6.TROUBLE SHOOTINGS

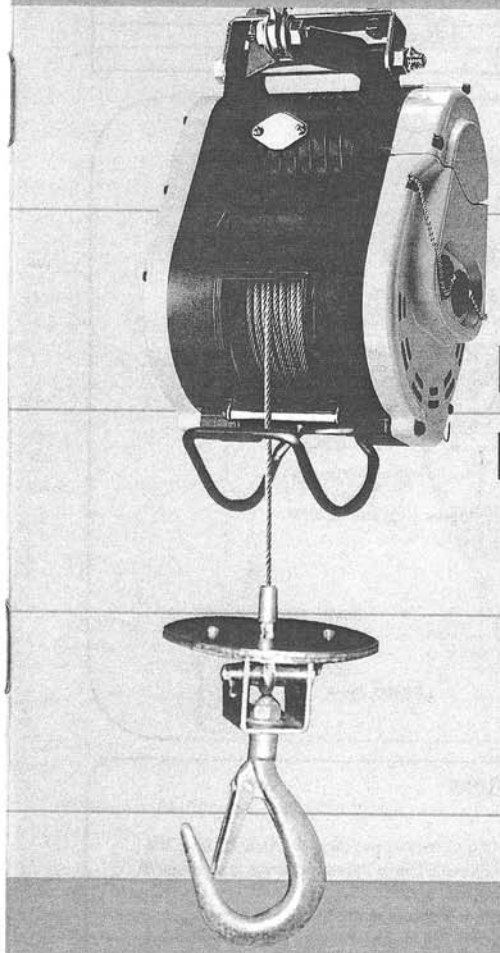
Checking the winch for smooth operation by pressing up and down button of pushbutton switch.
When winch fails to start after several attempts , or if any defective operation to be happened , check followings .

OBSERVED ANOMALY	POSSIBLE CAUSE	SOLUTION
No reaction after pressing the buttons of switch	No power	Check power source
	Disconnection of plug,powder cord or switch cord	Replace or repair
	Burnt or communicated motor resulting from over load	Replace
	Burnt diode ass'y	Replace
		Clean motor
	Considerable voltage drop	Adjust to rated voltage
	Wearing of carbon brush	Replace carbon brush
Brake distance too long	Wearing of lining ,pressed plate and pawl	Replace
	Disconnection of electronic generated feed-back braking	Repair nut and cord
		Replace D type resistor
	Too high voltage	Adjust to rated voltage
No over-winding prevention while swivel hook touches limit lever	Disconnection of electronic generated feed-back braking	Repair of nut and cord Replace D type resistor
	Malfunction of limit switch	Replace
Lifting speed too slow	Overload	Reduce load
	Considerable voltage drop	Adjust to rated voltage
		Check the section of power cord
Electricity leakage or shock	Burnt motor resulting from overload	Replace motor
	Wearing of carbon brush	Replace carbon brush and Clean carbon powder left in the motor
	Water invaded in motor or push button switch	Dry it
		Replace motor if too heavy water invaded
Abnormal sound in gear box	Insufficient oil resulting from oil leakage	Replace oil seal
		Fill with sufficient oil
	Distortion of gear box	Repair

COMEUP INDUSTRIES INC.

COME-UP WINCH

Model: CWS-80
CWS-160
CWS-230

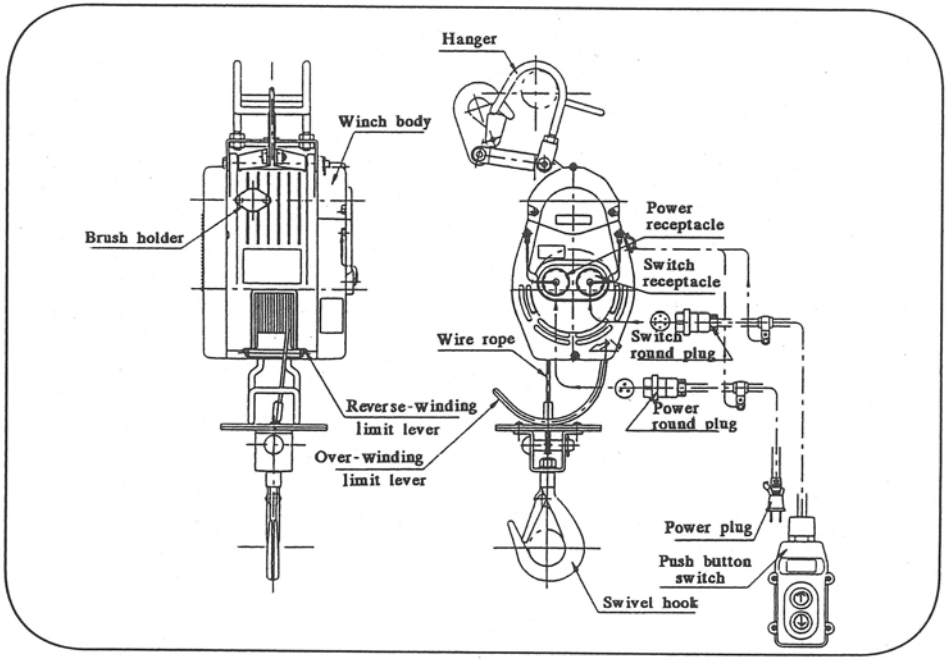


INSTRUCTION FOR USE

Baby Winch

1.SPECIFICATION

MODEL		CWS-80		CWS-160		CWS-230
LOAD RATED (KG)		80		160		230
SPEED(M/MIN)	50Hz	30		22		14
	60Hz	34		25		16
VOLTAGE		SINGLE PHASE, 200~240V, 50/60Hz				
MOTOR		800W/4A		1200W/6A		1300W/6.5A
LIFTING HEIGHT (M)		23	35	30	40	24
WIRE ROPE (ϕmm × M)		4 × 24	3.2 × 36	4.8 × 31	4 × 41	5 × 25
WINCH WEIGHT (KG)		9		14		15
PERCENTAGE DUTY CYCLE MAXIMUM OF STARTS		25%ED 150TIMES/1 HOUR				
STANDARD ACCESSORIES	Power cord	2.0mm² × 3C × 5M				
	Switch cord	1.25mm² × 6C × 10M				
	Swivel hook	CHW-0032 × 1		CHW-0033 × 1		



WARNING

1. The owner and/or the operator shall have an understanding of these operating instructions and the following warning before operating the electrical winch. Failure to follow these warnings may result in loss of load, damage to the winch, property damage, personal, or fatal injury.
2. Warning information shall be emphasized and understood. If the user is not fluent in English, Instructions and warnings shall be read to and discussed with the user in the user's native language by the owner to make sure that the user comprehends the contents.
3. The owner shall retain this manual for further reference to important warnings, installation, operating and maintenance instructions.

2.INSTALLMENT PRECAUTION

2.1 ENVIRONMENT PRECAUTION

WARNING

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

●Low temperature below -10℃ , high temperature above 40℃ or humidity above 90% conditions

●In heavy acid or salty conditions

※ Cause malfunction of spare part .

●In a organic chemistry or explosive power conditions

※ Cause explosion

●In the rain or snow

※ Cause rust or short circuit

●In a heavy general powder conditions

※ Cause malfunction of performances

2.2 CONTINUOUS RATING

PRECAUTION

●Never hoist over the rated percentage duty cycle

The life of the winch is depending on the conditions of the load and working frequency.

In the long time operation ,make sure to use the machine within its continuous ratings.

Continuous ratings means the working duty cycle (%ED) is subject to the rated voltage , rated frequency and a 63% of rated load .

$$\text{Percentage duty cycle (\%ED)} = \frac{Tb}{Tb+Ts} \times 100\ (\%)$$

Tb:total sum of overall loading operating hours
Ts:total sum of stopping hours
Tb+Ts=approximately 1 to 10 min

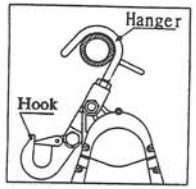
The maximum of starts of the machine means the number of starts of motor per 1 working hour including the pause hours of winch which is value of number working times added with the number of inching.

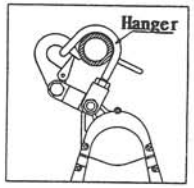
2.3 MOUNTING

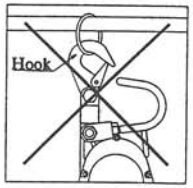
The winch designed to be hanged or mounted on a firm or stable bar or a bracket CRH-0710 (optional accessory).

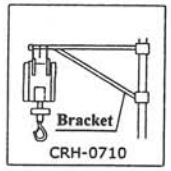
When hanging , do not allow the body or load to be caught by any construction of frame , or other obstruction.

Be sure to lock the hanger for extra safety.









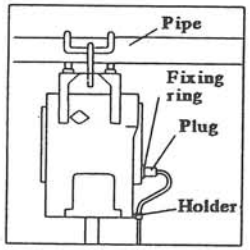
2.4 PLUG INSERTION

2.4.1 Power core insertion

Insert the power plug into the power receptacle of the winch, and tighten it by turning the locking ring, clockwise.

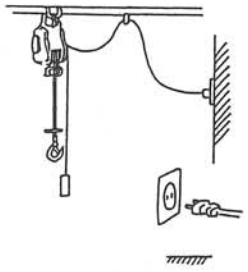
Be sure to lock the cord by a holder .Do not allow the cords to be caught by wire rope and drum.

The length of power cord is subject to the distance of 20 meter , for any other case , please use a power cable by 3.5 mm^2 to prevent a considerable voltage drop to be happened .



The selection of power cord section

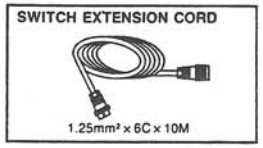
Section	Cord Length
2.0mm^2	20m
3.5mm^2	35m



2.4.2 Grounding

To prevent the risk of electric shock , the power plug must be plugged into a matching outlet and grounded in good condition .

2.4.3 Switch cord connection



1)Insert the switch plug into the switch receptacle of the winch and tighten it by turning the locking ring clockwise. Be sure to hook the cord by a holder .

2)To extend the length of to switch cord , please adopt a switch extention cord (10M) .

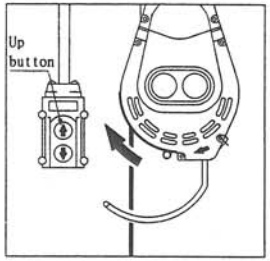
3.WORKING METHODS

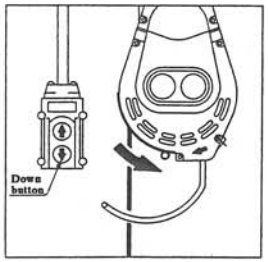
3.1 PREPARATION BEFORE WORKING

- Be sure to carefully check all safety and environmental conditions.
- A minimum of five (5) wraps of wire rope wound around the drum is necessary. A wire rope should be discarded and not be used again if rope shows sign of excessive wear too many broken wires , corrosion or other defects.
- Make sure to connect the main power source and grounding.
- It's not safe to lift loads exceeding the rated load .
- Connect power source at rated voltage. (It will cause maladjusted working if input voltage falls out of rated voltage by ± 10 %)

3.2 UP AND DOWN SWITCHING

To lift a load , press ↑ button and drum will rotate as shown below operation .
To lower a load , press ↓ button and drum will rotate as shown below .





When the button is released , the drum will stop moving

4.HANDING PRECAUTION

4.1 ENVIRONMENT PRECAUTION

WARNING

●Pay best attention to the following instruction . Obvious mistakes in operation may result in personal inquiry or equipment damage .

● Never try to lift a load more than the rated cap.

● Never hitch a ride on the hook , sling or load being moving .

※ Winches are not to be used for lifting or lowering people .

● Don't work , walk or stand under an operating winch .

● While working , never stand under a lifting load or within the conveying area.

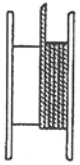
● Always remain in control . Never neglect the winch while actually hoisting a load .

● Always look up when working around winch , there is potential danger overhead .

※ Be sure to lift a load vertically . Slack may allow wires to be caught in the drum.

● Never gravitate a load freely

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

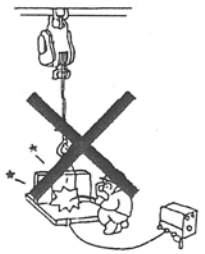


● Prior to starting of use , carry out the daily checking without fail , and after confirming the safety of function .

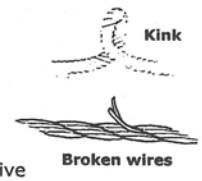
●If having a counter rotation incurred , make sure to correct its turning direction .

●Prior to lifting . Make sure to have a precise performance of brake .If any malfunction of brake happened , stop the operation immediately .

●When load suspended in air , it will not allow to be welding . Never weld a load while actually lifting a load .



●Wire rope with one or more of the following defects shall be removed or replaced immediately .
1)kink
2)distortion
3)corrosion
4)showing sings of excessive wear or of having broken wires not less than 10 pcs.



●Stop the operation if there is any queer noise or vibration in the gear box to be happened .

●Do not connect the wire rope with the grounding of welding machine .

●While welding , do not have any contact with the welding objects because of having spark.

●Do not pull the switch cord to move a load .

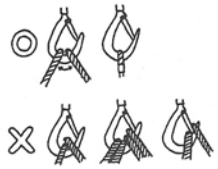
●Do not over continuous ratings .

●Never plugging (instant reverse-wind) and inching .

●In order to prevent the layer down due to over loosening of rope , irregular winding ,etc.,operate according to the suitable operating method .

●Use a winch by fixing so securely that the rope around the drum is uneven .

●Be sure to fix a rope in the center of swivel hook .



●Be sure to stop operation immediately when the wire rope become fully slackened.

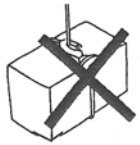
●Avoid catching the hook or lifting a load on a fixed obstruction .

●Always leave the push button switch positioned immediately after use.

●Make sure that the load being lifting are well balanced and secured before starting .

●Avoid water splashes on the push button switch .

●Never wrap the load with the wire rope .



5.CHECKING

5.1 CHECKING REFERENCE

	CHECKING ITEMS		CHECKING METHODS	CLASSIFICATION OF CHECKS			
				DAILY	PERIODICAL		
					3 MONTH / 20 HOURS	1 YEAR	3 YEAR
1	● BRAKE	performance Wearing of lining ,and pressed plate Break or escaping of spring	Visual Decomposition check Decomposition check	▲			▲ ▲
2	● CARBON BRUSH	Wearing	Decomposition check		▲		
3	● MOTOR	Condition of insulation Staining , damage Carbon powder accumulation	Measuring,50MΩmin Visual Decomposition check	▲	▲	▲	
4	● CONTROL ASS'Y	Working Outer damage of switch cords Attaching condition of earth line Condition of insulation	Manual Visual Visual Measuring,50MΩmin	▲ ▲ ▲	▲		
5	● Safety device	Over-prevention function Reverse winding prevention function Distortion of over winding lever Wrong rotary direction-winding	Visual Visual Visual Visual	▲ ▲ ▲ ▲			
6	● WIRE ROPE	Kink phenomena Broken wires Decreasing of diameter more than10% Deforming or corrosion	Visual Visual Visual Visual	▲ ▲ ▲ ▲			
7	● SWIVEL HOOK & HANGER	Distortion Damage Loosening	Visual Visual Visual	▲ ▲ ▲			
8	● DRUM	Rupture of flange Wearing	Visual Visual	▲	▲ ▲		
9	● GEAR CASE	Damage , wearing Condition of oil feeding Lubrication for couplings	Visual Measuring Measuring	▲		▲ ▲	
10	● FASTENINGS	Loosening	Manual	▲		▲	
11	● MARKING	Label and the like	Manual			▲	

Remark: 1.The specified person performs the checking of winch .
2.Divide the checking into daily checking and periodic checking .
3.The checking items and checking method in daily and periodic checking are to be carried out and different according to the using frequency.

5.2 WIRE ROPE REPLACEMENT

5.2.1 Swivel hook

●Put a new wire rope through the hole of the round plate of swivel hook .

●Insert a sleeve pin through the thimble of wire rope .

●Insert a pin through the sleeve pin and bent it by a pliers .

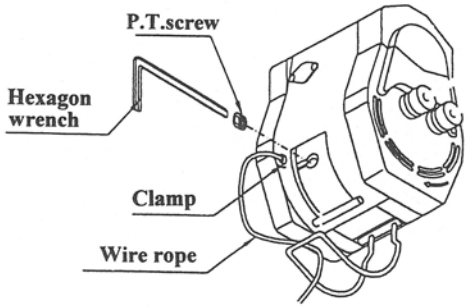
5.2.2 Drum

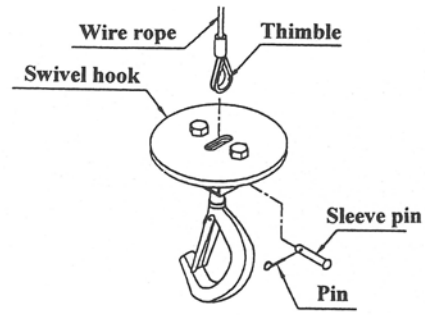
●Let a new wire rope w/clamp through the limit lever and insert it into the hole of the drum .

●Put a P.T. screw into the hope of the drum and tighten it by a hexagon wrench .

●Press the ↑ button to rotate the drum in the lifting direction .

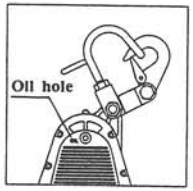
●A uneven winding of wire rope may cause the load to be swing , thus damaging the rope and reducing its life .





5.3 OIL LUBRICATION

Winch are prefabricated at the factory and do not require initial lubrication . Relubrication interval depends upon service. Recommended oil replenishment quantity & intervals are as follows .



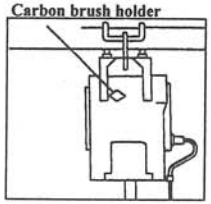
Grease Grade	Quantity			Intervals
NLGI NO.0	CWS-80	CWS-160	CWS-230	
Caltex Multifak Ep	100cc	250cc	250cc	1 Year
Cosmogear SE220				

5.4 CARBON BRUSH REPLACEMENT

⚠ ATTENTION

⊘ ●Clean the accumulated powder of corbon brush periodically to ascertain the insulation resistance up to 1MΩ.

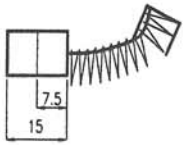
● It is essential to check the carbon brush periodically . If its length is left less than 7.5 mm resulting from wearing , it is absolute necessary to replace carbon brush immediately .



● While replacing , smoothly insert carbon brush into carbon holder in the first place , then put brush cap into the hole .

● Before tightening the carbon brush holder , make sure to position 0 ring .

● A set of carbon brush consists 2 piece of carbon brush . Ascertain to replace 2 pcs of carbon brush on opposite sides of winch body at the same time .



Carbon brush length

5.5 BRAKING

●Braking device are composed of a mechanic brake and a electronic generated brake. The brake distance from the time of braking until stopping completely should be within 1.5 % of rope length to the wound in during 1 minute .

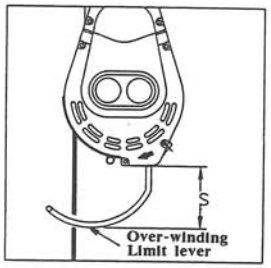
●Owing to the rope speed on no load is faster than that on rated load , the brake distance on no load will be longer , but still within 1.5 % of rope length .

●The rope speed on no load is 1.5 -1.8 times of rated speed on rated load .

5.6 OVER-WINDING LIFT PREVENTION DEVICE

●A special mechanism prevents a over-winding when lifting .

●When the swivel hook touches the limit lever . Lifting is automatically stopped .



●However , if the limit lever is set too close to the winch body , it will cause serious damage to the limit lever and the winch body .

●A suggested distance (S) between the limit lever and winch body is as follows .

MODEL	CWS-80	CWS-160	CWS-230
DISTANCE	80-100mm	70-90mm	70-90mm

5.7 REVERSE-WINDING PREVENTION DEVICE

●A special mechanism prevents a over reverse-winding when lowering .

●When lowering , a wire rope is fully extended , the wire rope will be shifted its position from 0 to ×.

●When a wire rope touches the limit lever of over-winding prevention device . Lowing will be automatically stopped.

●When the wire rope is shifted to the position of × . pull it and press the ↑ button to return its position to 0 .