



# Trouble Shooting Guide



# Electric Winches

*Get to where you want to go!*

# Winch

## Trouble Shooting

### Guide

This guide has been compiled to help resolve common problems often experienced with winches. It is only a guide to help diagnose and correct some of the more common faults found and should **not** be used to problem solve or trouble shoot non-Britpart winches.

Winches can be extremely dangerous if they are not used, maintained and repaired correctly. The author accepts no liability for any repairs carried out by an un-authorized person.

Britpart accepts no responsibility for any accidents or damage caused by use of this trouble shooting guide. If you are in doubt about the correct course of action then please contact us for your nearest authorised agent or further advice.



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20. Gear housing is broken/ cracked around clutch lever.
21. When the remote control switch is released the winch keeps running.

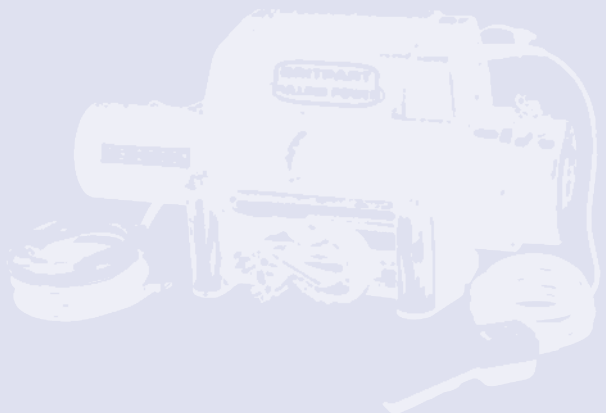
# 1. Winch will not operate, in either direction, when remote control is activated, there is no sound.

## Cause

- a) Solenoid Mounting Plate is not attached to the winch motor or the winch mounting plate, therefore is NOT EARTHED, or IMPROPERLY EARTHED.
- b) Electrical wire terminals are CORRODED.

## Corrective Action

- > Attach the Solenoid Mounting Plate to the winch motor, the winch mounting plate, or other location, which is EARTHED to the same electrical source as the winch.
- > Clean all electrical wire terminals. Surfaces should be shiny and then smeared with inert grease such as vaseline.



## 2. Winch will not operate power 'IN' mode.

### Cause

- a) The pins inside the plug have been pushed out of position or bent, preventing contact with the corresponding holes in the socket.
- b) The 'IN' side of the contactor is sticking or is heat damaged from extended use.

### Corrective Action

- > Replace the Remote Control Receptacle or Plug or complete unit.
- > Replace the damaged or defective contactor.



### 3. Winch will not operate power 'OUT' mode.

#### Cause

- a) Same as '2' above except power 'OUT' side of contactor.

#### Corrective Action

- > See above.



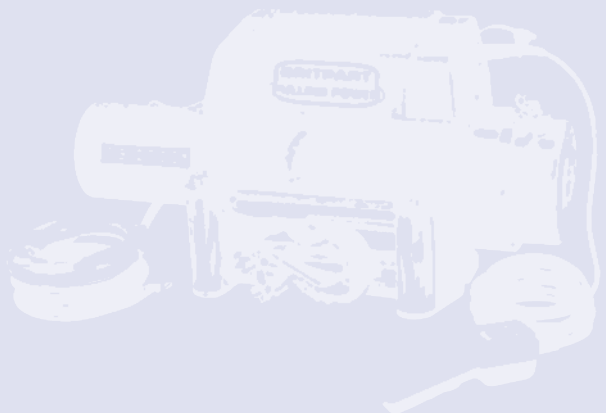
## 4. Winch does not work when remote control switch is activated and clicking sound is heard.

### Cause

- a) Power Source or BATTERY, problem. The battery terminals are corroded, or the battery is not fully charged, or the battery is defective or worn out.
- b) The Electrical Ground/ Earth Wire is NOT SECURE to the Motor Housing. Refer to the Winch Installation Instructions.
- c) The Motor Armature is damaged or shortened, possibly from incorrect wiring of the Control Pack or overheating the motor.
- d) Water in the Motor, caused by submersion, or improper installation of Motor, or Motor not allowed to drain properly, causing Motor to short.
- e) Worn or damaged Bushes caused by damaged Armature Commutator or normal wear.

### Corrective Action

- > Clean and remake the Battery Terminals and Wire Terminals.
- > Re-attach Electrical Ground/ Earth Wire to Motor Housing.
- > Recharge Battery.
- > Replace Battery.
- > Replace Motor.



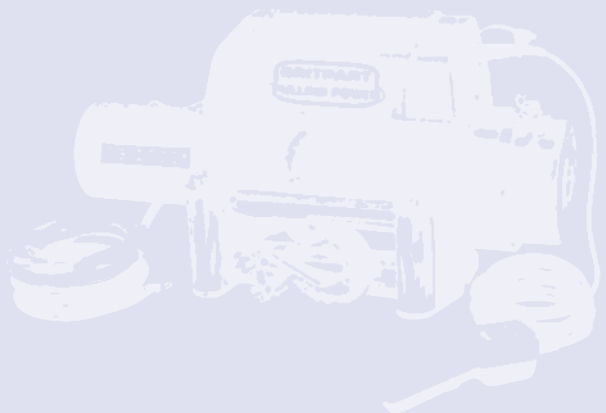
**5. Winch runs very fast with NO LOAD, but when a light load is applied the Winch stalls, has very little power.**

**Cause**

- a) The Control Box is wired incorrectly to the Motor; refer to the Winch Installation Instructions.
- b) The Motor Armature is damaged or shortened, possibly from incorrect wiring of the Control Box or overheating the Motor.

**Corrective Action**

- > Rewire the Control Box to the Motor according to the Winch Installation Instructions.
- > Replace the Motor Assembly.





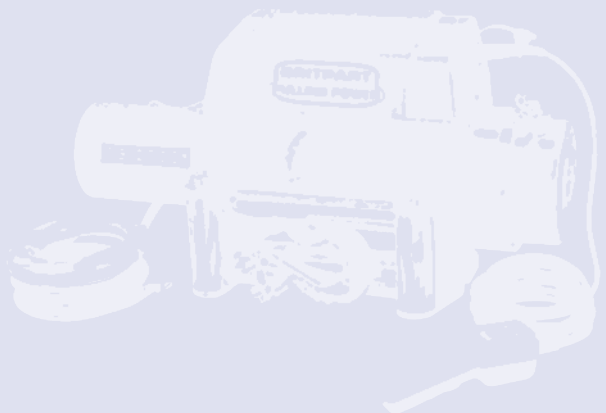
## 6. Winch does not have the same pulling power as when it was new.

### Cause

- a) Power Source problem, BATTERY, terminals corroded, not fully charged, defective or worn out.
- b) Worn or damaged Brushes caused by damaged Armature Commutator or normal wear.
- c) Electrical Wire Terminals are corroded or loose.
- d) Electrical Ground/ Earth Wire is not secure on Motor Housing.

### Corrective Action

- > Clean Battery Terminals and all other electrical connections, surfaces should be shiny and then smear with inert grease such as Vaseline.
- > Replace Motor Assembly.
- > Re-attach the Electrical Ground Wire to the Motor Housing. Refer to Winch Installation Instructions.



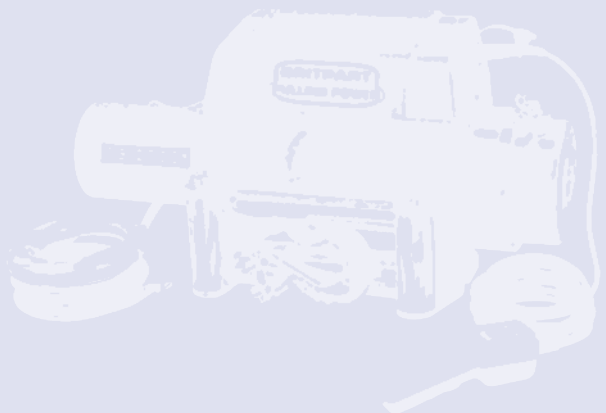
## 7. Winch will not hold a load, or the load slips down.

### Cause

- a) Winch Brake problem.
  - Frequent stopping of winch under load leading to excessive brake wear.
  - The Wire Rope is wound on the drum in the wrong direction causing the brake to function when powering 'IN' and not to function in the power 'OUT' mode. These conditions will also load the Brake in the wrong direction and could cause catastrophic failure.

### Corrective Action

- > Replace the complete Brake Assembly.
- > Rewind the wire rope on the drum in the correct direction.



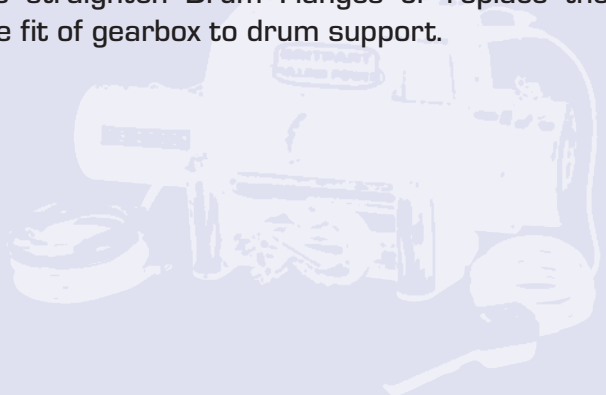
## 8. No Freespool.

### Cause

- a) The sliding Clutch Ring Gear has a burr on the outside diameter, which interferes with the inside diameter of the Gear Housing. This can be caused from disengaging and engaging the Clutch while the winch is under a load.
- b) Grease or rust or dirt has gotten between the outside diameter of Clutch Ring Gear and the inside diameter of the Gear Housing.
- c) The Drum Flanges are bent outward from the Wire Rope stacking up on one end of the drum and forcing outward against the flange distorting frame.

### Corrective Action

- > Try pulling the Wire Rope off the Drum slowly and in an even motion, DO NOT JERK.
- > Have service centre remove burr from ring gear and internal lever, lightly grease the surfaces.
- > Have service centre remove all rust, dirt and old grease from surfaces and lightly grease.
- > Have service centre straighten Drum Flanges or replace the Drum, ensuring close fit of gearbox to drum support.



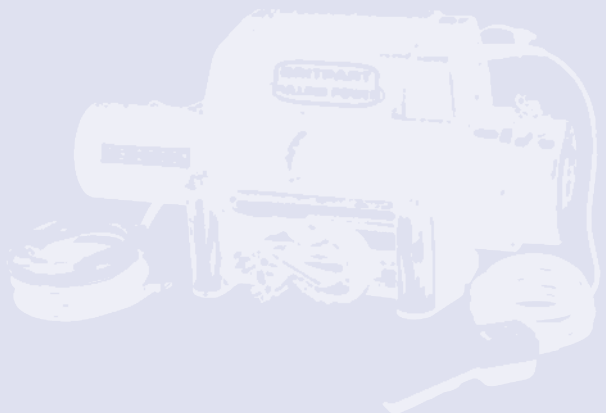
## 9. Winch runs very slow and lacks power when pulling a load, or won't pull a load.

### Cause

- a) Power Source problem, BATTERY, Terminals corroded, not fully charged, or defective or worn out.
- b) Electrical Wire Terminals are corroded or loose.

### Corrective Action

- > Clean ALL Electrical Terminals, Battery Terminals, and connections.
- > Recharge Battery.
- > Replace Battery.



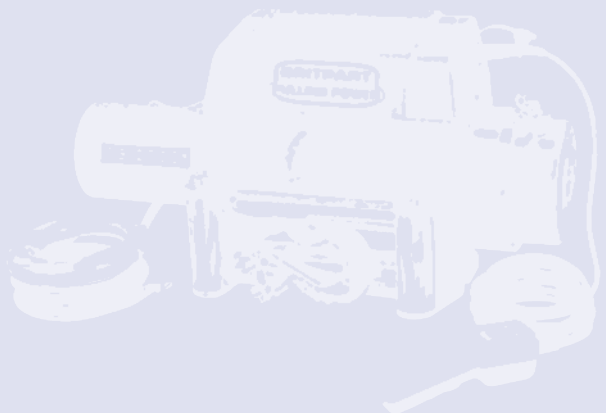
## 10. Rocker Switch on remote control does not return to the neutral position.

### Cause

- a) The Centering Spring in the switch is broken or defective.

### Corrective Action

- > Replace the complete remote control assembly.



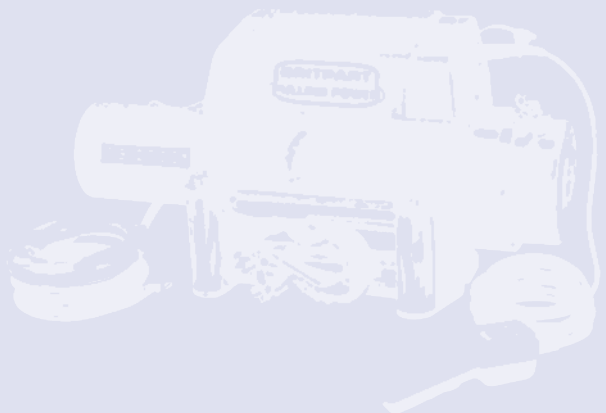
## 11. Wire rope gets between the Drum Flange and the Drum Support, DB2000 model only.

### Cause

- a) The wire rope tension plate is loose or damaged allowing rope to build up at end of drum by flange.

### Corrective Action

- > Replace or re-install rope tension plate.



## 12. When the Winch is activated all the vehicle electrical systems fail and the vehicle engine stalls or stops running.

### Cause

- a) A DIRECT SHORT to GROUND/EARTH

### Corrective Action

- > Check all wires and wire terminals for any connections to the Electrical Ground/Earth of the vehicle.
- > Check for MELTED INSULATION on wires that touch the vehicle frame or engine block.



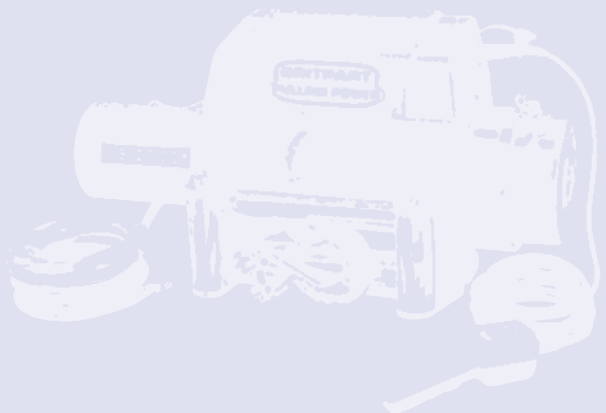
## 13. Winch Motor gets hot very quickly.

### Cause

- a) Physical damage to the motor.
- b) The Motor Armature is damaged or shorted, possibly from incorrect wiring of the control pack or previous overworking of the motor.

### Corrective Action

- > Replace the Motor and thermal switch if fitted.
- > Allow the motor to cool between long winching cycles especially when there is no thermal overload protection.





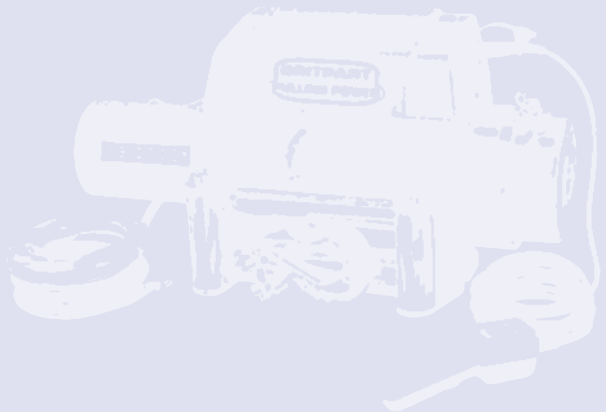
## 14. Winch Motor runs but the Winch Drum does not rotate.

### Cause

- a) The squared drive shaft within of the Brake assembly is stripped or rounded, either through excessive heat and softening, which is caused from frequent powering 'OUT' the wire rope instead of disengaging the clutch and freespooling.
- b) The Drum supports have loosened through damage or vibration disengaging the drive.
- c) The sun or planet gear teeth are damaged/ stripped through sudden engagement of drive whilst freespooling under load, or towing with the winch cable creating snatch loads.

### Corrective Action

- > Have the service centre replace the complete brake assembly. Use the clutch to freespool the wire rope instead of powering out.
- > Have the service centre replace gearbox complete.
- > Refer to winching guide for good winching practice.



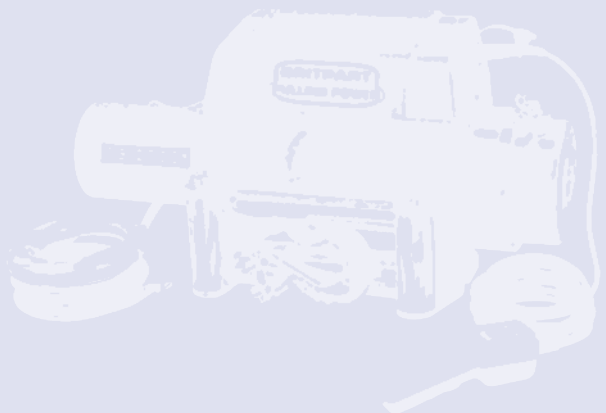
## 15. Kinks and/ or broken strands in the wire rope.

### Cause

- a) Kinks and broken strands in the wire rope are often caused by improper use and can usually be prevented by the suggestions in the winching guide.

### Corrective Action

- > Always replace kinked or damaged wire/ fibre rope as soon as possible to prevent catastrophic failure. Minimise kinking by rewinding the wire rope carefully, under a light load after each use. Refer to the winch owner's manual for the proper procedure.



## 16. Winch jerks or makes grinding noises when pulling a load.

### Cause

- a) The Drum Flanges are bent outward from the wire rope stacking up on one end of the drum and forcing outward against the flange.
- b) The sun or planetary gears have damaged teeth through previous misuse.

### Corrective Action

- > Have the service centre straighten the drum flanges or replace drum.
- > Have the service centre strip and examine gearbox, replace all if necessary.



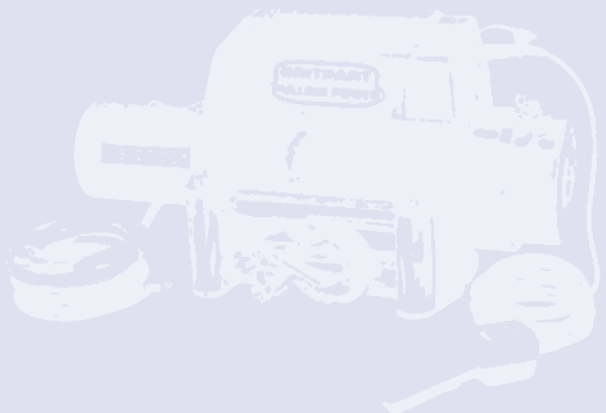
## 17. Loud knocking noise from Gear Train.

### Cause

- a) The gear teeth are damaged from earlier misuse.
- b) A piece of metal, possibly a gear tooth, has been lodged between other gear teeth of a carrier assembly. Caused by overloading the winch or other misuse.

### Corrective Action

- > Have the service centre strip and examine gearbox replace all if necessary.



## 18. Electrical sparks from around the motor or screw heads.

### Cause

- a) Electrical Ground/ Earth is not secure or properly made.

### Corrective Action

- > Install the Ground/ Earth Wire that was supplied with the winch, to the motor housing and attach direct to negative terminal of battery.



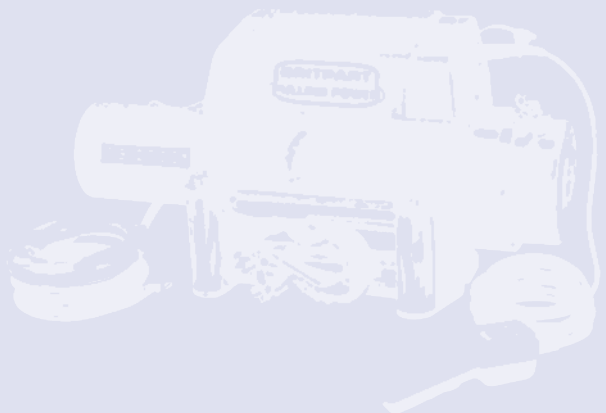
## 19. The Clutch won't operate.

### Cause

- a) The sliding clutch ring gear is damaged or has material between the outside diameter and the inside of the gear housing.

### Corrective Action

- > Have service centre clean the surfaces of the sliding ring gear and gear housing, coat lightly with oil.
- > Have the service centre check the splines in the end housing for burrs.



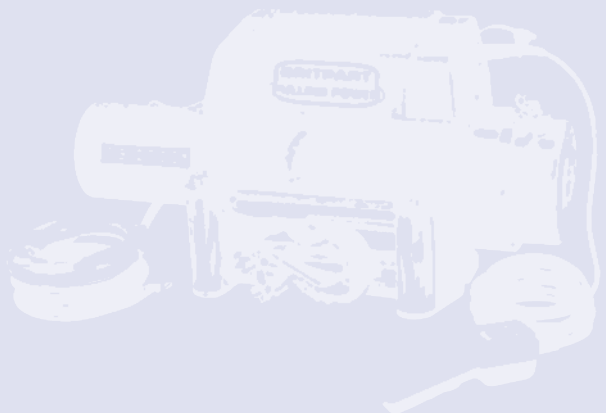
## 20. Gear housing is broken or cracked around the clutch lever.

### Cause

- a) This condition is usually caused by sudden engagement of clutch whilst winch is under load and spooling out creating snatch load. See 14 Causes.

### Corrective Action

- > Replace the gear housing and other damaged parts. Also refer to winching guide for correct winching practices.



## 21. When the remote control switch is released the winch keeps running.

### Cause

- a) The Remote Control lead has been damaged causing a direct short, melting the small wires together in the lead.
- b) The Remote Control has been left plugged in to the control box and water has entered the toggle switch, shorting it.
- c) The Remote Control has been either submersed or left out in the elements, allowing water to enter the toggle switch, shorting it.

### Corrective Action

- > Replace the remote control assembly.
- > Refer to winch manual for proper care of remote control.
- > Remote control must be unplugged, and stored out of the weather, when winch is not in use.





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