



GENERAL OPERATION INSTRUCTIONS FOR SPACESAVER POWER PRO ELECTRIC CONTROLS

SYSTEM PREPARED FOR: _____

SPACESAVER ORDER NUMBER: _____

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POWER PRO ELECTRIC CONTROL OPERATION

Spacesaver electric systems may include all or some of the many Spacesaver safety devices offered for operator protection. The intent here is to describe the proper use of the electric controls. This document, coupled with your on site training, will provide the means for the safe, efficient and non-abusive use of the system. This overview of operation and safety features may include information about options not incorporated into your unique Spacesaver System.

Your role in maintaining the system:

- Bring any problem observed to the attention of a supervisor at once.
- Keep all aisles clear of obstructions.
- Keep the tracks free of any small debris.



SWITCH FUNCTIONS:

- The **STOP/RESET** button will shut carriage travel down softly.
- The **STOP/RESET** button will reset the system after a safety fault.
- The **STOP/RESET** button will cancel a locked aisle condition.
- The **STOP/RESET** button will turn off aisle lights.
- The **MOVE** button will initiate carriage movement.
- The **MOVE** button will turn on aisle lights.
- The **RECEPTACLE** near the base of the switch will accept the power override unit and the safety override key.

1. Selecting an aisle with the "touch and hold" option:

- 1.1 Push in and hold an "move" button on either side of the aisle you wish to open. Carriage movement will cease when pressure is removed from the button or when the aisle is fully open.

2. Selecting an aisle with the "one touch" option:

- 2.1 Push in an "move" button on either side of the aisle you wish to open, until carriage movement begins at any location within the system. Release the button and the selected aisle will open automatically. Carriage movement will cease when the aisle is fully open.

3. Stopping carriage travel:

- 3.1 All system movement can be stopped at any time by pressing the "stop" / "reset" button on any carriage.

4. Selecting an aisle with the "touch and hold" manual reset option:

- 4.1 Aisle selection with this option is identical to #1.
- 4.2 Once the aisle is fully open the reset lights will blink on either side of the selected aisle.
- 4.3 No new aisle selection can be made until the reset button on either side of the open aisle is pressed, canceling the locked aisle condition.

Note: The closing of a safety faulted aisle is not possible without the use of the safety override key. Please see your supervisor for instructions regarding the safe use of the safety override key.

5. Selecting an aisle with the "one touch" manual reset option:

- 5.1 Aisle selection with this option is identical to #2.
- 5.2 Once the aisle is fully open the reset lights will blink on either side of the selected aisle.
- 5.3 No new aisle selection can be made until the reset button on either side of the open aisle is pressed, canceling the locked aisle condition.

Note: The closing of a safety faulted aisle is not possible without the use of the safety override key. Please see your supervisor for instructions regarding the safe use of the safety override key.



6. Using the optional photoelectric safety sweep:

- 6.1 If carriage movement begins while you are in the aisle, it can be stopped by breaking the invisible light beam constantly being projected along the entire length of each carriage. If an obstruction of any kind is detected, the carriages will come to an abrupt stop. The beam sweeps for obstructions close to the floor.

- 6.2 The safety sweep may also prevent damage to material left laying in the aisle.

***CAUTION!:* Remember that sweep activation must be done from floor level. Therefore, never climb on the shelves!**

- 6.3 When a safety sweep has been activated during carriage travel the red light just above the **RESET** button will begin to blink and all system function will cease. A press of the **RESET** button will turn the blinking light to steady.
- 6.4 If it is not possible to remove the obstruction in the aisle the following procedure can be used. Press a **RESET** button under the blinking red light. The red light will stop blinking and turn steady. Gently press the appropriate move button to open the safety locked aisle. The safety locked aisle will fully open, allowing entry and removal of the obstruction. Normal operation has now been restored.



7. Using the Electro - Mechanical Safety Sweep:

- 7.1 If carriage movement should begin while you are in the aisle, it can be stopped abruptly by applying pressure to the safety sweep located along the full length of each carriage just above floor level. The safety sweep can also help prevent damage to media left laying in the aisle.

- 7.2 The safety sweep may also prevent damage to material left laying in the aisle.

***CAUTION!:* Remember that sweep activation must be done from floor level. Therefore, never climb on the shelves!**

- 7.3 When a safety sweep has been activated during carriage travel the red light just above the **RESET** button will begin to blink and all system function will cease. A press of the **RESET** button will turn the blinking light to steady.
- 7.4 If it is not possible to remove the obstruction in the aisle the following procedure can be used. Press a **RESET** button under the blinking red light. The red light will stop blinking and turn steady. Gently press the appropriate move button to open the safety locked aisle. The safety locked aisle will fully open, allowing entry and removal of the obstruction. Normal operation has now been restored.



8. Using the optional photoelectric aisle entry sensor:

- 8.1 Using this option usually requires no conscious effort on your part. As you enter the aisle you break an invisible light beam. As long as you stand in the beam, or stay in the aisle after breaking the beam, no carriage movement is Possible.
- 8.2 When you leave the aisle you will have to press the "reset" button at that aisle in order to return the system to an operable condition.
- 8.3 Activation of this safety will have the same effect on the carriage as does the activation of the safety sweep. See Section 6 or 7 for details on clearing your system.



9. Using the optional power override pack:

- 9.1 This feature provides a temporary means for operating your system during a power outage.
- 9.2 The unit plugs into a receptacle provided at each control head. Slow movement of one carriage at a time, in either direction, is achieved by pressing a rocker switch on the power pack. A warning beep will sound to alert that an aisle is being closed.
- 9.3 **With power off to the system, the safety devices and limit switches will not work. Extreme care must be exercised while using the power override unit.**
- 9.4 If your power override unit is the rechargeable type it should be plugged into a 110 volt outlet while not in use. The L.E.D.'s will help determine the units charged status. Both L.E.D.'s on indicates that the unit is fully charged. One L.E.D. on indicates that the unit is charging. If both L.E.D.'s are on, but the unit fails to work, check the condition of the internal fuse.
- 9.5 If your power override unit is of the battery type the batteries should be changed every 12 months or more frequently if used often. Use 16 D size batteries.



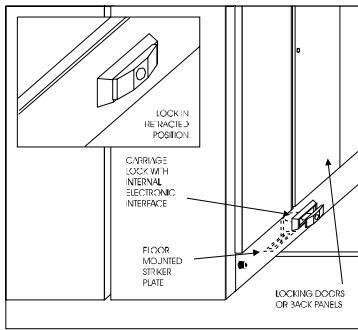
10. The Power Pro system has several different "lock" options available.

- 10.1 Lock the entire system to either side and shut down every control head allowing no access for optimum security. This option will override all other lock commands within the module. All control heads will go dormant.
Use: Open the first or last aisle, packing the system to the right or left. Activate the keylock on the face panel (could also be located on a platform). The system shuts down and electrically locks so no access is available.
- 10.2 Lock any number of carriages in either direction allowing limited access.
Use: First shift is ending and second shift does not need access to aisles 5 & 6. Open aisle 4, moving the 4th & 5th carriages to the right and carriages 1,2, & 3 to the left. Activate the keylock on the face panel of carriage 4. The system will lock carriage 4 & 5 into position and allow movement from carriages 1,2, & 3. This configuration will grant access to aisles 1 – 4 only.
- 10.3 Lock one (or more) carriage in the stationary mode allowing access to two or more sub-modules.

Use: Configurations of this type must have a single aisle wide enough to be split into two or more aisles (a 72" aisle will split into two 36" aisles). A 5 carriage system has several users requiring access. Open aisle 3, then move carriage 3 into the center of the open aisle so access is available to aisles 3 & 4. Activate the keylock on the face panel of carriage 3. Carriage 3 will lock in this position (Stationary Mode). This will effectively create two systems, one two carriage system on each side of carriage 3.

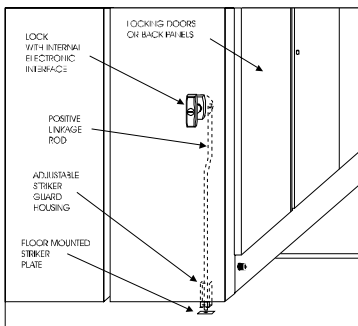
NOTE: Multiple keylocks are required to allow multiple stationary/lock options.

To operate these options is very simple. Position the carriage(s) with a keylock to their desired position, insert the key, turn the lock, and remove the key. You have just locked that carriage into position and the other carriages within that module will respond accordingly.



11. Using the optional bottom mount lock:

- 11.1 This feature provides extra media security by electronically deactivating the system while at the same time mechanically locking the system.
- 11.2 The lock will be found near floor level on the outside of the first or last carriage.
- 11.3 A special barrel style key is required to release the lock handle from its housing. Once the lock handle pops out turn it 180° to open and snap the handle back into its housing. Failure to do this may cause damage to the lock, floor covering or carriage.
- 11.4 The key is also required for re-locking. Once the lock handle pops out, turn it 180° to lock and snap the handle back into its housing.
- 11.5 The key should be removed in both the locked and unlocked positions. The key should be kept by the area supervisor.
- 11.6 If the lock is located on carriage one, move all carriages closed to the right and lock to disable any system operation.
- 11.7 If the lock is located on the last carriage, move all carriages closed to the left and lock to disable any system operation.
- 11.8 Special locking configurations may be used. Consult your salesperson.



12. Using the optional waist high lock:

- 12.1 This feature provides extra media security by electronically deactivating the system while at the same time mechanically locking the system.
- 12.2 It is conveniently located on the front of the first or last carriage at about waist level. The key is required for locking and unlocking. The key should be removed when not in use.
- 12.3 Rotate the polished chrome handle 1/4 turn to engage or disengage the cam latch mechanism with the striker plate in the floor.
- 12.4 Rotate the key 1/2 turn to lock or unlock. The key should be kept by an area supervisor when not in use.
- 12.5 If the lock is located on carriage one, move all carriages closed to the right and lock to disable any system operation.

- 12.6 If the lock is located on the last carriage, move all carriages closed to the left and lock to disable any system operation.
- 12.7 Special locking configurations may be used. Consult your salesperson.



13. Using the optional remote control interface:

- 13.1 This feature allows operation of the system from some remote location.
- 13.2 A display on the remote indicates the present state of the system.
- 13.3 Most efforts required to operate the system can be carried out at the remote station.
- 13.4 Safety activations and locked aisles cannot be cleared via the remote control.



14. Using the optional overhead aisle lights:

- 14.1 Use of the optional aisle lighting usually requires no conscious effort on your part. These lights will come on when the aisle is opened or when you enter the aisle.
- 14.2 The lights will go out automatically shortly after you leave the aisle.
- 14.3 You may have to turn the lights back on when entering a darkened aisle. Do this by pressing the "move" button on either side of the aisle.
- 14.4 If the lights are not timed to go out automatically upon exiting the aisle they can be turned off manually by pressing a "reset" button on either side of the aisle.



15. Using the optional AisleGuard safety system:

- 15.1 Using this option usually requires no conscious effort on your part. A request for an aisle will automatically generate a scan of the open aisle before carriage movement begins.
- 15.2 Any aisle entry or exit will automatically generate a scan of the aisle.
- 15.3 As long as you remain in the aisle no carriage movement is possible and the "aisle in use" message is displayed along with a solid red light.
- 15.4 Upon leaving the aisle system should automatically return to the "green light" state. If not, check the aisle for an obstruction and then press the reset button to restore operation.

RECOMMENDED LOADING INSTRUCTIONS:

- Do not fully load one side of double-entry shelving without counterbalance weight on the other side.
- Begin loading at the lowest shelf.
- At no time should the weight differential from one side to the other exceed 50 percent.

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