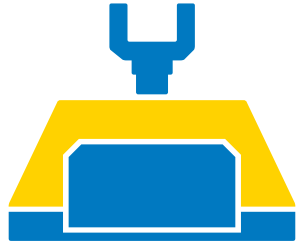


# VACUWORX

VACUWORX.COM



## MC SERIES

MC 3 - MC 5 QUICK START GUIDE

VISIT [VACUWORX.COM](http://VACUWORX.COM) TO DOWNLOAD COMPLETE OPERATION MANUAL

ISO STANDARD 9001:2008 CERTIFIED

## JOB SITE PREPARATION

### TRANSPORT THE LIFTER

Always turn the fuel shutoff valve to the OFF position when transporting or storing the vacuum lifting system.

When transporting the lifter, always securely attach it to the cradle with the proper hardware.

**NOTE: Never transport or store the lifter by setting the pad directly on the trailer or the ground. Damage to the seal may result.**

### PREPARATION OF THE LIFTER

#### CONNECT THE HYDRAULIC HOSES

We recommend the hydraulic hoses from the vacuum lifting system be connected to the hydraulic lines used for the bucket cylinder on the excavator.

**NOTE: Always clean the area around the hydraulic fittings and connections of dirt and debris before connecting or disconnecting any hydraulic lines or components. Hydraulic rotators are sensitive to dirt and foreign debris and will be damaged if dirt is allowed in the hydraulic system.**

The hydraulic hoses supplied are extra long to allow them to be connected to a wide variety of machines. Be sure to secure the extra hose so not to interfere with the rotator.

1. There are flow control valves (Fig. 1-1, 1) installed on the hose fittings. There is a flow diagram embossed on the flow control valve which shows the direction of flow.
2. If the diagram is illegible, there is usually an inverted dot next to the knob on the flow control valve. The dot goes toward the excavator and the knob will be toward the vacuum lifter.



Fig. 1-1

3. Make sure the hoses from the excavator are connected with the flow in the correct direction.
4. Connect the hoses to the flow control valves. Do not over-tighten the fittings. Over-tightening will cause damage to the fittings.
5. Route the hoses along the stick. Clamps are provided that can be tack-welded to the stick to route and support the hoses. When securing the hoses, allow ample slack for hose movement to avoid binding or pinching.

#### ATTACH TO THE EXCAVATOR

1. Inspect the adaptor and pin to make sure the proper pin, bushings, and spacers are used.
2. Inspect the adaptor, pin, bushings, and spacers to ensure proper fit.
3. Attach the adaptor to the excavator arm using the pin (Fig. 1-2, 1). Use the correct spacers (Fig. 1-2, 2) to center the arm between the adaptor.

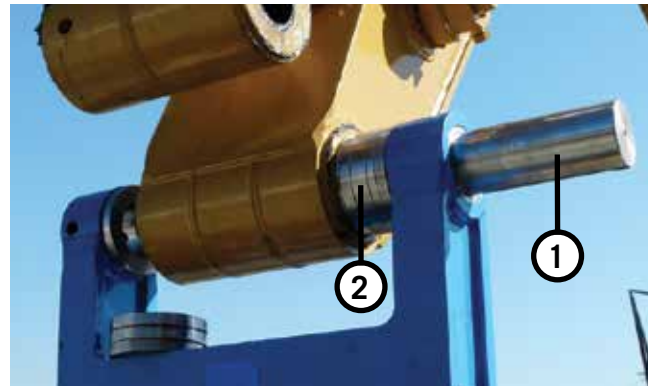


Fig. 1-2

4. Apply grease to the pin, where applicable, daily to ensure proper lift functions and smooth movement.

#### ADJUST ROTATION SPEED

Rotation speed should be slow to maintain control and operate the vacuum lifter safely.

The flow control valves (Fig. 1-1, 1) on the hydraulic fittings are “one way open – other way restricted” type. They can be adjusted to increase or decrease the rotation speed.

1. For initial start-up, turn the valves clockwise all the way to close them. To open the valves, turn them counterclockwise one complete turn. Make sure both valves are adjusted equally.

2. Keep this setting before adjusting the valves again. The more the valves are open, the faster the rotation speed will be.
3. Geographical and environmental conditions, the size of the excavator and the load being lifted will all affect the rotation speed. Always start out slow and gradually increase the rotation speed.

### NOTICE

*Do not exceed 26 GPM (98.4 LPM) or 3600 psi (248.2 bar). Exceeding 26 GPM (98.4 LPM) or 3600 psi (248.2 bar) may damage rotator and void your warranty.*

#### ROTATE THE LIFTER

1. Make sure the area is clear of any bystanders or obstacles.
2. Slowly rotate the vacuum lifting system in each direction for a recommended minimum of 30 rotations. This will bleed the air out of the hydraulic system so it can be rotated smoothly and safely. Never operate at full pressure.

#### HYDRAULIC SERIES (MC 5 ONLY)

On fully hydraulic models there are 2 additional hoses to run the motor.

1. Connect these 2 hoses (without flow control valves) to the auxiliary lines.
2. Set excavator controls to 1-way or hammer mode.

#### AUXILIARY HYDRAULICS

For the auxiliary hydraulics running the drive, recommended operating pressure is 3000 psi/20.68 MPA. Pump capacity should be 10.6 to 23.8 GPM.

## OPERATION

### OPERATING TIPS

The following information does not include all conditions that may be encountered in standard operations, but is intended to supplement any operational and safety training (which is the responsibility of the owner or contractor). Contact your Vacuworx representative for additional training information.

Before operating this equipment, read the entire Operator's Manual and become familiar with the operating controls and their functions.

#### DO NOT USE UNSAFE EQUIPMENT

Perform all the daily checks in the maintenance section before starting the engine. See Daily Maintenance Checks in the full Operations Manual.

Do not operate a vacuum lifting system with unapproved or missing parts, or if it is damaged or malfunctioning. Correct any problems before operating equipment.

**NOTE: Do not make alterations or modifications to the lifter.**

Always inspect the lifting pad and pad seal for any damage prior to each shift.

#### KEEP PERSONNEL AWAY

Keep personnel a safe distance away from the load and excavator when lifting.

#### PROPERLY POSITION THE VACUUM PAD

Do not operate until the vacuum pad is properly positioned on the pipe. Place lifter slowly onto pipe. This will allow the guide wheels to locate the pad properly on the pipe. The guide wheels will help align the vacuum pad on the pipe.

#### LIFT, LOWER, AND ROTATE SLOWLY

Always lift the load slowly. Make sure the area is clear when moving the pipe. All bystanders must be kept at a safe distance. Rotate the pipe slowly, and carefully lower it into position.

Never release the vacuum while the load is being lifted. Make sure the pipe is properly supported before releasing the vacuum.

#### KEEP LOADS LOW

Do not lift loads higher than necessary. Always keep loads close to the ground when possible. Never leave a suspended load unattended. Always lower the load to the ground when not in use. Never attempt to lift pipe with rope around it. You will not be able to get the proper vacuum to safely lift. Remove the rope or reposition the pad away from the rope.

#### LIFT PIPE NEAR CENTER

Lift the pipe as close to the center as possible to keep the load balanced. Marking the center of the pipe before lifting is safe and more efficient, and can speed up the operation.

## BEFORE STARTING THE UNIT

1. Perform all the daily checks in the maintenance section before starting the engine. See Daily Maintenance Checks in the full Operation Manual.
2. Once attached, do not start engine until unit has been lowered onto a pipe. If pipe is not available, block the vacuum pad hole with a piece of cardboard to prevent dirt from entering the vacuum reservoir until vacuum is built.

## STARTING THE ENGINE MC 5

1. If the temperature is 40°F (4°C) or below, push and hold the glow plug button (Fig. 1-3, 1) for 10 seconds. The glow plug indicator light (Fig. 1-3, 2) will illuminate when the glow plug button is pushed.
2. Turn the key (Fig. 1-3, 1) to the right to the START position. Once the engine starts, release the key.

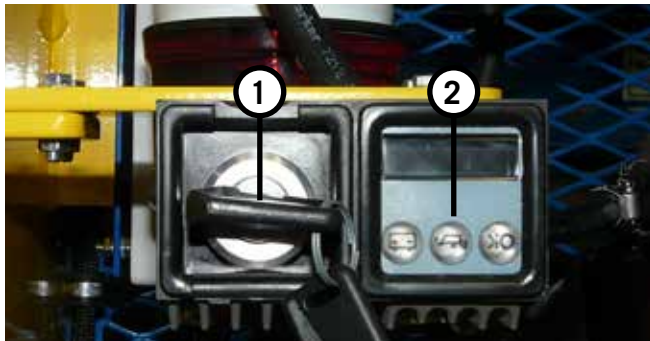


Fig. 1-3

3. If any of the red lights on the switch panel (Fig. 1-3, 2) light up, shut the engine off, determine what the problem is, and repair it before operating lifter.

The engine speed is preset at the factory. Do not attempt to adjust the engine speed. Tampering with the engine speed will void the warranty on the engine and pump.

## STARTING THE ENGINE MC 3

4. Turn the key (Fig. 1-4) to the right to the START position. Once the engine starts, release the key.



Fig. 1-4

The engine speed is preset at the factory. Do not attempt to adjust the engine speed. Tampering with the engine speed will void the warranty on the engine and pump.

## VACUUM GAUGES

Always position lifter so that the operator can see both the lifter and pad gauges.

The reservoir gauge should always read in the green range (Fig. 1-5, 1) when operating. If the gauge is in the yellow range (Fig. 1-5, 2), lower the load and allow the vacuum to build up in the reservoir. We recommend you do not use the lifter below -18 inHg (-61 kPa) of vacuum. If the gauge drops into the red range (Fig. 1-5, 3), immediately stop, determine what the cause is, and correct it before continuing.



Fig. 1-5

**NOTE:** When working in extreme altitudes, please contact Vacuworx Technical Service +1-918-259-3051 for additional information.

The gauge on the vacuum pad always reads zero until vacuum has been activated. When vacuum is activated, the pad gauge should build to the green range. If it does not, check to see if the pad is sealing properly on the material.

## WIRELESS REMOTE TRANSMITTER OPERATION (PRODUCTION)

### TURNING ON THE REMOTE

The wireless remote transmitter should be located in a convenient place inside the cab.

1. To turn on hold red button (Fig. 1-6, 1), then hold green button (Fig. 1-6, 2), then release red button and green button in succession.



Fig. 1-6

### STARTING THE LIFTER ENGINE

2. Make sure the remote is on (may take up to 30 seconds to sync with the lifter). When sync is complete, the green or amber light will come on the lifter. Leave the key in the off position. Press and hold the bottom left button (Fig. 1-6, 3).

### LIFTING AND RELEASING LOADS

3. To lift load hold green button (Fig. 1-6, 2) for 1-2 seconds to create vacuum on the pad. Monitor gauge until it reaches green area. Then it is safe to lift the load.
4. To release load hold top 2 circle shaped buttons (Fig. 1-6, 3) simultaneously for 4 seconds to start releasing vacuum. When gauge hits zero, it is safe to remove pad from the load.

## NOTICE

*For safety purposes, there will be approximately a three-second delay on the release function.*

### TURNING OFF THE LIFTER

5. Press and hold the middle 2 circle shaped buttons (Fig. 1-6, 5) simultaneously for approximately 5 seconds, until the lifter's engine powers down completely.

### TURNING OFF THE LIFTER

6. To turn off press the red button (Fig. 1-6, 1) or device will automatically shut off after 24 hours of inactivity.
7. The wireless remote transmitter and the receiver are a matched system and can not be used with other systems.



## WIRELESS REMOTE TRANSMITTER OPERATION (LEGACY)

The wireless remote transmitter should be located in a convenient place inside the cab.

1. Push the green button (Fig. 1-7, 1) to turn the wireless remote transmitter on.



Fig. 1-7

2. Press the top left button (Fig. 1-7, 3) to create vacuum on the pad and lift the load.
3. To release the load, press and hold the top left and the top right buttons (Fig. 1-7, 3 and 4) at the same time.

### NOTICE

*For safety purposes, there will be approximately a three-second delay on the release function.*

4. To turn the wireless remote transmitter off, push the red button (Fig. 1-7, 2).
5. The wireless remote transmitter and the receiver are a matched system and can not be used with other systems.

## LIFT A LOAD

Do not activate vacuum when pad is not on material to be lifted. If pad is not properly placed on material when vacuum is activated, the vacuum in the reservoir might be lost. Therefore, watch the pad gauge when activating vacuum. Shutting off vacuum quickly could prevent vacuum loss and time loss.

1. Properly position the vacuum pad on the material to be lifted before activating vacuum.



Fig. 1-8

2. With wireless remote transmitter (Legacy) on, press the top left button to activate vacuum. With wireless remote transmitter (Production) on, press the green button to activate vacuum.
3. Both the reservoir gauge and the pad gauge readings should be approximately in the same range. Do not attempt to lift if the gauge is in the red.
4. If the pad gauge does not read in the green, shut off vacuum and inspect if the pad is correctly sealing on the load.
5. Slowly lift the load up. If traveling with the load, always carry it low.
6. Do not lift the load over anyone. When rotating, always rotate slowly.



Fig. 1-9

7. When load is at the designated spot, slowly lower the load. Never release the vacuum when the load is off the ground.
8. When in the correct position, press and hold the top left and right buttons (Legacy) or top 2 circle shaped buttons (Production) to release the load. There will be a 3 second delay and then the load will release.
9. Allow sufficient time for vacuum to release before lifting the vacuum system off of the load.

## SHUTDOWN AND STORAGE

When finished, the vacuum lifting system must be properly shut down and stored.

1. If attached to excavator always store the lifter with the pad on material. If detaching the lifter from the excavator, store the lifter on the shipping cradle. Never store the pad on the ground.
2. If storing on material, slightly tilt the lifter away from the cab of the excavator. Sometimes the hydraulics can bleed down and this will keep the lifter from falling off the material.
3. Turn the engine key switch to the OFF position.
4. Press the OFF button on the wireless remote transmitter.
5. Make sure doors are attached and in place.

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