



# Mobile climbing wall Operations Manual

**REVISION 07/03/08**

**MIAMI, FL**

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## Welcome

It is with great pleasure that we congratulate you on your Mobile climbing wall purchase and welcome you to Vertical Reality, Inc. We are excited about our products and feel confident that through proper planning, placement and hard work, the Mobile climbing wall will be a rewarding and profitable purchase. Our philosophy is centered on a commitment to excellence in meeting the needs of our customers, providing a quality product that is safe, exciting and profitable. We encourage you to likewise develop a standard of quality and service that makes you the leader in supplying artificial mobile climbing walls for the amusement, entertainment and special attractions market.

Our goal is to establish a relationship with your company. One that will promote Vertical Reality and your company, as successful partners, providing entertainment for those who are looking for a climbing attraction.

*Our part in making our team successful is:*

- Commitment to proper, effective, Safe and profitable design
- Seven days per week customer service support
- Manufacturing to "ASTM F-1159-97a" safety standards for the amusement industry
- Cycle time that generates high profits

*Your part in building a successful business using Vertical Reality products is:*

- Commitment to safe operation
- Consistent inspection for proper maintenance
- Effective marketing and promotion
- Active promotion of the activity

We are looking forward to a long and prosperous relationship. Should you have any comments or questions, please do not hesitate in calling.

Sincerely,

Ken A Sharkey  
President

# Confidentiality Agreement

This manual and the content within this manual are for the exclusive use and operation of the Mobile climbing wall product by the owner of the Mobile climbing wall and its authorized personnel and for Vertical Reality, Inc. This manual is designed to provide accurate and authoritative information in regard to the subject matter covered. This manual may not be reproduced in whole or part in any form or by any means, without the prior written consent of **Vertical Reality, Inc.**

## **Confidentiality**

This manual contains proprietary information belonging to Vertical Reality, Inc. It is to be viewed only by persons employed by Vertical Reality, Inc. and/or the Mobile climbing wall owner and authorized personnel.

## **Distribution**

This manual is not to be distributed to any other persons other than those actively engaged in the operating and/or marketing of the Mobile climbing wall product to customers serviced by the owner of the Mobile climbing wall mobile climbing wall.

## **Disposition**

This manual is the property of the Mobile climbing wall owner and Vertical Reality, Inc. and must be returned to Vertical Reality, Inc. upon receipt of an updated manual or discarded.

## **Revision**

Vertical Reality, Inc. may make periodic additions, deletions and modifications to this manual. These updates will, in the judgment of Vertical Reality, Inc., add to the quality of services offered. This manual must be kept up to date, and should reflect all updates currently in use.

## **Notice of Changes**

In the event that revisions are made to this manual, Vertical Reality, Inc. will send the appropriate pages reflecting such changes as are deemed necessary or replacement document, to the individual for replacement. Any pages that are then outdated must be destroyed and discarded.

In the event of replacement pages are sent, Vertical Reality, Inc. will provide a cover letter outlining the revision and the effective date of any procedural changes.

**Receipt, Acknowledgment and Warrantee registration**  
**PLEASE FILL IN AND MAIL TO VERTICAL REALITY**  
**6880 North Cartee RD, Miami, FL 33158**

This Training/Operations Manual is an important document intended to help you become acquainted with the Mobile climbing wall, Vertical Reality, Inc. and guidelines as to safe and recommended operation.

Please read the following statement and sign below to indicate your receipt and acknowledgment of the Mobile climbing wall/Vertical Reality, Inc. Training Manual.

I have received and read my copy of the Mobile climbing wall/Vertical Reality, Inc. Training Manual. I understand that the information outlined in this manual are subject to change at the sole discretion of Vertical Reality at any time. It is further understood that the owner of the Mobile climbing wall has the responsibility to ensure the correct and latest version of the manual is being used.

As an owner of the Mobile climbing wall or authorized representative, it is my responsibility to

Keep this manual up-to-date with any changes that are made by Vertical Reality, Inc.

I understand that my signature below indicates that I have received the Mobile climbing wall/Vertical Reality, Inc. Training Manual and that I have read it.

Authorized Representative

Date

VIN NO  
DATE PURCHASED

The signed original copy of this agreement will be held in the **Corporate Office in Miami, FL**

## Training Overview

This training course is an introduction to the **Mobile climbing wall** and its operation. The purpose of this manual is to provide a compilation of information that will assist you in proper and safe operation.

This manual is designed to aid in training you and your associates. The sections within this manual are prerequisite to each other. In other words, the information in section one pertains to the information in section two.

The philosophy of **Vertical Reality** is centered on a commitment to excellence in meeting the needs of its customers and associates by providing them with the enclosed information.

The manual is designed to provide the wall owner with the information, tips, and techniques that will help the employees and owner operate the wall as effectively and safely as possible. It is no way a total representation of all facts. Safe operation of this wall is the sole responsibility of the wall owner/operator. Good and reasonable judgment must be used when traveling, promoting and/or operating the wall.

## Training Objectives

Upon reviewing this training, you will be able to complete the following:

- Explain specific information regarding the background and history of Vertical Reality, Inc.
- Understand the process for proper set-up of the Mobile climbing wall
- Identify and understand the inspection points for day-to-day maintenance.
- Define and understand the safe operation of the Mobile climbing wall.
- Identify and explain the rules for safe usage of the Mobile climbing wall.

### *Company Overview*

Vertical Reality, Inc., located in Miami, FL is a manufacturer/ distributor of commercial interactive sports and fitness-fun equipment used in the amusement and recreational fitness markets. Designed for fun, VR is a premier provider of commercial action based products to be used in the amusement, fitness and recreation industry. Safely engineered VR products provide maximum revenue while providing thousands of hours of safe and exciting entertainment for your customers.

### *Mission Statement*

To be the premier provider of revenue-generating *interactive sports* products used in the amusement and fitness markets.

### *Corporate Values*

Our philosophy is centered on a commitment to excellence in meeting the needs of our customers, providing a quality product that is safe, exciting and profitable.

## ***Mobile climbing wall***

### *Product Overview*

Welcome to the mobile climbing wall, Vertical Reality's latest in revenue generating interactive sports products designed for the amusement, entertainment, and fitness industries. Complete with redundant auto-belay devices, the Mobile climbing wall maximizes profit and safety. Different from other Mobile climbing walls, the Mobile climbing wall does not use, what is commonly termed as, and a person for belaying. The reason for this is because of the auto belay devices. With the auto-belay devices doing all of the belay work and ensuring safety, the person(s) operating the wall act more like a coach offering encouragement and direction. The Mobile climbing wall is designed to meet ASTM F-1159-97a standards for the Amusement Industry. This means that the Mobile climbing wall is designed, manufactured, tested, and supported by comprehensive quality assurance and quality control measures to ensure product reliability and safety. The enclosed information is an outline as to the procedures for safe operation and set-up of the product.

Warranty (from date of invoice)

**WARRANTIES.** Seller warrants that all Goods shall be free of defects in material and workmanship. ROCK WALL products have a limited one-year warranty on the climbing wall systems including the frame, trailer and panels. Warranty does not include consumables (harnesses, handholds, cables, pulleys, Batteries, tires these are covered by the individual respective manufacturer's warranties). We have a 90-day warranty on electronics, 30-days on labor, 90-day on parts. This warranty does not apply towards normal wear and tear on products nor does it apply towards misuse on products. Auto-belay systems are warranted for the original purchaser(s) for one year (does not include auto-belay cable or pulleys).

Rock Climbing is a dangerous sport. Whether you are climbing outdoors, on a mobile product, or in a gym, they are all considered dangerous without the proper training and safety practices. The purchasers and users of our products are completely liable for and accept full responsibility for any and all damages or injury, which may result from the use and/or misuse of any products

The Seller makes no warranties, expressed or implied, except as specifically stated above. SUCH WARRANTIES ARE IN LIEU OF ALL OTHER WARRANTIES, WRITTEN OR ORAL, STATUTORY, EXPRESS OR IMPLIED, INCLUDING WITHOUT LIMITATION, ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.

SELLER SHALL IN NO EVENT BE LIABLE FOR ANY INCIDENTAL, SPECIAL, OR CONSEQUENTIAL DAMAGES OF ANY NATURE, EVEN IF SELLER HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

The Seller shall only be obligated to repair a defective item. If the item(s) cannot be repaired, the Seller shall only be obligated to pay damages up to an amount equal to the sale price of the item(s).

What is an "Auto-Belay?"

*The Belay*

In order to understand the term auto-belay, we must first define the term belayer respective to traditional rock climbing. The act of belaying can be defined as a procedure of securing a climber by the use of a rope. In recreational sport climbing there are generally two people involved in a climb. A climber, the person climbing the

intended surface or structure, and the person whom is providing the safety for the climber known as a belayer. The belayer's role is to use two hands on a braking device, which controls the descent of the climber. One of the functions of the belayer is to ensure the rope slack is taken up as the climber ascends and ensure that the rope does not get tangled up which would result in the climber dangling. Once the climber asks to come down, it is the function of the belayer to allow the rope to pass through the braking device such that the climber descends at a rate that is not too fast or too slow.

The biggest fears in manually lowering someone as a belayer, is that a belayer could drop the climber out of control, or let the end of the rope pass through the belay device such that the climber falls to the ground. Both of these mistakes have often happened, and to very experienced climbers

### *Auto-Belay*

Vertical Reality, Inc. is using the term "auto-belay" to describe its automated belaying process. Rather than a person acting as the belayer, Vertical Reality uses a pressurized air/oil hydraulic system that automatically controls the rate of descent when a climber falls or chooses to come down off the wall. The intended function of the automated belaying system is to take up the slack in the climbing cable as the person climbs. As a climber climbs the wall, the climber will take weight off of the cable, in which the positive air pressure in the hydraulic system causes the cable to retract or to functionally take up the cable slack. This works by air pressure forcing the hydraulic fluid into the pistons the whole sequence is reversed for the controlled decent of the climber. A human person in the sport of traditional rock climbing generally performs this function. However, the auto belay system used by Vertical Reality provides a system that automates this function. The automated system eliminates the need to rely upon a human belayer for every climber rather; allowing a single person (belayer or instructor) to supervise all three climbers. This ensures safe and proper climbing eliminating the use of a human belayer. The Mobile climbing wall with its auto belay devices allows for multiple climbers to climb the wall simultaneously with only one person acting as a belaying coach. Whereas in traditional rock climbing, every climber would require a belayer. This simple feature means that when operating a wall for profit, the Mobile climbing wall generates more profit than a wall requiring human belayer's by simply reducing the amount of labor needed to operate the wall.

### *Safety Standards*

Is the auto belay safer than a human belayer? Vertical Reality, Inc. answers this question by manufacturing their Mobile climbing wall product with two hydraulic cylinders for every climber. Two cylinders mean that a redundant system is in parallel, which will ensure that if one hydraulic cylinder fails, a second system will take up the slack and function in a safe manner. In comparison to recreational climbing using manual belayer's, six belayer's would be required to belay for three climbers. This means that there would be two belayer's for every climber. Imagine the payroll requirement you would need on a manual system to compare with the safety system featured in the Mobile climbing wall Climbing Structure. However, in fairness, rock climbing has its inherent risks. A participant climbing on the Mobile climbing wall can be injured. Even though the Mobile climbing wall system is automated, we require that a responsible person be assigned to ensure that the mechanical function of the Mobile climbing wall is operating properly. As an owner of the Mobile climbing wall, it is your responsibility to make sure constant care and supervision is taken regarding the operation of this product.

### **How to set-up the Mobile climbing wall**

The Mobile Climbing wall is the name for the entire system (i.e. Mobile climbing wall and auto belay safety system). The mobile unit has been designed to travel down the road in a down/closed fashion. Aerodynamic because of it's hallow shape; the mobile unit should travel relatively easy. As a reminder, please follow any and all rules established by a state or interstate highway system that you would travel in the course of conducting your business or transport of the product. Please abide by all traffic laws and

warnings.

*Physical Dimensions* - The mobile climbing wall meets all requirements for physical size as outlined by the Department of Transportation. The dimensions of the Mobile climbing wall are:

Specifications. 4 person full length 4&5 person short trailer

- Width - 8' - 0" 7' 6 "
- Height - 8' - 6" 9'-6"
- Length - 28' - 0" 28'
- Weight - 3140 lbs. 4200 lbs

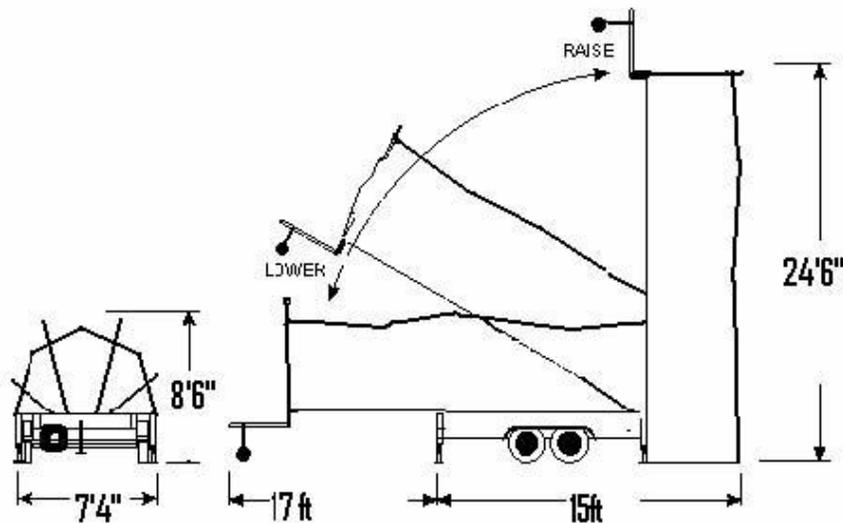
#### **Vertical Reality 4 person wall dimensions & specifications**

Physical space required once set up 7'4" X 15'

Reccomended operating space 20' X 20'

Storage space required 28' X 8' X 9'

2' ball and 7 way flat plug required for towing



*Mechanical Engineering Approval* - The Mobile climbing wall has been designed and reviewed by engineers that stand behind the Mobile climbing wall design

*Required Personnel* - The mobile climbing wall can be operated with only one person. However, for

proper operation, Vertical Reality recommends that at least two people operate the attraction for optimal performance and safety. Vertical Reality recommends that one-person act as the climbing coach supervising any one or all three of the climbers and a second person to harness the climber and obtain a parental consent or hold harmless signature. The climbing coach should offer encouragement, entertain the climber and most importantly watch the belay cable to ensure that there is no excess slack in the cable or that the climber does not out climb the auto-belay device. The second person in charge of harnessing should ensure the Harness is worn correctly.

*Hitch and Wiring* - To pull the Mobile climbing wall you will need a 2-inch ball and a seven- (7) prong FLAT BLADE wiring plug. Remember that your tow hitch must be equipped with a 12-Volt charge if you want the battery to charge as you are towing the unit. The new design of the trailer eliminates the use of electric brakes as surge brakes have been fitted to the trailer. For the folding trailer we use electric brakes and hydraulic brakes as an option. Please also ensure that you have an electric brake controller installed for the brake to work.

*Setting up the 4-5 person wall -*

1. Upon parking the Mobile climbing wall trailer in place, remove the trailer from the towing vehicle.
2. Level the trailer such that the trailer tires are at least one (1) inches off of the ground by using the 3 leveling jacks mounted on the rear and tongue of the trailer. First jack up the jacks behind the wheels then jack up the jack at the rear of the trailer. **Make sure that the jack pull pins are properly inserted before engaging the jacks.** We recommend that a level be used in leveling the trailer.

Locate the hydraulic lift control switch located on the driver's side of the trailer at the rear on the top piece. **Make sure there is proper clearance for the arc of the wall before up-righting the wall.** **Caution: Be aware of -possible over-head obstacles before raising wall!** Hold the button secure until the wall is fully upright and firmly in place. **DO NOT PUSH AND RELEASE THE CONTROL BUTTON MULTIPLE TIMES WHILE RAISING THE WALL.** Rather, hold the button in continuously until the wall is upright. Once the wall is up using the leveling jacks, lower the trailer so that the mobile climbing wall frame is resting on the ground in whole or in part, maintaining level on the trailer frame. Make sure that only the metal frame is resting on the ground. If an obstacle or high point is the fiberglass before the metal frame is resting on the ground, you will break the fiberglass. As an option, if only a portion of the metal wall frame is resting on the ground, shim up the portion of the wall base not touching the ground with wood or metal shims. Shim only the metal frame!

At this point, the wall should be in an upright and locked position, the trailer level and at least a portion if not the entire wall solid on the ground (using shims if not).

Pull the auto belay cables from the top of the wall and secure to the climbing anchors on the bottom of the wall.

Check that the auto belays are functioning properly and pull them up and down a few times so the hydraulic oil will fill up the cylinders (bleed the system).

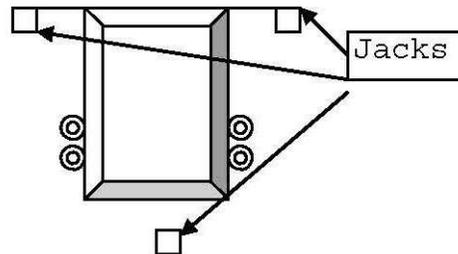
**Absolutely no climbing should be performed on the wall if the auto-belay is not functioning.** Make sure to always inspect the Auto-Belay devices to ensure proper air-tank pressure (40 lbs - 50 lbs) with all the cables at the top of the wall. Always check for hydraulic leaks, pulley condition and that the belay cable is taking up the slack etc.

**DO NOT** operate the wall if wind speeds exceed 30 mph. It is the responsibility of the operator, climbing coach, owner, or other responsible party to be aware of weather conditions and make the

appropriate call for closure of the wall if necessary. When closure of the wall is necessary, put the wall in the down position.

### ***Setting up the 4 or 5 person wall with the short trailer design-***

1. Upon parking the Mobile climbing wall trailer in place, remove the trailer from the towing vehicle. Disconnect all wiring and chains from vehicles. (undo pin and electrical connection of top frame to bottom frame on late 2003 models)
2. Level the trailer using the single rear jack such that the trailer dolly wheel is off the ground **FOLD UP THE DOLLY WHEEL**
3. Unlatch the rear jack arms and extend them as the diagram shows.



4. Jack up the jack arms so the tires are at least (1) inch off of the ground. **Make sure that the jack pull pins are properly inserted before engaging the jacks** (If Additional Height is required you may use a wood block under the jack plate).
3. If your trailer is equipped with hydraulic brakes be sure to disconnect the brake hose and the electrical connection located by the right hand wheel fender.
4. Attach a rope to each of the auto belay cables.
5. Locate the hydraulic lift control switch located on the driver's side of the trailer at the rear on the top piece. **Make sure there is proper clearance for the arc of the wall before up-righting the wall. Caution: Be aware of -possible over-head obstacles before raising wall!. IF YOU HAVE THE FOLD UP TONGUE DESIGN THEN YOU CAN REMOVE THE PULL PIN AND THEREBY ENABLE YOU TO FIT INTO A 25 FT CEILING HEIGHT IF REQUIRED** Hold the button secure until the wall is fully upright and firmly in place. **DO NOT PUSH AND RELEASE THE CONTROL BUTTON MULTIPLE TIMES WHILE RAISING THE WALL.** Rather, hold the button in continuously until the wall is upright. Once the wall is up using the leveling jacks, lower the trailer so that the mobile climbing wall frame is resting on the ground in whole or in part, maintaining level on the trailer frame. Make sure that only the metal frame is resting on the ground. If an obstacle or high point is the fiberglass before the metal frame is resting on the ground, you will break the fiberglass. As an option, if only a portion of the metal wall frame is resting on the ground, shim up the portion of the wall base not touching the ground with wood or metal shims. Shim only the metal frame!
8. At this point, the wall should be in an upright and locked position, the trailer level and at least a portion if not the entire wall solid on the ground (using shims if not).

9. Pull the auto-belay cables from the top of the wall by the ropes and secure to the climbing anchors on the bottom of the wall.

10. Check that the auto-belays are functioning properly and pull them up and down a few times so the hydraulic oil will fill up the cylinders (bleed the system).

**Absolutely no climbing should be performed on the wall if the auto-belay is not functioning.** Make sure to always inspect the Auto-Belay devices to ensure proper air-tank pressure (50 lbs with the cables at the top), hydraulic leaks, pulley condition, the belay cable is taking up slack, etc.

DO NOT operate the wall if wind speeds exceed 30 mph. It is the responsibility of the operator, climbing coach, owner, or other responsible party to be aware of weather conditions and make the appropriate call for closure of the wall if necessary. When closure of the wall is necessary, put the wall in the down position.

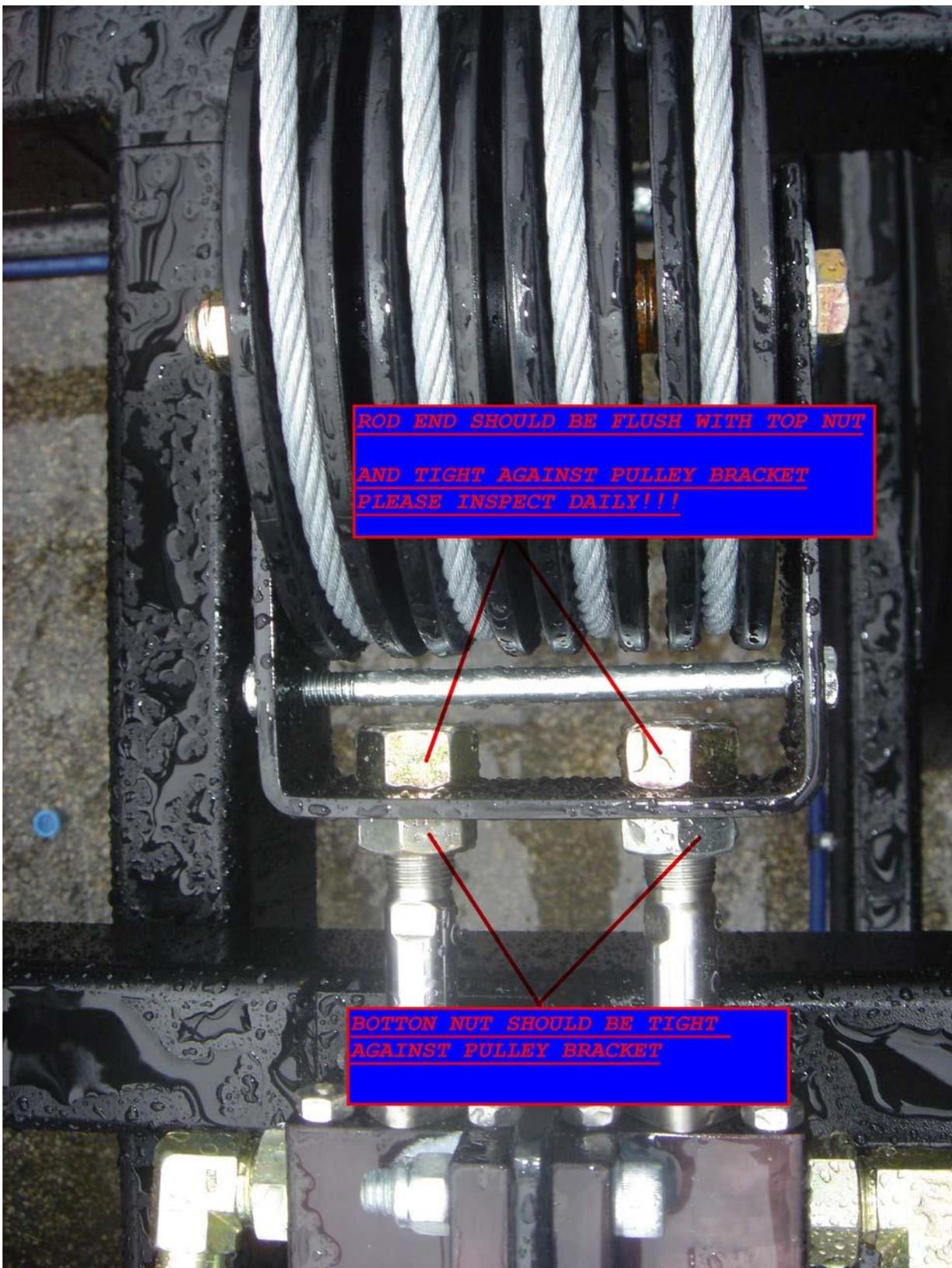
*Takedown of the wall* - Upon the end of an event or use of the wall, please follow the following steps to ensure safe and proper takedown of the Mobile climbing wall.

1. Let the auto belay cables go up to the top of the wall.
2. Raise the mobile climbing wall off the ground 2 - inches using the trailer jacks.
3. After ensuring that it is safe to lower the wall and that there is proper arc clearance, press the switch in the down position and hold firmly. Again, make sure to keep the switch lever in the down position until the wall has completely rested in the saddle before letting off of the switch. Again, **DO NOT PUSH AND RELEASE THE CONTROL LEVER MULTIPLE TIMES WHILE LOWERING THE WALL.**
4. Now that the wall is down, reapply the tie down or insert the travel pin provided with the wall to ensure the wall will not bounce or accidentally rise, due to wind, while traveling.(not applicable with the short trailer design)
5. Lower the trailer to the ground and ensure that the leveling jacks are raised to the maximum position making sure the leveling jack pull pins are properly secure and that there is NO chance of the jacks falling during travel.
- 6 Once the Mobile climbing wall has been properly lowered, make sure that the hitch lock is secure and that a pin is in place making sure the hitch lock is secure for travel.
7. Connect wiring for lights.
8. Secure back-up chains and emergency brake cable.
9. As always, make sure to obey all traffic laws and regulations.

## **Inspections and Preventive Maintenance**

### *Daily Inspections*

As a means of properly maintaining the Mobile climbing wall and ensuring proper safety for the climber a daily inspection is required. **Cables must be inspected daily. If fraying or rusting has occurred, replace the cable immediately. Inspect the cable ends by the crimps. If fraying or Rusting broken strands, replace immediately. If the cables are kinked or show signs of wear, replace them as a matter of precaution.** With one operator on the front of the wall, manually extend the cable to arm's length while a second person inspects the retraction of the cable to ensure there is NO SLACK behind the wall. In addition, check each and every harness to ensure the stitching is tight and that the harness is in good working order. If the harnesses are visibly worn or are not functioning as intended discard immediately and replace with new harness. Again, as a matter of precaution, you may want to replace harnesses yearly. For proper function of the auto belay system, make sure that the air pressure is between 40 lbs. and 50 lbs with the cables at the top of the wall. Inspect daily for oil leaks, should a leak occur call Vertical Reality for details. **The appropriate amount of hydraulic fluid is 3 to 5 inches from the bottom of tank with the cables at the top of the wall and should be AW 32 hydraulic oil.** For reference, the fluid level should be approximately 4 fingers from the bottom of the tank with the cables at the top of the wall. If any questions, please call Vertical Reality. If equipped make sure to check the function of the swivels on each cable end. Make sure the swivels turn freely and are in good condition. **Check Carabineer's to ensure they function properly. If they stick open or do not lock positively, replace immediately. Check Carabineers for excessive wear, if worn replace immediately.** Lastly, make sure the handholds on the wall are tight. If any of the handholds spin or are loose, tighten them. With all parts supplied from other manufacturers besides Vertical Reality (i.e. harnesses, Carabineer's, swivels) make sure to read and understand their respective warnings and instructions. **Auto belay Piston head bracket, must be inspected and nuts checked for tightness. All ½ bolts must also be inspected for rust and condition. If replacement is deemed necessary it must be replaced with a grade 8 bolt only and nylon jam nut.**



ROD END SHOULD BE FLUSH WITH TOP NUT  
AND TIGHT AGAINST PULLEY BRACKET  
PLEASE INSPECT DAILY!!!

BOTTOM NUT SHOULD BE TIGHT  
AGAINST PULLEY BRACKET

## ***Weekly Inspections***

*Inspect fluid level in Hydraulic pump please see picture below, tank should be  $\frac{3}{4}$  full when wall is in the down position. If low add aw32 hydraulic fluid also known as Jack oil. (Available at most auto parts stores)*



Inspect pulleys once a week. The auto belay pulleys are at eye level and can be inspected from the ground. For stationary walls, the guide pulleys at the top of the wall must be inspected by climbing up the front of the wall and inspecting from the front. Tie one end of the belay rope to the Carabineer's end of the belay cable. Release the cable, while controlling the ascent with the rope, and let the cable travel to the top of the wall. Make sure there is a smooth ascent and while pulling on the rope, a smooth descent (retraction of cable). The purpose of this exercise is to ensure that the mechanical function of the auto-belay is operating properly. If you experience any slack, call Vertical Reality for advice and instructions.

Mobile walls can be let down and inspected from the ground. For mobile units, inspect all hydraulic hoses after each travel trip. Check tire pressures on mobile units making sure they are at proper pressure. Check to make sure the hydraulic fluid is at an appropriate level. Always make sure that the fiberglass panels are not damaged in transit or if worn out, call to replace panel(s).

Check pulley Movement and also check the condition of the welds on the pulley brackets and pulley bar that attaches to the frame, if there is evidence of rust please have the unit inspected to check that the welds are still 100%. **Auto-belay Piston head bracket, must be inspected and nuts checked for tightness. All  $\frac{1}{2}$  bolts must also be inspected for rust and condition. If replacement is deemed necessary it must be replaced with a grade 8 bolt only and nylon jam nut.**

## **NDT requirements**

- Rides will require a 100% visual inspection at three years of age by a certified welder. Particular attention to all the structural welds on the trailer and metal condition.
- Rides will require a 100% visual and 30% magnetic particle test at five years of age by a certified testing company.

### *Wear Dated Items*

The following items are wear-dated items along with suggested guidelines for replacement:

- *Carabineer's* - It is well known that equipment deteriorates progressively with use. It is difficult to give a precise lifetime because it depends on the environment where it is being used. Surface damage, corrosive wear, mechanical wear, or impairment of the mechanical function of the product is easily observed.
- *Swivels* - Again, the same warning for the Carabineer's apply to the swivels.

*Pulleys* - Replace when worn

***Cables -annually (every 12 months or 10000 cycles whichever ever comes first regardless of condition) or 10000 cycles if equipped with a counter or sooner if frayed / rusted or kinked or crimps show signs of deterioration. Cables must be purchased pre-assembled from Vertical Reality or installed by an approved Vertical Reality MFG representative.***

*Handholds* - As needed. Handholds wear out on a regular basis, call Vertical Reality for replacements.

*Harnesses* - Replace when the fabric has visible cuts, tears, abrasion and/or damage caused by use, heat chemicals etc. The stitching is cut, torn worn or loose threads. Or, when the buckles are not functioning properly

### Day-to-Day Operations

Now that the Mobile climbing wall is set-up and ready for operation, you've performed the appropriate inspections, its time to address the issues of proper climbing.

*Equipment* - All three climbing runs are set up with auto locking Carabineer's. We strongly recommend auto-locking Carabineer's because of the safety feature of the auto-locking mechanism. In addition, we strongly recommend that our own VR climbing harness be used. This particular harness does not require a double-over requirement for securing the strap that other climbing harnesses require. Not only is the VR a safer harness, it is a harness that participants can secure with little help from the climbing coach because the harness is more straightforward and simpler to fasten. Any of these products can be ordered from Vertical Reality for approximately the same cost, as any local climbing retail store would offer.

For maximum through-put, we recommend that a second person (harness assistant) other than the climbing/belay coach make sure the climbing harnesses are tight and secure and are being worn properly. Having several climbers harnessed and ready to go ahead of time will result in maximum utilization of the wall.

*Belay Coach & Harness Assistant*- The belay/climbing coach is responsible for proper climbing. His/ her role is to ensure that the participant understands the rules and double checks the harness and equipment to check for appropriate wear and function. The belay coach is responsible to make sure that there is NO CABLE SLACK in the climbing line. In addition, the belay coach should be the ONLY non-climbing person in the 8' rappelling area in front of the wall. At Vertical Reality, we refer to this area as the "Climbing Zone" and its purpose is to provide a safe area whereby a climber can rappel without fear of coming down onto another person. The belay coach has the responsibility to ensure that each climber is safely directed out of the climbing zone, back to the harness area for removal of the harness after his or her completed or attempted climb. The belay coach should

Offer positive words of encouragement to both climbers and spectators. The more fun the belay coach can make the experience for the climber, the more enjoyable the event will be for the participant. Happy customers result in repeat business. The belay coach will be asked questions from the crowd and should try to answer questions without taking their eyes off of the climber. In an effort to assist the belay coach, the harness assistant should try to address all questions, if possible. This will allow the belay/climbing coach can manage the climbers on the wall effectively.

*Harness assistant* - This person's responsibility is to make sure the harness is being worn correctly for climbing. This person should make sure the appropriate harness is worn correctly (i.e. small children in a children's harness, a small to large person in the adult large harness, and a large adult in the adult extra large harness). In addition, the harness assistant should recite the rules to the climber such that after the belay coach reviews the rules, each climber will have heard the rules twice. The harness assistant should try to take an active role in answering all questions from the crowd so that the belay coaches' attention is with the climbers. The harness assistant should always watch the wall in an effort to assist the climbing/belay coach in proper climbing.

***Rules and Safety Tips*** - First, insure the climbing coach has double-checked the wearing of the harness and has properly instructed the climber on the climbing rules; which are:

1. Climbers stay within the respective climbing route, generally marked with different color handholds. If matching handholds, the four-foot area directly under the belay cable outlines the climbing area.
2. No swinging from side to side.
3. No stepping on the belay cable.
4. No climbing if cable does not retract.
5. Communications with the climbing coach only, no distracting other climbers with idle conversation.
6. When rappelling, keep the kick-off distance to a minimum (approximately 2 - 3 feet from the wall).
7. No climbing with shoes without toes or toe protection (i.e. no sandals, thongs, etc.).
8. DO NOT allow a climber to climb beyond the wall top. A climber should never climb higher than chest high to the top of the wall.
9. The weight range for the wall is 40 - 250lbs & a Minimum Height 42". It is possible for a child weighing less than 40 lbs. to climb the wall as long as the climbing harness is properly fitted. However, the climbing rope provided with the unit may need to be attached to the child's harness and the child pulled down after the climb.
10. Do not allow someone to sit and bounce on the belay cable when finished rappelling. Have them rappel onto their feet.

As a note, it may be necessary for the climbing coach to climb the wall to retrieve a child who may be frozen in place afraid to come down after they have climbed to whatever height.

By way of recommendation, as the climber climbs the wall, the belay coach should be interactive by offering positive words of encouragement and possible hand or foothold selection. As a climber rappels after having climbed to the top, make sure the area on the ground is free of any individual who could possibly get in the way of the repelling climber. The distance we recommend approximately. Eight (8) feet from the front surface of the mobile climbing wall. The only person who should be in this eight-foot area is the climbing coach. Upon the completion of a climb, the climber must wait for direction from the climbing coach before proceeding to the harness area for removal of the climbing harness. Likewise, the upcoming climber must be advised by either the climbing coach or the second person ensuring proper fitting of the harness before proceeding to climb on the wall. This will ensure that a rappelling climber will not descend onto an upcoming climber. *As an additional note, although Climbing Helmets are not required, we strongly recommend their use.*

*Entertainment Tips* - Never forget that your

Mobile climbing wall is a fun attraction and will draw attention. Use this unique feature to book company picnics, birthday parties, corporate promotion events, special events, public attractions, fairs and festivals to name a few. Never forget that the wall can be equipped for corporate advertising generating revenue up and above the charge by the climb revenue. The belay coach should be someone who enjoys people and has a positive rapport with people making your attraction fun for the entire family. Remember that this wall was not necessarily designed for climbers. Route the wall for the intended market - those who have always wanted to give rock climbing a try. The Mobile climbing wall is a product designed for fun!

### **Marketing ideas to Consider**

This information is in no way comprehensive. It is a dynamic list that keeps growing. However, for the purpose of brainstorming and generating ideas, the following are marketing considerations.

- Corporate Sponsorship
- Sports Event Marketing
- Fairs
- Parties
- Charity Events
- Graduation Parties
- Tourist Attractions
- Trade Shows
- School Events
- Amusement Park Lease
- Street Festivals
- Radio and Television Station promotion
- Etc.

Make sure to work with your local Chamber of Commerce, Convention Bureaus, Non-profit Organizations and Advertising/Public Relations Firms to ensure your wall is marketed to its fullest.

### **Conclusion**

This guideline has been written to assist in the proper installation and operation of the Mobile climbing wall. Vertical Reality has tried in its best effort to address relative issues; however, there will additional information

learned or situations that occur that we are unaware of at this time. Please, do not hesitate to call seven days a week with any technical question. Remember, there may be questions, issues and/or concerns that may arise through the use of this product that are not listed or addressed in this manual, please keep us informed. It is the responsibility of the owner and/or operator of this product to contact Vertical Reality, Inc. if any questions or concerns arise. As with any amusement device, physical harm can occur and operators and participants must realize that this product is a physical activity and that proper care should be taken to ensure safety. Please exercise good common sense and good judgment while operating and transporting the Mobile climbing wall.

### **Mobile climbing Wall Preventative Maintenance Schedule**

#### ***Inspection Date:***

#### ***Inspected by:***

#### **Daily**

Auto-Belay Cable - Check cable for fraying, rust, if frayed or rusted, replace cable.

Auto-Belay Cable Ends - Ensure that there are no broken strands by crimp.

Auto-Belay Cables are tracking along pulleys without restriction.

Ensure there is no cable slack in front or behind the wall.

Ensure that the oil level has at least 3 inches in the tank with all 3 or 5 routes at the top

Harness Stitching - If stitching is pulling apart, send to Vertical Reality for inspection or repair or **replace immediately**.

Air Tank Pressure - Pressure Gauge reading between 40 psi. - 50 psi. With cables at top of wall, Hydraulic Fluid level minimum of 3 and a max of 5 inches from the bottom of the tank with the cables at the top.

Carabineer's - If the auto locking Carabineer's is not locking positively or sticking open, **replace immediately**.

Ensure the swivel turns freely.

Check Nuts on Rod end of cylinders Shaft that hold the pulley head bracket they are tight, and not becoming loose

#### **Weekly**

Pulley Wear - Inspect pulley's closely to ensure proper function, replace if worn.

Trailer frame and pulley bar assembly to be checked for proper attachment and weld condition inspected annually by visual inspection.  
\*\*Please note certain states will require an additional magnetic particle inspection, please check local by laws\*\*

Hydraulic Hose - Inspect for road damage and proper function. No leaks!

Hydraulic pump fluid level- Level must be  $\frac{3}{4}$  of the tank full when wall is down. Fluid used is aw32 or jack oil.

Tire Pressure - On mobile units, check tire for proper pressure

Cable slack - With rope; test the full length to ensure proper auto belay function.

Note: Please make copies from this page and use as directed!  
Thank you and have Fun!

ROCK WALL INSPECTION REPORT	
DATE	
VIN NO	
OWNER	
Check Cable for signs of rust total length	
Check Cable Crimps	
Date of last cable change	
Hoses tightened on all belay system	
Oil level in belay tank with cables at the top	
Pressure in belay tank with cables at the top	
Belay system checked for proper operation	
Cables retracting evenly and smoothly	
Check for rust on belay cylinders	
check welds on top pulley bracket assembly	
Harnesses in good shape no signs of loose stitching	
Carabineers working and not worn out	
Check nuts that attach pulley bracket to rod ends	

Inspectors Name	
Phone number	
Signature	



## Trouble Shooting Guide

### *Technical Problem*

#### **Trailer lighting isn't working correctly.**

See appendix F to determine correct wiring

#### **Wall won't rise.**

Is the hydraulic motor getting power? **If NO**

- Check battery voltage and connections.
- Check hand control connections.

#### **If Yes**

- Has the tie downs been removed.
- Check hydraulic fluid level.

#### **Wall won't go down.**

Is the hydraulic motor getting power? **IF NO**

- Check battery voltage and connections.
- Check hand control connections.

#### **IF YES**

- Make sure wall is raised of the ground

#### **Auto belay cable will not retract when wall is vertical**

- Check air tank pressure is between 45 to 50 psi
- Check for air leaks using soapy water
- Check cable routing for obstructions
- Check that pulleys are rotating freely
- Check ram alignment

# Accident Report Form

We anticipate that you never will have to use this form, however in the unlikely event of a accident, please fill out the following details and fax to us ASAP at 305 4432820

- Date of accident
- Place of accident
- Time of accident
- Name of injured person
- Address of injured person
- Phone of injured person
- Was 911 called and please attach a copy of the report
- Extent and nature of injury
- What caused the accident
- Was the person intoxicated or under the influence of alcohol or drugs
- Were Vertical Reality's safety rules posted
- Was your staff properly trained in the operation of the wall
- Was the wall shut down for inspection after the accident occurred
- Name of person signing the report
- Signature