ELECTRICAL HOIST
GT DC300
GT DC600
GT DC1200

Assembly & Operating Instruction

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INTRODUCTION

Congratulations on your purchase of a high quality hoist. We design and manufacture hoists to strict specifications and with proper use and maintenance should bring you years of satisfying service.

⚠ WARNING - Read, study and follow all instructions before operating this device. Failure to heed these instructions may result in personal injury and/or property damage.

Follow these general safety precautions:

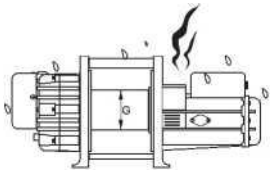
- **Confirm that the winch complies with the using conditions.**
- **Keep the winch secure strongly and the rope is not wound to be deviated to the drum.**
- **Don't use unsuitable pulleys or accessories concerned.**
- **Don't use unsuitable rope in construction, strength or having any defects.**
- **Pay 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

1 .The winch is not to be used to lift, 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. GT-Winch takes no responsibility for the subsequent performance of mechanical components if oil/grease properties other than what GT-Winch recommends is used.

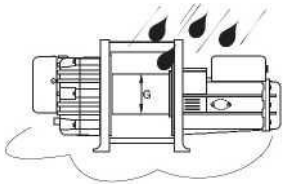
DANGER

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



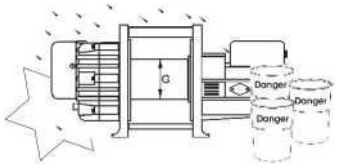
-Low temperature below -10°C, high temperature above 40°C or humidity above 90% conditions.

-In heavy acid or salty conditions.



*Cause malfunction of spare pares.

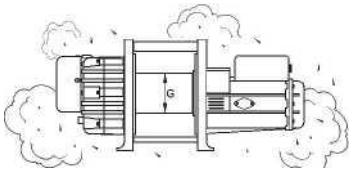
-In the rain or snow.



*Cause rust or short circuit.

-In a organic chemistry or explosive power conditions.

*Cause explosion.



-In a heavy general powder conditions.

*Cause malfunction of performances.

SAFETY PRECAUTIONS

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

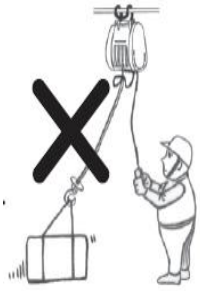
The winch cannot be used as an elevator or for personnel going up or down.

- Never try to lift a load more than the rated weight.

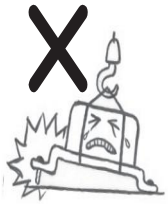
- Never hitch a ride on the hook, sling or load being moving.
- Winches are not to be used for lifting or lowering people.

- Don't work, walk or stand under an operating winch.
- While working, never stand under a lifting load or within the conveying area.

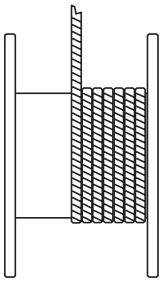
- Always remain in control, Never neglect the winch while actually hoisting a load.



- Always watch out 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.

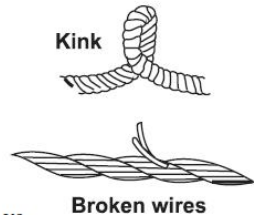


- A minimum of five(5) wraps of rope around the drum is necessary to support the load rated.

- Prior to staring of use, carry out the daily checking without fall, and after confirming the safety of function.

- If having a counter rotation incurred, make sure to correct its turning direction.
- Before lifting. Make sure to have a precise performance of brake. If any malfunction of brake happened, stop the operation immediately.

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



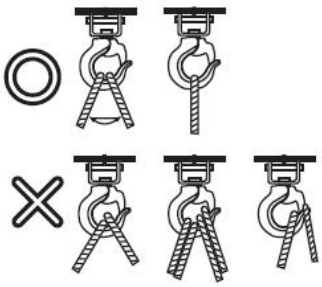
- Wire rope with one or more of the following defects shall be removed or replaced immediately.

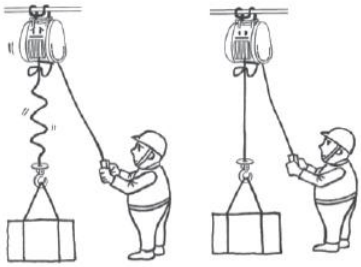
(1) Kink (2) Distortion (3) Corrosion (4) Showing sings of excessive wear or of having broken wires not less than 10 pcs.

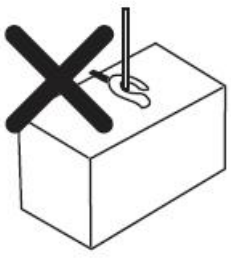
- Do not pull the switch cord to move a load.
- Do not over continuous ratings.

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

- Stop the operation if there is any gueer noise or vibration in the gear box.
- 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.
- In order to prevent the layer down due to over lossening 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.







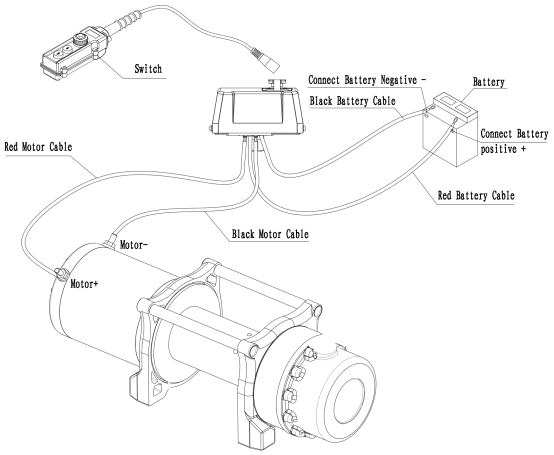
HOIST ASSEMBLY AND MOUNTING

1. Your hoist is designed with a bolt pattern that is standard in this class of hoist. Many hoist mounting kits are available that utilize this bolt pattern for the mounting channels. If you will utilize the mounting channel you must ensure that it is mounted on a flat surface so that the three major sections (motor, drum and gear housing) are properly aligned. Proper alignment of the hoist will allow even distribution of the full rated load.
2. Pull out a few inches of cable from the drum. Now, using the remaining cap screws, flat washer, lock washer and nut secure the hoist to the mounting channel.
3. Connect the battery and motor leads as the drawing below. Keep in mind that every type of hoist is different each other.
4. Assemble the clevis hook to the cable. Take off the pin from the clevis hook, connect the clevis hook to the cable and mount the pin back to the clevis Hook.
5. Always use the hand saver when free-spooling and re-spooling the wire rope. Using the hand saver keeps your hands and fingers away from the rotating drum.
6. Check for proper drum rotation. Pull out some cable from the drum. Press the cable out button on the power switch. If the drum is turning and releasing more cable then your connections are accurate. If the drum is turning and collecting more cable then reverse the leads on the motor. Repeat and check rotation.

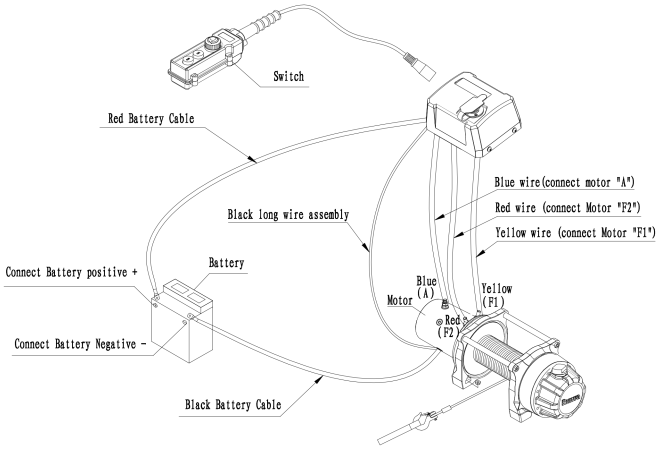
MOUNTING DRAWING

The mounting drawing

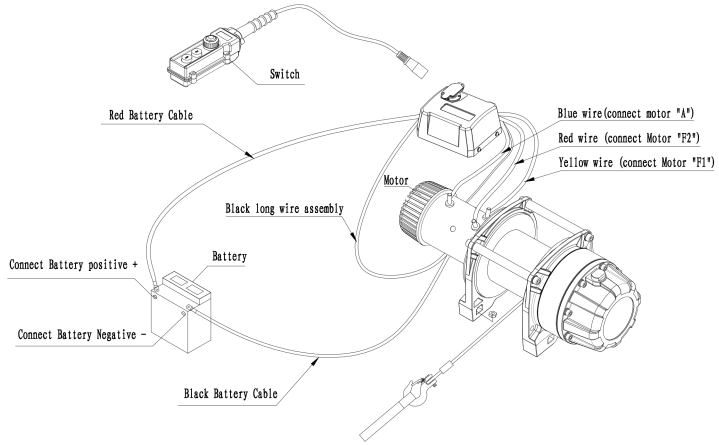
GT DC300



GT DC600



GT DC1200



⚠ CAUTION – Batteries contain gases which are flammable and explosive. Wear eye protection during installation and remove all jewelry. Do not lean over battery while making connections.

HOIST WORKING DEMONSTRATION

1. Grab the cable assembly and pull the cable to the desired length, then attach to item being pulled.

⚠**Caution:** Always leave at least five turns of cable on the drum; Review hoist safety warnings and precautions on page 2、3 before continuing.

2. Insert the switch assembly connector onto the control box.
3. Test-run hoist in two directions, each direction for one or two seconds.
4. While standing aside of the tow path, hold and operate the switch assembly supplied by your choice. To reverse directions. Wait until the motor stops before reversing directions.
5. When the pulling is complete, remove the switch assembly. From the female connector of the directional valve and replace the female connectors cover.

REPLACING THE WIRE ROPE

If the wire rope has become worn or is beginning to show signs of strands breaking, it must be replaced before being used again.

1. Extend cable assembly to its full length. Note how the existing cable is connected to the drum.
2. Remove old cable assembly and attach new one as the old cable connected to the drum. Insert the end of the new rope and secure the screw .
3. Ensure that the new cable wraps in the same rotation direction as the old one. The cable should leave the drum from the bottom, under the drum.
4. Retract Cable Assembly onto drum, first five wraps being careful not to allow kinking, then hoist cable must be wound onto the drum under a load of at least 10% rated line pull.

⚠ **WARNING -** Only replace the wire rope with the identical replacement part recommended by the manufacturer.

MAINTENANCE

1. Periodically check the tightness of mounting bolts and electrical connections. Remove all dirt or corrosion and always keep clean.
2. Do not attempt to disassemble the gear box. Repairs should be done by the manufacturer or an authorized repair center.
3. The gearbox has been lubricated using a high temperature lithium grease and is sealed at the factory. No internal lubrication is required.

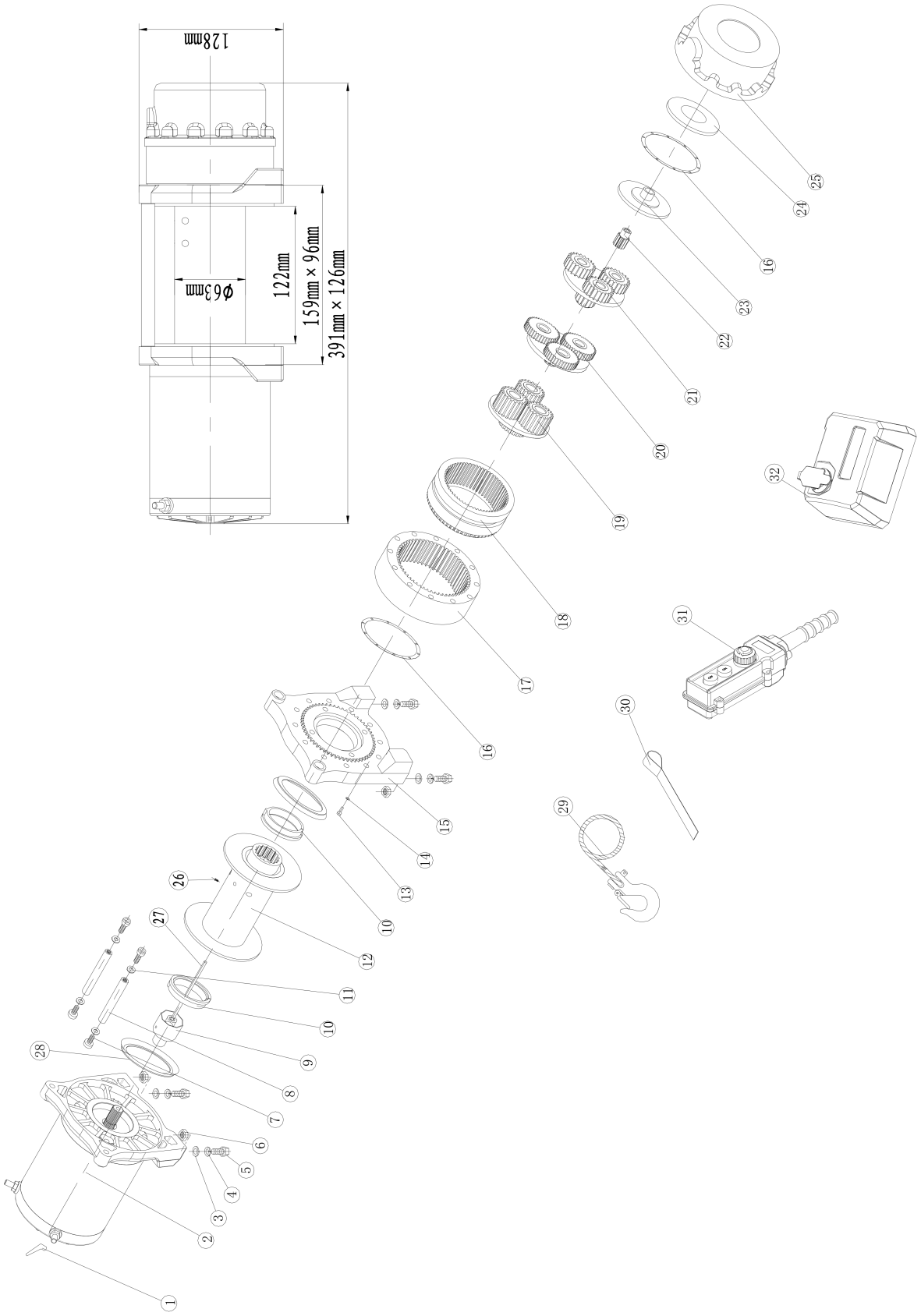
Classification of checks				**Checking Item**		**Checking Method**	**Checking Reference**
Daily	Periodical						
	One month	Three month	One year				
◎				Wire Rope	Breaking of base wire	Visual	Less than 10%
◎					Decreasing of diameter	Visual	7% of normal diameter max
◎					Kink phenomena	Visual	To be 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
◎	◎			Drum	Drum and flange	Visual	No deformation
		◎			Wear of drum	Visual	To be free from remarkable wearing
◎				Switch	Wire	Visual	No damage
◎					“IN” and “OUT”	Visual	No abnormality
◎				Operation	Working direction	Visual	No abnormality in lifting
◎					Abnormal sound	Hear out	No abnormal sound
			◎		Over load test	Working	Existence of abnormalities

TROUBLE SHOOTING

When the hoist fails to operate after several attempts, or if there is any fault while operating check the following:

Symptom	Possible Cause	Remedy
Hoist will not operate	Cut circuit	Check battery lead
	Weak battery	Recharge or replace battery(at least 650CCA)
	Damaged circuit breaker	Replace circuit breaker
	Bad connection of wiring	Reconnect tightly
	Damaged solenoid	Replace solenoid
	Short circuit on switch	Replace switch
	Damaged motor or worn carbon brush	Replace motor or carbon brush
	Dropt or lost motor wiring	Tighten wiring
Motor runs in one direction	Broken wiring or bad connection	Reconnect or replace wiring
	Damaged or stuck solenoid	Replace solenoid
	Switch inoperative	Replace switch
	Dropt or lost wiring	Replace wiring and tighten wiring
Hoist won't lift rated load	Considerable voltage drop exceeds by 10% of the rated voltage of 12V DC or 24V DC	Correct leads size
		Replace battery as bad condition
		Clean and tighten the wiring
No brake	Damaged brake cam and disc	Replace brake cam and disc
	Damaged gear box	Replace gear box
	Dropt snatch ring	Replace snatch ring
	Oil leakage at brake	Clean oil leakage
	Damaged or inoperative spiral spring	Replace and position spiral spring
Brake distance is too long	Worn or damaged brake	Replace or adjust brake
	Oil leakage at brake	Clean oil leakage
Damaged gear train	Hit by certain exterior force	Replace the damaged components
	Damaged gear train	Replace the damaged components
	Over load operation	Replace a new hoist
Motor runs extremely hot	Long period of operation	Allow to cool
	Damaged motor	Replace or repair motor
	Damaged or inoperative brake	Replace or repair brake
Hoist vibrates badly or is noisy	Damaged brake	Replace or repair brake
	Mounting surface is not flat	Make sure mounting surface is flat
	Tie bar is bent	Replace tie bar
	Crack on the motor and gearbox support racks	Replace racks

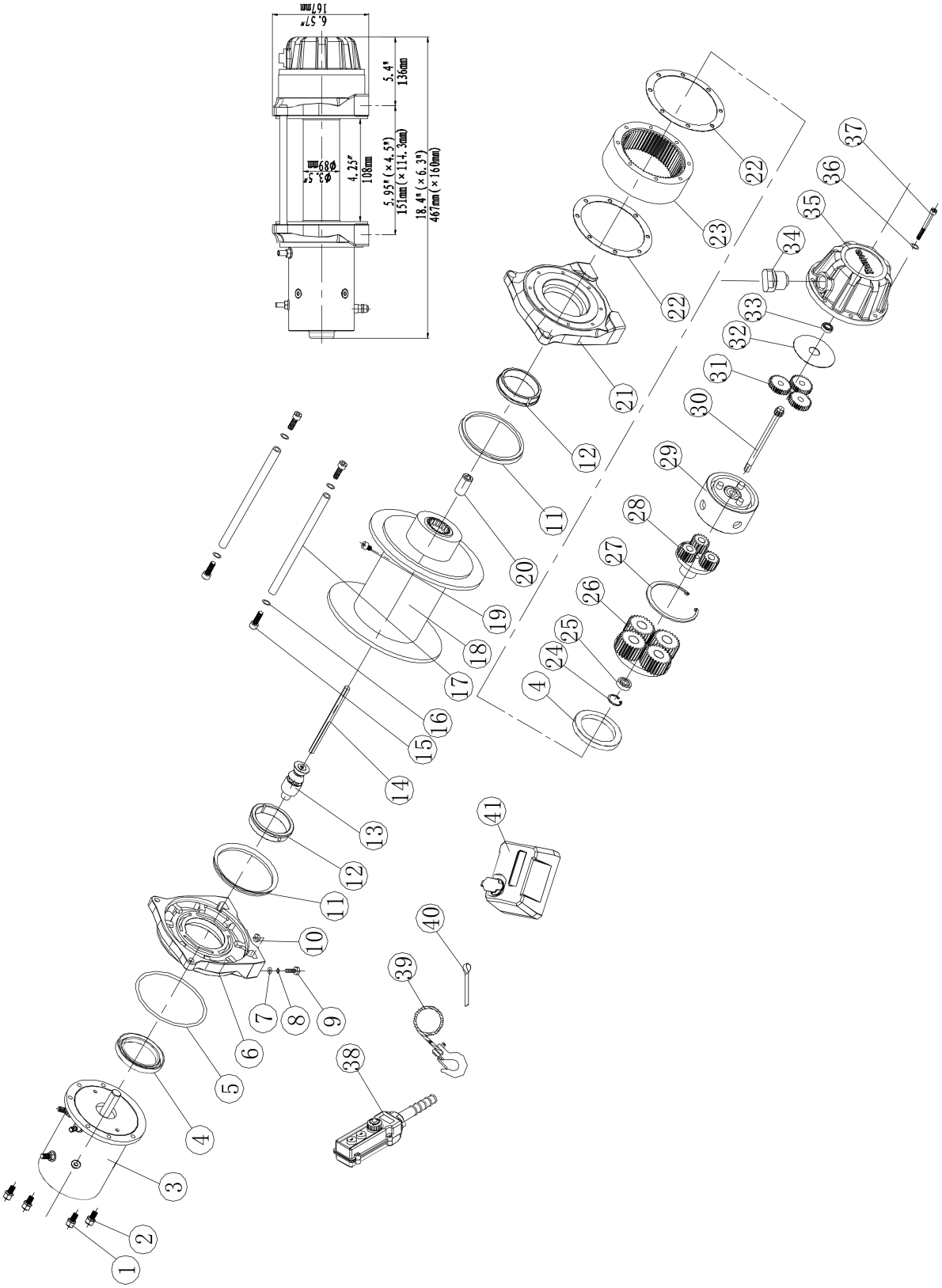
HOIST ASSEMBLY DRAWING（GT DC300）



HOIST PARTS LIST（GT DC300）

No.	Part #	Qty	Description	Remark
1	H300001	2	Terminal Protect	
2	H300100	1	Motor Assembly	
3	H300002	4	Think Flat Washer Φ8	
4	H300003	4	Lock Washer Φ8	
5	H300004	4	Screw M8 x 25	
6	H300005	4	Hex Nut M8	
7	H300006	4	Screw M6 x 20	
8	H300007	2	Tie Bar	
9	H300200	1	Break / Shaft Assembly	
10	H300008	2	Bushing-Drum	
11	H300009	4	Lock Washer Φ6	
12	H300300	1	Drum Assembly	
13	H300010	8	Screw M5 x 50	
14	H300011	8	Lock Washer Φ5	
15	H300012	1	End Bearing	
16	H300013	2	Gasket	
17	H300014	1	Gear—Ring	
18	H300015	1	Inner Gear—Ring	
19	H300400	1	Gear Carrier Assembly（Output）	
20	H300500	1	Gear Carrier Assembly（Intermediate）	
21	H300600	1	Gear Carrier Assembly（Input）	
22	H300016	1	Gear—Input Sun	
23	H300017	1	Trust Washer	
24	H300018	1	Trust Washer I	
25	H300019	1	Gear—Housing	
26	H300020	2	Screw M6×8	
27	H300021	1	Six Angle Bar	
28	H300022	2	Ring Seals	
29	H300700	1	Cable Assembly	
30	H300023	1	Strap	
31	H300800	1	Remote Control Switch	
32	H300900	1	Control Section	

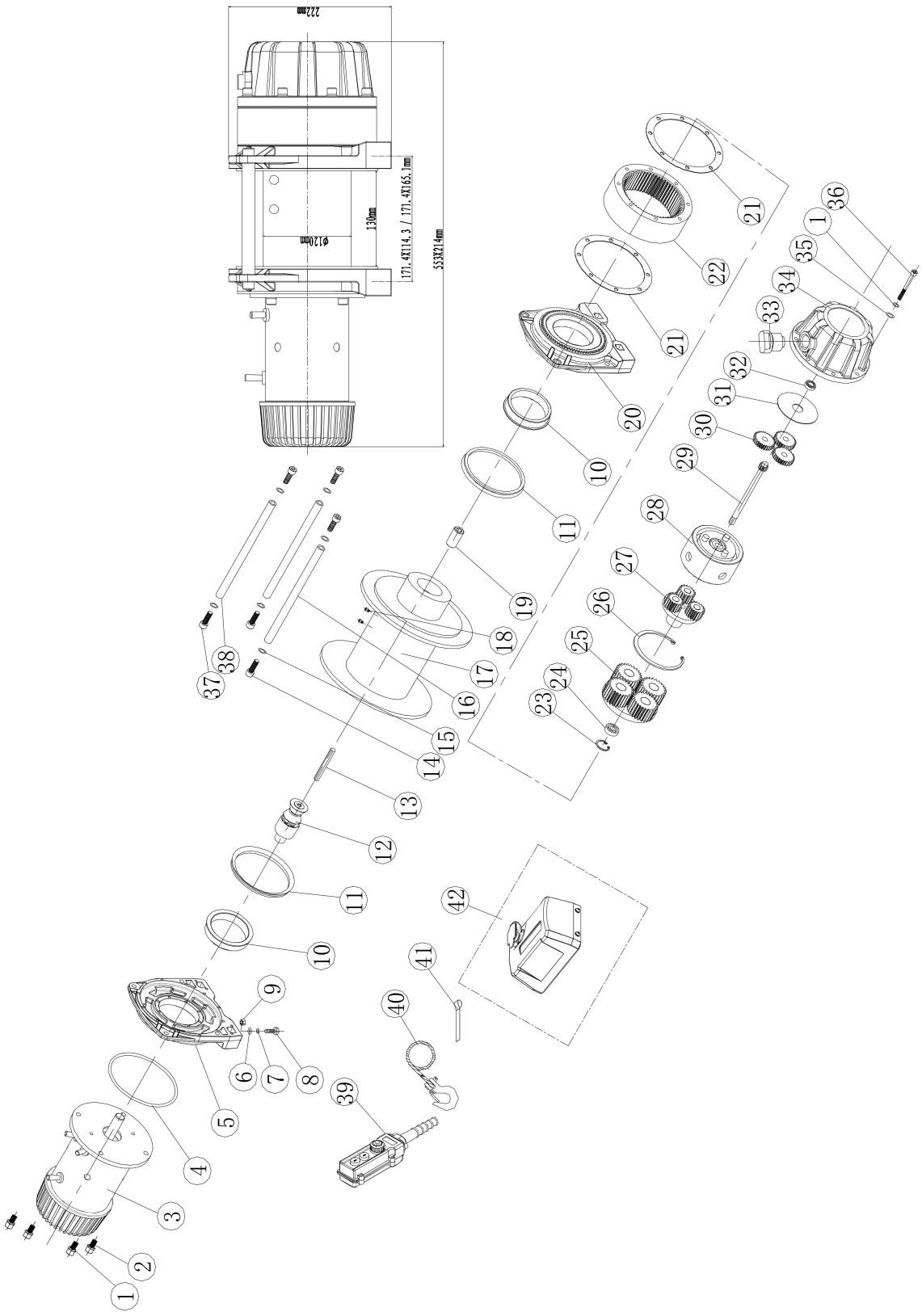
HOIST ASSEMBLY DRAWING（GT DC600）



HOIST PARTS LIST（GT DC600）

No.	Part #	Qty	Description	Remark
1	H6000001	4	Lock Washer Φ6	
2	H6000002	4	Screw M6x 20	
3	H6000100	1	Motor Assembly	
4	H6000003	2	Ring Seals	
5	H6000004	1	Ring Seals	
6	H6000005	1	Motor Bracket	
7	H6000006	4	Think Flat Washer Φ10	
8	H6000007	4	Lock Washer Φ10	
9	H6000008	4	Cap Screw M10 x 35	
10	H6000009	4	Hex Nut M10	
11	H6000010	2	Ring Seals	
12	H6000011	2	Bushing-Drum	
13	H6000200	1	Break / Shaft Assembly	
14	H6000012	1	Six Angle Bar	
15	H6000013	4	Screw M8 x 20	
16	H6000014	4	Lock Washer Φ8	
17	H6000015	2	Tie Bar	
18	H6000300	1	Drum Assembly	
19	H6000016	1	Screw M8×10	
20	H6000017	1	Coupling	
21	H6000018	1	End Bearing	
22	H6000019	2	Gasket	
23	H6000020	1	Gear—Ring	
24	H6000021	1	Circlip For Hole	
25	H6000400	1	Bearing	
26	H6000500	1	Gear Carrier Assembly（Output）	
27	H6000022	1	Circlip For Hole	
28	H6000600	1	Gear Carrier Assembly（Intermediate）	
29	H6000700	1	Brake/ Shaft Assembly	
30	H6000023	1	Gear—Input Sun	
31	H6000024	3	Planetary Gear	
32	H6000025	1	Trust Washer	
33	H6000800	1	Bearing	
34	H6000900	1	Gear ring bolt	
35	H6000026	1	Gear—Housing	
36	H6000027	8	Lock Washer Φ6	
37	H6000028	8	Screw M6x70	
38	H6001000	1	Remote Control Switch	
39	H6001100	1	Cable Assembly	
40	H6000029	1	Strap	
41	H6001200	1	Control Section	

HOIST ASSEMBLY DRAWING（GT DC1200）



HOIST PARTS LIST（GT DC1200）

No.	Part #	Qty	Description	Remark
1	H1200001	12	Lock Washer Φ8	
2	H1200002	4	Screw M8x 25	
3	H1200100	1	Motor Assembly	
4	H1200003	1	Ring Seals	
5	H1200004	1	Motor Bracket	
6	H1200005	8	Flat Washer Φ12	
7	H1200006	8	Lock Washer Φ12	
8	H1200007	8	Cap Screw M12 x 35	
9	H1200008	8	Locknut M12	
10	H1200009	2	Bushing-Drum	
11	H1200010	2	Ring Seals	
12	H1200200	1	Break / Shaft Assembly	
13	H1200011	1	Six Angle Bar	
14	H1200012	4	Screw M10 x 30	
15	H1200013	6	Lock Washer Φ10	
16	H1200014	2	Tie Bar	
17	H1200300	1	Drum Assembly	
18	H1200015	2	Screw M8×10	
19	H1200016	1	Coupling	
20	H1200017	1	End Bearing	
21	H1200018	2	Gasket	
22	H1200019	1	Gear—Ring	
23	H1200020	1	Circlip For Hole	
24	H1200021	1	Bearing	
25	H1200400	1	Gear Carrier Assembly（Output）	
26	H1200022	1	Circlip For Hole	
27	H1200500	1	Gear Carrier Assembly（Intermediate）	
28	H1200600	1	Brake/ Shaft Assembly	
29	H1200023	1	Gear—Input Sun	
30	H1200024	3	Planetary Gear	
31	H1200025	1	Trust Washer	
32	H1200026	1	Bearing	
33	H1200027	1	Gear ring bolt	
34	H1200028	1	Gear—Housing	
35	H1200029	8	Flat Washer Φ8	
36	H1200030	8	Screw M8x 90	
37	H1200031	2	Screw M10 x 35	
38	H1200032	1	Tie Bar(I)	
39	H1200700	1	Remote Control Switch	
40	H1200800	1	Cable Assembly	
41	H1200033	1	Strap	
42	H1200900	1	Control Section	

SPECIFICATION（GT DC300）

Rated line pull	300 kgs	
Motor: series wound	12V:Input: 1.7kW / 2.3hp; Output: 0.9kW / 1.2hp 24V:Input: 2.8kW / 3.8hp; Output: 1.2kW / 1.6hp	
Gear reduction ratio	172:1	
Cable (Dia.× L)	Wire rope	Synthetic rope
	Ø4.8mm×14m	Ø5.0mm×14m
Drum size (Dia.× L)	Ø63mm×122 mm	
Mounting bolt pattern	159mm×96 mm 4-M8	
Overall dimensions (L×W×H)	391mm ×126mm ×128mm	

Pull, Speed, Amperes, Volts:

Layer	Line Pull	Line Speed m/min		Current A	
	kg	12V DC	24V DC	12V DC	24V DC
1	400	3.7	3.9	40	25
2	350	3.9	4.1	42	28
3	300	4.2	4.3	45	30

Line Pull And Rope Capacity In Layer

Layer	Rated line pull kgs	Total rope on the drum ft (m)
1	400	5.3
2	350	11.3
3	300	14.0

SPECIFICATION（GT DC600）

Rated line pull	600 kgs	
Motor: series wound	12V:Input: 4.6kW / 6.1hp; Output: 2.1kW / 2.8hp 24V:Input: 5.7kW / 7.6hp; Output: 2.8kW / 3.8hp	
Gear reduction ratio	228:1	
Cable (Dia.× L)	Wire rope	Synthetic rope
	Ø6.0mm×14.5m	Ø6.0mm×15m
Drum size (Dia.× L)	Ø89mm×108mm	
Mounting bolt pattern	151mm×114.3 mm 4-M10	
Overall dimensions (L×W×H)	467 mm ×160mm ×167mm	

Pull, Speed, Amperes, Volts:

Layer	Line Pull	Line Speed ft/min (m/min)		Current A	
	kg	12V DC	24V DC	12V DC	24V DC
1	750	7.0	7.7	98	50
2	660	7.5	8.3	104	55
3	600	7.9	8.7	110	60

Line Pull And Rope Capacity In Layer

Layer	Rated line pull lbs (kgs)	Total rope on the drum ft (m)
1	750	5.0
2	660	10.7
3	600	14.5

SPECIFICATION（GT DC1200）

Rated line pull	1200 kgs	
Motor: series wound	12V:Input: 5.5kW / 7.4hp; Output: 2.9kW / 3.9hp 24V:Input: 6.1kW / 8.2hp; Output: 3.1kW / 4.2hp	
Gear reduction ratio	370:1	
Cable (Dia.× L)	Wire rope	Synthetic rope
	Ø8.1mm×18m	Ø10mm×14m
Drum size (Dia.× L)	Ø120mm×130mm	
Mounting bolt pattern	171.4mm×114.3 mm 171.4mm×165.1mm 8-M12	
Overall dimensions (L×W×H)	553 mm ×214mm ×222mm	

Pull, Speed, Amperes, Volts:

Layer	Line Pull	Line Speed ft/min (m/min)		Current A	
	kg	12V DC	24V DC	12V DC	24V DC
1	1450	3.5	3.7	180	90
2	1300	3.9	4.1	190	95
3	1200	4.3	4.5	200	100

Line Pull And Rope Capacity In Layer

Layer	Rated line pull lbs (kgs)	Total rope on the drum ft (m)
1	1450	5.6
2	1300	12
3	1200	18