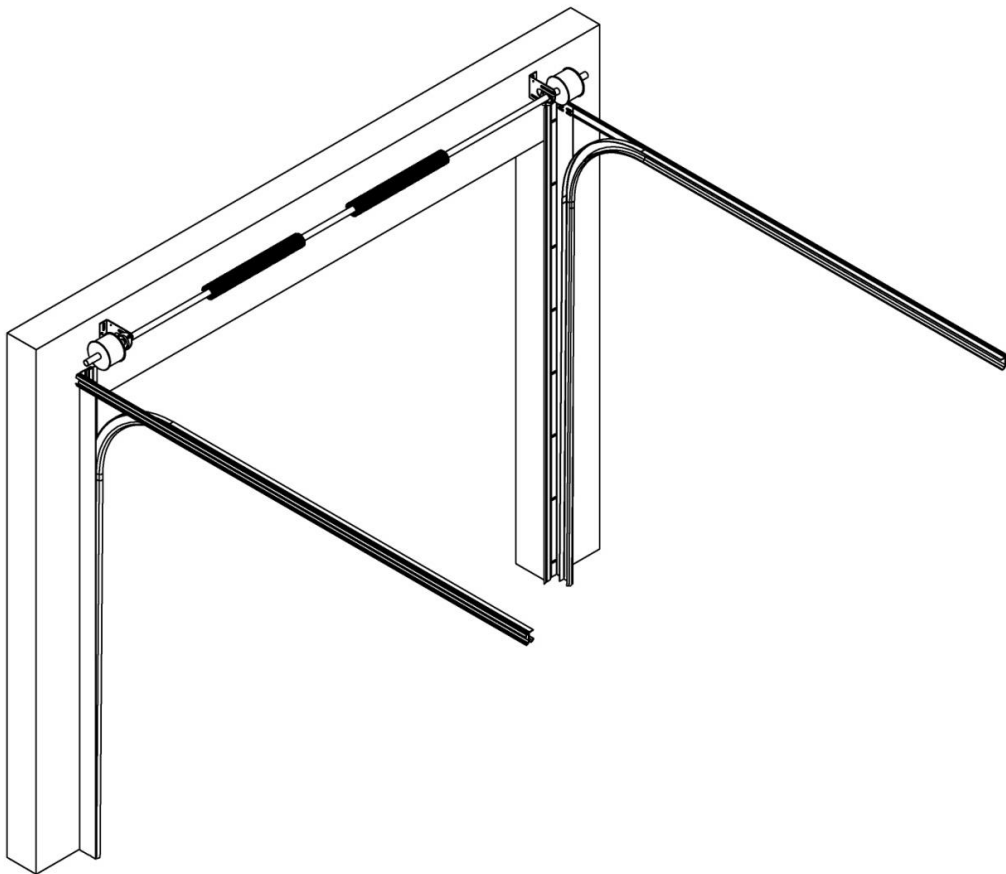




sakumetall



RES350

**HOME GARAGE OVERHEAD DOOR FOR A LINTEL WITH
HEIGHT OF 350MM**

INSTALLATION INSTRUCTIONS



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NB! GENERAL WARININGS!

A number of precautions must be taken when installing, using, and maintaining the door kit. For your safety, follow the warnings and instructions below carefully! If in doubt, contact your supplier.



These instructions only cover the installation of the door set.



Separate instructions apply to the installation of additional elements. Read the installation instructions carefully before starting work.



Certain parts of the set may have sharp or toothed edges. We recommend wearing protective gloves.



All parts required to install this overhead door are included in the scope of delivery. The addition of other parts may affect the safety of the door as well as the validity of its warranty.



Tightening the springs creates strong forces. Use the right tools and make sure you are in a stable position when performing the work.



Make sure there is enough light in the installation area. Remove excess items and dirt.



Restricted access to unauthorized persons. Other people (especially children!) may be at risk.



INTRODUCTION

Saku Metall offers a wide range of overhead doors, of which the RES350 door set has the following features:

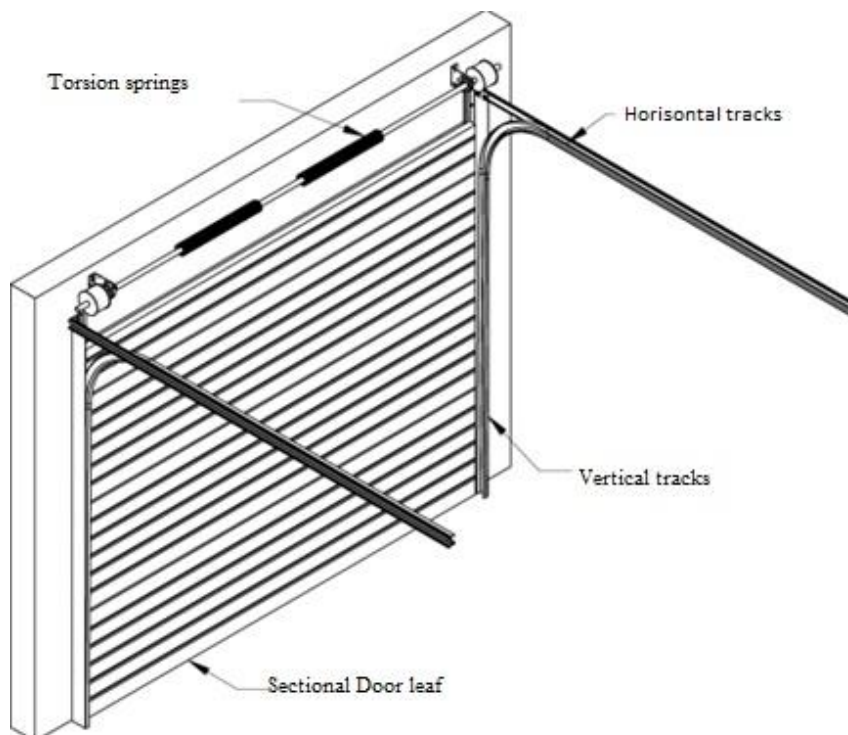
- ✓ Suitable for both one and two-car garages; opening width not exceeding 5000 mm, door leaf weighing up to 160 kg;
- ✓ The spring package is located in the lintel, above the doorway;
- ✓ Equipped with spring break protection and cable placement inside the rails, meeting CE standards;
- ✓ Space-saving in size.

In this manual, we only provide instructions for the correct installation of the door set. For a more complete manual, contact the door supplier, who is also responsible for ensuring that the entire door complies with CE standards.

The overhead door set consists of the following parts:

- Rails (vertical and horizontal rails);
- Door panels;
- Standard parts and fastening materials (incl spring break protection, horizontal rail mounting profiles);
- Fasteners (self-drilling screws, bolts, nuts, hinges, brackets, roller holders, etc.) according to the type of door selected;
- Cables, cable lugs, and locks;
- Pipe shaft;
- Torsion springs according to the dimensions of the door;
- Packaging.

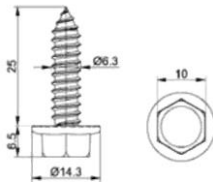
We wish you success in installing this door. If you have any questions or concerns, please contact the supplier of the set.





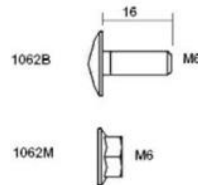
THE INCLUDED MOUNTING MATERIAL

Self-drilling screw;
1055BV (nr 10 wrench)



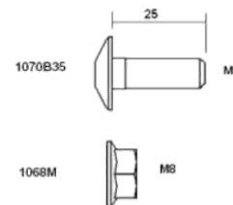
Bolt M6x16; 1062B

Nut M6; 1062M



Bolt M8x25; 1070B35

Nut M8; 1068



For fixing vertical walls to the wall and horizontal rails to the ceiling

- Hexagon head screws 8x70 mm;
- Dowels 10x80 mm;
- Washers 8x30 mm.

TOOLS FOR CORRECT AND QUICK ASSEMBLY

(Cordless) drill
drill 4 mm
drill 4,5 mm
drill 6,5 mm
dowel 10mm
dowel 13 mm

Hex wrench 4 mm
Wrench 10 mm
Wrench 13 mm
Wrench 15 mm
Wrench 17 mm

Socket wrench

Adjustable wrench

Clamp

String Spirit

Level

2 blocks with a height of 20 and 40 mm

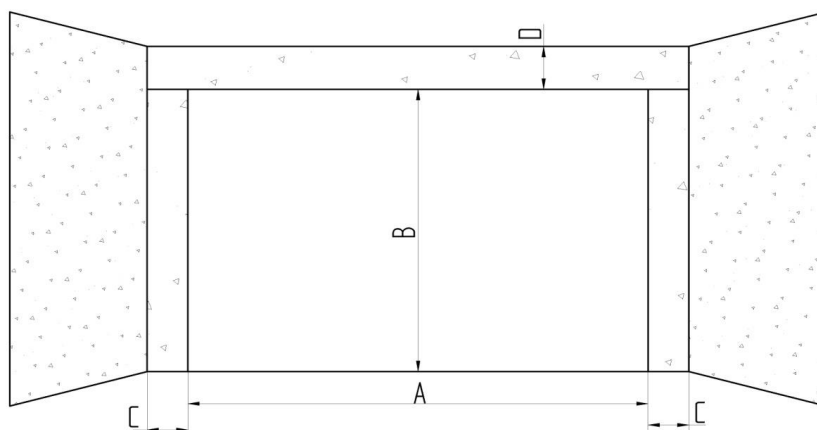
Tubes (levers) tightening springs - Ø13 mm, length at least 400 mm.





VERIFICATION OF THE DIMENSIONS

Before installing, check the dimensions of the door opening according to the attached drawing.



A = Aperture width (CW);

B = Aperture height (CH);

C = Side width;

D = Topp height, lintel

REQUIRED ASSMBLY ROOM

Side width C: at least 100 mm;

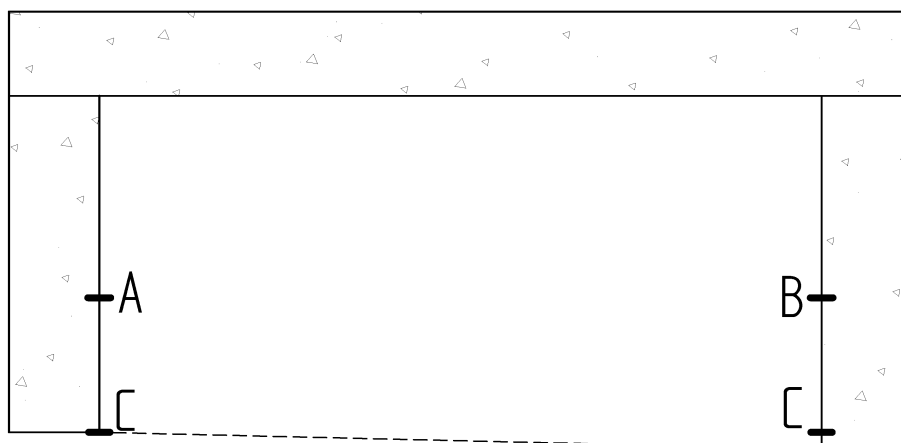
Top height D: at least 350 mm at springs.

Note 1) The required top height depends on the height of the electric drive.



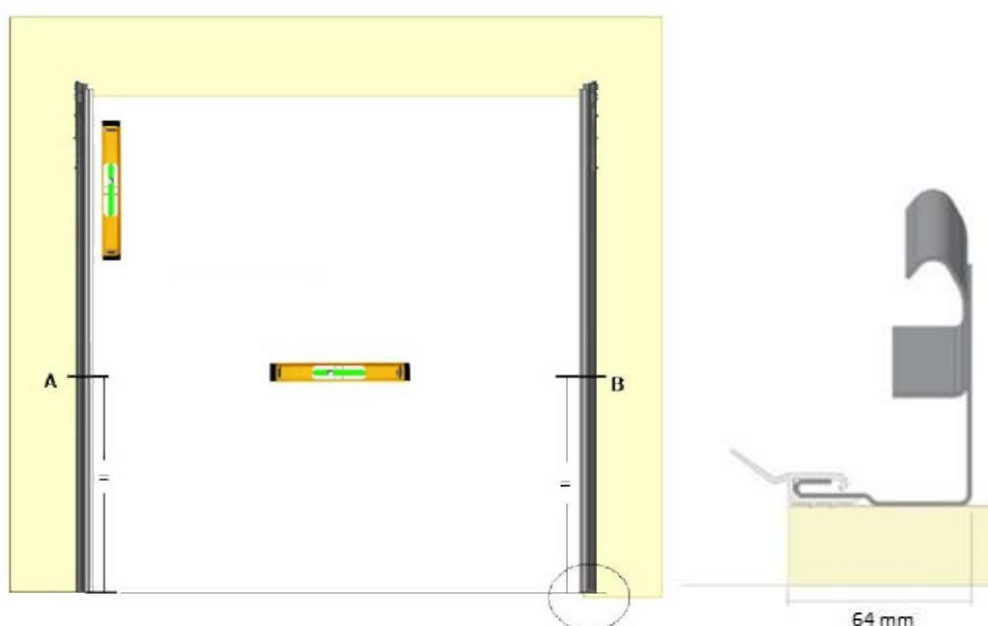
INSTALLATION OF VERTICAL RAILS

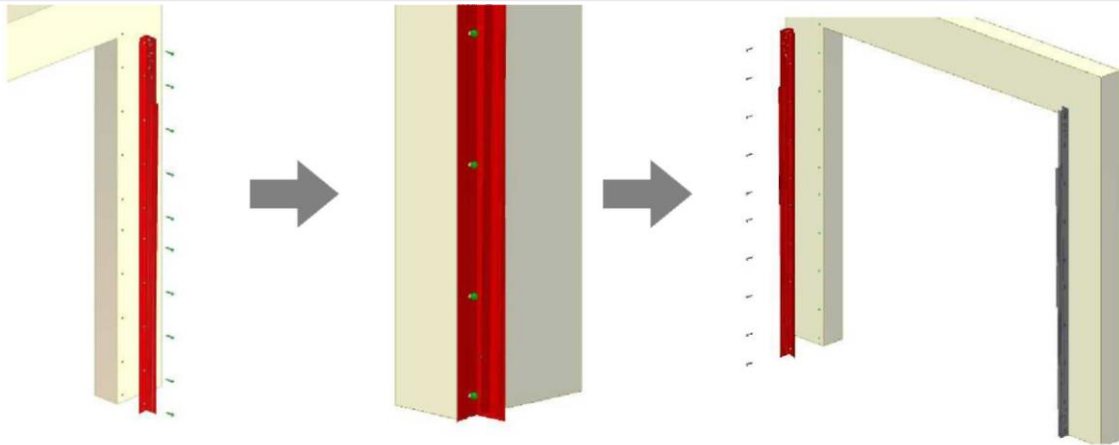
Mark the heights "A" and "B" on each side of the door opening using a spirit level. Then mark "C", equidistant from the marks "A" and "B".



Attach both vertical rails so that the lower surface of the vertical clamp is in the line "C" and the longitudinal edge of the seal attached to the clamp is flush with the vertical edge of the door opening. The installed vertical rails must be parallel.

If the floor surface is sloping, the height of the lower vertical rail must be raised (e.g., with a wedge).



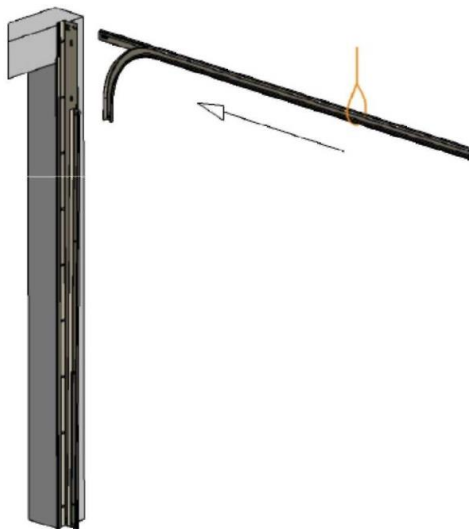


ASSEMBLING THE HORIZONTAL RAIL KIT

At the beginning of the installation, hang the horizontal rail on the ceiling with a rope to keep it raised during assembly.

Attach the horizontal rail to the vertical clamp through the reinforcement profile and the holes in the clamp.

Insert two bolts through the hole in each horizontal rail from the inside. Align the outer edge of the vertical rail with the corresponding edge of the arch of the horizontal rail. Tighten the M6 rivet nuts (1062M) by hand.



ASSEMBLING AND MOUNTING THE SPRING KIT

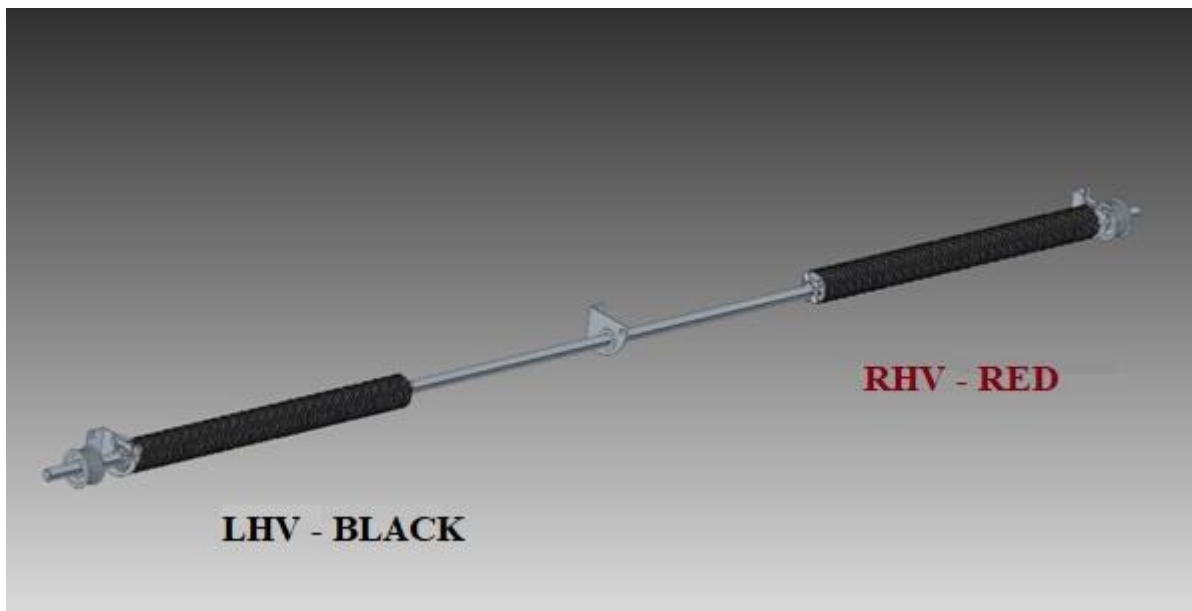
Depending on the weight of the door, the door may have more than one spring. The springs are divided into counterclockwise and clockwise springs.

Counterclockwise spring

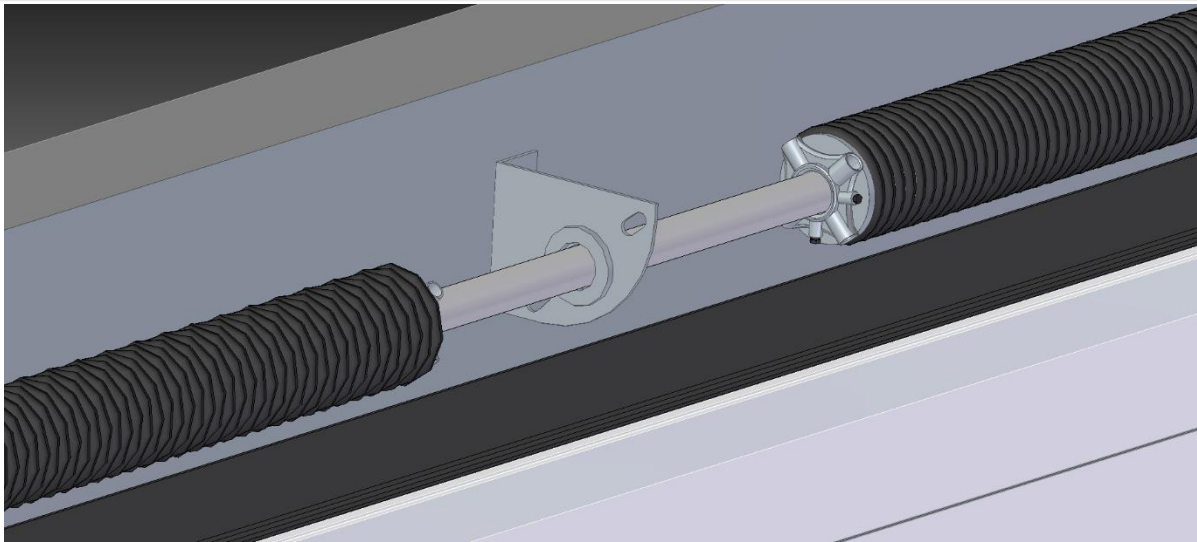
e. the spring on the left hand is marked with a black cap, the clockwise spring, i.e., the right-hand spring, is marked with a red cap.



Push both springs onto the pipe shaft. The left-hand spring must be to the left when viewed from the inside and the right hand spring must be to the right.

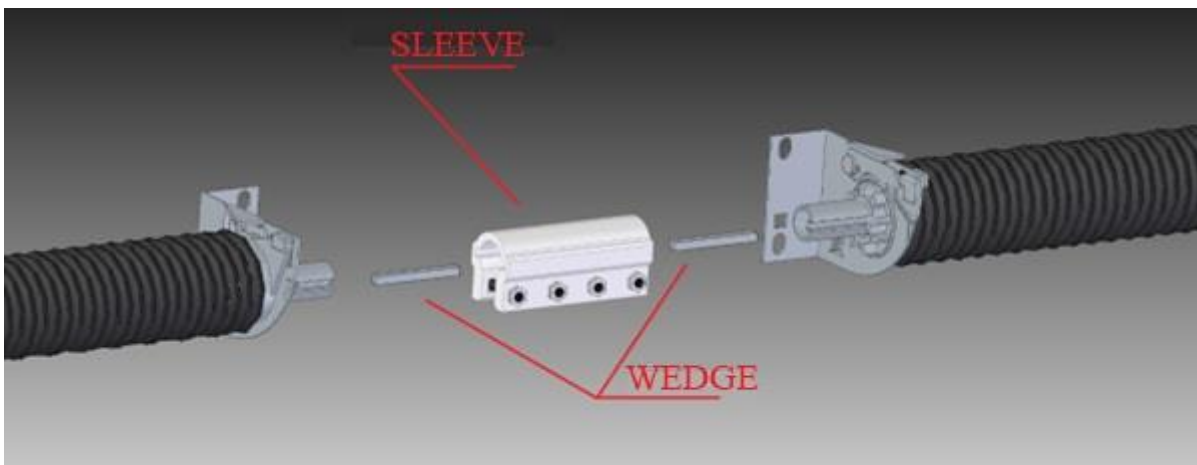


Between the springs there is a bearing and a bearing holder, which holds the support bearing to the bearing bracket.



Doorway width more than 3000 mm (CW>3000)

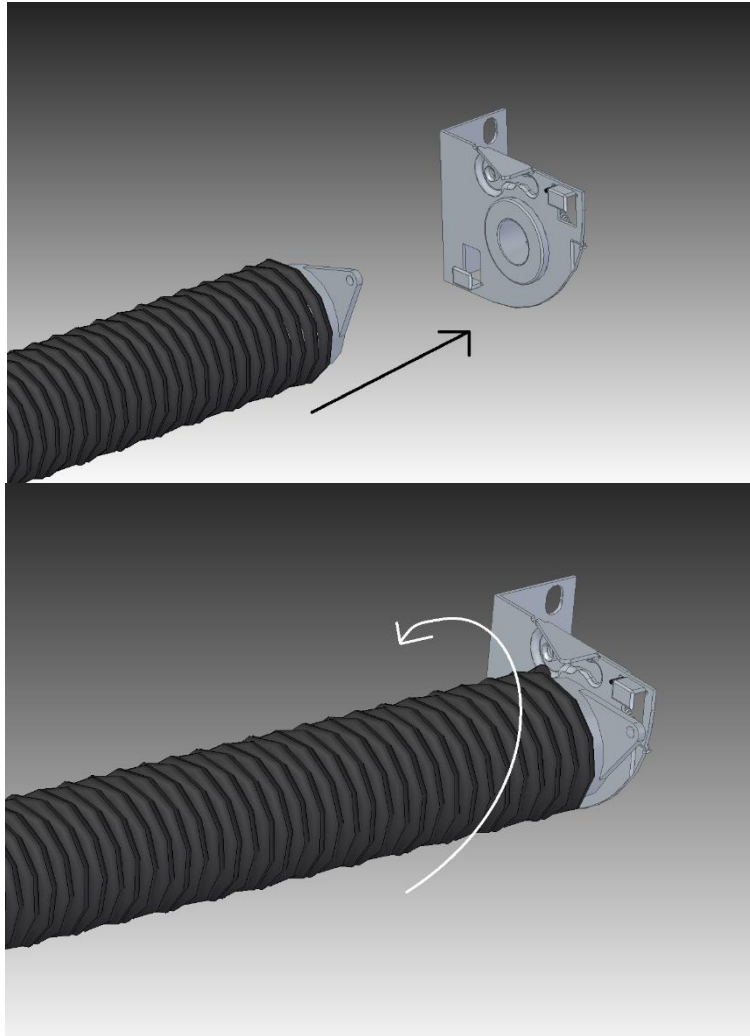
Push the springs onto both pipe shafts. The shafts have different lengths to prevent the coupling from being centered - in the case of an automatic door above the automatic and door connection profile. The left-hand spring with the black spring cap must be placed on the left. Slide the bearing and bearing bracket onto both shafts, securing each to the bearing bracket with two M8 bolts and nuts. Then connect the shaft halves using the coupling and wedges.



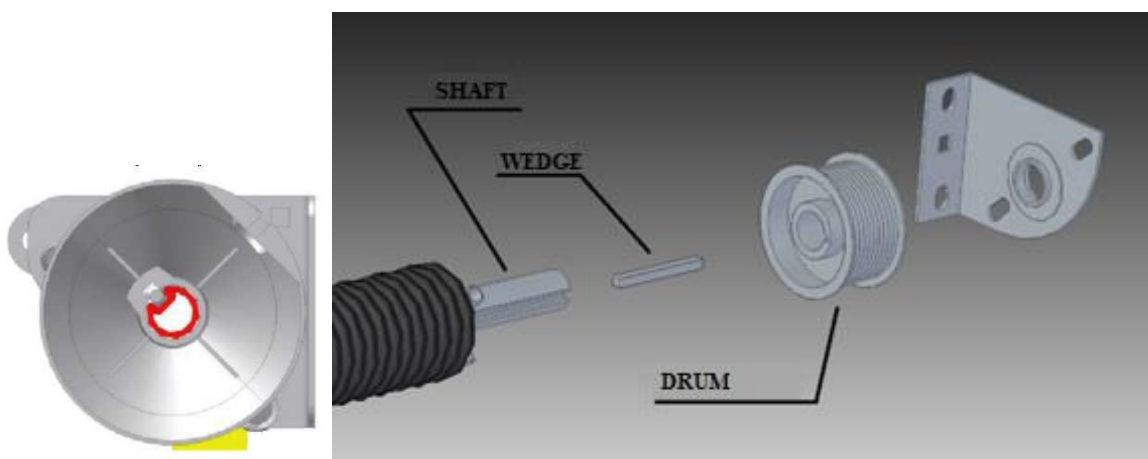
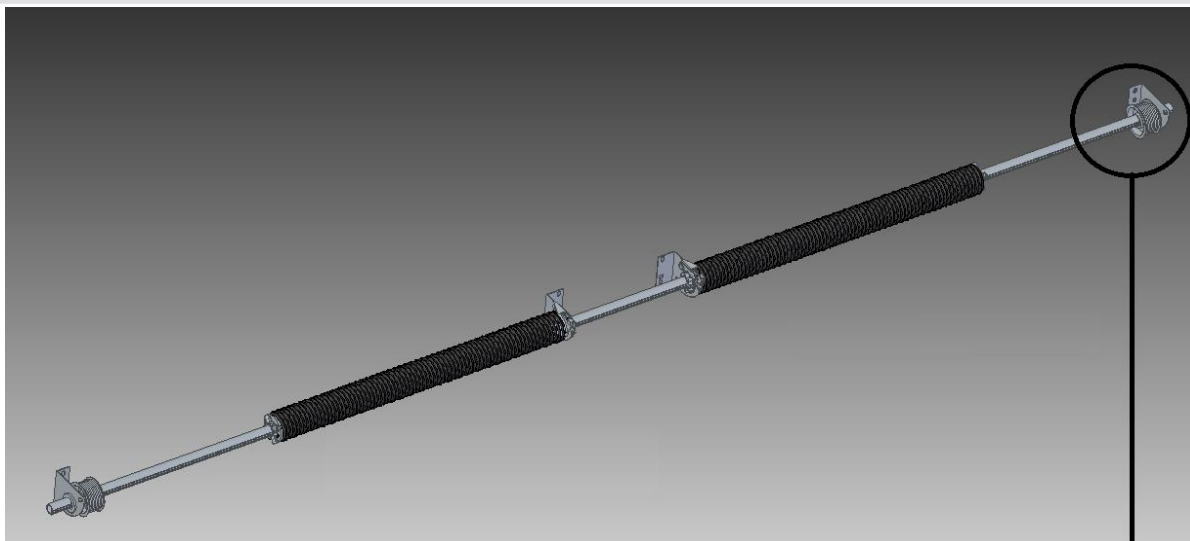
Attach the spring break guards to the spring ends following the drawings provided in the fuse package. NB! Read the instructions that came with the spring break guard.



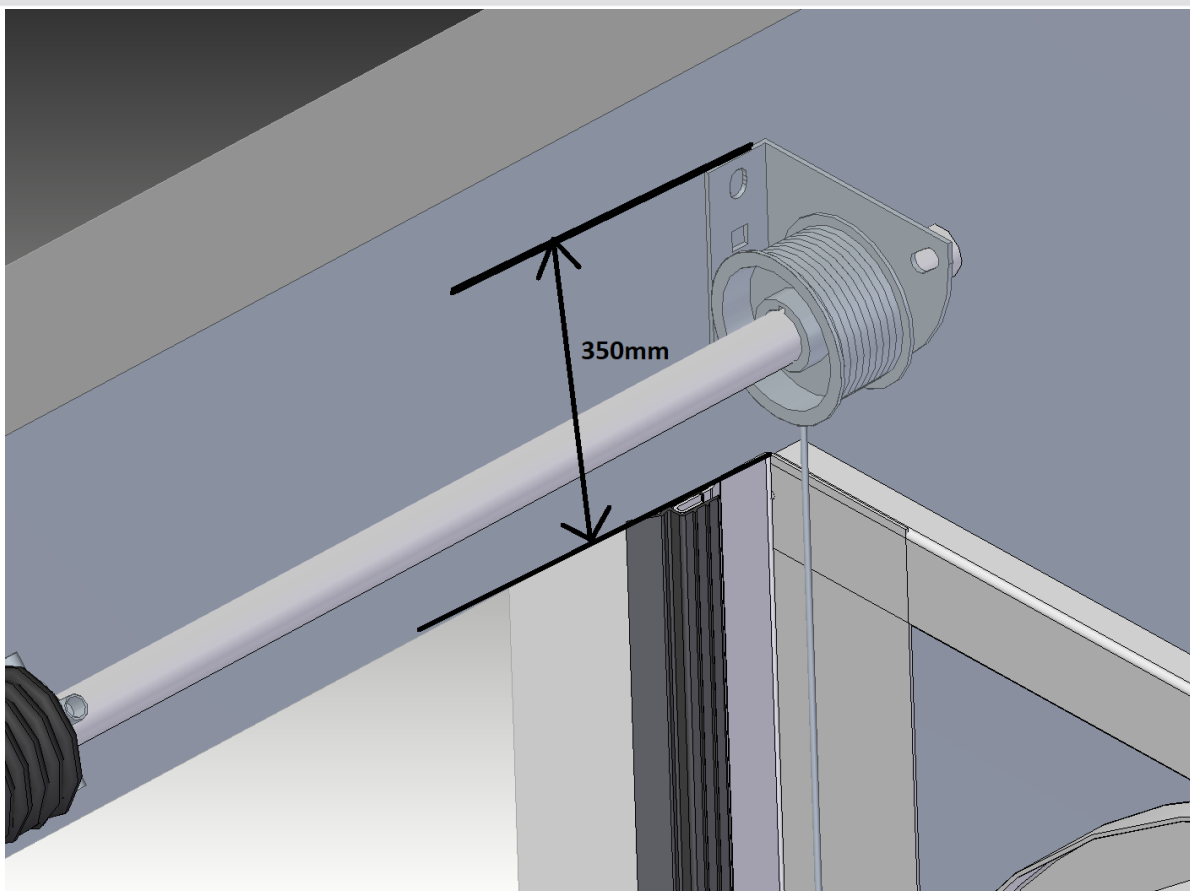
Insert the spring into the spring break guard and turn



Push the drum onto both shaft ends. Place the drum marked RH on the right. Tighten the drum bolts to the pipe shaft by hand and secure both drums with a wedge.



Install the shaft and springs on the wall with the bearing bracket and spring break guards.

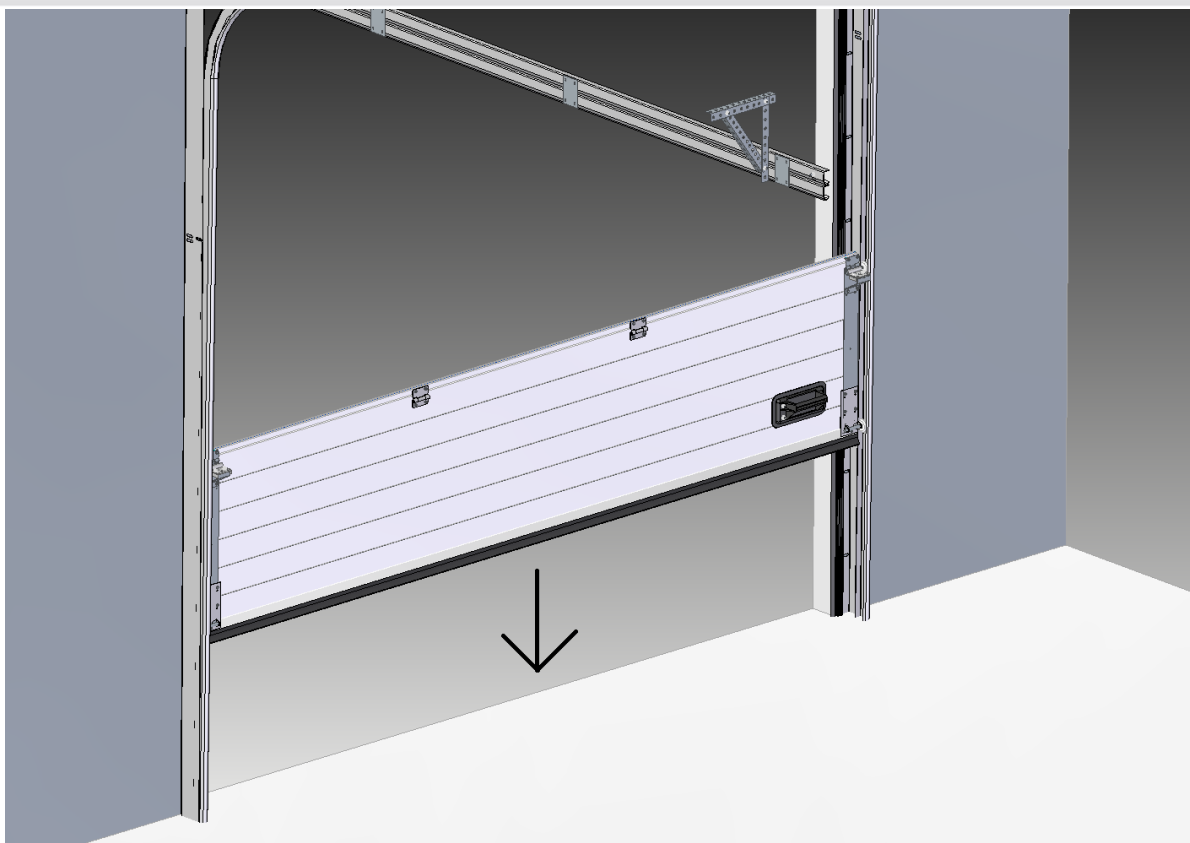


DOOR PANEL ASSEMBLY

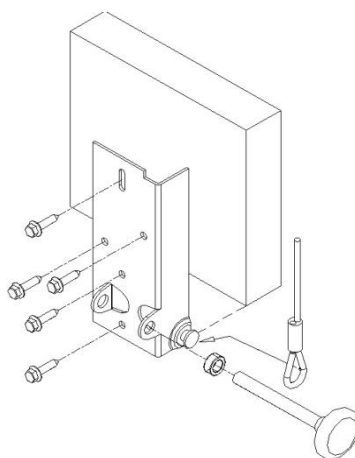
General remark

To simplify the assembly of the door panel, the side and middle hinges are attached to the panels, and the holes are pre-drilled for mounting self-drilling screws.

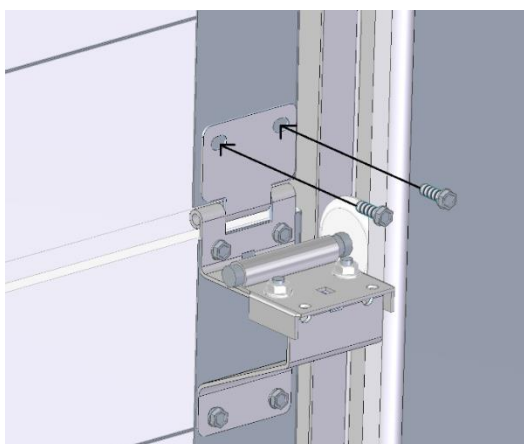
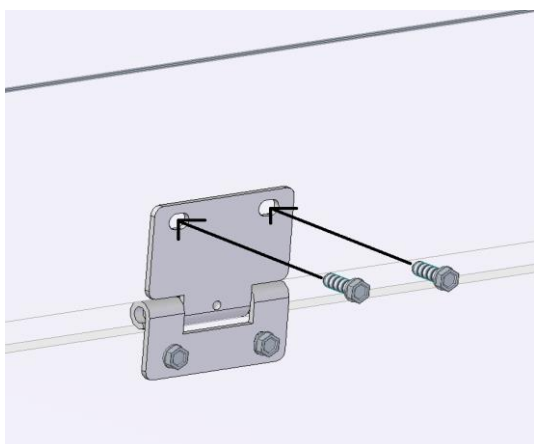
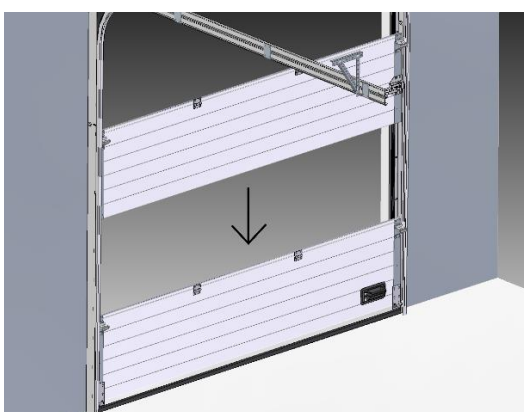
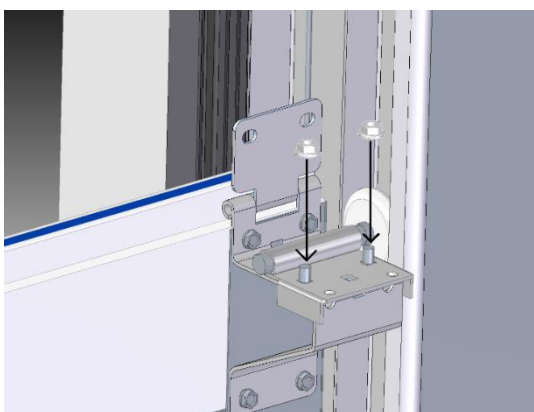
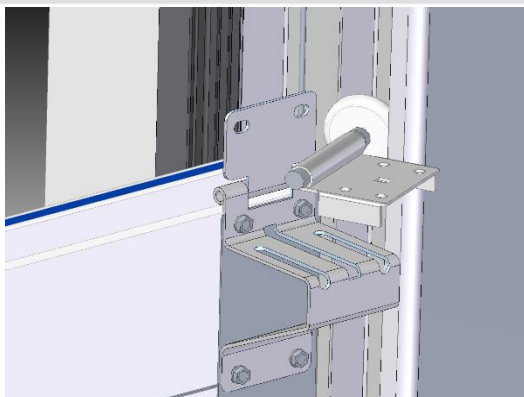
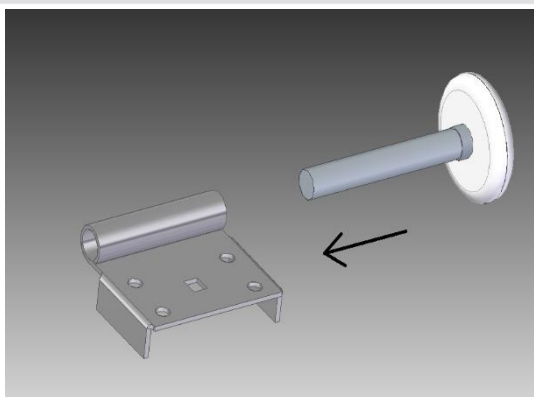
Position the lower panel between the vertical rails so that the panel is 20 mm above on both sides at the edges of the door opening.



Place the cable lug (k3x if $CW < 3000$, k4x if $CW > 2500$) on the lower bracket. Push the spacer onto the roller shaft (2066-07) and insert the roller through the holes in the bracket. Push the roller into the rail and place the lower door panel at its correct height (against the closing plane of the door) between the rails.

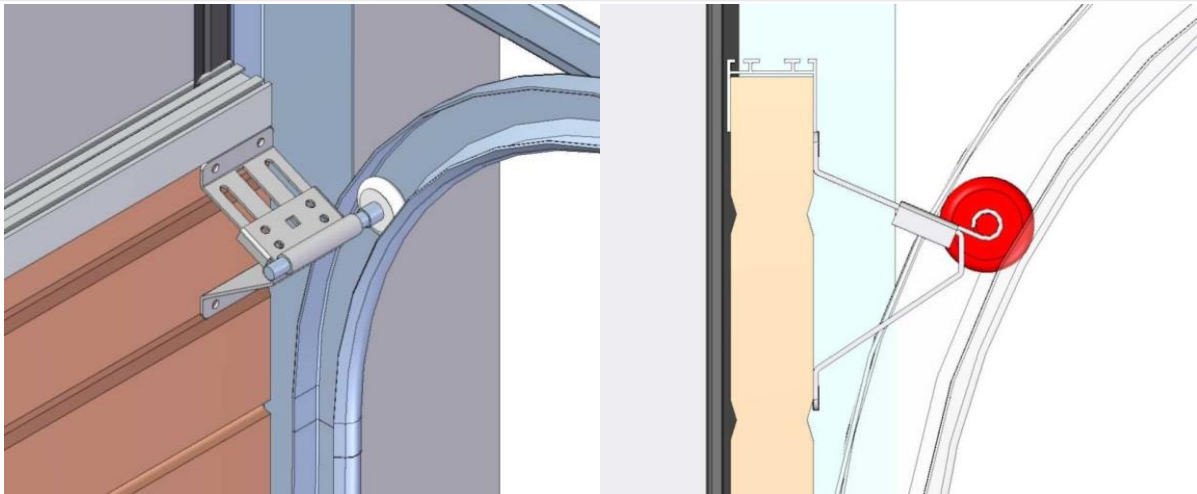


Place the remaining panels and attach the side and center hinges to the panels



When installing the rollers on the side hinges, adjust the rollers so that the gap between the panel and the side seal is minimal (the panel is pressed against the seal). The roller must not be tightening, and it must be possible to turn it by hand.

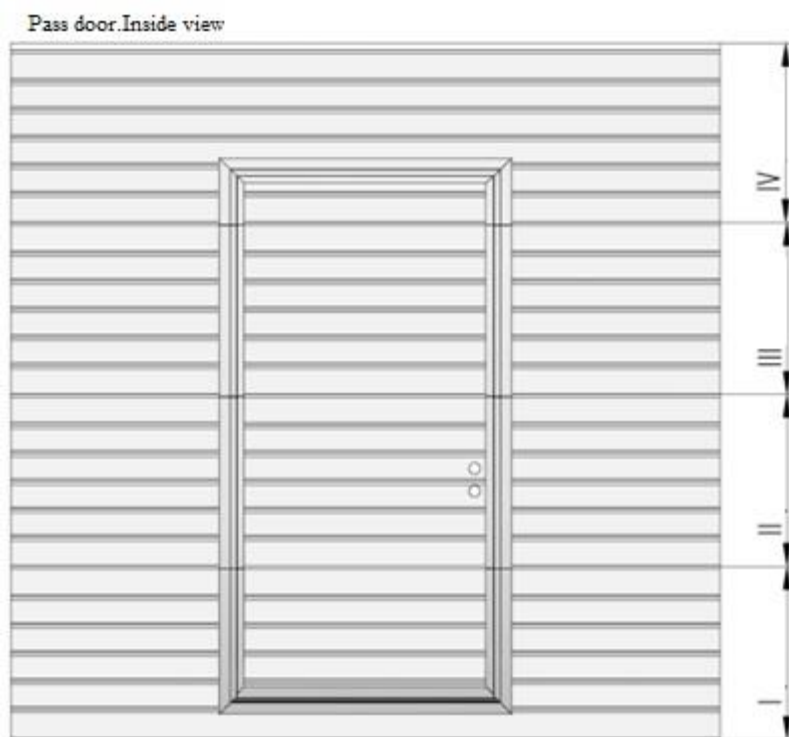
Place the roller on the upper bracket and place the wheel in the upper rail with a shorter arch.



ASSEMBLY OF DOOR PANELS OF A DOOR WITH A FOOT GATE

The sequence of works for assembling the door panels with a foot gate is similar to compiling a door leaf without a foot gate, starting from the bottom panel and stacking the panels on top of each other in the correct order.

When compiling a door leaf, follow the same instructions as for compiling a door leaf without a foot gate (see the previous chapter). Care must also be taken to ensure that the profiles of the overhead door foot gate are aligned, and that opening and closing of the foot gate does not become difficult in any way.



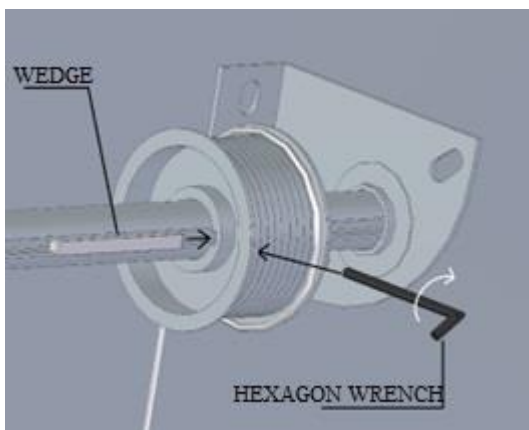
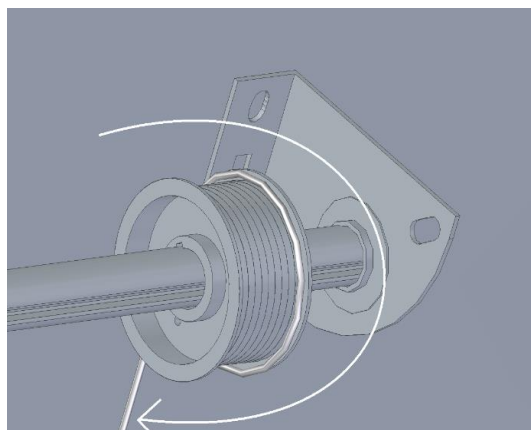
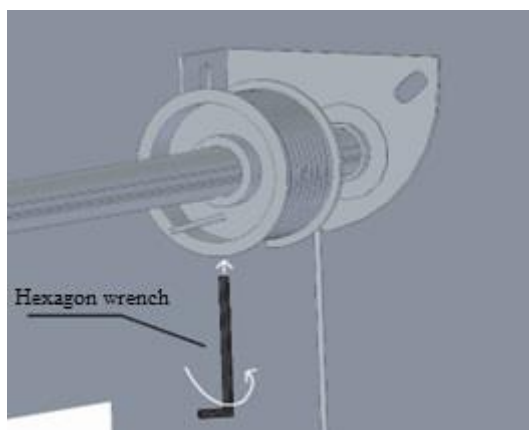
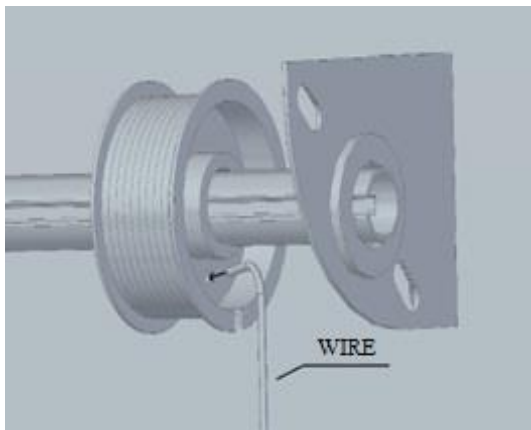


For instructions on how to install the lock and latch of the foot gate, see the packaging of the details.

INSTALLING THE CABLE AND TIGHTENING THE SPRING KIT



Guide the cable at the lower panel, behind the rollers, to the drums above the door opening. Secure the cable by pushing the cable through the hole in the drum and tightening the hex head screw. Turn the drum until the cable is tight.



Attach the drum to the shaft with a wedge and the screws attached to the drum.



Install the second cable in the same way. Both cables must be tightened equally until the door panel is completely level.

Make sure that the door does not rise. To this end you may, for example, place wrenches into the vertical rails.

Tighten the springs by the specified turns (**see the enclosed package insert**), pull the spring loose approx. 5 mm (to reduce friction) and fasten the spring to the pipe shaft using the screws on the spring cap (17 Nm).

CAUTION!

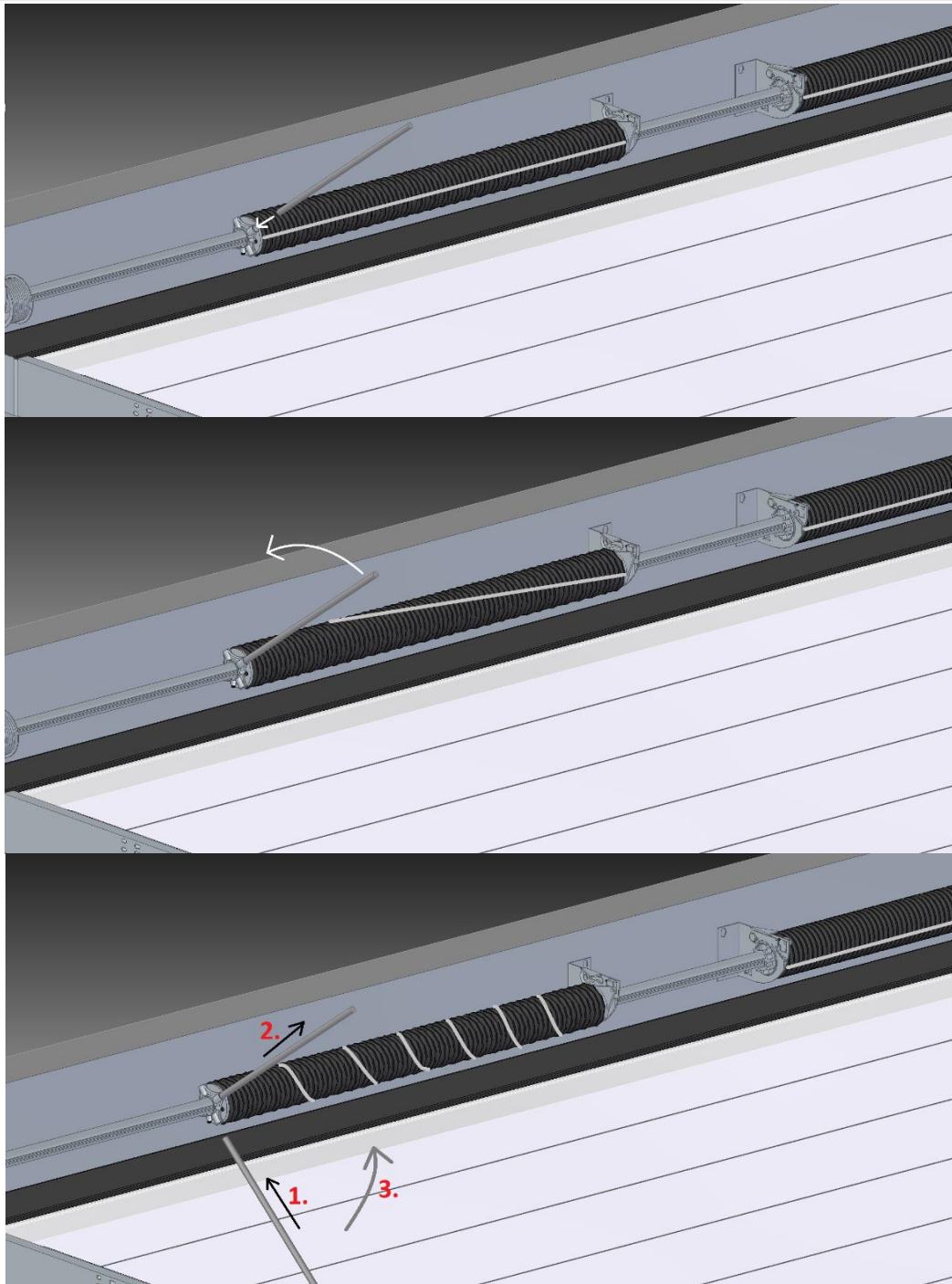
Tightened torsion springs are under high tension. Be careful when working!

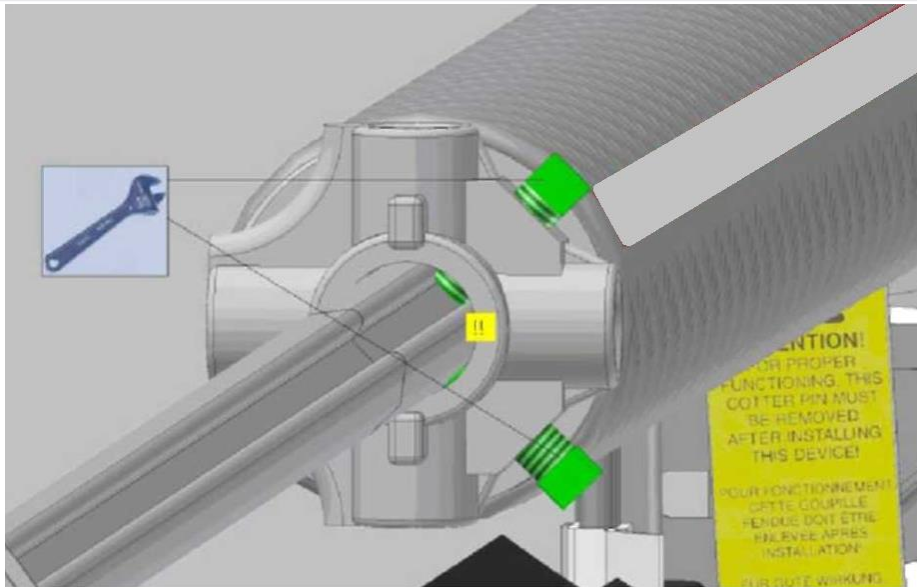
Maintenance and repair work may only be carried out by experienced and trained overhead door installers.

Use the correct parts and calibrated tensioning levers.

TIGHTENING THE SPRINGS

- a. Make sure that the markings on the spring form a straight line.
- b. Insert the first clamping lever fully into the hole in the spring cap.
- c. Turn the first lever a quarter turn so that the spring is tight.
- d. Fully insert the second clamping lever into the next clamping hole.
- e. Transfer the spring tension from the first clamping lever to the second lever.
- f. Remove the first clamping lever from the gap.
- g. Turn the second clamping lever by a quarter turn, so that the spring is tightened.
- h. Repeat steps 2-7 until the springs are tightened by the specified number of turns.
- i. Attach the clamping end by tightening the clamping end bolts to the pipe shaft.
- j. Remove the last clamping lever.
- k. Check the number of turns by counting the turns of the marking line





Remove the stoppers from the rails and shaft and check that the door is properly balanced. If not, adjust the spring tension. The springs may be tightened or relaxed by a maximum of 1 turn

Adjust both springs equally.

SPRING STRESS ADJUSTMENT

- a) Insert the first clamping lever fully into the clamping gap.
- b) Apply spring tension to the tension lever.
- c) Loosen the tightening end bolts.
- d) Turn the first clamping lever in the required direction.
- e) Fully insert the second clamping lever into the next clamping gap.
- f) Transfer the spring tension from the first clamping lever to the second tension lever.
- g) Remove the first clamping lever from the gap.
- h) Turn the second clamping lever a quarter turn in the required direction.
- i) Fully insert the first clamping lever fully into the next clamping gap.
- j) Transfer the spring tension from the second clamping lever to the first tension lever.
- k) Repeat steps 4-10 until the required correction is made.
- l) Attach the clamping end by tightening the clamping end bolts to the pipe shaft.

Remove the last clamping lever.

If the door panel does not hang completely horizontally on the ropes in the (almost) closed position, there are three ways to adjust:

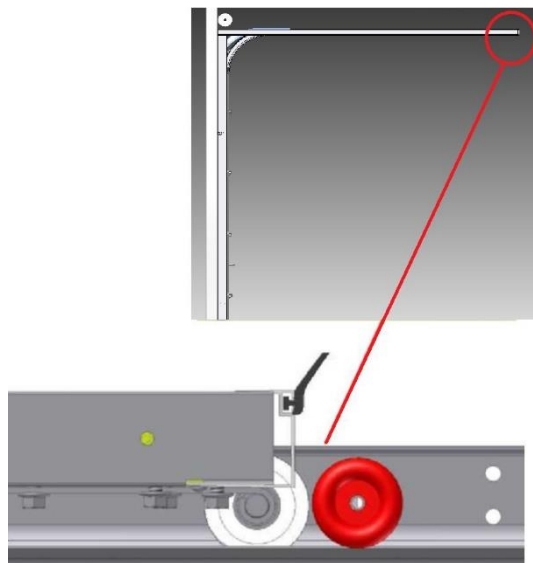
A. If the connection/suspension profile behind the horizontal rails is not finally set in the gaps in the support plate support, it can be displaced relative to the horizontal rails.



- B. Loosen the cable drum mounting bolts and release the drum from the pipe shaft. With small displacements, there is a risk that the bolt ends will slip back into the old tracks, and the correction will fail.
- C. If a connector is used, it can be adjusted to improve the leveling of the door.

Close the door and secure the door panel. Loosen the two cutting screws (1055BV) that secure the top roller holder so that it can be moved slightly. Press the top panel against the top (side) seal and push the top roller holder as far as possible (to keep the gap between the door panel and the seal to a minimum). In the case of a manually operated door, the carrier roller must be moved downwards. The carrier roller is located close to the roundness of the carrier rails. In the case of an electric door, the carrier roller must be moved upwards. The carrier roller fits snugly against the flat part of the carrier rails. Tighten the two cutting screws again. If the top panel cannot be pushed from the outside inwards, the remaining cutting screws can also be tightened.

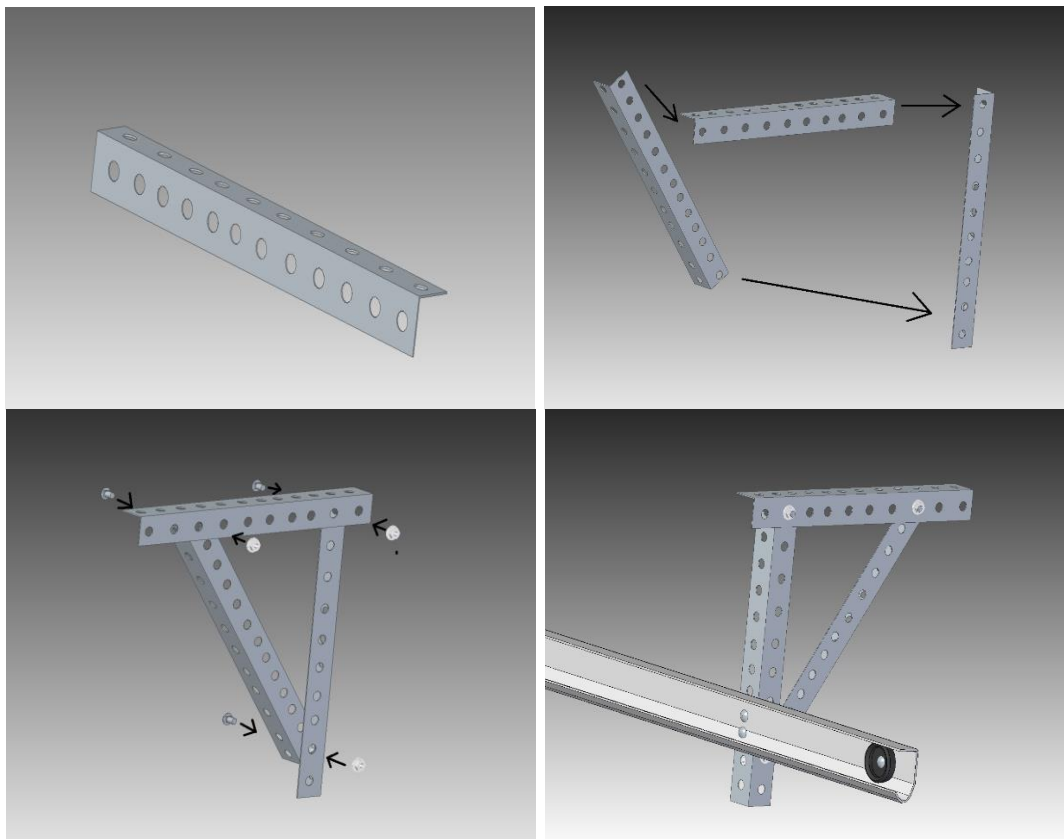
FINAL ADJUSTMENT OF THE DOOR



Attach the rubber stopper to the upper horizontal rail ends with a bolt (M6x16) and a nut (M6).



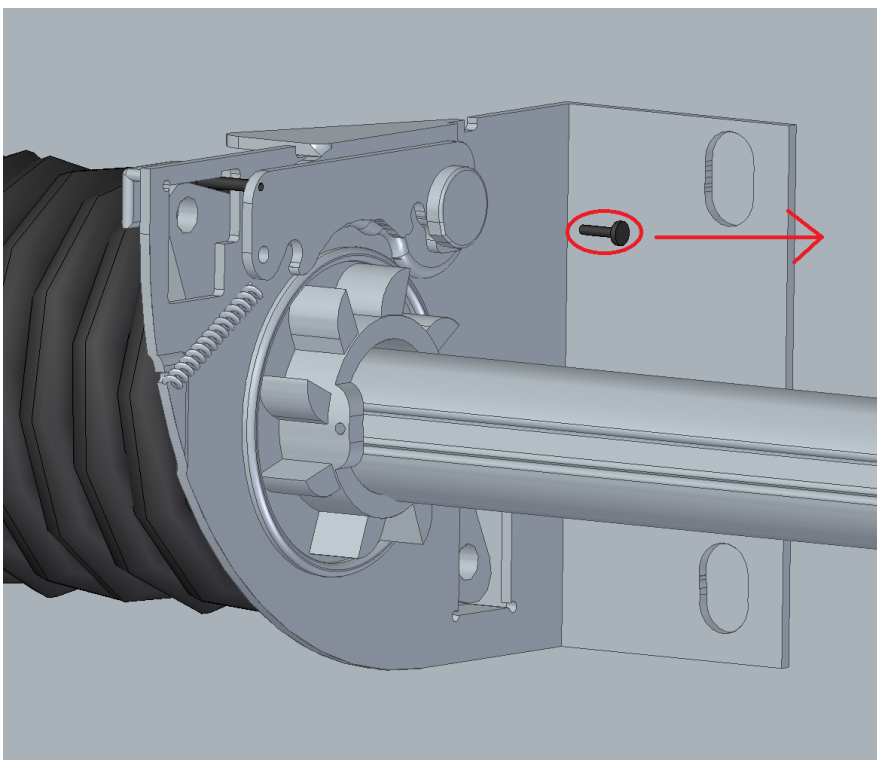
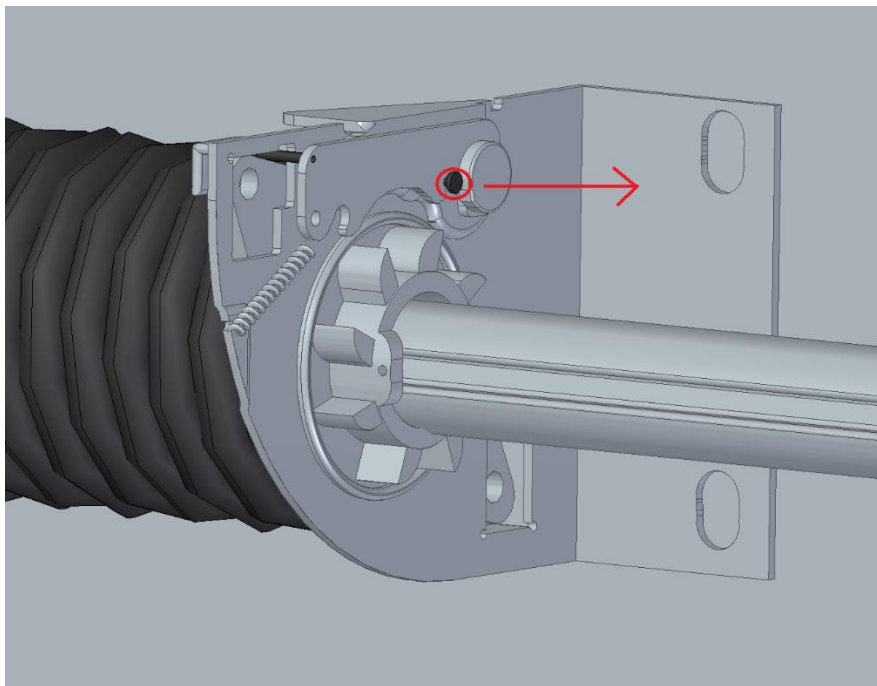
CEILING MOUNTS



Cut the required lengths from the perforated square and make a right triangle with bolts. Then attach the square to the ceiling and rail.



Spring break adjustment



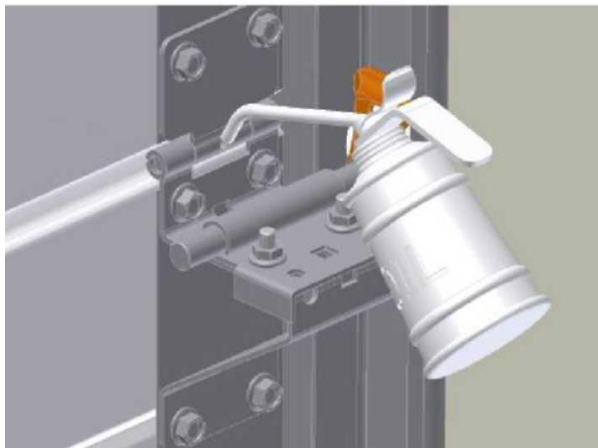


NB!

Once the gate is installed and ready for operation, the pin must be removed from the spring break protection so that the protection can be applied if necessary.

Oil

The springs, hinges, rollers.



Use the overhead door in accordance with the operating and maintenance instructions of the overhead door.

Instructions are available for downloading on AS Saku Metall Uksetehas website www.sakumetall.ee