

GreenSpeed X7 Sports Trike

Introduction

The X7 is designed as a Sports Trike to fill the gap between our Aero Race Trike and our GT20 Light Touring Trike. While not as extreme as the very low, no compromise, Aero, it is faster, and has better handling and road holding, than the more upright GT20. Plus, unlike the Aero, it folds for transport.

Design

While most trike manufactures use 20" wheels against 26" for strength, there is an old saying in bicycle circles that "An ounce off the wheels, is worth a pound off the frame." In testing we also discovered that 16" wheels rolled easier than 20" wheels. This is also the reason why small wheeled bikes like the Moulton have been banned from international bike racing by the UCI. They are too fast! The other advantage of the 16" wheels is they feed less force into the frame under cornering, and thus the whole frame can be lighter. Thus, like the SLR Race Trike, and most Pedal Prix racing trikes, the X7 uses 16" wheels all round, to make a lighter, faster, and more compact machine.

Yet another advantage of small wheels is they require less torque at the rear hub to push the trike along, thus it is possible to use a 9t cog on the back instead of the standard 11t top gear cog, yet have a smaller tooth loading than with a 26" wheel. Thus, with the 56/40/28 triple crankset, and the 9/32 cassette, the X7 has a higher top gear (106 inches) than the standard trike with the standard 52/42/30 cranks, an 11/32 cassette and a 20" rear wheel (95 inches). Plus the X7 has a wider gear range of 588% V the standard 504%.

To improve the road holding over the GT20, besides using the smaller 16" wheels (actually 17.0" OD) the frame has been dropped to further reduce the centre of gravity, yet like the GT20, the seat height is adjustable, from 10" to 15", plus the recline is adjustable. Thus you should be able to find a combination which is ideal for your riding style.

Comfort

One of the great advantages over upright bikes, is recumbent trikes are more comfortable. GreenSpeed takes this advantage three steps further. 1st, unlike the diamond frame of an upright bike, the mono tube frame of the GreenSpeed is designed to flex with road shock. Then the tyres are like no other bike tyre. They have a lower rolling resistance than any other tyre on the market, and thus they are also more supple, and give a better ride. They are rated at 40 to 100 psi, so you can choose your level of comfort. Finally the seat is laced with shock cord, so not only does it allow the seat to conform to the shape of your back, but it insulates you from road shock. Plus it was designed by a chiropractor, and has proper lumbar and shoulder support.

The seat cover material is an open weave fabric designed for outdoor furniture, thus it is strong and durable. Plus it gives proper ventilation to the body, so you don't suffer a sweaty back on a hot day.

The seat is adjustable for both recline and height, so you can get the most comfortable pedalling position to suit your body shape, plus the handle bars are adjustable for and aft and for width. The seat is also a different shape to the GT20 seat to allow a greater recline for more speed.

Frame

Like all present GreenSpeed trikes, the frame of the X7 is made from 7005 aluminium alloy, which is heat treated after welding, making it stronger than the more common 6061 aluminium alloy, used in most aluminium bike frames. The front cross member is curved to allow you to get your legs closer to the seat, allowing an easier entry and exit from the trike. The main tube is a special rectangular section, with rounded corners, which gives greater strength and stiffness where is needed to most, to reduce frame flex from pedalling. It also allows the frame to be made much stronger, with less welding at the crossmember joint, plus it keeps the cranks in perfect alignment when the leg length is adjusted for different riders, making rider changes much easier.

Once the seat is removed with the Quick Release at the front, and the two clamps on the rear struts, the frame can be folded, by releasing the Q/R on the hinge. The rear wheel will then fold down between the LH front wheel and the cranks. The chain is kept in position, as are all the cables. This makes quite a compact package. However if a more compact package is required, the handle bars will fold with the Q/Rs used for adjustment, the rear wheel can be removed with Q/R and the front wheels can be removed by removing the single Allen screw in the end of the axle.

Equipment

Most bicycle parts are made for upright bikes, and may not be the best choice for GreenSpeed recumbent trikes. Thus we test everything to give you the best possible outcome, and use a specially selected combination of different components, rather than using a bike "group set". For instance, we found that the common and cheap grip shift shifters do not work well on the vertical handlebars, and the Shimano front derailleurs need a lot of force to move them. Thus the X7 has a special MicroShift front derailleur, Shimano Dura Ace bar end shifters, a special KT rear hub, a SunRace 9/28 cassette, a Shun 56/42/28 two piece crankset with external bearings, a Shimano Tiagra mid cage rear derailleur, and a YBN ten speed chain.

The 90 mm drum brakes are specially made for us by Sturmey Archer, being much lighter than the standard 90 mm drums, and have 15 mm bearings V the standard 12 mm to give less axle flex, and eliminate rubbing with heavier riders. They are also more aerodynamic than the common disc brakes, are easier to adjust, have better modulation, need far less maintenance, and are powerful enough to lock the wheels once they are bedded in.

Uses

The X7 is a Sports Trike, which is designed to be ridden on the road, and on good bicycle trails. It is not designed to be ridden off road. The 16” wheels give it both performance and a compact size which cannot be matched by trikes with 20” wheels and larger. Thus it is an ideal trike for transportation, be it by car, train, boat or plane. Plus it is an ideal trike where there may be limited space for storage and parking. With its high efficiency it is good for light touring, commuting, or just exercising and having fun. The light weight, low rolling resistance, low inertia, easy gear changing, light steering and powerful braking, make it joy to ride.

Accessories and options

The GT20 luggage rack and headrest can be used on the X7, as can the accessory post clamps and grab handles for assistance in mounting and dismounting. However the shorter 16” wheel accessory/mirror posts originally made for the GT3s will be a better fit than the 20” wheel GT20/Magnum posts. Another optional accessory is the Chain Gobbler. The Gobbler takes up the excess chain automatically when the cranks are adjusted for a shorter rider, and lets the chain out when adjusting for a taller rider. Thus with this accessory the trike can be adjusted in ten seconds, instead of 10 minutes. Very useful for allowing other riders to ride the trike. Like all GS trikes, the X7 is designed to accommodate the German Rohloff 14 speed internally geared hub, for people who prefer less maintenance than the derailleur system, and the ease of being able to change gears while stationary. For people who want an even greater gear range, we recommend use the Schlumpf Mountain Drive, with a 60 t ring, available from GreenSpeed. And riders who want a quiet, smooth transmission, with infinitely variable ratios, no clunks and bumps as you change “gears”, plus the ability to change ratios while stationary, we recommend the Nu Vinci rear hub.

A limited number of the 1st batch of X7s have now landed in the USA and AU (September 2018). They are available in red, blue, green, yellow and orange. If you are interested, we suggest contacting your dealer immediately to avoid disappointment.

Greenspeed X7 Specifications	
Frame	Aluminium 7005 Alloy with removable seat and centre fold
Width	31" - 79 cms
Length	76" - 193 cms *
Height	27" - 69 cms
Seat Height	Adjustable 10 to 15" - 25 to 38 cms
Seat Angle	Adjustable 20 to 35 degrees
X-seam range	41 to 51" - 104 to 130 cms **
Ground Clearance	3.5" - 9 cms
Turning Circle	12 feet - 3.7 m diameter
Track	29.5" - 75 cms
Wheelbase	41" - 105 cms
Wheels	16", alloy rims with stainless steel spokes
Tyres	Greenspeed Slick, 16" x 1 1/2" - 40-349, 40 to 100 psi.
Gears	30 speeds
Cranks	Shun, 56/42/28t x 165 mm
Cassette	10 speed 9/28
Front derailleur	Micro Shift
Rear derailleur	Shimano Tiagra
Chain	YBN S10
Shifters	Shimano Dura Ace Bar End 10 speed
Gear Range	18" to 106" - 588%
Brakes	GS - Sturmey Archer 90 mm drums
Standard equipment	Rear mudguard, safety flag
Optional extras	Mirror, head rest, luggage rack.
Rider weight limit	250 lbs - 113 kg
Luggage weight limit	66 lbs - 30 kg
Trike weight	35 lbs - 16kg
Boxed Size	34 x 28 x 15" - 83 x 70 x 37 cms
Recommended retail price	\$3,490 USD / \$3,690 AUD