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Hoists,Winches, Clamps- Serial Hoists and Winches- AS1418.2- General Requirements and Care and Use.









SAFETY NOTES:

1. Read and understand the entire owner's manual before attempting operation. Failure to comply with instructions and warnings may cause serious injury.
2. This lever hoist is designed and intended for use by properly trained and experienced personnel only. If you are not familiar with the proper and safe operation of a lever hoist, do not use until proper training and knowledge have been obtained.
3. Do not use this lever hoist for other than its intended use. If used for other purposes, NXTGEN disclaims any real or implied warranty and holds itself harmless from any injury that may result from that use.
4. Do not use lever hoist to lift, support or transport people; or to lift or support loads over people.
5. Do not exceed the rated capacity of the hoist.
6. Do not attempt to extend the lever handle using a "cheater pipe" or any other such device.
7. Do not strike the lever handle with a hammer or any other object.
8. Do not use the chain as a sling. This may cause damage to the chain.
9. Always inspect the lever hoist for damage prior to use. If hoist is damaged, do not use until it has been repaired or replaced.
10. Do not use more than one lever hoist to lift or move a load. If this is unavoidable, each hoist must have the same capacity as the load to be moved.
11. Never allow chain to "set" over sharp edges. All pulls or lifts must be made with straight chain that is free of obstacles.
12. If the lever handle is difficult to operate, then the load exceeds the capacity of the hoist. Reduce load or select a hoist of larger capacity.
13. Do not use hoist if the chain is twisted, kinked or damaged.
14. Do not operate hoist unless load is centered between top and bottom hooks.
15. On hoists with the overload warning lever, do not use this device to measure load weight.
16. Always take time to study the job to be performed and choose the safest method. Do not place yourself or other people in an unsafe position.
17. Always maintain your balance and firm footing when operating the lever hoist.
18. Do not attempt to lengthen or repair load chain.
19. Replace chain with factory replacement chain only. Do not use any other type of chain.
20. If welding near the hoist, do not allow the chain or hook to be touched by a live electrode. Prevent weld splatter upon the chain.
21. Never use the hoist if either hook is stretched, deformed, or has a broken or missing safety latch. Always replace the safety latch and/or the hook before placing the hoist back in service.
22. Be sure supporting structures and load-attaching devices used in conjunction with this lever hoist provide an adequate safety factor to handle the rated load plus the weight of the equipment. If in doubt, consult a qualified structural engineer.
23. Keep visitors a safe distance from the work area. Keep children away.

Check the load chain

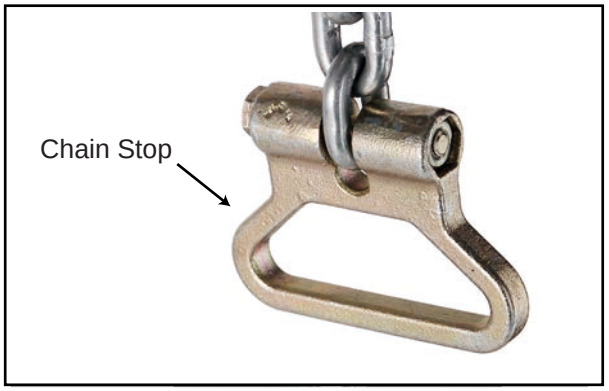
1. A chain stop must be attached to the second-to-last link on the slack end of the chain. See Picture 2.

   Do not operate the hoist with a twisted, kinked or damaged chain. Do not splice the chain.

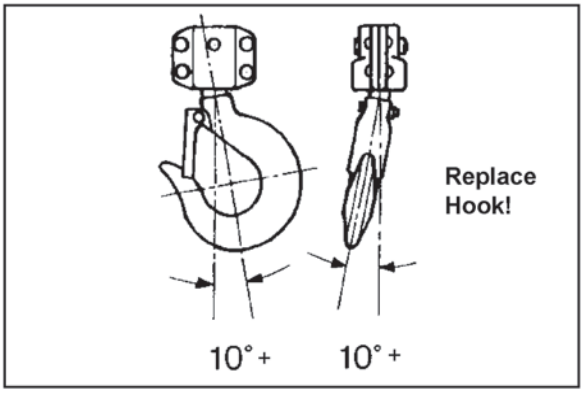
2. Check that the chain does not twist along its length from hoist to hook. If twist is present on units with multiple falls, the hook must be passed back through the chain loop to remove all twist in the chain.
3. Replace the chain if links are stretched too long or seriously worn on the surface, especially at the points where links contact each other. See "Load Limits" for measuring chain elongation.
4. Do not use a chain that is seriously rusted or cracked.
5. Periodically apply a light coat of 30-weight oil to the chain. This will create easier operation and prolong the chain's life. For optimum results, clean the chain with an acid-free solution before oiling.

The load chain supplied with your NXTGEN lever hoist is designed, manufactured, and tested for proper fit and durability. If chain should ever need replacing, for your own safety use factory replacement chain only. Use of other than factory replacement chain may cause serious injury and/or damage to the lever hoist.

Never extend load chain by welding a second piece to the original.



Picture 2



Picture 3

Checking Hooks

It is important to check top and bottom hooks for proper opening and other signs of deformation or damage. Replace a hook immediately if any of the following problems are identified:

- The safety latch no longer contacts the hook opening.
- The vertical angle at the neck of the hook reaches 10° (see Picture 3).
- Chemical corrosion or cracks on the hook.
- Excessive wear on the inside surface.
- The throat opening has enlarged. (maximum allowable limits for the throat opening.)

Do not attempt repair of a hook by heat treating, bending or attaching anything by welding. Such procedures will weaken and may cause failure of the hook.

Other Inspections

1. Check for appropriate clicking sounds: With the selector lever in UP position, there will be a clicking sound when the lever handle is rotated in either direction. When the selector lever is in DOWN position, there will be a clicking sound only when the lever handle is ratcheted back into position but not as the load is lowered. If these sounds are not present, or if irregular clicking noises develop, do not use the hoist – have it inspected and repaired by an authorized service center.
2. If the lever hoist has not been used for an extended period of time, check for proper operation before putting into service.
3. The brake mechanism must be kept clean and free from dirt, water, and oil. Never allow oil to penetrate the braking mechanism. The brake should not slip while using the hoist.

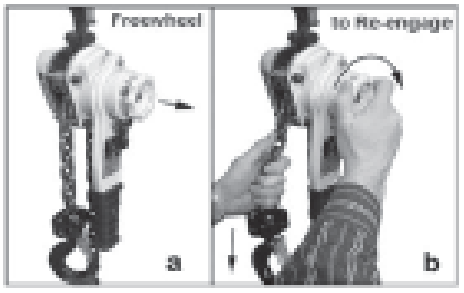
HOW TO USE THE LEVER HOIST

The NXTGEN Lever Hoist may be used either in vertical position as a hoist; or in angled or horizontal position as a puller. Below is the general procedure for operating the hoist:

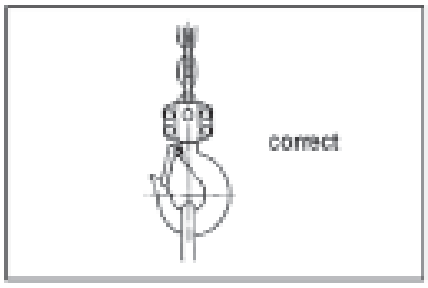
1. Set the top hook securely.
2. Place the selector switch on the handle in the center neutral position, and pull out on the hand wheel (Picture 4). This will allow “free-wheel” mode. Pull the load chain by hand to position the bottom hook.
3. Correctly center the load on the bottom hook (Picture 5). Incorrect loading is dangerous to the operator, the lever hoist, and the load.

- Never load the hook in front of the safety latch (A, Picture 6).
- Never load the hook tip (B, Picture 6).
- Never load the hook off the centerline (C, Picture 6).
- Never load the hook sideways (D, Picture 6).

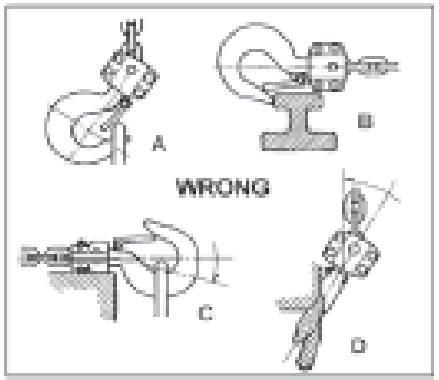
4. Rotate the hand wheel clockwise while simultaneously pulling down on the load chain, as shown in Picture 4. The hand wheel will snap back into place, re-engaging the gear.
5. Move selector switch to the UP position. Ratchet the lever to raise or pull the load. Do not overload the lever hoist.



Picture 4



Picture 5



Picture 6

⚠WARNING Use of other than factory replacement chain may cause serious injury and/or damage to the hoist.

6. The top and bottom hooks on your VTL chain hoist are designed to open to warn of an overload. Both top and bottom hooks for 0.5 to 5 ton hoists have two indicator points (A, Picture 1) cast into the hook for measurement. Refer to Table 2 to determine if a hook needs to be replaced.

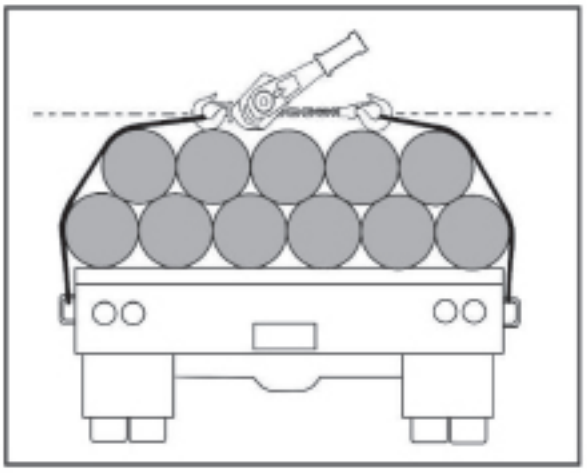
   Hooks for 10- and 20-ton hoists do not have indicator points. Measurements are made at the jaw opening (B, Picture 1).

7. It is important to check top and bottom hooks for proper opening. If the safety latch no longer contacts the hook opening, replace the hook. **Never side load the top or bottom hook; this practice is dangerous and could lead to serious injury.**

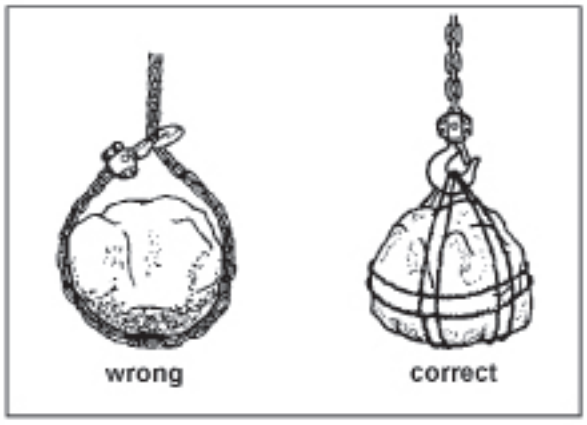
If the vertical angle at the neck of the bottom or top hook reaches 10°, replace the hook (see Picture 2).

Precautions

- During lifting operations, do not stand under the load.
- Do not use any extension on the lever handle. Do not use your foot to apply pressure to the lever handle.
- Prevent the chain from dragging over sharp edges or corners. This will cause links to weaken, bend, or break.
- When connecting to a wire rope sling, the lever hoist must be applied along a straight line parallel to the surface on which it is resting. See Picture 7.
- When lifting loads, hook the load with slings. Do not use the lever hoist chain as a sling
- (Picture 8).
- Both ends of a sling or rope must be completely on the inside of the safety latch before pulling or lifting the load. Do not put one end on the inside of the latch and leave the other end on the hook



Picture 7

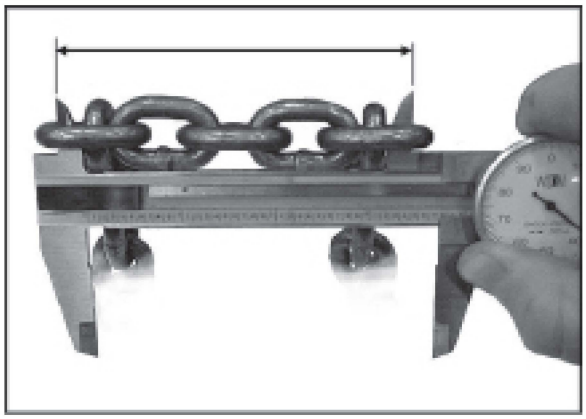


Picture 8

LOAD LIMITS

Load Chain

Carefully inspect the entire load chain. As illustrated in Picture 9, measure five consecutive links with calipers to find the length, Compare the results with the table in Picture 9. Check every three feet and especially where excessive wear is indicated. Any load chain that shows noticeable deformation or heat influence must be replaced with a new one.



Hoist Capacity	5 Links Normal (mm)	5 Links Limit Replace if ≥
0.8 ton	79	81.3
1 ton	79	81.3
1.6 ton	100	102.8
2.5 ton	124	127.6
3.2 ton	141	145.1
6.3 ton	141	145.1
9 ton	141	145.1

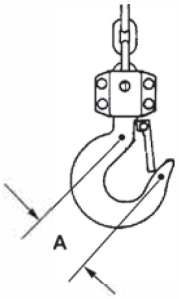
Picture 9

⚠WARNING Never extend load chain by welding a second piece to the original.

Hooks (Top and Bottom)

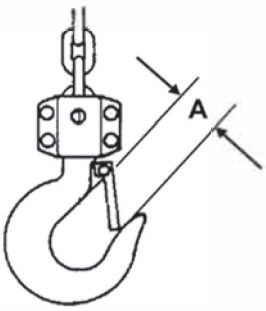
Replace the hook when the distance between indicator points – "A" in Pictures 10 and 11 – is wider than the limits given in the table.

Never heat treat the hook or attach anything to the hook by welding.



Hoist Capacity	"A" Dimension Normal (mm)	"A" Dimension Replace if ≥
0.8 ton	41.8	44
1 ton	49.9	52.5
1.6 ton	52.3	55
2.5 ton	59.9	63
3.2 ton	62.7	66
6.3 ton	84.6	89

Picture 10



Hoist Capacity	"A" Dimension Normal (mm)	"A" Dimension Replace if ≥
9 ton	54.1	57

Picture 11

REPLACEMENT ACCESSORIES

Replacement parts are listed on the following pages. To order parts or reach our service department, call your closest authorized dealer.

INSPECTION AND MAINTENANCE

The lever hoist should be stored in a clean, dry environment. Clean and oil the hoist before storage. Hoists that are installed out-of-doors should be covered or brought inside when not in use. Periodically apply a light coat of 30 weight oil to the load chain. Also lubricate the safety latches and the bearings in the hooks.

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

OVERLOAD PROTECTION

Some models of the NXTGEN Lever Hoist have overload protection in the form of a slip clutch The slip clutch is effective between 1.3 to 1.8 times the rated hoist capacity.

The slip clutch will allow the lever handle to rotate without lifting the load, if the load is too heavy for the hoist. The slip clutch has been pre-adjusted at the factory and should not require any adjustment by the user. If future adjustment or repair to the slip clutch should ever be needed, this must be done by qualified personnel.

TABLE 1 - INSPECTION CHART

In chart, F indicates Frequent Inspection, P indicates Periodic Inspection

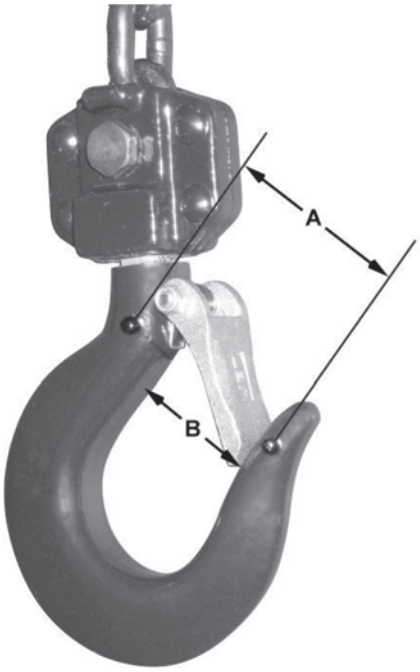
LOCATION		CHECK FOR	F	P
Braking mechanism		Slipping under load	✓	
		Hard to release	✓	
Brake parts:	Brake Discs	Glazing		✓
		Oil contamination		✓
	Pawl: Ratchet	Excessive wear		✓
	Pawl: Spring	Corrosion: stretch		✓
Hook		Chemical damage	✓	
		Deformation	✓	
		Cracks (dye penetrant, magnetic particle, or other suitable detection method)		✓
Hook retaining members (Pins, Bolts, Nuts)		No tight or secure		✓
Hook Latch		Damaged; does not close	✓	
Suspension Member (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	✓	

How to use Chain Hoist

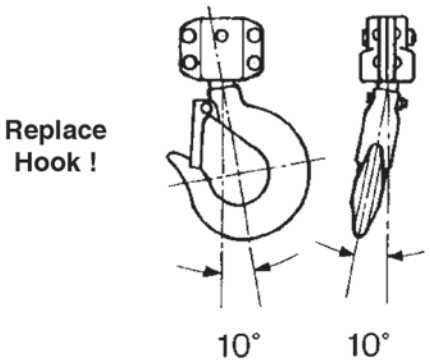
Before Operation

1. Support for the hoist may be hook, clevis pin, trolley, or beam clamp. Whatever method of suspension is chosen, the support components **must** be rated equal to, or greater than the capacity of the chain hoist.
2. If the chain hoist has not been used for an extended period of time, check for proper operation before putting into service.
3. The brake mechanism must be kept clean and free from dirt, water, and oil. Never allow oil to penetrate the brake mechanism. Always keep your chain hoist clean and store in a clean, dry location.
4. Although oiling the chain is not mandatory, a light coat of 30-weight oil applied periodically to the chain will create easier operation and prolong the life of the chain.
5. Check the chain for damage and elongation. Replace damaged chain before using the chain hoist.

The load chain supplied with your VTL chain hoist is designed, manufactured, and tested for proper fit and durability. Over a period of time, the chain may need to be replaced. For your own safety, use factory replacement chain only.



Picture1



Picture 2

⚠WARNING Use of other than factory replacement chain may cause serious injury and/or damage to the hoist.

6. The top and bottom hooks on your VTL chain hoist are designed to open to warn of an overload. Both top and bottom hooks for 0.5 to 5 ton hoists have two indicator points (A, Picture 1) cast into the hook for measurement. Refer to Table 2 to determine if a hook needs to be replaced.

   Hooks for 10- and 20-ton hoists do not have indicator points. Measurements are made at the jaw opening (B, Picture 1).

7. It is important to check top and bottom hooks for proper opening. If the safety latch no longer contacts the hook opening, replace the hook. **Never side load the top or bottom hook; this practice is dangerous and could lead to serious injury.**

If the vertical angle at the neck of the bottom or top hook reaches 10°, replace the hook (see Picture 2).

Hanging the Load

Secure the upper hook.

Place the bottom hook securely into the object to be lifted.

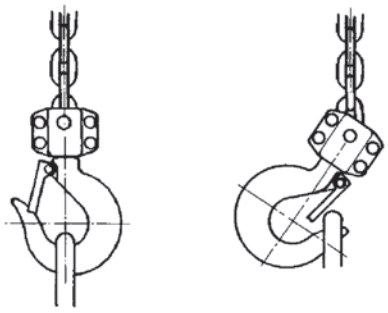
Place ropes or chain in the center of the bottom hook, making sure the safety latch is secure. Never load the hook in front of the safety latch. See Picture 3.

Avoid lifting one load with two hoists. If this is unavoidable, apply equal weight to both hoists and use hoists with the proper lift capacity. Capacity of each hoist must be equal to the total load to be lifted.

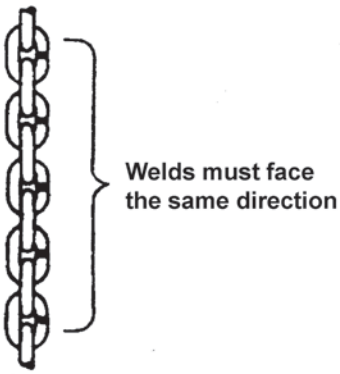
Check that the chain is not twisted at the bottom hook. All welds should face the same direction (Picture 4).

For hoists with two or more falls of chain, make sure the bottom hook is not turned over. This may cause the chain to twist.

For hoists with two or more falls of chain, make sure the bottom hook is not turned over. This may cause the chain to twist.



Picture 3



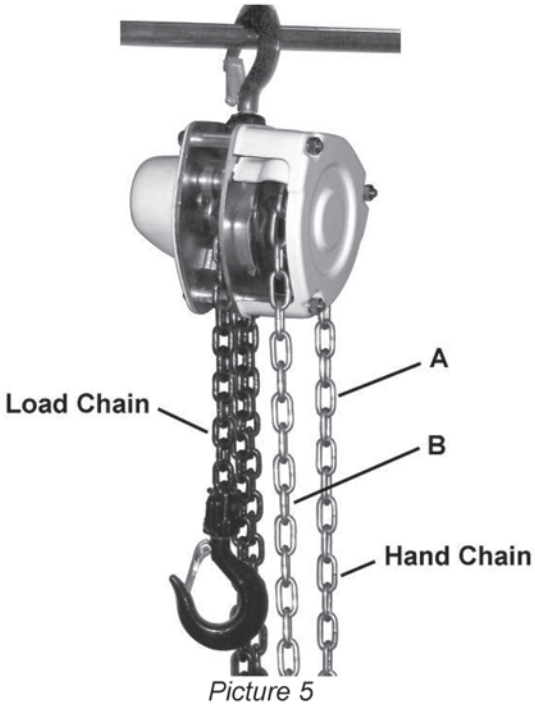
Picture4

Lifting the Load

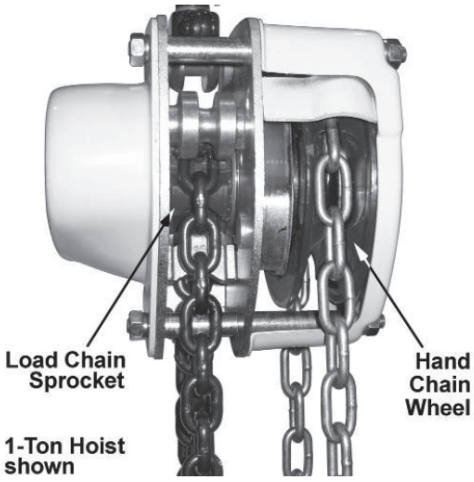
To raise the load, pull the right side of the hand chain (A, Picture 5) clockwise.

To lower the load, pull the left side of the hand chain (B, Picture 5) counterclockwise.

Important: Make sure the hoist has an adequate length of load chain to raise or lower the load in a safe manner. Do not attempt to lower the hoist beyond its limit.



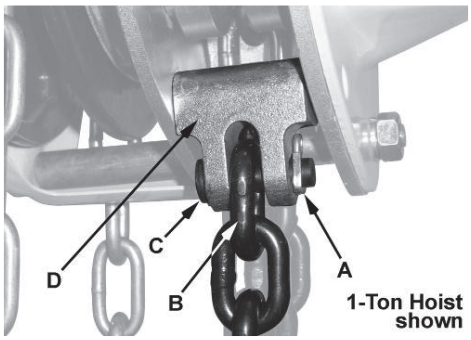
Picture 5



Picture 10

Referring to Picture 11:

4. Insert one end of the *chain link* (B) into the *chain anchor* (D).
5. Insert the *chain anchor pin* (C) through the *chain anchor* (D) and *chain link* (B) and secure with the *cotter pin* (A).



Picture 11

Continue with *Load Chain and Bottom Hook Installation* on the following page, proceeding to the section that applies to your hoist: *1/2- to 2-Ton hoists*, *3- to 5-Ton hoists*, or *10- to 20-Ton Hoists*.

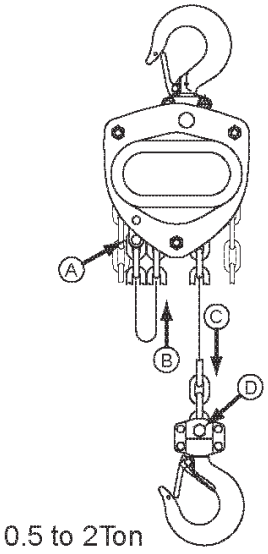
Bottom Hook and Load Chain Mounting

The following procedure assumes that the *load chain* has been attached to the *chain anchor* (A, Picture 12) and feed through the *load chain sprocket* as described in the previous section. This section completes the load chain and bottom hook installation.

Load Chain Installation – 0.5- to 2-Ton Hoists

Referring to Picture 12:

1. Remove the *lock nut* and *bolt* from the *lower hook* (D).
2. Insert the last *chain link* (C) into the lower hook slot.
3. Re-insert the bolt through the lower hook slot and chain link.
4. Re-attach the lock nut to the bolt and tighten.

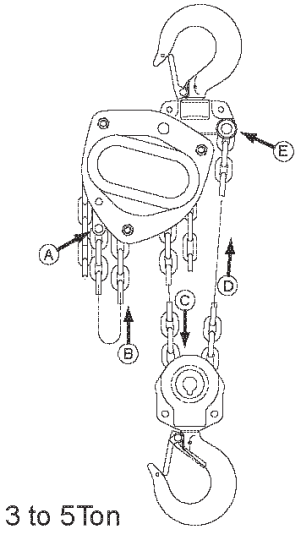


Picture 12

Load Chain Installation – 3- to 5-Ton Hoists

Referring to Picture 13:

1. After installing the load chain into the load chain sprocket (B), run the remaining chain through your hand to remove any twist. The last link of the chain must be in the same direction as the first. If not, cut off the last link.
2. Insert the last link into the pulley of the lower hook (C).
3. Pull the load chain through and up from the underside of the pulley (C, D).
4. Remove the cotter pin and chain anchor pin in the upper hook slot (E).
5. Insert the last link into the upper hook slot.
6. Check that the load chain is not twisted.
7. Re-position the chain anchor pin back through the upper hook slot and the last chain link and secure with the cotter pin.

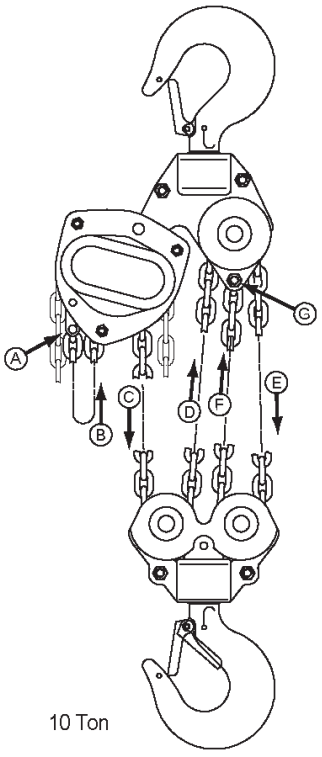


Picture 13

Load Chain Installation – 10- to 20-Ton Hoists

Referring to Picture 14:

1. After installing the load chain into the load chain sprocket (B), run the remaining chain through your hand to remove any twist. The last link of the chain must be in the same direction as the first. If not, cut off the last link.
2. Insert the last link into the left side pulley of the lower hook (C).
3. Pull the load chain through and up from the underside of the pulley (C, D).
4. Insert the last link into the right hand pulley of the upper hook, moving the chain up, then around and down (D, E). Check that the load chain is not twisted and welds face away from the pulley.
5. Insert the last link into the right side pulley of the lower hook, pulling around, then up from the underside of the pulley (E, F). Check that the load chain is not twisted and welds face away from the pulley.
6. Remove the cotter pin and chain anchor pin in the upper hook slot (G).
7. Insert the last link into the upper hook slot.
8. Check that the load chain is not twisted.
9. Re-position the chain anchor pin back through the upper hook slot and the last chain link and secure with the cotter pin.



Picture 14

To install the load chain for 20t & 30t, please consult to **NXTGEN** engineers

Inspection and Maintenance

Read and follow **NXTGEN** Inspection and Maintenance Instructions. Know the meaning of Frequent Inspection, Periodic Inspection, Normal Service, Heavy Service, and Severe Service. It is the customer's responsibility to understand and follow all NXTGEN inspection and maintenance instructions.

All repairs and adjustments are to be performed by trained and experienced personnel using procedures that are approved for the hoist system being serviced. Failure to comply may cause serious injury.

All safety related deficiencies discovered in the inspection are to be corrected before the hoist is to be placed back into service. Failure to comply may cause serious injury.

Check for internal damage whenever external damage has occurred. Failure to comply may cause serious injury.

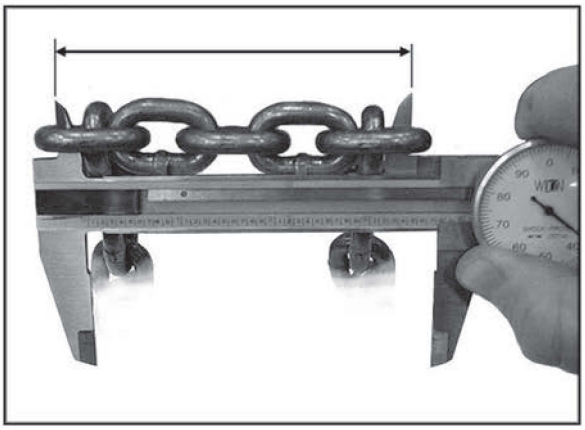
1. Clean hoist after each use and oil lightly.
2. Do not drop or drag the hoist.
3. Store the hoist in a clean and dry environment.
4. Chain oiling is not mandatory but will increase the life of the chain.
5. Leave all repairs and adjustments of internal parts to qualified repair personnel.
6. Inspect the load chain and the lower hook after lifting a maximum weight load.
7. This hoist uses special alloy hoisting chain and does not interchange with any other manufacturer. All replacement chain must be purchased from your NXTGEN distributor.
8. Check and inspect the brake system frequently.
9. Annually, the hoist should be disassembled, inspected, and cleaned by trained and experienced personnel only.
10. After servicing, test the hoist with no load, then test the hoist with a load.

LOAD LIMITS

Load Chain

Capacity	5 Links Normal(mm)	5 Links Limit(mm)
0.25 ton	59.94	61.72
0.5 ton	74.92	77.22
1 ton	95.00	97.79
1.5 ton	104.90	107.95
2 ton	119.89	123.44
3 ton	104.90	107.95
5 ton	134.87	138.94
10 ton	134.87	138.94
15 ton	134.87	138.94
20 ton	134.87	138.94

Table 1



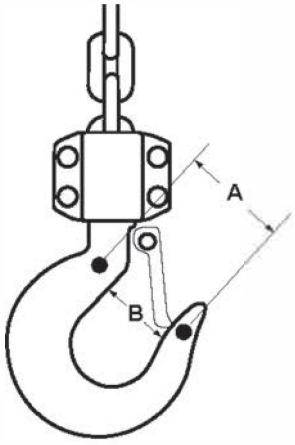
Picture 15

Carefully inspect the entire load chain. As illustrated in Picture 15, measure five consecutive links with callipers to measure the length. Check every metre and especially where excessive wear is indicated. Any load chain that shows noticeable deformation or heat influence must be replaced with a new one. Never extend load chain by welding a second piece to the original.

Hooks (Top & Bottom)

Capacity	"A" Norm (mm)	"A" Limit (mm)	"B" Norm (mm)	"B" Limit (mm)
0.25 ton	35.31	37.34	--	--
0.5 ton	35.54	36.58	--	--
1 ton	44.96	47.75	--	--
1.5 ton	47.24	50.04	--	--
2 ton	52.07	55.12	--	--
3 ton	62.23	66.04	--	--
5 ton	77.72	82.30	--	--
10 ton	--	--	64.00	67.82
15 ton	--	--	80.00	84.84
20 ton	--	--	82.04	86.87

Table 2



Picture 16

See Picture 16. Replace the hook when the "A" measurement is wider than "A" Limit in the table above. Never heat-treat the hook or attach anything to the hook by welding.

REPLACEMENT PARTS

Replacement parts are listed on the following pages. To order parts or reach our service department, call your closest authorized dealer.

OVERLOAD PROTECTION

If you have purchased an **NXTGEN** Hand Chain Hoist fitted with overload protection, the following information should be read in conjunction with all other information contained in this Operator's Manual:

- The "LOAD-SAFE" overload protection consists of the components shown as sub-parts of part #30 in the exploded view of the product.
- The overload protection is calibrated at the time of manufacture and should not require re-calibration if the hoist is used as intended.
- The overload clutch can be re-calibrated using factory supplied tools available only to **NXTGEN** repair agents.
- In the unlikely event of the overload clutch being damaged, complete replacement kits are available. Individual clutch components are NOT available.

DO NOT, WHERE APPLICABLE:

1. Lift more the rated load.
2. Operate the product when it is restricted from forming a straight line with the direction of loading.
3. Operate with twisted, kinked or damaged chain.
4. Operate if chain is not seated in sheaves or sprockets.
5. Wrap chain around load or use chain as a sling.
6. Operate unless load is properly applied to the saddle or bowl of the hook.
7. Operate if load is applied to the tip of the hook.
8. Operate with damaged or missing hook latches.
9. Lift people or lift loads over people.
10. Operate with side-pulling of load to hoist.
11. Operate a damaged or malfunctioning product.
12. Operate with other than hand power.
13. Remove, deface, or obscure warning label or labels.
14. Leave load suspended if unattended, unless specific precautions have been instituted.
15. Length load chain or repair damaged load chain by welding.

INSPECTION AND MAINTENANCE

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

Exception: 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

In chart, F indicates Frequent Inspection, P indicates Periodic Inspection

LOCATION		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 retaining members (Pins, Bolts, Nuts)		No tight or secure		✓
Hook Latch		Damaged; does not close	✓	
Suspension Member (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	✓	

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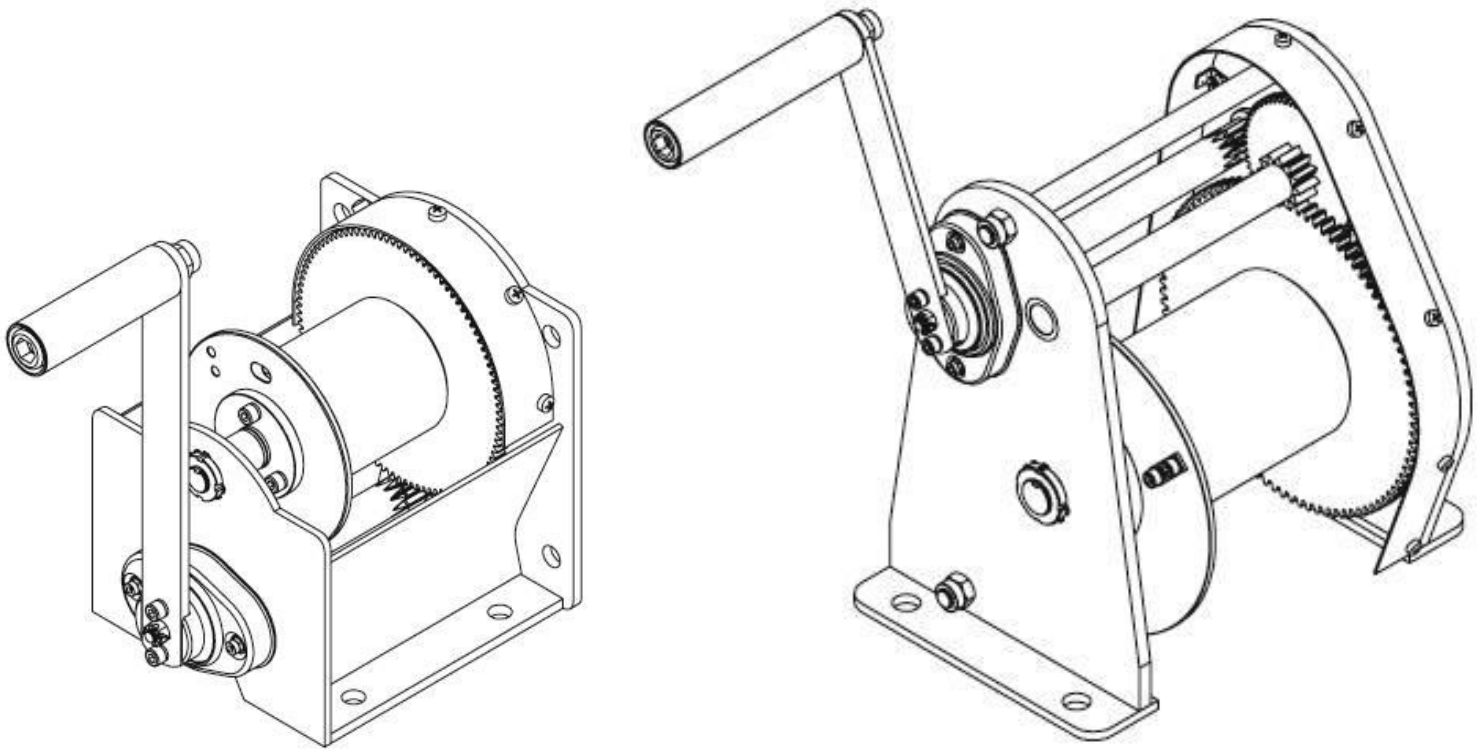
OPERATOR'S MANUAL

TiTAN

BRAKE WINCHES

Working Loads: 500KG & 1 TONNE

Please read the Owner's Manual carefully before operating the equipment.



TiTAN
LIFTING TECHNOLOGIES

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Important Information and Precautions

The information in this manual should be used only for the Titan Brake Winches. This manual contains general instructions dealing with the normal installation, operation, and maintenance of the products described herein. The information provided should not be expected to prepare the user for all possible circumstances.

This product should not be installed, operated, or maintained by any person who has not read all the contents of these instructions. Failure to read and comply with these instructions, warnings, or limitations noted might result in bodily injury, death, or property damage. Contact the distributor for further explanation if information is not fully understood.

It is the responsibility of the owner/user to install, test, maintain, and operate these products in accordance

Only trained and qualified personnel shall operate and maintain this equipment.

Maintain Records

Schedule and maintain records of regular inspection and maintenance of the product in compliance with AS 1418.2

Precautions

Modifications to upgrade or alter these products should only be authorized by the original manufacturer.

Brake Winches should be used for holding loads only within their load ratings.

These Brake Winches meet or exceed the following standards:

AS 1418.2
NZS 1418.2

Warnings and Precautions

Failure to read and comply with the following warnings may result in a hazardous situation that could lead to death, serious injury, or property damage. Keep this manual near the equipment at all times. Do not remove, alter, or obscure the labels attached to the winch.

Do Not operate until all personnel are warned or cleared from the area.

Do Not lift people or lift loads over people.

Do Not allow people anywhere near the potential path of wire rope that could snap.

Do Not allow people or situations to become distractions while operating the winch.

Do Not alter the equipment.

Do Not operate a damaged or malfunctioning product.

Do Not leave a suspended load unattended without taking proper precautions.

Do Not operate without verifying wire rope is installed securely to winch drum.

Do Not operate with any power other than manual.

Do Not operate without a minimum of 4 anchor wraps of wire rope on the drum.

Do Not get close to moving parts of the equipment including drum, gears, wire rope.

Do Not lift more than the designated load rating of the winch or other system parts.

Do Not use more than one winch to lift a load, unless the system is so designed.

Do Not lift or pull loads on an incline without a brake installed on the equipment.

Do Not use if the load is not suspended vertically.

Do Not use the equipment if guards are removed or improperly installed.

Do Not allow the load to swing or jerk and avoid shock loads by operating smoothly.

Do Not weld on the lifted load.

Do Not secure load by wrapping wire rope around it, instead use rigging connectors.

Installing the Winch

Choosing a location

- Have a qualified professional confirm that the foundation complies with local codes, is rigid and level, and will support the winch under all load conditions.
- Avoid areas with corrosives, flammables, combustibles, explosives, and other potentially damaging materials.
- Avoid areas defined as hazardous by the National Electric Code, unless proper authorization is received.
- Situate the winch where the operator can avoid the load area and the potential path of snapping wire rope.
- Situate the winch in a place where it can be seen throughout the whole operation.
- Avoid areas with potential interferences such as traffic and obstacles.
- Ensure the winch is easily accessible for operation and routine maintenance.

Installation

1. Use a fleet angle between ½ and 1 ½ degrees.

- This angle permits the rope to spool more evenly onto the drum, reducing harm to the wire rope.

2. Do Not weld the winch frame to the foundation.

- Doing so would invalidate the warranty.

3. Fasten the winch firmly to the foundation.

- For standard products use coarse thread fasteners of at least grade 5 with a torque of 30 ft. lb.

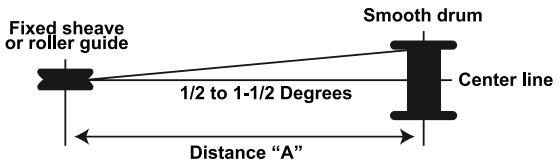
Use safe engineering practices to assure that the mounting holes are attached firmly to a solid foundation that will support the winch and load in all situations.

4. Install the Sheave Roller or Roller Guide.

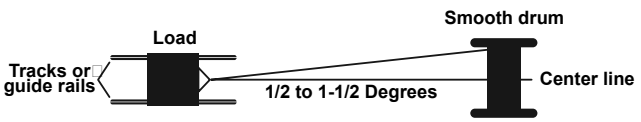
- It is recommended to use a sheave roller or roller guide to direct the wire rope onto the drum.
- Follow recommendations of the sheave manufacturer on installation and use.
- Install sheaves, tracks, and other equipment so that they stay firmly in place in all load situations.
- Select sheaves of a suitable diameter to lessen damage to the wire rope.

Maintain Fleet Angle

1. Wire rope moves over sheave or through the roller guide. Situate sheave or guide an acceptable distance from the drum (distance “A”)



2. Wire rope moves directly to the load. Use tracks or guide rails to prevent sideway movements that can stress and harm the drum flange.



Installing the Wire Rope

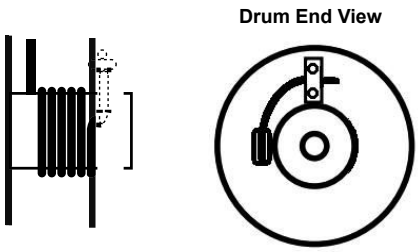
- Ensure the wire rope spools correctly and is attached firmly to the winch drum to prevent release of the load.
- Wear protective clothing when working with the wire rope.
- Prevent damage to the rope by keeping it clean and not allowing it to pass through dirt or debris.

Consider the following information when choosing the proper wire rope.

- Lay of the rope should match the winding direction of the drum.
- Breaking strength should be at least 4 times greater than the WLL when lifting or pulling on a horizontal or vertical load.
- Titan Lifting advises a 7 x 19 galvanized wire rope to be used . 6mm for the 500kg and 8mm for 1Tonne.
- Contact a wire rope supplier for further assistance.

Installation

1. Use the Wire Rope Clamp to anchor the rope to the drum.



i. Thread the end of the wire rope through the flange hole.
ii. Connect the Wire Rope Clamp and secure the screws.
iii. Tighten the screws evenly until the clamp flattens the wire rope against the drum flange.

2. Spool the rope onto the drum by turning the handle clockwise.

a. If the rope unwinds it needs to be re-installed correctly before continuing.

3. Keep the rope under tension, and using the winch, spool four full wraps of rope onto the drum.

Operation

1. Assure that the total force needed to lift the load does not surpass the load rating of the winch.

2. Follow all recommended maintenance and inspections to monitor for any damage that could contribute additional weight to the equipment.

3. A disc brake should be used if loads will be lifted or pulled on an incline.

4. Be aware of variables affecting performance ratings of the equipment.
   a. Loose spooling and overlapping of the wire rope affects drum capacity. Actual drum capacities are 25-30% less than those listed in performance tables.

   b. As rope spools around the drum, the force needed to lift the load increases and the load rating of the winch decreases.
   i. Performance table values are based on a drum without rope and with a maximum handle length.
   ii. The load rating is the greatest pull that can be applied on new equipment without damage or other factors affecting its operation.

5. Maintain the correct fleet angle and keep sufficient tension on the rope so it winds evenly.

6. Take in consideration the factors that can affect the duty rating.
   a. Equipment Maintenance
i. Perform preventative maintenance and inspections to check for damage or defects on a regular basis.
ii. Keep the winch clean and free of debris.

   b. Environmental Conditions
   i. Avoid exposure to extreme temperatures, excessive dirt, wet conditions, flammables, combustibles, explosives, and other potentially damaging materials.

   c. Loading Conditions
   i. Do not exceed maximum load ratings or shock load.

   d. Frequency of Use
   i. Monitor the equipment's parts often as frequency of use increases. More use will increase wear and shorten the life span of the parts.

Pre-Operation

• Be certain that no hazards will interfere with any part of operation and the load will have adequate clear space to be moved.

• Complete all recommended inspections and any maintenance that are due.

• Assure that the operator is well rested, has up to date training on the equipment, and has proper personal protective equipment including hardhat, safety shoes and eyewear, work gloves, and no loose fitting clothing or jewelry.

• Know the total force of the load so that the load rating of the equipment is not surpassed.

Inspections

In order to maintain quality operation of the product, a regular inspection schedule should be set up by each operator. All inspections should be reported and maintained in a dated record log. These records should be available to all personnel involved with the product, and should be made available to Titan Lifting Products . when a warranty issue is in question.

Definitions

The following definitions will be used in the inspections procedure that follows.

Designated Person- a person who is selected or assigned as being competent to perform specific duties to which they are assigned.

Qualified Person- a person that by possession of a recognized degree or certificate of professional standing, or through extensive knowledge, training, and experience, has successfully demonstrated they are able to resolve problems relating to the subject matter and work.

Normal Service- service that involves operation with randomly distributed loads within the rated load limit, or uniform loads less than 65% of rated load for not more than 15% of the time.

Heavy Service- service that involves operation within the rated load limit and exceeds normal service.

Severe Service- service that involves normal or heavy service with abnormal operating conditions.

Inspection Classifications

Frequent Inspections- The operator or designated person performs frequent inspections by doing a visual examination and by listening for unusual sounds during operation. These inspections are usually performed before each operation, every few hours in operation, and if problems arise.

Periodic Inspections- A designated person performs periodic inspections, which are more detailed inspection, by doing visual examinations of internal and external conditions. These inspections are done on the following schedule:

***Normal Service-** Semi-annually
***Heavy and Severe Service-** Quarterly
*Also perform following storage and return to use, if a possible shock load has occurred, and if operation issues arise.

Label Equipment as "Out of Service" if damaged or maintenance is required
• Discontinue use of wire rope and equipment if damage or overloading occurs.

Take note of the following regarding inspections.

- Brakes require more than audible and visual inspection. Check daily by operating with and without a load, stopping at various positions to ensure safe operation. If the load coasts or creeps contact the factory for friction disc replacements.
- Proper inspection may require disassembly of some parts. Contact Titan Lifting before doing so or the applicable warranty may be voided.
- For wire rope inspections please contact the specific manufacturer of the rope. The inspection provided in the chart below is for a general inspection only and is in no way the complete inspection required.
- Before operation assure all deficiencies on the inspection chart are resolved and inspections are up to date. Refer to troubleshooting chart for further assistance.

Inspection Chart

Frequent Inspection (F) and Periodic Inspection (P)

Location	Check For	F	P
General	Paint chipping or excessive wear		X
	Damage, cracks, rust, dents excess wear, or corrosion.	X	
	Unusual sounds	X	
	Smooth load movements	X	
	Winch lubricated	X	
	Signs of overloading (cracks, dents, or damage)		X
	Proper function when operated with a load equal to the load rating		X
Foundation	Good condition/Supports the winch under all conditions	X	
	Cracks, corrosion, damage		X
Brake Assembly	Ratchet pawl clicks firmly as handle is turned clockwise	X	
	Proper operation	X	
	Corrosion, cracks, damage, or wear	X	
Fasteners	Firmly installed	X	
	Properly tightened	X	
	Stripped threads, bent, or damage (check by removing winch from the foundation)		X
Gears, bearings, shafts	Excess wear, cracks, corrosion, or damage		X
	Well lubricated		X
Handle	Rotates freely in both directions	X	
End Connections	Corrosion, excess wear, rust, or damage		X
	Attached firmly		X
Drum	Excess wear or distortion of anchor hole		X
	Excess movement due to misaligned gears, bearings, shafts (check by moving the drum by hand)		X
Load Hook	Bent, twisted or damaged		X
	Hook latch doesn't close when released	X	
	Securely attached to wire rope with no fraying or damage to the rope		X
Frame	Bent, cracks, or damage (signs of overloading)		X
Wire rope	Installed correctly	X	
	Wound tightly and evenly on drum	X	
	No visible damage to entire rope		X
Labels	Not been removed, altered, or obscured (Contact factory for replacements)		X

Repair of the Winch

All repairs must have factory authorization. Contact Alpha Rigging Service to prevent voiding of the warranty and potential damage to the winch.

Perform recommended inspections to identify which parts should be replaced.

- Only use Titan Lifting genuine replacement parts.
- Contact Alpha Rigging Service the local Titan Lifting dealer for replacement parts. Please have the serial number and part number and description available when calling.

Protect the winch from damage and corrosion by monitoring for paint chipping or excess wear.

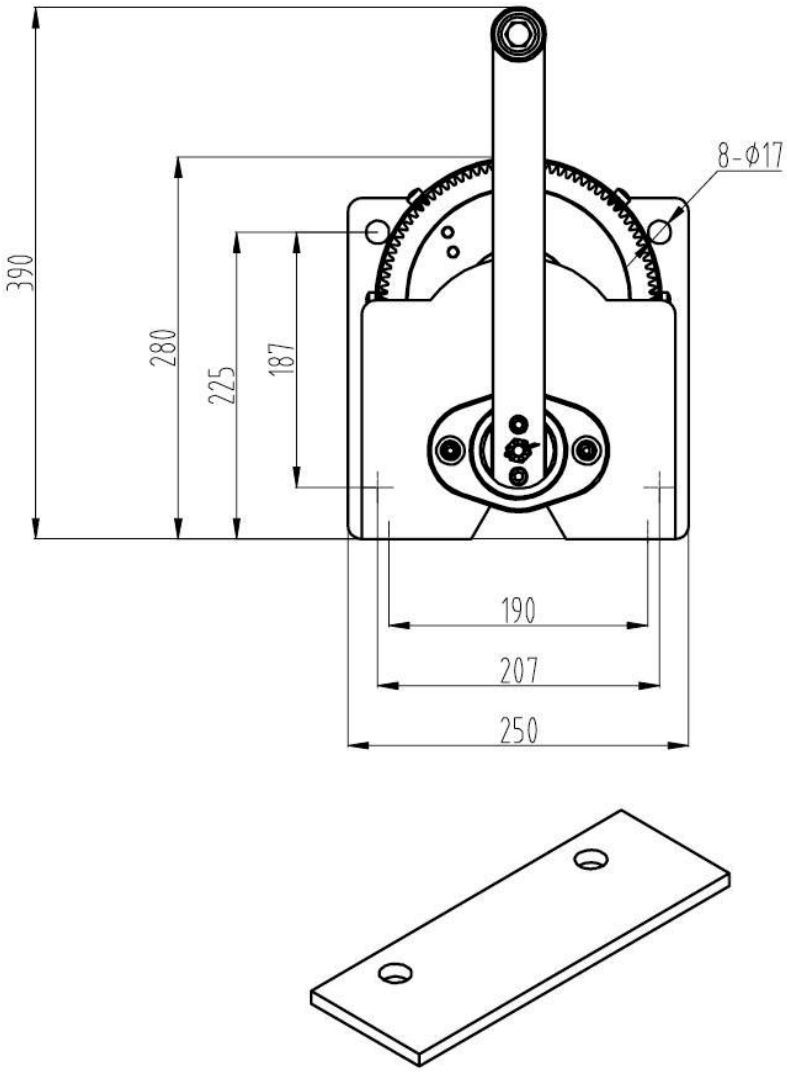
- Refinish any problem areas by removing paint to the bare metal, cleaning the area well and repainting with a high quality primer and finish coat.

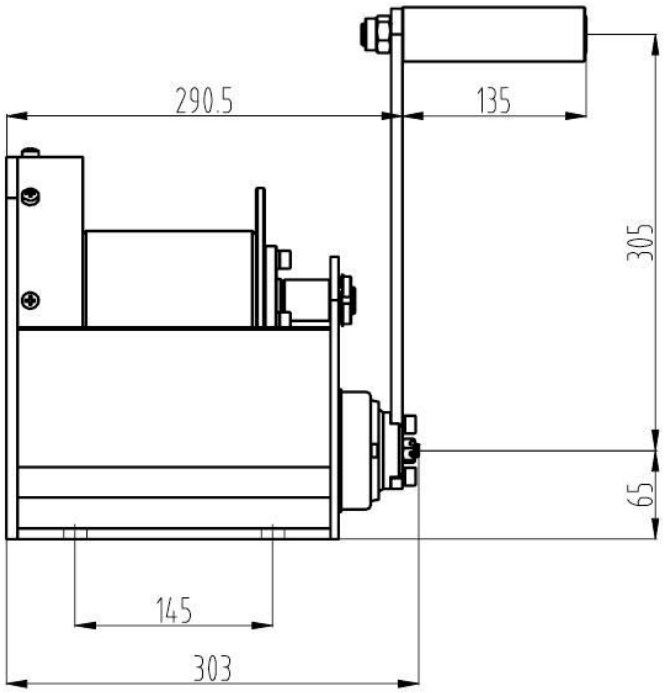
Troubleshooting Chart

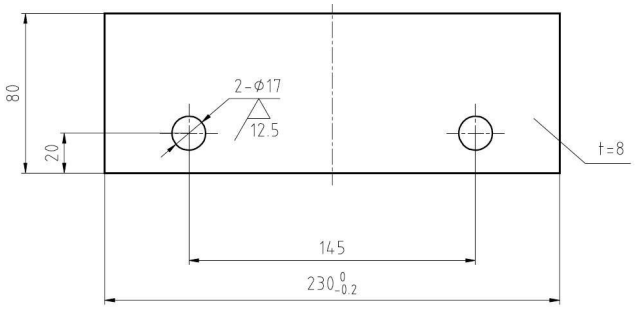
Contact Alpha Rigging Service if disassembly of the winch or brake is required. The warranty will be voided if this is not done.

Problem	Possible Cause	Correction
Brake distance too long	Discs are worn, damaged, or over lubricated	Replace
	Disc brake ratchet pawl damaged or worn	Replace
Excess wear on gears or bearings	Overloaded	Reduce load
	Improper lubrication	Relubricate
Drum not turning (handle functioning okay)	Damaged or loose spring pins	Repair
	Gears broke, stripped, or loose	Repair/Replace
Difficulty turning handle or not turning at all	Heavy load	Reduce load
	Disc brake damaged or locked	Repair
	Gears or bearings damaged or locked	Repair
	Spring pins loose or damaged	Repair
High pitched squeak	Improper lubrication	Relubricate
Grinding noise	Dirty lubrication	Clean and relubricate
	Dirty brakes or gears	Clean
	Broken gears or bearings	Replace
Rattling noise	Loose bolts, screws, fasteners	Tighten
No clicking noise in brake	Ratchet not properly installed	Install correctly
	Ratchet pawl damaged or worn	Replace
Uneven brake clicking	Broken gear tooth	Replace
Dull brake clicking	Dirty or damaged spring or ratchet pawl	Clean or repair
	Excess wear of brake ratchet pawl, spring, or gear	Replace

500kg Specifications / Mounting







BRAKE WINCH
W.L.L. 500kg

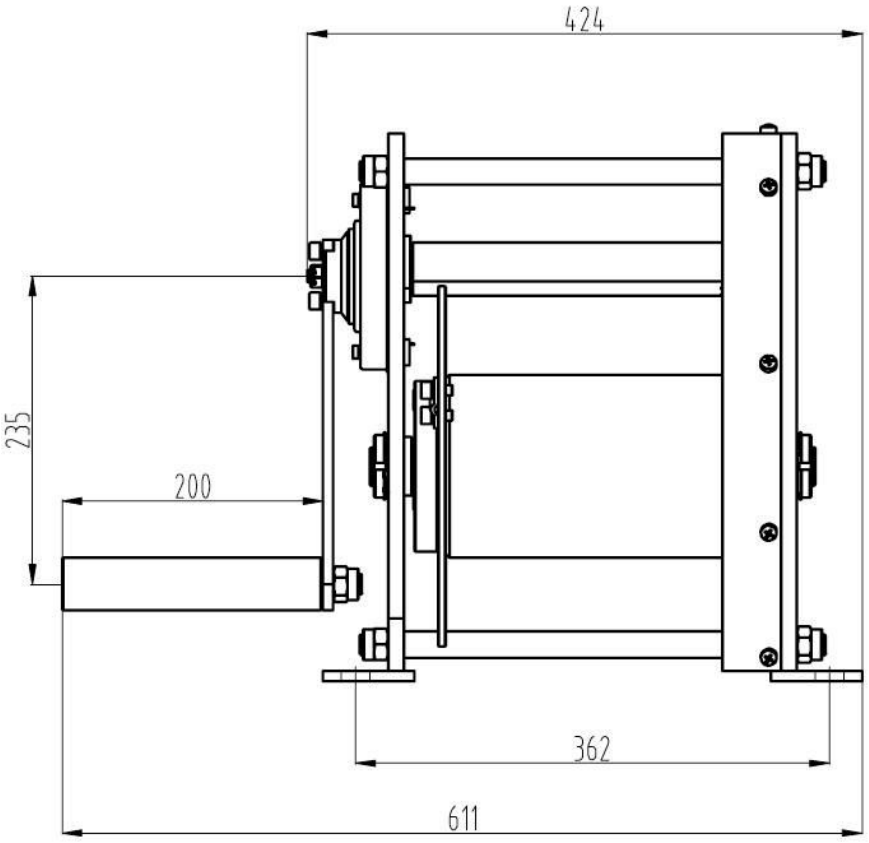
6mm DIAM Wire Rope x 27.5mtr

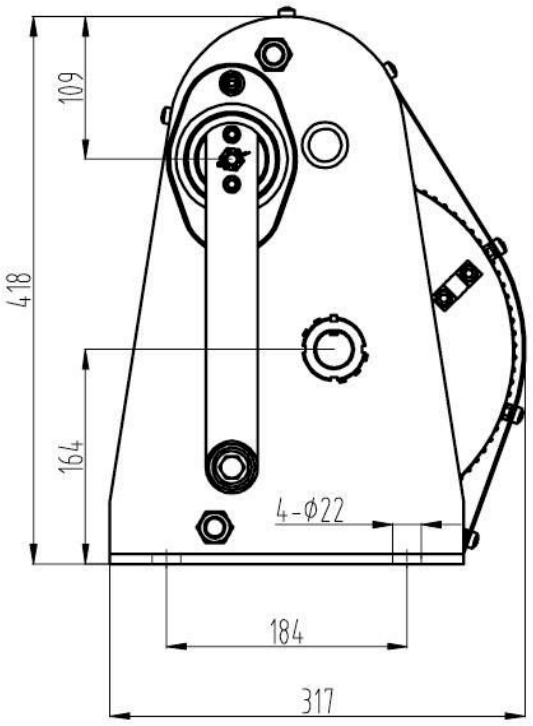
Construction 7 x 19 WSC G2070

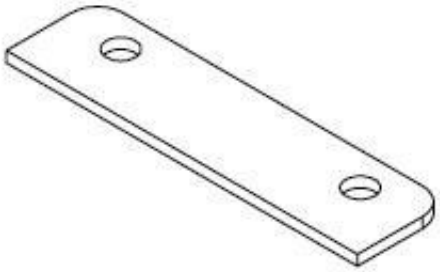
Model No.WILB005

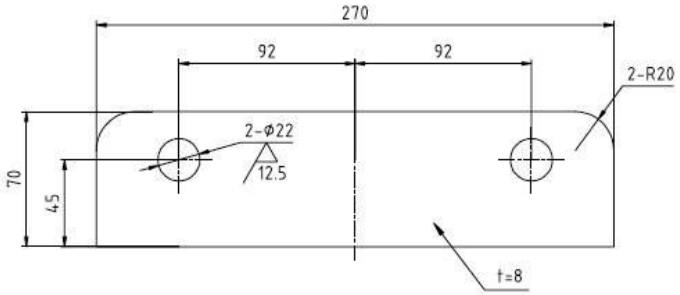
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BRAKE WINCH
W.L.L. 1T

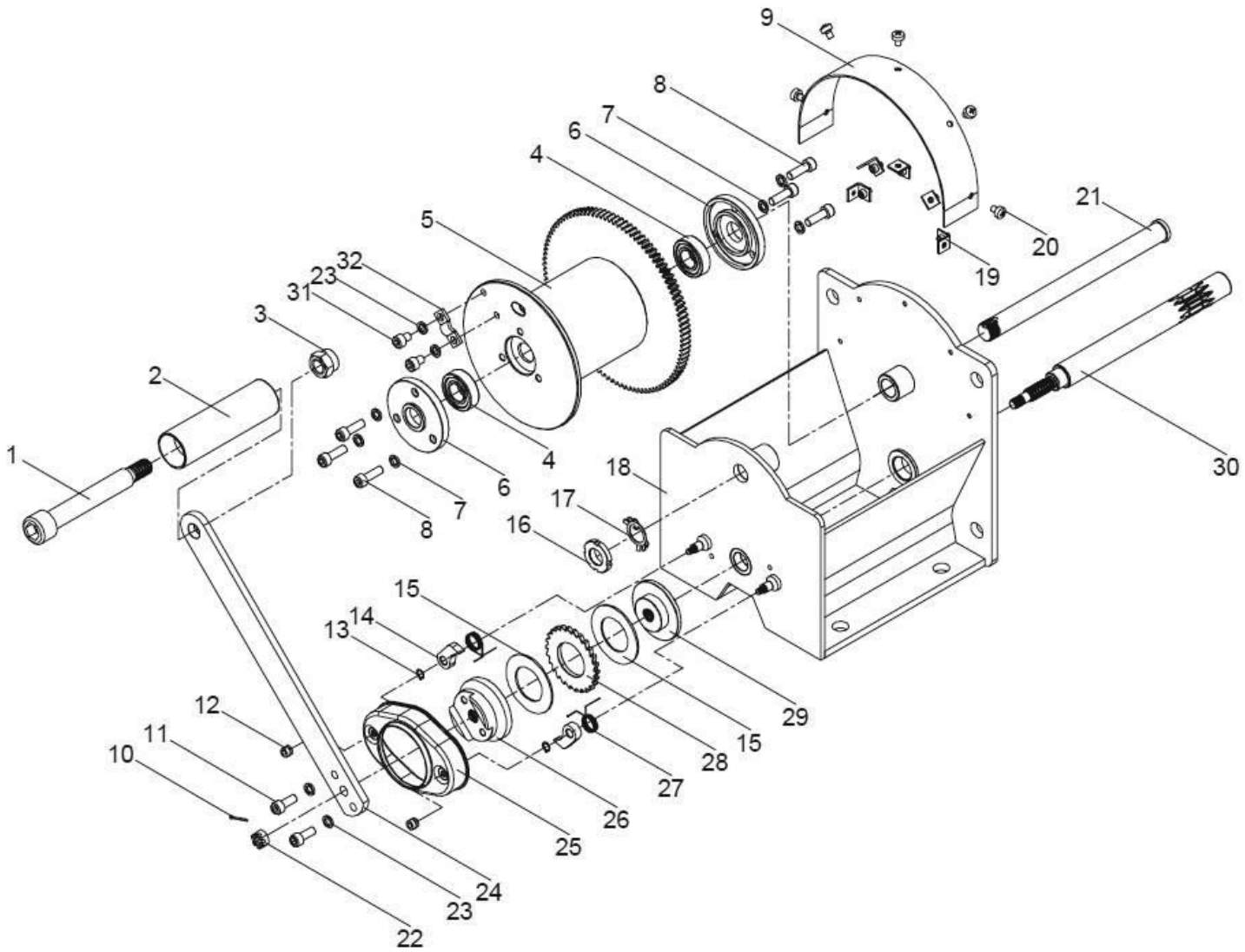
8mm DIAM Wire Rope x 40mtr

Construction 7 x 19 WSC G2070

Model No.WILB010

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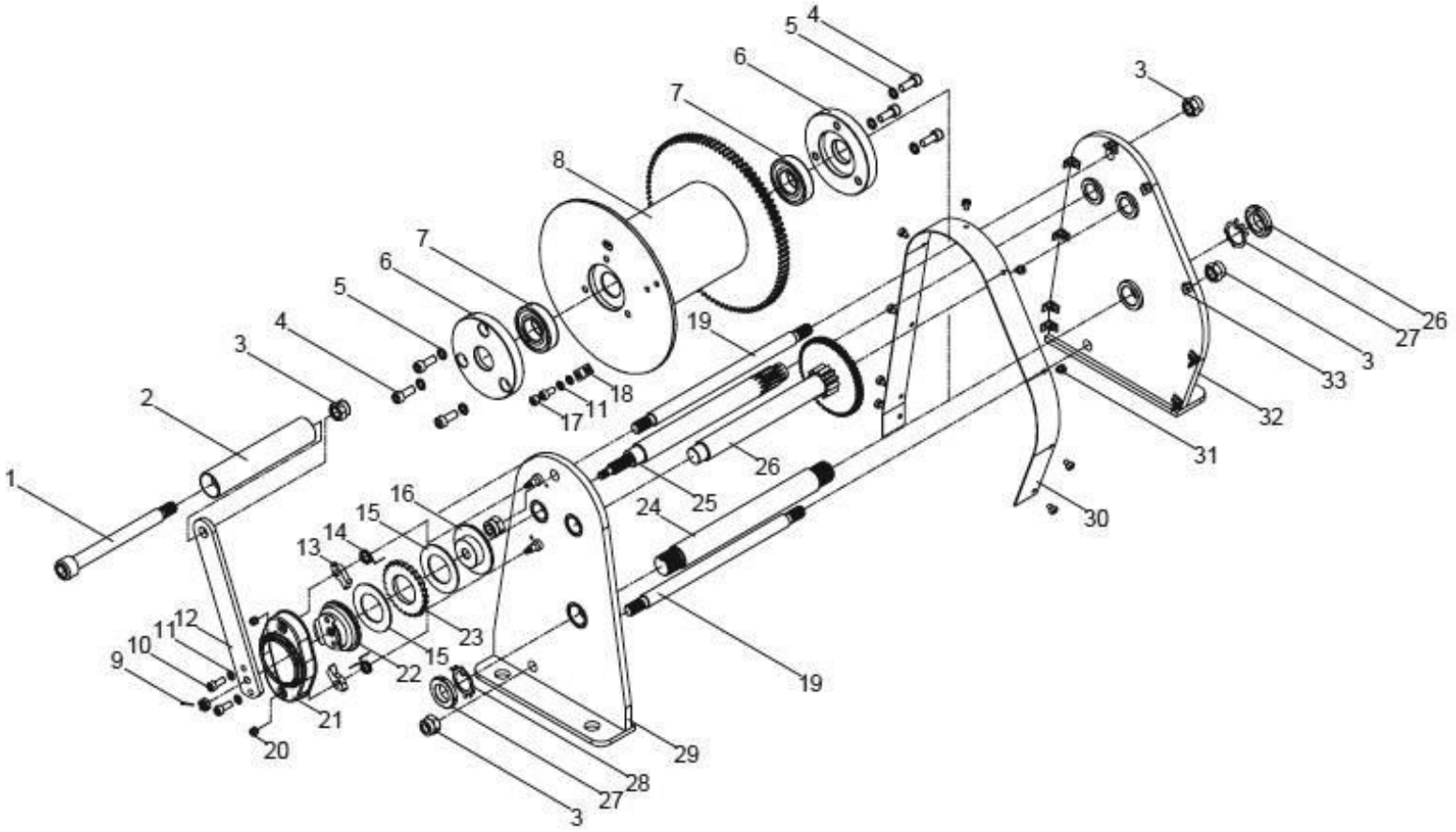
500kg Parts



1.Handle shaft
2.Turning handle
3.Self-locking nut M16
4.Deep groove ball bearing 6004
5.Roller assembly
6.Bearing cover
7.Spring washer 8
8.Hexagon socket head cap screw M8*25
9.Gear retainer plate
10.Cotter 2*20
11.Hexagon socket head cap screw M8*20
12.M6 self-locking nut
13.Shaft ring 9
14.Pawl
15.Friction disc
16.Round nut M20
17.Round nut lock washer
18.Winch frame
19.Retainer plate bracket assembly
20.Cross recesses screw M6
21.Roller shaft
22.Castle nut M10
23.Spring washer 8
24.Handle lever
25.Ratchet cover
26.Handle seat
27.Pawl spring
28.Ratchet
29.Brake seat
30.Drive shaft
31.Hexagon socket head cap screw M8*10
32.Wire rope clamp

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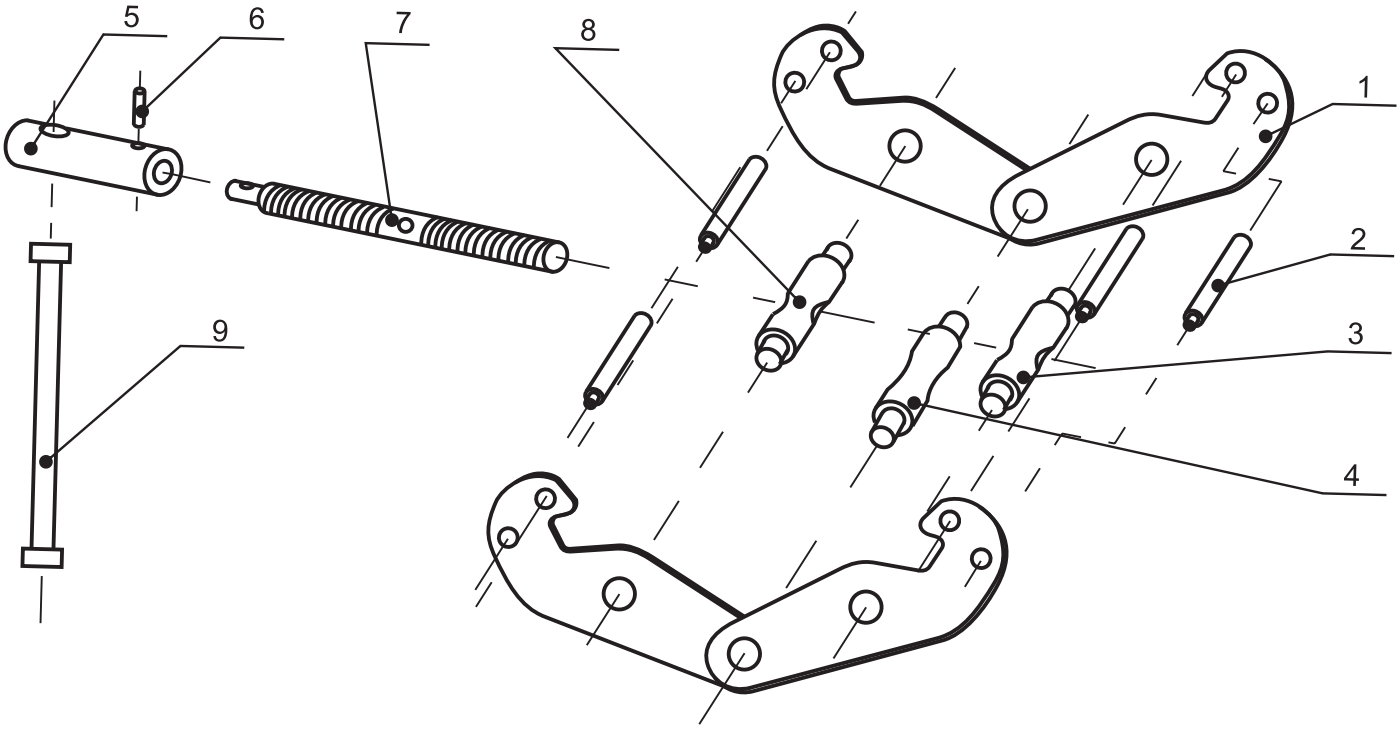
1000kg Parts



1.Handle shaft	12.Handle lever	23.Ratchet
2.Turning handle	13.Pawl	24.Roller shaft
3.Self-locking nut M16	14.Pawl spring	25.Drive shaft
4.Hexagon socket head cap screw M10*25	15.Friction disc	26.Pinion shaft assembly
5.Spring washer 10	16.Brake seat	27.Round nut M30
6.Bearing cover	17.Hexagon socket head cap screw M8*15	28.Round nut lock washer 30
7.Deep groove ball bearing 6207	18.Wire rope clamp	29.Right side plate assembly
8.Roller assembly	19.Support pin	30.Gear retainer plate
9.Cotter 2*20	20.Self-locking nut M16	31.Cross recesses screw M6*5
10.Hexagon socket head cap screw M8*20	21.Ratchet cover	32.Left side plate assembly
11.Spring washer 8	22.Handle seat	33.Retainer plate bracket assembly

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BEAM CLAMP SPARE PARTS



1. Side plate	2. Stay	3. Lever thread spindle	4. Equalizer pin
5. Lever handle link cover	6. Socket head cap screw	7. Screw mandrel	8. Dexter thread spindle
9. Handle			

INSTRUCTIONS FOR THE SAFE USE OF BEAM CLAMPS

Using beam clamps safely

Ensure that the beam clamp is of the correct capacity for the load being lifted and that the beam will not be damaged by localised overloading.

Ensure that the clamp is fitted correctly over the centre of gravity of the item being lifted and will not be subjected to side loading.

Before lifting a load ensure that the clamp has been tightened and that the lifting appliance is fitted correctly into the eye of the clamp.

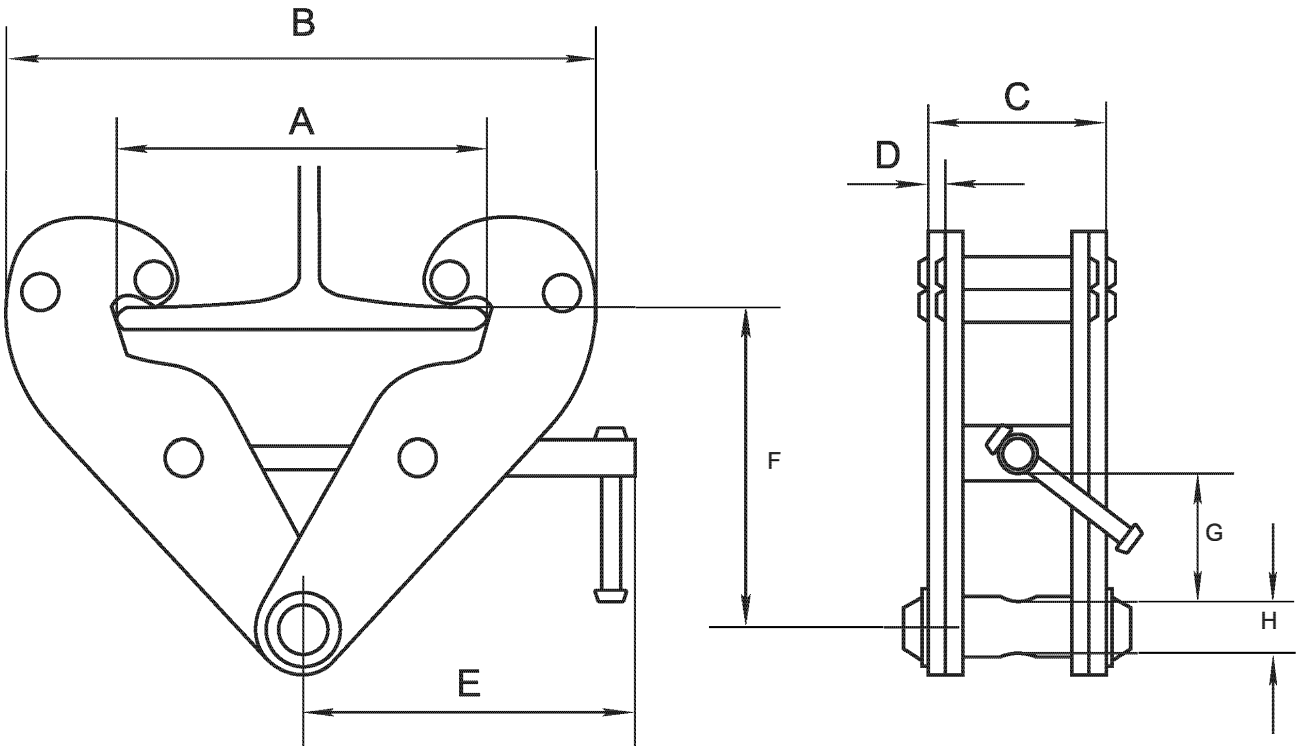
In-service inspection and maintenance

Ensure that beam clamps are kept clean and moving parts are lubricated.

Regularly inspect beam clamps for wear, damage, distortion, cracks and any defects likely to cause a danger.

If any of the above defects are found remove the beam clamp from service and refer to a competent person.

Sate working load kg	Adjustable beam width mm	A max mm	B		C mm	D mm	E mm	F		G mm	H mm
			min mm	max mm				min mm	max mm		
1000	75-220	260	180	360	64	5	215	102	155	25	22
2000	75-220	260	180	360	74	6	215	102	155	25	22
3000	80-320	354	235	490	103	8	260	140	225	45	24
5000	80-320	354	235	490	110	10	260	140	225	45	28
10000	90-320	365	320	505	120	12	280	170	235	50	40











Alpha Rigging Service provides services in inspecting, repairing and testing of all Aspects of Lifted, Lifting and Height Safety Equipment. We have a vast Hire Fleet as well.
The Alpha Rigging Service also offers NATA Endorsed testing & Inspection, with our technicians using Onsite mobile devices to capture asset Data that is stored and retained and kept
updated our online database, so you have access to the test results on completion of the Event carried out.

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