



**William
Hackett**



WH-L4 LEVER HOIST

USER MANUAL

A LONG LASTING
CONNECTION



Contents

This Manual is designed to provide you with clear, concise, and comprehensive information of (product/service/solution). For further assistance, please don't hesitate to contact us.

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Dimensions and Specifications

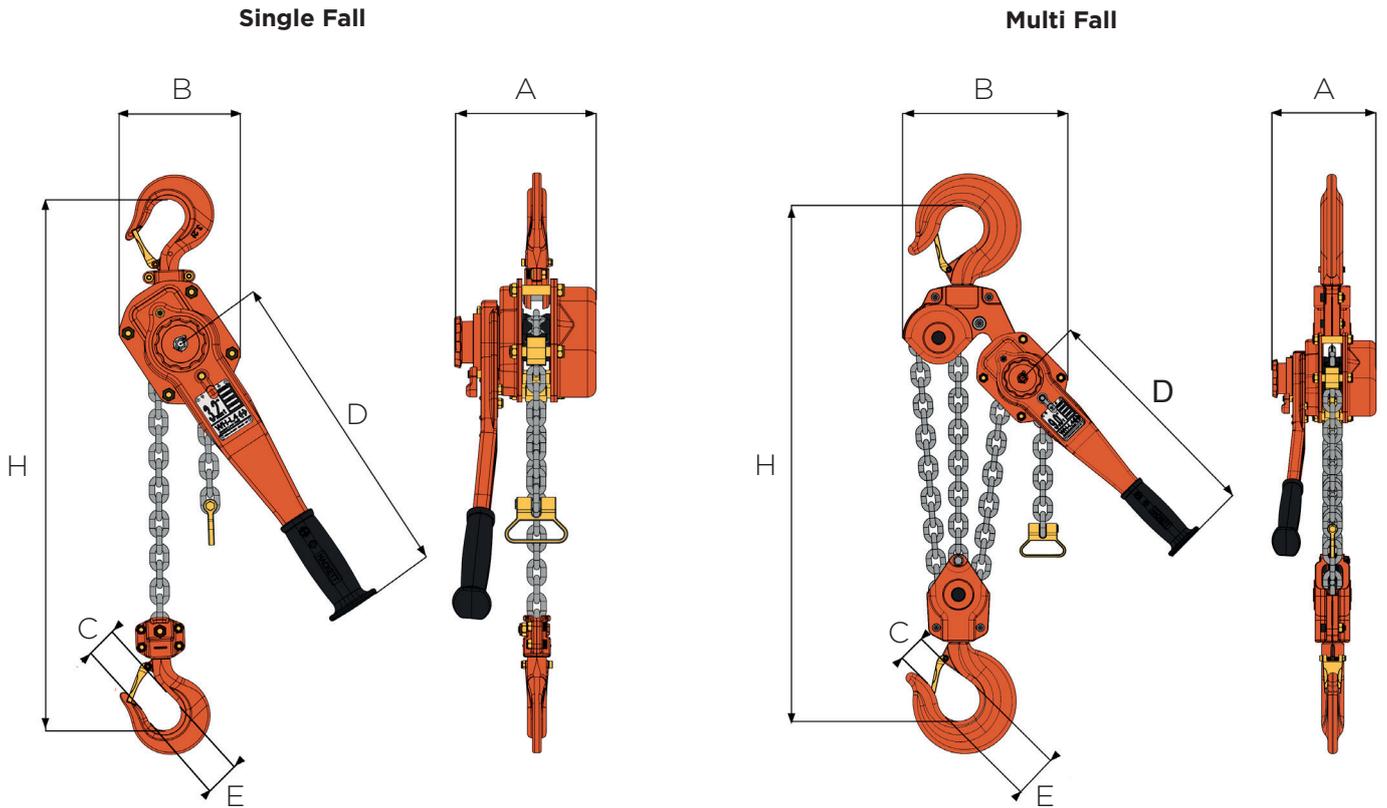


Table 1: Product specification, metric dimensions and WLL for William Hackett L4 Lever Hoists

| 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 1.5m HOL | EXTRA WEIGHT PER M kg |
|-----------|------------|--------------|---------------|-------------------|-------|------|------|------|------|------|---------------------|-----------------------|
| 033.080 | 0.8 | 1 | 5.6 x 17 | 1.5 | 148.0 | 121 | 41.5 | 265 | 28.0 | 280 | 6.2 | 0.7 |
| 033.160 | 1.6 | 1 | 7.1 x 21 | 1.5 | 165.5 | 141 | 52.0 | 350 | 33.0 | 350 | 9.6 | 1.1 |
| 033.320 | 3.2 | 1 | 10 x 30 | 1.5 | 194.5 | 178 | 61.9 | 415 | 42.5 | 420 | 15.5 | 2.2 |
| 033.630 | 6.3 | 2 | 10 x 30 | 1.5 | 194.5 | 228 | 84.3 | 415 | 51.0 | 570 | 27.0 | 4.4 |
| 033.900 | 9.0 | 3 | 10 x 30 | 1.5 | 194.5 | 310 | 88.0 | 415 | 56.0 | 680 | 38.3 | 6.6 |
| 033/1500 | 15.0 | 6 | 10 x 30 | 1.5 | 194.5 | 420 | - | 415 | 80.0 | 1000 | 90.0 | 13.2 |

Table 2: Product specification, imperial dimensions and WLL for William Hackett L4 Lever Hoists

| PART CODE | WLL tons | NO. OF FALLS | LOAD CHAIN mm | STANDARD LIFT (m) | A inch | B inch | C inch | D inch | E inch | H inch | MASS lbs 5ft HOL | EXTRA WEIGHT PER 3ft lbs |
|-----------|----------|--------------|---------------|-------------------|--------|--------|--------|--------|--------|--------|---------------------|--------------------------|
| 033.080 | 0.8 | 1 | 5.6 x 17 | 1.5 | 5.83 | 4.76 | 1.63 | 10.43 | 1.10 | 11.02 | 13.7 | 1.5 |
| 033.160 | 1.6 | 1 | 7.1 x 21 | 1.5 | 6.52 | 5.55 | 2.05 | 13.78 | 1.30 | 13.78 | 21.2 | 2.4 |
| 033.320 | 3.2 | 1 | 10 x 30 | 1.5 | 7.66 | 7.01 | 2.44 | 16.34 | 1.67 | 16.54 | 34.2 | 4.9 |
| 033.630 | 6.3 | 2 | 10 x 30 | 1.5 | 7.66 | 8.98 | 3.32 | 16.34 | 2.01 | 22.44 | 59.5 | 9.7 |
| 033.900 | 9.0 | 3 | 10 x 30 | 1.5 | 7.66 | 12.20 | 3.46 | 16.34 | 2.20 | 26.77 | 84.4 | 14.6 |
| 033/1500 | 15.0 | 6 | 10 x 30 | 1.5 | 7.66 | 16.54 | - | 16.34 | 3.15 | 39.37 | 198.4 | 29.1 |

Hoist Selection

In accordance with statutory requirements (e.g. The Lifting Operations and Lifting Equipment Regulations 1998), all lifts using lever hoists 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 required to achieve a safe lifting operation must be determined by a competent person.

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.

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.

William Hackett L4 lever hoists are assembled, chained and tested in the UK to the height of lift specified by the end user. Careful consideration should be given to the headroom required to lift the load and the position of the operator before specifying the length of the load chain and the hoist model.

The configuration of lever hoist assemblies are demonstrated on page 4, and are in accordance with the product specification, dimensions and working load limit (WLL) recorded in Tables 1 and 2 (also on page 4).

William Hackett L4 lever hoists are designed for industrial applications in both indoor and outdoor plus topside marine environments.

William Hackett lever hoists are available in specialised versions to suit hazardous environments. The L4 Atex hoist is suitable for spark sensitive use and the SS-L5 QP is corrosion resistant and suitable for subsea use.

William Hackett L4 lever hoists can be used within an operating temperature range of -20°C to +120°C.

William Hackett L4 hoists are suitable for fleeting lifting. If multiple hoists are to be used in a fleeting operation, refer to Appendix 1: General Guidance for Fleeting Lifting at the end of this manual.

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.

Pre-use checks

Before the lever hoist is issued from the designated storage location a competent person must ensure that the appropriate certification is in place for the hoist.

Safe use instructions should be made available.

Possession of the relevant certification does not absolve the user from his responsibility to carry out pre-use inspections.

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.

Points to check before each period of use are:

- If necessary, the hoist should be cleaned before inspection.
- Name Plate – details clear and visible.
- Hook latches in good working order
- Is the load chain worn or damaged. 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 excessively corroded links and the chain should move freely.
- Obvious signs of hooks opening out increase in throat opening or any other form of distortion in the hooks or suspension fittings.
- Top and bottom hooks are free to rotate with no load applied.
- With no load applied turning the grip ring clockwise should produce a clear and positive clicking sound as the brake ratchet activates.
- On multiple fall hoists check that all chain sheaves are free to rotate whilst no load is applied.
- Check all fixings are in place and in good condition, split pins or nyloc nuts.
- Obvious signs of damage to the hoist slack end chain anchor.
- General damage to the hoist body, this can be an indicator of neglect throughout the hoist.
- The load chain wheel should be checked for damage or debris.
- Chain guides and strippers should be free of debris and in good condition.

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 hoist MUST NOT be used.

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.

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).

Check the correct engagement of the top and bottom hooks. The hooks should be free to articulate within the load attachment points without overcrowding.

Do not use the grip ring 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 William Hackett's Fleeting Guidelines.

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 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.

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. 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

As with any item of lifting equipment, the lever hoist will be specified for a maximum working load limit. This should not be exceeded during any lifting operation. It is important, therefore, when planning a lifting operation that the load to be lifted by the lever hoist is known or has been accurately estimated with an adequate allowance for safety. The possible effects of additional loading, such as friction, should be included when the lever hoist is being selected for the lift.

The design of lever hoists is such that a brake mechanism is used to suspend the load but also requires a load to operate. When planning a lifting operation using a lever hoist or selecting a lever hoist for a lift, the light load limitation of the braking mechanism should be recognised. The William Hackett WH-L4 lever hoist is tested and certified to have a light load capability at 2% of the lever hoist rated capacity, but it is not recommended to use a lever hoist at below 10% of the rated capacity, but it is not recommended to use a lever hoist at below 10% of the rated capacity.

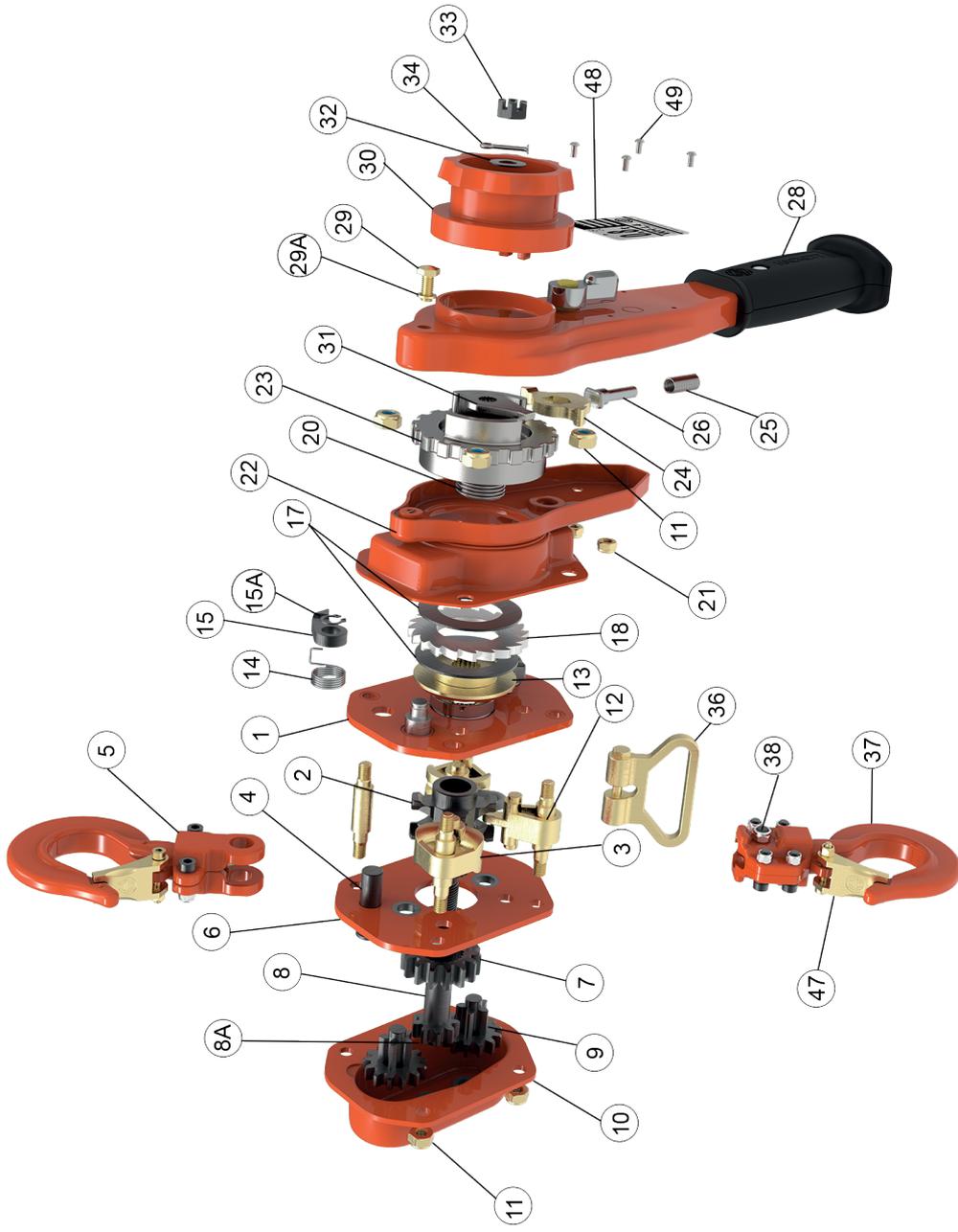
A lever hoist should be loaded and unloaded using the lever handle. When a load is removed from a lever hoist other than using the lever handle (e.g. by transfer of a load to a surface crane) the brake mechanism will remain locked together. Subsequent loading of the hoist (for example, by the transferring of a load on to the hoist from a surface crane) will result in the load being applied to a locked brake mechanism - something manufacturers regard as bad practice, potentially resulting in unexpected slippage as the hoist is then operated. If a load is removed from a lever hoist, the lever handle should be operated to unlock the brake and confirm the hoist is fully functional before the lever hoist is used for another lifting operation.

Spare parts inspection category

| STANDARD INSPECTION - Type 2 | | | Standard Corrosion Protected or Painted Components |
|---------------------------------|----------|---------------------------|---|
| PART CODE | QUANTITY | DESCRIPTION | INSPECTION TYPE (1 or 2) |
| L4.01 | 1 | Left Side Plate Assembly | 2 |
| L4.02 | 1 | Load Sheave | 2 |
| L4.03 | 2 | Chain Guide | 2 |
| L4.04 | 1 | Top Hook Pin | 2 |
| L4.05 | 1 | Top Hook Assembly | 2 |
| L4.06 | 1 | Right Side Plate Assembly | 2 |
| L4.07 | 1 | Load Gear | 2 |
| L4.08 | 1 | Pinion Shaft | 2 |
| L4.08A | 1 | Pinion Shaft Washer | 2 |
| L4.09 | 2 | Pinion Gear (pair) | 2 |
| L4.10 | 1 | Gear Cover | 2 |
| L4.11 | 8 | Nut | 2 |
| L4.12 | 1 | Chain Stripper | 2 |
| L4.13 | 1 | Disc Hub | 2 |
| L4.14 | 2 | Pawl Spring | 2 |
| L4.15 | 2 | Pawl | 2 |
| L4.15A | 1 | Circlip | 2 |
| L4.17 | 2 | Friction Disc (pair) | 2 |
| L4.18 | 1 | Ratchet Gear | 2 |
| L4.20 | 2 | Spring | 2 |
| L4.21 | 2 | Lock Nut | 2 |
| L4.22 | 1 | Handle Cover Assembly | 2 |
| L4.23 | 1 | Change Gear | 2 |
| L4.24 | 2 | Change Over Pawl | 2 |
| L4.25 | 1 | Change Over Spring | 2 |
| L4.26 | 1 | Change Over Stand | 2 |
| L4.28 | 1 | Lever Handle Assembly | 2 |
| L4.29 | 1 | Screw | 2 |
| L4.29A | 1 | Spring Washer | 2 |
| L4.30 | 1 | Grip Ring | 2 |
| L4.31 | 1 | Stop Cam | 2 |
| L4.32 | 1 | Washer | 2 |
| L4.33 | 1 | Castle Nut | 2 |
| L4.34 | 1 | Split Pin | 2 |
| L4.36 | 1 | Square Type End Stop | 2 |
| L4.37 | 1 | Bottom Hook Assembly | 2 |
| L4.38 | 1 | Chain Fixing Pin | 2 |
| L4.47 | 1 | Latch Kit | 2 |
| L4.48 | 1 | Label | 2 |
| L4.49 | 4 | Label Rivets | 2 |

Parts List

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

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

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

It is the 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.

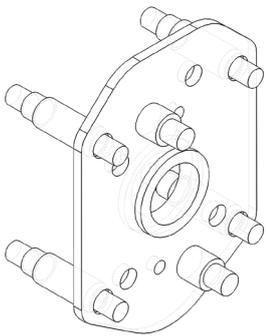
These instructions should be used alongside the illustrated parts list.

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.

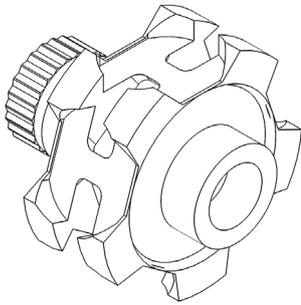
Hoist disassembly

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.



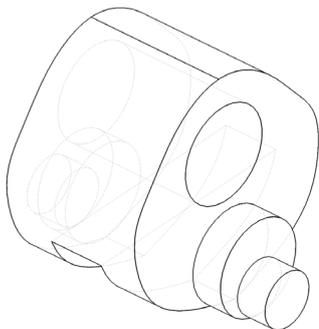
L4.01 Left Side Plate Assembly

| | |
|-----------------|--|
| 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 it if necessary. |



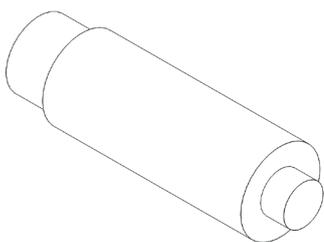
L4.02 Load Sheave

| | |
|-----------------|--|
| INSPECTION TYPE | Visual |
| QUANTITY | 1 Check load chain pockets for wear and damage, ensuring satisfactory seating of load chain in pockets. |
| ACTION | Clean, reapply grease or replace it if necessary. |



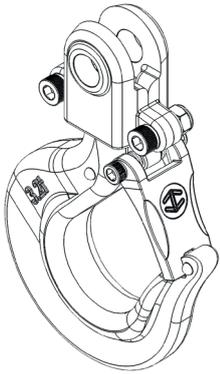
L4.03 Chain Guide

| | |
|-----------------|--|
| INSPECTION TYPE | Visual |
| QUANTITY | 2 Examine chain guide for wear, fracture, and alignment. |
| ACTION | Shotblast and repaint or replace it if necessary, For ATEX variant contact manufacturer. |



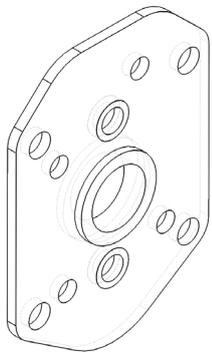
L4.04 Top Hook Pin

| | |
|-----------------|---|
| INSPECTION TYPE | Visual and Dimensional - contact manufacturer |
| QUANTITY | 1 Check dimensionally and visually for damage or wear. |
| ACTION | Replace it if necessary. |



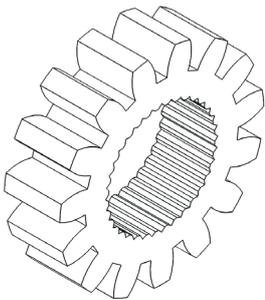
L4.05 Top Hook Assembly

| | |
|-----------------|--|
| 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 it if required. For ATEX variant contact manufacturer. |



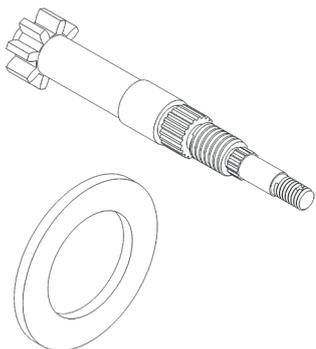
L4.06 Right Side Plate Assembly

| | |
|-----------------|---|
| 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 it if necessary. |



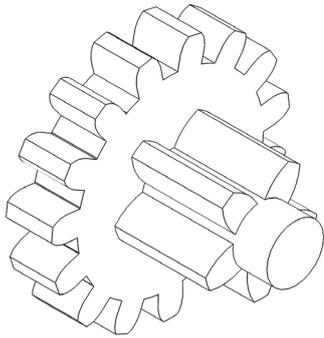
L4.07 Load Gear

| | |
|-----------------|---|
| INSPECTION TYPE | Visual |
| QUANTITY | 1 Examine gear for wear, fracture, and alignment. Check condition of internal splines. |
| ACTION | Clean, reapply grease or replace it if necessary. |



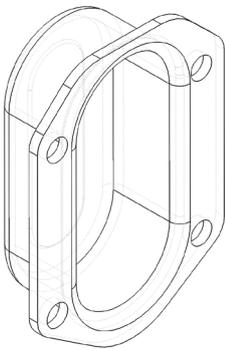
L4.08 Pinion Shaft

| | |
|-----------------|---|
| INSPECTION TYPE | Visual |
| QUANTITY | 1 Examine pinion shaft for damage and distortion, check shaft for straightness, spline and thread condition. |
| ACTION | Clean, reapply grease or replace it if necessary. |



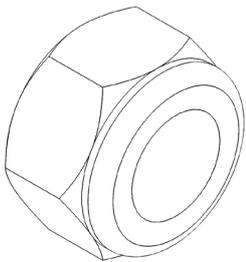
L4.09 Pinion Gear

| | |
|-----------------|--|
| INSPECTION TYPE | Visual |
| QUANTITY | 2 Examine gears for wear, fractures, and alignment. |
| ACTION | Clean, reapply grease or replace it if necessary. |



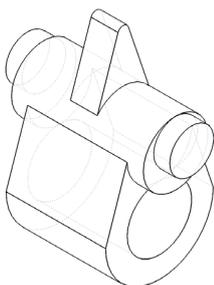
L4.10 Gear Cover

| | |
|-----------------|---|
| 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 it if necessary. |



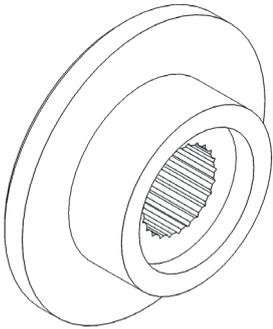
L4.11 Nut

| | |
|-----------------|----------------------|
| INSPECTION TYPE | Not Applicable |
| QUANTITY | 8 |
| ACTION | Discard and replace. |



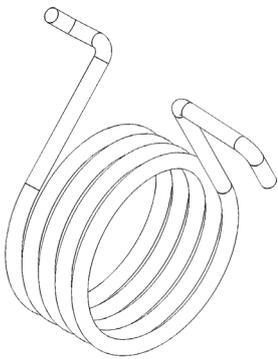
L4.12 Chain Stripper

| | |
|-----------------|---|
| INSPECTION TYPE | Visual |
| QUANTITY | 1 Examine chain stripper for wear and damage. |
| ACTION | Shotblast and repaint or replace it if necessary. For ATEX variant contact manufacturer. |



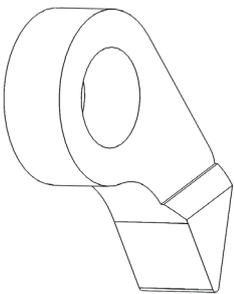
L4.13 Disc Hub

| | |
|-----------------|---|
| INSPECTION TYPE | Visual |
| QUANTITY | 1 Check splines and ensure the component mating surfaces are smooth, flat and without excessive corrosion. |
| ACTION | Replace it if necessary. |



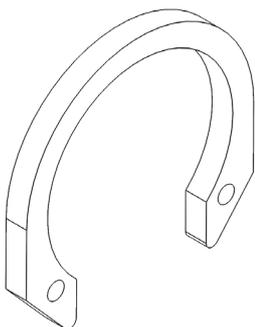
L4.14 Pawl Spring

| | |
|-----------------|--|
| INSPECTION TYPE | Visual |
| QUANTITY | 2 Examine pawl springs for corrosion and fractures, ensure the spring is in good working order and not deformed or stretched. |
| ACTION | Replace it if necessary. |



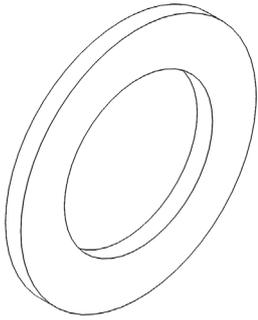
L4.15 Pawl

| | |
|-----------------|--|
| INSPECTION TYPE | Visual and dimensional (see page 28) |
| QUANTITY | 2 Check pawl for wear ensuring pawl is free to move on pawl shaft |
| ACTION | Replace if any defects found. |



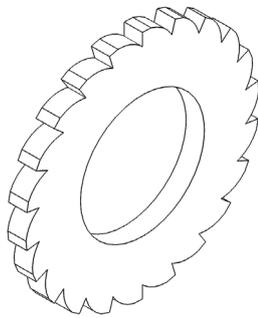
L4.15A Circlip

| | |
|-----------------|---|
| INSPECTION TYPE | Visual |
| QUANTITY | 1 Examine for cracks, distortion, or damage. |
| ACTION | Replace it if necessary. |



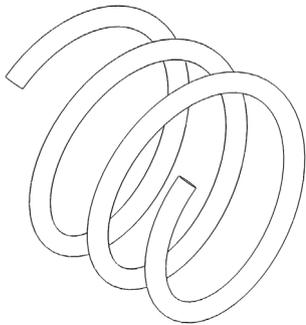
L4.17 Friction Disc

| | |
|-----------------|---|
| 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. |



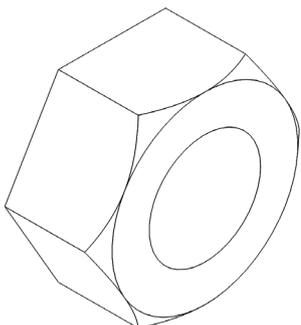
L4.18 Ratchet Gear

| | |
|-----------------|--|
| INSPECTION TYPE | Visual |
| QUANTITY | 1 Examine ratchet teeth and brake component surfaces ensuring they are smooth and flat. |
| ACTION | Replace if any defects found. |



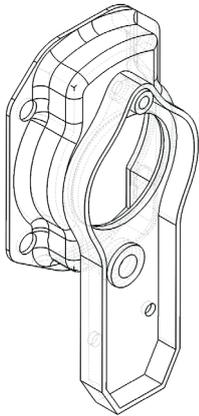
L4.20 Spring

| | |
|-----------------|--|
| INSPECTION TYPE | Visual |
| QUANTITY | 2 Examine spring for corrosion and fractures, ensure the spring is in good working order and not deformed or stretched. |
| ACTION | Replace it if necessary. |



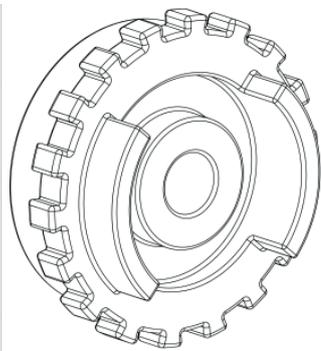
L4.21 Lock Nut

| | |
|-----------------|---|
| INSPECTION TYPE | Not Applicable |
| QUANTITY | 2 Examine for cracks, distortion, or damage. |
| ACTION | Discard and replace. |



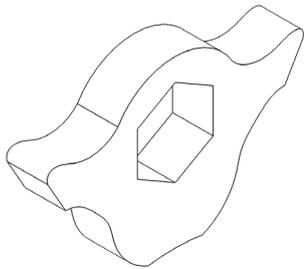
L4.22 Handle Cover Assembly

| | |
|-----------------|---|
| 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. |



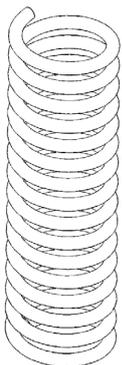
L4.23 Change Gear

| | |
|-----------------|--|
| 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. |



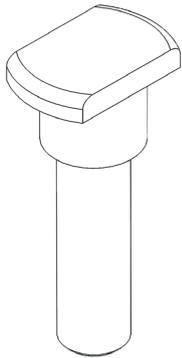
L4.24 Change Over Pawl

| | |
|-----------------|---|
| 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 in good working order and not deformed or stretched. |
| ACTION | Replace it if necessary. |



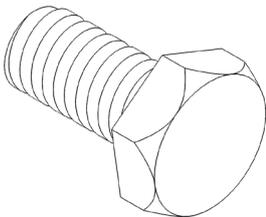
L4.26 Change Over Stand

| | |
|-----------------|---|
| 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, reapply grease or replace it if necessary. |



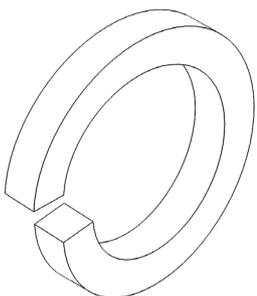
L4.28 Lever Handle Assembly

| | |
|-----------------|---|
| 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. |



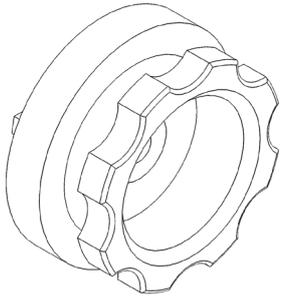
L4.29 Screw

| | |
|-----------------|----------------------------------|
| INSPECTION TYPE | Visual |
| QUANTITY | 1 Check the thread condition. |
| ACTION | Replace it if necessary. |



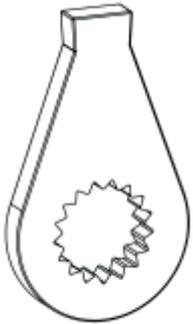
L4.29A Spring Washer

| | |
|-----------------|----------------------------------|
| INSPECTION TYPE | Visual |
| QUANTITY | 1 Check the washer condition. |
| ACTION | Replace it if necessary. |



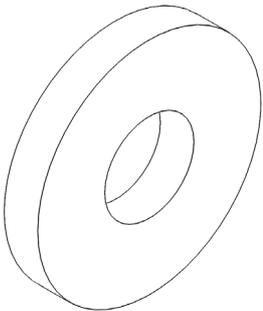
L4.30 Grip Ring

| | |
|-----------------|---|
| INSPECTION TYPE | Visual |
| QUANTITY | 1 Check grip ring for wear and damage. |
| ACTION | Shotblast and repaint or replace. |



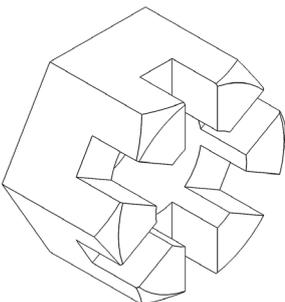
L4.31 Stop Cam

| | |
|-----------------|---|
| INSPECTION TYPE | Visual |
| QUANTITY | 1 Check splines and ensure the component mating surfaces are smooth, flat and without corrosion or wear. |
| ACTION | Replace it if necessary. |



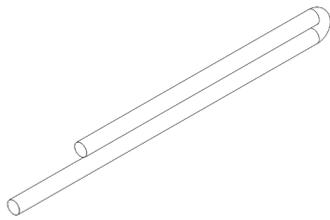
L4.32 Washer

| | |
|-----------------|---|
| INSPECTION TYPE | Visual |
| QUANTITY | 1 The washer should be smooth, without damage and of good condition. |
| ACTION | Clean, reapply grease or replace it if necessary. |



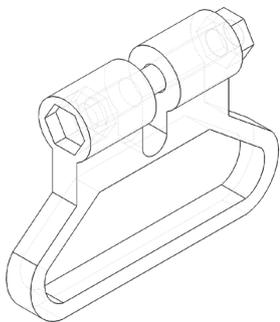
L4.33 Castle Nut

| | |
|-----------------|---|
| INSPECTION TYPE | Visual |
| QUANTITY | 1 Check thread condition, check for wear or fractures. |
| ACTION | Replace it if necessary. |



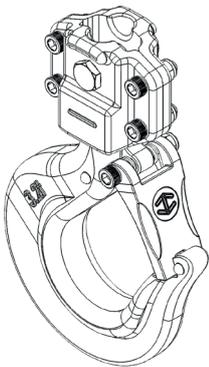
L4.34 Split Pin

| | |
|-----------------|----------------------|
| INSPECTION TYPE | Not Applicable |
| QUANTITY | 1 |
| ACTION | Discard and replace. |



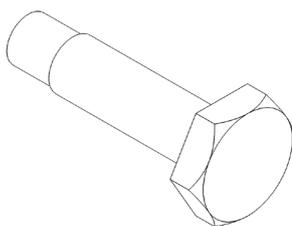
L4.36 Square Type End Stop

| | |
|-----------------|---|
| INSPECTION TYPE | Visual |
| QUANTITY | 1 Check for cracks, corrosion, distortion, and wear. |
| ACTION | Replace it 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 it 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 it if necessary. |



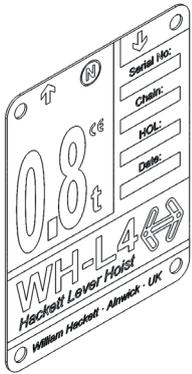
L4.47 Latch Kit

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.



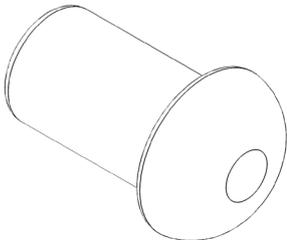
L4.48 Nameplate

INSPECTION TYPE Visual

QUANTITY 1

Check nameplate is secure and in good condition, the unique hoist serial number, 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.

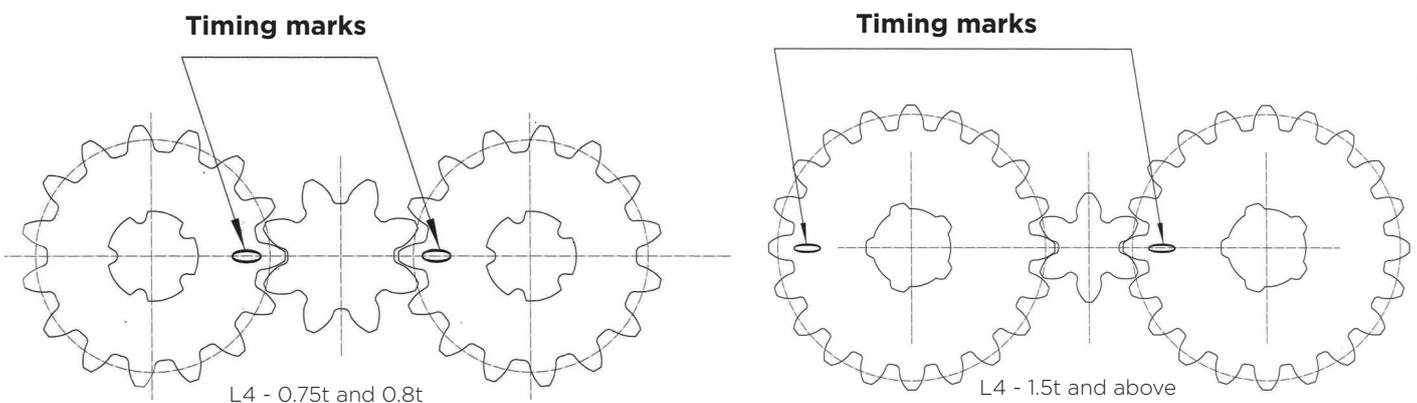
Assembly instructions

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.

Assembly instructions

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 $15^\circ - 20^\circ$ apart (Fig. 1), now turn the change gear anti-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.

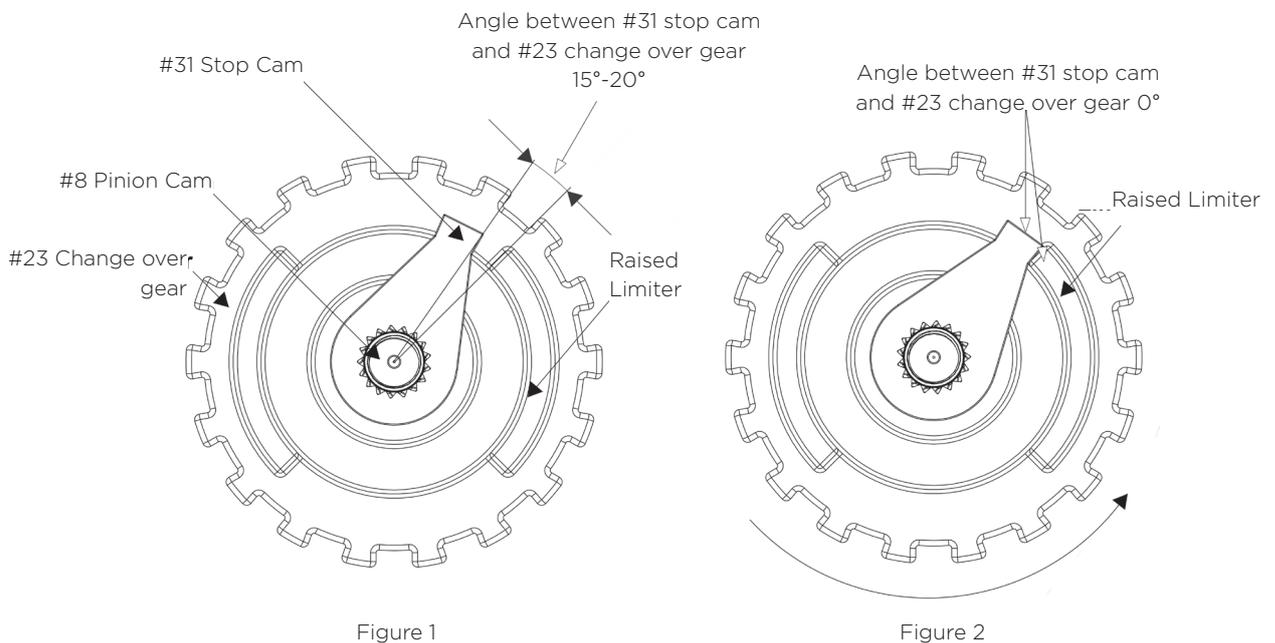
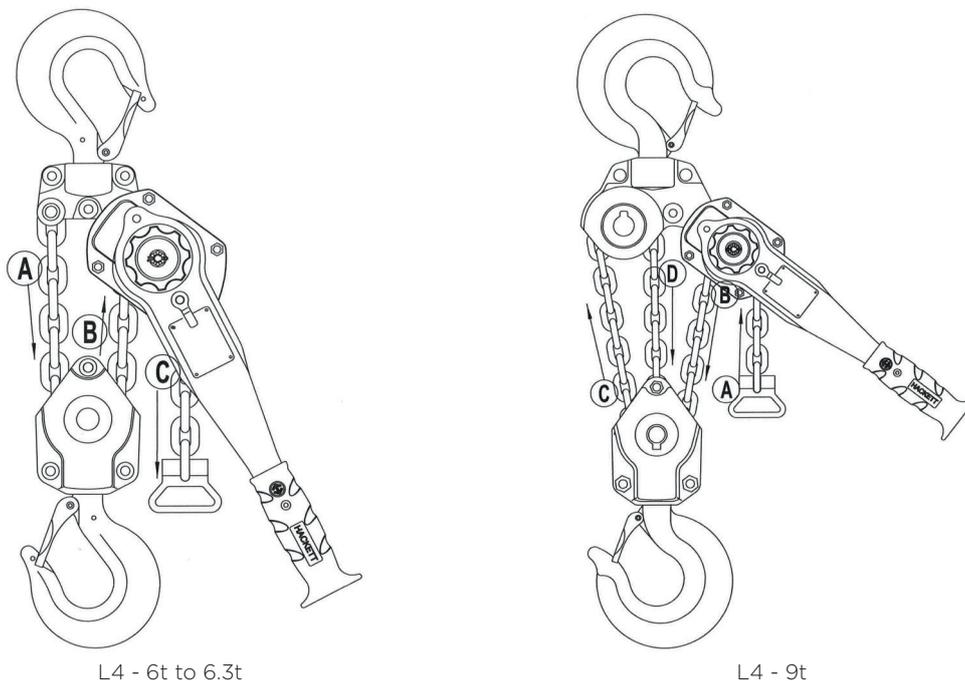


Figure 1

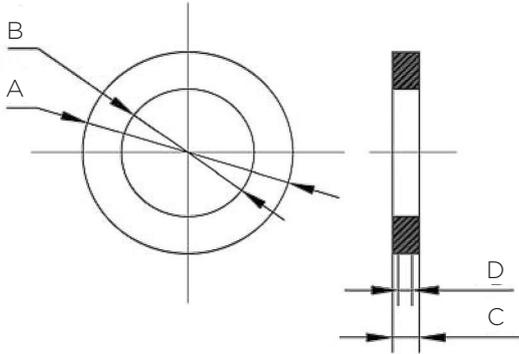
Figure 2

Chain Installation



BRAKE DISC

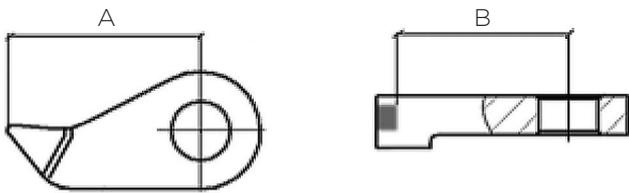
Replacement limits for brake disc



| Capacity t | A mm | B mm | C mm | D mm |
|---------------|---------|---------|---------|---------|
| 0.8 | 54 | 34 | 3.5 | 3 |
| 1.6 | 65 | 40.3 | 3.5 | 3 |
| 3.2 - 15.0 | 65 | 40.3 | 3.5 | 3 |

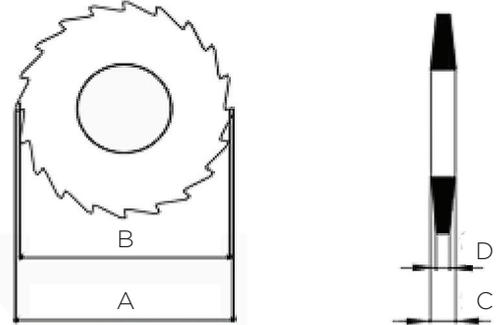
B = inner diameter C = normal measurement
A = outer diameter D = replacement limit

Replacement limits for Pawl



| Capacity t | A mm | V min mm |
|---------------|---------|-------------|
| 0.8 | 22.4 | 20.2 |
| 1.6 | 24.4 | 22.3 |
| 3.2 - 15.0 | 27.5 | 24.5 |

Replacement limits for Ratchet Brake System



| Capacity t | A mm | B min mm | C mm | D min mm |
|---------------|---------|-------------|---------|-------------|
| 0.8 | 64 | 63 | 5 | 45 |
| 1.6 | 74 | 73 | 5 | 45 |
| 3.2 - 15.0 | 74 | 73 | 5 | 45 |

LUBRICATION

L4 Lever Hoist

Recommended lubricant type: Mobilgrease XHP™ 222

L4 Lever Hoist Load Chain

Recommended Lubricant: Lear Chem ACF-50 fluid or Lear Chem Corrosion Block Fluid

TORQUE VALUE TABLE

| Bolt/nut size | Min Nm | Max Nm |
|---------------|--------|--------|
| M5 | 5 | 6 |
| M6 | 6 | 8 |
| M8 | 20 | 22 |
| M10 | 22 | 24 |
| M12 | 25 | 27 |

Miscellaneous

LOAD AND WEAR LIMITS

Alloy Steel Chain

Carefully inspect entire load chain. Measure five consecutive links with calipers 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 the load chain by welding a second piece to the original.

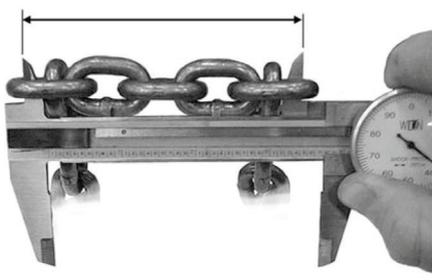
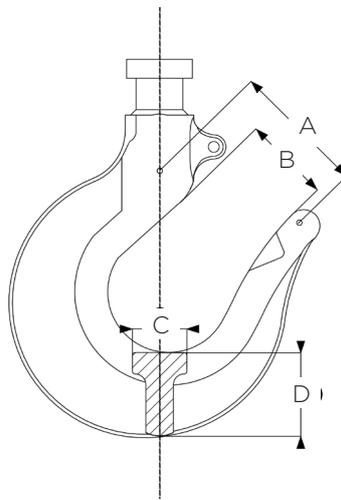


Figure 2

| Capacity t | 5 Links Normal mm | 5 Links Limit Replace if more than: |
|---------------|----------------------|--|
| 0.8 | 85 | 87.5 |
| 1.6 | 105 | 108.1 |
| 3.2 - 15.0 | 150 | 154.3 |

L4 DIMENSIONS AND DISCARD CRITERIA



| Capacity t | A (mm) | | B (mm) | | C (mm) | | D (mm) | |
|---------------|---------|---------|---------|---------|---------|---------|---------|---------|
| | Nominal | Discard | Nominal | Discard | Nominal | Discard | Nominal | Discard |
| 0.8 | 42.5 | 46.8 | 26.5 | 29.2 | 14.2 | 12.8 | 20.0 | 18.0 |
| 1.6 | 51.5 | 56.7 | 34.5 | 38.0 | 19.0 | 17.1 | 26.5 | 23.9 |
| 3.2 | 61.0 | 67.1 | 42.5 | 46.8 | 24.4 | 22.0 | 31.2 | 28.1 |
| 6.3 | 85.0 | 93.5 | 52.6 | 57.9 | 34.0 | 30.6 | 45.4 | 40.9 |
| 9.0 | 89.0 | 97.9 | 63.5 | 69.9 | 40.0 | 36.0 | 60.4 | 54.4 |
| 10.0 | 89.0 | 97.9 | 63.5 | 69.9 | 40.0 | 36.0 | 60.4 | 54.4 |
| 15.0 | - | - | 83.0 | 91.3 | 56.0 | 50.4 | 84.8 | 76.3 |

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.

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.

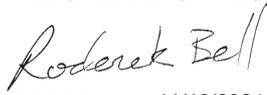
William Hackett guarantees the performance of the L4 lever hoist for a period of 12 months from the date of sale subject to the purchaser and users complying with the safe use, storage, routine maintenance and servicing instructions, and there being no excessive wear and tear or misuse of the product.

These points do not affect the purchasers' statutory rights.



| | | |
|--|---|------------|
| Delivery Address | Supplied To: | ABC123 |
| ABC DISTRIBUTORS ALPHABET DRIVE ALPHABETTUS YOUR COUNTY YO13 ABC | Certificate Number: | 0030007888 |
| | Customer Order Number: | 123456 |
| | Certificate Date: | 11/12/2024 |
| | PRODUCTS REQUIRING A DECLARATION OF CONFORMITY ARE INDICATED BY (A) THOSE REQUIRING JUST A MANUFACTURER'S CERTIFICATE ARE INDICATED BY (B) | |

DUAL PURPOSE DOCUMENT

| UKCA DECLARATION OF CONFORMITY (A) | EC DECLARATION OF CONFORMITY (A) | MANUFACTURER'S CERTIFICATE (B) |
|---|--|--|
| I DECLARE THAT THE ITEMS DESCRIBED ON THIS DOCUMENT MEET THE ESSENTIAL SAFETY REQUIREMENTS OF THE SUPPLY OF MACHINERY (SAFETY) REGULATIONS 2008 & SECTION 6 OF THE HEALTH AND SAFETY AT WORK ACT 1974 | I DECLARE THAT THE ITEMS DESCRIBED ON THIS DOCUMENT COMPLY WITH THE REQUIREMENTS OF THE MACHINERY DIRECTIVE 2006/42/EC | CERTIFIED ON BEHALF OF THE COMPANY  ROD BELL 11/12/2024 |

Authorised person for the configuration of the declaration documents: Roderick Bell, William Hackett Lifting Products, Alnwick, UK

| A/B | Batch/ Serial No. | Item Code | Description | Qty | Working Load Limit | Proof Load | Min Breaking Load |
|-----|----------------------|-----------|--|-----|--------------------------|---------------|-------------------------|
| A | 403130058 | 022.053 | 500kg Hackett chain hoist 3m HOL C4 to EN13157 | 1.0 | 500kg | 750kg | |
| A | 403130061L | 033.080 | 800kg Hackett lever hoist 1.5m HOL L4 to EN13157 | 1.0 | 800kg | 1.2t | |

Miscellaneous

WH-L4 LEVER HOIST

USER MANUAL



**William
Hackett**

liftingsales@williamhackett.co.uk

www.williamhackett.co.uk

+44 (0)1665 604200

William Hackett Lifting Products Limited

Lionheart Enterprise Park, Oak Drive,
Alnwick, Northumberland, NE66 2EU.

WH-L4 LEVER HOIST USER MANUAL
WHM-0001 REV. 8

A LONG LASTING
CONNECTION