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# THANK YOU

Congratulations. You have just purchased the finest compound bow in the world. Your new BowTech is designed to be the smoothest, quietest, fastest bow of its kind, with patented and patent-pending technology that no other bow manufacturer can match. The performance of every bow is guaranteed and we are the only company that shoots every bow we sell. If it doesn't perform to our standards, it doesn't ship. We take great pride in our bows and we hope you will too.

As with any weapon, the safe operation of your bow should be the highest priority. Please use it carefully!



# BIRTH CERTIFICATE

Every BowTech bow has completed a comprehensive check and balance process. They have been hand shot, tested and measured to ensure compliance with our strict performance standards.

Performance testing is completed using a Custom Chrono, Heavy Duty ProShop Meter and digital scales. Speed ratings have been obtained with factory installed brass nock and Hush Kit\*. The use of these accessories decreases velocity by 5-8 fps.

\* The Hush Kit is comprised of VibraBlocks™, String Silencers and cable muffler. Precise placement of these accessories is important and may vary with each model

Digital scales used for peak draw and arrow weights have a variance of +/- 1%.

The InfinityCam, FreedomCam, RascalCam and Equalizer Binary Cam System feature an adjustable let-off range of 65% to 80%. The BlackKnight Dually is available at 65% let-off only.

Mass bow weights are taken with Hush Kit and VibraBlocks™ installed.

Final factory test results are documented in writing and attached as a "Birth Certificate" to every bow shipped.

IBO speed ratings are the industry standard and are calculated by shooting a 350-grain arrow using a 70# bow with a 30" draw. Speeds for the Miranda are achieved using a 300-grain arrow shot at 60# with a 28" draw. Speeds for the Rascal are achieved using a 200-grain arrow shot at 40# with a 25" draw without installed Hush Kit.

## OWNER'S RECORD

Date of Purchase: \_\_\_\_\_ Purchase Price: \_\_\_\_\_

Bow Model & Year: \_\_\_\_\_

Serial Number: \_\_\_\_\_ Brace Height: \_\_\_\_\_

Draw Length: \_\_\_\_\_ Draw Weight: \_\_\_\_\_

IBO Speed Rating: \_\_\_\_\_ String Length: \_\_\_\_\_ Cable Length: \_\_\_\_\_

Dealer Purchased From: \_\_\_\_\_

Dealer's Address: \_\_\_\_\_

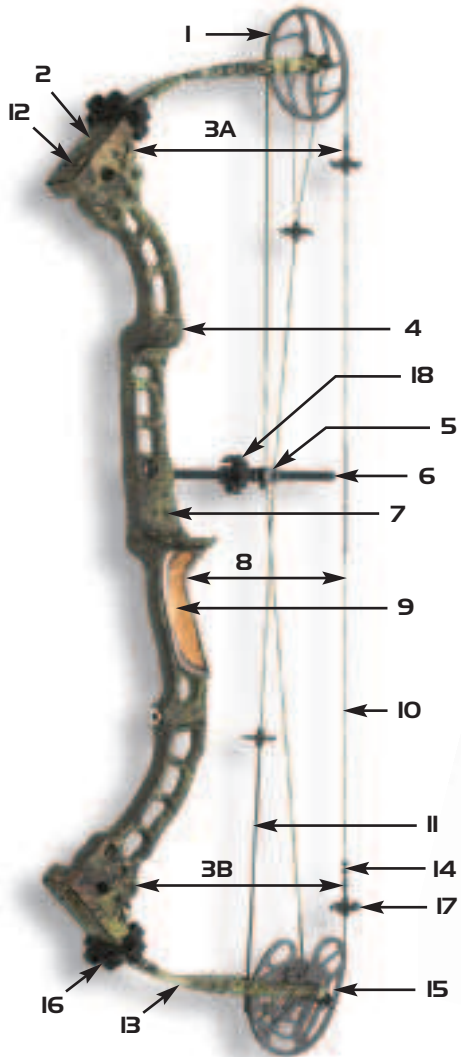
City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_

Phone No: \_\_\_\_\_

Email Address: \_\_\_\_\_

Every effort has been made to ensure the accuracy of information and typographical content within our owner's manual. BowTech reserves the right to modify and/or discontinue products shown without notice and at its discretion. © 2005 BowTech. All rights reserved.

## BASIC BOW COMPONENTS



- |                             |                       |
|-----------------------------|-----------------------|
| 1. Idler Wheel              | 9. Grip               |
| 2. Top Limb                 | 10. String            |
| 3A. Top Limb Tiller         | 11. Cable             |
| 3B. Bottom Limb Tiller      | 12. Limb Bolt         |
| 4. Riser                    | 13. Bottom Limb       |
| 5. Cable Slide              | 14. Speed Knocks      |
| 6. Cable Rod                | 15. Cam               |
| 7. Rest mounting holes      | 16. VibraBlock™       |
| 8. Brace Height Measurement | 17. String Silencer   |
|                             | 18. Cable Rod Muffler |

## THE INFINITYCAM



### MIGHTYMITE VFT

**Draw Weights:** 50•60•70  
**Let Off:** 65% - 80% adjustable  
**Axle-Axle:** 30 5/8"  
**Mass Weight:** 3 lbs 12 oz  
**Brace Height:** 7 5/8"  
**Draw Lengths:** 25" - 30"  
**IBO Speed:** 310 - 318 fps  
**Finish:** Mossy Oak Obsession

### PATRIOT VFT

**Draw Weights:** 50•60•70  
**Let Off:** 65% - 80% adjustable  
**Axle-Axle:** 33 1/4"  
**Mass Weight:** 4 lbs 1 oz  
**Brace Height:** 7"  
**Draw Lengths:** 25" - 30"  
**IBO Speed:** 318 - 326 fps  
**Finish:** Mossy Oak Obsession and Target Colors

### TOMKAT

**Draw Weights:** 60•70  
**Let Off:** 65% - 80% adjustable  
**Axle-Axle:** 32 1/2"  
**Mass Weight:** 3 lbs 12 oz  
**Brace Height:** 8 1/2"  
**Draw Lengths:** 26 1/2" - 31 1/2"  
**IBO Speed:** 294 - 302 fps  
**Finish:** Mossy Oak Obsession

# THE EQUALIZER



## ALLEGIANCE VFT

Draw Weights: 50•60•70•80•90•100  
Let Off: 65% - 80% adjustable  
Axle-Axle: 33 5/8"  
Mass Weight: 4 lbs 3 oz  
Brace Height: 7"  
Draw Lengths: 24" - 30"  
IBO Speed: 322-328 fps  
Finish: Mossy Oak Obsession  
and Target Colors

## CONSTITUTION

Draw Weights: 40•50•60•70  
Let Off: 65% - 80% adjustable  
Axle-Axle: 40"  
Mass Weight: 4 lbs 6 oz  
Brace Height: 8 7/16"  
Draw Lengths: 27" - 33"  
IBO Speed: 300 - 308 fps  
Finish: Mossy Oak Obsession  
and Target Colors

## DEFENDER VFT

Draw Weights: 50•60•70  
Let Off: 65% - 80% adjustable  
Axle-Axle: 31 1/4"  
Mass Weight: 3 lbs 13 oz  
Brace Height: 7 3/8"  
Draw Lengths: 24 1/2" - 30 1/2"  
IBO Speed: 305 - 313 fps  
Finish: Mossy Oak Obsession  
and Black Marble

## OLD GLORY

Draw Weights: 50•60•70  
Let Off: 65% - 80% adjustable  
Axle-Axle: 37 1/4"  
Mass Weight: 4 lbs 4 oz  
Brace Height: 7 1/2"  
Draw Lengths: 26"-32"  
IBO Speed: 307-315 fps  
Finish: Mossy Oak Obsession  
and Target Colors



# THE FREEDOMCAM



## INDEPENDENCE VFT

Draw Weights: 50•60•70  
Let Off: 65% - 80% adjustable  
Axle-Axle: 40"  
Mass Weight: 4 lbs 8 oz  
Brace Height: 7 3/8"  
Draw Lengths: 27" - 32"  
IBO Speed: 290 - 298 fps  
Finish: Mossy Oak Obsession  
and Target Colors

## JUSTICE VFT

Draw Weights: 50•60•70  
Let Off: 65% - 80% adjustable  
Axle-Axle: 31 1/4"  
Mass Weight: 3 lbs 12 oz  
Brace Height: 8"  
Draw Lengths: 25" - 30"  
IBO Speed: 294 - 302 fps  
Finish: Mossy Oak Obsession

## LIBERTY VFT

Draw Weights: 50•60•70  
Let Off: 65% - 80% adjustable  
Axle-Axle: 33 1/4"  
Mass Weight: 4 lbs 2 oz  
Brace Height: 7 1/2"  
Draw Lengths: 25" - 30"  
IBO Speed: 296 - 304 fps  
Finish: Mossy Oak Obsession  
and Target Colors

## PBR LIMITED EDITION

Draw Weights: 50•60•70  
Let Off: 65% - 80% adjustable  
Axle-Axle: 34"  
Mass Weight: 4 lbs 1 oz  
Brace Height: 7 1/4"  
Draw Lengths: 25" - 30"  
IBO Speed: 297-305 fps  
Finish: Mossy Oak Obsession



## MIRANDA

**Draw Weights:** 40•50•60  
**Let Off:** 65% - 80% adjustable  
**Axle-Axle:** 32 1/2"  
**Mass Weight:** 3 lbs 8 oz  
**Brace Height:** 8 1/4"  
**Draw Lengths:** 23" - 28"  
**IBO Speed:** 267 - 275 fps @ 28"  
**Finish:** Mossy Oak Obsession and Black Marble

## RASCAL

**Draw Weights:** 20•30•40  
**Let Off:** 65% - 80% adjustable  
**Axle-Axle:** 24 3/4"  
**Mass Weight:** 2 lbs 3 oz  
**Brace Height:** 7 5/8"  
**Draw Lengths:** 20" - 25"  
**IBO Speed:** 246 -254 fps @ 25"  
**Finish:** CamoHunter, SourApple, CherriCari, BubbleGum and RazzelBerry

## TIMING

BowTech dual cam BlackKnight is factory synchronized with the cables contacting the mod simultaneously, at full draw. However, because of the natural settling of the string and cables, they may need to be readjusted by your Authorized BowTech Dealer. Before doing so, it is recommended to cycle (shoot) the bow 100 to 150 times before your initial timing session. Follow this procedure to eliminate the bulk of "settling out" of the strings and cables, and to return them to their pre-stretched lengths.

The top cam requires some lean toward the cable rod, which can be achieved by twisting the harness. This forces the cable to feed squarely into the mod track. Once the desired cam lean is achieved, synchronize the timing of the cams, making sure they make contact with the mod at the same time while at full draw.

The BlackKnight is designed with a module system, available in 1/2" increments that allow your draw length to be set correctly. See the mod chart or an Authorized BowTech Dealer for installation of modules. After changing mods your cams may need to be re-synchronized.

**NOTE:** To set a longer draw length, you may need to install a different module in order to maintain maximum shooting efficiency. Stay away from varying string and cable length to fix exact draw lengths—use mods for draw length adjustment.



## BLACKKNIGHT

**Draw Weights:** 50•60•70  
**Let Off:** 65%  
**Axle-Axle:** 36 1/4"  
**Mass Weight:** 4 lbs 3 oz  
**Brace Height:** 5 3/4"  
**Draw Lengths:** 25" - 30"  
**IBO Speed:** 342 - 350 fps  
**Finish:** Mossy Oak Obsession

## FREEDOMCAM, INFINITYCAM & RASCALCAM— SETUP & TUNING

The InfinityCam, FreedomCam, and RascalCam are unique in that they use a slotted draw stop that allows infinite adjustment instead of the limitations of preset drilled holes. Adjusting these cams to your preferred shooting style can be a relatively easy task by following the owner's manual instructions. The FreedomCam, InfinityCam and RascalCam are modular adjusted, so when changing the draw length module, it is also necessary to readjust the post setting. Draw length modules are available in 1" and 1/2" increments on all models except the Equalizer Binary Cam System that are cam specific in draw length.

BowTech single cam bows are factory tuned and preset to the ordered specifications. Any alterations to the original factory setup could inhibit performance. You may need to reset your draw to the correct length. Use the module that best meets your individual draw length before attempting to fine tune your let-off (see mod specification chart on p. 24). See your Authorized BowTech Dealer for proper draw length adjustment and new module installation instructions.

### SETTING THE PEAK WEIGHT

Peak draw weights are adjustable approximately 10 pounds downward depending on the model. When adjusting draw weight on models without pivoting limb pockets, one full 360-

degree turn on both limb bolts equals 2-5 lbs depending on the bow model. Do not turn limb bolts more than 2-1/2, 360-degree turns. All bows perform best at peak weight. BowTech bows are standardized to fit most manufacturers' accessories and will perform best when shot with a mechanical release.

### POST ADJUSTMENT

The post settings are designed to make minute changes in increments as small as 1/6" in draw (up or down) from the draw-length originated by the module. Move the draw post to customize the module for your individual draw length, stopping the cam rotation exactly where you want it. The post rotates until it comes into contact with the limb of the bow, resulting in the most solid wall on the market and the most precise anchor point available. The post should not be adjusted more than 1/2 mark from factory mod specifications on p. 24.

Start by adjusting the Allen screw on the post. Loosen just enough to allow movement either toward the S (short) or L (long) markings on the cam.

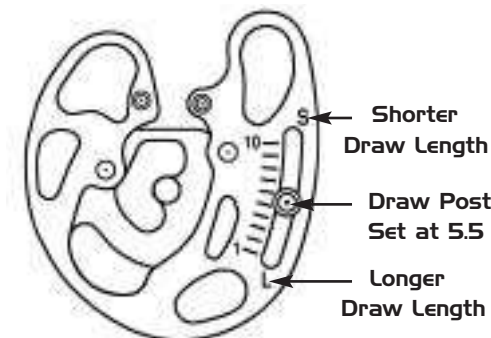
**WARNING: NEVER ATTEMPT POST ADJUSTMENT WHILE DRAWING THE BOW.** When adjusting the post, very little movement is required to dramatically affect the settings. **DO NOT OVER OR UNDER ADJUST.** Under adjustment results in a very low let-off,

while over adjustment causes the cam to over rotate and the cable to contact and bend over the cam's axle before the post stops the total rotation. This will cause excessive cable serving separation. (See the post settings chart on p. 24 and the illustration on this page for proper post adjustment) Never move post more than 1/2 mark from factory settings. Doing so will effect performance.

Post adjustment incorporates all the settings necessary for BowTech models using the InfinityCam, FreedomCam, or RascalCam. Improper adjustment results in performance inefficiencies and can be dangerous. When drawing the bow, make sure that the post stops the draw cycle. If the post does not stop the draw cycle, the cam is over-rotating and it will cause damage to the cables. Correct any over-rotation

by moving the post setting toward the S marking (see the post settings chart on p. 24). In doing so, you will return to the correct let-off and valley. Your Authorized BowTech Dealer can assist you with proper post adjustment. (See illustration below.)

**NOTE:** To set a longer draw length, you may need to install a different module in order to maintain maximum shooting efficiency.



## CHANGING THE LET-OFF

Changing the let-off is accomplished with ease. It may require a post setting and/or a module change (see the 65% and 80% let-off charts on p. 24 for correct draw settings). The draw stop affects the bow's let-off by stopping the rotation of the cam on the module track before it over rotates and before the cable contacts the axle. Let-off can be adjusted from 65% to 80%.

**NOTE:** Post settings adjustments allow fine tuning to achieve individual draw length requirements, however adjusting the draw length will affect the let-off and valley at the same time. Achieving an exact let-off at a specific draw length may require some trial and error of minor modifications and/or the use of a scale. See your Authorized BowTech Dealer for assistance.



## EQUALIZER – SETUP, TUNING & TIMING

The *Allegiance*, *Defender*, *Old Glory*, and *Constitution* are all designed with the new Equalizer Binary Cam System. Because of its unique independent cam design, the Equalizer Binary Cam System requires special consideration when it comes to making adjustments.

### ADJUSTING THE EQUALIZER SYSTEM

Unlike other BowTech cam designs, the Equalizer Binary Cam System does **NOT** use interchangeable modules. Each draw length is cam specific. To change the draw lengths on your new Equalizer bows, you must install different cams for the draw length you require. Contact your nearest Authorized BowTech Dealer to purchase additional Equalizer Cams. **DO NOT** alter string specs to make draw length adjustments. Altering string specification may result in cam over-rotation.

Please note that the draw stop peg is a **critical** component of the Equalizer Cam System. **DO NOT** remove the draw stop peg for any reason. And **NEVER** draw an Equalizer Cam bow without the draw stop peg properly installed.

### RESULT OF IMPROPER SETUP

If improperly setup, the Equalizer Cam System can be made to over-rotate. Without the peg installed, the cam will continue to rotate to a position beyond 29" draw length and 80% let-off. If the cam is allowed to over-rotate, the bow will ultimately achieve 100% let-off. However, the cams **WILL NOT RECOVER** when the string is released. The bow will remain "locked" in the 100% let-off full-draw position until bow press service is performed to correct the over-rotation and reset the cams. Over-rotation of the Equalizer Cam system will also result in probable damage to both of the bow's control/buss cables. **DO NOT remove the positive draw stop peg for any reason.**

**DO NOT** alter string or cable length in order to adjust the draw length or draw weight on any of these Equalizer bows. String and cable lengths are preset at the factory and must not be altered.

**DO NOT** switch out the limbs on any of these bows. They are specifically pre-engineered to work with the Equalizer Binary Cam System.

**DO NOT** attempt to convert another bow to use the Binary Cam.

## STRINGS, CABLES & TUNING

Your BowTech custom bowstring is manufactured to provide long string life and absolute consistency, shot after shot. This results in greater accuracy, and less time spent re-tuning your equipment.

It is recommended that you cycle the bow 100-150 times to remove shrinkage from the string as a result of relaxation during packaging and shipping. Separate the bowstring and install your peep sight. To properly align the peep sight, simply twist the string from the bottom in 1/2-turn increments until the peep sight aligns. In rare cases, this procedure may need to be repeated after cycling an additional 200 shots.

**Wax the string often.** We recommend BCYML 6 synthetic string wax or an equivalent product. To wax the string, apply wax liberally to entire length of string. Rub briskly with fingers until the string appears slick. Remove all excess wax with a clean cloth. We recommend that you wax every other time you shoot your bow to lengthen the life of your string and cable sets.

For optimum performance and correct timing, your BowTech is factory preset with the correct distance between the module screw and the limb. Contact your dealer for specific timing gaps for each bow model.

There are factory installed speed nocks located on the string at various distances from the axle(s). These nocks enhance the speed and performance of the bow. Installing additional, removing, or changing the location of the factory installed speed nocks will reduce performance and speed.

Contact your Authorized BowTech Dealer for adjustment assistance and to purchase authorized BowTech replacement parts. Installation of non-authorized BowTech components could void your warranty.

## ABOUT SPEED

If you are truly feeling the need for speed, only one bow company is prepared to meet the challenge, and we aren't afraid to back it up. BowTech produces the fastest bows in the world and every bow is individually lab-tested, and carries a lifetime warranty.

BowTech, with its patented, revolutionary technology, is determined to fulfill the number one demand among archers today: maximum speed to target with exceptional smoothness. BowTech... Taking The Arch Out Of Archery.

### HOW DO MANUFACTURERS RATE SPEED?

IBO Speed Ratings are an industry standard of measurement used by all manufacturers. Speed ratings are based on a bow produced with a draw weight of 70# and a draw length of 30" using a five (5) grain per pound arrow (350 grain). Any deviation from these settings causes a drop in arrow velocity. NOTE: The chart below is a general guide for the amount of speed lost when accessories are added to your string.

STRING ACCESSORY	SPEED LOSS
Brass Nock	2 - 4 fps
Peep Sight	3 - 6 fps
String Silencers	2 - 6 fps
E-Buttons	2 fps each
Rubber Peep Tube	6 - 10 fps
String Loop	1 - 3 fps (without brass nocks)
VibraBlocks	0 - 2 fps

Speeds vary depending on placement and manufacturer of string added accessories. Speed loss of arrows over the IBO standard of five (5) grains per pound (350 grains @ 70# draw weight):

**BINARYCAM:** Every 3 grains of added arrow weight results in approximately 1 fps speed loss.

**SINGLECAM:** Every 3 grains of added arrow weight results in 1 fps speed loss. Example: 30 grains over IBO results in 10 fps speed loss.

**DUALCAM:** Every 2 grains of added arrow weight results in 1 fps speed loss.

## BOW MAINTENANCE & TROUBLE SHOOTING

- Use properly spined arrows for all BowTech bows. The minimum arrow weight for this bow is five grains per pound (IBO).
  - Replace the string and cables once a year or every 2,500 shots, whichever comes first, to maintain optimum performance.
  - Examine your bow for wear and tear before you shoot (axles, bushings, cables, cable slide, e-clips, and string). If any one of these items shows excessive wear, contact your Authorized BowTech Dealer to have them install new BowTech replacement parts. This keeps your bow shooting consistently without voiding your warranty.
  - When adjusting the bow's draw weight on dual cam bows, always keep the bow at even tiller. Tiller is the distance between the string and the point where the back of the limb joins the riser (see page 2). The tiller at both the top and bottom should be equal (for example: 8" tiller at the top and 8" tiller at the bottom). If the top or bottom tiller is off by as little as 1/8", the bow's performance may be affected.
  - When adjusting the bow's draw weight, do not turn the limb bolts out more than 2-1/2 full turns. Each full revolution of the limb bolt equals about 2-5 lbs depending on bow model. Adjusting the weight of the bow adversely affects the bow's performance.
- **WARNING: DO NOT TURN THE LIMB BOLTS OUT MORE THAN THE RECOMMENDED AMOUNT. Doing so could cause the limbs to break out of their pockets and result in bodily injury.**
  - Proper lubrication of the axles and limb pockets limits wear and tear. Add enough lubricant to these areas to create a barrier between each working part and to optimize the performance of the bow. **NOTE:** Only industry standard lubricants should be used. **DO NOT USE WD-40. We recommend using Inhibitor product to keep your bow components rust resistant.**
  - Inspect your cam position on a regular basis to make sure the factory setting is maintained (see tuning section for your specific bow). This ensures the draw length and draw weight remain consistent.
  - All BowTech bows use AMO standards for measuring draw lengths, (measured from the pivot point, or throat, of the grip to the bottom of the valley) plus 1-3/4".
  - Always use a properly spined arrow for this bow with a minimum weight of five (5) grains per pound (IBO standard). An arrow with legal IBO weight is not necessarily properly spined. The bow must be able to transfer its energy to the arrow without any loss. Likewise, the arrow spine must be able



to absorb the bow's energy. If the arrow is not properly spined, it will kick out, lose speed, and have poor flight. If the arrow is properly spined, it achieves true, straight flight with maximum speed. Use an arrow chart to determine what shaft is needed to fit the specifications of your bow.

- Make sure the weight of the arrow tip is matched to the arrow's shaft strength. If the weight of the tip is too light or too heavy, poor arrow flight occurs. Use an arrow chart to find out what tip weight is needed to match the arrow shaft. Try to maintain 7% to 10% forward weight for your tip selection.
- The arrow nock should be 3/16" to 3/8" above the center of the T-square, depending on the shaft diameter. This is a good starting point to achieve proper arrow flight.
- Make sure the cams are properly tuned as instructed in the tuning section of each model in this owner's manual.
- Any accessories added to the bow-string cause the bow to lose speed. All speed tests are done only with factory specs.
- If you need assistance with setting up, tuning, or solving an arrow flight problem, contact your Authorized BowTech Dealer.

All BowTech bows are backed with a Lifetime Warranty to the original owner. The following exclusions apply.

### EXCLUSIONS

#### - Original Owner.

Warranty applies to the original owner only, is non-transferable and does not apply to internet sales.

#### - Components Not Covered.

Cables, strings, bearings, paint and/or film dipped finishes are not included in warranty.

#### - Damage Not Covered.

Damage caused by abuse, mishandling, dry-firing, alteration or modification to original product, or shooting of arrows less than five grains per pound of draw weight will render the warranty void.

#### - Warranty Card.

For the Warranty to be in effect, the Warranty card must be completed and properly returned to BowTech, with a copy of the purchase receipt, within 30 days of purchase.

#### - Authorized Dealer.

The BowTech Warranty covers only bows bought from Authorized BowTech Dealers and not from Internet sales. Contact BowTech to confirm that the person you are buying from is an authorized dealer.

### TURN AROUND TIME

Our goal at BowTech with all warranty returns is to have the bow shipped out the door within 72 hours of receiving it in our facility. You are our greatest asset and we will give you the highest quality, most efficient service in the industry.

### WARRANTY SERVICE

All products returned for warranty service need to be returned to the dealer first for inspection and determination of any problem. Your sales representative or a customer service representative can help you determine if factory service is required or if your Pro Shop can repair the problem. The bow owner is responsible for the return freight to BowTech, and BowTech will in turn, pay for the return freight of the repaired product. In the event that a bow must be returned for factory service, a Return Authorization (RA) number must first be obtained through your dealer.

Bows returned to the factory without an RA number will be refused. All bows must include the following:

- A large, readable RA number on the outside of the box.
- A copy of the sales receipt, if previously sold.
- Must be sent freight prepaid. No COD shipments will be accepted.
- Do not include accessories unless otherwise instructed. BowTech will not be responsible for loss or damage to any accessory left on the bow when shipped.
- All methods of shipping by UPS or FED-EX only. Sender should insure all shipments.
- If your bow cannot be repaired, we reserve the right to replace your bow with a newer model.
- BowTech reserves the right to make parts substitutions on warranty coverage at BowTech's sole discretion and for any reason.

## SAFETY AND GENERAL INFORMATION

**BEFORE USING YOUR NEW BOWTECH, READ AND UNDERSTAND THE FOLLOWING MATERIAL OUTLINED IN THIS MANUAL. FAILURE TO FOLLOW ANY OF THESE WARNINGS AND INSTRUCTIONS CAN DAMAGE THE BOW AND MAY CAUSE SERIOUS INJURY TO YOURSELF AND/OR OTHERS.**

Your new BowTech bow is a highly tuned, precise shooting machine. It requires special care and handling to achieve and maintain peak performance. The string, cables, and limbs are under extreme tension, which create an incredible source of energy that must not be taken for granted. Please respect this power and use it properly.

### **WARNING: NEVER DRY FIRE THE BOW**

NEVER draw a bow without an arrow nocked. Doing so could cause personal injury and/or damage the bow. When drawing a bow for inspection or demonstration, never release the string at full draw to let down. Hold onto the string and do not let it slip out of your hands. Without the resistance of a properly weighted arrow to absorb the energy, you may damage the bow and cause personal injury to you and others.

### **ADULT SUPERVISION REQUIRED**

**ADULT SUPERVISION OF ALL CHILDREN UNDER THE AGE OF 18 IS REQUIRED. A BOWTECH BOW IS NOT RECOMMENDED FOR CHILDREN UNDER SEVEN (7) YEARS OF AGE.**

BowTech has designed your bow to be a safe and fun product. However, as with any shooting style product, safety rules must be observed. It is HIGHLY recommended that these rules be read before using any bow.

Bows and arrows are NOT toys. For maximum safety and enjoyment, always exercise caution, common sense, and safety rules when shooting any bow.

ALWAYS use an appropriate backstop for maximum safety. An appropriate backstop must be constructed of a durable material and must extend beyond the perimeter of the target. The recommended backstop size is determined by the accuracy and ability of the shooter. The lower the level of accuracy, the larger the perimeter required.

NEVER aim or draw any bow in the direction of a person. Aim and draw ONLY in the direction of an appropriate target. ALWAYS have a full view of the path to the target and beyond when shooting.

NOTE: Lead-off shots should be taken at closer ranges until the shooter is more accurate and comfortable at longer distances.

ALWAYS inspect arrow and fletching prior to shooting for imperfections such as cracks, splits, or splinters. Damaged arrows must not be used and should be destroyed.

NEVER retrieve arrows or allow anyone else to do so until all arrows have been shot.

NEVER draw the bow without properly adjusted limb bolts (no more than 2-1/2 turns off peak weight). Make sure the cables and string are properly attached to the correct post and in the correct tracks in order to avoid possible injury.

**DO NOT** attach anything to the cables or string that could cause them to wear or become cut. This will void the warranty.

**DO NOT** cross cables above the cable rod. This will have an adverse effect on performance and shootability.

Any alteration from the factory specifications or the adjustments outlined herein will void the factory warranty. ALL maintenance must be performed at an Authorized BowTech Dealer.

### **EQUALIZER BINARY CAM SYSTEM**

– **DO NOT** alter string or cable length in order to adjust the draw length or draw weight on any Equalizer bow. String and cable lengths are preset at the factory and must not be altered.

– **DO NOT** switch out the limbs on any Equalizer bow. They are specifically pre-engineered to work with the Equalizer Binary Cam System.

**WARNING: Failure to adhere to these instructions can result in cam overdraw and lockup, where the string goes slack while at full draw. Should the cams release in this condition, especially with a nocked arrow, it could result in serious personal injury to yourself or others.**

NOTE: The Equalizer Binary Cam System is draw length specific. To adjust an Equalizer bow's draw length, you must change the cam. To adjust an Equalizer bow's draw weight, you must change limbs and/or adjust the limb bolts.

### **DISCLAIMER OF LIABILITY**

By accepting a BowTech archery product, buyer agrees to hold harmless BowTech and all associated parties from liability for any damage to persons or property, which may result, for any reason, from the use of this product.

If you have any questions about the safety or use of any BowTech product, contact an Authorized BowTech Dealer or call BowTech direct at (541) 284-4711.

# SPEED RATING CHART

	20"	21"	22"	23"	24"	25"	26"	27"	28"	29"	30"	31"	32"	33"
<b>THE EQUALIZER BINARY CAM SYSTEM</b>														
<b>Allegiance VFT</b>						262-270	274-282	286-294	298-306	310-318	322-328			
<b>Constitution</b>									276-284	288-296	300-308	310-318	320-328	330-338
<b>Defender VFT</b>						245-253	257-265	269-277	281-289	293-301	305-313	315-323		
<b>Old Glory</b>								271-279	283-291	295-303	307-315	317-325	327-335	
<b>THE FREEDOMCAM</b>														
<b>Independence VFT</b>								254-262	266-274	278-286	290-298	300-308	310-318	
<b>Justice VFT</b>						234-242	246-254	258-266	270-278	282-290	294-302			
<b>Liberty VFT</b>						236-244	248-256	260-268	272-280	284-292	296-304			
<b>PBR Limited Edition</b>						237-245	249-257	261-269	273-281	284-293	297-305			
<b>THE INFINITYCAM</b>														
<b>MightyMite VFT</b>						250-258	262-270	274-282	286-294	298-306	310-318			
<b>Patriot VFT</b>						258-266	270-278	282-290	294-302	306-314	318-326			
<b>TomKat</b>							246-254	258-266	270-278	282-290	294-302	304-312		
<b>THE DUALLY</b>														
<b>BlackKnight</b>						282-290	294-302	306-314	318-326	330-338	342-350			
<b>THE RASCALCAM</b>														
<b>Miranda</b>				207-215	219-227	231-239	243-251	255-263	267-275					
<b>Rascal</b>	186-194	198-206	210-218	222-230	234-242	246-254								

**SPEEDS ARE AT 70 LBS\*, SUBTRACT 3 FPS FOR EVERY 10 LB DROP IN DRAW WEIGHT.**

\* IBO speed ratings are the industry standard and are calculated by shooting a 350-grain arrow using a 70# bow with a 30" draw. Speeds for the Miranda are achieved using a 300-grain arrow shot at 60# with a 28" draw. Speeds for the Rascal are achieved using a 200-grain arrow shot at 40# with a 25" draw without installed Hush Kit or VibraBlocks™.



## EQUALIZER CAM CHART

CAM 20 21 22 23 24 25 25.5 26 26.5 27 27.5 28 28.5 29 29.5 30 30.5 31 31.5 32 32.5 33

### THE EQUALIZER BINARY CAM SYSTEM

<b>Allegiance VFT</b>	€*					11	10	9	8	7	6	5	4	3	2	1					
<b>Constitution</b>	€*										11	10	9	8	7	6	5	4	3	2	1
<b>Defender VFT</b>	€*						11	10	9	8	7	6	5	4	3	2	1				
<b>Old Glory</b>	€*									11	10	9	8	7	6	5	4	3	2	1	

## MODULE CHART

MOD 20 21 22 23 24 25 25.5 26 26.5 27 27.5 28 28.5 29 29.5 30 30.5 31 31.5 32 32.5 33

### THE FREEDOMCAM

<b>Independence VFT</b>	FR								6	5.5	5	4.5	4	3.5	3	2.5	2	1.5	1	
<b>Justice VFT</b>	F					6	5.5	5	4.5	4	3.5	3	2.5	2	1.5	1				
<b>Liberty VFT</b>	F					6	5.5	5	4.5	4	3.5	3	2.5	2	1.5	1				
<b>PBR Limited Edition</b>	F					6	5.5	5	4.5	4	3.5	3	2.5	2	1.5	1				

### THE INFINITYCAM

<b>MightyMite VFT</b>	N					6	5.5	5	4.5	4	3.5	3	2.5	2	1.5	1				
<b>Patriot VFT</b>	N					6	5.5	5	4.5	4	3.5	3	2.5	2	1.5	1				
<b>TomKat</b>	N								6	5.5	5	4.5	4	3.5	3	2.5	2	1.5	1	

### THE DUALY

<b>BlackKnight</b>	DC					6	5.5	5	4.5	4	3.5	3	2.5	2	1.5	1				
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### THE RASCALCAM

<b>Miranda</b>	S				6	5	4		3		2		1							
<b>Rascal</b>	S	6	5	4	3	2	1													

\* EQUALIZER BINARY CAM BOWS USE DRAW LENGTH SPECIFIC CAMS

## 80% DRAW POST SETTINGS

	#1 MOD Draw • Set	#1.5 MOD Draw • Set	#2 MOD Draw • Set	#2.5 MOD Draw • Set	#3 Draw	MOD Set	#3.5 MOD Draw • Set	#4 MOD Draw • Set	#4.5 MOD Draw • Set	#5 MOD Draw • Set	#5.5 MOD Draw • Set	#6 MOD Draw • Set
<b>THE FREEDOMCAM</b>												
<b>Independence VFT</b>	32 • 2.1	31.5 • 3.2	31 • 4.2	30.5 • 4.8	30	5.4	29.5 • 6.2	29 • 7.0	28.5 • 7.5	28 • 8.0	27.5 • 8.9	27 • 9.8
<b>Justice VFT</b>	30 • 5.0	29.5 • 5.8	29 • 6.5	28.5 • 7.1	28	7.7	27.5 • 8.4	27 • 9.1	26.5 • 9.8	26 • 10.5	25.5 • 11.3	25 • 12.0
<b>Liberty VFT</b>	30 • 5.5	29.5 • 6.3	29 • 7.0	28.5 • 7.6	28	8.2	27.5 • 8.8	27 • 9.4	26.5 • 10.0	26 • 10.5	25.5 • 11.2	25 • 11.9
<b>PBR Limited Edition</b>	30 • 5.0	29.5 • 5.8	29 • 6.6	28.5 • 7.3	28	7.9	27.5 • 8.5	27 • 9.0	26.5 • 9.7	26 • 10.3	25.5 • 11.0	25 • 11.6
<b>THE INFINITYCAM</b>												
<b>MightyMite VFT</b>	30 • 4.0	29.5 • 5.0	29 • 6.0	28.5 • 6.8	28	7.5	27.5 • 8.2	27 • 8.9	26.5 • 9.5	26 • 10.0	25.5 • 10.7	25 • 11.4
<b>Patriot VFT</b>	30 • 5.4	29.5 • 6.1	29 • 6.8	28.5 • 7.5	28	8.1	27.5 • 9.0	27 • 9.8	26.5 • 10.5	26 • 11.0	25.5 • 11.5	25 • 12.0
<b>TomKat</b>	31.5 • 4.2	31 • 5.3	30.5 • 6.1	30 • 6.8	29.5	7.4	29 • 8.0	28.5 • 8.6	28 • 9.2	27.5 • 9.8	27 • 10.4	26.5 • 11.0
<b>THE RASCALCAM</b>												
<b>Miranda</b>	28 • 1.0		27 • 3.5		26	4.5		25 • 5.8		24 • 7.0		23 • 8.5
<b>Rascal</b>	25 • 0.8		24 • 3.0		23	4.6		22 • 6.0		21 • 7.5		20 • 9.2

## 65% DRAW POST SETTINGS

	#1 MOD Draw • Set	#1.5 MOD Draw • Set	#2 MOD Draw • Set	#2.5 MOD Draw • Set	#3 Draw	MOD Set	#3.5 MOD Draw • Set	#4 MOD Draw • Set	#4.5 MOD Draw • Set	#5 MOD Draw • Set	#5.5 MOD Draw • Set	#6 MOD Draw • Set
<b>THE FREEDOMCAM</b>												
<b>Independence VFT</b>	31.5 • 3.2	31 • 4.2	30.5 • 4.8	30 • 5.4	29.5	6.2	29 • 7.0	28.5 • 7.5	28 • 8.0	27.5 • 8.9	27 • 9.8	26.5 • 10.7
<b>Justice VFT</b>	29.5 • 5.8	29 • 6.5	28.5 • 7.1	28 • 7.7	27.5	8.4	27 • 9.1	26.5 • 9.8	26 • 10.5	25.5 • 11.3	25 • 12.0	24.5 • 12.7
<b>Liberty VFT</b>	29.5 • 6.3	29 • 7.0	28.5 • 7.6	28 • 8.2	27.5	8.8	27 • 9.4	26.5 • 10.0	26 • 10.5	25.5 • 11.2	25 • 11.9	24.5 • 12.6
<b>PBR Limited Edition</b>	29.5 • 5.8	29 • 6.6	28.5 • 7.3	28 • 7.9	27.5	8.5	27 • 9.0	26.5 • 9.7	26 • 10.3	25.5 • 11.0	25 • 11.6	24.5 • 12.2
<b>THE INFINITYCAM</b>												
<b>MightyMite VFT</b>	29.5 • 5.0	29 • 6.0	28.5 • 6.8	28 • 7.5	27.5	8.2	27 • 8.9	26.5 • 9.5	26 • 10.0	25.5 • 10.7	25 • 11.4	24.5 • 12.1
<b>Patriot VFT</b>	29.5 • 6.1	29 • 6.8	28.5 • 7.5	28 • 8.1	27.5	9.0	27 • 9.8	26.5 • 10.5	26 • 11.0	25.5 • 11.5	25 • 12.0	24.5 • 12.5
<b>TomKat</b>	31 • 5.3	30.5 • 6.1	30 • 6.8	29.5 • 7.4	29	8.0	28.5 • 8.6	28 • 9.2	27.5 • 9.8	27 • 10.4	26.5 • 11.0	25.5 • 11.6

Count-starting from the "L" side of the cam.

Note: The Miranda and Rascal 65% post settings are not available at the time of this printing. Please check our website [www.bowtecharchery.com](http://www.bowtecharchery.com) for updates.

See page 10 for proper Draw Post Adjustment

Equalizer bows (Allegiance VFT, Constitution, Defender VFT, and Old Glory) are draw length specific. See your Authorized BowTech Dealer for service.

## QUICK REFERENCE GUIDE

	BRACE HT.	DRAW WEIGHTS	DRAW LENGTH	A TO A	MASS WEIGHT†	IBO SPEED	MSR
<b>EQUALIZER BINARY CAM SYSTEM</b>							
<b>Allegiance VFT</b>	7"	50•60•70•80•90•100	24" to 30"	33 5/8"	4 lbs 3 oz	322 - 328 fps	\$749.00
<b>Constitution</b>	8 7/16"	40•50•60•70	27" to 33"	40"	4 lbs 6 oz	300 - 308 fps	\$799.00
<b>Defender VFT</b>	7 3/8"	50•60•70	24 1/2" to 30 1/2"	31 1/4"	3 lbs 13 oz	305 - 313 fps	\$649.00
<b>Old Glory</b>	7 1/2"	50•60•70	26" to 32"	37 1/4"	4 lbs 4 oz	307 - 315 fps	\$749.00
<b>FREEDOMCAM</b>							
<b>Independence VFT</b>	7 3/8"	50•60•70	27" to 32"	40"	4 lbs 8 oz	290 - 298 fps	\$799.00
<b>Justice VFT</b>	8"	50•60•70	25" to 30"	31 1/4"	3 lbs 12 oz	294 - 302 fps	\$639.00
<b>Liberty VFT</b>	7 1/2"	50•60•70	25" to 30"	33 1/4"	4 lbs 2 oz	296 - 304 fps	\$729.00
<b>PBR Limited Edition</b>	7 1/4"	50•60•70	25" to 30"	34"	4 lbs 1 oz	297 - 305 fps	\$849.00
<b>INFINITYCAM</b>							
<b>MightyMite VFT</b>	7 5/8"	50•60•70	25" to 30"	30 5/8"	3 lbs 12 oz	310 - 318 fps	\$619.00
<b>Patriot VFT</b>	7"	50•60•70	25" to 30"	33 1/4"	4 lbs 1 oz	318 - 326 fps	\$719.00
<b>TomKat</b>	8 1/2"	60•70	26 1/2" to 31 1/2"	32 1/2"	3 lbs 12 oz	294 - 302 fps	\$499.00
<b>DUALLY</b>							
<b>BlackKnight</b>	5 3/4"	50•60•70	25" to 30"	36 1/4"	4 lbs 3 oz	342 - 350 fps	\$749.00
<b>RASCALCAM</b>							
<b>Miranda</b>	8 1/4"	40•50•60	23" to 28"	32 1/2"	3 lbs 8 oz	267 - 275 fps*	\$399.00
<b>Rascal</b>	7 5/8"	20•30•40	20" to 25"	24 3/4"	2 lbs 3 oz	246 - 254 fps*	\$289.00

\* IBO speed ratings are the industry standard and are calculated by shooting a 350-grain arrow using a 70# bow with a 30" draw. Speeds for the Miranda are achieved using a 300-grain arrow shot at 60# with a 28" draw. Speeds for the Rascal are achieved using a 200-grain arrow shot at 40# with a 25" draw without installed Hush Kit or VibraBlocks™. Peak draw weights are adjustable approximately ten pounds downward depending on the model. Draw length modules are available in 1" and 1/2" increments on all models except the Equalizer Binary Cam System which are cam

specific in draw length. Digital scales used for peak draw and arrow weights have a variance of +/- 1%. The InfinityCam, FreedomCam, RascalCam and Equalizer Binary Cam System feature an adjustable let-off range of 65% to 80%. The BlackKnight Dually is available at 65% let-off only. † Mass bow weights are taken with Hush Kit components and VibraBlocks™ installed.