

TIGER
INDUSTRIAL
ELECTRIC WINCHES



TECHNICAL MANUAL
GEARS AND WINCHES

www.winch.com.au

MODEL -
SERIAL NO.
EARTH CONTINUITY TEST <input type="checkbox"/>
OPERATIONAL TEST <input type="checkbox"/>

NOT FOR MOVEMENT OF HUMANS

PROUDLY



GENERAL INFORMATION

Welcome to our huge family of happy winch owners, we would like to thank you for purchasing from our Tiger Winch range. We trust you will be very happy with the performance and reliability of this product.

These winches are specially designed for a fast and economical load recovery and hoisting. They are built strong, lightweight and compact to ensure for an extended use life. The motors fitted to these winches are specifically designed and built for electric hoist operation and should not be restricted from reasonable ventilation. The Tiger winches are also 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”.

INDICATIVE AMPS DRAW @ FULL LOAD

200 kg and 250kg Winch	-	5	1000kg Winch - 15
300 kg Winch	-	7	1200kg Winch - 15
500 kg Winch	-	12	2000kg Winch – 15
700 kg Winch	-	12	

WARNING

These winches are not for the movement of humans.

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

INSTALLATION INSTRUCTIONS

The initial installation or mounting of a Tiger 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 a Tiger Winch is installed. Please spend a bit of quality time on this – it will pay off in the long run.

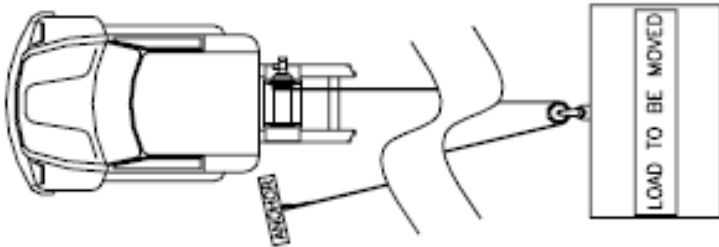
1. Make certain that the mounting platform is sufficiently strong (at least twice the rated load of the winch) in order to avoid deflection when the load is hauled or lifted.
2. These units are very versatile they may be mounted on the wall, upside down on the ceiling, on a removable post mounted in 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.)
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.

REMEMBER THINK SAFETY AT ALL TIMES

PLEASE NOTE – ANY UNAUTHORISED MODIFICATION OF OUR PRODUCTS MAY VOID WARRANTY.

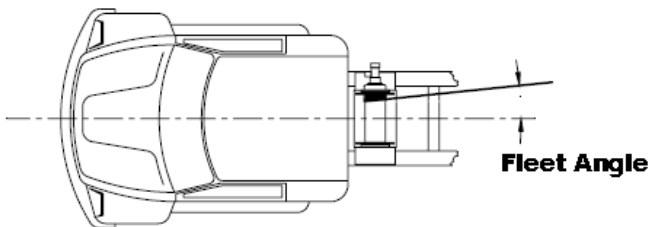
USING A SNATCH BLOCK

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.

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

WINCH OPERATING INSTRUCTIONS

Our Tiger 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 for 200kg, 200 & 300kg models and 15amps for the 500kg models.
- 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.

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.

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 switch 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.

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:

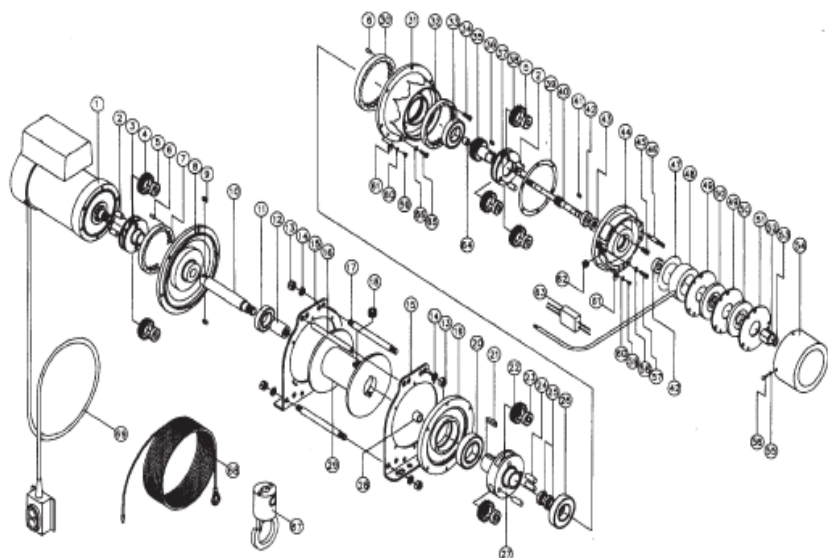
Please Note: These units have been pre-lubricated with premium grade materials before being sealed in the factory to ensure a long service life.

In some of the larger models the gear reduction housing is fitted with a grease nipple. The reduction is lubricated with grease (Castrol EPL2 or Fuchs Renolit EP2) and should be checked every three months, subject to level of utilisation.

TECHNICAL INFORMATION

Motor		
	Single ph. Voltage	Three ph. Voltage
Power source	240v	440v
Frequency	50hz	50hz
Cooling method	Fan cooling	Fan cooling
Start method	Run start capacitor start	Contactors
Frame material	Steel	Steel
Speed Reducer		
Gear	Satellite gear drive. Long service life manufactured from special alloy steel, precision machined and carbonisation heat treated	
Gear box material	Aluminium alloy die cast	
Lubrication	The unit has been filled with high quality lubricating grease. No further lubrication is required in this area.	
Brake		
Actuation method	Electromagnetic brake (failsafe brake)	
Volt	DC 110v or 220v (with rectifier)	
Ambient Conditions		
Temperature	0 °C - 45 °C	
Humidity	Under 90% (no condensation)	
Location	Indoor : dry environment well ventilated	
Prohibited environment		
<ol style="list-style-type: none"> 1. Temperature below -10°C or higher than 45°C 2. High humidity over 90% 3. Any location contained with organic solvents, flammable or explosive products. 4. Very dusty locations 5. Directly exposed to rain or snow. 		

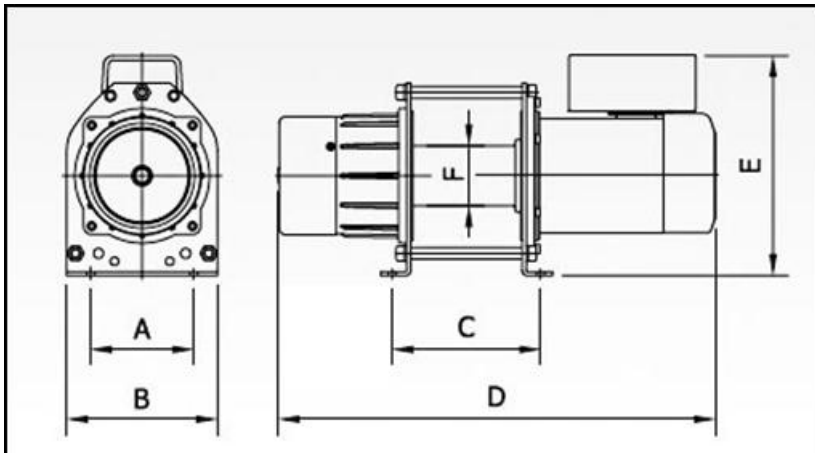
PARTS LIST



No	PARTS NAME	Q'TY	No	PARTS NAME	Q'TY	No	PARTS NAME	Q'TY	No	PARTS NAME	Q'TY
1	MOTOR	1	21	KEY	1	41	KEY	1	61	RUBBER CLAMP	2
2	SHAFT	5	22	BULL GEAR	3	42	BEARING	1	62	CLIP WIRE	1
3	METAL	1	23	BEARING	3	43	OIL SEAL	1	63	RECTIFIER	1
4	GEAR PINION	2	24	SHAFT	3	44	CONDUCTOR	1	64	BRONZE BUSH	1
5	BEARING	2	25	BEARING	2	45	SPRING	6	65	CAP SCREW	6
6	HOLLOW PIN	2	26	BEARING	1	46	BRAKE SCREW	3	66	SPRING WASHER	6
7	ANNULAR GEAR	1	27	OUTPUT SHAFT	1	47	INSULATION PAPER	1	67	HOOK	1
8	FRONT SHIELD	1	28	BRONZE BUSH	1	48	BRAKE COIL	1	68	STEEL ROPE	1
9	KEY	2	29	DRUM	1	49	METAL DISC	2	69	CONTROL WIRE	1
10	1 ST SHAFT ASSEMBLE	1	30	ANNULAR GEAR	1	50	BRAKE LINING	2			
11	BEARING	1	31	GEAR BOX	1	51	METAL DISC	1			
12	SLEEVE	1	32	ANNULAR GEAR	1	52	SCOKET ASSEMBLE	1			
13	HEX NETS	8	33	BEARING		53	C-RING	1			
14	SPRING WASHER	8	34	CAP SCREW	3	54	BRAKE COVER	1			
15	SUPPORT RACK	2	35	3 RD SHAFT ASSEMBLE	1	55	SPRING WASHER	3			
16	PIPE WIRE	1	36	KEY	1	56	SCREW	3			
17	SLEEVE ASSEMBLE	4	37	METAL	1	57	CAP SCREW	3			
18	PT SCREW	1	38	GEAR PINION	3	58	SPRING WASHER	3			
19	GEAR BOX COVER	1	39	ANTHLEAK PACKING	1	59	ROUND HAND SCREW	2			
20	BEARING	1	40	2 ND SHAFT ASSEMBLE	1	60	WASHER	2			

SPECIFICATION OF MODELS

MODEL	LIFTING CAPACITY	AV. SPEED 50HZ	WIRE ROPE Dia x length	V	MOTOR (KW)	BODY DIMENSIONS (mm)						NW (KG)
						A	B	C	D	E	F	
JV-1020-13D03	200KG	11	6X30		0.5	142	210	142	474	265	78	29.7
JV-1025-13D03	250KG	11	6X30		0.55	142	210	142	486	265	78	30.2
JV-1030-13D03	300KG	11	6X30		0.75	142	210	142	527	265	78	33.6
JC-1025-16D05	250KG	13	6X50	1PH	0.75	161.3	220	186	556	280	78	34.5
JC-1025-17D12	250KG	14	6X120		1.1	161.3	220	186	666	280	105	56.5
JC-1030-16D05	300KG	13	6X50	240 V	1.1	161.3	220	186	556	280	78	38.3
JC-1050-16F03	500KG	18	8X30		1.8	160	250	206	661	295		57.4
PU-107-10G07	700KG	8	9X70		1.3	211	292	268	782	322		74.0
PU-1100-05H06	1000KG	4	10X60		1.3	211	292	268	782	322		80.5
PU-1120-10I105	1200KG	8	12X50		2	211	292	268	790	332		89.5
PU-1200-07J07	2000KG	6	14X70		2.2	320	420	283	826	435		130



BOAT RAMP WINCH APPLICATIONS QUICK GUIDE

MAXIMUM BOAT MASS*

	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 M DISTANCE
TIGER WINCH MODELS				
JV-1020-13D03	2200KG	900KG	750KG	400KG
JV-1025-13D03	2750KG	1100KG	950KG	500KG
JV-1025-17D12	2750KG	1100KG	950KG	500KG
JV-1030-13D03	3250KG	1300KG	1100KG	650KG
JC-1050-12D03	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

TROUBLE SHOOTING

WINCH WILL NOT RUN	
<u>PROBABLE CAUSE</u>	<u>CORRECTION</u>
Power failure No power at the winch	<p>NOTE: If your winch is fitted with an E stop Button is it pressed in – this is the most common problem with electrical supply.</p> <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

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

Along with our in-house design and winch manufacturing our comprehensive workshop also offers a full range of specialized machining capabilities including gear cutting, gear tooth and thread grinding, internal and external splining, CNC wire cutting, CNC slotting, CNC lathe and milling work, multi head intergex and much more.



This is just one example of our complement of modern gear cutting and grinding equipment

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:

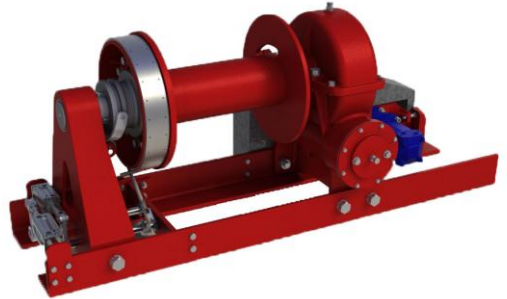
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PHONE 07 3875 1568 FAX 07 3277 4316
EMAIL - admin@winch.com.au



M18

PULLMASTER WINCHES

Industrial Planetary Hydraulic Winches for hoisting and hauling Applications.



W100

A.P.E. WORM GEAR WINCHES

DC Electric, Hydraulic or Mechanical varieties. Line Pull capacities from 8,000 to 100,000lbs



AM1026

BLUE SERIES WINCHES

240V Boat Ramp Winches with two sizes and number of options including radio remote control.



CUSTOM WINCH SOLUTIONS

Purpose designed and built winches for any application.