

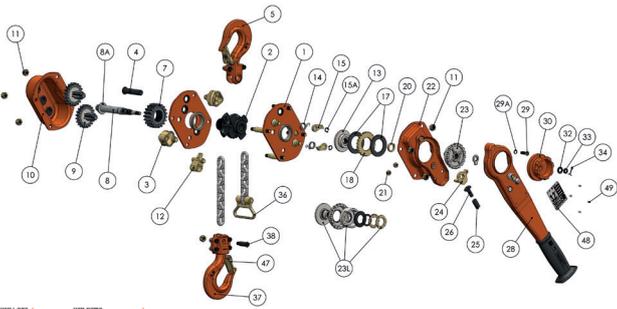


William Hackett

L4 Lever Hoist Manual

incorporating the

ATEX L4 Lever Hoist



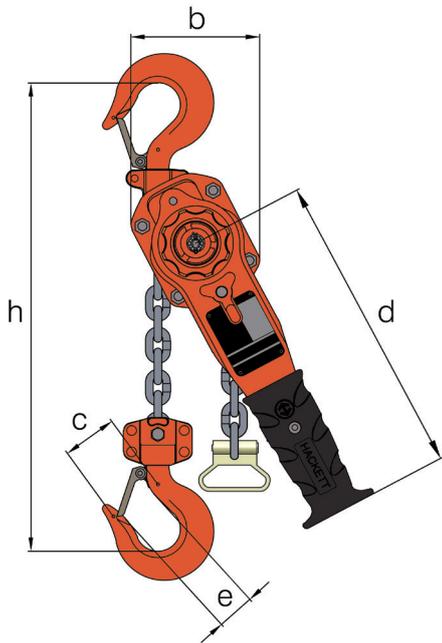


Contents

1.	Dimensions and Specifications	4
2.	Hoist Selection	5
3.	Hoist Attachment / Mounting	6
4.	Pre-use Procedure	7
5.	Safe Use Information	8
6.	Fleeting Advice	9
7.	Storage and Control Procedures	10
8.	Practical Considerations for the use of the SS-C4 and CP-C4 subsea	11
9.	Spare Parts Inspection Category	12
10.	Parts List	13
11.	Parts Explosion	14
12.	Hoist Disassembly	15
13.	Maintenance and Repair	17
14.	Assembly Instructions	27
15.	Miscellaneous	29
16.	Warranty	30

Dimensions and Specifications

Single Fall



Multi Fall

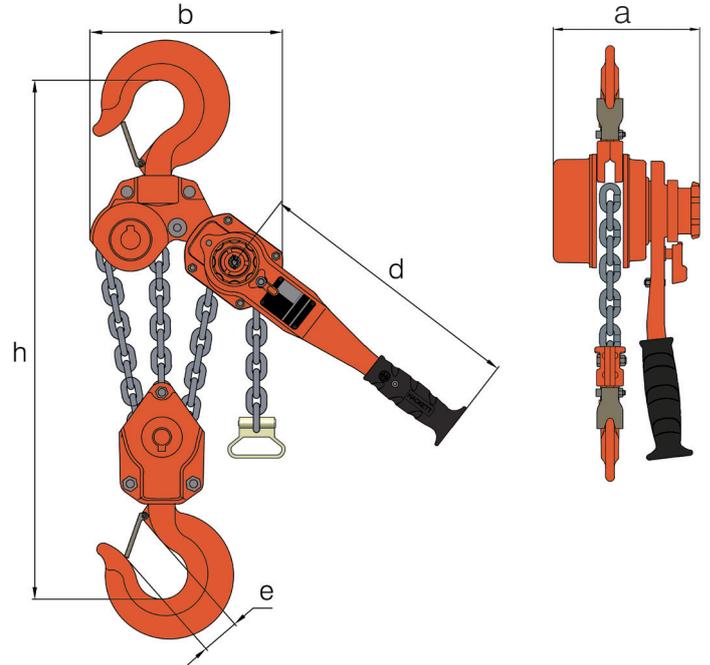


Table 1: Product specification, dimensions and WLLs for William Hackett L4 Lever Hoists

Part Code	WLL tonnes	No. of Falls	Load Chain mm	Standard Lift (m)	a mm	b mm	c mm	d mm	e mm	h mm	Mass kg	Extra Weight per M kg
033.075	0.8	1	5.6 x 17	1.5	148	121	37.5	265	28	280	6.2	0.7
033.150	1.6	1	7.1 x 21	1.5	165.5	141	47	415	33	350	9.6	1.1
033.300	3.2	1	10 x 30	1.5	194.5	178	62.5	415	42.5	420	15.5	1.7
033.600	6.3	2	10 x 30	1.5	194.5	228	78	415	51	570	27	3.5
033.900	9.0	3	10 x 30	1.5	194.5	310	-	415	56	680	38.3	5.2
033/1500	15.0	6	10 x 30	1.5	194.5	420	-	415	80	1000	90	13.8
033/2000	20.0	8	10 x 30	1.5	194.5	480	-	415	80	1150	195	19.2

Hoist Selection

Selecting the correct Hackett WH-L4 lever hoist

William Hackett L4 lever hoists are manufactured in accordance with BS EN 13157:2004+A1:2009, ASME B30.21-2014, AS1418.2-1997 and SANS 1636:2-2007.

William Hackett L4 lever hoists are assembled, chained and tested in the UK to the height of lift specified by the end user.

The configuration of lever hoist assemblies are demonstrated on previous page and are in accordance with the product specification, dimensions and safe working load (SWL) recorded in Table 1.

William Hackett L4 lever hoists can be used within an operating temperature range of -40°C to $+55^{\circ}\text{C}$. William Hackett L4 ATEX lever hoist can be used within an operating temperature of -40° to $+135^{\circ}\text{C}$

In accordance with statutory requirements (e.g. The Lifting Operations and Lifting Equipment Regulations 1998), all lifts using chain block assemblies should be planned by a competent person; require risk assessment and the production of a task method statement; and be subject to execution by suitably trained operatives under the supervision of a responsible person. The specification of the lever hoist assemblies required to achieve a safe lifting operation must be determined by a competent person.

Careful consideration should be given to the mass of the load being lifted and any dynamic factors that may be likely to affect the load on the hoist. Select the hoist capacity equal to or greater than the load. Ideally lever hoists should not be used to lift loads below 10% of their rated WLL limit.

It is not intended that the recommendations in this manual take precedence over existing plant safety rules and regulations or OSHA regulations. In the event that conflict exists between a rule set forth in this publication and a similar rule already set by an individual company, the more stringent of the two should take precedence. A thorough study of the information in this manual should provide a better understanding of safe operating procedures and afford a greater margin of safety for people and equipment.

Hoist Attachment / Mounting

Check the correct engagement of the top and bottom hooks. The hooks should be free to articulate fully when engaged with the load attachment points without overcrowding or point loading.

Ensure that the suspension structure has sufficient load bearing strength and capacity to support the load being lifted.

If more than one hoist is to be used in a fleeting arrangement, load attachment equipment should be chosen that allows for the angles of the lift.

Do not use the load chain of the lever hoist as a chain sling. The lever hoist is a lifting appliance and suitable lifting accessories should be incorporated into the lift plan to facilitate attachment to the load.

Make sure that the load chain is free from any twists or knotting. In the case of multi-fall lever hoists ensure that the bottom hook has not been capsized causing chain twist.

Operation

Free Chain Adjustment

1. To adjust the chain, position the selector lever in the horizontal neutral position (N).
2.
 - a) In Neutral mode the load chain can be pulled to adjust to the required length, this can be aided by turning the handwheel in the relevant direction – see 2b.
 - b) Alternatively, the Chain can be adjusted by turning the handwheel clockwise to raise/shorten or counter clockwise to lower/lengthen the load side chain.

Advice: Sharp pulling of the load chain can cause the brake to activate, pull the chain progressively and smoothly.

Lifting and Lowering

1. For lifting, position the selector lever in the UP position and operate the lever clockwise.
2. For lowering, position the selector lever in the DN position and operate the lever counter clockwise.

Note: when holding a load it is recommended to position the selector lever in the 'UP' position.

Pre-use Procedure

Before issue from the designated storage location the certification supplied with the lever hoist should be confirmed as within date.

The label on the hoist should be fully legible and it should correspond with the relevant certification.

Conducting thorough and consistent checks on a lever hoist immediately prior to use will help identify problems due to accidental damage, internal corrosion, brake contamination or inappropriate storage. Recommended checks include:

1. If necessary the hoist should be cleaned before inspection.
2. Name Plate – details clear and visible
3. Hook latches in good working order
4. Is the Load chain worn or damaged? In particular attention should be given to the wear which occurs on the bearing surfaces inside the links and to damage in the form of bent, notched, stretched, or corroded links and the chain should move freely.
5. Obvious signs of hooks opening out increase in throat opening or any other form of distortion in the hooks or suspension fittings.
6. Top and bottom hooks free to rotate with no load applied.
7. With no load applied turning the grip ring clockwise should produce a clear and positive clicking sound as the brake ratchet activates.
8. On multiple fall hoists check that all chain sheaves are free to rotate whilst no load is applied.
9. Check all fixings are in place and in good condition, split pins or nyloc nuts.
10. Obvious signs of damage to the hoist slack end chain anchor.
11. General damage to the hoist body, this can be an indicator of neglect throughout the hoist.
12. The load chain wheel should be checked for damage or debris
13. Chain guides and strippers should be free of debris and in good condition.
14. Operating instructions should be available.

These checks should be performed with the hoist unloaded.

- Lifting function – select 'UP' and whilst pulling the load side of the chain operate the lever handle clockwise, the ratchet brake mechanism shall engage operate smoothly without snagging.
- Lowering function – Select 'DN' and with a light pull of the load side chain operate the lever counter clockwise, no clicking shall be audible and the chain should pay out smoothly.
- Neutral or free chaining – with the selector lever in the 'N' position the chain shall adjust freely via the hand wheel or by pulling of the load chain.

If any of these points are not satisfied the lever hoist MUST NOT be used.

Safe Use information

Do not attempt lifting operations unless you understand the use of the equipment, the lifting and slinging procedures and you have been suitably trained.

William Hackett L4 lever hoists are not designed for lifting people and should not be used for that purpose.

Use appropriate personal protective equipment (PPE).

Always inspect the lever hoist prior to use, and if any damage is apparent the hoist should be quarantined for inspection by a competent person. Labels should clearly show the identification and other data for the hoist.

Check the correct engagement of the top and bottom hooks.

Do not use the handwheel whilst the hoist is loaded.

When the hoist is under load ensure that the selector lever is in the UP position.

Whilst loaded do not try to make chain adjustments by pulling the load chain.

Ensure that the work area is clear to avoid the slack end chain snagging in use.

Ensure that the suspension structure has sufficient load bearing strength and capacity to support the load.

Do not use the lever hoist as a chain sling; it is a lifting appliance and suitable lifting accessories should be incorporated into the lift plan to facilitate a safe lifting operation.

If more than one lever hoist is to be used, refer to fleeting instructions.

Establish a clearly defined zone around the area of the lifting operation.

Always stand aside from the load when operating the hoist and ensure that no one enters the lift zone unintentionally during the lifting operation.

Ensure that the load chain is not twisted, particular care should be taken when using multi-fall hoists.

During the lift the load chain should be straight and should not contact any angles or edges.

Take the load steadily and avoid shock loads.

Do not expose lever hoist assemblies, chain slings and components to chemicals or corrosive solutions (whether immersed in such solutions or used in atmospheres in which fumes are present), particularly acidic or strongly alkaline environments without consulting the supplier or manufacturer.

Do not leave suspended loads unattended. In an emergency cordon off the working area and establish safe exclusion zones.

Never return a damaged lever hoist to stores; it should be reported to a competent person.

January 2020 revision

Manufacturer approval to fleet with the William Hackett range of hoists

William Hackett Lifting Products has carried independent third party verification fleeting and cross hauling testing (Test Report

2550-7615) and confirms the following products are approved for fleeting and cross hauling applications to an angle of 45° from the vertical without deration:

- Chain blocks: C4 (500Kgs – 50t), Dual Speed hoist (3.2t – 50t)
- Lever hoists /come along: L4: (800kgs – 15t), SS-L5 QP (800kgs – 15t)

The following documentation should be referred to in conjunction with the operational guidance detailed below:

- LEEA-053 Guidance on hand chain blocks used at an angle away from the vertical
- HSG221 Technical Guidance on the safe use of lifting equipment offshore

Operational Guidance:

These lifting operations relate to the hoisting products and the WH range of beam clamps and should be assessed by a competent person.

- Each suspension point must have a safe working load equal to or greater than the load to be lifted.
- Top and bottom hook attachment points must be the correct size to admit the top and bottom hooks and allow the attachment points to rest correctly in the bowl of the hook. The attachment points must have sufficient clearance to allow the hooks to articulate within it.
- Make sure that the load chain is free from any twists or knotted and in respect of multi fall manual chain hoists that the bottom hook has not been capsized.
- When using a manual hoist at any angle away from the vertical in a lifting operation in conjunction with additional manual chain or lever hoists make sure that:-
 - o Both top and bottom hooks are correctly loaded in the saddle of the hook.
 - o Both the top and bottom hooks are free to rotate on their attachment points and do not become trapped or jammed causing stress points on the hook or the housing
 - o Both the top and bottom attachment points are designed to work at angles away from the vertical
 - o Check the area around the load and assess if the load will move between hoists during the lifting operation.
- Ensure that both the top hook, bottom hook, chain hoist carcass and load chain are in line.
- When using multiple manual chain hoists to lift and move a single load, the load should not exceed the WLL of any individual manual hoist being used for that lift.

Storage and Control Procedures

The equipment should ideally be stored in a purpose designed facility where it can be kept secure from unauthorised use. A responsible person should control the issue and receipt of all lifting appliances and accessories, and a system to manage statutory inspections should be in place.

Storage would normally be on suitable racks within a container a manner that prevents accidental mechanical damage and where the load chains are clear from the ground.

The load chain should be dried and wrapped around the hoist, not left on the floor

During transport to the worksite and whilst in store at the worksite, the equipment should be protected from exposure to any conditions which may affect its ability to operate safely. In particular, it should be protected from exposure to:

- water/sea water;
- temperatures higher than can be comfortably tolerated by the hand
- temperatures below freezing point
- solvents
- corrosive chemicals or fumes
- grit, sand and wind-blown dust.

Any defects should be reported to the responsible person and damaged hoists should be quarantined.

Duty holders and actual users of lifting equipment, including hoists and associated components can obtain more detailed information and guidance on safe use and compliance with statutory requirements from the following publications;

HSE Publication L22 (2014) Safe Use of Work Equipment.

HSE Publication L113 (2014) Safe Use of Lifting Equipment.

HSE Publication INDG422 (2008) Thorough Examination of Lifting Equipment.

HSE Publication L23 (2004) Manual Handling.

HSE Publication L25 (2005) Personal Protective Equipment at Work.

Practical Considerations

Practical Considerations in Spark Sensitive Environments

William Hackett ATEX range is specially designed for use in spark sensitive environments. Atex lever hoists are clearly marked and are further identifiable by copper coated hooks.

Standard pre-use, storage, control and safe use instructions apply to these hoists.

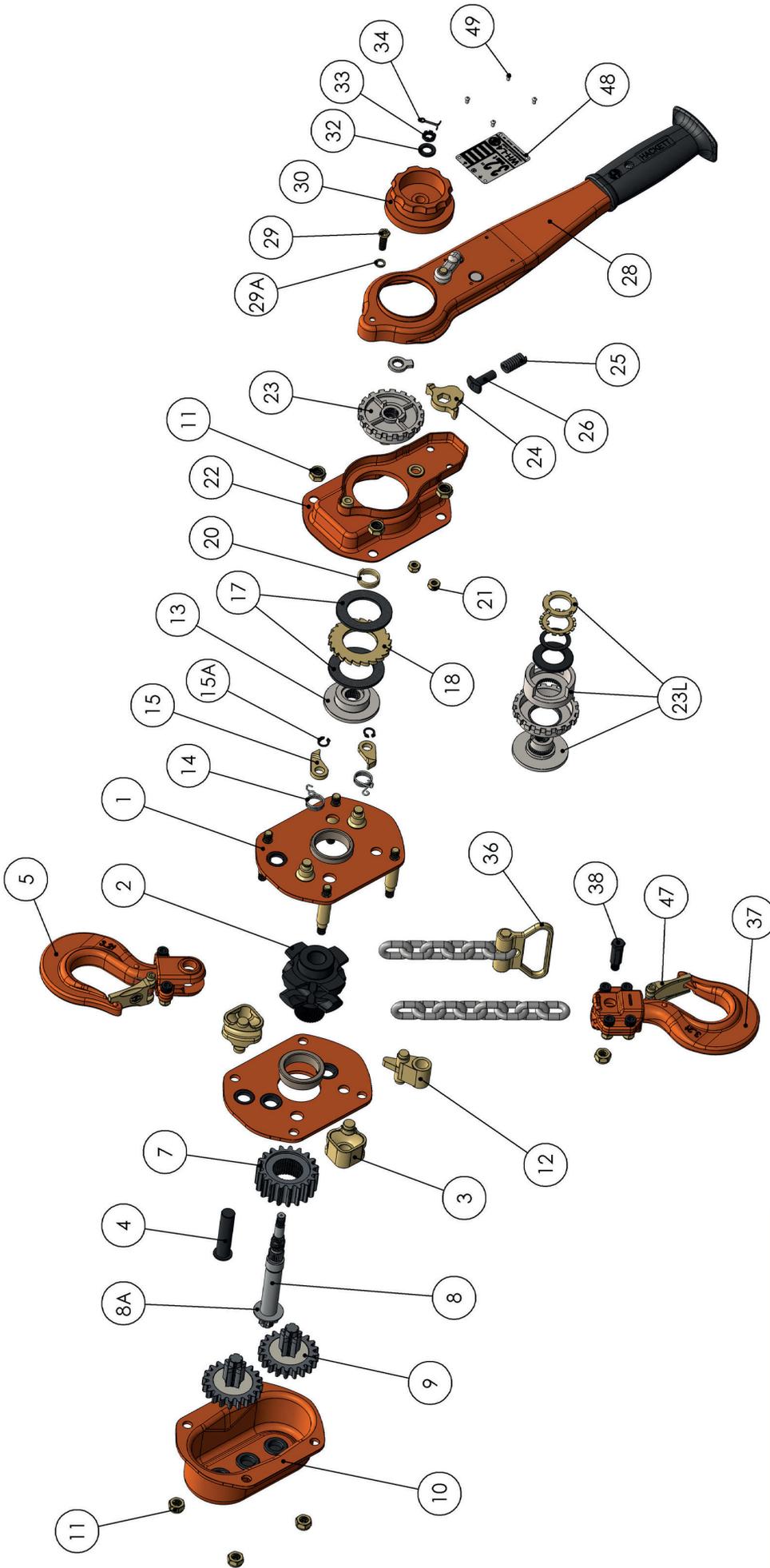
Please see service section for special requirements

Spare Parts Inspection Category

SPECIAL INSPECTION - Type 1			Corrosion Protected / Stainless Steel / Copper Components (Do Not Shotblast)	
STANDARD INSPECTION - Type 2			Standard Corrosion Protected or Painted Components	
Part Code	Quantity	Description	Inspection Type (1 or 2)	
			L4	ATEX L4
L4.01	1	Left Side Plate Assembly	2	2
L4.02	1	Load Sheave	2	2
L4.03	2	Chain Guide	2	1
L4.04	1	Top Hook Pin	2	2
L4.05	1	Top Hook Assembly	2	1
L4.06	1	Right Side Plate Assembly	2	2
L4.07	1	Load Gear	2	2
L4.08	1	Pinion Shaft	2	2
L4.08A	1	Pinion Shaft Washer	2	2
L4.09	2	Pinion Gear (pair)	2	2
L4.10	1	Gear Cover	2	2
L4.11	8	Nut	2	1
L4.12	1	Chain Stripper	2	1
L4.13	1	Disc Hub	2	2
L4.14	2	Pawl Spring	2	2
L4.15	2	Pawl	2	1
L4.15A	1	Circlip	2	2
L4.17	2	Friction Disc (pair)	2	2
L4.18	1	Ratchet Gear	2	2
L4.20	2	Spring	2	2
L4.21	2	Lock Nut	2	1
L4.22	1	Handle Cover Assembly	2	2
L4.23	1	Change Gear	2	2
L4.24	2	Change Over Pawl	2	2
L4.25	1	Change Over Spring	2	2
L4.26	1	Change Over Stand	2	2
L4.28	1	Lever Handle Assembly	2	2
L4.29	1	Screw	2	2
L4.29A	1	Spring Washer	2	2
L4.30	1	Grip Ring	2	1
L4.31	1	Stop Cam	2	2
L4.32	1	Washer	2	2
L4.33	1	Castle Nut	2	1
L4.34	1	Split Pin	2	1
L4.36	1	Square Type End Stop	2	1
L4.37	1	Bottom Hook Assembly	2	1
L4.38	1	Chain Fixing Pin	2	2
L4.47	1	Latch Kit	2	1
L4.48	1	Label	2	2
L4.49	4	Label Rivets	2	2

Parts List

Part Code	Part Name	L4 Finish	ATEX L4 Finish
L4.01	Left Side Plate Assembly	Zinc	Zinc
L4.02	Load Sheave	Black	Black
L4.03	Chain Guide	Zinc	Copper
L4.04	Top Hook Pin	Black	Black
L4.05	Top Hook Assembly	Zinc - Powder Coated	Powder Coated - Copper
L4.06	Right Side Plate Assembly	Powder Coated	Powder Coated
L4.07	Load Gear	Black	Black
L4.08	Pinion Shaft	Black	Black
L4.08A	Pinion Shaft Washer	Zinc	Zinc
L4.09	Pinion Gear (pair)	Black	Black
L4.10	Gear Cover	Powder Coated	Powder Coated
L4.11	Nut	Zinc	Zinc
L4.12	Chain Stripper	Zinc	Copper
L4.13	Disc Hub	Zinc Flake	Zinc Flake
L4.14	Pawl Spring	Zinc	Zinc
L4.15	Pawl	Zinc	Zinc
L4.15A	Circlip	Zinc	Zinc
L4.17	Friction Disc (pair)	N/A	N/A
L4.18	Ratchet Gear	Zinc	Zinc
L4.20	Spring	Zinc	Zinc
L4.21	Lock Nut	Zinc	Zinc
L4.22	Handle Cover Assembly	Powder Coated	Powder Coated
L4.23	Change Gear	Zinc Flake	Zinc Flake
L4.24	Change Over Pawl	Zinc	Zinc
L4.25	Change Over Spring	Zinc	Zinc
L4.26	Change Over Stand	Zinc	Zinc
L4.28	Lever Handle Assembly	Powder Coated	Powder Coated
L4.29	Screw	Zinc	Zinc
L4.29A	Spring Washer	Zinc	Zinc
L4.30	Grip Ring	Powder Coated	Copper
L4.31	Stop Cam	Zinc Flake	Zinc Flake
L4.32	Washer	Zinc	Zinc
L4.33	Castle Nut	Zinc	Zinc
L4.34	Split Pin	Zinc	Zinc
L4.36	Square Type End Stop	Zinc	Copper
L4.37	Bottom Hook Assembly	Zinc - Powder Coated	Powder Coated - Copper
L4.38	Chain Fixing Pin	Black	Black
L4.47	Latch Kit	Zinc	Copper
L4.48	Label	N/A	N/A
L4.49	Label Rivets	N/A	N/A



Part Code	Part Name
L4.01	Left Side Plate Assembly
L4.02	Load Sheave
L4.03	Chain Guide
L4.04	Top Hook Shaft
L4.05	Top Hook Assembly
L4.06	Right Side Plate Assembly
L4.07	Load Gear
L4.08	Pinion Shaft
L4.08a	Pinion Shaft Washer
L4.09	Pinion Gear (pair)
L4.10	Gear Cover

Part Code	Part Name
L4.11	Nut
L4.12	Chain Stripper
L4.13	Disc Hub
L4.14	Pawl Spring
L4.15	Pawl
L4.15a	Circclip
L4.17	Friction Disc (pair)
L4.18	Ratchet Gear
L4.20	Spring
L4.21	Lock Nut

Part Code	Part Name
L4.22	Handle Cover Assembly
L4.23	Change Gear
L4.23L	Overload Limiter
L4.24	Change Over Pawl
L4.25	Change Over Spring
L4.26	Change Over Stand
L4.28	Lever Handle Assembly
L4.29	Screw
L4.29A	Spring Washer
L4.30	Grip Ring

Part Code	Part Name
L4.31	Stop Cam
L4.32	Washer
L4.33	Castle Nut
L4.34	Split Pin
L4.36	Square Type End Stop
L4.37	Bottom Hook Assembly
L4.38	Chain Fixing Pin
L4.47	Latch Kit
L4.48	Label
L4.49	Label Rivets

Hoist Disassembly

L4 Maintenance Instructions - Models: WH-L4 and ATEX-L4

Tool requirements:

Nylon/dead blow hammer	Circlip pliers
Ball Pein hammer	Long nose pliers
Socket/wrench: 5mm, 7mm, 8mm, 10mm, 12mm, 13mm, 14mm and 17mm.	
Allen keys: 3mm, 4mm, 6mm and 8mm.	
Phillips screwdriver	Vernier Caliper
Solvent free brake cleaner	General purpose grease
Sandpaper 120-240 grit	Solvent free degreasing facility

The following procedures should only be performed by a competent person.

It is a responsibility of the owner/user to install, operate, inspect and maintain product in accordance with all applicable Standards and Regulations. If the product is installed as part of a lifting system, it is also the responsibility of the owner/user to comply with the applicable standards that address other types of equipment used.

Hoist Disassembly

NEVER perform maintenance whilst the hoist is under load. Always use OEM parts where replacement parts where replacement parts are necessary.

These instructions should be used alongside the illustrated parts list.

It is recommended to keep the parts in order when disassembling to aid with assembly.

1. Remove and disassemble the bottom hook #37, check all parts especially the load pin #38 for excessive wear.
2. Remove the chain end stop #36.
3. Remove the load chain.
4. Remove split pin #34 discard and replace.
5. Remove castle nut and washer #32 and #33.
6. The grip ring #30 can now be lifted from the pinion shaft #8.
7. Remove handle fixings and washer #21, #29A and #29, the handle #28 can now be lifted from the remaining handle assembly #22 taking care with parts #24, #25 and #26.
8. Remove stop cam #31.
9. Remove change gear #23 by turning anti clockwise along with spring #20.
10. Remove 4 pcs of nylon locking nuts #11 from handle cover assembly and lift assembly from hoist body.
11. Remove the friction discs, ratchet gear and disc hub #13, #17 and #18.
12. Remove circlip #15A along with pawl and pawl springs #14 and #15.
13. On 1.5t/1.6t to 9t models the top hook pin and hook can now be removed.
14. Turn the hoist over and remove the 4 nylon locking nuts securing the gear cover along with gear cover, it is recommended to make a note of the position of the gear alignment marks at this point.

15. Remove the pinion gears #9 2 pcs and pinion shaft #8.
 16. On 750kg/800kg models the top hook load pin and hook can now be removed.
 17. The load gear #7 can now be lifted from the load sprocket/sheave.
 18. Remove top hook load pin #4.
 19. Gear side plate #6 can now be lifted from the main body.
 20. Remove parts #3 (2 pcs) and 12 making a note of their position on part #1 the wheel side plate.
 21. The load sheave can now be removed.
 22. Bearings can now be removed and serviced, plain bushes are a press fit part and not to be removed, disassembly complete.*
 - Thoroughly clean all parts checking for damage, wear or foreign particles, if using a degreaser ensure all parts are dried and lubricated where necessary prior to assembly.
 - Please note split pins nylon locking nuts are classed as single use items.
 - It is also good practice to check the condition of circlip retainers and replace where necessary.
- *Depending on model and capacity the hoist side plates may be fitted with a plain bush or bearing, this must be stated when ordering spares.

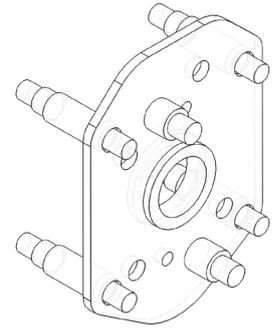
Maintenance and Repair

L4.01 Left Side Plate Assembly

Inspection Type: Visual

Quantity: 1

Examine body plates for alignment and ensure they are free from wear and distortion, examine load pin, guide and stripper holes for signs of wear and stretch, check stay bolts and pawl stands are secure and free from defects.



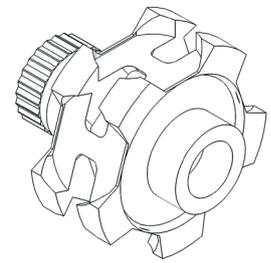
Action: Shotblast and repaint or replace if necessary

L4.02 Load Sheave

Inspection Type: Visual

Quantity: 1

Check load chain pockets for wear and damage, ensuring satisfactory seating of load chain in pockets.



Action: Clean and regrease or replace if necessary.

L4.03 Chain Guide

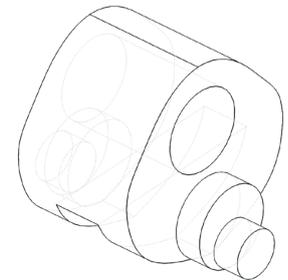
Inspection Type: Visual

Quantity: 2

Examine chain guide for wear, fracture and alignment.

Action: Shotblast and repaint or replace if necessary.

For ATEX variant contact manufacture.

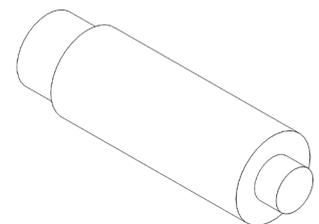


L4.04 Top Hook Pin

Inspection Type: Visual and Dimensional - contact manufacturer

Quantity: 1

Check dimensionally and visually for damage or wear.



Action: Replace if necessary.

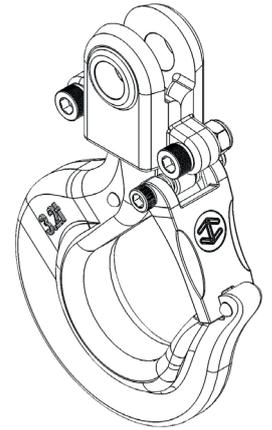
Maintenance and Repair

L4.05 Top Hook Assembly

Inspection Type: Visual and Dimensional - contact manufacturer

Quantity: 1

Check for distortion, damage, fractures and stretching. The hook shall be free and smooth to rotate, the hook to housing contact points should have even wear, check top hook bolt hole to diagram.



Action: Shotblast and repaint or replace if required.

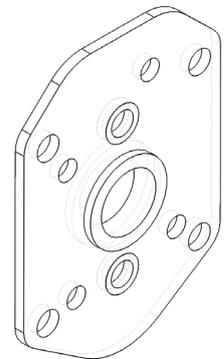
For ATEX variant contact manufacturer.

L4.06 Right Side Plate Assembly

Inspection Type: Visual

Quantity: 1

Examine gear side plates for alignment and ensure they are free from damage and distortion, examine load pin, guide, stripper and stay bolt holes for signs of wear and stretch, check gear bushings are secure and in good condition.



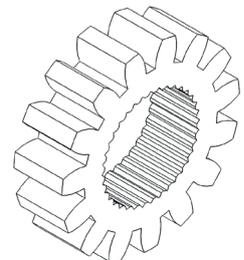
Action: Shotblast and repaint or replace if necessary.

L4.07 Load Gear

Inspection Type: Visual

Quantity: 1

Examine gear for wear, fracture and alignment. Check condition of internal splines.



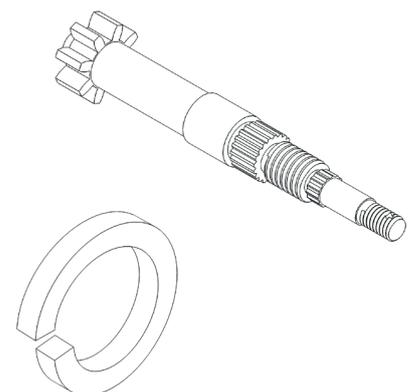
Action: Clean and regrease or replace if necessary.

L4.08 Pinion Shaft

Inspection Type: Visual

Quantity: 1

Examine pinion shaft for damage and distortion, check shaft for straightness, spline and thread condition.



Action: Clean and regrease or replace if necessary.

Maintenance and Repair

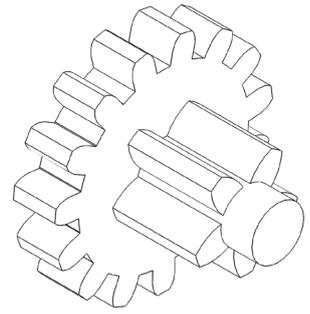
L4.09 Pinion Gear

Inspection Type: Visual

Quantity: 2

Examine gears for wear, fractures and alignment

Action: Clean and regrease or replace if necessary.



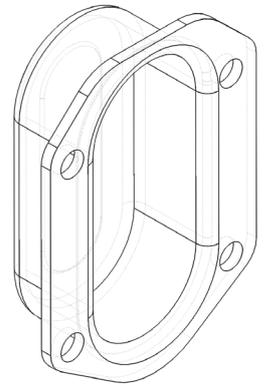
L4.10 Gear Cover

Inspection Type: Visual

Quantity: 1

Examine for cracks, distortion, damaged or broken parts, check gear bushings are secure and in good condition.

Action: Shotblast and repaint or replace if necessary.

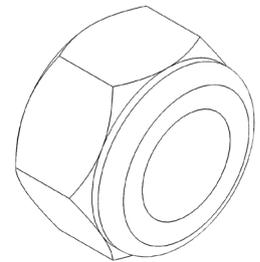


L4.11 Nut

Inspection Type: Not Applicable

Quantity: 8

Action: Discard and replace.



L4.12 Chain Stripper

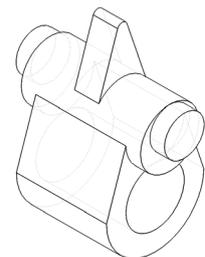
Inspection Type: Visual

Quantity: 1

Examine chain stripper for wear and damage.

Action: Shotblast and repaint or replace if necessary.

For ATEX variant contact manufacturer.



Maintenance and Repair

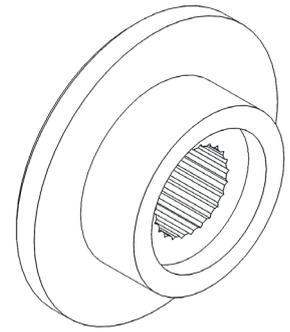
L4.13 Disc Hub

Inspection Type: Visual

Quantity: 1

Check splines and ensure the component mating surfaces are smooth, flat and without excessive corrosion.

Action: Replace if necessary.



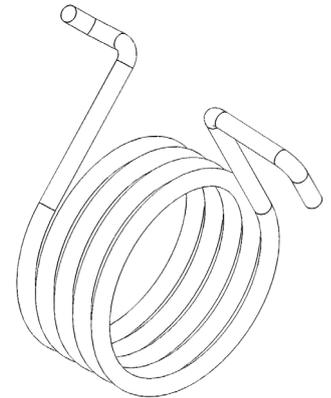
L4.14 Pawl Spring

Inspection Type: Visual

Quantity: 2

Examine pawl springs for corrosion and fractures, ensure the spring is good working order and not deformed or stretched.

Action: Replace if necessary.



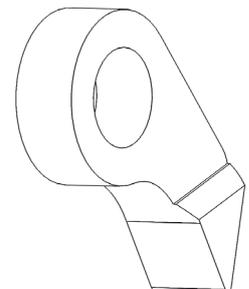
L4.15 Pawl

Inspection Type: Visual

Quantity: 2

Check pawl for wear ensuring pawl is free to move on pawl shaft

Action: Replace if any defects found.



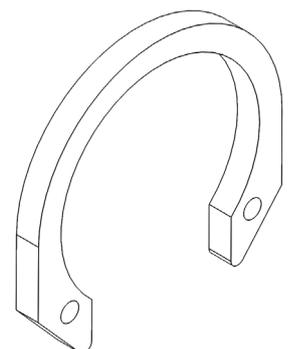
L4.15A Circlip

Inspection Type: Visual

Quantity: 1

Examine for cracks, distortion or damage

Action: Replace if necessary.



Maintenance and Repair

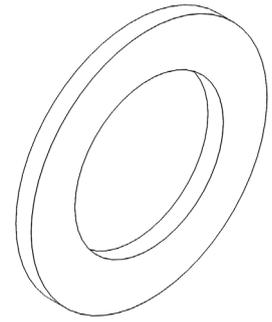
L4.17 Friction Disc

Inspection Type: Visual

Quantity: 2

Check for fractures, wear and damage ensuring mating surfaces are flat and clean and free from contaminants.

Action: Replace if any defects found.



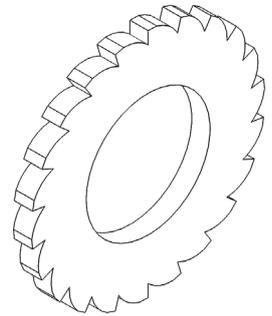
L4.18 Ratchet Gear

Inspection Type: Visual

Quantity: 1

Examine ratchet teeth and brake component surfaces ensuring they are smooth and flat.

Action: Replace if any defects found.



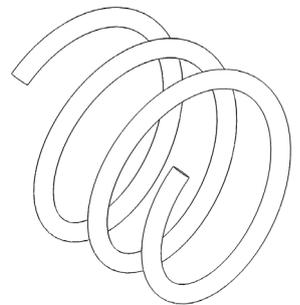
L4.20 Spring

Inspection Type: Visual

Quantity: 2

Examine spring for corrosion and fractures, ensure the spring is good working order and not deformed or stretched.

Action: Replace if necessary.

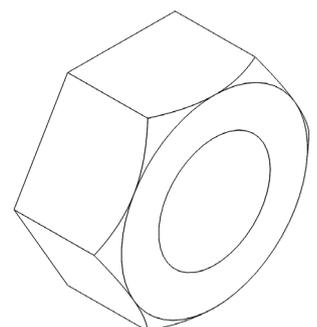


L4.21 Lock Nut

Inspection Type: Not Applicable

Quantity: 2

Action: Discard and replace.



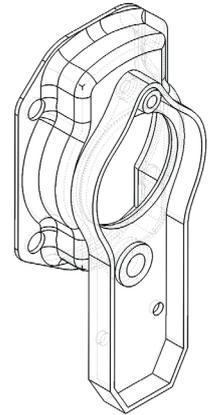
Maintenance and Repair

L4.22 Handle Cover Assembly

Inspection Type: Visual

Quantity: 1

Examine lever for cracks, corrosion, distortion, damage and wear. Check selector lever function is smooth and secure. Check grip/handle is of good condition and secure. Check handle assembly fixings are of good condition.



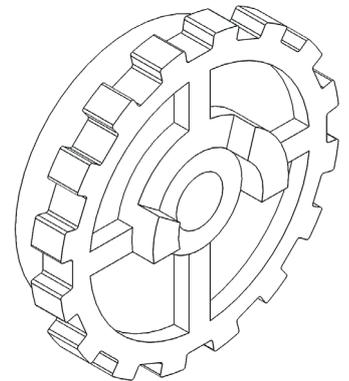
Action: Shotblast and repaint or replace.

L4.23 Change Gear

Inspection Type: Visual

Quantity: 1

Check mating surface is smooth and flat, check thread, lugs and pawl drive for damage, wear and corrosion.



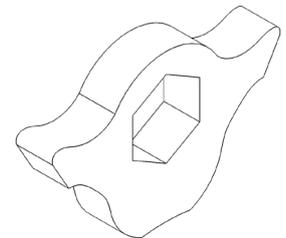
Action: Do not shotblast - replace.

L4.24 Change Over Pawl

Inspection Type: Visual

Quantity: 2

Check pawl for wear ensuring pawl is free to move on pawl shaft



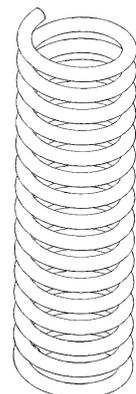
Action: Replace if any defects found.

L4.25 Change Over Spring

Inspection Type: Visual

Quantity: 1

Examine spring for corrosion and fractures, ensure the spring is good working order and not deformed or stretched.



Action: Replace if necessary.

Maintenance and Repair

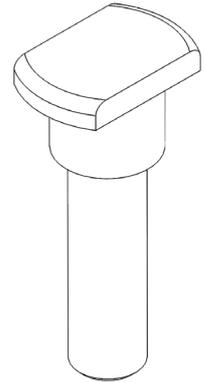
L4.26 Change Over Stand

Inspection Type: Visual

Quantity: 1

Check stand for wear, cracks, corrosion and damage, examine fit of pawl to selector lever shaft of handle. The pawl stand should not be bent or deformed, check spring dimensions as per diagram.

Action: Clean and regrease or replace if necessary.



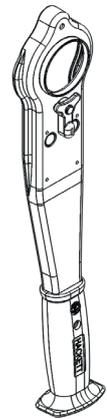
L4.28 Lever Handle Assembly

Inspection Type: Visual

Quantity: 1

Examine lever for cracks, corrosion, distortion, damage and wear. Check selector lever function is smooth and secure. Check grip/handle is of good condition and secure. Check handle assembly fixings are of good condition.

Action: Shotblast and repaint or replace.



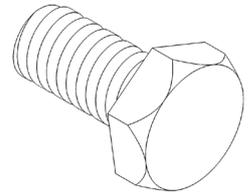
L4.29 Screw

Inspection Type: Visual

Quantity: 1

Check thread condition.

Action: Replace if necessary.



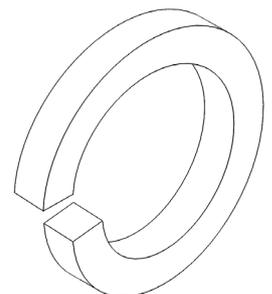
L4.29A Spring Washer

Inspection Type: Visual

Quantity: 1

Check washer condition.

Action: Replace if necessary.



Maintenance and Repair

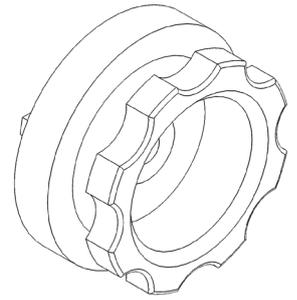
L4.30 Grip Ring

Inspection Type:

Quantity: 1

Check grip ring for wear and damage.

Action: Shotblast and repaint or replace.



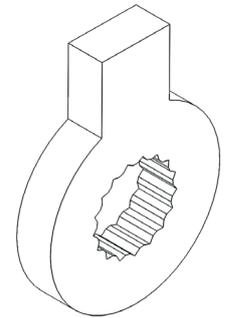
L4.31 Stop Cam

Inspection Type: Visual

Quantity: 1

Check splines and ensure the component mating surfaces are smooth, flat and without corrosion or wear.

Action: Replace if necessary.



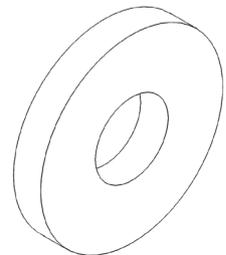
L4.32 Washer

Inspection Type: Visual

Quantity: 1

Washer should be smooth, without damage and of good condition.

Action: Clean and regrease. Replace if necessary.



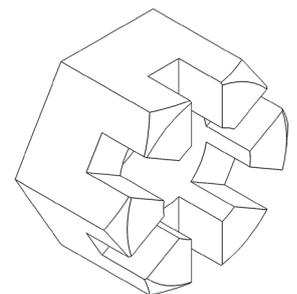
L4.33 Castle Nut

Inspection Type: Visual

Quantity: 1

Check thread condition, check for wear or fractures.

Action: Replace if necessary.



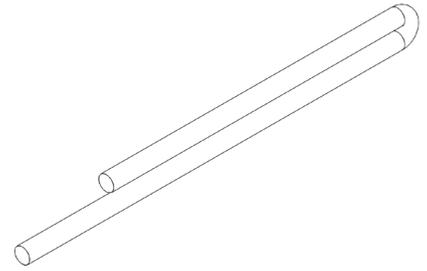
Maintenance and Repair

L4.34 Split Pin

Inspection Type: Not Applicable

Quantity: 1

Action: Discard and replace.



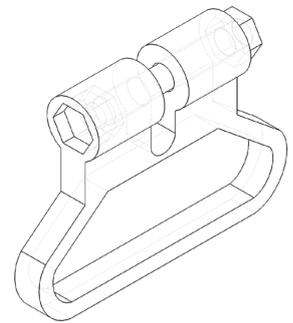
L4.36 Square Type End Stop

Inspection Type: Visual

Quantity: 1

Check for cracks, corrosion, distortion and wear.

Action: Replace if necessary.



L4.37 Bottom Hook Assembly

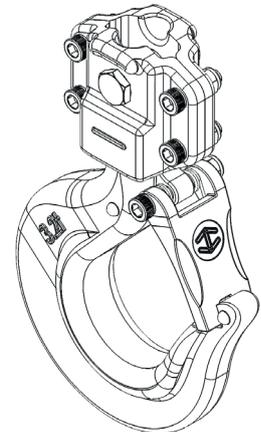
Inspection Type: Visual and Dimensional - contact manufacturer

Quantity: 1

Check for distortion, damage, fractures and stretching. The hook shall be free and smooth to rotate, the hook to housing contact points should have even wear, check bottom hook bolt hole to diagram.

Action: Shotblast and repaint or replace if required.

For ATEX variant contact manufacturer.



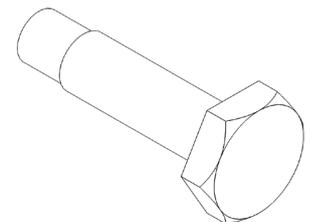
L4.38 Chain Fixing Pin

Inspection Type: Visual

Quantity: 1

Check for damage to nut bolt and threads.

Action: Check and replace if necessary



Maintenance and Repair

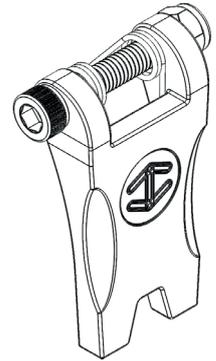
L4.47 Latch Kit

Inspection Type: Not Applicable

Quantity: 1

Latch assemblies should be secure and free/smooth to open and close. Springs and bolts should be free from cracks and damage.

Action: Shotblast and repaint or replace.



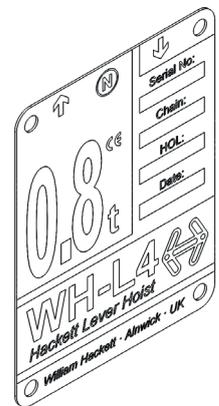
L4.48 Label

Inspection Type: Visual

Quantity: 1

Check nameplate is secure and in good condition, the unique hoist Serial no., WLL, HOL, chain grade and dimension should all be legible.

Action:

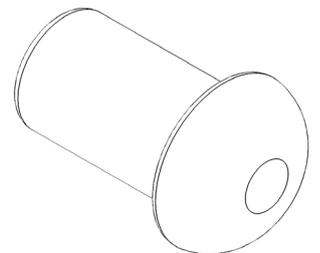


L4.49 Label Rivets

Inspection Type: Not Applicable

Quantity: 4

Action: Discard and replace.



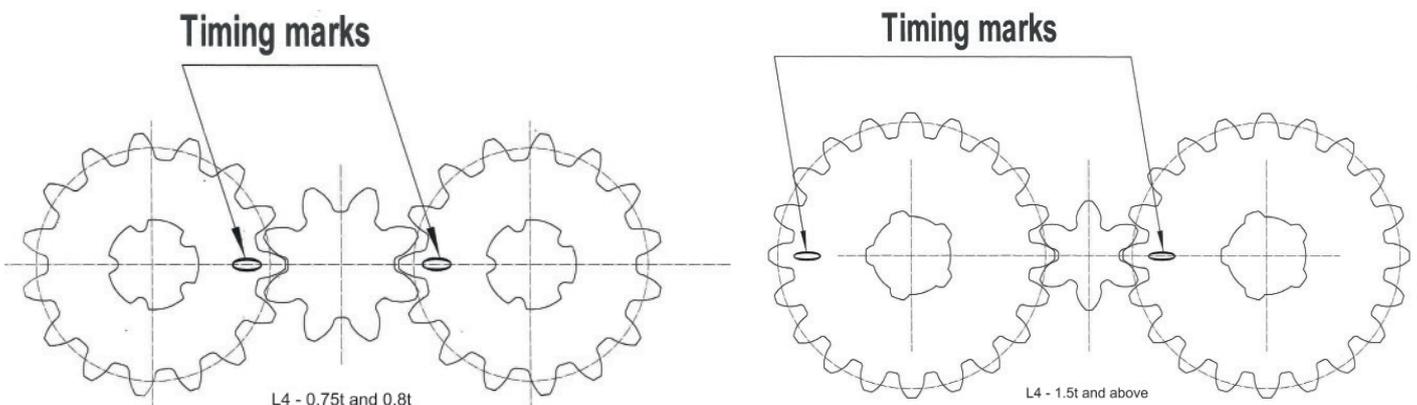
Assembly Instructions

Hoist Assembly

NEVER perform maintenance whilst the hoist is under load. Always use OEM parts where replacement parts are necessary.

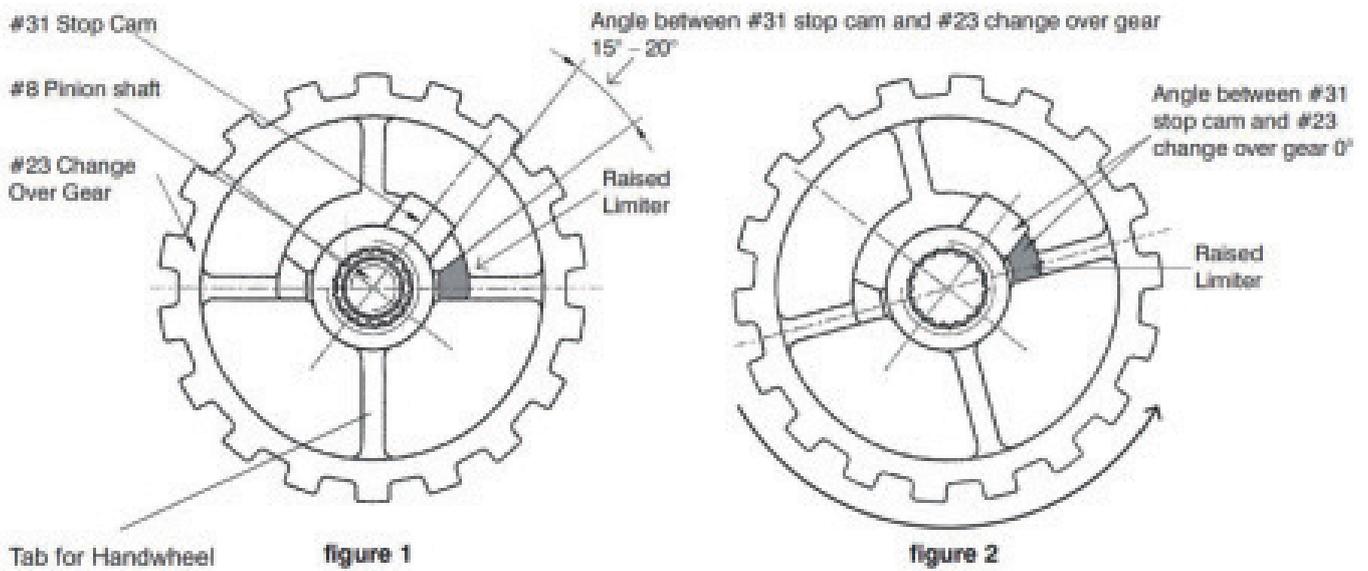
These instructions should be used alongside the illustrated parts list.

1. Clean, lubricate and refit hoist bearings or if applicable clean and apply a light coating of grease to the plain bushes.
2. The load sheave #2 is installed into wheel side plate #1 from opposite side to the pawl shafts, the splined section shall face away from the pawl shafts.
3. Locate chain guides and chain stripper #3 and #12 ensuring they are correctly positioned.
4. Fit gear side plate #6 ensuring correct alignment with the left side plate #1, the bearing/bush securings shall be inwards towards the sheave pockets and the plate profile should mirror the opposing plate, notice the flat and curved sections of the top and bottom.
5. Grease the inner splines of the load gear #7 and locate onto the load sheave splines.
6. Apply grease to the pinion shaft where it will contact the load sheave then insert the pinion shaft with integral washer into the load sheave.
7. On 750kg and 800kg models the top hook and load pin should now be installed, the load pin is inserted from the gear side.
8. Install pinion gears ensuring correct alignment and liberally grease the complete pinion assembly.

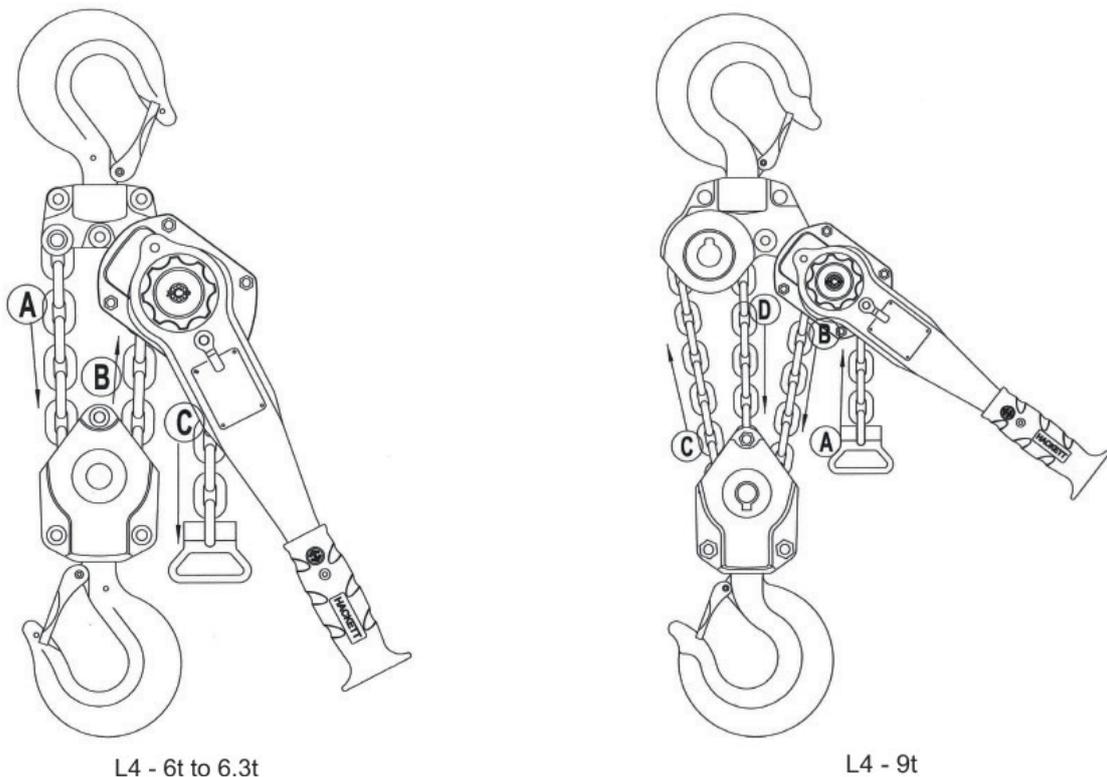


9. Fit gear cover #10 making sure the profile matches the side plate.
10. Install pawl spring #14 ensuring the spring lower is secure in the side plate.
11. Fit pawls #15 with flat side down ensuring the pawl spring upper is securely positioned over the pawl.
12. Install the circlips #15A making sure they are correctly seated in the pawl shaft recess.
13. Lightly lubricate the pinion shaft splines and threads taking care not to apply an excessive amount as this may migrate to the mating brake surfaces, locate the disc hub onto the pinion shaft splines.
14. Tension the pawl and pawl spring by rotating anti clockwise whilst installing the lower friction disc #17, make sure the ratchet disc is installed so that it correctly engages the tensioned pawls.
15. Seat springs #20 onto the disc hub #13 then fit and secure the handle cover assembly #22 using nylon locking nuts #11.

16. Install the change gear turning clockwise ensuring it is fully seated onto the upper friction disc.
17. Install the change over stand, spring and pawl #24, #25 and #26 into the upper handle and secure with fixings #21, #29 and 29A.
18. Install the stop cam #31, with the change gear fully seated the stop cam and raised limiter shall be between 15° - 20° apart (Fig. 1), now turn the change gear counter clockwise until the cam and limiter mate (Fig. 2).
19. Install the Grip Ring/Hand Wheel #30 with the slotted section over the raised tab of the change gear.
20. Replace washer #32 and castle nut #33, the nut shall be tightened finger tight then backed off to the nearest point the cotter pin can be inserted, secure cotter pin.



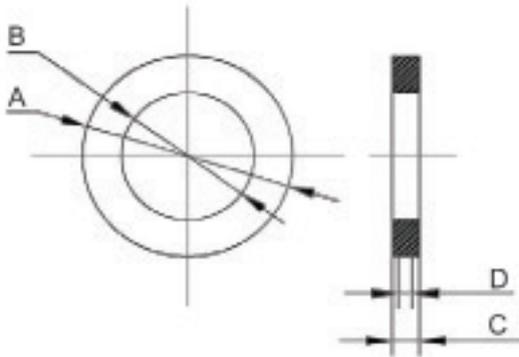
Chain Installation



Miscellaneous

BRAKE DISC

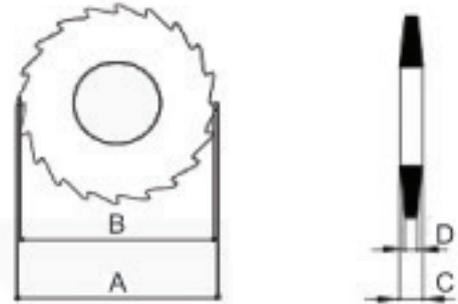
Replacement limits for brake disc



WLL (kg)	A (mm)	B (mm)	C (mm)	D (mm)
750/800	54	34	3.5	3
1500/1600	65	40.3	3.5	3
3000/9000	65	40.3	3.5	3

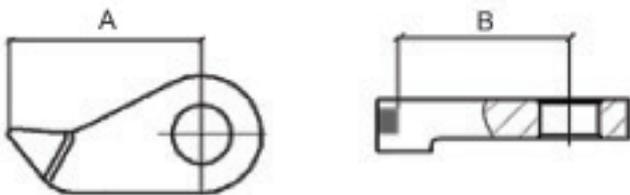
B = inner diameter C = normal measurement
 A = outer diameter D = replacement limit

Replacement limits for Ratchet Brake System



WLL (kg)	A (mm)	B min (mm)	C (mm)	D min (mm)
750/800	64	63	5	45
1500/1600	74	73	5	45
3000/9000	74	73	5	45

Replacement limits for Pawl



WLL (kg)	A (mm)	V min (mm)
750/800	22.4	20.2
1500/1600	24.4	22.3
3000/9000	27.5	24.5

Warranty

When supplied new the L4 lever hoist will be supplied with a Declaration of Conformity which sanctions the use of the product for a maximum period of 12 months before re-certification is required by a competent person.

Providing that the use, storage, routine maintenance and servicing instructions contained in this document are followed the L4 lever hoist can be used for multi immersions

The L4 lever hoist is a lifting appliance and should be thoroughly examined by a competent person at least every 12 months, or following each period of deployment.

Only original William Hackett spare parts should be used.

William Hackett guarantee the performance of the L4 lever hoist for a period of 12 months from the date of sale subject to the purchaser and users complying with the safe use, storage, routine maintenance and servicing instructions, and there being no excessive wear and tear or misuse of the product.

These points do not affect the purchasers statutory rights.





William Hackett Lifting Products Limited

Oak Drive, Lionheart Enterprise Park
Alnwick, Northumberland
United Kingdom NE66 2EU

William Hackett Chain Products Limited

Maypole Fields, Cradley
Halesowen, West Midlands
United Kingdom B63 2QE

