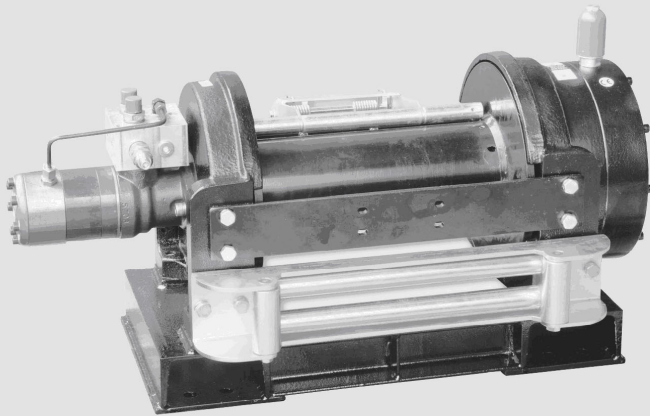




Model:HV-20000

Your First Winching Solution



● INSTRUCTION  
MANUAL

Hydraulic  
Recovery  
Winch





## Hydraulic Recovery Winch

Thanks for purchasing a **COME UP** 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.

### General Safety Precautions

A **COME UP** Winch is designed to give safe and dependable service if operated according to the instructions. Read and understand this manual before installation and operation of winch.

Follow these general safety precautions:

- Don't use unsuitable snatch block or accessories.
- Don't use unsuitable wire rope in construction, strength or having any defects.
- Check the winch for smooth operation without load before winching operation.
- Make sure the wire rope is wound evenly on the first layer on the drum, rewind it if not evenly wound.



1. The winch is rated for intermittent-periodic duty.
2. The winch is not to be used to lift, support or otherwise transport personnel.
3. A minimum of five (5) wraps of rope around the drum are necessary to support the rated load.
4. When choosing the right winch, you need to consider the vehicle size and weight. As a general guide, you need a winch with a maximum load rating of at least one and a half times greater than the gross vehicle weight.
5. The rated line pull of the winch must be powerful enough to overcome the added resistance caused by whatever the vehicle is stuck in.

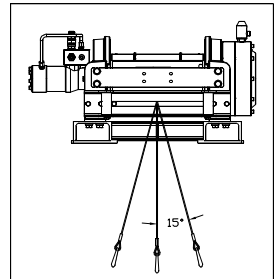
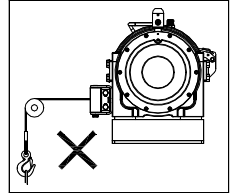
## I. Safety Precaution

Please read and understand this Instruction Manual before installing your winch.

- ⚠ Don't use unsuitable wire rope in construction, strength or having any defects.
- ⚠ Don't use unsuitable hook and snatch block for wire rope.
- ⚠ The operator of winch in some cases may be required to have qualification according to applicable laws and ordinances.
- ⚠ Do not use winch as a lifting device or a hoist for vertical lifting
- ⚠ Do not use winch to move people.
- ⚠ Do not exceed maximum line pull ratings shown in tables.

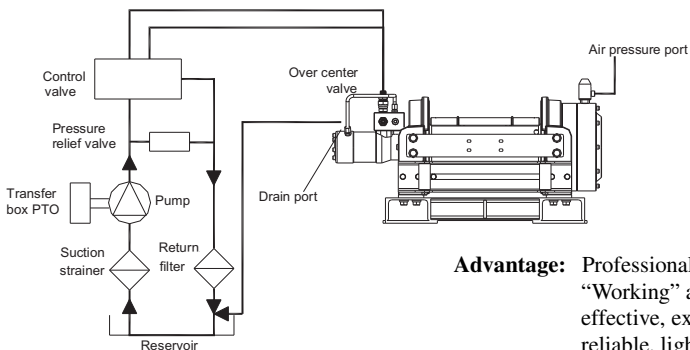
Shock load must not exceed these ratings.

- ⚠ Keep hands clear of wire rope and fairlead opening.
- ⚠ Pull from a fleet angle below 15 degree to straighten up the vehicle or load. The improper fleet angle could increase wear and tear on the winch and the wire rope.
- ⚠ Use leather gloves or a heavy rag when handling the wire rope.
- ⚠ When winching a heavy load lay a heavy blanket or jacket over the wire rope near the hook end.



## Hydraulic System Installation

(Powered by PTO / power take off unit driven pump)



**Advantage:** Professional winch system for “Working” applications, cost effective, extremely powerful, reliable, light weight and variable line speed for high work rate.

### As a general rule:

- ▶ The hydraulic system shown above must contain over center valve, control valve and pressure relief valve for having the winch operated correctly. Failure to use the correct valves may result in damage to the winch, property, or personal injury.
- ▶ The relief valve must be set at the winch operating pressure and does not exceed the rated pressure. Failure to use the correct pressure and flow may result in damage to the winch, property or personal injury.
- ▶ The hydraulic pressure or flow lower than those ratings for the winch may result in a lower line pull or lower line speed.
- ▶ The bigger nominal bore hose, the better winch performance.
- ▶ Keeping cleanliness and accuracy on the hydraulic system installation are essential to have hydraulic system functioned properly
- ▶ Pressure and flow loss is increased as hose length increases or hose size decreases.
- ▶ Pressure and return lines in excess of 3.5 meter ( 11.5" ) should be compensated with an increase in nominal hose size
- ▶ Setting range of 70~210 bar and pilot ratio of 4.1:1 for over center valve are recommended.

## II. Performance Data

### ▶ Specification

Model		HV-20000
Line Pull kg / lb		9,090 / 20,000
Line Speed mpm / fpm		7.2 / 23.6
Operation pressure		172 bar / 2,500 psi
Max. oil flow		15.9 g / min ( 60 l / min)
Motor	Displacement	125 cm <sup>3</sup> / rev 7.6 in <sup>3</sup> / rev
	Rotation	Anti-clockwise
Gear train	Type	2 stage planetary gear
	Ratio	32:1
Freespool		One way rotating ring gear
Brake		Spring-applied, multi-disc brake integrated in motor

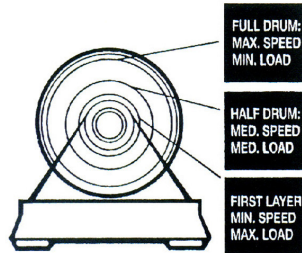
### ▶ Line Pull and Speed

Model		HV-20000
1st layer	Line pull kg / lb	9,090 / 20,000
	Line speed mpm / fpm	7.2 / 23.6
	Rope cap m / ft	12.3 / 40.7
2nd layer	Line pull kg / lb	7,690 / 16,918
	Line speed mpm / fpm	8.5 / 27.9
	Rope cap m / ft	26.8 / 88.7
3rd layer	Line pull kg / lb	6,664 / 14,661
	Line speed mpm / fpm	9.8 / 32.2
	Rope cap m / ft	43.6 / 144.4
4th layer	Line pull kg / lb	5,880 / 12,936
	Line speed mpm / fpm	11.1 / 36.4
	Rope cap m / ft	62.6 / 207.4
5th layer	Line pull kg / lb	5,260 / 11,572
	Line speed mpm / fpm	12.4 / 40.7
	Rope cap m / ft	80 / 265

The performance listed is applicable only when using the recommended wire rope of 14 mm X 80 m ( 9/16" X 265' ) 6 X W(19) + IWRC

### ► How Winch Are Rated

Load and speed vary according to how much wire rope is on the drum. The first layer of rope on the drum delivers the slowest speed and the maximum load. A full drum delivers the maximum speed and the minimum load. For this reason, winches are rated on their performance on the first layer of wire rope on the drum.

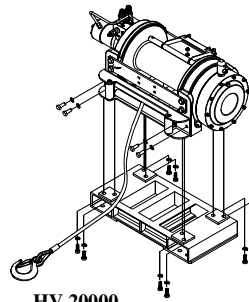


### III. Installation

Before using the winch, make sure all components have no corrosion or defect; the environment should be clear and dry.

#### ► Mounting

1. It is very important to have the winch mounted on a flat and hard base plate within 0.5 mm (0.2”) in order to make sure the motor, drum and gearbox housing are aligned correctly. Failure to align adequately could damage the performance of winch, wire rope or base plate.



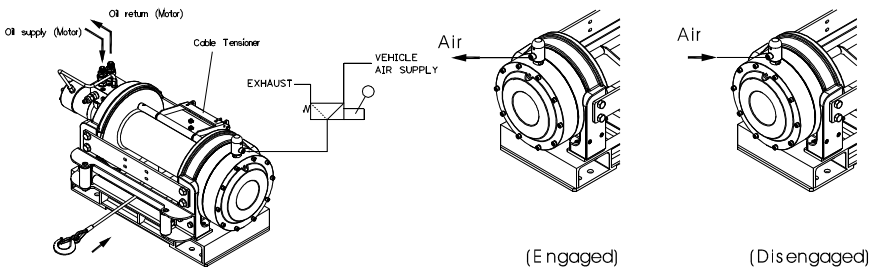
2. The winch should be mounted as closed to center and as perpendicular as possible to the direction of the line pull.
3. The tie bars supplied with the winch must remain attached when winch is foot mounted.
4. All the eight (8) M16 X 50, 12.9 grade high tensile steel bolts must be used in order to sustain the loads imposed on the winch mounting
5. All the four (4) M10 X 25, 12.9 grade high tensile steel bolts must be used for the fastening of roller fairlead to the winch.

#### ► Air Freespool Function

The freespool allows rapid unwinding of the wire rope for hooking onto a load or anchor points and is operated by the air freespool.

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

- 1).To disengage the drum by operating the air control valve to pull out the wire rope by hand. Pull out the wire rope but leave at least 5 wraps on the drum.
- 2).To engage the drum by moving the control valve lever to the appropriate position. Do not attempt to pull a load until the air freespool in the “Engaged” position.
- 3).Wear leather gloves and use a hand-saver strap when guiding the wire rope out of the drum.
- 4).It cannot be freespoiled when the load is under load.
- 5).Port A for oil supply and B for oil return from the reservoir.



## **IV. Maintenance**

### **► Lubrication**

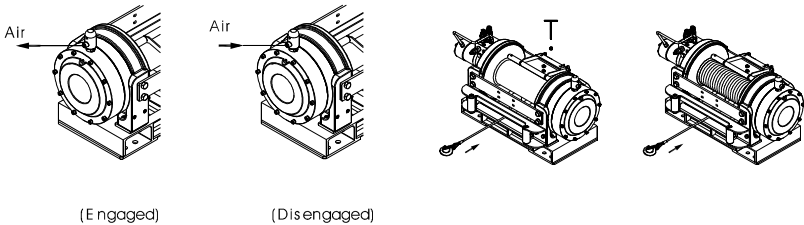
Before running a new winch, or a winch which has been out of action for a long time, it is important to make sure the gear box and freespool have been filled with the correct amount and quality of grease. A winch is pre-lubricated at the factory and does not require initial and frequent lubrication.

Model	Gear Box	Freespool Handle
HV-20000	Shell Albida Grease EP 2 (0.75 liter)	Light oil

### ► Wire Rope Replacement

Before installing a new wire rope, wrap the end of the wire rope with tape to prevent fraying. Wind the wire rope on the drum by pull a force to keep the tension constant. Never use a wire rope of a different size or material and only use genuine wire ropes.

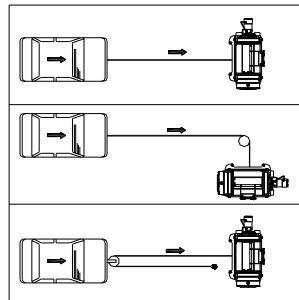
- 1). Disengage the freespool.
- 2). Spool the old wire rope, and then remove it from the drum.
- 3). Take horizontal roller and bolts of roller fairlead apart, then place the replacement wire rope through the roller fairlead opening, pass below the drum, and insert it into the hole on the drum core.
- 4). Use a hex wrench to tighten the screw downwards to secure the wire rope.
- 5). Tighten the horizontal roller and bolt of roller fairlead
- 6). Wear leather gloves and use a strap when guiding the wire rope off the drum.



### ► Recovery Procedures

Following are some safety tips to get out of trouble during a recovery.

- 1). Using a snatch block will increase the capacity, but the speed will decrease accordingly.
- 2). Experience has shown the best wire rope service is obtained when the maximum fleet angle is not more than 15 degree. Keep the wire rope as close as possible to the center line of the anchor point
- 3). It is the best to work with the most of wire rope unwound from the drum to get more pulling power, but a minimum of five(5) wraps of wire rope must be wound around the drum to support the rated load.



► **Maintenance Schedule**

- Ensure that a responsible person carries out all inspections as per schedule.
- Inspections are divided into Daily, Monthly and 3 Monthly.

Classification of check			Checking item	Checking method	Checking reference	
Daily	Periodical					
	One month	Three month				
○			Installation	Loosening and center run-out of foundation	Checking of installing bolts	Existence of abnormalities
○			Wire rope	Breaking of base wire	Visual	Less than 10%
○	○			Decreasing of diameter	Visual, measuring(one month)	7%of nominal diameter max
○				Deforming or corrosion	Visual	To be not remarkable
○				Fastening condition of end	Visual	To be sufficient for hanging up of load
		○		Freespool	Wearing of handle	Operating
		○	Motor	Staining, damage	decomposition checking	Existence of abnormalities
○			Brake	Performance	Visual	Reasonable actuation
		○	Gear	Damage, wearing	Decomposition checking	To be free from remarkable wearing and damage
	○		Grease	Incorrect grease	Visual	Replenish grease
○	○			Low grease level	Visual	Add grease



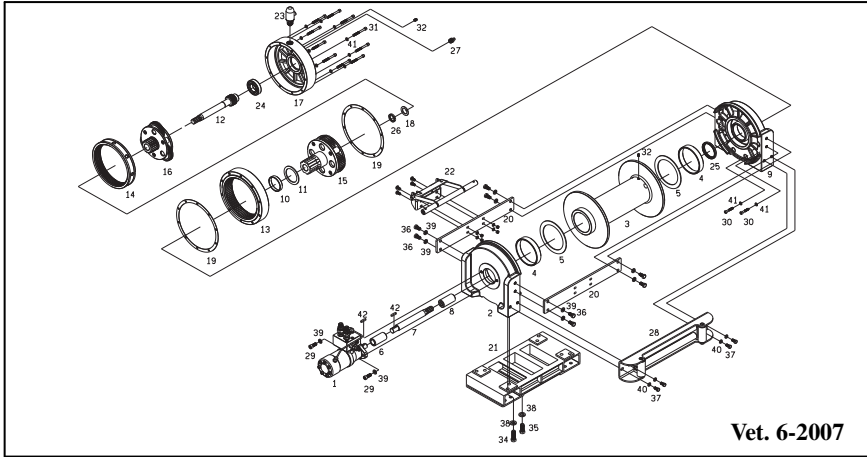
## V. Trouble Shooting

When winch fails to respond after several attempts, or if there are any defective operation check followings:

Symptom	Possible Cause	Remedy
Fails in start	Disconnection of power	Reconnect hydraulic power
	Gear damaged	Deliver winch to distributor for repair
Unsatisfied running	Overload	Reduce load
	Motor worn out	Replace motor
	Not enough oil pressure	Check oil pressure
	Not enough oil flow	Check oil flow
Freespool does not function	Damaged freespool handle	Deliver winch to your distributor for repair
	Insecure mounting	Check mounting and aligned
Grease leakage	Damaged drum seal	Replace drum seal
	Damaged drum	Replace drum
	Damaged motor and gearbox seal	Replace seals
Excessive noise	Low oil level	Refill oil
	Oil flow too high	Check oil flow rate
Fail in immediate stop after power off	Damaged braking system in motor and over center valve	Deliver winch to your distributor for repair
Drum noise	Insecure mounting	Check mounting
	Low oil flow	Check flow rate
	Low relief	Check relief valve setting

## VI. Replacement Parts List

### ► HV-20000



No.	Description	Qty	No.	Description	Qty	No.	Description	Qty
1	Hydraulic motor	1	18	Plain washer	1	35	Hex bolt	8
2	Motor support rack	1	19	Anti-leakage packing A	1	36	Hex bolt	4
3	Drum	1	20	Tie bar	2	37	Spring washer	16
4	Drum bushing	2	21	Base plate	2	38	Spring washer	10
5	Plain washer	2	22	Cable tensioner	2	39	Spring washer	4
6	Connecting socket	1	23	Air freespool	1	40	Spring washer	20
7	Connecting shaft	1	24	Bearing	1	41	Double round key	2
8	Socket	1	25	Oil seal	1		Foot print	
9	Gearbox support rack	1	26	Oil seal	1			
10	Bushing	1	27	Nozzle	1			
11	Plain washer	1	28	Roller fairlead	1			
12	2 <sup>nd</sup> ring gear	1	29	Hex bolt	2			
13	1 <sup>st</sup> ring gear	1	30	Hex bolt	10			
14	Ring	1	31	Hex bolt	10			
15	2 <sup>nd</sup> stage carrier	1	32	Hex bolt	1			
16	1 <sup>st</sup> stage carrier	1	33	Hex bolt	1			
17	Gear box	1	34	Hex bolt	16			

## Limited Warranty

This Limited Warranty is given by the Comeup Industries Inc. (the "Seller") to the original purchaser (the "Purchaser") of a **COMEUP** Winch specified in this manual. This Limited Warranty is not transferable to any other party.

The Seller takes the responsibility for all parts and components, with the exception of the wire rope, motor and electric parts to be free from defects in materials and workmanship appearing under normal use for as long as the said Purchaser owns the vehicle that the winch was originally mounted on. Electrical components are warranted for 1 Year from date of purchase under the same conditions. Any **COMEUP** Winch, which is defective, will be repaired or replaced without charge to the Purchaser.

Upon discovering any defect, the Purchaser under this Limited Warranty is requested to return the complete winch and inform the seller or their authorized distributors of any claims. The Purchaser must provide a copy of the proof of purchase bearing the winch serial number, date of purchase, owners name and address, vehicle details and registration number.

The Limited Warranty does not cover any failure that results from improper installation, operation or the Purchaser's modification in design. The winch is designed for vehicle self-recovery use only and should not be used in industrial applications or for moving people. The Seller does not warrant them to be suitable for such use.

