



IM

Inward Gliding Door System 4

Installation Manual

Version	2.2
Release date	2021-03-26
Document ID	IG4100002
Project name	Inward Gliding Door System 4
Project ID	IG4

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Revision history

Revision	Date	By	Description
2.2	2021-03-26	Prepared: <i>M.Stoelinga</i>	Torque setting can be checked by checking the torque marking.
2.1	2020-12-21	Prepared: <i>M.Stoelinga</i>	Adjusted contact email from service to support@venturasystems.com Removed measurements and refer to system drawings Added text to explain minor variations Added reference to the instruction of the torque tool Added warning for correct torque of the torque tool Adjusted images so it is better focused Added appendix for door leaves which moves outside the vehicle
2.0	2020-05-18	Prepared: <i>M.Stoelinga</i>	Adjusted torque setting of the Nordlock Ring.
1.3	2020-04-29	Prepared: <i>M.Stoelinga</i>	Removed measurements and redirected to the system drawings at horizontal adjustment of the doors. Added torque settings sliding plate. Adjusted lay-out. Redirected mid seal distance to system drawings.
1.2	2019-10-24	Prepared: <i>M.Stoelinga</i>	Minor text improvements and lay-out improvements.
1.1	2019-10-07	Prepared: <i>M. Stoelinga</i>	Layout improvements. Changed contact to Appendix A. Adjusted the special size from 163 mm to 162 mm.
1.0	2019-07-18	Prepared: <i>M.Stoelinga</i>	Minor textual changes. Continuity fixes.
0.1	2019-03-19	Prepared: <i>M.Stoelinga</i>	Initial version



Preface

The Quality System of Ventura Systems is accredited to EN ISO 9001:2015.

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1 Introduction

1.1 Purpose

This installation manual describes installation procedures for the Ventura inward gliding door system. Together with the commissioning manual and the system drawings makes a complete set of installation documentation. It is important to follow all instructions. All instructions must be conducted without air pressure/electric power unless mentioned otherwise. The instructions should be executed for both door leaves when the system contains two door leaves. A well-adjusted door system is less vulnerable to failure. The right maintenance is crucial for the durability of the door system.

1.2 Scope

The purpose of this document is to guide trained mechanics through the installation steps of the inward gliding door system.

1.3 Definitions

No definitions.

1.4 Acronyms and Abbreviations

Abbreviation	Description
DCU	Door Control Unit
IATF	International Automotive Task Force
IG	Inward Gliding
ISO	International Standardization Organization
HQ	Headquarters
QM	Quality Manual
TS	Technical Specification (TS155)

Table 1: Acronyms and abbreviations

1.5 References

1.5.1 External documents

Reference	Description	Date
IATF 16949:2016	Automotive quality management system standard	2016-10-01
ISO 9001:2015	ISO Standard for Quality Management Systems – Requirements.	2015-10-01
TS 155 Rev 2	Bus door safety systems	2017-11-23

Table 2: External documents

1.5.2 Ventura Systems documents

Reference	Type	Description	Revision	Date
QM000001	DG	Documentation Guideline	4.0	2021-01-04

Table 3: Ventura Systems documents

1.6 Overview

Section 1 gives an introduction, definitions and overview of this document.

Section 2 contains the general door system safety instructions, safety symbols and disclaimer.

Section 3 contains the installation instructions.

2 Door installation safety

2.1 General

Safety of the operator and bystanders is one of the main concerns in designing and developing a new piece of equipment. Ventura's door systems have the proper safety features for common use of the system. An accident can often be avoided by recognizing potentially hazardous situations before an accident occurs. As you install, operate, or maintain the door system, you must be alert to potential hazards. Make sure you have the necessary training, skills and tools to perform any assembly, or maintenance procedures. Improper operation and maintenance of this door system may result in a dangerous situation that may cause injury or death.

Ventura Systems cannot anticipate every possible circumstance that may involve a potential hazard. The warnings in this document and on the product are not all-inclusive. If a method of installation or operation is used, which is not specifically recommended by Ventura Systems, you must satisfy yourself that it is safe for you and for others. You should also ensure that the door system will not be damaged or be made unsafe by the installation and/or operational methods you choose. The information, specifications and illustrations in this document are based on the information that was available at the time this document was written and can change at any time without notice.

2.2 Disclaimer

The information contained in this document is based upon reliable technical data at the time the document was published. These instructions are intended for use by persons having the technical knowledge to install, maintain or repair this door system. The instructions are to be used at the mechanic's own discretion and risk. Ventura Systems assumes no responsibility for results obtained or damage incurred from the use of this material either in whole or in part by the installer. This document provides basic instructions for handlings of the door system in a step-by-step sequence that will work in most situations. While effort has been made to ensure the information in this document is correct and complete, we would appreciate it if you would contact us in case of errors.

2.3 Safety alert symbols

This document contains safety messages which alert you to potential personal injury hazards. Obey all safety messages in this document to avoid possible injury or death. The following key words and layouts calls for your attention: DANGER, WARNING, CAUTION and NOTICE. Below are examples of these safety messages. The NOTE message is used for additional information but these are not threatening for the mechanic, bystanders, nor the door system.



DANGER!

Indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury. This signal word is limited to the most extreme situations.



WARNING!

Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.



CAUTION!

Indicates a potentially hazardous situation which if not avoided, may result in minor or moderate injury.

NOTICE

Indicates that equipment or property damage can result if instructions are not followed.

NOTE

Additional information important but not threatening for people or to the system.

2.4 Safety instructions



WARNING!

This door system is designed for a specific application;

DO NOT modify or use this unit for any application other than for which it was designed.

Door systems operated improperly or by untrained personnel is dangerous. Lack of operation knowledge may cause high risk.

Do not install this door system if it is damaged. If you are in doubt if the door system has a defect, immediately stop the installation and contact Ventura Systems.

Do not connect the door system to air or electric supply during the maintenance process. If the manual states otherwise, follow the manual.

Do not attempt to install the door system under influence of drugs or alcohol.

NOTICE

Do not modify the door system or safety devices. Unauthorized modifications may impair its function and safety.

If equipment has been altered in any way from the original design, Ventura Systems does not accept any liability for injury or warranty.

If replacement of parts is necessary, genuine factory replacement parts must be used to restore the door system to its original specifications.

*always disconnect the air and/or electric power while replacing parts. Safety features may not be active while replacing parts.

Ventura Systems will not accept responsibility for damages as a result of the use of unapproved parts.

While working on the Ventura door systems wear appropriate personal protective equipment.

This list may include but is not limited to:

- Protective shoes with slip resistant soles
- Protective goggles, glasses or face shield
- A hard hat

Follow the regional and country laws and safety precautions.

3 Door assembly kits

A complete door system consists of three to four assembly kits. A mounting kit, one/two door leaves and a door mechanism. Also, you should have a full set of documentation. A set of documentation contains a mechanical installation manual, commissioning manual, system drawing, repair manual, maintenance manual and parts overview.

3.1 Unpacking instructions

Unpack the door system carefully. Watch for possible damage that may have occurred during shipment. Make sure all electrical or pneumatic components and wiring are not damaged. Check if all electrical and pneumatic connections are still fixed. If anything is damaged, replace these parts. Otherwise, continue the installation.

NOTICE

Do not remove the factory installed white zip ties. If the manual states otherwise, follow the manual. Never remove black zip ties.

Read and follow the instructions written on the parts to see which zip ties are not allowed to be removed.

3.1.1 Included kits

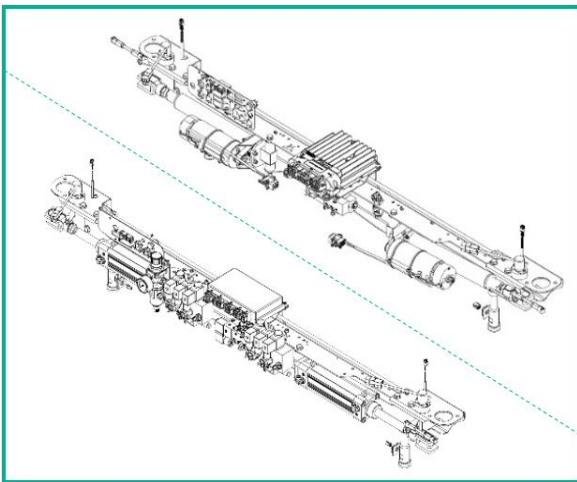


Figure 1: Door mechanism

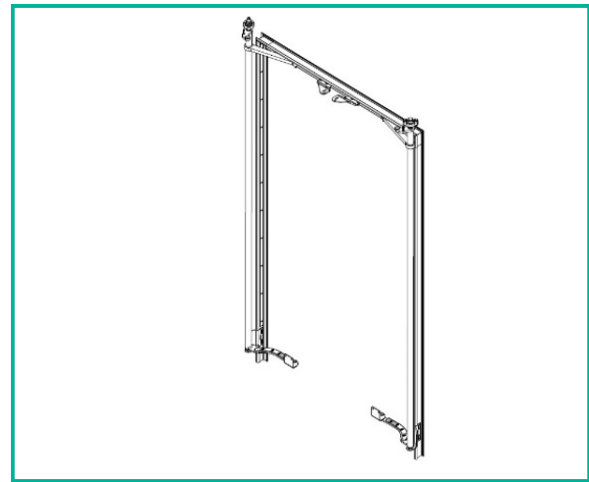


Figure 2: Mounting kit



Figure 3: Left door leaf

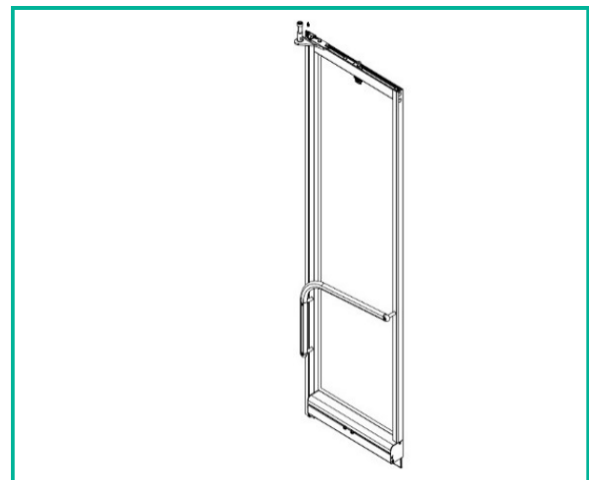


Figure 4: Right door leaf

3.1.2 Storage instructions

If the equipment is not installed immediately, store in a clean and dry location. Care should be taken moving the equipment from a warm to a cold location, as condensation may occur. If condensation does occur, and the equipment is wet, allow it to dry thoroughly before applying power. Store the Ventura door system following these instructions.

- Stack the crates to a maximum of 3.
- Prevent external load.
- Do not store under humid or wet conditions.
- Do not stack any other product on top of the crates.
- Store the crates horizontal.
- Protect the door system from dust and dirt.

3.1.3 Required documentation

Use the right documentation as guidance for the installation, commissioning and maintenance of the door system.

Installation documentation:

- Commissioning manual
- Door system drawing
- Door mechanism installation manual
- *Optional: DCU system manual*

After sales documentation:

- Maintenance manual
- Repair manual
- Parts overview

3.1.4 Required tools

It is important to use (calibrated) tools of good quality to prevent damage to the door system and prevent personal injury. No special tools are necessary. There is a tool which could help with the adjustments of the door.

Tool	Usage
Allen key set (metric)	Door speed adjustment (cylinder) and door alignment adjustment.
Socket or wrench set (metric)	Door installation and cylinder rod adjustment

3.1.5 Description of the door system

The illustration of the door system to the right represents the inward gliding door.

1. Door mechanism
2. Door shaft left
3. Door shaft right
4. Bottom support left
5. Bottom support right
6. Door leaf left
7. Door leaf right
8. Guiding bracket left
9. Guiding bracket right
10. Portal

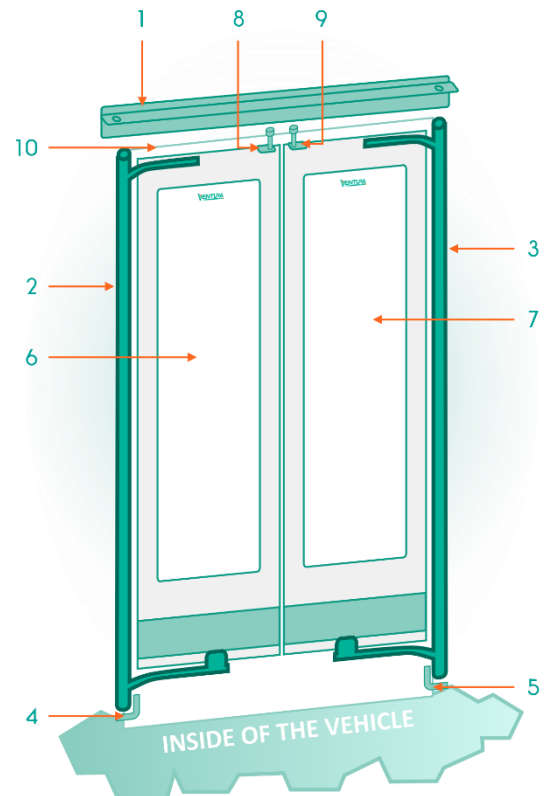


Figure 5: Overview IG4 door system in closed position

Motion of the door system

The inward gliding door opens by turning the outer edges of the door leaf (closest to the portal) inward into the vehicle, and guides the leading edge over the portal using the guiding brackets. See the image: door system in open position.

NOTICE

The portal is including all covers, strips etc. which are not part of the Ventura Systems door system.

Left and right are defined looking from the inside of the vehicle.

Illustrations or images in this document may differ from reality. Electrical and pneumatic systems have the same mechanical installation.

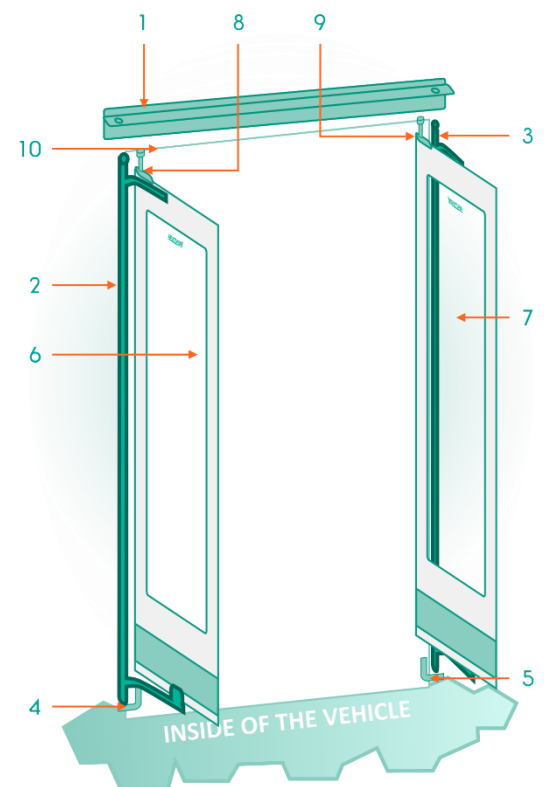


Figure 6: Overview IG4 door system in open position

3.2 Installation

Execute the following steps to install the system.

3.2.1 Step 1: Mount the door mechanism



WARNING!

Falling hazard.

The door mechanism is heavy. It is the installer's responsibility to securely fasten the door mechanism to the portal. Severe injury and possible death can occur if the mechanism falls.



CAUTION!

The door mechanism is heavy. We advise to lift this piece with a lifting tool, or with two persons to prevent personal injury and to prevent damage to the mechanism.

Check the portal size.

- The height of the portal needs to be within tolerance over the complete width of the portal (1, 2).
- The width of the portal needs to be within tolerance over the complete height of the portal (3, 4).
- Check the portal diagonals by measuring 5 and 6.
- Check the mounting points at the system drawing 0.3A
- Check the mounting point dimensions according to system drawing. 2.2B.

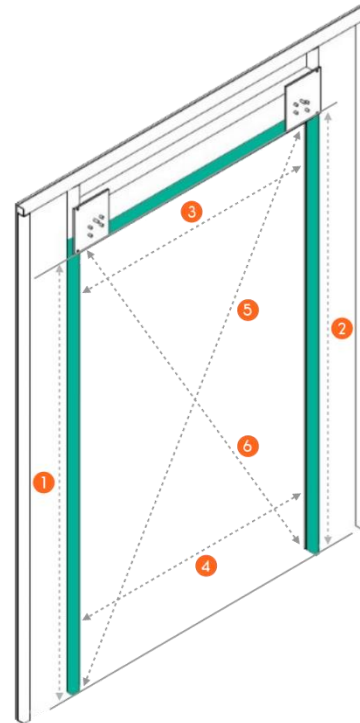


Figure 7: Measure the portal

Mount the door mechanism, onto the mounting points.

- Position the door mechanism in the center of the portal. Measurements 1 and 2 have to be equal with a tolerance of 2 mm.
- Level the mechanism to the portal and measurements 3 and 4 must be equal with a tolerance of 2 mm.
- When level and centered, tighten the fasteners following the system drawing 2.2C

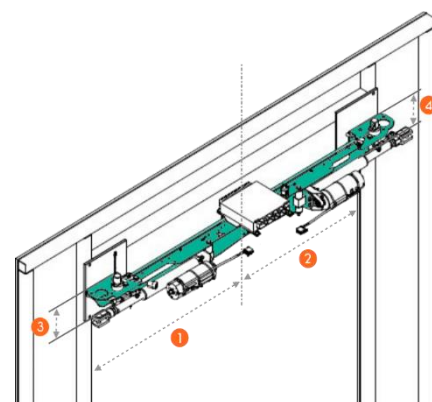


Figure 8: Positioning of the mechanism

3.2.2 Step 2: Mount the door shafts and bottom supports

Required parts for this step:

1. 1x door shaft left
2. 1x door shaft right
3. 1x bottom support left
4. 1x bottom support right

The following steps represent the left side of the door system. Repeat these steps for the right side of the door system after completing the installation of the left side.

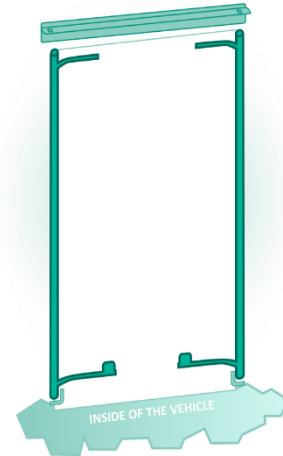


Figure 9: Result of this step

Mount the door shaft onto the mechanism

- Remove the fasteners from the bearing block on top of the door shaft.
- Use the fasteners to bolt the door shaft on the mechanism. Be aware the washers are mounted with the grooved side pointing towards the surface of the fasteners.
- After tightening the fasteners, the washers must be flat.

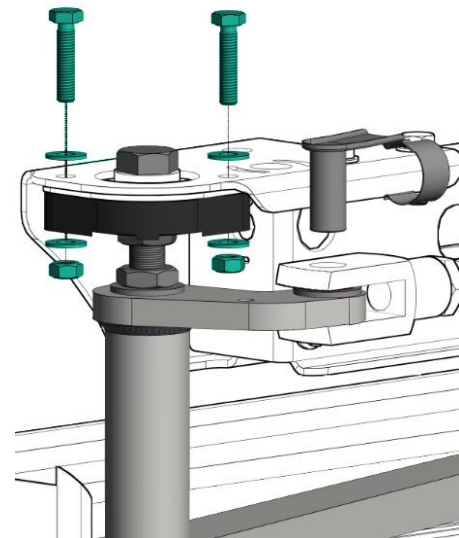


Figure 10: Mount the door shaft onto the mechanism fasteners

NOTICE

Apply a multipurpose grease between the clevis pin and the bearing bush to prevent noises and stress onto the clevis pin. Be aware the grease does not drip.

Adjust the height of the door shaft

- Loosen the secure nut. (1)
- Screw or unscrew the top fastener (2) of the door shaft until there is a gap (3) of 17 ± 1 mm between the top lever and the portal.
- Tighten the secure nut by hand with little pressure so the secure nut can be adjusted at a later stage.

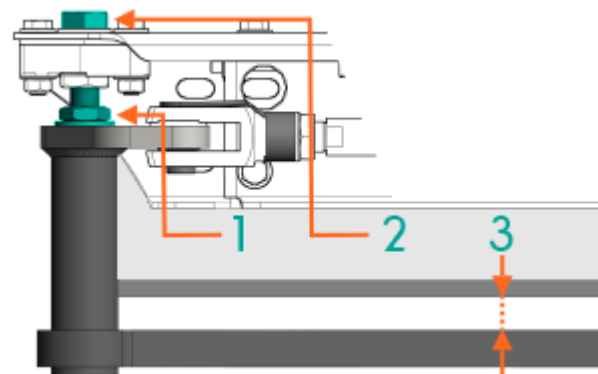


Figure 11: Adjust height of the door shaft

Connect the cylinder onto the door shaft lever

- Remove the clevis pin from the fork joint.
- Link the fork joint to the upper lever of the door shaft using the clevis pin.

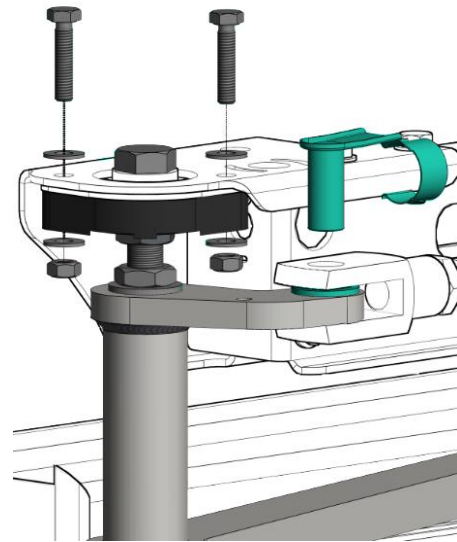


Figure 12: Connect the fork joint onto door lever

Place bottom support

Be aware the support may look slightly different. They are installed the same way.

- Clean the bearing bush (1) and the pivot bolt (2)
- Apply multipurpose grease into the bearing bush and onto the pivot bolt.
- Press the pivot bolt into the bearing bush without play.

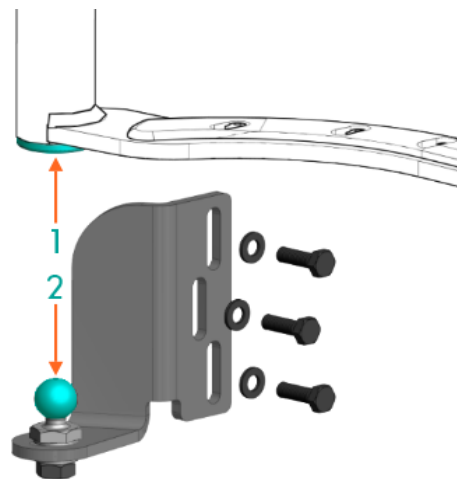


Figure 13: Clean and apply grease

Fasten the bottom support onto the portal

- Fasten the bottom support onto the portal.
- This setting needs adjustment later in the installation. Therefore it is not needed to tighten the fasteners too much.

The fasteners are (in most cases) not supplied by Ventura.

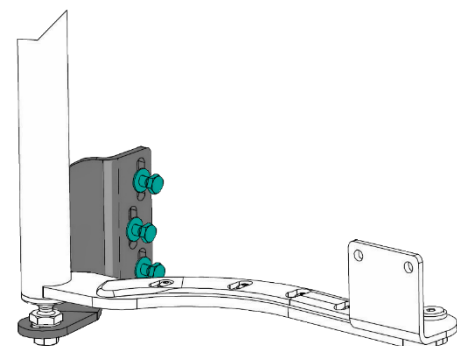


Figure 14: Fasten the bottom support onto the portal

End result of this step:

1. The door shafts left and right are connected to the door mechanism.
2. The bottom supports are in place with the pivot bolt inside the bearing bush and mounted to the portal.
3. Both left and right side are in place.

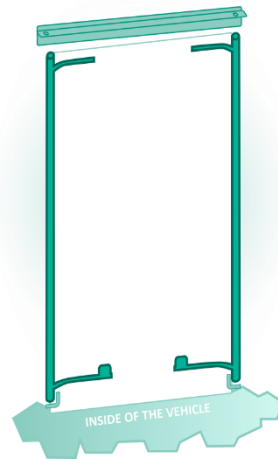


Figure 15: Result of this step

3.2.3 Step 3: Mount the portal seal

Required parts for this step:

1. 1x portal seal
2. portal strips
3. tapping screws



Figure 16: mounting with strip



Figure 17: mounting T-slot profile

NOTE

In case of a T-slot profile then the portal strips and tapping screws do not apply.

Be aware the seals are neat onto the body of the vehicle.

Execute the following steps in case of a portal seal with strips.

Drill holes at the top of the portal

- Push the seal with portal strip against the top of the portal. (Clamps could be used to hold the seal in place.)
- Drill Ø4,2 mm holes through the rubber and profile. There are predefined holes in the portal strip at the right distances.

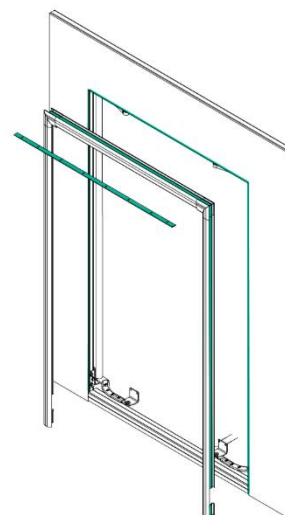


Figure 18: Drill the holes

Install the top of the portal seal

- Screw the strip onto the portal. Do not deform the strips while installing it on the portal.

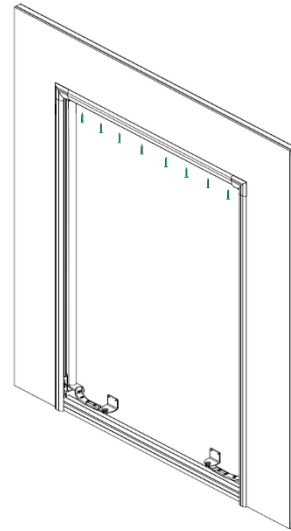


Figure 19: Screw the portal strip, and portal seal in place

Drill holes at the sides of the portal

- Push the side seal with portal strip against the sides of the portal.
- Drill $\text{Ø}4,2$ mm holes through the rubber and profile. There are predefined holes in the portal strip at the right distances.
- Screw the strip onto the portal. Do not deform the strips while installing it on the portal.
- Leave the bottom part of the seals hang loose. These parts will be installed after adjusting the door leaves.

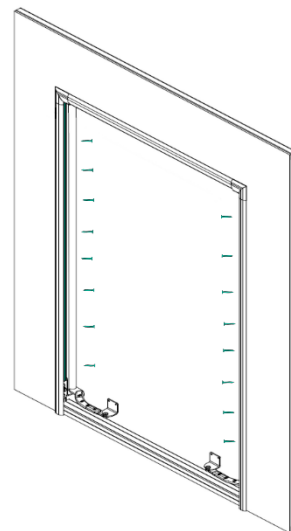


Figure 20: Drill the vertical holes and fasten the portal strips

Execute the following steps in case of a T-slot profile.

Install the T-slot portal seal

- Tap the seal in place with a plastic mallet starting at the lintel of the portal and work to the top corners.
- Tap the left and right side into the t-slot profile until ± 10 cm above the bottom supports.
- Leave the bottom part of the seals hang loose. These parts will be installed after adjusting the door leaves.

NOTE

Use a mixture of soap and water or a similar product as a lubricant to mount the seal. Do not use an oil-based lubricant nor use grease.

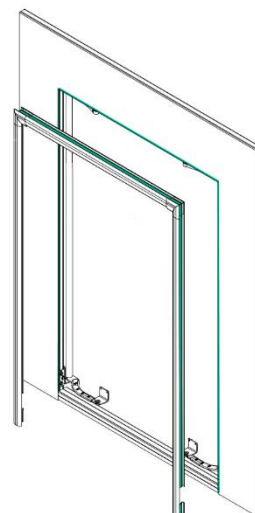


Figure 21: Fasten the bottom of the door leaf

End result of this step:

1. The door seal is installed on the portal.
2. The bottom parts of the seal, left and right hang loose.
3. In case of portal strips, the strips are not deformed.

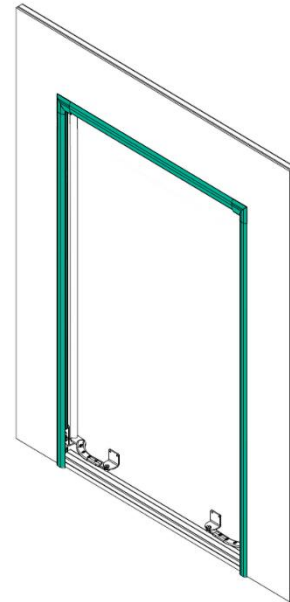


Figure 22: Result of this step

3.2.4 Step 4: Mount the door leaves

Required parts for this step:

1. 1x door leaf left
2. 1x door leaf right

The following steps represent the left side of the door system.
Repeat these steps for the right side of the door system.



CAUTION!

The door leaves are heavy. We advise to install the door leaves with two persons to prevent personal injury and prevent severe damage to the door system.

Pinch point hazard.

To prevent personal injury, be aware of the parts (possibly loosened) that may move unexpectedly.

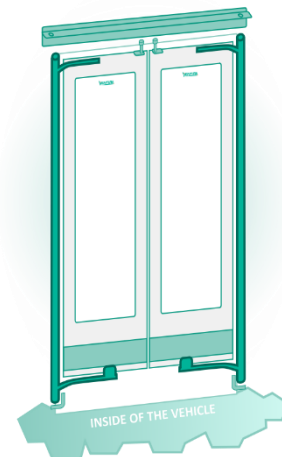


Figure 23: Result of this step

Position the door shaft

- Position the door shaft in half open position.

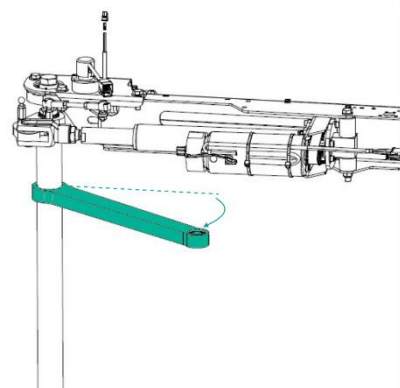


Figure 24: Position the door shaft

Prepare the bottom bracket

- Remove the bolts from the bottom bracket of the door shaft.
- Be aware there is a tapping plate in the rail of the door leaf.
- Position the door leaf onto the bracket of the door shaft and make sure the door leaf is vertically level.

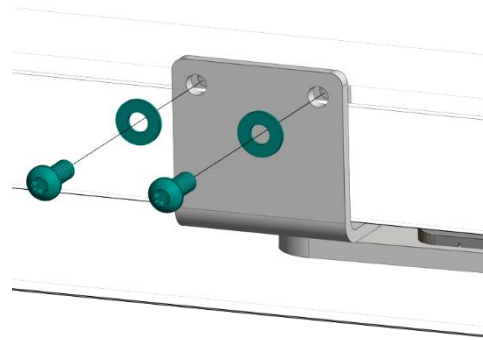


Figure 25: Remove the bolts

Fasten the door leaf onto the top lever

- Connect the tapping plate in the top rail of the door leaf onto the top lever of the door shaft with the precision bolt.

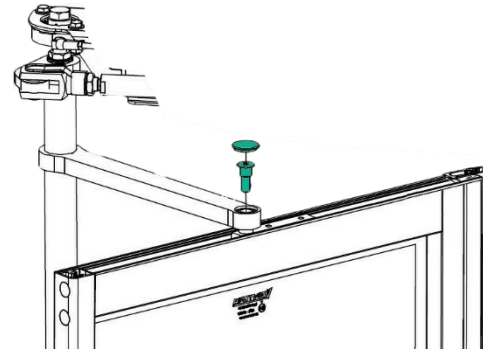


Figure 26: Fasten the top of the door leaf

Fasten the door leaf on the bottom bracket

- Make sure the door leaf is still vertically level. Adjust the door leaf parallel to the side of the portal.
- Fasten the bolts removed in the previous step into the tapping plate of the door leaf.

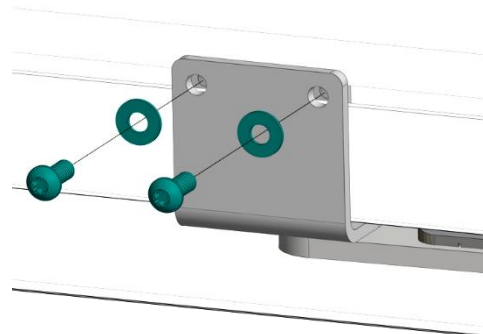


Figure 27: Fasten the bottom of the door leaf

Install guiding bracket

- The door leaf is in half open position.
- Mount the guiding bracket on top of the door leaf.
- Do not tighten the bolts. In a following step a plug needs to be inserted into the door profile.

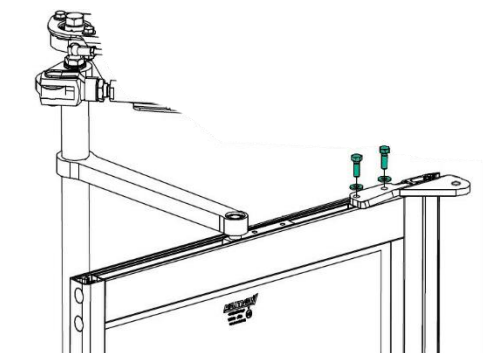


Figure 28: Install guiding bracket

In case of door leaves which move outside of the vehicle, follow appendix: [Horizontal frame](#) and skip the following two steps. Continue at [Check if the spiral cable is installed correctly](#) after executing the steps in the appendix.

Install guiding shaft

- Guide the end of the spiral cable (1) through the guiding shaft (2).
- Put the plug over the spiral cable.
- If the connector of the spiral cable is not connected, connect the connector.
- Connect the guiding shaft. (3) Be aware the washers are installed.

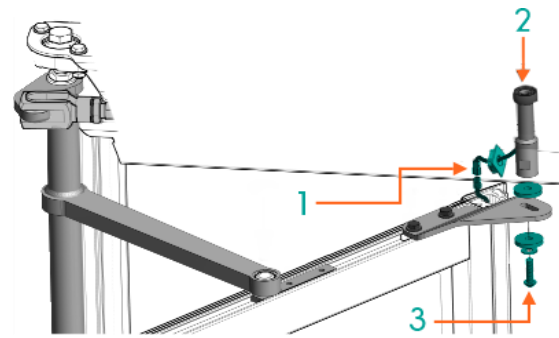


Figure 29: Install the guiding shaft

Insert overlength of the spiral cable

(use both images for this step)

- Connect the sensitive edge (1) with the spiral cable (2).
- Hold the cables together and press the connectors and the cable overlength into the vertical profile (3).
- Insert the plug in the door profile.
- Fasten the bolts on the guiding bracket.

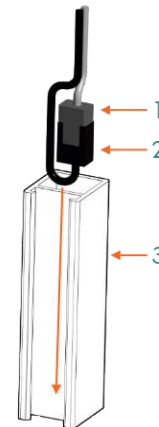


Figure 30: Insert all overlength in the profile

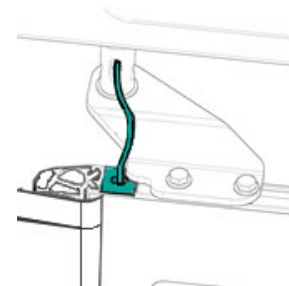


Figure 31: Insert plug

Check if the spiral cable is installed correctly

- The spiral cable (1) has no overlength (3).
- The spiral cable has no loose loops (4).
- Connect the spiral cable onto the guiding bracket with a tie-wrap (2).

NOTICE

The lifespan of the spiral cable depends highly of the correct installation of the spiral cable. Remove excess cable by inserting the cable into the frame of the door leaf.

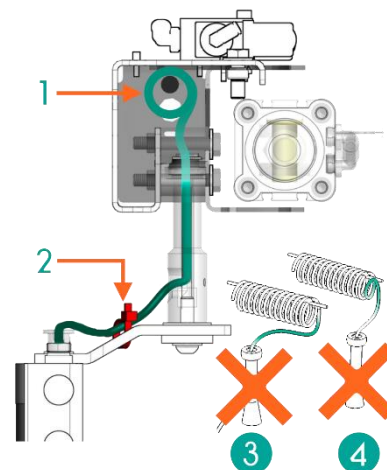


Figure 32: Insert all overlength in the profile

End result of this step:

1. The door leaf is connected to the door shafts.
2. If the door leaf is fitted with an electrical connector, check if it is connected to the spiral cable.

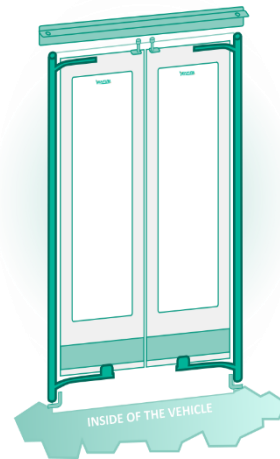


Figure 33: Result of this step

3.2.5 Step 5: Height adjustment door leaves

CAUTION!

Do not connect the door system to air or electricity. Air pressure or electricity can cause moving parts to do so. In this stadium of the installation it can result in pinch point hazard or personal injury.

NOTE

The adjustment of the door will affect the door systems functioning and sustainability. Be sure every check has been done.

Check the distance at the top of the door leaf

- Close the doors manually. Keep the power off.
- Check if the distance between the top of the door leaf and the top of the portal is as described on the system drawings (1) over the full width of the door leaf.

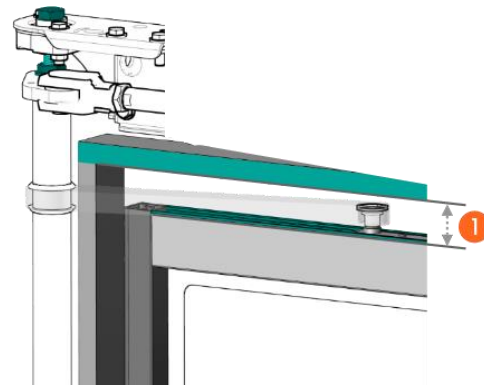


Figure 34: Measure distance between the portal and door leaf

Check the distance at the bottom of the door leaf

- The distance between the vertical profile (3) and the floor is at least 9mm (2) at the lowest part of the floor so the door leaf is able to move freely during operation.
- The distance between the flap and the step edge is a minimum of 1mm over the full width. (1)

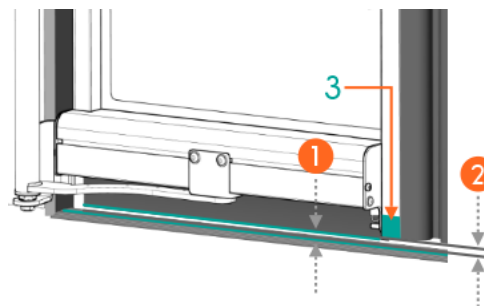


Figure 35: Measure the distance between the highlighted parts

When the distances are not correct, execute one or both of the following steps.

Adjust the height of the door

in case the distance at the top, or the distance between the floor and vertical profile are not correct.

- Manually put the door in closed position
- Loosen the secure nut (2)
- Adjust the height of the door leaf by turning the bolt (1)
When the doors need to lower, be sure the bottom supports are not fastened.
- After adjusting the door height, fasten the secure nut (2)

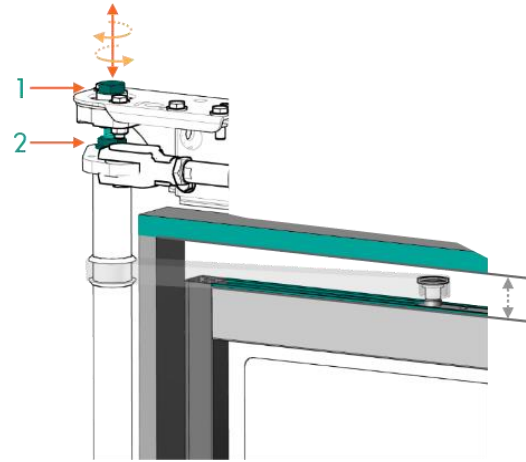


Figure 36: Adjust the height of the door

Adjust the height of the flap

In case the distance between the floor and flap is not as described in the beginning of this chapter.

- Manually put the door in closed position.
- Loosen the fasteners on both sides of the flap. (2)
- Adjust the height of the flap.
- Fasten the fasteners at the sides of the flap.

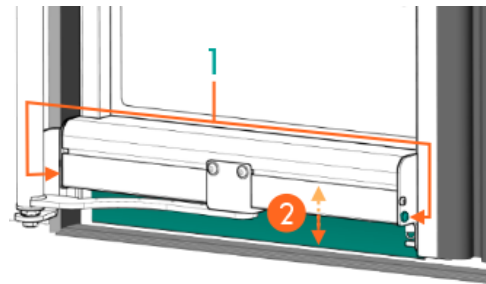


Figure 37: Adjust the height of the flap

Fasten the bottom support

The door leaves are not visible in the illustration because of readability.

- Manually put the door in half open position.
- Loosen the fasteners of the bottom support.
- Press the bottom support up, so there is no vertical play in the door shaft.
- Fasten the fasteners.

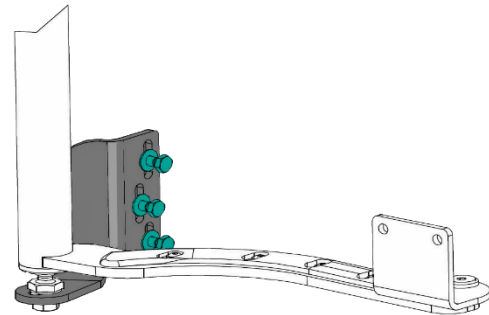


Figure 38: Fasten the bottom support

Cut the rubber at the right length

- Make a cut out in the rubber for the bottom support.
- Cut the excess rubber at the bottom of the door portal.
- Connect the last part of the portal seal onto the portal.

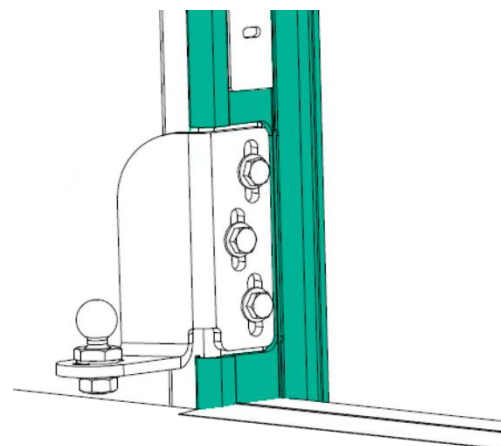


Figure 39: Cut the rubber

3.2.6 Step 6: Horizontal adjustment door leaves

CAUTION!

Connect the door system to the power source, (air and/or electrical) before executing the next steps.

Be aware air pressure or electricity can cause moving parts to do so. Be sure the door leaves can move freely.

NOTE

The adjustment of the door will affect the door systems functioning and sustainability. Be sure every check has been done.

Check the distance between the profiles of the doors

- Put the doors in closed position using the power source.
- The distance between the profiles of the door leaves (1) has to be as described in the system drawings. Do not measure from the door seals and check this measurement over the full height of the doors. This measurement can differ per system.

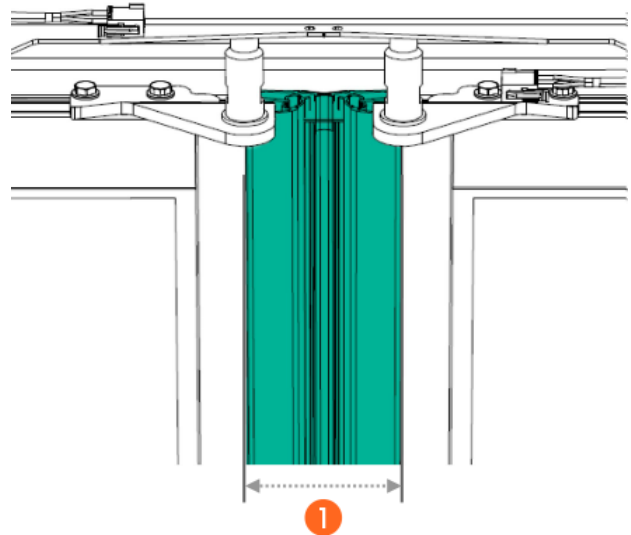


Figure 40: Measure distance between the mid seals

Check the distance between the door leaves and portal

- The distance between the profiles of the door and the portal is as described on the system drawings (1) on both sides.
- When this is not possible because of the deviation of the portal, make sure the distance is equal on both sides.
- Be sure the sides of the door leaf will not collide with the portal or portal seal.

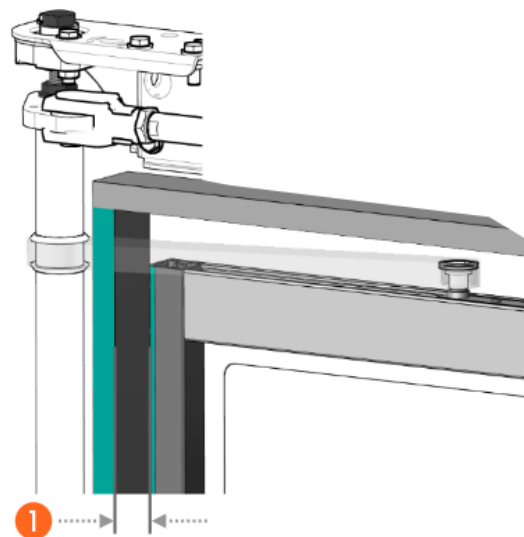


Figure 41: Measure distance between the portal and door leaf

In case the door leaves need to be adjusted, execute the following step.

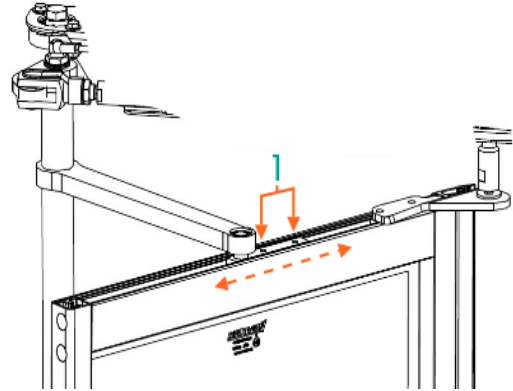


Figure 42: loosen fasteners which hold the tapping plate on top of the door leaf

Loosen fasteners door leaves

- Loosen the top (1) and bottom fasteners inside the tapping plates. Do not remove the bolts.
- Slide the tapping plates of the door left or right so the door leaves are adjusted as described.

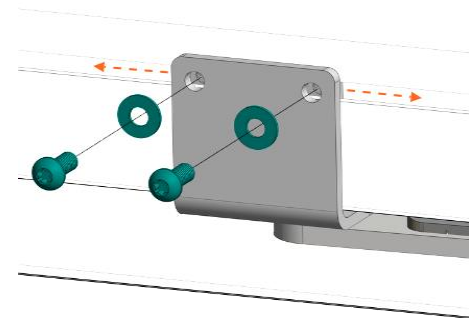


Figure 43: loosen fasteners which hold the tapping plate on the bottom of the door leaf

3.2.7 Step 7: Open position adjustment



CAUTION!

Remove the air and/or electricity from the door system.

Air pressure or electricity can cause moving parts to do so. In this stadium of the installation it can result in pinch point hazard or personal injury.

NOTE

The adjustment of the door will affect the door systems functioning and sustainability. Be sure every check has been done.

Check the door leaf angle in open position.

Put the doors in open position.

- Measure door leaf angle with the step edge. (1) Check the system drawings for specific measurements.
- The end stop of the lower lever of the door shaft touches the rubber plate on the door leaf in open position. (2) The bottom support can differ from the image.

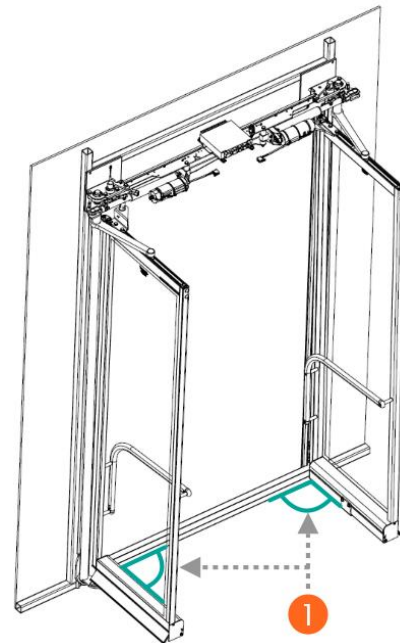


Figure 44: measure angle open position

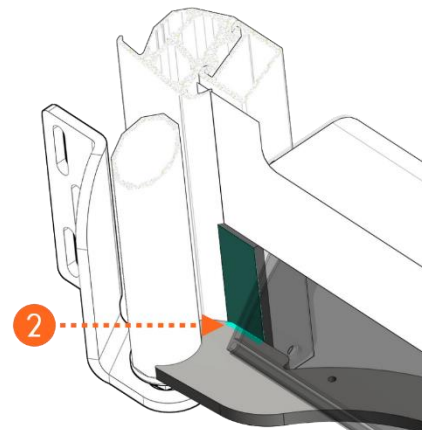


Figure 45: focus on the bottom of the door leaf, intersection

If one of the checks above is not correct, execute the following steps.

Adjust the guiding bracket.

- Loosen the fasteners.
- Adjust the door leaf by sliding the guiding bracket.
- Fasten the fasteners.

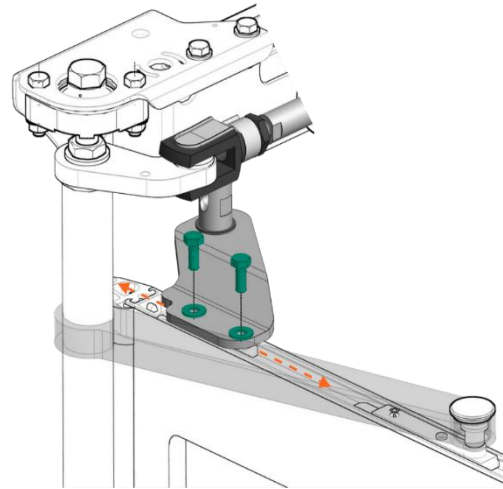



Figure 46: adjust guiding bracket

3.2.8 Step 8: Closed position adjustment

 **CAUTION!**

Connect the door system to the power source, (air and/or electrical) before executing the next steps.

Be aware air pressure or electricity can cause moving parts to do so. Be sure the door leaves can move freely.

NOTE

The adjustment of the door will affect the door systems functioning and sustainability. Be sure every check has been done.

Check if the door leaf fits well against the portal seal.

Put the doors in closed position.

- Check if the corners of the door leaves press slightly against the portal seal and it secures a tight seal. (1)
- Check if the center of the door leaves presses slightly against the portal seal and it secures a tight seal. (2)
- Check if the center of the door leaves aligns with the step edge. (3)

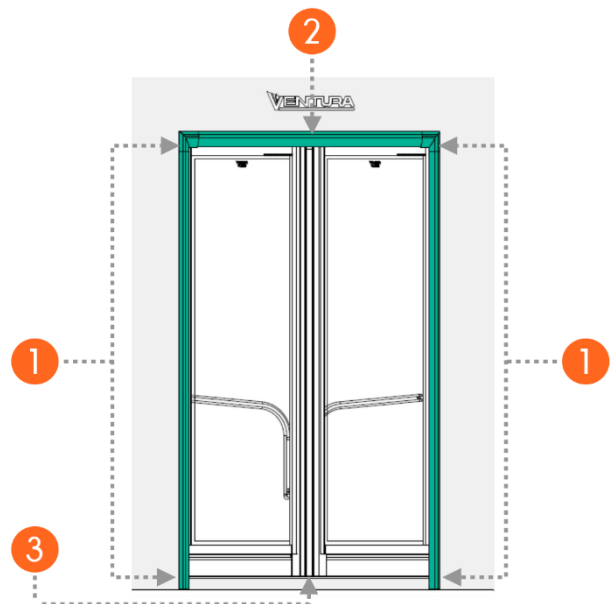


Figure 47: check the seal at these positions

If one of the checks above is not correct, execute the following steps.

When the corners do not secure a tight seal, adjust the inward/outward position of the pivot bolt on the bottom support.

These adjustments also affect the top corner.

- Loosen the fastener. (1)
- Move the pivot bolt and therefore the door shaft, away from or towards the portal until the door leaf fits well against the portal seal.
- Tighten the fastener.

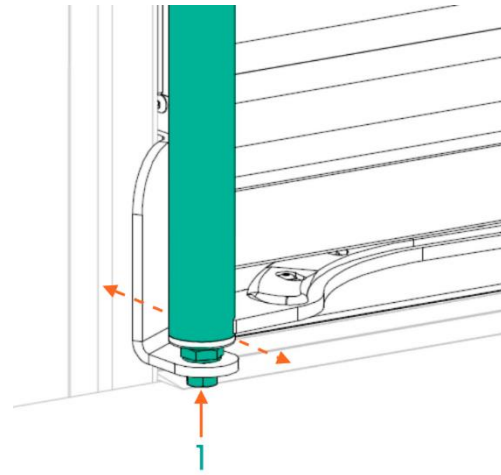


Figure 48: adjust the position of the pivot bolt

When the center does not secure a tight seal, or the alignment with the step edge is incorrect, adjust the inward/outward position of the guiding shaft on the guiding bracket.

- Loosen the fastener which mounts the guiding shaft on the guiding bracket. (1)
- Slide the guiding shaft away from or towards the portal until the door leaf fits well against portal seal and align with the step edge.
- Tighten the fastener.

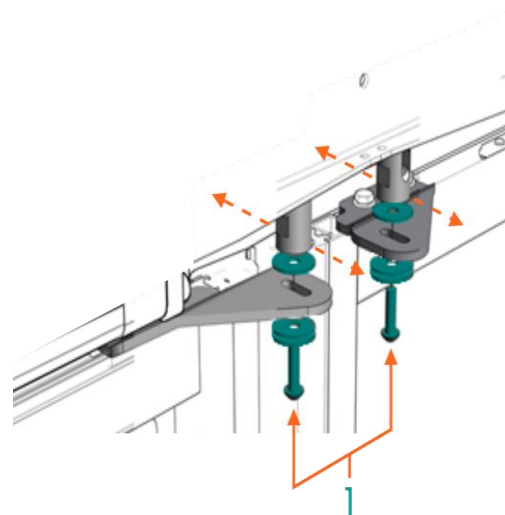


Figure 49: adjust the position of the guiding shaft

3.2.9 Step 9: Door leaf flap adjustment



CAUTION!

Remove power and or pressure of the system.

Be aware of pinch point hazard.

To prevent personal injury, be aware of the parts (possibly loosened) that could move unexpectedly.

NOTE

Right adjustment is important for maintenance frequency and flapping noise.

Right adjustment is crucial for a neat visual appearance of the doors.

Adjust the sliding plate

The view at the right is a cross section of the bottom side of the door leaf.

- Slightly loosen the fasteners in the sliding plate so it can be moved with friction. (1)
- Put the door leaf in a fully closed position and push the sliding plate to the backside of the flap without pressing it open. (2)
- Tighten the bolts and check if the flap is down at the right moment.

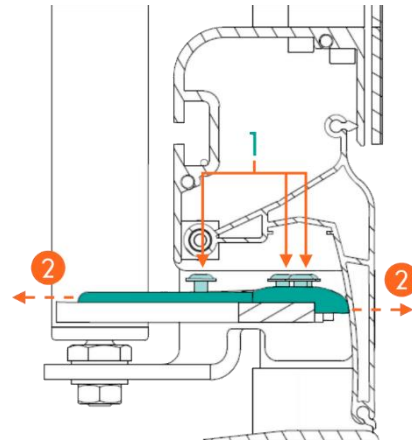


Figure 50: cross section of the flap mechanism

Check the flap spring

- Connect the flap spring if it is not connected. (1)

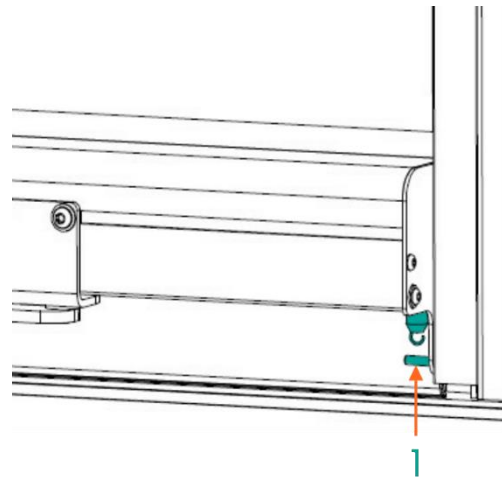


Figure 51: connect the spring

Flap checks

- The flap is parallel with the outside of the door leaf.
- The rubber at the top of the flap touches the inside of the flap. (1)
- The rubber at the bottom is just above the floor of the vehicle. (3)
- The sliding plate touches the backside of the flap without pushing the flap open. (2)

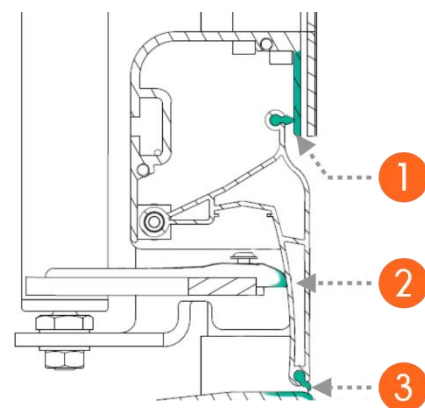


Figure 52: check the flap at these positions

4 Torque Settings

All generic IG settings that require torque tightening are in this chapter. Check all mentioned fasteners on the correct torque settings. In case of a double leaf system, check both sides. The torque settings of marked fasteners may be verified by checking if the marking is intact.

The fasteners which connect Ventura parts onto the vehicle are, in most cases, non-Ventura parts. Therefore the torque of these fasteners is not defined by Ventura.

After setting a part to torque specification, mark the connection with a torque marker.

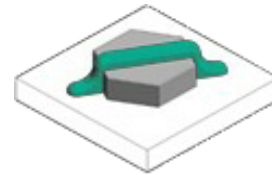



Figure 53: mark the fasteners with a torque marker.

In case the secure nut is hard to reach due to environmental limitations, a special developed tool can be purchased at Ventura. (No. VA3860) This tool ensures far better reachability and much less needed torque, therefore this tool can enhance quality of the final product and reduce lead time.



CAUTION!

The torque with the tool differs from the torque mentioned below. The correct torque for the tool is mentioned in the instruction of the tool.

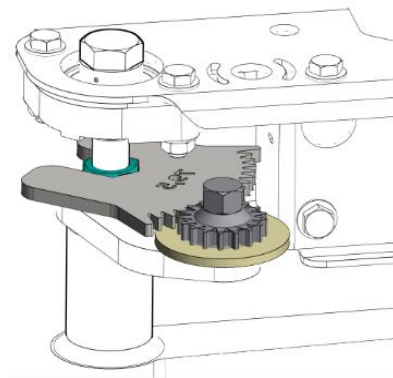


Figure 54: torque tool VA3860

The position in the system overview have details in the following part of this manual. In the second part the torque settings are described.

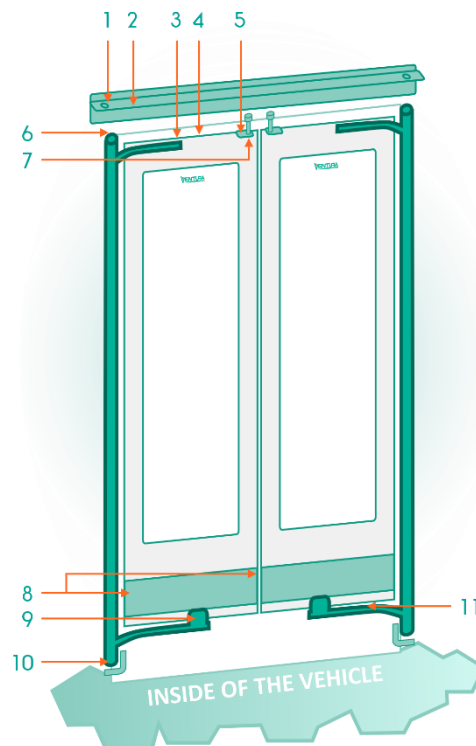
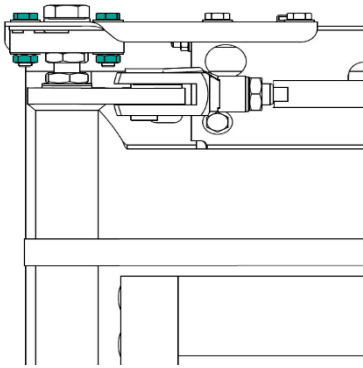


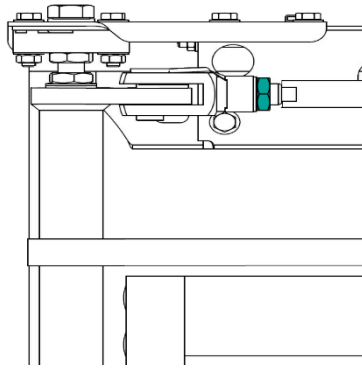
Figure 55: torque setting overview.

Position 1



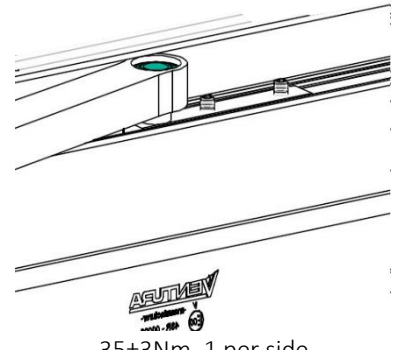
22±2Nm, 2 per side

Position 2



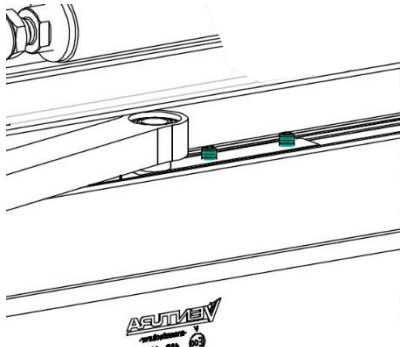
36±3Nm, 1 per side

Position 3



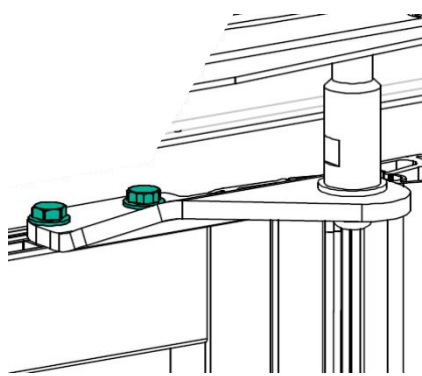
35±3Nm, 1 per side

Position 4



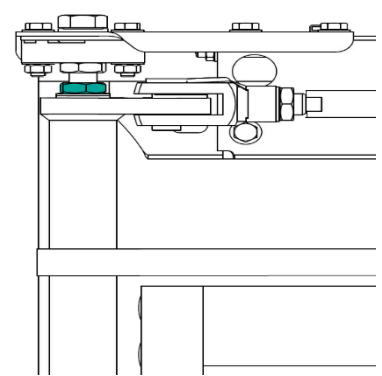
Socket 4mm = 9±1Nm,
Socket 5mm = 15±1Nm, 2 per side

Position 5



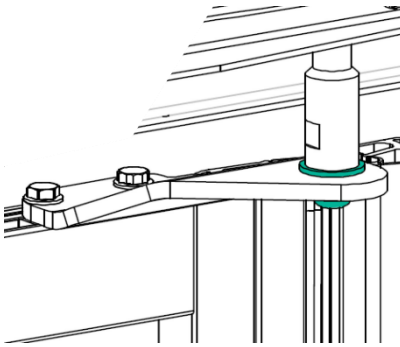
22±2Nm, 2 per side

Position 6



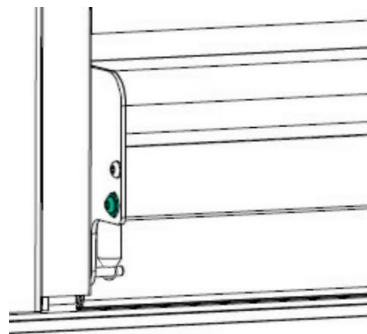
126 +0/-5Nm, 1 per side

Position 7



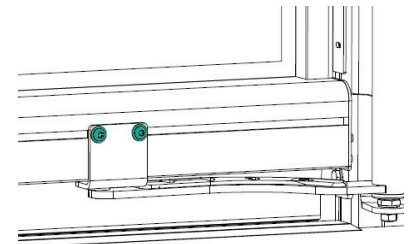
Socket M8 = 22±2Nm,
Torx M10 = 60±5Nm, 1 per side

Position 8



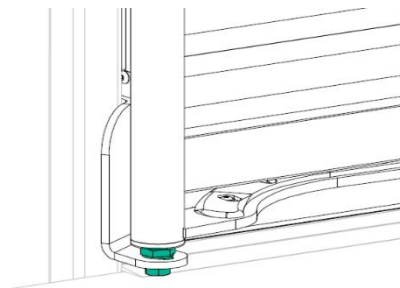
12±1Nm, 2 per side

Position 9



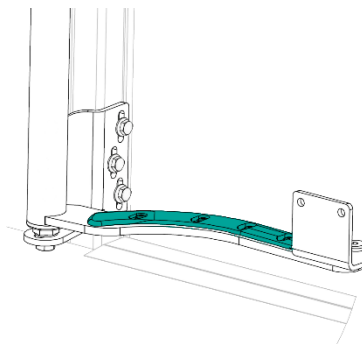
Torx m8 = 22±2Nm,
Socket 5mm = 15±1Nm, 2 per side

Position 10



45±4Nm, 1 per side

Position 11



9±1Nm, 4/5 per side

5 Operational checks

Execute these checks before applying power.



WARNING!

Applying power to an unchecked system may result in a potentially hazardous situation which, if not avoided, could result in death or serious injury.

No.	Check	Verified by	Approved
1.	Be assured all fasteners are on torque as described in the installation manual of this system.		
2.	Check if no cables/tubes are loose on the system.		
3.	Check if all parts are in place.		
4.	Manually check if the door leaf/leaves open and close without obstructions.		
5.	All safety parts are connected.		

After these checks, the power may be applied.

5.1 Operation and controls

These checks are all with power and/or pressure.

No.	Check	Verified by	Approved
1.	In case of Pneumatic parts: There is no leakage in the pneumatic system. Also, no leakage while opening and closing the doors.		
2.	In case of electric parts: Check if the electric parts and wires has no short circuits or damages.		
3.	Check if all settings match the installation manual.		

5.2 Safety checks

These checks are all with power and/or pressure.

No.	Check	Verified by	Approved
1.	All emergency buttons are functioning.		
2.	Check pneumatic obstruction detections (if applicable)		
3.	Apply an obstruction while closing. Doors open again. Test left and right separately. *CAUTION!		
4.	Apply an obstruction while opening. Doors go to half open position. Test left and right separately. (if applicable) *CAUTION!		



CAUTION!

Do not use body parts to apply an obstruction.

Appendix A - Contact

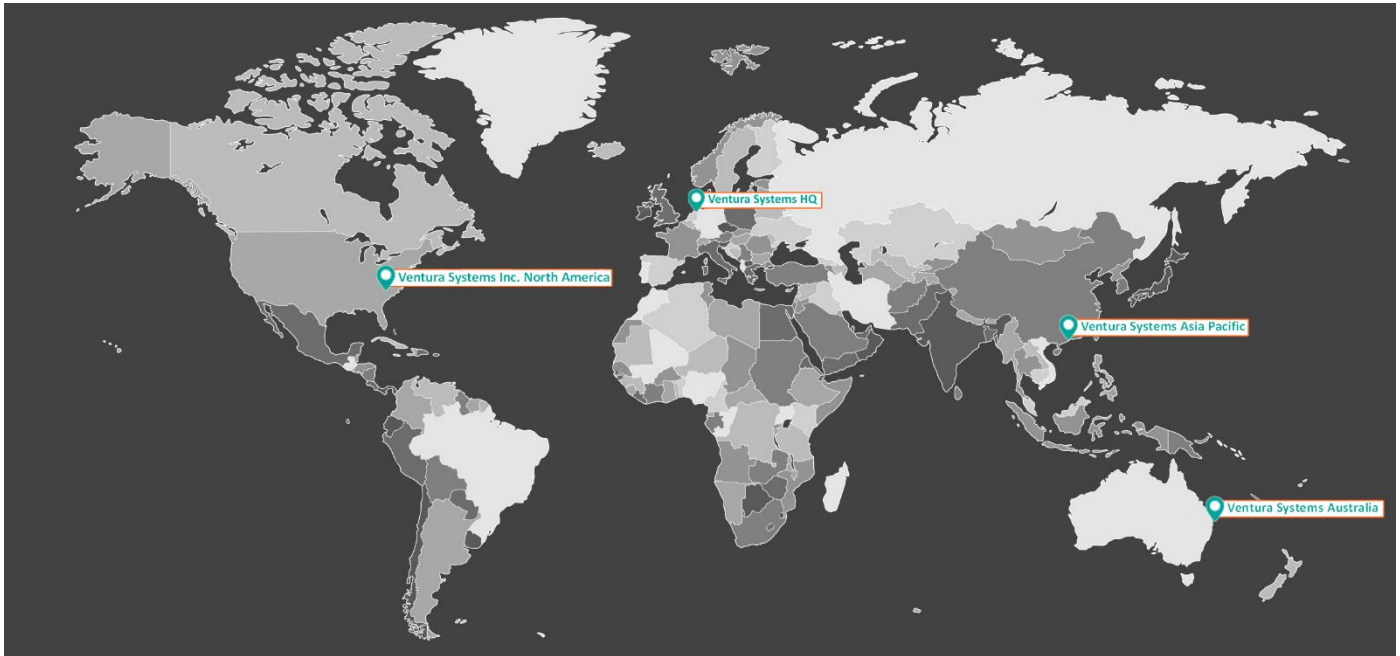


Figure 56: World map Ventura locations




Ventura Systems HQ	Ventura Systems Asia Pacific	Ventura Systems Australia	Ventura Systems Inc North America
 De Marne 216 8701MH Bolsward The Netherlands	Unit 10 on the 13/F Fotan Industrial Centre 26-28 Au Pui Wan Street Hong Kong	PO Box 284 Sanctuary Cove QLD 4212 Australia	160 Gibson Ct NC 28034 Dallas
 +31 (0) 51 557 7750	+852 2712 6001		+1 704-691-0311
 +31 (0) 51 557 3410	+852 2512 2325		+1 704-691-0313
 support@venturasystems.com	info@venturasystems.hk	info@venturasystems.com.au	info@venturasystems.com
 www.venturasystems.com			

Table 4: General contact information



Ventura Systems HQ	Ventura Systems Asia Pacific	Ventura Systems Australia	Ventura Systems Inc North America
 parts@venturasystems.com	info@venturasystems.hk	info@venturasystems.com.au	info@venturasystems.com
 +31 (0) 515 577485			

Table 5: Parts contact information

Contact your local Agent for parts.

Appendix B - Horizontal frame

Guide cable through the guiding shaft

- Guide the cable through the (loose) guiding shaft (1)
- Put the plug over the spiral cable (2)
- Guide the cable through the horizontal profile
- Insert the plug into the opening

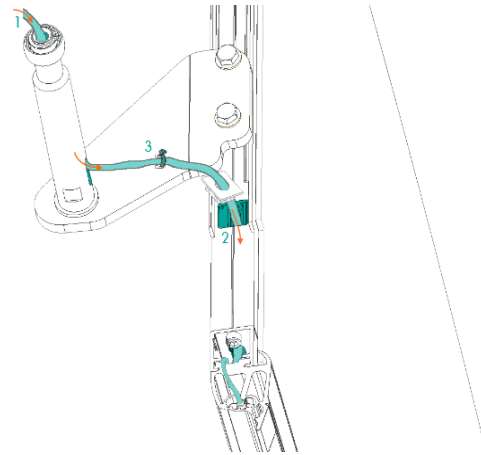


Figure 57: Guide the cable true the door leaf profile

Install guiding shaft

- If the connector of the spiral cable is not connected, connect the connector at the end of the spiral cable. (1)
- Connect the guiding shaft (2). Be aware the washers are installed.(3)

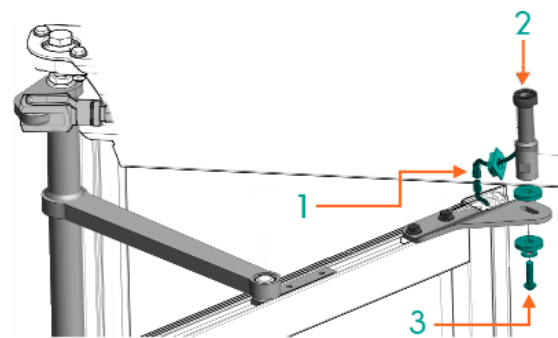


Figure 58: Install the guiding shaft

Insert overlength of the spiral cable

- Connect the sensitive edge (1) with the spiral cable (2).
- Hold the cables together and press the connectors and the cable overlength into the vertical profile (3).

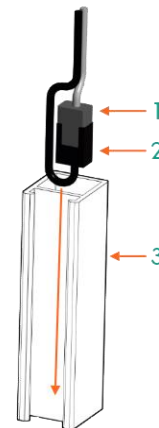


Figure 59: Insert all overlength in the profile