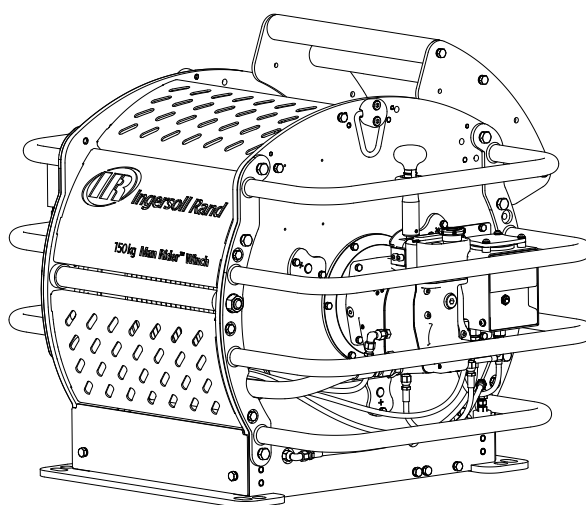


Product Information



Air Powered Man Rider™ Winch MR150K Series



(Dwg. MHP3377)



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Form MHD56490
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ORIGINAL INSTRUCTIONS

Only allow **Ingersoll Rand** trained technicians to perform maintenance on this product. For additional information contact **Ingersoll Rand** factory or nearest Distributor. **Manuals can be downloaded from <http://www.ingersollrandproducts.com>.**
The use of other than genuine **Ingersoll Rand** replacement parts may result in safety hazards, decreased performance and increased maintenance and will invalidate all warranties.
Refer all communications to the nearest **Ingersoll Rand** Office or Distributor.
These are the "original instructions". Other languages are a translation of the "original instructions".

Table 1: Product Information Manuals

Publication	Part/Document Number	Publication	Part/Document Number
Product Safety Information Manual (Man Rider)	MHD56251	Product Maintenance Information Manual	MHD56492
Product Parts Information Manual	MHD56489		

PRODUCT DESCRIPTION AND INTENDED USE

■ Description and Intended Use

This product is an air power-driven winch that has a gear motor. The winches intended use is only for lifting a person (Man Rider™) in a lifting harness and shall not be used for any other purpose.

The design life of the winch is based on the environment and amount of use. At the specified maintenance interval, the winch should be subjected to a complete inspection by an Ingersoll Rand trained technician to determine the remaining service life. Refer to 'Maintenance Intervals' chart in Product Maintenance Information Manual.

■ CE and ATEX Option

This product is in conformity with the most recent European Standards, Classification FEM 4m.

Only models with a **CE and ATEX** marking on the data (name) plate, located on the product meet these requirements. Refer to the Product Safety and Maintenance Information Manuals for further explanation.



(Dwg. MHP2645)

■ Manufacturer's Address

Ingersoll Rand
Kent Operations
20017 72nd Avenue South
Kent, WA 98032 USA
Phone: 1(800) 483-4981
Fax: 1(253) 398-3473

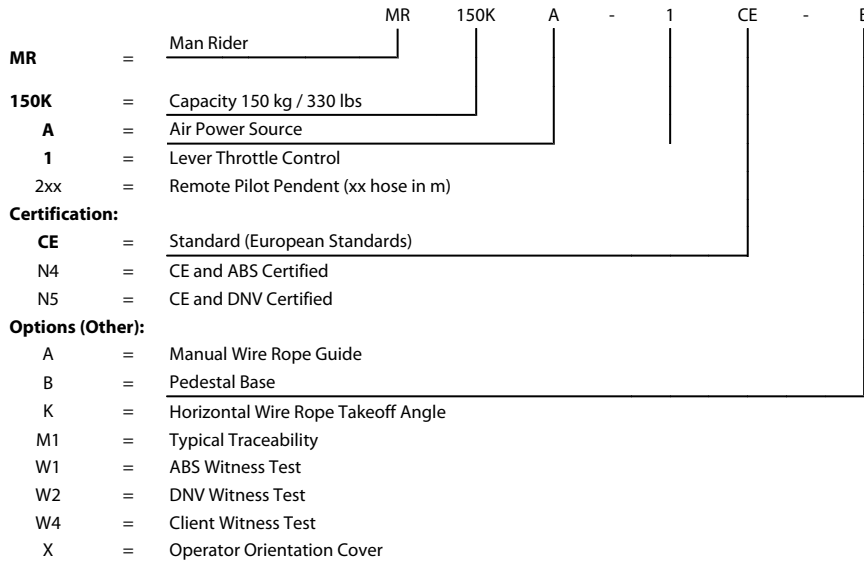
or

Ingersoll Rand
Douai Operations
529, Avenue Roger Salengro
59450 Sin Le Noble, France
Phone: (33) 03-27-93-08-08
Fax: (33) 03-27-93-08-00

SPECIFICATIONS

Model Code Explanation

Example: MR150KA-1CE-B



Standard Features:

- Automatic Disc Brake and Drum Band Brake
- Winch Guard
- Vertical Rope Entry (underwound configuration)
- Grooved Drum for 7/16 in (10 mm) Wire Rope
- Main Air Emergency Stop Valve
- Emergency Lowering Device
- Upper and Lower Limit Switches
- Overload Protection
- Slack Line Device
- Press Roller (assisting spooling device)
- Air Line Accessories (water separator, regulator, filter, and lubricator)
- Stainless Steel Hoses

Table 2: Specifications Table

Air System		Rated Performance (at rated pressure/volume)						Supply Air Temperature				
Working Inlet Pressure Range	Air Consumption (at rated pressure and load)		(Full) Rated Working Load		Line Speed with Rated Load		Winch Nominal Overload Setting		Standard Motor		High Temperature Motor	
	scfm	m ³ /min	lbs	kgs	fpm	m/min	lbs	kg	F	C	F	C
70 to 100 psig (5 to 7 bar)	88	2.5	330	150	98	30	429	195	32° to 149°	0° to 65°	149° to 185°	65° to 85°

NOTE: T.D. = Design Temperature is -20° C as defined by DNV and ABS requirements.

Sound Pressure Level **	Air Supply Inlet (NPT)		Motor		Drum Barrel Diameter		Net Weight *		Drum Flange Diameter	
	inch	mm	HP	kw	inch	mm	lbs	kgs	inch	mm
87	3/4	19	1.5	1.12	13.5	342	463	210	17.5	450

* Weight of standard winch without wire rope.

** 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

Table 3: Minimum and Maximum Wire Rope Size

Drum Barrel Length		12 inch	300 mm
Wire Rope Diameter		7/16 inch	10 mm
Cumulative Wire Rope Capacity	Layer		feet
	Storage Capacity	Top of Flange	meter
			505
			154

NOTE: The "Working Length" (free board) is two layers from the top of the flange.

Capacity Information

This product is designed for lifting with a 10:1 minimum design factor at rated load.

M1 Traceability and Type Approval Certification (N4 / N5)

Load bearing parts are documented to provide traceability. Documentation may include chemical and physical properties of raw material, heat treating, and hardening, tensile and charpy tests as required for the part.

Type Approval Certification (N4 / N5) includes the traceability on load bearing parts as well as other requirements; any load bearing part replacement must follow the same ordering process to continue certification.

⚠ CAUTION

- Requirements must be stated when reordering load bearing parts for continued certification. Refer to the Product Parts Information for specific part numbers. Material not designed for cold weather may result in damage to the product.

INSTALLATION

Prior to installing the product, carefully inspect it for possible shipping damage. Products are supplied fully lubricated from the factory. Check oil levels and adjust as necessary before operating product. Refer to "LUBRICATION" section on page 9 for recommended oils and lubrication intervals.

⚠ WARNING

- Product not installed properly may fall or cause a load to fall resulting in severe injury or death. Before installation and operation of this product refer to Product Safety Information manual and all safety warnings pertaining to this product.

⚠ CAUTION

- Always install, operate, inspect, and maintain this product in accordance with all applicable standards and regulations (state, country, and federal, etc.). For example In the USA, the applicable standards are American Society of Mechanical Engineers (ASME) and National Fire Protection Agency (NFPA).

■ Mounting

Use the winch lifting lugs to move, position, or install the winch. Refer to the "SPECIFICATIONS" section on page 3 for the weight of the winch. If applicable, add the weight of the wire rope and other components to the winch weight. Lift winch 3 to 4 in. (75 to 100 mm) off the ground to make sure that the winch is balanced before continuing installation.

⚠ WARNING

- Only use the lifting lugs on the winch for lifting or moving the winch.
 - Do not weld to any part of the winch.
 - Do not weld the winch to a structure. Make sure that the bolts are correct size and strength to install the winch to the structure.
1. Make sure the winch is positioned to allow for proper spooling of the wire rope onto the drum. When installed correctly, the direction of the drum for lift is clockwise as viewed from the motor end of the winch. Refer to Dwg. MHP3378 on page 10.
 2. The winch mounting surface must be flat and of sufficient strength to handle the rated load, plus the weight of the winch and attached equipment. An inadequate foundation may cause distortion or twisting of the winch uprights (endframes) and base resulting in winch damage.
 3. Make sure the mounting surface is flat to within 0.005 in (0.127 mm) per inch of the drum length. Shim if necessary.
 4. Make sure that the winch is correctly grounded to the personal lifting system before using.
 5. Use 5/8 inch (16 mm), class 8.8 or better mounting bolts. Tighten evenly and torque to 150 ft lbs (203 Nm) for dry thread fasteners. If the fasteners are plated, lubricated or a thread locking compound is used, torque to 99 ft lbs (134 Nm). Use self-locking nuts or nuts with lockwashers.
 6. Refer to "Rigging" on page 5 for installation of wire rope and the Product Safety Information manual

Table 4: Bolt Hole Dimensions

Drum Length		Dimensions					
		A		B		C	
in	mm	in	mm	in	mm	in	mm
12	300	12.76	324	0.71	18	22.5	572

Table 5: Winch Foundation Bolt Forces *

Force Acting on Bolt		Vertical Wire Rope Entry	
		lbf	N
Winch	Maximum Shear Force at One Foundation Bolt Connection	114	506
	Maximum Tensile Force Shared by Rear Foundation Bolts	278	1236
Pedestal	Maximum Shear Force at One Foundation Bolt Connection	114	506
	Maximum Tensile Force Shared by Rear Foundation Bolts	493	2192

* Calculated for 1st layer stall load.

Refer to MHP3379 on page 10, A. Drum.

■ Air Supply

The air supply must be clean, free from moisture and lubricated to have good motor performance and life expectancy. Foreign particles, moisture and lack of lubrication are the primary causes of premature motor wear and breakdown.

The water separator, regulator, lubricator, and filter are installed as standard on the outboard end of the winch.

⚠ CAUTION

- It is recommended that a lockable isolation pressure relief valve, set to 110 - 120 psig (7.6 - 8.3 bar), be installed in the air supply line as close to the winch as possible.

NOTICE

- Do not operate the winch without the water separator, regulator, lubricator, and filter.
- Warranty will be void if any part of the water separator, regulator, lubricator, and filter system is not used and maintained properly.

■ Air Lines

Inside diameter of air supply lines must not be less than size specified in Table 2 'Specifications Table' on page 3. Before making final connections, all air supply lines should be purged with clean, moisture free air or nitrogen before connecting to main air 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.

■ 3-Way Ball Valve

Refer to Dwg. MHP3420 on page 11. **A.** Main Air Supply; **B.** To Water Separator, Regulator, Lubricator, and Filter; **C.** Remove Plug for Auxiliary Air Supply. A 3-way ball valve is located at the air inlet to the winch. One inlet to the 3-way ball valve is to be connected to the Main Air Supply. The other inlet is available to be connected to an auxiliary air source, as needed for Emergency Lowering or Emergency Raising in the event of Main Air Supply failure. Position lever to open inlet once auxiliary air has been connected.

■ Air Pressure Regulator

The air pressure regulator is install between water separator and filter. The regulator is preset and sealed at the factory and has a protective cover to ensure no adjustment to regulator is made unless necessary.

Any adjustments shall be made by an **Ingersoll Rand** trained Service Technician.

NOTICE

Do not adjust regulator for a product marked CE.

■ Air Line Lubricator

A lubricator is installed as standard on this winch. The lubricator should be replenished daily and set to provide 2 to 3 drops per minute of ISO VG 68 oil.

⚠ CAUTION

- Shut off air supply before filling the lubricator.

■ Air Line Filter

An air line filter is installed as standard on the winch. The filter provides a 5 micron filtration and includes a moisture trap which is self-draining. Clean and change the filter periodically to maintain its operating efficiency.

■ Water Separator

The water separator is installed as standard on the winch. A small amount of water will drain from the plug at the bottom of the housing. The filter should be replaced yearly or as necessary depending upon use.

■ Shut Off Valve

Refer to the Product Safety Information Manual for information.

■ Wire Rope

CAUTION

- **A requirement to maintain at least 3 tight wraps for DNV and 5 tight wraps for ABS of wire rope on the drum at all times.**
- **Do not use wire rope as a ground (earth) for welding.**
- **Do not attach a welding electrode to winch or wire rope.**

■ Wire Rope Selection

Consult a reputable wire rope manufacturer or distributor for assistance in selecting the appropriate type and where necessary, a protective coating.

A minimum of 10:1 wire rope design factor is required with a wire rope to drum diameter ratio following recommendations of the wire rope manufacturer with a minimum ratio of 18:1.

For wire rope requirements the actual working load must include not only the static or dead load, but also loads resulting from acceleration, retardation and shock load. Consideration must also be given to the size of the winch wire rope drum, sheaves and method of reeving. Maximum wire rope diameter is limited by the wire rope anchor and grooved drum. Wire rope construction should be 6 x 19 or 6 x 37 Extra Improved IWRC right lay.

The wire rope size is a fixed diameter with a grooved drum. Refer to Table 3 'Minimum and Maximum Wire Rope Size' on page 3.

■ Safe Wire Rope Handling Procedure

- Always use gloves when handling wire rope.
- Never use wire rope that is frayed or kinked.
- Never use wire rope as a sling.
- Always make sure wire rope is correctly spooled and the first layer is tight against drum.
- Always follow wire rope manufacturer's recommendation on use and maintenance of wire rope.

■ Installing Wire Rope

Refer to Dwg. MHP3380 on page 11, **A**. Dead End of Wire Rope; **B**. Wire Rope Anchor.

CAUTION

- **If purchased as vertical (standard) controls an adjustment to the control block may be necessary for horizontal take-off angles.**
- **Make sure the correct wire rope anchor is used.**
- **Make sure the first wrap of wire rope is tight and lays flush against drum flange.**
- **Make sure the wire rope does not come into contact with the guard or mounting surface when at the take-off angle limits. Refer to Dwg. MHP3378 on page 10.**

1. Cut wire rope to length and fuse end to prevent fraying of strands in accordance with wire rope manufacturer's instructions.
2. Feed end of wire rope into wire rope anchor hole in the drum flange and pull through approximately three feet (1 m) of wire rope.
3. Forming a large loop with the wire rope, insert the end back into the top of the anchor hole.
4. Place wire rope wedge into wire rope anchor pocket in the drum. Install wedge such that wire rope will wrap around wedge.
5. Pull wire rope into position in the drum anchor pocket. make sure the wire rope is installed below edge of drum flange diameter. A copper drift or similar tool may be required to fully insert wire rope and wedge into anchor pocket.

■ Wire Rope Spooling

To compensate for uneven spooling and the decrease in line pull capacity as the drum fills up, use as short a wire rope as practical. When rewinding apply tension to the end of the wire rope to eliminate line slack. This helps achieve level winding and tight spooling.

CAUTION

- **To avoid damage to the rigging, the structure supporting the rigging and the winch, do not use with a multi-reeving wire rope arrangement.**
- **Refer to DNV Standard OS E101, that provides further information regarding rigging**

NOTICE

- **The limit switch will require adjustment before and after spooling to full drum storage.**

■ Safe Installation Procedures

1. Do not use wire rope as a ground (earth) for welding.
2. Do not attach a welding electrode to winch or wire rope.
3. Never run wire rope over a sharp edge. Use a correctly sized sheave.
4. When a lead sheave is used, it must be aligned with center of drum. The diameter of lead sheave must be at least 18 times the diameter of wire rope. Refer to Dwg. MHP2449 in Product Safety Information Manual.
5. Requirement to maintain at least 3 tight wraps for DNV and 5 tight wraps for ABS of wire rope on the drum at all times.

■ Rigging

The sheave arrangement with fastening to structure shall be dimensioned according to the same principle as the winch itself. The geometry shall ensure free path for the person lifted or lowered and ensure no damage to wire rope. The geometry shall ensure that the angle between wire rope and drum or sheave is within +/- 4 degrees. The sheave arrangement shall be fitted with protection ensuring that derailing of wire rope does not occur. The diameter ratio between sheave and wire rope shall be in accordance with the manufacturer's requirements but a minimum 18:1. All fittings and connectors will have at least the breaking strength of the wire rope. For the terminations of wire ropes only splices; aluminium pressed ferrules, non-ageing steel pressed ferrules, or wedge socket anchorages may be used. U-bolt grips shall not be used as wire rope terminations for load carrying wire ropes.

Table 6: Sheave Specifications

Winch Series	Minimum Diameter of Sheave (mm)	Design Factor x SWL for Sheave
MR150K	200	1.5

■ Rigging – Harness (riding belt)

NOTICE

- **Harnesses shall be selected in accordance with local or other regulations. As a minimum, a harness complying to en 361:2002 should be selected and shall be marked to show its compliance to this standard. The user shall follow the manufacturer's recommendations for proper use, inspection, and disposal. Also, refer to Product Safety Information Manual before operation.**

■ Manual Wire Rope Guide

Only allow personnel that are physically capable of simultaneously moving the wire rope guide handle through its full travel range and operating the winch control valve to use this equipment. Use a second operator to operate the wire rope guide as necessary.

WARNING

- **Only use manual wire rope for even spooling of unloaded wire rope.**
- **Do not use wire rope guide to force heavily loaded wire rope into position.**
- **Remove manual wire rope guide for normal operation.**
- **Keep clear of pinch points at wire rope guide pivot and where wire rope enters guide.**
- **Do not place hand(s) on any part of the manual wire rope guide other than the handle grip during wire rope spooling.**
- **Do not allow body or clothing between the travel stop and the manual wire rope guide bar. Inspect wire rope guide prior to each use, and monitor operation during use.**
- **Do not use if wire rope guide is bent or damaged. Ensure manual wire rope guide is moved the full length of the drum for even wire rope spooling.**

■ Slack Line Device

The slack wire device is preset at the factory for typical take-off angle. When slack is detected in the payout direction and the winch drum stops rotating the winch must be "RESET". Refer to the "Emergency Stop and Reset" section on page 6.

CAUTION

- **Do not use slack wire device to spool wire rope onto drum.**
- **Make sure the wire rope is properly wound on the drum.**
- **The wire rope must pass underneath the rollers when coming out of the drum, so that when a tension is applied on the end of the wire rope, the slack wire device arm is lifted.**

Refer to Dwg. MHP3378, **A**. Weight and Roller Positions; **B**. W = Weight and T = Roller Position. on page 10

■ Limit Switch Device

Refer to MHP3622 on page 10, **A**. Top Limit Switch Cam; **B**. Screws, Keeping; **C**. Bottom Limit Switch Cam.

The limit switch device limits the amount of travel for payout and haul-in of the winch wire rope. Limit switches are not intended as the primary means of stopping winch operation.

WARNING

- **It is the owner's and operator's responsibility to adjust winch operating limits prior to using the winch.**

This is a two person procedure, one to adjust the limit switch and the other to operate the winch.

1. Loosen capscrew (86) and rotate the access cover (278) up to expose the adjustment cams (264).
2. Loosen screw (263) on one of the cams (264), upper or lower. (Use a 7 mm wrench)
3. Rotate cam until the emergency stop valve is activated, causing system air to vent.
4. Hold cam adjustment screw in position and tighten screw. Do not over tighten.
5. Reset the control valve to allow air supply to flow back into the motor. Refer to "Emergency Stop and Reset" section on page 6.

6. Repeat steps 1 through 5 operations for the second cam.
7. Test the winch set points by operating winch through three complete cycles to make sure the limits are within +/- 0.5 m of set points.
8. Once settings are at the desired limits close the access cover (278) and tighten capscrews (86). Do not over tighten capscrews.

NOTICE

- **Activate the shut off valve and operate the winch in opposite direction at slow speed during one turn when a top or bottom limit switch is actuated.**

■ Motor

For optimum performance and maximum durability of parts, provide an air supply of 70 to 100 psig (5 to 7 bar) at the flow recommended in the "SPECIFICATIONS" section, as measured at the motor inlet. The winch should be installed as near as possible to the compressor or air receiver.

■ Press Roller

Make sure the wire rope is positioned between press roller and drum barrel and spring frame, to keep press roller in tight contact with wire rope.

■ Pendant

Check that all hose connections are tight and that hoses are not twisted or crimped. Refer to Dwg. MHP1892 on page 11 for hose connections, **A.** Pendant Handle; **B.** "Emergency Stop" Button; **C.** "ON" Button; **D.** Function Levers. Pendant lengths up to 66 ft (20 m) are available. Contact the factory for pendant lengths greater than 66 ft (20 m).

⚠ CAUTION

- **To avoid damaging the pendent hose, make sure the strain relief cable, not the pendent hose, is supporting the weight of the pendent.**

■ Initial Winch Operating Checks

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

1. When first running the motor inject a small amount of light oil into the main inlet connection to provide initial lubrication.
2. Check the oil level in the reduction gear assembly and disc brake are correct. Top off levels as required before operation, as described in "LUBRICATION" on page 9.
3. Operate the winch in both directions with no load for one to two minutes.
4. Check operation of brakes. Adjust if necessary as described in "MAINTENANCE" section in the Product Maintenance Information Manual.
5. Check operation of limit switches, locking mechanisms and all safety devices when equipped.
6. Check foundation mounting fasteners are secure.
7. Check wire rope does not come in contact with the guard.

For winches that have been in storage, the following start-up procedures are required:

1. Give the winch an inspection conforming to requirements of "Winches Not in Regular Use" on page 7.
2. Check oil levels in reduction gear and disc brake, top off levels as required.
3. Operate motor for 15 seconds in both directions to flush out any impurities.
4. The winch is now ready for normal use.

OPERATION

It is recommended that the user and owner check all appropriate and applicable regulations before operating the winch. Read the Product Safety Information manual before operating the winch.

The four most important aspects of winch operation are:

1. Follow all safety instructions when operating the winch.
2. Allow only people trained in safety and operation of the winch to operate.
3. Subject each winch to a regular inspection and maintenance procedure.
4. Be aware of the winch capacity and the weight of the load at all times.

⚠ WARNING

- **This product SHALL BE USED for the lifting of persons ONLY by means of a safety harness, boatswains chair, etc., and SHALL NOT BE USED for lifting persons by means of a platform, basket or carrier.**
- **Do not lift loads over people.**

⚠ CAUTION

- **Make sure the limit switch operates correctly and the man-riding device does not come into contact with the sheave.**

NOTICE

- **Refer to the Product Parts or Maintenance Information manuals for MHP drawings unless specified on a page in this manual.**

■ Winch Controls

The throttle control provides the operator control of the motor speed and direction of the drum rotation.

Prevent sudden movements of the control valve. Sudden movement of the control valve may activate the overload device. If this occurs reset the winch by pressing the "ON" button of the emergency stop device and smoothly action the control valve. Make sure the winch is not overloaded.

■ Winch Mounted Control

Refer to Dwg. MHP3381, **A.** Haul-in; **B.** Lift slider Handle UP to Unlock; **C.** Payout; **D.** Emergency Stop Button; **E.** Reset "On" Button; **F.** Vertical to Operator on page 11. Refer to the label on the winch for take-off angle part number 45972643

Vertical Wire Rope Take-off Angle (standard):

The operator should stand to the left of the motor and the slack arms should be facing away. The control lever is a lift and shift; to haul-in, lever is shifted towards operator and the drum rotates *clockwise*. To payout, lever is shifted away from operator and the drum rotates *counterclockwise*.

NOTICE

- **For Horizontal take-off angle, the winch will require some adjustments to the control valve, slack wire assembly and winch guard. Contact the authorized service center for instructions.**

■ Emergency Stop and Reset

Refer to Dwg. MHP3381 on page 11.

The emergency stop button is located at air inlet of winch on local control models, and on pendant on remote control models. When activated, winch drum rotation will immediately cease.

1. To start winch operation depress the "RESET" button.
2. Operate the lift and shift control lever to either 'Haul-in' or 'Payout'.
3. In event of an emergency all winch operation can be stopped by pushing the emergency stop button. This will prevent air from reaching winch motor, engage winch automatic brake(s) and stop winch haul-in or payout movement.
4. To reset Emergency Stop Valve:
 - a. Rotate the emergency stop button clockwise to allow the button to "pop up".
 - b. Depress and hold until the "RESET" button until the air escape through the cover plate area on the motor end.

■ Overload Device

⚠ WARNING

- **This overload protection device is factory set at 125% maximum of the SWL at rated layer. Refer to "SPECIFICATIONS" section on page 3.**

The overload device is integrated into the winch air motor and prevents the winch from lifting a load greater than the winch nominal overload setting. When an overload is detected, inlet supply air is stopped and the winch will not operate. If the overload device is activated the load must be lowered and reduced. Alternative methods should be used to accomplish the task. Refer to the "Emergency Lowering" section on page 7. To lower the load, first reset the winch by pressing the "RESET" button of the emergency stop valve and operate the winch control for wire rope payout.

■ Remote Pendant

Refer to Dwg. MHP1892 on page 11.

Provides remote winch control at distance up to 20 meters (66 ft) away from the winch motor. Pilot air hoses connect the pendant to the winch motor to provide winch operation. The pendant control throttle is a two lever movable control station. Direction of winch drum rotation is determined by the pendant control lever depressed.

■ Winch Brakes

■ Automatic Disc Brake

The automatic disc brake is a spring applied, air released brake. When the control valve is in the neutral position, the air in the brake is vented and the brake is engaged. The springs, acting on the pressure plate, compress the brake friction and separator plates and engage the brake to prevent drum rotation.

■ Automatic Drum Band Brake

The automatic drum band brake is a spring applied, air released, externally mounted brake. When the control valve is placed in the neutral position, the air in the cylinder is vented allowing the spring tension to automatically engage the brake and prevent drum rotation.

Slack Line Device

Refer to Dwg. MHP3378 on page 10.
The slack wire rope device is intended to detect slack in the wire rope during time of operation in the payout direction.

When lowering, in the event of slack, the slack wire device arm will lower by its own weight and activate a pneumatic switch that stops the pilot air lowering signal to the motor. The winch is then stopped with both brakes applied.

Emergency Lowering

This device allows the person to be lowered safely in case of main air supply failure.



WARNING

- **This is a two person procedure, one person to operate the emergency lowering device, the other to maintain a line of sight on the person being lowered.**
- **The winch must be isolated from the main supply air system during this operation. Make sure the Emergency Stop button is pressed down and latched in the OFF position.**
- **Communication must be established between the lifted person and winch operators. Operators should be able to visually monitor lifted person until landed.**
- **If line of sight between operators and lifted person is not possible, signals must be conveyed to the operators.**

Single Switch Emergency Lowering Procedure

Refer to Dwg. MHP3383 on page 11, **A.** Activation Switch.

1. In the event of air supply failure, press the Emergency Stop button to the down and latched OFF position.
2. Push the emergency lowering switch and hold continuously to allow the air from the auxiliary tank to escape and open the brakes.
3. The signal-person shall maintain the line of sight of the person being lowered to make sure the person is not being entangled in wire rope or other equipment on the rig. The signal person shall alert the operator to release the switch to stop lowering temporarily to avoid hazards, as necessary.
4. Continue to hold the switch to open the brakes and lower the person safely.

Two Switch Emergency Lowering Procedure

Refer to Dwg. MHP3795 on page 11

1. In the event of air supply failure, press the Emergency Stop button to the down and latched OFF position.
2. Actuate and hold the switch nearer to the motor. Switch #1 on Dwg. MHP3795. This will release the Disc Brake. Then actuate the switch further from the motor. Switch #2 on Dwg. MHP3795. This will release the Band Brake. Toggle this switch as necessary to control the descent of the person, while continuing to hold Switch #1 in the actuated position.
3. The signal-person shall maintain the line of sight of the person being lowered to make sure the person is not being entangled in wire rope or other equipment on the rig. The signal person shall alert the operator to release Switch #2 to stop lowering temporarily to avoid hazards, as necessary.

4. Continue to hold both the switches in the actuated position in order to lower the person safely to the ground.

NOTICE

- **After each use of the emergency lowering device, reset the Emergency Stop Valve and verify the main air supply is in proper working condition and able to fulfill its task.**

Alternate Lifting/Lowering

The following information is provided to allow for emergency lowering or lifting of a person if air supply is lost to winch. These procedures should be used if no other method of safely lowering personnel is available.

Three-Way Valve

Refer to Dwg. MHP3420 on page 11. **A.** Main Air Supply; **B.** To Water Separator / Regulator / Filter / Lubricator; **C.** Remove Plug for Auxiliary Air Supply.
This device allows the person to be moved the shortest way to safety in case of normal air supply failure. In the event of air supply failure, operate the three way valve from normal air supply to the emergency inlet. For an emergency power source, a 50 litre bottle can be used.

1. Open the emergency power source. Rotate valve lever towards normal inlet air supply side.
2. Make sure that the downstream pressure is 5 to 7 bar.
3. Operate winch normally for lifting or lowering the person the shortest way to safety.

NOTICE

- **After each operation of emergency lifting/lowering system, return the three-way valve to the main air inlet and verify the main air supply is in proper working condition and able to fulfill its task.**

Winches Not in Regular Use

1. Equipment which has been idle for a period of one month or more, but less than six months, shall be given an inspection conforming to the requirements of 'Frequent Inspection' on page 7 before being placed in service.
2. Equipment which has been idle for a period of over six months shall be given a complete inspection conforming with the requirements of 'Periodic Inspection' before being placed in service. Refer to Product Maintenance Information Manual.
3. Standby equipment shall be inspected at least semi-annually in accordance with the requirements of 'Frequent Inspection' on page 7.
4. All oils must be drained and replaced with new, and all grease cavities shall be packed to the prescribed limit. Refer to "LUBRICATION" section on page 9. Product must be operated for at least 15 seconds in both directions with well lubricated, dry air.

INSPECTION

Inspection information is based in part on American Society of Mechanical Engineers Safety Codes (ASME B30.7).



WARNING

- **All new or repaired equipment should be inspected and tested by Ingersoll Rand trained Technicians to make sure of safe operation at rated specifications before placing equipment in service.**
- **Never use a winch 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 B30.7 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 make sure that corrective action is taken.

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

Wire Rope Reports

Records should be maintained as part of a long-term wire rope inspection program. Records should include the condition of wire rope removed from service. Accurate records will establish a relationship between visual observations noted during frequent inspections and the actual condition of wire rope as determined by periodic inspections.

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. **Lubricator:** Adjust air line lubricator drops 2 to 3 per minute of ISO VG 68 (SAE 10W) oil (minimum viscosity 135 Cst at 104° F (40° C)) during winch operation.
2. **Surrounding Area:** Visually check for winch oil leaks. Do not operate winch if leaking oil is found. Make sure the surrounding area has no slippery surfaces and is obstruction free.
3. **Hoses and Fittings:** Visually inspect for damage, air leaks, and loose connections. Repair all leaks or damage and tighten loose connections prior to starting daily tasks.
4. **Wire Rope Anchor:** Verify wire rope anchor is securely installed.
5. **Guards:** Verify wire rope does not contact drum guard during winch operation and that guards are secure and undamaged.
6. **Winch:** Visually inspect winch housings, control(s), external brake, siderails, uprights and drum for damage. Check that all external bolts are in place and secure. Report damage to supervisor and request additional inspection by an **Ingersoll Rand** trained Service Technician.
7. **Mounting:** Visually inspect winch mounting bolts. Check bolts are tight, undamaged and free of corrosion.
8. **Winch Operation:** Power winch in both directions. Winch must operate smoothly without sticking, binding or abnormal noises and have minimal vibration.
9. **Control Valve or Pendant:** Check operation is smooth and winch is responsive to control device movement. Check control returns to neutral when released. If winch responds slowly or control sticks. Winch is to operate without hesitation in both the payout and haul-in directions.
10. **Motor:** During operation check motor housing for excess heat build up. Housing should not be hot to touch. Listen for grinding or knocking noises. If excess heat or noises are noted, do not operate until inspected by an **Ingersoll Rand** trained Technician.

11. **Wire Rope Spooling:** Visually check reeving and make sure the wire rope feeds on and off the drum smoothly. Verify spooling direction is correct for winch and application.
12. **Brakes:** Lift and lower the load a short distance to test brakes. Brakes must hold load without slipping. Automatic brake must release when winch control throttle is operated. If brakes do not hold load or do not release properly, they must be adjusted or repaired.

⚠ WARNING

- **Worn or improperly functioning brakes may cause excessive heat build up and sparks.**
- 13. **Wire Rope:** Visually inspect all wire rope expected to be in use during the day's operations. Inspect for wear and damage indicated by distortion of wire rope such as kinking, "birdcaging", core protrusion, main strand displacement, corrosion, broken or cut strands. If damage is evident, do not operate winch until the discrepancies have been reviewed and inspected further by personnel knowledgeable on wire rope safety and maintenance procedures.

NOTICE

- **The full extent of wire rope wear cannot be determined by visual inspection. At any indication of wear inspect wire rope in accordance with instructions in "Periodic Inspection". Refer to Product Maintenance Information Manual.**
- 14. **Limit Switches:** Make sure the limit switches engage and prevent operation at the required set point and with drum rotating in the correct direction. Make sure the limit switch properly resets.
- 15. **Emergency Stop and Reset Valve:** Activate emergency stop in payout and haul-in directions to ensure proper operation. Valve must stop winch operation and brakes must set quickly. Reset valve after test.
- 16. **Slack Line Detection:** Operate winch in payout direction until slack line valve actuates. Ensure winch stops operating in lowering direction, but can still lift load, after emergency stop reset.
- 17. **Emergency Lowering Device:** Check the pressure gauge located on the emergency lowering enclosure to ensure tank has the proper psi supply of air. Do not operate the winch if there is no air supply in the tank.
- 18. **Press Roller:** Make sure the wire rope is positioned between press roller and drum barrel and springs keep press roller in tight contact with wire rope. Make sure of smooth and proper operation.
- 19. **Labels and Tags:** Check for presence and legibility. Replace if necessary.

■ **Quarterly Inspection**

Complete a 'Quarterly Inspection' on a recurring basis to provide regular winch monitoring. In addition to the requirements of 'Daily Inspection' also inspect the following:

1. **Power Supply:**
 - Inlet air pressure to the winch is 70 to 100 psig (5 to 7 bar) at full throttle with nominal system usage.
 - Water separator, regulator, filter, and lubricator are installed and functioning.
 - Air filter is clean, drain if necessary.
 - Air supply regulator is showing correct supply pressure.
2. **Rigging:**
 - Correct size wire rope is being used, 7/16 inch (10 mm) maximum.
 - Wire rope take-off angle is within design limits.
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 winch has been welded onto.
 - Fasteners - Check external retainer rings, split pins, capscrews, nuts and other fasteners on winch, including mounting bolts.
 - Drum and Sheaves - Check for cracks, wear or damage.
 - Press Roller - Inspect for wear. Make sure the press roller spring keeps tight contact with wire rope.
 - Slack Line Detector - Inspect rollers for wear and grooves. Make sure the rollers freely rotate.
 - Make sure the winch and drum guarding is installed.
 - No modifications have been performed on the winch.
 - Check motor, gearbox and disc brake for oil leakage.
4. **Labeling / Marking:**
 - Data (name) plate is attached and legible.
 - Warning tags and labels are attached, legible and in correct places on winch.
 5. **Wire Rope Spooling:**
 - A minimum of 3 dead wraps per DNV and 5 per ABS remain on the drum in full pay-out position.
 - Proper freeboard is maintained at full haul-in position (minimum 1 inch (26 mm) for 10 mm wire rope).
 - Wire rope is properly lubricated.
 6. **Operational Checks:**
 - Limit Switches - Operate winch in the haul-in direction until limit switch engages. Make sure the winch stops operating in haul-in direction, and operates in payout. Operate winch in payout direction until limit switch engages. Make sure the winch stops operating in payout direction, and operates in haul-in direction.
 - Line Speed - Raise and lower 5 ft (minimum distance) a 68 lb (150 kg) load at first layer to verify line speed. Line speed to be 98 fpm (30 m/min). Line speed to be recorded after warm-up.

Table 7:

Description of Part	Total Qty.	Part Number
Water Separator (Air Prep-package)	1	WS180A (23768906)
Filter (Air Prep-package)	1	F353XX-XXX
Lubricator (Air Prep-package)	1	R373X1-XXX
Roller, Insert (Slackline)	6	9653-0139 (47529583001)
Roller (Slackline)	2	9653-0017 (46894424)
Roller, Short (Press Roller)	2	9653-0068 (46897609)
Roller, Long (Press Roller)	1	9653-0035 (46895199)

Inspect and replace if necessary air filter ever 45 days or 125 hours.

■ **Storing the Winch**

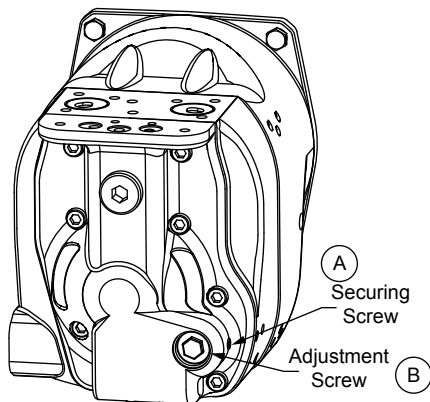
1. Always store the winch in a no load condition.
2. Wipe off all dirt and water.
3. To prevent rust build up from internal condensation, open lubricator to allow more oil into winch and operate with no load. If the winch is being stored away from and not connected to the main air supply, place small amount of 20 weight oil at air inlet port.
4. Oil the wire rope.
5. Place in a dry location.
6. Before returning winch to service, follow instructions for 'Winches Not In Regular Use' in the "INSPECTION" section on page 7.

ADJUSTMENTS

Overload Device

WARNING

- Overload is factory set and sealed with red paint and should not be adjusted without consulting an Ingersoll Rand trained technician.



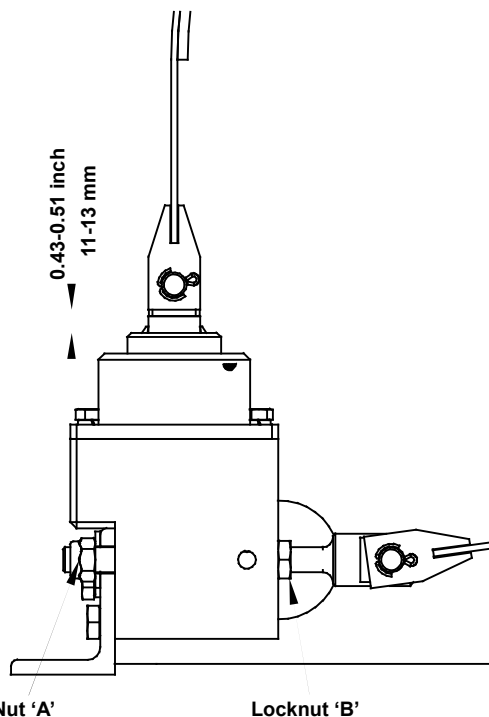
(Dwg. MHP2683)

- Connect winch to an air supply.
- Release securing screw and adjusting screw in order to increase or decrease the SWL (increase SWL by tightening the adjusting screw). Adjustment must be made for an overload of 125% maximum of SWL.
- Tighten securing screw.
- Check winch operation at rated load. If necessary, repeat adjustment.

Automatic Band Drum Brake

- Loosen locknut 'B'.

- Tighten nut 'A' until the adjustment dimension 0.43 to 0.51 inch (11 to 13 mm) is achieved.
- Tighten locknut 'B'.
- Check brake operation.



(Dwg. MHP2880)

LUBRICATION

For continued satisfactory operation of the winch, 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.

Lubrication intervals recommended in this manual are based on intermittent operation of winch, eight hours each day, five days per week. If winch is operated almost continuously or more than eight hours each day, more frequent lubrication will be required. Also, 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 performance of winch. Approval for the use of other lubricants must be obtained from your Ingersoll Rand distributor. Failure to observe this precaution may result in damage to the winch and its associated components.

Interval	Lubrication Checks
Start of each shift	Check flow and level of air line lubricator (approximately 2 to 3 drops per minute required at maximum motor speed).
Monthly	Lubricate components supplied by grease fittings. Inspect and clean or replace air line filter.
Yearly	Drain and refill winch reduction gear oil, (winch must be disassembled).

Note: Intervals are based on winch operation in a normal environment as described in "INSPECTION" section. In 'Heavy' or 'Severe' operating conditions adjust lubrication intervals accordingly.

General Lubrication

WARNING

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

Winches are supplied from the factory filled with oil.

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

Reduction Gear Assembly

Replace the oil in the reduction housing once every year. If the winch is used at a normal frequency, the oil in the reduction housing is suitable for one year's operation without being changed. However, when the winch is used at a high frequency, the oil may need to be changed more often. To replace oil, disassemble winch and reduction gear assembly as described in the Product Maintenance Information Manual.

For correct performance, highest efficiency and long life, it is essential that the lubricating oil be maintained at the correct level. The recommended grade of oil must be used at all times since the use of unsuitable oil may result in excessive temperature rise, loss of efficiency and possible damage to the gears.

Use only synthetic oil, Mobil™ SHC 629 or equivalent. To replace oil remove plug and add 5.1 oz (0.15 liters).

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.

Wire Rope

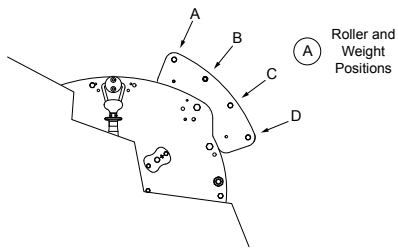
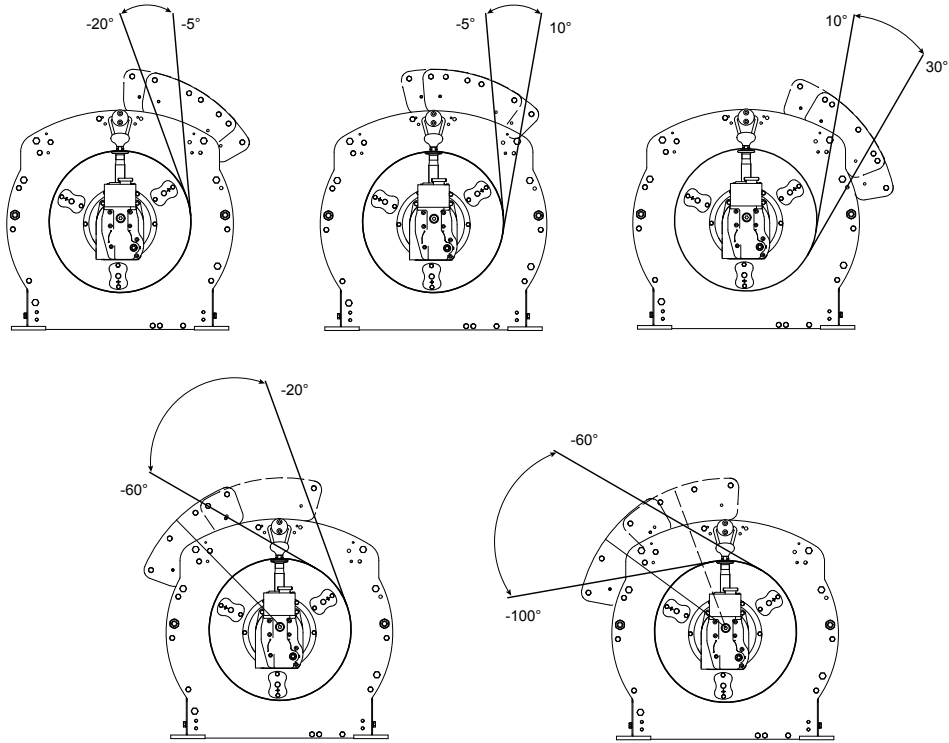
Follow the wire rope manufacturer's instructions. At a minimum, observe the following guidelines.

- Clean with a brush or steam to remove dirt, rock dust or other foreign material on the surface of the wire rope.

CAUTION

- Do NOT use an acid-based solvent. Only use cleaning fluids specified by the wire rope manufacturer.
- Apply a wire rope lubricant.
 - Brush, drip or spray lubricant weekly, or more frequently, depending on severity of service.

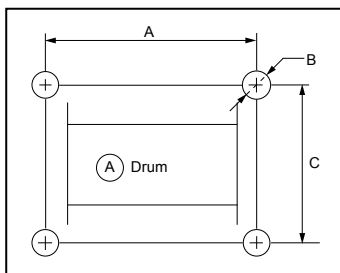
PRODUCT INFORMATION GRAPHICS



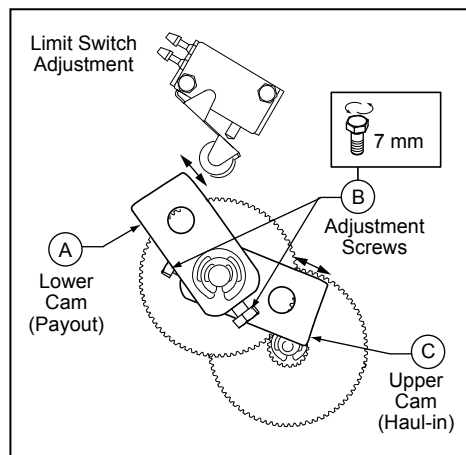
Starting Rope Angle (degree)	Ending Rope Angle (degree)	A	B	C	D
10	-5	--	T	T	W
10	30	W	--	T	T
-5	-20	T	T	--	W
-20	-60	W	--	T	T
-60	-100	T	T	--	W

(B) W = Weight Placement ; T = Roller Placement

(Dwg. MHP3378)

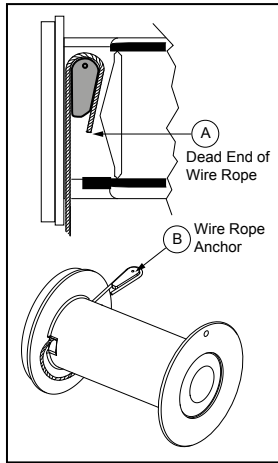


(Dwg. MHP3379)

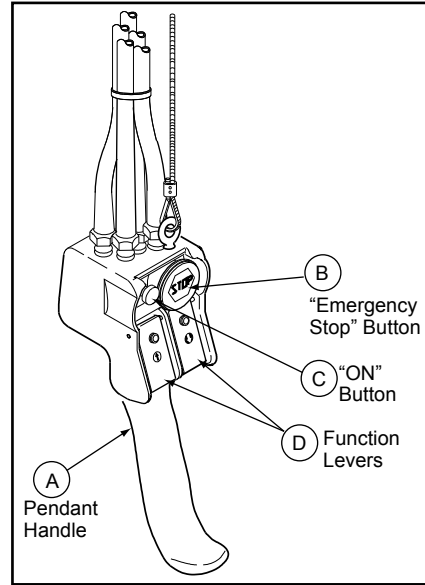


(Dwg. MHP3622)

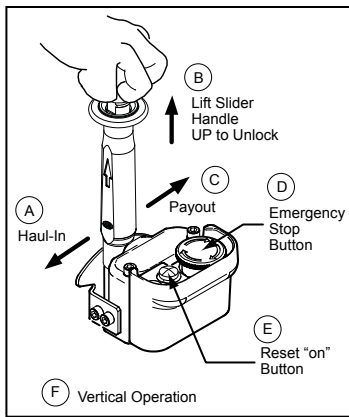
PRODUCT INFORMATION GRAPHICS CONTINUED



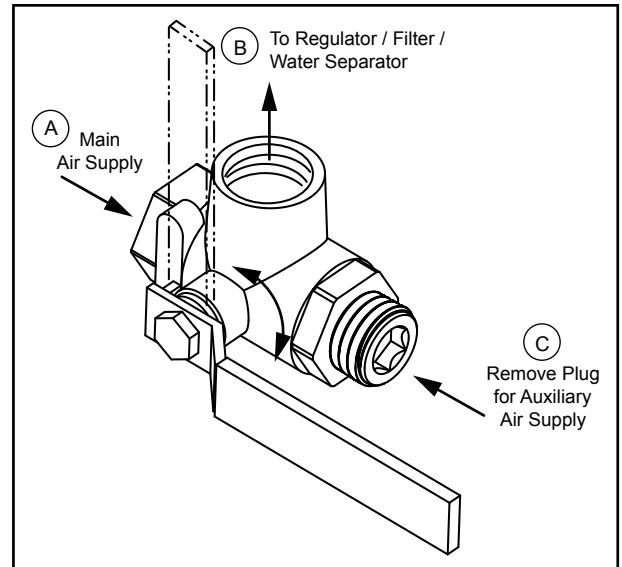
(Dwg. MHP3380)



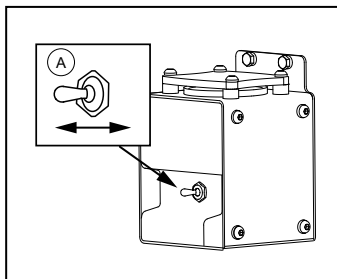
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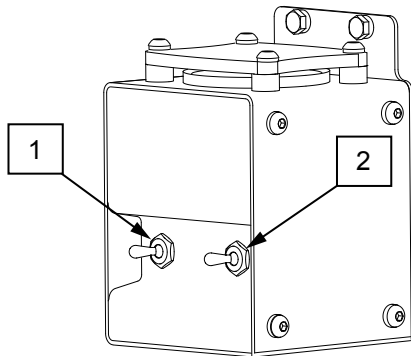
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(Dwg. MHP3420)



(Dwg. MHP3383)

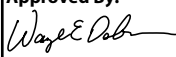



(Dwg. MHP3795)

DECLARATION OF CONFORMITY

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CE	<p>(CS) PROHLÁŠENÍ O SHODĚ (DA) OVERENSSTEMMELSESERKLÆRING (DE) KONFORMITÄTSEKTLÄRUNG (EL) ΔΗΛΩΣΗ ΑΝΑΓΝΩΡΙΣΗΣ (ES) DECLARACIÓN DE CONFORMIDAD (FI) VAKUUTUS NORMIEN TÄYTTÄMISESTÄ (FR) CERTIFICAT DE CONFORMITÉ (HU) MEGFELELŐSÉGI NYILATKOZAT (IT) DICHIARAZIONE DI CONFORMITÀ (LT) ATITIKTIES DEKLARACIJA (LV) ATBILSTĪBAS DEKLARĀCIJA (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</p>	
Company: Ingersoll Rand		Address: 20017 72nd Avenue South, Kent, WA 98032 USA
Identification of Machinery: Man Riding Winch	Type: Air	Function: Man Rider Winch
Generic Denomination: Man Rider		
Model: MR150K(-)-(-)		Serial Number Range: M16225MR03 and up
<p>(CS) Model: / Rozsah výrobních čísel: (DA) Model: / Seriennummerområde: (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: (LT) Modelis: / Srijas numuru diapazons: (LV) Modelis: / Serijos numerio eilē: (NL) Model: / Seriennummer: (NO) Modell: / Serienr: (PT) Modelo: / Gama de Nos de Série: (PL) Model: / Zakres numerów serii: (SK) Model: / Rozsah výrobních čísel: (SL) Model: / Območje serijskih števil: (SV) Modell: / Seriennummer, mellan:</p>		
To which this declaration relates, is in compliance with provisions of Directive(s): 2006/42/EC (machinery), 2014/34/EU (ATEX)		
<p>(CS) Ke kterým se toto prohlášení vztahuje, odpovídají ustanovením směrnice: (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: (LT) Kuriems taikoma ši deklaracija, atitinka šios direktyvos (-u) nuostatas: (LV) Uz kuru ši deklarācija attiecas, atbilst direktīvas(u) nosacījumiem: (NL) waarop deze verklaring betrekking heeft overeenkomt met de bepalingen van directieven: (NO) som denne erklæringen gjelder for, oppfyller bestemmelsene i direktivene: (PT) Ao qual se refere a presente declaração, está de acordo com as provisões da(s) Directiva(s): (PL) Którego dotyczy niniejsza deklaracja, jest zgodny z wymogami dyrektyw: (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:</p>		
By using the following Principle Standards: EN 12100-2010; EN 13463-1: 2009 and EN 13463-5: 2011		
<p>(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 τα παρακάτω κύρια πρότυπα: (ES) conforme a los siguientes estándares: (FI) esitetty 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: (LT) Remiantis šiais pagrindiniais standartais: (LV) Izmantojot šādus galvenos standartus: (NL) overeenkomstig de volgende hoofdstandaards: (NO) Ved å bruke følgende prinsipielle standarder: (PT) observando as seguintes Normas Principais: (PL) Spełniając wymogi następujących głównych norm: (SK) Pri dodržaní nasledovných noriem: (SL) Uporabljeni osnovni standardi: (SV) Genom att använda följande principstandard:</p>		
Notified Body: Ramboll Norge AS ERIK BORRESENS ALLE 7 3015 Drammen Norway		Certificate Number: RN:161-15-114000507
Date: 10.29.2015		Location: Kent, WA USA
<p>(CS) Datum: Březen, 2016 (DA) Dato: Marts, 2016 (DE) Datum: März, 2016 (EL) Ημερομηνία: Μάρτιος, 2016 (ES) Fecha: Marzo, 2016 (FI) Päiväys: Maaliskuu, 2016 (FR) Date: Mars, 2016 (HU) Dátum: március, 2016 (IT) Data: Marzo, 2016 (LT) Datums: Kovas, 2016 (LV) Datums: Marts, 2016 (NO) Dato: Mars, 2016 (NL) Datum: Maart, 2016 (SV) Datum: Mars, 2016 (PT) Data: Março, 2016 (PL) Data: Marzec, 2016 (SK) Dátum: Marec, 2016 (SL) Datum: Marec, 2016.</p>		
Approved By:  Wayne Osborn Chief Engineer 20017 72nd Avenue South Kent, WA 98032 USA		Secondary:  Alexis Flipo Product Engineering Manager Douai, France

DECLARATION OF CONFORMITY

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<p>(CS) Model: / Rozsah výrobních čísel: (DA) Model: / Seriennummerområde: (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: (LT) Modelis: / Srijas numuru diapazons: (LV) Modelis: / Serijos numeru eilē: (NL) Model: / Seriennummer: (NO) Modell: / Serien: (PT) Modelo: / Gama de Nos de Série: (PL) Model: / Zakres numerów serii: (SK) Model: / Rozsah výrobných čísel: (SL) Model: / Območje serijskih števil: (SV) Modell: / Seriennummer, mellan:</p>		
To which this declaration relates, is in compliance with provisions of Directive(s): 2006/42/EC (machinery), 2014/34/EU (ATEX)		
<p>(CS) Ke kterým se toto prohlášení vztahuje, odpovídají ustanovením směrnice: (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: (LT) Kuriems taikoma ši deklaracija, atitinka šios direktyvos (-ų) nuostatas: (LV) Uz kuru šī deklarācija attiecas, atbilst direktīvas(u) nosacījumiem: (NL) waarop deze verklaring betrekking heeft overeenkomt met de bepalingen van directieven: (NO) som denne erklæringen gjelder for, oppfyller bestemmelsene i direktivene: (PT) Ao qual se refere a presente declaração, está de acordo com as provisões da(s) Directiva(s): (PL) Którego dotyczy niniejsza deklaracja, jest zgodny z wymogami dyrektyw: (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:</p>		
By using the following Principle Standards: EN 12100-2010; EN 13463-1: 2009 and EN 13463-5: 2011		
<p>(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 τα παρακάτω κύρια πρότυπα: (ES) conforme a los siguientes estándares: (FI) esitetty vaatimukset seuraavia perusnormeja käytettäessä: (FR) En observant les normes de principe suivantes: (HU) A következők elvi szabványok alkalmazása mellett: (IT) Seguendo i principi standard indicati di seguito: (LT) Remiantis šiais pagrindiniais standartais: (LV) Izmantojot šādus galvenos standartus: (NL) overeenkomstig de volgende hoofdstandaards: (NO) Ved å bruke følgende prinsipielle standarder: (PT) observando as seguintes Normas Principais: (PL) Spełniając wymogi następujących głównych norm: (SK) Pri dodržaní nasledovných noriem: (SL) Uporabljeni osnovni standardi: (SV) Genom att använda följande principstandard:</p>		
Notified Body: Ramboll Norge AS		Certificate Number: RN:161-15-1140000507
ERIK BORRESENS ALLE 7 3015 Drammen Norway		
Date: 10.29.2015		Location: Sin Le Noble, France
<p>(CS) Datum: Březen, 2016 (DA) Dato: Marts, 2016 (DE) Datum: März, 2016 (EL) Ημερομηνία: Μάρτιος, 2016 (ES) Fecha: Marzo, 2016 (FI) Päiväys: Maaliskuu, 2016 (FR) Date: Mars, 2016 (HU) Dátum: március, 2016 (IT) Data: Marzo, 2016 (LT) Datums: Kovas, 2016 (LV) Datums: Marts, 2016 (NO) Dato: Mars, 2016 (NL) Datum: Maart, 2016 (SV) Datum: Mars, 2016 (PT) Data: Março, 2016 (PL) Data: Marzec, 2016 (SK) Dátum: Marec, 2016 (SL) Datum: Marec, 2016.</p>		
<p>Approved By:  Wayne Osborn Chief Engineer 20017 72nd Avenue South Kent, WA 98032 USA</p>		<p>Secondary:  Alexis Flipo Product Engineering Manager Douai, France</p>

SERVICE NOTES

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