



YOUTH BOW OWNER MANUAL

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 Diamond), 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.**

GENERAL PRECAUTIONS

- **ADULT SUPERVISION OF ALL CHILDREN UNDER THE AGE OF 18 IS REQUIRED.**
- Never aim the bow at another person.
- Attend a certified hunter safety course.
- Never draw or fire a bow without an arrow on the bow string. NOTE: A DRY-FIRE CAN SEVERELY DAMAGE THE BOW AND WILL VOID THE WARRANTY.
- Fully inspect the bow's components for wear and tear before shooting (e.g. cams, limbs, strings, cables, module screws and set screws).
- Periodically wax strings and cables to reduce wear and extend the life of these crucial components.
- If the bow is dry-fired, do not attempt to fix it yourself as serious injury could occur. Instead, take the bow to your authorized Diamond dealer and have it inspected and repaired.
- **Always wear safety glasses when operating or adjusting your bow.**

**REGISTER YOUR NEW DIAMOND BOW AT
REGISTRYOURBOW.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. Damage caused by altered or damaged arrows and/or string dampening material, including original and aftermarket parts, is also excluded.

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 facility 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 determin-

ing 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.

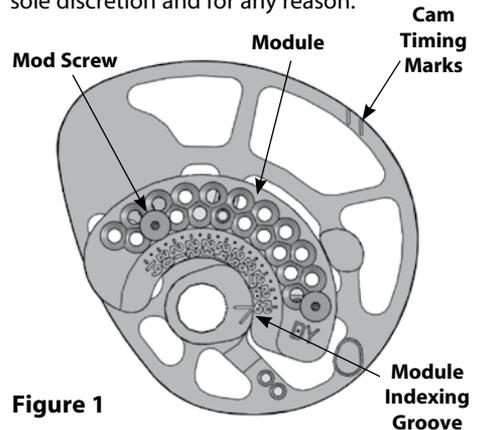


Figure 1

RAZOR EDGE INSTRUCTIONS

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 Razor Edge Draw Length

Diamond bows are 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.

One of the features of the Razor Edge 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 "Mod 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 the Module Indexing Groove on the cam corresponds with a number to denote draw length. 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".

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 "29" 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 smallest 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.

Timing the Razor Edge

Proper timing of your Razors Edge bow is important to achieve optimal performance. A bow is properly timed when both cams rotate in synchronization and stop uniformly at the end of the draw cycle. If one cam stops prematurely while the other cam continues rotating, you may have timing issues.

Another way to identify timing issues is compare your cam's position in relation to unsplit end of each cable. Look on the module side of each cam, and you will notice two Cam Timing Marks (**See Figure 1**) located near the cam's perimeter. The non-split end of the cable should bisect these marks.

To achieve this position, your dealer will need to press your Razor Edge and either add or take away twists from each cable to advance or retard cam position as needed.

IMPROPER PRESSING OF A DIAMOND BOW CAN RESULT IN DAMAGE WHICH COULD VOID YOUR WARRANTY. WE RECOMMEND TAKING YOUR BOW TO AN AUTHORIZED DIAMOND DEALER FOR ALL MAINTENANCE PROCEDURES REQUIRING A BOW PRESS.

DRAW WEIGHT ADJUSTMENTS

With two peak draw weights available (29# and 60#), and the ability to back the original draw weight down 50%, the Razor Edge can cover a range from 15 to 60 pounds.

Draw weight can be adjusted by using an Allen Wrench to either tighten or loosen the limb bolt (Figure 2). At peak weight, the main bolt should be fully tightened and then loosened by a quarter turn. To reduce your bow's draw weight, loosen the limb bolt while remembering the following ratio: One full turn of loosening on the 29# model equals approximately 1.16 pounds of draw weight. On the 60# model, one full turn equals approximately 2.33 pounds of draw weight. Do not turn limb bolts out more than 12 turns.

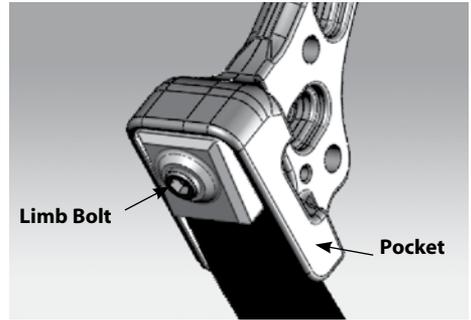


Figure 2. Razor Edge limb pocket

Warning: do not turn the limbs bolts out more than the recommended amount. Doing so could cause the limbs to break out of their pockets and result in injury.

NUCLEAR ICE INSTRUCTIONS THE "A" AND "B" SETTINGS

Every Nuclear Ice bow has the ability to be adjusted from 29 lbs to 10 lbs of draw weight and from 14-24" draw length. To accomplish this full range of adjustment, there is an "A" and "B" setting to which the bow must be set beforehand. The "A" setting is factory pre-set for optimal performance for higher draw weights and longer draw lengths. The "B" setting is used for lower draw weights and shorter draw lengths. The following information will discuss adjusting draw weight and

draw length in both settings.

The "A" Setting for the Nuclear Ice

The "A" setting is factory pre-set and is identifiable by the way the string and cables attach to both the top and bottom cams. On both cams the string should attach to the machined post in the cam with an "A" engraved alone on it (see Figure 3).

The cable, which attaches to the other side of the cam, should attach to the cable post after

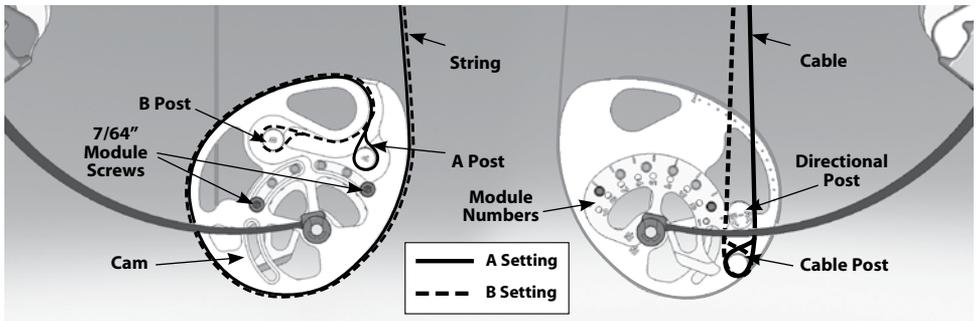


Figure 3. The Nuclear Ice bottom cam, (both sides).

"A" Setting Draw Weight/Length Chart:

	Module Number								
	1	2	3	4	5	6	7	8	9
Estimated Peak Weight† (lbs.)	29	29	29	29	29	29	29	29	29
AMO Draw Length (in.)	24	23	22	21	20	19	18	17	16
Backed-out 10 Turns Weight* (lbs.)	19	19	19	19	19	19	19	19	19
AMO Draw Length (in.)	24 1/4	23 1/4	22 1/4	21 1/4	20 1/4	19 1/4	18 1/4	17 1/4	16 1/4

† Draw weight measurement after the limb bolt has been fully tightened.

* Draw weight measurement after the limb bolt has been fully loosened.

passing near the "A" side of a directional post as shown on the right side of **Figure 3**.

Be sure that both the top and bottom cams have string and cables attached in this fashion.

As you can see from the chart above, the "A" setting allows for draw weight adjustments between 29-19 lbs. Draw length can be adjusted from 24"-16."

The "B" Setting for the Nuclear Ice:

The "B" setting is normally used for low draw weight (10-19lbs) and/or short draw length (14-15") shooters. Like the "A" setting, it is identifiable by the way the string and cables attach to both the top and bottom cams. **NOTE:** *As this is not a factory pre-setting, have your dealer use a bow press to change the bow from "A" to "B" setting.*

On both cams the string should attach to the machined post in the cam with a "B" engraved alone on it (**See Figure 3**).

The cable, which attaches to the other side of the cam, should attach to the cable post after passing near the "B" side of a directional post as shown on the right side of **Figure 3**. **NOTE:** *Depending on the pliability of the cable loop, you may need to remove the rotating module in order to position the cable properly.* **Be sure that both the top and bottom cams have string and cables attached in this fashion.**

As you can see from the chart on page 6, the "B" setting allows for draw weight adjustments between 25.3 lbs-9.6 lbs. Draw length can be adjusted from 22 3/4"-14".

Timing for the Nuclear Ice:

- Every Nuclear Ice bow cam is marked with dots called "timing dots" to assist with evaluating and setting the timing of each bow. Your dealer, when periodically timing this bow, will use these as a reference for cam synchronization. As timing requires a bow press, it is strongly recommended to have your Authorized Diamond Dealer perform timing adjustments.
- After timing adjustments have been made, closely inspect the back profile of your bow's cams to ensure that cam lean is not occurring. If cam lean is noticed, have your dealer twist up one or both sides of the cable split yoke to eliminate the issue.

Arrow Inspection

Always inspect each arrow for damage before each shot. To inspect the arrow, hold it on both ends and flex it away from yourself and others while visibly and audibly checking for nicks, cracks, splits, dents or other marks that could indicate damage to the arrow. Perform the test four to six times, rotating around the entire arrow. Always check all arrow components prior to shooting, including nock, insert and tip. Loose components can cause unbalanced arrow flight and partial dry firing of the bow. If an arrow has been damaged, or if you believe it has been damaged, do not shoot it again, as it could break on release, and sharp arrow pieces could strike and injure you or someone nearby.

“B” Setting Draw Weight/Length Chart:

	Module Number								
	1	2	3	4	5	6	7	8	9
Estimated Peak Weight[†] (lbs.)	25.3	24.1	23.7	22.8	22.1	21	19.2	17.4	15
AMO Draw Length (in.)	22 3/4	21 5/8	20 1/2	19 1/2	18 1/2	17 1/2	16 3/8	15 1/8	14
Backed-out 10 Turns Weight* (lbs.)	19.1	16.2	15.6	14.9	14.1	13.5	12.5	11	9.6
AMO Draw Length (in.)	23 3/16	22 1/8	21	19 15/16	18 7/8	17 7/8	16 3/4	15 5/8	14 3/8

[†] Draw weight measurement after the limb bolt has been fully tightened.

* Draw weight measurement after the limb bolt has been fully loosened.

DRAW WEIGHT ADJUSTMENTS

1. Remove the set screw from the barrel nut found under the pocket on the riser using a 3/32" allen wrench (**See Figure 4**).
2. Fully tighten the limb bolt with a 1/4" allen wrench. NOTE: The bow should now be at peak weight.
3. To reduce draw weight, use the 1/4" allen wrench to loosen the limb bolt. **WARNING: NEVER LOOSEN THE LIMB BOLT MORE THAN 10 FULL TURNS! IF YOU CAN SEE THROUGH THE SET SCREW HOLE, THEN YOU HAVE BACKED THE LIMB BOLT OUT TOO FAR!** Depending on the setting of your bow (*See “A” and “B” Settings information*), follow the appropriate setting chart above for further direction.

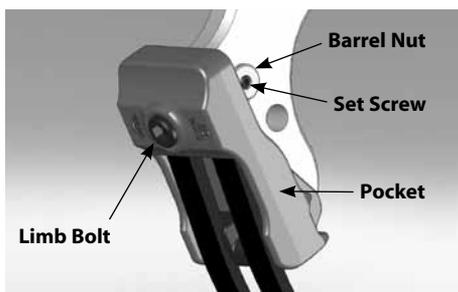


Figure 4. Nuclear Ice limb pocket

4. After making the adjustment, replace the 3/32" set screw with an allen wrench and tighten until snug.
5. Repeat this process on the other end of the bow.

GENERAL INFORMATION 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 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 AND 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 retuning 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

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.

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.

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. Any adjustment made to one end of the bow should be mirrored on the opposite end.

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.

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 direc-

tion of an appropriate target. ALWAYS have a full view of the path to and beyond the target when shooting.

ALWAYS check all arrow components prior to shooting, including nock, insert and tip. Loose components can cause unbalanced arrow flight and partial dry firing of the bow. If an arrow has been damaged, do not shoot it again, as it could break on release, and sharp arrow pieces could strike and injure you or others.

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 (See Adjusting Draw Weight for further information). 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.

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. **RegisterYourBow.com**



90554 HWY 99 NORTH, EUGENE, OREGON 97402
TOLL FREE: 877.447.0293 FAX: 541.284.4933
DiamondArchery.com

Every effort has been made to ensure the accuracy of information and typographical content within our owner's manual. Diamond reserves the right to modify and/or discontinue products without notice and at its discretion. © 2010 Diamond Archery by BowTech. All rights reserved.