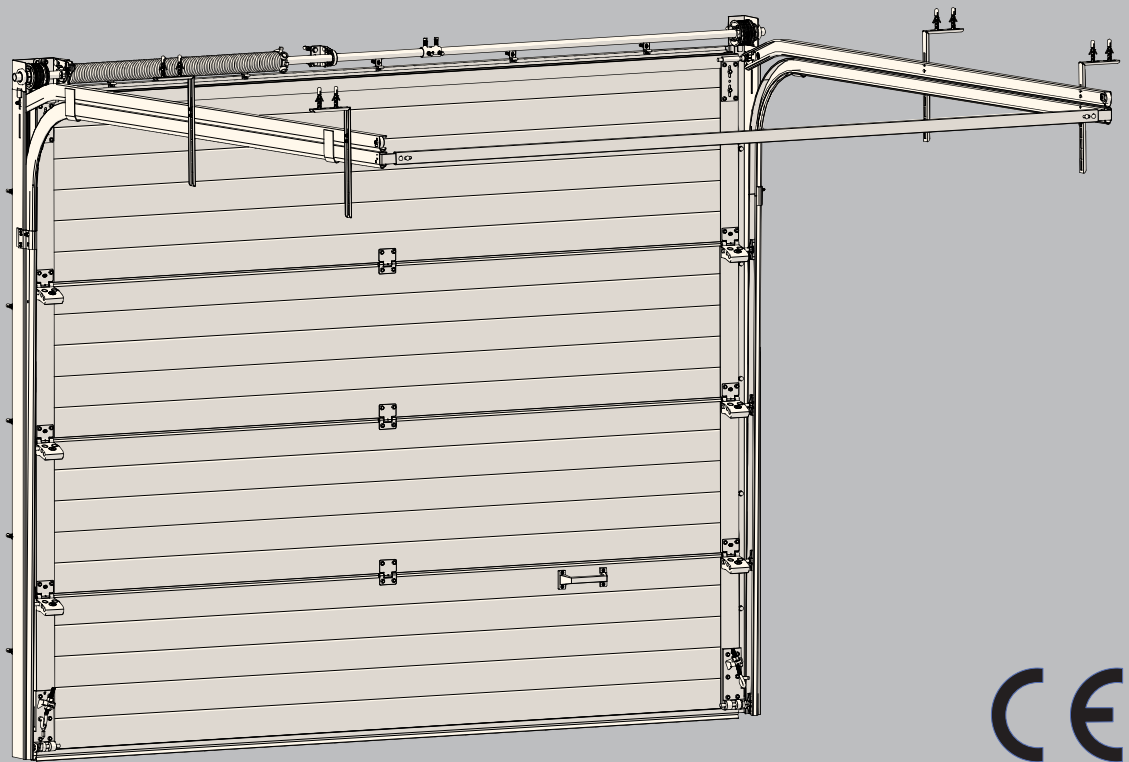


SECTIONAL DOOR



Installation and Operating

Installation videos

Username: BH
Password: BH

A rectangular box containing the text 'Installation videos' at the top, a QR code in the center, and the text 'Username: BH' and 'Password: BH' at the bottom.

REV - B 01.03
02/2019

To install, use and maintain all the hardware of the sectional door with security, there must be taken some precaution measures. To ensure the safety of persons and goods, please follow the procedures described in this manual. If in doubt contact your supplier.

- This manual was designed for use by professional installers or people with experience; it is not indicated for apprentices.
- This manual describes the installation of the hardware set components, door sections (panels) and refers to installation manuals of the electrical operator. Be sure to supplement this manual if needed with instructions for any additional components not described in this manual.
- Before starting, read this manual carefully!
- All the components which have been supplied are designed for use with this specific overhead door. Replacement or adding additional components may have an adverse effect on the safety of, and the guarantee on, the door, if not approved by Flexidoor. Also the CE-approval which has been granted to this door will be cancelled when components are changed or installation is not done according to this manual! Installer is responsible for this.
- Verify that the structure where the door will be installed meets the necessary requirements of strength and stability.
- Certain components may be sharp or have jagged edges. As such you are advised to wear safety gloves. In case of drilling or cutting, wear safety glasses and safety shoes.
- During tensioning, springs can exert large forces. Work carefully. Use the proper equipment. Ensure that you are standing in a steady position.
- Ensure that there is sufficient light during installation. Remove obstacles and dirt. Make sure that there is no one else present other than the fitters. Other people (children!) may get in the way or endanger themselves during the installation.

- Safety devices for automated doors (such as photocells, pressure-sensitive or electro-sensitive devices) and the regulation of closing forces shall be installed / verified taking into account the technical regulations, European standards and guidelines in force.
- Do not allow children or unqualified persons to operate this door, they may be in danger in handling the door.
- Failure to install any of the components of protection by the installer, referred to by the manufacturer or by the European standards, declines any responsibility to the manufacturer of the door, if any accident occurs.
- The installer must be provided with tools that are indispensable for proper and safe installation of the door.
- The installer must supply to the user the Instructions of Functioning, Use and Maintenance provided by FLEXIDOOR, which contains all the necessary information concerning the use and maintenance of the door, and the installer should also provide specific instructions regarding the use of the engine used in the door, in case of a motorized door.

! ATTENTION: Torsion springs can be very dangerous if they are improperly installed or mishandled. Do not try to install them yourself unless (1) you have the right tools and skills or sufficient mechanical experience and (2) whether you follow these instructions precisely.

! ATTENTION: Make sure that all screws are securely fastened. Unscrewing screws can cause serious injury.

! ATTENTION: To avoid injuries, keep hands and fingers away from the section joints, panels, hinges, tracks, springs and other parts of the door while the door is moving.

! ATTENTION: Do not put your fingers between the different sections of the door. If you need to open or close the door manually, use the handles or knobs.

SIGNALING

INFORMATION



Important information.



Additional information.



Optional component.



Standard component.



See annex of the bolts.

WARNING



Attention - Various hazards during installation and maintenance of the door.



Attention - Risk of cuts when handling angles and guides.



Attention - Risk of perforation during drilling of the angle.



Attention - Heavy loads.



Attention - Electrical danger.

OBLIGATION



Wear safety gloves during installation and maintenance of the door.



Wear safety shoes during the installation and maintenance of the door.



Wear safety glasses during installation and maintenance of the door.



Read the manual during installation. Keep the manual for the life cycle of the door.

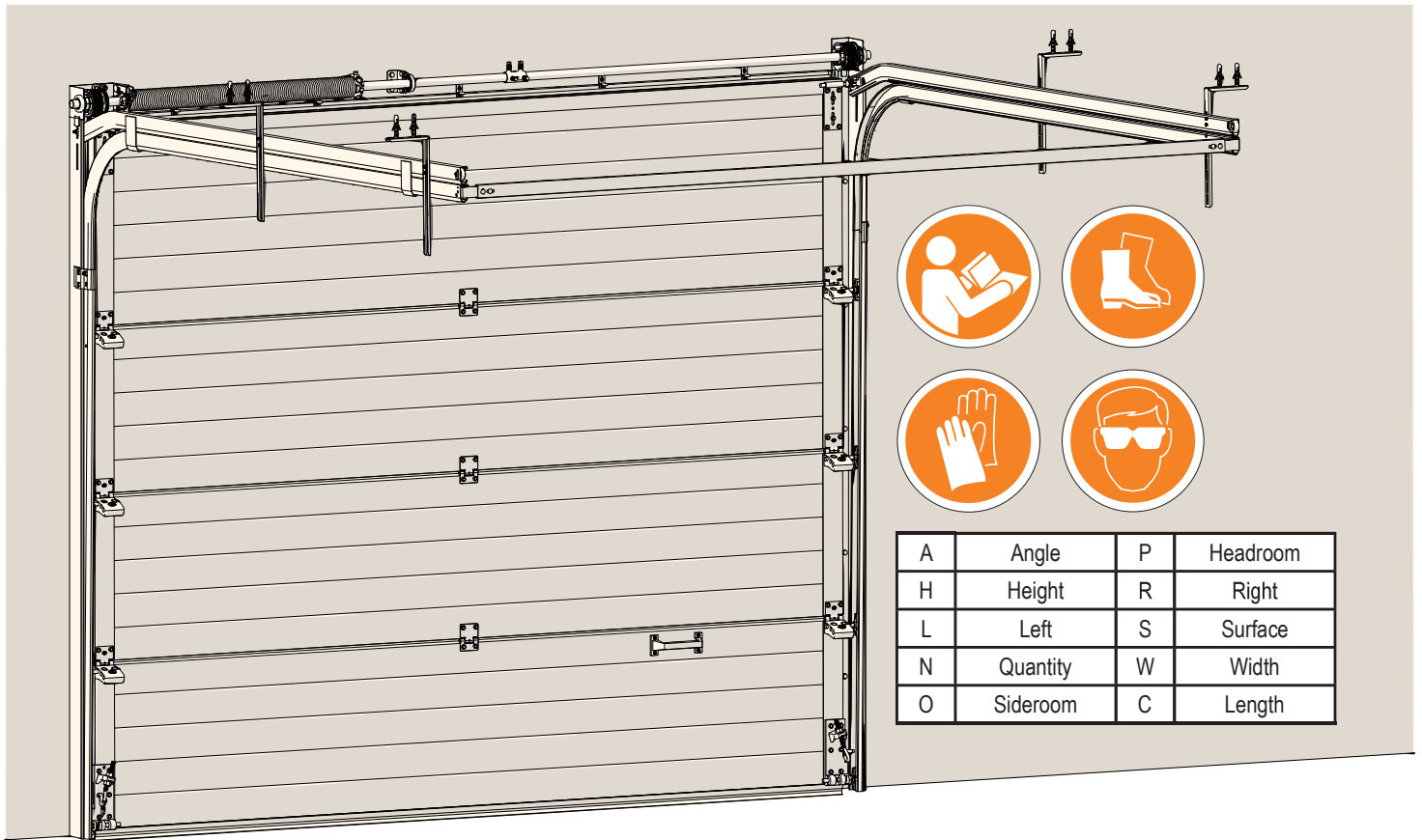
PROHIBITION



Prohibited to remove the protections door.

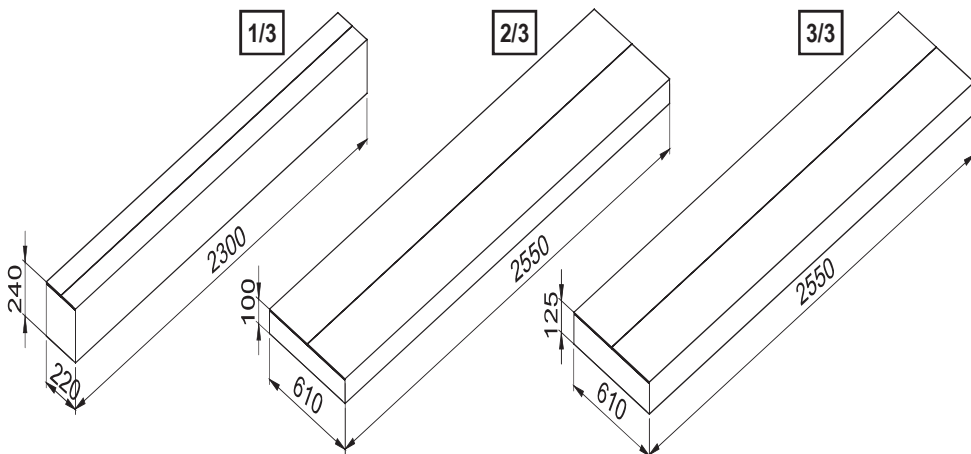


Not touch when opening and closing the door.



Verification of received packs

Before starting the installation of the door, make sure you have all the material required for installation, and if the door has the appropriate measures to the place where it will be installed.



Package Nr. 1:

- Vertical angles and vertical door track kit
- Spring and shaft kit
- Motor kit
- Hardware box

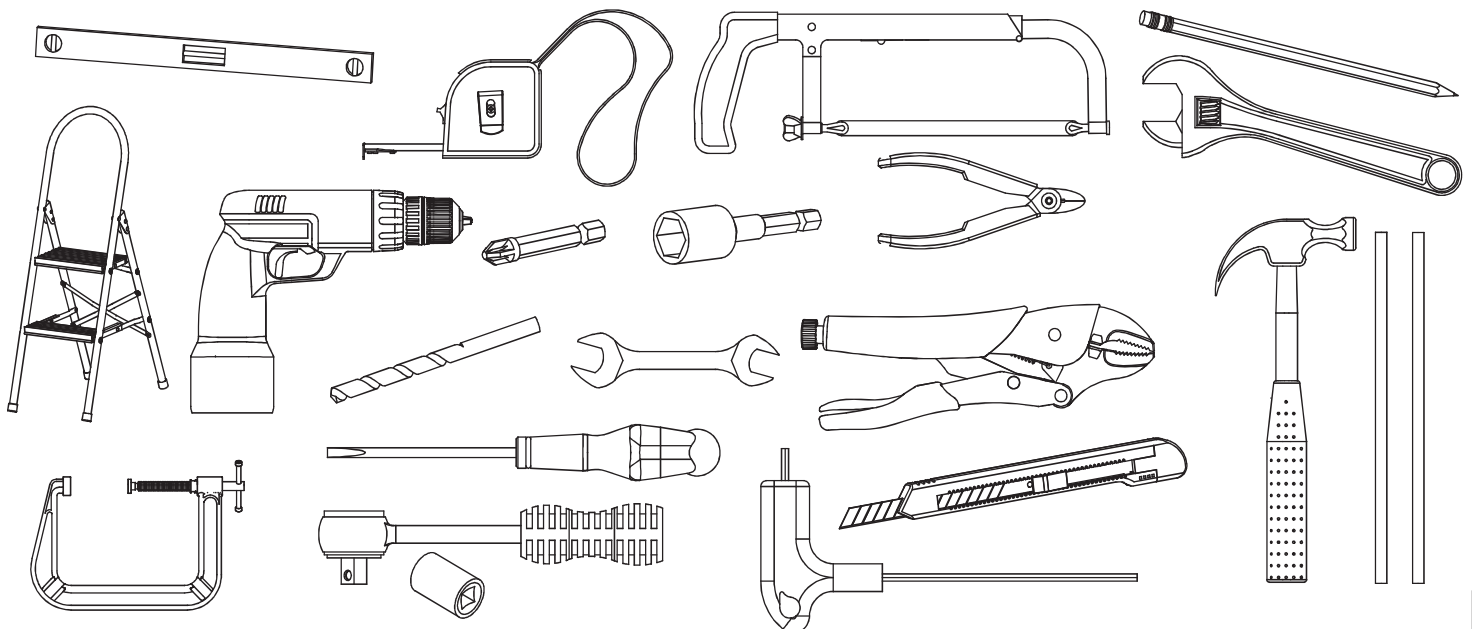
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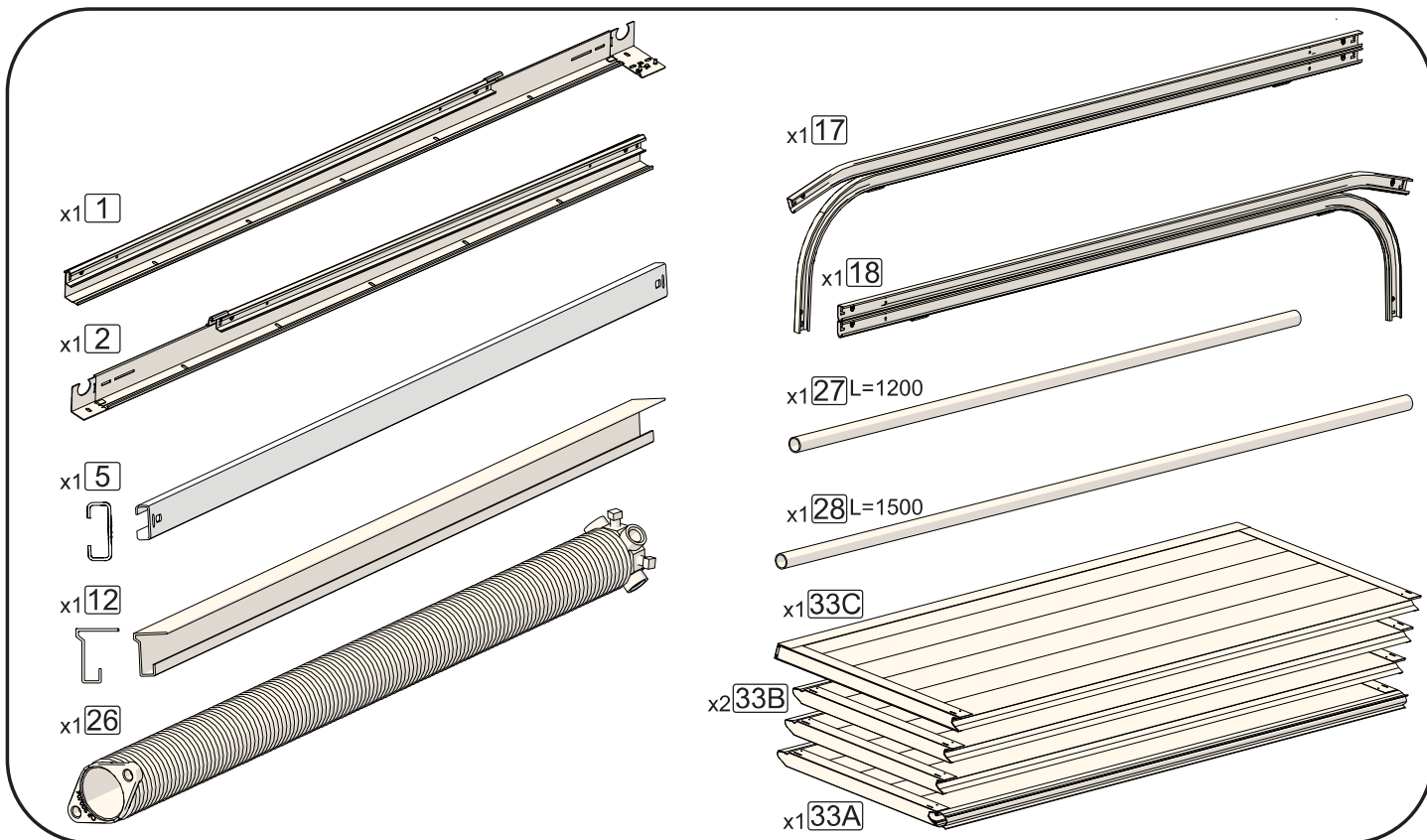
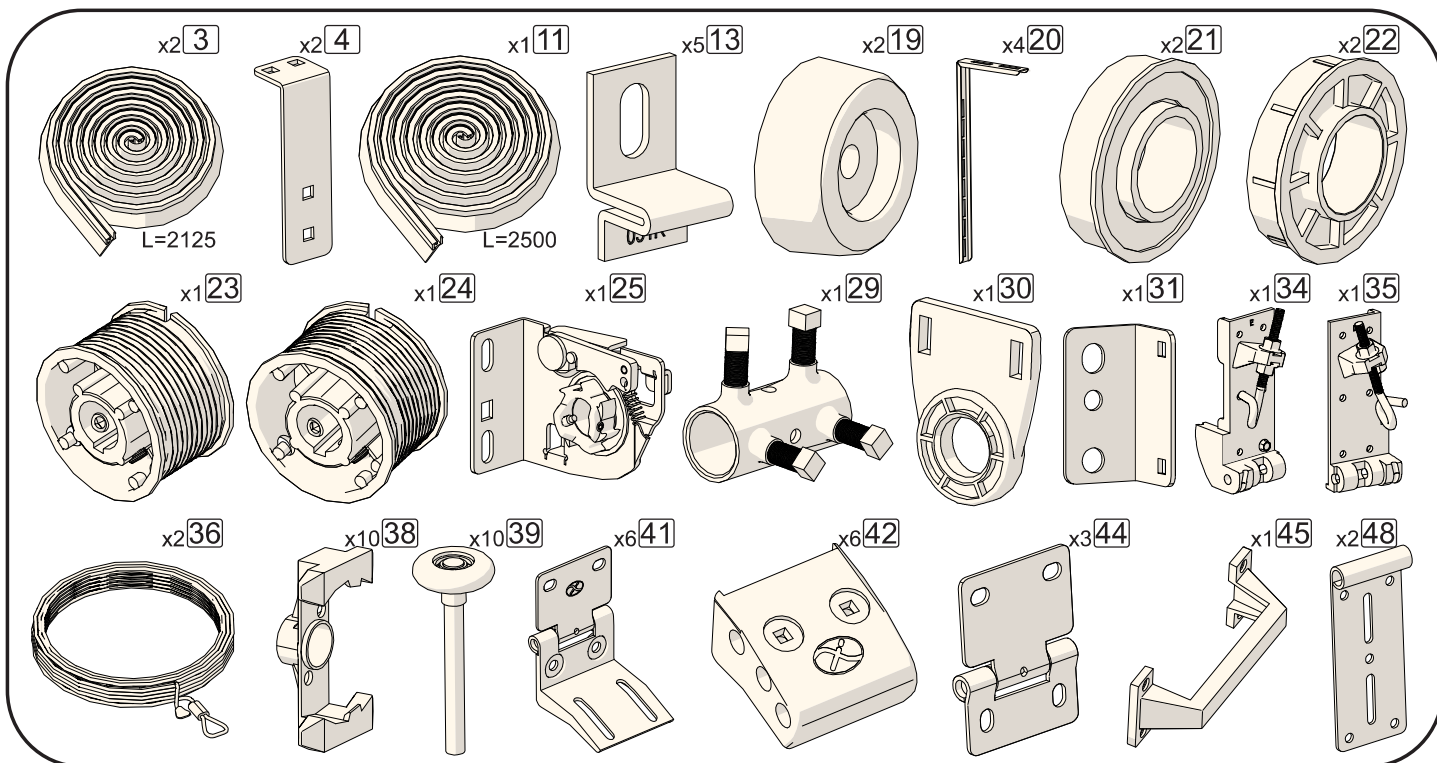
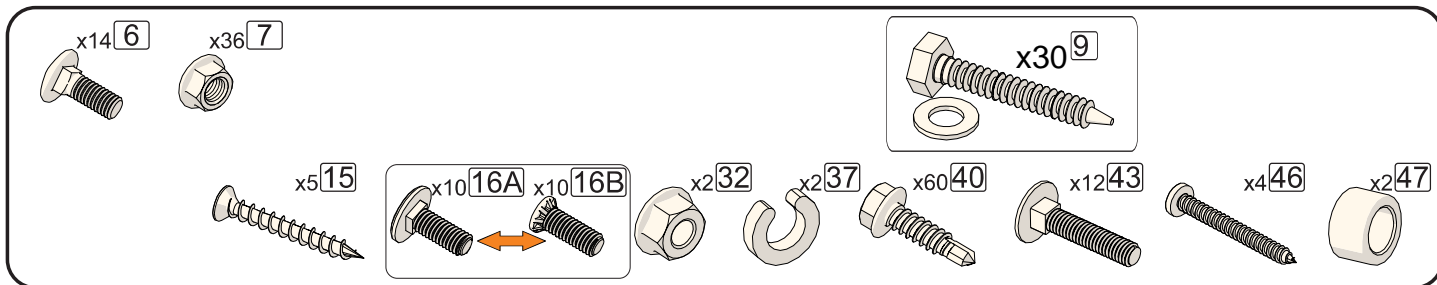
- Panels: 1 and 4
- Horizontal tracks connecting rail
- Top profile

Package Nr. 3:

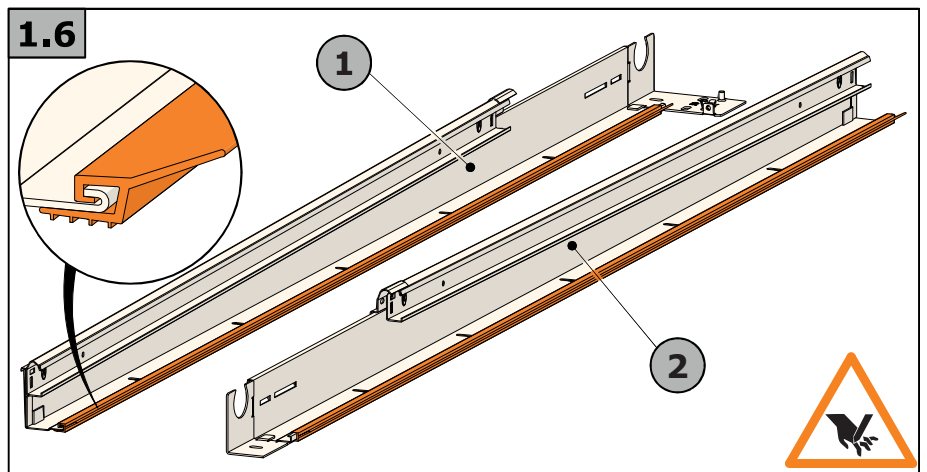
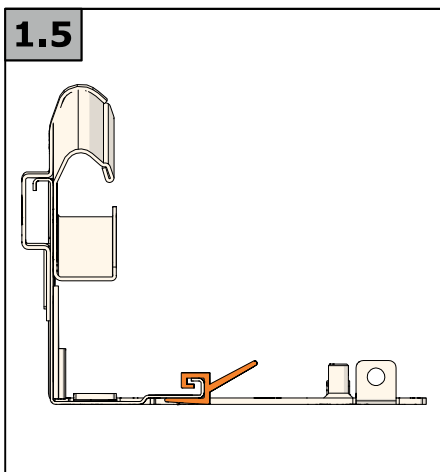
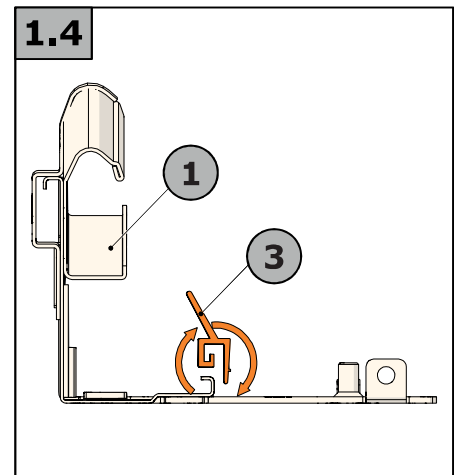
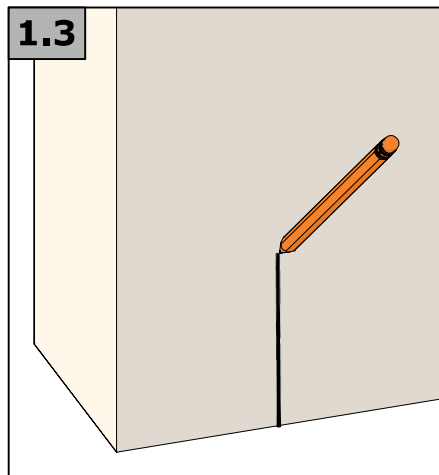
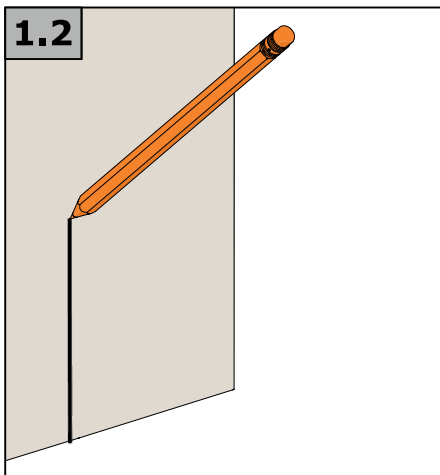
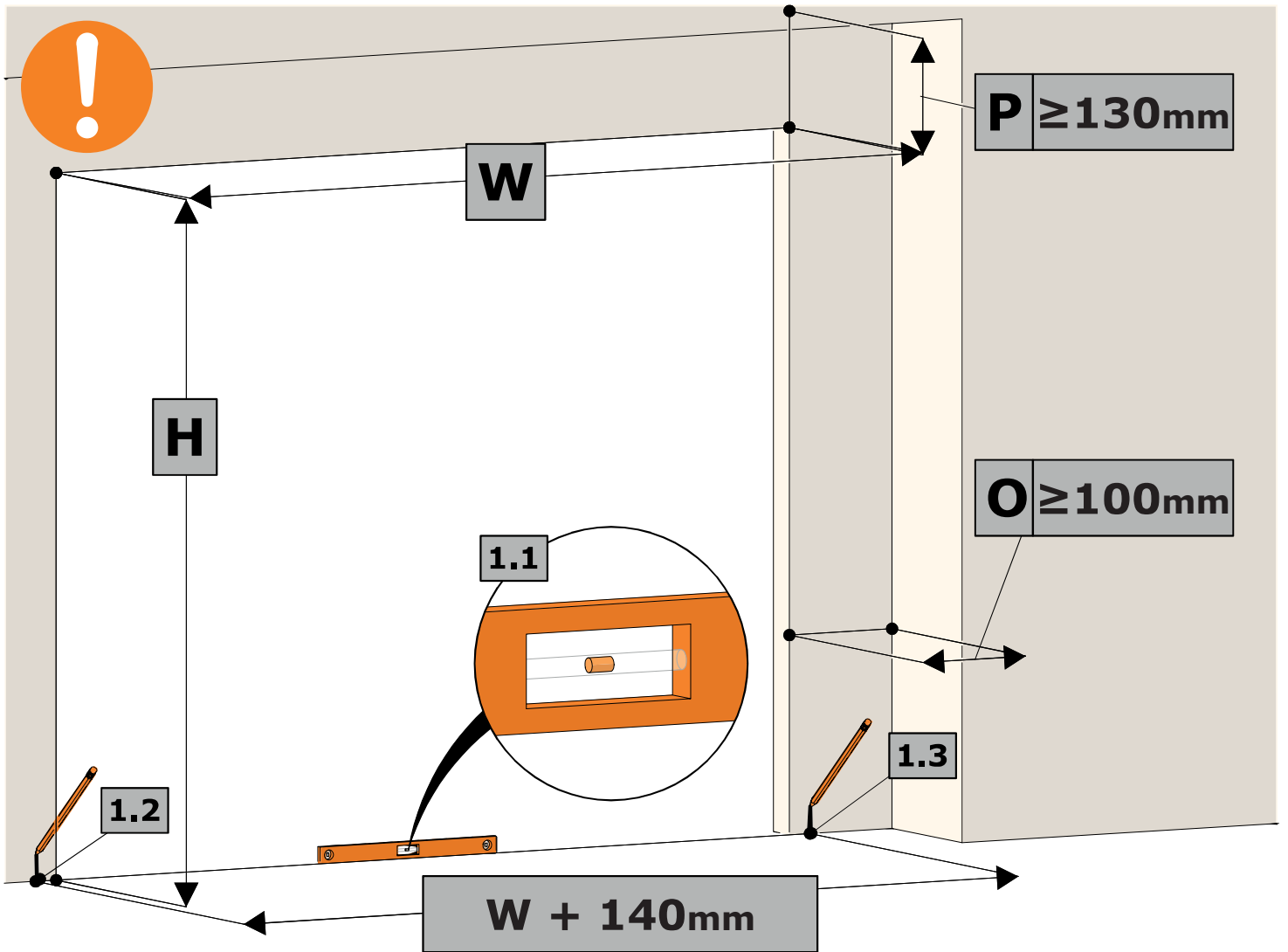
- Panels: 2 and 3
- Horizontal tracks with curves kit

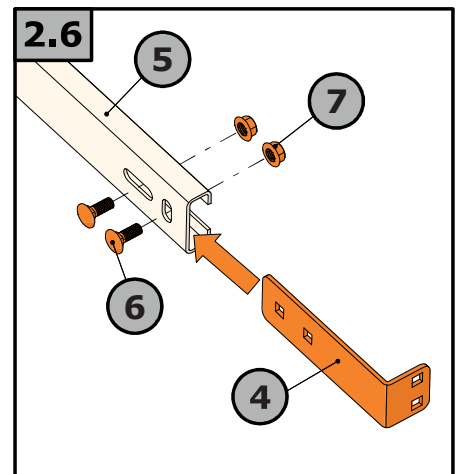
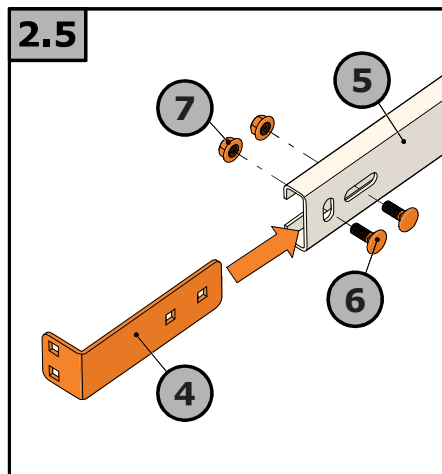
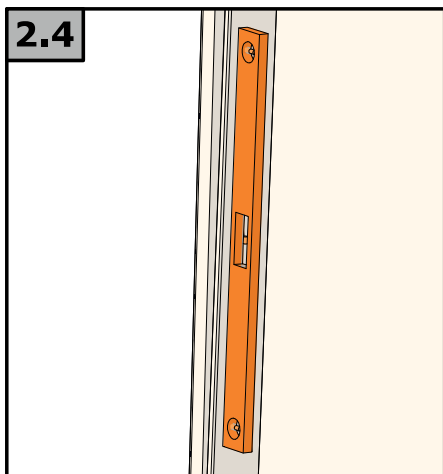
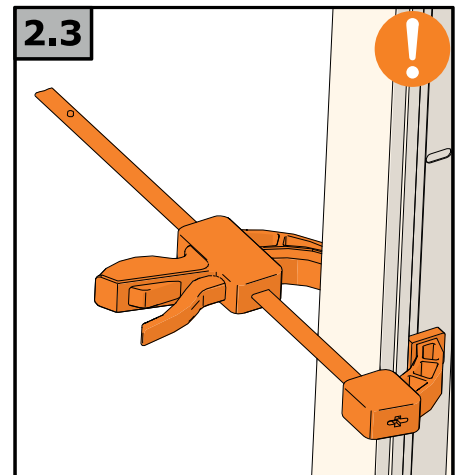
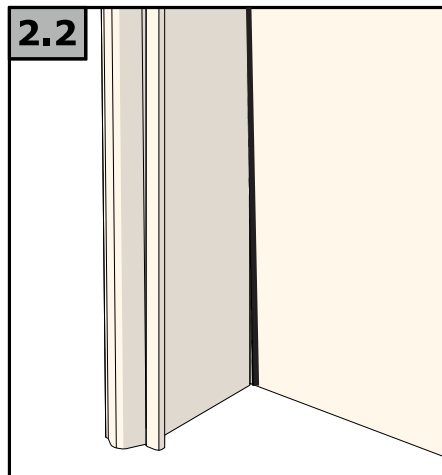
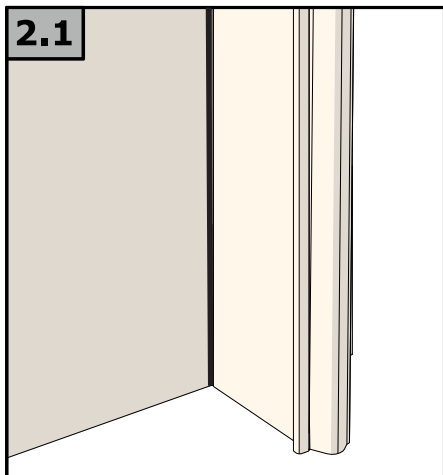
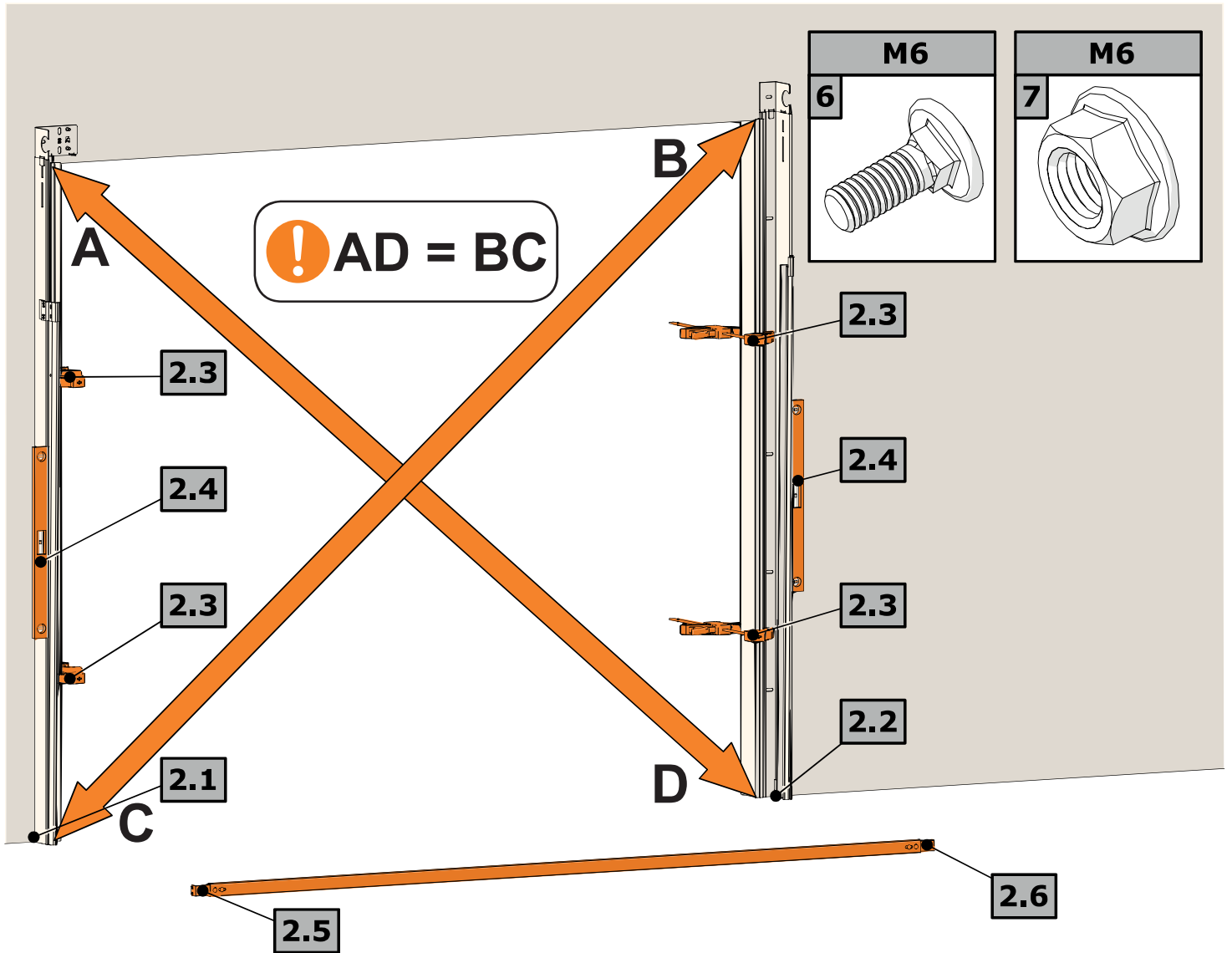
Necessary tools for the installation

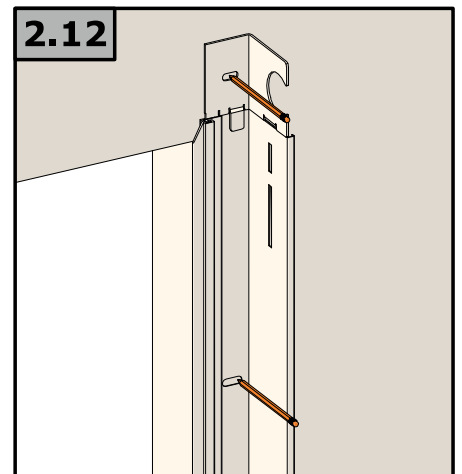
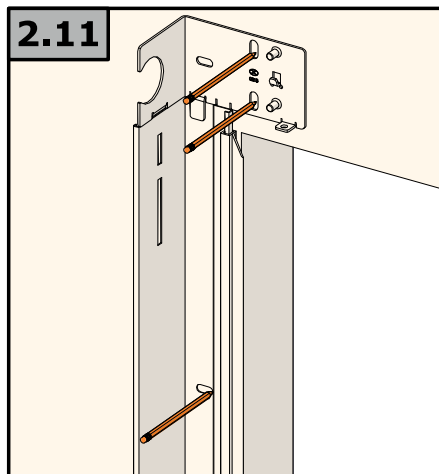
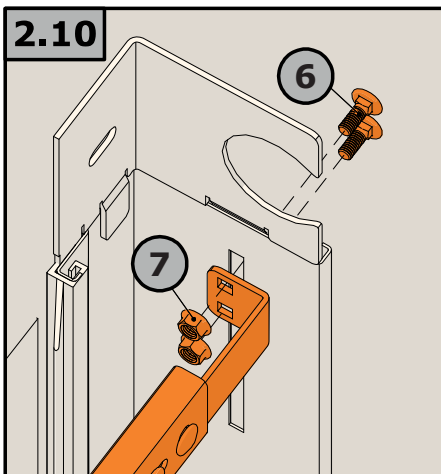
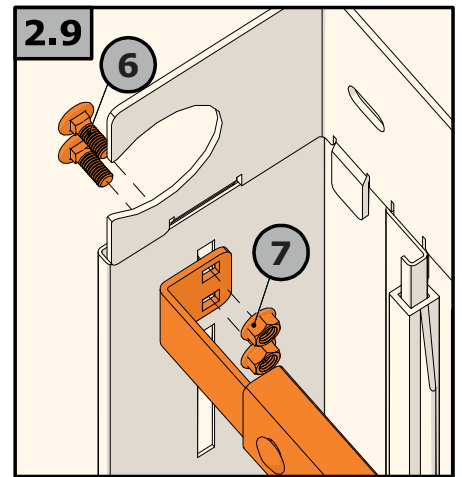
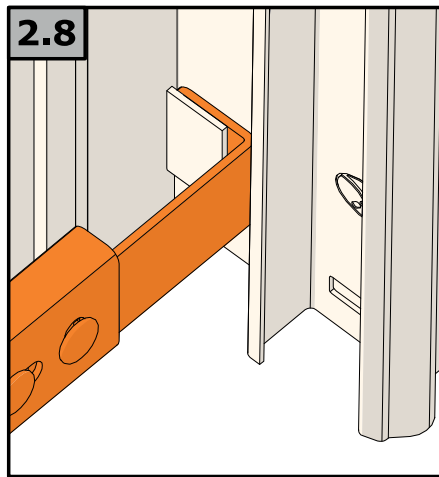
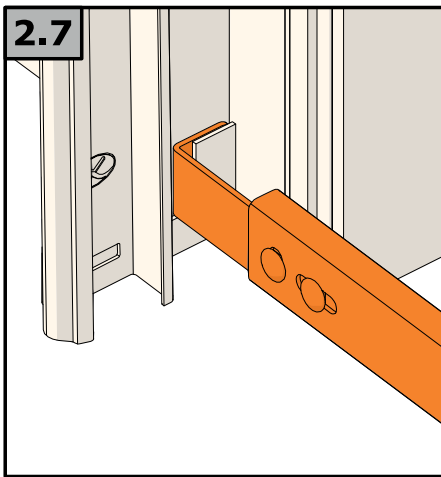
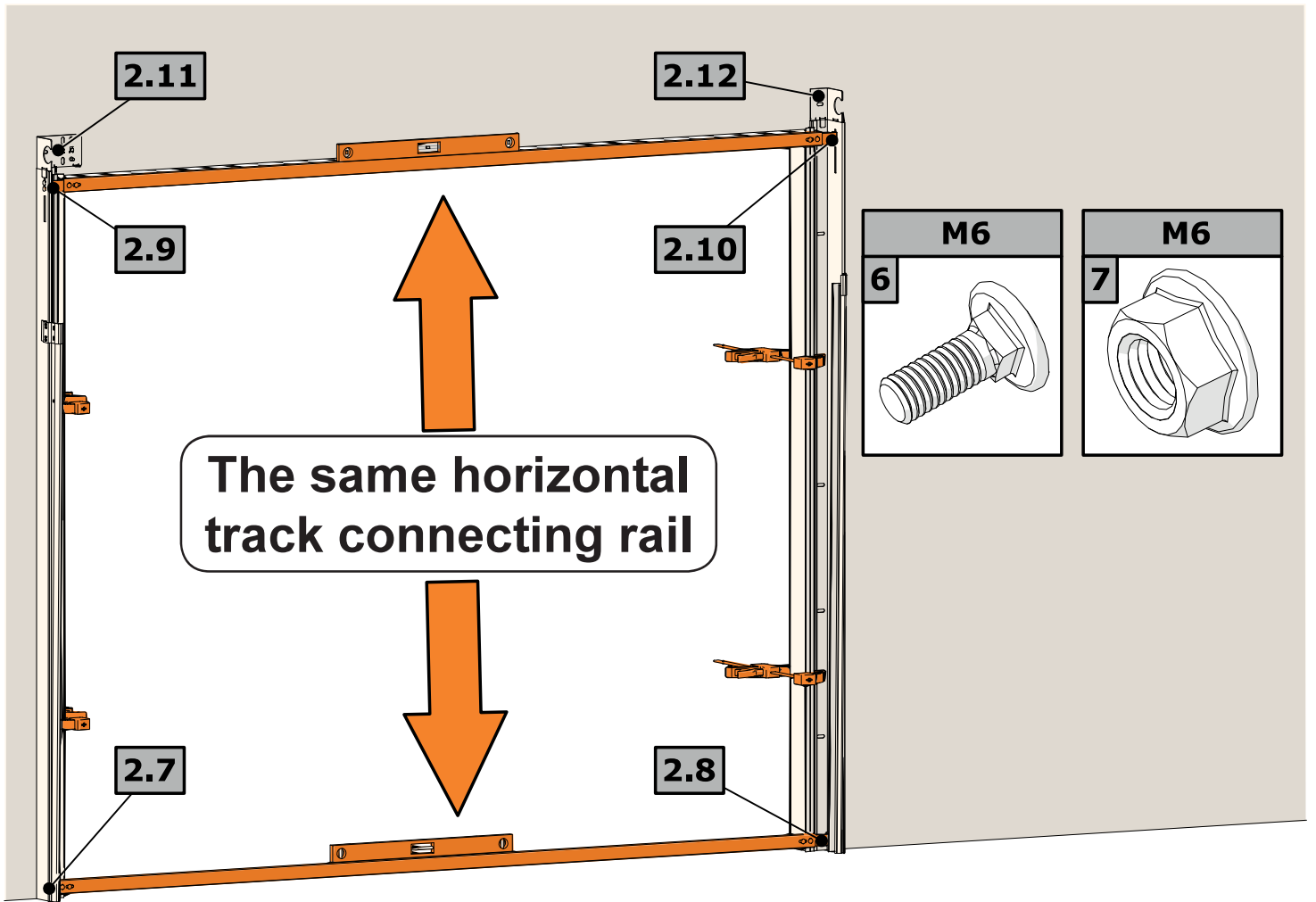


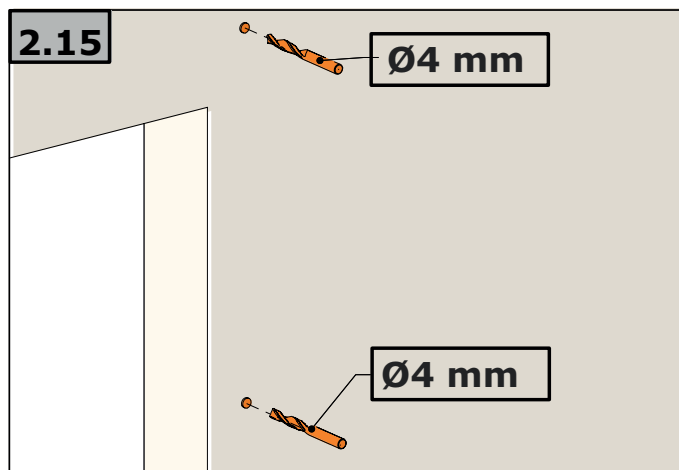
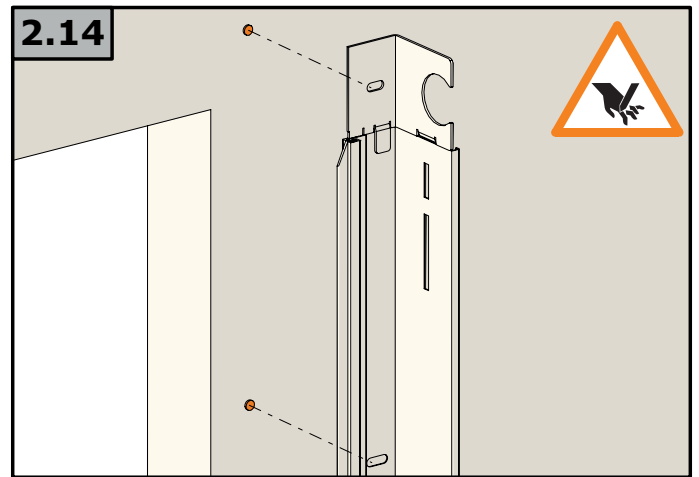
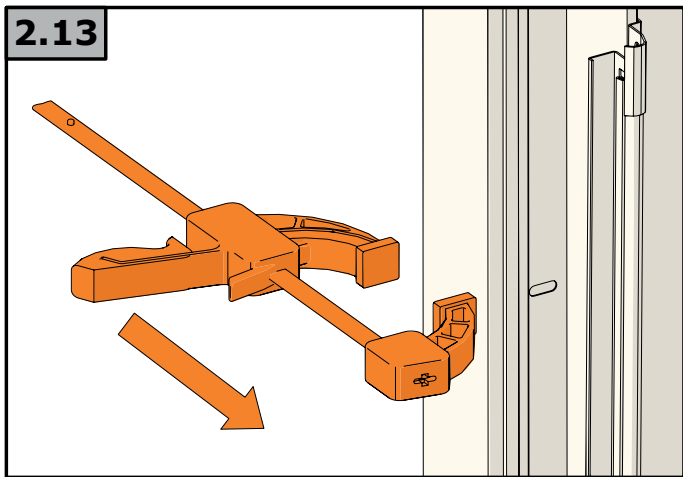
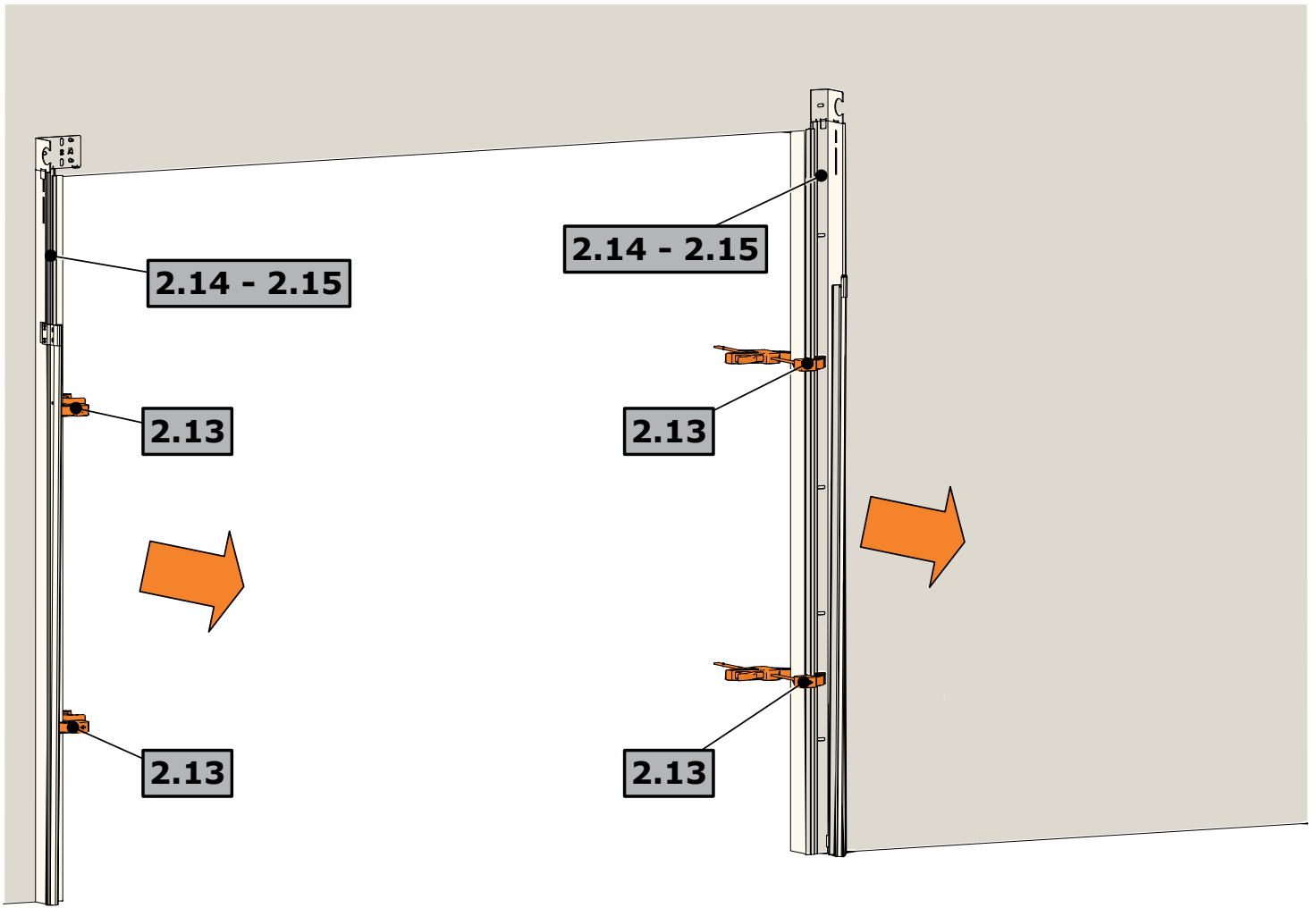


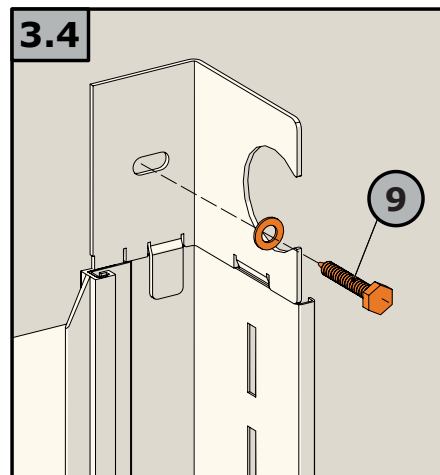
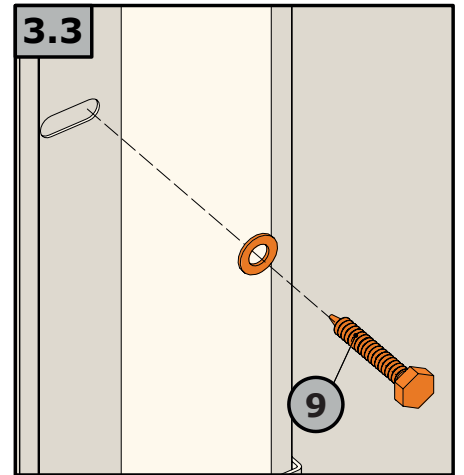
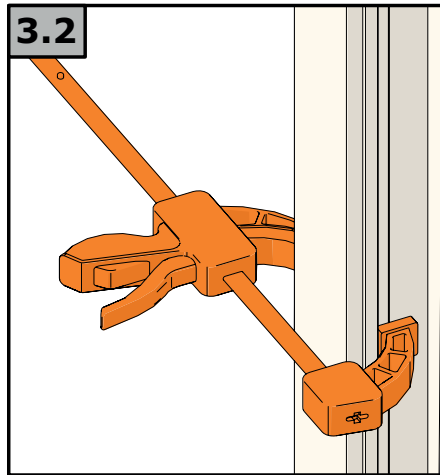
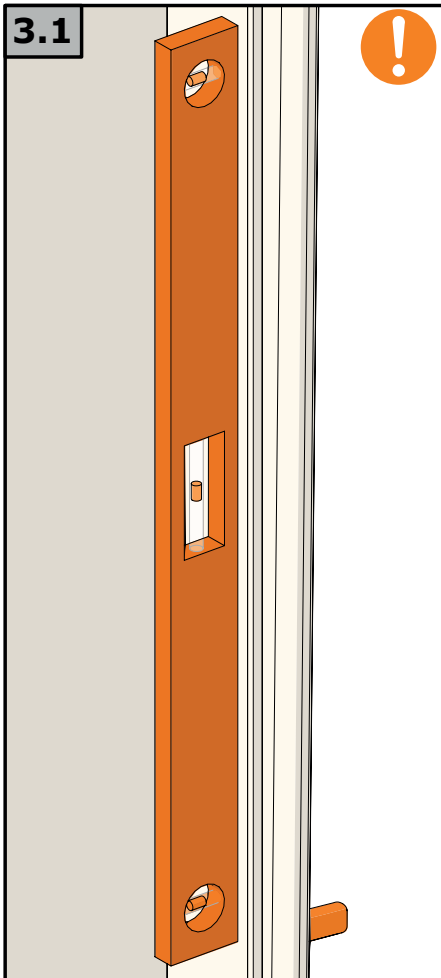
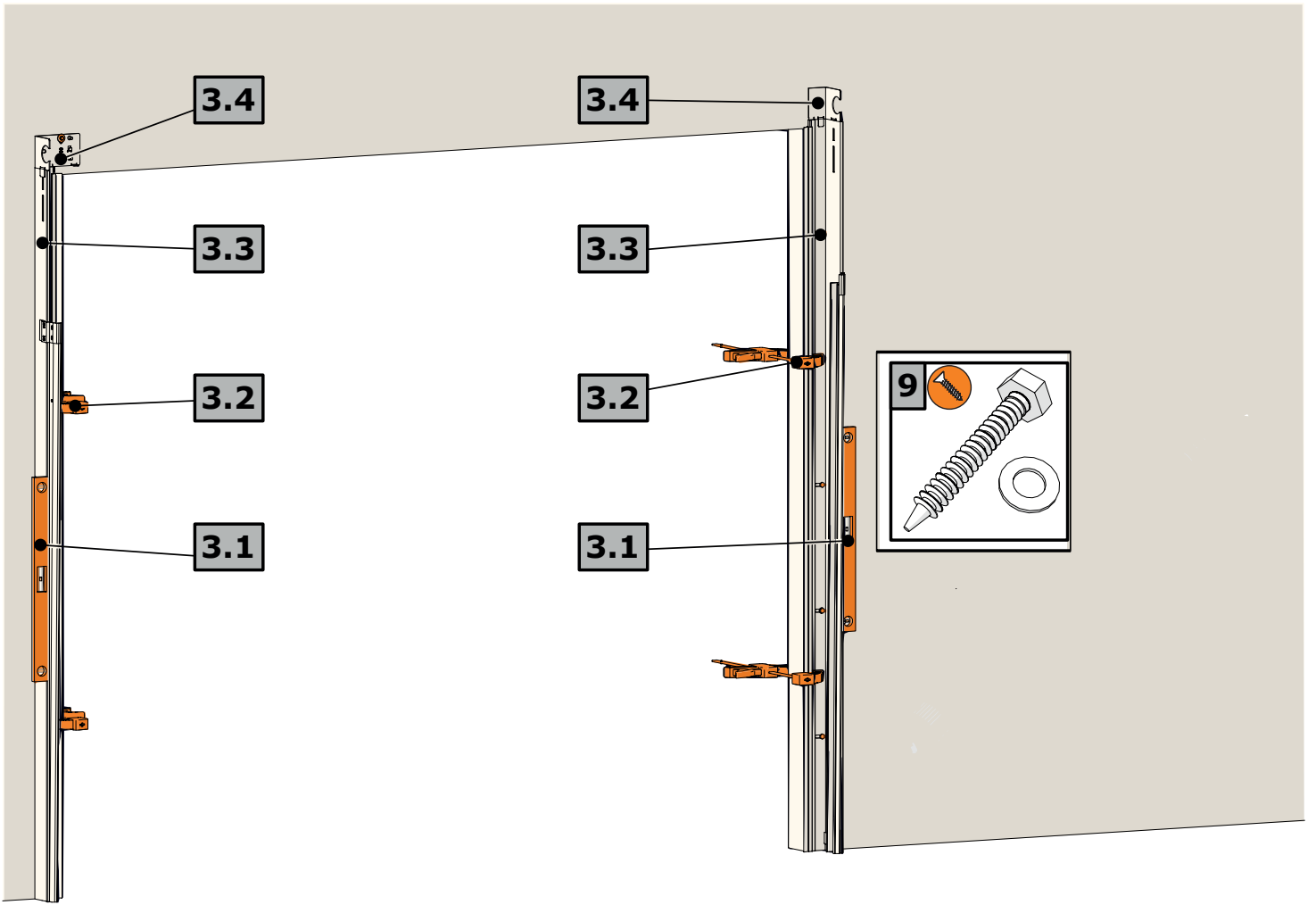
- The bolt (9A) can replace the bolt (9B) and washer (9B).
- The bolt (16A) can replace the bolt (16B).
- The part (23) can have two different configurations, the cable drum (23A) and the cable drum (23B).
- The part (24) can have two different configurations, the cable drum (24A) and the cable drum (24B).

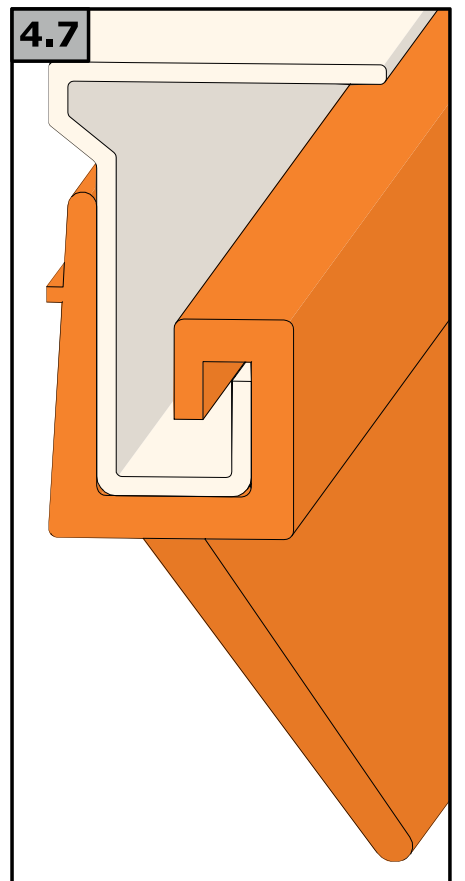
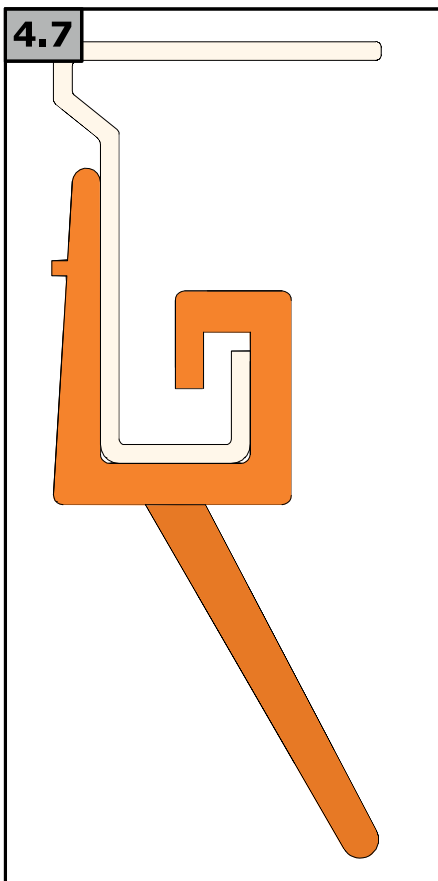
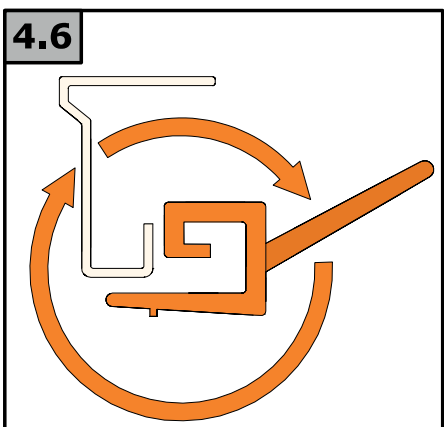
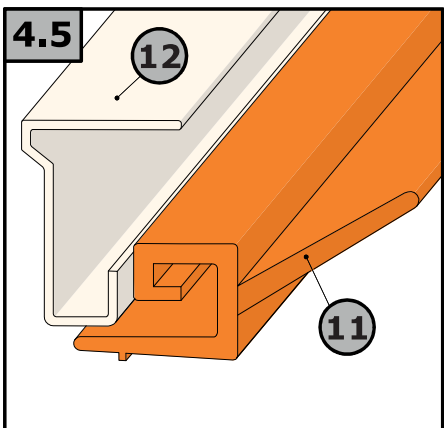
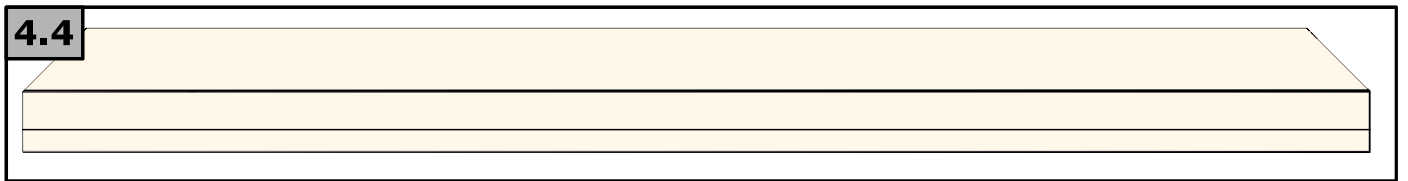
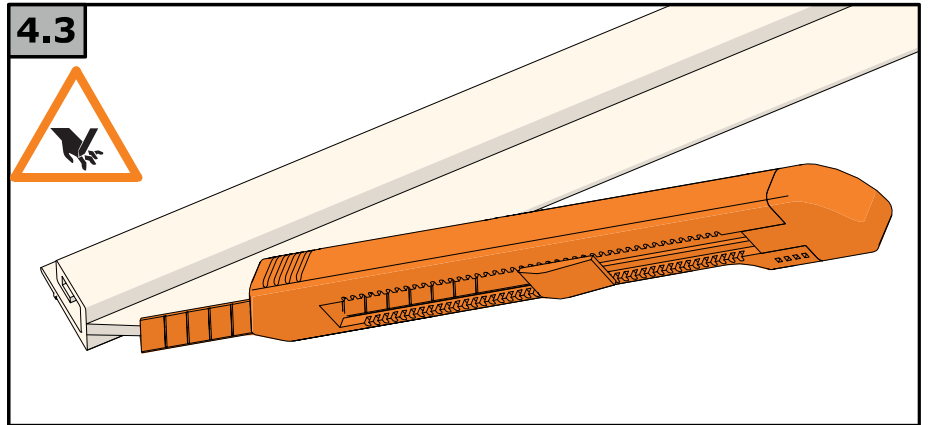
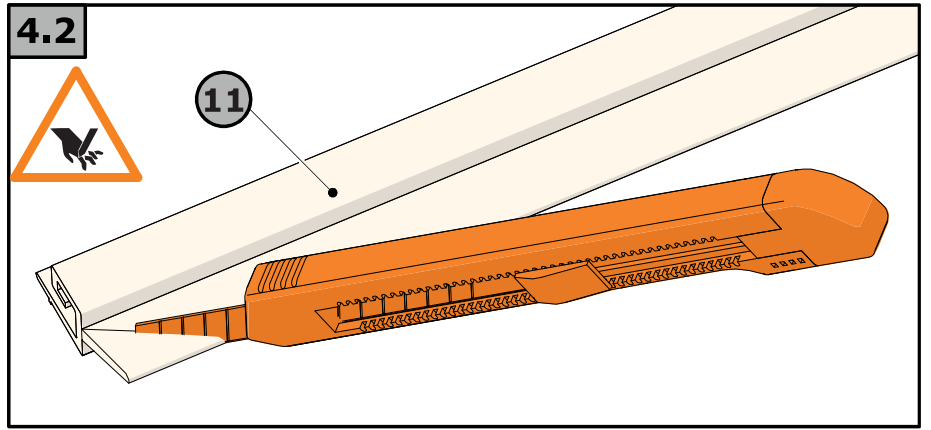
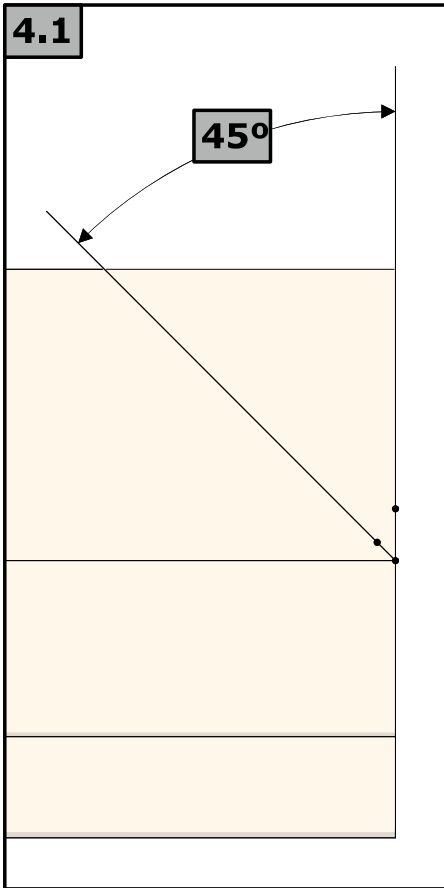


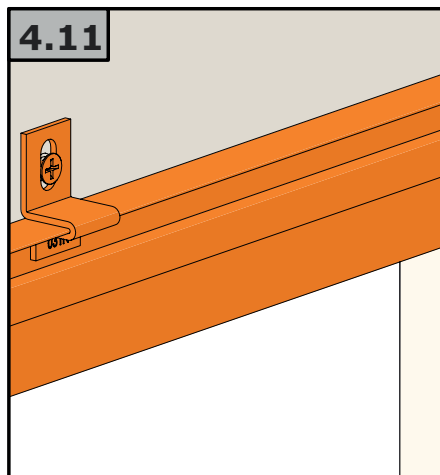
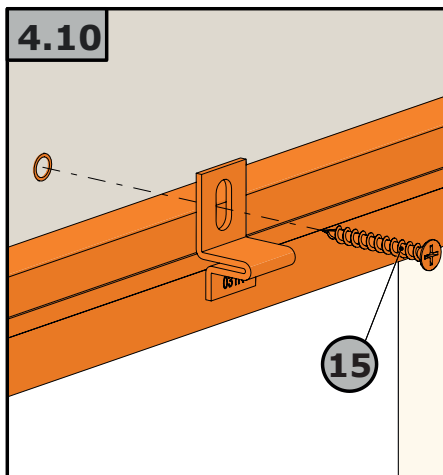
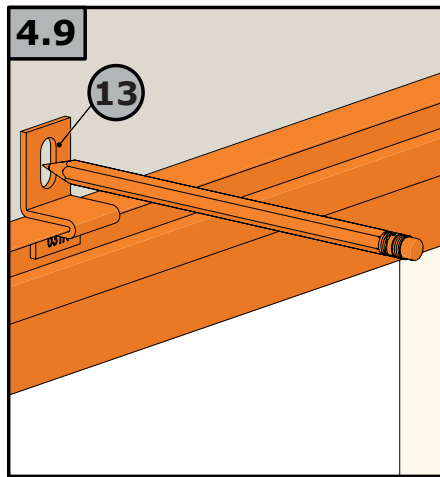
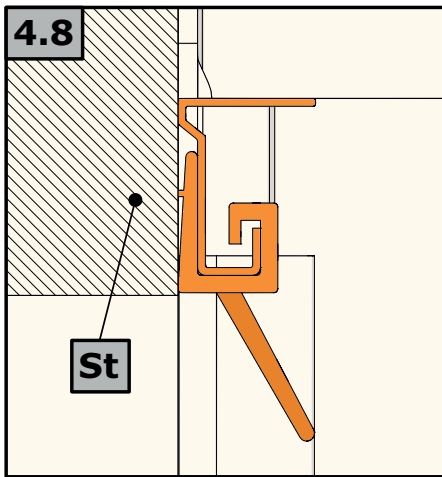
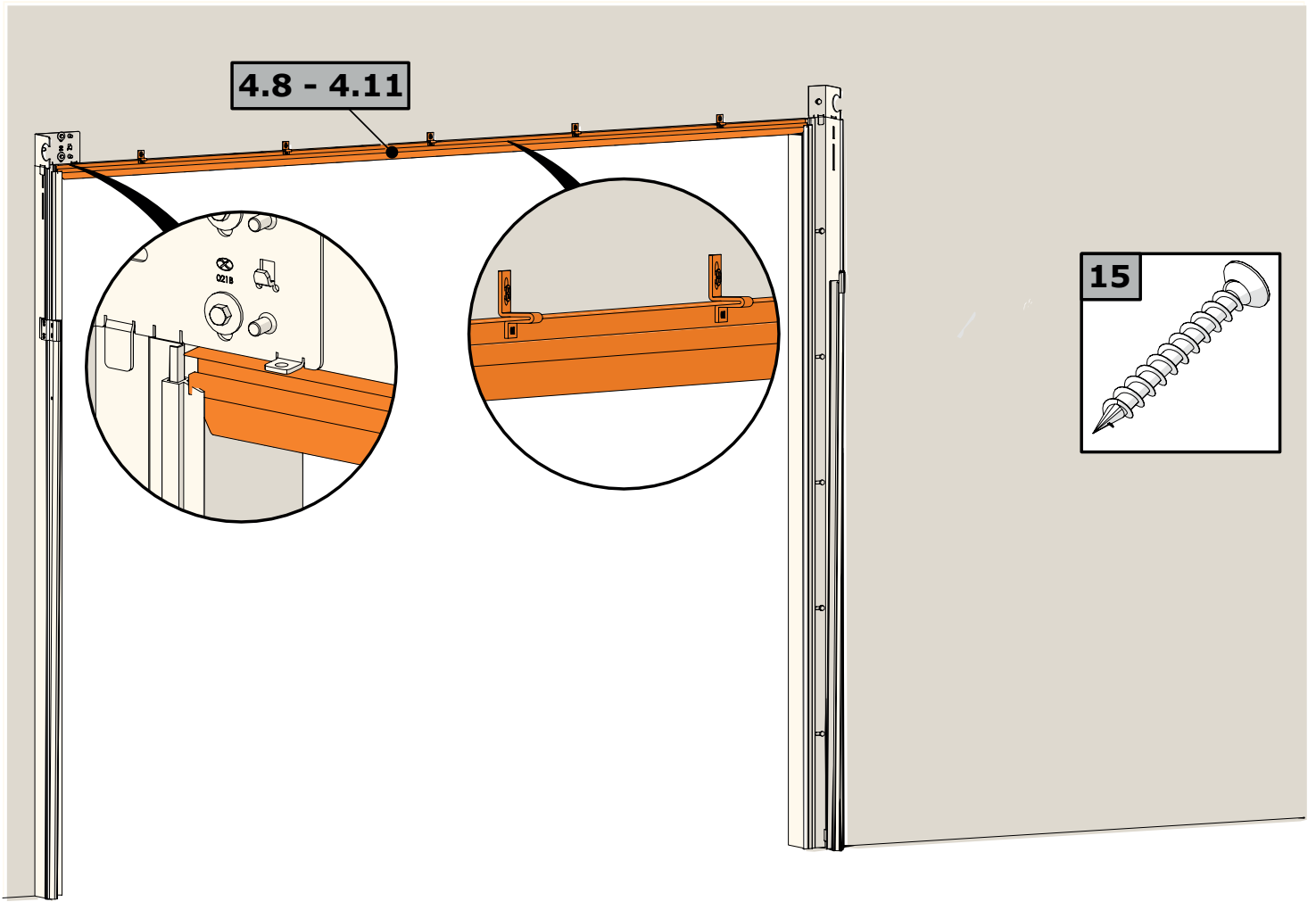


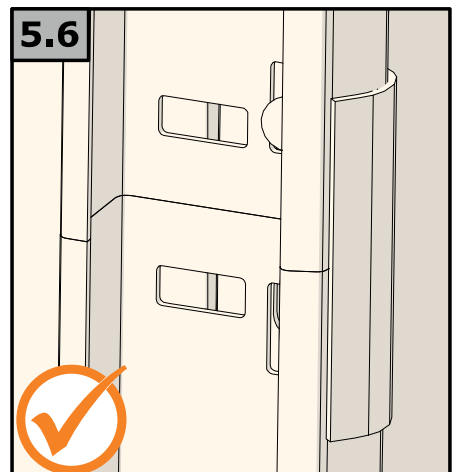
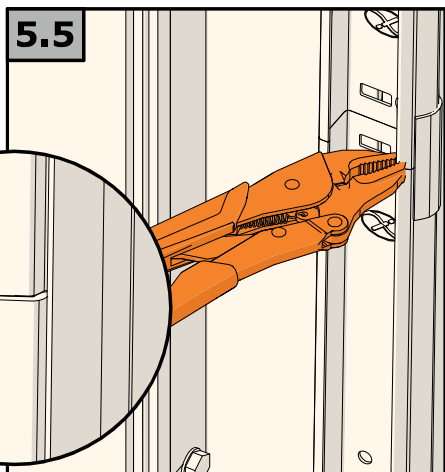
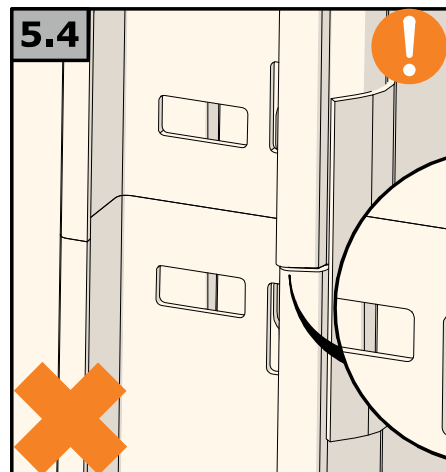
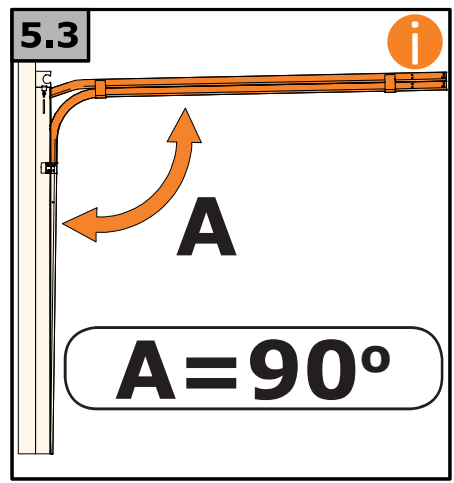
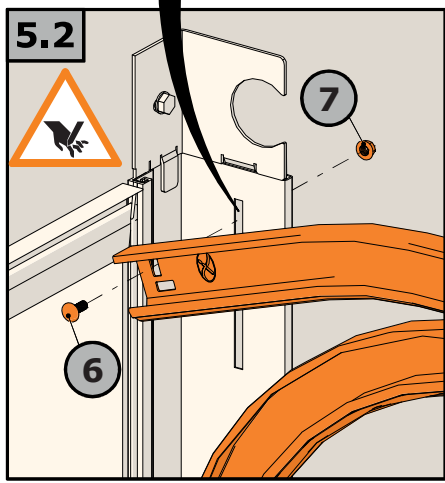
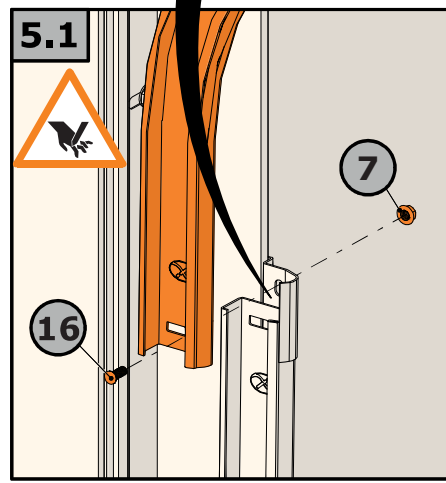
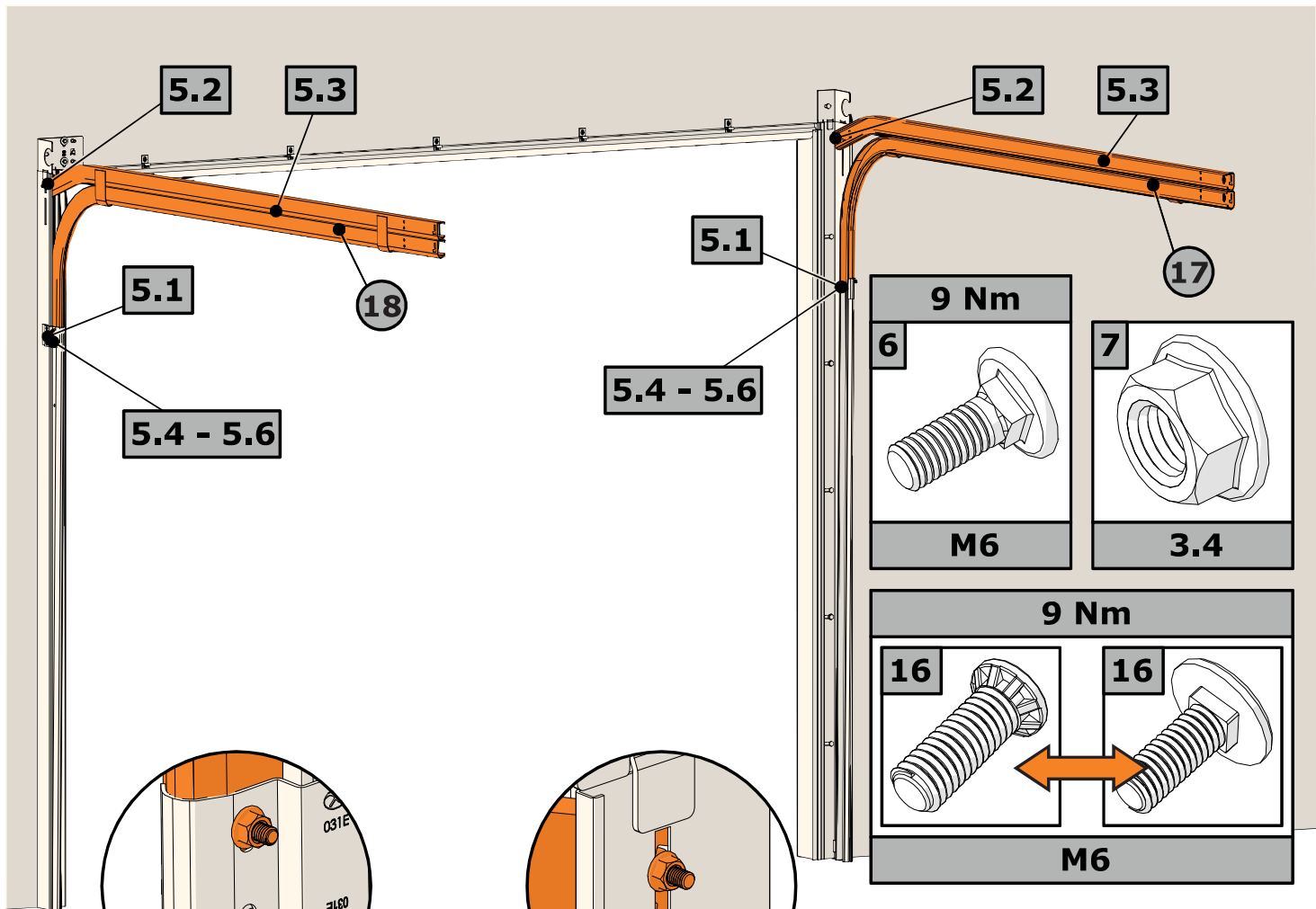


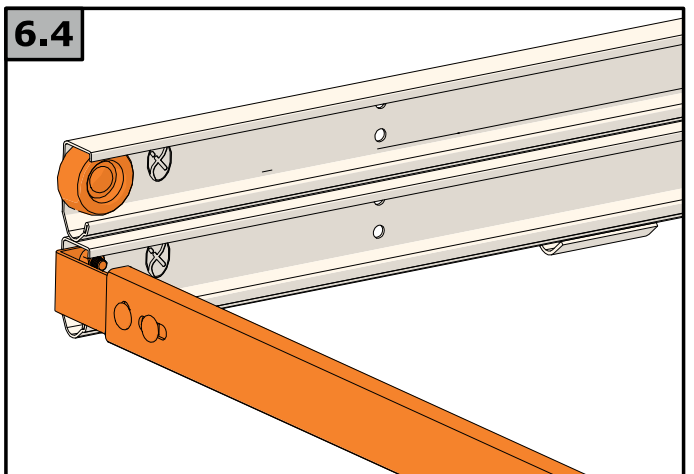
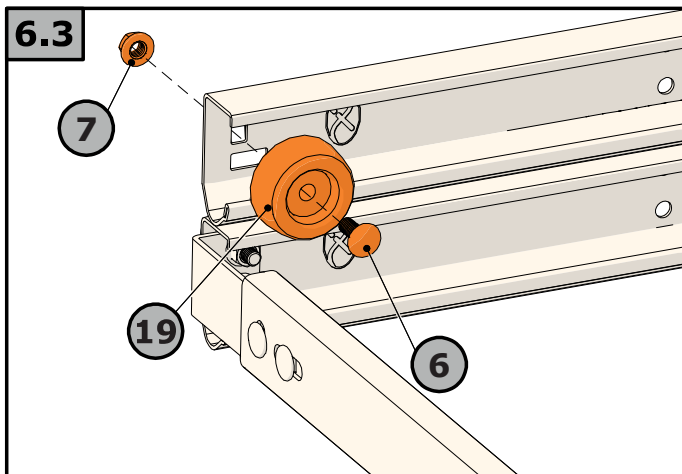
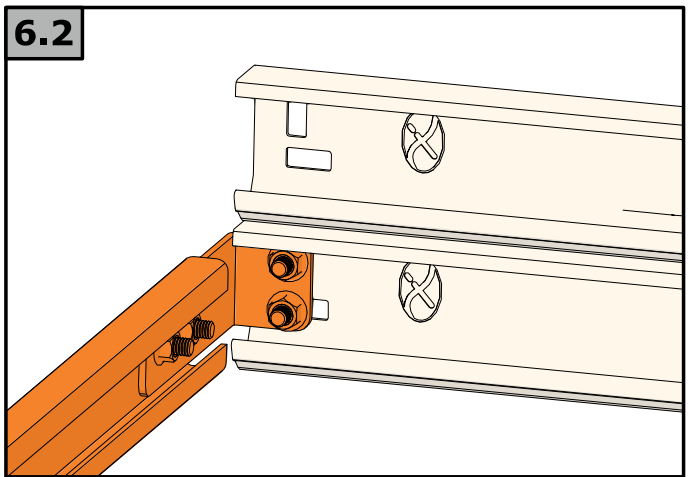
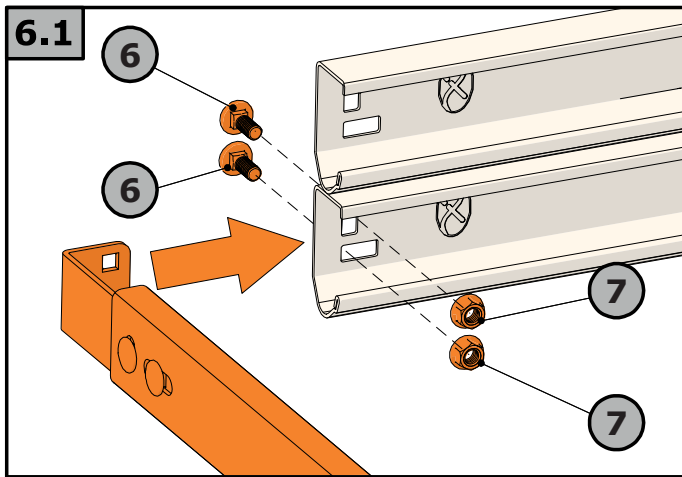
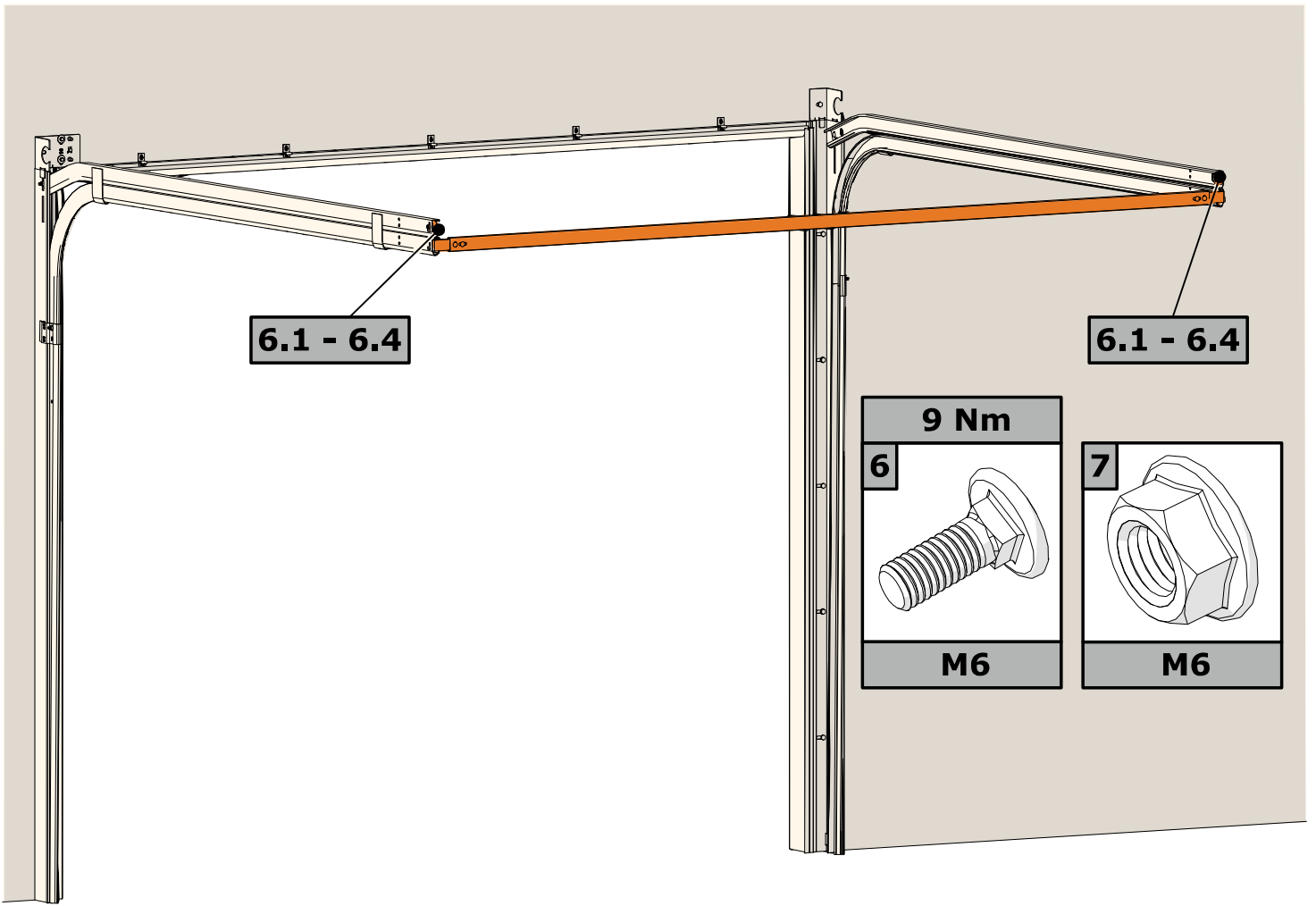


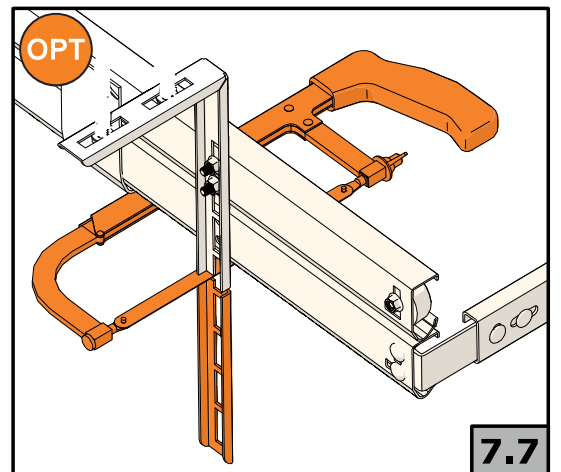
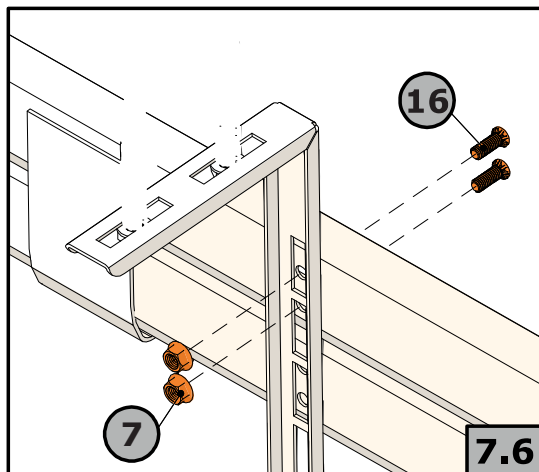
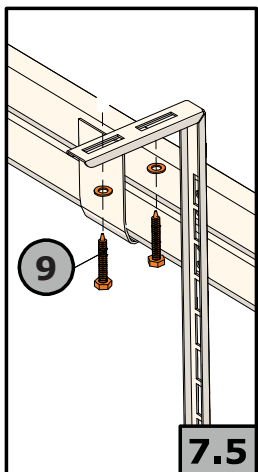
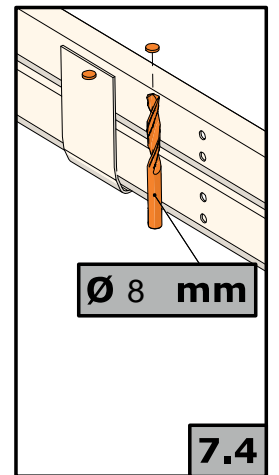
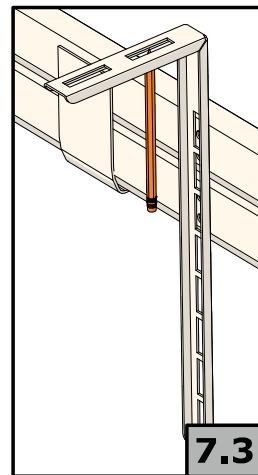
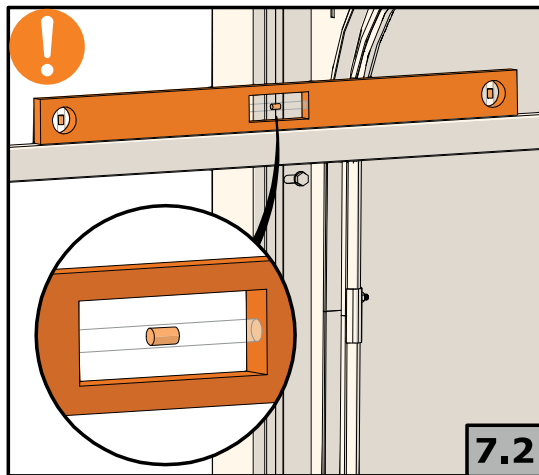
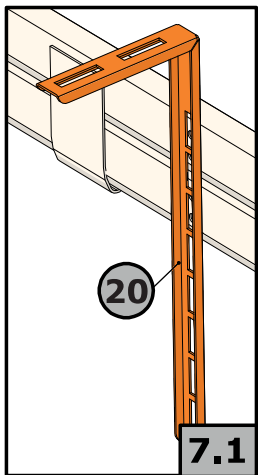
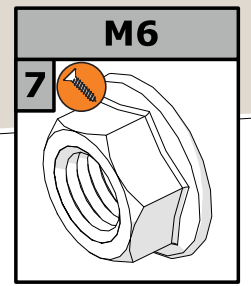
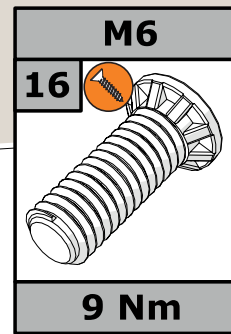
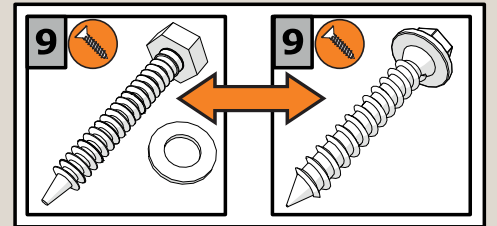
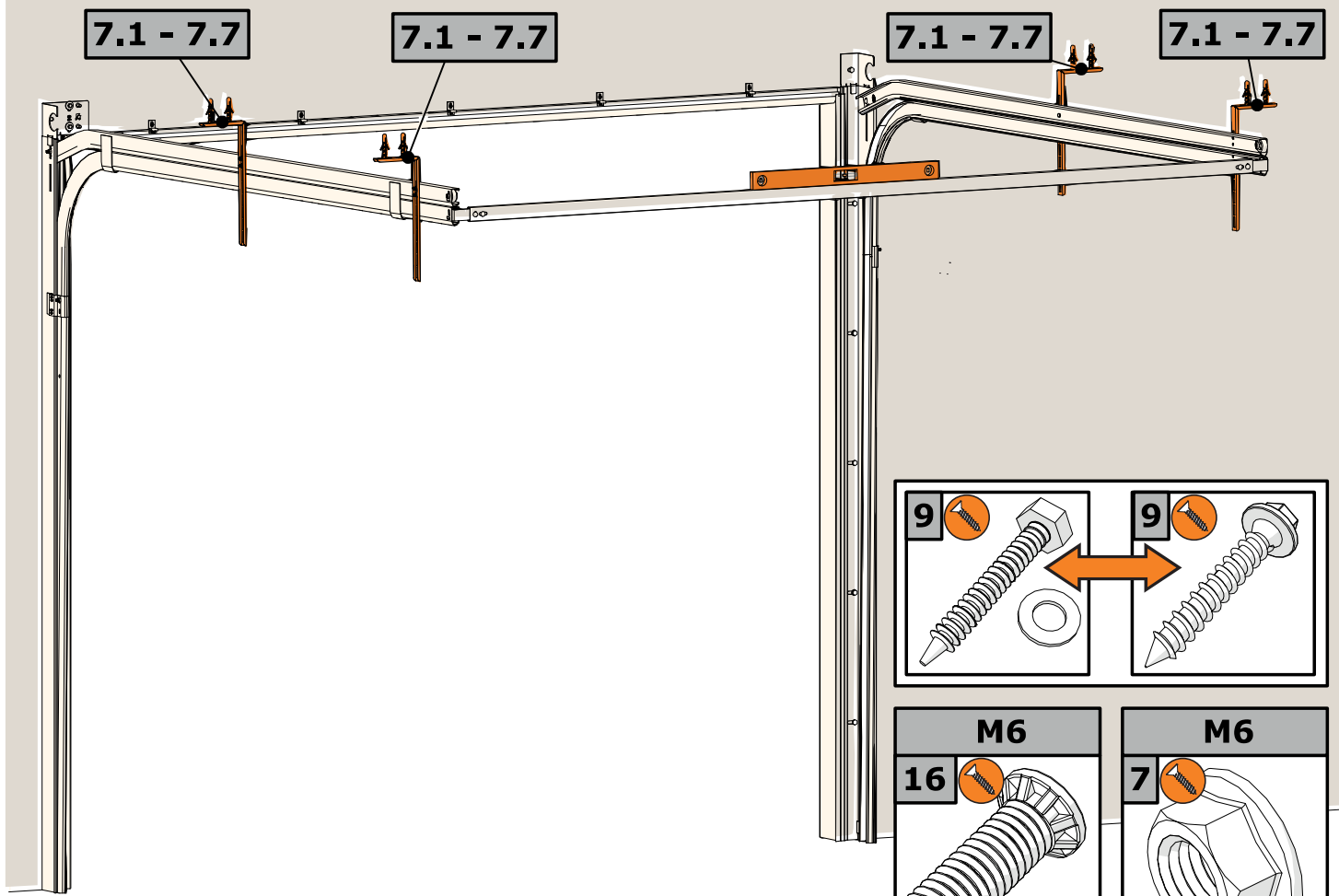


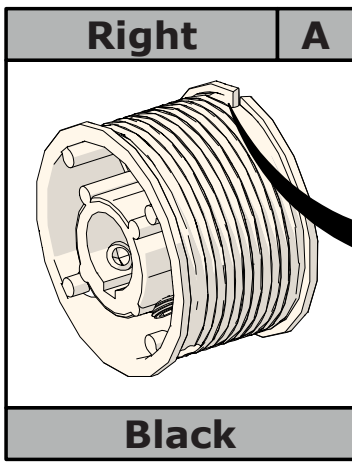




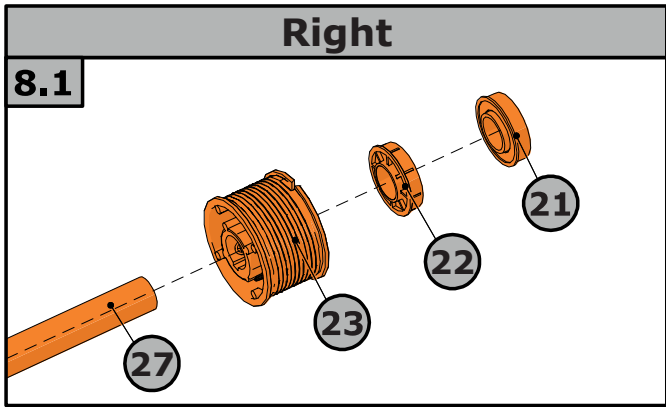
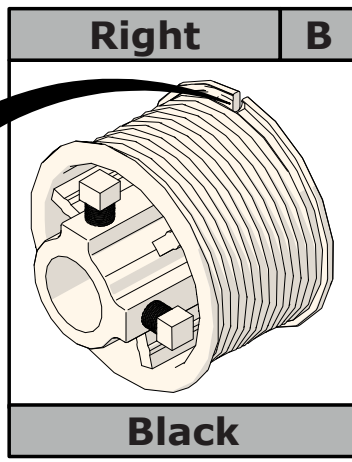
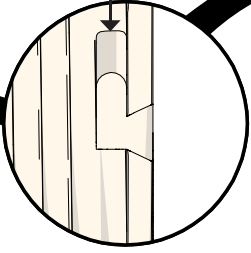




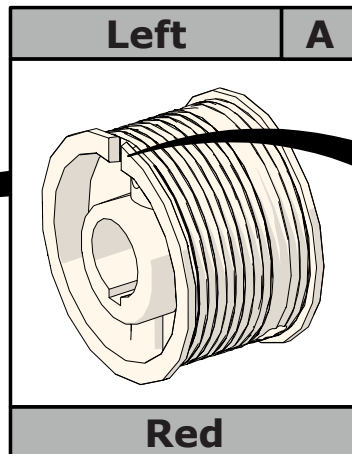
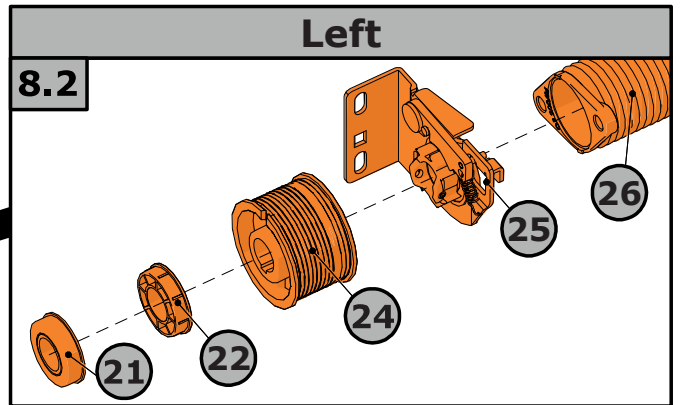
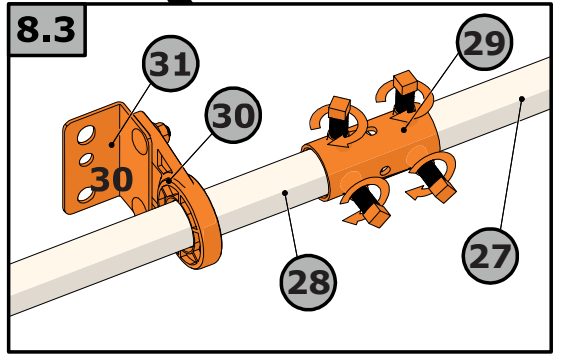
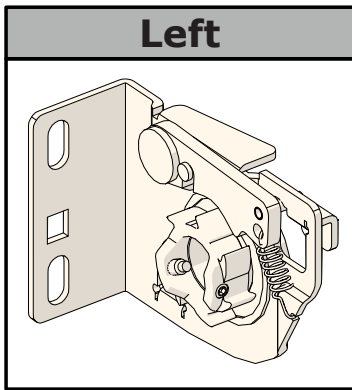




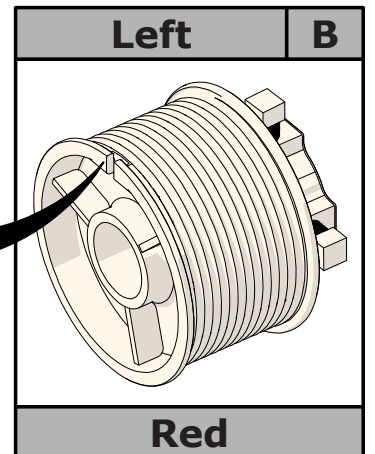
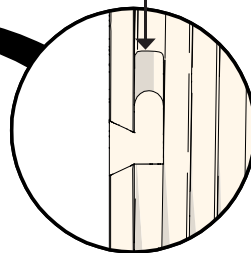
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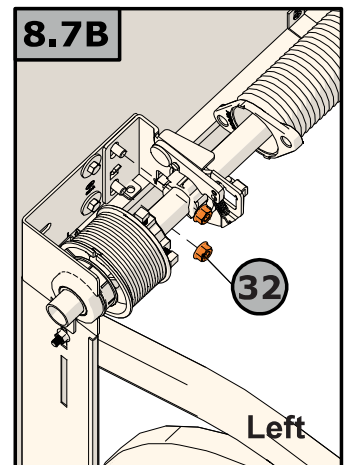
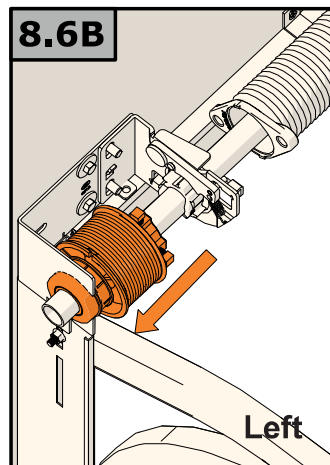
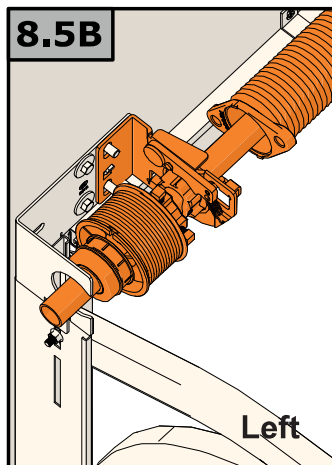
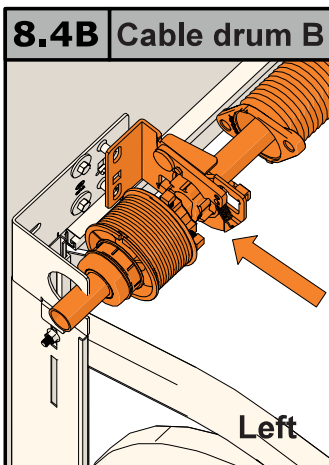
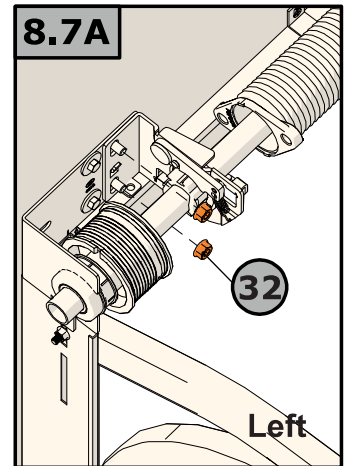
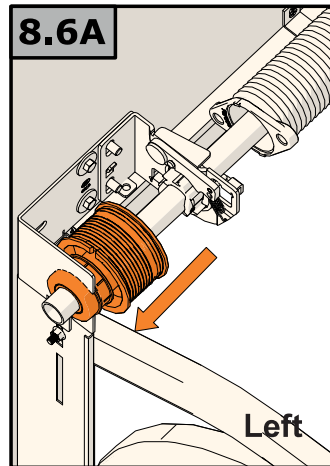
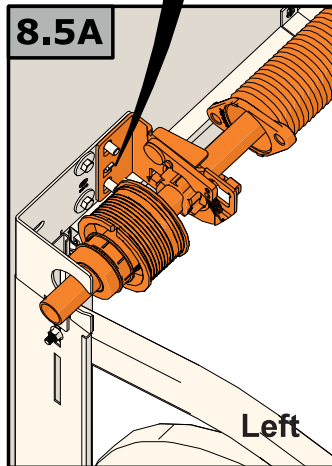
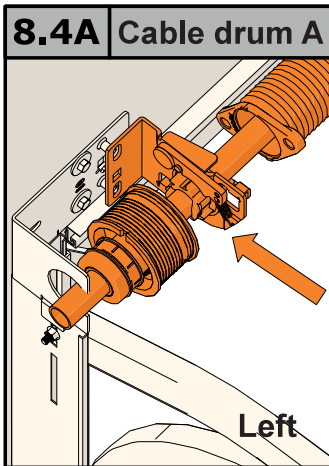
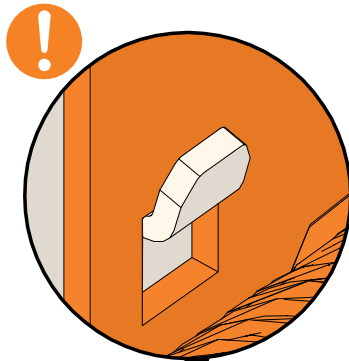
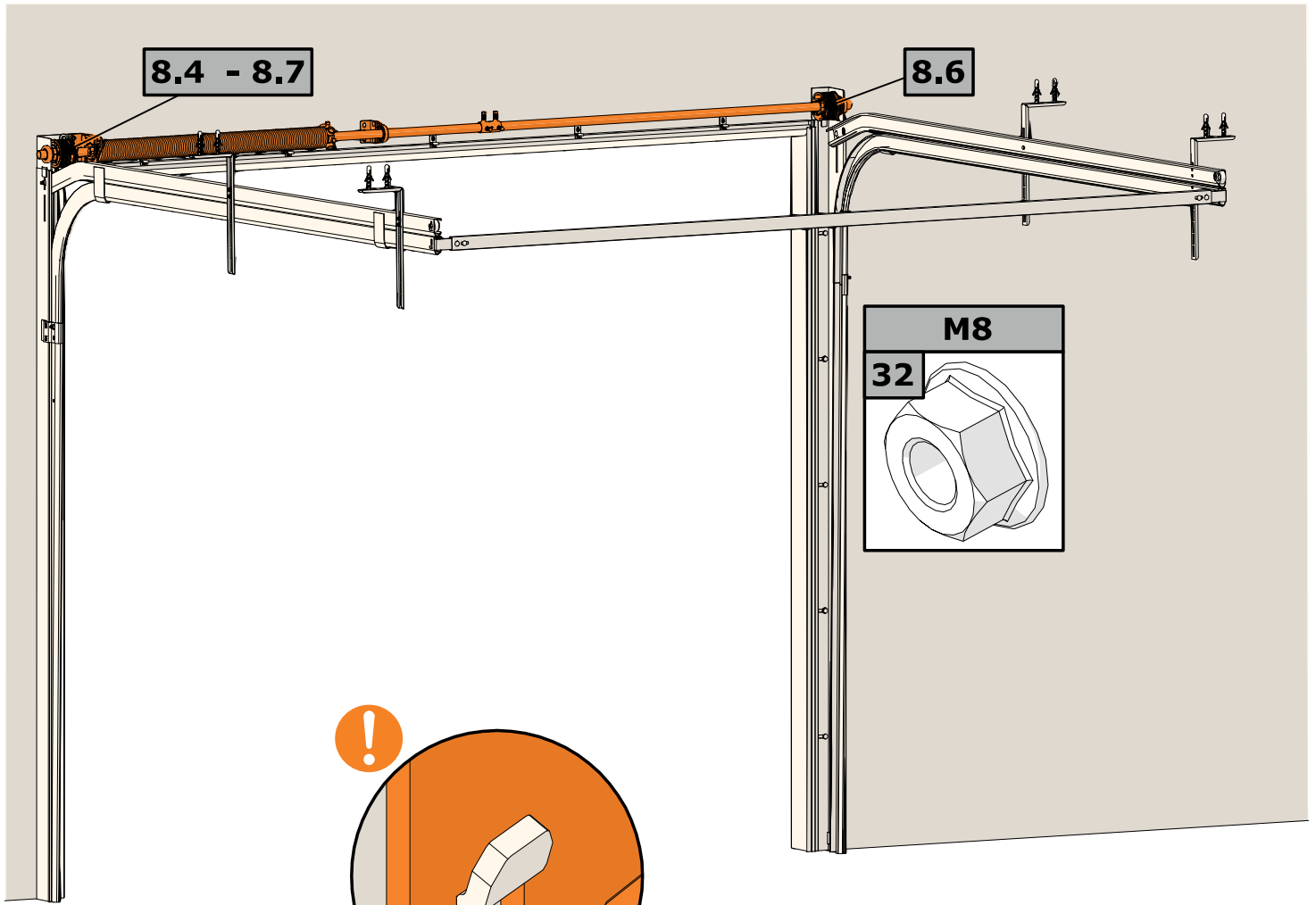


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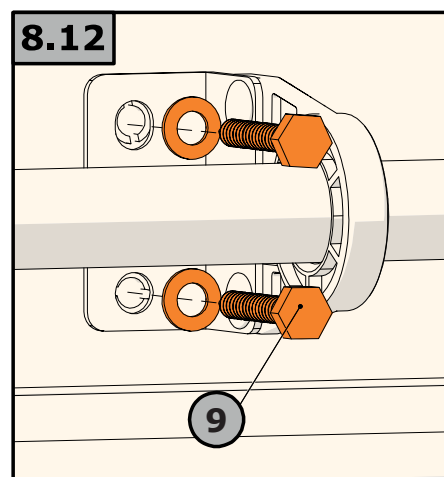
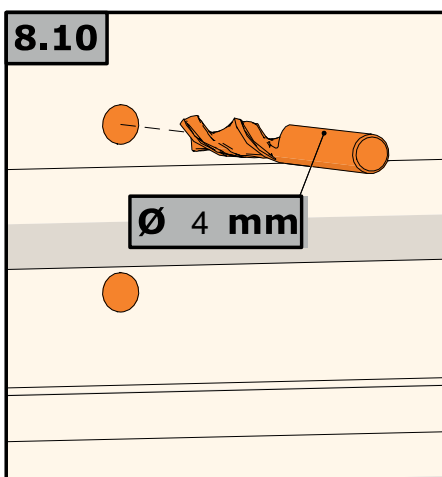
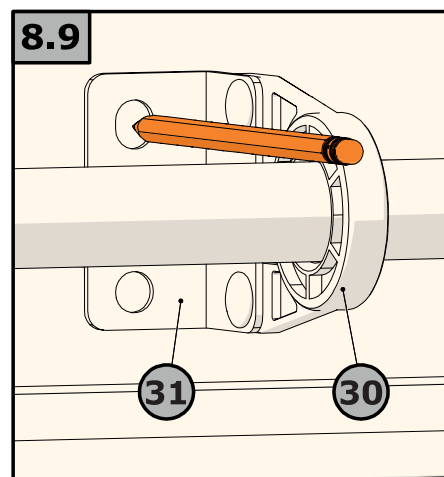
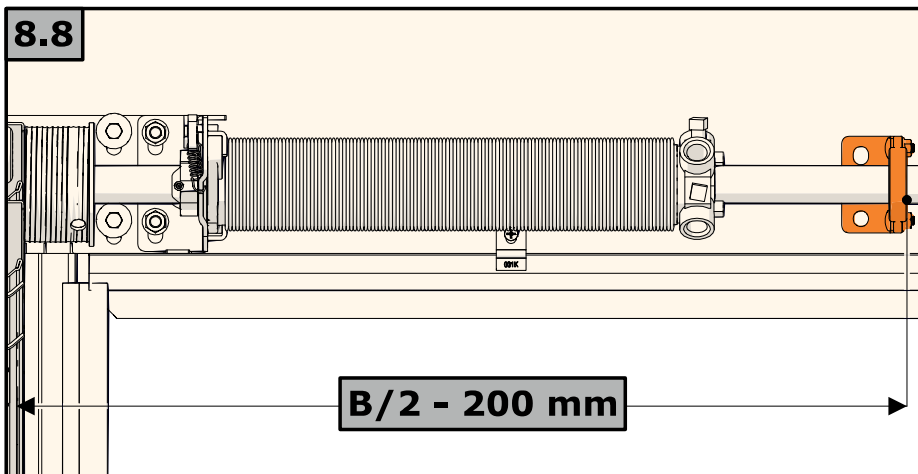
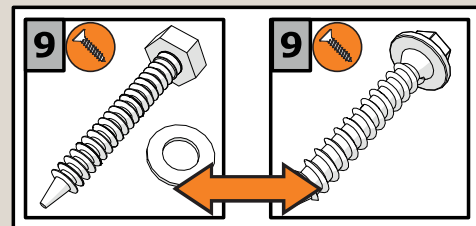
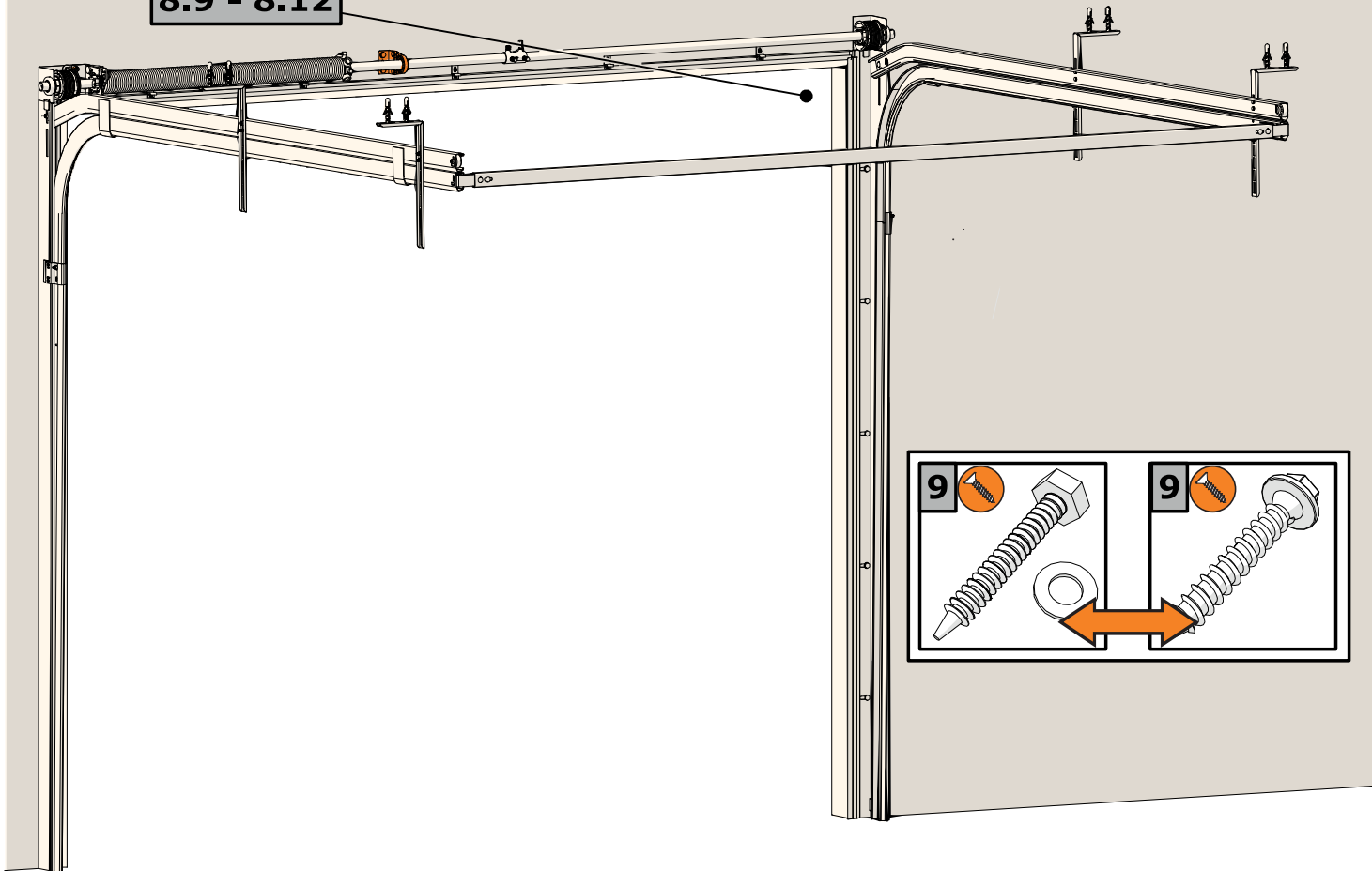


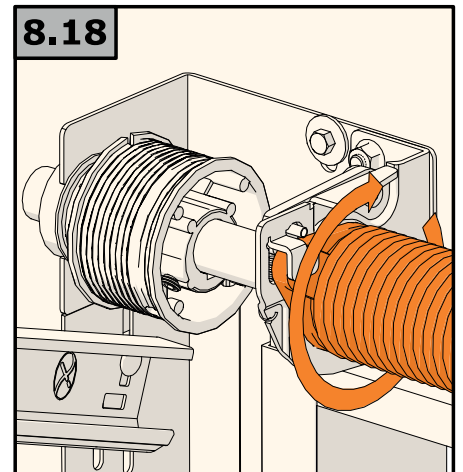
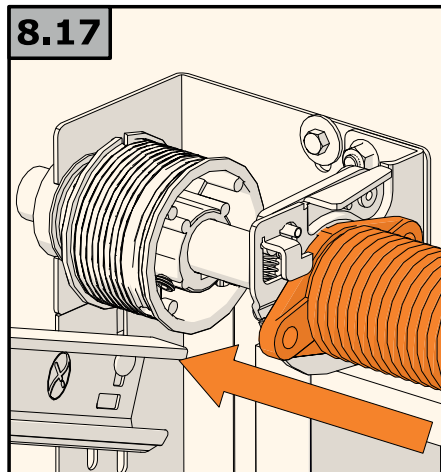
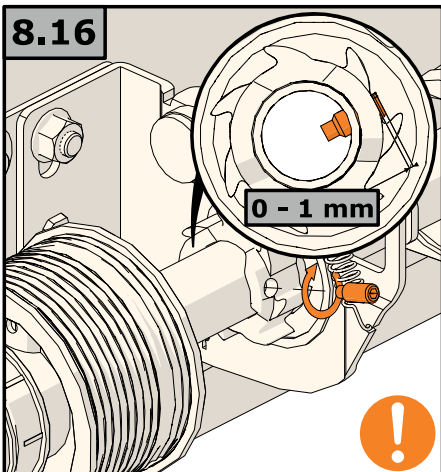
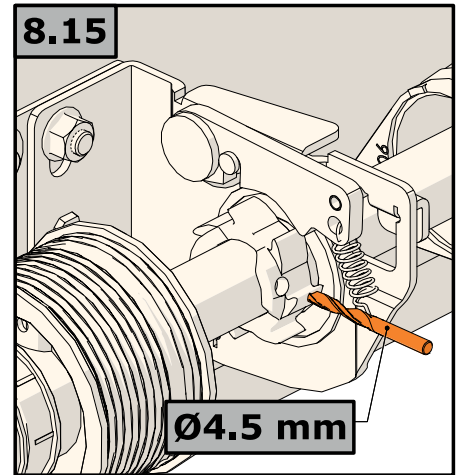
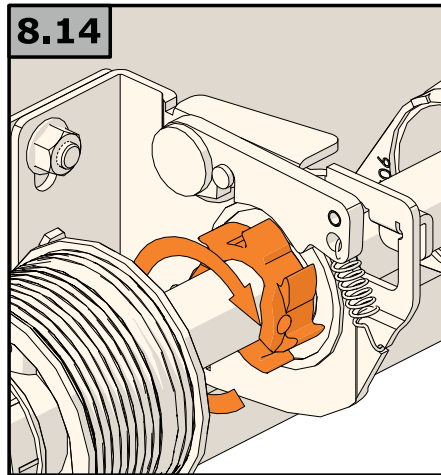
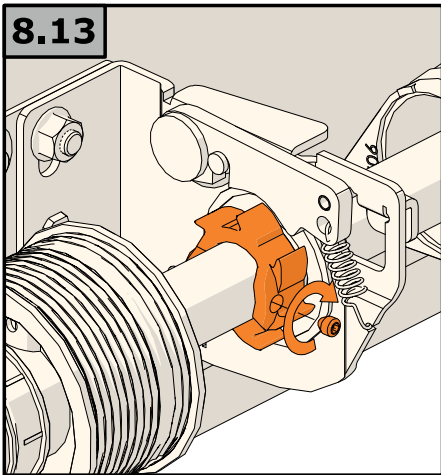
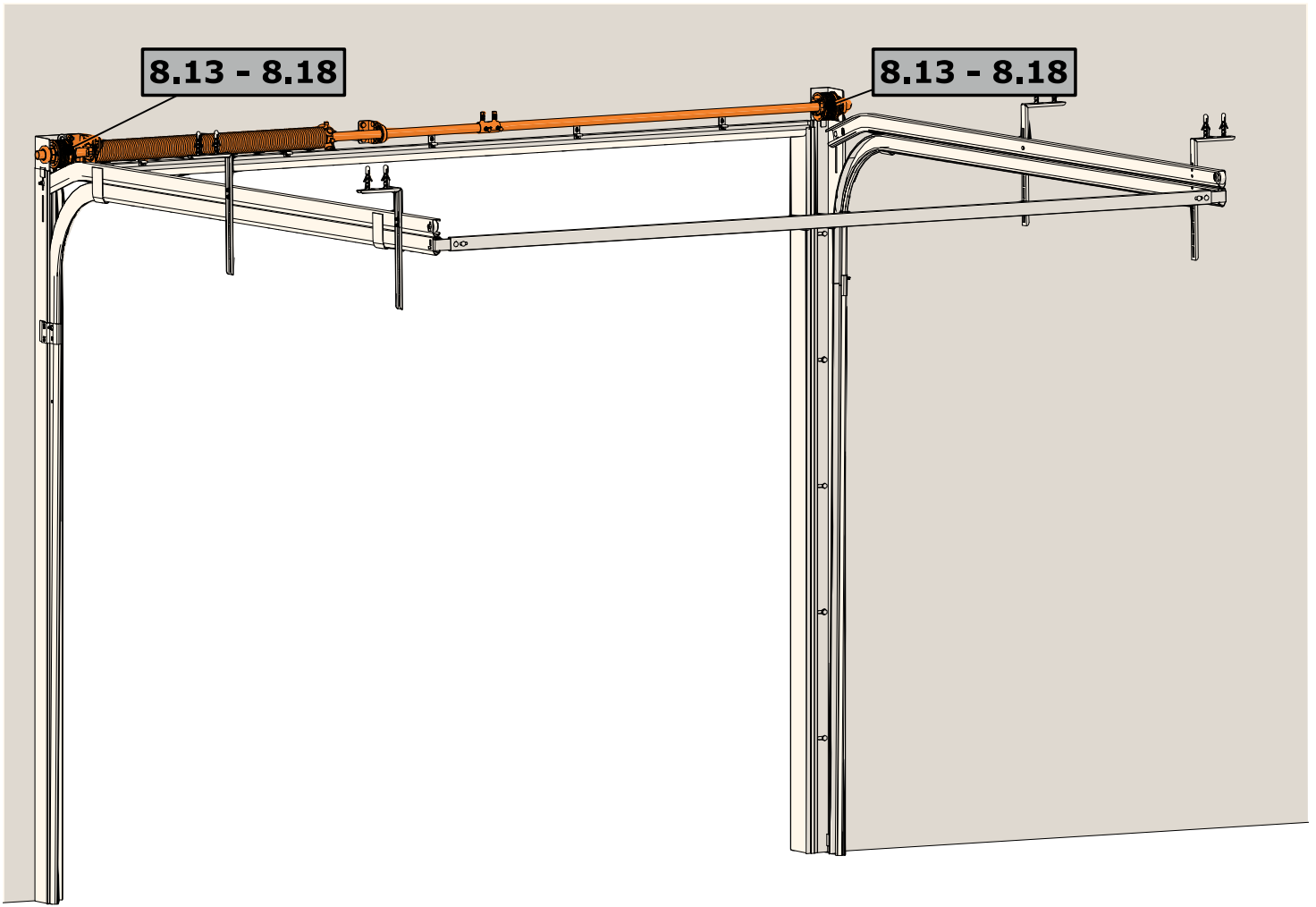
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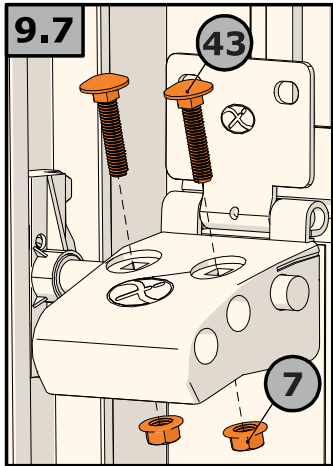
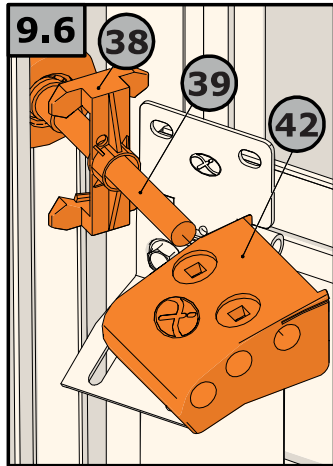
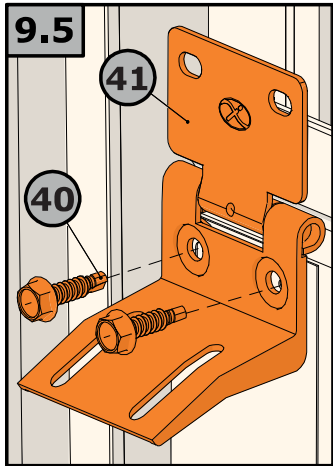
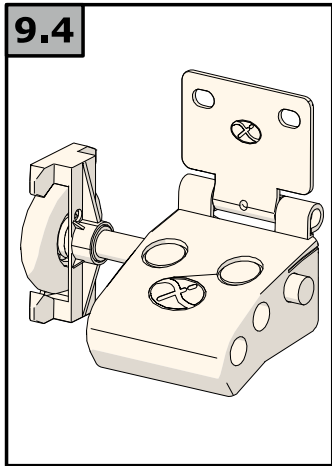
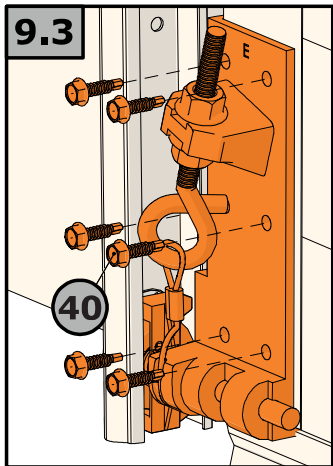
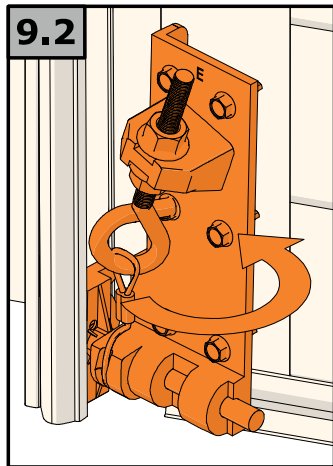
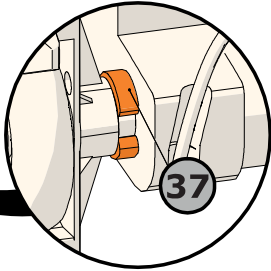
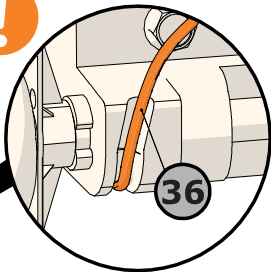
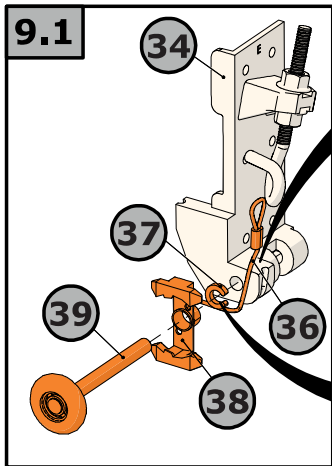
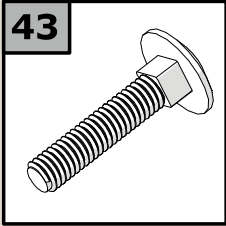
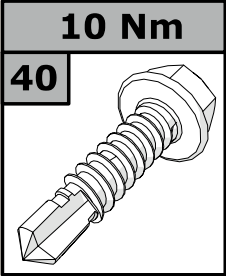
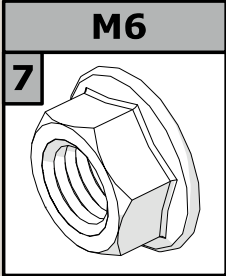
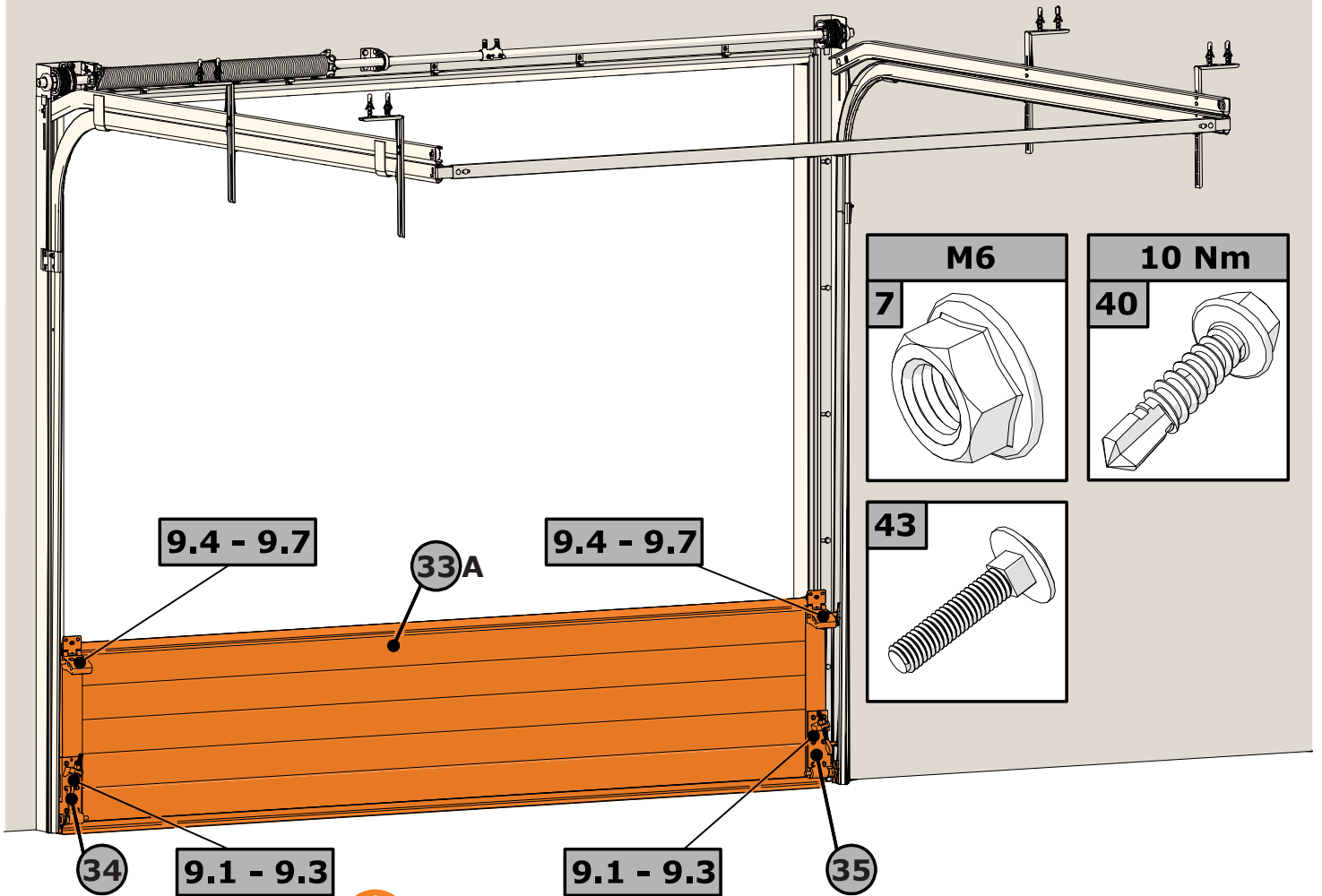


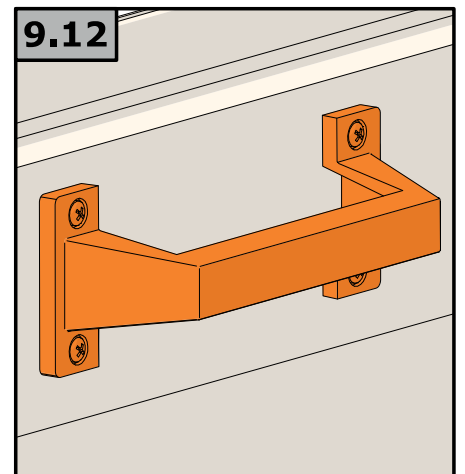
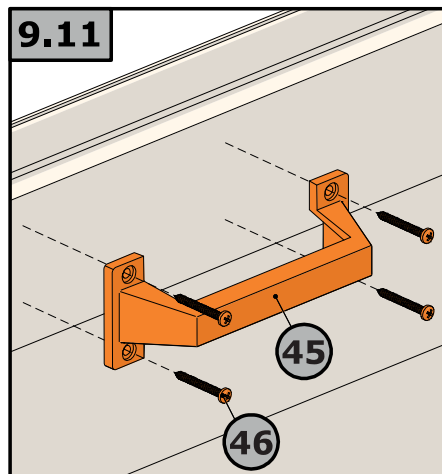
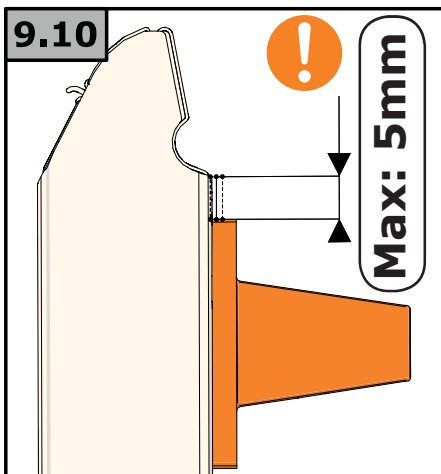
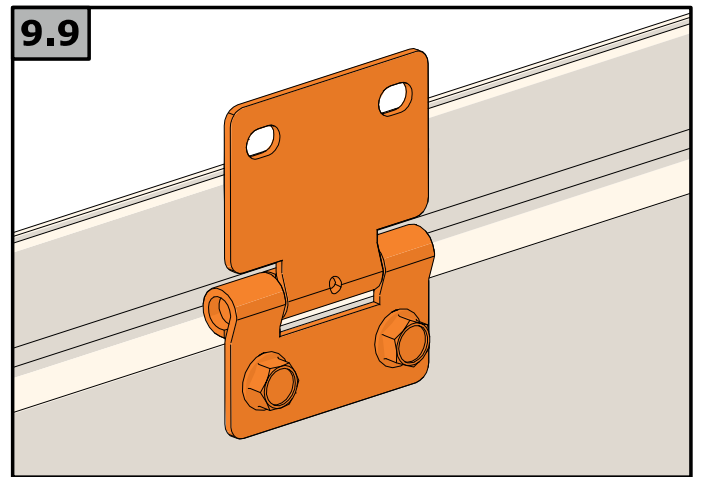
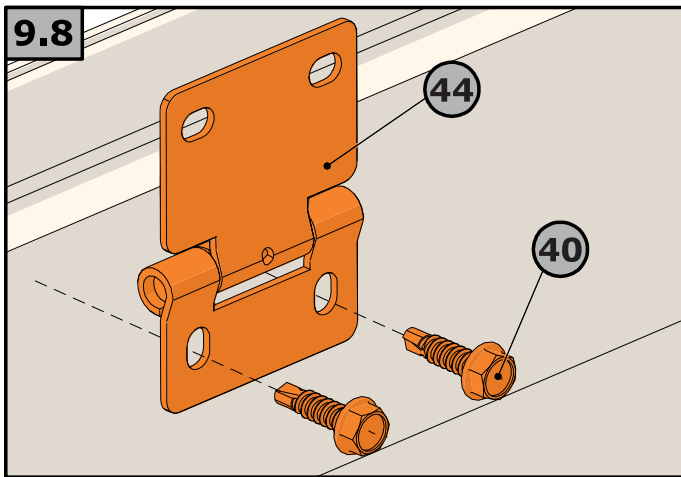
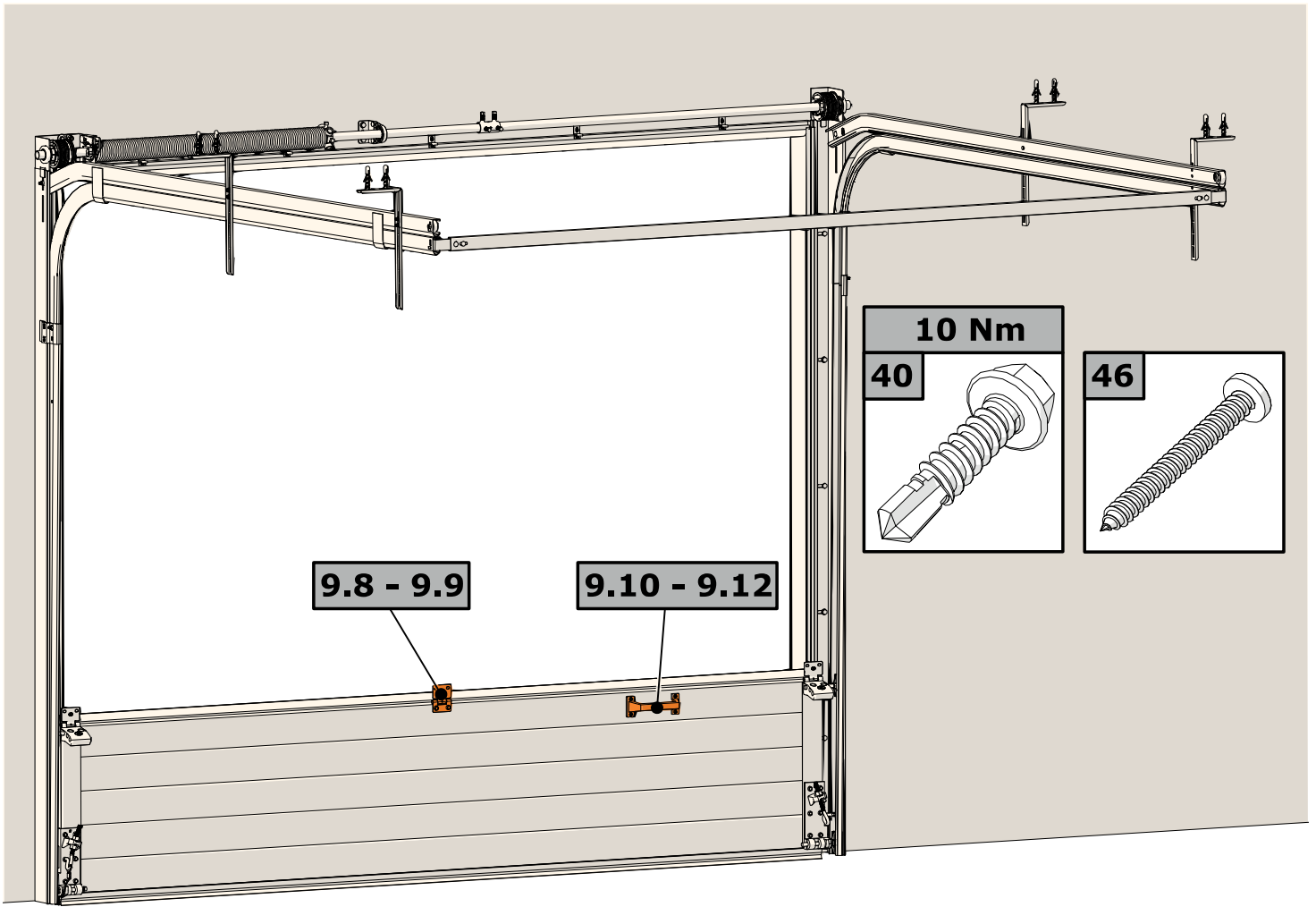


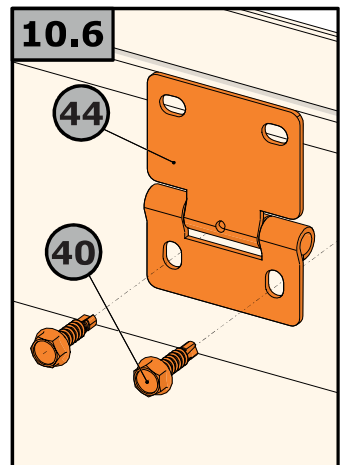
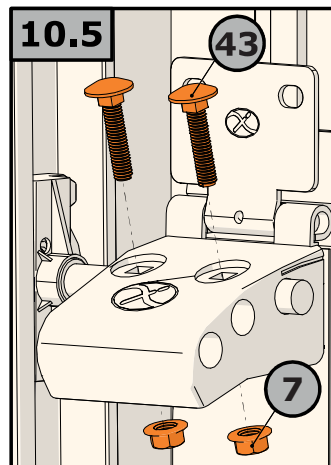
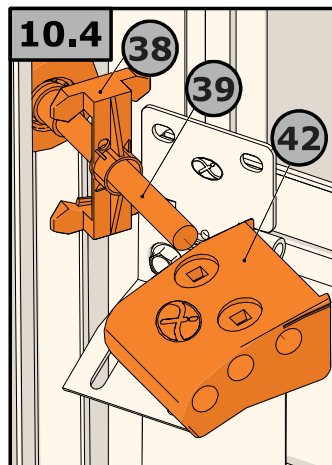
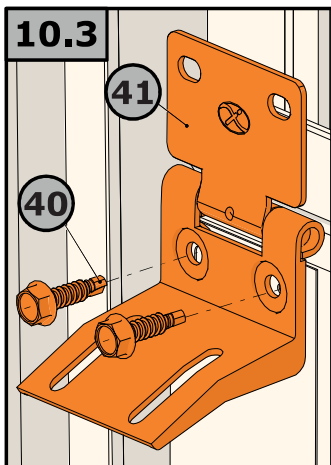
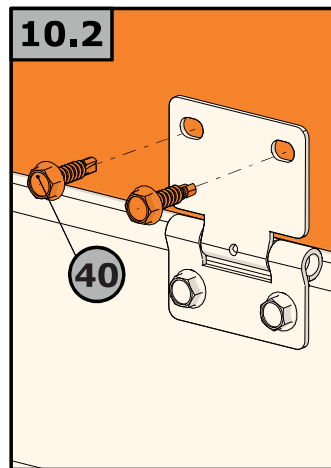
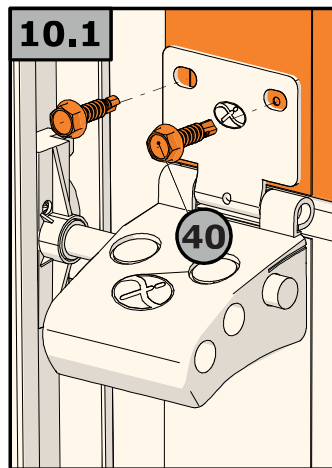
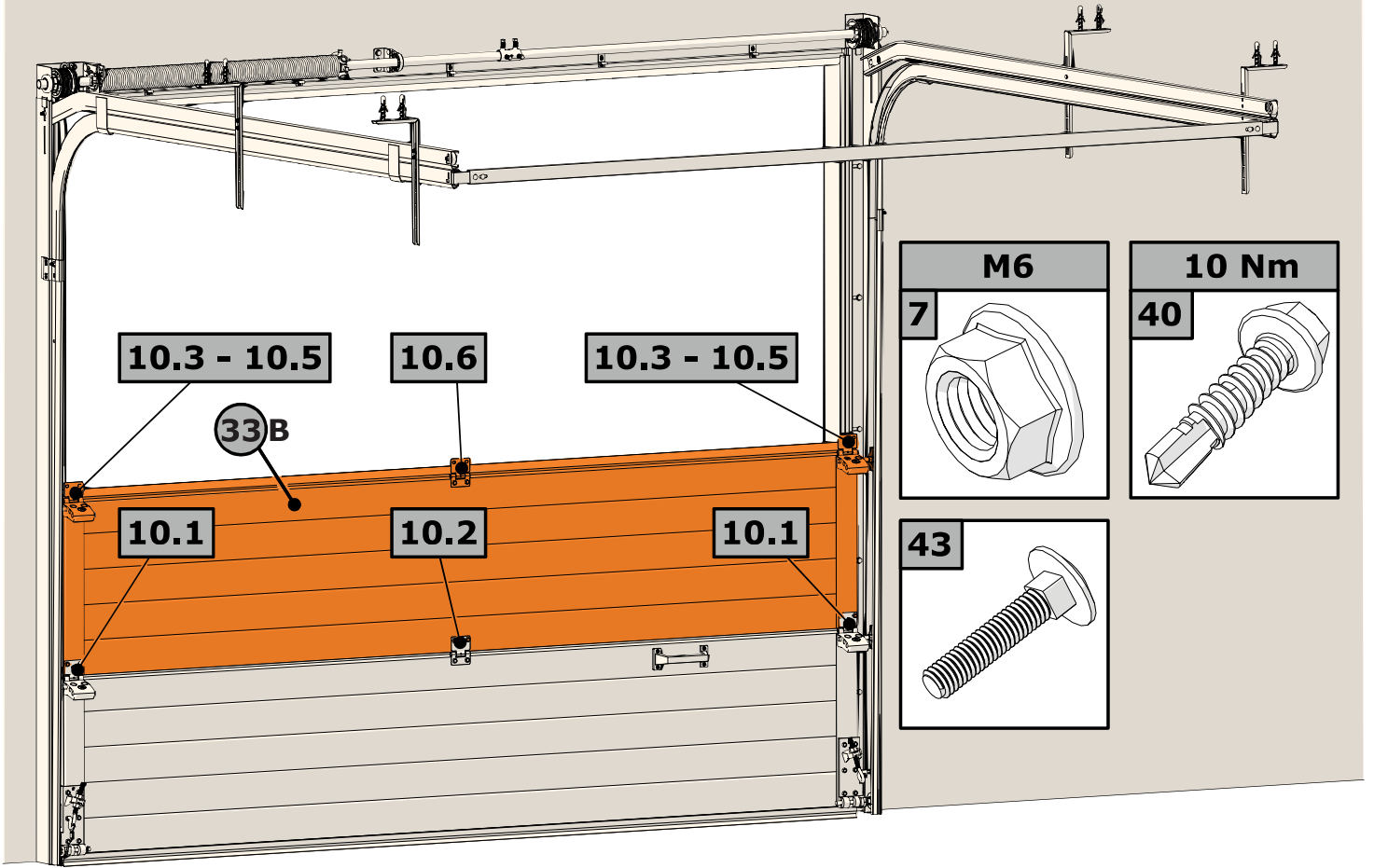
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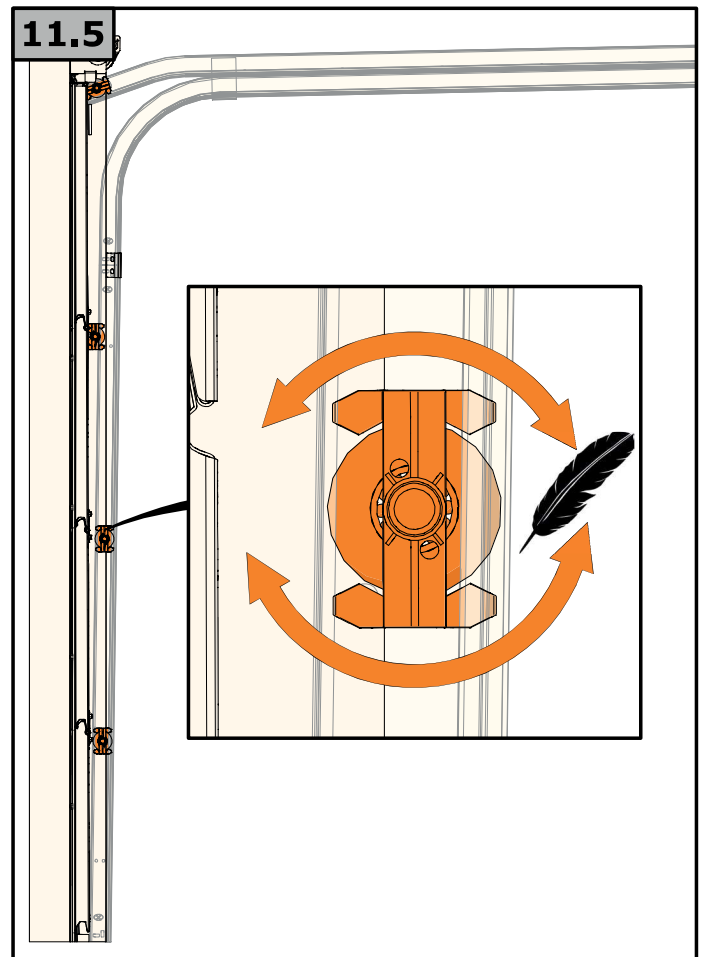
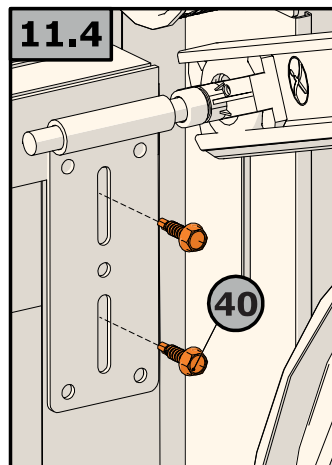
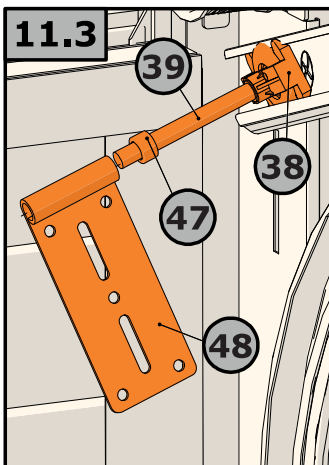
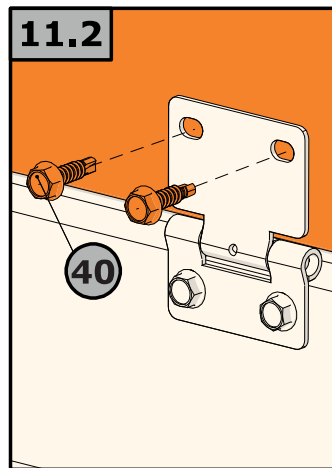
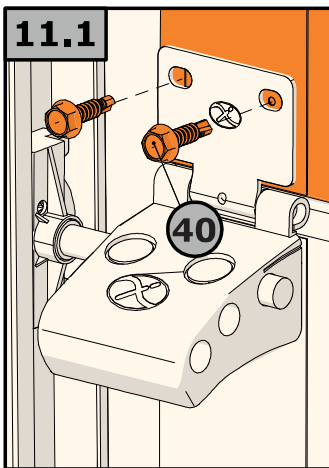
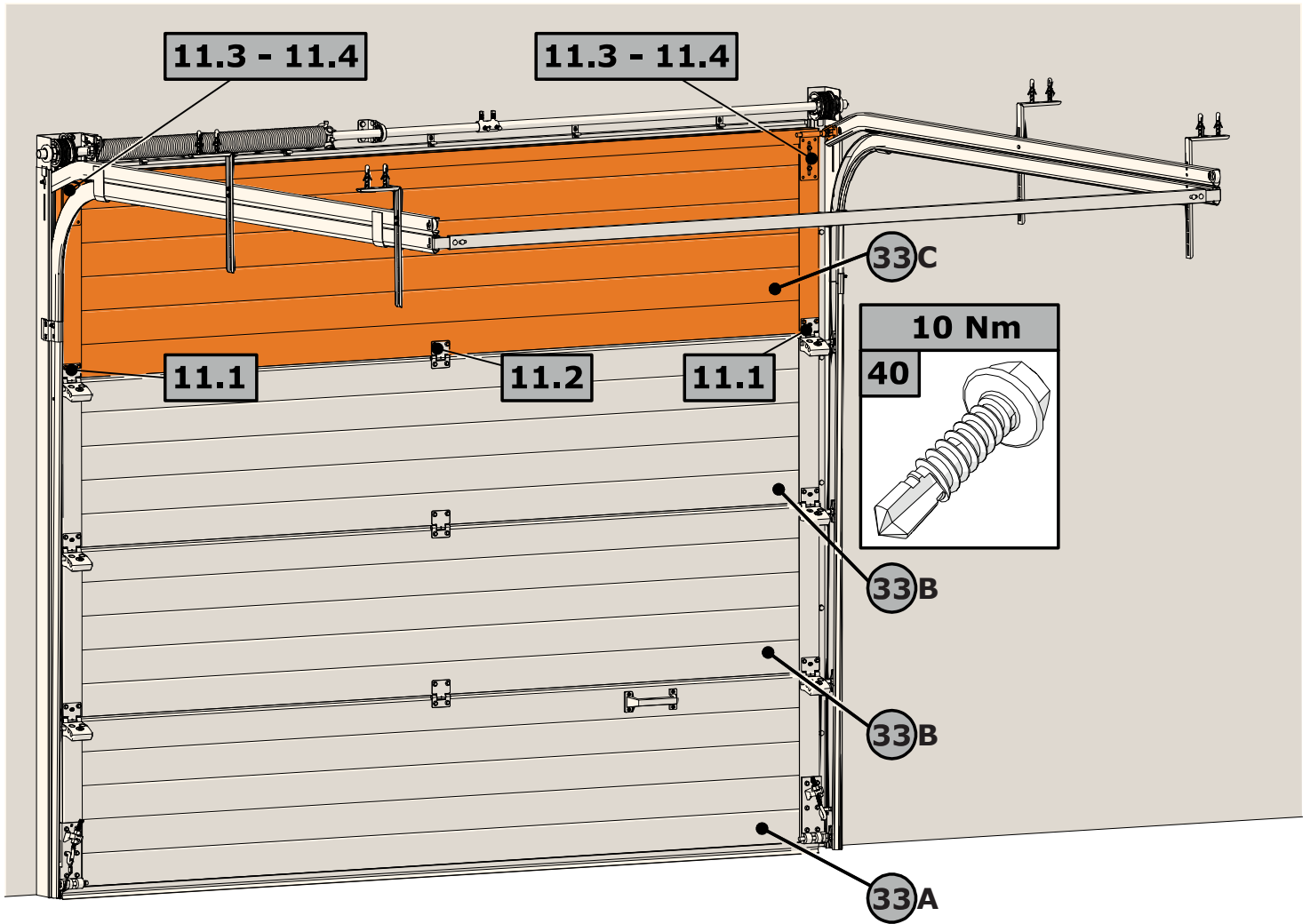






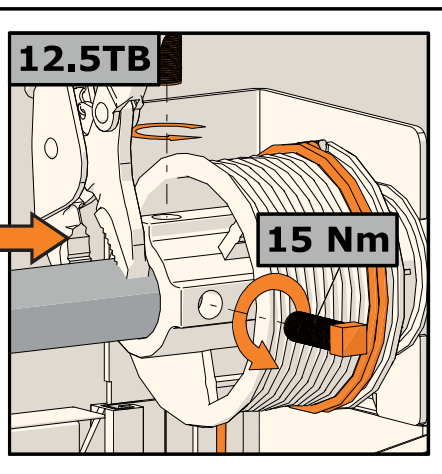
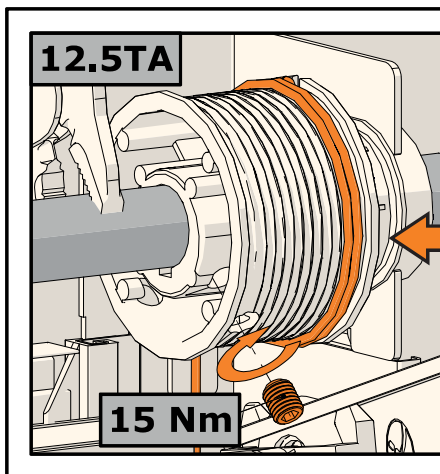
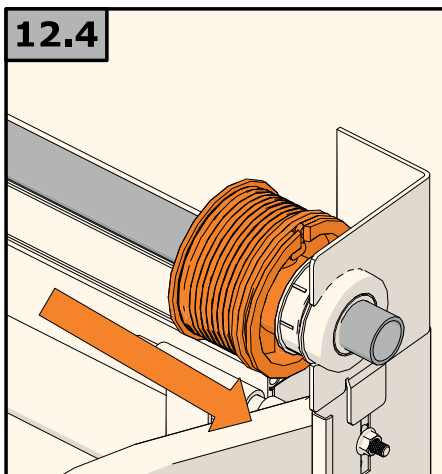
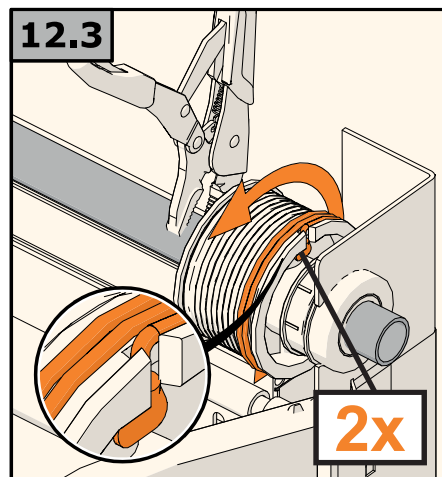
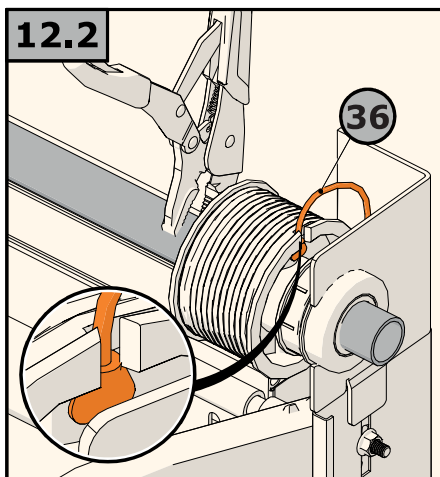
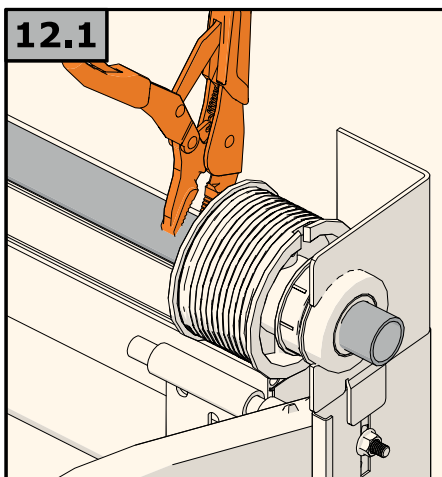
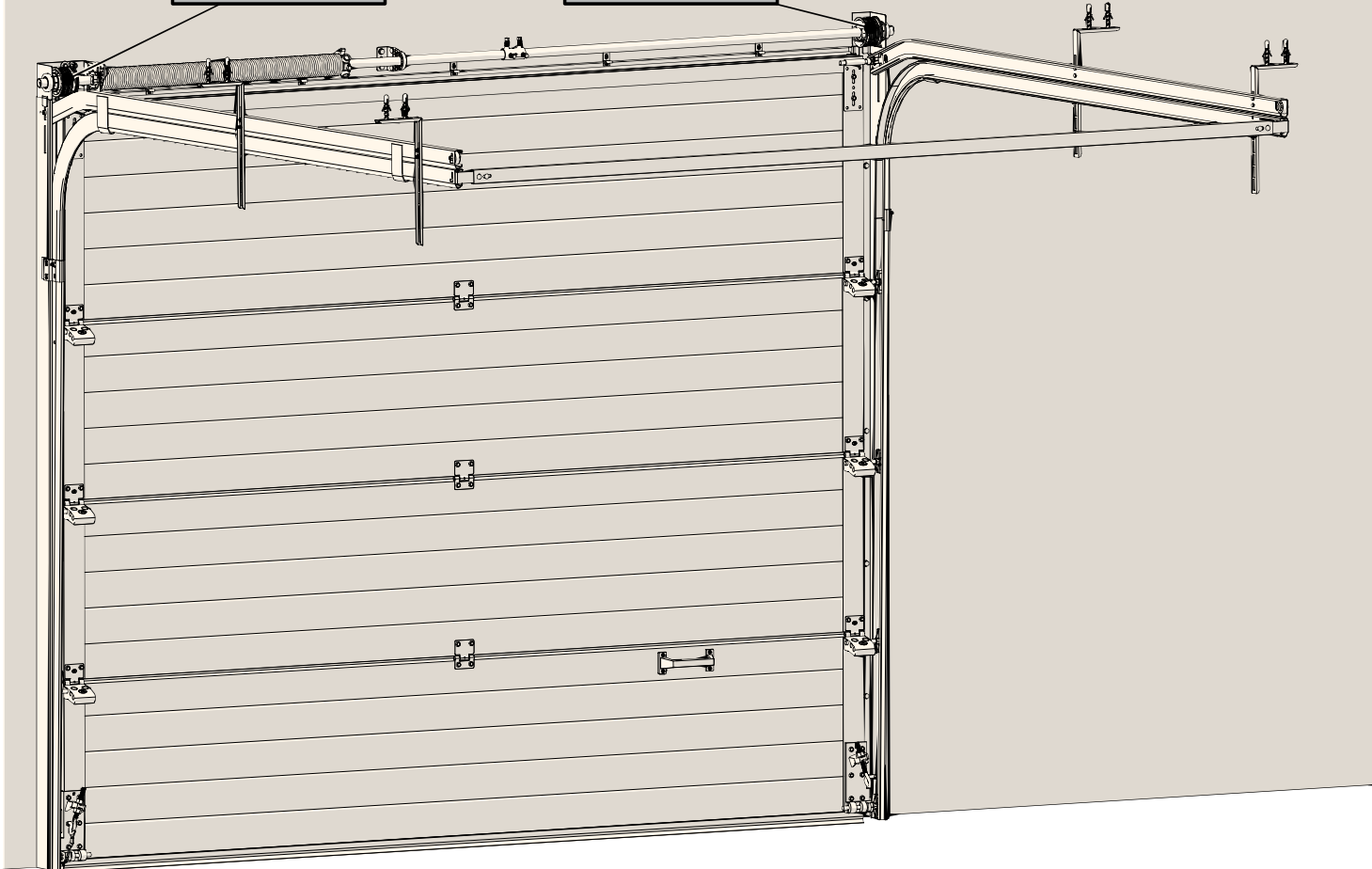




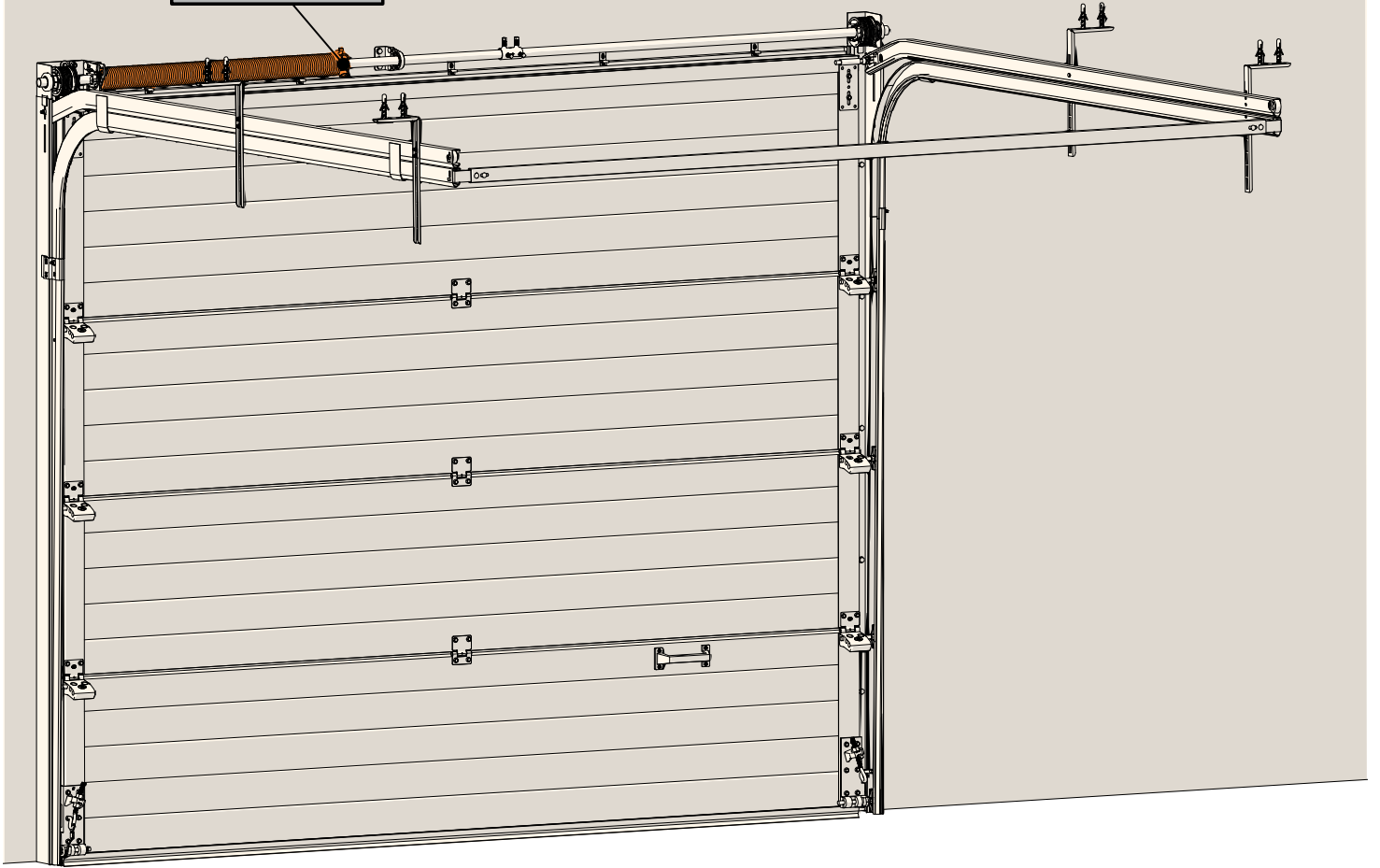


12.1 - 12.5

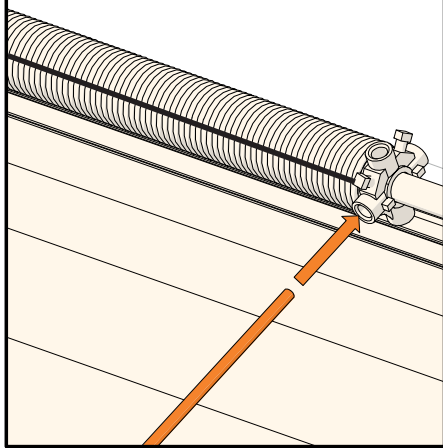
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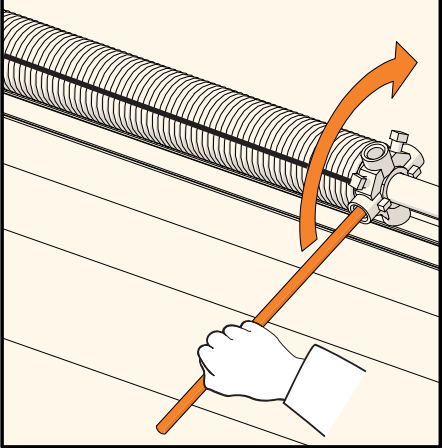
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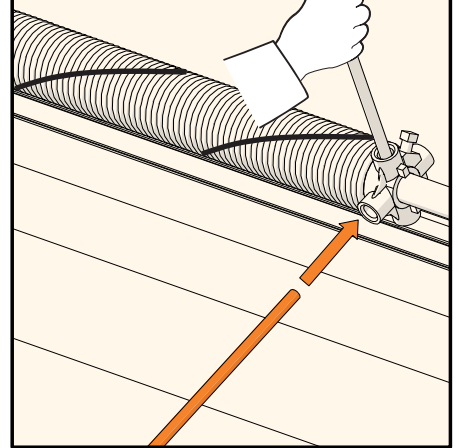
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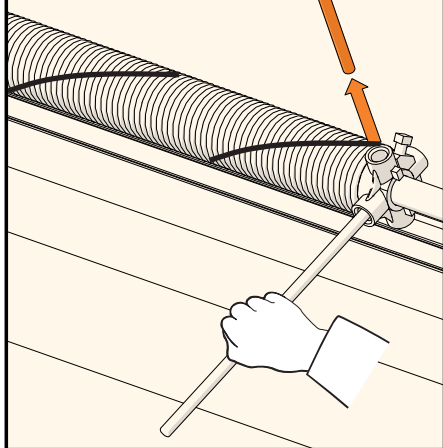
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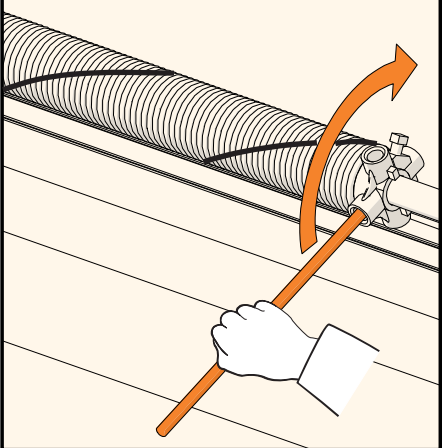
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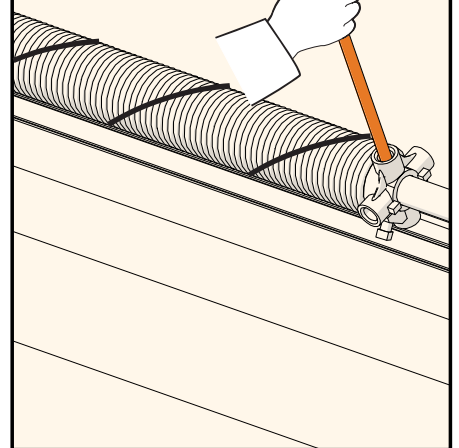
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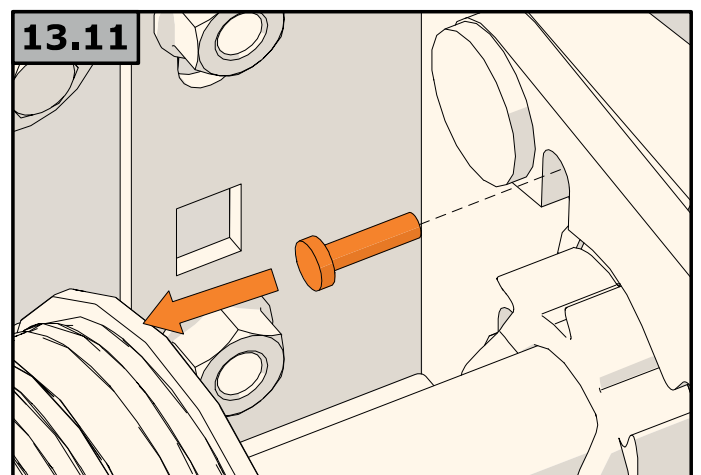
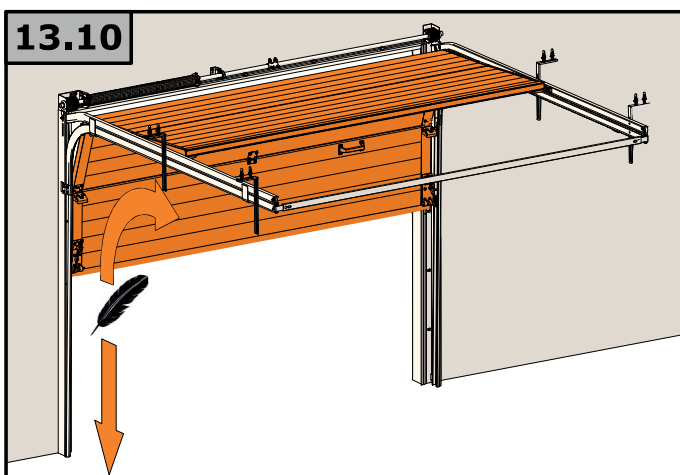
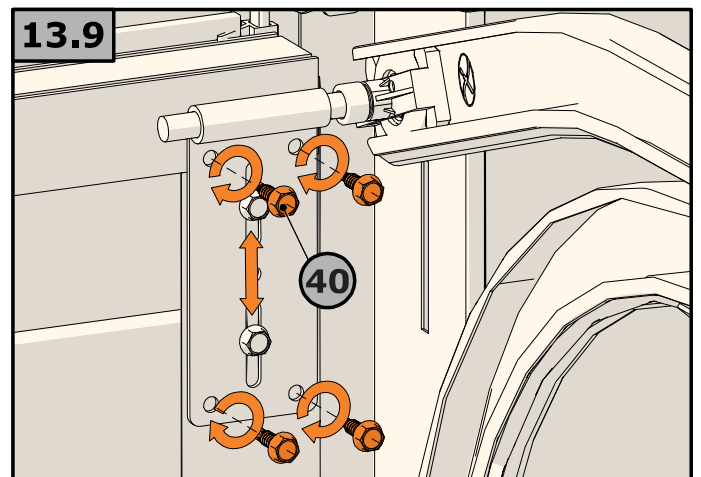
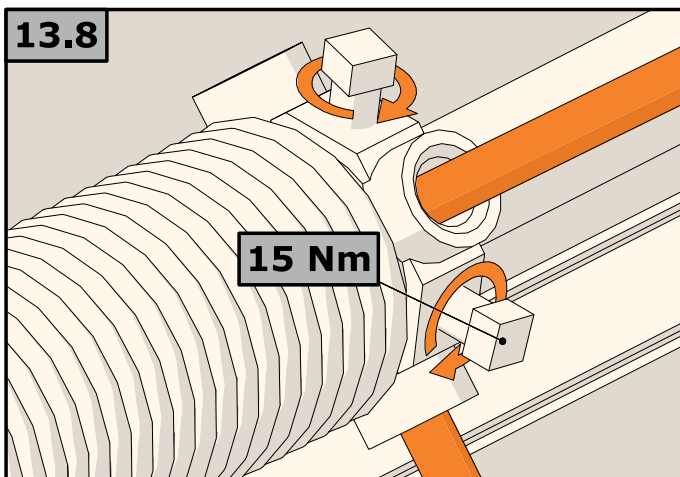
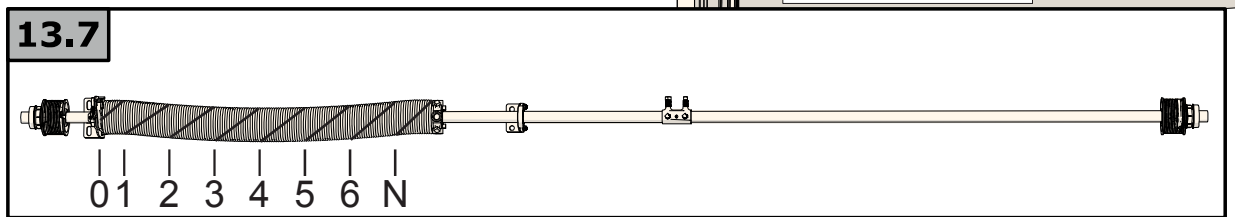
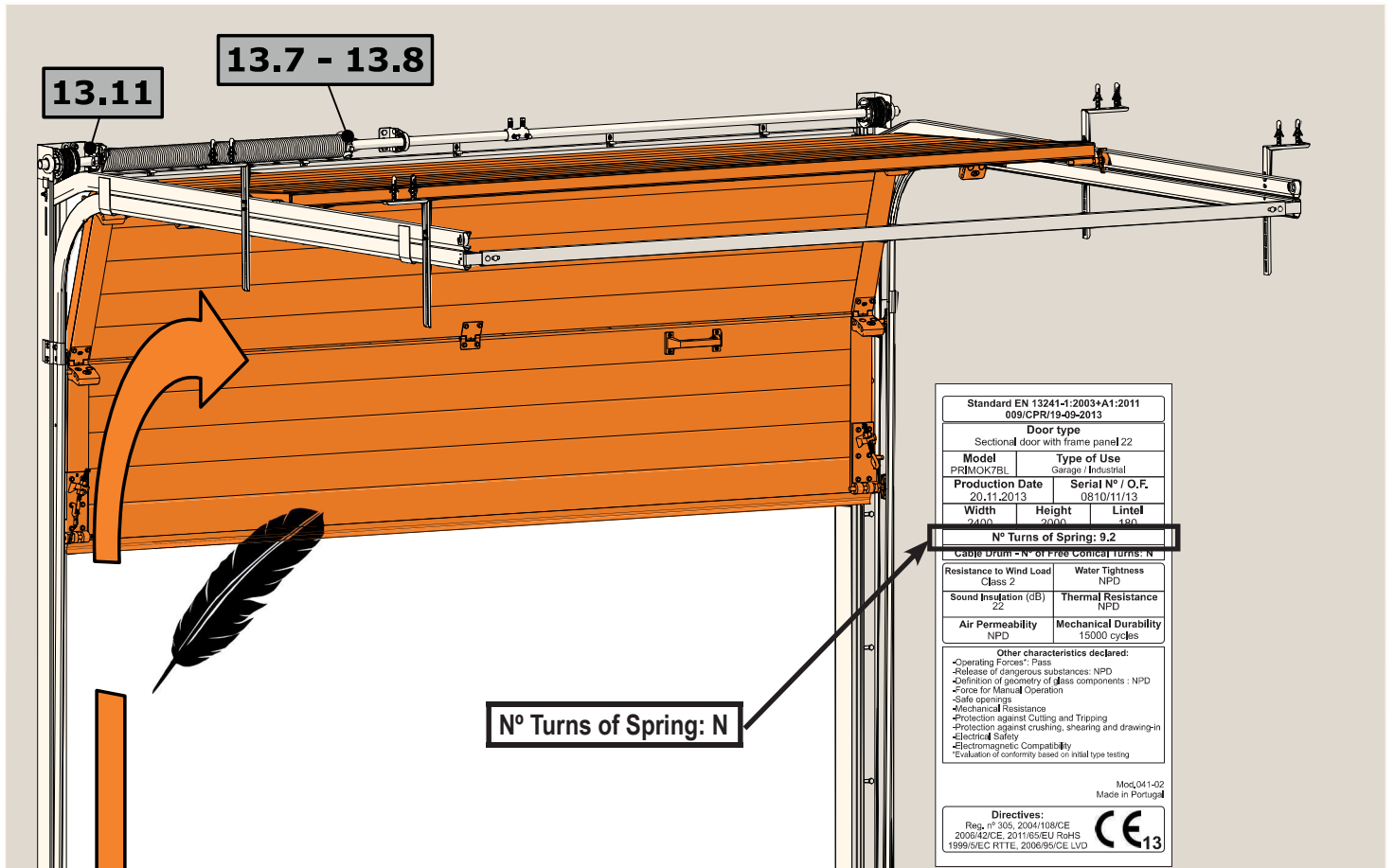


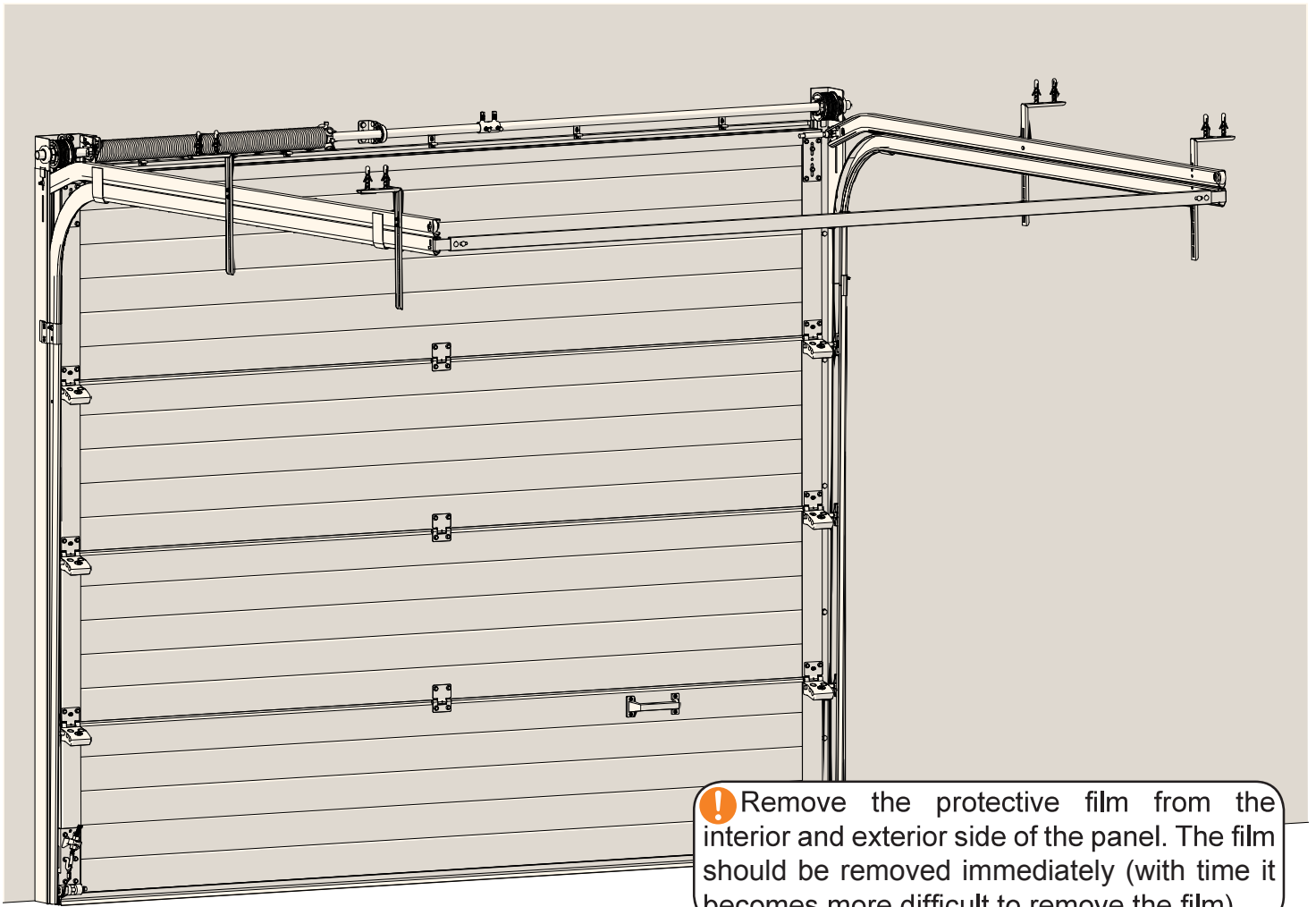
13.5



13.6







! Remove the protective film from the interior and exterior side of the panel. The film should be removed immediately (with time it becomes more difficult to remove the film).

EN Engine installation

When you select an electric motor, it must be installed in compliance with the manual supplied with the engine, and follow the instructions for handling the electrical equipment.

The technician who makes door installation must verify if the combination between the door and the engine is among those selected in the list of engines with CE marking for our door.

In order to help maintain the strength of the door in closing movement in accordance with EC standards, verify the correct installation position of the clamp arm (transmission) of the engine to the door.

⚠ CAUTION:

The people can suffer injuries if the control software is not adjusted correctly, or if the control for the gate is not selected correctly!

After adjusting the motor, note if the peak power allowed in the closing movement of the gate is according with, CE standards, among others.

If the engine has an exterior control box, it must be installed so that the person has a perfect view of the gate, away from moving parts and at a minimum height of 1500mm.

In the case of remote controls, each control unit must clearly identify the machinery to be controlled from that unit.

According to the standard EN 13241-1, in the chapter 6, Evaluation of conformity, part 6.1: "Where a door is the result of an in-situ assembly of products provided by several manufactures or suppliers the installer is assumed to be the manufacturer".

For example, if the installer applies an engine that is not on the list of certified engines to the sectional door in question, the installer is considered as being the door manufacturer. In this case the installer will do all the necessary tests defined in european standards, on notified body.

EN Final checks to make

After mounting the sectional door, the installer/maintenance technician should perform the following checks (if applicable).

Check the following mechanical elements:

1. **Pulleys:** Check if the lifting cable is well aligned with the pulleys and grease.
2. **Springs:** Check its condition and strength (check the balance of the and adjust if needed).
3. **Lock:** Check its functioning and grease.
4. **Rotational points:** Check the strength of the fixations (screws, pins, welding points) and grease the shafts (hinges).
5. **Bearings:** Check its state and grease.
6. **Tracks:** Check that there are not deformed.
7. **Lifting cable and chains:** Check its state and grease.
8. **End-fixings:** Check the correct installation on the cable.
9. **Counterweight:** Check that the cables operate independently and protected up to 2,5 meters above ground level.
10. **Welding points:** Check that there are no loose welding points.
11. **Rivets:** Check that there are no loose rivets.
12. **Rubbers:** Check its elasticity and if they not present defects.
13. **Spring break device:** Check that is activated in case of the spring is not in tension.
14. **Moving parts protection:** Check that moving parts (counterweights, gears, etc.) are protected up to 2,5 meters above the ground level.
15. **Cutting areas protection:** Check that there are the necessary clearances or that are protected, for example in the hinges zones.
16. **Manual opening system:** Check its existence and instructions for use.
17. **Walls:** Verify the stability of the door.
18. **Limit switch:** Check its functioning and adjust if necessary.
19. **Bumpers:** Verify their existence such that to avoid the exit of the panels the guides.

Check the following electrical components:

1. **Engine:** Check its fixation, cables, oil, and functioning pressure.
2. **Framework control:** Check it's functioning.
3. **Electric lock:** Check the functioning and grease.
4. **Receiver:** Check the functioning.
5. **Emitter:** Check the functioning (check the batteries).
6. **Batteries:** Check its condition and functioning.

7. **Differential:** Check its existence and functioning.
8. **Circuit breaker:** Check its existence and functioning.
9. **Ground wire:** Check the existence and effectiveness.

Check the following security elements:

1. **Sensitive protective equipment:** Check its functioning.
2. **Photocells:** Check its functioning and check the status transmitter/receiver.
3. **Light signals:** Check it's functioning.
4. **Cable break device:** Check if there is no deformation of the tracks and bumper. Grease.
5. **Pedestrian safety kit:** Check its functioning on the pass doors.
6. **Emergency stop (STOP):** Check its functioning.

Check the following documentation:

1. **Maintenance book:** Check its existence, its update and signature of the maintenance technician.
2. **Label:** Check its correct use and placement on the sectional door.
3. **Declaration of performance:** Check its existence.
4. **Maintenance contract:** We recommended that the sectional door end user has a maintenance contract with a maintenance company/technician.

EN Maintenance and replacement parts

An overhead door should be maintained and checked regularly to ensure safe operation and use. This is described in the EN standards.

Always use original parts to keep the door in accordance with the CE marking.

It is very important to keep records of inspections, testing, maintenance, repairs or modifications made by technicians in the maintenance log book, as required by standard EN 13241-1 and EN 12635; The lack of door maintenance or proof of it can lead to loss of warranty.

General

1. Torsion springs, brackets and other components which are attached to the springs and cables, are under extreme tension. If not handled properly, injuries or damages might occur! **So, working on these components may only be carried out by qualified overhead door mechanics!**
2. Replacement of broken or damaged components should always be done by qualified sectional door mechanics.
3. When checking the door, always disconnect the electrical main power supply. Make sure that it is blocked against re-engaging without you knowing it.

MAINTENANCE:

Maintenance periodicity

The sectional door maintenance periodicity is indicated in the following table:

Sectional door for use	Criterion	Periodicity
Residential and Garage	Nº of vehicles ≤ 5	12 months
	5 < Nº of vehicles ≤ 50	6 months
	Nº of vehicles > 50	3 months
	Seasonal use ⁽¹⁾	12 months
	-	6 months
Industrial	≤ 10 cycles / day	6 months
Commercial	> 10 cycles / day	4 months
Public, commercial, institutional buildings - with pass door	-	12 months
Public, commercial, institutional buildings - without pass door	-	3 months

⁽¹⁾ Sectional door used only in determined and short time periods (for example during the summer or on holidays).

The lines underlined are the maintenance that can be carried out by the end user

The doors installed in front of the sea should be washed daily with drinking water, and if they are close to the sea at least once a week

After installation (level A):

1. Grease running part of the tracks.
2. Grease the bearings and shafts of the rollers.
3. Grease the running part of the side hinges and intermediate hinges.
4. Grease the lock.
5. Protect the panels with carwax.
6. Grease the rubbers slightly with vasaline.
7. Grease the bearings of the shaft.
8. Grease the steel cables.

Every 3, 4 or 6 months, depending on the use of the sectional door (level B):

1. Complete inspection visually.
2. Check balancing system and adjust if needed.
3. Verify the adjustments of the engine (if it is an motorised door).
4. Check the functioning of the safety devices (sensitive protection equipment, switches, photocells, etc.).
5. Check the manual operation of the door.
6. Check the functioning of the strength limiters.
7. Check the hinges on breaking.
8. Check the functioning and conditions of the existing signalling (flashing lights, illumination).
9. Check the motion transmission components (cables, chains, belts and articulated arms).
10. Grease and do the necessary adjustments for a correct door functioning.
11. Check the engine.
12. Check the side seals, top seals and bottom seals on damage or wear and tear.
13. Grease all above mentioned points (level A).
14. Clean the panels.
15. Clean the windows (only water wash, do not use cloth).
16. Remove dirt and waste from the door or its surroundings.
17. General review of the sectional door functioning.

Every 12 months (level C):

1. Complete inspection visually.
2. Check the door lock.
3. Check the tracks elements.
4. Check the roller on wear and free moving space in the tracks.
5. Verify the adjustments of the engine (if it is an motorised door).
6. Check the functioning of the safety devices (sensitive protection equipment, switches, photocells, etc.).
7. Check the functioning of the strength limiters.
8. Check the remote control.
9. Check the balance of the door and adjust if needed.
10. Check the control board and its components.
11. Check the engine.
12. Check the connections of the track system.
13. Check the suspension of the door to the headroom and ceiling.
14. Check the cable break device (or bottom bracket) on wear and tear and damage*.
15. Check or test the fixation of the springs to the fittings.
16. Check balancing system and adjust if needed.
17. Check the cables for damage or wear and tear.
18. Check the functioning and conditions of the existing signalling (flashing lights, illumination).
19. Check the motion transmission components (cables, chains, belts and articulated arms).
20. Check the cable connection points on drums and cable break device (or bottom bracket).
21. Check the connection of the drum to the shaft (keys!).
22. Check the hinges on breaking.
23. Check the shaft on wear and tear or damage.
24. Check and re-fix the bolt of the coupler (if used).
25. Check the panels on damage, wear and rust.
26. Clean the panels.
27. Clean the windows (only water wash, do not use cloth).
28. Remove dirt and waste from the door or its surroundings.
29. Check the condition of painting and corrosion.

30. Check the spring breaking device acc. and remove the dust.
31. Check the side seals, top seals and bottom seals on damage or wear and tear.
32. Check and test the safety edge system with operator (if used).
33. Check the manual operation of the door.
34. Grease all the above mentioned points (levels A and B).
35. Grease the springs.
36. Grease and do the necessary adjustments for a correct door functioning.
37. General review of the sectional door functioning.

* Tests and maintenance of the cable break device:

Tests - Verify if:

1. If the tape on the chisel is damaged, which can be caused by: the door has fallen due to cable breakage (track is damaged by the chisel). Follow the instructions: what to do after blocking.
 - The installer has to prevent the door from falling by supporting the bottom section (e.g. by placing the forks of a forklift truck under the section).
 - Lift the door panels so the chisel comes loose from the track and the U-brackets can be pivoted backwards. Block temporarily the U-bracket by placing a bolt or a nail into the hole.
 - Remove carefully the very sharp burr on the track which is caused by the chisel and/or repair the track in order to have a flush surface again (if necessary replace the track).
 - If the cable break device has been activated due to cable breakage, the device has to be replaced completely by a new one.
 - Check if other parts of the door like rollers, tracks, etc. show any deformation resulting from the falling and blocking.
 - Remove the temporarily blocking.
2. The chisel touches the track.
3. If the chisel shows damages: replace the cable break device.
4. If the double torsion spring is broken, replace the cable break device.

Maintenance

In principle the cable break device does not need maintenance. However, it is advisable to prevent dirt to enter or to removing it regularly.

EN Troubleshooting


Torsion spring: What to do if the spring break?

(The warranty of the spring is given by an predictable number of operation cycles)

(Inform and instruct the user about this problem)

After the spring breaks the door will be held by the spring brake device. Contact immediately a qualified technician. The spring brake is only for one use and should therefore be replaced, as well as other pieces that may have been damaged. The port must be inspected thoroughly.

 Replace the spring brake by a new

 Do not mess with no connection or door part after one spring breaks. Wait until a technician arrives to check the door!

Steel cable: What to do if it breaks?

(Inform and instruct the user about this problem)

If the cable breaks the door is held by the second cable, which is sized to cope with the weight of the door. Call a qualified technician to inspect the door and replace all parts that may have been damaged, such as brake cable, cable, tracks, rollers, etc.

EN Dismantling the sectional door

⚠️ ATTENTION/WARNING: To dismantle an existing sectional door, a number of precautions must be taken. For the safety of all concerned pay heed to the warnings and instructions given below!
If in doubt, contact your supplier or Flexidoor.

Dismantling should only be carried out by experienced fitters. This manual is not suitable for d.i.y. purposes or for use by trainee fitters.

This manual only describes the installation/dismantling of hardware for sectional doors and as such must be supplemented with instructions for any additional components.

⚠️ CAUTION! Torsion springs and bottom brackets are under high tension. Exercise at all times great caution. Use properly fitting and maintained tension irons.

STEP 1. De-tensioning the torsion spring(s)

⚠️ Start dismantling of the door by closing the door and securing its movement with a clamp on the vertical track.

First the tension on the torsions springs and cable has to be released. Do this by following these instructions:

1. Insert the 1st tension bar fully into the tensioning aperture.
2. Take over the tension of the spring with this tension bar and loosen the bolts in the tension bar and remove the key.
3. Turn the 1st tensioning iron in the direction required.
4. Insert the 2nd tensioning iron fully into the next tensioning aperture.
5. Take over the tensioning of the spring from the 1st tension bar with the 2nd tension bar.
6. Remove the 1st tensioning iron from the aperture.
7. Turn the 2nd tension bar a quarter turn in the direction require and insert the 1st tension bar fully into the tensioning aperture.
8. Take over the tensioning of the spring from the 2nd tension bar with the 1st tension bar.
9. Repeat steps 3 through 8 until all tension is released.
10. Remove the last tension bar.

STEP 2. Disconnect the electrical operator. Follow any instructions given in the separate manual of the operator.

STEP 3. Loosen the cable drums and remove the keys. Act carefully, there might be some tension left on the cable. Check if the cable is slack. Remove the cable by disconnecting it from the cable break device (or bottom bracket) and cable drum.

STEP 4. Dismantle the horizontal track.

STEP 5. Remove the panels one by one from the vertical track construction, starting with the top panel. Do this by loosening the hinges and rollers first.

STEP 6. Remove the shaft construction from the headroom, after you have dismantled the E-operator from the shaft. If the shaft is divided and connected with a coupler, first disconnect the coupler and carefully remove both halves of the shaft system.

⚠️ Attention! Watch out for parts that might slide of the shaft, such as cable drums, bearings or keys.

STEP 7. Remove vertical tracks and angles from the building construction.

STEP 8. Make sure that you remove all the parts and panels in an environment kindly way. Check with your local authorities where and how you can leave this as garbage.

FOR ANY DETAILS ON THESE DISMANTLING INSTRUCTIONS, WE REFER TO THE INSTALLATION CHAPTERS OF THIS MANUAL WHERE DRAWINGS AND DETAILS ARE DISPLAYED.

EN Screws

Check the table below screws supplied for fixing the building, if they are suitable for the application type. The installer is responsible for identifying the type of wall (brick, concrete, steel, wood) and if the wall is structurally able to support the door. Should choose the type of screw in function of the wall type and the quantity of screws in relation to the wind class of the door (see CE label). It is the installer's responsibility to properly perform the fixings between the wall and the door.

Loading and application of screws:

		Screws 1	Screws 2
Application		F_s (kN)	F_s (kN)
Concrete C20/25	Tensile	1,65	2,90
	Shear	1,50	-
Solid brick	Tensile	1,50	2,90
	Shear	1,40	-
Aerated concrete	Tensile	0,35	-
	Shear	0,48	-
Double brick UNI	Tensile	0,60	-
	Shear	0,80	-
Cell like clay brick	Tensile	0,45	-
	Shear	0,60	-

F_s Maximum force supported by the screw/bushing.

i If you do not use the screws provided with the door, must consult the data sheets of the screws and bushing to be applied at the door and use the maximum load values that can withstand the screws and wall plugs for every type of application.

! Use the lower value between the screw and the bushing.

Wind Class Table:

Wind Class	Value (Pa = N/m ²)
Classe 2	620
Classe 3	965
Classe 4	1375
Classe 5	Value (Pa) x1.1x1.25

See label CE marking

i Vertical angle fixation

Example:

Door 5x5 with 3 class in concrete with screw type 1

Area calculation:

$$\text{Area} = 5 \times 5 = 25 \text{ m}^2$$

Force calculation:

$$F = P \times A \quad 965 \times 25 = 24125 \text{ N (24,12 kN)}$$

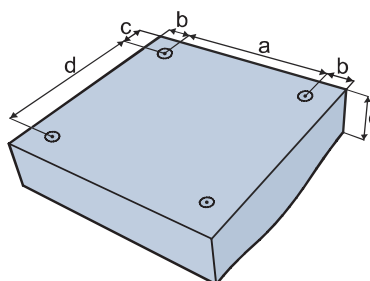
Calculation of number of screws:

$$N_{\text{Screws}} = F / F_s \quad 24,12 / 1,65 = 14,61 \text{ Screws}$$

If the number is decimal should always round up to the nearest whole number. In this case 15 screws, as there are two vertical angle, number of screws must be pair, for this port must use 16 screws, 8 in each vertical angle.

For the ceiling fixing must also make the same type of check, taking into account the suspended weight of the door with an appropriate safety factor.

Recommended distance between screw



	Screws 1 (mm)	Screws 2 (mm)
-		
a	50	75
b	50	55
c	50	55
e	100	100
d	50	75

(Data to be completed by the technician before handing over to client)

Technical Data of Door and Installation

Company Name: _____

Adress: _____

_____ Contact: _____

Installation Date: ____ / ____ / ____

Serial Number of Door (O.F.) : ____ / ____ / ____

Customer: _____

_____ Contact: _____

Work Location: _____

Manufacturer: FLEXIDOOR - Portões Seccionados e Automatismos, S.A.
 Adress: Adresse: Rua 28 de Setembro, Loja D
 2660-001 Frielas
 Portugal
 Contact: Tel.: +351 244 850 470 Fax: +351 244 850 471

List of Safety Device Used
 (Make the description of the security devices used)

Engine: _____

Electric Board: _____

Photocells: _____

Comand Device: _____

Other: _____

Other: _____

Description of Intervention

(Signal X in the intervention made, and describe the work of the intervention, tuning parameters of the engine as well as possible errors in use)

Assembly Test Maintenance Repair Modification

_____ Date: ____ / ____ / ____

Customer signature: _____

Installer name: _____

Installer signature: _____

Description of Intervention

(Signal X in the intervention made, and describe the work of the intervention, tuning parameters of the engine as well as possible errors in use)

Assembly Test Maintenance Repair Modification

_____ Date: ____ / ____ / ____

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Installer name: _____

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Customer signature: _____

Installer name: _____

Installer signature: _____

Description of Intervention

(Signal X in the intervention made, and describe the work of the intervention, tuning parameters of the engine as well as possible errors in use)

Assembly Test Maintenance Repair Modification

Date: ____ / ____ / ____

Customer signature: _____

Installer name: _____

Installer signature: _____

Description of Intervention

(Signal X in the intervention made, and describe the work of the intervention, tuning parameters of the engine as well as possible errors in use)

Assembly Test Maintenance Repair Modification

Date: ____ / ____ / ____

Customer signature: _____

Installer name: _____

Installer signature: _____

Handwerker: _____

Empty rounded rectangular box for handwritten information.

