

Servo Assist Electrics

Operations Manual



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How to operate the Servo Assist Access Dinghy

ABOUT THE SYSTEM

The Servo Assist Access Dinghy can be sailed both manually and controlled by a variety of joysticks and switches.

The basic unit has sheet and helm winches operated by a 4 way joystick, push forward for sail out, back is sail in, steer left is push joystick left and right, push to right. This standard joystick is typically strapped around the chest and moved by hand, but can be up high and worked with the chin.

There is also the option of a paddle switch with very large flaps which activate micro switches. The unit is fully adjustable and mountable in any position, sliding on plastic tubes, held in place by suction cups. Many people have difficulty with fine finger control, the paddle switch can be bumped with the wrist or foot giving very precise commands for both winches.

There is also the option a 4 way joystick mounted on a small box which will suit some applications. It too is located and held in place with plastic tubes and suction cups similar to the paddle switch above.

We advise the most electrically inclined club member to take a close interest in the servo assist boat and to maintain it. Remove the electrics now to see how it works. All the parts are easily removed and a set of bungs are supplied to seal up all holes. Remove them regularly and spray with water inhibitor. If the electrics are seldom used don't leave them in the boat to corrode.

Inside the control box is a 10amp-12volt fuse which protects the circuitry if the sheet winch is stalled and overloaded. If the sheet winch fails to work when activated this could be the cause. See maintenance and troubleshooting.

MAINTENANCE AND TROUBLESHOOTING.

This equipment has to be serviced regularly if it is to remain free of corrosion and serviceable. Prior to leaving our factory all terminals, plugs and corrodable parts were sprayed with "Corrosion Guard", a spray can of which is supplied. We advise you to spray all exposed terminals regularly, and inspect all the electrical components regularly, noting and treating any signs of corrosion. Spray "Corrosion Guard" directly into all plugs and wipe off excess from non corrodable areas.

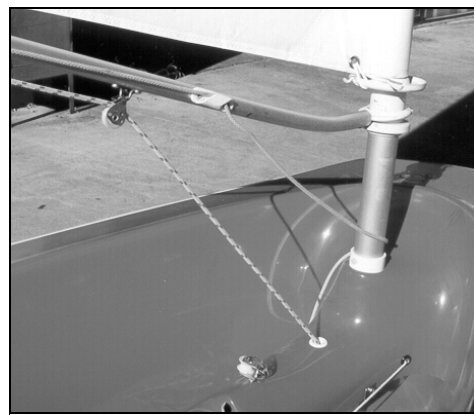
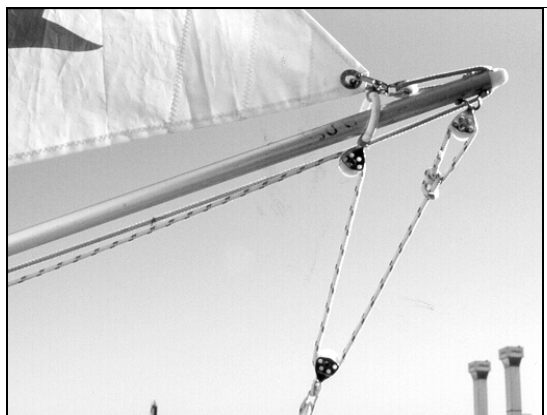
Also:

1. Do not allow any leads and plug ends to remain immersed in water.
2. If components are swamped spray them with "Corrosion Guard" soon after. Remove and dry them first if necessary.
3. Appoint a handy, practical volunteer to take charge of the electrics, ideally someone with an electrical background.
4. Remove the inspection ports to ventilate the buoyancy compartment when the boat is packed away each day.
5. When the boat is stored for extended periods, remove (all) the electrics completely, service them and store in a dry place.
6. If the boat is usually sailed manually, remove the electrics till they are needed again, closing all the holes with the rubber bungs provided.
7. If the sheet winch fails to work when activated first check the plug leads if all seems OK next listen at the control box to hear if the relays are clicking. If they are the problem may be the blow fuse inside the control box which is in the circuit to protect the components if the sheet winch motor is stalled and overloaded. N Open the box and fit a new 10amp-12volt fuse. Reseal the control box lid with urethane rubber preferably.

These Recommendations should be taken very seriously and apply to any environment, but the warmer and more humid your climate the more vigilant you will have to be. IF YOU SAIL IN SALT WATER YOU SHOULD TAKE THESE RECOMMENDATIONS VERY SERIOUSLY.

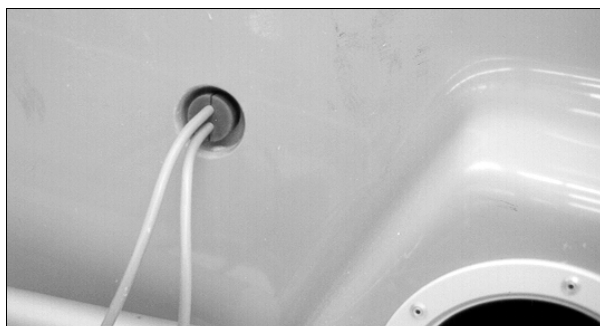
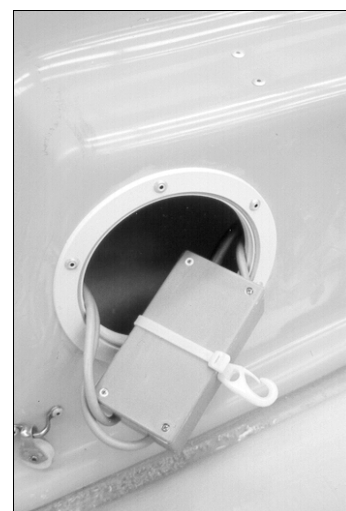
THE COMPONENTS

1. **The boom comes fitted with a sheet for manual use.** When the Electric sheet winch is used remove the manual sheet from the boom and reeve the servo assist sheet as a two part only through the block on the traveller with the dead end tied off with a bowline at the block at the boom end.



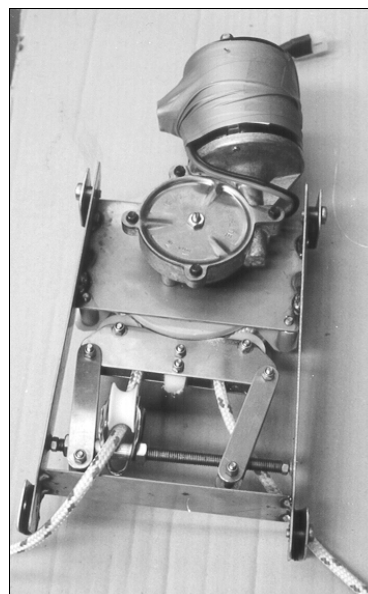
2. **Leave the traveller very long,** adjust its length so the mast wont be over bent if the sheet is over tensioned.

3. **The control box** is very simple with 4 relays controlling the 4 functions. The box is suspended under the right arm rest.



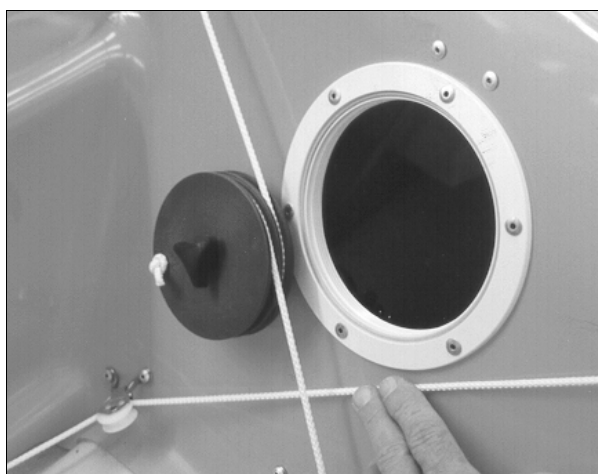
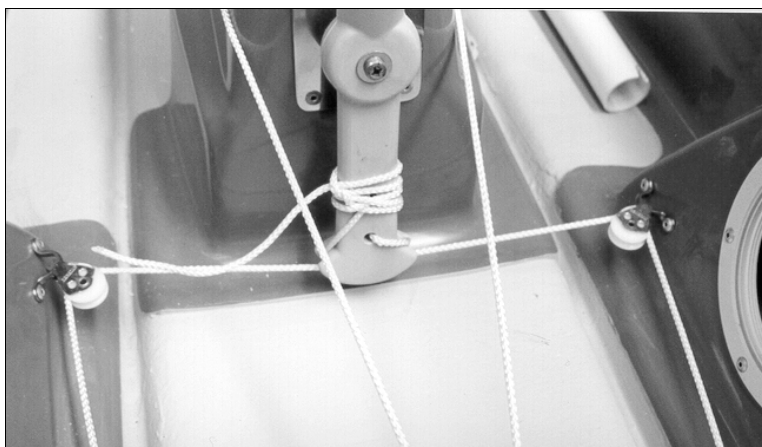
The battery lead and sheet winch lead run forward and pass through the right lower seat tubes. A simple 2 hole rubber bung acts as the seal.

4. **The sheet winch** lead is held up under the console with a small block of foam. Remove the sheet winch and check its workings. The 8mm allthread can be turned by screwdriver to adjust tension as the rope wears.



5. **The helm winch** and joystick leads run aft from the control box. The helm winch can be removed through the inspection port. The helm winch lead hangs on a hook above the aft inspection port which keeps it above any water.

6. **Adjust the steering lines** at the joystick and at the tiller to centralise the steering when needed. Keep it on the tight side.



7. **The joystick lead** and plug can pass through the seat under the tube to keep them out of any water.

8. **There are two 12 volt gel batteries.** They will run the boat all day and should be charged after every days use. The batteries are lead acid and don't need to be run down. Never run them down. Keep them charged. The charger will trickle charge over night. Ideally charge one battery at a time.

9. **If there is no battery charger supplied** (if you are in a 110 Volt area) acquire a 12 (or 14.4 Volt) 1/3 or 1/2 amp plug pack trickle charger suitable for gel lead acid batteries, from Tandy, Radio Shack, West Marine or similar. We can provide a plug on a short lead to adapt your charger to the battery lead. **Always keep the batteries charged. Never let them discharge completely.**