance. Learn more about their specifications on pages 42-45.

Please note that due to its unique design, all projectiles using AeroRest on a Ravin crossbow must have a two, three, or four vane configuration with cock vane down.



AEROREST™ The Fully Contained, Frictionless Rest

AeroRest is believed to be the most advanced and most accurate rest on the present market. Proudly designed in the state of Illinois, all our rests utilize both US Patents # 8875687 and US Patent # 8967133. It has three supports for arrow containment, each with ceramic ball bearings that act as the arrow's 96 degree contact points and its tension-adjustable supports. CNC precision processed and built with materials like titanium and aircraft aluminum, we believe AeroRest is one of the lightest and most accurate rests on the market.

AeroRest is initially similar to other full containment arrow rests on the market, but after a closer look at the technical design, you can discover how unique it truly is.

Three Fingers : Designed to achieve the smallest contact surface physically possible, the AeroRest boasts virtually no friction while shooting. But how do these fingers execute such a feat? The answer is math. On a circle or sphere, the plane that touches its curved surface is called a tangent. That "plane" is actually a point. With two or three fingers having one point of contact each, our AeroRest still remains a full containment system].

Ceramic Ball Bearings : As mentioned in the previous section, the supports are topped with a sphere or ball. With the ball bearings being made of ceramic, one of the hardest materials in the world, the tangents or points of contact are even smaller—the roundness is ensured. Under these first ball bearings in each of these supports is another ceramic ball bearings, making a total of six ball bearings. And under all those ball bearings is a spring, thus three springs total. With this two ball bearings and spring design, you can fine adjust the suspension system of each support to perfectly match the flex of your arrow, making you shoot faster, straighter and more accurately.

Magic 96 Degrees : For AeroRests with a cock vane down design, between the two lower fingers, there is exactly 96 degrees of separation. This perfect amount of separation allows the AeroRest to shoot ultra slim, slim and standard arrows—shafts with an OD or outside diameter from 4mm to 12mm—with only three simple setup steps described in the manual.



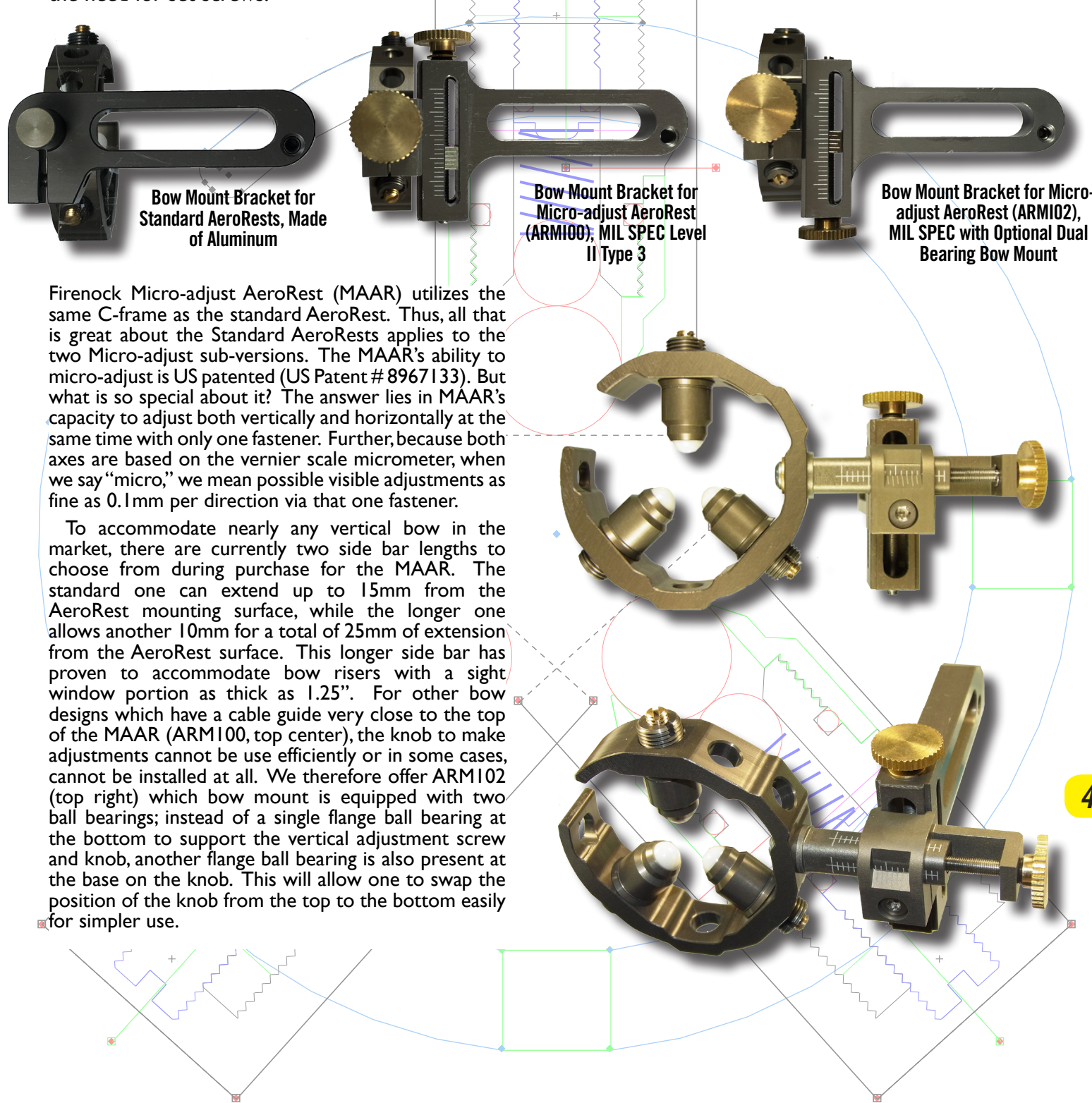
Top 10 Features

1. Frictionless Shooting : Ceramic contact surface eliminates almost all friction between the arrow and the rest itself.
2. Fully Contained System : Three fingers ensure that your arrow is always contained within the rest.
3. No-Wear Surface : Industrial grade ABEC#5 ceramic ball bearings mean perpetual roundness and smoothness.
4. Camouflaged Sound : Each of the three arrow supports are loaded with two ceramic ball bearings suspended by a beryllium copper spring to provide smooth operation. During draw and launch, the produced sound replicates that of hard wood being rubbed.
5. Super Light : AeroRest is about one ounce as a result of the usage of new generation materials like ceramic and beryllium copper.
6. Ultra-Hard, Type III Anodized Finish : The major components of the AeroRest are Type III anodized for durability and for its natural olive green color.
7. GR2/GR5 Titanium Fasteners & Spacers : Spacers are made of GR5 titanium. All additional fasteners are made of GR2 titanium. Overall making them 45% lighter than ordinary steel materials and completely non-corrosive.
8. Fits Most Arrow Sizes : AeroRest can be altered with spacers to accept arrow shaft sizes as small as 0.156" to as large as 0.365". Further, with the removal of the top support, AeroRest can accept arrow shaft sizes as large as 0.45".
9. Optional Micro-Adjustable Design : For even more adjust-ability, the Micro Adjustable AeroRest has a built-in micrometer to enable very fine adjustments (0.1mm) during target shooting or during in-field hunting (see next page.)
10. Left & Right-hand Shooter Friendly : AeroRest has a mirror image design which allows AeroRest to be used universally.

To learn more about the AeroRest, visit <http://www.Firenock.com/aerorest/>

For Vertical Bow AEROREST

There are two main vertical versions of AeroRest: Standard and Micro-adjust. As pictured on the previous page, there are also two sub-versions of the Standard AeroRest. The only difference between the two AeroRest are their sidebars. ARST00 is made from 7075-T5 aluminum, finished with a Type II Level 3 anodization, and is laser marked with guidelines. The ARST0H, on the other hand, boasts a GR5 titanium sidebar that is machined to be hollow. Although titanium is more expensive, due to the lack of finish, both sidebars (and therefore both AeroRest) are the same price. Additionally, since 2017, both Standard AeroRest come with a new, longer bow mount (see left below) to allow the use of two AeroRest mounting screws for stability, reliability and to eliminate the need for set screws.



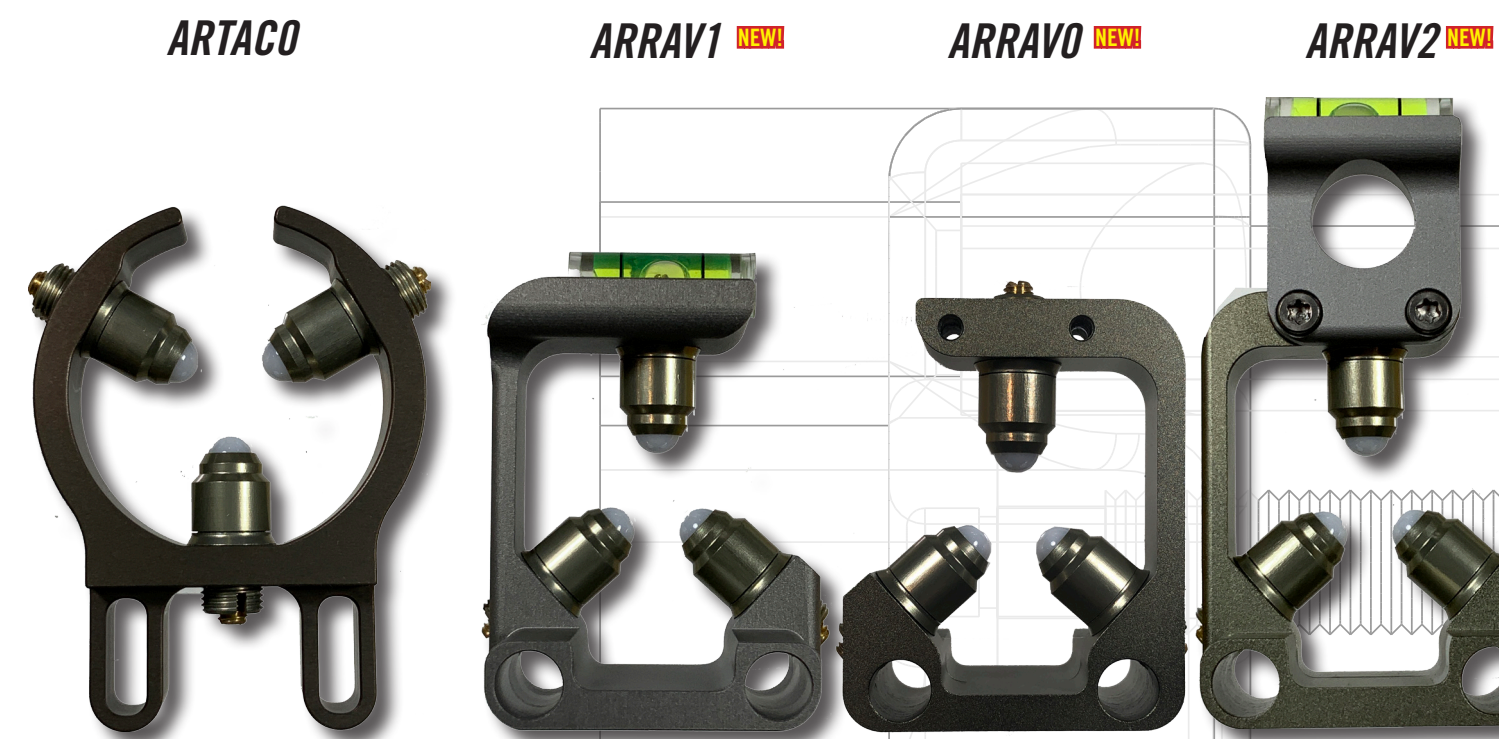
Firenock Micro-adjust AeroRest (MAAR) utilizes the same C-frame as the standard AeroRest. Thus, all that is great about the Standard AeroRests applies to the two Micro-adjust sub-versions. The MAAR's ability to micro-adjust is US patented (US Patent # 8967133). But what is so special about it? The answer lies in MAAR's capacity to adjust both vertically and horizontally at the same time with only one fastener. Further, because both axes are based on the vernier scale micrometer, when we say "micro," we mean possible visible adjustments as fine as 0.1mm per direction via that one fastener.

To accommodate nearly any vertical bow in the market, there are currently two side bar lengths to choose from during purchase for the MAAR. The standard one can extend up to 15mm from the AeroRest mounting surface, while the longer one allows another 10mm for a total of 25mm of extension from the AeroRest surface. This longer side bar has proven to accommodate bow risers with a sight window portion as thick as 1.25". For other bow designs which have a cable guide very close to the top of the MAAR (ARM100, top center), the knob to make adjustments cannot be use efficiently or in some cases, cannot be installed at all. We therefore offer ARM102 (top right) which bow mount is equipped with two ball bearings; instead of a single flange ball bearing at the bottom to support the vertical adjustment screw and knob, another flange ball bearing is also present at the base on the knob. This will allow one to swap the position of the knob from the top to the bottom easily for simpler use.

To learn more about the AeroRest, visit <http://www.Firenock.com/aerorest/>

AEROREST™ For Crossbow

In the past few years, due to the exponential growth occurring in the field of crossbow technology, there has also been a growing demand for better, more precise arrow rests. Firenock recognized the need and, as of 2019, we now offer four unique arrow rests for two of the most popular crossbows today.



For those who shoot their arrows in a cock vane up configuration, like required for the TAC crossbow, we developed the AeroRest for PSE TAC. Its application is unique because, due to its configuration requirements, an arrow must be (and is) perfectly balanced on the bottom ceramic ball or friction can seriously wear an arrow down and ruin accuracy. Fortunately however, since AeroRest is based on a true tangent point, the actual contact surface will never exceed 0.000,001,2".

To configure this AeroRest for a specific arrow, one only need to add (a) spacer(s) to the bottom finger to make a perfect center shot with the rest.

Important : To install AeroRest for TAC successfully, some modifications are required. See page 40 for more information.

As with all AeroRests, the AeroRest for Ravin utilizes our patented tangent system which means there is no more than 0.000,000,8" of square surface area constantly in contact with the shaft. As total contact surface area between AeroRest and the shaft is tiny, friction is infinitely little while still full contained.

Design wise, this AeroRest is simply a standard AeroRest with a rectangular frame instead of a C-frame to fit at the front of a Ravin. The mounting holes are even identical to the OEM Ravin Rest. But we, of course, supply the rest with custom-made titanium screws and copper spacers. These additional components allow for easier and smoother rest position adjustments during tuning. This version is equipped with a simple water leveler at the top of the frame.

AeroRest for Ravin II of course boasts all the benefits of an AeroRest for Ravin. What then, is the difference? Well, its significant patent-pending feature involves allowing one to be able to still view the water level while using a scope. This will help a shooter ensure just before release that their bow is level, especially when considering the short axes on a Ravin.

Another feature of this AeroRest is that it also aids during close range shooting. Most crossbows with a high powered scope find it difficult to swiftly reconfigure their lens when game spontaneously appears in close range. The hole beneath the water level is designed to solve this issue and act as a close range aiming assistant.

For those who prefer no water level on the rest, ARRAVO is ARRAV2 without the water level and priced the same as ARRAV1.

To learn more about the AeroRest, visit <http://www.Firenock.com/aerorest/>

The Ultimate Ravin Upgrade AEROREST

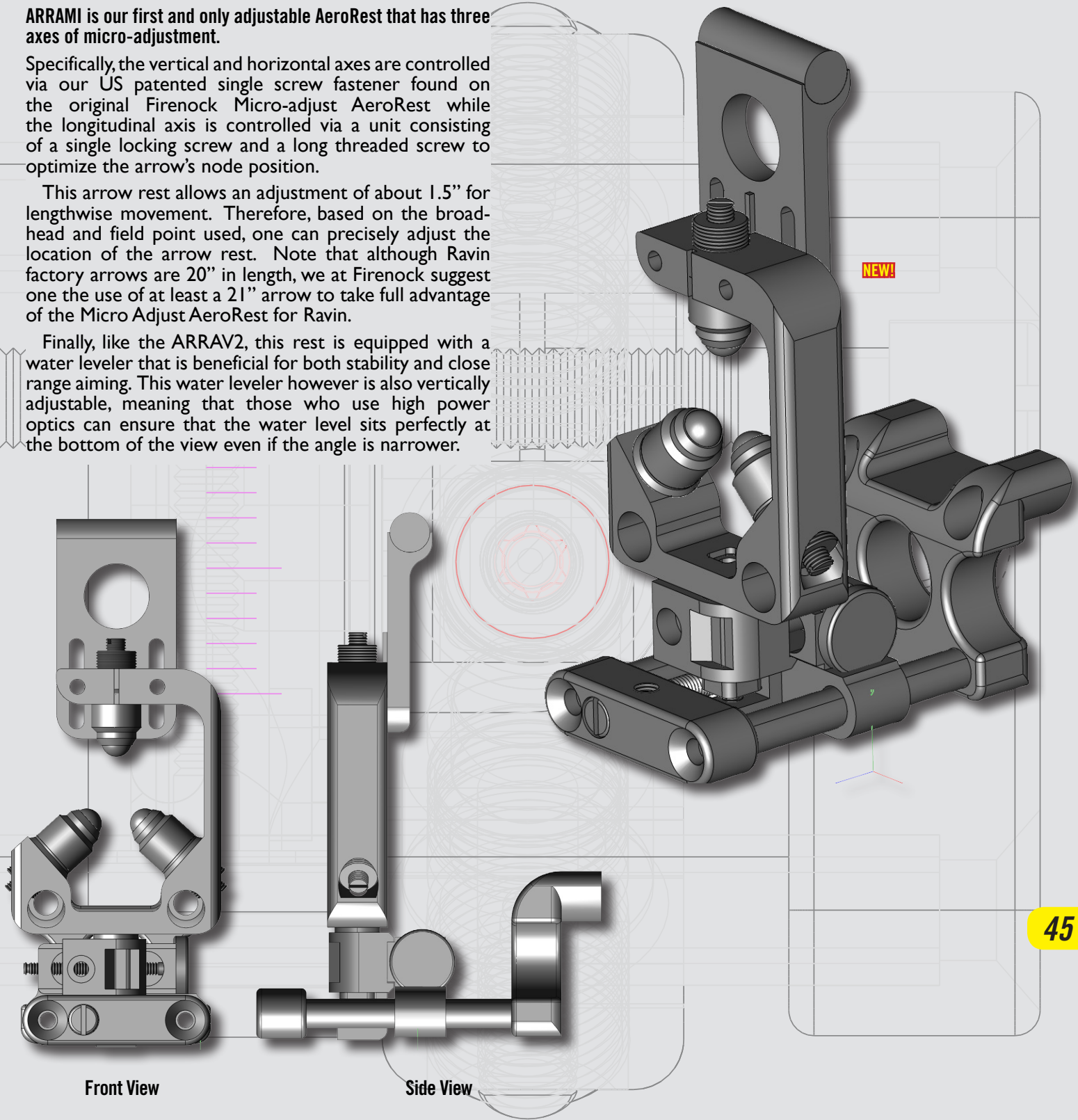
As explained in the AeroFlight 101 spread, its essential for the null point or node of an arrow when being shot to match up with the arrow rest. For those who wish to follow this rule, especially where a rail-less crossbow like the Ravin is involved, the ARRAMI, the Micro Adjust AeroRest for Ravin, is finally here.

ARRAMI is our first and only adjustable AeroRest that has three axes of micro-adjustment.

Specifically, the vertical and horizontal axes are controlled via our US patented single screw fastener found on the original Firenock Micro-adjust AeroRest while the longitudinal axis is controlled via a unit consisting of a single locking screw and a long threaded screw to optimize the arrow's node position.

This arrow rest allows an adjustment of about 1.5" for lengthwise movement. Therefore, based on the broad-head and field point used, one can precisely adjust the location of the arrow rest. Note that although Ravin factory arrows are 20" in length, we at Firenock suggest one the use of at least a 21" arrow to take full advantage of the Micro Adjust AeroRest for Ravin.

Finally, like the ARRAV2, this rest is equipped with a water leveler that is beneficial for both stability and close range aiming. This water leveler however is also vertically adjustable, meaning that those who use high power optics can ensure that the water level sits perfectly at the bottom of the view even if the angle is narrower.



To learn more about the AeroRest, visit <http://www.Firenock.com/aerorest/>

AEROCRANK™ A Truly Silent Ratchet System

Loaded with three independent patent claims and 17 depend patent claims, the AeroCrank is one of if not the most scientifically advanced and engineered units we at Firenock have ever designed and produced. Truly re-thinking every part of how a crossbow crank should work and has worked, the AeroCrank is in a league of its own—once you buy one, we believe you'll never want or need to buy another crossbow crank again.

Two-Pawl Ratchet System (US Patent # 9752844)

To make a silent ratchet system, we quickly discovered that the answer lies within enabling the wheel of the ratchet to go both forward and reverse freely both efficiently and perfectly. So how did we do so? With a very special and unique two-pawl ratchet system. Let's then start with the pawls. Involving only a dog and a fastener, a simple pawl is defined as a pivoted lever whose free end engages with the teeth of a wheel via a spring. Our pawls involve a bit more components and do what a simple pawl does (engage with the teeth of a wheel) but only at a very specific time and without a spring—we'll get into that later. First off, the components. For each pawl, there are a total of four components: the dog, the ratchet control clip, the screw fastener and the bushing.

The Dogs and The Ratchet Control Clips

Permanently gripping the wheel and press-riveted to each other, this unit is the key to our silent ratchet. Designed at very calculated angles from one another, these components do something radical when the wheel is in motion—they become disengaged from the wheel and, via friction due to the constant contact the ratchet contact clips have to the wheel, they move along with and then away from the wheel, removing themselves out of play. Without the dogs in play, they never touch the wheel and “click” along with its movement. But why have two pawls? To best explain our answer, we have to discuss something we call the anti-reverse cage. Shown upon the cog in the image on the left above, the anti-reverse cage is what allows users to stop the ratchet from moving freely. But, due to the ratchet contact clips allowing the wheel to move without the engagement of the dog, the only time that the dog does becomes engaged is when the anti-reverse cage is brought up to limit the wheel's movement. See, the moment when the teeth finally engage with the wheel, if they are not exactly at the start of the slot of a tooth, they have to travel to the next tooth. Yet how far do they have to go? To calculate that distance, you take 360 degrees and divide it by the amount of teeth are on the wheel. So let's do so for AeroCrank. 360 degrees divided by 15 teeth: 24 degrees. 24 degrees, a small distance, but what if we could make that distance smaller? Immediately, most would say that we should just add more teeth. But that exponentially decreases the strength of the system. Others use a bit more complex approach: a one-way ball bearing. But that wears and can only withstand a minimum amount of pressure. So, instead, never wearing and able to bear significantly more pressure, we used two pawls. For then, in the rare case of one missing the current dog would only have to travel 24 degrees divided by two—12 degrees—before catching on the second pawl. Lastly, made of titanium and brass respectively, the screw fastener and bushing further assist in allow the pawls to pivot and move accordingly.

The Rounded Edges

The original AeroCrank design was inspired by the traditional round bait-casting reel, which has straight sides. Unfortunately however, the edges of our demo crank pinched the shooter's face. As a result, a significant radius edge (up to 10mm) was added to the entire Crossbow crank. It now is not only more comfortable to use, but also has a more sleek and organic look. To accommodate, a special shallow and low, rounded-head screw was custom designed and built to further lower the profile of the AeroCrank.

Before going into each section of the AeroCrank that is shown above, let's start with this:

“[The AeroCrank] does not make a ratcheting noise when a crossbow string is pulled for latching.”

~Dorge Huang

This quote is pulled from the first line of the “Field of Invention” section of the US patent surrounding the AeroCrank. In essence, the AeroCrank's design was focused on making a silent ratchet. Why is such a distinction important? To best understand that question, we have to first uncover what a ratchet is and does. Simply put, a modern ratchet involves a wheel, a pawl, and an anti-reverse system that work together to enable effective motion. While our AeroCrank includes and does these things, our AeroCrank's ratchet also involves something else: another pawl. Working simultaneously, our ratchet's pawls allow our AeroCrank to be truly quiet during use.

To learn more about the AeroCrank, visit <http://www.Firenock.com/AeroCrank/>

Other Components AEROCRANK

The Spools and Webbing

As in most cases, ratchets are designed to be used for more than just turning. Working fundamentally like every other crossbow crank, our ratchet system works with two spools of string that end in hooks to attach to your crossbow string for cranking. This is where our AeroCrank stops being similar, however. There is something that happens when spools are used simultaneously that is often ignored: de-stacking. Or, in other words, the collapsing of a stack of string. Especially with two spools that are simultaneously working and re-stacking together, the chance for collapse is high for at least one spool. Fortunately though, we did not ignore and have taken preventative measures against this problem. Our spools and string, which in fact is not a string at all, but instead, a webbing, work together to eliminate the chance for collapse. How? The spool is the same diameter as the webbing itself. When stacking, the webbing can only stack onto itself, never beside or slightly upon itself. Further, due to the flat nature of the webbing, it can never roll or slide like standard string.

Also, due to the nature of the patented Dynemma webbing, a significantly larger angle relief is needed. Instead of adding complexity to the system by including a ball bearing, an oversized GR5 titanium string relief proved adequate. Additionally, due to its location, this extra relief also adds rigidity to the frame.

The AeroCrank Replacement Handle NEW

AeroCrank™ series of products are finally trickling out. The first Firenock AeroCrank brand product will be the AeroCrank Replacement handle. It is based on a heavy-duty saltwater fishing reel handle design but with a major update in material and workmanship. It comes standard with two lengths of engagement nuts which will fit PSE TAC15 series crossbows and most crossbow cranks which utilize a 1/4" square drive. The standard length of 14mm/0.55" will fit snugly, light weight, and lower profile while the 30mm/1.18" is for the bows which need extra clearance due to larger optics or sighting systems. The closed cell foam handle houses two precision ball bearings for a smooth cranking experience. Five titanium fasteners come standard in typical Firenock fashion, so rust is never an issue. This handle also allows one to change the cranking leverage length.

The Quick Detachment System

Perhaps the most straightforward yet significant feature of our AeroCrank, the quick detachment system allows a user to do exactly as its label implies: remove the crank. Built compactly, sturdily, and weighing less than a pound, the AeroCrank is also equipped with a wedge dimple lock system to ensure that your crank will only be moved when you want it to. (Which is whenever you want to switch between your crossbows, of course! The only thing you need to do is purchase another mounting wedge.)

The AeroCrank Sled with Width Adjustment NEW

The AeroCrank Sled is the only sled in the market that is used on a removable crank with string wrap relief. Most crossbow cranks use two hooks as it is easy to remove them along with a crossbow crank. The fact that the AeroCrank uses a sled with an “M” sting formation means that the string must be threaded—there is a loop and hook design on each side. Fortunately, this also means that to remove the sled, you just need to release the webbing.

Most sleds can only fit specific rail widths (28mm-33mm). The AeroCrank sled, however, comes with micro-adjustment (US patent pending). With the use of ceramic ball detentes, one can easily adjust the length of the desired width of the sled for that perfect alignment when pulling the sled back. The sled will be sold separately.

To learn more about the AeroCrank, visit <http://www.Firenock.com/aerocrank/>

AEROCRANK™ The “AD” Series NEW

The TenPoint AccuDraw is one of the most popular crossbow cranks on the market. There are literally thousands of crossbow currently in use that have an AccuDraw on it. After hearing from our customers however, there are a few things that owners of the AccuDraw do not like...

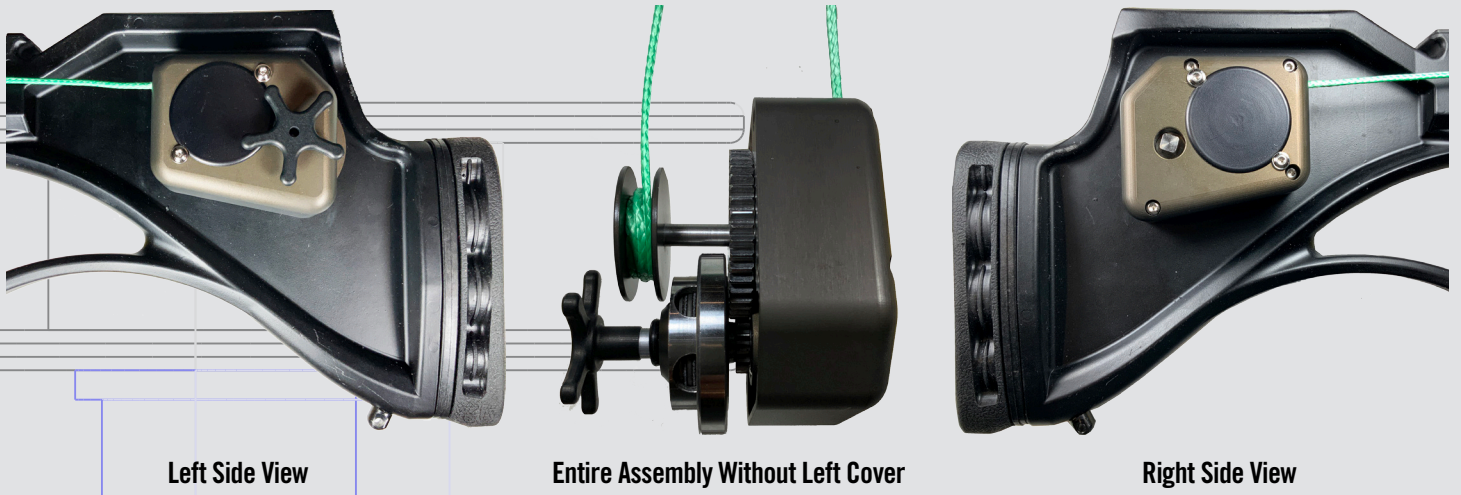
1. It cannot instantly reverse.
2. De-cocking is often unsafe.
3. It is heavy.
4. It is bulky.
5. It's crank handle is too long for fast winding.
6. It is difficult to change the string.
7. It is limited.

The AeroCrank AD is our solution to these concerns. We have broken down how below via the list below.

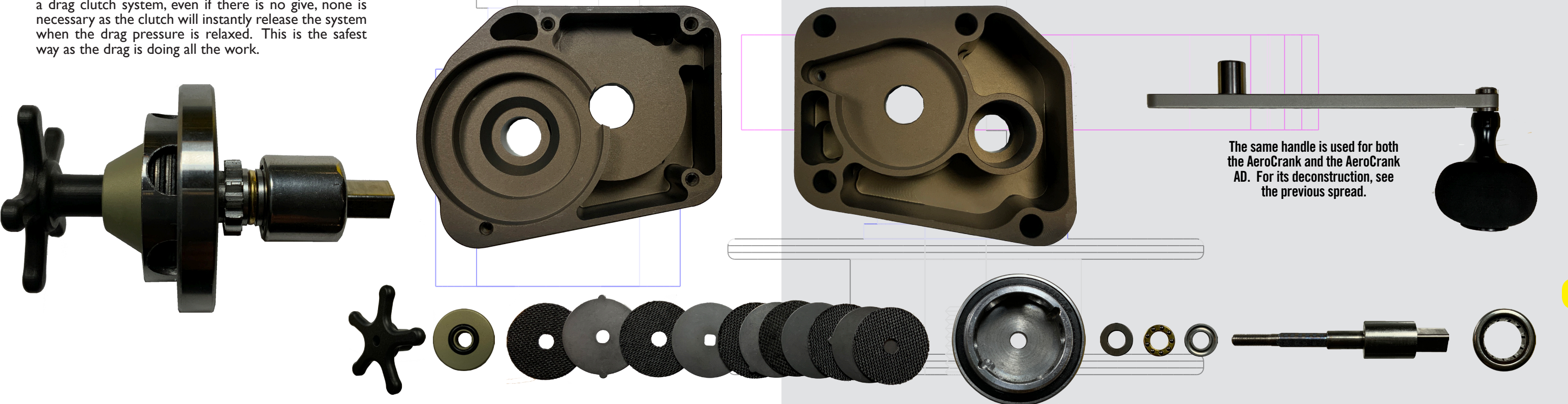
1. The AeroCrank AD has a silent anti-reverse system. Learn more about what that means on the previous spread. Specifically however, the ACAD has [1] a full-size 12mm x 16mm one-way clutch bearing as anti-reverse, [2] a huge 35mm x 7mm drag-housing bearing, [3] a 6mm thrust bearing, and [4] two flange-bearings for spool support.
2. For the AeroBow Serving Jig, we managed to provide as much as 26lb of string pressure with only four metal and five carbon drag washers in a tiny space of 12mm. Utilizing what we learned from that experience, the ACAD boasts a 500lb drag clutch system via five metal and six carbon drag washers controlled by a star drag knob in a tiny space of 30mm. Additionally, we use DuPont® Kyrotx® 1005 Pure PTFE grease. This ensures that the drag pressure is not just smooth and even, but extremely long lasting. All in all, our drag system makes de-cocking easy and completely safe. Via its instant anti-reverse system, the AeroCrank AD is extremely difficult (if not impossible) to let down the crank if it passes the maximum point. Further, by using a drag clutch system, even if there is no give, none is necessary as the clutch will instantly release the system when the drag pressure is relaxed. This is the safest way as the drag is doing all the work.

3. To make it lightweight, all parts of the crank are CNC machined with maximum skeletonization in mind. All parts that will be stressed and require extra strength, like all Firenock products, have fasteners and parts made of GR5 titanium for absolute long-term durability and good looks.
4. An aftereffect of the skeletonization done for a light weight is the smaller size of about 25% from an average sized crossbow crank. Further, the ACAD is not made of plastic but 7075-T5 aluminum—about 80% the strength of stainless but only 30% of the weight.

The “AD” Series Continued **AEROCRANK**



5. The handle of a crossbow crank is the only thing that connects the user to the device. Dorge, Firenock's owner and founder, is an avid fisherman and is one who understands that thoroughly; it's why the AeroCrank handle was designed with all the advanced features of a high-end, big game jigging reel. Instead of a simple knob, it is made from close cell EVA hard foam with a saltwater grade spindle which houses two sealed, stainless ball bearings. Both ends of the handle are tightened with a 304 stainless screw for extreme saltwater corrosion resistance. The beam is made of 7075-T5 aluminum with a type two level three natural finish. To allow the user to customize the leverage base, there is a total of five settings. The driving nut is a standard 1/4" drive nut.
6. Designed to be a long-term, self-serviceable device, the AeroCrank AD allows for quick and simple string replacement. A three step, five minute maximum process, you need to only [1] remove the spool cover retainers screws, [2] remove the spool cover container, and then [3] remove the spool itself.
7. AeroCrank AD was developed to be a one for one replacement for the TenPoint AccuDraw; it is meant to be permanently mounted onto a crossbow. Lastly, note that although we designed it with ease of installation in mind, we still recommend having the ACAD set up at a Certified and Trained Pro Shop.



To learn more about the AeroCrank, visit <http://www.Firenock.com/aerocrank/>

To learn more about the AeroCrank, visit <http://www.Firenock.com/aerocrank/>

AEROSTAB™ The Theory

What makes a good stabilizer? To answer that question, one must understand what a stabilizer is for. Ideally, archery stabilizers stabilize or balance the launching platform on which an archer rests their arrow for firing; your shooting apparatus i.e. your bow and all its accessories. Today, due to the high speeds and high power now attainable with modern bows and bow accessories, stabilizers have become a necessity for pros. But what if, past weight balance, there was another completely different issue that stabilizers could and should help with?

Energy Consumption

Simply put, as most readers already know, stabilizers literally counteract the weight of anything on your bow that makes its weight unbalanced in your hand. The easiest way to discover what type of stabilizer and/or what weight(s) you need to add to your bow is by using a bow balancer. Put a stabilizer on your bow, let it sit on the balancer. If it tips in one direction, add some weight or length to the other side, re-balance, etc.' Most stop here. But we don't. Why? Because after firing, a lot of shock and aftershock returns to your bow. Note "return." Why does anything have to return? Energy. In physics, Newton's third law states all forces between two objects exist in equal magnitude and opposite direction. Therefore, via this law, all the force and energy exploited during pullback and aiming return "in [the] opposite direction" to your bow. And how does that force and energy come to play? Vibration and shock. These are that "completely different issue."

So. As we've already covered, standard stabilizers already balance your bow. The distinction that must be made however, is that they only do half of what is truly necessary. While they can be used to counteract the weight of all the different types of accessories available today, they do not also counteract that vibrational energy output from high performance bows. Made of aluminum or carbon, a standard stabilizer bar is not capable of doing the job of negating all that force. Adding extra length and extra weights don't help either. But what can? Our answer: titanium. Or more specifically, GR5 and GR9 titanium extension bars (see first four bars on the right).

Additionally lightweight and strong, the main reason why titanium is the perfect material for use is its rigidity and resistance to vibration. See, instead of all that energy passing along your extension bar to its weight and back, that energy will meet the titanium (particularly GR9, which is used today in applications like ultra-high pressure oil pipes) and be consumed immediately, never allowed to return back to your bow. For extra insurance, all connection studs are made of GR5 titanium to further minimize the transfer of vibration from one media to the next.

AeroStab-H Series NEW

The AeroStab-H boasts and utilizes the same proven AeroStab extension bar design, but went one step further via the new roll form GR5 titanium tube. Compared to the current AeroStab tube, our completely hollow titanium extension bars are 30% lighter and 45% stiffer.

Every hollow bar is close-cell foam-filled to prevent any air resonance inside the tube. To conform to ATA standards, both the front and back are 5/16"-24 threaded. Further, they can be used interchangeably within other stabilizer systems on the market. For 2019, the AeroStab-H Series will only come in two sizes, 25 cm/10" (penultimate bar to the right) and 75 cm/29.5" (last bar to the right).

Finally, these hollow bars will be type two anodized for longevity and good looks. Also, due to the durability of the titanium, one can always easily decorate (and re-decorate e.g. duct tape) these bars for a truly custom look.



To learn more about the AeroStab, visit <http://www.Firenock.com/aerostab/>

The Difference AEROSTAB™

If we had one sentence to explain why the AeroStab was so unique, the forthcoming one would be it. Completely interchangeable and able to counteract both the weight and the vibrational output of your bow, this series still weighs up to 80% lighter and costs up to 40% cheaper than what is on the current market.

"Completely Interchangeable"

Unlike traditional stabilizer systems which offer components of all different sizes and shapes, every piece of the Firenock AeroStab Series is based around several connection pieces. Including a bow mount, a front connection, as well as multiple elbows and couplers, the possibilities are endless. See the next spread for examples of ways to configure the connections. But, of course, a stabilizer involves more than just connection pieces. Currently, this series includes six extension bars in two materials with four weights all able to mate with these connection pieces.

"Counteract Both Weight and Vibration Output"

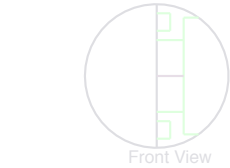
Though the AeroStab's ability to consume the vibration output of a bow was already heavily discussed in "The Theory," the weight stabilizing facility involved was only briefly mentioned. We'll do better now.

As aforementioned, mechanically, the most commonly used device for stabilizing the weight of a bow is a bow balancer. This tool is what we intend consumers to use to balance the weight output of their bows. There is a common problem that occurs during that process, however: the capacity to make precision adjustments. While other stabilizer mounts involve simple connections like teeth or dimples, each of our connection pieces have an special O-ring that allows for precise, controlled adjustments at multiple angles. Further, with the use of multiple connection pieces, there is an option for compound angles for even more exact adjustments.

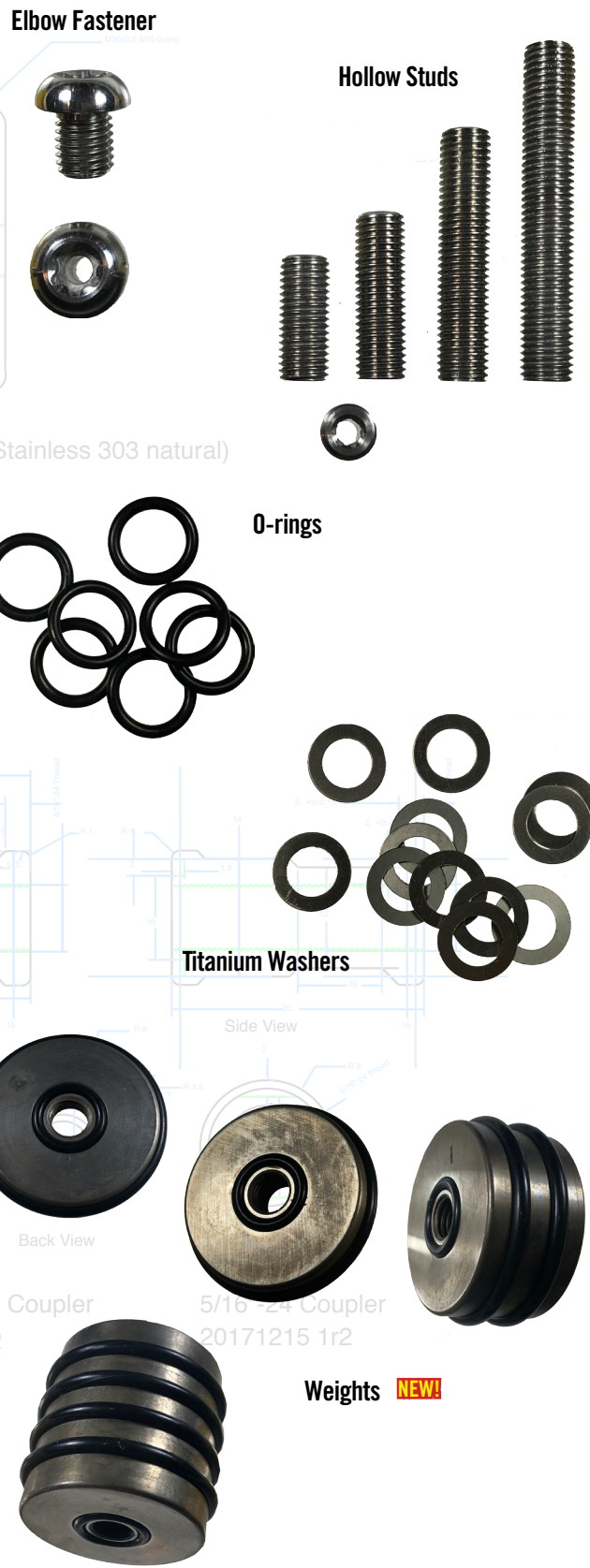
The key lies in how to mate all and any of these pieces together. Currently, there are two methods of tightening. For most connection parts, there is a custom made hollow GR5 titanium button head screw (5/16"-24 x 3/8"; OD of 0.5" see top left) that can be torque-tightened with a T40 driver. When even more torque is necessary, we also offer GR2 titanium washers (ASTTIV) for a 40% increase. Lastly, for the coupler connections that need to be tightened upon, two 12mm slots are machined on their barrels if a wrench needs to be anchored and utilized.

"80% Lighter" & "40% Cheaper"

For perspective, a standard Hunter Class stabilizer system with a 6" sidebar and a 12" front bar can be as heavy as 22 oz. Of those 22 ounces, only four are actually for weight stabilization; the rest is just the extension bars and elbows to position the weights. On the other hand, replicating the exact configuration of one short and one long extension bar, all AeroStab pieces, beside the weight(s), will weigh less than 5 ounces. And, the best part of it all, due to their simplicity (i.e. every piece is maximum only machined and then laser-marked), the entire system will go for much cheaper than standard. Do not let that "simplicity" fool you, howbeit. As with all things proudly from the Firenock lineup, from Dorge's mouth, "every thing that could be considered has been considered."

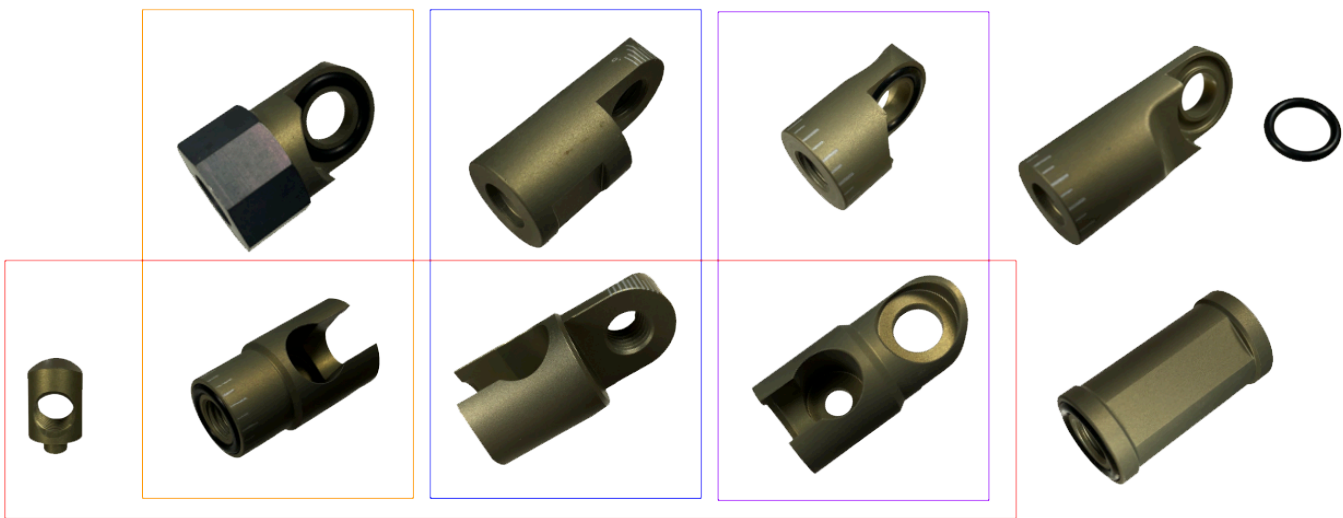


To learn more about the AeroStab, visit <http://www.Firenock.com/aerostab/>



AEROSTAB™ The Difference Continued

All of the different components of the AeroStab system can be confusing to differentiate. To assist, immediately below we've collected and organized all eight of the connection pieces for your convenience. Below that, we've also added the complete description and price list for both the AeroStab and AeroStab-H.



- Equipped for Quick Release System

■ Front Mounts
- Tightening Elbow

■ Elbow Link

| Code | Description | Weight | | | MSRP |
|---------|---|--------|--------|--------|--------|
| | | oz. | gram | grain | |
| AST11B | AeroStab Extension 8mm Bar in GR5 Titanium (11 cm/ 4.3") | 1.330 | 37.64 | 401.2 | 34.95 |
| AST11G* | AeroStab Extension 8mm Bar in GR5 Titanium (11 cm/ 4.3") with Type II Anodization | 1.336 | 37.81 | 404.0 | 44.95 |
| AST23B | AeroStab Extension 8mm Bar in GR5 Titanium (23 cm/ 9.5") | 2.250 | 53.50 | 825.6 | 49.95 |
| AST23G* | AeroStab Extension 8mm Bar in GR5 Titanium (23 cm/ 9.5") with Type II Anodization | 2.280 | 53.81 | 830.4 | 59.95 |
| AST40B | AeroStab Extension 8mm Bar in GR5 Titanium (40 cm/ 15.75") | 3.492 | 99.00 | 1527.8 | 89.95 |
| AST40G* | AeroStab Extension 8mm Bar in GR5 Titanium (40 cm/ 15.75") with Type II Anodization | 3.527 | 100.00 | 1543.2 | 99.95 |
| AST70B | AeroStab Extension 8mm Bar in GR5 Titanium (70 cm/ 27.5") | 5.800 | 164.00 | 2530.9 | 109.95 |
| AST70G* | AeroStab Extension 8mm Bar in GR5 Titanium (70cm/27.5") with Type II Anodization | 5.834 | 165.40 | 2552.5 | 119.95 |
| AST25H* | AeroStab Extension 10mm Hollow Bar in GR5 Titanium (25cm/10.85") with Type II Anodization | 1.900 | 53.77 | 829.8 | 69.95 |
| AST75H* | AeroStab Extension 10mm Hollow Bar in GR5 Titanium (75cm/29.5") with Type II Anodization | 5.200 | 147.16 | 2271.0 | 139.95 |
| ASTBSM | AeroStab Bow Side Mount | 0.434 | 12.31 | 190.0 | 12.95 |
| ASTFAM | AeroStab Front Angle Mount with GR5 Tightening Nut | 0.405 | 11.47 | 177.0 | 24.95 |
| ASTFMQ | AeroStab Front Mount with Quick Release Receiver | 0.437 | 12.38 | 191.0 | 12.95 |
| ASTTEL | AeroStab Tightening Elbow | 0.379 | 10.76 | 166.0 | 10.95 |
| ASTTEQ | AeroStab Tightening Elbow with Quick Release Receiver | 0.443 | 12.57 | 194.0 | 12.95 |
| ASTELB | AeroStab Elbow Link | 0.229 | 6.48 | 100.0 | 10.95 |
| ASTELQ | AeroStab Elbow Link with Quick Release Receiver | 0.359 | 10.17 | 157.0 | 12.95 |
| ASTQRP | AeroStab Quick Release Pin | 0.091 | 2.59 | 40.0 | 9.95 |
| ASTCOU | AeroStab 5/16"-24 Coupler | 0.453 | 12.83 | 198.0 | 12.95 |
| AST4CO | AeroStab 1/4"-20 to 5/16-24" Coupler in GR5 titanium (semi Hollo) | 3.951 | 112.00 | 7.3 | 19.95 |
| AST510 | AeroStab 5/16"-24 Hollow Stud T25 in GR5 Titanium (1") | 0.123 | 3.50 | 54.0 | 9.95 |
| AST515 | AeroStab 5/16"-24 Hollow Stud T25 in GR5 Titanium (1.5") | 0.182 | 5.15 | 79.5 | 10.95 |
| AST520 | AeroStab 5/16"-24 Hollow Stud T25 in GR5 Titanium (2") | 0.238 | 6.75 | 104.2 | 12.95 |
| AST527 | AeroStab 5/16"-24 Hollow Stud T25 in GR5 Titanium (2.75") | 0.335 | 9.50 | 146.6 | 14.95 |
| ASTREO | AeroStab Replacement O-rings | 0.001 | 0.03 | 0.5 | 4.95 |
| ASTTIW | AeroStab 5/16" GR2 Titanium Washer/Spacer | 0.002 | 0.06 | 1.0 | 9.95 |
| ASTHBS | AeroStab 5/16"-24" x 3/8" Hollow 1/2" Button Screw T40 in GR5 Titanium with GR2 Spacer | 0.097 | 2.75 | 42.4 | 9.95 |
| ASTHB2 | *Same as above x 2 | 0.194 | 5.50 | 84.9 | 17.95 |
| ASTWB0 | AeroStab Weight Bushing for 1/4"-20 thread | 0.388 | 11.00 | 169.8 | 10.95 |
| ASTW10 | AeroStab Weight (1 oz) | 1.000 | 28.35 | 437.5 | 14.95 |
| ASTW20 | AeroStab Weight (2 oz) | 2.000 | 56.70 | 875.0 | 19.95 |
| ASTW40 | AeroStab Weight (4 oz) | 3.000 | 85.05 | 1312.5 | 24.95 |
| ASTW80 | AeroStab Weight (8 oz) | 4.000 | 113.40 | 1750.0 | 29.95 |
| ASTBS2 | AeroStab 5/16"-24 Weight End Button Head Screw in GR5 Titanium (2") | 0.298 | 8.43 | 130.1 | 9.95 |
| ASTBS3 | AeroStab 5/16"-24 Weight End Button Head Screw in GR5 Titanium (3") | 0.298 | 8.43 | 130.1 | 9.95 |
| ASTBS4 | AeroStab 5/16"-24 Weight End Button Head Screw in GR5 Titanium (4") | 0.298 | 8.43 | 130.1 | 9.95 |

* Actual product not available at time of publication; specification are for refrence only.

To learn more about the AeroStab, visit <http://www.Firenock.com/aerostab/>

Configuration Examples AEROSTAB

The AeroStab stabilizer is designed with extreme flexibility and compatibility in mind. Below are a few kits that we pre-configured to show how the system can be used to give you the winning edge in the field.

A typical one sided AeroStab stabilizer configuration kit will consist of:

- 1-ASTS15
- 1-ASTBSM
- 1-ASTFMQ
- 2-ASTELB
- 1-AST40B
- 1-AST23B
- 1-ASTQRP
- 1-AST4B3
- 1-AST4B2
- 2-ASTV40
- 2-ASTV20
- 2-ASTV10

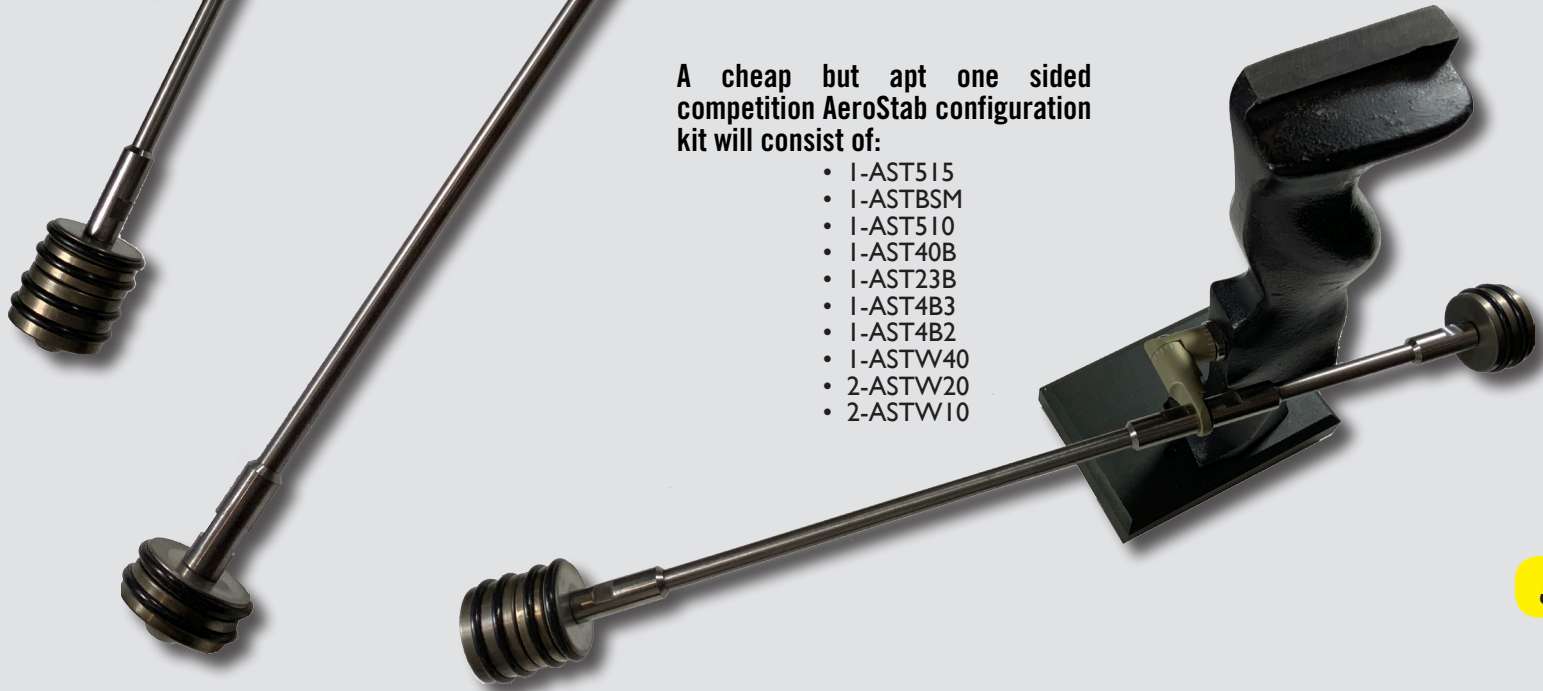


A typical two sided "V" bar AeroStab configuration kit will consist of:

- 1-ASTS15
- 2-ASTBSM
- 1-ASTFAM
- 1-ASTFMQ
- 2-ASTELB
- 2-ASTELQ
- 1-AST70B
- 2-AST23B
- 3-ASTQRP
- 1-AST4B3
- 1-AST4B2
- 1-AST4B1
- 2-ASTW40
- 3-ASTW20
- 2-ASTV10

A cheap but apt one sided competition AeroStab configuration kit will consist of:

- 1-ASTS15
- 1-ASTBSM
- 1-ASTS10
- 1-AST40B
- 1-AST23B
- 1-AST4B3
- 1-AST4B2
- 1-ASTV40
- 2-ASTV20
- 2-ASTV10



To learn more about the AeroStab, visit <http://www.Firenock.com/aerostab/>

Firenock®
The Most Advanced Lighted Nock®

The only completely interchangeable system, allowing you to field-change your nock, LED color, circuit function & battery

Firenock A (0.202" - 0.204" ID)



Firenock "A" for slim arrows (0.202"-0.204" ID):

Beman: Team RealTree MPX™, Classic MFX™, BLACK MAX™, MAX-4™
Black Eagle: Rampage, Renegade
Carbon Tech: Lynx
Carbon Express: Edge, Piledriver™ Extreme
Easton: 3mm Axis, Hunter A/C Super Slim, ST Axis Full Metal Jacket, ST Axis Full Metal Jacket Camo, ST Axis Realtree APG, ST Axis Mossy Oak Obsession, ST Axis, ST Axis Junior, A/C/C 3-28/390 (ID: 0.205")
Element: Fire & Ice, Flatline, Typhoon
Gold Tip: Kinetic Hunter, Kinetic Pro, Kinetic XT
Trophy Ridge: Blast, Crush, Hallfire, Wrath
Victory: RIP, RIP Camo

Firenock "C", "D2", "J", "Q", "U" for crossbow arrows that need/prefer a full containment nock and a specific throat size to nock onto the serving (0.300" ID):

Serving size: 0.165"/0.05"
Carbon Force: Tac 10, Tac 15
Mission MX8, Darton
Serving size: 0.145"/0.05"
Scorpyd Metal Rail, Parker
Serving size: 0.155"/0.05"
Scorpyd Death Stalker, Ravin
Serving size: 0.125"/0.05"
Bowtech

Firenock "B" will fit 0.298" for crossbow arrows that need/prefer a full containment nock and a specific throat size to nock onto the serving (0.298" ID):

Serving size: 0.165"/0.05"
Carbon Force, Tac 10, Tac 15, Jennings Devastator

Firenock "E" for medium arrows (0.229"-0.232" ID):

Alaska Bow Hunting: Grizzlyslit (ID 0.212")
Arrow Dynamics: Nitro Stinger (ID 0.211")
Beman: Center Shot
Black Eagle: Spartan (ID 0.230")
Carbon Express: Hot Pursuit®, Predator™ II (2040 and 3050), Thunderstorm 29
Easton: 6mm FMJ, ACC Pro Hunter, A/C/C 39/390, Aftermath™, Autumn Orange, JON™, Pink Ice™, DeTorch™, FMJ® 6mm, Hexx™, ST Epic Realtree HD Green, ST Epic, ST Carbon Excel, Bloodline, Wild-thing, Traditional Only Under Armour, can also fit A/C/C 3-39/440
Gold Tip: CAA 400
High Country: Speed Pro (ID 0.233")

Firenock "F", "M" for crossbow arrows that do NOT need a full containment nock and a specific throat size to fit onto the serving (0.297" - 0.304" ID):

Barnett: Easton
Black Eagle: Executioner, Zombie Slayer
Bowtech: Striker Bolt
Beman: ICS Thunderbolt®
Carbon: Accuspine
Carbon Impact: Ultra Bolt XLT 22
Easton: Carbon Realtree Power Bolt, Carbon Power Bolt, Flatline™ 2219
Firenock: AeroBolt II 200, AeroBolt III, AeroWeave300, SportWeave300, AeroBolt-DS
Gold Tip: Laser II Pro Laser II, Laser III, Laser III Pro, Swift, Ballistic
TenPoint: Pro Elite
Victory: Crossbow Bolt

Firenock "G" for ultra slim arrows (0.165"-0.1665" ID):

Black Eagle: Deep Impact, X- Impact
Bloodsport: Evidence, Onyx
Deer Crossing: SD
Easton: 4mm, AC Injexion, Carbon One, FMJ Injexion, Injexion
Forge: Slip Stream
Gold Tip: Pierce Platinum
Harvest Time/Blood Spot: HT-1
OK Archery: Absolute.15
Victory: VAP, VAP Camo, VAP Pink, VAP TKO
Widow Maker: Smash
Zelcor: Zx00

Firenock "S" for standard arrows (0.242" - 0.246" ID):

Arrow Dynamic: 395 Mag
Beman (ICS): ICS Bow Hunter®, ICS Camo Hunter®, ICS Energy™, ICS Hunter™, ICS Hunter Classic, ICS Hunter Elite™, ICS Hunter Junior™, ICS Hunter Patriot, ICS Hunter Realtree™, ICS Indigo, ICS Precision Hunter, ICS Speed, ICS Thunder Pro Lost Camo™, ICS Venture™, White Box, White Out

Black Eagle: Carnivore, Carnivore Ultra Lightweight, Outlaw, Outlaw Traditional, Zombie Slayer
Cabela's: Carbon Hunter, Stalker Extreme Carbon, Outfilter Series

Carbon Express: AMPEDXS 30, Aramid KV, Carbon Rebel, Carbon Rebel Hunter, Heritage, MACH 5™, Maxima™, Maxima™ 3D Select, Maxima™ Blue Streak, Maxima™ Blue Streak Select, Maxima™ Hunter, Maxima™ Hunter KV, Maxima™ Red, Mayhem™, Mayhem™ Hot Pursuit, Mayhem™ Mutiny Hunter, Mutiny, Mutiny Slasher, Piledriver™, Piledriver™ Hunter, Predator II, Terminator Hunter, Terminator Lite, Terminator Lite Hunter, Terminator Lite Select, Terminator Select Hunter, Terminator XP, Thunderstorm, Thunderstorm SE, Whitetail

Carbon Impact: Stealth XLT, Trophy Hunter, Carbon youth
Carbon Tech: Cheetah, Panther, Rhino, Whitetail
Deer Crossing: Hunter

Easton: Bowfire™, Carbon Storm, Flatline Surgical, Flatline, Light Speed, Light Speed 3D, Power Flight, Excel & Epic pre-2008, A/C/C 3-60/3461, 3-71/3002

Firenock: AeroWeave246, SportWeave246
Forge: Extreme Kevlon

Gold Tip: Pro Hunter, XT Hunter, Expedition Hunter, Falcon, Traditional XT, Traditional Hunter, Big Game 100+, Ted Nugent Signature, Velocity, Warrior

Harvest Time Archery: HT-2
High Country: Speed Pro
High Impact: Penetrator
OK Archery: Absolute.19
PSE: Carbon Force, X-Weave, X-Weave Pro
Red Head (Bass Pro Shop): Carbon Fury, Carbon MAX2, Carbon Maxx, Carbon Hunter, Carbon Supreme, Carbon Supreme Lite
Scout Mountain Equipment: Epsilon Arrows
Vapor: Predator, Predator Pro, Hunter, Hunter Pro, Pro Black, Pro Whitetail, Whitetail, Carbon Aluminum 400*, Carbonwood, Wayne Carlton Signature, Vapor Jets
Victory: V-Force, V-Force HV
30.06 Archery: Tom Nelson Signature Arrow

Firenock "V" for 22-Series arrows (0.299"-0.301" ID):

Firenock: AeroWeave300, SportWeave300
Gold Tip: Ultralight Series-22, Ultralight Series-22 Pro

Victory: VX-22, VX-22HV

Firenock "W" for crossbow arrows (0.284"-0.286" ID):

Carbon Express: Aramid KV®, Maxima® KV Hunter, Hunter, Maxima® Mayhem, Pile Driver, Surge, CX™
Easton: FMJ Crossbow Arrow
Gold Tip: Laser II Kinetic, Laser IV*, Nitro*
Horton: Savage RD (2012 by Carbon Express), Lightning Strike™ (2012 by Carbon Express), Bone Collector™ (2012 by Carbon Express), Bone Crusher™ (2012 by Carbon Express), Crossbow Arrow (2012 by Carbon Express), Red-hot Crossbow Arrow
Vapor: Crossfire Crossbow Across*

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