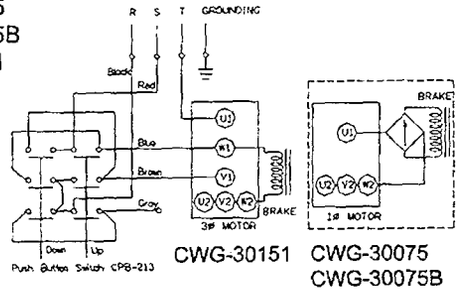
CWG-30075
CWG-30075B
CWG-30151

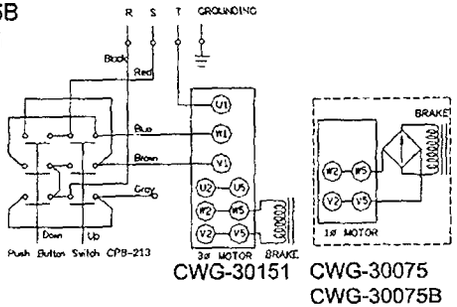
3Ø 380V



CWG-30151 CWG-30075 CWG-30075B

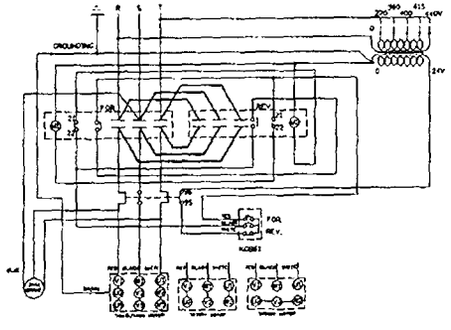
CWG-30075
CWG-30075B
CWG-30151

3Ø 400V
3Ø 415V
3Ø 440V



CWG-30151 CWG-30075 CWG-30075B

CWG-30375
CWG-30565



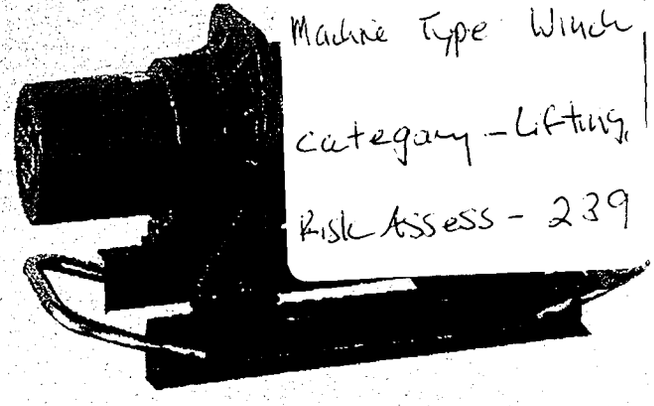
3Ø 220V
3Ø 380V
3Ø 400V
3Ø 415V
3Ø 440V

COME-UP WINCH

Model CP-200 / 250 / 30
CWG-10077 / 3007
CWG-10151 / 3015
CWG-30375 / 3056

Your First Winching Solutions

Machine Type# 11106 Manual#
Machine Type Winch | Electric 4ooky
category - Lifting | Handling, Hoisti
Risk Assess - 239



○ INSTRUCTION MANUAL

Electric Winch

TÜV CERT ISO 9001:2000 CE

COME-UP 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.
- 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.

⚠ WARNING

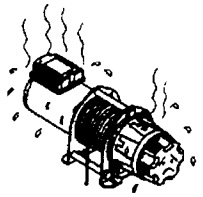
The winch is not to be used to life, support or otherwise transport personnel.
A minimum of five(5) wraps of rope around the drum is necessary to support the load rated.

Environment Precautions

⚠ DANGER

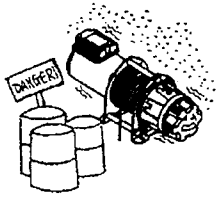
⊘ ●The following environmental conditions may result in the possible causes of winch trouble.

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



※ Cause malfunction of spare parts

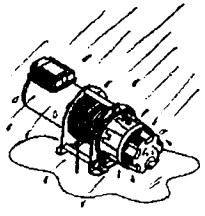
●In a organic chemistry or explosive powder condition



※ Cause explosion

●In heavy acid or salty conditions

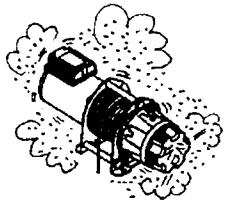
※ Cause malfunction of spare parts



●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 HpXP	Power Source	Percentage Duty Cycle
			Length	Empty Drum Diameter	Full Drum Diameter	50Hz	60Hz	50Hz	60Hz			
CP-	200 200B	43:1	110	94	154	200	200	10 ~ 15	12 ~ 18	0.8 x 4	1 Phase 220V 230V 240V	25% ED (150times/h maximum starting frequency)
	250 250B	43:1	110	94	154	250	250	10 ~ 15	12 ~ 18	1 x 4		
	300 300B	43:1	110	94	154	300	300	10 ~ 15	12 ~ 18	1.5 x 4		
CWG-	10077	41:1	150	102	180	300	250	12 ~ 19	14 ~ 21	2 x 4		
	10151	57:1	240	140	280	400	350	12.3 ~ 18.3	14.7 ~ 21.9	2 x 4		
	30075 30075B	43:1	110	94	154	300	250	10 ~ 15	12 ~ 18	1x 4	3 Phase 200V 220V 380V 400V 415V 440V	
	30151	57:1	240	140	280	500	400	12.3 ~ 18.3	14.7 ~ 21.9	2 x 4		
	30375	48:1	230	127	275	900	800	13 ~ 20.6	15.6 ~ 24.7	5 x 4		
								8.5 ~ 13.5	10.2 ~ 16.2	3 x 6		
	30565	50:1	312	140	320	1,100	1,000	14 ~ 25	16.8 ~ 30	7.5 x 4		
								9.2 ~ 16.7	11 ~ 20	5 x 6		

*CP-200B,250B,300B,30075B were equipped with swith socket

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)= $\frac{Tb}{Tb+Ts} \times 100(\%)$

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

1-2.Standard Accessories

Model		Wire Rope	24 VAC Control	Switch		Weight Hook		Safety Hook	Base Plate
				CPB-213	CPB-61	CWH-0031	CWH-0005		
CP-	200 200B	ϕ 6mm x 30M		V		V			
	250 250B	ϕ 6mm x 30M		V		V			
	300 300B	ϕ 6mm x 30M		V		V			
CWG-	10077	ϕ 7mm x 40M		V		V			
	10151	ϕ 9mm x 60M		V			V		V
	30075 30075B	ϕ 6mm x 30M		V		V			
	30151	ϕ 9mm x 60M		V			V		V
	30375	ϕ 10mm x 60M	V		V			V	V
	30565	ϕ 12mm x 100M	V		V			V	V

II. Performance Data

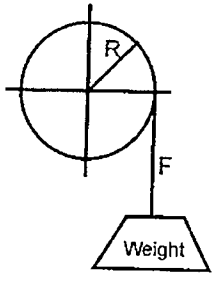
2-1.Model: CP-200/250/300 CWG-10077/30075

Winch Model			CP-200/200B	CP-250/250B	CP-300/300B	CWG-10077	CWG-30075/30075B
Motor		Hpxp	0.8 x 4	1.0 x 4	1.5 x 4	2.0 x 4	1.0 x 4
Recommend Wire Rope		Size(mm)	6	6	6	7	6
		Breaking (Kgs)	1,820	1,820	1,820	2,625	1,820
1st Layer	Rated Load (Kg)	50Hz	300	375	450	450	450
		60Hz	300	375	450	378	378
	Speed (M/min)	50Hz	10.0	10.0	10.0	12.0	10.0
		60Hz	12.0	12.0	12.0	14.0	12.0
	Rope-Winding Cumulating Sum(M)		5.4	5.4	5.4	8.1	5.4
2nd Layer	Rated Load (Kg)	50Hz	260	330	395	402	395
		60Hz	260	330	395	335	330
	Speed (M/min)	50Hz	11.4	11.4	11.4	13.3	11.4
		60Hz	13.7	13.7	13.7	16.0	13.7
	Rope-Winding Cumulating Sum(M)		11.5	11.5	11.5	15.3	11.5
3rd Layer	Rated Load (Kg)	50Hz	235	295	350	361	350
		60Hz	-	-	-	301	295
	Speed (M/min)	50Hz	12.7	12.7	12.7	14.8	12.7
		60Hz	15.2	15.2	15.2	17.8	15.2
	Rope-Winding Cumulating Sum(M)		18.3	18.3	18.3	24.3	18.3
4th Layer	Rated Load (Kg)	50Hz	215	270	320	328	320
		60Hz	215	270	320	273	270
	Speed (M/min)	50Hz	13.9	13.9	13.9	16.3	13.9
		60Hz	16.7	16.7	16.7	19.6	16.7
	Rope-Winding Cumulating Sum(M)		25.7	25.7	25.7	34.3	25.7
5th Layer	Rated Load (Kg)	50Hz	200	250	300	300	300
		60Hz	200	250	300	250	250
	Speed (M/min)	50Hz	15.0	15.0	15.0	19.0	15.0
		60Hz	18.0	18.0	18.0	21.0	18.0
	Rope-Winding Cumulating Sum(M)		33.7	33.7	33.7	45.2	33.7

▶In usual cases, the increase of winding layers of rope accompanies the increase of required motor output.

▶Torque(T):Torque is a twisting force.
Torque causes rotation of a shaft, or it will set up a twist in a stationary shaft. It is generally expessed in Newton-Meters.

T=F x R T: Torgue R: Radius F: Load



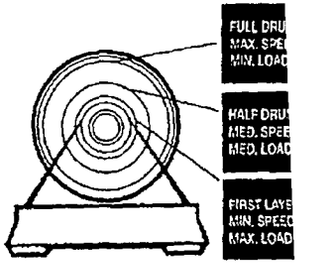
2-2.Model: CWG-10151/30151/30375/30565

Model			10151	30151	30375	30375	30565	30565
Motor		Hp x p	2.0 x 4	2.0 x 4	5.0 x 4	3.0 x 6	7.5 x 4	5.0 x 6
Wire Rope	Size Breaking	mm	9.0	9.0	10.0	10.0	12.0	12.0
		kgs	3,750	3,750	5,020	5,020	6,680	6,680
1st Layer	Rated Load (Kgs)	50Hz	593	741	1,420	1,420	1,960	1,960
		60Hz	519	593	1,265	1,265	1,790	1,790
	Speed (M/min)	50Hz	12.3	12.3	13.0	8.5	14.0	9.2
		60Hz	14.7	14.7	15.6	10.2	16.8	11.0
	Rope-Winding Cumulating Sum(M)		11.7	11.7	9.5	9.5	11.9	11.9
2nd Layer	Rated Load (Kgs)	50Hz	529	661	1,240	1,240	1,700	1,700
		60Hz	463	529	1,100	1,100	1,550	1,550
	Speed (M/min)	50Hz	13.8	13.8	14.9	9.8	16.2	10.7
		60Hz	16.5	16.5	17.9	11.8	19.4	12.8
	Rope-Winding Cumulating Sum(M)		24.8	24.8	20.3	20.3	25.8	25.8
3rd Layer	Rated Load (Kgs)	50Hz	477	597	1,100	1,100	1,500	1,500
		60Hz	418	477	980	980	1,350	1,350
	Speed (M/min)	50Hz	15.3,	15.3	16.8	11.1	18.4	12.2
		60Hz	18.3	18.3	20.2	13.3	22.1	14.6
	Rope-Winding Cumulating Sum(M)		39.3	39.3	32.6	32.6	41.5	41.5
4th Layer	Rated Load (Kgs)	50Hz	435.5	544	990	990	1,330	1,330
		60Hz	381	435	880	880	1,200	1,200
	Speed (M/min)	50Hz	16.8	16.8	18.7	12.3	20.6	13.6
		60Hz	20.1	20.1	22.4	14.8	24.7	16.3
	Rope-Winding Cumulating Sum(M)		55.3	55.3	46.2	46.2	59.1	59.1
5th Layer	Rated Load (Kgs)	50Hz	400	500	900	900	1,200	1,200
		60Hz	350	400	800	800	1,100	1,100
	Speed (M/min)	50Hz	18.3	18.3	20.6	13.5	22.8	15.1
		60Hz	21.9	21.9	24.7	16.2	27.4	18.1
	Rope-Winding Cumulating Sum(M)		72.6	72.6	61.2	61.2	78.5	78.5
6th Layer	Rated Load (Kgs)	50Hz					1,100	1,100
		60Hz					1,000	1,000
	Speed (M/min)	50Hz					25.0	16.7
		60Hz					30.0	20.0
	Rope-Winding Cumulating Sum(M)						100	100

Ⅲ. Instruction For Installation

3-1.Load Rated

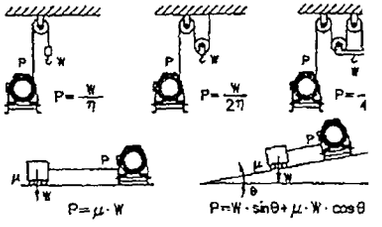
Load and speed vary according to how much wire rope is on the drum. The first layer of rope on the drum delivers the slowest speed and the maximum load.A full drum delivers the maximum speed and the minimum load. For this reason,winches are rated at their full drum capacities.



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

Resistance to rolling is mostly influenced by the degree of angle, type of tracks and carts condition.

▶Application Condition

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, no curves and 2.0 grade

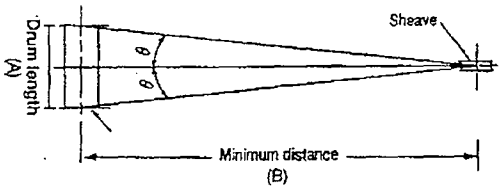
▶Cart Puller Capacity

1).Pull reguired per ton being moved: 12kg
2).Total load being pulled: 20 ton
3).Required cart puller capacity

20 ton...	total weight being moved
x (12kg+20kg)	12kg....Pull required per ton being moved
640kg	20kg....For each one percent gradient, the running line pull must be increased by 10kg/ton
x 1.2	....20% contingency for unpredictable track or cart conditions
768kg	.....Minimum calculated cart puller capacity
1,000kg	.....Selected cart puller capacity

3-4.Calculating Fleet Angle

To obtain the best wire rope service, the maximum fleet angle(θ) should be more than 1.5 drgree for smooth drum. The minimum distance (B) :B for 1.5 degree fleet angle(θ) =Drum length (A) (in centermeter)x16



For example: For a winch with a smooth drum in 11cm drum length, it require a 1.5 degree angle. The minimum distance (B)=11x16=1.76Meter

3-5.Wire Rope Selection in Vertical Lifting

Model	Recommended Wire Rope				Safety Factor	
	Dia.mm	Length (m)	Const.	Breaking Load(kg)	50Hz	60Hz
CP-200/200B	*6	30	6 x 19	1820	9	9
	5	45	6 x 19	1270	6	6
CP-250/250B	*6	30	6 x 19	1820	7	7
CP-300/300B	*6	30	6 x 19	1820	6	6
CWG-10077	*7	40	6 x 19	2625	7	9
	6	60	6 x 19	1820	5	6
CWG-30075/30075B	*6	30	6 x 19	1820	6	6
CWG-10151	*9	60	6 x 24	3750	9	10
	8	100	6 x 24	2970	7	8
CWG-30151	*9	60	6 x 24	3750	7	9
	8	100	6 x 24	2970	6	7
CWG-30375	*10	60	6 x 24	5020	6	6
CWG-30565	*12	100	6 x 24	6680	6	6

▶ * 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 5.5 each.

3-6.Cable Selection

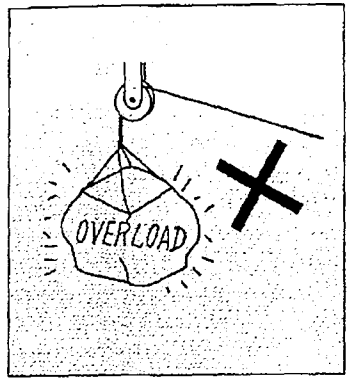
Model	Motor Cable	Switch Cable	
		CPB-213	CPB-61
CP-200/250/300	3.5mm^2	1.25mm^2	
CP-200B/250B/300B		2.0mm^2	
CWG-10077	3.5mm^2	3.5mm^2	
CWG-30075	3.5mm^2	1.25mm^2	
CWG-30075B		2.0mm^2	
CWG-10151	5.5mm^2	3.5mm^2	
CWG-30151	3.5mm^2	2.0mm^2	
CWG-30375	5.5mm^2		1.25mm^2
CWG-30565	5.5mm^2		1.25mm^2

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

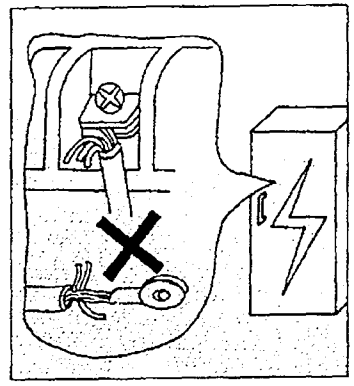
▶ The length of switch cable are subject to the distance less than 3 meters.

▶ For any other cases, the cable should use a bigger section or adopt a magnetic switch.

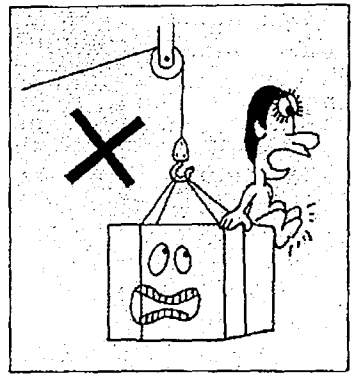
Ⅳ. Handing Precautions



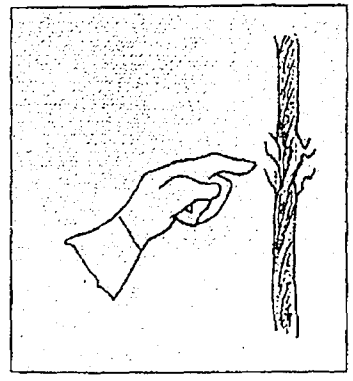
1. Don't overload
Ensure you know your own lifting capacity and that of your winch



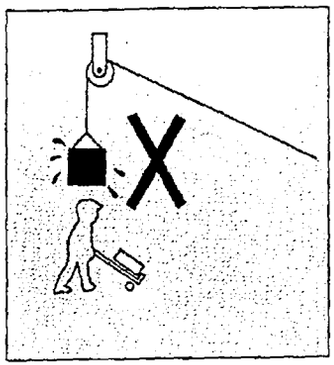
2. Do connect cable on main line switch and fasten them
A considerable voltage drop may be occured when failing to comply with these



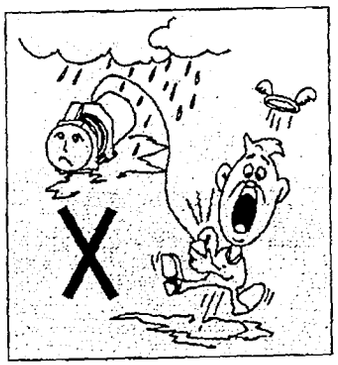
4. Don't transport people
Winch is not to be used for lift or support people



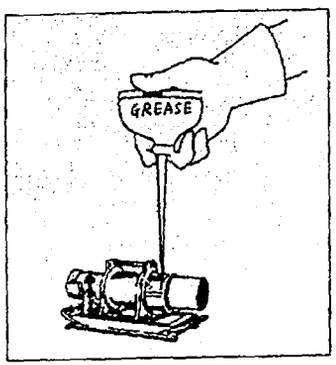
3. Don't ignore fault accessories
Inspect all wire rope, cable, hook, sheave before using them for lift



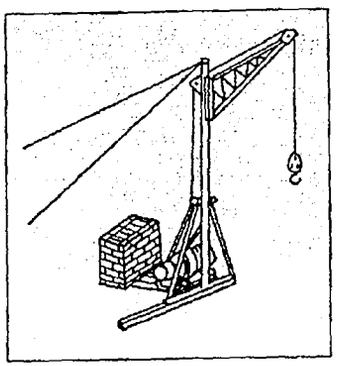
5. Don't stand under operation
You should be crushed if load falls unexpectedly



6. Don't operate winch in the rain
Avoid water splashes on the push button switch and on the motor



7. Do perform maintenance on schedule
It's an essential part of keeping winch run in perfect



8. Do anchor crane with ballasted container and wire rope
The anchorage to the ground and fixing wire rope shall be considered in perfect.

V. Maintenance and Inspection

5-1.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 abnomalities
◎				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	1MΩ min
			◎		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

5-2.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 deforation
◎	◎			Drum	Reture of flange	Visual	To be free cracks, rupture, harmful deforation
		◎			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

VI. Trouble Shooting

6-1.

Before operation, open terminal box of motor to ascertain the corrective wirings. Checking the winch for smooth operation by pressing up and down button of push button switch. When winch fails to start after several attempts, or if any defective operation to be happened, check followings:

1.No any reaction

a〉Power source b〉Check push button switch, switch cords and wirings

2.Having buzz, but fail to start

a〉Check brake coil, bridge rectifier b〉Check push button switch, switch cords and wirings

3.Lower speed; higher vibration

a〉Short circuit at starting capacitor b〉Contact point of centrifugal switch can not be open

4.Defective starting

a〉Brake coil and bridge rectifier b〉Contact point of centrifugal switch to be open circuit

c〉Starting capacitor d〉Brake disk wear

5.Failing in re-starting

a〉Overload b〉Considerable voltage drop can provoke non-opening of brake

c〉Loose screw in push button switch d〉Motor cable section e〉Cable connection

6.Failing in brake or having grease leakage

a〉Brake coil b〉Brake disk c〉Brake mental disk d〉Brake spring

e〉Considerable voltage drop can provoke non-opening of brake

7.Connter rotation

a〉Single phase: Exchange the blue and brown wires of push button switch CPB-213

b〉Three phase: Exchange any two wires of motor alternately

6-2.Standard value for following spare parts

Model	Starting cap.	Running cap.	Brake coil	Bridge rectifier
CP-200/200B	250MFD 125VAC	x	107Ω DC110V	CBR-061
CP-250/250B	250MFD 125VAC	25MFD 250VAC	107Ω DC110V	CBR-061
CP-300/300B	250MFD 125VAC	35MFD 350VAC	434Ω DC220V	CBR-061
CWG-10077	40MFD 125VAC	50MFD 250VAC	63Ω DC110V	CBR-061
CWG-10151	125MFD 250VAC	15MFD 440VAC	X	x
CWG-30075/30075B	x	x	434Ω DC220V	CBR-061

Model	CWG-30375				CWG-30565			
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

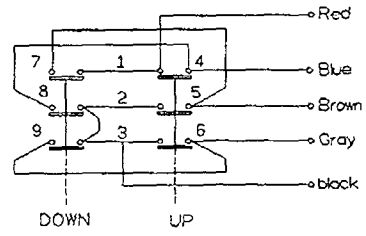
▶AC solenoid for CWG-10151 & 30151:

Red & gray wires in 60Hz...26~30Ω ;

Red & yellow wires in 50Hz ...31~35Ω

Ⅶ. Wiring Diagram

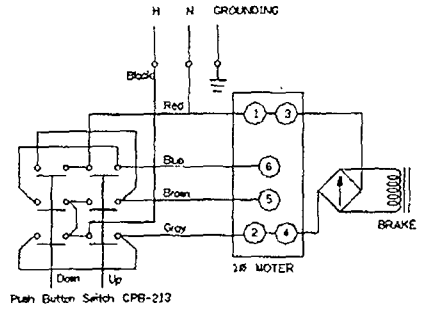
PUSH BUTTON SWITCH CPB-213



1.3.Power Source
2.6.Main Winding
4.5.Starting Winding

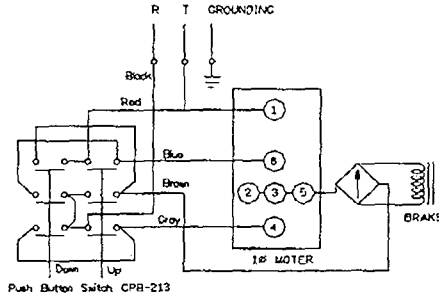
CP-200/200B
CP-250/250B

1Ø 100V
1Ø 110V
1Ø 115V



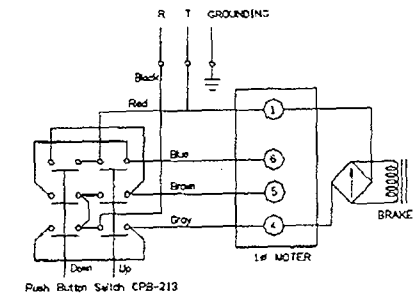
CP-200/2008
CP-250/250B
CWG-10077

1Ø 200V
1Ø 220V
1Ø 230V
1Ø 240V



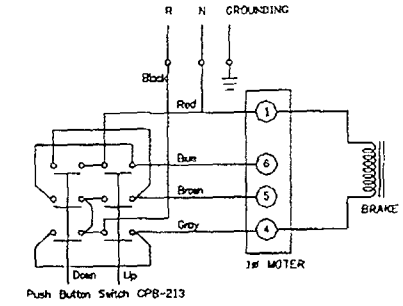
CP-300/300B

1Ø 200V
1Ø 220V
1Ø 230V
1Ø 240V



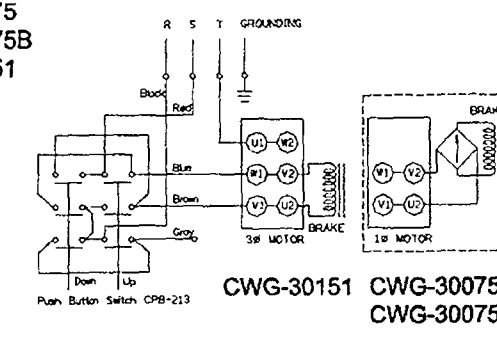
CWG-10151

1Ø 200V
1Ø 220V
1Ø 230V
1Ø 240V



CWG-30075
CWG-30075B
CWG-30151

3Ø 200V
3Ø 220V



CWG-30151 CWG-30075
CWG-30075B