

COMEUP WINCH

CHAMPIONSHIP
WINCH



INSTRUCTION MANUAL



COMEUP WINCH

Automotive Winch

Limited One(1) Warranty for Mechanical Components
Limited One (1) Year Warranty for Electrical Components

WARRANTY

Comeup Industries Inc. (COMEUP) warrants to the original purchaser that the mechanical components and electrical components of the Comeup Blazer will be free of defects in material and workmanship for one (1) year. All Comeup mounting kits and other accessories carry one (1) year limited warranty against defects in material workmanship.

This warranty applies only to the original purchaser of the winch. To obtain any warranty service, the purchaser under this Limited Warranty is requested to advise COMEUP or its authorized distributors on any claim. The purchaser must provide a copy of the purchase receipt bearing the winch serial number, date of purchase, owners name, email or Tel & Fax, address and purchaser vehicle details. Any products that COMEUP determines to be accountable for defective will be repaired or replaced or refund at COMEUP sole discretion without charge to buyer upon buyer's compliance with these procedures. In the event of repair or replace, purchaser must send the defective winch or part, with freight prepaid, to COMEUP or its authorized distributor. And COMEUP will send the serviced product back to purchaser on COMEUP's cost. This warranty does not cover the removal or reinstallation of the winch.

COMEUP takes the responsibility for COMEUP winch parts and components to be free from defects in materials and workmanship, but the following portions are hereby excluded and disclaimed. COMEUP or its authorized distributors may make reasonable charges for parts and labour for repairs or resumption in the following portions not covered by this limited warranty.

- (1). All warranties of wire rope and synthetic rope assemblies after initial use
- (2). All warranties of fitness for a particular purpose
- (3). All warranties of the product's finish
- (4). All warranties of merchantability

The limited warranty does not cover any failure that results from improper installation/operation, third party part substitution, purchaser's alteration or modification on COMEUP winch. This warranty is void when COMEUP serial number plate is removed or defaced.

COMEUP's liability to the purchaser under the winch purchases for any loss or damage howsoever and whatsoever arising shall not exceed the price of the initial winch purchase receipt. COMEUP shall not in any event be liable to the purchaser for any consequential and/or indirect loss or damage whether for loss or for profit or otherwise, costs, expenses or other claims for consequential compensation whatsoever and whether caused by negligence of COMEUP employees, distributors and their employees or otherwise. COMEUP reserves the right to change product design without notice. In situations in which COMEUP has changed a product design, COMEUP shall have no obligation to upgrade or otherwise modify previously manufactured products.

COMEUP

Championship Winch

Thank you for purchasing a **COMEUP** Winch. This manual covers operation and maintenance of the winch. All information in this publication is based on the latest production information available at the time of printing. We reserve the right to make changes without notice because of continued product improvement.

The winch has been designed to give safe and dependable service if operated according to the instructions. Please read and understand this manual before installation and operation of winch. Careless winch operation can result in serious injury or property damage.

When requesting information or ordering replacement parts, always give the following information:

1. Winch Model and Voltage
2. Serial Number
3. Item. No. and Part Number
4. Part Description



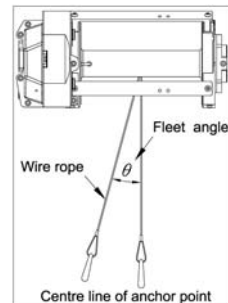
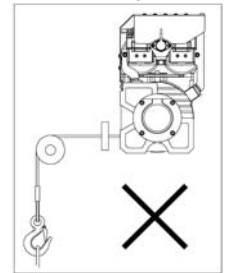
WARNING

1. This winch is a very powerful high-speed machine designed for application of competition or special demand and it is necessary to be required professional operators or competitors to operate properly. Treat with extreme care and observe all caution and warnings.
2. The winch is rated at the first layer of synthetic rope on the drum for intermittent-periodic duty.
3. The winch is not to be used to lift, support or otherwise transport personnel.
4. A minimum of ten (10) wraps of rope around the drum is necessary to support the rated load.
5. Keep clear of winch, rope, hook, and fairlead while operating.
6. Synthetic rope can break without warning. Always keep a safe distance from the winch and rope while under a load.
7. Remain a certain of tension on synthetic rope before winching. Surprise winching will result in the broken synthetic as well as crush deformation.
8. Failure to adequately align, support, or attach winch to a suitable mounting base could result in a loss of efficiency of performance or damage the winch, rope and mounting channel.

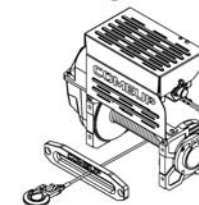
I. Safety Requirement

► General Rules

- ⚠ In some cases, the operator of a winch may be required to have qualifications according to applicable laws and ordinances.
- ⚠ Check safety and environmental conditions prior to and during use.
- ⚠ Only use correctly rated synthetic rope in construction, strength. Inspect for damage and/or defects before use.
- ⚠ Don't use an unsuitable hook and snatch block for rope.
- ⚠ The operator must remain with the winch during operation.
- ⚠ The winch duty rating is S3 (intermittent-periodic).
- ⚠ Do not use the winch as a lifting device or a hoist for vertical lifting and moving people
- ⚠ Ensure that the winch is connected to the correct power source such as hydraulic or 12V DC.
- ⚠ Do not exceed maximum line pull ratings. Shock load must not exceed these ratings.
- ⚠ Keep hands clear of synthetic rope and roller fairlead opening.
- ⚠ Pull from an angle below 10° in the horizontal plane to straighten up the vehicle or load.
- ⚠ Always use leather gloves when handling the synthetic rope.
- ⚠ When winching, always use a recovery damper. Place over the synthetic rope in the middle third of its length.
- ⚠ A synthetic rope should be replaced if it shows signs of excessive wear, broken strands, corrosion or any other defects.
- ⚠ If the winch fails to pull a load under normal conditions, stop the operation within 30 seconds, or motor damage may occur.
- ⚠ Check that the clutch T-handle is in the "Engaged" position during and after use.
- ⚠ Remove the remote control from the winch when not in use.
- ⚠ Do not wrap the synthetic rope around the load and back onto itself. Always use a tree truck strap.
- ⚠ Keep hands and clothes away from the winch, synthetic rope, and roller fairlead.
- ⚠ Never unplug the remote control when winching a load.
- ⚠ To avoid insufficient power when winching a load, the vehicle should be running and in neutral.
- ⚠ If noise or vibration occurs when running, stop the winch immediately and return it for repair.
- ⚠ The rope shall be wound in according to drum rotation sticker or refer to owner's manual.

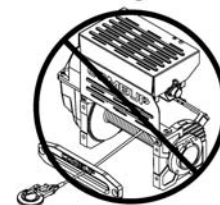


Right



Underwind

Wrong



Overwind

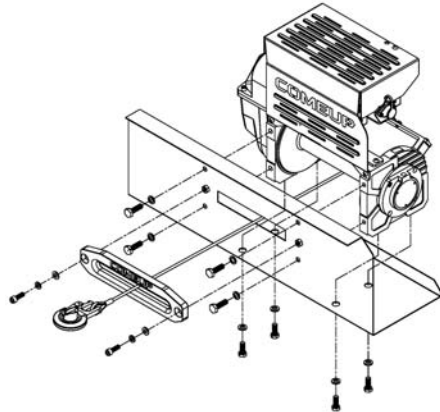
II. Performance Data

Rated line pull:	3,630 kg (8,000 lb) single line
Line speed (1 st layer):	50 mpm / 164 fpm 96 A at 12V at no load
Motor:	5,250 w / 7.0 hp 12V series wound x 2 pcs
Gear ratio:	3-stage spur gear train 33.5:1
Clutch (freespooling):	Air free-spooling
Brake (outside the drum):	Ratchet brake hold full load without slippage
Winch construction:	Aluminum die cast housings with steel drum
Drum size:	63.5 x 197 x 290 mm (2.5" x 7.8" x 11.4")
Control:	Waterproof remote with thermometric indicator LED w/ 5 m cord
Recommended rope:	Synthetic rope
Recommended rope size:	11 mm x 46 m (7/16" x 151')
Mounting bolts pattern:	330 mm x 114.3 mm (13" x 4.5")

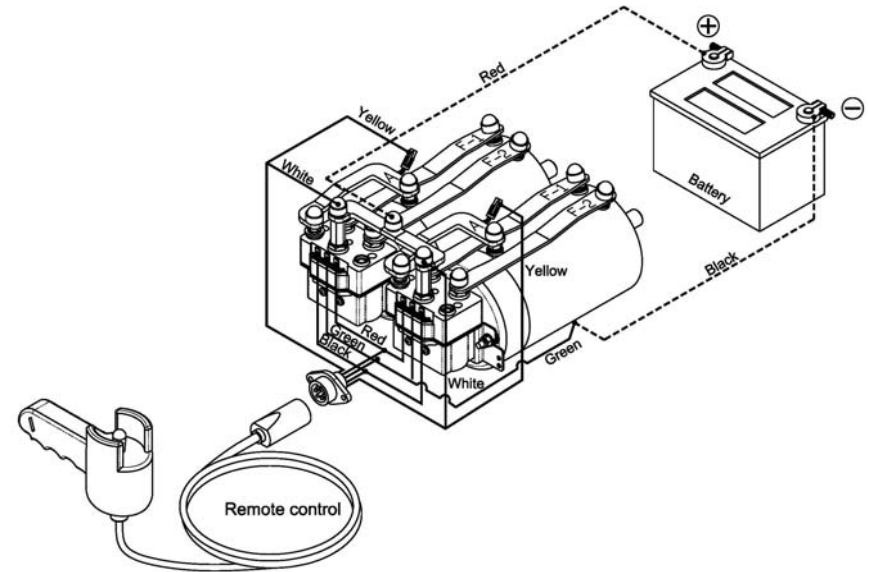
III. Winch Installations

► Mount the Winch

- It is very important that the winch will be mounted on a flat and hard surface of mounting channel in order to make sure the motor, drum and gearbox housing are aligned correctly.
- Hawse fairlead does not mount to the winch directly
- The synthetic rope shall be wound in an under-wound orientation only
- Four (8) M12 x 1.75 pitch 12.9 grade with 76 N-m torque settings (maximum) high tensile steel bolts must be used in order to sustain the loads imposed on the winch mounting.
- Two (2) M10 x 1.5 pitch 8.8 grade with 44 N-m torque settings (maximum) high tensile steel bolts must be used for fastening the hawse fairlead into the mounting channel.



► Wiring Diagram



The winch is supplied with twin 7.0 hp series wound motors and twin contactor kits each, please be compliance with the following wiring tips.

1. Use 2/0 AWG (America Wire Gauge for 60-70 mm² in area) lead (red) from the contactors kits to the positive (+) battery terminal.
2. Use 2/0 AWG (America Wire Gauge for 60-70 mm² in area) lead (black) from the grounding terminal of the motor to the negative (-) battery terminal.
3. Use thick copper buss bar of F-1, F-2 and A of the motors to the contactors
4. Link red wire of twin contactor in parallel for "Cable In" operation
5. Link black wire of twin contactor in parallel for "Cable Out" operation
6. Link green wire of twin contactor in parallel for earth grounding.
7. Link red, green and black wires to the remote socket
8. The recommended battery shall be 650 CCA minimum
9. Recommend the use of a 100 amp 12V plus alternator

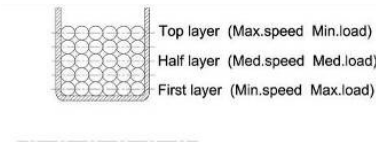
IV. Winching Principles

► Calculating Fleet Angle

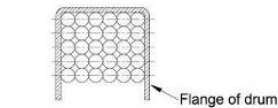
To obtain the best synthetic rope service, the direction of pull will be on a horizontal within ± 10 degrees and perpendicular to be centerline of the winch drum within ± 10 degrees. If the fleet angle is bigger than the recommended angles, a good spooling cannot be obtained as the rope will spoon on to one side of the rope drum.

► Load Rating

Load and speed varies according to how much synthetic rope is on the drum. The first layer of rope on the drum delivers the slowest speed and the maximum load. The top layer delivers the maximum speed and the minimum load. For this reason, Blazer winch is rated at their first layer capacities.



According to EN 14492-1 Section 5.7.2, the flanged drum end plates shall protrude beyond the rope wound on the drum at the top layer by at least 1.5 x the nominal rope diameter.



► Duty Cycle Ratings

The winch is rated at S3 10%ED & 1 min/10 min rating intermittent periodic duty.

► Securing Anchor Point

When choosing an anchor point, select a safe and firm point such as a tree, stump or rocks. If using a winch to retrieve another vehicle, the rescue vehicle is considered the anchor point and should be made secure.

The anchor point must be strong enough to hold the gross weight of the vehicle and be positioned to keep the fleet angle between the centre of the anchor point and the synthetic rope maintained less than 10° . Always use a tree trunk protector strap to prevent ring barking the tree and damaged to the synthetic rope.

► Required Pulling Force

You need a winch powerful enough to overcome the weight of your vehicle with the added resistance caused by the obstacle, moving water, mud, snow, sand or on a steep hill.

As a general guide, you need a winch with a maximum line pull of at least 1.5 times greater than the gross vehicle weight.

There are three factors listed that influence the line pull effect required to recover the vehicle. The values and calculations in this section are approximate and are for reference only.

- Gross vehicle weight
- Type of the surface to be traversed
- Gradient to overcome

In recovery and loading the winch is used to pull something, the required pulling force (RPF) can be calculated according to the formula:

$$RPF = (Wt \times S) + (Wt \times G) \quad \text{Where: } Wt = \text{The gross vehicle weight}$$

S = The type of the surface to be traversed

G = The gradient to overcome

Surface Type	Surface Drag (S)
Metal	0.15
Sand	0.18
Gravel	0.20
Soft Sand	0.22
Mud	0.32
Marsh	0.52
Clay	0.52

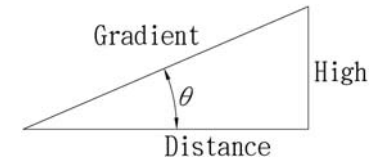
Gradient	Angle (θ)	Gradient (G)
5%	3°	0.06
10%	6°	0.11
20%	11°	0.2
30%	17°	0.3
50%	26°	0.44
70%	35°	0.58
100%	45°	0.71

For example, if a vehicle weighing 3,000 kg is winched up an incline by 100% on the marsh road,

the above formula would be used as follows:

Where Wt: 2,000 kg, S: 0.52 G: 0.71

$$\begin{aligned} RPF &= (Wt \times S) + (Wt \times G) \\ &= (2,000 \text{ kg} \times 0.52) + (2,000 \text{ kg} \times 0.71) \\ &= 1,040 \text{ kg} + 1,420 \text{ kg} \\ &= 2,460 \text{ kg} \approx 5,412 \text{ lb of effect required to recover} \\ &\text{the vehicle} \end{aligned}$$



A gradient of 10% is a rise of one meter in ten meters (High / Distance)

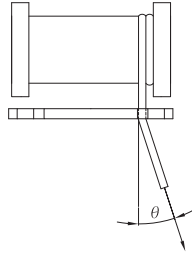
► Winching V.S. Hoisting.

A pulling winch should not be used for lifting. Please refer to Comeup's website to view our full range of lifting winches

V. Accessories

► Hawse Fairlead

The basic hawse fairlead is designed to guide the synthetic rope to and from the winch drum. Do not use cast steel hawse fairleads as they have sharp edges and they do not have enough radius for the rope to bend over.



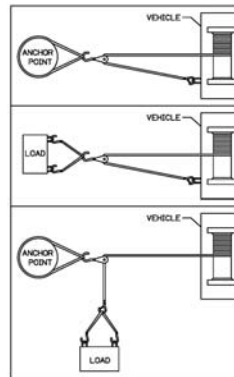
► Snatch Block

An important aid to successful winching is the use of snatch block, which can be used to increase the pulling power of a winch or change the direction of a pull.

A winch double lined with a snatch block creates a mechanical leverage cutting the effort required by half.

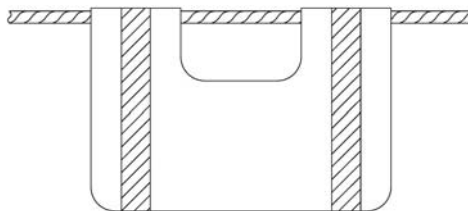
The double line pull shows self recovery using a snatch block attached to an anchor point; the pull applied to the vehicle is almost twice as much as the line pull of the winch.

The use of one snatch block shows an indirect pull where the vehicle is limited due to unsuitable ground or obstruction.



► Recovery Damper

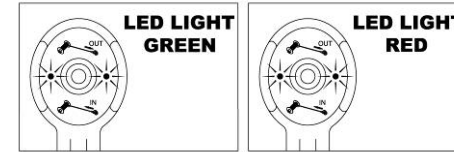
A recovery damper is a safety device designed to help eliminated the possibility of injury or property damage in the event of a synthetic rope failure. Place in the middle third of a live rope. The damper can help absorb the energy in the rope and reduce the likelihood of injury or damage.



VI. Operation

► Control with Thermal Sensor – Warning LEDs

The warning LEDs are shown on the remote control. You shall stop operation and allow winch to cool (Green LED) when the Red LED was illuminated.



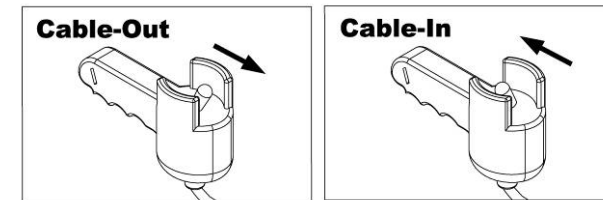
(Normal winching)

(Abnormal winching)

Functions	LEDs
Plug in the Winch	Green
Normal Winching Conditions	Green
Abnormal winching Conditions	Red
Stop the Winch	Green

► Cable-in / Cable-out Operation

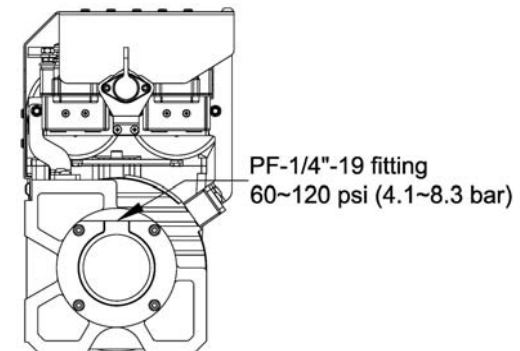
- 1).To determine “Cable - Out”, trigger → out
- 2).To determine “Cable - In”, trigger ← in
- 3).To stop winching, release the trigger



► Clutch Function

The air clutch must be in the “Engaged” position before winching.

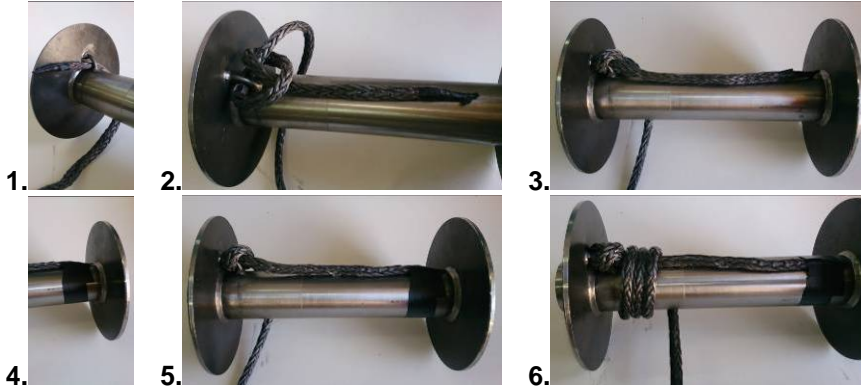
- 1). Apply air pressure to the PF-1/4”-19 fitting for with 60 - 120 psi (4.1 ~ 8.3 bar).
- 2). To disengage the drum by operating the air control valve to pull out the synthetic rope by hand. Pull out the synthetic rope but leave at least 10 wraps on the drum.
- 3). Engage the drum by moving the control valve lever to the appropriate position. Do not attempt to pull a load until the air clutch in the “Engaged” position.
- 4). Wear leather gloves and use a strap when guiding the synthetic rope on and off the drum.
- 5). The clutch can not be disengaged when the winch is under load



PF-1/4”-19 fitting
60~120 psi (4.1~8.3 bar)

► **Synthetic Rope Replacement**

- 1). Disengage the winch, remove existing rope and replace hawse if necessary.
- 2). Guide the new rope through the collar and make a firm self-knob (Fig 1 & 2).
- 3). Leave about 20 – 25 cm / 8” – 10” rope on the drum (Fig. 3) and Cut the lateral side of the end by 45° and apply 3 wraps of electrical tape to hold cut strands in place (Fig. 4).
- 4). Tighten and wrap the synthetic rope around the drum (Fig 5).
- 5). A minimum of ten (10) wraps of synthetic rope around the drum is necessary to support the rated load (Fig. 6).

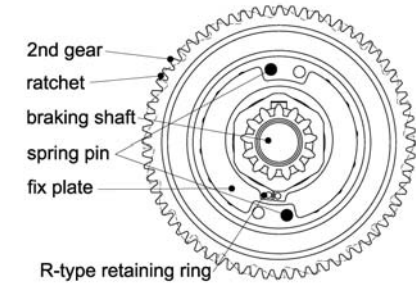


► **Tip for prolonging the life of Synthetic rope**

1. Regular maintenance and periodically check the rope for damage or wear
2. Since too much abrasion can damage or weaken your synthetic rope, protect your rope from rubbing against sharp objects or edge
3. An aluminum hawse fairlead is highly recommended since it has no sharp edges and resists damage more easily than a roller fairlead
4. Keeping your synthetic rope clean and dry. To clean it after a muddy ride, spool out the rope, rinse it with a hose, and let it dry completely before re-spooling

► **Brake Adjustment**

- Braking device is composed of a mechanic ratchet brake and, in general, it is not essential to have the brake adjusted, unless the brake distance from the time of braking until stopping is beyond 1.5% of rope length to the wound in during 1 minute.
- It is highly recommended that any adjustments are carried out by a qualified technician at an authorized service centre.
- Brake adjustment procedures.
 - Step 1. Disassemble the winch.
 - Step 2. Remove retaining ring and spring pin.
 - Step 3. Tighten 2nd gear and braking shaft clockwise until holding to the ratchet.
 - Step 4. Find the closed pole between spring pins and fit plate (two pair of hole among 8 pairs), then put the fix plate onto the hex hole of braking shaft.
 - Step 5. Insert spring pins and lock retaining ring.
 - Step 6. Reassemble the winch.



► **Lubrication**

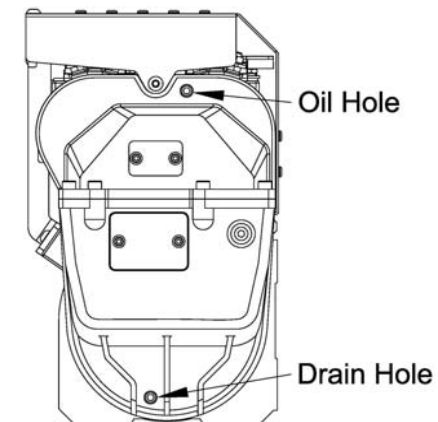
The lubrication for gear box and brake assembly with proper oil or equivalent quality in insuring the long life of your winch will have a great influence.

Quality: Shell Omala 460; BP Energol GR-XP 460 ; Castrol Alpha SP-460; Mobil XMP460
Esso Spartan EP460

Viscosity(cSt): 457.81 mm²/s at 40°C and 29.83 mm²/s at 100°C

Quantity: 1.2 litre

Intervals: The lubrication frequency is based on the working hours. in general, it is essential to replace oil every three months or 20 working hours at lease



VII. Maintenance Schedule

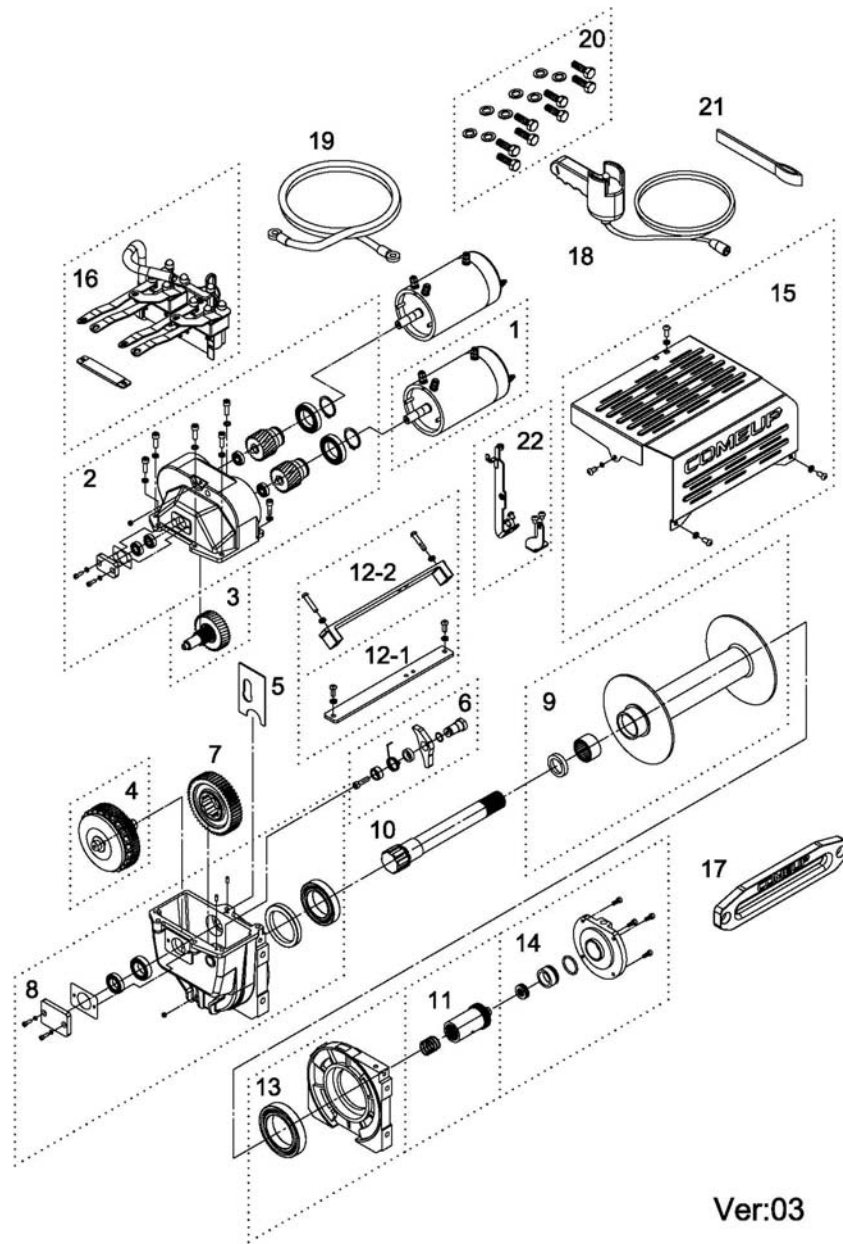
- Ensure that a responsible person carries out all inspections as per schedule.
- Inspections are divided into Daily, Monthly and Quarterly.

Classification of check			Item	Checking method	Checking reference	
Daily	Periodical					
	Monthly	Quarterly				
○			Installation	Loosening and center run-out of foundation	Checking of installing bolts	Existence of abnormalities
○			Remote control	Working	Manual	Reasonable actuation
		○		Wearing in contact points	Visual	Free of wear or damage
○			Synthetic rope	Broken strands	Visual, measuring	Two or more adjacent strands are
○	○			Decrease in rope diameter	Visual, measuring	25% of nominal diameter max
○				Fused or melted fibers	Visual	Existence of abnormalities
○				Fastening condition of end	Visual	Existence of abnormalities
		○	Clutch	Wearing of handle	Operating	To be free from remarkable wearing and damage
		○	Motor	Staining, damage	Decomposition checking	Existence of abnormalities
		○	Brake	Wearing of brake disc	Decomposition checking	To be free from remarkable wearing and damage
○				Performance	Visual	Reasonable actuation
		○	Gear	Damage, wearing	Decomposition checking	To be free from remarkable wearing and damage
○	○			Low oil level	Visual	Replenish oil

VIII. Trouble Shooting

Symptom	Possible Cause	Remedy
Winch will not operate	Cut circuit	Check battery lead
	Weak battery	Recharge or replace battery (at least 650CCA)
	Damaged over-load protector(option)	Replace over-load protector(option)
	Bad connection of wiring	Reconnect tightly
	Damaged contactor	Replace contactor
	Cut circuit on switch	Replace switch
	Damaged motor or worn carbon brush	Replace motor or carbon brush
	Poor or lost connections to motor	Replace wiring or tighten it
Motor runs in one direction	Broken wiring or bad connections	Reconnect or replace wiring
	Damaged or stuck contactor	Replace contactor
	Switch inoperative	Replace switch
Drum will not clutch	Clutch does not disengage	Replace clutch
	Damaged 1 st shaft	Replace 1 st shaft
	Damaged brake cam and disc	Replace brake cam and disc
No brake	Damaged output shaft	Replace output shaft
	The gear train is mechanically binding up	Check to insure the winch is mounted on a flat, rigid surface
	Damaged brake cam and disc	Replace brake cam and disc
	Damaged gear box	Replace gear box
	Broken retaining ring	Replace retaining ring
	Oil leakage into brake cavity	Repair and clean oil leakage
Brake distance is too long	Damaged or inoperative spiral spring	Replace and position spiral spring
	Worn brake disc or loose brake spacer	Replace brake disc or adjust brake spacer according to brake adjustment procedures
	Oil leakage into brake cavity	Repair and clean oil leakage
Brake will be locked	Too much brake disc powder in the brake hub	Clean brake hub
	Over tensioned spiral spring	Adjust tension on spiral spring
	Stuck between brake disc and gear box	Replace with new brake assembly
Damaged gear box	Hit by certain exterior force	Replace the damaged components
	Damaged gear train	Replace the damaged components
	Over load operation	Stop the winch operation and reduce the load
Motor runs extremely hot	Long period of operation	Allow to cool
	Damaged motor	Replace or repair motor
	Damaged or inoperative brake	Replace or repair brake

IX. Replacement Parts List



Ver:03

Item No.	Description	Part No.	Qty
1	Motor 12V	882698	2
2	Motor support rack kit	882699	1
3	1 st gear kit	882700	1
4	2 nd gear kit	882701	1
5	Stopper	882702	1
6	Ratchet stopper kit	882703	1
7	3 rd gear kit	882704	1
8	Gear box kit	882705	1
9	Drum kit	882706	1
10	Transmitter shaft	882707	1
11	Clutch socket kit	882708	1
12-1	Tie bar kit	882709	1
12-2	Tie bar kit	882769	1
13	Gearbox support rack kit	882710	1
14	Air inlet cover kit	882712	1
15	Guard cover kit	882713	1
16	Control pack 12V	882714	1
17	Hawse fairlead	882697	1
18	Remote control	880126	1
19	Grounding lead	882720	1
20	Mounting hardware	882721	1
21	Handsaver strap	880026	1
22	Motor bracket kit	882757	1

COMEUP WINCH

COMEUP INDUSTRIES INC.

No. 112, Nanyang St., Xizhi Dist., New Taipei City, Taiwan 22152
Tel: +886-2-26947011 Fax: + 886-2-26947503
E-mail: info@comeup.com.tw
<http://www.comeupwinch.com>
<http://www.comeupwinch-blazer.com>

PN 882722 Ver:0

Specifications subject to change without notice.