



**Model: CWL-80
CWL-200/200L
CWL-301/301L**



● **INSTRUCTION
MANUAL**

**Compact
Winch**





Compact 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

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 the winch.

Follow these general safety precautions:

- Confirm that the winch complies with the using conditions.
- Keep the winch secure strongly and the rope is not wound to be deviated to the drum.
- Don't use unsuitable pulleys or accessories concerned.
- Don't use unsuitable 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.




- 1.The winch is not to be used to life, support or otherwise transport personnel.
- 2.A minimum of five(5) wraps of rope around the drum is necessary to support the load rated.
- 3.Come-Up takes no responsibility for the subsequent performance of mechanical components if oil possessing properties other than what Come-Up recommends is used

I. Performance Data

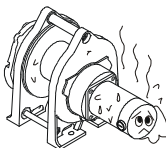
► Specification

MODEL		CWL-80	CWL-200L	CWL-301	CWL-301L	CWL-200
Lifting load (kg)		80	200	300	300	200
Speed (M / min.) top layer		25	16	25	25	16
Power source		50/60 Hz single phase 110V or 220 / 240V				
Motor	type	series wound				
	Output	110V	0.3 x 6		x	1.2 x 12
		220/240V	0.3 x 6		2.3 x 11	1.2 x 6
Braking	for motor	electromagnetic brake				
methods	for gear	mechanical brake				
Duty cycle percentage		25% ED				
Wire rope	diameter(mm)	4	5	6	6	5
	length(M)	24	71	30	55	46
	construction	6 x 19	6 x 19	6 x 19	6 x 19	6 x 19

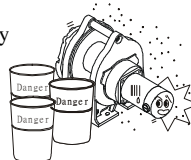
► General Safety Precaution

 Danger	
	<ul style="list-style-type: none"> The following environmental conditions may result in the possible causes of which trouble.

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

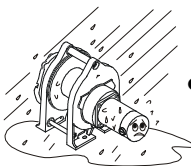


- In a organic chemistry or explosive power conditions.
*Cause explosion

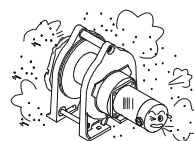


- In heavy acid or salty conditions
*Cause malfunction of spare pares

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



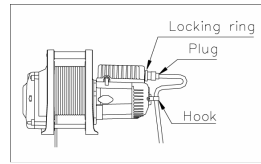
- In a heavy general powder conditions
* Cause malfunction of performances



II. Methods of Operation

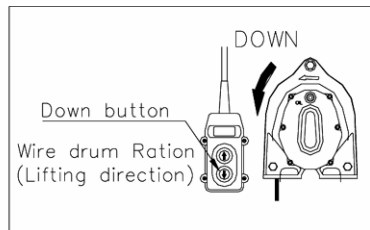
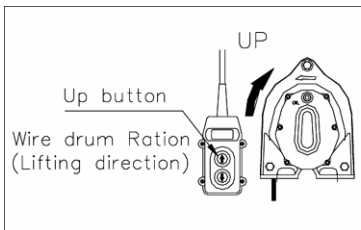
► Plug Insertion

- Insert the plug of switch cable into the receptacle of the winch. Tighten it by turning the locking ring clockwise.
- Be sure to fix the switch cable by snap hook. Do not allow the cable to be caught by wire rope and drum.



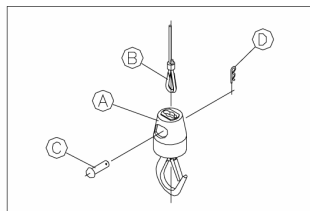
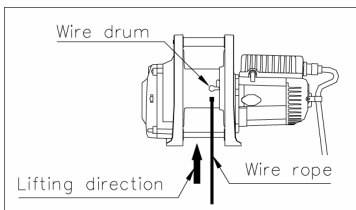
► Up And Down Control

- To lift a load, press the up button, the drum will rotate in the lifting direction.
- To lower a load, press the down button, the drum will rotate in the lowering direction.



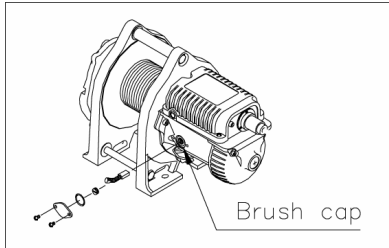
► Wire Rope Replacement

- Insert the wire rope into the hole of drum and fix it with a P. T. screw, then press the "UP" button of switch for rotate the drum in the lifting direction.
- Wind the wire rope accurately around the drum, and an irregular winding will cause the load to be swing, thus damaging the wire and reducing the lift of winch.
- When replacing, according to the following procedures.
 - * Pull out a R-dowel "D" from the round head pin "C".
 - * Pull out a round head pin "Cc from hook body "A".
 - * Put a wire rope "B" into the hole of hook body "A", and insert a round head pin "C" through wire rope and fixture hole of hook body "A".
 - * Insert a R-dower "D" into the hole of round head pin "C".



► Carbon Brush Replacement

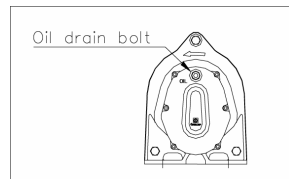
- The carbon brush can be used for about 100 working hours.
- It shall be replaced immediately if its length left to 7.5mm.
- Any negligence of replacement of it may do cause damage to motor.
- Remove the brush cap and replace it accordingly.



► Oil Replacement

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-220, a viscosity (cSt) is 226.14/19.5 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 of 100 cc for CWL-80 and 300 cc for others should be scheduled every 250 hours of operation or annually.



► Cables Recommendations

WINCH MODEL	POWER CABLE	SWITCH CABLE
CWL-80	1.5 mm ² x 3C x 3M	1.25 mm ² x 6C x 3M
CWL-200/200L	2.0mm ² x 3C x 5M	1.25 mm ² x 6C x 10M
CWL-301/301L	2.0mm ² x 3C x 5M	2.0 mm ² x 6C x 10M

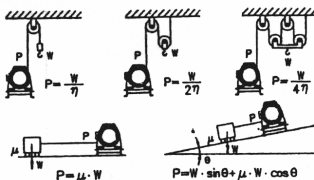
- For any other cases, the cable should use a bigger section of cable or a magnetic control box should be suggested.

III. Handling Precautions And Calculations

► Handling Precautions

- The operator of winch in some cases is required for qualifications according to applicable laws and ordinances.
- Prior to starting of use, carry out the daily checking without fail, and use after confirming the safety of function.
- Don't use exceeding the lead rated.
- The operator of winch must not be apart from the operating position under the loading condition.
- Carry out the operation of lifting and lowering after stopping the winch once, and avoid the rapid speed operation as far as possible.
- Even in the condition where the rope is feed out at most, the rope must remain by five more windings on the drum.
- Record the daily operating time and take into consideration so as to obtain the suitable time for intermediate inspection and arrangement.

► Calculating Head Loads



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

► 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.
- The distance from centre of the rope drum till the first rope sheave or roller fairlead shall in the ideal case be 19 times the drum width

IV. Checking Reference

▶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	1M Ω min	
			◎		Motor	Condition of insulation	Measure with resistance tester	1M Ω min
			◎			Staining damage	Decomposition check	Existence 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 Castrol Alpha Series, SP-220, a viscosity(cSt) is 226.14/19.5 at 40° C/100° C	

►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
◎	◎			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

Before operation, open terminal box of motor to ascertain the corrective wirings.

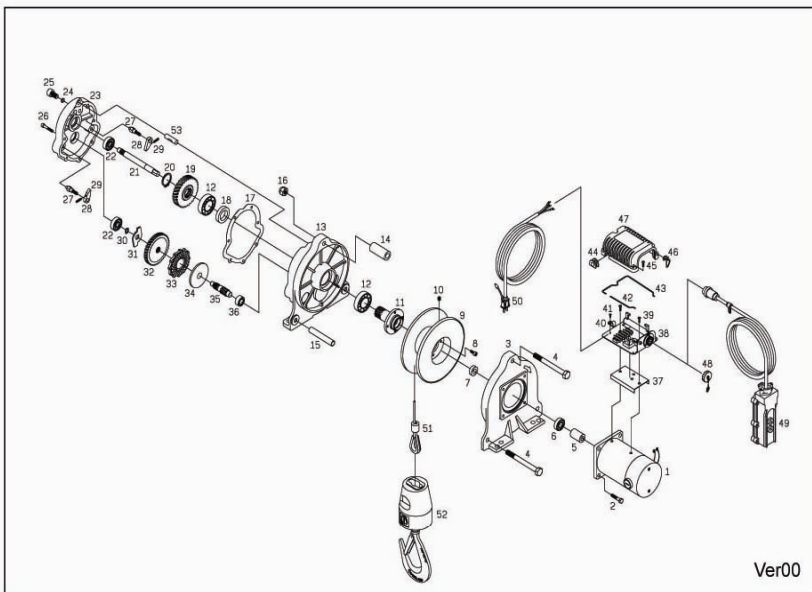
Checking winch for smooth operation by pressing up and down button of push button switch.

When winch fails to start after several attempts, or and defective operation to be happened, check followings.

Observed anomaly	Possible cause	Solution
No reaction	No power	Check power source
	Disconnection of the plug, power	Replace or repair
	Burnt or communicated motor	Replace
	Burnt diode ass'y	Replace, clean motor
	Considerable voltage down	Ascertain the corrective input
Lifting speed to be slow	Overload	Reduce load
	Considerable voltage down	Check voltage
		Check the section of power cable
Electricity leakage or shock	Burnt motor resulting from	Replace motor
	Carbon brush worn down	Replace it and clean powder left
	Water invaded in motor or push button switch	Dry
Replace		
Breaking distance more the 1.5%	Brake lining worn down	Replace
	Burnt D type resistor	Replace
	Voltage too high	Check power source
Large noise in gear box	Insufficient oil resulting from oil leakage	Replace oil seal
		Fill with sufficient oil
	Distortion of gear box	Repair

VI. Replacement Parts List

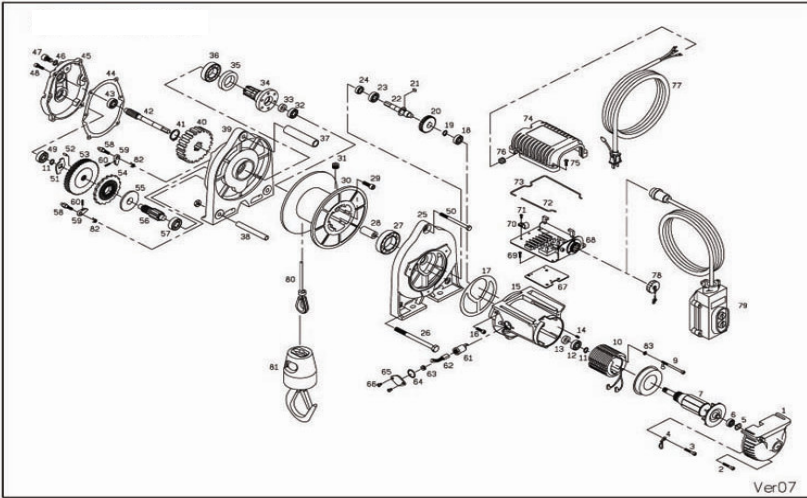
►CWL-80



No.	Description	Q'ty	No.	Description	Q'ty	No.	Description	Q'ty
1	Motor	1	19	2nd gear	1	37	Circuit board plate	1
2	Hex bolt	4	20	Retaining ring	1	38	Circuit board	1
3	Motor support rack	1	21	1st shaft	1	39	Cross screw	2
4	Hex bolt	3	22	Bearing	2	40	Cable clamp	1
5	Connecting socket	1	23	Gearbox rear cover	1	41	Cross screw	1
6	Bearing	1	24	O ring	1	42	O ring	1
7	Oil seal	1	25	Hex bolt	1	43	O ring	1
8	Nylock bolt	4	26	Hex bolt	7	44	Hole plug	1
9	Drum	1	27	Fix screw	2	45	Cross screw	3
10	Cap screw	1	28	Ratchet pawl	2	46	Hook	1
11	Output shaft	1	29	Pressed spring	2	47	Upper terminal box	1
12	Bearing	2	30	Retaining ring	1	48	Cable connector	1
13	Gearbox support rack	1	31	Fix plate	1	49	Remote control	1
14	tie bar	1	32	1st gear	1	50	Power cable	1
15	Tie bar	2	33	Ratchet wheel	1	51	wire rope	1
16	Hex nut	3	34	Ratchet brake disc	1	52	Weight hook	1
17	Anti-leakage packing	1	35	2nd shaft	1	53	Balancer	1
18	Oil seal	1	36	Bearing	1			

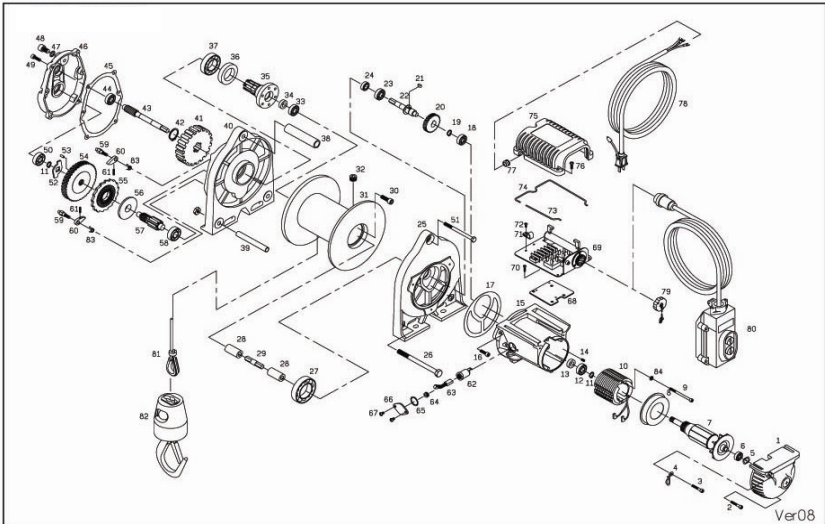
VII. Replacement Parts List

▶CWL-200



No.	Description	Q'ty	No.	Description	Q'ty	No.	Description	Q'ty
1	Motor rear cover	1	29	Hex bolt	6	57	Bearing	1
2	Hex bolt	1	30	Drum	1	58	Fix bolt	2
3	Hex bolt	2	31	P.T screw	1	59	Pawl	2
4	Hook	1	32	Bearing	1	60	Set bolt	2
5	Washer	1	33	Oil seal	1	61	Carbon holder	2
6	Bearing	1	34	Output shaft	1	62	Carbon brush	2
7	Armature ass'y	1	35	Oil seal	1	63	Brush cap	2
8	Fan cover	1	36	Bearing	1	64	O ring	2
9	Hex bolt	2	37	Tie bar	1	65	Brush cover	2
10	Field coil assy	1	38	Tie bar	2	66	Cross screw	4
11	Retaining ring	2	39	Gear support rack	1	67	Circuit board plate	1
12	Bearing	1	40	3rd gear	1	68	Circuit board	1
13	Oil seal	1	41	Retaining ring	1	69	Screw screw	3
14	Hex bolt	2	42	2nd shaft	1	70	Cable clamp	1
15	Motor base	1	43	Bearing	1	71	Cross screw	1
16	Hex bolt	3	44	Gasket	1	72	Oil seal	1
17	Gasket	1	45	Gearbox rear cover	1	73	Oil seal	2
18	Bearing	1	46	O ring	1	74	Housing cover	1
19	Retaining ring	1	47	Hex bolt	1	75	Cross screw	3
20	1st gear	1	48	Hex bolt	6	75	Cross screw	1
21	Double round key	1	49	Bearing	1	76	Screw plug	1
22	Torque shaft	1	50	Hex bolt	1	77	Power cord	1
23	Bearing	1	51	Gearbox fixture	1	78	Cable connector	1
24	Oil seal	1	52	Spring pin	2	79	Remote control	1
25	Motor support rack	1	53	2nd gear	1	80	Wire rope	1
26	Hex bolt	2	54	Ratchet	1	81	Weight hook	1
27	Bearing	1	55	Brake disc	1	82	Return spring	2
28	Socket	1	56	3rd shaft	1	83	Spring washer	2

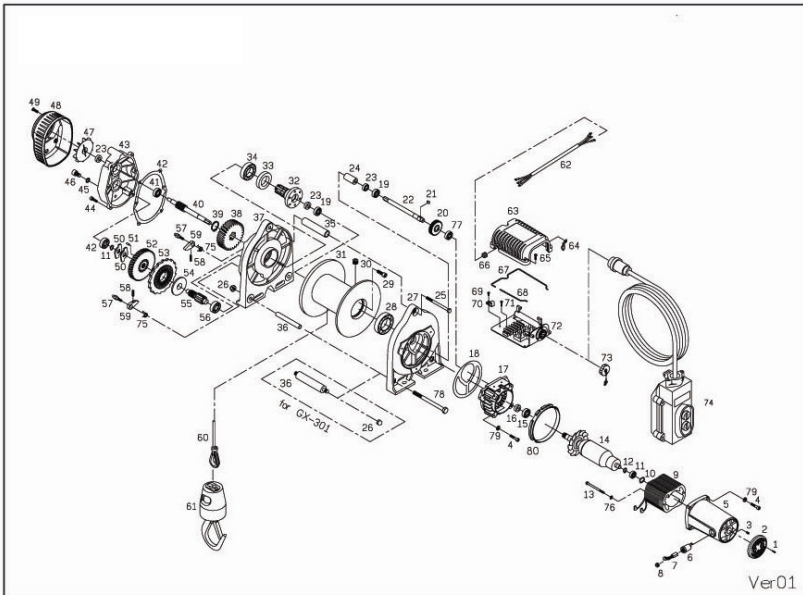
► CWL-200L



No.	Description	Q'ty	No.	Description	Q'ty	No.	Description	Q'ty
1	Motor rear cover	1	30	Hex bolt	6	59	Fix bolt	2
2	Hex bolt	1	31	Drum	1	60	Ratchet pawl	2
3	Hex bolt	2	32	R.T screw	1	61	Pressed spring	2
4	Hook	1	33	Bearing	1	62	Carbon holder	2
5	Washer	1	34	Oil seal	1	63	Carbon brush	2
6	Bearing	1	35	Output shaft	1	64	Brush cap	2
7	Armature ass'y	1	36	Oil seal	1	65	O ring	2
8	Fan cover	1	37	Bearing	1	66	Brush cover	2
9	Hex bolt	2	38	Tie bar	1	67	Hex bolt	4
10	Field coil assy	1	39	Tie bar	2	68	Circuit board plate	1
11	Retaining ring	2	40	Gearbox support rack	1	69	Circuit board	1
12	Bearing	1	41	3rd gear	1	70	Cross screw	3
13	Oil seal	1	42	Retaining ring	1	71	Cable clamp	1
14	Hex bolt	2	43	2nd shaft	1	72	Cross screw	1
15	Motor base	1	44	Bearing	1	73	Oil seal	1
16	Hex bolt	3	45	Gasket	1	74	Oil seal	1
17	Gasket	1	46	Gearbox rear cover	1	75	Housing cover	1
18	Bearing	1	47	O ring	1	76	Cross screw	2
19	Retaining ring	1	48	Her bolt	1	77	Cross screw	1
20	1st shaft	1	49	Hex bolt	6	78	Hole plug	1
21	Double round key	1	50	Bearing	1	79	Power cord	1
22	Shaft	1	51	Hex bolt	1	80	Screw plug	1
23	Bearing	1	52	Fix plate	1	81	Remote control	1
24	Oil seal	1	53	Spring pin	2	82	Wire rope	1
25	Motor support rack	1	54	2nd gear	1	83	Weight hook	1
26	Hex bolt	2	55	Ratchet wheel	1	84	Return spring	2
27	Bearing	1	56	Brake disc	1		Spring packing	2
28	Socket	2	57	3rd shaft	1			
29	Coupling shaft	1	58	Bearing	1			

VIII. Replacement Parts List

►CWL-301/301L



No.	Description	Q'ty	No.	Description	Q'ty	No.	Description	Q'ty
1	Cross screw	2	29	Hex bolt	6	57	Fix screw	2
2	Motor rear cover	1	30	P. T. screw	1	58	Spring	2
3	Hex bolt	2	31	Drum	1	59	Pawl wheel	2
4	Hex bolt	13	32	Output shaft	1	60	Wire rope	1
5	Motor support rack	1	33	Oil seal	1	61	Weight hook	1
6	Carbon holder	2	34	Bearing	1	62	Power cord	1
7	Carbon brush	2	35	Tie bar	1	63	Housing cover	1
8	Brush cap	2	36	Tie bar	2	64	Hook	1
9	Field coil ass'y	1	37	Gearbox support rack	1		Cross screw	2
10	Washer	1	38	3 rd gear	1	65	Cross screw	1
11	Bearing	1	39	Retaining ring	1	66	Hole plug	1
12	Retaining ring	2	40	2st shaft	1	67	Oil seal	1
13	Hex bolt	2	41	Bearing	2	68	Oil seal	1
14	Armature	1	42	Anti-leakage packing	1	69	Cross screw	2
15	Bearing	1	43	Gearbox rear cover	1	70	Cable clamp	1
16	Oil seal	1	44	Hex bolt	6	71	Cross screw	3
17	Motor front rack	1	45	O-ring	1	72	Cord ass'y	1
18	Gasket	1	46	Hex bolt	1	73	Screw plug	1
19	Bearing	2	47	Fan	1	74	Remote control	1
20	1 st shaft	1	48	Fan cover	1	75	Retaining spring	2
21	Double round key	1	49	Cross screw	3	76	Spring washer	2
22	Output shaft for	1	50	Fix plate	2	77	Bearing	1
23	Oil seal	3	51	Spring pin	2	78	Hex bolt	3
24	Coupling	1	52	2 nd gear	1	79	Spring washer	7
25	Hex bolt	1	53	Ratchet wheel	1	80	Fan ring	1
26	Cap nut	4	54	Brake disc	1	79	Spring washer	2
27	Motor support rack	1	55	3 rd shaft	1	80	Fan ring	1
28	Bearing	1	56	Bearing	1			