



# Why Own a Powered Sailplane?

## Motorgliders = Opportunity

I've learned some things since getting my motorglider.. One of the most interesting things is how people that aren't motorglider pilots have a very limited concept of what a motorglider can provide.

"Opportunity" is the key word.

Everyone understands a few things, most of all what I call "towplane avoidance". The ability to self-launch gives you the opportunity to launch when you are ready, thereby avoiding the wait for the towplane and the delay caused by all those other people in front of you. This part everybody envies.

Secondly, everyone easily grasps the idea of "retrieve avoidance", using the motor to avoid landing away from home, whether it's another airport, or even farmer's field. Most people like this idea, though some don't, believing the chance of landing out is what defines the sport.

Indeed, self-launch and self-retrieve are important, but these abilities don't really allow a change in the way you soar, but just allow you to do it more conveniently or more often. After all, a typical weekend flyer at their favorite gliderport has little trouble getting a tow, avoiding a landout, or getting a friend or towplane to retrieve them once or twice a year.

Not so obvious is that a motorglider allows you to enhance your soaring. This is what is really important to me. Most glider pilots don't realize how much their self-imposed constraints limit their soaring. The biggest constraint is probably the desire to soar home, instead of getting retrieve from that airport or field. Once you realize you no longer have to soar home to get home, your soaring opportunities increase immensely. Here are some examples:



1) I stay hours longer in the great soaring in the mountains, while the plain gliders scoot for home before the

thermals die in the basin.

2) I fly in low cloudbase, marginal, but exhilarating conditions when no one else will bother launching, because the lift is too unpredictable.

3) Sometimes I fly like it's a record attempt, speed ring way up and ruthlessly rejecting all but the very best thermals. Great practice, and the palms still get sweaty!

4) The soaring dying between me and home? I keep going towards the still good air knowing I can motor home if I need to.

5) Miss the wave on the first try? Instead of dashing back to the airport, I try another place, and another, until I get it right.

Let me expand on two of these situations from last summer.

One day in Ionia, Michigan, the cu started early, but only to a two thousand feet AGL base. None of the locals launched when I did, preferring to wait for the bases to rise. The lift was less than a knot, but there seemed to be no sink, and every cloud worked. Gently dolphining from one puffy cumulus to the next, I stayed between 1500' and 2000' (AGL) as I covered about 70 miles in the first two hours. How different from our usual flying! I flew a four hour, 150 mile cross-country in these odd conditions, and never required the motor. Without the it, I would have flown locally, but not gone cross-country. The locals never did fly because the bases didn't rise until too late in the day.

In mid-April, happy cumulus clouds over Hermiston encouraged me to head south. The other pilots went north, fearing the Hermiston basin would, as usual, die by mid-afternoon, cutting off their return to Richland. I was certain they were right, but with my ticket home nestled behind the wing, I went past Heppner then pushed well into the mountains. The bases rose, the lift increased, streets appeared, and best of all, I was flying in new territory. What a rush! Late in the day, I turned back with John Day, Oregon, in sight. The clouds ended before Pendleton, Hermiston was a pit, but with slow, careful climbs (and 50:1 glides), I inched my way across Hermiston and the Columbia River. Once again I managed to get home without the motor.

Sometimes I do have to use the motor to get home. Most of the time, I discover there is more lift out there than we realize. Because a retrieve or landout is so inconvenient, most glider pilots play it safe by heading back early, or by not going there in the first place. We take pride in getting back, and don't think of all the soaring we missed. Why else is the first question I often asked after my flight is "Did you use the motor?", instead of "How was the soaring?"

It astounds me that many glider pilots, even some motorglider pilots, consider it a "failure" if the motor is used after the launch. A record attempt will fail if the motor is used, but not a recreational flight. Most of my post

after the launch. A record attempt will fail if the motor is used, but not a recreational flight. Most of my post-launch motor use is anticipated hours before it happens: I frequently, consciously, make soaring decisions that will almost surely require the motor to return home. Why? So I can do more and better soaring! Read the examples again, and consider this: would you make different soaring decisions if every airport, duster strip, and yes, even every cut hayfield, had a towplane and pilot, eagerly waiting to tow you home for a five bucks?

I sure have.

## Affording a Motorglider

If you already own a glider, then YOU may already be able to afford a self-launching, high performance motorglider! Let me show you how, in 2018 costs.

The first thing to realize is the motor is about a \$30,000-\$60,000 premium over a "regular" glider, whether you are buying a used one or a new one. There are other costs, plus some avoided costs, like tows. Here's an example of about what the net yearly cost might be for an active pilot living in Seattle, WA, in 2008, but doing most of his soaring a 150 mile drive away in Ephrata, WA, where the weather is drier and the clouds are higher:

Added costs:

- \$2000 interest cost (or interest not earned) on the \$40K motor purchase @ 5%
- \$200 for the additional cost due to the motor during the annual inspection
- \$600 insurance on the motor value
- \$200 fuel and oil for 50 "launches" and three self-retrieves
- **\$3000 Total additional costs**

Avoided costs:

- \$1650 30 regular tows at \$55/tow (Ephrata)
- \$375 5 tows at \$75/tow at "Big Bucks Soaring" in Nevada
- \$360 3 aero-retrieves at \$120 each
- \$100 2 car retrieves plus dinner for crew
- **\$2485 Total avoided costs**

Net additional cost: \$3000 - \$2485= \$515

As you already guessed, using a motorglider exactly as you used your unpowered glider is more costly, though you are spared the aggravation of the line-up for tows and the occasional retrieve.

The chances are you won't fly exactly same way with the motorglider as you did before it. To get real value out of a motorglider, you must use the extra soaring opportunities it provides: flying from airports without a towplane, or when a towpilot isn't available; flying cross country when you otherwise wouldn't, because the conditions are weak, unpredictable, or the lift is beyond an easy tow.

So let's include some of this potential as another "avoided cost": \$320 savings for three weekends of flying from near home, avoiding the 150 miles travel to Ephrata, one night in a motel, and two days eating out. Of course, you don't actually have to fly on a weekend, if you can get afternoons off during the week. And, you save a lot of driving time.

Net cost: \$3000 - \$2485 - \$320 = \$195

Plug in your own numbers to see how the costs add up for you. Maintenance on the engine is, unfortunately, hard to include in these numbers, because it can vary from \$0 to Lot\$, depending on which glider you choose, the age of the glider and your luck. At 5 - 10 hours a year, they don't really wear out, but things can go wrong. Check with pilots that own the type of glider you are interested, and use a number that seems reasonable to you.

For an active pilot, the additional cost of a motorglider may be easily outweighed by the advantages, providing the pilot can afford the extra purchase price. If not, or if the pilot is not so active, a partnership can make the costs attractive, while the versatility of the MG ensures that both pilots get most, perhaps all, the flying they wish. As in most glider partnerships, each partner is now responsible for only half the costs.

My point is that the motorglider is not as expensive as it may seem, if a good accounting of the avoided costs and the effect of it's versatility is fully considered. A similar analysis can be made for sustainer type (e.g., Ventus BT) and "touring" style (e.g., Grob 109, Ximango) motorgliders. For example, someone that flies airplanes and gliders might discover the touring motorglider, like the Ximango or Carat, does both well enough that only one aircraft is required.