ELECTRIC CHAIN HOIST

BDH500 Instructions

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The users must read and understood the Instruction manual completely and clear before operating the hoist.

Technical characteristics

model	BDH500	model	BDH500
voltage	230V,50Hz	Input power	540W
Current	2.4A	Rating lifting	500kg
Lifting speed	2.8m/min	Lifting height	3m
Speed ratio	137:1	Insulating grade	B
Protecting grade	IP54	Chain diameter	6.3mm
Group of mechanisms	M3	Work rate	S3 25%-10min
Cable tensile strength	≥900N/mm²	Net weight	18.5kg

Safety instruction

Keep work area clean.

Cluttered areas and benches invite injuries.

Consider work area environment.

Do not expose electric tools to rain. Do not use electric

Tools in damp or wet locations.

Keep work area well lit. do not use electric tools near flammable liquids or gases.

Guard against electric shock.

Prevent body contact with grounded surfaces, shall be sure the hoist with correct earth connection before applied to operation.

Keep children away.

Do not let visitors contact electric tools or extension cord. All visitors should be kept away from work area.

Store idle tools

When not in use. electric tools should be stored in a dry, high or locked-up place, out of the reach of children.

Use right tools.

Do not force small electric tools or attachments to do the job of a heavy duty ,it will do a better job and operate more safely at the rate for which it was intended. Do not use electric tools for other than their intended purpose.

Dress properly.

Do not wear loose clothing or jewellery, they can be caught in moving parts, rubber gloves and non-skid footwear are recommended when working outdoors. wear protective hair covering to contain long hair,

Do not abuse cord.

Never carry electric tool by cord or yank it to disconnect it from wall outlet. Keep cord from heat, oil and sharp edges.

Secure work.

Maintain firm footing or be otherwise secured when operating the hoist ,use tools to hold the workplace , it is safer and frees both handle to operate electric tool .

Do not overreach.

Keep proper footing and balance at all times

Maintain tools with care.

Keep electric tools sharp and clean for better and safer performance ,follow instructions for lubricating and changing accessories . inspect electric tools cords periodically and, if damaged ,have them repaired by an authorized service facility, inspect extension cords periodically and replace if damaged . keep handles dry, clean and free from oil and grease.

Avoid unintentional starting.

Do not carry plugged-in electric tool with finger on switch, be sure that the electric tool is switched off before plugging in

Outdoor use extension cords.

When electric tool is used outdoors, use only extensions cords intended for use outdoors and so marked

Stay alert.

Watch what you are doing. use common sense .do not operate electric tool when you are tired, distracted or under the influence of drugs, alcohol or medication causing diminished control.

Check damaged parts.

Before further use of the electric tool ,a guard or other part that is damaged should be carefully checked to determine that it will operate properly and perform its intended function. not operate a damaged, malfunctioning unusually performing hoist.

Warning.

Read and understood the instruction manual completely and clearly, before using the hoist.

Ensure that operator know how the machine works, and how it should be operated.

The user shall always work in compliance with the operating instructions.

The use of any other accessory or attachment other than recommended in the instruction manual present a risk of personal injury.

Have your tool repaired by an expert

This electric appliance is built in accordance with the relevant safety rules .repair of electric appliance must only be carried out by experts, otherwise it may cause considerable danger for the user.

Additional safety rules.

1.Not operate the hoist until you have thoroughly read and understood this instructions manual

2. not lifting more than rated load for the hoist

3.not use the hoist with twisted, kinked, damaged, or worn load chain.

4.not use the hoist to lift, support, or transport people.

5.not operate unless load is centered under hoist,

6.not attempt to lengthen the load chain or repair damaged load chain.

7.protect the hoist is load chain from weld splatter or other damaging contaminants.

8.not operate hoist when it is restricted from forming a straight line from hook to hook in the direction of loading.

9.not use load chain as a sling, or wrap chain around load.

10.not apply the load to the tip of the hook or to the hook latch.

11not apply load unless load chain is properly seated in the chain sprocket.

12.not operate beyond the limits of the load chain travel.

13.not leave load supported by the hoist unattended unless specific have been

taken.

14.not operate a hoist unless load slings or other approved single attachments are properly sized and seated in the hook saddle.

15.take up slack carefully-make sure load is balanced and load holding action is secure before continuing.

16.shut down a hoist that malfunctions or performs unusually and report such malfunction.

17.make sure hoist limit switches function properly.

18.warn personnel of approaching load.

19.check brake function by tensioning the hoist prior to each lift operation.

20.avoid swinging the load or hook.

21.make sure hook travel is in the same direction as shown on the controls.

22.inspect the hoist regularly, replace damaged or worn parts, and keep appropriate records of maintenance.

23.not use limit switches as routine operating stops. They are emergency devices only.

24.not allow your attention to be diverted from operating the hoist.

25.not allow your attention to subjected to sharp contact with other hoist, structures, or objects through misuse.

26.not allowed to use in potentially explosive atmosphere.

27.the value of the equivalent sound emission pressure level at the operator is position is lower than 78db.

28.Supplying power need: voltage 230V±10%, frequency 50Hz±1%.

29.The hoist is used at relative humidity below 85%, height above sea below 1000 meters.

30.The hoist's transportation and storage temperature may be above -25℃, below 55℃. It's highest temperature can not exceed 70℃.

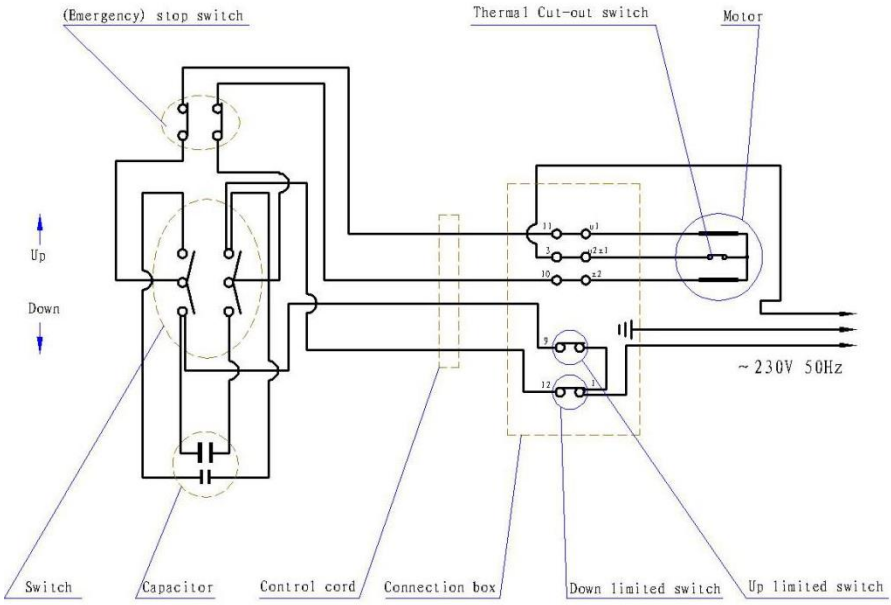
31.Be supplied with a 10 A fuse or 10 A over-current circuit-breaker to protect your electric system.

32.Do not try to lift a fixed or plugged load.

33.Do not lift the load diagonally.

34.Avoid excessive jogging (resulting in a short motor shock).

CIRCUIT DIAGRAM



Use instructions

The electric chain hoist promises a improved work condition and high efficiency, with the limit switch devices, the features of compact structure, light weight, easily operation and nice appearance.

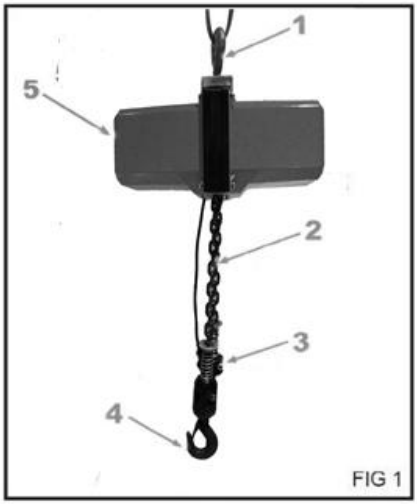


FIG 1

Description(FIG 1)

1. subjection hook.
2. Chain
3. Chain stop
4. Hook
5. Hoist

Unpacking.

After opening the carton, carefully inspect the hoist frame, cords ,hooks, CHAIN and control station for damage that may have occurred during shipment.

Mounting the hoist.

Hang the hoist from its intended support. The structure used to support the hoist must have sufficient strength to withstand several times the load imposed.

Suspending the hoist from an inadequate may allow the hoist and to fall and cause injured and/or damage.

Checking for adequate voltage at hoist.

The hoist must be supplied with adequate electrical power for proper operation and to reduce problems that may result from insufficlent power(low voltage) . these include:

1. noise hoist operation due to brake and/or contactor chatter.

2. Heating of the hoist motor and other internal components as well as heating of wires and connectors in the circuit feeding the hoist.

3. Failure of the hoist to lift the load due to motor stalling.

4. Slowing of motors connected to the same circuit.

Checking for others.

After the hoist is suspended from its support and you have made sure the power supply complies with the requirements the hoist is

ready for operation.

Operating instructions.

1.Check if the (emergency) stop switch is pressed. Turn the red stop switch clockwise to engage.

2.an overload is indicated when the hoist speed slows down, it raises the load in a jerky manner or it will not lift the load at all. Also, some clutching noise may be heard if the hoist is loaded beyond rated capacity. Should this occur, immediately release the “up” button to stop the operation of the hoist. At this point, the load should be reduced to the rated capacity. when the excessive load is removed, normal hoist operation is automatically restored.

3.The hoist is not recommended for use in any application where there is a possibility of adding to an already suspended load to the point of overload. Also if the hoist is used at unusual extremes of ambient temperatures, above40 ℃, or below -9℃,changes in lubricant properties may present possibility of damage or injury, and in that conditions the work duty is reduced than normal operating conditions.

4.Hoist operation is controlled by depressing the control station push buttons. Depressing the “up” push button will move the load hook toward the hoist; depressing the “down” push button will move the load hook away from the hoist.

5.The “up” and “down” buttons are momentary type and the hoist will operate in the selected direction as the long as the button is held in the depressed position. release the push button and the hoist will stop.

6.When preparing to lift a load, be sure that the attachments to the hook are firmly seated in hook saddle. Avoid off center loading of any kind, especially loading on the point of the hook.

7.When lifting, raise the load only enough to clear the floor or support and check to be sure that attachment to the hook and load are firmly seated. Continue lift only after you are assured the load is free of all obstructions.

8.Do not use this hoist out of its work duty.

9.Stand clearing of all loads and avoid moving a load over heads of other heads of other personnel. Warn personnel of your intention to move a load in their area.

10.DO not leave the load suspended in the air unattended.

11.Permit only qualified personnel to operate unit.

12.Do not wrap the load chain around the load and hook on itself as a choker chain.

13.Do not allow a load to bear against the hook latch. The latch is to help maintain the hook in position while the chain is slack before taking up the slack chain.

14.Take up a slack load chain carefully and start load easily to avoid shock and jerking of hoist chain. If there is any evidence of overloading, immediately lower the load and remove the excess load.

15.When the push button is pressed, the machine will stop.

Periodic inspection

To maintain continuous and satisfactory operation ,a regular inspection procedure must be initiated so that worn or damaged parts can be replaced before they become unsafe, the intervals of inspection must be determined by the individual application and are based upon the type of service to which the hoist will be subjected.

Periodic inspections are to be performed semi-annually and the should include the following:

1.extemal evidence of loose screws.

2.extermal evidence of worn , corroded, cracked or distorted hook fixing block, gears, bearings, chain stop ball and hook retainer.

3.extemal evidence of damage or excessive wear of the lift-wheel. Widening and deepening of pockets may cause chain to lift-up in the pockets and cause binding between lift-wheel and chain guide or between lower sheave and hook block. Check chain guide for wear or burring where the chain enters the hoist .severely worn or damaged parts should be replaced.

4.external evidence of excessive wearing of brake parts. Check the control station push buttons to make sure they operate freely and spring back when released.

5.check power cord, control cord and control ststion for damaged insulation.

6.check the chain pin or dead end pin and chain stop for wear and cracks. Any deficiencies noted must be corrected before the hoist is returned to service.

Hook inspection

Hook damaged for chemicals, deformations or cracks or than have more than a 10°， twist from the plane of the unbent hook or excessive throat opening indicates abuse or overloading of the unit.

Check to make sure that the latch is not damaged or bent and that it operates properly with sufficient spring pressure to keep the latch tightly against the lip of the hook and allow the latch to spring back to the tip when released. If the

latch does not operate properly, it should be replaced.

Chain inspection.

Nicks, gouges, twisted links , weld spatter, corrosion pits, striations, cracks in weld areas, wear and stretching. Chain with any one of these defects must be replaced.

Lubricate the chain using 3#calcium-based grease after 200 per cycles. Life of chain is 50000cycles.

Slack the portion of the chain that normally passed over the lift-wheel. examine the interlink area for the point of maximum wear. Measure and record the stock diameter at this point of the link. Then measure stock diameter in the same area on a link that does not pass over the lift wheel (use the link adjacent to the loose end link for this purpose). Compare these two measurements. If the stock diameter of

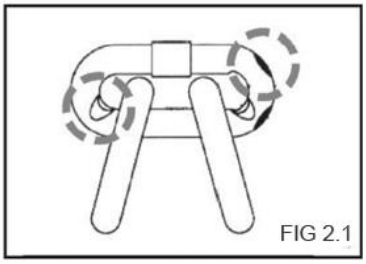


FIG 2.1

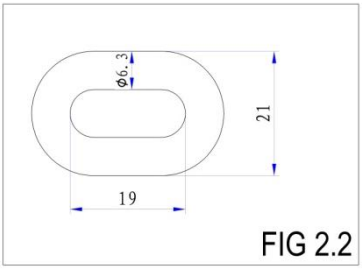


FIG 2.2

the worn link is 0.254 mm(or more).

Less than the stock diameter of the unworn link, the chain must be replaced.

The chain length is 3 meter and it has 157 Knots.FIG 2.2 is specific dimensions of the chain.

Lubrication

The gears are packed at assembly with grease and should not need to be renewed unless the gears have been removed from the housing and degreased.

Bearing.

Rotor bearing are pre-lubricated and require no lubrication. Needle bearings are packed at assembly with grease and should not to be relubricated. However, if the housings, lift-wheel or sheave wheel have been degreased, these bearing should be greased using lithium grease.

Load chain removal/installation(FIG3& FIG4 &FIG5).

1. remove the chain bag(FIG 3)

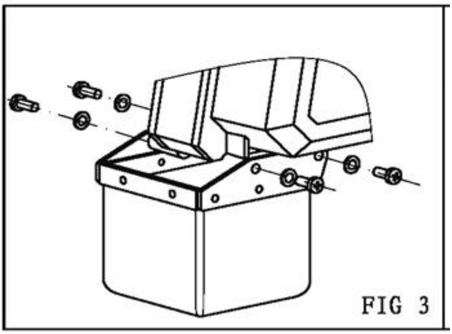


FIG 3

2. remove the hook lock(FIG 4). Depress “up” button and run chain out of the hoist.

3. Jog the “down” push button while pulling on the new chain until the old chain comes out of the hoist.

4. Attach the hook block to the new chain.

5. Remove the chain stop ball from the old chain(FIG 5) and attach it to the new chain by reusing the chain pin.

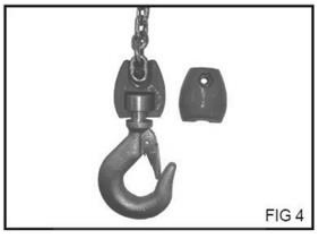


FIG 4


FIG 5

Hook for pulley installation/ removal(FIG 6)

1. 2 holes of hook for pulley aligned with the holes of electrical chain hoist.

2.Firmly secure the hook for pulley and electrical. Using 2 flat round head rivets, 2 plain washes and 2 split pins.

3.Installation in the reverse order to removal hook for pulley.

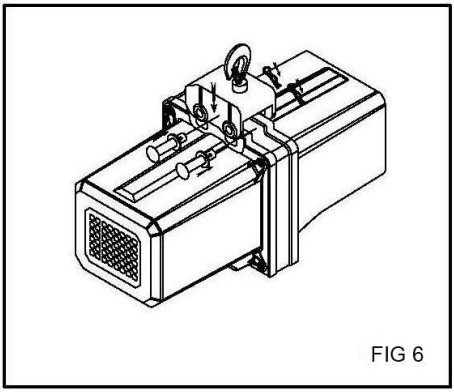
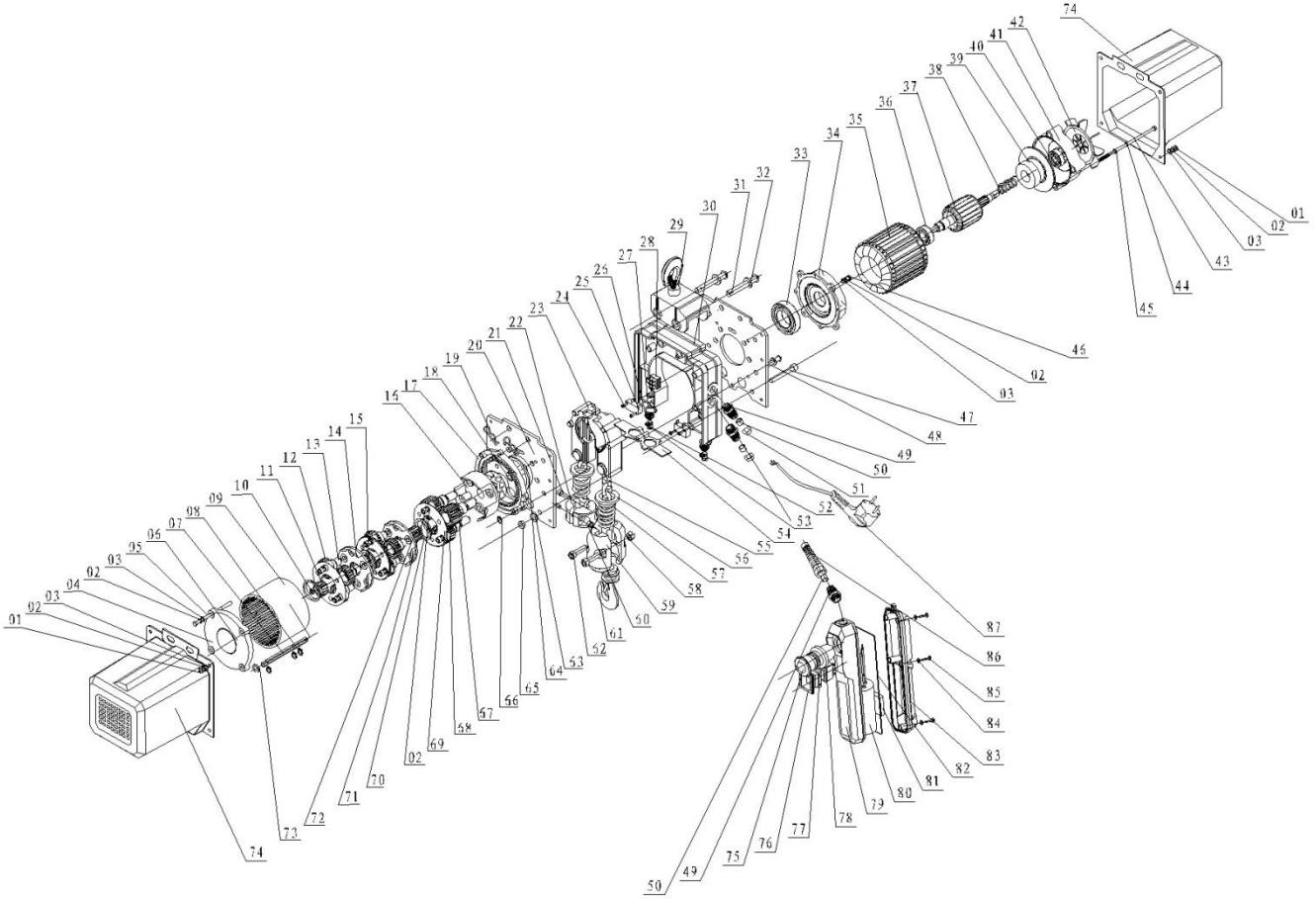


FIG 6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Part list of electric chain hoist

44	Spring washers d5	4			
43	Extra long hexagon bolt M5 × 130	4	87	Plug	1
42	Fan cover	1	86	Screw cap sheath	1
41	Motor cover	8	85	Cross recessed pan head tapping screws ST3.5×18	5
40	Bearing 6201-2RS	8	84	Plain washers d4	5
39	Brake assembly	2	83	Controlling Handle （Cover）	1
38	Brake spring	1	82	Handle Sealed Loop	1
37	Rotor	1	81	Capacitor gaskets	1
36	Bearing 6202-2RS	1	80	Capacitor	1
35	Chassis	1	79	Controlling Handle （Base）	1
34	Front cover	2	78	Positive and negative switch	1
33	Bearing 6007-2RS	1	77	Positive and negative switch cover	1
32	Plain washers d10	2	76	Positive and negative switch cover case	1
31	Flat round head rivets d10	2	75	Emergency stop switch	1
30	Bracket	1	74	Cover	2
29	Hook for pulley	2	73	Plain washers （nonstandard part）	1
28	Terminal block	1	72	Driving gear 3	1
27	Limit shaft seal	2	71	Hexagon socket head cap screws M6×20	3
26	Limit switch spring	2	70	Small cradle	3
25	Limit switch	2	69	Planet gear frame 2	2
24	Cross recessed pan head tapping screws ST2.9×14	4	68	Planet gear 2	3
23	Chain shelf	2	67	Bearing HK1410	12
22	Chain block	2	66	"E" rings d5	1
21	Hexagon socket head cap screws M6×30	2	65	Hexagon thin nuts M8	6
20	Plate	2	64	Big cradle	1
19	Split pins （nonstandard part）	2	63	Plain washers d8	6
18	Coupling shaft	1	62	Hexagon socket head cap screws M8×30	2
17	Ring gear connect bluing	1	61	Hook for pulley	1
16	Chain wheel	1	60	Prevailing torque type Hexagon nut M6	2
15	Driving gear 2	1	59	Limit block	2
14	Planet gear frame 1	2	58	Prevailing torque type Hexagon nut M8	2
13	Planet gear shaft 1	6	57	Spring buffer	1
12	Planet gear 1	6	56	Gasket buffer （nonstandard part）	2
11	Driving gear 1	1	55	d6.3 chain (2.8m)	1
10	Hexagon socket head cap screws M6×10	6	54	Limit Lever	2
9	Ring gear	1	53	"E" rings d6	2
8	Circlips for shaft d8	3	52	Switch shaft	2
7	Drive shaft	1	51	Line sandwich M16	2
6	Gaskets	1	50	Press pad M16	2
5	Extra long hexagon bolt M6×85	4	49	Line sandwich M16	2
4	Gear cover	1	48	Flat round head rivets d6	1
3	Plain washers d6	16	47	Hexagon socket head cap screws M8×55	6
2	Spring washers d6	16	46	Hexagon bolt M6×12	4
1	Cross recessed pan head screws M6×12	8	45	Plain washers d5	4
No.	Description	Qua.	No.	Description	Qua.