

MAINTENANCE NOTES



CHAIN BLOCK
OPERATING INSTRUCTIONS



IMPORTANT-CAUTION

Install, operate and maintain properly to avoid the possibility of personal injury or damage of materials. This handbook gives important and useful instructions and recommendations to all persons who will install, operate and maintain the Chain Block.

Read thoroughly the contents before use and keep this handbook for future use.

APPLICATION

This chain block is a portable lifting device easily operated by hand chain. It is suitable for use in factories, mines, farms, construction sites, wharves, docks and warehouses for installation of equipment, as well as for loading and unloading goods. It has special advantages for lifting work in the open air and places where no power supply is available.

This chain block can be attached to a trolley of any type as a traveling chain block. It is suitable for monorail overhead conveying system, hand traveling crane and jib crane.

FEATURES

This chain block has five outstanding features in design and service.

1. Safe, reliable in operation with minimum maintenance.
2. High efficiency and small hand pulling force.
3. Light weight and easy handling.
4. Nice appearance with compact design.
5. Durability in service.

PRECAUTIONS BEFORE INSTALLATION

1. Inspect carefully for any damage that may occur during shipping. Check for loose, missing or damaged parts.
2. Confirm that the structure supporting the hoist is strong enough to support the rated capacity of the hoist with a generous safety factor..

PRECAUTIONS BEFORE USE

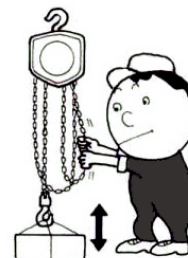
1. Confirm that the load chain is not twisted, kinked, damaged or worn. The load chain must always mesh correctly with the load sheave. Twist always occurred on hoist with double or more falls when turning over the bottom hook through the load chain.



2. Lubricate the whole load chain with machine or gear oil.



3. Check and be sure the brake is functioning properly. Lift the load up 10cm, then stop to check the brake can hold the loads or not.

**PRECAUTIONS DURING USE**

1. Never lift loads in excess of the rated capacity marked on the hoist.



2. Never walk or work under a hoisted load.



3. Never lift, support, or transport people.



4. Do not operate hoist with excessive hand pulling force.

5. Do not allow two or more operator to pull on a single hoist at one time.

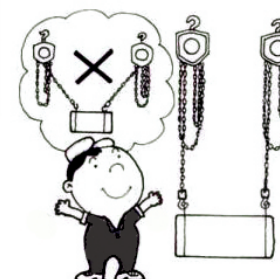
6. Lift loads correctly with proper slings and attachments. Never lift with the tip of the hook.



7. Never use the load chain as a sling by back hooking (never direct bind a load with load chain).

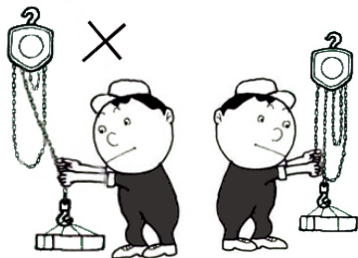


8. Lifting a load with two hoists is not recommended. If the operation is unavoidable, please consult with qualified lifting engineer to make sure the lifting plan is approved. Even though, still take utmost care during the whole operation, keeping balance of the loads. The hook cannot take loads directly.



9. Hoists are designed for lifting loads vertically and should not be used for horizontal or angle hoisting.

10. Never run the load chain out too far. When operated beyond the range of lift, an excessive load that can cause damage will be imposed on the hoist.



11. Never leave a load hanging on the hoist.
12. The hoisting operation should never be done with the hook caught to a stationary object.
13. Never do welding or cutting operation on the loads.

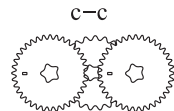


14. Use only genuine parts and chains supplied by the authorized distributors.

MAINTENANCE

After use, maintain the hoist before storing it. Maintenance and repairs should only be carried out by qualified people.

- Clean off the dirt on the chain hoist after use and store it in dry place to keep it from getting rusty and corrosive.
- Clean the parts with kerosene and lubricate the gears and bearings with grease once a year by a skilled hand.
- Align the "O" marks of the two gears (part no.4) while assembling, as shown in Section View C-C.



- While assembling the brake mechanism, take care to mesh the slanting teeth of the ratchet disc and the pawl. Make sure that the pawl is controlled by the spring sensitively and reliably. Then turn the hand wheel clockwise after screwing it onto the driving shaft, and it must press the ratchet gear and the brake disc on the brake seat. Turning it counter clockwise, there should be necessary space between the ratchet gear and brake disc.
- Part no.13 (the stays and the left side plate) is a complete set. Don't dismantle it, otherwise they will get loose.
- After cleaning and repairing, the hoist should be subjected to no-load test and load test. A chain block can be put into operation after it has been tested and found in good condition.
- Keep clean the friction surfaces of the brake while lubricating or operating the block, brake mechanism should be inspected regularly for prevention of failed braking and falling of the load.
- Keep the hoist well lubricated. Oil the load chain, hook shank and chain guide.
- Store the hoist correctly against rain and moisture. When the hoist is installed outdoors, additional care should be taken for maintenance.

INSPECTIONS

Prior to initial use, all new, modified and repaired products shall be inspected in accordance with Table 1. Thereafter, items to be inspected are indicated in Table 1 by F (Frequent) or P(Periodic).

Frequent Inspection- Visual inspection by the operator or other authorized person. This inspection includes listening for unusual sounds while the product is operated that may indicate deficiencies.

Periodic Inspection- Audible-visual inspection as for Frequent Inspections, with some disassembly to allow a more detailed inspection if external conditions indicate the need.

Attention: Brakes require more than audible visual inspection. Check daily by operating the product with and without load, stopping at various positions to ensure safe operation.

TABLE 1 - INSPECTION CHART

F indicates Frequent Inspection,

P indicates Periodic Inspection

PARTS & UNITS	CHECK FOR	F	P
Braking mechanism	Slipping under load	✓	
	Hard to release	✓	
Brake parts: Brake Discs	Glazing		✓
	Oil contamination		✓
Pawl: Ratchet	Excessive wear		✓
Pawl: Spring	Corrosion: stretch		✓
Hook	Chemical damage	✓	
	Deformation	✓	
	Cracks (dye penetrant, magnetic particle, or other suitable detection method)	✓	✓
Hook holding system (Pins, Bolts, Nuts)	Not tight or secure		✓
Hook Latch	Damaged; does not close	✓	
Suspension System (Sheaves, Hand-wheels, Chain attachments, Suspension bolts or pins)	Excessive wear		✓
	Cracks		✓
Gears	Distortion		✓
	Broken or worn teeth		✓
	Cracks		✓
	Inadequate lubrication		✓
Load Block: Suspension housing	Distortion	✓	✓
	Cracks	✓	✓
Trolley: Supporting structure	Possible inability to continue supporting loads		✓
Bolts, Nuts, Rivets	Not tight or secure		✓
WARNING Label	Removed or illegible	✓	

HOOKS

Where applicable, inspect hooks and measure throat opening at least once a month. During regular inspections check visually daily for deformation, distortion, twisting, damage and missing or damaged hook latches.

Hooks damaged from chemicals, deformations or cracks, or that have more than 10° twist from the plane of the unbent hook or excessive opening or seat wear, must be replaced. Also hooks that are opened to the extent that the latch does not engage the tip must be replaced. See figure 1.

Replace hook when opening is more than	Hoist capacity tonnes
31mm	0.5
31mm	1
41mm	1.5
41mm	2
43mm	3
55mm	5
58mm	10
80mm	20
92mm	30



Figure 1 - Hook throat opening

Top and bottom hooks have same dimensions.

CHAIN

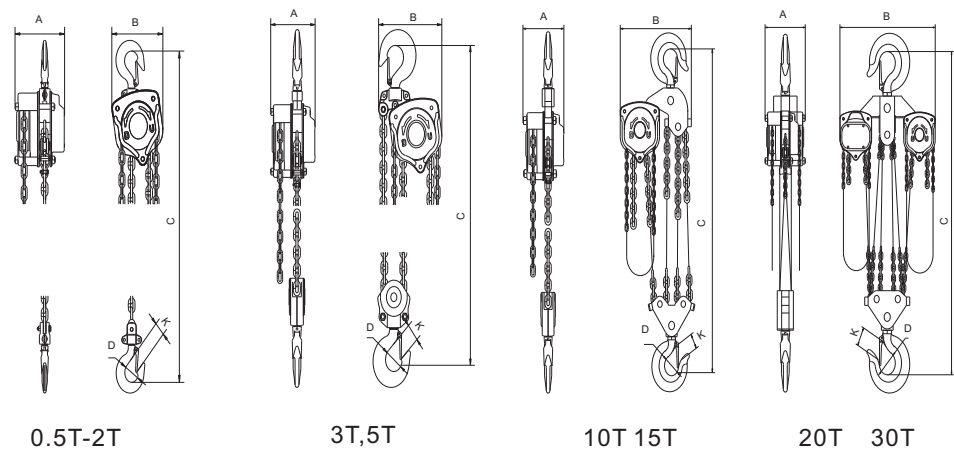
Inspect chain before each use. During regular inspections, check visually daily for nicks, gouges, weld splatter, corrosion, or distorted links. Inspect chain thoroughly if it does not feed smoothly over load sheaves. Inspect as follows.



Figure 2

- Clean chain before inspection.
- Test hoist with load and observe the operation of the load chain on load sheave.
- Slacken chain and inspect contact points for excessive wear. Refer to Figure 2.

SPECIFICATIONS

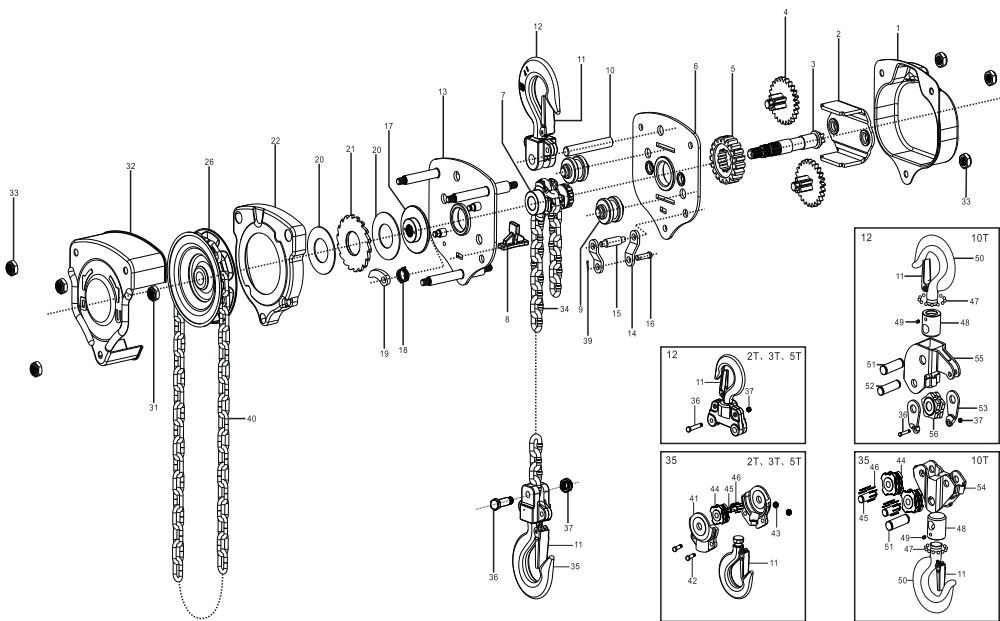


Capacity	t	0.5	1	1.5	1.5	2	2	3	3	5	5	7.5	10	10	15	20	20	30
Standard lift	m	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Running test load	KN	7.5	15	22.5	22.5	30	30	45	45	75	75	112.5	150	150	225	300	300	450
Effort required to lift rated load	N	225	300	310	350	300	310	350	370	400	415	415	410	415	420	410*2	410*2	410*2
Diameter of load chain	mm	5	6	7.1	8	6	8	7.1	8	9	10	10	9	10	10	9	10	10
Strands of load chain		1	1	1	1	2	1	2	2	2	2	3	4	4	6	8	8	12
Dimensions	A	mm	132	152	152	155	152	185	152	155	185	189	189	185	194	220	224	274
	B	mm	152	157	180	180	170	207	207	207	267	267	380	380	400	440	440	649
	C	mm	315	355	375	375	405	430	500	500	680	680	650	750	750	880	940	1100
	D	mm	34	38	48	48	48	48	50	50	57	57	72	80	85	106	106	120
	K	mm	27	27	36	36	36	36	38	38	48	48	47	51	51	58	70	80
Net weight	kg	8.5	11	13.5	14.5	14.5	17.5	20.5	23	36.5	39.5	44	60	65	102	146	156	246
Packing measurement	CM	24.5x19x18	26x19x19	30.5x21x19	30.5x21x19	31x20x19	30x23.5x23	34x24x19	34x24x19	49x29x23	49x29x23	47x42x23	47x42x22	47x42x23	97x48x23	80x70x24	80x70x23	80x70x37
Extra weight per metre of extra lift	kg	1.3	1.6	2	2.3	2.2	2.3	3.2	3.7	4.5	5.3	7.5	8.1	9.7	14	16.2	19.3	28.2

★ As our products are incessantly being improved and developed, their structures may be slightly different from this instruction.

Subject to technical changes without prior notice.

SPARE PARTS LIST



1. Gear Cover

2. Gear Plate Assembly

3. Pinion Shaft

4. Gear Set

5. Lift wheel Gear

6. Gear Side Plate Assembly

7. Load Sheave

8. Chain Stripper

9. Chain Guide

10. Upper Hook Pin

11. Latch Kits

12. Upper Hook Assembly

13. Brake Side Plate Assembly

14. Chain Stop

15. Chain Stop Bolt

16. Chain Stop Pin
17. Friction Hub

18. Retaining Spring

19. Retaining Pawl

20. Brake Disc

21. Ratchet Gear

22. Brake Cover

26. Handwheel

31. Nut for Pinion Shaft

32. Handwheel Cover

33. Nut for Cover

34. Load Chain

35. Lower Hook Assembly

36. Chain Bolt

37. Chain Nut

39. Split Pin

40. Hand Chain
- 41.Hook Holder

42.Bolt for hook holder

43.Nut for hook holder

44.Idle Sheave

45.Idle Sheave Axle

46.Needle

47.Steel Ball

48.Connecting Sleeve

49.Nut for Connecting Sleeve

50.Hook

51.Connecting Axle

52.Upper moving axle

53.Chain suspender

54.Bottom Hook Holder

55.Upper Hook Holder

56.Idle Sheave