



OPERATION INSTRUCTIONS FOR SPACESAVER MECHANICAL ASSIST SYSTEMS

SYSTEM PREPARED FOR: _____

SPACESAVER ORDER NUMBER: _____

THIS SYSTEM INCLUDES:

	PAGE		PAGE
<input type="checkbox"/> SAFETY LOCKING HANDLE	3	<input type="checkbox"/> ELECTRO-MECHANICAL SAFETY SWEEP	5
<input type="checkbox"/> BOTTOM MOUNT LOCK	4	<input type="checkbox"/> SAFETY FLOOR	5
<input type="checkbox"/> WAIST-HIGH LOCK	4	<input type="checkbox"/> AUTO AISLE LOCK	6
<input type="checkbox"/> HUB LOCK	4	<input type="checkbox"/> AISLE ENTRY SENSOR	6
<input type="checkbox"/> PHOTOELECTRIC SAFETY SWEEP	4	<input type="checkbox"/> OVERHEAD AISLE LIGHTS	6
		<input type="checkbox"/> DESIGNER SERIES CONTROL	7



OPERATION INSTRUCTIONS FOR SPACESAVER LS SERIES MECHANICAL ASSIST SYSTEMS

SYSTEM PREPARED FOR: _____

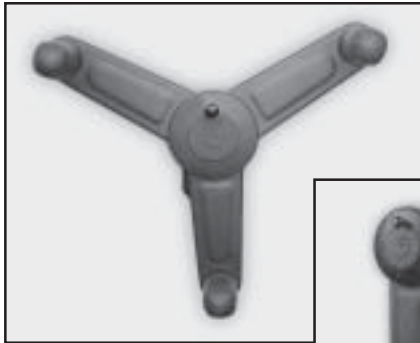
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	PAGE		PAGE
<input type="checkbox"/> SAFETY LOCKING HANDLE	2	<input type="checkbox"/> ELECTRO-MECHANICAL SAFETY SWEEP	3
<input type="checkbox"/> BOTTOM MOUNT LOCK	2	<input type="checkbox"/> AUTO AISLE LOCK	4
<input type="checkbox"/> WAIST-HIGH LOCK	3	<input type="checkbox"/> OVERHEAD AISLE LIGHTS	4
<input type="checkbox"/> PHOTOELECTRIC SAFETY SWEEP	3	<input type="checkbox"/> DESIGNER SERIES CONTROL	7

Mechanical Assist Operation

The Spacesaver mechanical assist systems provide a simple and energy efficient means to increase storage or filing capacity without expanding facilities. The intent here is to describe the proper use of the movement 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.



1. Selecting An Aisle:

- 1.1 At the front of each carriage is located a 3 or 1 spoke drive hub. Grasp a rotating soft touch hand knob and turn the hub in the direction you wish the carriage to move.
- 1.2 Do not roll the carriages with such effort that they bang together. Remember that this drive system gives tremendous mechanical advantage. With just one pound of effort you can move 4,000# with the standard drive. Some drive options will allow you to move up to 10,000# with just 1 pound of effort. In addition a 36" aisle can be opened in as little as 6.8 to 14.7 turns of the hub.
- 1.3 Make certain that the aisle you are closing is unoccupied. Also make certain that there is no media extending into the aisle and that there is nothing laying in the aisle.

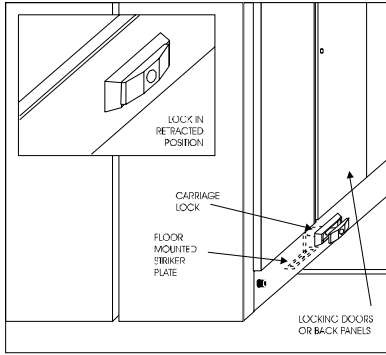
2. Your Role In Maintaining The System:

- 2.1 If you detect a problem developing in the operation of the system, bring it to the attention of your supervisor immediately.
- 2.2 Keep the aisles clear of all obstructions.
- 2.3 Keep the floor and tracks free of small items like paper clips, pens, paper, etc.



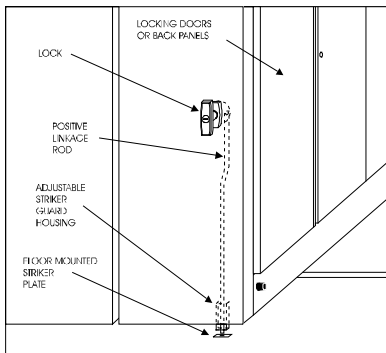
3. Using The Optional Safety Locking Handle:

- 3.1 This feature provides a means for the operator to lock the carriage into position while using the aisle. It consists of a pin located in the hub of the spoked wheel and a mating plate of holes located just behind the hub. Once the carriage is brought to a complete stop the operator can push the pin into a hole in the plate thus locking the carriage in place.
- 3.2 **Caution: Never try to engage the pin into a hole while the carriage is moving even slightly. This device is not a brake!**
- 3.3 Each pin is fitted with a visual indicator. When the pin is in the unlocked position the light green color is visible.



4. Using The Optional Bottom Mount Lock:

- 4.1 This feature provides media security by mechanically locking the system.
- 4.2 The lock will be found near floor level on the outside of the first or last carriage.
- 4.3 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. Failing to do this may cause damage to the lock, floor covering or carriage.
- 4.4 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.
- 4.5 The key should be removed in both the locked and unlocked positions. The key should be kept by the area supervisor.



5. Using The Optional Waist High Lock:

- 5.1 This feature provides media security by mechanically locking the system.
- 5.2 It is conveniently located on the front of a carriage at about waist level. The key is required for locking and unlocking. The key should be removed when not in use.
- 5.3 Rotate the polished chrome handle 1/4 turn to engage or disengage the cam latch mechanism with the striker plate in the floor.
- 5.4 Rotate the key 1/2 turn to lock or unlock. The key should be kept by an area supervisor when not in use.



6. Using the Optional Hub Lock:

- 6.1 Position the locking carriage in the desired location.
- 6.2 Push the locking pin in to engage with the detent plate.
- 6.3 Use the key to turn the lock, which prevents the pin from being pulled from the detent plate.
- 6.4 The key should be removed when not in use and should be kept by an area supervisor.



7. Using The Optional Photoelectric Safety Sweep:

- 7.1 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 a stop. The beam sweeps for obstructions close to the floor.
- 7.2 The safety sweep may also prevent damage to material left laying in the aisle.
- 7.3 Remember that sweep activation must be done from floor level. Therefore, never climb on the shelving.
- 7.4 The sweep will automatically reset itself after a short time out.



8. Using The Optional Electro-Mechanical Safety Sweep:

- 8.1 If carriage movement begins while you are in the aisle, it can be stopped by applying pressure to the safety sweep located along the full length of the carriage just above the floor level.
- 8.2 The safety sweep may also prevent damage to media left laying in the aisle.
- 8.3 Remember that sweep activation must be done from floor level. Therefore, never climb on the shelves.
- 8.4 The sweep will automatically reset itself after a short time out.
- 8.5 If your safety sweep is battery powered, a readout head, like the one illustrated at the left, will be mounted to the front of each carriage. The light on the right will come on to indicate when the sweep has been activated. The light on the left will blink when the four "D" cell batteries need to be replaced.

Note: 8.6 and 8.7 apply to electro-mechanical and photo electric sweeps.

- 8.6 If your safety sweep is line powered, a readout head, like the one illustrated at the left, will be mounted to the front of a stationary shelving unit at the right or the left side of the system. The light will glow steady red when a safety sweep is not activated. The carriage can be released and moved away from a sweep obstruction by inserting the yellow safety override key into the slot in the readout head.
- 8.7 Note that the safety override key is designed to fit in only one position. Do not force the key into the slot. The key should be kept by the area supervisor when it is not in use. Call your service representative immediately if you must use the safety override key continuously.



9. Using The Optional Safety Floor:

- 9.1 Use of the optional safety floor requires no conscious effort on your part. When you step into the aisle, the floor panels will sink slightly under your weight. This activates the safety system and prevents any carriage movement while you are in the aisle.
- 9.2 When you vacate the aisle, the system will automatically reset itself for the next carriage movement.
- 9.3 Remember that your body weight on the floor is required. Therefore, never climb on the shelves. Once you leave the floor, the system can move!
- 9.4 A readout head, like the one illustrated at the left, will be mounted to the front of a stationary shelving unit at the right or the left side of the system. The light will glow steady red when the safety floor is occupied. The carriage can be released and moved in emergency situations by inserting the yellow safety override key into the slot in the readout head.
- 9.5 Note that the safety override key is designed to fit in only one position. Do not force the key into the slot. The key should be kept by the area supervisor. Call your service representative immediately if you must use the safety override key continuously.



NOTE: If your system is equipped with both safety sweep and safety floor, a readout head, like the one illustrated at the left, will be mounted to the front of a stationary shelving unit at the right or left side of the system. The light on the right will glow steady red as long as a safety sweep has not been activated. The light on the left will glow steady red when the floor is occupied. Either safety can be released for carriage movement in emergency situations, by inserting the yellow safety override key into the slot in the readout head. Call your service representative immediately if you must use the safety override key continuously.



10. Using The Optional Auto Aisle Lock:

- 10.1 Step up to the aisle you wish to close. Check the aisle to see that it is clear of personnel and obstructions. Lift the lever of the carriage which must move to close the aisle. The red arrow pointing to the open aisle will change to green.
- 10.2 Grasp a rotating soft touch hand knob and turn the hub in the direction you wish the carriage to move. Clockwise for right travel or counter clockwise for left travel.
- 10.3 As the selected aisle begins to open the arrow governing it will change from green to red. Reverse movement is now restricted.
- 10.4 If while opening an aisle you decide to reverse carriage direction, do the following. Bring the carriage to a full stop. Lift the lever to change the red arrow to green. Move the carriage to re-close the aisle. You must then lower the lever at the open aisle to re-lock and secure the aisle.



11. Using the Optional Photo Electric Aisle Entry Sensor:

- 11.1 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.
- 11.2 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.



12. Using The Optional Aisle Lights:

- 12.1 Use of this feature requires no conscious effort on your part. The lights will come on when the aisle is fully opened. They will go out only when the aisle is closed and another aisle is selected.

Designer Series Mechanical Assist Control



1. Selecting an Aisle:

- 1.1 At the front of each carriage is located a disc with 2 rotating handles attached. Grasp either handle and rotate the disc in the direction you wish the carriage to move.
- 1.2 Do not roll the carriages with such force that they bang together. The mechanical assist carriage drive system gives the operator tremendous mechanical advantage.
- 1.3 Make certain that the aisle you are closing is unoccupied. Also, make certain that there is no media extending into aisle and that there is nothing laying on the floor.

2. Using the safety locking pin in the control:

- 2.1 This feature provides a means for the operator to lock the carriage into position while using the aisle. It consist of a pin located at the outer parameter of the disc and a mating set of holes just behind the disc. Once the carriage is brought to a complete stop the operator can push the pin into one of the holes thus locking the carriage in place. **Caution: Never attempt to engage the pin into a hole while the carriage is moving even slightly! This device is not a brake.**
- 2.2 Each pin is fitted with a visual indicator. When the pin is in the unlocked position the light green color is visible.

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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