

XL100R with COMPOSITE SHAFTS (Updated March 29, 2008)

A SHAFT FOR BOTH LIGHT AND MEDIUM WEIGHT SKIERS: Because aluminum has a very low fatigue resistance, the shafts must be designed for a high static load. This results in a stiff shaft which can make for a rough ride when using solid rubber wheels. Since the composite shafts have very high fatigue resistance they do not have to be designed for high static loads and can be flexible so they act like a shock absorbing spring. The XL100R is available in a **soft and medium composite shaft and a stiff aluminum** flex shaft. The composite shafts are composed of a laminated core encased in a fiberglass-epoxy armor coat. This is a true composite shaft made from 7 different materials. The soft flex composite is lighter than our aluminum shafts, while the medium composite is equal in weight to aluminum. Some skiers prefer a stiffer shaft while others like more flex. Any skier that weighs less than 63 Kg. (140#) will generally have a more comfortable ride on the soft flex ski. I weigh 75 Kg. and when testing the two shafts last fall I preferred the soft flex, especially on rough roads. But, I am not a strong young skier. A good lighter weight skier, who has a very strong skate push off, might prefer the medium flex. The soft shaft flexes about 3.5 X more than an equal length aluminum shaft and the medium shaft about 2.5 X more than aluminum.

FORKS: The strong and light wheel forks are made of aluminum with a cold forged reinforcement rib to increase lateral stiffness. The forks are very similar to the latest improved Aero XL125 / 150 forks, but smaller. The forks are fastened to the shaft mechanically for strength and with a chemical bond to reduce micro motion. The forks are finished in a clear anodic coating.

INTERNAL SPEED REDUCER (ISR): In addition to the two bearings in the rim, the inside of the split rim has another 22 mm pocket for a V2 optional speed reducing device. The unit is identical in size to a 22 mm bearing. The ISR weighs only 8 grams and will increase rolling resistance of the wheel by approximately 20%. Put the ISR into one wheel of the ski and the ski will be about 10% slower. Add the ISR to both wheels and the speed is reduced approximately 20%. The XL100R come with a **Tire Replacement Tool Kit** which is also designed so it can press fit the optional V2 ISR into the rim.

TIRES: The tires on the XL100R are 24X100 mm and of medium speed rolling resistance. (Later we will also offer a faster tire.) The tires are very inexpensive and easy to replace.

EXTERNAL SPEED REDUCER: We have designed a new front wheel Speed Reducer for the XL100R which has a neutral position and 4 resistance positions, just like on the Aero 150.

FENDERS: The optional rear fenders are designed so the XL brake can be mounted without removing the fender.

TRACKING LEVER: A new laser cut stainless steel lever on the front fork makes it easier to align the front wheels for proper tracking. Similar to the present tracking lever on the Aero 125 / 150, but an improved design.

ORDER DESIGNATIONS: Since you can order the skis in three flex formats and with zero, two or four ISR installed, we felt that our original nomenclature description was confusing and not logically descriptive. If the microcellular tires can be developed to meet our specifications and reach production, we have additional nomenclature. Listed below are the new designations for the XL100R

The first numeral after XL designates the 100 series. The second digit designates the flex, i.e 1 = soft, 2 = medium and 3 = stiff.

The last numeral in the description designates the number of ISR installed. 0 = none, 2 means one wheel on each shaft has an ISR and 4 = one ISR per wheel. The R after the last numeral stand for solid Rubber. If the microcellular synthetic wheels reach production the R will be replaced by another letter. (Getting too damn complicated.)

Soft flex composite shafts with no ISR = **XL110R**

Soft flex composite shafts with two ISR = **XL112R**

Soft flex composite shafts with four ISR = **XL114R**

Medium flex composite shafts with no ISR = **XL120R**

Medium flex composite shafts with two ISR = **XL122R**

Medium flex composite shafts with four ISR = **XL124R**

Stiff flex aluminum with no ISR = **XL130R**

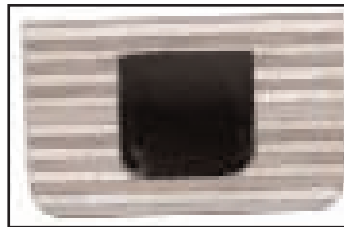
Stiff flex aluminum with two ISR = **XL132R**

Stiff flex aluminum with four ISR = **XL134R**

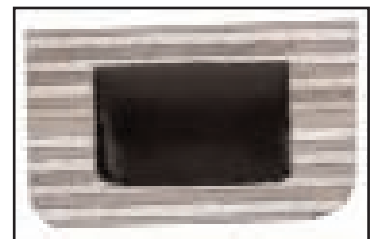
AVAILABILITY: The first skis should ship the last week of April, 2008



X section where stress is higher



X section where stress is lower.



Complete XL100R wheel and replacement tire.

