



www.quattrolifts.com



QUATTROLIFTS

Horizon

Standard Operating Procedures

**Operation, Safety and
Maintenance Instructions**



**READ THIS BOOKLET BEFORE USE
KEEP IN A SAFE PLACE**

CONTENTS

| | Page |
|---|-------------|
| Overview | 3 |
| Disclaimer | 4 |
| Quattrolifts Horizon Contents | 4 |
| Quattrolifts Horizon – Picture and Components | 5 |
| Limited Warranty | 6 |
| Working Capacity & Working Limits of the Quattrolifts Horizon | 7 |
| Personal Protective Equipment | 7 |
| Routine Maintenance of the Horizon | 8 |
| General safety precautions..... | 9 |
| Employer / Employee Agreement to Operate the Horizon safely | 10 |
| Pre-use Checklist for the Horizon | 11 |
| Horizon Controls | 12 |
| Lifting Glass with the Horizon | 13 |
| Tilting Glass with the Horizon | 14 |
| Rotating Glass with the Horizon | 15 |

ROTATING GLASS WITH THE HORIZON

A MINIMUM OF TWO PEOPLE ARE REQUIRED TO ROTATE GLASS

The Horizon can be used to rotate glass 360 degrees.

Ensure the pathway is clear of obstacles and no persons are standing in front or to the side of the glass as it is being rotated.

Make sure the glass is clean and it is CRITICAL that the Horizon is attached to the middle of the glass so it is well balanced. So measure and mark the middle of the glass to identify where the centre on the glass is.

LIFTING THE GLASS SAFELY—Follow procedure on page 13.

Move the Horizon to an area where the glass can be rotated safely. Elevate the glass sufficiently to ensure that the glass edges do not strike the ground or the Horizon front legs.

Apply the hand brake.

The glass can now be rotated slowly with total control of the movement - DO NOT ALLOW THE GLASS TO ROTATE FREELY.

Be aware that the vacuum lines do not become entangled.

TILTING GLASS WITH THE HORIZON

The Horizon can be used to tilt glass from vertical to horizontal and back to vertical - **AS LONG AS THE GLASS IS NOT MORE THAN 96 INCHES HIGH** (otherwise the glass can strike the mast of the Horizon causing it to break and fall).

Ensure the pathway is clear of obstacles and no persons are standing in front or to the side of the glass as it is being tilted.

Make sure the glass is clean.

LIFTING THE GLASS SAFELY—Follow procedure on page 13

Once the glass is lifted, move the Horizon over the table or area where the glass needs to be moved horizontally. Ensure that the adequate vacuum is maintained by checking if the pumps turn on quickly.



While depressing the green RUNNING button, slowly push the tilting lever up to horizontal position and the glass will tilt to horizontal or as far as required.

The glass can now be lowered onto the table.

OVERVIEW

The Quattrolifts Horizon is designed to assist glass workers handle glass:

- weighing up to 660 pounds with the Glass in the **VERTICAL and HORIZONTAL** orientation

DO NOT USE THE HORIZON TO LIFT GLASS THAT IS UNSTABLE OR MAY BREAK potentially injuring a person.

It is recommended to use the Horizon with stable glass like toughened, laminated glass or insulated glass units. It is NOT recommended to lift thin annealed (float) glass or thin sheets of mirror as it may break when lifted.

After the operators feel competent in its use, the functions listed in this manual can be performed using the Quattrolifts Horizon. The appropriate procedures should be read and understood before using the Horizon in any situation.

When moving glass with the Horizon, ensure the pathway is clear of obstacles and no persons are standing in front or to the side of the glass as it is being elevated, tilted, rotated and moved.

Initially, until the operators and employer feel confident in the use of the Horizon, a minimum of two people should be used for each job when using the Horizon.

DISCLAIMER

The Horizon MUST be used in accordance with these Standard Operating Procedures.

Quattrolifts recommends that prior to the use of the Quattrolifts Horizon that all operators MUST read carefully and understand the Quattrolifts Horizon Standard Operating Procedures.

Quattrolifts will not be liable for any personal injury or property damage if the Horizon is not used strictly in accordance with the procedures as set out in the Standard Operating Procedures.

CONTENTS OF THE HORIZON

Check that the following items have been included with the Horizon crate:

- Horizon lifter with 6 vacuum cups
- Charger for hydraulic lifter
- Charger for vacuum pump battery

If any of the above items are missing from your Horizon, notify your distributor immediately.

Perform a *“PRE-USE CHECK OF THE QUATTROLIFT HORIZON”* as directed on page 11 before using the Horizon daily. If you identify any problems notify your distributor immediately.

LIFTING GLASS WITH THE HORIZON

The Horizon can be used to lift glass off a tilt table, polishing machine, truck or secured dolly.

Ensure the pathway is clear of obstacles and no persons are standing in front or to the side of the glass as it is being elevated and moved.

Make sure the glass is clean.

Move the Horizon in front of the glass and tilt the vacuum head forward so it is at the same angle as the glass.

Raise or lower the vacuum head so it is about the middle of the glass.

Switch the vacuum pump on to **APPLY** and move the Horizon forward until all four vacuum cups are on the glass. Once a safe level of vacuum is achieved the vacuum pump will turn off (you will hear the pump stop and notice the white vacuum pump light on the vacuum pump control panel switch off).

Tilt the glass back slightly to prevent scratching the glass on a second plate. The glass can now be elevated. Before moving the glass, make sure that vacuum is maintained by observing if the vacuum pump starts up immediately (suggesting that there may be a vacuum leak).

If safe to move the glass, tilt the glass to vertical and the Horizon with glass can now be moved.

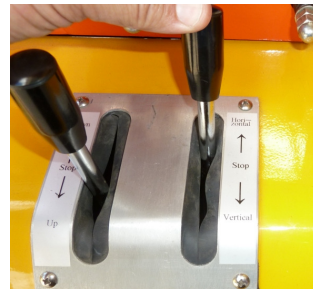


HORIZON CONTROLS

To operate the hydraulic lifter or tilter on the Hydraulics Control Panel, the POWER key must be turned on (to the right) and the green PUMP button must be pressed down.



ELEVATE - The vacuum head can be raised by pushing up the left lever on the control panel while depressing the green PUMP button.



LOWER - The vacuum head can be lowered by pushing down the left lever on the control panel **WITHOUT** depressing the green PUMP button.

TILT FORWARD OR VERTICAL - The vacuum head can be tilted forward or vertically by pushing up or down the right lever on the control panel while depressing the green PUMP button.

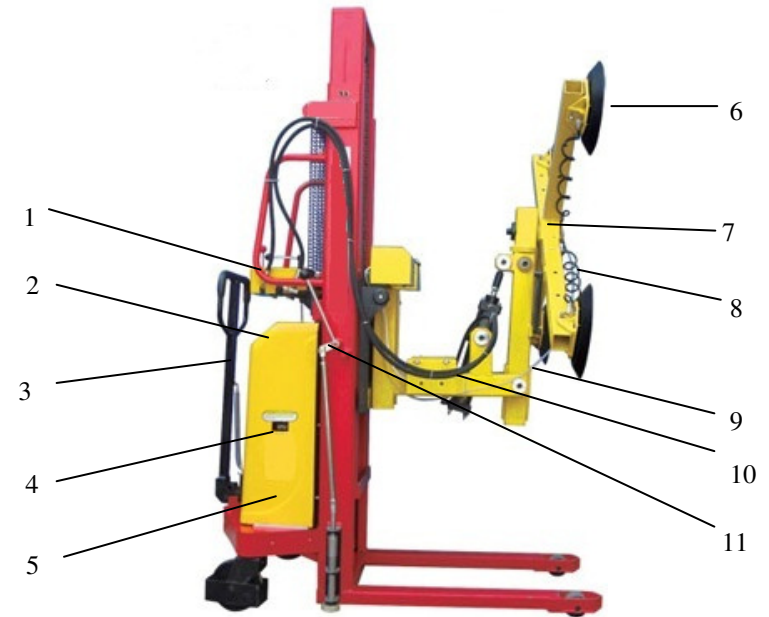
VACUUM PUMP - The vacuum pump can be switched on at the Vacuum Pump Control Panel by depressing the GREEN power button and the green battery lights should light up and the pump should start (which can be heard). The APPLY and RELEASE vacuum lever is on the left side of this Control Box.



To attach the Horizon to glass, push the green lever DOWN (over APPLY) once the VACUUM GAUGE reads 17 or above (in the green zone) the glass is safe to lift. The vacuum pump can be switched to release vacuum by pushing the green lever up to RELEASE.



HORIZON COMPONENTS



LEGEND

1. Vacuum Pump Control Panel and battery
2. Hydraulics Control Panel - Lifter & Tilter Control Levers
3. Steering handle
4. Hydraulic lifter charger input
5. Removable cowl to access hydraulic lifter battery, pump and oil reservoir
6. Vacuum cups
7. Vacuum cup load arms (adjustable)
8. Vacuum lines
9. Rotation locking springs
10. Hydraulic tilter oil lines
11. Parking brake

LIMITED WARRANTY

The Quattrolifts Horizon and its associated components (referred to as the “Product”) are carefully constructed, thoroughly inspected at various stages of production, and individually tested. They are warranted to be free from defects in workmanship and materials for one year from the date of purchase. If a problem develops during the warranty period, the complete product and/or component **must** be returned to the Quattrolifts Distributor (*at customers expense*) as directed below. If inspection shows that the problem is due to defective workmanship or materials, the product will be repaired or replaced without charge and returned at the expense of Quattrolifts.

WARRANTY WILL ONLY APPLY WHEN:

The Product is operated in strict accordance with “Quattrolifts Horizon Safe Operating Procedure”.
 The Product is serviced and maintained as recommended in the “Quattrolifts Horizon Safe Operating Procedure” and that the appropriate service records are maintained.

WARRANTY DOES NOT APPLY WHEN:

- 2.1 Repairs are required due to abnormal wear and tear.
- 2.2 The product has been abused, misused or neglected.
- 2.3 Alterations have been made to the Product.

WARRANTY DOES NOT APPLY TO:

- 3.1 Any defect which is caused by any modifications made to the Product without the written consent of Quattrolifts.

A problem not covered under warranty (*see items 2 and 3*) will be corrected automatically, unless the customer includes a written request for notification of costs prior to repair. Otherwise the customer assumes all responsibility for repair costs and agrees to receive the repaired Product on a ‘fee-for-service’ basis.

TO OBTAIN WARRANTY SERVICE:

Call your Distributor and notify them of the defect
 On returning the products please include your name, address and phone number.
 Indicate WARRANTY RETURN and Ship the product - **DIRECTLY TO YOUR DISTRIBUTOR**

| PRE-USE CHECKLIST OF THE QUATTROLIFT HORIZON - Make multiple copies | | | |
|--|----|--------|----------|
| IMPORTANT: CHECK THE FOLLOWING ITEMS BEFORE EACH USE | | | |
| Please place a tick against each <i>item</i> to check and make comments where necessary regarding corrective action. | | | |
| DO NOT USE THE MACHINE IF ANY OF THE FOLLOWING ITEMS ARE DAMAGED | OK | Not OK | Comments |
| Vacuum cups - the cup edges for damage (i.e. cut or bent) & the locking pins are working | | | |
| Vacuum Pump - ensure that the pump turns on and off and attach all 4 vacuum cups to glass (without lifting) to ensure safe vacuum is achieved and maintained. If the vacuum slowly drops, the pump should automatically start up again until safe vacuum is achieved. | | | |
| Vacuum Air Lines —make sure they are not damaged, cut or bent. Ensure that all air lines are secure in each connector. | | | |
| Vacuum Pump Battery —has sufficient charge (at least 3 green lights) | | | |
| Vacuum Load Arms - the arms holding the cups (for weld fractures or dents) | | | |
| Hydraulic Lifter & Lines - Ensure that the lifter raises and lowers without delay. Inspect all hydraulic lines to identify leaks or damage. Inspect for oil under the machine. | | | |
| Hydraulic Lifter - inspect the two chains on the front of the mast for any sign of damage.. | | | |
| Castors & Hand Brake - the hand brake work effectively (engage the brake and move the Horizon to see if it moves with moderate force) and inspect each of the wheels to ensure they are not damaged | | | |
| Steering Handle - Ensure that it turns the rear wheel and it not damaged. | | | |
| Hydraulic Tilter & Lines - Tilt the vacuum head through the full range and ensure that it is a smooth movement. Ensure hydraulic lines do not leak and are not damaged. | | | |
| Main Hydraulic Battery - Ensure battery on cowl reads at least 12V before starting use | | | |
| | | | |
| | | | |

EMPLOYER TO COMPLETE WITH EACH EMPLOYEE LIKELY TO USE THE HORIZON

Prior to allowing any employee to use the Horizon, you and the employee should sign and file a copy of this page to help ensure that the Horizon is used and maintained as outlined in the **Quattrolifts Horizon Standard Operating Procedure**.

The Horizon will only be used and maintained as stated in the "Quattrolifts Horizon Standard Operating Procedure"

If you or your employees are unsure of any facet of the use of the Horizon contact your distributor or Quattrolifts directly or via their website for further information.

I _____
(Employee's Name)

have read and understand the "Quattrolifts Horizon Standard Operating Procedure" and will use the Horizon as stated in the "Quattrolifts Horizon Standard Operating Procedure"

Employer to Sign

Employee to Sign

WORKING LIMITS OF THE HORIZON

The Horizon...

- Requires one or two trained people for its safe operation depending on the glass size and the work performed
- The Horizon can occasionally be operated by one person if the glass is less than 80 inches length and width and the ground is smooth and the area is clear of obstructions
- Can lift 660lbs with the glass VERTICAL and 440lbs with the glass HORIZONTAL
- If horizontal tilting is required, the Horizon can lift laminated or toughened glass up to 96 inches high. Tilting glass in excess of these dimensions may cause the glass to strike the Horizon mast causing the glass to break or fall from the Horizon.
- Do not lift any glass or material that the vacuum cups cannot attach to securely
- DO NOT USE THE HORIZON OVER GROUNDS THAT ARE SOFT OR CAUSE THE HORIZON WHEELS TO SINK OR MAKE THE HORIZON AND GLASS UNSTABLE. \
- All operators of the HORIZON must read the Standard Operating Procedures in this manual carefully.
- THE HORIZON SHOULD NOT BE USED TO CARRY GLASS ON OR OVER INCLINED RAMPS OR GROUND.

PERSONAL PROTECTIVE EQUIPMENT (PPE)

Consult with your employer to identify what PPE you must wear when handling and installing glass using the Quattrolifts Horizon.

As a minimum all users must wear:

Safety glasses; Glaziers Gloves; Safety shoes; Wrist cuffs.

ROUTINE MAINTENANCE OF THE QUATTROLIFTS HORIZON BY A KNOWLEDGABLE AND COMPETENT PERSON

The Horizon should be inspected every 6 months to ensure all critical components are in good working order and is safe to use. Failure to check these items could result in the Horizon failing and causing an injury.

The following items **MUST** to be checked:

Frame

- Inspect the frame for weld fractures or rust or dents
- All bolts and nuts are in place and in good condition
- Steering handle is not damaged

Vacuum cups

- the cup edges for damage (i.e. cut or bent)
- the vacuum pump is working to ensure vacuum is maintained for at least 30 minutes.
- the arms holding the vacuum cups (for weld fractures or dents) and the arms slide in an out easily
- Each arm has a secure locking pin

Castors

- the wheels for damage (cut or worn)
- the brake works effectively (machine does not move with moderate force) when brake is engaged
- wheel bolts and nuts are tight and in good condition

Winch

- While pulling on the cable unwind the winch handle (counter clockwise) and inspect the cable for fraying or damage
- Handle (general inspection for damage)
- Winch winds easily

Hydraulic lines

- Inspect all lines for damage or oil leaks

Vacuum lines

- Inspect all lines for damage

Batteries

- Both the hydraulic and vacuum pump batteries must be inspected for damage, leakage and adequate charge.

IMPORTANT SAFETY PRECAUTIONS WHEN USING THE QUATTROLIFTS HORIZON

GLASS OVERHANG

The amount of allowable overhang of glass once the vacuum cups are attached to the glass will depend on the glass thickness and whether the glass has been damaged. Always thoroughly check the glass edges for chips or damage that may cause the glass to break as it is being handled by the Horizon .

**If the glass is not damaged
then the maximum overhang
from the top edge of the
glass to the nearest vacuum
cup edge is 40 inches
see photo E – this
distance **MUST NOT** exceed
40 inches**



**DO NOT USE THE HORIZON TO LIFT GLASS THAT IS
UNSTABLE OR MAY BREAK.**