

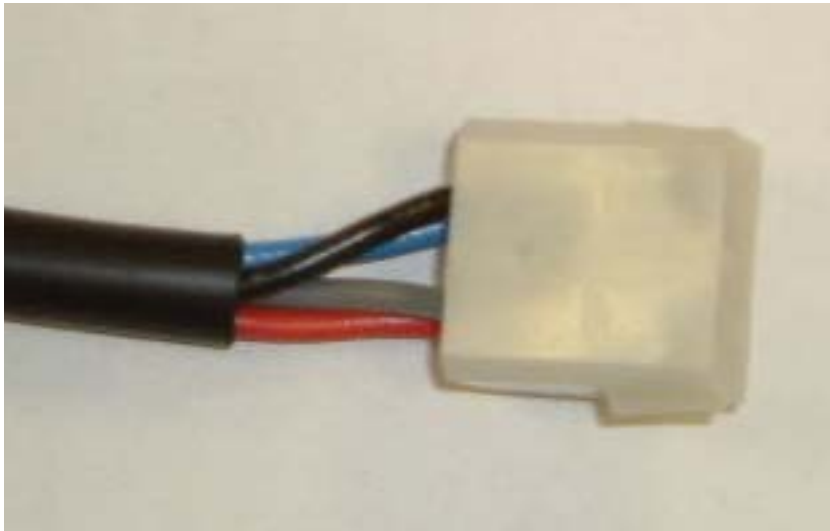
Checking Thruster operation and
changing parts as required.

No Thrust, before replacing parts do the following easy checks

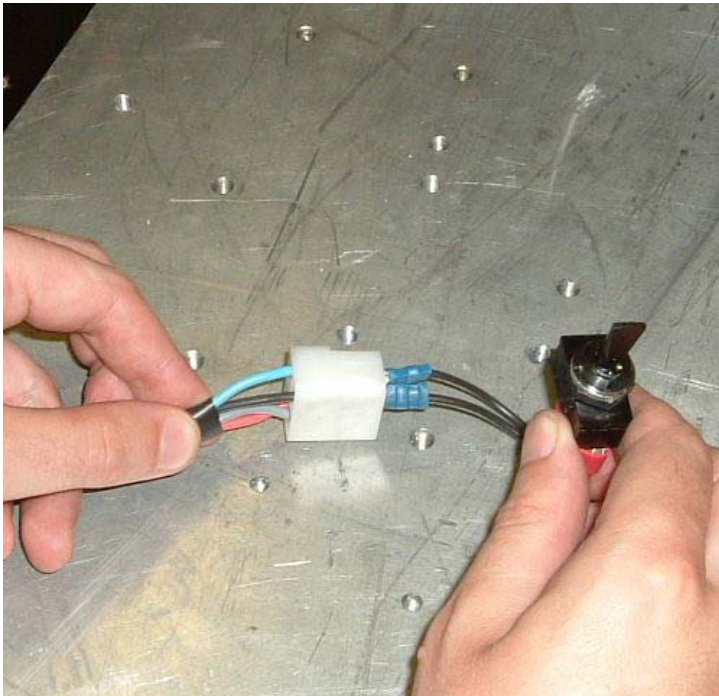


- Is Power On, Correct Fuse fitted & O.K. If fuse blown check prop rotates, if boat in the water, remove 4 motor bolts and motor to get access to input shaft.
- Voltage at motor when operated should be at least 10v / 21.5v. If volts are low then battery isn't charged or cables are too small.
- Check motor polarity at same time, if pos+ & neg- are reversed, electronics will be 'blown'.
- Start deeper investigation.

Both controller types have, red wire pos+, black neg-, blue thrust port, grey thrust starboard. Some control leads have 4 numbers black wires.

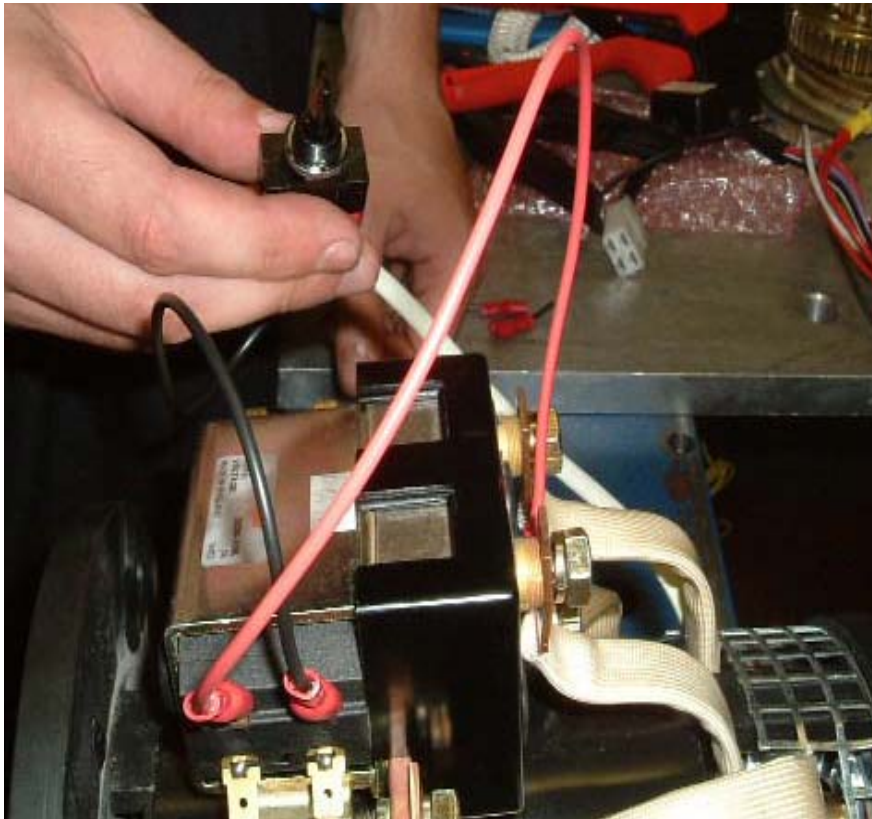


Confirm fault is with black box or Motor by checking Thruster operation using a simple switch into black box socket.



- One wire into Black lead and one into Blue. Operate.
- Change Blue connection into Grey. Operate.
- If Thruster works in both directions fault is with controller or connecting leads. Replace each in turn and. Test.
- If no Thrust then fault is with motor or black box.

At this stage the Thruster operation can be checked using a simple switch.



- Disconnect black box wires from solenoid and motor
- Connect a lead from Solenoid pos+ feed to a coil bottom connection.
- Connect Black wire from Motor Thermal trip to the switch & then to a solenoid coil top connection. Operate.
- Swap leads to opposite coil for other direction. Operate.
- If no Thrust or only Thrust in one direction replace motor assembly.
- If Thruster operates change black box

Motor assembly or black box replacement

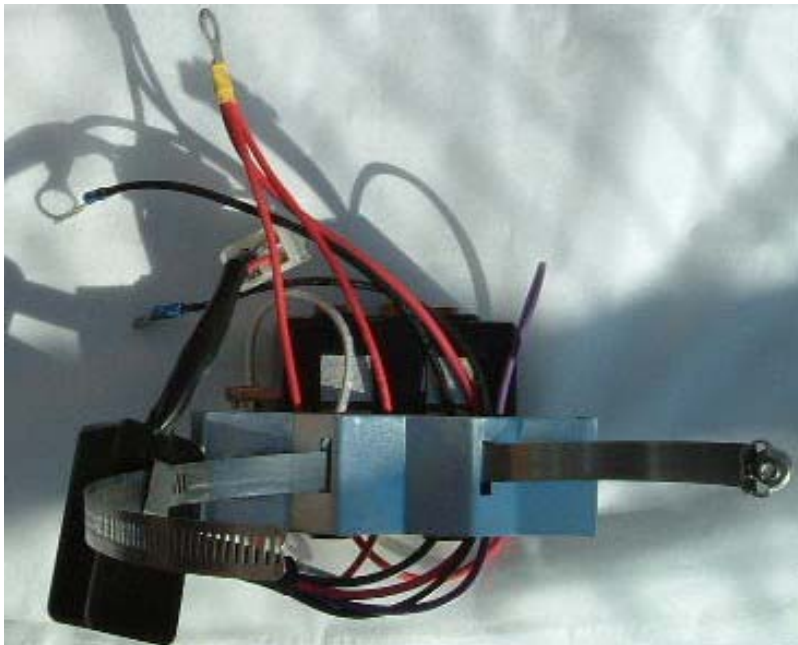
- Switch off main power
- Disconnect power leads
- Remove 4 bolts & lift off motor.
- Replace with new motor assembly. Test.
- Or take motor to bench.



Undo 2 screws and remove cover. Make a note of all wire and cable positions. Picture is typical, each Motor size will have different connections.

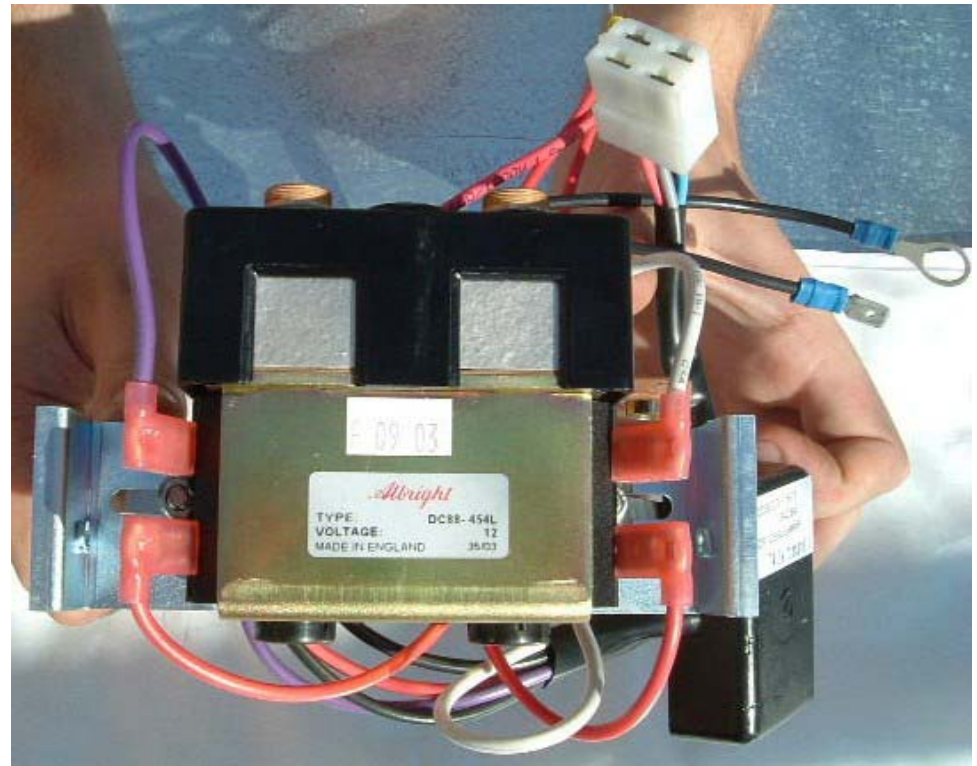


Remove clip, note wires are between bracket and solenoid, remove old black box. Remove diodes assemblies from solenoid terminals if fitted (Mk1 black box). If diodes had red at top this would have caused fault. Discard both items. Assemble new black box with wires between bracket and solenoid. If removed, bolt motor back on to saddle.



Connect as follows, Mk2 black boxes have diodes built in, 90deg connectors and are stamped 2.

- White wire Top R.H
- Mauve wire Top L.H
- Red wires to Bottom terminals.
- Red ring to rear pos+ stud.
- Black to motor thermal switch.
- Black with ring to Motor neg- stud.
- Complete assembly. Test



Recommended spare parts

Thruster	Motor ass.	Black box	Anode kit	Prop/s	
140TT2.2 12volt	581026	559003	589150	589151	
185TT3.0 12volt	583026	559003	589350	589351	
185TT3.0 24volt	583027	559003	589350	589351	
185TT4.5 12volt	583028	559003	589350	589351	
185TT4.5 24volt	583029	559003	589350	589351	
185TT6.0 12volt	583030	559020	589350	589351	
185TT6.0 24volt	583031	559003	589350	589351	
				RH Prop	LH Prop
250TT8.0 24volt	585026	559003	589550	589551	589552
300TT10.8 24volt	587026	559020	589550	589750	589751