



2009 OWNER'S MANUAL

 **DIAMOND**
BY BOWTECH

THANK YOU

Congratulations on your recent purchase! We at Diamond know that you have a choice when it comes to your archery equipment, and we want to thank you for choosing us as your hunting partner. Your feedback is important to us, as it is our desire to provide you with the absolute finest customer service in the industry. So please take the time to go online and register your new Diamond bow. It is equally important to read through this owner's manual as there are valuable tips to help keep your Diamond trouble free for many seasons.

BEFORE USING YOUR NEW DIAMOND BOW, 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.

Disclaimer of Liability: By accepting a Diamond product, the buyer agrees to hold harmless Diamond 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.

THE DIAMOND EXCHANGE

To accommodate your growing archer, Diamond has implemented The Diamond Exchange for the Razor Edge bow. Simply bring your bow to an Authorized Diamond Dealer and for \$44.99 (plus shipping to BowTech), they will coordinate upgrading your bow limbs and replacing your string and cables. **This offer is valid to the original owner only, and is subject to the draw weight range of the Razor Edge.**

BIRTH CERTIFICATE

Every Diamond bow has completed a comprehensive quality control process. They have been individually shot, tested and measured to ensure compliance with our strict performance standards.

Performance testing is completed using a Custom Chronograph, Heavy Duty ProShop Meter and digital scales*. Speed ratings have been obtained with factory installed brass nock and string silencers. The use of these accessories decreases velocity by 5-8 fps. 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 Razor Edge are achieved using a 300-grain arrow shot at 60# with a 29" draw.

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

**REGISTER YOUR NEW DIAMOND BOW AT
DIAMONDARCHERY.COM**

LIFETIME WARRANTY

Authorized Dealer

The Diamond warranty covers product purchased from Authorized Diamond Dealers. Diamond products purchased through Internet auctions are not warranted. Contact Diamond to confirm that your purchase is through an Authorized Dealer.

This warranty protects against any failures of the product due to defects in material or workmanship and does not include any damage due to abuse, misuse or modification to the bow's design. The following exclusions apply.

Exclusions

Cable slide, cables and strings, HushKit components, bearings, paint and/or hydrographic film transferred finishes.

Damage caused by abuse, mishandling, dry-firing, alteration or modification to original product. Other excluded damages are those resulting from either loose mod screws or shooting arrows less than five grains per pound of draw weight.

For the Warranty to be enforceable the original purchaser must complete and submit the warranty card or online registration form within 30 days of purchase.

Warranty Service

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

All products requiring warranty service must be returned to an Authorized Dealer for inspection and diagnosis of any problem.

Your Diamond dealer will help in determining whether factory service is required, or if the service needed can be performed at the dealer's facility. 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 not be accepted. All returned bows must include the following:

- ◆ A large, readable RA number on the outside of the box.
- ◆ A copy of the sales receipt.
- ◆ Do not include accessories unless otherwise instructed. Diamond will not be responsible for loss or damage to any accessory left on the bow when shipped.

The bow owner is responsible for the return prepaid freight to Diamond. No COD shipments will be accepted. Diamond will perform the warranty service required and return the product prepaid.

- ◆ 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 of equal or greater value.
- ◆ Diamond reserves the right to substitute any parts required for warranty coverage at its sole discretion and for any reason.

TUNING AND PROPER FIT

Once you have purchased a Diamond bow, it is very important that it is adjusted to fit you properly. Assistance in achieving proper fit should be provided by your Authorized Diamond Dealer.

Changing the Draw Length

Diamond single cam bows are factory tuned and preset to the factory 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 your Authorized Diamond Dealer for proper draw length adjustment and new module installation instructions.

One of the features of the new IceMan, Diamond Stud and Razor Edge models is the draw length adjustability of the bow without the need for additional draw-length specific modules. The Rotating Module System makes this feature possible. By simply rotating the module clockwise or counter-clockwise, your draw length can be adjusted in 1/2" increments with little more than an Allen wrench.

1. Using an Allen wrench, remove the "Module screws" that attach the module to the cam (See Figure 1). Note: Depending on your draw length, you may need to press the bow to be able to access all screws for removal.

2. Notice that a "groove" on the cam corresponds with a number to denote draw length. The IceMan and Diamond Stud are factory pre-set to a 29" draw length with the groove lining up with the corresponding number. The Razor Edge 29# model is factory pre-set to a 24" draw length with the groove lining up with the number "24". The Razor Edge 60# model is factory pre-set to a 27" draw length with the groove lining up with the number "27".

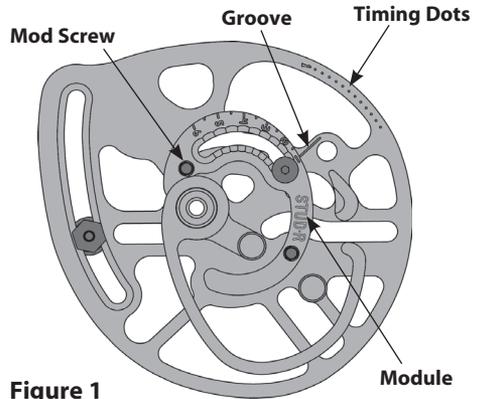


Figure 1

3. To lengthen the draw length, remove the mod screws and rotate the module counter-clockwise (when looking at the lower cam—reverse if looking at the upper cam). The "1" setting always corresponds to the longest possible draw length. After rotating the module to the desired location, replace the screws.

4. To shorten the draw length, remove the Allen screws and rotate the module clockwise. The largest number setting always corresponds to the shortest possible draw length. After rotating the module to the desired location, replace the screws.

NOTE: We recommend applying blue Loc-Tite 242 to the threads of the screws before replacing them at your desired setting. This will prevent the screws from backing out during the normal use of the bow.

Other Diamond models (Marquis, Black Ice & The Rock) are modular adjusted to individual draw lengths. Simply remove the Allen screws, remove the existing mod, slide in the new draw length mod, and replace the Allen screws. When changing the draw length module, it is also always necessary to readjust the post setting (see your Authorized Diamond Dealer for assistance). Draw length modules

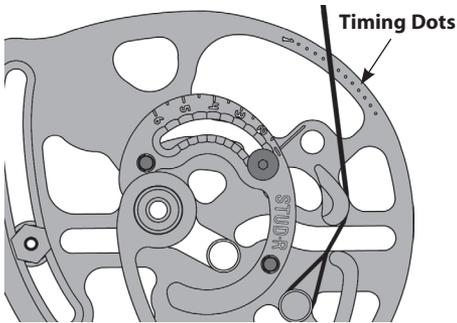


Figure 2

are available in 1/2" increments on each of these models.

Timing the Diamond Cams

There are small indentations or "timing dots" on the module-side of the cam near its perimeter (**Figure 2**). When holding the bow in the shooting position, a number "1" is engraved just above the first of the timing dots. Notice that the down cable bisects the indentations and partially obscures some of them from sight. The position of the down cable in relation to the timing dots is an indication of the bow's timing. When properly timed, the down cable should intersect a specific timing dot.

In the event your bow is not properly timed, adjustments must be made to either advance or retard the cam. This action requires the use of a bow press, and as such, your Authorized Diamond Dealer should perform all timing adjustments.

Paper Tuning

Paper tuning is the process of shooting an arrow through paper to see the flight path that your arrow is taking. This is usually done at a distance of six to ten feet from a stretched piece of paper. Ultimately you want a tear that shows the point of your arrow going through the center of your fletching. Your Diamond Dealer will be able to help you in making the minor adjustments to either

your rest or nocking point. Please realize that to achieve perfect arrow flight, you must have a properly spined arrow with little to no fletching contact, good form and a smooth release. With the forgiving nature of your Diamond Bow, perfect arrow flight should be easy to achieve.

Adjusting the Draw Stop

Diamond bows are unique in that they use a slotted draw stop that allows minute 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 post settings are designed to make minute changes in increments as small as 1/16" 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.

Start by adjusting the Allen screw on the post. Loosen just enough to allow movement either toward the 1 (short) or 10 (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. Never move post more than 1/2 mark from factory settings. Doing so will effect performance.

TUNING AND PROPER FIT CONT.

If more than 1/2 mark is needed to fit the draw length, you need a different mod.

Post adjustment incorporates all the settings necessary for Diamond models using the single Cam. 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 1 marking. In doing so, you will return to the correct let-off and valley. Your Authorized Diamond Dealer can assist you with proper post adjustment (**Figure 3**).

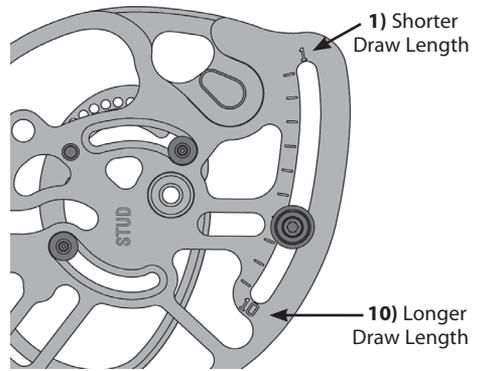


Figure 3

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

CHANGING LET-OFF

Changing the let-off is accomplished with ease. It may require a post setting and/or a module change. 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% on most models.

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 or minor modifications and/or the use of a scale. Remember: Never adjust the post more than 1/2 mark from factory settings. See your Authorized Diamond Dealer for assistance.

ADJUSTING THE DRAW WEIGHT

Draw weight can be adjusted by using an Allen wrench to either tighten or loosen the limb bolt (**Figure 4, next page**). Important: On some models, before adjusting the limb bolt, an Allen wrench must be used to loosen the pocket bolt located on the side of the limb pocket. Loosen this bolt one-half turn and then take the Allen wrench to tighten or loosen the main limb bolt. At peak weight, the main limb bolt should be fully tightened

and then loosened by a quarter turn. Note: Do not shoot your bow with the limb bolt fully tightened. To reduce your bow's draw weight, loosen the limb bolt while remembering the following ratio: One full turn of loosening on the Center Pivot IceMan equals approximately 1 pound of draw weight reduction. On other models, one full turn of loosening equals approximately 4 pounds of draw weight reduction. We recommend that the maximum

ADJUSTING THE DRAW WEIGHT

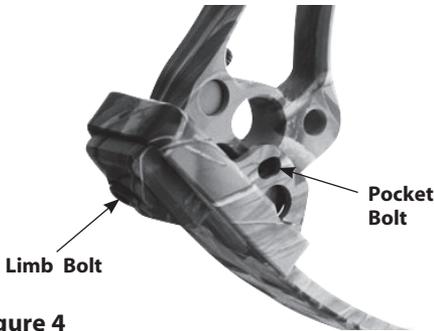


Figure 4

weight reduction for each bow is 10 pounds (except for the Razor Edge). This will ensure maximal performance for the bow while also maintaining our high standards for safety.

The Razor Edge utilizes a dual cam, rotating mod system for a maximized draw length range of a full eleven inches. With two peak draw weights available (29# & 60#) and the ability to back down 50%, the Razor Edge can cover a range from 15 to 60 pounds.

The Center Pivot model called the IceMan is "self-pressing". Loosen (back-out) the limb bolts approximately 3" (1" at a time, switching between the top and bottom limbs), to relax the bow so you can remove and replace the string and cables without needing a bow press.

REMEMBER: After making the adjustment to the limb bolt, be sure to retighten the 2 pocket bolts with the Allen wrench.

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.

Center Shot

With an arrow nocked on the string, look down the string and line it up with the center to the grip. Then adjust your arrow rest until your arrow runs straight with your string. From the side of your riser to the center of the arrow

should measure approximately 7/8". This is a good starting point in the tuning process.

Nock Point

A good starting point for your nock point is level to 1/8" high. This can vary due to arrow rest selection, arrow spine and shooting form.

Tiller Adjustments

The tiller is a measured distance from the point where the limb enters the limb pocket to string at a 90 degree angle. Since your cam and idler wheel are precision matched, even tiller is easily adjusted and will help in achieving optimal accuracy. If there is a variance in tiller measurements between the top and bottom limb, loosen the pocket bolts and make small adjustments to one of the limb bolts until even tiller and proper draw weight is achieved. Then retighten pocket bolts.

BOW MAINTENANCE

Your Diamond Bow was made with the highest quality components to last for a lifetime of use in the field with proper maintenance. It is important that you NEVER draw and release a bow without an arrow on the string. This could not only hurt you, but can damage your bow. If the bow is dry fired at any time, take it to your local dealer for a complete inspection. Never leave your Diamond bow in an area of extreme temperatures. This will cause your string and cable to stretch which effects timing.

Before shooting your bow, always inspect the string and cable and check the limbs for any visible damage. If damage is found, take the bow to your Authorized Diamond Dealer for inspection or repair.

Your Diamond bow comes equipped with sealed bearings in both the cam and idler

BOW MAINTENANCE CONT.

wheel. There is no need to lubricate either of these items. It is recommended that if you hunt in dusty or wet climates that you periodically have your axles removed and cleaned by an Authorized Diamond Dealer.

STRING & CABLES

Your Diamond 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.

TROUBLE SHOOTING

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 nocks, removing them or changing the location of the factory installed speed nocks will

reduce performance and speed.

Diamond recommends replacing 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 (mod screws, axles, bushings, cables, cable slide, e-clips and string). If any one of these items shows excessive wear, contact your Authorized Diamond Dealer to have them install new Diamond replacement parts. This keeps your bow shooting consistently without voiding your warranty.

Proper lubrication of the limb pivots 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.

Inspect your cam position on a regular basis to make sure the factory setting is maintained. This ensures the draw length and draw weight remain consistent.

All Diamond 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 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.

TROUBLE SHOOTING CONT.

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 in this owner's manual.

ABOUT SPEED

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 (without brass nocks)	1 - 3 fps
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): Every 3 grains of added arrow weight results in 1 fps speed loss. Example: 30 grains over IBO results in 10 fps speed loss. Additionally, any accessories added to the bowstring cause the bow to lose speed.

If you need assistance with setting up, tuning or solving an arrow flight problem, contact your Authorized Diamond Dealer.

SAFETY & GENERAL INFORMATION

Your new Diamond 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 creates 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 yourself and/or others.

ADULT SUPERVISION OF ALL CHILDREN UNDER THE AGE OF 18 IS REQUIRED.

Diamond 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.

SAFETY & GENERAL INFORMATION CONT.

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. With a low level of shooter accuracy, the backstop perimeter requirement must be increased appropriately.

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 and beyond the target when shooting.

ALWAYS inspect arrow and fletching prior to shooting for imperfections such as cracks, splits or splinters. Most arrow manufacturers recommend a flex test on the shafts. 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 string and cable 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 create excessive wear or slice the string material. This will void the warranty.

DO NOT cross cables in any configuration other than the configuration set by the factory. This will have an adverse effect on the performance and shootability of your Diamond. Further, it will cause extreme wear to the string, cable and cable-slide/roller guard.

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

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: _____