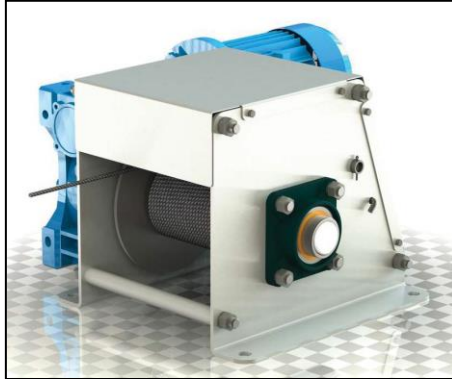


G&W 4500
WINCH



TECHNICAL MANUAL

www.gearsandwinches.com.au

MODEL -

SERIAL NO.

EARTH CONTINUITY TEST

OPERATIONAL TEST

NOT FOR MOVEMENT OF HUMANS

PROUDLY



THINK SAFETY FIRST AND LAST

WARNING!!

**FAILURE TO HEED THE FOLLOWING WARNINGS
MAY RESULT IN SERIOUS INJURY OR DEATH.**

**ANY AND ALL MODIFICATIONS MUST BE APPROVED
BY GEARS AND WINCHES IN WRITING AND SHALL
BE CARRIED OUT BY A QUALIFIED PERSON**

- ❖ Standard pendant controls are double insulated but under no circumstances should they be rained upon or submerged. They are water resistant not water proof.
- ❖ We can supply optional 24V low voltage kits if necessary.
- ❖ Cable anchors on our winches are not designed to hold the rated load, you must ensure at least 5 wraps of cable are on the drum at all times.
- ❖ It is imperative that the winch rope is kept taut at all times. If for some reason it has unravelled on the winch drum you must ensure that it is wound back on correctly before you start winching. It is possible under rare circumstances for the rope to be caught between the gears or the sprocket and chain. If damage occurs under these circumstances it is not covered under warranty.
- ❖ Our winches may be supplied full of lubrication, but this is not guarantee. It is your responsibility to make sure your winch is lubricated appropriately.
- ❖ Avoid shock loads. This type of load imposes a strain on a winch many times the actual load rating of the winch and can cause severe damage to the winch and or the cable.
- ❖ If your winch is supplied/fitted with a dog clutch it is possible to use it for lifting subject to the following – the winch is rated for lifting and a dog clutch locking device is fitted. If applicable or get wrapped outside the drum itself.
 - ❖ A full copy of our risk management assessment can be found on our website:

GENERAL INFORMATION

Welcome to our huge family of happy winch owners, we would like to thank you for purchasing from our Large Winch range. We trust you will be very happy with the performance and reliability of this product. However, we do ask that you take a few minutes to read and thoroughly understand this booklet. Also, if you have new operators assigned to the winch, make sure that they read and understand it also.

These winches are specially designed for a safe and economical load recovery. They are built strong, relatively lightweight and compact to ensure for an extended use life. The motors fitted to these winches are specifically designed and built for electric winching operation and should not be restricted from reasonable ventilation. This series of winches are fitted with a fail-safe electro-magnetic brake. This ensures strong and safe operation. In the event of power outages, the brake is automatically engaged.

We are so confident in our product all our winches have a full “2 year warranty”.

G&W 4500

| | |
|--|----------------|
| INDICATIVE AMPS DRAW @ FULL LOAD @ START UP | 20 AMPS |
| INDICATIVE AMPS DRAW @ FULL LOAD ONCE RUNNING | 9 AMPS |

AM1026B

| | |
|--|----------------|
| INDICATIVE AMPS DRAW @ FULL LOAD @ START UP | 15 AMPS |
| INDICATIVE AMPS DRAW @ FULL LOAD ONCE RUNNING | 6 AMPS |

AM2026B

| | |
|--|----------------|
| INDICATIVE AMPS DRAW @ FULL LOAD @ START UP | 20 AMPS |
| INDICATIVE AMPS DRAW @ FULL LOAD ONCE RUNNING | 9 AMPS |

IF YOU HAVE ANY QUERIES ON FITTING, OPERATING OR INFORMATION IN GENERAL, PLEASE DO NOT HESITATE TO CONTACT US WE ARE HAPPY TO ANSWER ANY AND ALL OF YOU QUERIES.

Please visit us one our website: www.gearsandwinch.com.au.
for any further information

INSTALLATION INSTRUCTIONS

The initial installation or mounting of this Winch is critically important for proper operation and performance. If the winch is mounted unevenly the centre line of the unit can be distorted to a point where the winch will not operate in either direction. It is therefore very important that the following instructions are observed when this Winch is installed. Please spend a bit of quality time on this – it will pay off in the long run.

1. Make certain that the mounting platform is sufficiently strong (at least twice the rated load of the winch) in order to avoid deflection when the load is hauled or lifted.
 2. These units are very versatile they may be mounted on the wall, on a removable post mounted in the floor or any flat surface as long as the structure is strong enough. It is imperative that whatever these winches are bolted to is robust, safe and strong.
 3. Set the winch in/on mounting platform and make sure good surface contact is made on all mounting pads of the winch. We suggest that a bitumen or tar based coating be placed on the base of the winch to minimise rusting and deterioration of the frame. We also suggest the winch be mounted on galvanised or stainless steel washers this will minimise twisting of the frame on uneven surfaces.
 4. Install mounting bolts and tighten firmly.
 5. We advise the entire winch should be sprayed with a film of de-watering fluid i.e. WD40, Inox etc., and the winch rope should be sprayed with de-watering fluid regularly to avoid oxidization.
-

To familiarize yourself with the winch, run it for a few minutes to understand the controls and “feel” of the winch. Pay particular attention to the controls and how they operate.

Winches, like any other kind of machinery, require a “break in” to perform well and to maximize their life. Do not exceed one half-rated load for the first thirty minutes of operation. This will ensure that the drive system will have an opportunity to wear properly.

REMEMBER THINK SAFETY AT ALL TIMES

WINCH OPERATING INSTRUCTIONS

Our G & W 4500 winches are designed and manufactured for ease of use; hence the operational use of this winch is very easy and straight forward.

- Make sure of current output i.e. 10 amps.
- Ensure Earth Leakage Circuit Breaker (ELCB) has been fitted to the power circuit.
- Plug control pendant into control enclosure.
- Plug into power outlet and switch on.
- Make sure the area around the winch is safe i.e. no authorised people and material.

SPECIAL NOTE:

Please identify whether or not your winch is fitted with an “Emergency Stop” Button. Your winch will not work if it is depressed. Check and Re-check this, if your winch does not work. This is the most common cause of in-operation.

STANDARD PENDANT AND LOW VOLTAGE PENDANT CONTROL MODELS

- Press the “Down” button to unwind rope, (make sure the rope is under Tension). The load will travel backwards/lower.
- Press the “Up” button on the pendant control for retrieval/Raising of the Load.
- E Stop button is for emergency stop function if applicable.

Note: When using the pendant control – buttons must be fully depressed.

REMOTE CONTROL MODELS

- Press the button marked “B” on the remote controller to unwind the rope making sure the rope has tension all the time. This will allow the load to travel backwards.
- Press the button marked “A” on the remote controller for retrieval of the load.
- In case of a remote controller fault - forward and reverse pendant control unit is fitted to the main control box along with an emergency shut off switch.
- At the end of each winching operation or If there is a problem and all else fails, immediately turn off the power at the mains.
- Last but not least, ensure the load is secure.

SAFETY RULES

Before operating the winch, read and follow the instructions.

- This winch is designed for lifting/hauling only. Under no circumstances, should it be used for the movement of humans.
- The winch should be mounted on a flat, solid surface as level as possible. This will ensure that the steel rope will arrange neatly on the drum. This will avoid any irregular damage to the steel rope and will eliminate distortion of frame.
- Do not exceed the rating lifting capacity of the winch. Allowable weight is indicated on the attached plate.
- The winch should be operated by a skilled operator.
- Before operating the winch check again to ensure all screws are tightened securely without loosening.
- Before operating the winch check to see if the steel rope drum runs to the correction direction and the brake works normally.
- Prior to initiating winching operations be sure any element which can interfere with the safe winching operations is removed.
- Stand clear of wire and load during operation. Never touch wire rope or hook while in tension.
- Keep hands clear of wire rope, hook and fairlead opening during operation and when spooling.
- Never touch wire rope or hook while in tension.

For a full Risk Management, please go to our website:
www.winch.com.au

**PLEASE NOTE FOR OUTSIDE USE WINCH MUST HAVE
APPROPRIATE OUTDOOR COVER**



THESE COVERS CAN BE PURCHASED FROM GEARS AND WINCHES

TROUBLE SHOOTING

| BRAKE FAILED | |
|---|---------------------------------|
| <u>PROBABLE CAUSE</u> | <u>CORRECTION</u> |
| Incorrect wiring | Check wiring |
| Brake coil broken or burnt out | Replace - see manufacturer |
| Rectifier damaged | Replace - see manufacturer |
| POOR BRAKE PERFORMANCE - BRAKING TIME TOO LONG | |
| Oil or dust on brake lining | Clean brake lining |
| Too much gap between brake linings | Adjust gap properly |
| Brake lining worn out | Replace - see manufacturer |
| ABNORMAL NOISE | |
| Continuous loud noise - Bearing damaged/gear worn out. | Send to manufacturer for repair |
| Occasional loud noise - Bearing damaged or dirty | Send to manufacturer for repair |

TROUBLE SHOOTING

| WINCH WILL NOT RUN | |
|--|---|
| <u>PROBABLE CAUSE</u> | <u>CORRECTION</u> |
| Power failure No power at the winch NOTE: | If your winch is fitted with an E stop Button is it pressed in – this is the most common problem with electrical supply. <ol style="list-style-type: none"> 1. Check power supply 2. Check ELCB 3. Check overload switch on winch 4. Check power point by plugging in another electrical appliance |
| Brake system failed | Brake coil or rectifier damaged. May need to replace it - see manufacturer. |
| Poor contact on switch | May need to repair or replace - see manufacturer |
| Voltage too low | Check if power wires are too long or their diameter is too small |
| Overloaded | Reduce load |
| Capacitor damaged | Replace capacitor - see manufacturer |
| Damage to gears, bearings, motor shaft or motor coil | Return to manufacturer for repair. |
| MOTOR RUNS BUT STEEL ROPE DRUM DOES NOT | |
| Coupling between motor and the first shaft may not be properly mounted | You may need a replacement or it may not be fitted properly. |
| Motor shaft broken | Replace - see manufacturer |
| Gear damaged | Return to manufacturer for repair |
| POOR START | |
| Starting capacitor damaged | Replace - see manufacturer |
| CAPACITOR DAMAGED | |
| Eccentric switch connection point damaged | See manufacturer |

INSPECTION AND MAINTENANCE

Check wire rope periodically:-

- Replace when signs of excessive wear, serious deformation and corrosion exist.
- Lubricate wire rope regularly.

Check daily:-

- External visual inspection of winch including brake, gear reduction, wire rope and electrical connections.
- Test winch hoisting/lowering functions for smooth operation via push button control.
- Test E Stop
- Ensure wire rope is wound in the correct manner

Check monthly:

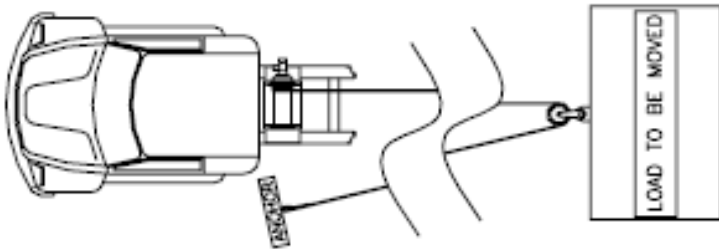
- Inspect entire wire rope assembly.
- View control/motor wiring for damage.
- Check mounting bolts.
- Keep motor and controls from water
- Should the motor be shielded, care should be taken not to choke motor heat dissipation vents.

Lubrication:

Please note: The G&W 4500 is of worm and wheel construction and is filled with oil in the factory. The end support bearing is also sealed in the factory, this means this winch required very little maintenance. There are no grease points, just spray with a little watering fluid occasionally to keep deterioration at bay.

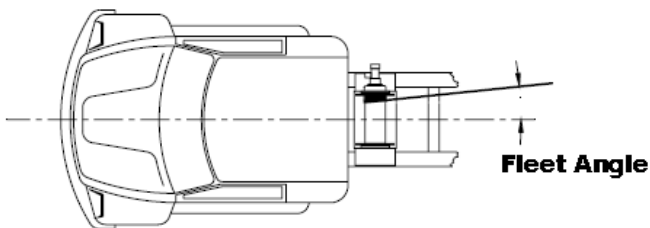
USING A SNATCH BLOCK

By using a snatch block you have effectively cut the load on the winch in half. A snatch block should be used any time you have a concern about the ability of the winch or cable to move a load. The following illustration shows one way to rig such a block.



THE IMPORTANCE OF A PROPER FLEET ANGLE

Maintaining the proper fleet angle is important to the success of your winching operation, the life of your winch and the life of the cable you are using. The fleet angle can best be described by the following illustration.



The fleet angle should be kept as small as possible to insure proper spooling and to maximise cable and winch life. To promote even cable spooling, keep the fleet angle below three degrees. Never pull directly against the flange of the winch cable drum as this may cause the cable or the winch to break.

BOAT RAMP WINCH APPLICATIONS QUICK GUIDE

MAXIMUM BOAT MASS*

| TIGER WINCH MODELS | SLOPE RAMP GRADIENT | | | |
|--------------------------|--|---|---------------------------------------|--|
| | 5° 1 M FALL OVER 12 M DISTANCE | 12.5° STANDARD BOAT RAMP 1 M FALL OVER 4.5 DISTANCE | 15° 1 M FALL OVER 3.75 DISTANCE | 27° 1 M FALL OVER 2 MDISTANCE |
| JV-1020-13D03 | 2200KG | 900KG | 750KG | 400KG |
| JV-1025-13D03 | 2750KG | 1100KG | 950KG | 500KG |
| JC-1025-17D12 | 2750KG | 1100KG | 950KG | 500KG |
| JV-1030-13D03 | 3250KG | 1300KG | 1100KG | 650KG |
| JC-1050-21F05 | 5000KG | 2100KG | 1800KG | 1100KG |
| PU-107-10G07 | 7000KG | 3000KG | 2500KG | 1500KG |
| PU-1100-05H06 | 10,000KG | 4200KG | 3600KG | 2200KG |
| PU-1120-10I105 | 12,000KG | 5000KG | 4300KG | 2650KG |
| PU-1200-07J07 | 20,000KG | 8400KG | 7200KG | 4400KG |
| | | | | |
| BLUE WINCH MODELS | | | | |
| AM1026B | 8000KG | 3600KG | 3000KG | 1800KG |
| AM2026B | 15,000KG | 6750KG | 5750KG | 3600KG |
| G&W4500 | 11,000KG | 4,500KG | 4,000KG | 2350KG |

“SPECIAL NOTE”

This is a general guide only based on boat ramp being of even gradient and good surface, boat trailer wheels, tyres and bearings being in good condition. The above line pull ratings can be increased by utilizing a snatch block. This will effectively double the line pull but will halve the line speed.

WINCH INDUSTRIES PTY LTD

GENERAL WARRANTY

Winch Industries Pty. Ltd. warrants parts and labour, directly to the first purchaser of each winch against defects in material and workmanship appearing under normal use and service only for a period of two (2) years from the date of purchase. If you discover a covered defect, Winch Industries will, at its option, repair, replace or refund the purchase price of this winch or winch parts at no charge to you, provided you return it during the applicable warranty period, transportation charges prepaid, to Winch Industries Service Department or Factory Authorized Servicing Distributor. (You can obtain additional information from Winch Industries directly at the address printed below). Please attach your name, address, telephone number, a description of the problem and a copy of a bill of sale bearing the appropriate proof of original retail purchase, to each product returned for warranty service. To obtain any warranty coverage, it is absolutely necessary that you present proof of purchase acceptable to Winch Industries, such as a copy of the purchase receipt.

This warranty applies only to winches sold and/or manufactured by Winch Industries, which can be identified by the "Winch Industries" trademark, trade name or logo affixed to them. This warranty does not apply if the product has been damaged by accident, abuse, misuse, collision, overloading, exhaust, or misapplication, or has been improperly installed, has been improperly used, has been improperly serviced, or has been modified without the written permission of Winch Industries. This warranty does not apply if any Winch Industries serial number has been removed or defaced. The finish and wire rope on the product are excluded from this warranty.

EXCEPT AS EXPRESSLY STATED HEREIN, THERE ARE NO WARRANTIES, EXPRESS OR IMPLIED, INCLUDING IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE WHICH BY LAW MAY NOT BE EXCLUDED IS LIMITED IN DURATION TO TWO (2) YEARS FROM THE DATE OF ORIGINAL RETAIL PURCHASE OF THIS PRODUCT.

THE WARRANTY AND THE REMEDIES SET FORTH ABOVE ARE EXCLUSIVE AND IN LIEU OF ALL OTHERS, ORAL OR WRITTEN, EXPRESS OR IMPLIED. No Winch Industries dealer, agent or employee is authorised to make any modification, extension or addition to this warranty.

IN NO EVENT IS WINCH INDUSTRIES RESPONSIBLE FOR SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES RESULTING FROM ANY BREACH OF WARRANTY, OR UNDER ANY OTHER LEGAL THEORY, INCLUDING, BUT NOT LIMITED TO LOST PROFITS, DOWN TIME, GOODWILL, DAMAGE TO OR REPLACEMENT OF EQUIPMENT AND PROPERTY, LOSS OF USE OF THE PRODUCT OR OF ANY ASSOCIATED EQUIPMENT, OR COST OF SUBSTITUTED PRODUCTS.

WARRANTY ENQUIRIES SHOULD BE DIRECTED TO:

GEARS AND WINCHES
2 COIN STREET, MOOROOKA, QLD, 4105
PHONE 07 3875 1568 FAX 07 3277 4316
EMAIL - admin@winch.com.au