

BOW '3' MOTORS

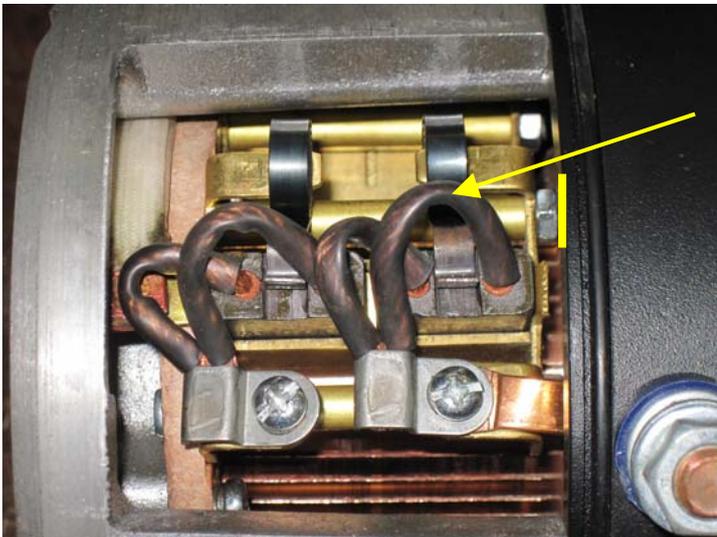
IMPORTANT INFORMATION WHEN INSTALLING BOW '3'S

Although the design and manufacturing processes applied to **Bow '3's** are designed to maximise waterproofing properties, the ultimate performance of the motor is largely determined by the care and attention applied during the fitting process. Please follow the procedures below when installing a **Bow '3'** to your winch to maximise water sealing properties and long life.

Failure to strictly follow these procedures will affect your warranty

1. When fitting to a standard 8274 top housing, there is some grinding to do on the adaptor to clear the aluminium webs that the adaptor butts up to, (see pictures below). Always take the top housing off the main body of an 8274 when fitting this adaptor and motor for fear of dropping the final gear down into the sump. Fit the adaptor using the two short 1/4 UNC caphead setscrews to the winch housing ensuring that the locating peg lines up nicely and apply RTV sealant between winch housing and adaptor.

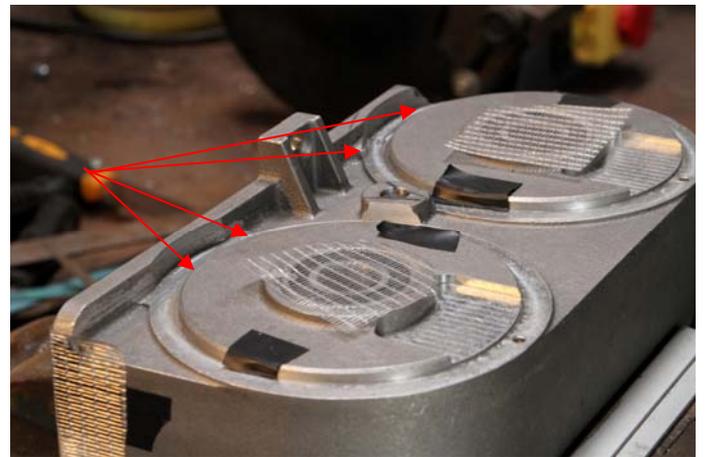
2. Apply a bead of RTV sealant to the shaft end of the motor body or to the mating face on the adaptor to ensure an effective seal between the motor and the adaptor. Also, between the end cap and the motor body. Failure to do all this may result in water ingress.



3. Please ensure that when sliding the end cap over the brush housing, be very careful that you don't trap the brush wires by the sharp edge of the cover against the motor housing and cut the all important insulation which would cause a dead short.

4. When attaching the motor terminal wires, hold the inner nuts when tightening the outer nuts. Do not allow the motor or solenoid terminals to rotate which would result in internal damage.

5. You must pay special attention to the position of the A, F1 & F2 terminals as these are different on the Bow '1' & '2'. You have been warned!



* Grind back to just clear with a 4" Angle Grinder



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**Importers, Exporters, Wholesale Distributors and Retailers of
Winches and Accessories**

*Distributors of Dyneema® Bowrope 12 strand synthetic fibre winch rope
Manufacturers of Commercial Portable Twin Capstan Winches
European Distributors of Kingone Winches*

BOWMOTOR '3'

Important information for this new type of large, powerful
and fast DC winch motor.

Thank you for purchasing these huge motors. Our **Bow '3's** have been designed for the serious off-roader requiring both high power and high speed. We hope you are pleased with its performance.

Congratulations on your choice. Utilising the front motor adaptor allows you to fit this 125mm (5") diameter motor to either Warn 8274, a Gigglepinn 8274 twin motor top or a Gigglepinn Twin Motored winch. If you fit to a standard 8274 you had better fit heavy duty internals! When fitting to a standard 8274 top housing there is some grinding to do on the adaptor to clear the aluminium webs that the adaptor butts up to. Always take the top housing off the main body of an 8274 when fitting the adaptor and motor for fear of dropping the first gear down into the sump.

These Bow '3's will also fit several larger commercial winches including our TDS-16.5 models. I expect that some may wish to fit one to a TDS-9.5 or 12.0 which if used sensibly, the central driveshaft should put up with the load. However the motor drum support will have to be machined to take the adaptor because the Bow '3' has a larger diameter than a Bow '1' or '2'.

With the appropriate battery and alternator system, these **BOW 3's** will provide tremendous pulling power and a very high drum speed at no-load when respooling the wire rope back on to the drum. Great care must be taken to keep the gloved hands at least one metre, if not 2 meters away from the roller fairleads when respooling the wire rope. This is in case your gloves get caught by a frayed spike of wire rope which could drag your hand rapidly towards the roller fairleads. **YOU HAVE BEEN WARNED!**

I expect that most people will be using **Dyneema® Bowrope** Synthetic Fibre 12 strand winch rope, but much care must still be taken.

Also, never allow the **BOW '3'** to 'over speed' or run in a no-load situation for too long as the armature could become damaged through revolving too fast.

In a normal 'nominal' half-load off-road winching scenario, the **BOW '3'** armatures revolve at about 4,000 rpm, but at no-load with the gearbox in 'FREESPOOL' with a well sorted electrical system the armatures will turn at around 11,000 RPM, like a turbine!

Please do not allow this to happen. Only run the motor to turn the gearbox to either pull in, pay out, or respool the wire rope.

This is one reason why you must have a brake on the winch to slow you down, or to hold yourself or another vehicle when lowering down a steep hill. If you didn't have a brake, the weight would back feed through the gears and would actually drive the motor armature at around 15,000 RPM. This would not only damage the motor, with the balance weights detaching themselves from the armature, but can also damage the vehicle alternator, as the motor will act as a generator and back feed it and vehicle electrics to around 18 volts. This doesn't do the rest of the electrics much good either !



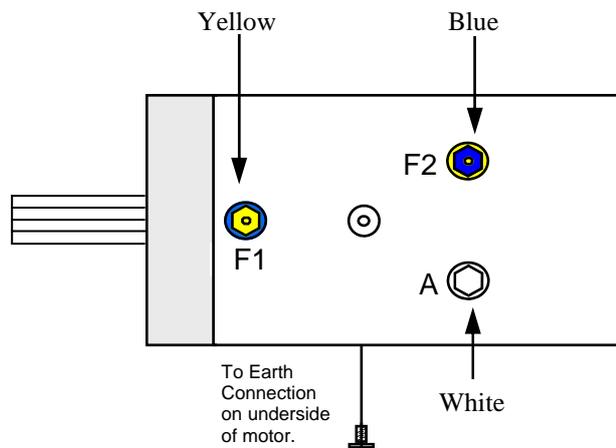
To further increase the reliability and longevity of your new **BOW '3'** don't let it run too hot. If during winching it appears to get very hot and you can't keep your thumb on the body of the motor - let it cool down. Maybe your load is snagged by a root, stump or rock under the vehicle, or perhaps you have been winching for far too long. Sort out the problem, give it a rest - or get out the Swingaway Snatch Block to halve the load.

Never allow the winch to come to a 'STALL' situation, because if you did let this happen, it's goodbye motor!

Wiring up **BOW '3'**

If you are replacing your existing series wound motor on your winch, you may find that the three terminals marked F1, F2 and A are laid out differently.

The **BOW '3'** connections are shown below: -



Note:

F1 - Yellow
F2 - Blue
A - White

The above correspond to our 'Albright' colours

The earth terminal is underneath the motor, and a length of copper welding cable must be connected between this terminal and the battery earth. Do not rely on the vehicle's chassis as an earth return as there is far too much resistance in the circuit through the rust, moisture and many connections. All connecting terminals in the winch system must be double crimped with a hexagonal crimping machine using 50mm² copper welding cable.

WARNING

If terminals F1 and F2 are inadvertently switched over, the motor will run in the reverse direction. If terminal 'A' is connected incorrectly the motor may be permanently damaged.

LOADS OF POWER

Don't expect to get the best out of your winch system if you haven't got sufficient battery and alternator back up. To attain this you will need a good battery set up - say one or more 12 volt type 660 battery giving 120 Amp hour each(1000 cold cranking amps) wired in with 50mm sq welding cable and backed up with at least an 120 - 150 amp alternator. I use 3 of these batteries wired in parallel, brilliant! I DO NOT RECOMMEND OVERVOLTING TO 24 - 28 VOLTS

To compliment the **BOW '3'**, it is also recommended that a set of Albright heavy duty protected solenoids are purchased for each **BOW '3'** at the same time to maximise both reliability and longevity. These are £59 per set + VAT.

WARNING

The fitting of a **BOW '3'** to an existing winch could damage it through any inherent weakness in the driveshaft, couplings, gearbox, or through the use of an undersize rope.

No responsibility can be accepted by David Bowyer, Goodwinch Limited or any staff, in any failings howsoever caused by re-motoring an existing winch through possible over-powering.

David Bowyer.