

INSTALLATION MANUAL

Product: Overlap sectional garage door

Model: OVERLAP 2.0

Operation: Manual and automatic

For Residential Use Only

Manufacturer: **SILVELOX S.p.A.**

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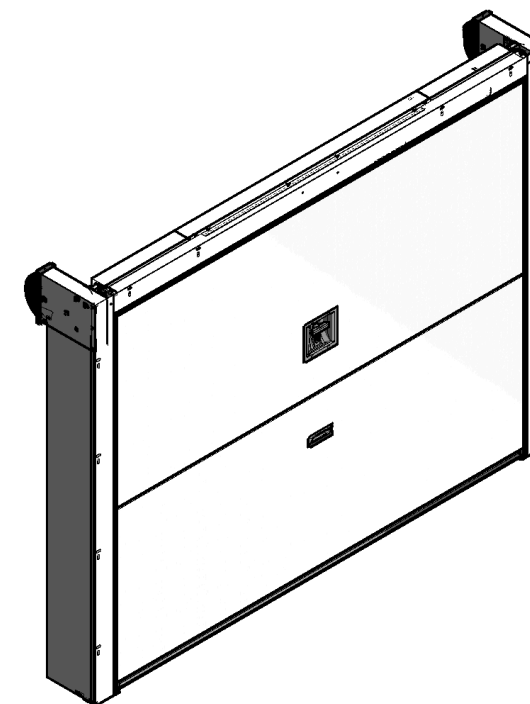
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Silvelox Quality System

Rev. 2 (March 2014)

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OVERLAP 2.0



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1 PREFACE

Dear customer, we want to inform you about the installation and safety procedures for a correct set-up of the Overlap garage door designed by Silvelox. If you correctly follow all the instructions, the product will work as expected. The garage door is typically the largest moving object in the house. Improper installation, operation or maintenance of a garage door can create a hazardous condition that can cause serious injury or even death.

 WARNING
<p>In the interest of safety this symbol means WARNING or CAUTION. Injury to people and/or property damage may occur unless instructions are followed correctly.</p>
 WARNING
<p>In the interest of safety this symbol means WARNING. Injury to people and/or property damage may occur from electrocution or fire unless instructions are followed correctly.</p>

2 PRELIMINARY CHECKS


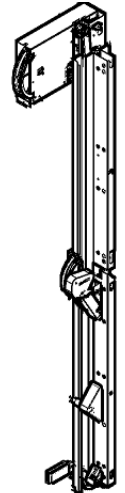
Your garage door is packaged in a single crate which contains the documentation and all parts listed below. If anything is missing, carefully check the packing material as parts may be stuck in the foam. Tools needed are also listed below.

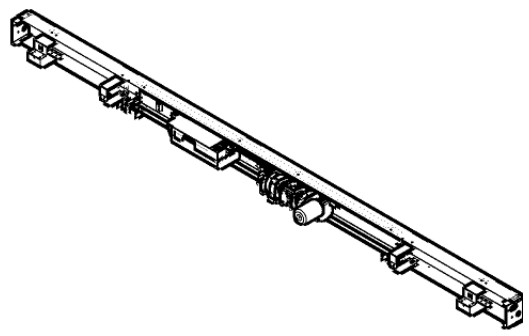
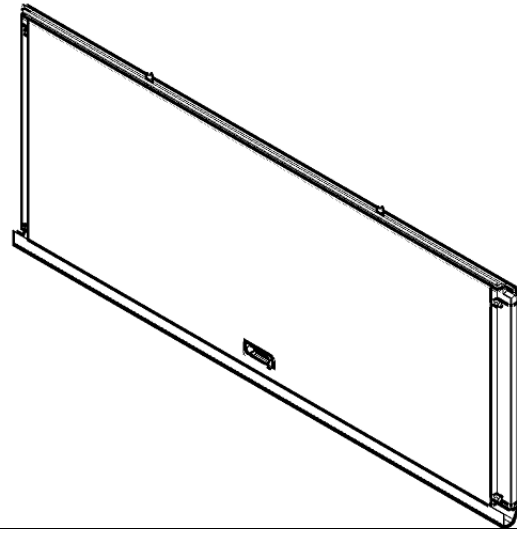
2.1 Documentation and label inventory

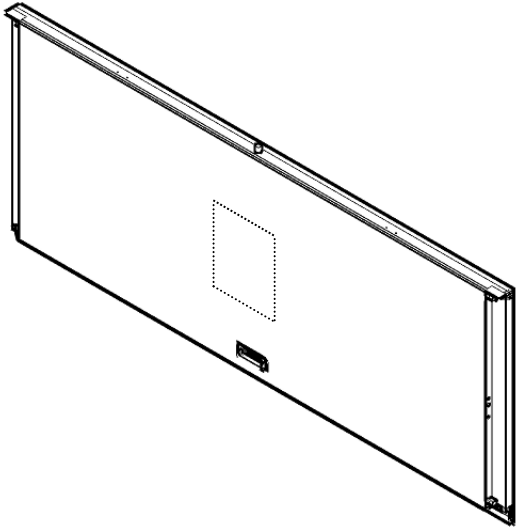
- Warnings labels for handling the packaging: follow the handling instructions listed on the packaging label.
- Acceptance report attached to the packaging lists the contents.
- Owner's manual includes operations and maintenance instructions. Please give Owner's Manual to the homeowner.
- Installation manual instructs technicians how to install a door.
- ID label describes the technical characteristics of the door and is placed on the interior side of the upper panel.
- General warning label includes safety instructions for the garage door operation and is placed on the interior side of the upper panel.
- Release handle warning label is placed on right counterbalance cover, just behind the release handle.
- Wall control button warning label must be placed close to wall control, at least 5 feet above floor.
- Electric hazard warning label indicates the danger from accidental electrocution and is placed in the proximity of the cover containing the electric motor.

2.2 Box inventory



2.2.1 Main parts

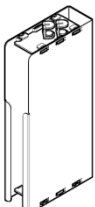
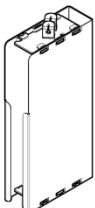
Preview	Item	Item QTY	Description
	U1	1	RIGHT UPRIGHT
	U2	1	LEFT UPRIGHT

Preview	Item	Item QTY	Description
	C1	1	OPERATOR/ HEADBAR
	P1	1	LOWER PANEL


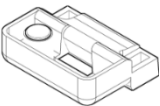
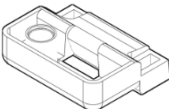
Preview	Item	Item QTY	Description
	P2	1	UPPER PANEL (may have cavity on interior, if door includes optional decorative hardware)

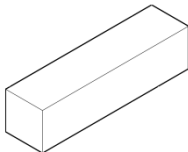

2.2.2 Secondary parts

Preview	Item	Item QTY	Description
	B1	1	RIGHT NARROW COUNTERBALANCE BOX
	B2	1	LEFT NARROW COUNTERBALANCE BOX


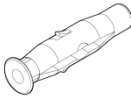


Preview	Item	Item QTY	Description
	B3	1	RIGHT LARGE COUNTERBALANCE BOX
	B4	1	LEFT NARROW COUNTERBALANCE BOX

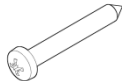



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Preview	Item	Item QTY	Description
	C8	2	CENTRAL COVER CAP
	P3	1	LEFT STRIKER (WITH MAGNET)
	P4	1	RIGHT STRIKER

Preview	Item	Item QTY	Description
	D1	2	38mm SPACER (1 ½ inches)
	D2	2	25mm SPACER (1 inch)

2.2.3 Screws

Preview	Item	Item QTY	Description
	S1	17	TEB AB 5/16" x 1-5/8" LAG BOLT, HEX CAP 11mm
	S10	17	FISCHER WALL ANCHOR, 10mm x 60mm
	S2	8	CONE SCREW, HEX CAP 10mm
	S3	4	TEB AB 6,3x16 ZNG SCREW, HEX CAP 10mm

	S4	34	TB 5x30 C15 ZNG WOOD SCREW, CROSS SLOTTED
	S5	32	STILE CAP
	S7	6	TB ST5,5x50-C-H ZNG SCREW, CROSS SLOTTED
	S8	6	TEB AB 6,3x50 ZNG SCREW, HEX CAP 10mm

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2.3 Tools needed

Before starting the door installation, be sure to have at hand all the tools listed below:

- | | | | |
|---|---|----|-------------------|
| 1 | Knife/Box-cutter | 8 | Tape measure |
| 2 | mm Allen wrench | 9 | Rubber hammer |
| 3 | 8 mm T Handle Allen Wrench (Double Car doors only) | 10 | 6' ladder |
| 4 | 13 mm wrench | 11 | Level- 24" or 48" |
| 5 | 10 mm spark plug wrench, 200 mm long | | |
| 6 | Phillips head screwdrivers | | |
| 7 | Drill, with a 3/8"x10" drill bit | | |

3 INSTALLATION

IMPORTANT INSTALLATION INSTRUCTIONS

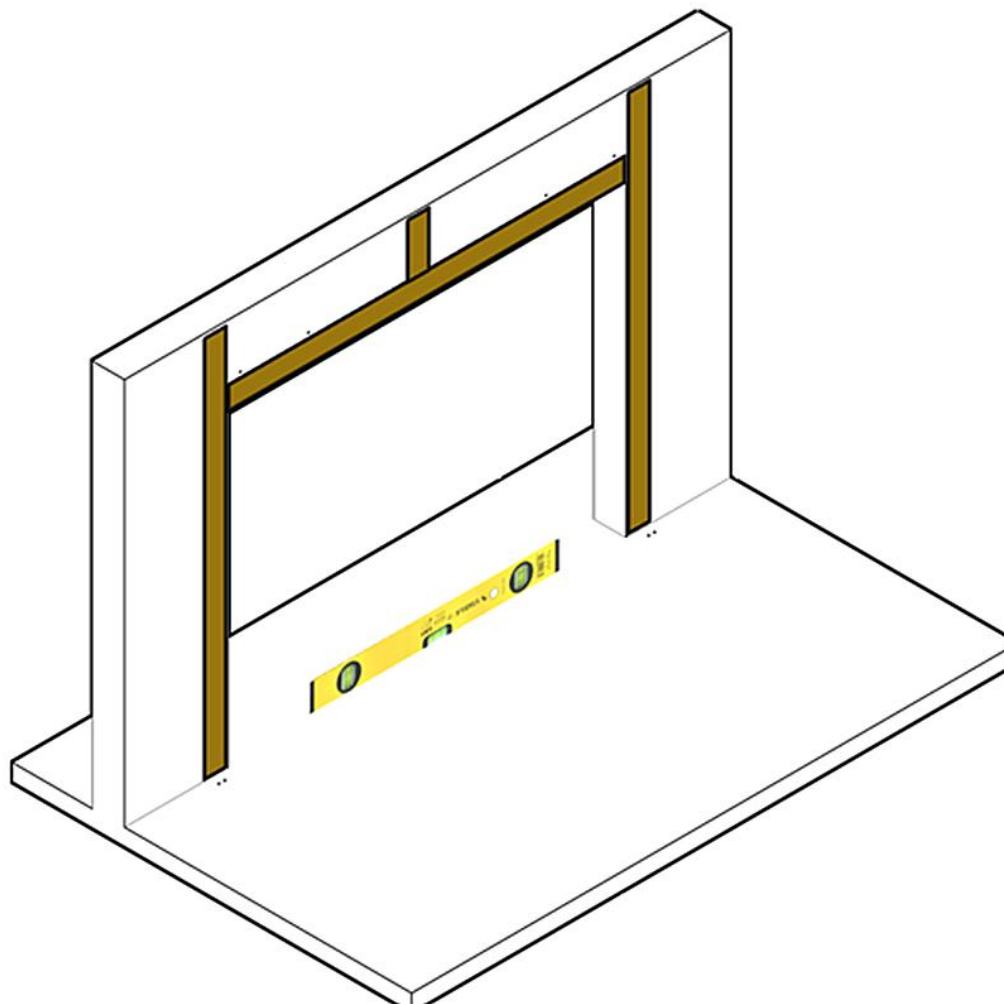
WARNING: To reduce the risk of severe injury or death

- | | |
|---|--|
| <ol style="list-style-type: none"> 1. READ AND FOLLOW ALL INSTALLATION WARNINGS AND INSTRUCTIONS before to install, operate, perform maintenance or repair the garage door. 2. Install garage door opener ONLY on properly balanced and lubricated garage door. An improperly balanced door may not reverse when required and could result in SEVERE INJURY or DEATH. 3. Disable ALL locks and remove ALL ropes connected to garage door BEFORE installing opener to avoid entanglement. 4. Mount emergency release handle 6 feet (1.8 m) above floor. 5. NEVER connect garage door opener to power source until instructed to do so. 6. NEVER wear watches, rings or loose clothing while installing or servicing garage door. They could be caught in garage door or opener mechanisms. | <ol style="list-style-type: none"> 7. Install wall-mounted garage door control: <ul style="list-style-type: none"> • within sight of the garage door. • out of reach of children at minimum height of 5 feet (1.5 m). • away from ALL moving parts of the door. 8. Place entrapment warning label on wall next to garage door control. 9. Place manual release/safety reverse test label in plain view on inside of garage door. 10. Upon completion of installation, test safety reversal system. Door MUST reverse on contact with a 1-1/2" (3.8 cm) high object (or a 2x4 laid flat) on the floor. 11. To avoid SERIOUS PERSONAL INJURY or DEATH from electrocution, disconnect ALL electric and battery power BEFORE performing ANY service or maintenance. |
|---|--|

WALL OPENING

- Wood door jambs and 2X6 center pad must frame the door opening (#2 grade or better).
- Check that floor is level.

NOTE: Wood door jambs are ONLY shown in this installation step. Assume jambs are present in all successive steps.



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3.1 RIGHT UPRIGHT

- Place the headbar on the floor as shown.
- Center it and mark the distance X.
- Determine the width Z of the external frame adding Y to each ends of X:

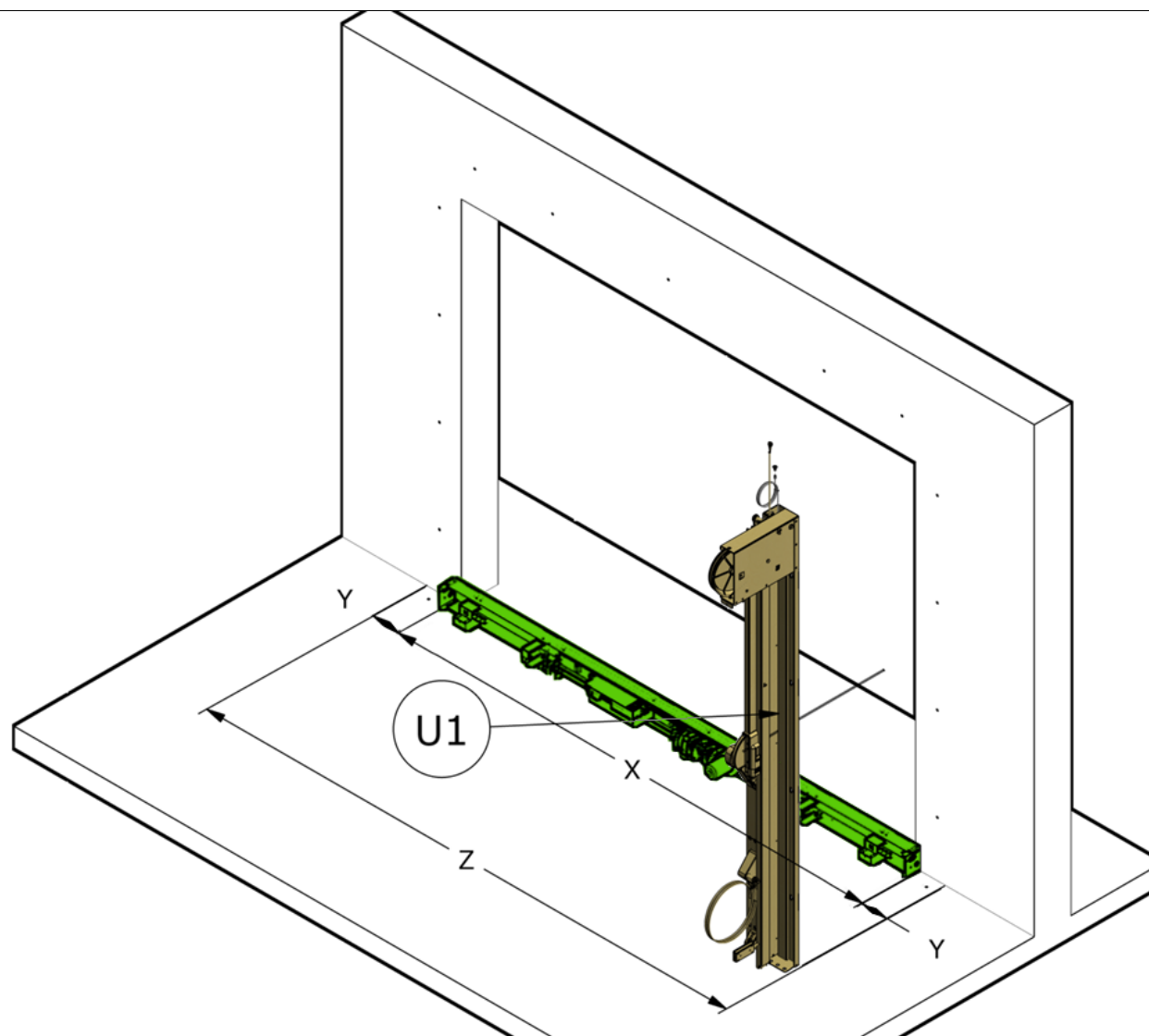
$$Y = 4 \frac{1}{2} \text{ inches}$$

$$Z = X + 2*Y$$

$$Z = X + 9''$$

where X is the headbar width.

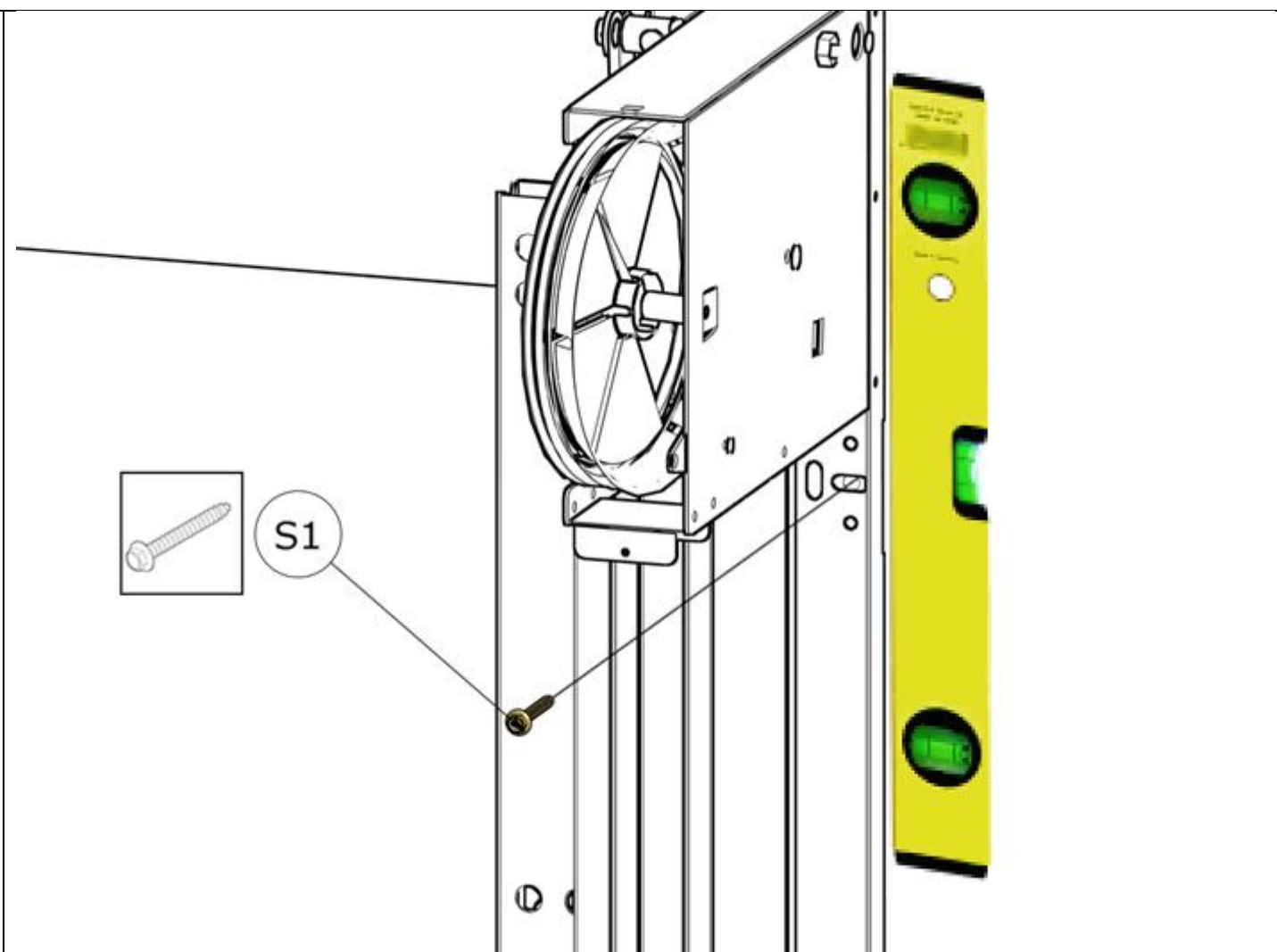
- Using the external reference, place the first upright, starting from the highest side of the floor.



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3.2 RIGHT UPRIGHT SECURING

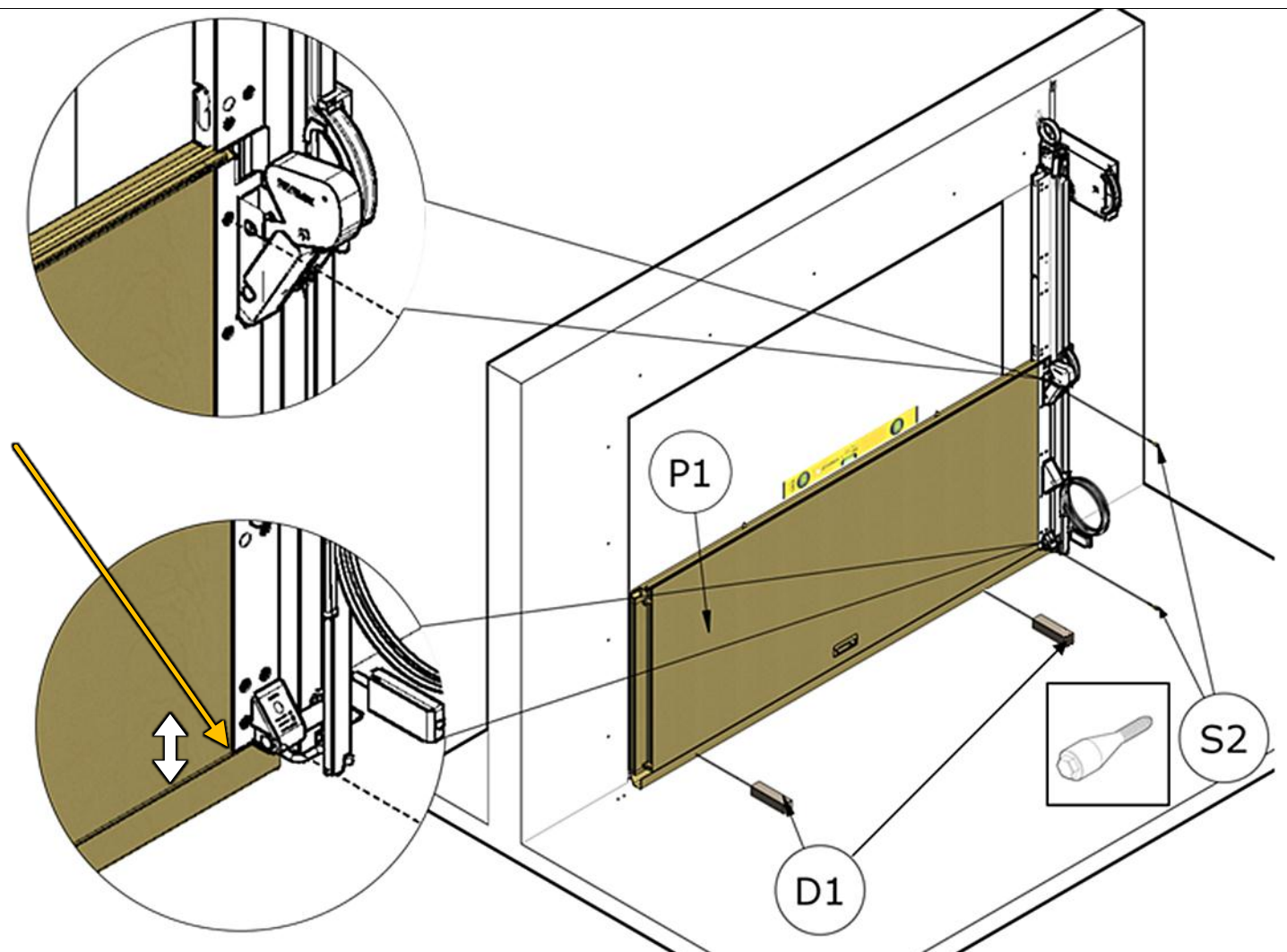
- Secure the upright using the **horizontal** shaped hole as in the picture.
- Attach upright to wall using screw S1.
- **In case of a concrete or brick wall installation, insert a Fisher anchor S10 in the wall hole.**
- Final attachment + adjustment will come later.



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3.3 LOWER PANEL

- Place panel P1 in the opening. Use spacers D1 to level the panel.
- **Check the alignment between the bottom of the panel P1 and the upright rail.**
-
- Attach P1 to upright using two S2 fasteners, starting with the top hole.

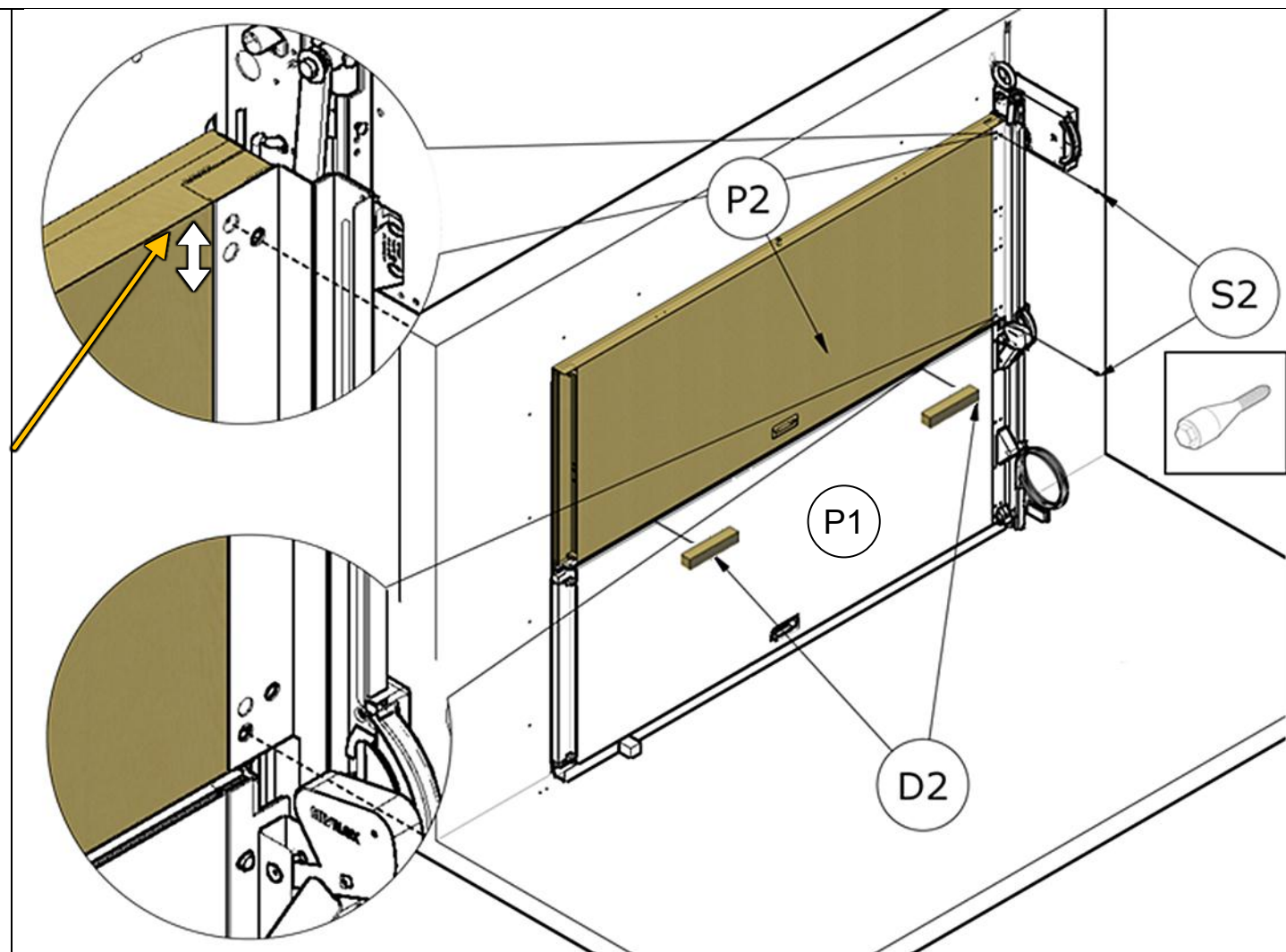


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3.4 UPPER PANEL

- Before placing the panel, P2, put the spacers D2 above the lower panel 12" from each end.
- Place panel P2 on top of P1 and the spacers.
- **Check the alignment between the top of the panel P2 and the upright rail.**
- Fasten P2 to the upright with two S2 fasteners.

NOTE: If your door will use outside decorative handles, then the upper panel will have a box on the interior (not shown).



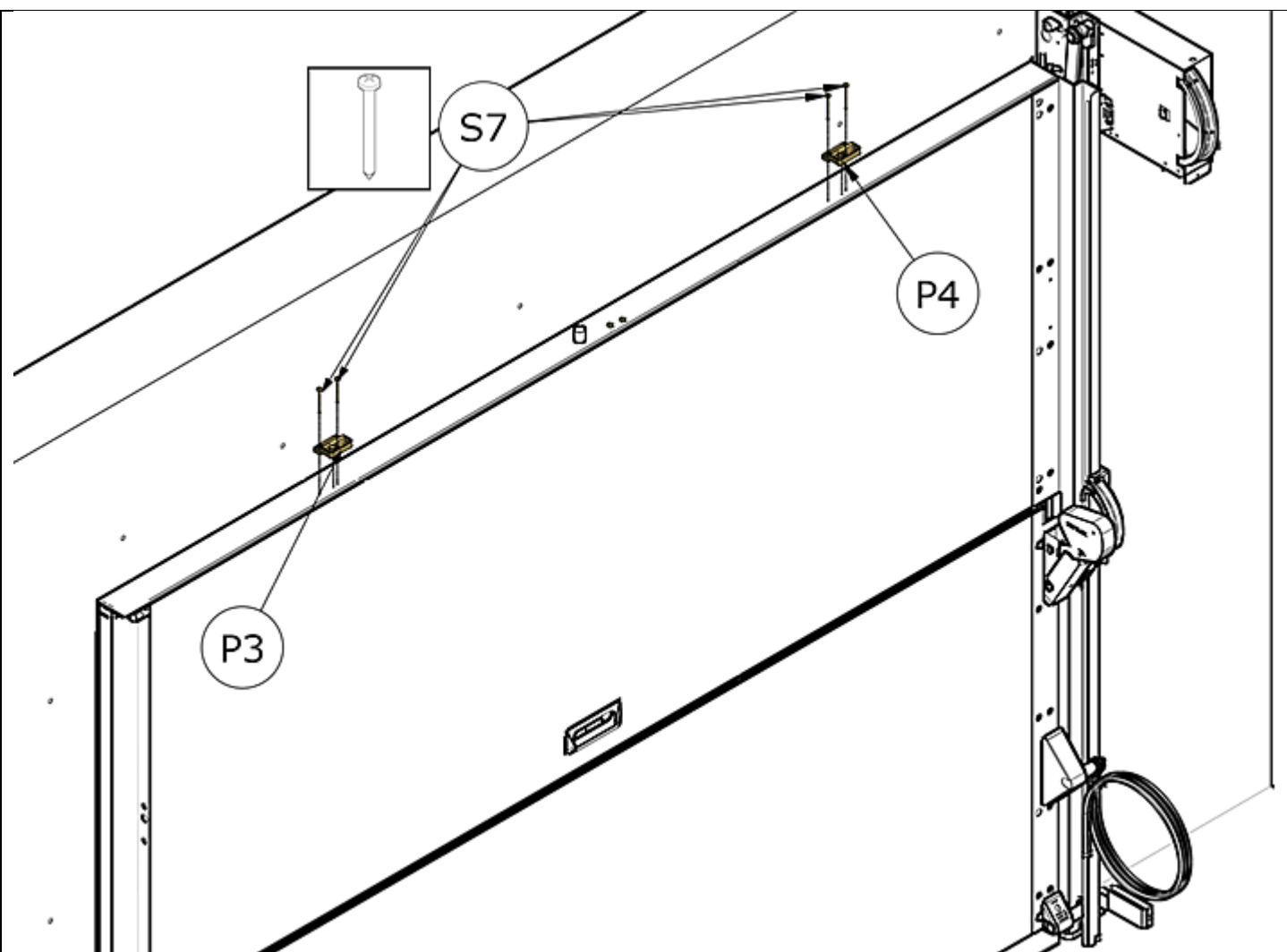
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3.5 STRIKERS ON UPPER PANEL

- Place the strikers, P3 and P4, in the positions indicated by the pre drilled holes located on top of the upper panel.
- Fasten the strikers with S7 screws

NOTE: P3 on the left side has a magnet.

NOTE: Screws S7 are 50 mm long. Do not confuse with screws S4, which are 30 mm long.

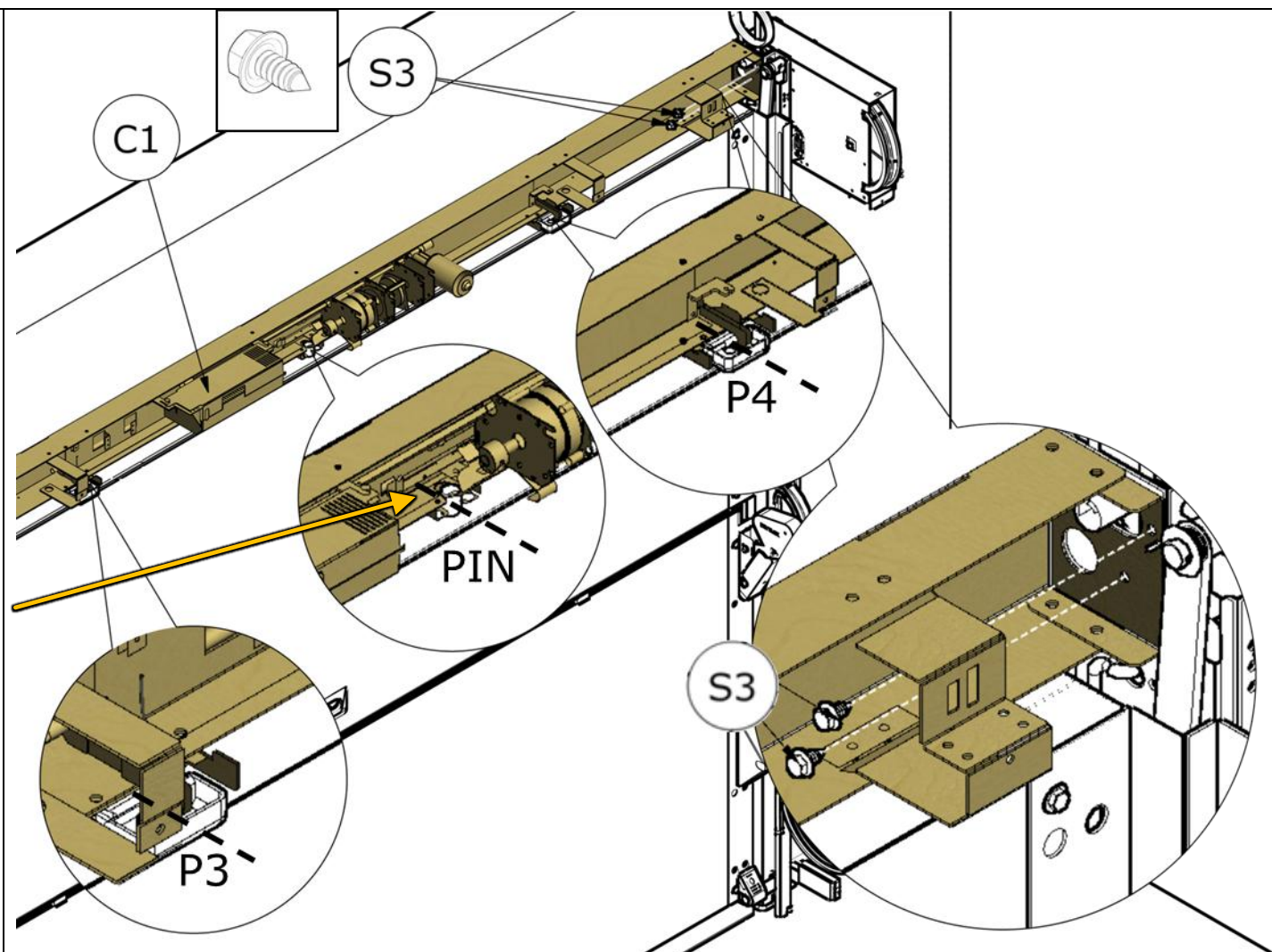
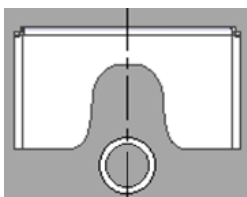


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3.6 OPERATOR/HEADBAR

- Place the operator/headbar C1 on top of the upper panel. Attach C1 to one of the uprights with two screws S3.

NOTE: Be sure the headbar latches are aligned with the panel strikers, P3 and P4, and the PIN placed in the middle of the upper panel P2 is centered:

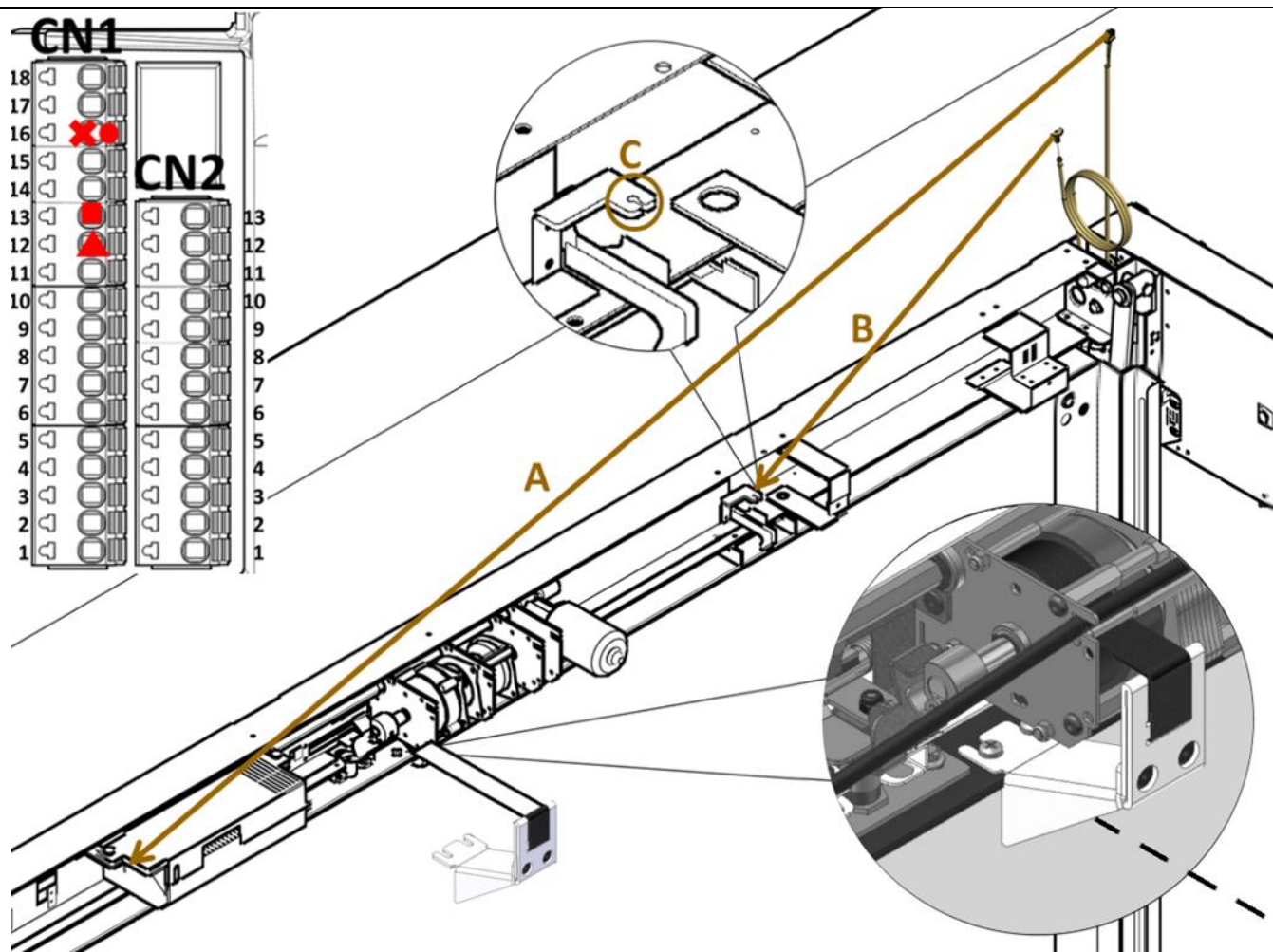


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3.7 PHOTOEYE, OPERATOR RELEASE AND STRAP CONNECTION

- Plug in the photo-eye cable (A): purple and pink wires in slot 16 (dot and cross), grey wire in slot 13 (square), and blue wire in slot 12 (triangle) of the CN1 terminal block.
- Attach the release handle cable (B) to the latch (C)
- Pull the strap in the middle of the operator/headbar and attach it to the upper panel by pushing it through the screws present on the upper side of the panel (D). Additional screw tightening may be necessary.

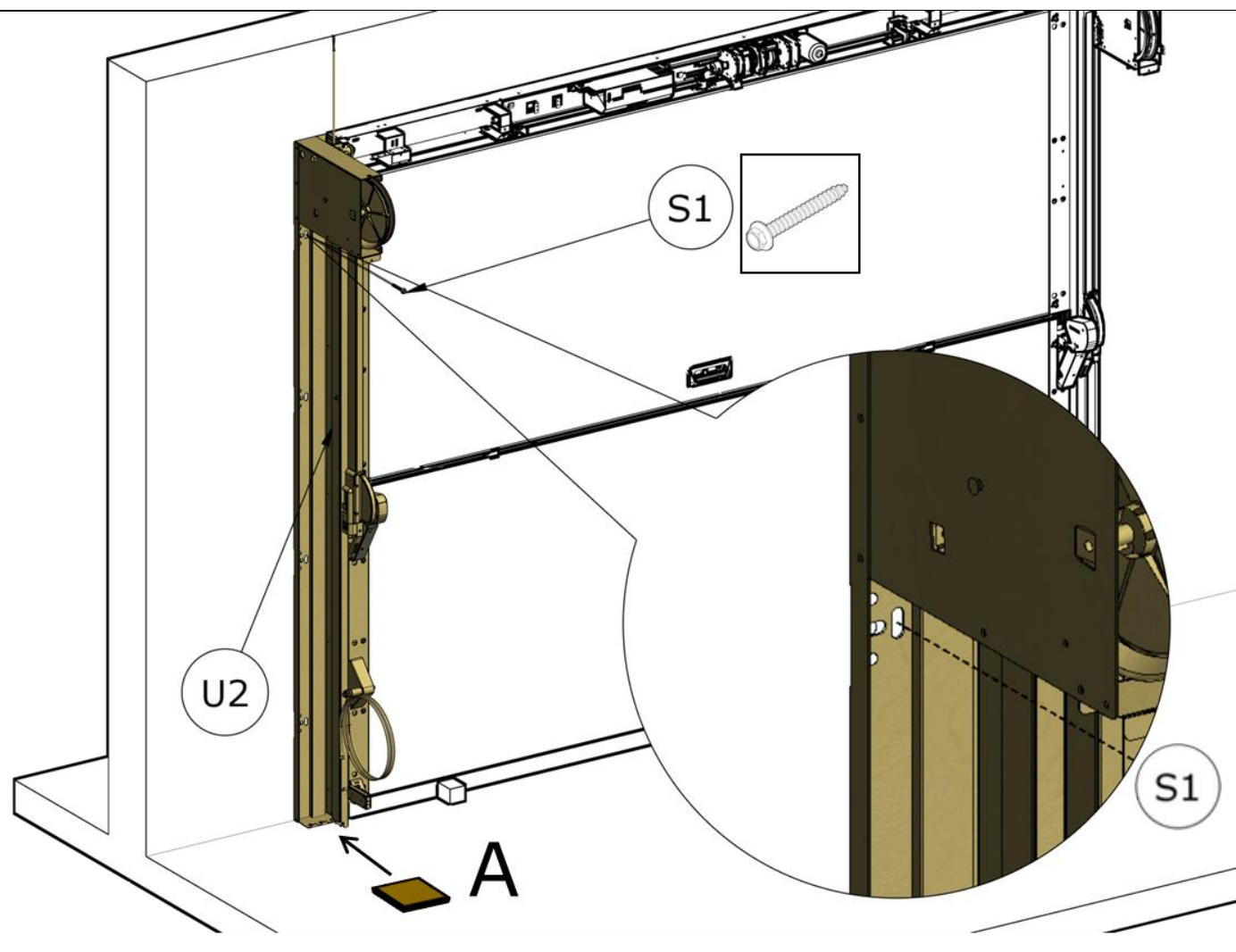
NOTE: See Section 5.2 for connection details.



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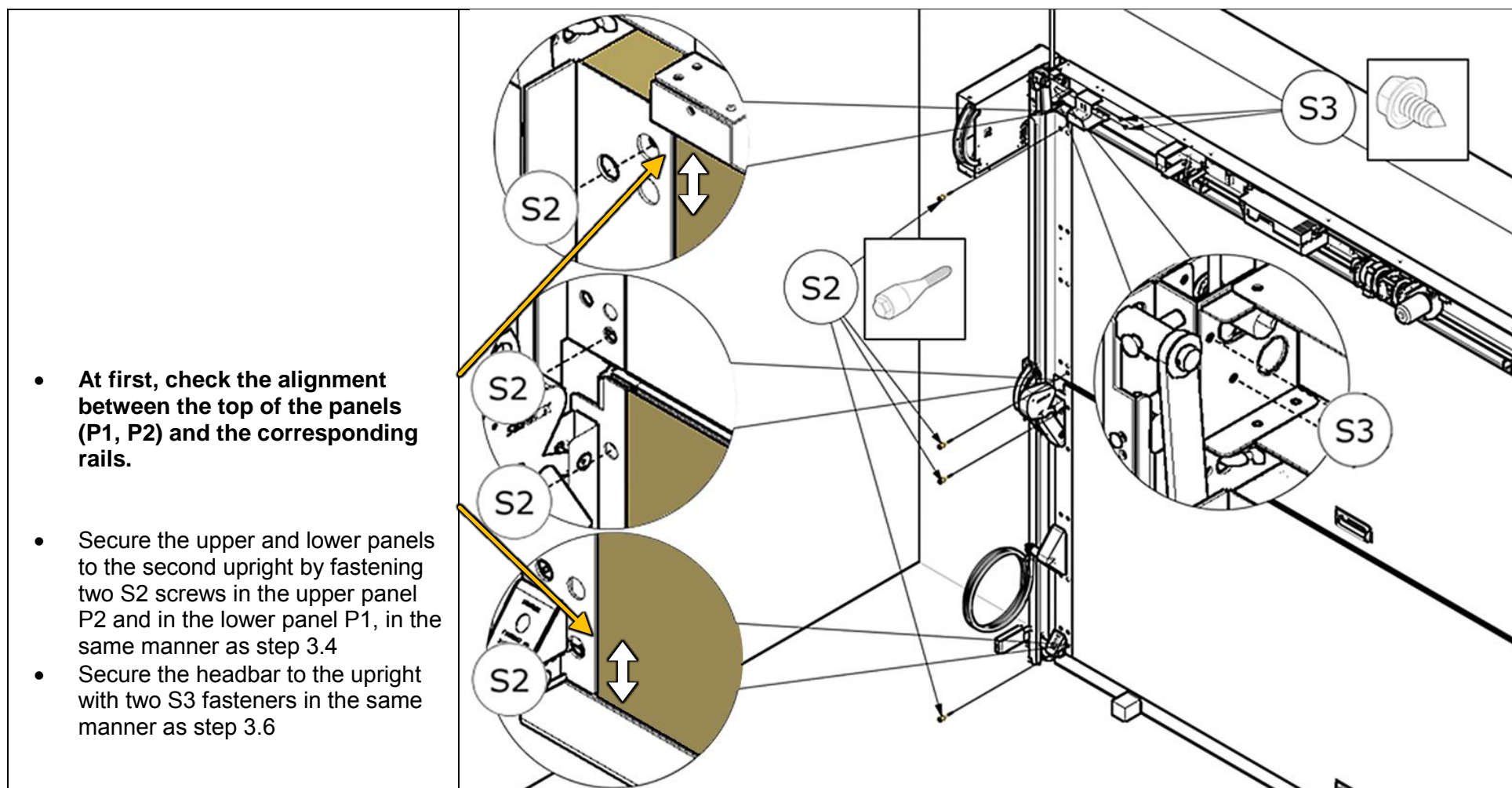
3.8 LEFT UPRIGHT

- Put the remaining upright U2 in place.
- **In the case of an uneven floor, add spacers below the upright base (A), to level this upright with respect to the other upright.**
- Attach the upright using the **vertical** shaped hole with screw S1.
- **In case of a concrete or brick wall installation, use a Fisher anchor S10.**



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3.9 PANEL AND OPERATOR/HEADBAR ATTACHMENT



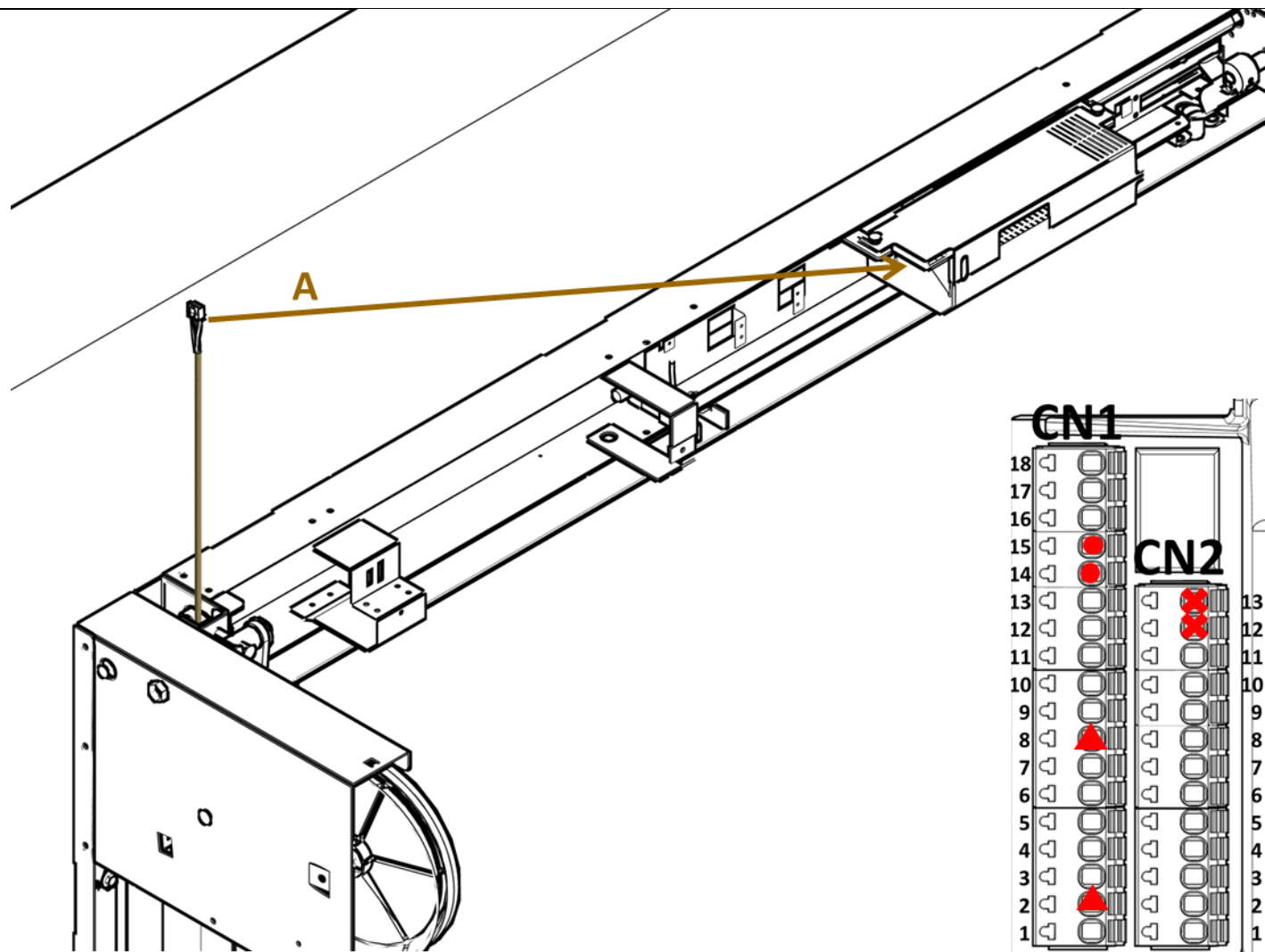
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3.10 PHOTOEYE AND LIMIT SWITCH CONNECTION

- Connect the photo-eye cable (A): plug the white wire in slot 14, white/black wire in slot 15 of the CN1 terminal block (see dots).

NOTE for US & Canada: If provided, connect and install an external receiver. Plug the power wires in slot 13 and 12 of the CN2 terminal block (crosses). Plug the Channel1 wires in slot 8 and 2 of the CN1 terminal block (triangles).

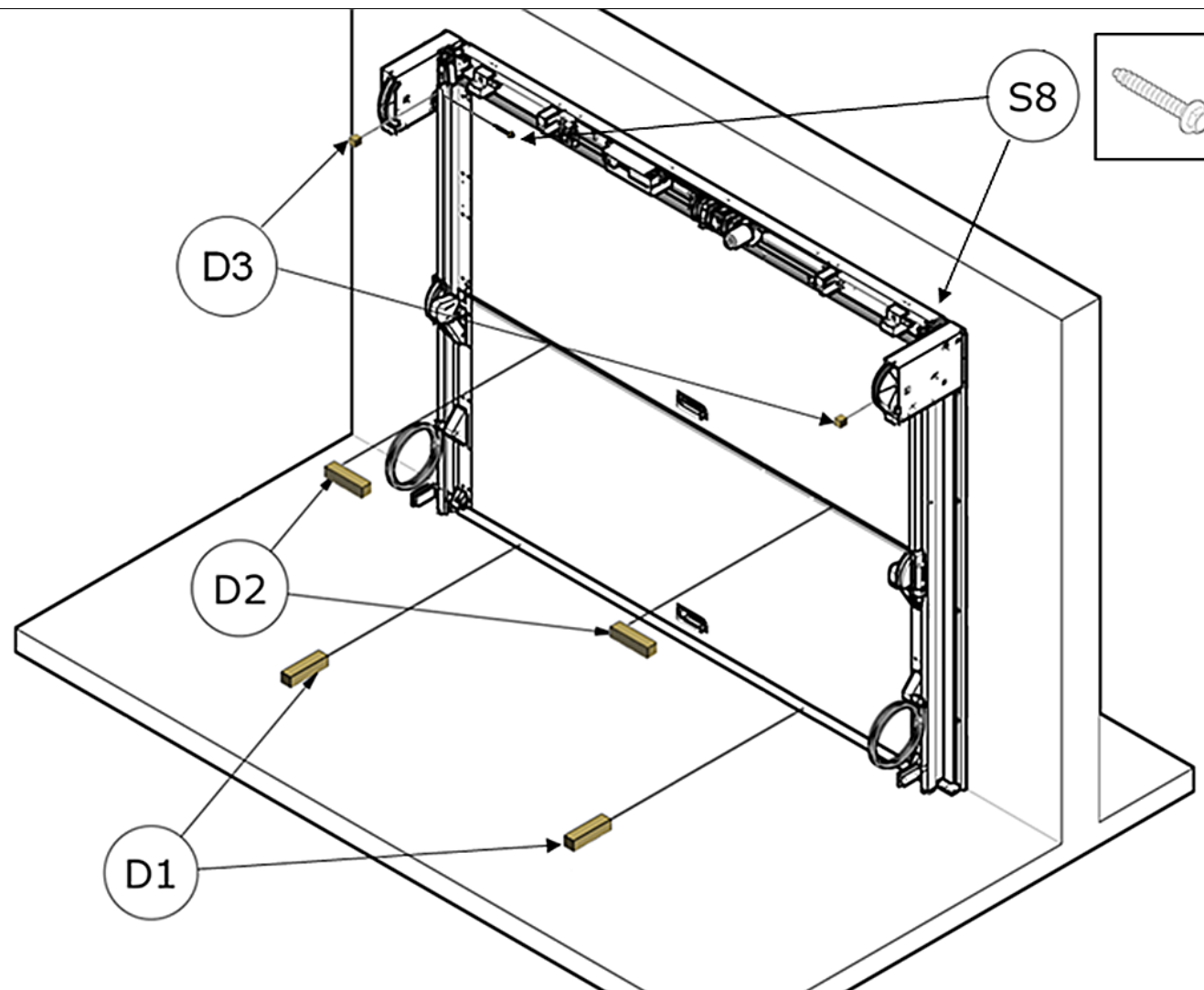
NOTE: See Sections 5.1, 5.2 and 5.3 for additional information.



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3.11 SPACER REMOVAL

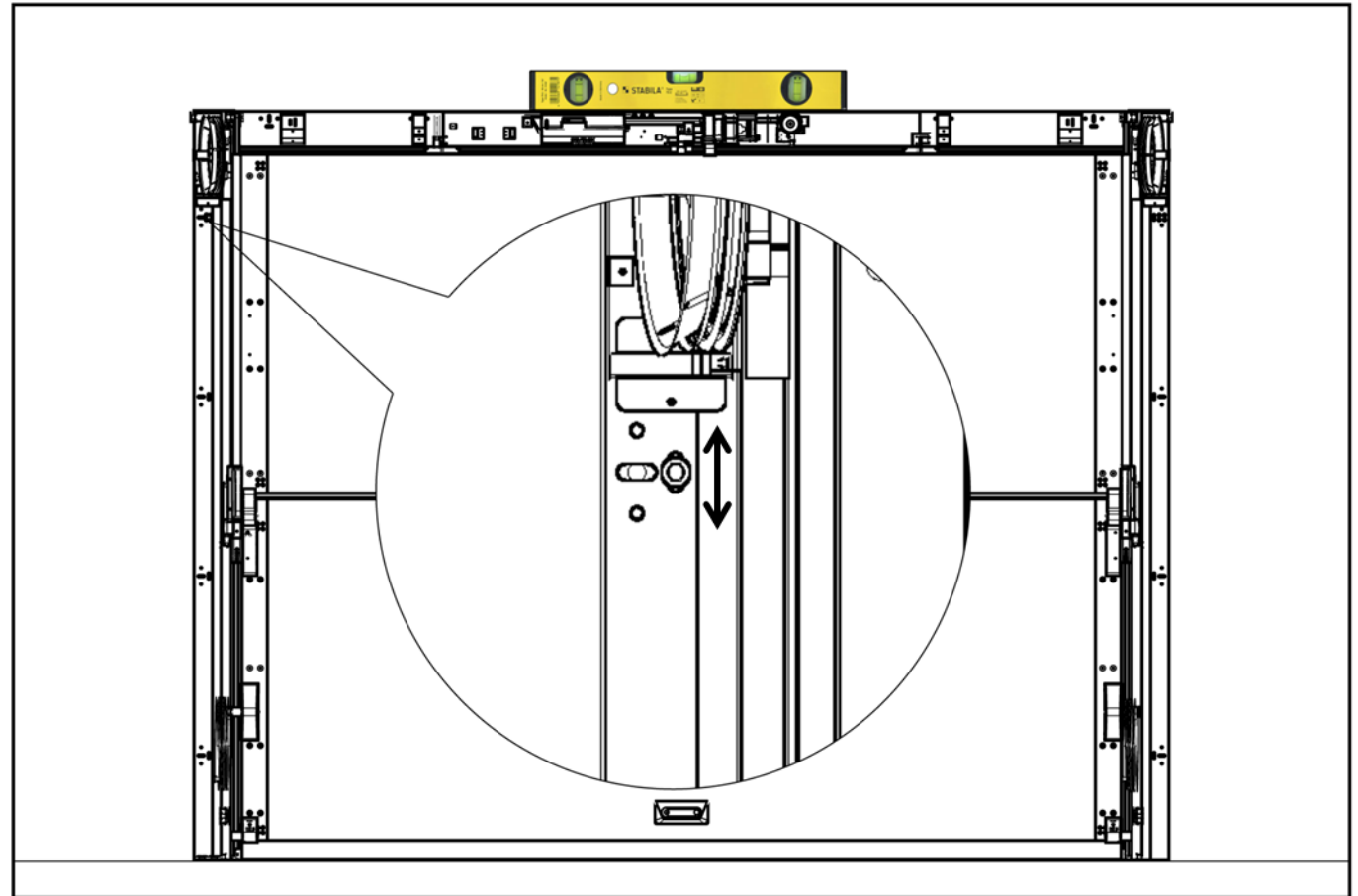
- Remove the D2 spacers between the panels and D1 spacers on the floor.
- Remove the two blocks, D3, by releasing screws S8.



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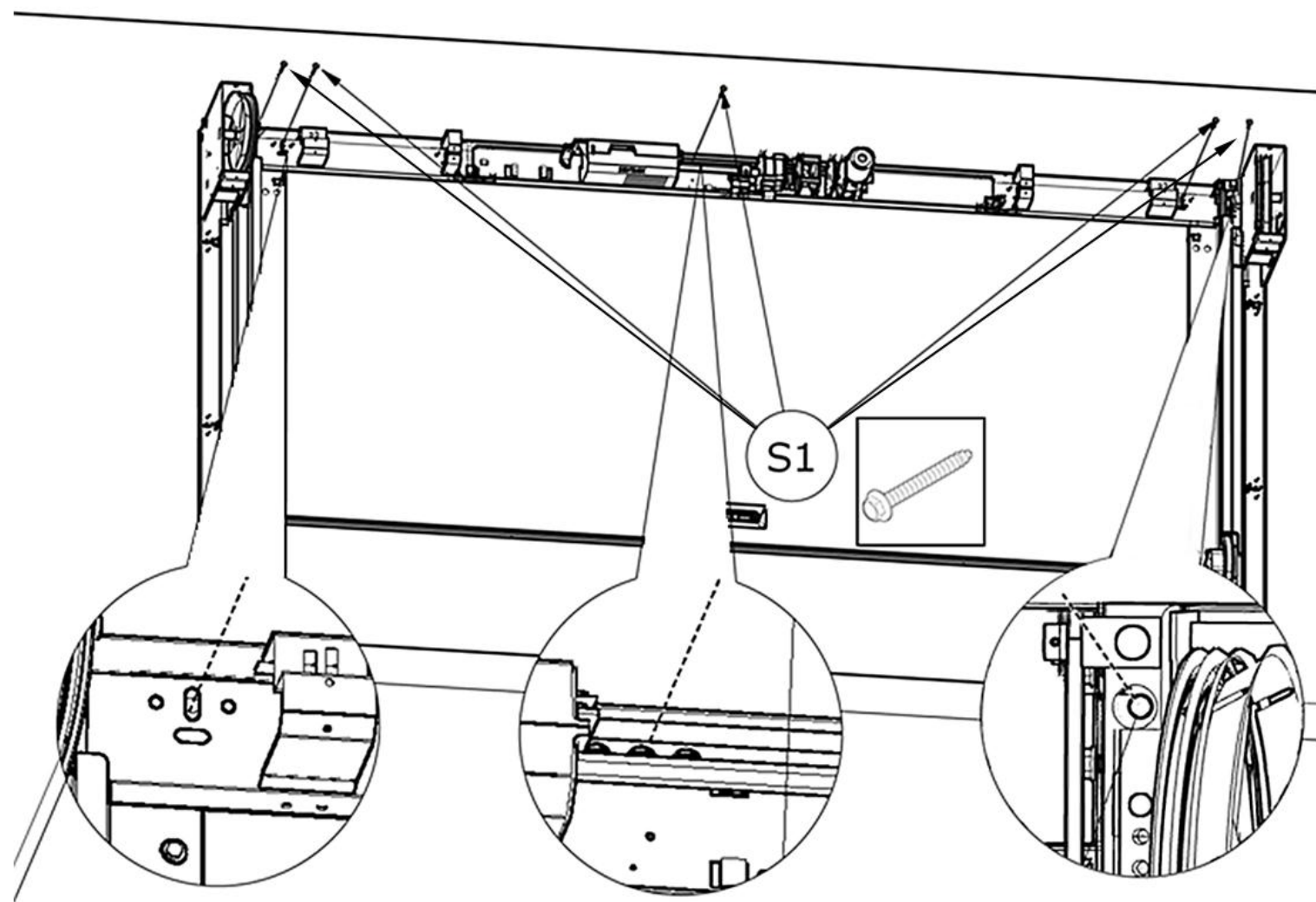
3.12 LEVEL THE OPERATOR/HEADBAR

- Check operator/headbar level.
- To level, adjust the second installed upright fixed through the vertical shaped hole.



3.13 SECURING THE OPERATOR/HEADBAR

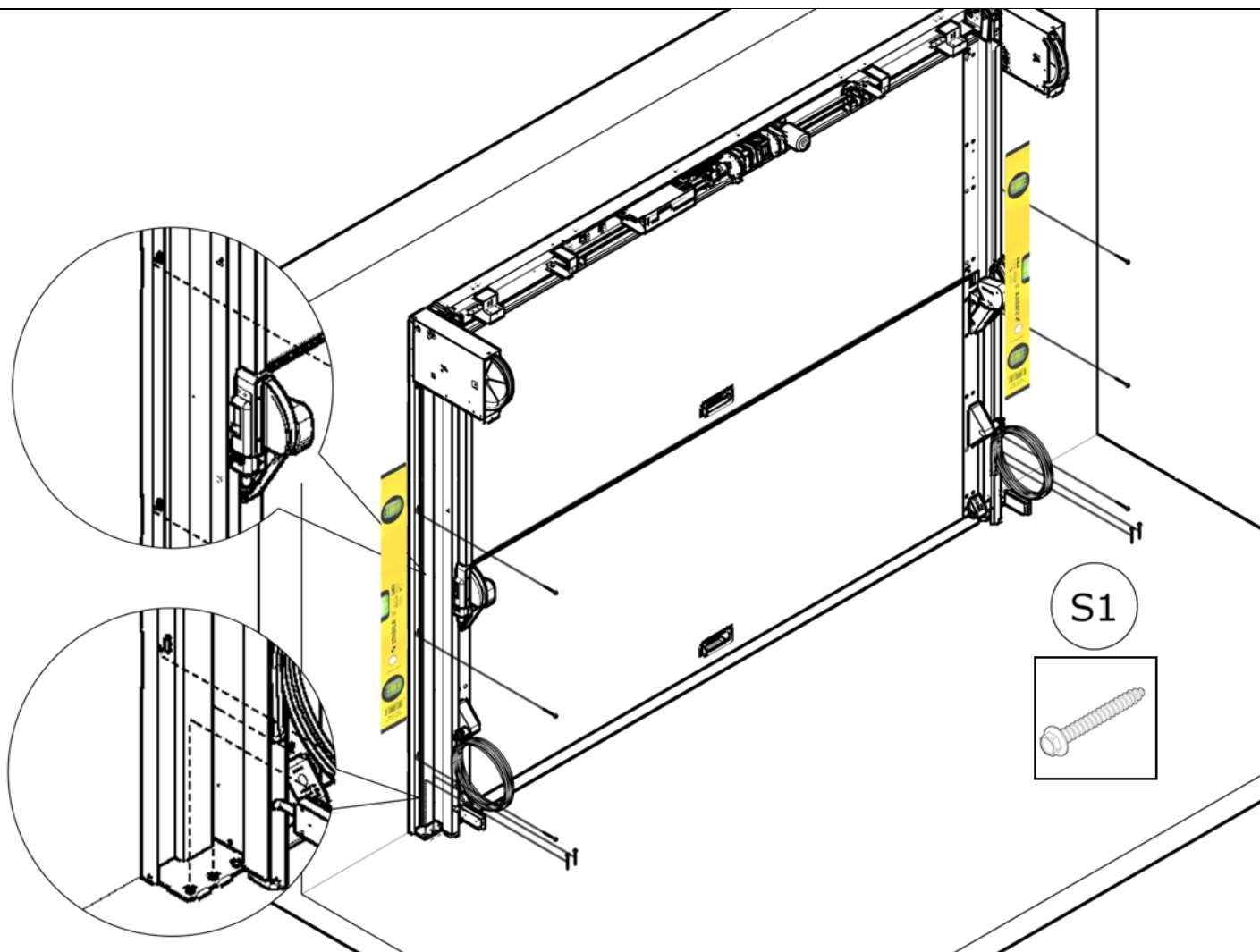
- Once level, attach the operator/headbar to the wall with five S1 screws.
- In case of a concrete or brick wall installation, use a Fisher anchor, S10 .



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3.14 UPRIGHT LEVEL AND ATTACHMENT

- Check the level of the upright and secure to the wall with five S1 screws each.
- Repeat for other upright.
- **In case of a concrete or brick wall installation, use a Fisher anchor S10.**



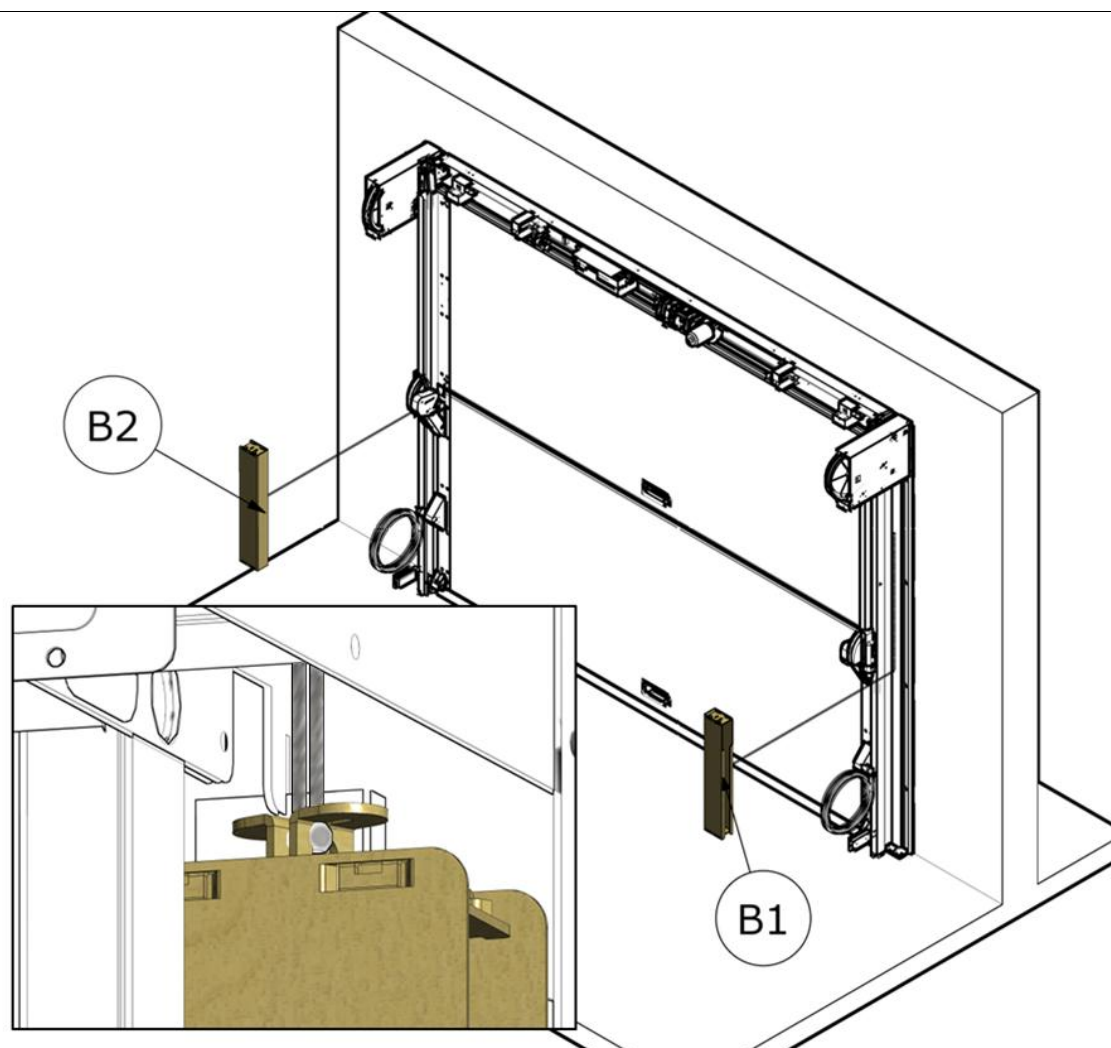
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3.15 NARROW COUNTERBALANCE BOXES

- Place the narrow counterbalance boxes (without the weights in them) B1 and B2.
- Hang the counterbalance boxes on to the two cables ending with a sphere (solid black in the zoomed detail).

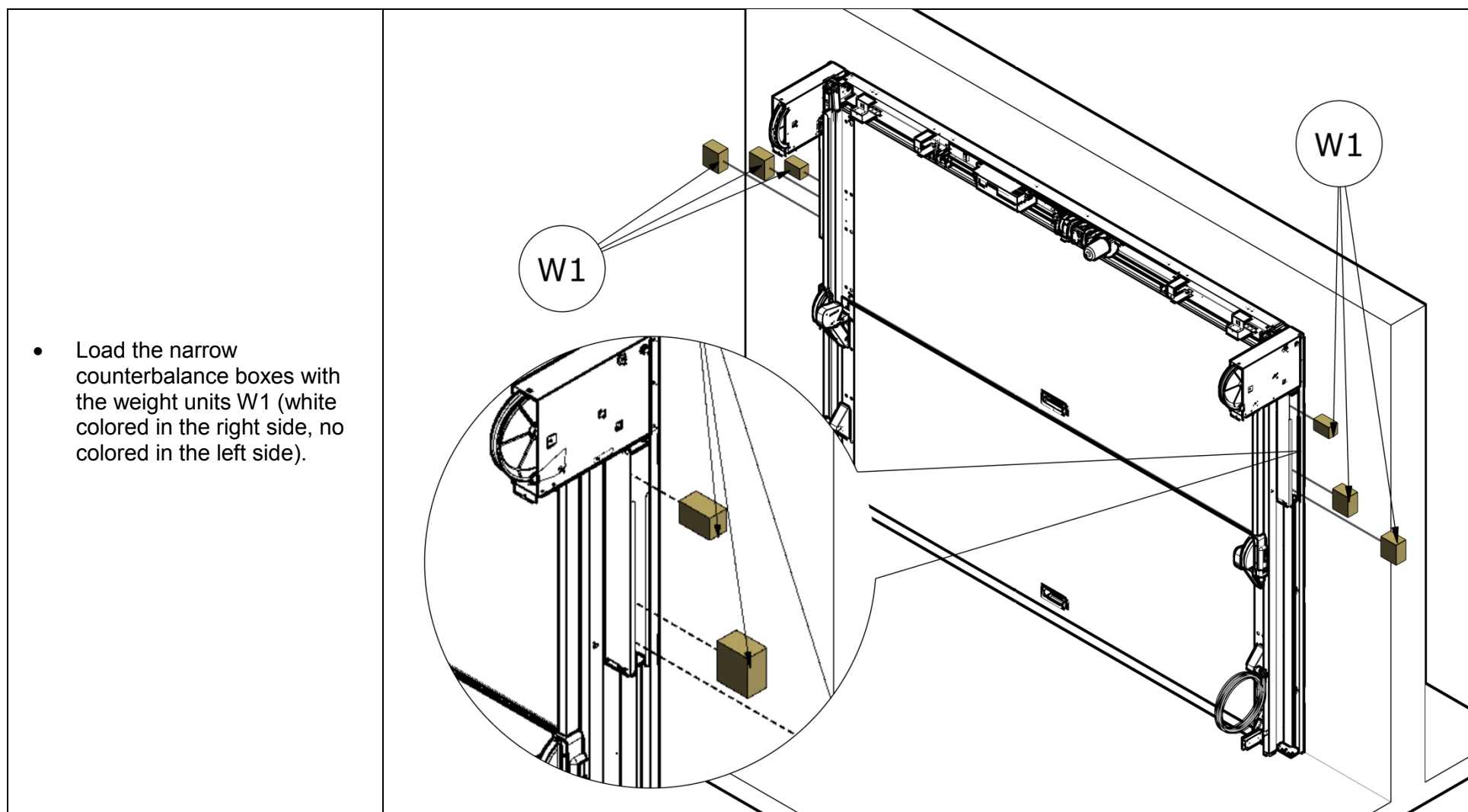
NOTE: There are no screws to fasten. The cable spheres simply go in their housing placed in the upper part of the counterweight boxes. The cable must not be twisted before and after the connection.

- The open side of the box will face the side of the garage, as shown in the picture (see also installation step 3.17).



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3.16 WEIGHT LOADING – NARROW BOXES

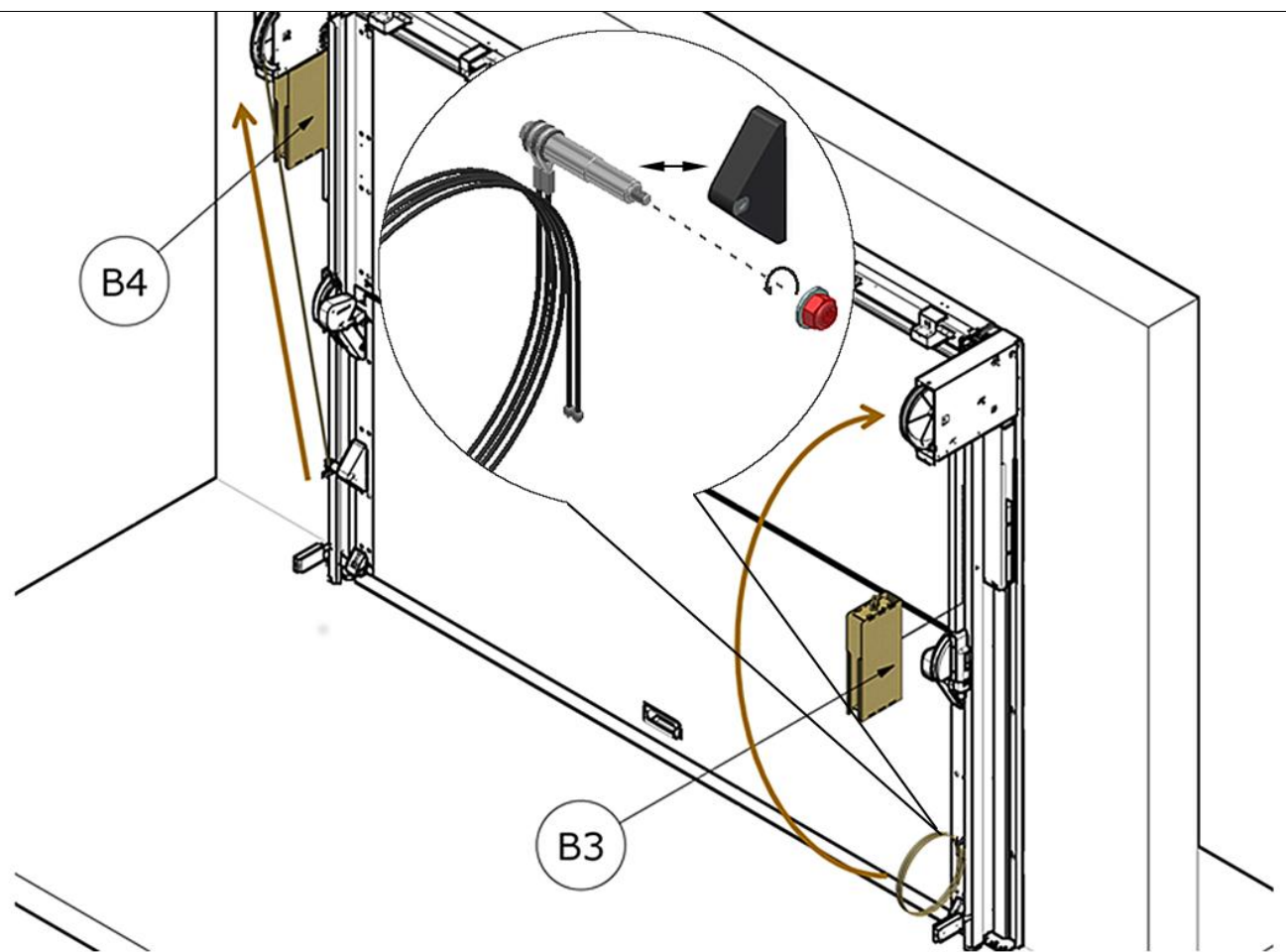


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3.17 LARGE COUNTERBALANCE BOXES AND CABLES

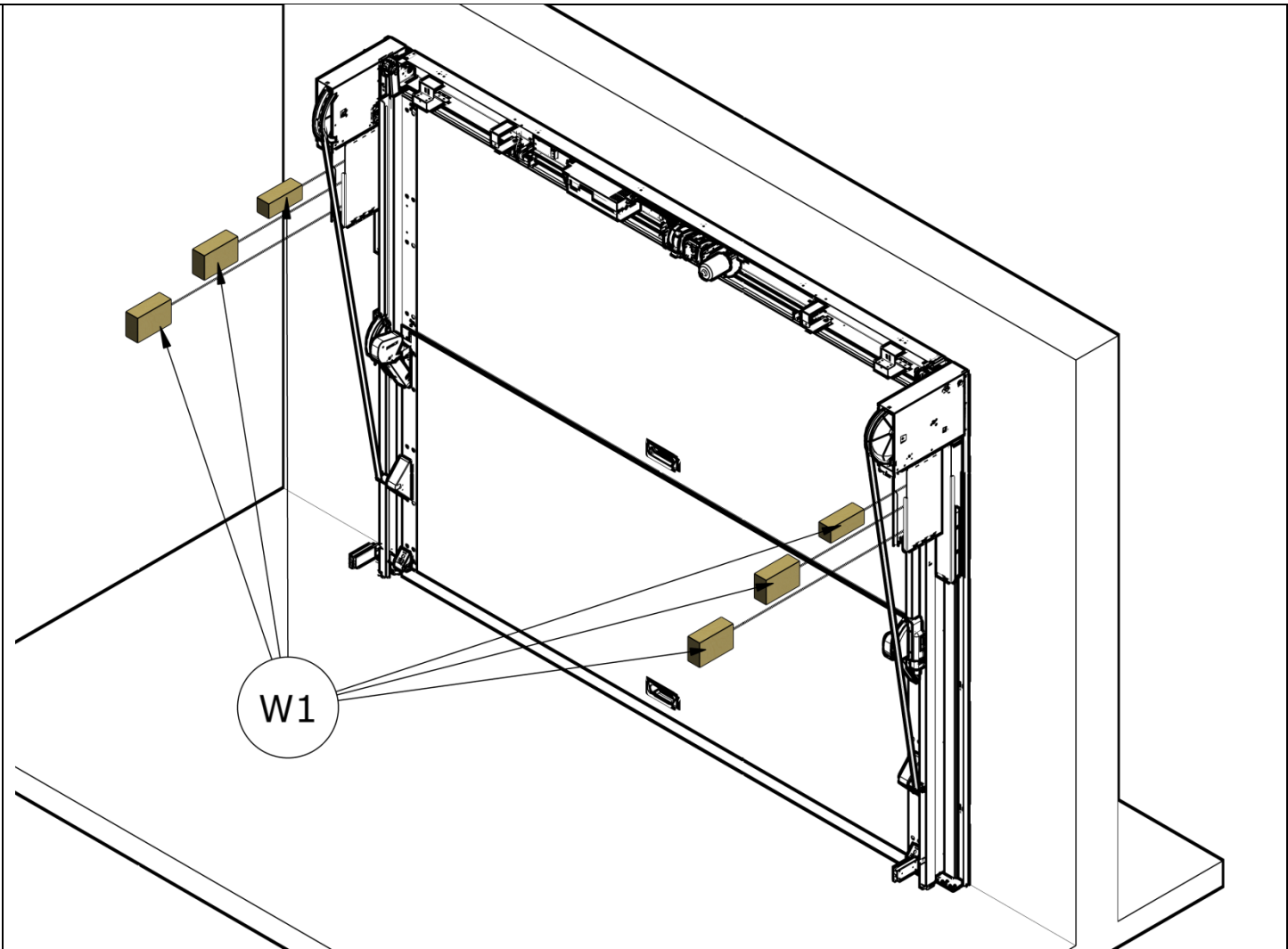
- Loose the two cables with the pivot from the panel by unscrewing the RED fasteners (see detailed picture).
- Pass the cables around the pulleys as pointed by the arrows.
- Hang the large counterbalance boxes B3 and B4, without the weight, to the sphere extremities of the cables in the same way done for boxes B1 and B2.
- Resume the original pivot position and tight the RED fastener.

NOTE: the left side of this picture shows the cable in the installed configuration.



3.18 WEIGHT LOADING – LARGE BOXES

- Load the counterbalance boxes with the weight units W1 (black colored in the right side, brown in the left side).

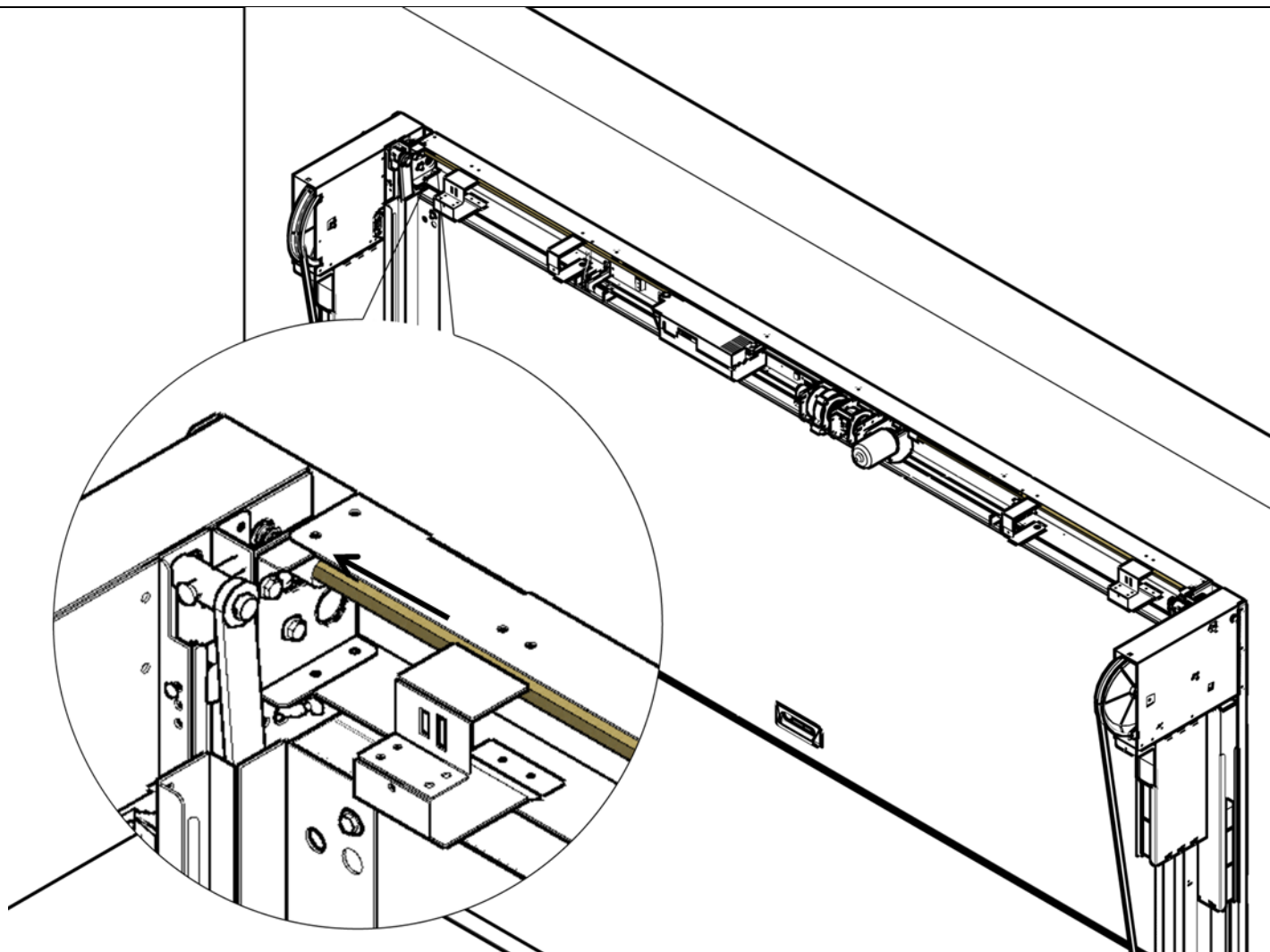


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3.19 OPERATOR DRIVE SHAFTS

- The drive shafts are already present in the headbar assembly.
- Plug them in the appropriate upright joint (**both sides**).

NOTE: In the zoomed detail, the left side is depicted. The arrow shows where to insert the driveshaft. The upright joint has to be pushed back to allow the insertion of the drive shaft; the spring of the joint will restore its position after the engagement.

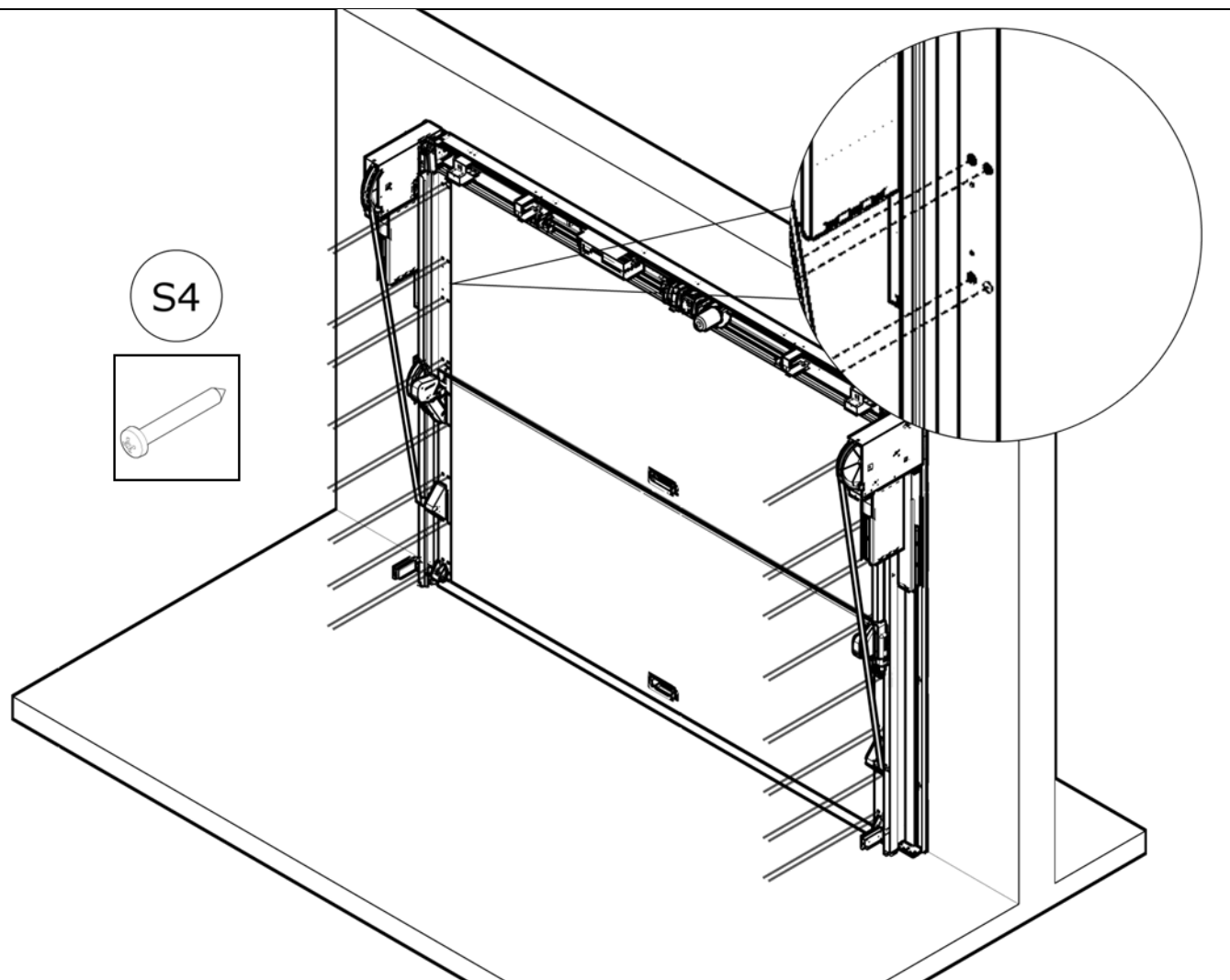


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3.20 PANEL ADDITIONAL SECURING

- Using screws S4, attach the panels to the frame.
- There are 16 screws for each side.

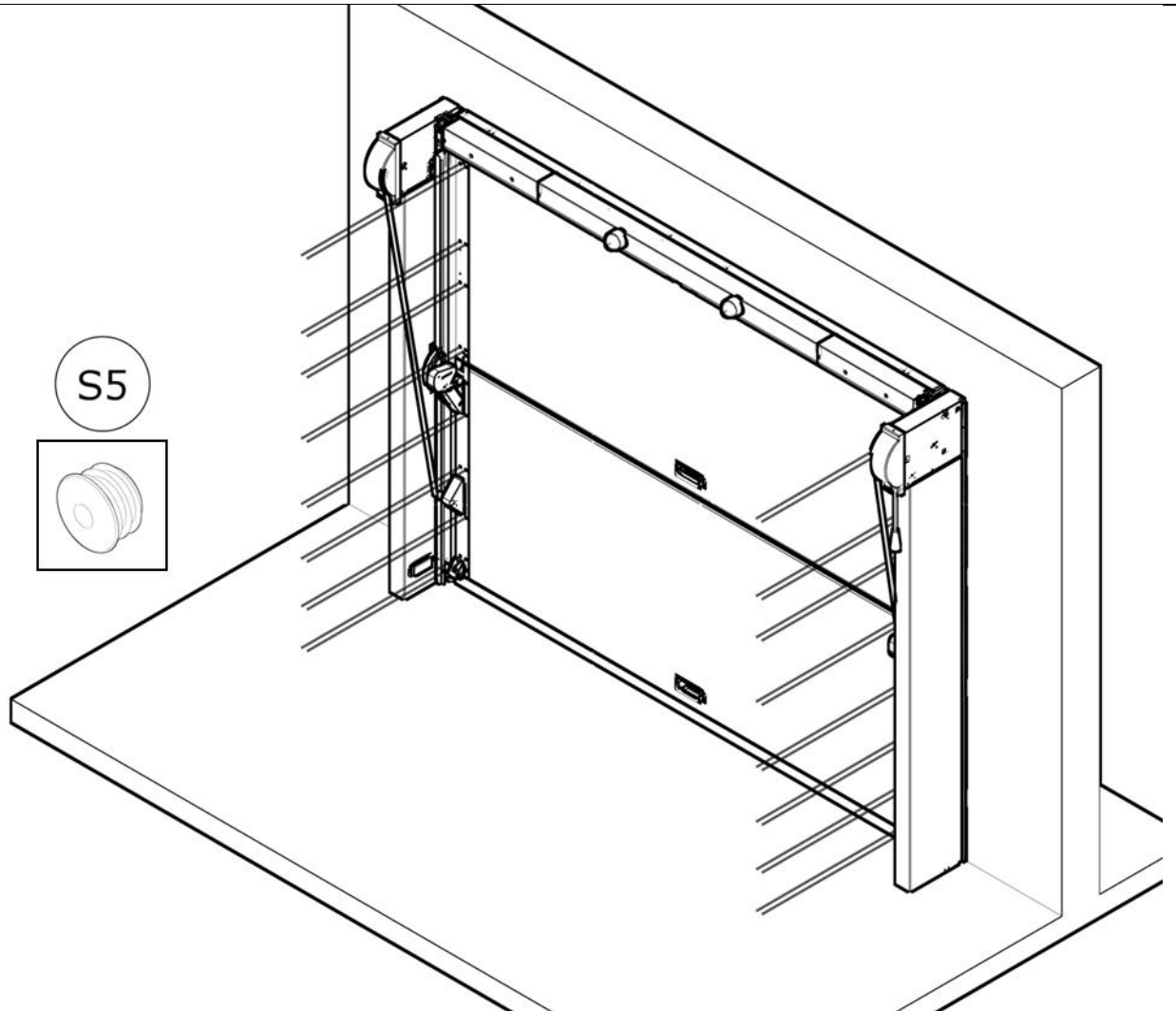
NOTE: Remember to fasten both sides.



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3.21 STILE CAPS

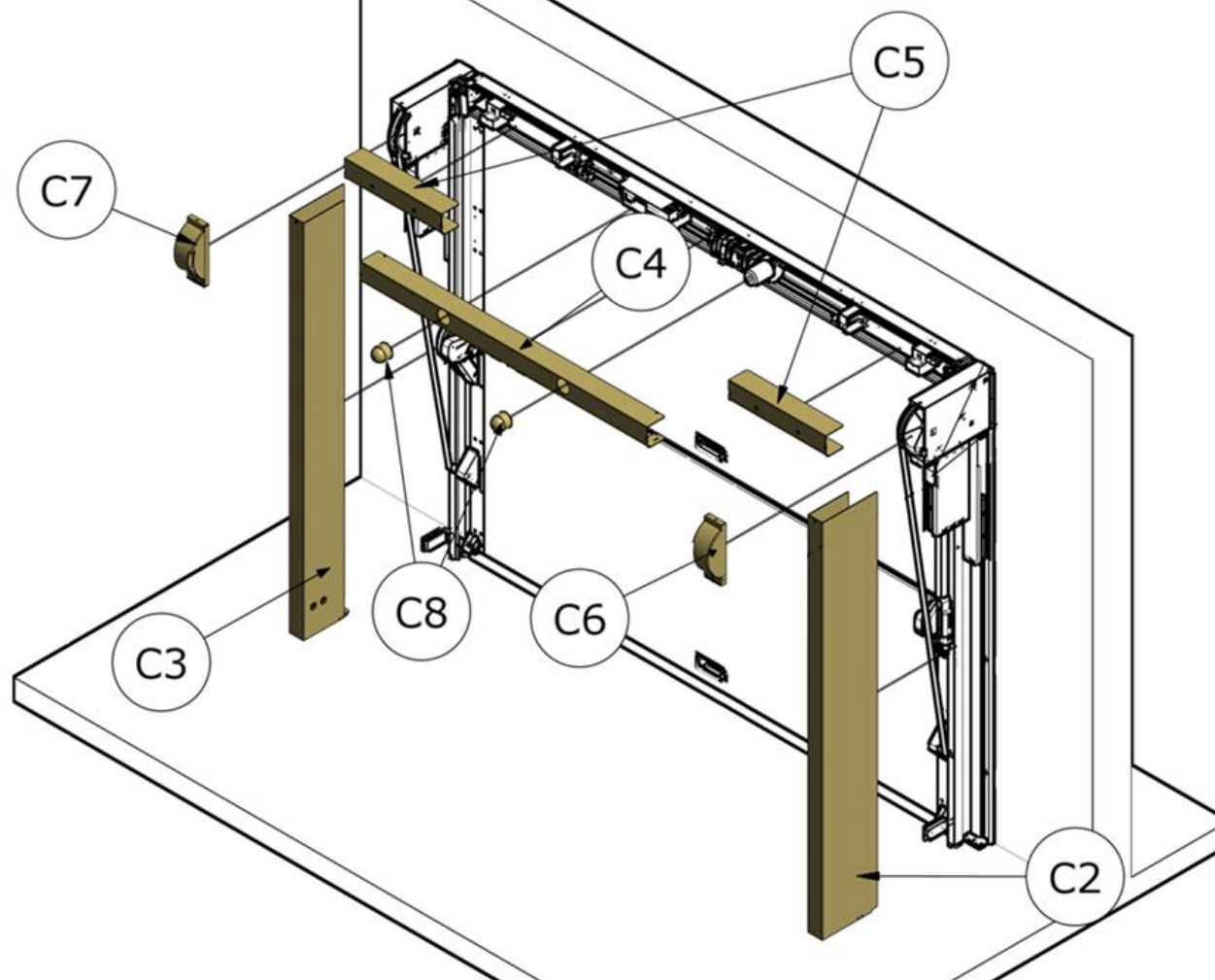
- Cover the screws placed in step 3.21 with 16 stile caps, S5, on each side.



3.22 COVERS AND RELEASE HANDLE

- Put the covers in place following this order:

C3	LEFT COUNTERBALANCE COVER
C7	LEFT PULLY COVER
C2	RIGHT COUNTERBALANCE COVER
C6	RIGHT PULLY COVER
C5	HEADBAR SIDE COVER
C4	OPERATOR/HEADBAR CENTRAL COVER
C8	CENTRAL COVER CAP

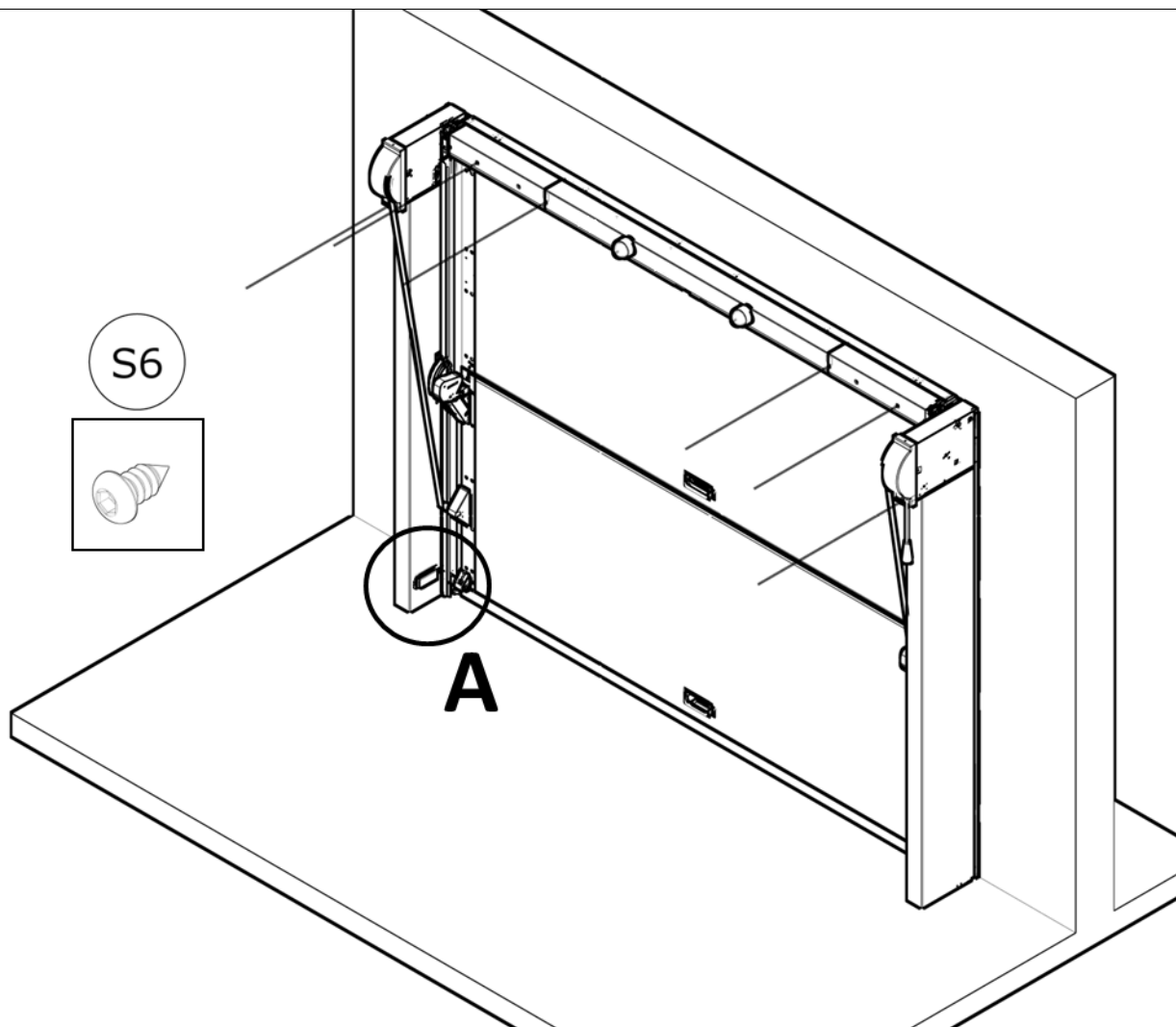


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3.23 COVER SECURING AND PHOTO-EYE HANGING

- Using six screws S6, fix the operator/headbar covers to the frame.
- Hang the photo-eyes on the counterbalance boxes; details (A) shows the left side. Do the same for right side too.

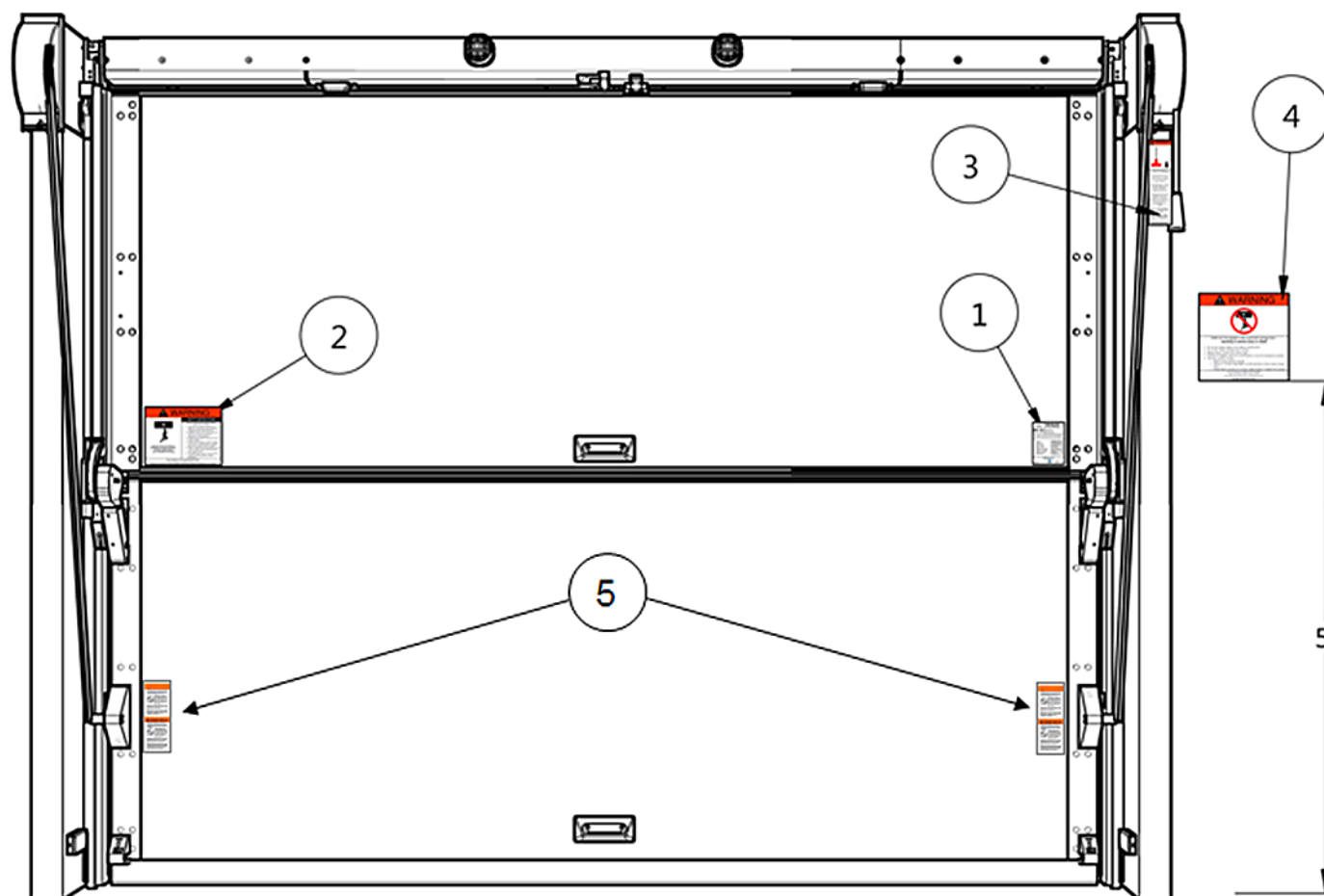
NOTE: Photo-eyes are included in the upright assemblies, U1 and U2. Hang them on to the circular slots of counterbalance covers, C2 and C3.



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3.24 LABEL POSITIONING

- Check that ID label is in place on right bottom corner of upper panel (1).
- Attach general warning label on left bottom corner of upper panel (2).
- Attach emergency release handle label on right counterbalance box, behind the release handle (3).
- Attach the wall station control button label close to wall control, at least 5 feet above floor (4).
- Attach the danger warning label on left and right side of the lower panel close to the RED colored fasteners (5).



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3.25 DOOR TEST

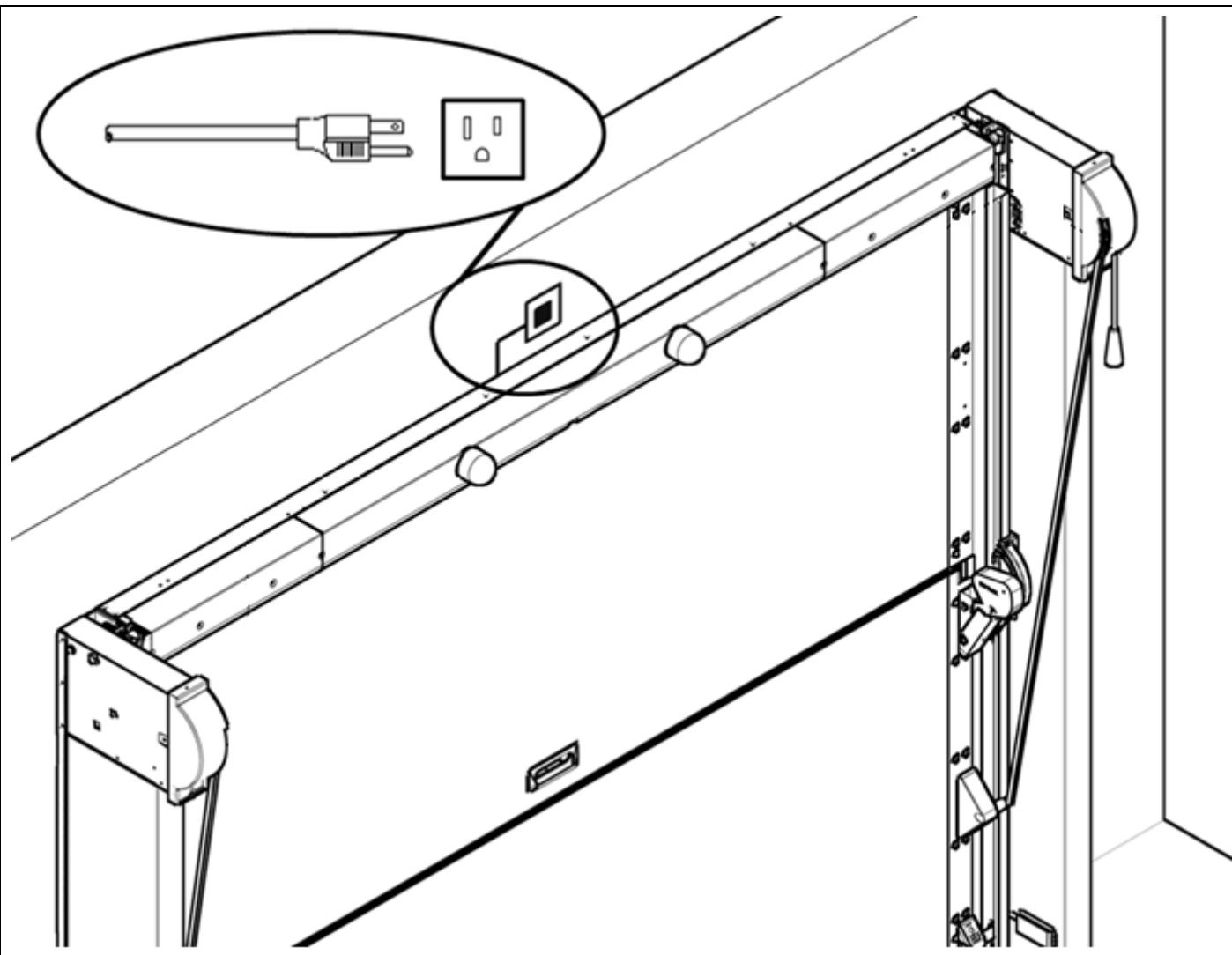
- Plug the power cable in a properly grounded outlet.
To reduce the risk of electric shock, your garage door opener has a grounding type plug with a third grounding pin. This plug will only fit into a grounding type outlet. If the plug doesn't fit into the outlet you have, contact a qualified electrician to install the proper outlet.
- Test door manually (see owner's manual, Section 3.1).
- Test door with the transmitter (see owner's manual, Section 3.2).



WARNING

To prevent possible **SERIOUS INJURY** or **DEATH** from electrocution or fire:

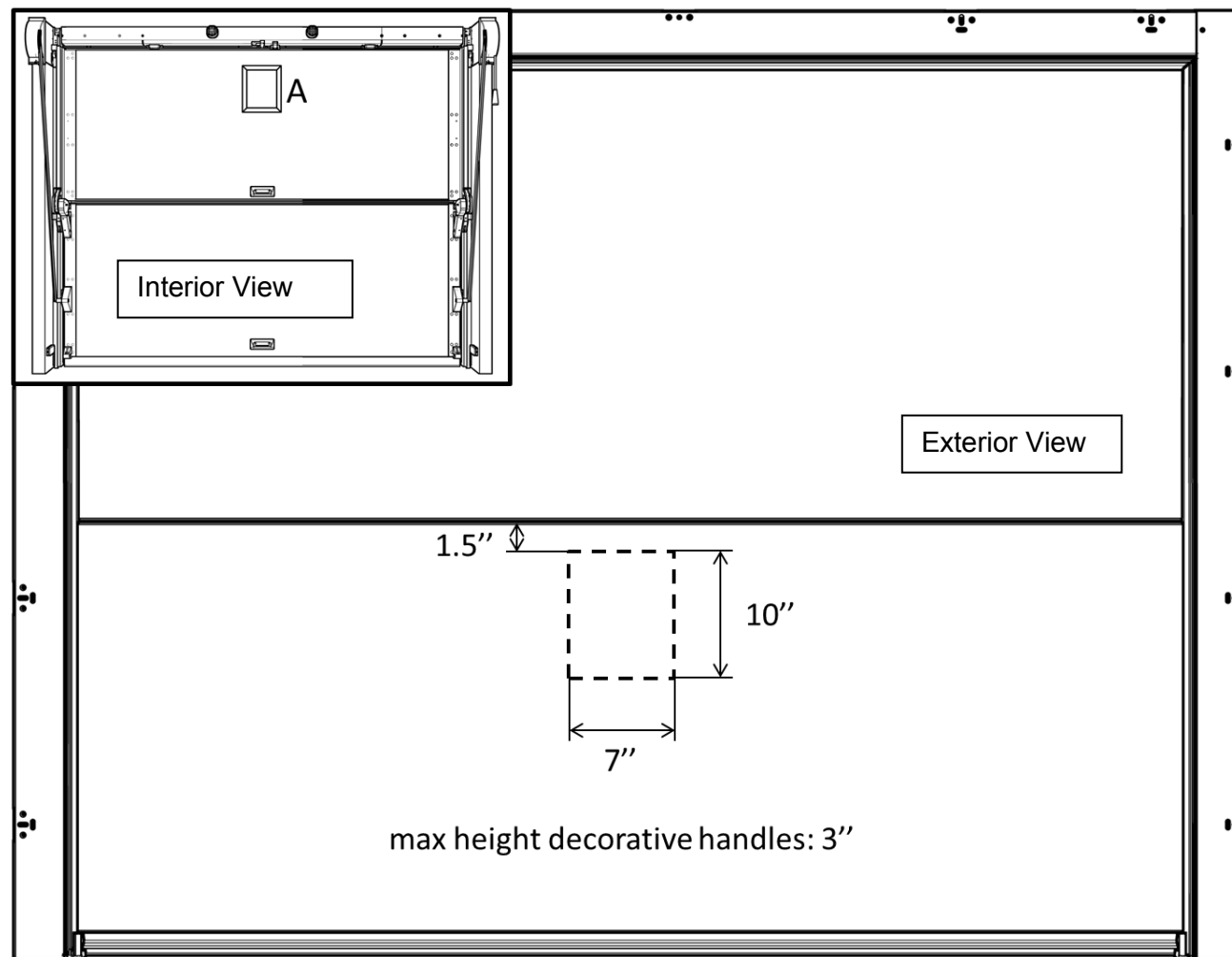
- Disconnect **ALL** electric and battery power **BEFORE** performing **ANY** service or maintenance.
- Garage door installation and wiring **MUST** be in compliance with **ALL** local electrical and building codes.
- **NEVER** use an extension cord, 2-wire adapter, or change plug in **ANY** way to make it fit the outlet. Be sure the opener is grounded.



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3.26 DECORATIVE HARDWARE (for US & CANADA)

- If on the back side of the upper panel, a cavity is present (A), decorative hardware may be installed on the front side of the door.
- Decorative handles can be attached on the outside of the lower panel inside the dashed area shown in the picture. Maximum height of decorative handles is 3".
- Decorative hinges can be attached on the panel sides, BUT the height of the decorative hinges must be less than 7 mm (0.25").



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4 REQUIREMENTS FOR THE CORRECT DOOR OPERATION

During the door testing after installation, all the following operation requirements must be verified. In the case that a requirement is not fulfilled, follow the related instruction until the issue is solved.

4.1 Strikers and pipe plate

The strikers, P3 and P4, placed on the top of the upper section in installation step 3.5, ensure the correct door closure, without any backlash (door re-opens). **IF DOOR DOES NOT CLOSE**, follow the instructions below:

1. First locate the pipe plate and check if the position is correct; if not, loose the screws to make the adjustment as shown in Figure 4-1.
2. Locate the strikers placed on the top side of the upper section with door slightly open;
3. Release the striker screws and adjust the position of the striker along the direction shown in Figure 4-1 until the door closes without any backlash (door re-opens). Do the same for all the strikers present on the section.
4. In closed position, the strikers must engage with the closing hooks (remove headbar covers to better see the engagement).

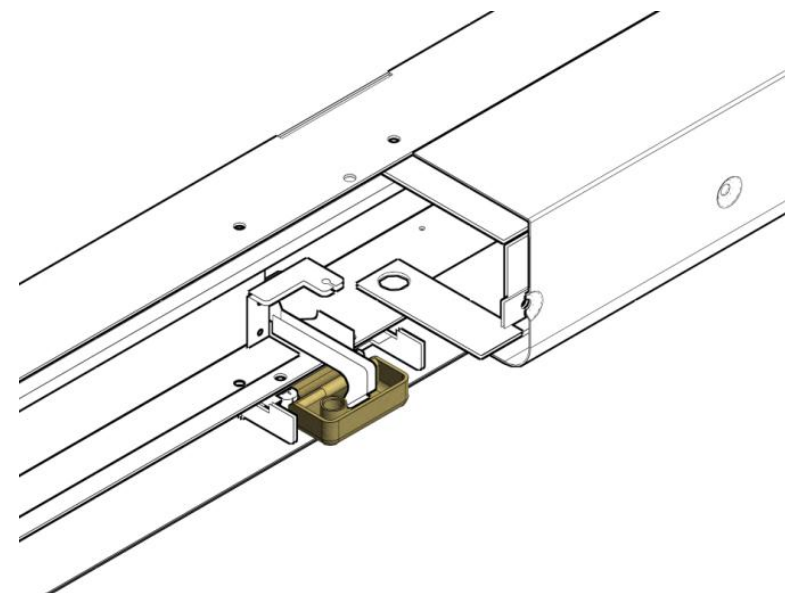
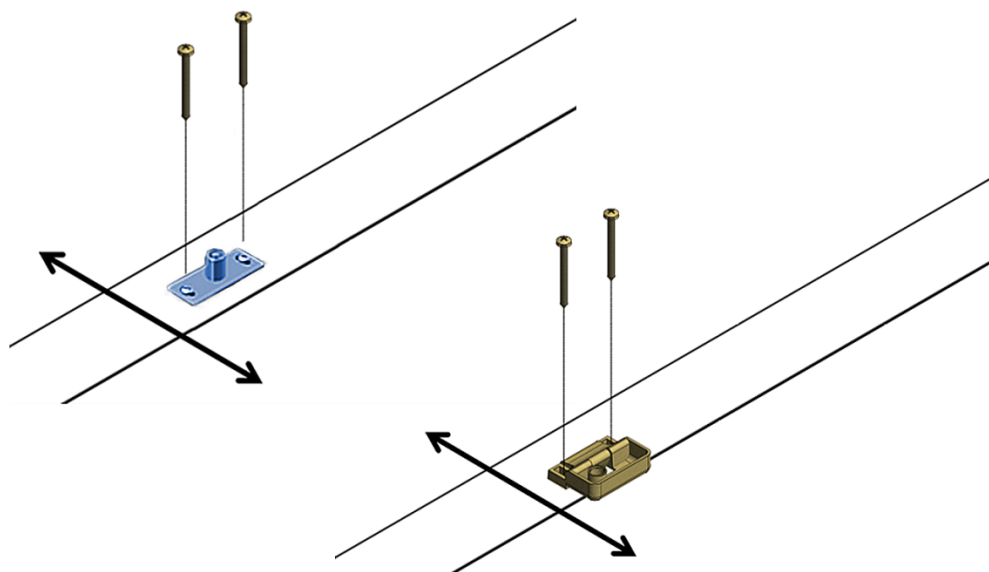


Figure 4-1

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4.2 Closing limit switch

Make sure the closing limit switch, composed by the pair of magnets mounted on striker, P3, and on left closing latch of operator/headbar, C1, is properly placed (see P3 detail of installation step 3.6 on page 24). In case of closing limit switch misplacement, the door does not start the automatic opening. The magnets must be aligned and the distance between them smaller than 6 mm.

IF NOT, follow the instructions below:

Adjust the magnets positions until a good alignment is reached and the distances between the magnets faces is less than 6 mm.

1. Close the door and remove left headbar cover C5.
2. Locate the closing limit switch placed on the latch near the electronic board.
3. Release the screw (A) and adjust the position of the closing limit switch magnet along the indicated direction (Figure 4-1) and align magnet along dashed line. Check magnet distance too.

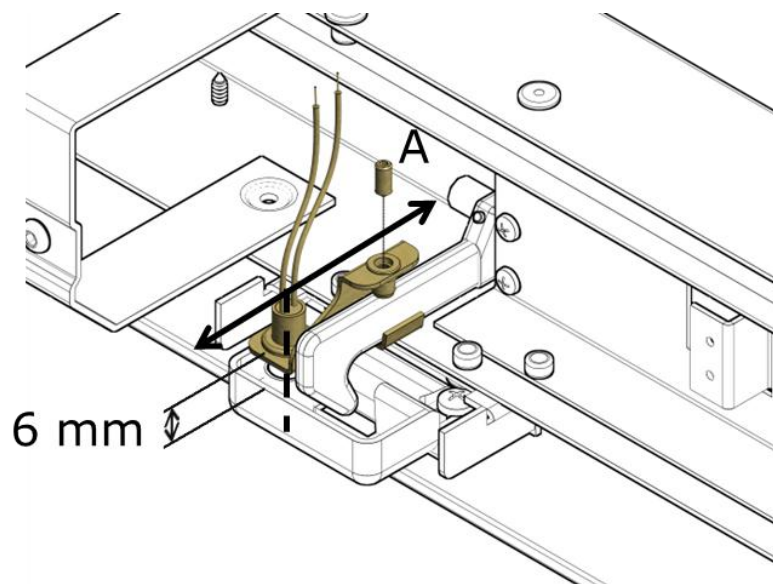


Figure 4-1

4.3 Counterweights

The counterweights are properly balanced from the factory. This results in a smooth door operation, nor too slow nor too fast.

IF NOT, follow the instructions below:

To balance the counterweights, remove the counterbalance covers, C2 and C3, and follow the instructions below:

1. If the upper section in open position tends to drop: with door closed, add weight units symmetrically to left and right narrow counterbalance boxes (Figure 4-2)
2. If the upper section opens too fast: with door closed, remove weight units symmetrically to left and right narrow counterbalance boxes (Figure 4-2)
3. If the lower section in open position tends to drop: with door closed, add weight units symmetrically to left and right large counterbalance boxes (Figure 4-3)
4. If the lower section opens too fast: with door closed, remove weight units symmetrically to left and right large counterbalance boxes (Figure 4-3)

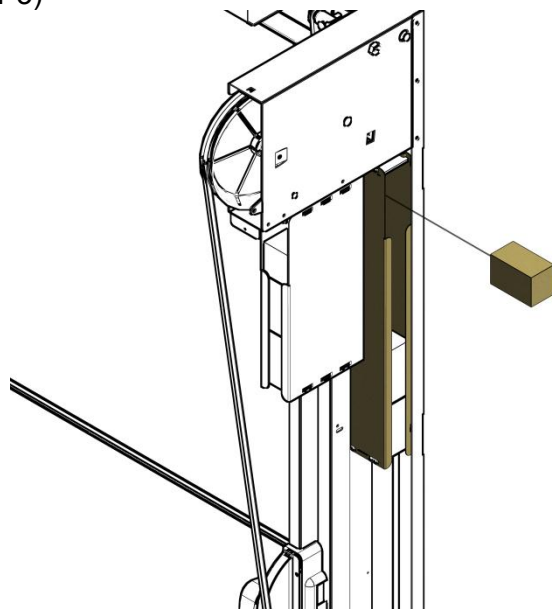


Figure 4-2 Right side only shown

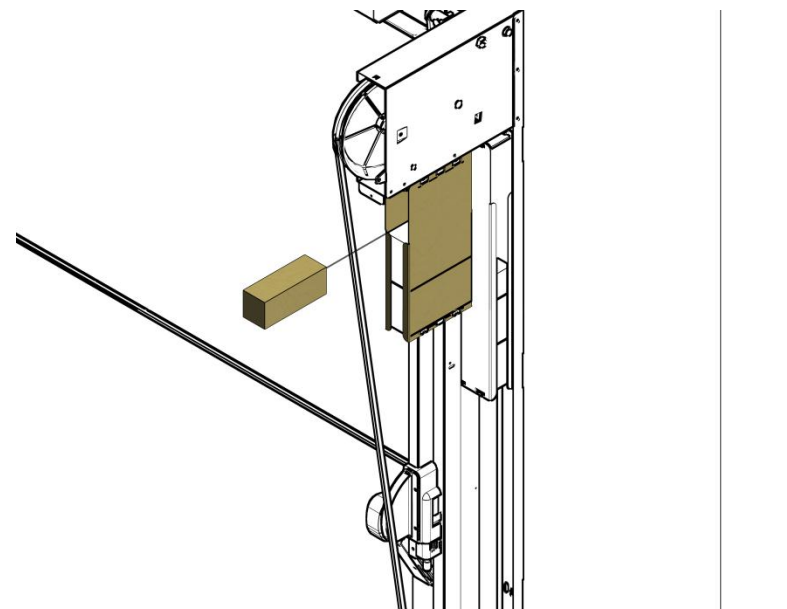


Figure 4-3 Right side only shown

4.4 Lifting arm

The lifting-arm upper joint is properly located from the factory. When the door is in open position, the upper section is slightly tilted as showed in Figure 4-6.

IF NOT, follow the instructions below:

In open position, the upper section must be slightly tilted as showed in Figure 4-4. To adjust the upper section incline, the position of the pin highlighted in Figure 4-5 with a dashed line must be adjusted. Adjust the pin on both sides with door closed.

1. Close the door and unplug opener;
2. Locate the lifting arm pin on the headbar corner;
3. Release the pin nut, A (Figure 4-5);
4. Tighten the adjustment screw, B, to create more incline (Figure 4-5);
5. Secure the pin nut, A;
6. Repeat steps 3 to 5 for the pin placed on the other side;
7. Open the door and check the inclination of the upper section; repeat these steps until a slightly tilted configuration is reached.

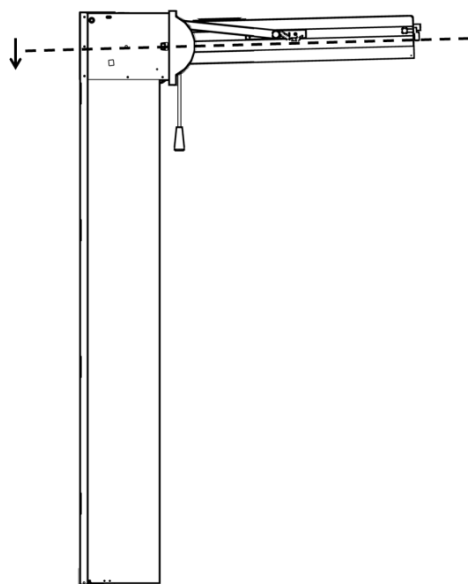


Figure 4-4

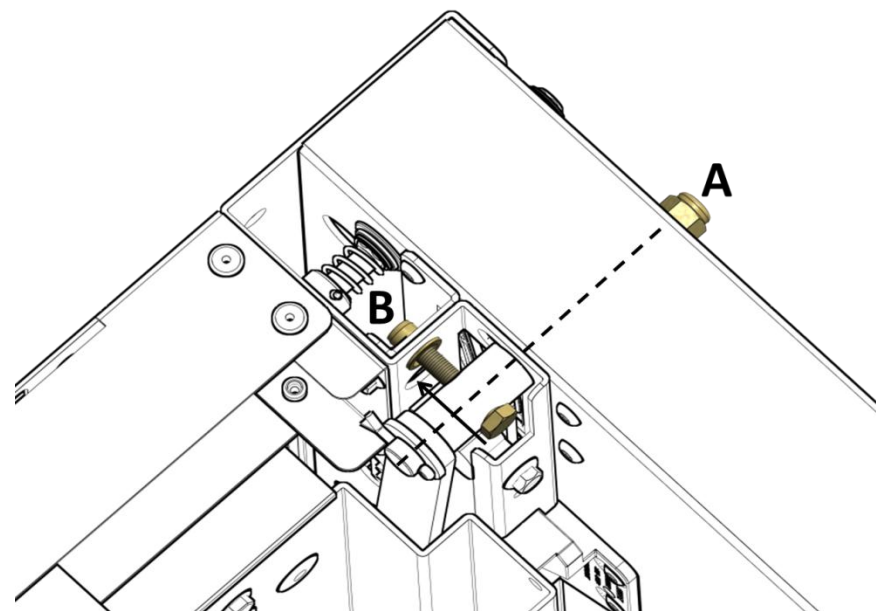


Figure 4-5

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4.5 Lubrication

The sliding/rotation parts come pre-lubricated. However, if lubrication should not be satisfactory, consider lubricating the following parts with Lithium Base Grease EP2 as shown in Figure 4-8:

- A. Strikers;
- B. L and R cable hangers;
- C. L and R rollers;
- D. L and R, upper and lower lifting arm joint;
- E. L and R, upper and lower connecting arm joint.

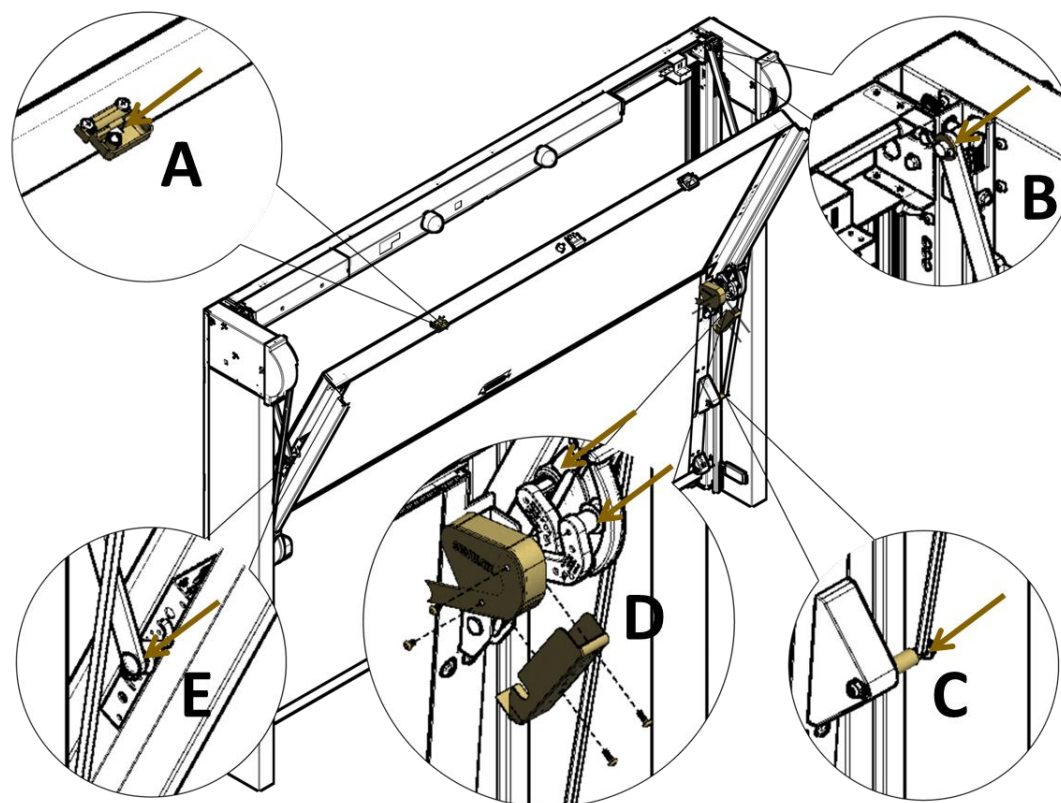


Figure 4-6

4.6 Operator

Operator control parameters are set correctly which results in a smooth door operation.

IF NOT, see adjustments instructions of Section 5.4.

4.7 Current control

The "Amperostop" current control system works by blocking and reversing the door in presence of obstacles. To test this device, with the door fully open, place a 1-1/2" thick piece of wood (a 2" X 4" laid flat) on the floor in the center of the door. Push the transmitter or wall button to close the door. The door must reverse when it strikes the obstruction. Reset maneuver will follow (see user manual).

IF NOT, contact Silvelox Customer Care.

4.8 Photo-eyes

The photo-eyes work by blocking and reversing the door in presence of obstacles between them. To test this system, standing inside the garage, but safely away from the path of the door, use the remote control or wall button to close the door. As the door is closing, wave an object in the path of the photoelectric eye beam. If door stops and reverses, the system works correctly. Reset maneuver will follow (see user manual).

IF NOT, contact Silvelox Customer Care.

4.9 Diagnostic LED

The Diagnostic LED (Figure 5-3 on page 51, referenced as number 4) works without signaling any anomalies, i.e. it does not blink.

IF NOT, contact Silvelox Customer Care.

5 ELECTRIC CONNECTIONS AND ELECTRONIC COMPONENTS

5.1 General overview

The electric connections and the electronic components are located in the operator control box, immediately visible on the headbar, if the headbar central cover is not in place (Figure 5-1). The electric connections/components are listed in Table 5-1, referring to Figure 5-3.

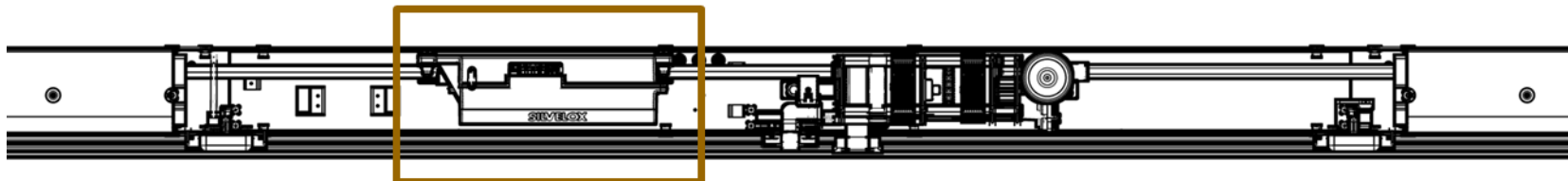


Figure 5-1

Table 5-1

Reference	Description
1	Terminal Block (see Figure 5-2)
2	Timer-to-Close (TTC) Control Button
3	Diagnostic LED
4	Voltage LED
5	Configuration Port
6	Courtesy Light LEDs
/	Internal Buzzer (not visible)

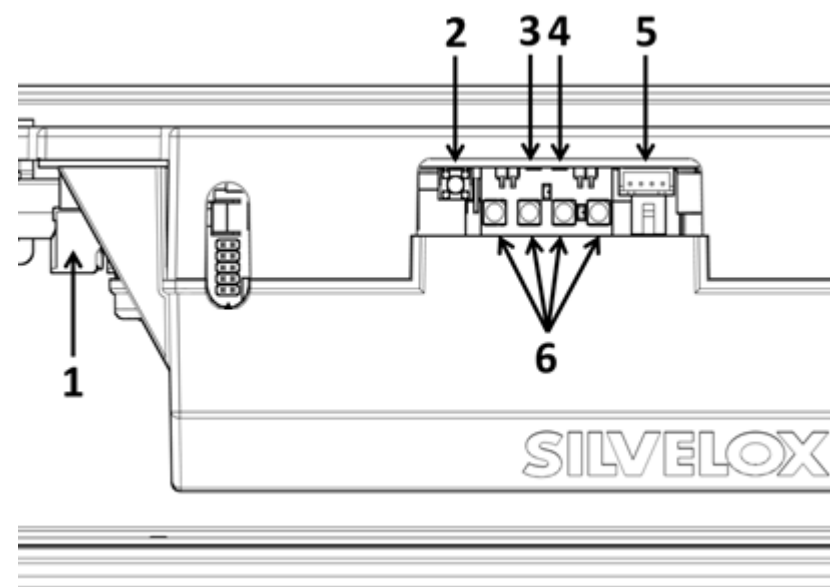


Figure 5-3

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5.2 Terminal Block

Safety appliances and/or optional devices have to be connected to the terminal blocks (Figure 5-3 reference number 1). A close view of the terminal blocks is presented in Figure 5-4 and the contact descriptions are listed in Table 5-2. To facilitate the cable connections it is possible to remove the terminal blocks from their sockets and replace them back once the connections are made. In Section 5.3 the wiring diagram can help to visualize the connections.


	WARNING
To prevent possible SERIOUS INJURY or DEATH from electrocution or fire:	
• Disconnect ALL electric and battery power BEFORE connecting ANY cable to the terminal block.	

Table 5-2

CN1 Contacts (Inputs)				Description
15 (-) white/black		14 (+) white		Left Photo-eye (TX)
16 (NO) pink	16 (+) purple	13 (-) grey	12 (C) blue	Right Photo-eye (RX)
8 - 7				Close NO
8 - 5				Stop NC (already bridged)
8 - 4				Open NO
8 - 2				Open / Stop / Close NO Start contact for Liftmaster Universal receiver
CN2 Contacts (Outputs)				Description
11 - 10				Integrated dual-channel receiver FC
9 - 8				External Buzzer (Optional) FC
7 - 6				Home Automation output 1 FC
7 - 5				Home Automation output 2 FC
12 (+) - 13 (-)				Power 24 Vdc for Liftmaster Universal receiver (max 500 mA, 12 W)*
1 - 13 (12 - 2 bridged)				External Flashing Light (Optional)
3 - 13 (12 - 4 bridged)				Supplementary Light (Optional)

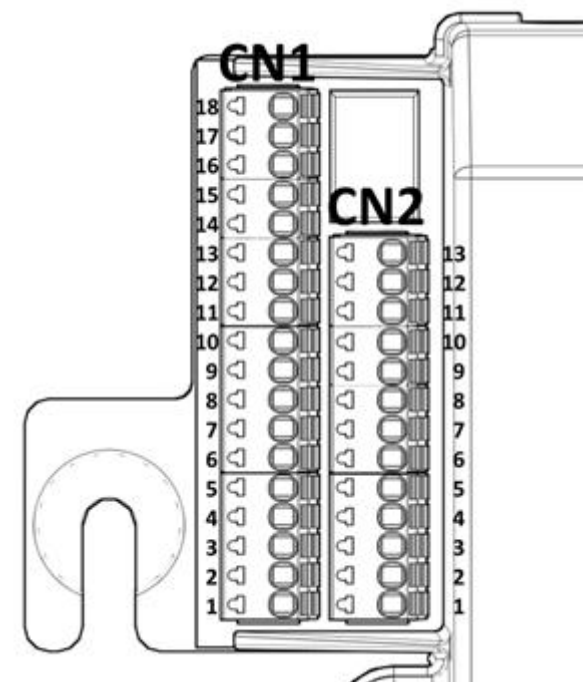
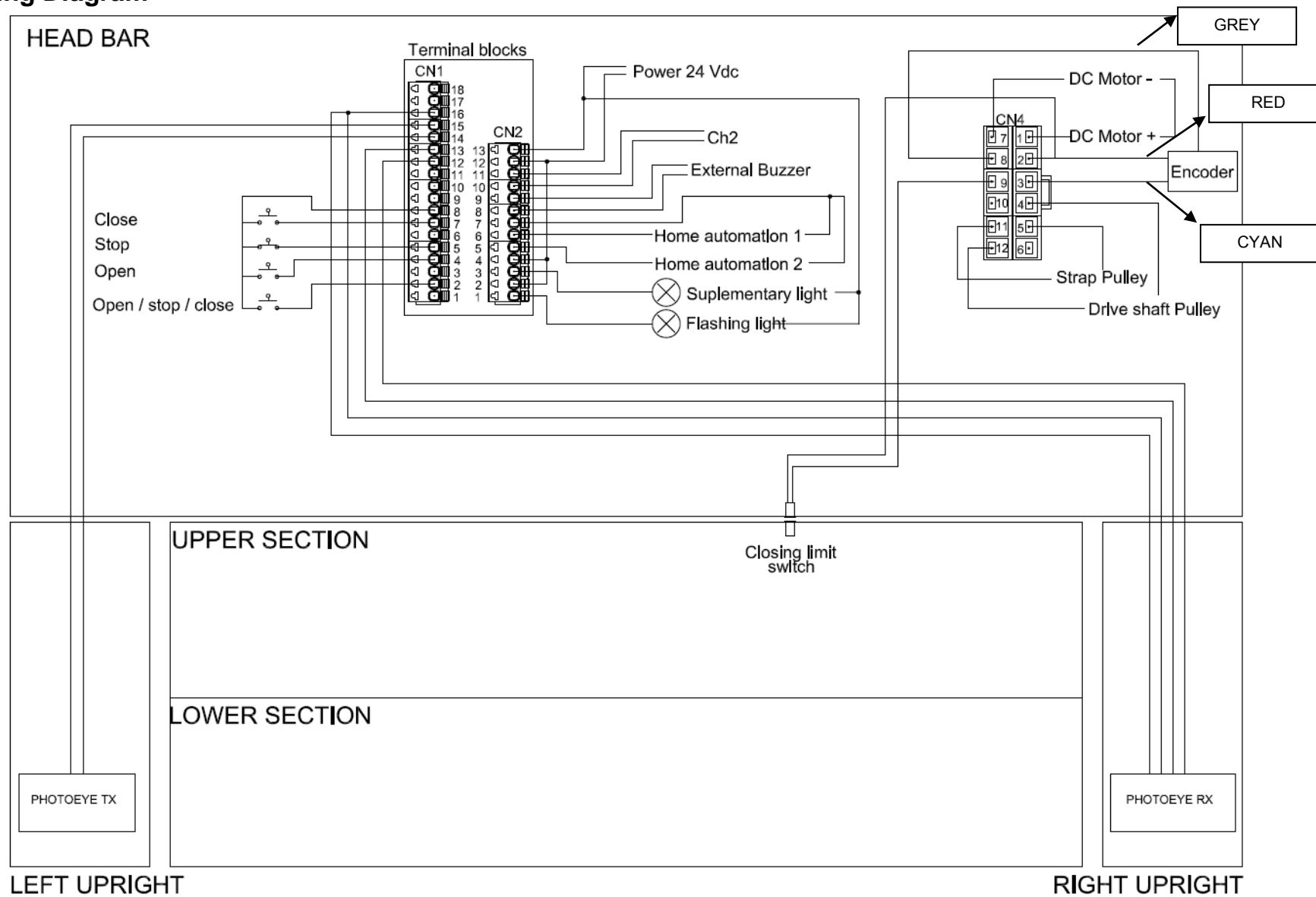


Figure 5-4

***NOTE:** receiver of other brands must match the requirements of 500 mA for max load current and 12W for maximum power.

5.3 Wiring Diagram



5.4 Door control

The operator parameters listed in Table 5-3 can be controlled using a control kit, composed by a Bluetooth key and a dedicated iOS App, available only to qualified technicians.

- With door closed and connected to the power network, plug the Bluetooth key in the configuration port visible in Figure 5-3, referenced as number 6;
- Start the App from your portable device and follow the instructions provided within the control kit.

Table 5-3

Operator parameters controlled by the dedicated iOS App
Current absorption during operation phases (opening start, opening finish, closing start, closing finish, latch release, panel engagement, cruise)
Current phase timing
Opening/Closing cycle duration
Strap pulley timing
Drive shaft pulley timing
Photo-eye timing
TTC setting
Courtesy light setting
External flashing light setting
External buzzer setting

5.5 Timer-to-Close (TTC) adjustment

By default, TTC is set to off. TTC can be set to automatically close your garage door from the fully open position after a specified period of time (1, 3, 5 or 10 minute intervals). The garage door opener will *Beep* and the courtesy light will *Flash* before closing the door.

To set TTC, please follow the instructions below:

- With door closed and connected to the power, remove the headbar central cover;
- Keep pressed for 3 seconds the TTC Control Button (Figure 5-3 on page 51, referenced as number 3); the Diagnostic LED (Figure 5-3 on page 51, referenced as number 4) will blink 2 times;
- Press the TTC Control Button to set 1 minute closing interval; the Diagnostic LED will blink 1 time;
- Press the TTC Control Button, within 10 seconds from the last operation, to set 3 minutes closing interval; the Diagnostic LED will blink 2 times;
- Press the TTC Control Button, within 10 seconds from the last operation, to set 5 minutes closing interval; the Diagnostic LED will blink 3 times;
- Press the TTC Control Button, within 10 seconds from the last operation, to set 10 minutes closing interval; the Diagnostic LED will blink 4 times;
- Press the TTC Control Button, within 10 seconds from the last operation, to set to off the TTC; the Diagnostic LED will blink 5 times;
- After 10 seconds from the last selection made, the TTC is set.



WARNING

In case of a voltage interruption during opening or closing, once the voltage is restored, the door remains in the actual position. Close the door manually or perform the reset maneuver (see user manual).

5.6 LEDs description

A total of six LEDs are present in the operator control unit box:

- The Diagnostic LED (Figure 5-3 on page 51, referenced as number 4): it starts to blink (red color) in case of electronic anomalies;
- The Voltage LED (Figure 5-3, referenced as number 5): it turns ON (green color) once the door is plugged to the power network;
- The Courtesy Light LEDs (Figure 5-3, referenced as number 7): it is a group of four white LEDs; once the door is activated, they turn ON and stay ON for 1 minute after that the door operation is completed.

5.7 Internal buzzer

The operator control box is equipped also with an internal buzzer. When the door performs a reset maneuver (see user manual), the internal buzzer will beep for the whole maneuver signaling that the current control is set to a higher, potentially dangerous level and to allow the door to re-define its reference positions.

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5.8 Home automation contacts

Two home automation free contacts (FCs) are present on the terminal block CN2 (Figure 5-4 on page 47). Use these contacts to connect the door to home automation system.

- Home automation 1 is active when the door is opening;
- Home automation 2 is active when the door is closing;
- When the door is operated manually or during a reset operation, the contacts are open.

5.9 Optional device prerequisites

The following optional devices can be installed by the dealer:

- External buzzer
- External flashing light
- Supplementary light
- External receiver

These accessories have to be connected on the relays of the terminal block CN2 (see Table 5-2 and Wiring diagram of Section 5.3).

The specifics of the relays are:

- Max 1 A @ 125 Vac (resistive load)
- Max 1 A @ 30 Vdc (resistive load)
- Max 500 mA @ 230 Vac(resistive load)
- Max 500 mA @ 125 Vac (inductive load)
- Max 250 mA @ 230 Vac (inductive load)
- Minimum load: 5 V, 10 mA

In the Wiring diagram of Section 5.3, the flashing light and the supplementary light are powered by the contacts 13-12. This is only a possibility; in this case the absorption of the connected devices cannot exceed the capacity of the power contacts 13-12, which is: 24 Vdc, max 500 mA (12 W). An external source of power might be preferable.

5.10 Remote control

The operator is compatible with the Liftmaster 3-Channel Universal Receiver 850LM which can be connected inside the headbar. The main features of the 850LM are:

- Three channels provide expanded remote control capacity: Channel 1 - 50 remotes, Channel 2 - 20 remotes, Channel 3 - 20 remotes
- Multiple remote control options available to provide secure access from the safety and convenience of a vehicle
- Compact design fits most gate and commercial door operators
- Compatible with 811LM and all MAX remote controls
- Power: 12-24VDC or 12-24VAC
- Narrow-band on 310 MHz, 315 MHz, and 390 MHz Security+ 2.0™ Rolling Code and Encrypted DIP
- Operational temperature from -35 to 65 degrees C; Storage temperature from -40 to 85 degrees C
- Compliant with FCC Part 15

6 MAINTENANCE

For any further detail on the maintenance procedures, read the user manual.

7 DISMANTLING

In case of dismantling, it is necessary to lock the door and disconnect some components to make the door unusable, as: counterweights boxes, pulleys and power plug. To discard, please contact an accredited company following local laws and regulations.

8 ASSISTANCE AND ACCESSORIES

Dear Customer, Silvelox is available for any further explanation. We remind you that in case you will need the assistance of a qualified technician or you will consider installing new accessories for your garage door, you can contact the Silvelox Customer Care. With the purpose to speed up the handling of your inquiry, please provide the serial number of your door (placed in the label above the inner door handle) and fill the suitable form available at www.silvelox.com, in the Customer Service page.