Chapter 4- Landing Gear

The gear, as shown on the plans, will have to have the two bends pressed into shape with accuracy, and so should be farmed out to a sheet metal shop, unless you have a large press. Things you can do to keep the cost down will be- After obtaining the blank, cut the taper into the blank with a bandsaw, then belt sand/file for smoothness. The axle assemblies are all flat stock steel, with the round tubing axle welded into them. When the gear is fabricated, and the axles are on, turn the fuselage upside-down on sawhorses. Place the gear in the correct location over the attach bushings and reinforced longerons, align by measuring from the tip of the axles back to the tailpost centerline. After it is perfectly aligned, drill thru the gear from the bushings, de-burr, and bolt in place.

The tailspring is a fiberglass poltrusion, however, builders of my designs have used round spring steel, round aluminum, etc. The 3/4" dia fiberglass poltrusion has been widely used, and provides reasonable flex for a tailwheel. The tire we use is a 3" dia., 1" wide Cart tire, but we have used skateboard tires as well, with good results. Either rigid push pull tube steering from the rudder, or Springs and chains will work. There are many opinions on this subject, but I really prefer the rigid tube steering.

No brakes are used in our Zipster, and are not really needed for sod field operation, But if flying off pavement, I recommend Azusa wheels and brakes for lightweight, low- inertia machines. Minimum tire size should be the 3.40 x4x5, but we have been using a 5.00x 5 tire on ours, for better prop ground clearance in level flight takeoffs or wheel landings.

Wheelpants are optional, and add weight. However, they improve the appearance of the machine, and keep stones and mud from contacting the bottom wings.

Chapter 5- Fuel Tank, Fairings, Stringers, Windshield, Firewall, and cowling work

Fuel tank- The tank shown on the plans will give you the 5 gallon legal limit for Ultralight regulations. If you cannot weld aluminum, and decide not to farm this out, there are several commercially available fuel tanks available, that are translucent plastic, that the ultralight industry uses. When installing any type of fuel tank, remember to pad everything remotely in contact with the tank,using a felt type cloth glued to the tank straps, or the tank itself. The plastic tanks can be also installed with Bungee cord hold downs. The fuel cap must be vented. The little 2 stroke engines we use have Fuel pumps which will suck fuel uphill quite readily, so gravity feed systems a really not a concern. We use 1/4" I.D. tygothane clear fuel proof fuel line, and run an inline filter. We replace the fuel line and filter every year at annual inspection time.

Fairings- The lower wing root fairings can be made of hardware store variety aluminum. We use .016, 2024-T-3. These fairings are essential to the good flying qualities of the Zipster, Interference drag at the lower wing / Fuselage juncture will spill bad air over the tail in flight, and will reduce rate of climb. Make the fairings carefully, and add rubber grommett material to the edges. We also seal the seams with Vinyl tape to keep air leaks to a minimum. This same

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