

# GOODWINCH LIMITED

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

*Distributors of Dyneema-Bowrope & Budget Bowrope 12 strand synthetic fibre winch rope  
Manufacturers of commercial Portable Petrol Twin Capstan Winches  
Worldwide Distributors of Bowmotors and Bowright Solenoids  
European Distributors of Kingone Winches  
Winch Bumpers and Fitting Kits*



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## Quick Guide to fault finding, repairing and resetting a TDS winch.

### Problem - winch won't start.

#### Things to check:

Check all battery and safety cut out connections for tightness.

Carefully eliminate cut out switch if thought faulty by putting winch cable direct to battery.

Check the heavy earth cable runs direct from the battery earth post to the setscrew under the motor, and the thin earth cable from here to the solenoids. This earth motor setscrew must be clean, free of rust and tight, often loosened by diesel engine vibration.

#### Still no joy?

Unscrew the top cover off of the solenoids, 2 screws front and 2 screws back, take a short piece of insulated wire, bare the ends and firstly hold one end under the left hand top spade terminal and dab the other end on the live power setscrew, (with the cut out switch on of course), and the winch should power up, just make sure the winch is in freespool! Then do the same with the right hand spade.

If the motor runs both ways the fault is on either the socket wiring, the handset plug or the handset itself. It may be simply a dirty eroded set of pins between the hand set plug and socket, or a socket pin accidentally pushed backwards.

With the power switched off, you can use a continuity tester between the socket wire going to the power setscrew and either the left or right hand spades on the solenoids and pressing the in/out switch. Process of illumination should find out what needs sorting, repairing or replacing, could be a faulty handset switch.

In an emergency, you could carefully hardwire the in spade to the power setscrew and operate the winch with the cut out switch!

One way or the other you have proved the solenoids are working, if they are not, you will need to replace them, but again, in an emergency we show you here how to hard wire the three top motor terminals and use the cut out switch to winch in.

Now of course if the motor fails to work, when the handset works and the solenoids click in both directions, and the earths are good, you may have overworked the motor on the last heavy winching. This is very easy to do if you have accidentally kept your finger on the button whilst winching in and the motor is 'stalled' when totally stuck!

We show you here how to take the motor off of the winch to look inside. Maybe you just need a new set of motor brushes, fingers crossed, but if you have blown the armature to pieces, it's goodbye motor. Overspeeding down off of a steep long bank or hill with the weight of the vehicle, can also take out the motor with the armature revolving at least 3 time more than the nominal speed which can explode the copper commutator which in turn takes out the brush set, not a pretty sight! This is why it is so essential to lower yourself, or somebody else on your winch in short 'hops' coming down to allow the brake to slow the winch down. You have been warned.

#### Problem - winch Freespool is very tight.

TDS, and similar winches have a rotating freespool lever on the top of the gearbox which when turned back anti clockwise, the pin is lifted clear of one of the many holes in the outer freespool gear allowing you to walk out with a rope.

If the drum had got too tight to pull off the rope, the answer could lie in the fact the outer freespool gear could do with some lubrication between the gear and the inside of the gearbox casing. It's not normal to apply grease here as it can cause drag, plus the fact you can get condensation on the insides of the metal gearbox housing which can cause a thin film of rust.

So if you have a tight freespool this is what you do: unscrew the 3 capheads holding the brake cover on, exposing the threaded hole with a grub screw in it which locks the thread of the freespool module, loosen this grub screw by a couple of turns, grab the freespool lever and keep turning anti-clockwise to remove the whole module. As you turn the drum, dribble a teaspoon of 3:1 oil and hey presto, the drum will start turning easier. A thinner oil is too thin, and a thicker one, too thick. 3:1 oil is best. Refit the module, lightly tighten the grubscrew and refit the brake cover.

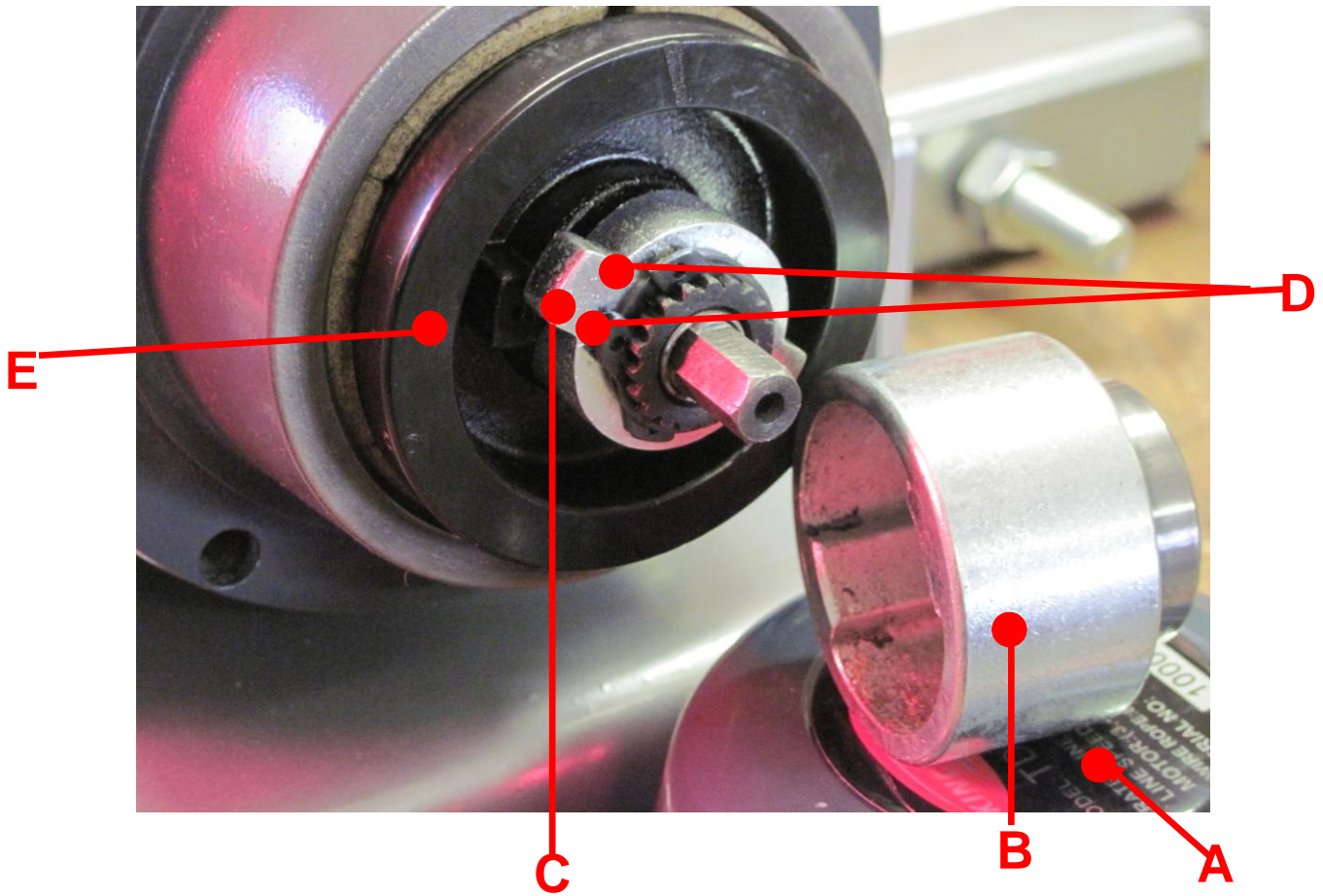
#### Problem - The Freespool lever won't disengage the freespool.

Simple. Vibration from usually a diesel engined vehicle loosens the screw in the top, which stops the 'flat' on the inside of the lever not lining up with the 'flat' on the top of the pin under.

Pull this pin upwards with a pair of mole grips so that when you rotate the drum a little the heavy pin underneath sits on top of the outer freespool gear and not into one of the holes. Refit the freespool lever lining up the 'flats' along with the screw and shakeproof washer. A drop of Loctite on this screw is a good idea to stop it coming loose again!

#### Problem - Brake either 'clicking' or needs adjusting for wear on the brake blocks.

- 1 Remove End Cap ( A )
- 2 Remove Drive Coupling ( B )
- 3 Hold splined cam ( C ) in position and remove 2 circlips ( D )
- 4 Hold brake cone ( E ) in position and rotate splined cam ( C ) 180 degrees anti clockwise to tighten or clockwise to loosen.
- 5 Refit circlips, drive coupling and end cap. Test.



If blowing the dust out do mind your nose and eyes for obvious reasons.

### Working on the winch

All the things above can be done in most cases on the vehicle by undoing the winch, with the power off, slacking the rope and putting a piece of wood over the bumper winch tray to place the winch on top.

Obviously for a full service it's best to use a workshop bench along with a handy fully charged battery, cut out switch and a battery link for testing.