

YAMAHA
YAMAHA CORPORATION
P.O.Box 1, Hamamatsu, Japan

YAMAHA TAKE DOWN BOW

OWNER'S MANUAL

SETUP MANUAL

The Yamaha SUPER FEEL FORGED take down bow exhibits the qualities of a tournament bow of the very highest level. Like the Olympic gold-medal winner -EOLLA-, it also incorporates on-target performance, a unique tackle in section hub construction, and a unique double adjusting system, developed through our pursuit of an even easier-to-use bow. In addition, this bow features a handle twice as rugged as the EOLLA in order to increase stability.

How well the bow continues to give satisfactory performance depends on the way it's used. Please read this manual carefully so you can enjoy high-precision archery performance to the fullest.

HANDLING PRECAUTIONS

1. Be sure to remove the string from the bow when storing it.
2. When storing or carrying the bow, in order not to damage the handle and limbs, wrap them with a cloth and put them in the archery case.
3. Properly place the bow so as not to put improper pressure on it during in use or storage.
4. Do not shoot without an arrow or with the nock disconnected from the bowstring.
5. If the bow gets wet, carefully wipe it off with a dry cloth including the handle/limb joint unit.
6. When storing the bow for a long period of time, lay it horizontally and keep it out of direct sunlight or dampness.
7. If there's any defect in or damage to the handle or limbs, there's a danger of breakage. Be sure to check the bow from time to time for defect or damage. Never modify the handle. Improper modification may cause trouble.
8. The above precautions should be strictly observed. The manufacturer will not bear the responsibility for any problems caused by misuse.

SUPER FEEL FORGED / EOLLA

The SUPER FEEL FORGED / EOLLA employs a unique double adjusting system in which draw weight adjustment and limb balance (tiller) adjustment are successfully and independently incorporated. The adjustment should be made as described below for correct use.

DRAW WEIGHT (DW) ADJUSTMENT

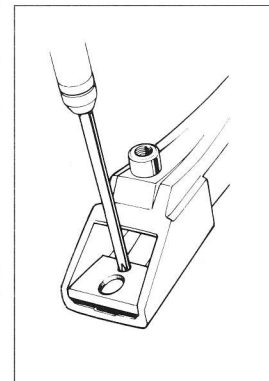
The SUPER FEEL FORGED / EOLLA handle includes 3 types of draw weight (DW) adjusters different in thickness (No. 1, 2, 3). Adjuster No. 1 is standard. Draw weight can be about 4.5% lower with No. 2 and about 10% lower with No. 3.

Adjuster No. 1 is provided before shipment. You can select the desired one based on conditions at the time. The number can be seen in the concave part.

How to replace draw weight adjusters

1. Loosen the setscrew holding the DW adjuster by using a cross-tip (+) Philips type screwdriver, and dismount the DW adjuster.
2. Install the desired DW adjuster by using the screwdriver.
3. If the final choice is DW adjuster No. 1, remove the backing paper from its back side and install it.

Note: Limb balance (tiller) and string height will vary slightly due to replacement of the DW adjusters.



TUNE-UP OF LIMB BALANCE (LB) ADJUSTERS

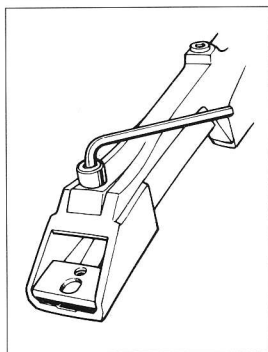
The limb balance (tiller) can be changed by about some 15mm by tuning up the LB adjusters incorporated in each stabilizer insert provided on the handle back side. A special stopper is not used due to the screw-fastening principle. Because it is retained by powerful spring pressure, completion of adjustment is secured ... a very simple and sure method.

How to tune-up LB adjusters

(EOLLA handle)

1. Insert the hexagonal wrench (attached to the package) into the stabilizer insert and turn the built-in adjuster.
2. To increase the limb balance, turn the lower adjuster clockwise.
3. To decrease the limb balance, turn the upper adjuster clockwise.

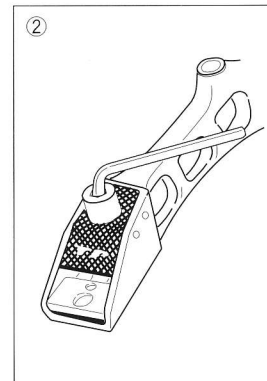
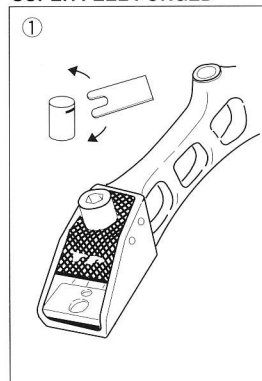
EOLLA



(SUPER FEEL FORGED handle)

1. First, loosen the locking nut-type adjuster by the plate wrench (attached to the package).
2. Insert the hexagonal wrench (attached to the package) into the stabilizer insert and turn the built-in adjuster.
3. To increase the limb balance, turn the lower adjuster clockwise.
4. To decrease the limb balance, turn the upper adjuster clockwise.
5. Finally, fasten the locking nut-type adjuster by the plate wrench.

SUPER FEEL FORGED



Approximately 10mm is adjustable by a single turn, though the amount of adjuster rotation and the amount of balance change differs depending upon such factors as draw weights, etc.

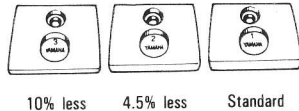
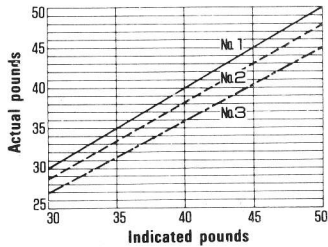
Precautions:

LB adjusters are tuned up in a standard location before shipment. Never turn the LB adjuster counter-clockwise from a standard location.

When using the DW adjuster No. 1, do not turn the LB adjuster more than 1 1/2 turn (even clockwise). It may happen that the limb cannot be pulled out. (Do not turn the LB adjuster more than 2 turns when using the DW adjusters Nos. 2 and 3.)

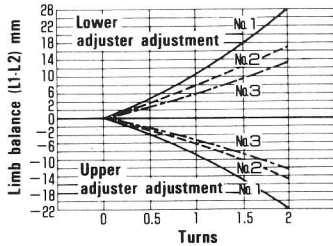
Use the values below as a guide to creating a bow that's just right for you.

Table 1: Pounds change by DW adjuster

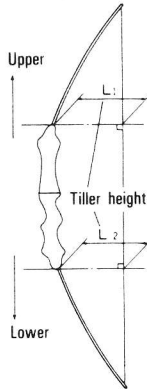


* Draw weight : measured at 26" from pivot point

Table 2: Limb balance change by LB adjuster rotation



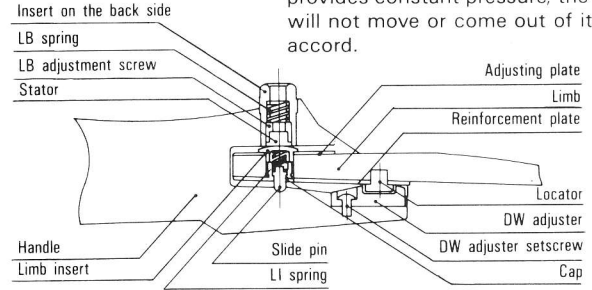
Precautions:
 LB adjusters are tuned up at a standard position before shipment. Never turn the LB adjuster counterclockwise.



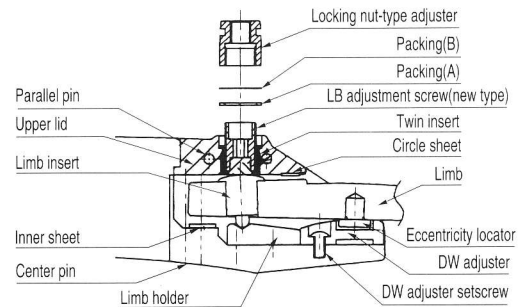
DOUBLE ADJUSTING SYSTEM CONSTRUCTION DIAGRAM

EOLLA handle

A stopper screw is not used at the LB adjuster, but, because the LB spring provides constant pressure, the screw will not move or come out of its own accord.



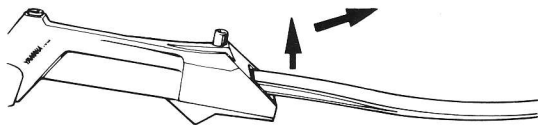
SUPER FEEL FORGED handle



Note 1: When stringing, make sure the locator is positioned correctly in the concave part of the DW adjuster.

Note 2: When dismantling the limb, pull it upward diagonally.

Note 3: If there is dirt or dust on the DW/LB adjusters, it may cause a problem. Always be sure to clean them after practice.



SPECIAL ATTENTION IS CALLED

A magnesium alloy is used in the EOLLA handle. Cracks or breakage to the handle, weakened due to fatigue in the material caused by repeated shooting or corrosion during a long period of use, may occur. If so, immediately discontinue using it and contact the dealer from whom you purchased the bow.

In addition, never modify the handle by shaving it or drilling a hole in it. Any remolding of the handle unit will advance fatigue or corrosion in the metal, reducing its durability.

Yamaha designs and builds its high-quality handles by fully utilizing its long-time expertise and know-how including rational distribution of rigidity, intensive research in handle design and materials and uniformity of casting.

To assure the superb quality of the SUPER FEEL FORGED / EOLLA handle, for instance, Yamaha conducted many stringent tests and trials including durability tests for metal fatigue by sampling every casting lot. In addition, a minimum of 100,000 shots were made in actual shooting with the substantial draw weight of 50 lbs., after which the durability of the handles was checked by X-rays.

Specifications are subject to change without notice.

Proper Setup of the Yamaha Bow: From Start to Competition

Setting up and fine tuning a bow system is a very individual task. Each bow-archer system will have its own unique characteristics. The following instructions are meant to serve as a guideline, but are not meant to limit the archer's choices in equipment setup. In the long run, what is most important are the grouping capabilities of the bow. Whatever type of bow setup produces the highest results is ultimately the best choice.

Draw Weight and Bow Length:

The Yamaha bow comes in a variety of lengths and weights. Whether an archer is 4 1/2 feet or 6 1/2 feet tall, there is a proper bow to match. The Yamaha Eolla is available in the following lengths and weights:

Bow Length	Combination		Super Ceramic Carbon
	Handle	Limb	
66"	SHORT	Medium	34-50 lbs.
68"	LONG	Medium	33-49 lbs.
68"	SHORT	Long	34-47 lbs.
70"	LONG	Long	33-46 lbs.

Bow Length	Combination		Super Feel Type "G"
	Handle	Limb	
64"	SHORT	Short	30-42 lbs. (every 2 lbs.)
66"	SHORT	Medium	30-44 lbs. (every 2 lbs.)
(68")	SHORT	Long	34-42 lbs. (every 2 lbs.)
(66")	LONG	Short	29-41 lbs. (every 2 lbs.)
68"	LONG	Medium	29-43 lbs. (every 2 lbs.)
70"	LONG	Long	33-41 lbs. (every 2 lbs.)

*Master String Height : 64": 8 1/4", 66" & 68": 8 1/2", 70": 8 3/4"

*Draw weight : measured at 26" from pivot point.

Care should be taken to select a bow system which properly matches each archer's physical build and bow performance desires. Archers with short draw lengths and small body structures should select a shorter length bow, while larger shooters with long draw lengths should select a longer length bow. When selecting a bow, it is important that an archer's draw length and desired draw weight are known first. To select the proper weight bow limbs for a desired final draw weight follow the setups below.

1. Select a desired final draw weight.
2. Draw back an extra long arrow using a light recurve bow to a comfortable full draw position. Measure the arrow length from the throat of the nock to the cushion plunger. This is the draw length which will be used to determine final draw weight.
3. For every inch that the measured draw length is greater than 26", subtract 2 lbs. from the desired final bow weight. For every inch that the measured draw length is less than 26", add 2 lbs to the desired final bow weight.
4. Since bow weight calculations are measured using the #1(heavy) weight adjustment block, adjustments must be made if an archer plans on using the #2 or #3 weight adjustment blocks. For the #2 blocks, multiply the desired final bow weight by 5% and add this number to the desired final bow weight. For the #3 blocks, multiply by 10% and add to the desired final bow weight.
5. After performing all of the above calculations, the final result is the marked limb weight which should be selected.

The following is an example of the above steps for an archer who wishes to shoot a 40 lbs. draw weight with the #3 weight adjustment blocks at a 27 inch draw length:

- | | |
|-----------------------------------|------------|
| 1. Desired final draw weight | 40 lbs. |
| 2. Draw length | 27 inches. |
| 3. $27"-26"=1$ inch (1" x 2 lbs.) | -2 lbs. |
| 4. $10\% \times 40$ lbs.=4 lbs | +4 lbs. |
| 5. Marked limb weight | 42 lbs. |

PRELIMINARY BOW SETUP

Once a properly matched bow has been selected, it is vital that the preliminary bow setup be performed. Without proper initial setup, bow tuning and performance will suffer.

Selecting the Proper Weight Adjustment Blocks:

The weight adjustment blocks should be selected to match an archer's desired final draw weight. Stability is typically best with the thinner weight adjustment blocks. Remember that the total adjustability of bow weight is 10% of the marked weight. This means that for the #1 weight adjustment block, the weight can be adjusted 10% down. Be sure to select a limb weight that will allow a full range of desired draw weights to be met.

Selecting the proper Initial Brace Height:

Brace height is the measure of the distance from the pivot point of a bow's grip to the string. Recommended initial brace heights are as follows:

Bow Length	Brace Height
64"	8 1/4"
66"	8 1/2"
68"	8 1/2"
70"	8 3/4"

(For the Super Ceramic Carbon Limbs and the Super Feel Type "G" Limbs)

Selecting the Proper Initial Tiller Setting:

Tiller is the measure of how well the limbs are balanced with one another. Tiller can be adjusted through the use of the Eolla riser. A positive tiller refers to the situation where the distance from the top limb to the string is greater than the distance from the bottom limb to the string. A negative tiller means the bottom distance is greater than the top. As an initial setting, adjust the tiller between 1/4"-1/2" positive tiller.

FINE TUNING THE YAMAHA BOW

Once the initial setup is finished and all components are properly installed on the bow, it is time for fine tuning. Although the initial setup of a bow is fairly straight forward, fine tuning requires patients and a good deal of testing. Fine tuning the bow system is a very individual task, so archers should not be afraid to experiment. Good documentation of all steps will allow easy recovery in case an equipment experiment does not work.

Arrow tuning,:

Before fine tuning the bow, it is imperative that an archer's arrows be properly tuned. This requires that the nocking point be set correctly and the archer's arrows be matched to his or her bow. For detailed instructions on arrow tuning see the Easton Technical Bulletin #4, Tuning the Bow and Arrow System.

Fine Tuning Brace Height:

The brace heights indicated above serve only as a guide for initial bow setup. To find the best matched brace height, begin at the settings indicated above. Shoot several shots and note how the bow feels and reacts on each shot. Then adjust the brace height either up or down in 1/8" increments. Note how the bow reacts for each incremental change in the brace height. Continue this experimentation until all brace heights 1/2" below through 1/2" above the suggested initial brace height have been tried.

Typically, the Yamaha bow becomes quieter as the brace height increases and louder as the brace height decreases. Furthermore, it is common to achieve two brace heights where the bow performs its best. This is due to a frequency match between the bow and arrow during launch. Each archer should select the brace height which is the most comfortable. Keep in mind that the Yamaha bow is more stable with a lower brace height, particularly if the #1 (thickest) weight adjustment block is used.

Fine Tuning Tiller:

In adjusting the tiller, an archer should look for two points. First, the bow should feel crisp and smooth after the shot. Second, on the draw, the bow should be flat and level all the way through the draw sequence. Once these two criteria are met, a bow's tiller is properly adjusted.

Fine tuning the tiller of a bow follows the same pattern which fine tuning the brace height follows. The tiller should initially be set between +1/4" and +1/2". Experiment with the tiller in 1/8" increments between -1/4" and +3/4" until the bow has a good feel and the bow is flat and stable on the draw.

Limb alignment:

Limb alignment, when properly centered, can result in more stable bow reaction and better grouping. Limb alignment can be checked by propping the bow in a vertical position and visually checking the line which the string follows up and down the bow. If the string is slightly at an angle to the bow, fine adjustments can be made to help correct for this problem.

The Yamaha limbs have the benefit of a cam in their locking system which allows for modifications in the way they seat in the limb pocket. The limb alignment can be adjusted by gripping the limb locator hub with pliers and rotating. Experiment in 1/8 increment turns until the limbs are properly aligned with the riser.

Effects of Fine Tuning the Bow on Arrow Flight:

Each change in bow setup will require a small amount of arrow tuning to compensate for the changes. In order to maintain a clear mind while tuning equipment, experiment with one item at a time. One a major adjustment is made in the bow, look again at arrow tune, but keep the two tuning processes separated.