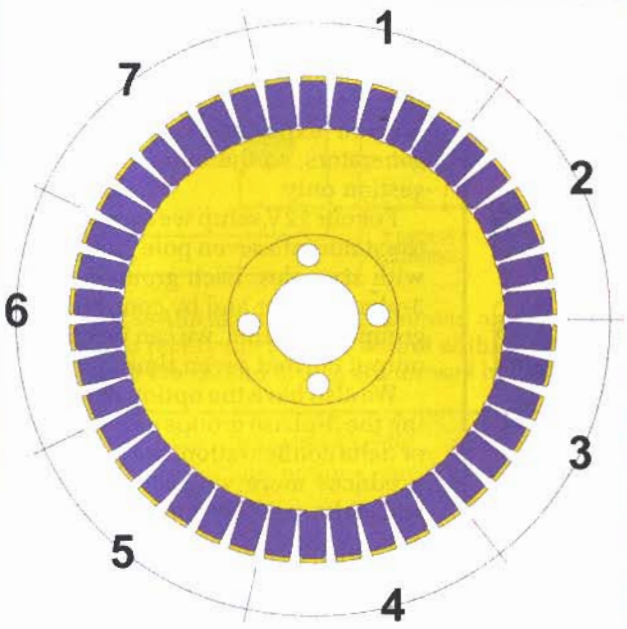
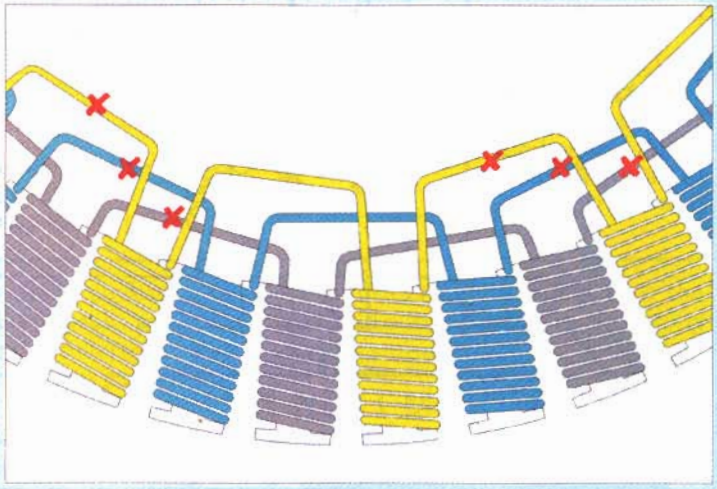
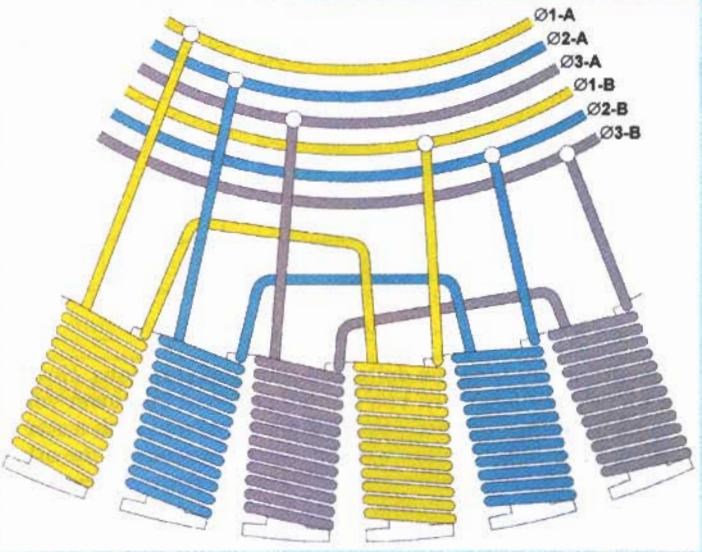


The original stator had 3 sections, each with 14 poles. The modified stator will be divided into 7 sections, each with 6 poles.

First cut and strip 6 lengths of 20A insulated wire as shown. These will form our new bus bars.



The windings are cut as shown above and reconnected to the six bus bars as shown below. Use different colour wires for the buses to make life easier!



and offer them universal currency (a carton of beer) in exchange for a couple of used Smartdrive motors from their scrap bin. You might get lucky!

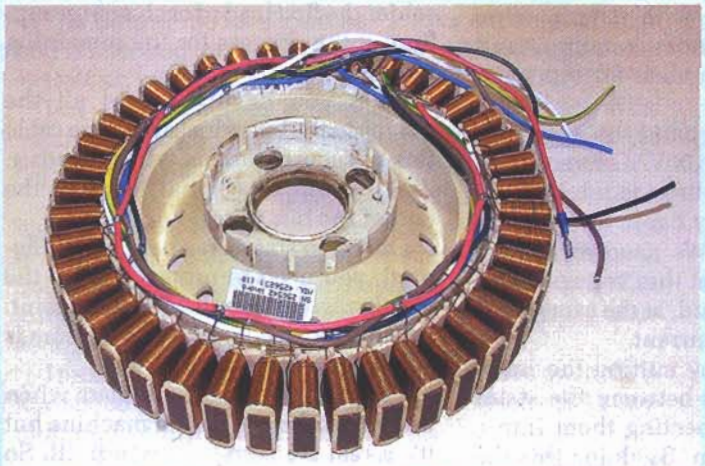
Or you can buy the motor parts new from Fisher & Paykel agents at a reasonable cost.

What to avoid

There are a couple of things to look out for when sourcing your motor parts.

Shorted Windings: Water ingress into the windings causes copper corrosion and shorting between the coils, or to the steel laminations, making the stator worthless.

Corroded Shaft: The shaft needs to support the weight and thrust of the propeller, so make sure there is no serious corrosion or pitting. Another concern is cracking in the plastic hub or stator. If not too severe, a few small cracks can be fixed with epoxy adhesive.



Once all bus wires are connected, you can use cable ties to secure it all together.

Fit a terminal strip to the finished stator. This makes it easier to change from star to delta configuration.