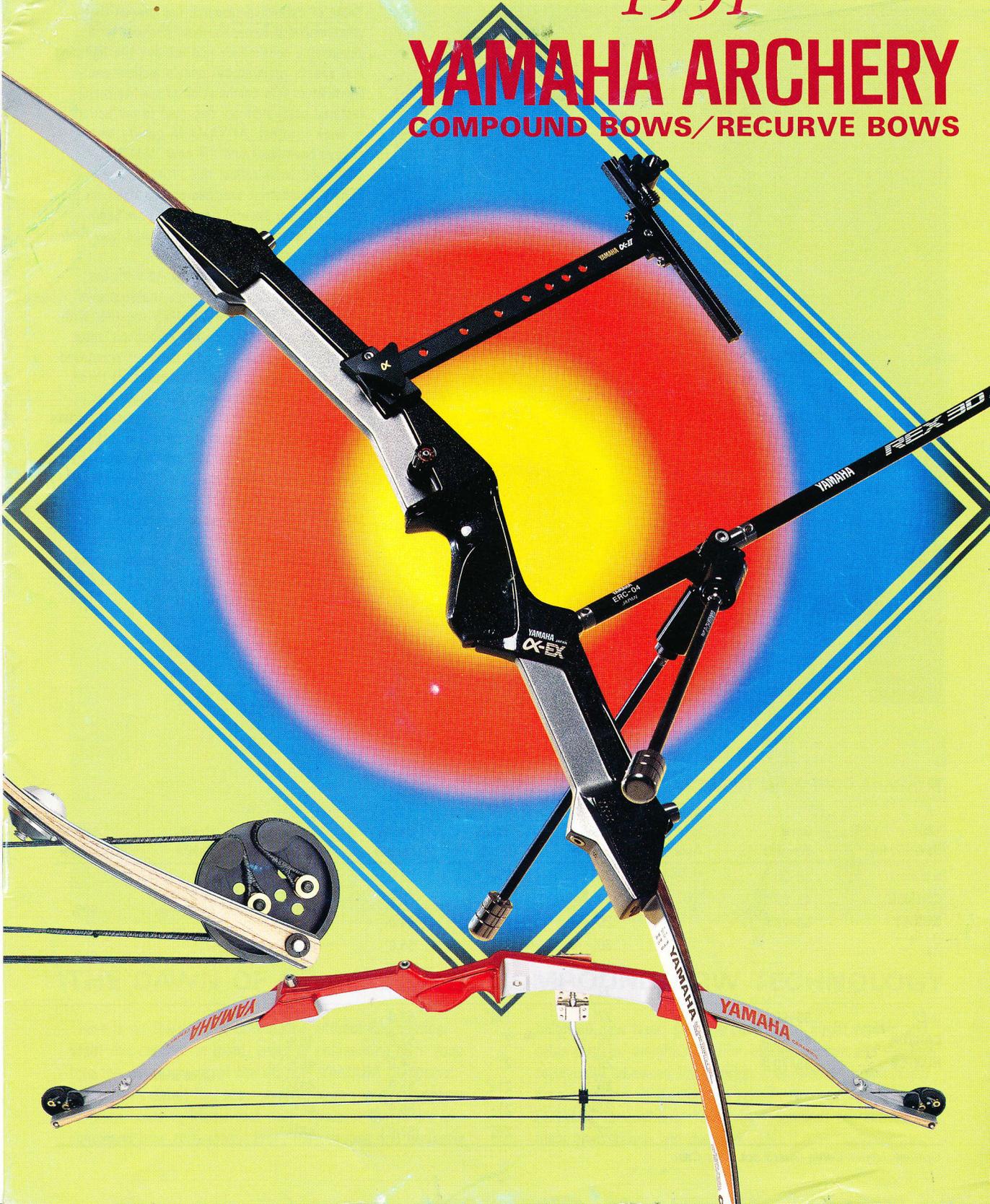


feelin' **YAMAHA**

1991

# YAMAHA ARCHERY

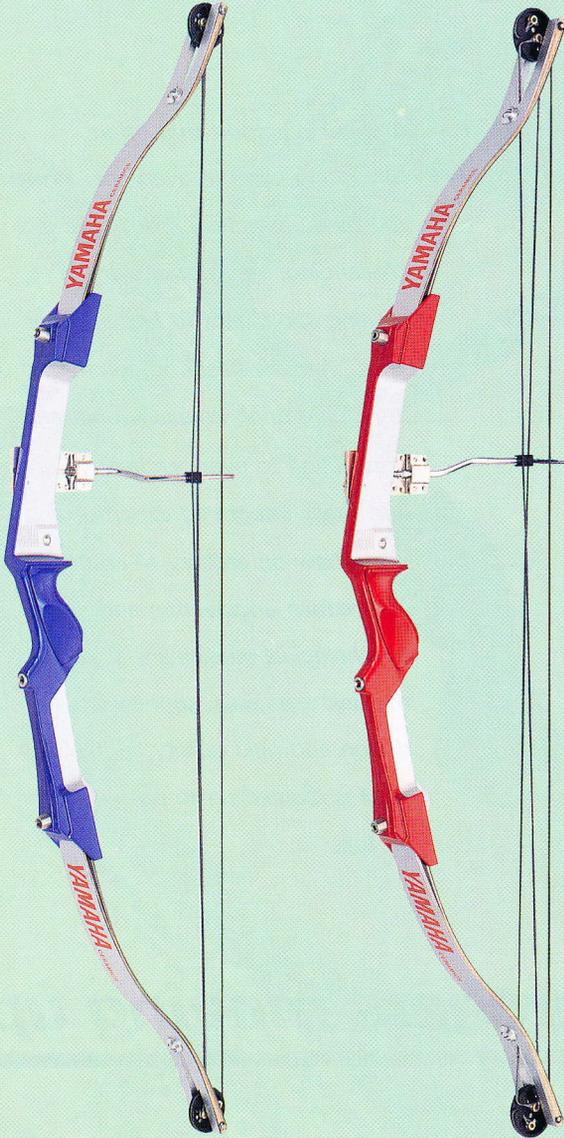
COMPOUND BOWS/RECURVE BOWS



# YAMAHA

## NEW WORLD CLASS COMPOUND BOWS!

■  $\alpha$ -EX CERAMIC TARGET



■  $\alpha$ -EX CARBON HUNTER



### THE DAWN OF A NEW ERA IN COMPOUND BOW TECHNOLOGY

There is no Quality or Performance without Engineering. With this concept in mind, years of engineering have gone into the development of the all new YAMAHA Compound Bow. Every detail has been considered in the development of these bows to insure that they represent the future in compound bow technology. From their stylish and perfectly

balanced new riser, single groove-Super Flight wheels and cable system, weight and tiller locking system and the most technically advanced limb design ever used on a compound bow featuring an outstanding combination of CARBON and CERAMIC laminations, YAMAHA Compounds represent the ideas that dreams are made of.

# YAMAHA

## COMPOUND BOWS—SIMPLY THE BEST!



Years of extensive research has proven that what makes a compound bow perform with dependable consistency and achieve the lightning fast speeds required by today's archers and bowhunters is a combination of quality manufactured parts that are designed to perfection to work together. At YAMAHA quality has always been No.1 and the new YAMAHA Compound bows reflect this attitude. The CERAMIC material that has proven itself on the target line for several years has now been incorporated into the finest compound bow limb ever designed.

Single groove eccentrics combined with the most scientific string and cable material ever designed, "SUPER FLIGHT", work together with perfect timing to provide the smoothest, most consistent shooting and best balanced compound bows ever built. The combination of all these great features add up to a remarkably fast, flat shooting bow. The weight adjustment system of the YAMAHA compound features a locking system that insures the weight tiller adjustment will not change while the bow is being shot. Limbs are contained within the bow handle to insure constant performance by allowing the bow to be adjusted only within the specific weight range of each bow. The limbs can not be adjusted above or below specified weights by more than a pound or two.

### ■ YAMAHA COMPOUND TUNE CHART

1991 Bow Model	Draw Weights	Axle to Axle	Draw Length	Wheel Sizes	String Length	Cable Length	Handle Colors	Let-Off Wheel
$\alpha$ -EX	35-50 #	45 1/2"	27"	1 3/4"	53.0"	46 1/2"		
CERAMIC	45-60 #		28"	2"	53.5"	46 1/2"		
TARGET	55-70 #		29"	2"	54.0"	46 1/2"	Red/Silver	50%
			30"	2 1/4"	55.0"	46 1/2"	Blue/Silver	or
			31"	2 1/2"	56.0"	46 1/2"		65%
			32"	2 3/4"	(57.0")	46 1/2"		
$\alpha$ -EX	35-50 #	45 1/2"	27"	1 3/4"	53.0"	46 1/2"		
CARBON	45-60 #		28"	2"	53.5"	46 1/2"		
HUNTER	55-70 #		29"	2"	54.0"	46 1/2"		50%
			30"	2 1/4"	55.0"	46 1/2"	Camo Black	or
			31"	2 1/2"	56.0"	46 1/2"		65%
			32"	2 3/4"	(57.0")	46 1/2"		

Options: Upper Cable Guard set, Soft Case



**Darrell O. Pace (USA)**....Yamaha Archery Advisory Staff

- Two Olympic Championships '76 at Montreal and '84 at Los Angeles.
- Two World Championships '75 at Interlaken and '79 at Berlin.
- World Field Championship '78 at Geneva.
- Seven U.S. Championships '72, '73, '74, '75, '76, '78, and '84.

*Archery is a sport that offers something extra to everyone. When you take up archery, you'll find it a challenging, very attractive and exciting sport hard to find in other ones. Yamaha has long committed to helping bring its excitement and satisfaction to every archer. Through our totally integrated expertise and know-how on archery all-around. Our human engineering and psychological studies are all allied to the best materials, sophisticated design and rigid quality control. All in all is teamed up to put you right on top.*

***Just right for archers moving up***

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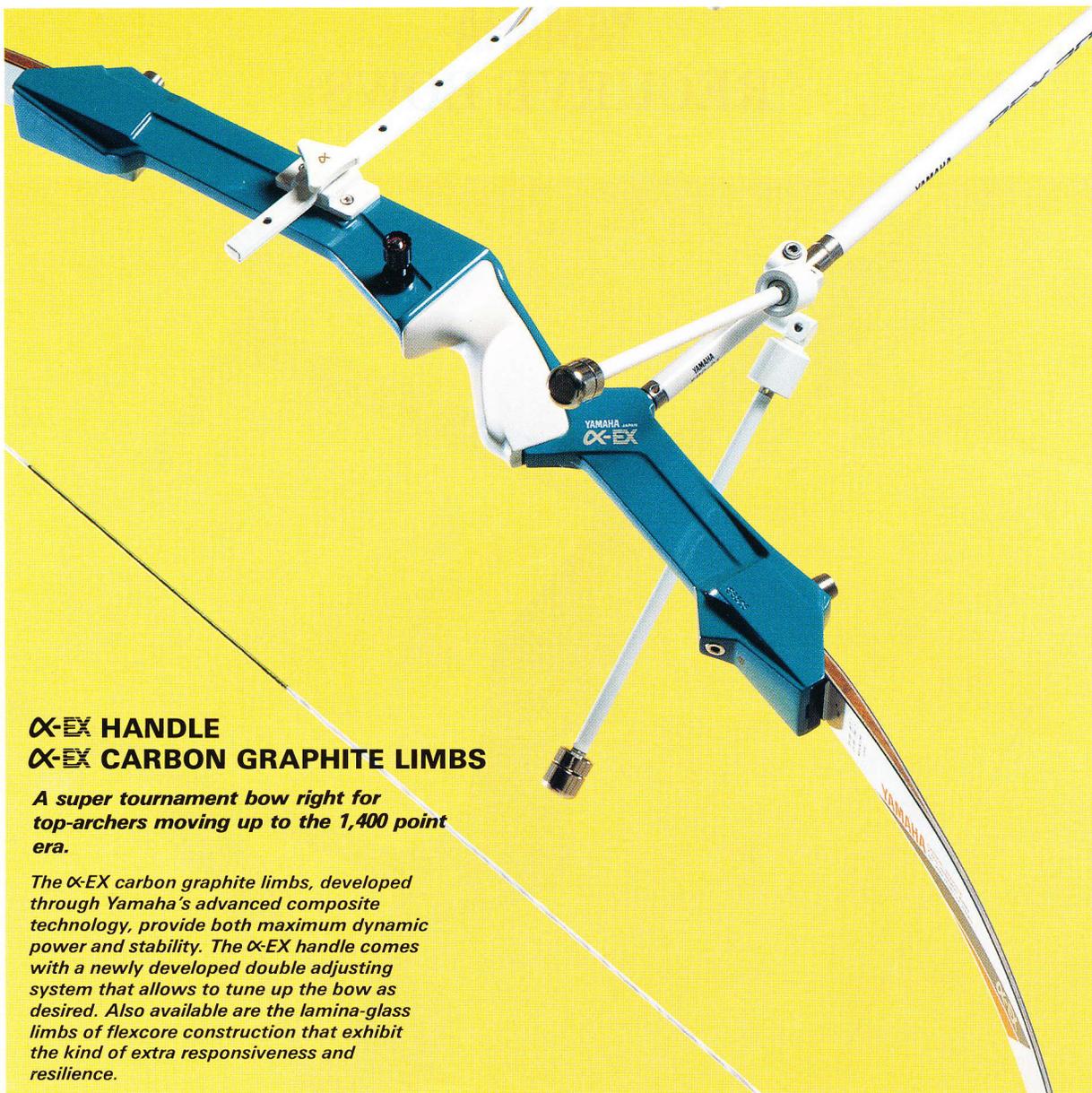
# YAMAHA RECURVE BOWS



## **α-EX TWO-TONED HANDLE** **α-EX CERAMICS CARBON LIMBS**

***A winning combination of the new top of the Yamaha line: α-EX handle and limbs.***

*Yamaha's top-of-the-line enters a brand-new era with the innovative ceramics carbon limbs—a result of the scientific pursuit of perfection through the latest research and development methods. The α-EX limb is composed of a precise blend of ceramic whisker and carbon materials, providing just the right combination of rigidity and responsiveness. It's lighter in weight thanks to an increased composite ratio of carbon materials, giving added handling ease with a delicate new touch. Try it out yourself right away.*



**α-EX HANDLE**  
**α-EX CARBON GRAPHITE LIMBS**

*A super tournament bow right for top-archers moving up to the 1,400 point era.*

*The α-EX carbon graphite limbs, developed through Yamaha's advanced composite technology, provide both maximum dynamic power and stability. The α-EX handle comes with a newly developed double adjusting system that allows to tune up the bow as desired. Also available are the lamina-glass limbs of flexcore construction that exhibit the kind of extra responsiveness and resilience.*



Features the double adjusting system—the latest fruits of Yamaha's archery expertise. It allows to tune up the bow as desired in both draw weight and limb balance. Here's a super tournament bow that assures a quicker advance in skill for those moving up.

■ **α-EX TWO-TONED HANDLE** (Left-handed model available)

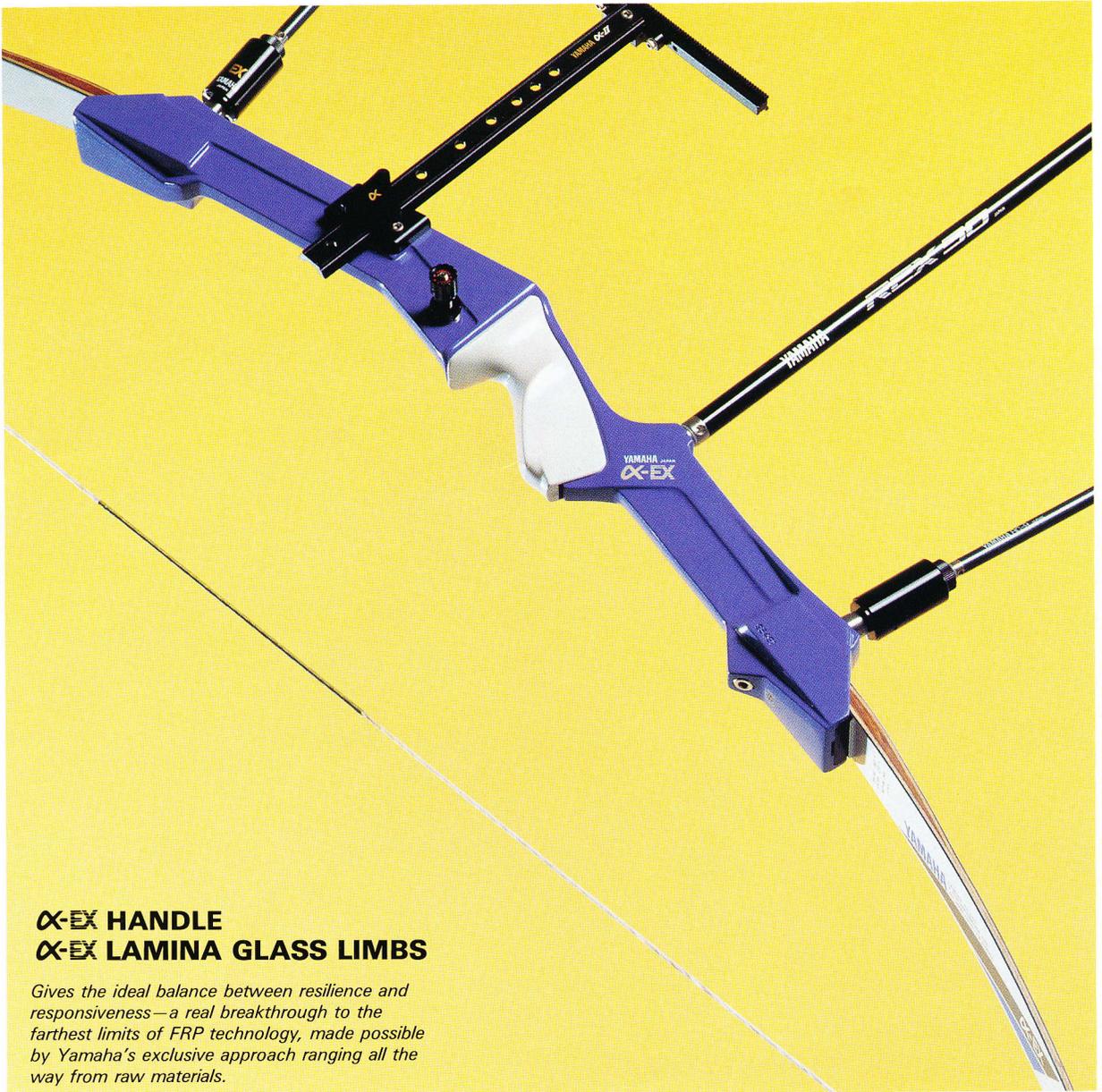


Green & Purple Green & White White & Purple Red & Silver Black & Gun metallic Royal blue & Silver

■ **α-EX HANDLE** (Left-handed model available)



Red Royal blue White Gun metallic Black



**α-EX HANDLE**  
**α-EX LAMINA GLASS LIMBS**

*Gives the ideal balance between resilience and responsiveness—a real breakthrough to the farthest limits of FRP technology, made possible by Yamaha’s exclusive approach ranging all the way from raw materials.*

■ **α-EX TRI-COLOR HANDLE** (Right & Left-handed model available)



(standard color)



Purple

Green

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

Bow length	Combination		α-EX Ceramics Carbon	α-EX Carbon Graphite α-EX Lamina Glass
	Handle	Limb		
64"	Short	Short	31-42 lbs.	30-41 lbs.
66"		Medium	30-48 lbs.	30-48 lbs.
(68")		Long	36-46 lbs.	36-45 lbs.
(66")	Long	Short	30-41 lbs.	29-40 lbs.
68"		Medium	29-47 lbs.	29-47 lbs.
70"		Long	35-45 lbs.	35-44 lbs.

■ **α-EX CERAMICS CARBON LIMBS**



■ **α-EX CARBON GRAPHITE LIMBS**



■ **α-EX LAMINA GLASS LIMBS**



- **Master string height:** 64": 8<sup>3</sup>/<sub>8</sub>", 66": 8<sup>3</sup>/<sub>4</sub>", 68": 8<sup>3</sup>/<sub>4</sub>", 70": 9"
- **Bow weight:**  
 (ceramics carbon) 64"/66": 1.4kg, 68": 1.45kg  
 (carbon graphite) 64"/66": 1.43kg, 68": 1.45kg  
 (lamina-glass) 64"/66": 1.45kg, 68": 1.50kg
- **Standard equipment:**  
 Draw weight adjusters (3 types), MX grip



**α-DX HANDLE**  
**α-DX CARBON GRAPHITE LIMBS**



Features superior on-target performance with greater responsiveness, embodying in it an outstanding cost performance ratio at the same time. Available are three variations of draw weight adjusters and two variations of limb balance adjusting spacers.

■ **α-DX HANDLE** (Left-handed model available)



Red Pearly pink Peacock blue Gun metallic White

■ **α-DX CARBON GRAPHITE LIMBS**

*\*To be manufactured to order.*



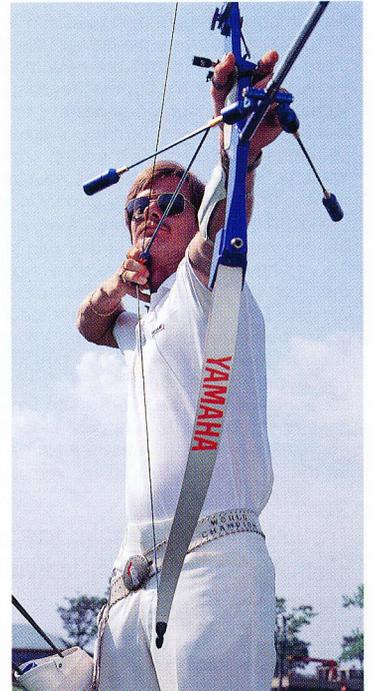
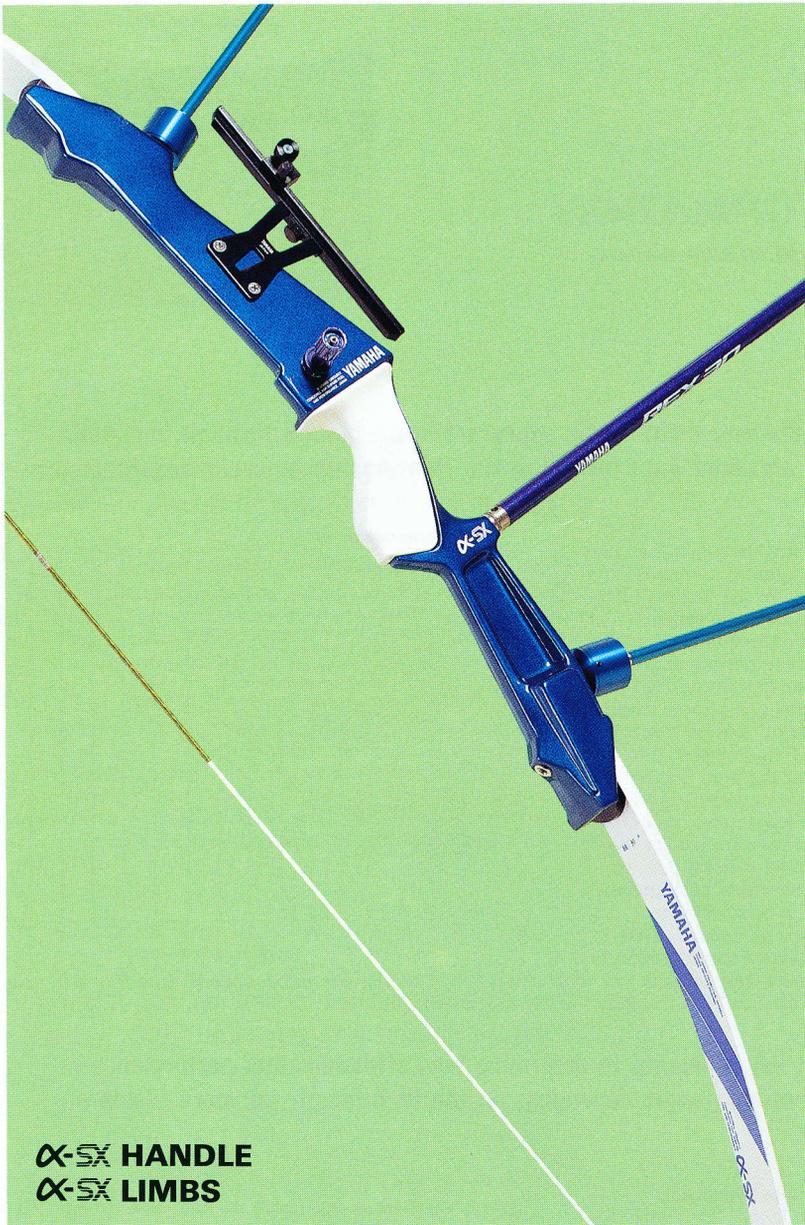
■ **α-DX LAMINA GLASS LIMBS**



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

	Carbon Graphite	Lamina Glass
64"	30-40 lbs. (1 lbs. increments)	28,30,32,34,36,38,40 lbs.
66"	30-42 lbs. (1 lbs. increments)	28,30,32,34,36,38,40,42 lbs.
68"	34-42 lbs. (1 lbs. increments)	32,34,36,38,40,42 lbs.

- **Master string height:** 64":  $8\frac{3}{8}$ ", 66":  $8\frac{3}{4}$ ", 68":  $8\frac{3}{4}$ "
- **Bow weight:** 64": 1.32kg, 66": 1.35kg, 68": 1.38kg
- **Standard equipment:** Draw weight adjusters (3 types), Spacers (2 types), MX grip



Darrel O. Pace

**α-SX HANDLE**  
**α-SX LIMBS**



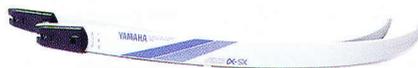
An easy-shooting, all-round bow for archers with competition in mind. Just right for those who place a priority on speeding up their advance in skill. Features extra handling ease with a soft shooting feel.

■ **α-SX HANDLE**



White Peacock blue Flash pink

■ **α-SX LIMBS**



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

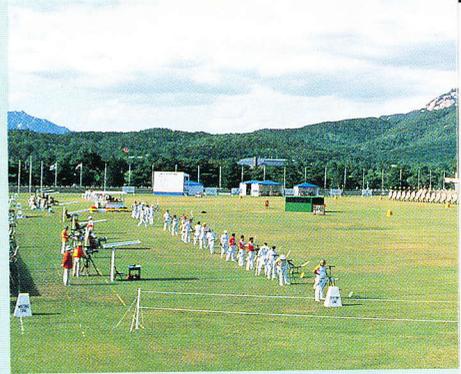
	α-SX
66"	26, 28, 30, 32, 34, 36, lbs.

- Master string height: 66" : 8<sup>1</sup>/<sub>4</sub>
- Bow weight: 1.17kg.
- Standard equipment: MX grip

Magnesium alloy is used in the handle of Yamaha bows. Never modify the handle by shaving it or drilling a hole on it. Any remodeling of the handle unit will advance fatigue or corrosion in the metal, cutting down its durability. To assure the superb quality of the handle, Yamaha carried out a variety of stringent checks and X-ray testings including durability tests for metal fatigue by sampling the specified number of every casting lot. In case some defect arising from workmanship is found on the bow during the warranty period, immediately contact us for repairs or replacement which shall be effected in accordance with the stipulation specified in the relevant warranty policy.

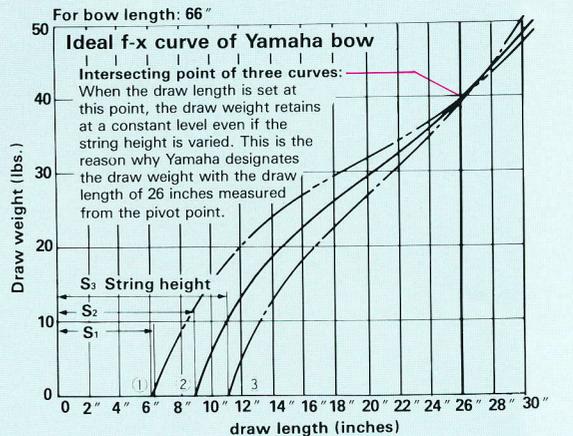
# TECHNICAL INFORMATION

— Some things you should know about —



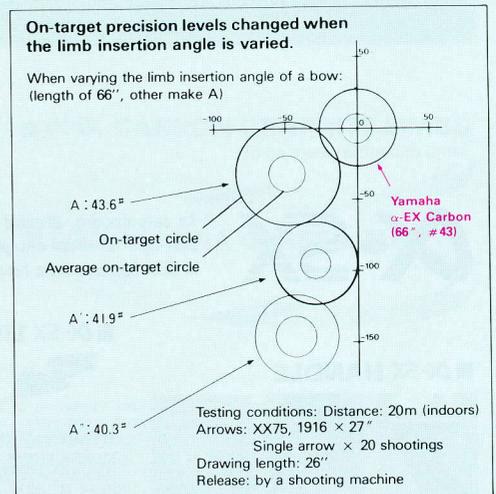
**An ideal combination of the handle and limbs to fit every archer, achieved through Yamaha's persistent researches. Based on amassed data including the relationship between reach ranges and bow's performance.**

All Yamaha bows are designed and built to provide superior archery performance in every aspect—higher speed, greater toughness and more accuracy. So they are now in the hands of the world's top archers. And there's another reason behind. Over the years, Yamaha has conducted persistent research on the interrelationship between the physical profiles of archers and the performance parameters of bows. This design concept was first introduced to Yamaha YTSL series. Yamaha developed variations of bow lengths to best fit every archer. In two different sizes of handles (except for the left-handed) and in three sizes of limbs. By combining the handle and limbs, every archer can select just the right one for him. As you know, the f-x curve shows performance characteristics of the bow. It's based on two factors: drawing length and draw weight. This means the archer's reach and power are part of the bow's performance parameters. When designed with no consideration to this, the bow cannot exhibit stable on-target performance. For women with a small reach, for instance, a bow with the compensating handle weight and limb flex will be needed. That goes for archers with a larger reach, too. With no consideration to the reach range, the bow might have extremely rigid limbs or too small string height to increase arrow speeds. Due to the long search on this important point, every Yamaha bow assures both maximum arrow speed and stability.



**A limb insertion angle: one of the key elements to determine bow's fundamental performance. Yamaha sets up each individual insertion angle depending on the limb length for more stable on-target accuracy.**

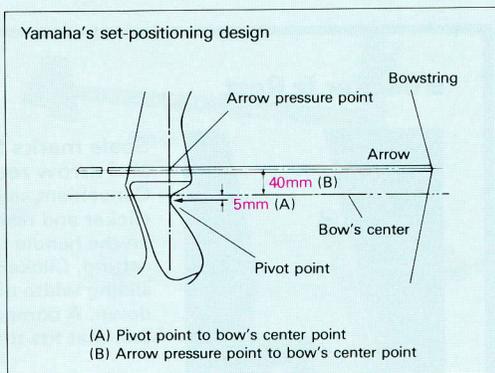
Similar to the set position, as you know, the interrelationship between the limb insertion angle and the limb length gives vital affects to bow's basic performance. Take a look at the f-x curve that specifies performance characteristics of a bow. The f-x curve is determined depending on the relationship between the drawing length and the draw weight. When either the limb insertion angle or the length is varied, the f-x curve will change entirely in pattern. Simply because varying the insertion angle means changing the draw weight (lbs.) and varying the length means changing the drawing length. This also means the insertion angle well balanced with the limb length is an essential element to obtain an ideal f-x curve. Yamaha sets up each insertion angle precisely depending on the limb length to assure more stable on-target performance.





**Yamaha's new set-positioning design assures ideal shooting position for supreme on-target precision: a minimum error of less than 10mm in a distance of 30m.**

The set position means the interrelationship between the pivot point and the arrow pressure point. It's fundamental element for the bow to determine on-target precision. Theoretically, an ideal set position can be easily determined. If both the pivot and arrow pressure points could be aligned together on the bow's center point, the arrow could be released straight at a maximum speed. Practically, however, it is impossible. Yamaha conducted exhaustive researches and trials repeatedly to discover the best points for ideal set-positioning. The result: the pivot point 5mm below the bow's center point and the arrow pressure point 40mm above the center point. Persistent tests were carried out by shooting a single arrow dozens of times repeatedly under the conditions of flight distance: 30m with no wind. The result was supreme on-target precision: shooting error of less than 10mm.



**Yamaha original double adjusting system, employed on the  $\alpha$ -EX. Allowing fine tune-up as you like.**

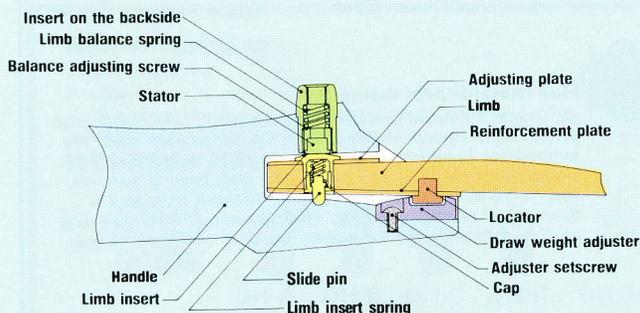
Here's a new tune-up device originated by Yamaha—'double adjusting system' that makes it possible to tune up the bow to exactly fit every archer at every level of ability. In other words, it's an ideal device that assures an even quicker advance in skill for those moving up.

The double adjusting system consists of the following two devices:

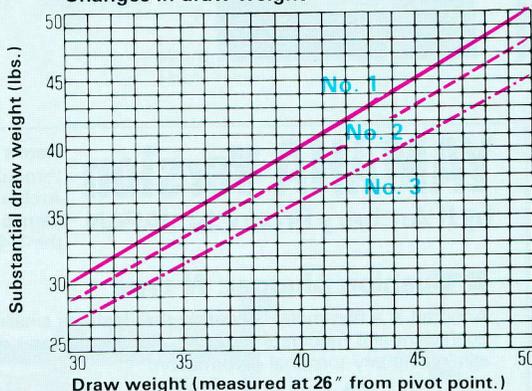
**Adjusting system 1** Three variations of draw weight adjusters are interchangeable. Draw weight can be tuned up to a maximum of approximately 10% against the designated value by replacing the adjuster.

**Adjusting system 2** Limb balance tiller can be varied to a maximum of approximately 15mm by tuning up the limb balance adjuster.

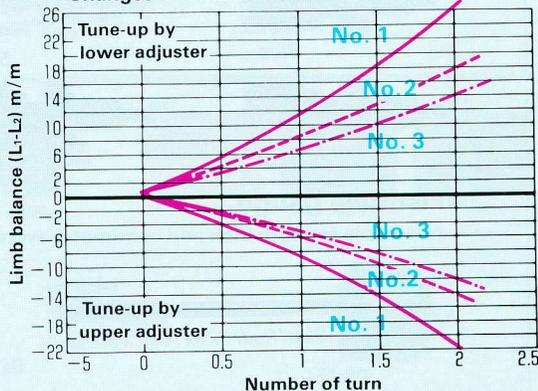
What's more, Yamaha's unique tackless insertion hub system exactly holds the draw weight and limb balance.



Changes in draw weight



Changes in limb balance



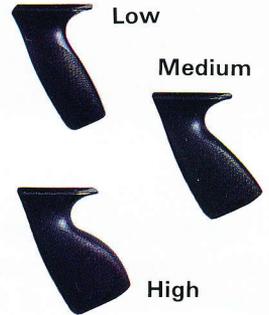
# Archery Accessories

## ■ Grip

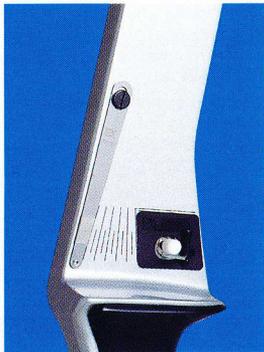


A good grip is a key element in accurate shooting. Yamaha conducted exhaustive research on a new grip exactly meeting modern archery dynamics—the MX grip that fits the pivot point naturally. It allows every archer to always take the perfect gripping position for more effective shooting by putting the pivot point and the arrow pressure point as close together as possible. The new MX grip gives extra aiming ease and accuracy for every archer.

### MX (medium-low)



## ■ Clicker & Rest



Scale marks for clicker and arrow rest  
Convenient scale marks for clicker and rest are provided on the handle for easier setting. Clicker EX with a sliding width of 6mm up and down. A compact FLIP-EX rest that fits the rest scale.



Flip rest EX



Plastic rest



Flip rest II

Clicker EX

## YAMAHA Version by K Archery Products, JAPAN

Here's another quality selection of archery accessories newly developed through an ideal combination of high-precision production process by K Archery Products and advanced design refinements by Yamaha. Every single item is the perfect one for the new Yamaha  $\alpha$ -EX series that's moving up to the 1,400 point era.

### ■ Cushion plunger: N type

Adopted is a flon-metal S coating that features smaller friction coefficient and moderate flexibility. Provides greater durability, eliminating any torsional deformation.



Blue



Silver



Red



Black

### ■ Fistmele gauge

Adaptable for both inch and centimeter systems.



Blue/Red/Silver/Black

### ■ Y-balancer: STD

Adaptable for either rod of 8mm or 6mm.



Blue/Red/Silver/Black



White Series

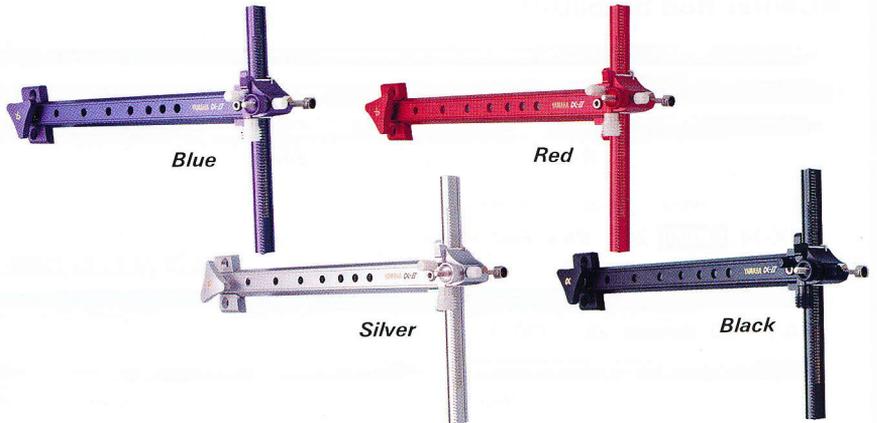
### Flon-metal S processing

Flon-metal S process provides an outstanding characteristic that permits extra smooth sliding without lubrication even under the temperature conditions ranging from  $-270^{\circ}\text{C}$  to  $350^{\circ}\text{C}$ . Tops in sliding performance among the existing resin bearing materials, also having some 50,000 times greater strength compared to fluoroplastic (including Teflon). This is an epoch-making coating process particularly for the archery equipment.

■ Sight

YS- $\alpha$ II

A new tournament bowsight employed with a safe-lock mounting system. Features extra durability descendent from the Yamaha version T-254 bowsight and extra handling ease from the YS- $\alpha$ , ensuring both extra safe and accurate shooting all-round. 10" extension: 170g

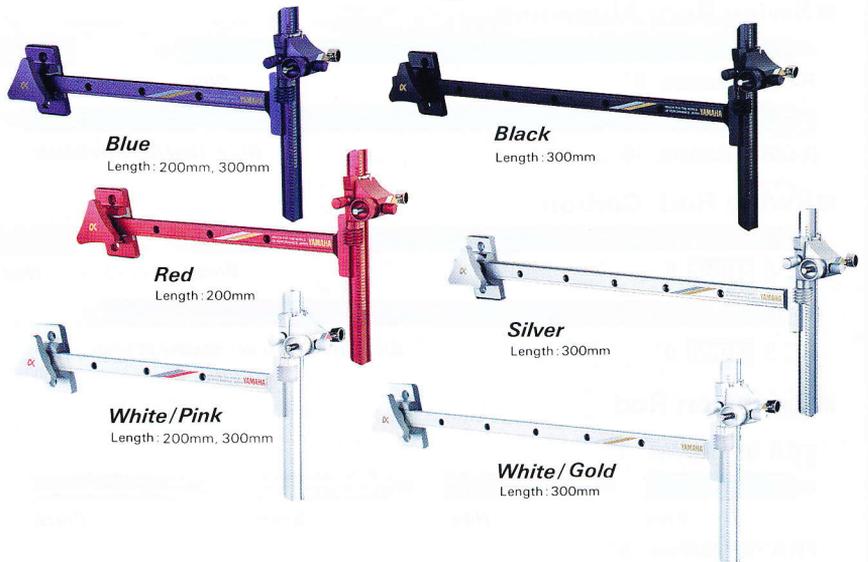


YS- $\alpha$

Newly introduced tournament bowsight: YS- $\alpha$ . Here's an ideal bowsight newly developed for tournaments that has been completely refined in every point of function and design with extra handling ease by carefully analyzing all the aspects of competition.

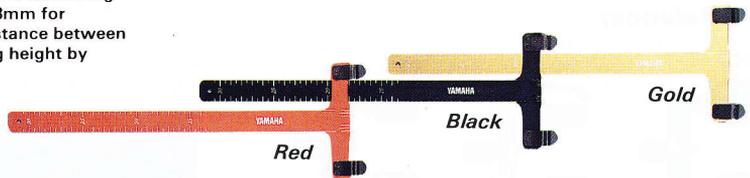
The new YS- $\alpha$  is extremely lightweight (147 grams for 200mm type), having an optimum construction to prevent it from causing improper torque. The extension bar with an extra slim profile descendent from the YS-V is highly resistant to wind affects, assuring extra accurate shooting.

Weights: 147g for 200mm type  
164g for 300mm type



■ Fistmele Gauge (with metric and inch scales)

Helps locate the nocking point (position on the bowstring where the arrow is nocked. In general, 4 to 8mm for beginners), or measure the string height (distance between bowstring and pivot point). Adjust the string height by twisting the bowstring.

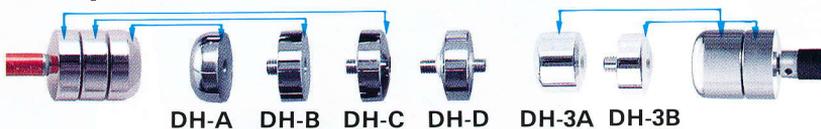


■ Flexi-Damper

Flexi-Damper EX Provides a new device to control the rod deflection arising at shooting from the vibration gap of the bow between horizontal and vertical directions.



■ Damper Head

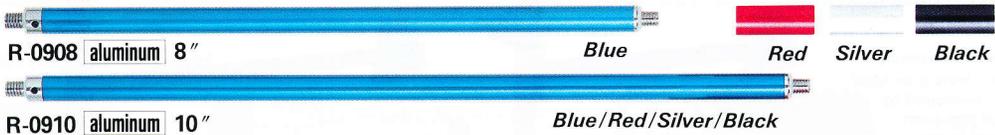


# Archery Accessories

## Center Rod Stabilizer



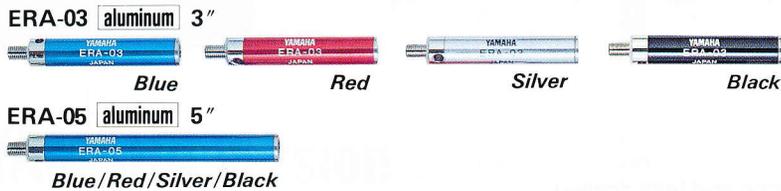
## Swing Rod: Aluminum



## Swing Rod: Carbon

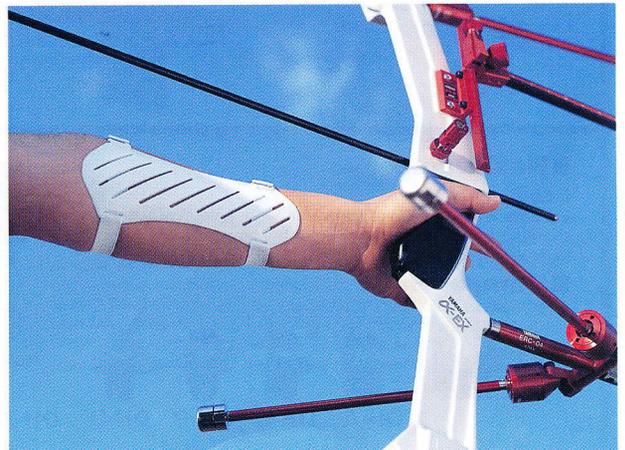
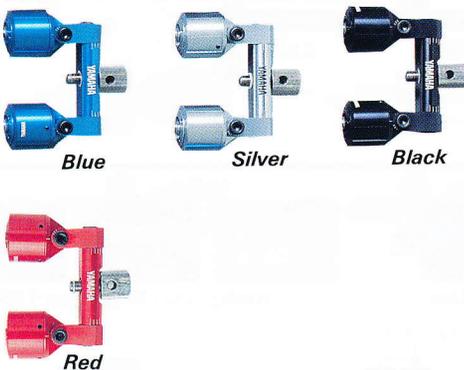


## Extension Rod



## Y-Balancer

SRD



■ Un-Resonant Stabilizer

**NEW** URS II-26, 30



carbon 26", 30" Black / Silver

**NEW** URS-12, 14



carbon 12", 14" Black / Silver

**NEW** URE-03, 04



carbon 3", 4" Black / Silver

URS (Un-Resonant Stabilizer): the most accurate stabilizer ever designed is now available from Yamaha archery.....

**YAMAHA'S URS SERIES WEIGHT SYSTEM**

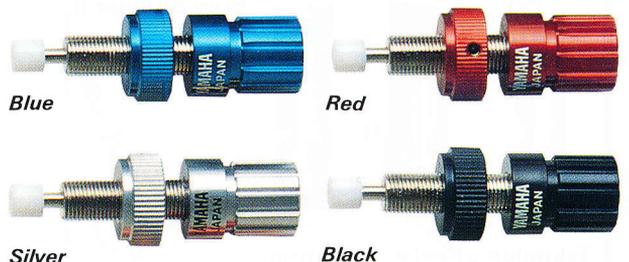
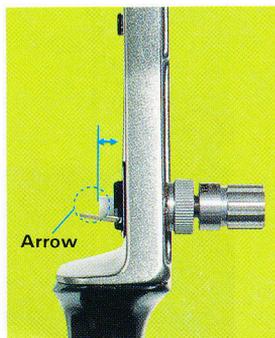
Yamaha's all new URS (Un-Resonant Center Rod Stabilizer) and URE (Un-Resonant Extension Rod) stabilizer systems are based on the advanced Un-Resonant theory. This theory features two unique advantages never before available with any stabilizer system. The first feature offers a stabilizer design that produces five times the ultra rigidity as compared to other stabilizer rods currently available to target archers. The second features offers the archer a stabilizer rod that is two and one half times heavier in mass weight than other rods. There are other features such as material composition and shaft shape but the features that provide the archer with the greatest advantages over other stabilizers are the URS rods superior rigidity and heavier weight. Currently, the majority of stabilizer rods available to archers feature very light mass weight. All of our design efforts and rod testing at Yamaha strongly suggest that stabilizer rods should be boldly heavier. The advantage of our URS series stabilizer system are as follow: The function of a stabilizer rod is to stabilize that static and dynamic movement of a bow through the theory of inertia. (To cause the bow to be inactive and not move). Secondly, the stabilizer is used to increase the stability of a dynamic bow by absorbing and emitting the vibrations caused by energy change. It is well known that absorption and emission of vibrations is related to the damping characteristics which stabilizer rods have based particularly on shaft materials,

composition, rigidity, shaft weight, etc.. Stabilizer weights which are normally independent from the rod are used only for the purpose of adding weight to the stabilizers to adjust the inertia by moving the center of gravity of the bow and are not usefull for damping characteristics. The heavier weight of the URS system actually puts the weight in the carbon shaft itself. We have been able to shift the weight and balance it over the entire length of the shaft by thickening the carbon/FRP layers within the shaft. This method provides a more balanced stabilizer system and puts the weight inside the shaft where it belongs and distributes it equally rather than having it all at the end. When using the URS Weight System, you must adjust the weights recognizing that there is already two and half times the weight of a normal carbon rod built into the system. In effect, the system provides the archer with a stabilizer that already has two weights added to the rod. Further, URS-12/14 which will be used with the Y-Balancer should be adjusted with the knowledge that one weight head has already been attached to the rod. As the standard, it is advised to reduce the number of adjusting weights by two in the long rod (30", 26") and by one weight in the short rod (14", 12") as compared to the normal number of head weights.

- For your reference, we show each weight as follow:
- URS II-30: 215G    URE-04: 58G
  - URS II-26: 200G    URE-03: 51G
  - URS-14: 144G
  - URS-12: 136G

■ Plunger

**Cushion plunger EX**  
More efficient due to a large-sized sliding block construction with an inner spring guide system, providing both maximum stability and durability.

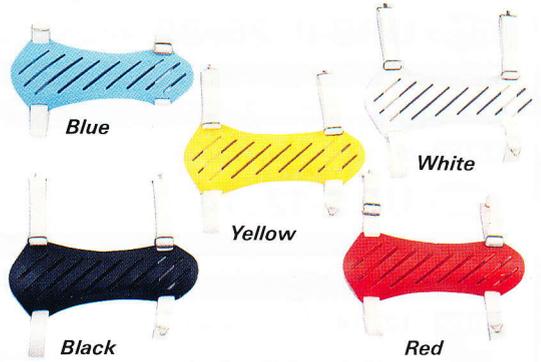


# Archery Accessories



## ■ Armguard

Armguard III (AG-3)



Armguard II (AG-2)



## ■ Tab



Tab III (T-3)

Tab II (T-2)

Tab III with Cant Pinch  
Tab II with Cant Pinch

## ■ Chestguard

Better body fit due to three-dimensional cutting. Made of nylon mesh material, it provides extra air circulation and elasticity. Comfortable even on rainy, muggy days.



White Blue Red

## ■ String



Tekmilon string®

Kevlar String®

Tetron String

## ■ Bow Stringer

Bow Stringer II (BS-2)

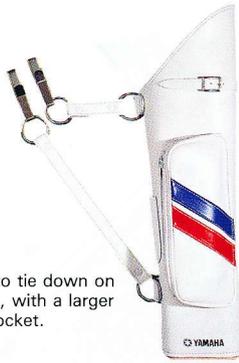


■ **Quiver**



**Tournament  
Quiver B**

Ready to tie down on the belt, with a larger sized pocket.



**Tournament  
Quiver**



**Quiver III**



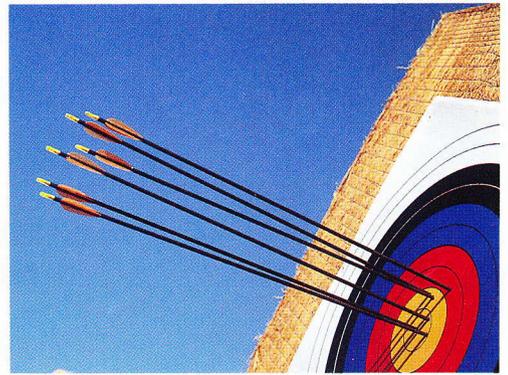
**Quiver II**

■ **Arrow Case**



*Brown White*

**Arrow Case AC-2L/AC2LL**



■ **YAMAHA ARCHERY STAND**





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