



SOLIDSTEP® LEVITATE
OEM INSTALLATION MANUAL

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Introduction

The SolidStep® Levitate is a trailer entry step assembly that can be mounted to the side of any trailer, providing an ease of entry, regardless of level ground.

For information on the assembly or individual components of this product, please visit:

<https://support.lci1.com/steps-support-solidstep>.

Images used in this document are for reference only when assembling, installing and/or operating this product. Actual appearance of provided and/or purchased parts and assemblies may differ.

Safety

Read and understand all instructions before installing or operating this product. Adhere to all safety labels.

This manual provides general instructions. Many variables can change the circumstances of the instructions, i.e., the degree of difficulty, operation and ability of the individual performing the instructions. This manual cannot begin to plot out instructions for every possibility, but provides the general instructions, as necessary, for effectively interfacing with the device, product or system. Failure to correctly follow the provided instructions may result in death, serious personal injury, severe product and/or property damage, including voiding of the LCI limited warranty.

WARNING

The "WARNING" symbol above is a sign that a procedure has a safety risk involved and may cause death or serious personal injury if not performed safely and within the parameters set forth in this manual.

WARNING

Failure to follow instructions provided in this manual may result in death, serious personal injury and/or severe product and property damage, including voiding of the component warranty.

⚠️ WARNING

Unit **MUST** be supported per manufacturer's recommendations before working underneath. Failure to do so may result in death or serious personal injury.

⚠️ CAUTION

The "CAUTION" symbol above is a sign that a safety risk is involved and may cause personal injury and/or product or property damage if not safely adhered to and within the parameters set forth in this manual

⚠️ CAUTION

No repairs should be attempted by anyone other than a qualified professional. The deployment and retraction of the step assembly can cause injury if proper precautions are not taken. The step assembly was designed for an operational weight rating of 400 lbs.

⚠️ CAUTION

Always wear eye protection when performing service, maintenance or installation procedures. Other safety equipment to consider would be hearing protection, gloves and possibly a full face shield, depending on the nature of the task.

⚠️ CAUTION

Moving parts can pinch, crush or cut. Keep clear and use caution.

Resources Required

- 1 to 2 people, depending on task
- Cordless or electric drill or screw gun
- Appropriate drive bit
- Tape measure
- #10 - 1 1/2" wood screws (wood floor)
- #10 - 1 1/2" self-tapping screws (laminate floor)
- #10 flat head screws
- Non -permanent method of marking
- Temporary Pin or tool 3/16" in diameter
- Materials for framing out penetration for lift assist.

SolidStep® Levitate Tread Width and Floor Height Variations

There are two tread widths currently available, 23.5" (24" door jamb min.) or 27.5" (28" door jamb min.). Record the measurement of the door frame inner flange to door frame inner flange (Fig. 1) to determine which tread width to use.

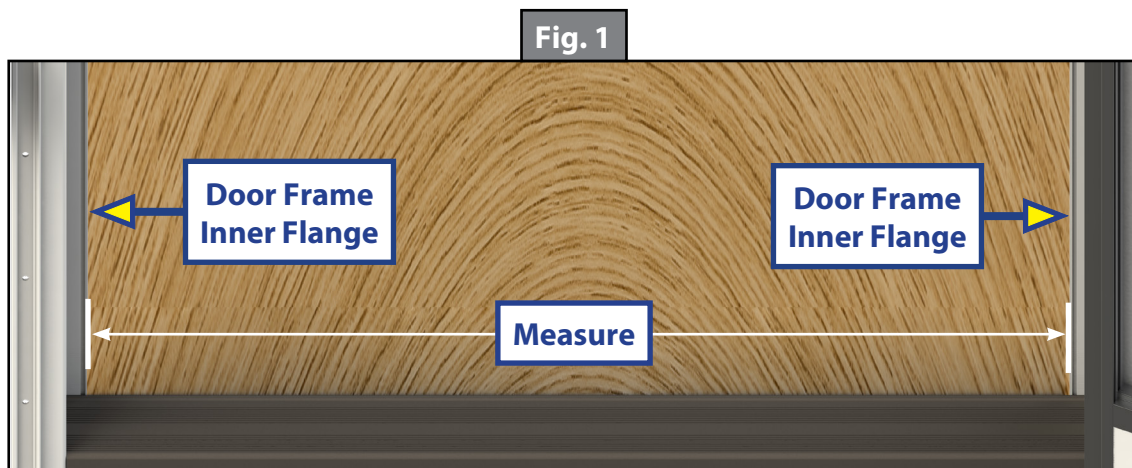
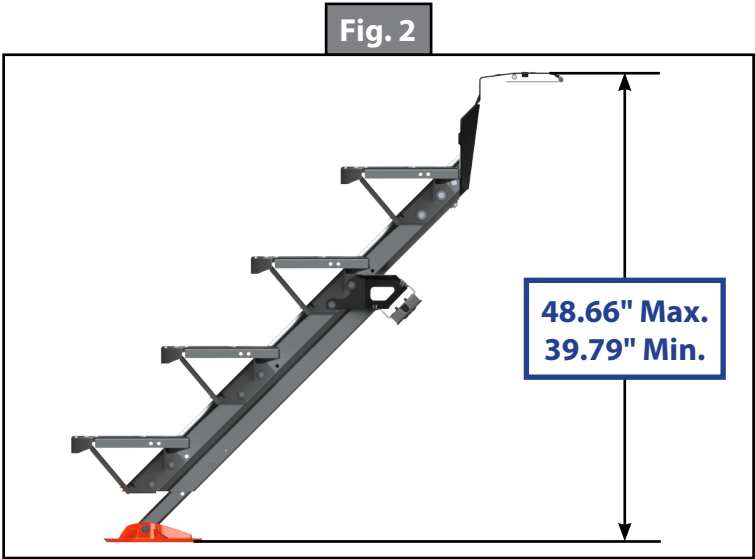


Figure 2 depicts an example of a quad step from the chart below of the typical variations for the SolidStep Levitate step assembly. Step height references from top of the step threshold to bottom of footpad. Range is given from highest to lowest points of pin located footpad positions. Make sure the correct SolidStep Levitate variation is installed for the intended unit by also measuring the door frame threshold. Step identification tags are located under one of the step extrusions, typically the top full step.

NOTE: Variations also include:

- 23.5" (26" door threshold min.) or 27.5" (30" door threshold min.) tread widths.
- Lift assist is only an option for triple and quad models.
- Motion sensor lights are an option.



SolidStep Levitate Assembly Steps	Maximum to Minimum Floor Height	Leg Height
Double Standard Step 8" Rise	30.89" Maximum to 23.64" Minimum Floor Height	Standard Leg
Double Extended Step 8" Rise	33.62" Maximum to 27.17" Minimum Floor Height	Extended Leg
Triple Step 8" Rise	40.57" Maximum to 31.70" Minimum Floor Height	Standard Leg
Quad Step 8" Rise	48.66" Maximum to 39.79" Minimum Floor Height	Standard Leg

Prior to Installation

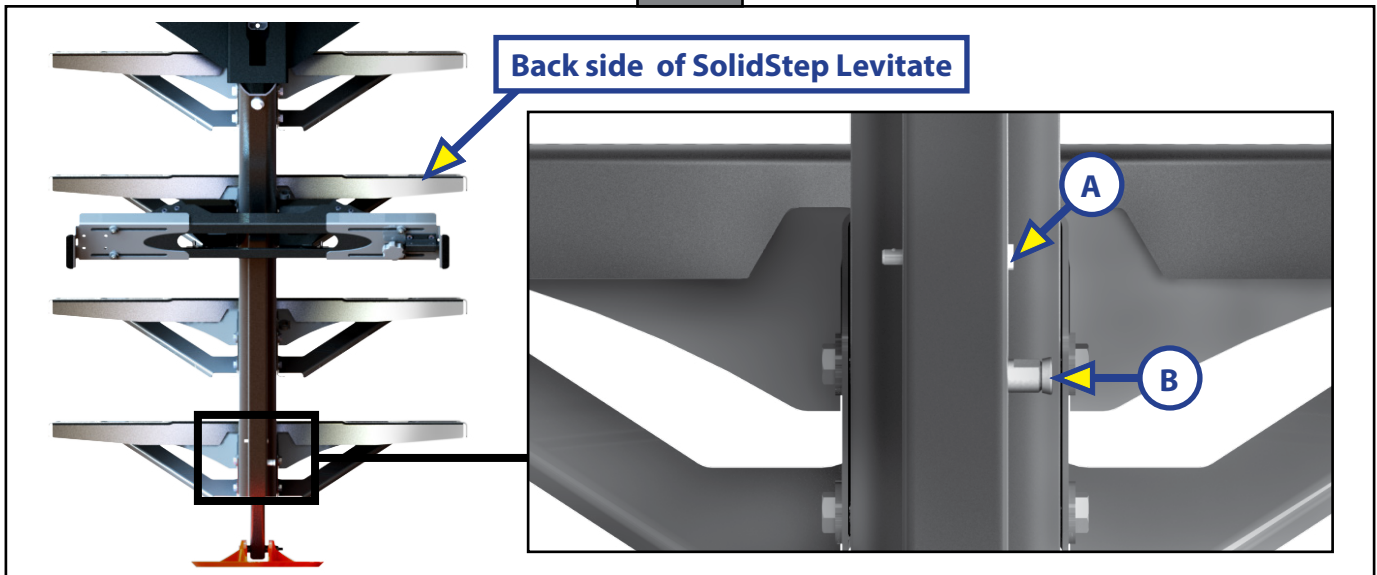
- Verify that the trailer is on level ground.
- Verify the floor of the trailer has sufficient backing material for securing the SolidStep.
- Remove all parts and pieces from shipping packaging. Caps and detent pins are included.

NOTE: The leg extension is shipped attached to the top step with a cable tie and must be temporarily installed before complete step installation.

- A. Remove the leg extension from the step by cutting the cable tie.
- B. Pull the spring loaded plunger (Fig. 3B) and insert the leg extension into the receiver. Do not let the spring loaded plunger engage with any of the holes.
- C. Insert a 3/16" temporary pin or tool (Fig. 3A) into the hole above the spring loaded plunger (Fig. 3B) to secure the leg extension.

NOTE: Temporary pin will be removed once step and lift assist are fully installed.

Fig. 3



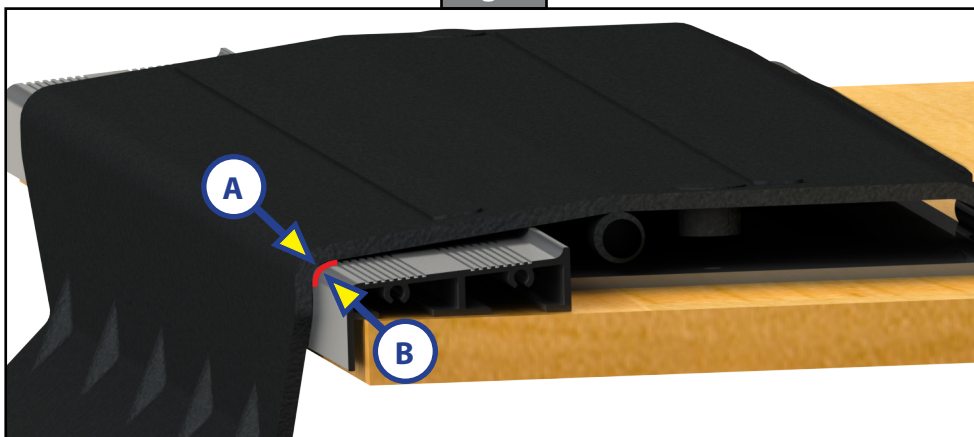
Installation

Secure Threshold Plate

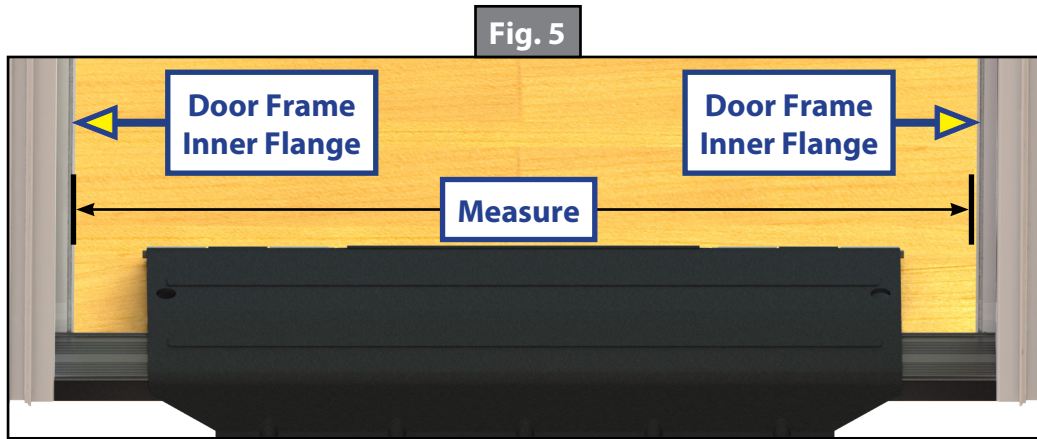
1. With the step extended in the down position, place the SolidStep® Levitate assembly inside the doorframe threshold.

NOTE: Make sure the step threshold plate (Fig. 4A) is placed firmly against the outside edge (red line) of the door threshold (Fig. 3B). If not positioned flush against the outside edge of the door threshold, the step assembly could prevent the door from closing.

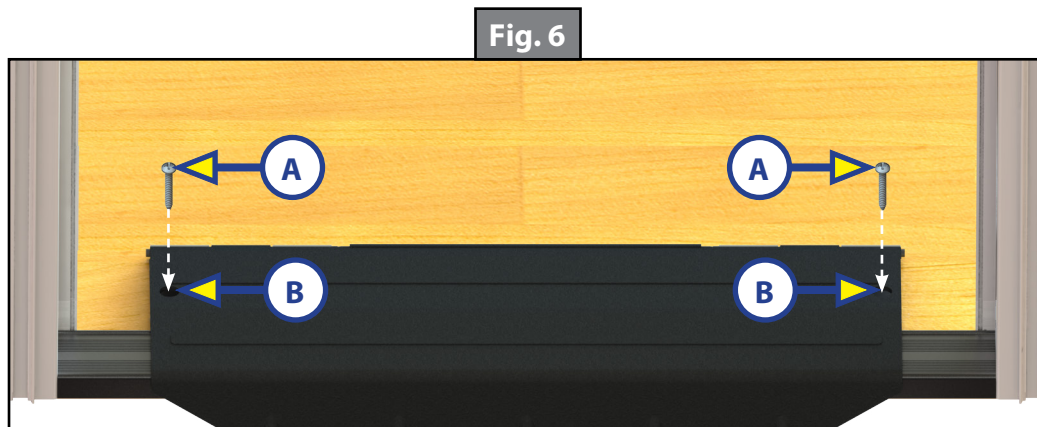
Fig. 4



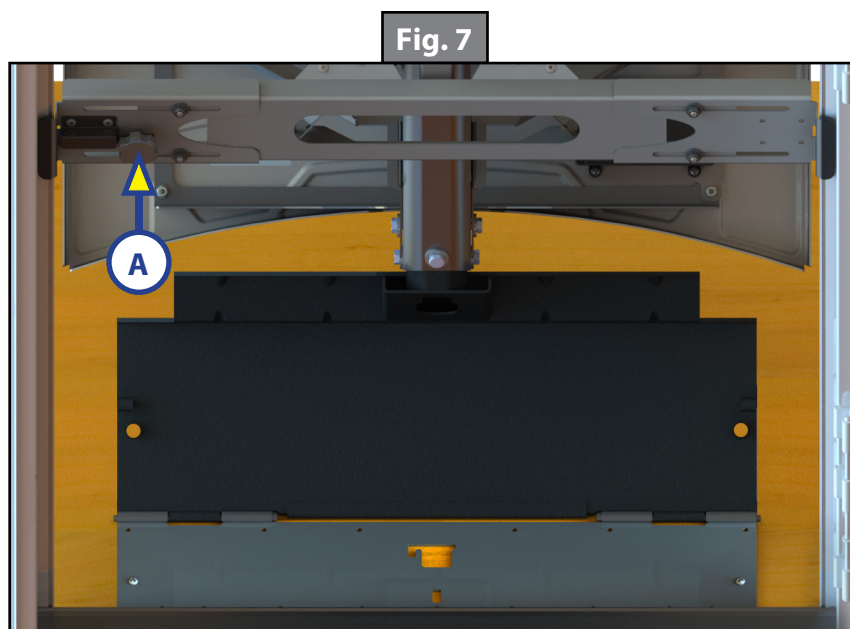
2. Verify with a tape measure that the Solidstep Levitate assembly is centered in the doorframe (Fig. 5).



3. With the step assembly still in the extended position, install two fasteners (Fig. 6A), either #10 - 1 1/2" wood screws (wood floor) or #10 - 1 1/2" self-tapping screws (laminate floor), into the mounting plate via the two access holes (Fig. 6B) located in the top of the mounting plate.

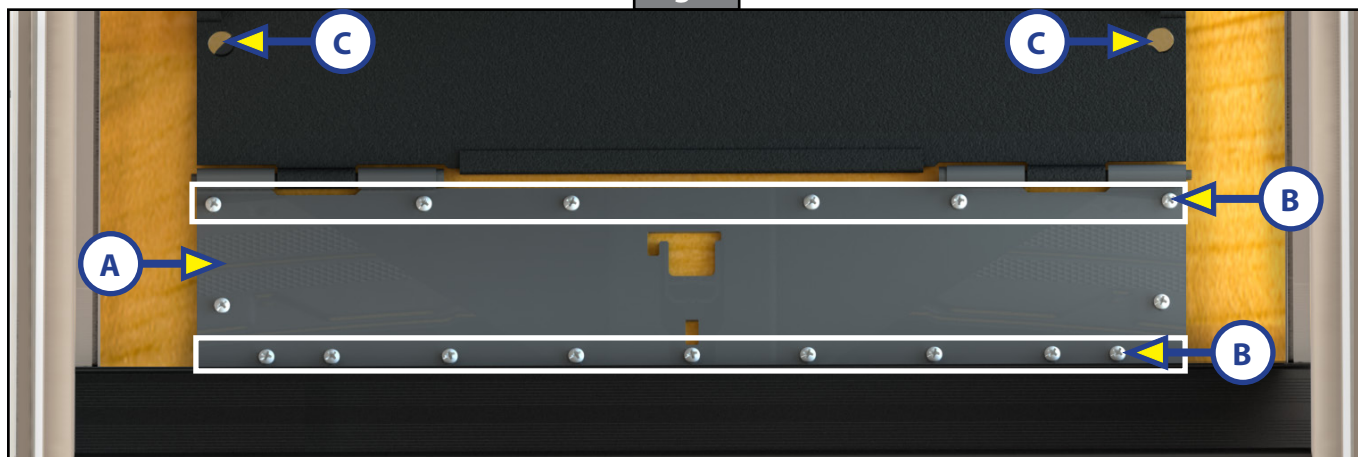


4. Carefully lift the step assembly into the upright, stored position (Fig. 7). The transport lock latching mechanism (Fig. 7A) should already be set for the door opening but if the latching mechanism doesn't engage, it will need to be adjusted to operate properly. Have one person hold the step assembly from inside the unit while adjustments are made. If needed see section, Final Adjustment of the Transport Lock Latching Mechanism.



5. In the upright stored position, secure the hinge plate (Fig. 8A) to the floor of the trailer using fifteen additional fasteners (Fig. 8B white box areas) in the pre-drilled holes of the hinge plate. Depending on flooring material, use either #10 - 1 1/2" wood screws (wood floor) or #10 - 1 1/2" self-tapping screws (laminate floor).
6. Extend the step assembly and insert the plastic caps into the alignment cover holes on the mounting plate (Fig. 8C).

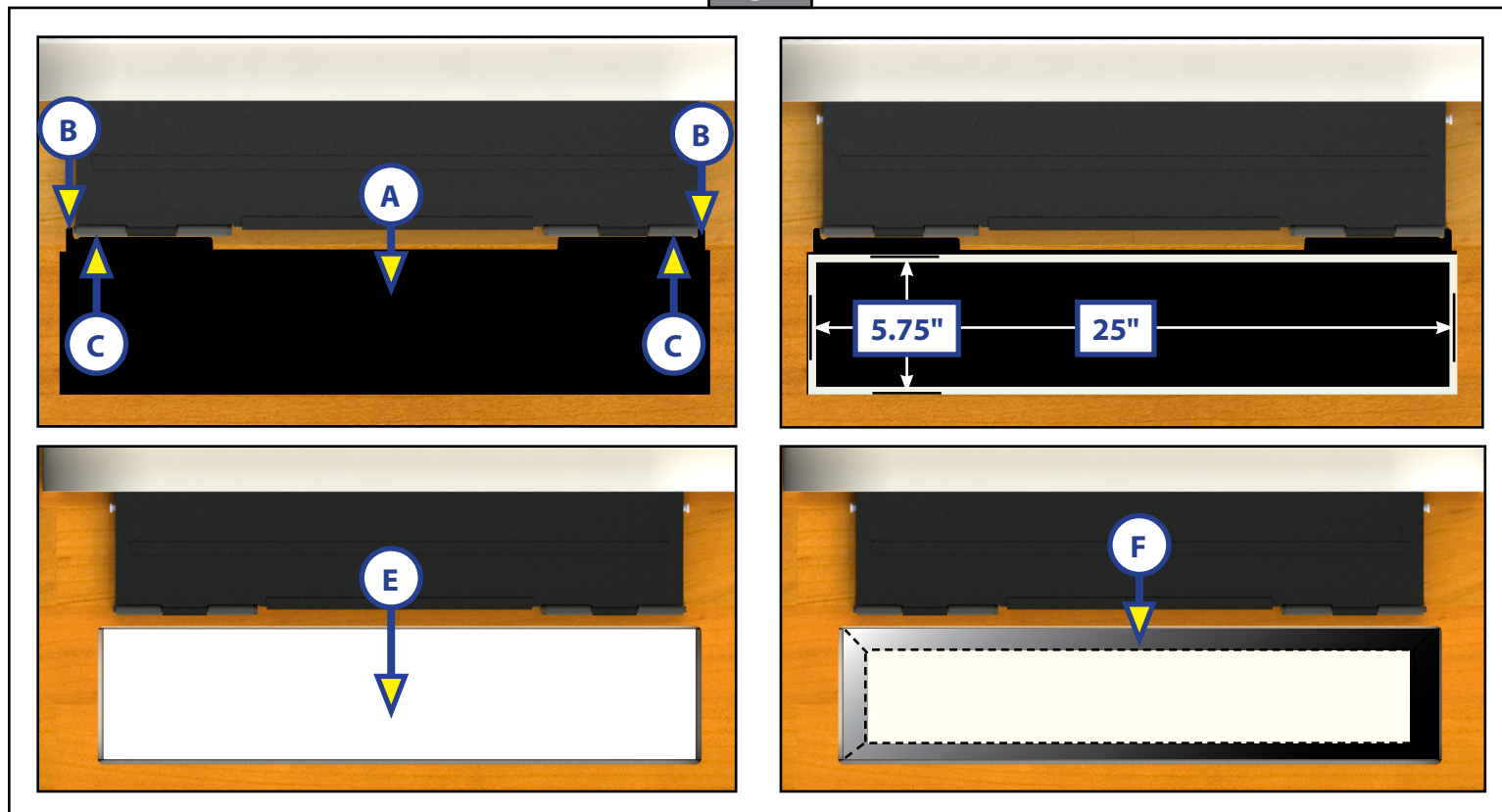
Fig. 8



Lift Assist Installation for SolidStep Levitate Triple and Quad Step Assemblies

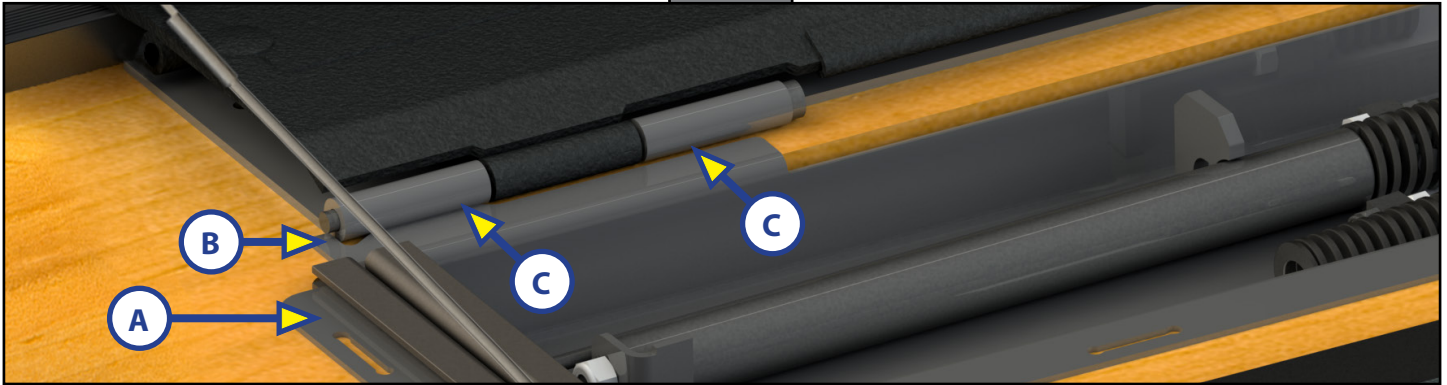
1. With a non-permanent method of marking, use a jig or template of the lift assist profile (Fig. 9A). Mark where the floor should be cut for the lift assist to be placed down into the floor. The lift assist profile has an alignment area that should be flush with the side (Fig. 9B) and back of the hinge plate barrels (Fig. 9C). The dimension of the floor cut should be 25" X 5.75" (Fig. 9D, white box line).
2. After the cut has been made (Fig. 9E), underneath the floor, frame out the sides of the area around the lift assist opening in the floor (Fig. 9F) so that the screws for the inside side walls of the lift assist will have a backer to go into.

Fig. 9



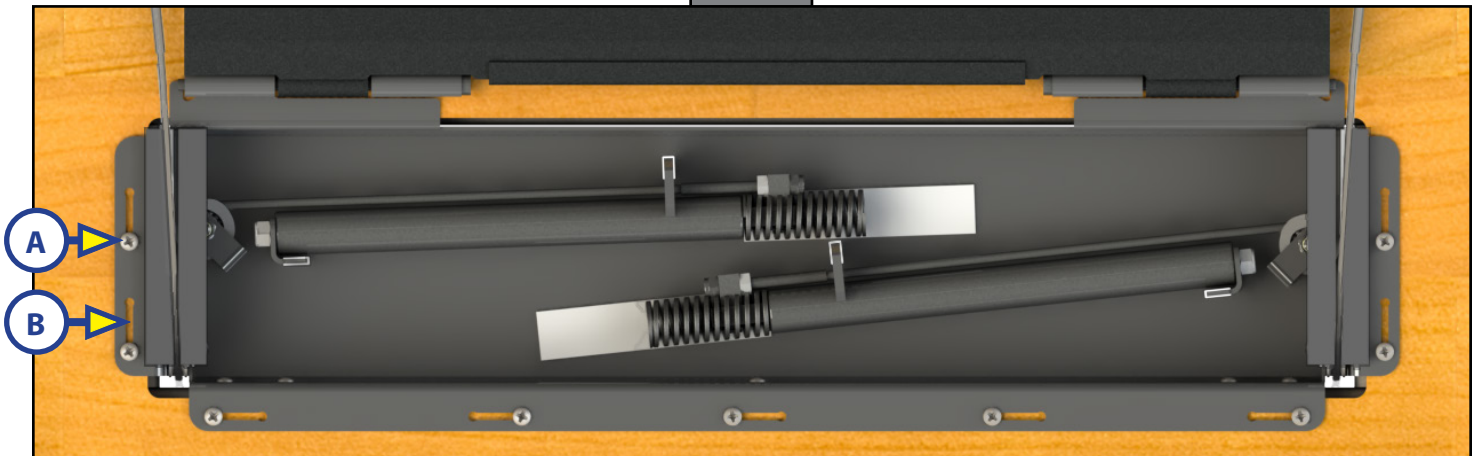
3. Place the lift assist (Fig. 10A) inside the previously cut floor hole. Make sure the lift assist is aligned and flush with the side (Fig. 10B) and back of the hinge plate barrels (Fig. 10C) on both sides of the lift assist.

Fig. 10



4. Secure the lift assist to the floor using figure 11 as a guide as to which side the fasteners (Fig. 11A) should be installed in the precut fastener slots (Fig. 11B).

Fig. 11

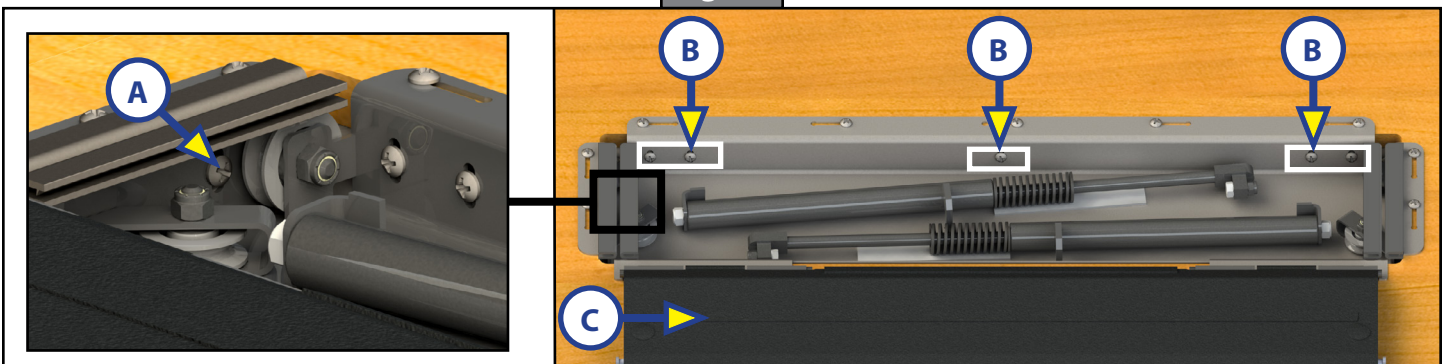


⚠ CAUTION

When moving the steps from the stored to extend and extend to stored positions, make sure you have a firm hold of the steps. Failure to keep control of the steps may cause damage to the doorframe or step assembly.

5. With a firm hold of the steps, carefully extend the steps to the ground. There are five pre-drilled holes along the side farthest away from the threshold plate (Fig. 12C) and one on each side. Install the five fasteners (Fig. 12B white box areas) along the inside of the lift assist that will go into the backer material (Fig. 9F) and one on each side (Fig. 12A).

Fig. 12



6. Carefully lift the SolidStep Levitate steps into the stowed position. Locate the detent pin from the shipping packaging. Insert the lift assist cable (Fig. 13B) onto the detent clevis pin (Fig. 13A). Replace the detent clevis pin with the lift assist cable (Fig. 14A), back into the threshold plate (Fig. 14B).
7. Repeat step 6 for the opposite side of the lift assist
8. With a firm grip on the step, pull down to deploy the SolidStep. A slight resistance from the lift assist should be felt as you are pulling down on the step. This is normal. If this resistance is not felt when immediately deploying the step, proceed to step 9 for lift assist adjustment. If adjustment is correct, then skip step 10.

Fig. 13

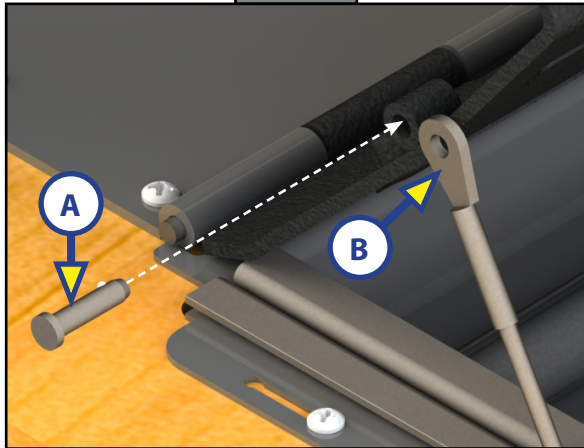
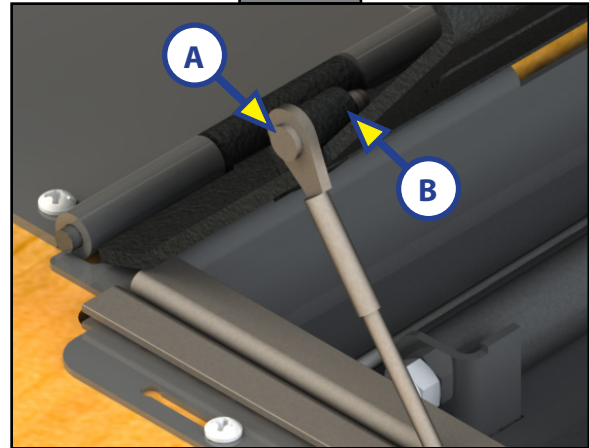


Fig. 14



⚠ WARNING

Do NOT attempt to adjust the tension when the SolidStep Levitate is in the extended position. Should the cable have a fault, the tension stored in the springs at the extended position could cause bodily harm or damage to the doorframe or step assembly.

9. The lift assist uses two cylinder assist assemblies (Fig. A and B). Should the lift assist require adjustments, follow the procedure as outlined below.

NOTE: Perform adjustments from inside of the unit with the steps in the stored position.

NOTE: The lift assist mechanism is set from the factory and typically does not require any adjustment.

To increase resistance:

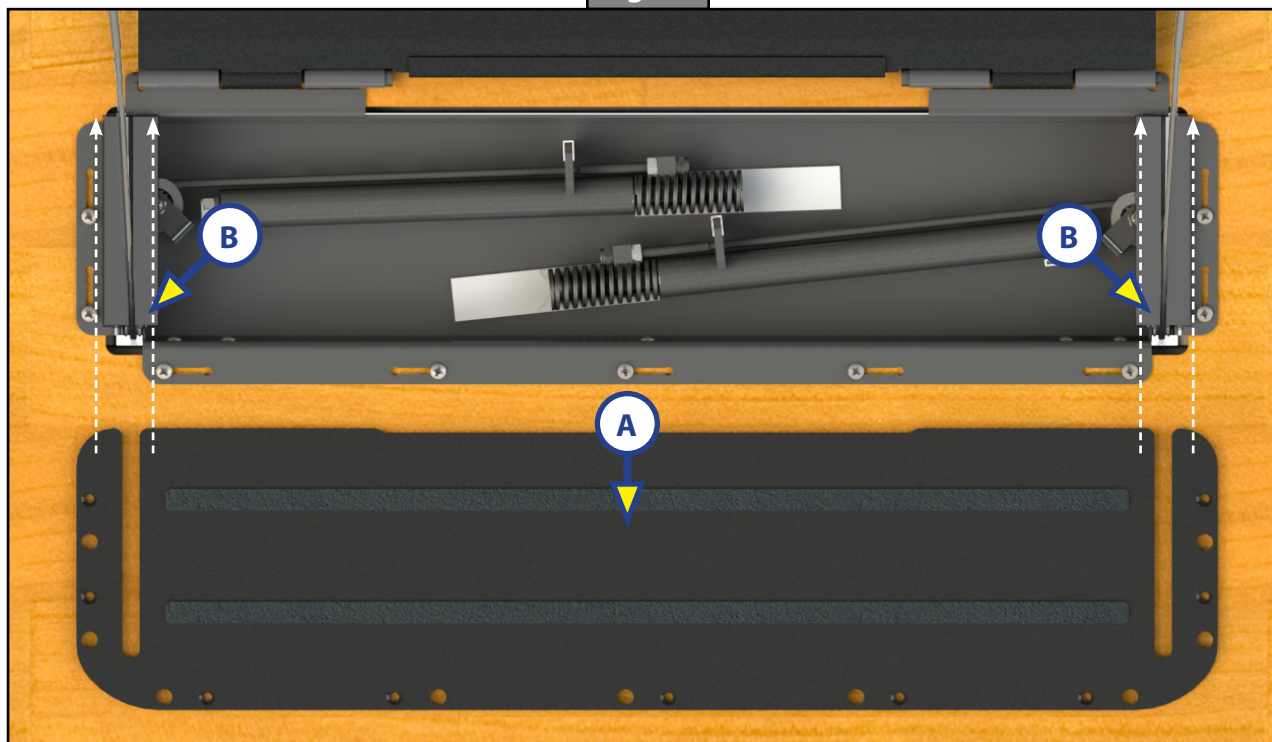
- A. Loosen the jam nut (Fig. 15C).
- B. Tighten the nylock nut (Fig. 15E) no more that 2 full turns to increase resistance.
- C. Tighten the jam nut (Fig. 15C).

Fig. 15



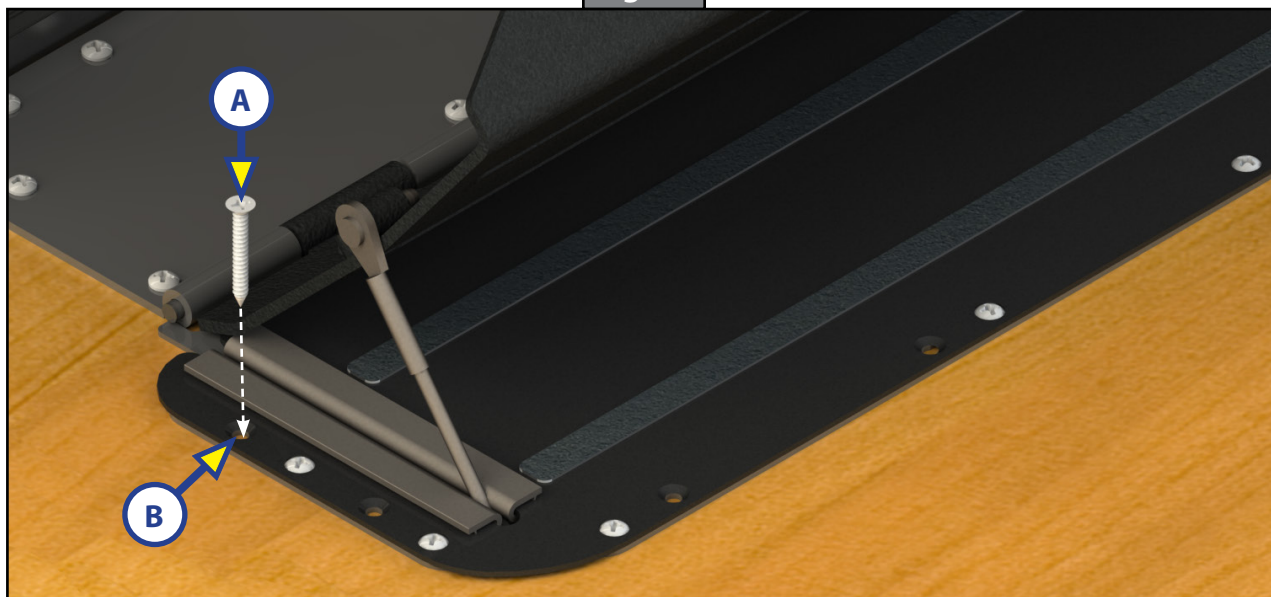
- D. Repeat steps 9A-C for the other cylinder.
 - E. Deploy and lift the steps again to test. If there is too much resistance when lowering the step, the nylock nut can be backed off slightly to decrease the resistance.
10. Slide the lift assist cover (Fig. 16A) around the cable guides (Fig. 16B) flush with the base profile of the lift assist.

Fig. 16



11. Install nine, #10 flat head screws (Fig. 17A) into the remaining pre-drilled holes on the cover through the lift assist base and into the floor to secure.

Fig. 17



12. Remove the temporary pin or tool (Fig. 3A) that was installed prior to installation and secure the leg extension in place with the spring loaded plunger (Fig. 3B).

Final Adjustment of the Transport Lock Latching Mechanism

⚠ CAUTION

Prior to using the transport lock, the latching mechanism may need to be adjusted to the proper left-right orientation and tightened in position. Attempting to engage the transport lock without proper adjustment may cause damage to the doorframe or step assembly.

1. Lift up SolidStep Levitate to its stored position (Fig. 18). Make sure the latching mechanism flanges (Figs. 18A, 19A and 20A) are resting against the door frame. If final adjustment is required, loosen the two bolts (Fig. 19B and Fig. 20B) on either side of the adjustable latching mechanism for side-to-side adjustments.

Fig. 18

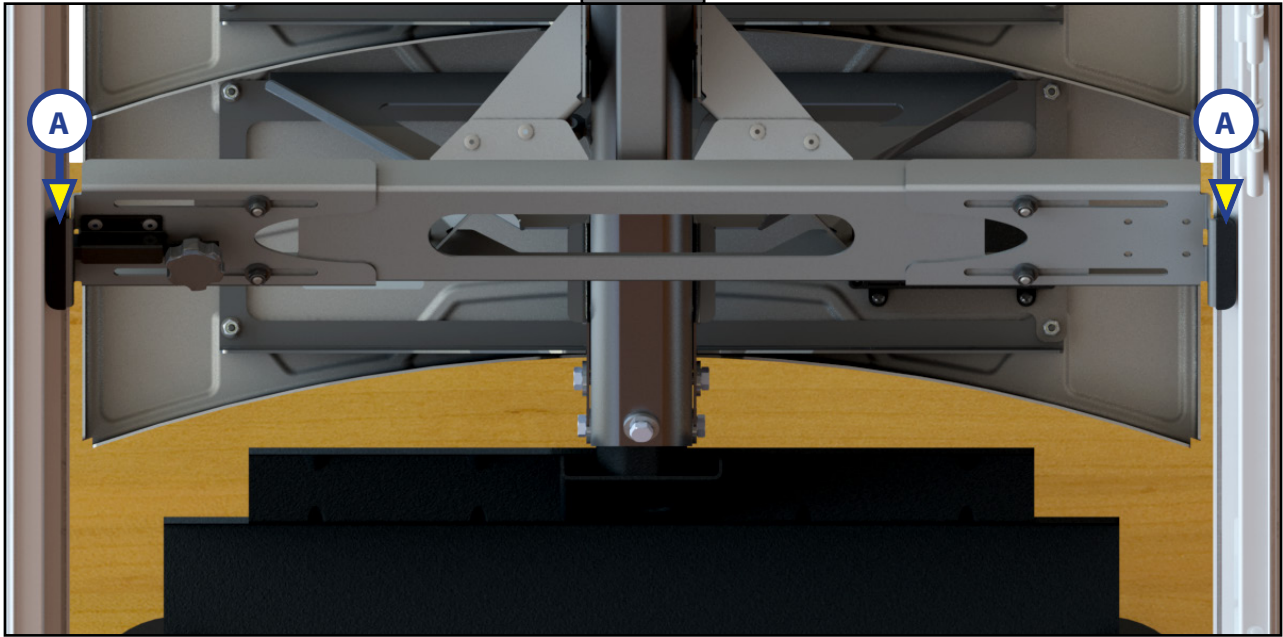


Fig. 19

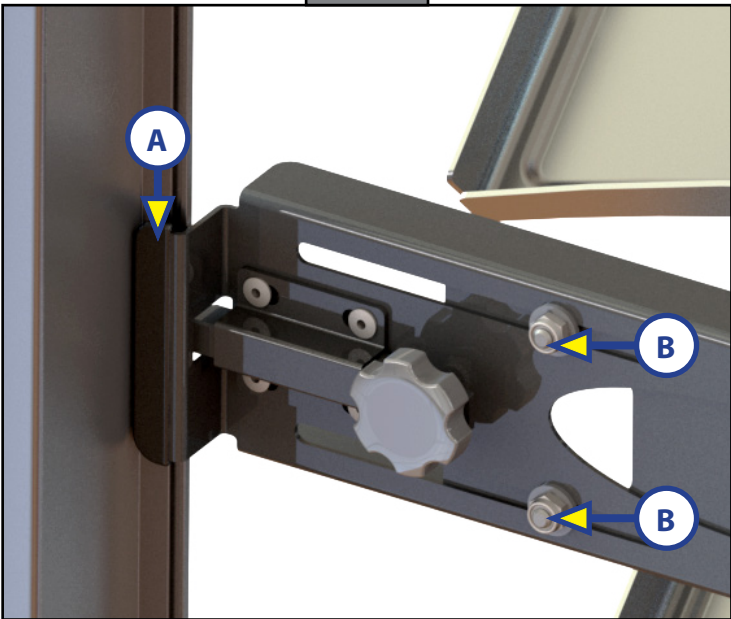
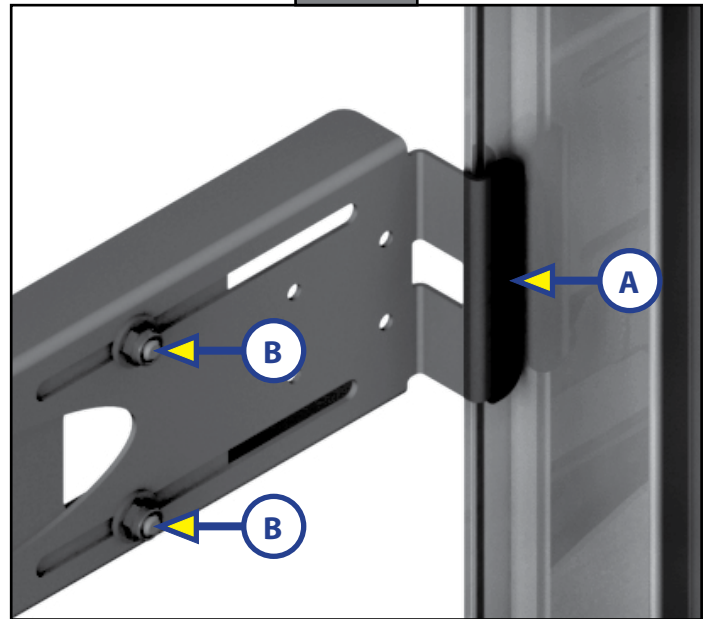


Fig. 20



⚠ CAUTION

Do not overtighten the bolts. Overtightening the bolts may damage the threads or cause the bolt heads to break off.

2. Once the transport lock mechanism (Fig. 21A) and the transport latch flanges (Figs. 22A and 23B) are in the correct position, tighten the bolts (Figs. 22B and 23A) with a 7/16" wrench or socket.
3. Once the transport lock has been adjusted, test its functionality by shaking the step assembly to simulate road vibration.
4. Engage and disengage the transport lock (Fig. 22C) to ensure the transport latch flanges (Figs. 22A and 23B) do not scrape against the door frame (Figs. 22D and 23C).

Fig. 21

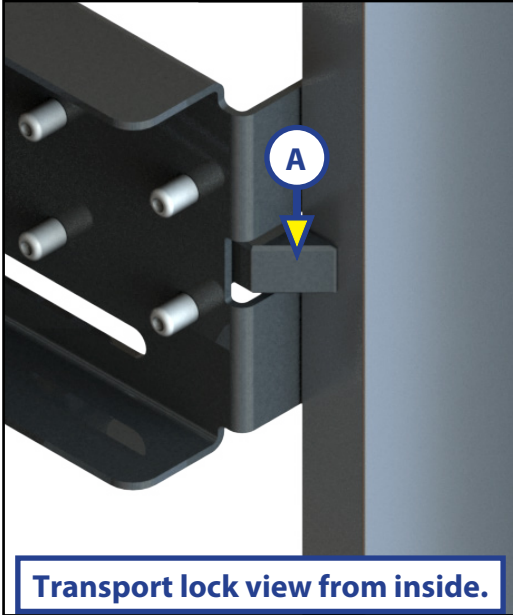


Fig. 22

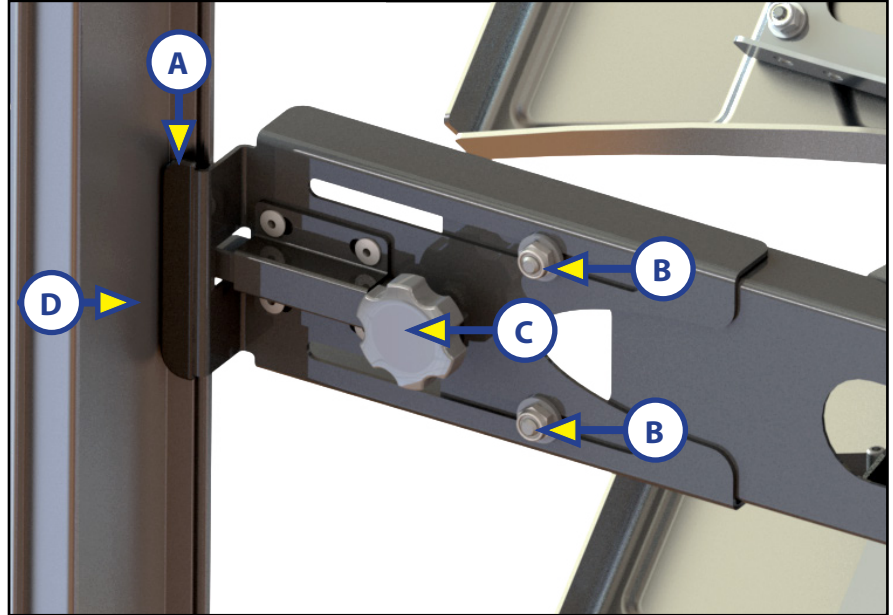
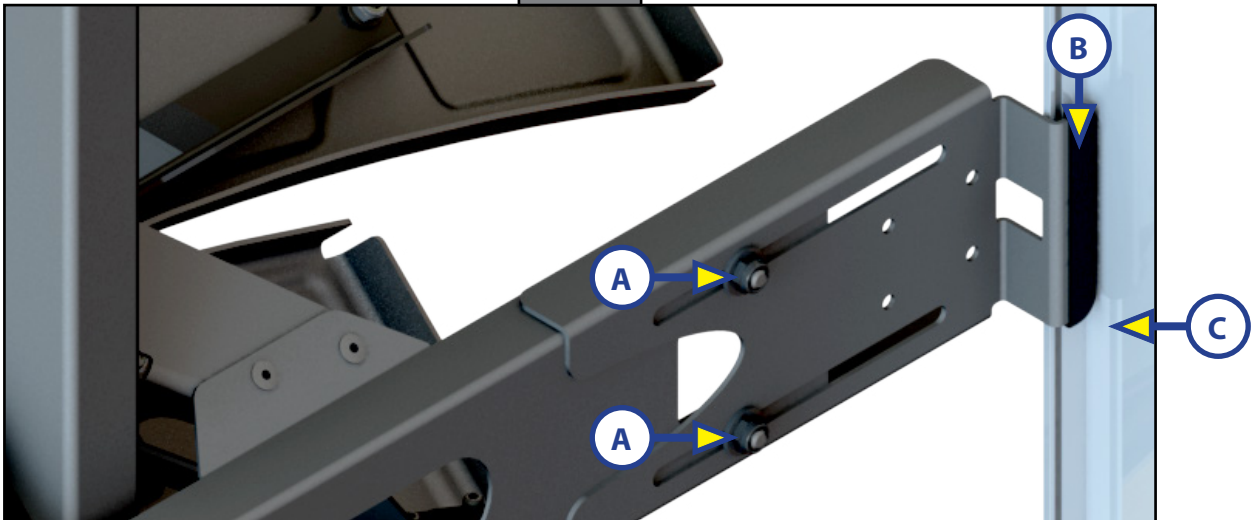


Fig. 23



Operation

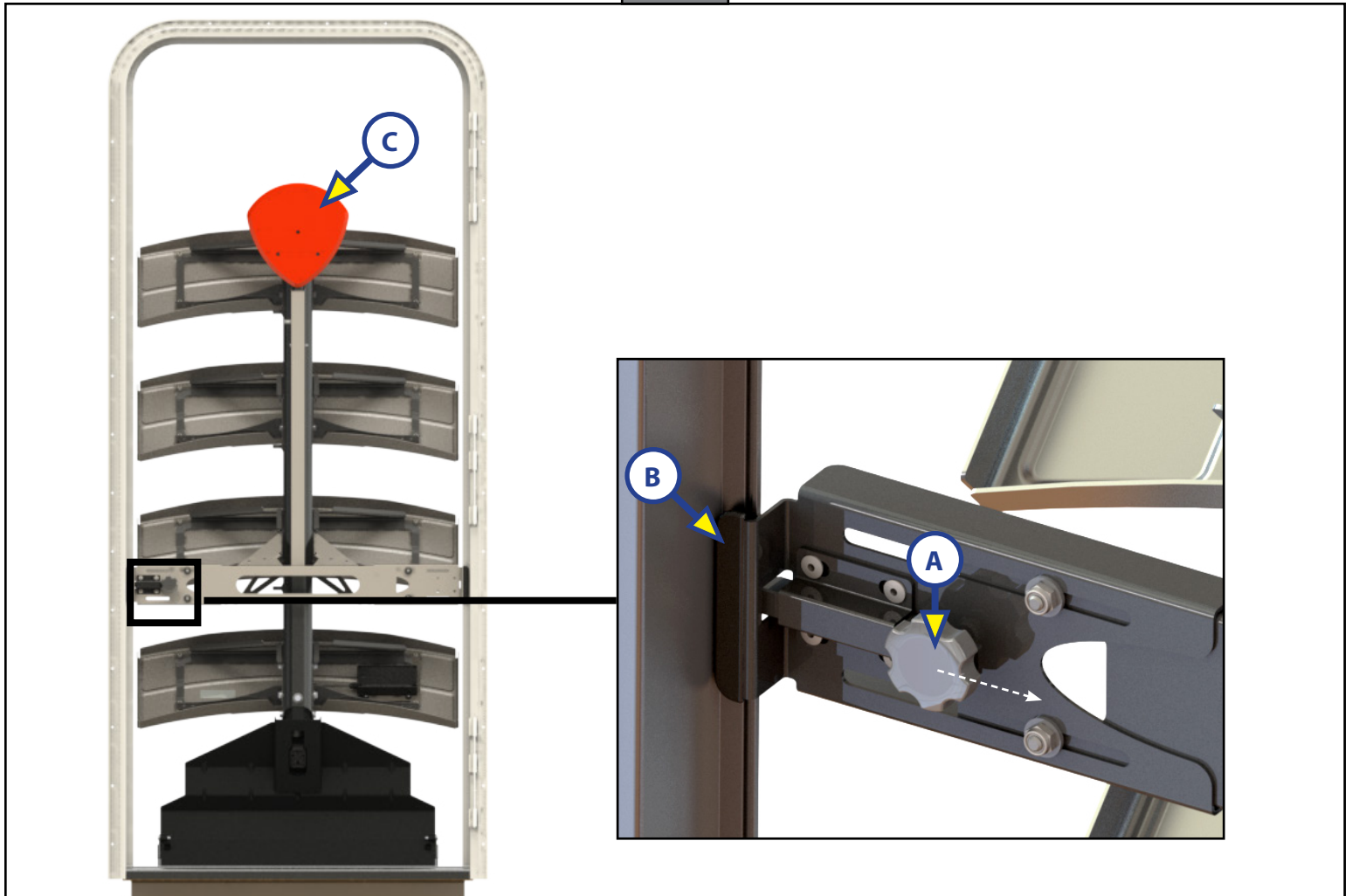
⚠ CAUTION

Moving parts can pinch, crush or cut. Keep clear and use caution.

Release Steps

1. From the stored position (Fig. 24), disengage the transport lock I (Fig. 24A) by pulling the latching knob to the right.
2. Firmly grasp and pull out the vertically stored SolidStep Levitate and rest it firmly on the ground.
3. Adjust leg extensions as needed. See Leg Extension Adjustment section.

Fig. 24



Leg Extension Adjustment

The leg extension is secured with a spring-loaded plunger (Fig. 25A). Adjustments can be made to the leg extensions in 1" increments by extending or retracting the inner leg for the optimal angle and to adjust for the ground surface angle.

1. To extend the inner leg (Fig. 25B):
 - A. Pull the spring-loaded plunger (Fig. 25A) out from the tube and the slot in the angle.
 - B. Extend the inner leg (Fig. 25B) to the ground and at an angle so the steps are parallel to the ground and level.
 - C. Release the spring-loaded plunger (Fig. 25A) into the tube and slot closest to where the inner leg and tube meet.
2. To retract the inner leg (Fig. 25B):
 - A. Pull the spring-loaded plunger (Fig. 25A) out from the tube and the slot in the angle.
 - B. Retract the inner leg.
 - C. Release the spring-loaded plunger (Fig. 25A) into the tube and slot closest to where the inner leg and tube meet.

Secure Steps

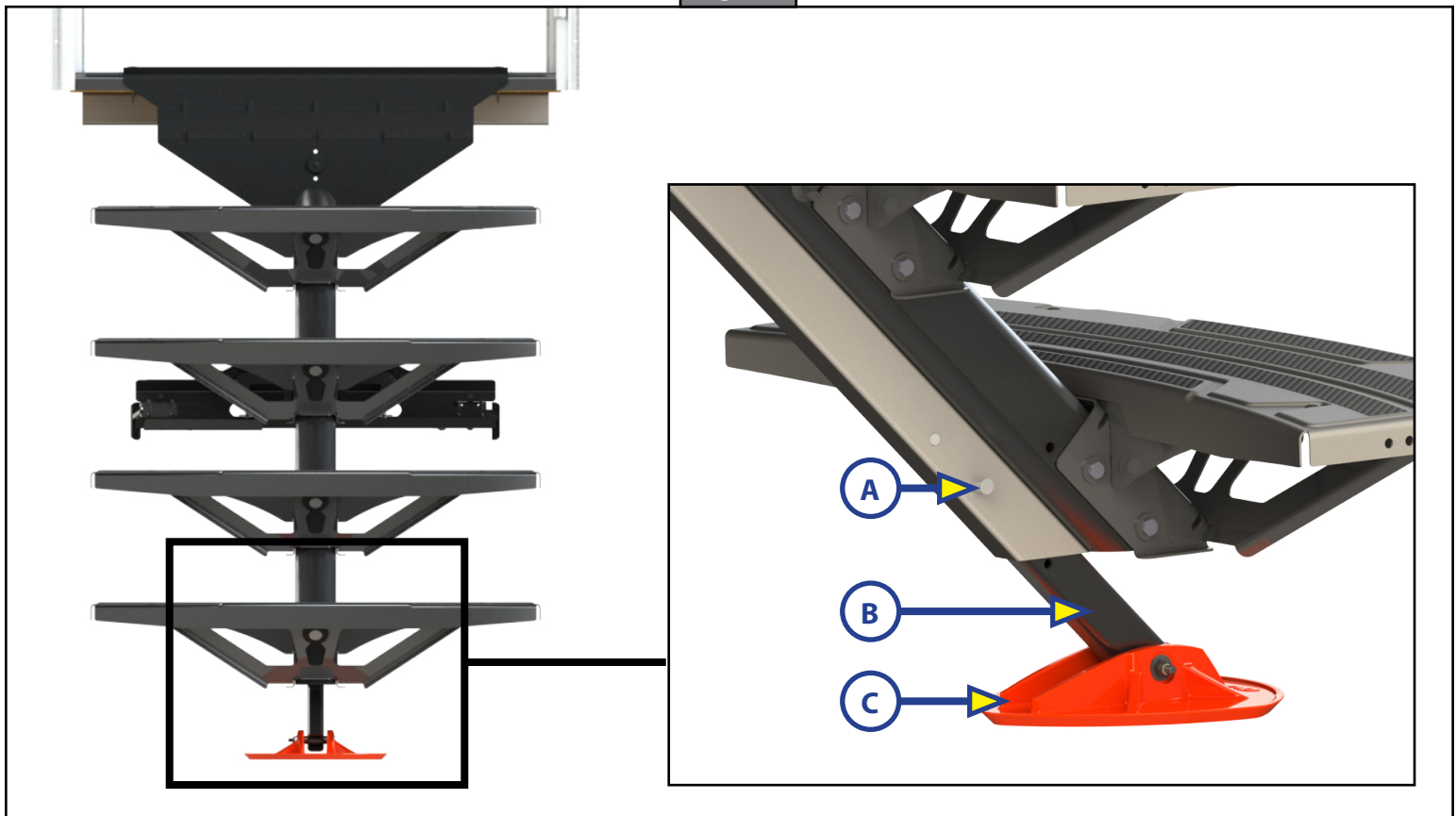
1. Retract leg extensions. See Leg Extension Adjustment section.
2. Lift up SolidStep Levitate to its stored position (Fig. 24).
3. Make sure the latches (Fig. 24B) are resting against the door frame.

CAUTION

Failure to place the footpad in the vertical position when in the stored position, can result in damage to the product or door.

4. Make sure the footpad (Fig. 25C) when stored, is resting in the vertical position (Fig. 24C), parallel to the door.
5. Once the transport lock has been engaged, test its functionality by shaking the step assembly to simulate road vibration, making sure that the SolidStep Levitate is secure.

Fig. 25

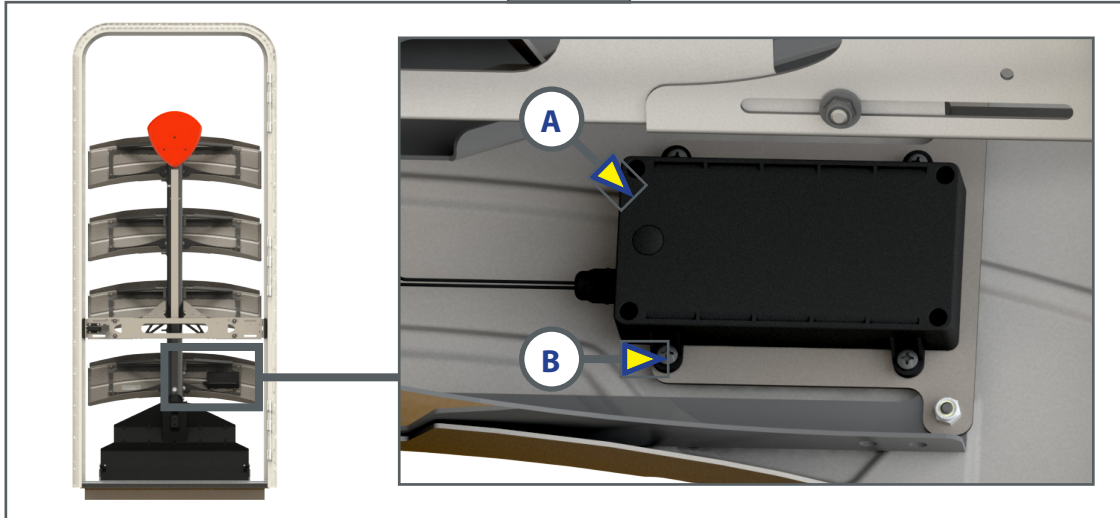


Optional Motion Sensor Lights

The motion sensor lights are an option and come pre-installed on the steps when ordered.

1. To test the function of the motion sensor lights, in the stored position (Fig. 26), locate the battery pack (Fig. 26A) underneath the step closest to the threshold.
2. Remove the four screws (Fig. 26B) holding the cover onto the battery pack.
3. Install six AA batteries into the battery pack.
4. Reinstall the cover and screws.

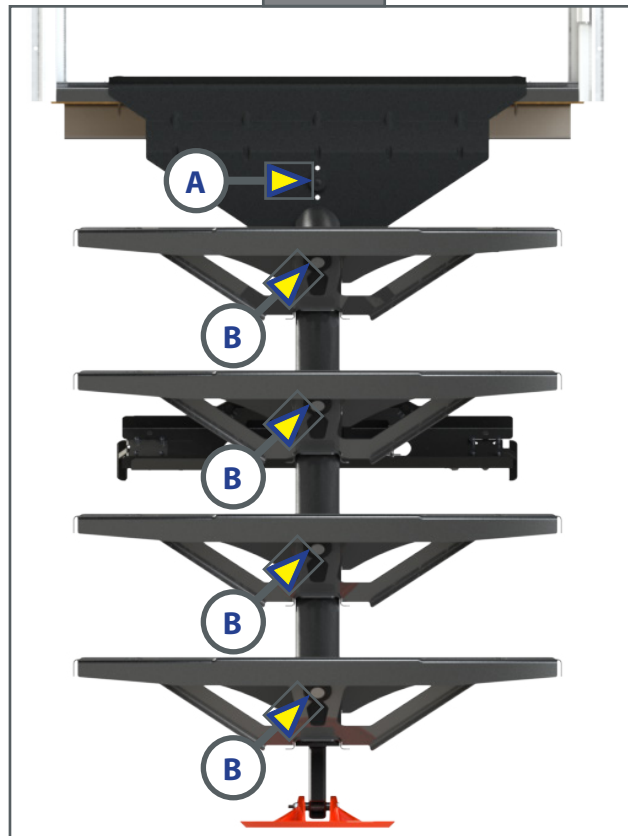
Fig. 26



NOTE: The motion sensor (Fig. 27A) located in the threshold plate, is a photo-voltaic cell, dusk to dawn sensor which will activate the lights (Fig. 27B) located just below each step. To check the lights in a brightly lit condition, cover the motion sensor (Fig. 27A) to activate the lights.

5. Lower the steps to the ground (Fig. 27) and walk in front of the steps or up them, the motion sensor should activate the lights.

Fig. 27





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