CAUTION
Spacesaver Recommends:
1. that Safety Glasses be worn during any cutting and drilling operations and grinding.
2. that a Dust Mask be worn during the grout mixing operation and while cutting wood.
3. that safety gear such as Hard Hats, Safety Shoes, etc. be worn when required.

INSTALLATION INSTRUCTIONS

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Rev. Level 2.0
The purpose of this manual is to describe the steps required for a successful panel and carriage lock installation. The subject of trouble-shooting or diagnosis to discover service related problems is not dealt with in this publication.

For the purpose of clarity, all right, left, front and back references assume facing the true front of the system. The leader carriage is at the far left and all other carriages to the right are followers.

The sequence of steps outlined here should be carried out in order to avoid the possibility of costly re-work! The information in this booklet pertains to standard installations, exceptions are possible. Generally locks are planned for the first or last carriage in the system. Production planning paperwork should be consulted for exceptions.

TERMS:

**Carriage:**
The mobile structure supporting the shelving. May be driven back and forth along the rails by electric motor, mechanically assisted drive or manually.

**System:**
Consists of the carriages making up the entire group of mobile storage units.

**Face Panel:**
Finishes the visible front and/or rear of each carriage in the system. Fastens to the shelving uprights.

**Micro Basic Switch:**
The switch built into the lock mechanism to accommodate electric systems. Disables the electric controls when the lock is engaged.

**Short Snap Bushing:**
Snaps into the bushing bracket to provide guidance for the dead bolt lock bar.

**Bushing Bracket:**
Cantilevers below the face panel to provide guidance and stability for the dead bolt lock bar.

**Lock Bracket:**
Adjustable cover for the bushing bracket. Provides added protection against tampering with the dead bolt lock bar.

**Dead Bolt Lock Bar:**
Drops through the strike plate and into the floor below.

**Strike Plate:**
Anchored to the floor to accept the lock striker.

**"T" Handle Lock:**
Visible and lockable portion of the lock fastened to the front of the face panel.

**Dead Bolt Door Lock Assembly:**
Portion of the lock mounted to the back side of the face panel. Engages with the "T" handle.

**Tamper Proof Screw:**
Screws used to fasten the "T" handle to the front of the face panel. These screws require a special bit for removal. Consult the factory for availability. The special tool is not required for the basic installation except during retro-fits or repairs.

**Recessed "T" Handle Lock:**
Visible portion of the lock mounted to the carriage profile. Must be seated into its base in the locked and unlocked state.

**Strike Arm:**
Rotating lock striker which swings into and out of the lock striker plate.
**SUPPORT MATERIAL REQUIRED:**

1. Information package provided by the production planning department.
2. For electric systems refer to the wiring drawings and the appropriate electric's installation manual.

**TOOLS REQUIRED:**

1. Phillips Screwdriver
2. Marking Pen
3. Hacksaw
4. File
5. Hammer Drill
6. 1/2 Inch Concrete Drill Bit
7. Concrete Drill Bit Sized for Strike Plate Anchor
8. Tape Measure
9. Needle Nose Pliers
SECTION II
PANEL LOCK INSTALLATION

Note:
The face panel is shown up-side-down. To avoid damage to the waist high lock bracket and the waist high lock bushing bracket during shipping, the two parts are attached to the panel in reverse.

STEP 1
1.1
Remove the eight phillips head screws and turn the two pieces 180 degrees before re-fastening them.

Note:
Notice that the waist high lock bracket is adjustable up and down. For now fasten it as high as possible. Later you may have to drop the bracket to conceal the lower portion of the dead bolt lock bar.

Note:
For field installation use the following dimensions for screw placement.
From bottom edge of panel for "T" rail:
First 2 screws at 1 1/8". Use bushing bracket as template for remaining 6 screws.
From bottom edge of panel for "B" or "L" rail:
First 2 screws at 2 1/2". Use bushing bracket as template for remaining 6 screws.

Note:
Metal end panels are also shipped with the 2 lower lock brackets inverted. They are mounted using the holes appropriate for the rail type.
Note:
This assembly is factory installed.

STEP 2
2.1
If the system is equipped with electrical controls a micro switch and mounting bracket will be mounted to the dead bolt door lock assembly.

Eclipse Powered Systems:
For System Off, Wire Lock switch normally open (to J11 Pins 1 & 2)
For Stationary or Partial Lock, Wire Lock switch normally closed (to J11 Pins 3 & 4).

2.2
Rotate the lock to confirm that the micro switch depresses when in the locked position and pops out when in the unlocked position. Non-electric systems will not include the micro-switch.

Note:
The two conductor wires found with the electrical package will route back to the logic board and plug to position (J11 pins 1 & 2 or J11 pins 3 & 4). Notice that the switch has three posts. Plug one .187 pink stake-on connector to the common location at the top of the switch. Plug the remaining .187 pink stake-on connector to the normally closed position. The center post will remain unused. Polarity is not important. See Figure 1 further detail.
**Note:**
This assembly is factory installed.

**STEP 3**

3.1

Turn your attention to the front of the face panel and rotate the "T" handle between the locked and unlocked positions. Unlocked places the "T" handle perpendicular to the base and the locked position lines up the "T" handle with the base.

3.2

Insert the key and rotate it between the locked and unlocked positions. The key should turn freely a full 180 degrees. Test to see that the key will lock the "T" handle in the 12 o'clock/6 o'clock position and in the 9 o'clock/3 o'clock position. During periods of normal use the "T" handle should always be locked in either position and the key should be removed!
**Note:**

A special tamper proof screw is used to fasten the "T" handle to the face panel. The "T" handle must be in the unlocked, 9 o'clock/3 o'clock position, in order to get at the tamper proof screws. These screws would only be removed to replace a broken lock. You may want to have one of the screw removal tools for your service department. If so please contact the factory and order part no. 550230.001.

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**Note:**

The dead bolt lock bar has to be field sized and cut. The height of the grout pad under the rail and the rail type will influence the length of the lock bar.

**STEP 4**

4.1

To determine the length use the following formula: 29 3/8” + X + 5/8” = Lock Bar Length

29 3/8” = The distance from the center of the hole at the end of the dead bolt lock bar while in the locked position, to the bottom of the face panel.

X = The distance from the top of the face panel bracket to the floor, near the point where the lock bar will penetrate the floor.

5/8” = The amount of penetration into the floor by the lock bar.

Once the dimension is determined lay it out on the lock bar and cut it to length. Remember: measure from the center of the hole in the lock bar!
4.2

Once cut to length, file the end to remove the burr.

**Note:**

If deeper floor penetration is desired, the 5/8" dimension can be increased by 1/8" provided the floor covering is paint or tile.
STEP 5

5.1

Fasten the dead bolt lock bar to the dead bolt door lock. As you face the back side of the panel slip the lock bar through the short snap bushing at the bottom and over the left post at the top.

5.2

Find the cotter pin in the hardware package and secure the lock bar in place. Note the position of the offset bend in the lock bar!
STEP 6
6.1
Move the carriage to its locking location. Lower the lock bar until it makes contact with the floor below and mark the location.

STEP 7
7.1
Find the strike plate in the hardware package. Center the first hole in the strike plate over the mark made in STEP 6 and trace the three openings for the lock bar. Also mark the location of the two screw holes.

Note:
The two extra holes will accommodate system growth when/if it takes place.
STEP 8
8.1
Use a 1/2” concrete bit to drill the clearance openings for the lock bar. Drill two holes side by side at each opening and break out the wall between them. Drill to a minimum depth of 7/8".

8.2
Drill two smaller holes at each end of the strike plate for anchors. The type of anchor used is your choice, we do not provide these anchors.

CAUTION!
If drilling through carpet, either cut it away at the outline of the striker plate or cut the carpet to prevent fiber runs.

STEP 9
9.1
The fastener you use to secure the strike plate to the floor is your option. In this example we use a 3/16” x 1 3/4" Hilti Kwik-Con. Hilti provides a matched bit for use with their Kwik-Con screws.
STEP 1

1.1

Test the lock by first moving the carriage into its locking location and turning the "T" handle from the unlocked position to the locked position. The lock bar should drop freely into the opening in the floor without bottoming out.
1.2

Make sure the key turns 180 degrees in either the locked or unlocked position and can be easily removed.

**Note:**

Early in the installation we left the waist high lock bracket in its upper most position. This bracket should be lowered so that it rides about 1/4" off the floor as the carriage moves back and forth.
NOTE:
Electric locks require that a logic interface wire be routed. The lock end of the wire plugs to the common and normally open or normally closed posts of the switch. The logic end of the wire plugs to position:

![Diagram of switch positions]

ATTENTION
Eclipse Powered Systems:
For System Off, Wire Lock switch normally closed (to J11 Pins 1 & 2)
For Stationary or Partial Lock, Wire Lock switch normally open (to J11 Pins 3 & 4)

NOTE:
The strike plate must be positioned and fastened directly under the lock striker when the carriages are nested in the locked state. Use the strike plate as a template to locate the four anchor/fastener holes and the opening for the lock striker. The carpet or tile may have to be cut to accommodate the striker plate. Wood screws (provided) can be used to fasten the strike plate to wood decking. Concrete anchors (not provided) must be used for fastening to a concrete floor. Spacesaver does not provide the anchors because preferences vary. A series of 1/2 inch holes can be drilled to create the opening in the floor for the lock striker.
FROM A LOCKED STATE:
Insert the key, push in slightly and rotate it 180° clockwise. The lock handle will pop out of its seat.

Rotate the key 180° counter-clockwise and remove it. Turn the lock handle 180° counter-clockwise and push it back into its seat. The lock is now unlocked. Back pressure on the lock striker may have to be relieved.
FROM AN UNLOCKED STATE:
Insert the key, push it in slightly and rotate it 180° clockwise. The lock handle will pop out of its seat.

Rotate the key 180° counter-clockwise and remove it. Turn the lock handle 180° clockwise and push it back into its seat. The lock is now locked. Back pressure on the lock striker may have to be relieved.

**NOTE:**
The direction of the lock handle rotation is immaterial for non electric locks.
SECTION VI
ILLUSTRATIONS

Figure 1
Retro-Fit Instructions:
Drill a 1 1/8" hole up 1 1/4" from the bottom edge of the carriage profile. Insert the open lock and use it as a template to locate the two smaller holes. The shim is required only when/if the lock and line drive shaft comes in contact.
**ATTENTION**

Eclipse Powered Systems:
For System Off, Wire Lock switch normally closed (to J11 Pins 1 & 2)
For Stationary or Partial Lock, Wire Lock switch normally open (to J11 Pins 3 & 4).