Product Information

Ultra-Lo BOP SYSTEM
AIR CHAIN HOIST
Models
ULBS100LCA4 and ULSBS150LCA6

Tons in this manual are metric tons (1 metric ton = 2,200 lbs)

Save These Instructions

Form MHD56366
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Only allow **Ingersoll Rand** trained Technicians to perform maintenance on this Product. For additional information contact **Ingersoll Rand** or nearest Distributor.

For additional supporting documentation refer to table 1 on page.
Manuals can be downloaded from www.winchandhoistsolutions.com
The use of other than genuine **Ingersoll Rand** replacement parts may result in safety hazards, decreased performance, increased maintenance and may invalidate all warranties.
The original language of this manual is English.
Refer all communications to the nearest **Ingersoll Rand** Office or Distributor.

Table 1: Product Manuals

Publication	Part/Document Number	Publication	Part/Document Number
Product Safety Information Manual	MHD56295	Product Parts Information Manual	MHD56367
Product Maintenance Information Manual	MHD56368		

PRODUCT DESCRIPTION

■ Description

The **ULBS** air powered hoist consists of two power head assemblies which control the lower hook block movement. Each power head is mounted to a hoist support frame. The support frames are connected and held in alignment by two trolley assemblies. The two power head assemblies are synchronized by a flexible coupling mounted between the motor shafts and gearboxes. The power head assemblies are made up of three main sections. They are the motor, the brake and the gear reducer and sheave section.

The output shaft from the gear motor is connected to the first planetary reducer assembly. The output from the first planetary reducer assembly is connected to the brake by the input shaft which passes through the center of the sheave section. The input shaft also acts as the sun gear for the second stage planetary reducer. The output from the secondary planetary reduction assembly is transmitted directly to the load chain sheave.

The input shaft cannot rotate in either direction until the brake has been released. The brake is released by air pressure applied to the annular brake piston. The piston compresses the brake springs, releasing the brake discs. There are seven sintered bronze type brake friction discs and six stationary steel brake discs.

The brake piston is actuated by air from the main control valve. When the control pendant “UP” or “DOWN” lever is pushed it moves the main control valve spool. The spool is designed to send air to the brake.

When the pendant “UP” or “DOWN” lever is released, quick exhaust valves allow the brake to set quickly and avoid downward load drift.

The air supply line can be strung to the hoist using cable hangers, cable trolleys or any festooning system that will ensure the air line remains free of kinks or sharp bends and is protected from being pinched or crushed by other equipment.

SPECIFICATIONS

Model Code Explanation

Example: ULBS100LCA4P3E9M9N-E

ULBS 100 LCA 4 P 3 E 9M 9 N - E

Series:

ULBS = Low Profile BOP Air Powered Hoist

Capacity:

100 = 2 x 50 ton Hoists

150 = 2 x 75 ton Hoist

Body Type:

LCA = Liftchain Air Hoist

Chain Falls:

4 = Quad Fall

6 =

Control Type:

P = Pendant (4 lever) Standard

Beam Type:

3 = Beam flange width 270 - 310 mm (10.6 - 12.2 inches)

Beam Options:

E = Flat Beam

N = Tapered Beam

R = Rack and Pinion Drive; only available for flat beam (add R to beam option; example: ER)

Lift:

9M = 18 m (59 ft) lift

XX = Length of lift

Control Drop:

XX = Control drop pendant or hand chain length [XX = Specify hose length (ft) Max 60 ft (18 m)]

9 = 18 m (59 ft) standard

Standard:

• = Upper and lower limit switch

• = Trolley bumpers

Options:

L = Low Temperature Components; specify -10° C (14° F) or -20° C (-4° F)

N = Clevis (replacing bottom block)

QZ = Marine 812-X paint system

T1 = Spark resistant package for Zone 1 (**)

Z = Sandblast and carbozinc primer

-E = Compliance with European Machinery Directive and includes: Emergency Stop on Pendant, Main Air Shut-off Valve and Overload

** Includes: stainless steel pins and fasteners 10 mm and smaller, 20µ zinc plated fasteners 11 mm and larger, cast iron pendant and bronze coated bottom hook assembly.

Table 2: General Specifications

Hoist Model	Rated Capacity metric tons	Max. Lifting Speed @ Rated Load		Lifting Speed @ No Load		Max. Lowering Speed @ Rated Load		Sound Pressure Level **	Sound Power Level **
		m/min	ft/min	m/min	ft/min	m/min	ft/min	dBA	dBA
ULBS100LCA4	2 x 50	1.4	4.60	3.0	9.80	1.65	5.4	92	105
ULBS150LCA6	2 x 75	0.9	2.95	2.2	7.22				

Hoist Model	Hoist Motor HP	Load Chain Size mm	Air Flow		Weight per meter of Chain		Trolley Beam Width Range		Max. Trolley Speed @ Nominal Load		Hoist Weight (9 m height of lift)	
			Cu Nm/min	Cu ft/min	kg	lbs	mm	inch	m/min	ft/min	kg	lbs
ULBS100LCA4	2 x 10	22 x 66	2 x 10	2 x 353	10.7	28.6	270-310	10.6-12.2	12	39.4	3500	7,716
ULBS150LCA6											5000	11,023

** Sound measurements have been made in accordance with ISO 11202, ISO 3744-3746 and ISO 4871 test specifications for sound from pneumatic equipment. Readings shown are based on the average noise level of each winch configuration, proportionate to the utilized time in a regular cycle.

** Lpc (Peak Sound Pressure) does not exceed 130 dB

■ Capacity Information

ULBS hoists are designed for lifting with a 5 to 1 safety factor at rated load and are factory static tested to 125% of rated load.

■ Hoist Net Weight (without chain)

Refer to General Specification table on page 3.

■ Traceability

Material traceability is available upon request, contact factory. Traceability requirements must be stated when reordering parts for continued certification.

INSTALLATION

Prior to installing the hoist, carefully inspect it for possible shipping damage.

⚠ WARNING

• A falling load can cause injury or death. Before installing, read "SAFETY INFORMATION" in Product Safety Information Manual.

Hoists are supplied from the factory with the correct grade and quantity of lubricants. Before operation check areas requiring lubrication as recommended in the "LUBRICATION" section. Lubricate load chain before operating hoist.

⚠ CAUTION

• Owners and users are advised to examine specific, local or other regulations, including American Society of Mechanical Engineers (ASME) and/or OSHA Regulations which may apply to a particular type of use of this product before installing or putting product to use.

Remove cover from the shipping crate. Carefully remove steel straps. Position wire rope sling hooks in lifting holes provided in hoist trolley side plates and slowly lift complete hoist assembly. Constantly monitor the position of the hoist to ensure the load is balanced and secure.

Attach chain containers to hoists with support pins (27). Secure support pins with plates (28), capscrews (35) and washers (34). Connect support chain, capscrews and nuts.

■ Mounting

Make certain your hoist is properly installed. A little extra time and effort in doing so can contribute a lot toward preventing accidents and helping you get the best service possible.

Always make certain the supporting member from which the hoist is suspended is strong enough to support the weight of the hoist plus the weight of the maximum rated load plus a generous factor of at least 500% of the combined weights.

Prior to installing hoist on beam, measure the beam flange and temporarily assemble hoist to determine the exact distribution and arrangement of the spacers. Adjust the spacers to provide the correct distance between the wheel flange and the beam. Spacer position must be the same on both sides of the beam in order to keep the clevis or hook centered under the I-beam.

Ensure trolley hanger shaft capscrews are torqued in accordance with torque specifications. For installation of hoist and trolley on beam, make certain trolley side plates are parallel and vertical.

After installation ensure beam stops are in place, operate trolley over entire length of beam with a capacity load suspended 10 to 15 cms (4 to 6 inches) off the floor.

■ Trolley and Hoist Installation

⚠ WARNING

• The hoist assembly can weigh as much as 7716 lbs. (3500 kg) for the 100 ton and 5000 kg (11023 lbs.) for the 150 ton. If parts of the trolley or hoist are dropped, they could cause injury or damage property. Adequately support the hoist and trolley when lifting into place on the beam.

■ *Installing Over the End of the Beam*

Pre-adjust each trolley width for the beam flange measurement. Each trolley must be adjusted using the same spacer configuration. Remove the rail stops and slide trolley on end of the beam. Reinstall rail stops.

Refer to Dwg. MHP2872 on page 9 **A.** Trolley Side Plate; **B.** Clearance 2 - 4 mm (0.08 - 0.16 inches); **C.** 'X'; **D.** = 'Y' =; **E.** Lockwashers; **F.** Capscrews; **G.** Connecting Shaft; **H.** Hoist Support; **I.** Tightening Washer; **J.** Distance Spacer; **K.** Adjustment Spacers (10 mm); **L.** Adjustment Spacers (5 mm).

■ *Adjustment*

1. Measure beam flange width 'X' and compare with measurement between trolley wheel flanges 'Y'. The correct total clearance between the beam and the trolley wheel flanges is 2 to 4 mm (0.08 to 0.16 inches). To adjust trolley wheel spacing remove capscrews (71), washers (72) and tightening washers (73) on one hoist support frame (23). Remove hoist support frame (23), spacers (74) and (75), distance washers (76) and adjusting spacers (77).

Table 3: Beam Width Adjustment Dimensions

'X': Beam Width		'Y' Adjustment Dimension	
mm	inches	mm	inches
270	10.63	282	11.10
280	11.02	292	11.50
290	11.42	302	11.89
300	11.81	312	12.28
310	12.20	322	12.68

2. Remove both trolley assemblies and loosen outer nuts (17) on studs (79). Add or subtract an equal number of adjusting spacers (77) or (81) on suspension shafts (83) between trolley side plates. When desired trolley wheel spacing measurement is achieved, re-install trolleys. Ensure that the same spacer configuration is used for each trolley and that spacers are positioned equally on each side.
3. Install adjusting spacers (77) and distance washers (76). Re-install hoist support frame (23) with spacers (74) and (75).
4. Install tightening washer (73) with washers (72) and capscrews (71) on the ends of suspension shafts (83).
5. Check that hoist connecting shafts and flexible coupling assembly are properly engaged.
6. Tighten nuts (17) on studs (79) and check trolley side plates are parallel.

⚠ CAUTION

• To avoid an unbalanced load which may damage the trolley, the lower block assembly must be centered under the trolley and beam.

7. Carefully position wire rope sling hooks in lifting holes provided in the hoist trolley side plates and slowly lift hoist and trolley assembly into place on the end of the beam. Roll hoist and trolley assembly onto beam.

NOTICE

• Trolley wheels ride on the top of the lower flange of the beam.

8. Ensure beam stops are installed prior to operating hoist and trolley.
9. Prior to placing into service test the hoist assembly. Check that the trolley side plates are vertical. Raise a load equal to the rated capacity of the hoist 130 to 180 mm (6 to 7 inches) off the floor and operate the trolley along the entire length of the beam.

■ *Installing from Underneath the Beam*

It is not recommended that the hoist be installed from underneath the beam.

■ Air Supply

Refer to Dwg. D6290722 on page 9. The air supply must be clean and free from moisture and lubricated to ensure optimum motor performance. Due to efficiency losses in the air lines and air line components, air pressures should be checked at the hoist and trolley motors. A pressure of 6.3 bar/630 kPa (90 psi) at the motors is required to provide rated capacity. Air inlet port size 1-1/4 BSPP.

■ *Air Lines*

The inside diameter of air supply lines must not be smaller than 32 mm (1.26 inches) and based on a maximum of 15 m (50 ft) between the air supply and the hoist or trolley motors. Contact factory for recommended air line sizes for distances greater than 15 m (50 ft). Before making final connections, all air supply lines should be purged with clean, moisture free air or nitrogen before connecting to unit inlet. Supply lines should be as short and straight as installation conditions will permit. Long transmission lines and excessive use of fittings, elbows, tees, globe valves etc. cause a reduction in pressure due to restrictions and surface friction in lines.

Air Line Lubricator

An air line lubricator is provided with the hoist. The lubricator should be replenished daily and set to provide 2 to 3 drops per minute of ISO VG 100 (SAE 30W) oil (minimum viscosity 135 Cst at 104° F (40° C)).

Lubricators must have an inlet and outlet at least as large as the inlets on the motors. Install the air line lubricator as close to the air inlets on the motors as possible.

⚠ CAUTION

- **Lubricator must be located no more than 3 m (10 ft) from the motor.**
- **Shut off air supply before filling air line lubricator.**

Air Line Filter

An air line filter is provided with the hoist. Mount the strainer/filter as close as practical to the motor air inlet ports to prevent dirt from entering the motors. The strainer/filter provides 20 micron filtration and includes a moisture trap. Clean the strainer/filter periodically to maintain its operating efficiency.

Air Line Regulator

An air line regulator is provided with the hoist. The air line regulator is mounted between the air line filter and lubricator.

Moisture in Air Lines

Moisture that reaches the air motors through the supply lines is the chief factor in determining the length of time between service overhauls. Moisture traps can help to eliminate moisture and other methods, such as an air receiver which collects moisture before it reaches the motors or an aftercooler at the compressor that cools the air prior to distribution through the supply lines, are also helpful.

Start-Up Procedures

For hoists that have been in storage the following start-up procedures are required.
1. Give the hoist an inspection conforming to the requirements of "Hoists Not in Regular Use" in the "INSPECTION" section on page 6.
2. Inject a small amount of ISO VG 32 (SAE 10W) oil in each motor inlet port.
3. Operate motors for 10 seconds in both directions to flush out any impurities.
4. The hoist is now ready for normal use.

Main Air Shut-off Valve

Main air shut-off valves are completely integrated into the motor bodies and are standard on -E versions. The valve is mounted on the air line just before the control valve.

Chain Container

⚠ CAUTION

- **Make certain to adjust the balance chain so that chain container does not contact load chain or hook.**
- **Allow chain to pile naturally into the chain container. Piling chain carelessly into the container by hand may lead to kinking or twisting that can jam the hoist.**

One chain container is supplied for each hoist.

1. Check chain container size to make sure the length of load chain is within the capacity of the chain container. Replace with a larger chain container, if required.
2. Attach chain stopper (224) to load chain.
3. Remove capscrews (35), washers (34), plates (28) and pins (27) from hoist support frames. Position chain containers and reinstall pins (27) ensuring they pass through the chain container hanger holes. Re-install pins (27) and secure with plates (28), capscrews (35) and washers (34).
4. Attach hanger chains (246) from chain containers to hoist support frames with capscrews (36).
5. Run bottom block to lowest point and run hoist in up direction to feed the chain back into the container.

NOTICE

- **Allow chain to pile naturally when feeding chain into the chain container.**

Limit Stop

Refer to the "MAINTENANCE" section in Product Maintenance Information Manual.

Upper limit stop is mounted on the hoist support frame. The lower limit stop is located on the hoist.
1. Ensure upper limit stop is securely mounted on hoist support frame. Refer to "Load Chain Replacement" in Product Maintenance Information Manual.
2. Ensure lower limit stop is correctly position on load chain.
3. Run hoist slowly in the both directions to verify limit stops are functioning.

Free End of Load Chain

Ensure free end of load chain is securely held by anchor pin (43) in hoist support frame. Refer to 'Load Chain Replacement' in "MAINTENANCE" section in Product Maintenance Information Manual.

After installing load chain, make sure it is not twisted or kinked. Do not use hoist if chain is kinked or twisted.

Pendant

The pendant control is installed at the factory. Check all hose connections are tight and that hoses are not twisted or crimped. Dwg. MHP1547, **A.** Pendant Handle; **B.** Emergency Stop Button; **C.** "ON" Button; **D.** Function Levers.

⚠ WARNING

- **Do not attempt to reverse air lines either at the pendant station or hoist. This will give a false indication of operation which may result in serious damage to the hoist.**

Check strain relief chain (188) is properly connected to the hoist and pendant body. The chain is connected to the hoist at the motor assembly with capscrew (631).

⚠ CAUTION

- **To avoid damaging the pendant hose, make sure the strain relief chain, not the pendant hoses, is supporting the weight of the pendant.**

Emergency Stop and Overload

Overload protection is integrated into the motor body and is standard on -E versions. The overload is mounted on the rear plate of the air motor and connected by hoses. The overload system is based on detection of the difference in air pressure between the inlet and outlet ports. It consists of a valve which is normally closed. The valve senses pressure at the motor inlet and outlet and compares the difference between the two pressures to the index value established by spring adjustment. A difference in pressure greater than the index value causes the emergency stop to be activated. This then exhausts the air and hoist operation stops.

An air supply line is connected to the air control valve. When emergency stop or overload valve is activated, all hoist movement will stop.

Overload protection is adjusted at the factory to 120% of the safe working load (SWL). Refer to the "MAINTENANCE" section in Product Maintenance Information Manual for adjustment procedures.

Storing the Hoist

1. Always store the hoist in a no load condition.
2. Wipe off all dirt and water.
3. Oil the chain, hook pins and hook latch.
4. Place in a dry location.
5. Plug hoist air inlet port.
6. Before returning hoist to service, follow instructions for 'Hoists Not in Regular Use'. Refer to the "INSPECTION" section on page 6.

OPERATION

It is recommended that the user and owner check all appropriate and applicable regulations before placing this product into use. Refer to Pneumatic, Hydraulic and Electric Hoists Safe Operating Practices Manual.

The hoist operator must be carefully instructed in his or her duties and must understand the operation of the hoist, including a study of the manufacturer's literature. The operator must thoroughly understand proper methods of hitching loads and should have a good attitude regarding safety. It is the operator's responsibility to refuse to operate the hoist under unsafe conditions.

⚠ WARNING

- **The hoist is not designed or suitable for lifting, lowering or moving people. Never lift loads over people.**
- **The hook latch is intended to retain loose slings or devices under slack conditions. Use caution to prevent the latch from supporting any of the load.**

The four most important aspects of hoist operation are:
1. Follow all safety instructions when operating the hoist and trolley.

2. Allow only people instructed in safety and operation of this product to operate the hoist and trolley.
3. Subject each hoist to a regular inspection and maintenance procedure.
4. Be aware of the hoist capacity and weight of load at all times.

WARNING

- **Only allow personnel instructed in safety and operation of this product to operate the hoist and trolley.**
- **Do not use this hoist for lifting, supporting or transporting people or lifting or supporting loads over people.**

Operators must be physically competent. Operators must have no health condition which might affect their ability to act, and they must have good hearing, vision and depth perception. The hoist operator must be carefully instructed in his duties and must understand the operation of the hoist, including a study of the manufacturer's literature. The operator must thoroughly understand proper methods of hitching loads and should have a good attitude regarding safety. It is the operator's responsibility to refuse to operate the hoist under unsafe conditions.

■ Initial Operating Checks

Hoists are tested for proper operation prior to leaving the factory. Before the hoist is placed into service, the following initial operating checks should be performed.

1. After installation ensure the clevis or hook is centered below the beam.
2. Check for air leaks in the supply hose and fittings to pendant, and from pendant to hoist.
3. When first running the hoist or trolley motors, some light oil should be injected into the inlet connection to allow good lubrication.
4. When first operating the hoist and trolley it is recommended that the motors be driven slowly in both directions for a few minutes.
5. Operate the trolley along the entire length of the beam
6. Inspect hoist and trolley performance when raising, moving and lowering test load(s). Hoist and trolley must operate smoothly and at rated specifications prior to being placed in service.
7. Check that trolley and clevis or hook movement is the same direction as arrows or information on the pendant control.
8. Raise and lower a light load to check operation of the hoist brake.
9. Check hoist operation by raising and lowering a load equal to the rated capacity of the hoist a few inches (cm) off the floor.
10. Check operation of limit stop devices.

■ Hoist Controls

The pendant is a remote control that allows the operator to control the positioning of a load. The pendant can have four functions only: UP and DOWN direction and control of trolley movements along the support beam and hoist operation. Always apply smooth even pressure to pendant levers, avoid quick starts and abrupt stops. This will allow smoother control of suspended loads and reduce undue stress on components.

■ *Pendant Operation*

Four Function Pendant with Emergency Stop Operation

Refer to Dwg. MHP1547 on page 11. **A.** Pendant Handle; **B.** Emergency Stop Button; **C.** "ON" Button; **D.** Function Levers.

Operation of hoist is same for all pendants listed in this section:

1. To lift a load, press hoist pendant raise lever.
2. To lower a load, press hoist pendant lower lever.
3. To throttle lift or lowering speed, regulate the amount pendant lever is pressed. Press lever completely for maximum speed; press lever partially for slower speeds.
4. To stop lift or lowering function, release lever. Lever will spring back to "OFF" and hoist motor will stop.

■ *Emergency Stop*

The Emergency Stop button, when activated, will immediately stop all operations of the trolley and hoist. The Emergency Stop button will remain depressed after activation. To reset Emergency Stop button, twist (rotate) Emergency Stop button clockwise until button releases and spring returns to its original position. Press "ON" button to activate the emergency valve and restart the hoist.

INSPECTION

1. Check hoist for oil leaks daily. Immediately repair any leaks.
2. At the beginning of each shift operate the hoist in both directions without a load. Ensure motors run free, and brake(s) do not drag.
3. Keep hoist housings clean of dust and dirt build up which can cause heat build up.

Inspection information is based in part on American Society of Mechanical Engineers Safety Codes (ASME B30.16).

WARNING

- **All new, or repaired equipment should be inspected and tested by Ingersoll Rand trained Technicians to ensure safe operation at rated specifications before placing equipment in service.**
- **Never use a hoist that inspection indicates is damaged.**

Frequent and periodic inspections should be performed on equipment in regular service. Frequent inspections are visual examinations performed by operators or **Ingersoll Rand** trained Inspectors and include observations made during routine equipment operation. Periodic inspections are thorough inspections conducted by **Ingersoll Rand** trained Technicians. ASME B30.16 states inspection intervals depend upon the nature of the critical components of the equipment and the severity of usage. Refer to 'Inspection Classifications' chart and 'Maintenance Intervals' chart in Product Maintenance Information Manual for recommended maintenance intervals. Careful inspection on a regular basis will reveal potentially dangerous conditions while still in the early stages, allowing corrective action to be taken before the condition becomes dangerous.

Deficiencies revealed through inspection, or noted during operation, must be reported to designated personnel to ensure corrective action is taken.

A determination as to whether a condition constitutes a safety hazard must be decided, and the correction of noted safety hazard(s) accomplished and documented by written report before placing the equipment in service.

■ Frequent Inspection

On equipment in continuous service, a 'Daily Inspection' should be made by the operator at the beginning of each shift and a 'Quarterly Inspection' should be conducted by an **Ingersoll Rand** trained Inspector every 90 days and a record of the inspection maintained.

■ *Daily Inspection*

Complete inspections prior to start of daily tasks. Conduct visual inspections during regular operation for indications of damage or evidence of malfunction (such as abnormal noises).

1. **Surrounding Area.** Visually check for hoist oil leaks. Do not operate hoist if leaking oil is found. Ensure surrounding area has no slippery surfaces and is obstruction free.
2. **Hoses and Fittings.** Visually inspect for damage, air leaks and loose connections. Repair all leaks or damage and tighten lose connections prior to starting daily tasks.
3. **Manual Shut-off Valve.** Test shut-off valve to ensure proper operation and free movement.
4. **Hoist.** Visually inspect hoist housings, control(s), trolleys, hoist support frames and lower block for damage. Check that all external fasteners are in place and secure. Report damage to supervisor and request additional inspection by a **Ingersoll Rand** trained Technician.
5. **Hoist Operation.** Power winch in both directions. Hoist must operate smoothly without sticking, binding or abnormal noises and have minimal vibration. Check chain feed through hoist and bottom block. If chain binds, jumps, is excessively noisy or 'clicks', clean and lubricate chain. If problem persists, replace chain. Operate trolley along entire length of beam. Trolley should operate smoothly without sticking or binding. If problems are found stop operation of hoist until they have been corrected.
6. **Controls.** During operation of hoist and trolley, verify response to pendant is quick and smooth. Make sure all controls function properly and return to neutral when released. If response is slow or movement is unsatisfactory, do not operate hoist until all problems have been corrected.
7. **Load Chain.** Visually inspect as much of the chain as is possible. Inspect for wear, damage, corrosion, bent links, cracks in weld areas or shoulders, traverse nicks and gouges and weld splatter. Inspect load bearing surfaces between chain links. If defects are identified, measurements may be required. Contact an **Ingersoll Rand** trained service technician. Refer to Product Maintenance Information Manual. Check chain lubrication and lubricate if necessary. Refer to 'Load Chain' in "LUBRICATION" section on page 8.

NOTICE

- **The full extent of load chain wear cannot be determined by visual inspection. At any indication of load chain wear inspect chain and chain wheel in accordance with instructions in 'Load Chain' listed in "Periodic Inspection" in Product Maintenance Manual.**

8. **Load Chain Reeving.** Ensure welds on standing links are away from load sheave. Reinstall chain if necessary. Make sure chain is not capsized, twisted or kinked. Adjust as required. Refer to Dwg. MHP0043 in Product Safety Information Manual.
9. **Brake(s).** Lift and lower the load a short distance to test brake(s). Brake(s) must hold load without slipping. Brake must release when hoist control is operated. If brake(s) do not hold load or do not release properly, they must be adjusted or repaired.
10. **Lubrication.** Refer to "LUBRICATION" section on page 8 for recommended procedures and lubricants.

11. **Limit Switches**: Test operation with no load. Upward travel must stop when bottom block hits hoist limit switch button on hoist support frame. Downward travel must stop when stop buffer contacts limit switch on hoist.
12. **Emergency Stop Valve**: Activate emergency stop in ***raise*** and ***lower*** directions to ensure proper operation. Valve must stop hoist operation and brake must set quickly. Reset valve after test.
13. **Hooks**. Visually inspect for wear or damage, increased throat width, bent shank or twisting of hook. If defects are identified, measurements may be required. Contact an **Ingersoll Rand** trained service technician. Refer to Product Maintenance Information Manual. If hook latch snaps past tip of hook, hook is sprung and must be replaced. Refer to the latest edition of ASME B30.10 "HOOKS" for additional information.
14. **Hook Latch**. Make sure hook latch is present and operating. Replace if necessary.

⚠ CAUTION

- **Do not use hoist if hook latch is missing or damaged.**

Quarterly Inspection

Complete a 'Quarterly Inspection' on a recurring basis to provide regular hoist monitoring.

In addition to the requirements of 'Daily Inspection' also inspect the following:

1. **Power Supply:**
   - Inlet air pressure to the hoist is 6.3 bar (90 psi) at full throttle with nominal system usage
   - Filter, regulator and lubricator are installed and functioning
   - Air filter is clean, drain if necessary
   - Air supply regulator is set to 6.3 bar (90 psi)
2. **Rigging:**
   - Hook latch is in place and not damaged
   - Lower block is centered under the beam
3. **Visual Integrity:**
   - All Components - Inspect for wear, damage, distortion, deformation and cleanliness. If external evidence indicates damage, contact an **Ingersoll Rand** trained Service Technician to disassemble as required to conduct a detailed inspection
   - No part of the hoist has been welded onto
   - Fasteners - Check external retainer rings, split pins, capscrews, nuts and other fasteners on hoist and trolleys
   - Load Chain Sheaves - Check for cracks, wear or damage
   - Guide Roller - Inspect roller for wear. Ensure roller freely rotates. Replace roller if worn or damaged
   - Ensure hoist guards are in place and secure
   - No modifications have been performed on the hoist
4. **Labeling / Marking:**
   - Data (name) plate is attached and legible
   - Warning tags and labels are attached, legible and in correct places on hoist
5. **Load Chain Reeving:**
   - Ensure welds on standing links are away from load sheave. Reinstall chain if necessary. Make sure chain is not capsized, twisted or kinked. Adjust as required.
   - Chain piles naturally in chain container and chain container is correctly adjusted
   - Load chain is properly lubricated
6. **Operational Checks:**
   - Limit Switches - Operate hoist in the ***raise*** direction until limit switch engages. Ensure hoist stops operating in ***raise*** direction, and operates in ***lowering***. Operate hoist in ***lowering*** direction until limit switch engages
   - Ensure hoist stops operating in ***lowering*** direction, and operates in ***raise*** direction

Hoists Not in Regular Use

1. Hoists which have been idle for a period of one month or more, but less than one year, should be given an inspection conforming with the requirements of "Frequent Inspection" prior to being placed into service.
2. Hoists which have been idle for a period of more than one year should be given an inspection conforming with the requirements of "Periodic Inspection" prior to being placed into service. Refer to Product Maintenance Information Manual.
3. Standby hoists should be inspected at least semiannually in accordance with the requirements of "Frequent Inspection." In abnormal operating conditions hoists should be inspected at shorter intervals.

To ensure continued satisfactory operation of the hoist, all points requiring lubrication must be serviced with the correct lubricant at the proper time interval as indicated for each assembly. Correct lubrication is one of the most important factors in maintaining efficient operation.

The lubrication intervals recommended in this manual are based on intermittent operation of the hoist eight hours each day, five days per week. If the hoist is operated almost continuously or more than the eight hours each day, more frequent lubrication will be required. Also, the lubricant types and change intervals are based on operation in an environment relatively free of dust, moisture, and corrosive fumes. Use only those lubricants recommended. Other lubricants may affect the performance of the hoist. Approval for the use of other lubricants must be obtained from your **Ingersoll Rand** Technical Support Department or distributor. Failure to observe this precaution may result in damage to the hoist and/or its associated components.

INTERVAL	LUBRICATION CHECKS
Start of each shift	Check flow and level of air line lubricator (approximately 2 to 3 drops per minutes required at maximum motor speed).
Weekly	Lubricate load chain.
Monthly	Lubricate all grease fittings.
	Inspect and clean air line filter.
2 Years	Replace grease in reduction gear assembly.

■ General Lubrication

⚠ WARNING

• Pneumatic Hoists use oil to prevent excessive heat build up and to prevent wear that could cause sparks. Oil levels must be properly maintained.

Always collect lubricants in suitable containers and dispose of in an environmentally safe manner.

■ Pivot Points and Bushings

Lubricate grease fittings monthly with 2 or 3 pumps from a grease gun or more frequently, depending on severity of service. For temperatures -20° to 50° F (-29° to 10° C) use a multipurpose lithium-based EP 1 grease. For temperatures 30° to 120° F (-1° to 49° C) use a multipurpose lithium-based EP 2 grease.

Table 4: Recommended Lubricants

Ambient Temperature	Recommended Grease Type
-20° to 50° F (-30° to 10 C)	EP 1 multipurpose lithium-based
30° to 120° F (-1° to 49° C)	EP 1 multipurpose lithium-based

■ Bottom Hook Block Assembly

To prevent moisture entering the bottom block assemblies they should periodically be disassembled and repacked with grease. For temperatures -20° to 50° F (-29° to 10° C) use a multipurpose lithium-based EP 1 grease. For temperatures 30° to 120° F (-1° to 49° C) use a multipurpose lithium-based EP 2 grease. Add grease to bottom hook assemblies through grease fittings (16).

Table 5: Bottom Hook Block Lubricants

Hoist Model and Capacity	Grease Required to Pack Hook Assembly	
	gram	oz.
ULBS100LCA4	200	7
ULBS150LCA6		

■ Load Chain

⚠ WARNING

• Failure to maintain clean and well lubricated load chain will result in rapid load chain wear that can lead to chain failure which can cause severe injury, death or substantial property damage.

1. Lubricate load chain weekly, or more frequently, depending on severity of service.
2. In a corrosive environment, lubricate more frequently than normal.
3. Lubricate each link of the load chain and apply new lubricant over existing layer.
4. Lubricate hook and hook latch pivot points.
5. If required, clean chain with acid free solvent to remove rust or abrasive dust build-up and lubricate the chain.
6. Use **Ingersoll Rand** LUBRI-LINK-GREEN® or a SAE 50W to 90W EP oil.

■ Reduction Gear Assemblies

Replace the greasein the reduction housing once two years. If the hoist is used at a normal frequency, the grease in the reduction housing is suitable for two year's operation without being changed. However, when the hoist is used at a high frequency, the grease may need to be changed more often.

To ensure correct performance, highest efficiency and long life, it is essential that the recommended grade of grease be used at all times since the use of unsuitable grease may result in excessive temperature rise, loss of efficiency and possible damage to the gears.

The reduction gear assembly is shipped with the correct amount of grease from the factory.

For ambient temperatures from -15° C up to 40° C (59° F to 104° F) use half fluid extreme pressure grease, ASTM penetration for 25° C (77° F) (355/385, with a dropping point of = 150° C (302° F)).
For temperatures less than -15° C (59° F) contact factory.

Table 6: Reduction Gear Assembly Lubricants

Hoist Model and Capacity	Amount of Grease Required	
	gram	oz.
ULBS100LCA4	500	17.5
ULBS150LCA6		

⚠ CAUTION

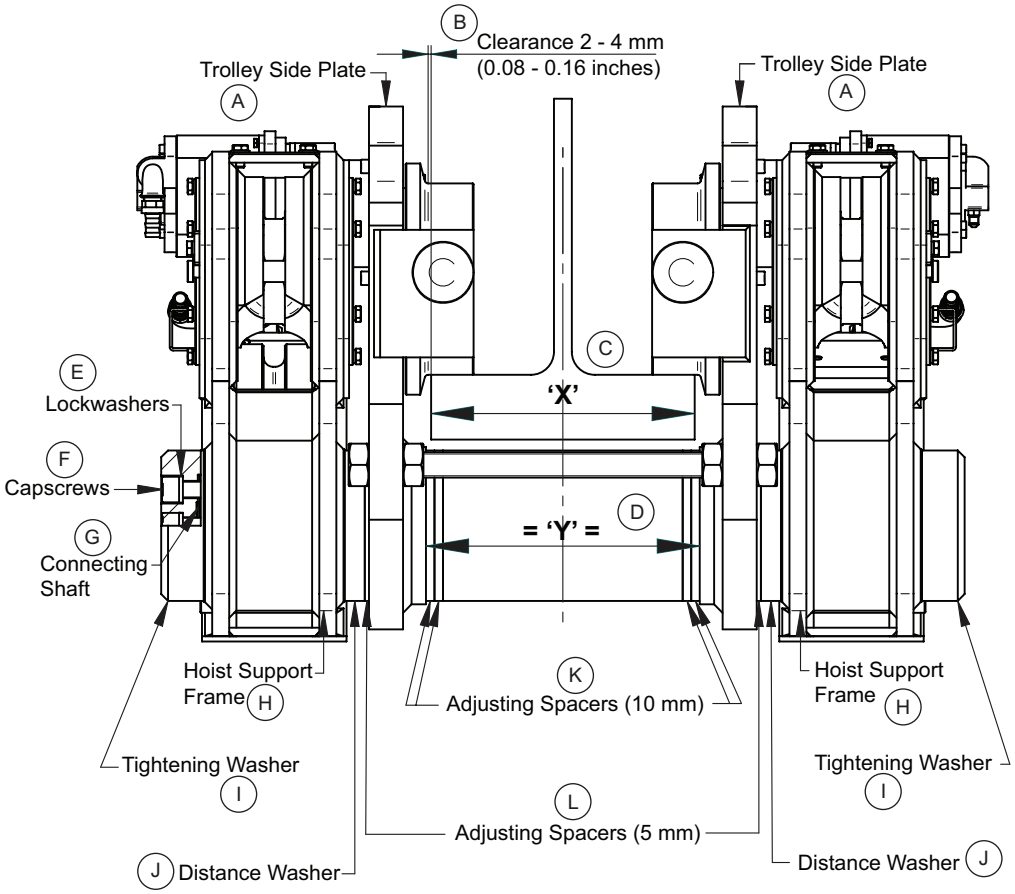
• Do not over fill. Excess grease will reduce operating efficiency and increase reduction gear assembly temperature.

■ Seals and Bearings

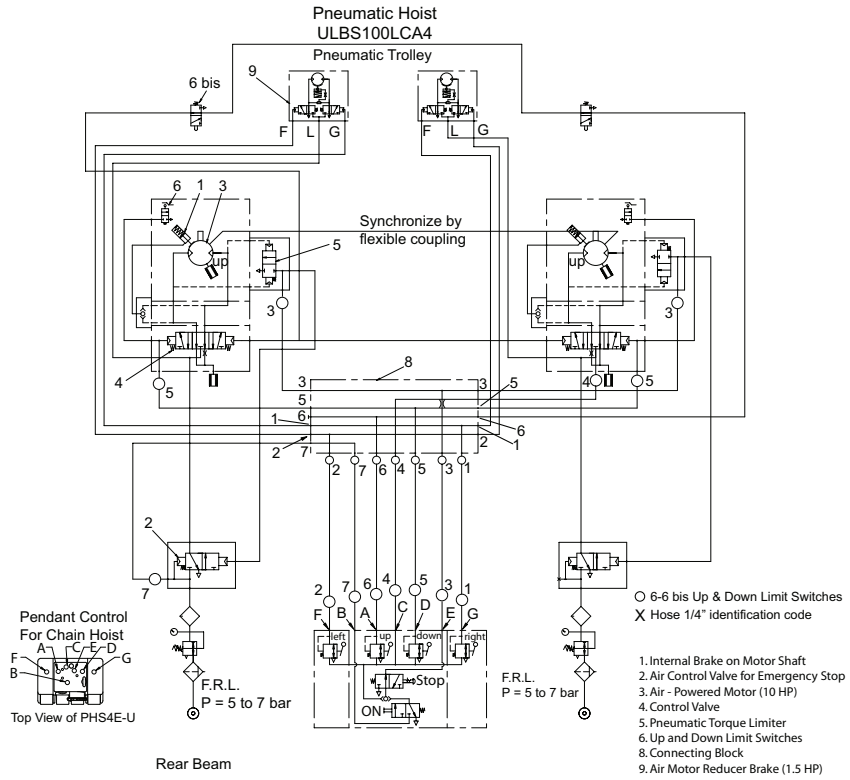
If hoist is disassembled, clean all parts thoroughly and coat bearings and seals with clean grease. Use sufficient grease to provide a good protective coat. Lubricate grease fittings monthly with 2 or 3 squirts from a grease gun.

Table 7: Seals and Bearing Lubricants

Temperature Range	Recommended Lubricant
-20° to 50° F (-30° to 10° C)	multipurpose lithium-based EP 1 grease
30° to 120° F (-1° to 49° C)	multipurpose lithium-based EP 2 grease



(Dwg. MHP2872)



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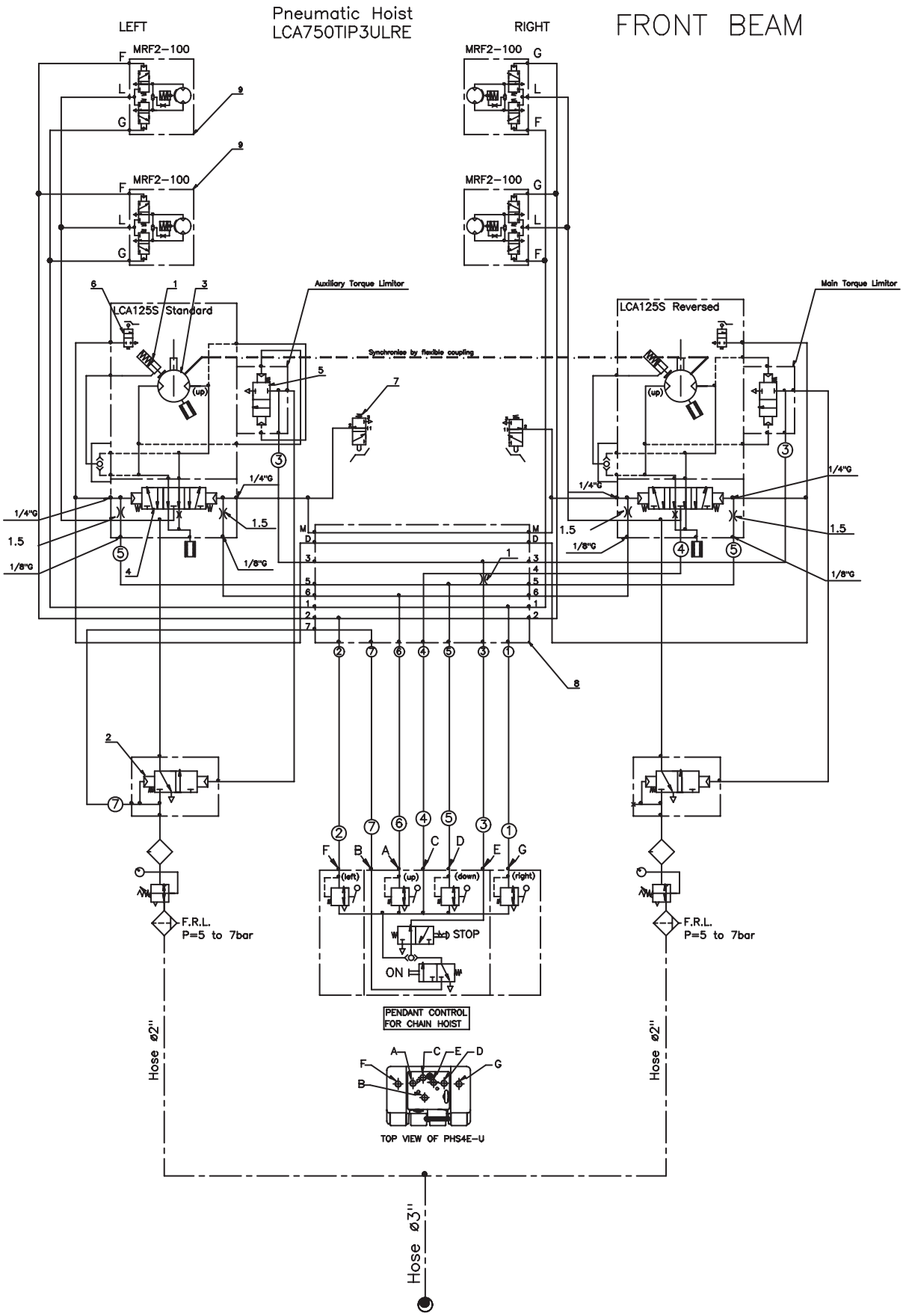
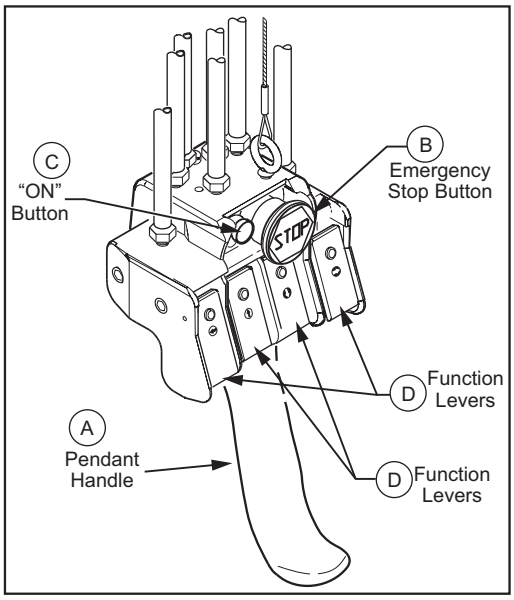

Pneumatic Hoist
LCA750TIP3ULRE
LEFT
RIGHT
FRONT BEAM
MRF2-100
LCA125S Standard
LCA125S Reversed
Auxiliary Torque Limitor
Main Torque Limitor
Synchronise by flexible coupling
1/4"G
1/8"G
1.5
F.R.L.
P=5 to 7bar
STOP
ON
PENDANT CONTROL
FOR CHAIN HOIST
TOP VIEW OF PHS4E-U
Hose ø2"
Hose ø3"

(Dwg. MHP2910)



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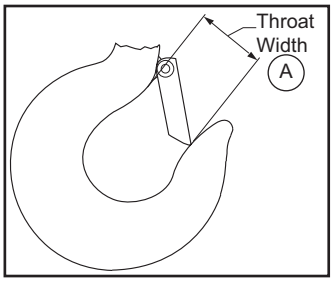
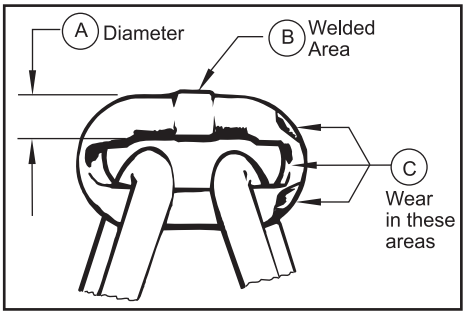


(Dwg. MHP0040)



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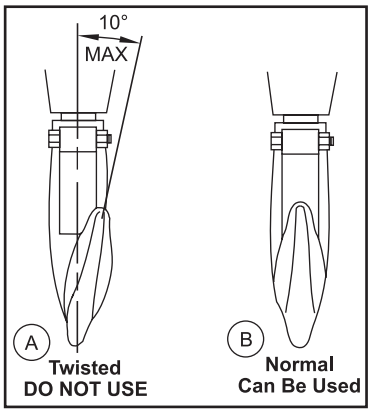

(Dwg. MHP0111)

SERVICE NOTES

SERVICE NOTES

DECLARATION OF CONFORMITY

CE

(**CS**) PROHLÁŠENÍ O SHODĚ (**DA**) FABRIKATIONSERKLÆRING (**DE**) KONFORMITÄTSERKLÄRUNG (**EL**) ΔΗΛΩΣΗ ΑΝΑΓΝΩΡΙΣΗΣ (**ES**) DECLARACIÓN DE CONFORMIDAD (**FI**) VAKUUTUS NORMIEN TÄYTTÄMISESTÄ (**FR**) CERTIFICAT DE CONFORMITÉ (**HU**) MEGFELELŐSÉGI NYILATKOZAT (**IT**) DICHIARAZIONE DI CONFORMITÀ (**NL**) SCHRIFTELIJKE VERKLARING VAN CONFORMITEIT (**NO**) KONFORMITETSERKLÆRING (**PT**) DECLARAÇÃO DE CONFORMIDADE (**PL**) DEKLARACJA ZGODNOŚCI (**SK**) PREHLÁSENIE O ZHODE (**SL**) IZJAVA O SKLADNOSTI (**SV**) FÖRSÄKRAN OM ÖVERENSSTÄMMELSE

Ingersoll-Rand | **529, Avenue Roger Salengro, 59450 Sin Le Noble, France**

Declare under our sole responsibility that the product: Pneumatic Hoists

(**CS**) Prohlašujeme na svou zodpovědnost, že produkt: pneumatický kladkostroj (**DA**) Erklærer som eneansvarlig, at nedenstående produkt: Pneumatisk lift (**DE**) Erklären hiermit, gemäß unserer alleinigen Verantwortung, daß die Geräte: Druckluft-Kettenzugn (**EL**) Δηλώνουμε ότι με δική μας ευθύνη το προϊόν: Πνευματικός ανυψωτήρας (**ES**) Declaramos que, bajo nuestra responsabilidad exclusiva, el producto: Polipasto neumático (**FI**) Vakuutamme ja kannamme yksin täyden vastuun siitä, että tuote: Paineilmanostin (**FR**) Déclarons sous notre seule responsabilité que le produit: Palans pneumatiques (**HU**) Kizárólagos felelősségünk tudatában kijelentjük, hogy a termék: Pneumatikus emelő (**IT**) Dichiariamo sotto la nostra unica responsabilità che il prodotto: Paranco pneumatico (**NL**) Verklaren, onder onze uitsluitende aansprakelijkheid, dat het produkt: Pneumatische takel (**NO**) Erklærer på ære og samvittighet at produktet: Pneumatisk talje (**PL**) Przyjmując pełną odpowiedzialność, oświadczamy, że produkt: Wciągnik pneumatyczny (**PT**) Declaramos sob a nossa exclusiva responsabilidade que o produto: Guincho Pneumático (**SK**) Záväzne prehlasujeme, že výrobok: pneumatický kladkostroj (**SL**) Pod polno odgovornostjo izjavljamo, da je izdelek: Pnevmatsko dvigalo (**SV**) Intygar enligt vårt ansvar att produkten: Tryckluftsdrivna lyftdon

Model: ULBS / Serial Number Range:

(**CS**) Model: / Rozsah výrobních čísel: (**DA**) Model: / Serienummerområde: (**DE**) Modell: / Seriennummernbereich: (**EL**) Μοντέλο: / Κλίμακα σειριακών αριθμών: (**ES**) Modelo: / Números de serie: (**FI**) Malli: / Sarjanumeroalue: (**FR**) Modèle: / Gamme de numéros de série: (**HU**) Modell: / Gyártási szám-tartomány: (**IT**) Modello: / Gamma delle matricole: (**NL**) Model: / Serienummer: (**NO**) Modell: / Serienr: (**PL**) Model: / Zakres numerów serii: (**PT**) Modelo: / Gama de Nos de Série: (**SK**) Model: / Rozsah výrobných čísiel: (**SL**) Model: / Območje serijskih številk: (**SV**) Modell:/ Serienummer, mellan:

To which this declaration relates, is in compliance with provisions of Directive(s): 98/37/EC (machinery), 94/9/EC (ATEX)

(**CS**) Ke kterým se toto prohlášení vztahuje, odpovídají ustanovením směrnic: (**DA**) som denne erklæring vedrører, overholder bestemmelserne i følgende direktiv(er): (**DE**) auf das sich diese Erklärung bezieht, der folgenden Richtlinie entspricht: (**EL**) στο οποίο αναφέρεται αυτή η δήλωση, πληροί τις διατάξεις της Οδηγίας: (**ES**) a los que se refiere la presente declaración, cumplen con todo lo establecido en las directivas: (**FI**) johon tämä vakuutus viittaa, täyttää direktiiveissä: (**FR**) Objet de ce certificat, est conforme aux prescriptions des Directives: (**HU**) Amelyekre ezen nyilatkozat vonatkozik, megfelelnek a következő irányelvek előírásainak: (**IT**) a cui si riferisce la presente dichiarazione è conforme alle normative delle direttive: (**NL**) waarop deze verklaring betrekking heeft overeenkomt met de bepalingen van directieven: (**NO**) som denne erklæringen gjelder for, oppfyller bestemmelsene i direktivene: (**PL**) Którego dotyczy niniejsza deklaracja, jest zgodny z wymogami dyrektyw: (**PT**) Ao qual se refere a presente declaração, está de acordo com as prescrições das Directiva: (**SK**) Na ktorý sa toto prehlásenie vzťahuje, je v súlade s ustanoveniami Smernice (Smerníc): (**SL**) Na katerega se ta izjava o skladnosti nanaša, v skladu z določili smernic: (**SV**) Som detta intyg avser, överensstämmer med följande direktiv:

By using the following Principle Standards: EN 292-1; EN 292-2; EN 418; EN 983; F.E.M. 1.001; F.E.M. 9.511; EN 13463-1; pr EN 13463-5; EN 1127-1

(**CS**) Použitím následujících zákonných norem: (**DA**) ved at være i overensstemmelse med følgende hovedstandard(er): (**DE**) Unter Anlehnung an die folgenden Grundnormen entsprechen: (**EL**) Χρησιμοποιώντας ια παρακάτω κύρια πρότυπα: (**ES**) conforme a los siguientes estándares: (**FI**) esitetyt vaatimukset seuraavia perusnormeja käytettäessä: (**FR**) En observant les normes de principe suivantes: (**HU**) A következő elvi szabványok alkalmazása mellett: (**IT**) Seguendo i principi standard indicati di seguito: (**NL**) overeenkomstig de volgende hoofdstandaards: (**NO**) Ved å bruke følgende prinsipielle standarder: (**PL**) Spełniając wymogi nastźpujących głównych norm: (**PT**) observando as seguintes Normas Principais: (**SK**) Pri dodržaní nasledovných noriem: (**SL**) Uporabljeni osnovni standardi: (**SV**) Genom att använda följande principstandard:

Date: August, 2006

(**CS**) Datum: (**DA**) Dato: (**DE**) Datum: (**EL**) Ημερομηνία: (**ES**) Fecha: (**FI**) Päiväys: (**FR**) Date: (**HU**) Dátum: (**IT**) Data: (**NO**) Dato: (**NL**) Datum: (**PT**) Data: (**PL**) Data: (**SK**) Dátum: (**SL**) Datum:(**SV**) Datum:

Approved By:

(**CS**) Schválil: (**DA**) Godkendt af: (**DE**) Genehmigt von: (**EL**) Εγκρίθηκεπό: (**ES**) Aprobado por: (**FI**) Hyväksytty: (**FR**) Approuvé par: (**HU**) Jóváhagyta: (**IT**) Approvato da: (**NL**) Goedgekeurd door: (**NO**) Godkjent av: (**PL**) Zatwierdzone przez: (**PT**) Aprovado por: (**SK**) Schválil: (**SL**) Odobril: (**SV**) Godkänt av:

Daniel S. Munko - *IREP - Seattle, WA USA*

Engineering Product Manager

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