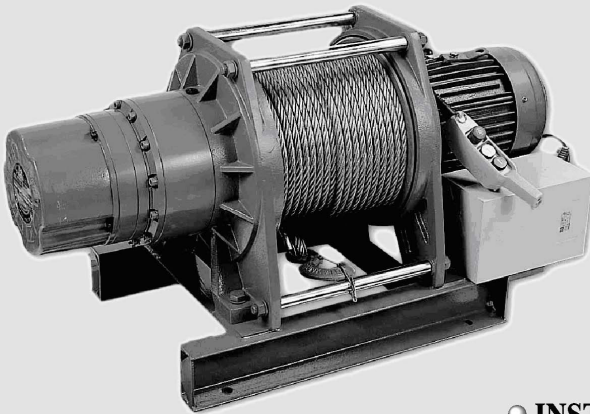




**Model: CWG-30375
CWG-30565
CWG-30750
CWG-31500
CWG-34000**

Your First Winching Solution



**○ INSTRUCTION
MANUAL**

**Electric
Winch**





Electric Winch

Thank you 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

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 the winch.

Follow these general safety precautions:



- Confirm that the winch complies with the using conditions
- It is very important that the winch shall be mounted on a flat hard surface in order to make sure the motor, drum and gearbox housing are aligned correctly
- Don't use unsuitable accessories concerned.
- Don't use unsuitable wire rope in construction , strength or having any defects.
- Pay attention to the grounding , it provides a path of least resistance for electric current to reduce the risk of shock.
- Check the winch for smooth operation without load before loading operation.
- Make sure the wire rope to be wound evenly in the first layer on the drum, rewind it if a mixed windings in existence.
- Wire rope can break without warning. Always keep a safe distance from the winch and wire rope while under a load. Consult the wire rope manufacturer for wire rope ratings and maintenance procedures.
- Failure to adequately align, support, or attach winch to a suitable mounting base could result in a loss of efficiency or premature failure of winch, wire rope, or mounting base.



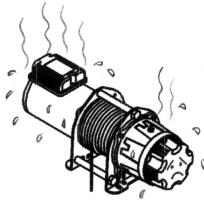
The winch is not to be used to lift, support or otherwise transport personnel.

A minimum of five(5) wraps of rope around the drum is necessary to support the load rated.

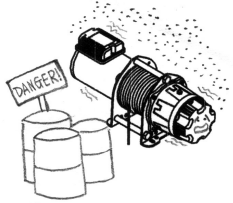
Environment Precautions

 DANGER	
	●The following environmental conditions may result in the possible causes of winch trouble.

- Low temperature below -10°C ,high temperature above 40°C or humidity above 90% conditions



- In a organic chemistry or explosive powder condition

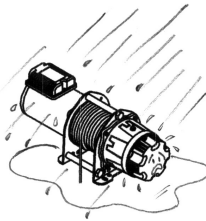


※ Cause malfunction of spare parts

※ Cause explosion

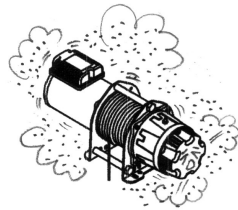
- In heavy acid or salty conditions

※ Cause malfunction of spare parts



- In the rain or snow
 - ※ Cause rust or short circuit

- In a heavy general powder



※ Cause malfunction of performances

I. Specification & Standard Accessories

1-1. Specification

Model	Gear Ratio	Drum Size(mm)			Load Rated (kg)		Speed(M/min)		Motor kw X P	Power Source	Percentage Duty Cycle
		Length	Empty Drum Diameter	Full Drum Diameter	50Hz	60Hz	50Hz	60Hz			
CWG-30375	48:1	230	127	275	900	800	13 ~ 20.6	15.6 ~ 24.7	3.8 x 4	3 Phase 200V 220V 380V 400V 415V 440V	25% ED
							8.5 ~ 13.5	10.2 ~ 16.2	2.2 x 6		
CWG-30565	50:1	312	140	320	1,100	1,000	14 ~ 25	16.8 ~ 30	5.5 x 4		
							9.2 ~ 16.4	11 ~ 20	3.8 x 6		
CWG-30750	127:1	312	178	410	2,200	1,800	6.9 ~ 12.6	8.3 ~ 15.1	5.5 x 4		
							4.5 ~ 8.3	5.4 ~ 10	3.8 x 6		
CWG-31500	192:1	405	356	570	3,500	3,000	5.8 ~ 8.0	7 ~ 9.6	5.5 x 6		
							4.4 ~ 6.1	5.3 ~ 7.3	3.8 x 8		
CWG-34000	197:1	680	324	570	5,000	4,000	8.0 ~ 12.2	10 ~ 15	11 x 4		
							5.3 ~ 8.0	6.4 ~ 10	7.5 x 6		

Percentage duty cycle: The ratio of overall operating hours of motor to the working hours including the pause hours of the motor. It's expressed by percentage. Percentage Duty Cycle (%ED)= $\frac{T_b}{T_b+T_s} \times 100(\%)$

Tb=Total sum of loading hours Ts=Total sum of stopping hours Tb + Ts = Approximately 1 to 10min

1-2. Accessories

Model	Wire Rope	24 VAC Control	Switch		Safety Hook	Base Plate
			CPB-61	PB-306		
CWG-30375	Ø10mm x 60 m	V	V	*	V	V
CWG-30565	Ø12mm x 100 m	V	V	*	V	V
CWG-30750	Ø16mm x 100 m	V	V	*	V	V
CWG-31500	Ø18mm x 150 m	V	V	*	V	V
CWG-34000	Ø22.4mm x 200 m	V	V	*	V	V

Remark: V means standard accessory
* means option accessory

II. Performance Data

2-1. CWG-30375 / 30565

Model		CWG-30375		CWG-30565		
Motor	kw x p	3.8 X 4	2.2 X 6	5.5 X 4	3.8 X 6	
Wire Rope	Size Breaking	mm	10.0	12.0		
		kg	5,020	6,680		
1 st Layer	Rated Load (kg)	50Hz	1,420	1,960		
		60Hz	1,265	1,790		
	Speed (m/min)	50Hz	13	8.5	14	9.2
		60Hz	15.6	10.2	16.8	11.0
Rope-Winding Cumulating Sum (m)			9.5	11.9		
2 nd Layer	Rated Load (kg)	50Hz	1,240	1,700		
		60Hz	1,100	1,550		
	Speed (m/min)	50Hz	14.9	9.8	16.2	10.6
		60Hz	17.9	11.7	19.4	12.7
Rope-Winding Cumulating Sum (m)			20.3	25.8		
3 rd Layer	Rated Load (kg)	50Hz	1,100	1,500		
		60Hz	980	1,350		
	Speed (m/min)	50Hz	16.8	11.1	18.4	12.1
		60Hz	20.2	12	22.1	14.5
Rope-Winding Cumulating Sum (m)			32.6	41.5		
4 th Layer	Rated Load (kg)	50Hz	990	1,330		
		60Hz	880	1,200		
	Speed (m/min)	50Hz	18.7	12.2	20.6	13.5
		60Hz	22.4	14.7	24.7	16.2
Rope-Winding Cumulating Sum (m)			46.2	59.1		
5 th Layer	Rated Load (kg)	50Hz	900	1,200		
		60Hz	800	1,100		
	Speed (M/min)	50Hz	20.6	13.5	22.8	15.0
		60Hz	24.7	16.2	27.4	17.9
Rope-Winding Cumulating Sum (m)			60	78.5		
6 th Layer	Rated Load (kg)	50Hz	*	1,100		
		60Hz	*	1,000		
	Speed (m/min)	50Hz	*	25.0	16.4	
		60Hz	*	30.0	19.7	
Rope-Winding Cumulating Sum (m)			*	100		

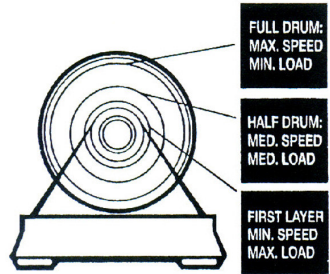
2-2. CWG-30750 / 31500 / 34000

Model		CWG-30750		CWG-31500		CWG-34000		
Motor	kw x p	5.5 X 4	3.8 X 6	5.5 X 6	3.8 X 8	11 X 4	7.5 X 6	
Wire Rope	Size Breaking	mm	16	18	22.4			
		kg	11,900	15,000	23,300			
1 st Layer	Rated Load (kg)	50Hz	4,000	4,800	7,500			
		60Hz	3,300	4,100	6,000			
	Speed (m/min)	50Hz	6.9	4.5	5.8	4.4	8.0	5.3
		60Hz	8.3	5.4	7.0	5.3	9.6	6.3
Rope-Winding Cumulating Sum (m)			11.3	25.3	31.9			
2 nd Layer	Rated Load (kg)	50Hz	3,400	4,400	6,700			
		60Hz	2,800	3,800	5,300			
	Speed (m/min)	50Hz	8.1	5.3	6.4	1.8	9.1	5.9
		60Hz	9.7	6.3	7.6	5.7	10.9	7.1
Rope-Winding Cumulating Sum (m)			24.4	53	68			
3 rd Layer	Rated Load (kg)	50Hz	3,000	4,000	6,000			
		60Hz	2,400	3,400	4,800			
	Speed (m/min)	50Hz	9.2	6	6.9	5.2	10.1	6.6
		60Hz	11.1	7.2	8.3	6.3	12.1	7.9
Rope-Winding Cumulating Sum (m)			39.4	83.1	108.2			
4 th Layer	Rated Load (kg)	50Hz	2,700	3,700	5,400			
		60Hz	2,200	3,200	4,300			
	Speed (m/min)	50Hz	10.4	6.8	7.5	5.6	11.1	7.3
		60Hz	12.4	8.1	9.0	6.8	13.4	8.8
Rope-Winding Cumulating Sum (m)			56.3	115.6	152.6			
5 th Layer	Rated Load kg)	50Hz	2,400	3,500	5,000			
		60Hz	2,000	3,000	4,000			
	Speed (M/min)	50Hz	11.5	7.5	8.0	6.1	12.2	8.0
		60Hz	13.8	9.0	9.7	7.3	14.6	9.6
Rope-Winding Cumulating Sum (m)			75	150	200			
6 th Layer	Rated Load kg)	50Hz	2,200	*	*			
		60Hz	1,800	*	*			
	Speed (m/min)	50Hz	12.6	8.3	*	*		
		60Hz	15.2	9.9	*	*		
Rope-Winding Cumulating Sum (m)			100	*	*			

III. Winching Principles

3-1. Load Rated

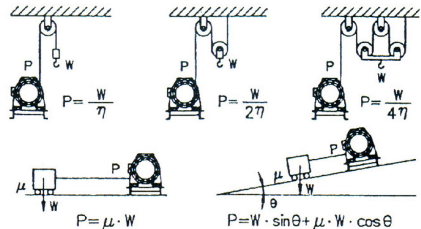
Load and speed vary according to how much wire rope is on the drum. The first layer of rope on the drum delivers the slowest speed and the maximum load. A full drum delivers the maximum speed and the minimum load. For this reason, winches are rated at their full drum capacities.



3-2. Calculating Head Load

► η sheave coefficient:

No. of sheaves	1	2
Roller bearing	0.98	0.96
Sleeve bearing	0.96	0.92



P: Rope tension η : Sheave coefficient
 θ : Angle W: Load μ : Friction factor

3-3. Cart Puller Capacity

► Choose the right winch

In most pulling applications you are dealing with a rolling road rather than pulling a dead weight. Resistance to rolling is mostly influenced by the load, rolling resistance, track gradient, track curvature, track conditions.

Load: Calculate the total weight of all the loaded cart to be moved simultaneously.

Rolling resistance: Resistance to rolling is influenced by the wheel journals, type of lubrication used and the ambient temperature

Track gradient: For each one percent gradient, a rise of one meter for every 100 meter of track, the running line pull must be increased by 10 kg per ton

Track curvature: To overcome the effects of wheels binding against rails on curved sections of track, running line pull must be increase. For each degree of curvature, the running line pull must be increased by 1kg per ton

Track conditions: The condition of substandard track can vary considerably. .

► Application condition example

- 1). Horizontal dual direction pulling of a rolling cart in and out of an oven using a single wire rope extending from the winch drum
- 2). 50 ton total load being moved included weight of cart
- 3). Steel cart wheels with precision wheel bearing
- 4). New track, 5° curvature and 2% gradient

► Railcar Pulling Capacity

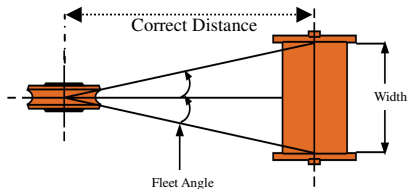
- 1). Pull required per ton being moved: 10kg.
- 2). Total load being pulled: 80 ton
- 3). Required cart puller capacity

80 ton... total weight being moved x (10 kg+20+5 kg) 2,800 kg x <u>1.2</u> 3,360 kg 3,500 kg	10kg.... Pull required per ton being moved 20kg.... For each one percent gradient, the running line pull must be increased by 10 kg/ton 5kg... For each one degree of curvature, the running line pull must be increased by 1 kg/ton20% contingency for unpredictable track or cart conditionsMinimum calculated cart puller capacitySelected CWG-31500 winch rating 3,500 kg
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3-4. Calculating Fleet Angle

- The winch should be mounted as close to center and as perpendicular as possible to the direction of the line pull. This will keep the wire rope fleet angle centered on the drum as small as possible.
- If the proper fleet angle is not maintained, the wire rope could wind onto one side of the drum. This could cause failure of the winch or wire rope, resulting in damage, injury or death.
- Experience has shown that the best wire rope service is obtained when the maximum fleet angle is not more than 1.5° for smooth drums.
- Therefore the correct distance between center of drum and of should be derived as follow.
- Fleet angle of 1.5° is the equivalents of approximately 19 cm of lead for each centimeter of overall drum width.

CALCULATING FLEET ANGLE



Model	Drum Width (mm)	Fleet Angle	Correct Distance (m)
CWG-30375	230	1.5°	4.4
CWG-30565	312		6
CWG-30750	312		6
CWG-31500	405		7.7
CWG-34000	680		13

3-5. Lubricant Specifications

►For CWG-30750

All moving parts in the winch are permanently lubricated at the time of assembly. Under normal conditions factory lubrication will suffice. If re-lubrication is necessary after repair or disassembly use Castrol Alpha Spherol L-EP 2 grease, 150 Viscosity (cSt) at 40 degree C.

►For CWG-31500 & 34000

Gear lubrication is an important component in insuring the long life of your winch. The type of lubricant will have a great influence. The gear oil your winch was shipped with is Castrol Alpha Series, SP-460, a viscosity (cSt) is 457.81/29.83 at 40°C/100°C. Consult your local lubricant distributor on the selection that best fits your climate and application.

The initial lubricant should be changed after the first 10 hours of operation. Subsequent changes should be scheduled every 250 hours of operation or annually.

3-6. Wire Rope Selection in Vertical Lifting

Model	Recommended Wire Rope				Safety Factor	
	Dia. mm	Length (m)	Const.	Breaking Load (kg)	50Hz	60Hz
CWG-30375	10	60	6 x 24	4,640	5.1	5.8
CWG-30565	12	100	6 x 24	6,680	6	6.6
CWG-30750	16	100	6 x 24	11,900	5.4	6.6
CWG-31500	18	150	6 x 24	15,000	4.2	5
CWG-34000	22.4	200	6 x 24	23,300	4.6	5.8

► * means standard version on delivery, other size may be equipped upon request.

► The minimum safety factor for most pulling & anchor handing winch and lifting & lowering winch is 3.5 and 5.5each.

3-7. Cable Selection

Model	Power Lead	Switch cord	
		CPB-61 assembly	PB-306 assembly / Option
CWG-30375	5.5 mm ²	1.25 mm ²	1.25 mm ²
CWG-30565	5.5 mm ²	1.25 mm ²	1.25 mm ²
CWG-30750	5.5 mm ²	1.25 mm ²	1.25 mm ²
CWG-31500	5.5 mm ²	1.25 mm ²	1.25 mm ²
CWG-34000	5.5 mm ²	1.25 mm ²	1.25 mm ²

► The length of motor cable are subject to the distance less than 30 meters.

► The length of switch cable are subject to the distance less than 30 meters.

► For any other cases, the cable should use a bigger section.

IV. Maintenance and Inspection

The specified person performs the checking of winch.

Divide the checking into daily checking and periodic checking

The checking items, checking method and checking reference in daily checking and periodic checking are to be in accordance with checking reference 1 & 2.

4-1. Checking Reference1

Classification of checks				Checking Item	Checking Method	Checking Reference	
Daily	Periodical						
	One month	Three month	One year				
			◎	Marking	Lable and the like	Visual	Existence of label
		◎		Installation	Winding-in direction of wire rope	Visual , measuring	Fleet angle θ =within 1.5 degree
		◎			Loosing and centre run-out foundation	Checking of installing bolts	Existence of abnormalities
◎				Control/Switch	Working	Manual	Reasonable actuation
	◎				Condition of clamping of wiring	Decomposition checking	Confirming of accuracy of fastening condition
		◎			Wearing of contact point	Decomposition checking	To be free from remarkable wearing and damage
		◎			Outer damage of cable	Visual	To be free from exposure of conductive wire
◎	◎				Attaching condition of earth line	Visual	Existence of abnormalities of connecting wires
		◎			Condition of insulation	Measure with 500v insulation-Resistance tester	1MΩ min
			◎		Motor	Condition of insulation	Measure with resistance tester
			◎	Staining damage		Decomposition check	Existance of abnormalities
	◎			Brake	Loosing of set screws	Decomposition check	To be free from loosening
		◎			Wearing of lining	Decomposition check	To be free from remarkable wear and damage
◎	◎				Performance	Visual	Distance to be not more than 1.5% of rope length to be wound-in during 1 minute
			◎	Gear	Damage , wearing	Decomposition check	To be free from remarkable wear and damage
		◎			Condition of grease feeding	Measuring	Existence of suitability of amount and deterioration with grease Mobilux EP2.Shell Unedo 2 or Esso Beacon EP2

4-2. Checking Reference

Classification of Checks				Checking Item	Checking Method	Checking Reference	
Daily	Periodical						
	One month	Three month	One year				
◎				Wire Rope	Breaking of base wire	Visual	Less than 10%
◎					Decreasing of diameter	Visual	7% of normal diameter max
◎					Kink phenomena run-out of foundation	Visual	To be free from kink phenomena
◎					Deforming or corrosion	Visual	To be not remarkable
◎					Fastening condition of end	Visual	To be sufficient for hanging up of load
◎					Condition of rope winding-in	Visual	To be free from irregular winding
◎					Condition of feed oil	Visual	To be not insufficient in feed-out
	◎				Confirming of dead turn of rope	Visual	Confirming of normalities of operating-out
◎	◎			Frame	Structure	Visual	To be free cracks, rupture harmful deformation
◎	◎			Drum	Return of flange	Visual	To be free cracks, rupture, harmful deformation
		◎			Wear of drum	Visual	To be free from remarkable wearing
◎				Operation	Rotary direction	Visual	Winding-in direction is normal
◎					Rotary abnormal sound	Hear out	To be free from oscillation and impact sound
			◎		Over load test	Working	Existence of abnormalities

V. Trouble Shooting

When winch fails to start after several attempts, or if any defective operation to be happened, check followings:

Observed Abnormal	Possible Cause	Solution
No reaction	Wrong connection	Connect correctly
	No power source	Check power source
Motor buzzes but does not start	Brake does not open	Check brake ass'y
	Wrong connection	Connect correctly
	Burnt or communicated motor	Rewind or replace motor
Failing in restarting	Overload	
	Brake does not open	Check brake ass'y
	Damaged wiring on the control box	Check the wiring diagram
Failing in lifting a load within the lifting capacity	Considerable voltage drop (It can provoke non-opening of brake)	Check voltage to make sure the voltage shall be falling within 5% of rated voltage
	Brake does not open	Check brake ass'y
	Burnt or communicated motor	Rewind or replace motor
	Wrong motor cable in size and length	Collect the motor cable in size and use a bigger section of cable for longer distance
Brake does not open completely	Considerable voltage drop (It can provoke non-opening of brake)	Check voltage to make sure the voltage shall be falling within 5% of rated voltage
	Damaged brake coil	Measure the standard value and replace brake coil
	Improper brake gap	Adjust brake gap
	Brake disc wear down	Replace brake disc
Crossed rotation	Wrong connection	Connect the wirings correctly
Grease leakage	Damaged oil seal	Replace oil seal

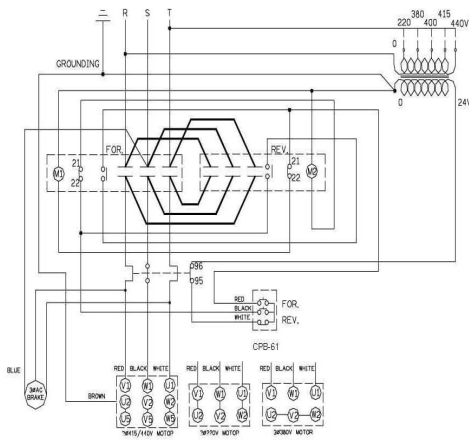
5-1. Standard value for brake disc

Model	CWG-30375				CWG-30565			
	220V	380V	415V	440V	220V	380V	415V	440V
AC Voltage	220V	380V	415V	440V	220V	380V	415V	440V
Black & blue wires	25Ω	96Ω	117Ω	115Ω	28Ω	108Ω	138Ω	126Ω
Black & red wires	11Ω	42Ω	51Ω	51Ω	12Ω	36Ω	48Ω	56Ω
Red & blue wires	14Ω	54Ω	66Ω	65Ω	15Ω	45Ω	71Ω	70Ω

Model	CWG-30750/CWG-31500				CWG-34000			
	220V	380V	415V	440V	220V	380V	415V	440V
AC Voltage	220V	380V	415V	440V	220V	380V	415V	440V
Black & blue wires	28Ω	108Ω	128Ω	126Ω	9Ω	27Ω	42Ω	41Ω
Black & red wires	12Ω	48Ω	57Ω	56Ω	4Ω	17Ω	19Ω	18Ω
Red & blue wires	15Ω	54Ω	71Ω	70Ω	5Ω	15Ω	24Ω	23Ω

VI. Wiring Diagram

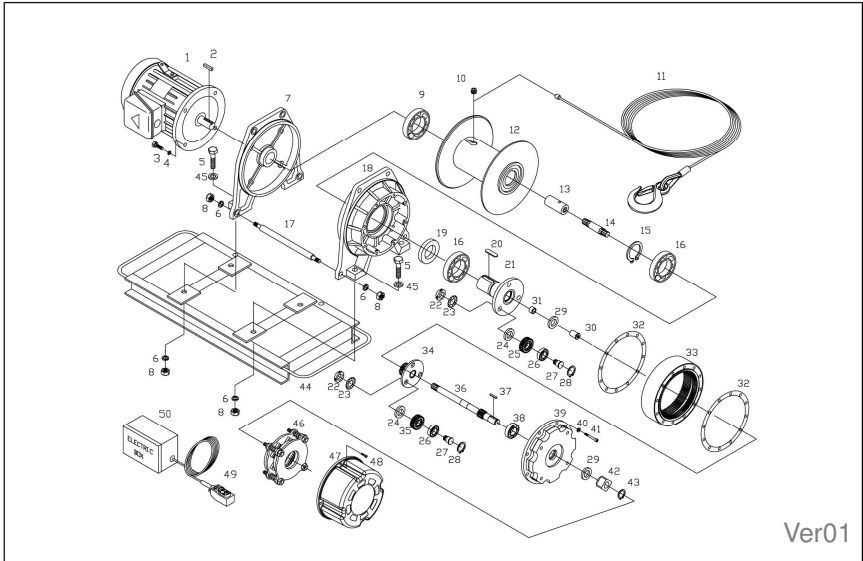
CWG-30750
 CWG-31500
 CWG-34000



3Ø 220V
 3Ø 380V
 3Ø 400V
 3Ø 415V
 3Ø 440V

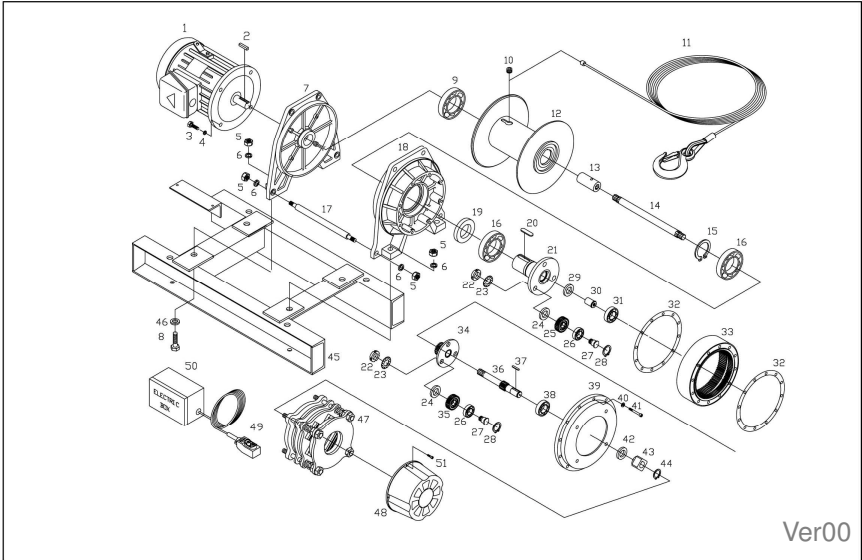
VII. Replacement parts List

► CWG-30375



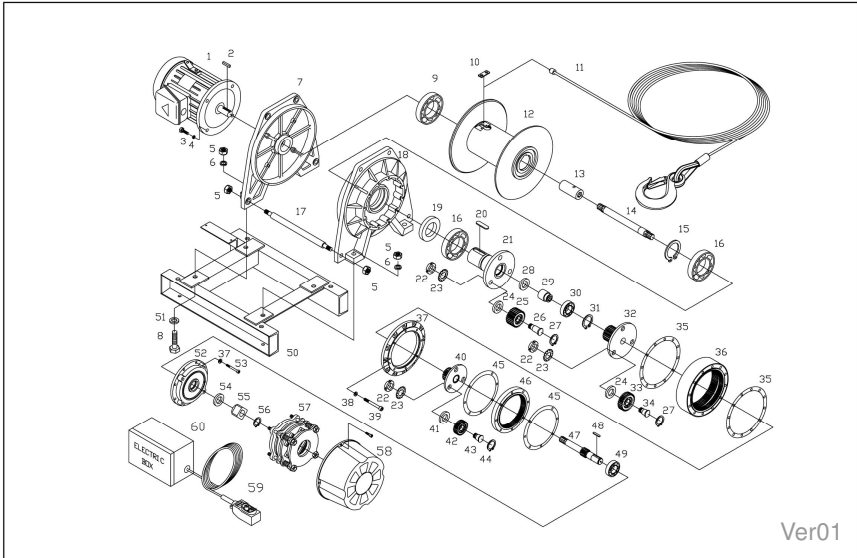
No	Description	Q'ty	No	Description	Q'ty	No	Description	Q'ty
1	Induction Motor	1	18	Base support rack	1	35	1 st planetary gear	3
2	Key	1	19	Oil seal	1	36	1 st shaft	1
3	Hex. bolt	4	20	Key	1	37	Key	1
4	Spring washer	4	21	Output shaft	1	38	Bearing	1
5	Hex. bolt	4	22	Nut	6	39	Brake base	1
6	Spring washer	12	23	Washer	6	40	Spring washer	8
7	Motor support rack	1	24	Ring	6	41	Hex. bolt	8
8	Nut	12	25	2 nd planetary gear	3	42	Sleeve	1
9	Bearing	1	26	Bearing	6	43	C-ring	1
10	P.T. Screw	1	27	Planetary wheel shaft	6	44	Base plate	1
11	Wire rope w/hook	1	28	C- ring	6	45	Plain washer	4
12	Drum	1	29	Oil seal	1	46	Brake ass'y	1
13	Connecting socket	1	30	Socket	1	47	Brake rear cover	1
14	Connecting shaft	1	31	Bearing	1	48	Hex. bolt	4
15	C- ring	1	32	Packing	2	49	Remote control	1
16	Bearing	2	33	Inner pinion	1	50	Low voltage congtrrol	1
17	Sleeve	4	34	2 nd shaft	1			

► CWG-30565



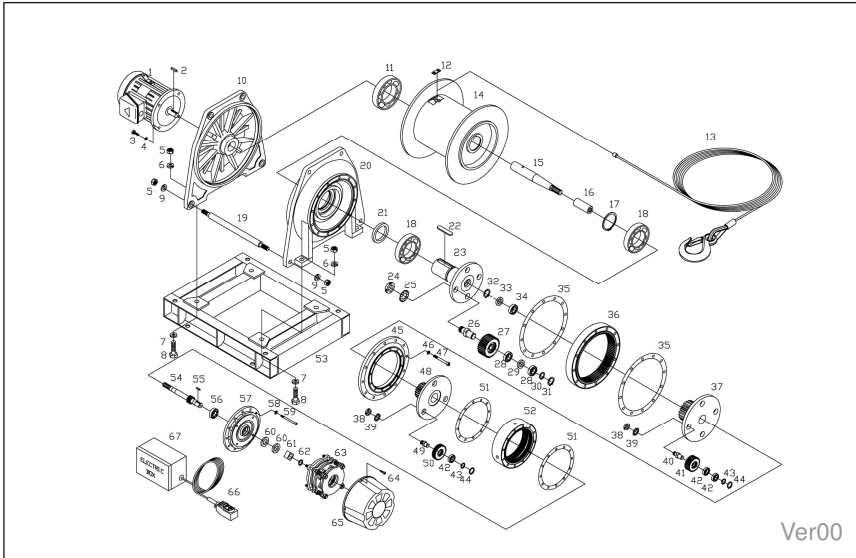
No	Description	Q'ty	No	Description	Q'ty	No	Description	Q'ty
1	Induction Motor	1	18	Base support rack	1	35	1 st planetary gear	3
2	Key	1	19	Oil seal	1	36	1 st shaft	1
3	Hex. bolt	4	20	Key	1	37	Key	1
4	Spring washer	4	21	Output shaft	1	38	Bearing	1
5	Nut	12	22	Nut	6	39	Brake base	1
6	Spring washer	12	23	Washer	6	40	Spring washer	12
7	Motor support rack	1	24	Ring	6	41	Hex. bolt	12
8	Hex. bolt	4	25	2 nd planetary gear	3	42	Oil seal	1
9	Bearing	1	26	Bearing	6	43	Transmitting sleeve	1
10	P.T. Screw	1	27	Planetary wheel shaft	6	44	C-ring	1
11	Wire rope w/hook	1	28	C-ring	6	45	Base plate	1
12	Drum	1	29	Oil seal	1	46	Base plate	4
13	Connecting socket	1	30	Socket	1	47	Brake ass'y	1
14	Connecting shaft	1	31	Bearing	1	48	Brake rear cover	1
15	C-ring	1	32	Packing	2	49	Remote control	1
16	Bearing	1	33	Inner pinion	1	50	Low voltage control	1
17	Sleeve	4	34	2 nd shaft	1	51	Hex. bolt	4

► CWG-30750



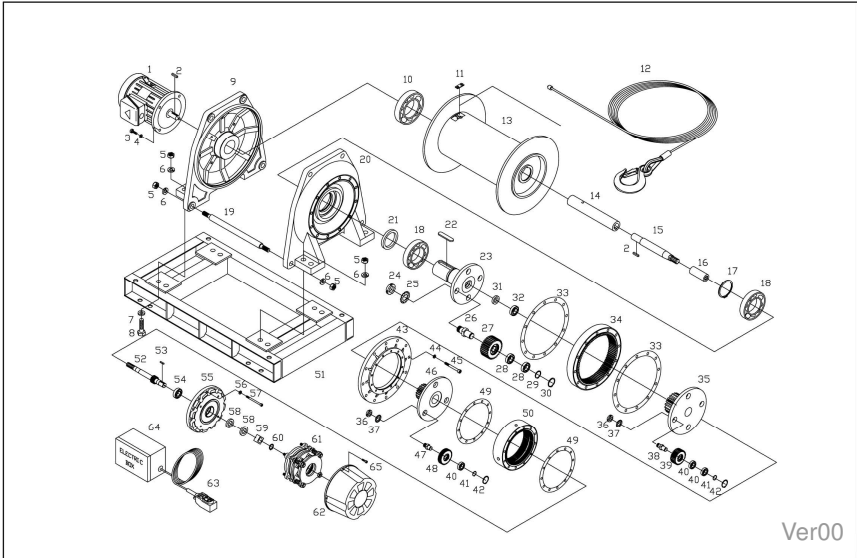
No	Description	Q'ty	No	Description	Q'ty	No	Description	Q'ty
1	Induction motor	1	21	Output shaft	1	41	Ring A	3
2	Key	1	22	Nut	9	42	1 st planetary pinion	3
3	Hex. bolt	4	23	Washer	9	43	1 st planetary pinion	3
4	Spring washer	4	24	Ring	6	44	Retaining ring	3
5	Nut	12	25	3 rd Planetary pinion	3	45	Packing	2
6	Spring washer	4	26	3 rd Planetary shaft	3	46	1 st inner gear	1
7	Motor support rack	1	27	C-ring	6	47	1 st shaft	1
8	Hex. bolt	4	28	Oil seal	1	48	Key	1
9	Bearing	1	29	Socket	1	49	Bearing	1
10	Drum fixture plate	1	30	Bearing	1	50	Base plate	1
11	wire rope w/hook	1	31	Retaining ring	1	51	Plain washer	4
12	Drum	1	32	3 rd shaft	1	52	Brake base	1
13	Connecting socket	1	33	2 nd planetary gear	3	53	Hex. bolt	8
14	Connecting shaft	1	34	2 nd planetary shaft	3	54	Oil seal	1
15	Retaining ring	1	35	Packing	2	55	Transmitting sleeve	1
16	Bearing	2	36	1 st & 2 nd inside gear	1	56	Retaining ring	1
17	sleeve	4	37	Fixture plate	1	57	Brake ass'y	1
18	Base support rack	1	38	Spring washer	20	58	Brake rear cover	1
19	Oil seal	1	39	Hex. bolt	12	59	Remote control	1
20	Key	1	40	2 nd shaft	1	60	Low voltage control	1

► CWG-31500



No	Description	Q'ty	No	Description	Q'ty	No	Description	Q'ty
1	Induction motor	1	24	Nut	4	47	Hex. bolt	12
2	Key	1	25	Washer	4	48	2 nd shaft	1
3	Hex. bolt	4	26	3 rd Planetary pinion	4	49	1 st planetary pinion	3
4	Spring washer	4	27	3 rd Planetary gear	4	50	1 st planetary gear	3
5	Nut	12	28	Bearing	8	51	Packing	2
6	Plain washer	4	29	Washer	4	52	1 st & 2 nd inside gear	1
7	Spring washer	4	30	Retaining ring	4	53	Base plate	1
8	Hex. bolt	4	31	Retaining ring	4	54	1 st shaft	1
9	Spring washer	8	32	Retaining ring	1	55	Key	1
10	Motor support rack	1	33	Oil seal	1	56	Bearing	1
11	Bearing	1	34	Bearing	1	57	Brake base	1
12	Drum fixture plate	1	35	Bearing	1	58	Spring washer	12
13	Wire rope w/hook	1	36	3 rd inside gear	1	59	Hex. bolt	12
14	Drum	1	37	3 rd shaft	1	60	Oil seal	2
15	Connecting socket	1	38	Nut	7	61	Transmitting sleeve	1
16	Transmitting socket	1	39	Washer	7	62	Retaining ring	1
17	Retaining ring	1	40	2 nd planetary pinion	4	63	Brake ass'y	1
18	Bearing	2	41	2 nd planetary gear	4	64	Hex. bolt	4
19	Bolt	4	42	Bearing	11	65	Brake rear cover	1
20	Base support rack	1	43	Retaining ring	7	66	Remote control	1
21	Oil seal	1	44	Retaining ring	7	67	Low voltage control	1
22	Key	1	45	Fixture plate	1			
23	Output shaft	1	46	Spring washer	12			

► CWG-34000



No	Description	Q'ty	No	Description	Q'ty	No	Description	Q'ty
1	Induction motor	1	23	Output shaft	1	45	Hex screw	12
2	Key	2	24	Nut	4	46	2 nd shaft	1
3	Hex. bolt	4	25	Washer	4	47	1 st planetary pinion	3
4	Spring washer	4	26	3 rd Planetary pinion	4	48	1 st planetary gear	3
5	Hex. bolt	16	27	3 rd Planetary gear	4	49	Packing	2
6	Plain washer	16	28	Bearing	8	50	1 st & 2 nd inside gear	1
7	Spring washer	8	29	Retaining ring	1	51	Base plate	1
8	Nut	8	30	Retaining ring	4	52	1 st shaft	1
9	Motor support rack	1	31	Oil seal	1	53	Key	1
10	Bearing	1	32	Bearing	1	54	Bearing	1
11	Drum fixture plate	1	33	Packing	2	55	Brake base	1
12	Wire rope w/hook	1	34	3 rd inside gear	1	56	Spring washer	12
13	Drum	1	35	3 rd shaft	1	57	Hex. screw	12
14	Connecting socket	1	36	Nut	7	58	Oil seal	2
15	Connecting shaft	1	37	Washer	7	59	Transmitting sleeve	1
16	Transmitting sleeve	1	38	2 nd planetary pinion	4	60	Retaining ring	1
17	Retaining ring	1	39	2 nd planetary gear	4	61	Brake ass'y	1
18	Bearing	2	40	Bearing	7	62	Brake rear cover	1
19	Sleeve	4	41	Retaining ring	7	63	Remote control	1
20	Base support rack	1	42	Retaining ring	7	64	Low voltage control	1
21	Oil seal	1	43	Fixture plate	1	65	Hex. screw	4
22	Key	1	44	Spring washer	12			

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, 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 authorised 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.

CWG02-2008-02-2000