Table of Contents

Introduction ............................................. 3
Proper System Use ..................................... 3
Improper System Use .................................... 3
Recommended Loading Instructions ................. 3
Control Functions ...................................... 4
System Operation and Reset Options ................. 4
Control Options ........................................ 5
Safety .................................................. 6
Optional Safeties ...................................... 7
Security ............................................... 8
Programmable Options ................................ 10
Power Outage Options ................................ 11
Lighting Options ...................................... 12
Troubleshooting ...................................... 12
General Maintenance ................................ 13
Statement of Warranty ................................ 14
Introduction

Spacesaver's powered mobile storage systems provide a simple and efficient means to increase storage capacity without expanding the space needed for your materials. The purpose of this manual is to provide the information necessary to use and maintain your Spacesaver system. This document, combined with your on-site training will provide you with the ability to use your system properly and efficiently.

As the owner of a Spacesaver high-density mobile 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**

Below is a list of items/tasks that will help to ensure that you get the most out of your mobile 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 recommended shelf loading instructions found in this section of the owner's manual.
5. Keep media neatly stored and pushed fully back onto the shelving to help maintain desired aisle width.
6. Provide needed periodic maintenance according to the recommended schedule. Ask about a periodic maintenance contract.
7. Make certain that all system safety devices are operational.
8. Call your local Spacesaver representative immediately if a safety device requires attention.

**Improper System Use**

Proper use of your system will ensure its longevity. In order to maintain proper performance, please take the following precautions.

1. Do not climb on the shelving – use a stool.
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 recommended weight and distribution limits.
6. Do not operate any system under the safety override condition except in the presence of your supervisor.

**Recommended Loading Instructions**

1. Do not fully load one side of double entry shelving without counterbalance weight on the other side.
2. Begin loading at the lowest shelf.
3. At no time should the weight difference from one side of the carriage to the other exceed 30 percent.
Our push-button control is the standard control for our powered systems. For your convenience, Spacesaver's web address is printed on the front of the control label. The control has easy-to-use functionality. A simple push of a button will move, stop or reset the system.

- The "Move" button:
  Begins carriage movement in the direction of the arrow
  Turns on aisle lights (if applicable)

- The "Stop/Reset" button:
  Stops carriage movement
  Resets the system after a safety feature is activated
  Cancels a locked aisle condition
  Turns off aisle lights (if applicable)

- The LED indicator:
  (Located directly above the "Stop/Reset" button)
  Alerts the user to the status of the carriage with either red or green lights

An optional infrared-capable control is available. This control allows the use of remote controls for system access & programming. (See the Control Options section of this manual for more information on this feature.)

System Operation and Reset Options

Touch & Hold Operation
Touch & hold operation requires the user to walk with the carriage continuously holding the directional "Move" button.

One-Touch Operation
When using one-touch operation, the user presses the directional "Move" button until they hear a beep and the carriage begins moving.

Manual Reset
Manual reset requires the user to visually check the open aisle and press the "Reset" button on the open aisle control. The system can be programmed to re-lock (go red) after 15 seconds of inactivity.

Automatic Reset
On a system with automatic reset, the controls automatically clear after an action or move is completed. If a safety is activated, the user will need to reset the system once the safety is cleared of any obstruction.

Carriage Spacing Adjustments
See the Safety Override Key section on page 6 for more details.
Infrared-Capable Control
An optional control is available that allows the user to move a carriage, program aisles, and conduct the auto move functions. The buttons on the control itself function identically to the standard controls. (See Control Functions section of this manual.)

Remote Controls For Use With Optional Infrared-Capable Control
There are two remotes available for use with this control.

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 you wish to operate. A touch of either of the directional move buttons on the remote will begin carriage movement in the direction desired. If your system is equipped with the touch and hold feature, continue to hold the move button until the carriage move is completed. To stop or reset the carriage, simply press the appropriate button on the remote.

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

System On/Off
A press of the button will turn the entire system on and off. To initiate this function, point the remote at any infrared-capable control and press the “On/Off” button. No further action is necessary to accomplish this task.

Fixed/Stationary Carriage
This feature allows you to make any carriage a temporary stationary unit, in effect creating two systems from one, or securing items on one side of the carriage. Please remember when creating two systems from one to maintain a realistic/proper aisle width. 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 Carriage”. To cancel the fixed carriage, press the same button on the managerial key. When using the fixed carriage function, all safety features remain fully functional.

NOTE: You need to be within three feet (one meter) of the control when using the remotes.
A floor-level safety sweep is considered the system's primary safety. Every aisle is required to have a minimum of one sweep. Spacesaver has two options available for safety sweeps; Photo Sweep® and mechanical sweep.

**Photo Sweep®**
An 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 the carriage. To accomplish this, simply place your foot in the area defined by the red and white safety tape. When the sweep beam has been broken, the control affected will display "aisle in use", and the control LED will flash red. All other controls will go dark. Once the safety sweep has been cleared, press the "Stop/Reset" button to resume normal system activity.

**Mechanical Sweep**
The mechanical sweep functions by applying pressure to the sweep located along the length of the carriage. If a carriage begins to move while you are in the aisle, it can be stopped by depressing the metal sweep plate with your foot in the area defined by the red and white safety tape. When the sweep has been activated, the control affected will display "aisle in use", and the control LED will flash red. All other controls will go dark. Once the safety sweep has been cleared, press the "Stop/Reset" button to resume normal system activity.

**Safety Override Key**
To adjust carriage spacing, insert the safety override key into a control head on a carriage with an open aisle next to it. Touch and hold the "Stop/Reset" button. After 5 seconds, the LED will flash red and green and the "Aisle in Use" will be lit. Continue pressing the "Stop/Reset" button and press the "Move" button in the direct you wish to adjust the aisle. Once the desired spacing is reached, release the "Stop/Reset" button and remove the safety override key.

![Safety Override Key](image)

**Extreme caution must be exercised while operating under this condition. This should only be used when the user cannot correct the 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 jack in the face panel control. Touch and hold the "Move" button in the direction you wish to move the carriage. The system will move at a greatly reduced speed. An audible "beep" alerts users that the system is operating without safeties. To resume system function, the safety override key must be removed.

**CAUTION:** No safeties are functional when the system is operated using the safety override key.
In addition to a floor-level safety sweep, your system may be equipped with one or more of the following safety options:

**Waist-High Photo Sweep**
An additional set of Photo Sweep sensors can be mounted at waist level for additional safety. This is typically mounted at reference shelf height. For this safety, shelving elevations need to be consistent, and overhanging media should not be present as it could block the beam. This DOES NOT replace the floor-level sweep.

**Hinged Door Protection Photo Sweep**
Another Photo Sweep can be added to detect if a hinged door is open. Again, this DOES NOT replace the floor-level sweep.

**Aisle-Entry Sensor**
This feature has an invisible beam that crosses each aisle. The following actions occur when using this safety feature:
- Entering an open aisle will break the beam, and prevent the system from moving.
- 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.
- 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.

**Zero Force Sensor® System**
This safety feature requires no effort on your part. As you enter the aisle, you are detected by invisible light beams. As long as you remain in the aisle, no carriage movement is possible, and the “aisle in use” message is displayed on the control along with a solid red light.

As you leave the aisle, the system will automatically return to a “green light” condition, meaning that it is ready for use. If it does not go to “green”, please check the aisle for any obstruction and then press the reset button for normal operation.
A variety of options exist to secure materials stored on the system.

**TouchPad Aisle Access** requires a 4-digit Personal Identification Number (PIN) to access a specific aisle, limiting it only to authorized individuals. Upon exiting the open aisle, the user must depress the "Close" button on the system module to re-secure the system. One or all of the carriages may have this control in place of the standard or infrared-capable control.

**TouchPad System On/Off** is used in addition to the standard control and functions as follows. When placed on a platform, it can be used to turn the system on and off.

**TouchPad Stationary Control** is used in addition to the standard control and functions in the following ways to create a stationary carriage within a powered system.

- Install the TouchPad Stationary Control on the extreme left (or right) carriage. Park the carriages to the right (or left). Enter the preset code and the system will remain locked in that configuration (back lighting on the control will indicate "Stationary Carriage") until the code is entered once again, allowing normal operation to resume.

- Install the TouchPad Stationery Control on any carriage within the system. Park that carriage in the desired location. Enter the preset code and the carriage will remain locked in that position (back lighting on that control will indicate "Stationary Carriage") until the code is entered once again, allowing normal operation to resume.

In all these situations, a 4-digit PIN is required. The following procedure allows you to program the TouchPad control with your own 4-digit code. This programming must take place within a 10-second interval. NOTE: The factory-default code is 1-2-3-4.

To change the 4-digit PIN:
1. Press the "#" key, then press the "*" key. The green LED will begin to blink.
2. Enter in the current code within the 10 seconds allotted. Once the current code is entered, the LED will flash red.
3. Enter in the new code within the 10 seconds allotted.
4. The solid green LED will return.

**Keyed System On/Off** turns the entire system on and off with a key located above the control.
Carriage Lock
The carriage lock is placed on the carriage and interfaces with the system's controls to provide security for stored materials. It features a key-controlled dead bolt that locks into a floor-mounted strike plate. It can be used to lock all of the system's aisles closed or to secure one or more selected aisles.
A special key is required to release the lock handle. Once the lock handle releases, turn it 180 degrees to unlock the system. Push the handle back into its housing. NOTE: Failure to return the handle to its housing may cause damage to the lock, floor covering or carriage.

Waist-High Lock
Waist-high lock is conveniently located on the front of the system at waist level. It features a key-controlled dead bolt that locks into a floor-mounted strike plate. A special key is required for locking and unlocking.
Insert the key into the lock and rotate the key 180 degrees to lock or unlock. Rotate the polished chrome handle / turn to engage or disengage the lock. It can be used to lock all of the system's aisles closed or to secure one or more selected aisles.

Stop All Carriages on Safety Fault
With this option, all carriages stop at once when a safety is tripped. Where security is king, Stop All Carriages on Safety Fault is an option, to be used in conjunction with TouchPad Aisle Access and Block Move, which helps keep carriages packed closely together limiting access to only the aisle that was commanded open. Without this option, mobile carriages “downstream” from a safety fault will complete their move.

Forced Entry Alert
Used in conjunction with Stop All Carriages on Safety Fault, Block Move and the Auto Move Interface, the Forced Entry Alert option sounds an audible alarm when someone pries open a closed aisle. Additionally, a TouchPad (or other key switch) must be ordered with the system as a means to silence the alarm.
Your system may be equipped to provide one or more of several automated movements when prompted by a preprogrammed period of inactivity or "building interface signal." These functions may be programmed through your local Spacesaver service technician.

**Auto Move Functions**
- **System Priority Aisle** – Opens a specified aisle (or two) 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.

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

- **System Priority Aisle**
- **System Closed Park**
- **System Ventilation Park**
- **System Auto-Cycle**

**System Fire Park** – Typically will evenly space your system in response to an alarm activation. Requires that your system be connected to your fire alarm system.

**System Night Park** – Prompts your system to perform an auto-move function in response to a building interface signal.
Spacesaver has two options that allow the system to operate during power outages. You can be assured of continuous access to your stored material.

**Automatic Battery Backup** switches the system to battery power if AC power is lost. It provides for full system function, including the safeties. The system can operate for approximately 60 accesses on one charge. When running on the automatic battery backup, the system beeps to let the user know it is running on battery power. As the battery charge runs low, the system beeps faster. The automatic battery backup provides the added benefit of surge protection. When the system is back running on AC power, the unit automatically recharges itself.

The **Power 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. **CAUTION: system safeties are not functional when using this power option.** Each charge yields approximately one hour of system use. A battery pack with replaceable D-Cell batteries is also available.
Your system may be equipped with optional overhead lights. Use of these lights usually requires no effort on your part. The lights will come on when the aisle is opened or when an aisle is entered. The lights will shut off automatically shortly after you leave the aisle.

If the lights do not turn on when an open aisle is entered, simply press the "Move" button on the controls on either side of the aisle.

If the lights are not timed to turn off automatically after leaving the aisle, they can be turned off by pressing the "Stop/Reset" button on the controls on either side of the aisle.

**Troubleshooting**

<table>
<thead>
<tr>
<th>CONTROL INDICATION</th>
<th>SOLUTION</th>
</tr>
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| Abnormal Carriage Movement Controls on both sides of the open aisle display “Aisle in Use” and the LED is flashing red | • Check rails for debris; clean rails  
• Check the aisle for people or materials obstructing safeties  
• Press the “Stop/Reset” button  
• 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 section of this manual](#)) |
| None of the controls work; None of the LED's are lit | • Is the system locked (via remote, key, etc.)?  
• Is power supplied to the system? In the event of a power outage, use your power outage option (if purchased).  
• Call Service |
| All or most controls display a blinking red LED | • Call Service |
Rails
• Vacuum the rails and track regularly.
• Some flaking may be seen on the rail surface. This is normal and no cause for alarm. A light application of a silicon or teflon spray to the top of the rail is recommended to reduce this type of wear. Avoid sweeping or mopping over freshly lubricated rails.

Controls
• Check all the functions of every control.

Carriage Bumpers and End Stops
• Please notify your local Spacesaver service technician if you observe any missing or damaged bumpers and/or stops.

Stored Media
• All materials must be pushed onto the shelves and be flush with the shelf front. Any media overhanging the shelf 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.

Laminate Panels
• To clean and restore the surface apply a countertop or laminate cleaner (found at most hardware stores.)

Metal Surfaces
• All metal surfaces are painted with the powder coat system. This is a high luster and scratch resistant paint.
• 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
• Move the carriage in both directions. Look, listen, and feel for smooth travel. Please inform your local Spacesaver service technician of any unusual sounds or vibrations.
• All carriages should move easily across the aisle in both directions.
• Make sure the floor covering does not interfere with carriage movement or function.
• All carriages should track properly across the aisle. If one end of the carriage lags behind, please inform your local Spacesaver service technician.
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.

**Lifetime Limited Warranty:** Subject to the conditions stated below, Spacesaver Corporation ("Spacesaver") warrants to the original purchaser exclusively that the shelving and mobile carriages ("structural frames") manufactured by it will be free from defects in materials and workmanship for the lifetime of the structural frames. For the purposes of this warranty, structural frames shall be deemed to exclude all moving parts, controls and guides that have immediate contact with any moving parts.

**10-Year Limited Warranty:** Spacesaver also warrants that all carriage drive motors, shall be free from defects in materials and workmanship for ten (10) years from the date of the customer's written acceptance of installation. During the 10-year warranty period, all parts are included at no cost for 10 years. Labor is included at no cost during the first year of the 10-year warranty period. After the first year, all labor will be charged at the current rate.

**5-Year Limited Warranty:** Spacesaver also warrants that all equipment, other than structural frames and 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 are included at no cost for 5 years. Labor is included at no cost during the first year of the 5-year warranty period. After the first year all labor will be charged at the current rate.

If any warranted equipment shall be proved 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 certified factory trained 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.**

**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.

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**WARRANTY ACTIVATION**

Please follow the instructions below to activate your warranty:

2. Click on “Warranty” in the bottom right hand corner.
3. Enter the required information in the Customer Profile Section which includes the your 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.
No one packs more into every storage solution.

A tailored storage system that meets your unique criteria.
Single-source turnkey project management.
Factory-certified system installation.
Ongoing maintenance and support.

With over 100,000 installed systems – more than all of our competition combined – Spacesaver leads the industry in customized, high-density mobile storage solutions.

Almost any type of material – regardless of its size, weight or shape – can be stored in Spacesaver Powered Systems. Designed to maximize your storage space, they often more than double storage capacity in the same floor space. They also provide an extraordinary level of quality, as our ISO 9001:2008 certification attests.

We alone have the know-how and resources to develop and perfect the advanced technology that makes a solution such as Eclipse possible.

And that makes power easy. To choose. To use. To afford. To rely on.
Thank You For Your Purchase of a Spacesaver Powered System.

For a comprehensive listing of other Spacesaver products and services, please contact your local Spacesaver representative for a Product Overview Brochure.

Additional Products:
- Mechanical Assist Systems
- Manual Systems
- Mobile Pallet Racks
- XTend™ Mobile High-Bay Storage Systems
- Modular Mobile Systems
- Modular (Bi-File®) Systems
- QuickSpace® Systems
- Mobile Art Rack Systems
- Hang-Glider Pro® Pullout Storage Panel Systems
- Rotary Storage Systems
- Cantilever Bookstack Systems
- XTend™ Stationary High-Bay Storage Shelving
- Case-Type Shelving Systems
- 4-Post Bin Shelving Systems
- 4-Post File Shelving Systems
- Fire Hose Rack Storage Systems
- Modular Drawers & Doors
- Weapon & Pistol Racks
- Hinged Doors
- Museum Cabinets
- Wide-Span Shelving
- ActiveStor® Lateral File Cabinets
- ActiveStor® Storage Cabinets
- ActiveStor® Pedestals
- ActiveStor® Bookcases
- FrameWRX™ Storage Systems

Additional Services:
- Extensive network of local Storage Specialists
- Single-source turn-key project management
- Factory-certified system installation
- Ongoing maintenance and support