electro-drive ‘Direct Drive’ Motor Kit

Fitting the electro-drive 24Volt 13A/hr NiMh or 8A/hr NiCd pack 19/8/5

If you aren’t competent in making soldered joints, please return your battery pack for upgrading. It only costs around £10.50 delivery by www.parcels2go.com and + £25 fitting and return – and that’s an investment!

Tools

You will need:

- A medium reach 3mm hex socket driver
- A soldering iron & solder

Optionally:

- Heatshrink gun
- Small pliers

1 Remove the 10 socket cap screws that hold the case together.

If the screws have corroded, a pre-treatment with WD40 on the reverse side of each screw should free them.

2

With the screws all out, turn the case over…

3 …and lift off the top.

There is a fair amount of wiring inside, and occasionally some may have been trapped and damaged between the two halves. Check it and repair as needed.

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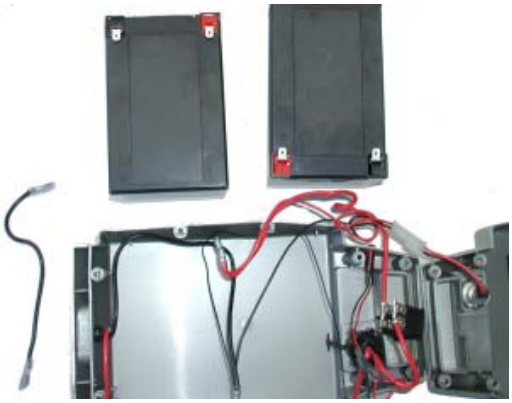
4 Lift one battery out and pull off each of it’s connecting wires. Repeat for the other battery.

The black link wire won’t be needed any more.

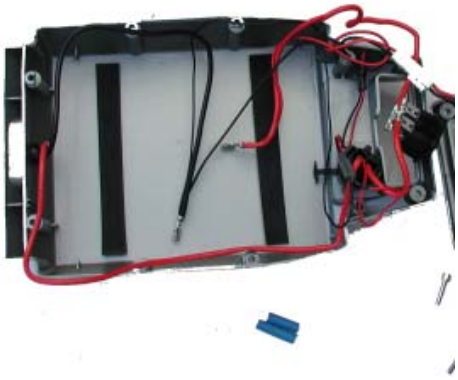
If the old cells are dead they can be disposed of at your local recycling centre



5 Take off the clear plastic covers on each of the Faston (battery) connectors.

Put 2 of the rubber strips on the bottom of the case. Use double sided tape or sticky pads to hold it in place.

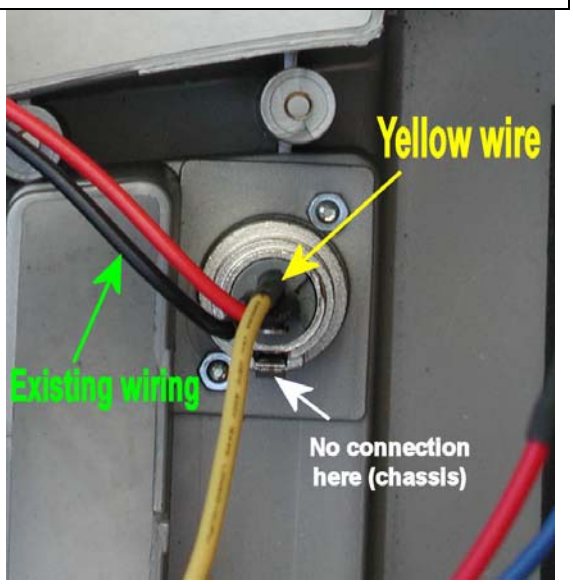
These strips hold the battery in place and allow air to circulate around it.



REMEMBER: **Only expose and work on one wire from the NiMh battery at a time**. At this point, there is no fuse protection for the battery, and a short circuit can irreparably damage it (by overheating, melting insulation and generating excess gas and, possibly, exploding)

6

- Tin the middle pin of the charger socket
- Take the insulation off the YELLOW battery wire (the thermistor lead).
- Put the small insulating sleeve over the wire
- Solder it to the middle pin of the charger socket
- Slide the insulating sleeve over the pin
- Shrink the insulation using the soldering iron or a heatgun



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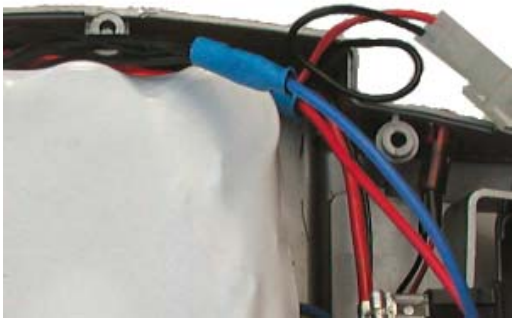
7

- Tin the Faston connector on the BLACK power wire
- Put one of the larger insulating sleeves over the BLUE –ve power wire from the battery pack
- Solder the BLUE wire from the battery to the BLACK power wire

You may prefer to use Faston Tabs to push-on to the 'spade. If you do, make sure they are <u>well sealed against corrosion.</u>

8

- Slide the insulating sleeve over the joint and shrink it using the soldering iron or a heatgun
- Repeat the process joining the RED +ve wire from the battery to the RED power wire



The final step is to:

- Put the other 2 rubber strips on the top half of the case
- 'dress' all the wires around the case so the two halves can be fitted together
- Bring the two halves together pushing any protruding wires back in using a blunt, non metallic instrument (e.g. a piece of wood) and turn it over
- Making sure that:
  - no wiring is trapped between the two case halves
  - that the 'tongues' fit into the 'grooves' on the two halves
  - The battery fixing plate is fitted back on

Put screws into each hole and tighten, remembering that they are held in bushes in soft plastic. Don't overdo the tightness!

Charging

The charger has 2 LEDs

- A Red LED when the mains power is on
- An Amber/Green LED to indicate charging status

When the battery is plugged in to the charger, the Charge Status LED should start to blink (meaning that the temperature of the battery is being tested, or is out of range) and then switch to STEADY AMBER while charging. You will also hear the internal fan start. Charging will take up to 5 hours, depending on the

temperature and battery condition. After that the Charge State LED will go GREEN to indicate that charging is complete.

Remember:

- ✓ Charge your battery only with the smart charger supplied and keep it ‘topped up’. Batteries will self-discharge at a rate 5%-10% every 2 weeks
- ✓ Charging and discharging gives out heat – keep your pack as cool as possible
- X Never short-circuit or overload your battery pack. If the fuse blows, make sure the pack is properly inspected before re-use
- X Never charge the batteries indoors. Charge in a well-ventilated, cool place, where there is no risk of fire or damage in the event of cell disruption
- X Do not dispose of in a bin – take to a designated disposal place