

Wing Rigger™ FAQ

Version 6.2



How does the gas spring work?

Wing Rigger was the first commercial system offering a gas spring assist. The gas spring, located inside the main column, pushes upward on the wing saddle with a force of 70 lbs. The gas spring provides a continuous lifting force. Using this innovation, raising and lowering the wing without a helper is easy. The main column is equipped with two lock knobs; the top knob locks the telescoping inner column to the base while the lower knob independently locks the gas spring position.



The height adjustment process works like this: Loosen both knobs, move the wing up or down, then retighten. Since the gas spring has inherent high damping characteristics, vertical movement is smooth and easy to control.

In practice, glider solo assembly is often done with no change in height required at the Wing Rigger – this is especially so for a trailer that is equipped with a fuselage ramp jack. While sighting the wing pin alignment, it's usually just quicker to jack the fuselage than it is to walk out to mid-span and operate the Wing Rigger. When height adjustment is preferably applied to only one wing, the easily operated Wing Rigger height control makes the process efficient.

When breaking down the Wing Rigger for storage, only the top knob need be released. With the lower, gas spring knob left tight, the height position is retained and the unit will remain properly configured for use at the next occasion. Generally, only small height adjustments are ever needed. Uneven ground, for example, is one reason that you may occasionally adjust height. The unique Wing Rigger column configuration makes the process quick and easy.

How long will the gas spring last?

Since the Wing Rigger gas spring is inside the main column, it is protected from grime and abrasion. At this writing, hundreds of Wing Riggers have been in service for many years without a single report of lost pressure. Gas springs are commonly used in automotive and industrial applications that involve significantly harsher operating conditions.

How does the Wing Rigger lateral adjustment work?

In addition to the up/down control mediated by the gas spring, Wing Rigger can be adjusted fore and aft. This lateral control feature makes it possible to align the wing perfectly to the fuselage with minimal effort.



Wing Rigger operates on three wheels. The two outer wheels carry the running load while the center wheel is offset vertically and functions as a rolling 'kick stand'. When the unit is loaded with a glider wing, the center wheel is automatically lifted off the ground as the Wing Rigger is leveled by its payload.

The two outside wheels are mounted on an axle which slides in Delrin linear bushings. A rubberized knob is provided to lock the axle position.

Can Wing Rigger be used in wind?

Most users will be cautious if the wind is gusting above 10 MPH. As one gains experience with the Wing Rigger, you'll establish your own criterion for solo assembly and how best to operate in gusty conditions. Even in stronger wind, one can profitably use the Wing Rigger to carry the weight of the wing while deploying an assistant to stabilize. If an assistant is used in windy conditions, consider having him walk aside the Wing Rigger.



Always aim your trailer directly into the wind. As you pull a wing out of the trailer, the wind will run span-wise down the length of the wing which does not produce a tipping force. Rotate the wing to the flat position before maneuvering the wing into position for assembly. Keeping the wing flat greatly reduces the tipping force that the wind can impose. While maneuvering the wing in the flat position, hold the spar with one hand and the leading edge firmly with the other hand to prevent it from lifting or diving.

An experienced Wing Rigger partisan disassembled his sailplane completely alone at a remote airstrip in a 20 MPH wind with driving rain in the middle of the night. It can be done.

Can I use my Wing Rigger for tying-out overnight?



A Wing Rigger saddle makes a secure mid-span anchor for one wing. Pictured here is one way to tie down using the Wing Rigger saddle (sans base unit). This configuration won't put undue loads on the glider wing or on the saddle. Nothing touches the glider's trailing edge or flap.

A webbing strap is looped around the trailing edge keeper pad then over the leading edge cuff. A rope is used to cinch the loop to a cable or ground anchor point. The wing is supported by a wing stand

placed just outboard of the Wing Rigger saddle. If you also have a wing wheel and a second wing stand, a similar configuration can be used on the opposite wing with webbing strap pulled over the leading edge portion of the wing wheel saddle. It can be a good idea to block the main gear and tie down the tail as well.

Will the Wing Rigger saddle conform to my glider's airfoil?

We offer a couple different size saddles to generally match with the size of the wing. But the fact is that matching the generic saddle shape to your airplane's airfoil is only approximate. The inside surface of the Wing Rigger saddle is lined with dense felt which provides effective cushioning for your wing. The wing's weight is distributed across the width of the saddle. Wing Rigger generally produces less localized pressure on the wing surface than do wing stands that are in common use.

Essentially all popular glider types have already been fitted with a Wing Rigger. We do maintain a database. When you tell us your glider type, we will know from past experience how to configure your unit. For less common gliders that we haven't fitted, we can make an assessment from airfoil information and 3-view drawings.

Can a Wing Rigger accommodate two-place glider wings?



For gliders with big wings, we offer an extended chord variant. The 'XC' Wing Rigger has additional degrees of freedom in the saddle configuration to fit big gliders like the Blanik, Duo Discus, DG-1000, Twin Astir, PW-6, Pipstrel Taurus and Arcus. The XC saddle is also used for certain single place gliders that have particularly long chord. The XC wing saddle is made in

two parts with adjustable extensions. It also incorporates adjustable saddle camber, and adjustable rotation axis position. For more details please refer to the Wing Rigger document: *Rigger for Big 2-place* which may be downloaded at www.wingrigger.com.



Can Wing Rigger store inside my trailer?

Wing Rigger breaks down to a compact storage footprint; it stows better than other systems. Most users find that storage inside the front compartment of their trailer works well enough even with other things in there too. With some trailers, users are able to keep the wheels installed on the axle. Alternatively, the wheels can be easily removed by a quarter turn on the locking shaft collars. Note that the third wheel strut is equipped with pushbutton disconnect.



You may also consider storing the saddle assembly in the aft part of your trailer for convenience access. One strategy is to place the saddle in its upright position around the wing itself so that the saddle leading edge cuff actually fits around the leading edge of one of the wings as pictured. This often works well for gliders with swept back leading edge (an ASW-27 is shown). You'll want to use sufficient elastic bands or other attachment to make sure that the saddle can't shift position on a bumpy road.

It is a good idea to store Wing Rigger components in such a way that they will not rattle and abrade in your trailer's storage compartment. A small moving blanket works well to pad and isolate the Wing Rigger components. Wrapping the unit also reduces influence of humidity. A moving blanket is provided with each Wing Rigger unit for this purpose.



Does Wing Rigger have a warranty?

We'll work to resolve any problem that you might encounter (a rarity to be sure). Wing Rigger business succeeds by word of mouth. We care about keeping all of our customers completely satisfied.

Disclaimer: *We will not assist on matters of personal injury or consequential damage.* But, don't be too concerned -- we've not heard of a case where there has been injury or consequential damage while using a Wing Rigger.

Other Questions?

Please reference the *Wing Rigger Set-up Procedure* for guidance related to initial adjustment of the trailing edge keeper; initial adjustment of the saddle rotation stop; and basic care and maintenance considerations.

We're happy to address any other questions you may have by phone or email.

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