

# OWNER'S MANUAL

## ActivRAC® 16P

MOBILIZED STORAGE SYSTEM

Mobilize your storage.





Mobilize your storage.

OWNER'S MANUAL

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# Introduction

Spacesaver's ActivRAC 16 powered mobile carriage systems provide an efficient means to increase storage capacity without expanding the space needed for your materials. Spacesaver provides a state-of-the-art, Mobile Storage System design that provides convenient control operation and safeties for aisle-locking protection.

The purpose of this manual is to provide the information necessary to use and maintain your ActivRAC 16P Mobilized Storage System. This document, combined with your on-site training, will provide you with the ability to use your system safely and efficiently.

As the owner of a Spacesaver ActivRAC 16P Mobilized Storage System, you can be assured that you have purchased the best in the industry. Its quality, safety, and ease of use are unsurpassed. Together with your local representative, we stand behind our products with an installation and service team dedicated to meeting your needs.

From all of us, thank you for purchasing Spacesaver.





## PROPER SYSTEM USE

Proper use of your system will ensure its longevity. Below is a list of items/tasks that will help to ensure that you get the most out of your ActivRAC 16P Mobilized Storage System. Please familiarize yourself with these items and establish a routine based on these guidelines.

1. Familiarize yourself with the content of this manual.
2. Ask questions if you are unsure of any operational or safety features.
3. Bring any unusual performance of the system to the attention of your supervisor.
4. Follow the racking loading instructions below.
5. Keep media neatly stored and pushed fully back onto the racking to help maintain desired aisle width.
6. Make certain that all system safety devices are operational. (See the General Maintenance section on page 11 of this manual for details on how to do this and how often this should be done.)
7. Call your local Spacesaver representative immediately if a safety device requires attention.
8. Provide required General Maintenance according to the recommended schedule. (See the General Maintenance section on page 11 of this manual for details on how to do this and how often this should be done.) Ask about a periodic maintenance contract.



## LOADING INSTRUCTIONS

1. **Do not load one side of double entry racking without counterbalance weight on the other side.**
2. **Due to rack height, at no time should the media weight on one side of the carriage exceed the media weight on the other side by more than 50%.**
3. **Always load racking at the lowest level first.**
4. **Maximum carriage capacity (racking weight included) of each carriage section is 16,000 lbs (7,250 kg).**

## IMPROPER SYSTEM USE

In order to maintain proper performance and safety, please take the following precautions.

1. **Do not** climb on the racking.
2. **Do not** leave items in the aisles.
3. **Do not** operate the system without checking the open aisle(s) for people and/or objects.
4. **Do not** allow media to extend into the aisle to the extent that the carriages cannot close together properly.
5. **Do not** overload your system. Stay within the weight and distribution limits. (See the Loading Instructions section below for details.)
6. **Do not** operate any system under the safety override condition except in the presence of your supervisor. (See the Safety Systems section on page 7 of this manual for details.)
7. **Do not** leave the power override unit plugged into the control as safeties are not functional when using this power option. (See the Power Outage Option section on page 9 of this manual for details.)

 <b>WARNING</b>	
	<p><b>TIP OVER HAZARD.</b></p> <p>Improper loading may cause tipping and injury to personnel.</p> <p>Due to rack height, at no time should the media weight on one side of the carriage exceed the media weight on the other side by more than 50%.</p> <p>Always load racks from the bottom to top and alternate from side to side.</p>

# Operation Instructions

The push-button, infrared-capable control is the standard control for the ActivRAC 16P Mobilized Storage System. The control has easy-to-use functionality. A simple push of a button will move, stop or reset the system.

- A** "MOVE" button
  - o Begins carriage movement in the direction of the arrow
- B** "STOP/RESET" button
  - o Stops carriage movement
  - o Resets the system after a safety feature is activated
  - o Cancels a locked aisle condition
- C** LED indicator
 

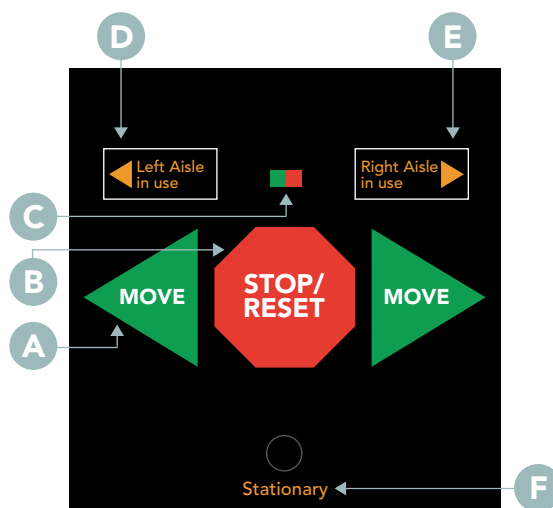
(Light-emitting diode located directly above the "STOP/RESET" button) Alerts the user to the status of the carriage with either red or green lights

  - o Blinking (1 per second) red LED indicator(s) and "Aisle in use" backlight indicator illuminated signify that the system has locked the aisle(s) indicated on the control(s) and is waiting for the user to:
    1. check that all aisles are clear, and then
    2. press the "STOP/RESET" button to clear the locked aisle(s) prior to activating movement
  - o Solid green LED indicators across the entire system signify that the system is "Ready for Use"
- D** "Left Aisle in use" backlight
 

Backlight will glow to designate aisle status.
- E** "Right Aisle in use" backlight
 

Backlight will glow to designate aisle status.
- F** "Stationary" backlight
 

Illuminates when programmed as a stationary carriage.



- G** System Movement Indicators
 




The amber light above the control panel blinks on and off while the system is moving. Furthermore, a horn sounds for the first 3-seconds of system movement.
- H** Open Aisle Beacon
 

After carriages complete their movement, an Open Aisle Beacon (the amber light above the control panel) illuminates to a "solid on" indicating that the aisle is completely open and is now safe for the operator to enter the aisle.



Optional dual controls are available for accessing a system module from both the front and rear. If your system is fitted with controls mounted at the rear and the front of the carriages, all functions can be carried out from either end.

The infrared-capable control also allows the use of infrared remote control keys for system operation and access.

	<b>OPERATION INSTRUCTIONS</b>	
<b>WARNING</b>	To Open an Aisle <ol style="list-style-type: none"> <li>1. Check that all aisles are clear before operating.</li> <li>2. Clear any aisles indicating AISLE IN USE by removing obstructions as necessary and pressing STOP / RESET.</li> <li>3. Press MOVE arrow in direction of desired carriage movement.</li> <li>4. Carriages will begin to move.</li> <li>5. Enter open aisle.</li> </ol>	<b>WARNING</b>
<b>FALL HAZARD.</b> Do not climb on shelving or racking. Use order pickers or rolling ladders.		<b>CRUSH HAZARD.</b> Check that all aisles are clear before operating.
 US LISTED 37L4		
BUSINESS EQUIPMENT MOTORIZED MOVEABLE SHELVING SYSTEM		

### SYSTEM OPERATION & MANUAL RESET

- **One-Touch Operation**

When using the standard one-touch operation, the user presses the directional "MOVE" button until they hear a beep and the carriage begins moving.

- **Touch & Hold Operation**

The optional Touch & Hold Operation requires the user to walk with the carriage continuously holding the directional "MOVE" button.

- **Manual Reset**

Manual reset requires the user to visually check the open aisle and press the "STOP/RESET" button on the open aisle control prior to initiating a carriage move.



### REMOTE CONTROL KEYS FOR USE WITH THE INFRARED-CAPABLE CONTROL

There are two remote control keys available for use with this system.

- **User Key**

The user key allows the user to move, stop and reset your mobile system without making contact with the control. To use this remote, point the remote at the aisle control head you wish to operate. A touch of either of the directional move buttons on the remote will begin carriage movement in the direction desired. To stop or reset the carriage, simply press the "STOP/RESET" button on the remote.



- **Managerial Key**

The managerial key provides additional functionality when used in conjunction with the infrared-capable control.

- o **System On/Off**

A press of the button will turn the entire system module on and off. To initiate this function, point the remote at any infrared-capable control and press the "ON/OFF" button.

- o **Fixed/Stationary Carriage**

This feature allows you to make any carriage a temporary stationary unit, in effect, securing items on one side of a carriage. To use this feature, position the temporary fixed carriage in the desired location. Do this by moving it into position and pressing the "STOP/RESET" button. Point the remote at the control on the temporary fixed carriage and press the "FIXED" button. The back lighting on the control will display "Stationary".

To cancel the fixed carriage, press the "FIXED" button on the Managerial Key. **When using the fixed carriage function, all safety features remain fully functional.**

NOTE: You must be within 10 feet (3 meters) and within 15° off the center line of the control when using the remote control keys.

# Safety Systems

The floor-level, infrared safety sweep (Photo Sweep®) is considered the ActivRAC System's primary safety. Each mobile carriage will have two Photo Sweeps; one on each side of each carriage and running the entire length of the carriage.

## Photo Sweep®

An invisible, infrared light beam sweeps for obstructions close to the floor. If a carriage begins to move while you are in the aisle, it can be stopped by breaking the light beam that is constantly projected along the entire length of/and both sides of each carriage. To accomplish this, simply place your foot in the area defined by the safety demarcation tape. When the sweep beam has been broken, the carriage



will stop, the control affected will display "Aisle in use", and the control LED indicator will flash red. (See Operation Instructions on page 5.) All other control LEDs will go dark. Once the safety sweep has been cleared, press the "STOP/RESET" button to resume normal system activity. **Remember that sweep activation must be done from the floor level. Therefore, never climb on the racking.**

## NOTICE

To avoid property damage, stepladders and carts used in system aisles must be compatible with the Photo Sweep.

In addition to a floor-level Photo Sweep, your system will be equipped with an Aisle-Entry Sensor.

## Aisle-Entry Sensor

This feature has an invisible, infrared beam that crosses each aisle entry threshold. The following actions occur when using this safety feature:

1. Entering an open aisle that has been reset will break the beam, and lock the aisle to prevent the system from moving until the system is reset.
2. Entering an opening aisle will have no effect on the opening of the aisle, but will prevent the system from moving once the aisle is fully opened, until the system is reset.
3. Entering a closing aisle breaks the beam stopping system movement.



In all of the above situations, when you leave the aisle, you will have to press the "STOP/RESET" button at that aisle in order to return the system to normal operation.

## System Movement Indicators

The amber light above the control panel blinks while the system is moving. Furthermore, a horn sounds for the first 3-seconds of system movement.

## Open Aisle Beacon


To avoid property damage, the Open Aisle Beacon must be "solid on" before entering the aisle with the operator. A solid on Open Aisle Beacon indicates that the aisle is fully-open and wide enough for the operator to safely enter.



## SAFETY OVERRIDE KEY

### Overriding Safeties

The Safety Override Key should only be used when the user cannot correct a problem causing the carriage to fail safe. Please note that this device should be used only by trained supervisors and/or service personnel. The Safety Override Key is inserted into the receptacle on the right side of the control box. Touch and hold the "MOVE" button in the direction you wish to move the carriage. The system will move at half speed. An audible "beep" alerts users that the system is operating without safeties. To resume system function, the Safety Override Key must be removed.

<b>⚠ WARNING</b>	
	<p><b>CRUSH HAZARD.</b></p> <p>Safety features are disabled when safety override is connected and in use.</p> <p>Check that all aisles are clear before operating.</p> <p>Remove safety override plug from control receptacle before entering aisle to avoid serious injury.</p>

### Setting Carriage to Stationary

Using the Safety Override Key and control head to set a mobile carriage to a stationary carriage:



1. Insert Safety Override Key into control box on the carriage to be set to stationary. Control indicator LED will flash quick red three times and then pause.
2. Press and hold both "MOVE" buttons simultaneously.
3. After approximately 5 seconds, the "Stationary" backlight will illuminate. Remove the Safety Override Key. The carriage is now set to Stationary.
4. Repeat the process to revert to normal operation.





# Programmable Options

Your system may be equipped to provide one or more automated movements when prompted by a preprogrammed period of inactivity or building interface signal. These functions may be programmed by your local Spacesaver service technician.

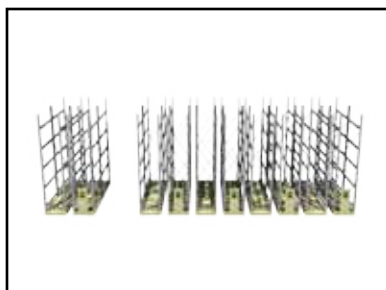
## Auto Move Functions

- System Priority Aisle – Opens a specified aisle after a period of inactivity.
- System Closed Park – Closes the system left or right.
- System Ventilation Park – Opens the system at evenly spaced intervals.
- System Auto Cycle – Opens each aisle in sequence.

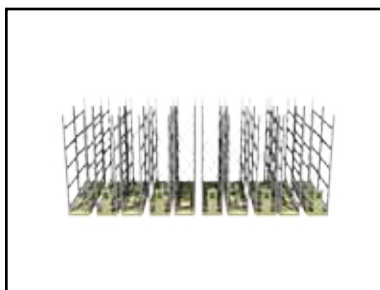
**System Fire Park** – Typically will evenly space your system (up to 18") in response to alarm activation. Fire Park requires that your system be connected to your fire alarm system. (This feature also requires the optional Building Interface Module.)

**System Night Park** – Prompts your system to perform an auto move function in response to a building interface signal. (This feature also requires the optional Building Interface Module.)

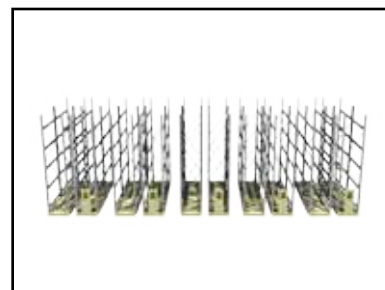
During automatic move functions, all safety devices are fully functional.



System Priority Aisle



System Closed Park



System Fire Park

# Power Outage Option

The Battery/Safety Override Unit is a hand-held rechargeable battery pack that serves as a backup option during power outages. This must be plugged into a wall outlet to recharge. The power override unit moves one carriage at a time at a reduced speed. The hand-held power override unit will beep during operation for safety. Each charge yields over 30 aisle accesses.

The plug on the Battery/Safety Override Unit may also function as a Safety Override Key. See page 8 for details.



<b>⚠ WARNING</b>	
	<b>CRUSH HAZARD.</b>
	Safety features are disabled when battery/safety override is connected and in use.
	Check that all aisles are clear before operating.
	Remove battery/safety override plug from control receptacle before entering aisle to avoid serious injury.

# Troubleshooting

Abnormal Carriage Movement	Check rails for debris; clean rails
Controls on both sides of the open aisle display "Aisle in use" and the LED indicator is flashing red (1 per second)	<p>Check the aisle for people or materials obstructing safeties. (Systems will lock every aisle that is not fully closed upon power up.)</p> <p>Press the "STOP/RESET" button</p> <p>If there is no apparent obstruction, check the LED on one end of the Photo Sweep. If the LED is not flashing green, call for service. (The Safety Override Key may be used in the interim – see the "Safety Systems" section of this manual.)</p>
Controls on both sides of the open aisle display "Aisle in use," the LED indicator is flashing red (1 per second), and pressing the "STOP/RESET" button does not clear the aisle.	Has a Photo Sweep or Aisle Entry Sensor been activated either during movement or while the carriage was at rest? Is something blocking a beam? The system will move away from a safety fault by opening a faulted aisle. Look for an obstruction and remove it.
Control displays a very rapid blinking red LED indicator (flashes rapidly 3 times, pauses, and repeats)	Does the control have a Safety Override Key inserted into it with no safety fault present? Unplug the Safety Override Key.
Control displays an alternating red/green LED indicator	Does the control have a Safety Override Key inserted into it with a safety fault present? If yes, after Safety Override Key is inserted with a safety fault present, the operator has about 10 seconds to initiate a move.
The control's LED indicator is not lit, no carriage movement is possible, and the "Stationary" backlight is illuminated	The carriage has been set to a stationary carriage via the Managerial Key, the Safety Override Key, or the service technician's diagnostic tool.
The "Open Aisle Beacon" fails to illuminate after carriage movement ceases	<p>Is the aisle fully open? Press the left MOVE button on the control on the left side of the open aisle, or press the right MOVE button on the right side of the open aisle.</p> <p>Call service</p>
None of the controls work; Every LED indicator across the entire system is dark	<p>Is the system locked or off? Provided that the system is receiving its AC power service, (assuming the presence of IR-Capable Controls), then it is waiting for a press of the "ON" button from the Infrared (IR) Remote Managerial Key.</p> <p>Is power supplied to the system? Is the breaker box switched on? Is the customer's AC power on? In the event of a power outage, use your power outage option (if purchased).</p> <p>Call Service</p>
Yellow LED indicator	Call Service
All or most controls display a blinking red LED indicator	Call Service

# General Maintenance

## RAILS

As needed – remove foreign material and debris from the top of the track and the guidance grooves.

## CONTROLS & SAFETY SYSTEMS

- Once per week, ensure that **OPERATION INSTRUCTIONS** are clearly visible on every control panel.
- Once per week, check all the functions (**MOVE, STOP & RESET**) of every control.
  1. Move the carriage in both directions. Look, listen, and feel for smooth travel. Please call your local Spacesaver service representative if you observe any unusual sounds or vibrations.
  2. All carriages should move easily across the aisle in both directions.
  3. All carriages should track properly across the aisle. If one end of the carriage lags behind the other end, please call your local Spacesaver service representative.
- Once per week, check the condition of all safeties.
  1. Actuate each of the safety devices built into the system.
  2. Test the Photo Sweeps® by placing a test object in the aisle and closing the aisle. The carriage should deactivate prior to contact with the test object. This should be done with the aisle all the way open and nearly closed.
  3. Test all Aisle Entry Sensors by making sure they re-lock an open, cleared aisle.
  4. Both System Movement Indicators (blinking light and warning horn) should function as indicated on page 7.
  5. Open Aisle Beacon should be “solid on” to indicate when an aisle is fully open.
  6. If a hand-held Battery/Safety Override Unit was purchased with the system, when switch is depressed the Unit should emit a constant audible beep.

## CARRIAGE BUMPERS AND END STOPS

Please notify your local Spacesaver service technician if you observe any missing or damaged bumpers and/or end stops.

## STORED MEDIA

All materials must be pushed onto the racking completely. Any media excessively overhanging the racking front will interfere with normal system operation. This media is very likely to become damaged by normal system operation as well. Looking for evidence of media interference can help identify potential problems.

## METAL SURFACES

- All painted metal surfaces are finished with the powder coat system. This is a high luster and scratch resistant paint finish.
- To remove surface dust, wipe with a damp cloth.
- To clean soiled surfaces, wash with a mild soap and water mixture.
- To remove finger prints, an orange-based cleaner or NON-ammonia window cleaner will work on some colors. Test a small area before using it on a large surface.

## MISCELLANEOUS

It is strongly recommended that the mobile system be locked/tagged out prior to performing maintenance on 120 VAC (high-voltage) items.

# Statement of Warranty

ActivRAC Mobilized Storage Systems

SPACESAVER HAS AN EMPHASIS ON CUSTOMER SATISFACTION AND CONTINUOUS IMPROVEMENT. THE STATEMENT OF WARRANTY IS OUR CONTINUED COMMITMENT THAT SPACESAVER IS DEDICATED TO SERVING OUR CUSTOMERS.

## 1-YEAR LIMITED WARRANTY

Spacesaver also warrants that all equipment, other than structural frames shall be free from defects in materials and workmanship for one (1) year from the date of the customer's written acceptance of installation. During the 1-year warranty period, all parts are included at no cost for 1 year. Labor is included at no cost during the first year of the warranty period. After the first year all labor will be charged at the current rate. If any warranted equipment shall be proven to Spacesaver's satisfaction to be defective, such equipment shall be repaired or replaced at the option of Spacesaver. All warranty service for any equipment manufactured by Spacesaver must be performed by an authorized Spacesaver factory representative. This warranty shall be void if any portion of the purchase price shall be due but unpaid in accordance with the terms pursuant to which the equipment was sold. This warranty shall not apply to equipment repaired by any party other than an authorized Spacesaver factory representative or to defects or damage caused by (a) acts of God or other circumstances beyond Spacesaver's control, (b) improper installation (unless installation was by authorized factory installer), (c) improper electrical supply or environmental conditions, (d) improper operation, maintenance or storage, or (e) other than normal use or service. **EXCEPT FOR THE EXPRESS WARRANTIES SET FORTH ABOVE, SPACESAVER MAKES NO WARRANTIES, IMPLIED OR OTHERWISE, AND SPACESAVER SPECIFICALLY DISCLAIMS ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.**

## 5-YEAR MOTOR WARRANTY

Spacesaver also warrants that all carriage drive motors, shall be free from defects in materials and workmanship for five (5) years from the date of the customer's written acceptance of installation. During the 5-year warranty period, all parts and labor are included at no cost for 5 years.

## LIMITATION OF LIABILITY

Repair or replacement of any defective equipment, or refund of the purchase price paid by the customer in the event Spacesaver determines such equipment cannot be repaired or replaced, shall be the customer's exclusive remedy for breach of the warranty for product defects, however caused, and in no case shall Spacesaver be liable for incidental, consequential, special or other damages, or loss of profits or revenues whether as a result of breach of contract or warranty, Spacesaver's negligence, or otherwise. Spacesaver shall have no liability for any advice or assistance rendered by any party outside the scope of Spacesaver's written specifications for the manufacture, operation or maintenance of the warranted equipment. Original installation must be performed by Spacesaver trained and certified installers.

## WARRANTY / SUMMARY

Spacesaver Corporation extends to the original purchaser from the date of purchase a 1-year limited warranty against manufacturing defect in material and workmanship. Refer to appropriate Statement of Warranty for details.

If, during the warranty period, a Spacesaver product fails to perform because of a manufacturing defect, Spacesaver will examine it. If found defective, it will be repaired or replaced at our option.

The warranty applies only to Spacesaver products acquired directly from Spacesaver Corporation or from Authorized Spacesaver Area Contractors, Distributors and Dealers.

The warranty does not apply to any product which has been subject to misuse, negligence, or accident; has been damaged in shipment, storage, or installation; has been misapplied, has been modified or repaired by unauthorized persons or has been repaired with non-standard Spacesaver replacement parts. This warranty specifically excludes claims for indirect, incidental, or consequential damages arising in any way from a product defect. This warranty is exclusive, and exists in lieu of all other warranties, either expressed or implied.

This warranty gives you specific legal rights; you may also have other rights, which may vary from state to state. To obtain warranty service, contact your Spacesaver Selling Dealer. You must make a written claim. Provide a copy of your purchase record and a written description of the warranty problem with your claim. If you are unable to contact your Dealer, contact: Spacesaver Corporation, Customer Service Manager, 1450 Janesville Ave., Fort Atkinson, WI 53538. (920-563-6362) Contact Info: Any questions or issues related to this document please contact your Customer Service Coordinator.



## WARRANTY ACTIVATION

Please follow the instructions below to activate your warranty:

1. Visit our website at **[www.spacesaver.com](http://www.spacesaver.com)**.
2. Click on **"Warranty"** in bottom right hand corner.
3. Enter the required information in the Customer Profile Section which includes the your **six-digit Customer Job Number**. This number may be found on the System Acceptance Form located in the back of this manual.

**Note: You MUST complete the online form to activate your warranty.**





# Notes

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