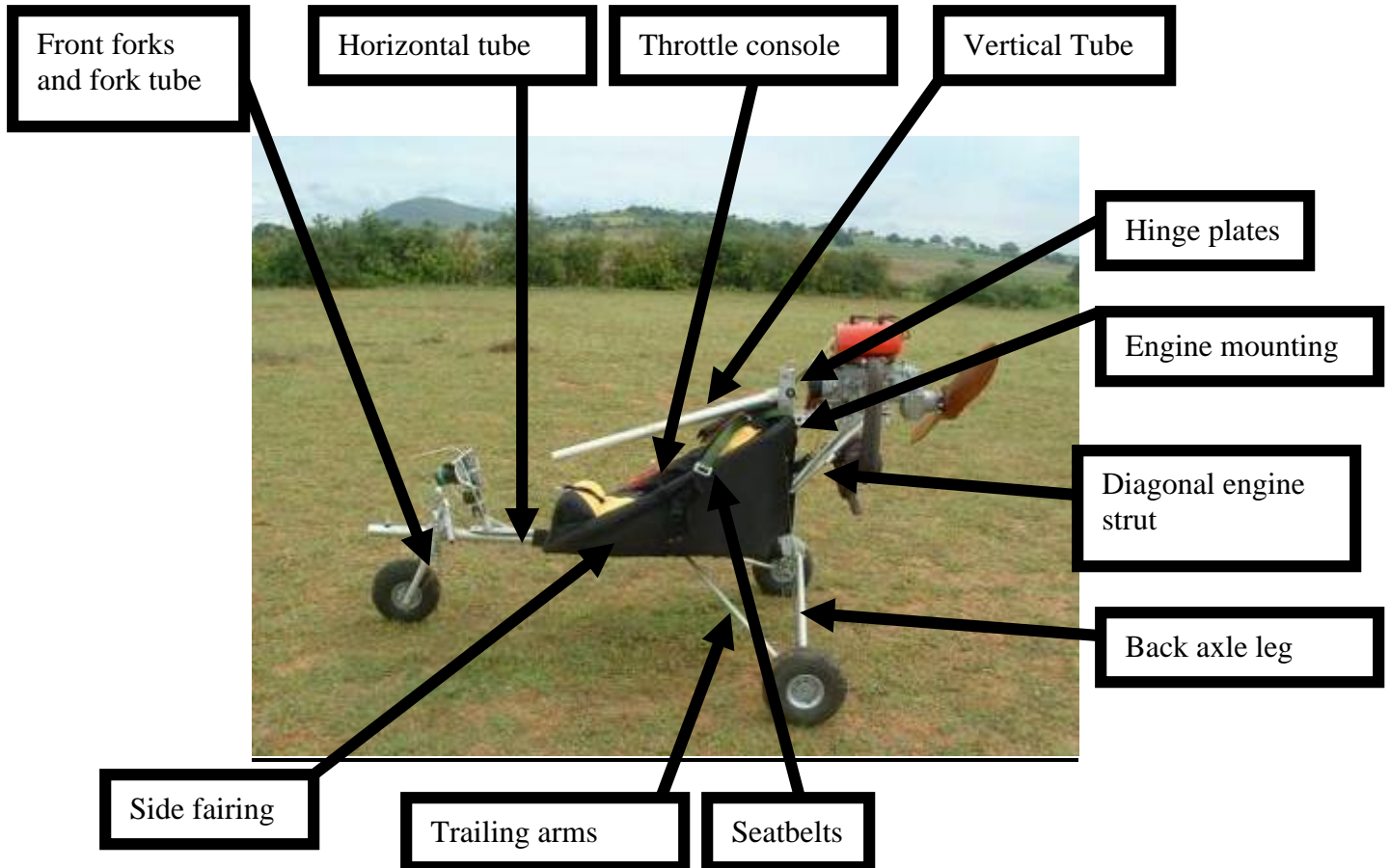


Out of the export box assembly

Unwrap all the packing off the trike components first.

The Trike:



The description beneath allows you to assemble the trike and wing.

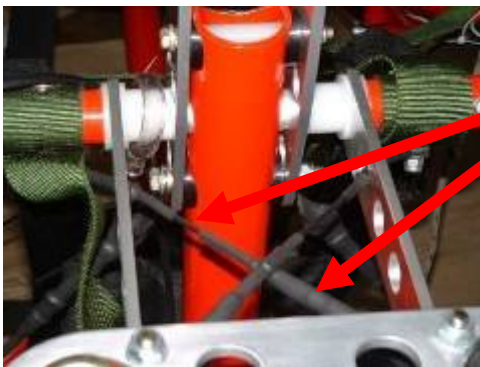
1. Put the main 8mm vertical tube bolt in place.



2. Swing the 2 silver hinge plates around into the correct position to line up with the two holes in the lower vertical tube. Put the bolts through the lower vertical tube. Bolt the top seat frame cables into place whilst doing this with the 8 mm bolt as shown by the red arrow.



3. Bolt the cross over wires from the engine cradle to the top of the seat frame.



4. Attach the diagonal tubes that support the bottom of the engine mounting system. The assembly should look like the image below. Put the 8 mm bolt through the hole in the engine mounting bars. Attach the lower part of this diagonal tube to the hole in the lower vertical tube.



5. Swing out the back axle legs and bolt on the trailing arms. The trailing arms are left and right handed. Make sure that the bolts to these are facing downwards so that if by any chance the nut comes off whilst flying then the bolt will hold everything in place.



6. Attach the opposite ends of the trailing arms to the U channels on the horizontal tube. Put the “L” pins in place and the safety rings in.



7. Attach the steering forks to the horizontal tube. The whole fork assembly is partially assembled and only has to be linked up to the brakes and the throttle cable. Push the whole forks onto the fork tube and press the 5 brass bushes in place before pushing the 8 mm bolt through the whole structure. Tighten this steering bolt down quite tightly as you do not want much play on the steering system.



8. The throttle cable is set up for the correct length for the Bing carb and only has to be pushed in to the carb slot.
9. Attach the brake lever via the brake rod to the drum brake at the bottom and screw it up so that there is very little play between the foot lever and the working of the brake.



10. The fuel system consists of the tank, filter and hand pump. All the metal outlet pipes on the fuel tank are fixed into position permanently and can not be re-moved. Only the drain plug is removable. There is sufficient pipe and clips to route the pipes up to the Bing carb.

11. There is a fuel filter plate that bolts onto the side of the 447 engine through the carburetor mounting holes.



12. Slide the fuel tank in from the right side of the trike (A). The webbing sling holds it in place and there are Velcro flaps to fix it on the bottom and rear tubes and a Velcro belt to close the webbing loop in the right side. Push the clear sight gauge fuel lines into the top right hand outlet pipe (A). Leave the sight gauge bottom pipe fixing until you have got the fabric side fairing onto the seat frame. Screw on the filler neck as shown in (A). There is a length of pipe with the fuel filter and the hand pump attached (B). Push the short pipe (The one that is closest to the fuel filter) onto the fuel outlet on the left hand side of the fuel drainage chamber at the bottom of the tank (C). This is the outlet that is closest to the horizontal tube. Velcro the pipes to fix the fuel filter in place. The other end of this fuel pipe is attached to the fuel pump (Which is shown in the fig 11). There is another shorter clear pipe attached to the trike on the top left side of the seat frame. This fixes onto the outlet pipe on the left top side of the fuel tank (D). This is the breather pipe.

(A)



(B)



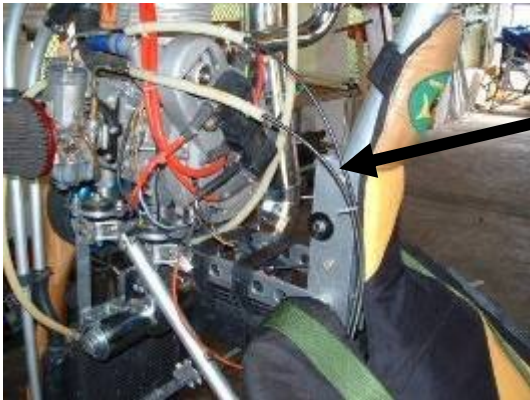
(C)



(D)

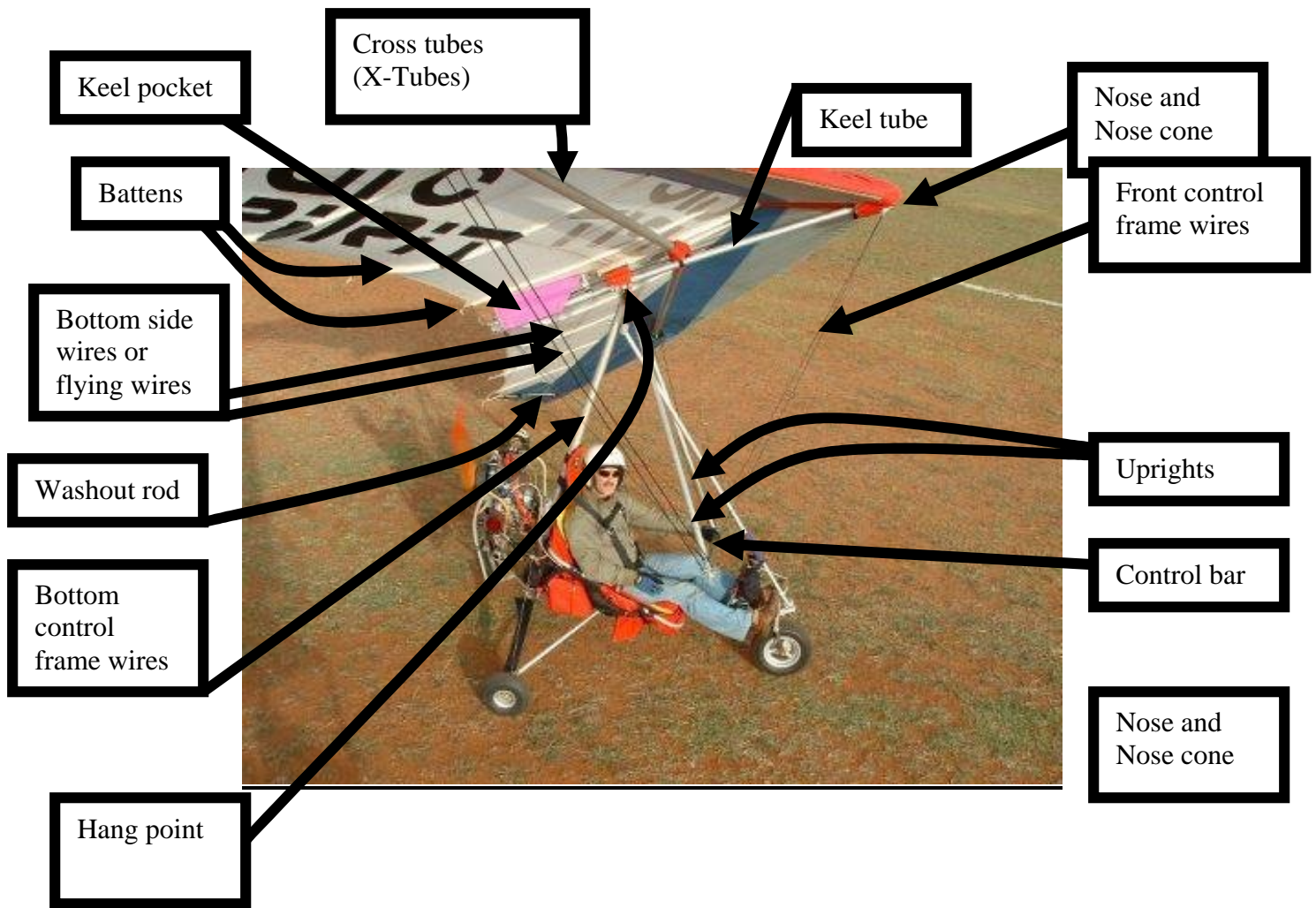


13. Fix the side fairings to the seat frame. There are four bolts. Two on the top and two on the bottom of the seat frame. These fix through the eyelets show. During this process the top fuel sight gauge should fixed into place.
14. The throttle and choke cables should come out through gap between the seat back and side as shown beneath. This allows the best friction free route for the cables



15. There is only one wire to be connected to the engine. It is the red and white one that comes out of the leather control console. This connects to the black and yellow cable on the Rotax 447 engine the only male spade connector on the engine.

The Wing



- 1) Uncouple the inner and outer tubes of the main trike vertical tube. These are bolted onto the wing for transport. The outer tube stays with the wing. The inner tube stays with the trike. You should lubricate the inner tube with grease for ease of assembling at the end of the rigging. It is important that these two tubes are kept for one combination of wing and trike as the two tubes and their associated sleeves etc. are made as one assembly and are considered as a pair.
- 2) It is best that you put the wing on soft ground with the nose into the wind.
- 3) The leading edges have to be pushed into each other. They are marked left and right. Make sure that the washout rods are on the back of the tubes. The inner and outer leading edges (Or nose part and tip part) fix together by lining each other up with the two bolts on the inner (Nose part) of the leading edge and the bolts then go through the "U" channel. These "U" channels are connected to the Cross tubes
- 4) Now you can pull the Mylar inserts through the leading edge pockets. These are marked left and right. They should go in to the leading edge pockets with the straight edge towards the trailing edge and therefore the curved edge towards the leading edge. The curved edge is also cut at various intervals. There is string attached to these Mylar inserts. Get someone to feed the Mylar into the nose

section of the pockets and another person should pull them through on the tip side. Do not force these as they could split. Be gentle. Pull them to the end of their natural travel.



- 5) Now put the tip balls on. There is a tool for this that makes the job very easy. You just line the groove up with the swivel tips and then lever the ball onto the groove. It's just practice and can be done with one hand as shown in the images. **Make sure that the angle of the tool points downwards as shown in the image.**

Putting the ball tips on (Note the downward angle of the tip ball tool)



These first three stages are usually only done once and can be ignored after it has been assembled out of the export box

- 6) You can now assemble the control frame. Place the whole wing on its back with the control frame upwards. There are two bolts on each end of the control bar. These have to be fixed but make sure that the wires are not twisted when you do this.



- 7) Now turn the wing over onto its proper side. Pull the wing out to around 75% of its arc.
- 8) Put the washout rods onto their posts. These are inside the wing tips. The washout rods are on elastic bungee cords and stay inside the wing tip when de-rigged.
- 9) Plug the King post into its hole in the keel tube. Make sure that the two cross tube cables go either side of the King post tube.
- 10) Now the battens are ready to be pushed into their pockets. Give a little more pull onto the X-Tube wires to tighten the wing slightly before you do this. The battens are colour coded left and right (Port / starboard). The red ones go into the left side of the wing in descending length from the longest at the root (Nose) to the shortest at the tips. Hold the battens low at the back end, this helps the battens to go into their pockets easier. Be extra careful when putting the battens into the first four pockets from the nose by sliding them very slowly over the cross tube area otherwise it will wear the batten pockets in this area of the cloth. Put the compression struts in at this stage. Make sure that it goes over the top of the washout rod! **Very important.** All the elastics can now be put on by just the one loop at this stage. The final tightening of the elastics comes after the cross tubes cables have been put onto the rear bolt at the end of the keel. The remaining straight battens can now be put into the double surface. **Always** put the undersurface battens in last whilst rigging. When taking the battens out on de-rigging it is very important that the straight battens are taken out first before the top battens.



Check that everything has been done and the manual has been followed at this stage.

- 11) You can now pull the X-tubes onto the bolt on the back of the keel tube. The cables go through the keel pocket. There is a webbing loop to make this easier. Double check that the two cross tube cables go either side of the King post. Connect the “D” shackle on the webbing onto the “D” shackle on the cross tube tang. And pull the webbing around the control bar and then back through the buckle near the shackles. Pull this webbing until the tang goes onto the bolt at the back of the keel tube. Push the double tang onto the bottom of the special bolt at the back of the keel tube and screw on the wing nut. Put the safety ring through to hold it all together.



- 12) Put the nose batten into its pocket and place the end of the batten over the front bolt on the nose plate.
- 13) It is best that you get another person to help you whilst lifting the wing. One person lifting the back of the keel tube and yourself on the front of the keel tube. It can also be done in calm weather by just yourself by lifting the wing onto one leading edge. Both methods are shown. Be careful not to lift the wing up at a high angle of attack as any wind will ground loop the wing. Put the swan neck catch into the holding bolt at the back of the nose channel then lever the swan neck catch forward and over center it. Push the “L” pin into the front hole then put the safety ring in place. Place the wing on its nose into the wind.

You have now rigged your wing.

Coupling the trike and wing together

16. Put the wing on the nose and couple the two vertical tubes together as in (a) below. These are telescopic and should easily slide into each other when you have aligned the trike and wing perfectly. Put the front strut behind the two back wheels and put the trike stabilizing tool into the ground and fix it so that it rests against the gearbox of the engine. This will prevent the trike tipping backwards when lifting the wing onto the trike. Hold the control bar and push the whole assembly upwards and inwards, towards the engine on the trike. Push the 10 mm bolt through the hinge plates and secure the vertical tube with the wing nut and put the safety ring in as in (b) below.

a)



17. Bolt the front strut on. Push the top bolt in first. This has the 10 mm mushroom bolt already on. Rotate the vertical tube back and forth a little and you'll find that this bolt just slips in easily. Put the

safety wire through over the top of the keel tube on the wing and down onto this bolt. Put the wing nut on and secure it with the safety ring. Push the 6 mm “L” pin into the bottom mushroom bolt on the horizontal tube of the trike. Secure this with the safety ring.



18. The un coupling procedure for the trike from the wing is the reverse of the above but there is a technique to it. It can be done by one person. Un bolt the front strut, then take out the main 10 mm vertical tube bolt which holds this tube to the hinge plates. Then you have to grip the control frame by the bottom bar and uprights both together. One hand on each tube. Whilst dropping the trike in the normal way you have to pull the whole wing forward at the same time so that you are pulling the nose down whilst lowering the wing. This allows the two tubes to telescope out from each other. There has to be adequate grease on the inner tube.



This completes the rigging of the microlight

You will have to pre flight check everything before you fly.

Ace Aviation Ooty, India