Operation & Maintenance Instructions

Instructions for Safe Use

Power Operated Hoists

Certification Safelift power operated hoists are lifting appliances for which the following regulations apply -

The Lifting Operations and Lifting Equipment Regulations 1998 require the user to hold a current Report of Thorough Examination. This equipment requires thorough examination at least every 12 months. Rossendale Group issues a Report of Thorough Examination with every new Safelift power operated hoist and offers a re-examination service on site for the subsequent periodic examinations.

The Supply of Machinery (Safety) Regulations 2008 requires the user to hold a Declaration of Conformity. Rossendale Group issues a Declaration of Conformity with every new Safelift power operated hoist.

Training Operators of Safelift power operated hoists must be trained in the safe use of the equipment, as required by The Management of Health and Safety at Work Regulations 1999, The Provision and Use of Work Equipment Regulations 1998 and The Health and Safety at Work Act 1974. Rossendale Group provides training courses for power operated hoists and other lifting equipment.

Storage When not in use, Safelift power operated hoists should be parked safely, with the pendant or radio control device safely out of access to unauthorised users.

Documents Instructions for Safe Use and Operating Instructions for Safelift equipment are available at www.rossendalegroup.co.uk. Declarations of Conformity and Reports of Thorough Examination, including any ongoing periodic reports issued by Rossendale Group, are available at our SiteCert web site www.sitecert.info/. Purchasers and users of Safelift equipment and Rossendale Group examination clients are issued with user name and password access to their certificates.

SWL The Safe Working Load of a Safelift power operated hoist is clearly marked on the hoist unit and on the bottom hook/block. In certain circumstances the SWL may be derated. The user must not exceed the marked SWL.

Selection Safelift power operated hoists are available in a range of sizes, capacities and duty classes. Select the hoist to be used and plan the lift taking into account the capacity, class of use and range of lift. Consult the supplier if the hoist is to be used in areas of high risk, exposed to the elements, water, steam etc, with hazardous substances, e.g. acids or chemicals, or subjected to extremes of temperature.

Installation Safelift power operated hoists must be installed by competent installation engineers, who take account of all the hoist loadings when specifying supporting structures. Power operated hoists and the supporting structures must be tested and certified as detailed above before first use.

Safe Use This document is issued in accordance with the requirements of Section 6 of the Health and Safety at Work etc. Act 1974, amended March 1988. It outlines the care and safe use of power operated hoists and is based on Section 13 of the LEEA Code of Practice for the Safe Use of Lifting Equipment.* This information is of a general nature only covering the main points for the safe use of the equipment. It may be necessary to supplement this information for specific applications. All

users must read these operating instructions carefully prior to the initial operation. These instructions are intended to acquaint the user with the product and enable him to use it to the full extent of its intended capabilities. The operating instructions contain important information on how to handle the product in a safe, correct and economic way. Acting in accordance with these instructions helps to avoid dangers, reduce repair cost and down time and to increase the reliability and lifetime of the equipment.

ALWAYS
• Take the weight of the load gently.
• Ensure the travel path is clear before travelling the hoist.

NEVER
• Shock or side load power operated hoists.
• Attempt to drag loads along the ground.
• Allow persons to pass under suspended loads.
• Place ladders or climb on power operated hoists.

USING POWER OPERATED HOISTS SAFELY
• Never attempt lifting operations unless you have been trained in the use of the equipment and slinging procedures.
• Do not use defective power operated hoists or accessories.
• Position the power operated hoist hook correctly. The hoist hook must be directly over the centre of gravity of the load. Do not use the hoist hook to drag loads along.
• Take the load gently and avoid shock loads. Similar care is needed when lowering loads as sudden loading or unloading may cause the hoist rope and runway/bridge beam to whip.
• Before moving the power operated hoist or suspended load, ensure you have a clear view of the travel path and that this is free of any obstructions etc.
• Avoid swinging loads. Where possible, push rather than pull on suspended loads.
• Do not allow anyone to pass under or ride upon the load. Never leave suspended loads unattended unless in an emergency when the area should be cordoned off and kept clear.
• Never lift or lower more than the marked SWL. In the case of manual equipment if abnormally high effort is required, or if the load slips this is an indication of too high a load or a fault – check the load and the appliance.
• Do not use the hoist chain or wire rope to sling the load, i.e. do not wrap it round the load, back hook or choke hitch.
• Do not lift on the point of the hook or overcrowd the hook with fittings.
• Do not drive the hoist into the long travel end-stops or use the long travel end-stops as an operating limit. This will damage the hoist, apply excessive stresses to the supporting structure and cause the load to swing dangerously.
• Do not drive the hoist hook block into the hoist or use the up limit on the hoist as an operating limit. This will damage the hoist and hoist, and could cause the rope to fail and drop the load.

IN-SERVICE INSPECTION AND MAINTENANCE
• The Provision and Use of Work Equipment Regulations 1998 and the Lifting Operations and Lifting Equipment Regulations 1998 both require that lifting equipment be properly maintained. This is an ongoing duty that falls on the user and a planned routine maintenance programme will be necessary.
• In addition to the statutory thorough examinations by a Competent Person, regular in-service inspections should be made to find any faults and damage that might arise. If any are found they should be referred to the Competent Person.
• The maintenance programme must meet the requirements of the manufacturer's instructions and any special requirements due to the conditions of service. This may be combined with maintenance of other equipment used in association with the appliance.

Further information is given in: *The Code of Practice for the Safe Use of Lifting Equipment, published by the Lifting Equipment Engineers Association. **HSE Guidance Note GS39 – Training of Hoist Drivers and Slingers.

MAINTENANCE PERIODS

LOLER requires periodic examination of an overhead hoist at least every 12 months. It is the responsibility of the operator to establish an appropriate maintenance period for each specific hoist. Rossendale Group recommends that the following inspections are carried out at each periodic examination –

HOIST MOTION:

The load hook will be travelled through its full extent, to ensure that the operation is smooth and without excessive noise.

CROSS TRAVEL MOTION:

The hoist unit and trolley will be travelled along the entire length of the runway beam to ensure that the operation is smooth and no excessive noise is present. Visual observations will be made as the cable carrying trolleys travel along the C rail catenary system. The cables will be observed to ensure they are of sufficient length and the parking area for the trolleys is adequate.

LOAD HOOK ASSEMBLY:

The load hook and sheaves will be inspected for wear, damage and free rotation of the crosshead arrangement. The sheave covers will be inspected for wear, damage and security of fixings within the load hook assembly. Capacity markings and plates will be inspected to ensure they are correct, visible, and free from damage.

LOAD ROPE:

The load rope will be inspected for wear and damage along its entire length, with particular attention being paid to the lubrication of the strands. The ropes can be levelled by adjusting the shims under the slack end anchorage support brackets.

ROPE REPLACEMENT CRITERIA:

The load rope should be replaced if any of these faults are found -

⇒ Over a any length of 10 diameters, 5% of the total individual wires are broken; or
⇒ A strand is broken; or
⇒ Local groups of wires are broken; or
⇒ There is deterioration at the termination; or
⇒ There is deterioration of the inner core; or
⇒ Wear, i.e. rope diameter is less than 85% of the nominal diameter; or
⇒ There is internal corrosion; or
⇒ There is wire slackness.

LOAD CHAIN:

The load chain will be inspected for wear and damage along its entire length, with particular attention being paid to the inside of the crowns of the links. The load chain must be lubricated.

ISOLATION OF THE EQUIPMENT:

The mains supply will be isolated either at the equipment or the appropriate isolator. If possible the fuses will be removed and an *Isolock* fitted to the handle of the isolator. A "*Man Working on the Equipment*" sign will be displayed on the isolator and the control station. The service engineer will gain access to the equipment via suitable access equipment and carry out the maintenance work.

GENERAL:

All assemblies will be inspected for wear and damage. All bolts will be checked to ensure they are tight. Particular attention will be paid to the motors, couplings, drives and hoist structure.

MOTORS:

The motors will be inspected for external damage, and where possible each motor will be opened to inspect the accessible internal components for wear and damage.

HOIST/TROLLEY:

The side plates and frame will be inspected for cracks, deformation or damage. The crossbolts will be inspected to ensure they are not bent or worn. The suspension links will be inspected to ensure they are free from cracks, deformation, or damage, and the bolt holes are not elongated. The wheels will be inspected to ensure they are free running, free from cracks, deformation or damage, and that the correct type of wheel is fitted. The gauge of the unit will be checked to ensure that the side plates and the frame are set correctly, and within manufacturer's guidelines.

GEARBOXES:

All gearboxes will be inspected for wear, deformation, cracks and oil leaks. The oil levels will be checked to ensure they are correct and the quality of the lubricant is acceptable.

BRAKES:

The brake covers will be removed and the brake mechanisms will be inspected for wear, defamation, cracks, and serious damage. The air gap will be measured with suitable instruments to ensure it complies with manufacturer's guidelines.

ROPE BAND AND GUIDE:

The rope guide (if fitted) will be inspected for wear, deformation, cracks and correct positioning by the joining plates, bolts and nuts. The tension of the springs will be checked to ensure it is correct and free from defects.

ROPE CLAMPS:

The clamps will be inspected for correct fitting, wear, and secure holding of the rope.

ROPE DRUM:

The drum will be inspected for misalignment, wear, deformation and cracks.

ROPE WEDGE ANCHORAGE:

This will be inspected for wear, defamation, cracks, and correct fit.

ROPE SHEAVES:

The sheaves will be checked for wear, deformation, cracks and free rotation.

CABLES:

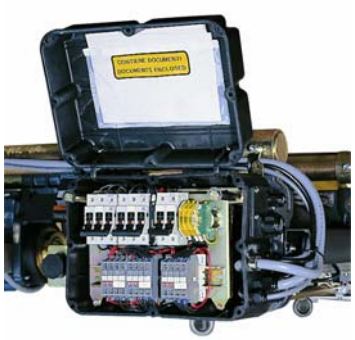
All cables will be inspected for external defects. i.e. frayed, damaged, signs of over heating, perished insulation, etc.

PUSH BUTTON CONTROL STATION:

The control station will be inspected for the following -

⇒ It is supported by a support line/s and not the electrical cable;
⇒ The pendant case is not cracked or damaged, and is secure;
⇒ The push buttons/switches/lights are free from wear, cracks and operate correctly;
⇒ The legends are correct and visible;
⇒ The electrical connections within the station are tight;
⇒ The electrical cable is held securely by the tensioning grip.

CONTACTORS, OVERLOADS, FUSES, TRANSFORMERS, ISOLATORS:



Where possible the electrical contactors will be opened to inspect the condition of the fixed and moving contacts, laminations and coil. The condition of the electrical wiring and connections will be checked for tightness and conformity. The items will be inspected for wear, deformation, cracks, and secure positioning. Particular attention will be paid to the settings of overloads, timers, etc, along with ensuring the correct type of fuses are fitted to the fuse carriers.

LIMIT SWITCHES, ANTI-COLLISION SYSTEMS:

All limit switches and anti-collision systems will be inspected for correct operation, wear, deformation, cracks and for secure in positioning with the appropriate fixings. The terminations will be checked for tightness and conformity.

CAPACITY MARKINGS/SIGNS:

Will be inspected for conformity and secure positioning.

GENERAL STRUCTURE:

Will be inspected for wear, deformation, cracks and security of fixings.

LUBRICATION:

The lubrication system will be inspected for defects and conformity. All points will be charged with lubricant.

LOAD LIMITING:

The load limiting system will be checked for wear, deformation, cracks and where possible for correct setting. It will be established that the load limiting system operates only after the upper travel limit on the hoist has been breached. It will be established that the load limiting system is not being used as an operating limit.

REMOTE RADIO CONTROL SYSTEM:

The system will be inspected for the following -

⇒ The transmitter unit is in good condition;
⇒ The receiver unit is in good condition;
⇒ The electrical terminations are secure;
⇒ The system functions correctly.

COMMISSIONING:

The mains conductor system electrical supply will be reinstated to the equipment and the operational check procedure will be repeated once again. On the satisfactory completion of this

procedure the equipment will be released to your appointed personnel, and all permits etc will be cancelled.

REPORTING PROCEDURES:

A detailed service report and a 'Report of Thorough Examination' will be submitted. Any defects will be reported immediately.

LOLER examination reports for examinations carried out by Rossendale Group are available at the SiteCert web site www.sitecert.info/

rossendalegroup

LOLER Report of Thorough Examination of Lifting Equipment

Report No.	E1JA183/135
Job No.	E1JA183
Date of this examination	04/02/2011
Date next examination due	03/08/2011

Identification mark	UU110064
Particulars sufficient to identify the equipment	Overhead crane single girder top running
SWL	3.2 t
Proof load applied by Rossendale Group	
Colour code (where applicable)	None
Site location	Sludge treatment building
Is the equipment installed properly (where applicable) and safe to operate?	YES

Only where "Yes" is reported above has the equipment on this report has been thoroughly examined for any defect and been found to be of adequate strength and stability and suitable for continued use by suitably trained personnel.

Examination & report by	Dave Sargent
Date of last examination (where known)	14/12/2009
Date of this report	04/02/2011
Date next examination due	03/08/2011
Client P.O. No.	

Lifting Equipment Engineer authorised by Rossendale Group

Report authorised by

Simon Bamford, Rossendale Group Ltd.