



## **Maintenance, Safety, Operation and Adjustment Instructions**

Version 1.12

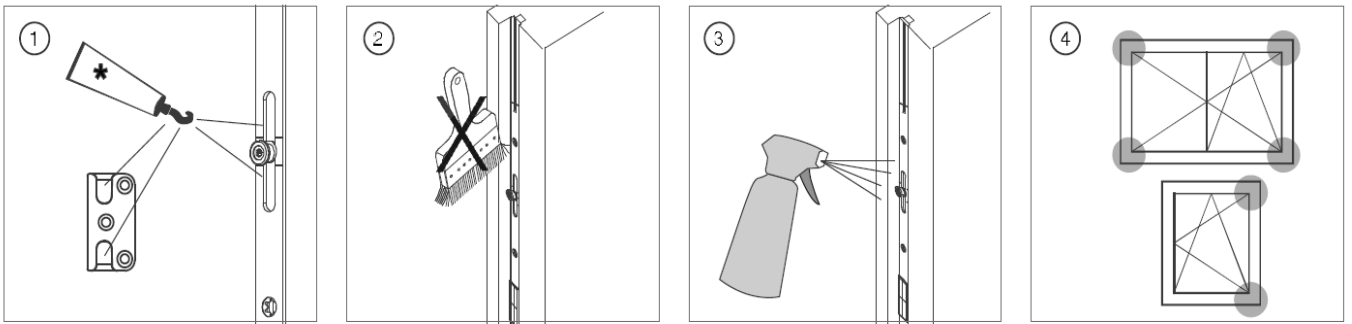
Update: March 2019

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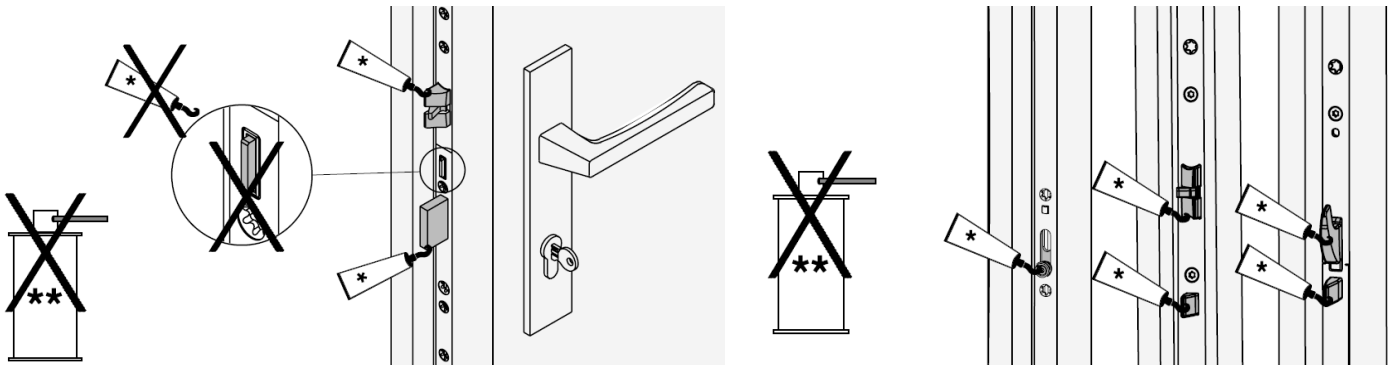
# 1) General Maintenance instructions

## Hardware:



\* Grease

## Lubrication points for doors



The position and number of lubrication points depends on the actual size and model of the door!

### 1.) Lubricate all movable parts and locking points of the tilt & turn fittings



No lubricating oils, rust removers, silicone sprays etc. should be used!

Lubrication must be carried out only with lubrication grease or technical Vaseline!

Amount of Lubricant: approx. 3 mm<sup>3</sup> (≈ size of a pinhead)

After lubrication, the hardware must be operated several times to distribute the lubricant.

### 2.) Do not paint over fittings and keep the hardware free from deposits and soiling!

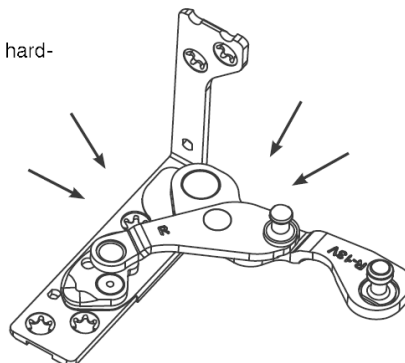
### 3.) Only use cleaning and maintenance agents that do not affect the corrosion protection of the fitting components!

### 4.) Security – relevant hardware elements must be inspected for wear and tear at regular intervals.

### 5.) Only use a soft cloth for cleaning and mild, ph- neutral cleaning agents in diluted form



Clean constructional soiling from hardware and grease the hardware.



## 2) Cleaning Instructions

Regular cleaning is a pre-requisite for maintaining the functionality of the window or door. When cleaning the glass, the seals and the surfaces, also check the hardware parts for any dirt and, if necessary, wipe them with a damp cloth and ph-neutral detergent.

### ■ Cleaning instructions for glass surfaces:

Commercially available, ammonia-free glass cleaners can be used to clean glass surfaces. No detergents, acids, fluoride-containing cleaning agents or scouring agents may be used! Stubborn dirt such as splashes of paint and the like can be removed with alcohol, washing petrol or similar.

Clean any glass surfaces only with a soft, lint-free cloth. Never use micro-fibre cloths, cleaning sponges, scouring rags, steel wool, metallic or abrasive objects or similar as these all scratch the glass surface!

### ■ Wood Surface: ADLER finish



The cleaning of the wooden surfaces in the interior should be done with mild detergents such as diluted detergents or soap alkalis. Abrasive, corrosive and solvent-containing cleaners destroy the finished surface. For cleaning, use only soft, lint-free cleaning cloths that do not scratch the lacquer surface.

The ADLER Pflegeset Plus is a preservation system for wooden windows based on active cleaning substances and select resins. The durability of water-thinnable glaze finishes is enhanced by applying one coat annually. Micro-fine cracks and pores of the glaze film are sealed. The treatment provides a silky, lustrous surface finish and can be re-coated without a problem.



The ADLER Pflegeset Plus is not suitable for attending to any existing damage to the paint or varnish. In case of opaque window coatings, perfect UV protection is already provided and hence, application of the ADLER Pflegeset Plus is not recommended. ADLER Top-Finish on wood with opaque coating may lead to ugly streaks. It is adequate to clean regularly with hot water by adding a few squirts of ADLER Top-Cleaner or mild cleaning agent to it. In case of stubborn impurities or deep-seated dirt, you may then apply ADLER Top-Cleaner.

To avoid significant damage to your high-class product, we recommend that you assess the coating of the wooden windows and front doors visually. Check whether the finish on your wooden windows and doors has signs of mechanical damage, e.g. that have been caused by hailstorms. If there are signs of flaking on the coating or greying present, it is necessary to touch up the damaged spots or apply a refurbishment coat.

Outdoor surfaces are to be cleaned in the same way as indoor surfaces. Outdoors, the surface is more exposed to the weather - sun, rain, humidity and temperature. Over time and depending on the intensity, this can affect the surface and possibly cause small cracks. These small damages must be repaired immediately (re-painting) to avoid more expensive repairs later on. Please also always refer to the ADLER cleaning maintenance instructions.

Any Resin can be gently wiped off with turps and a soft cloth.

### ■ Aluminium Surface & Powder coating:

With aluminium surfaces, light dirt can be removed with a sponge and water, to which a neutral cleaning agent (e.g. washing-up liquid) has been added. Do not use acidic or highly alkaline detergents that attack the surface. Never use abrasive cleaning agents or scrubbing sponges! Solvents (e.g. Acetone, petrol, nitro-thinners etc.) also damage the surface.

The cleaning of the surfaces must not be carried out in direct sunlight. Cleaning agents are available in retail.

Please refer to the DULUX website for more information about powder coating- maintenance: <http://www.duluxpowdercoatings.co.nz/>



**ATTENTION!**

**Abrasive and solvent-containing cleaning agents damage the surfaces and must not be used! Only use soft, lint-free cleaning cloths for care!**

**Additionally, test the cleaning agent and cloth on a hidden area first (the inner fold for example).**

### Intervals for maintenance and cleaning of surfaces:

The location, weather and external environmental influences are crucial for the frequency of cleaning and maintenance. Fixed intervals cannot therefore be specified and must be set individually. Precise care and quick repair of minor damage can significantly prolong the service life.

### Care instructions for hardware:

To permanently maintain the surface quality of the hardware for the intended use and to avoid adverse effects, it is essential to observe the following points:

- Ventilate the hardware and rebate areas so that they are not exposed to direct wetness or condensation formation (important during the construction phase!).
- Only use damp cleaning on the hardware and avoid permanent wetness!
- Keep the hardware generally free of deposits (e.g. salt near the coast) and dirt free. During the construction phase, immediately remove dirt from plaster, mortar or similar using water.
- Protect hardware and closing parts from dirt (dust, dirt, paint, etc.).
- Protection against aggressive, acidic cleaning agents
- Clean the hardware only with a soft, lint-free cloth and a mild, ph-neutral detergent in diluted form. Never use aggressive, acid or solvent-containing detergents or scouring agents (scrubbing sponges, steel wool, etc.). These can damage the hardware!
- Damaged hardware may cause faulty operation and can thus negatively affect the safety-relevant properties.

### 3) Ventilation

#### WHY PROPER VENTILATION IS IMPORTANT

In the past, continuous ventilation in the living rooms was not necessary. Ventilation took place "incidentally" by windows, joints and cracks that were not airtight. However, these non-sealed spots meant high level of energy and heat losses at the same time and resulted in higher costs of heating.

In contrast, new modern constructions and refurbishments are characterised by good thermal insulation, air-tight windows and building design without thermal bridges. Sometimes condensed water forms on the insulated glass of the window. Drops may run below them and can cause mould in the rooms.

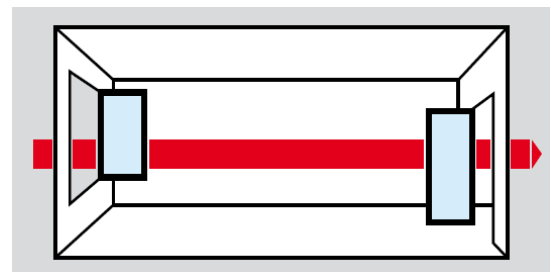
When new or renovated structures dry up, large quantities of water vapour escape from the plaster and flooring screed inside. However, even the formation of humidity by the residents is a natural process. This becomes particularly visible with vapour in the bathroom or while cooking. If the air inside the rooms is too moist then condensed water may develop. This enhances the risk of mould formation.

Improper ventilation or its absence pollutes the room climate and thus, the quality of life. Very low rates of air exchange lead to increased levels of CO<sup>2</sup> content and thus to signs of fatigue and lower capability to concentrate.

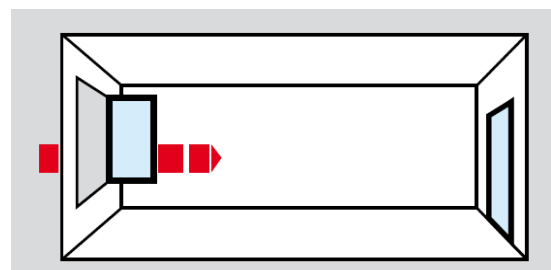
The primary prerequisite for good quality of air, and thus, quality of life is adequate and regular exchange of air. Moreover, proper ventilation helps you in saving energy and conserving the environment. This is because fresh and dry air gets heated much faster than that containing excessive moisture.

#### Types of ventilation:

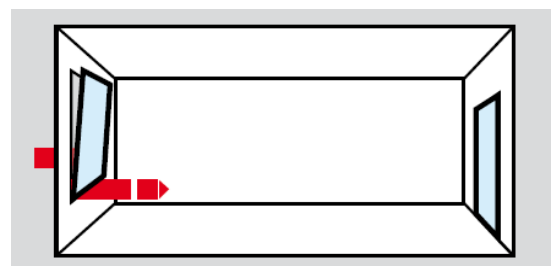
- **Cross ventilation:** Ventilation methods in winter. 1 – 5 min., 3 - 4 times daily, by opening doors and windows opposite to one another as far as possible.



- **Inrush ventilation:** Ventilation methods in winter when cross-ventilation is not possible. 5 – 10 minutes, 3 – 4 times daily, by opening one window or one door of the room completely



- **Tilting the windows:** Ventilation method for summer. In winter, this method results in lower rate of air exchange and can cause energy loss with the windows tilted permanently. Moreover, the walls in the upper lintel area cool down.



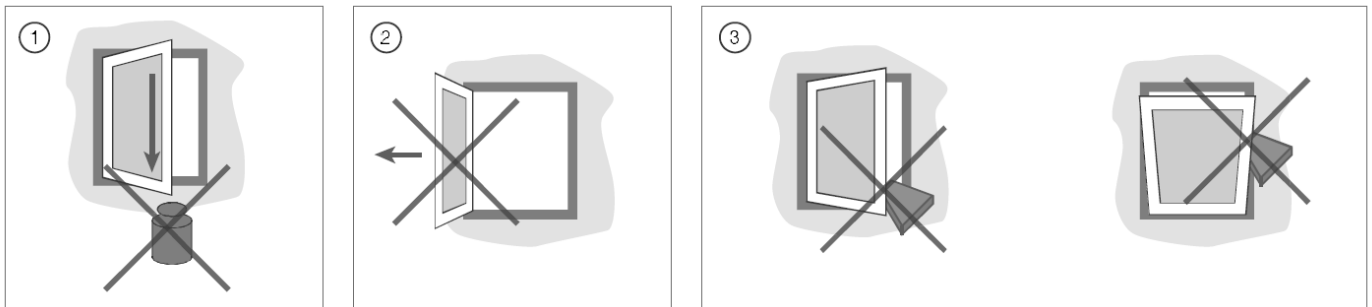
Automated ventilation systems are suitable for greater operating comfort. Sensors measure the atmospheric humidity and CO<sub>2</sub> concentration. Electromechanical ventilation elements open and close the windows as needed.

## **TIPS ON PROPER HEATING & VENTILATION**

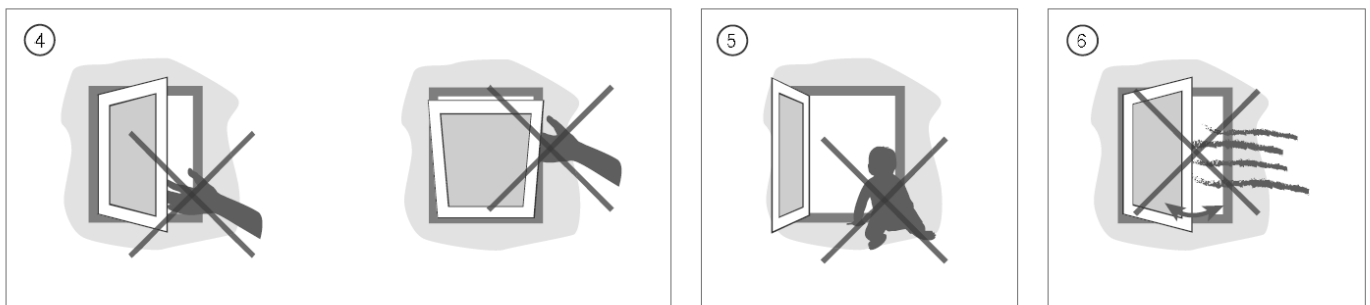
- For hygienic conditions of the air, ventilation should take place briefly every 2-3 hours.
- If the room layout is feasible, cross ventilation should take place via two openings in the room.
- The duration of the ventilation depends on the season of the year: the lower the outdoor temperature, the less can the ventilation period be! Cold outdoor air contains only low level of moisture and can absorb large quantities of moisture when it is heated up.
- The relative humidity of air in the room should not exceed 60%.
- The rooms should be heated up adequately (to approx. 20°C). Even in rooms that are used less, the temperature should not be allowed to drop below 18° C under any circumstances.
- Keep interior doors between rooms heated to different temperatures closed.
- Ventilate the bathroom immediately after bathing or having a shower. Keep the door shut while bathing or taking a shower.
- Keep the kitchen door closed while cooking (use a vapour extraction hood).
- Ventilate rooms that are used to dry laundry more often. Do not dry any laundry in living rooms.
- Avoid using humidifiers, room fountains or aquariums as much as possible.

## 4) Safety instructions: correct window and door operation

### Handling of tilt & turn windows and doors:



- 1.) Do not subject the sash to additional loads!
- 2.) Do not press sashes up against the opening edge (window reveal)!
- 3.) Do not insert anything in the opening gap between the sash and the frame!



- 4.) Risk of injury (e.g. catching one's finger) in the opening gap between sash and frame
- 5.) Risk of falling (make sure to use child- safety lock where applicable)
- 6.) Do not leave sashes open in the turn- mode during strong winds
- 7.) Due to risk of salt deposits on the hardware, shorter maintenance intervals and lubrication intervals are necessary in coastal areas (every 3 months)



**Danger of injury through incorrectly conducted maintenance work!**

**WARNING!** Incorrect maintenance work can result in serious personal injury or material damage.

- Before starting work, ensure there is sufficient installation room
- Maintain order and cleanliness at the installation location
- Ensure the window or door is prevented from suddenly slamming during installation work
- Always do any adjustment work according to the systems providers maintenance and adjustment instructions



**ATTENTION!** When any obvious or visible damage or malfunction is noticed, the door must no longer be operated and must be serviced immediately by a specialist company before any further use!





## WARNING!

### Risk of injury and property damage due to improper opening and closing of sashes!

Improper opening and closing of the sashes can lead to serious bodily injuries and considerable damage to property!

Therefore:

- It is essential to make sure that the sash is guided by hand through the entire range of motion, at very low speed, and contacts to the frame without any resistance to the closing position!
- Make sure that the sash never hits or swings in an uncontrolled way (e.g. with wind)!



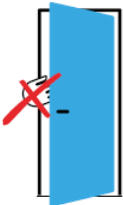
## WARNING!

### Danger when misused!

Misuse of front or side entrance doors can lead to dangerous situations, such as injury to people and damage to other goods. The following uses must especially be refrained from (see also safety instructions):

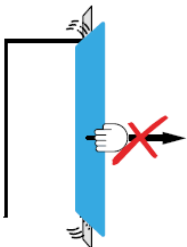
- The deliberate or uncontrolled slamming or pressing of the sash against the reveal. This can damage or even destroy the hardware, frame materials or other individual parts of the doors.
- Putting obstacles in the opening area between the frame and sash!
- The intentional application of or negligence with extra loads acting on the door sash.
- Closing the sash with high force. The sash must always flow freely into the frame without any force.

## Correct Door handling



### Risk of injury by jamming body parts in the opening edge between the door and the frame

- When closing doors, never grip between the door and the frame and always be careful.
- Children and people who cannot estimate the danger must be kept away from the danger point.



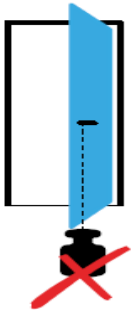
### Risk of injury and damage by pressing the door against the opening edge (wall-reveal)

- Do not push the door against the opening edge (wall-reveal).



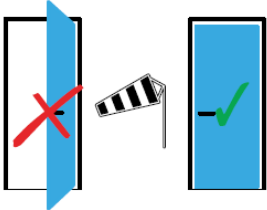
### Risk of injury and property damage by putting obstacles in the opening gap between the door and the frame

- Avoid putting any items in the opening gap between the door and the frame.



### Risk of injury and damage to property due to extra load on the door

→ Prevent extra loads on the door.



### Risk of injury due to wind conditions

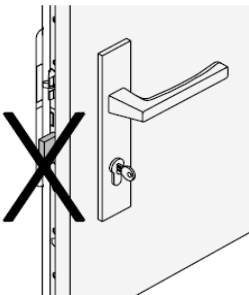
→ Prevent wind from affecting the open door.

→ Always close and lock the door immediately when windy or drafty.

→ If high winds or storms are coming, close and lock all doors.

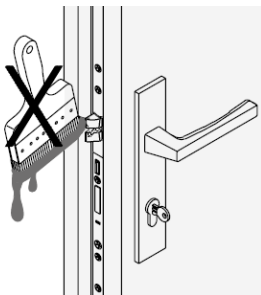
## Misuse in doors

The following illustrations show various misuse operations that must be prevented!



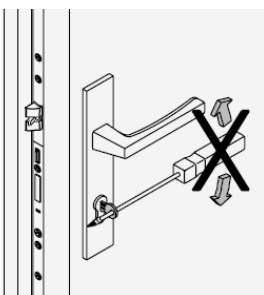
Never close the door with the latch outside!

The latch would be thereby damaged, and the door can no longer be closed!



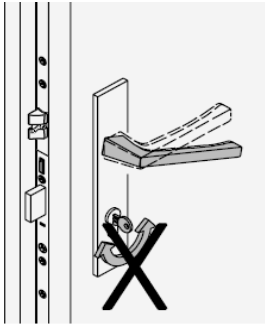
Never paint the hardware or components.

Paints and varnishes penetrate the moving fitting parts and prevent proper functionality!

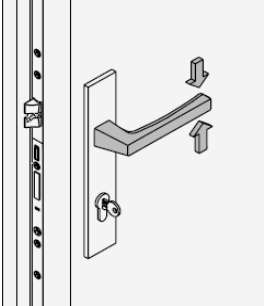


Keys may only be used with the hand. Never use any tools for this!

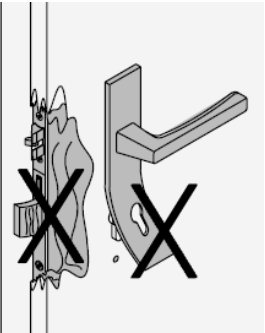
Bent or broken keys mean that doors can no longer be locked or unlocked!



Never operate the handle and cylinder lock at the same time!  
Otherwise, the lock mechanics will be damaged, and the door can no longer be locked or unlocked!



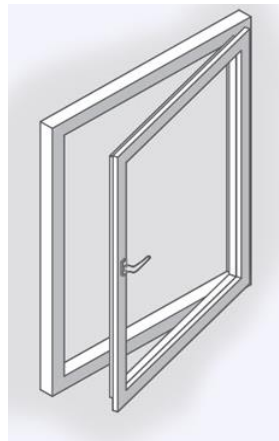
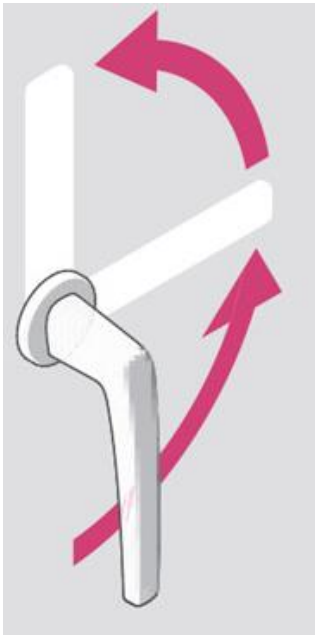
Never use excessive force on the handle!  
Forces above 15 kg on the handle will damage the handle or the lock mechanism!



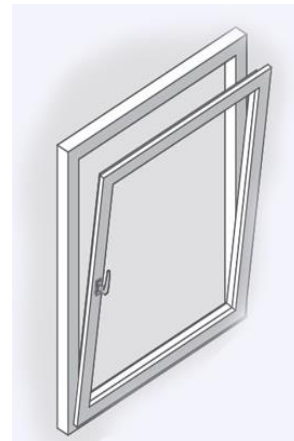
As soon as traces of forced use are visible, the lock or the handle must be replaced!

## 5) Tilt & Turn system

General operation tilt & turn windows and doors:



"Turn" position



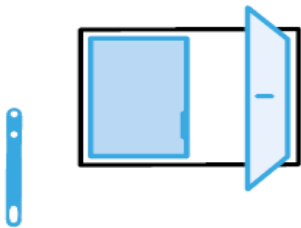
"Tilt" position

Handle positions:

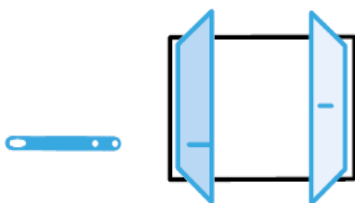
- Pointing to the top: tilt
- Pointing to the side: turn
- Pointing down: closed

## French windows or doors

Lever Position



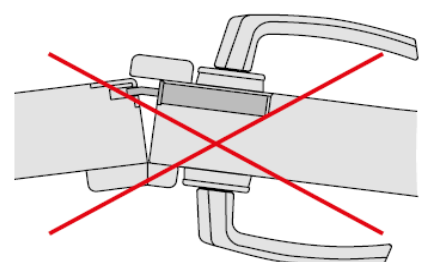
Closing position of the sash



Turning position of the sash



Never force 2-sash doors past the second sash opening!



## 5.1) Installing Window handles

**Step 1)** Insert window handle (handle pointing down)



**Step 2)** Turn handle into the "turn" position (handle into horizontal position)

**Step 3)** Lift slightly & turn the cover cap to expose screw- holes



**Step 4)** insert & tighten supplied machine screws



**Step 5)** turn cover cap Back into place

**Step 6)** Turn handle into desired position (closed, turn or tilt- see above)

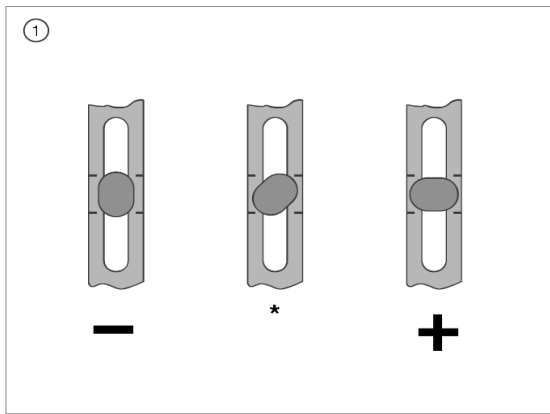


When in the "turn" position the handle always has to **point towards the hinges**- if the handle points away from the hinges you have inserted it upside down.

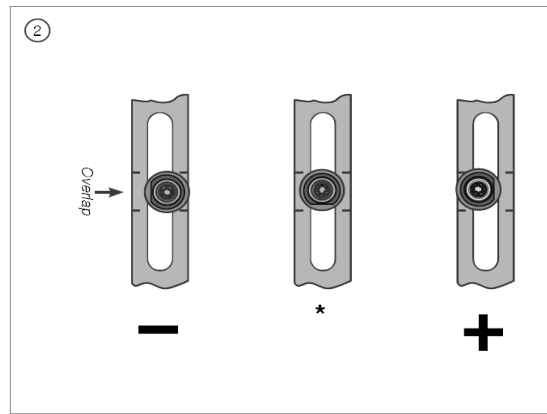


Never use force to turn the handle- you might damage it! If you cannot turn it horizontally- pointing towards the hinges you might have installed the handle upside down, or the window hardware needs further adjustment.

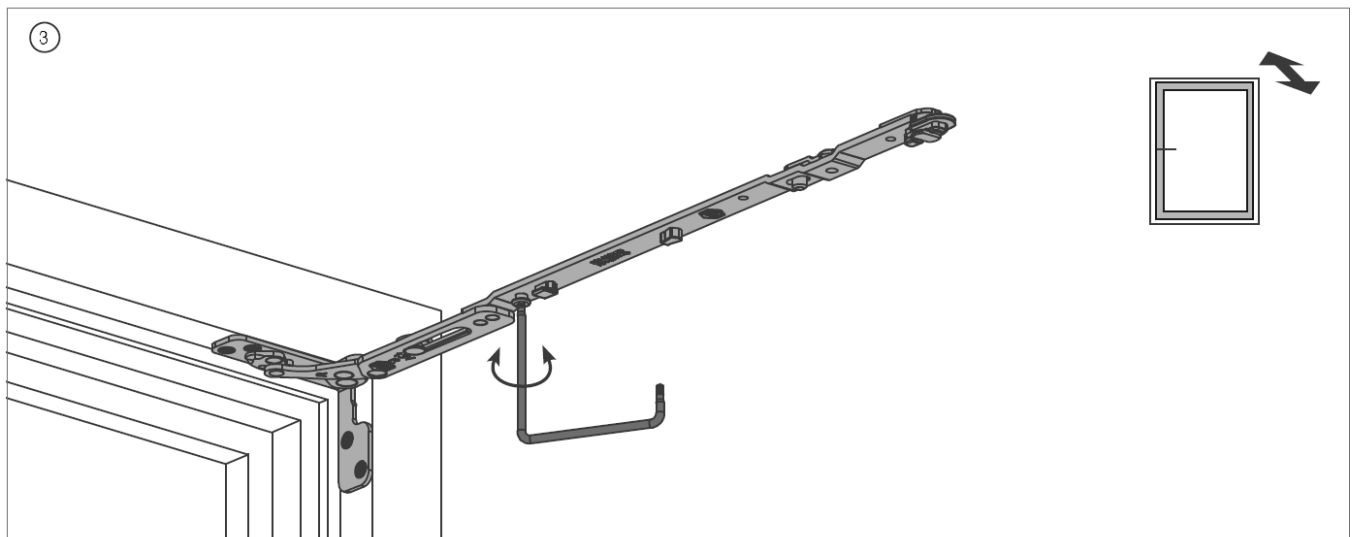
## 5.2) Adjustments Tilt & Turn windows and doors: (Concealed Hinges)



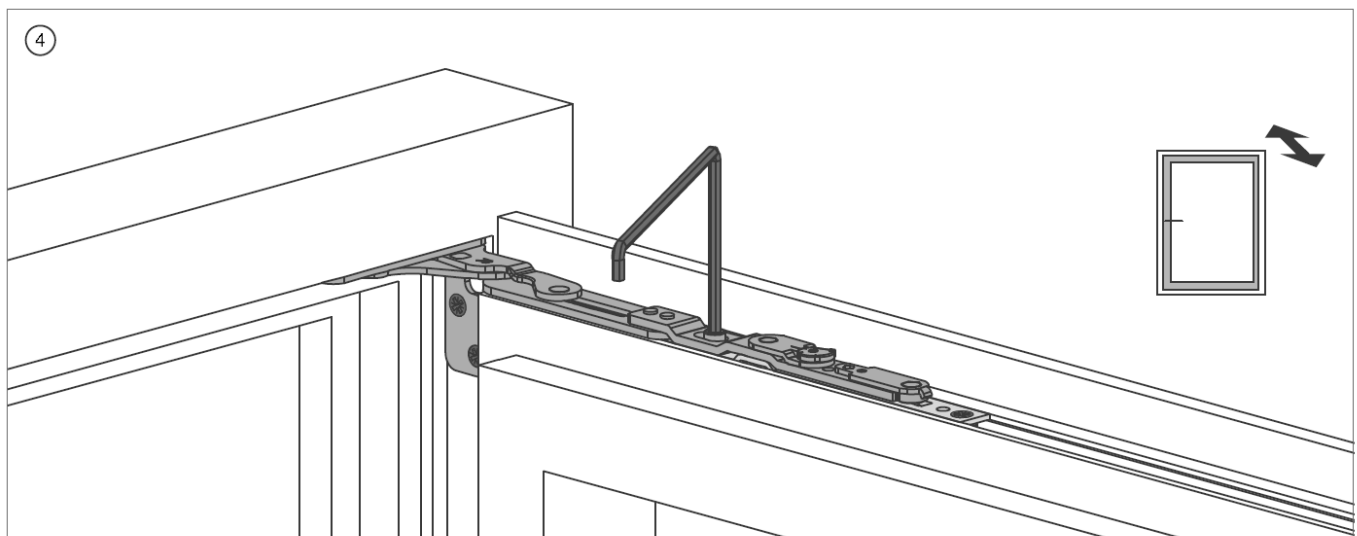
1.) Locking Cam \* Standard



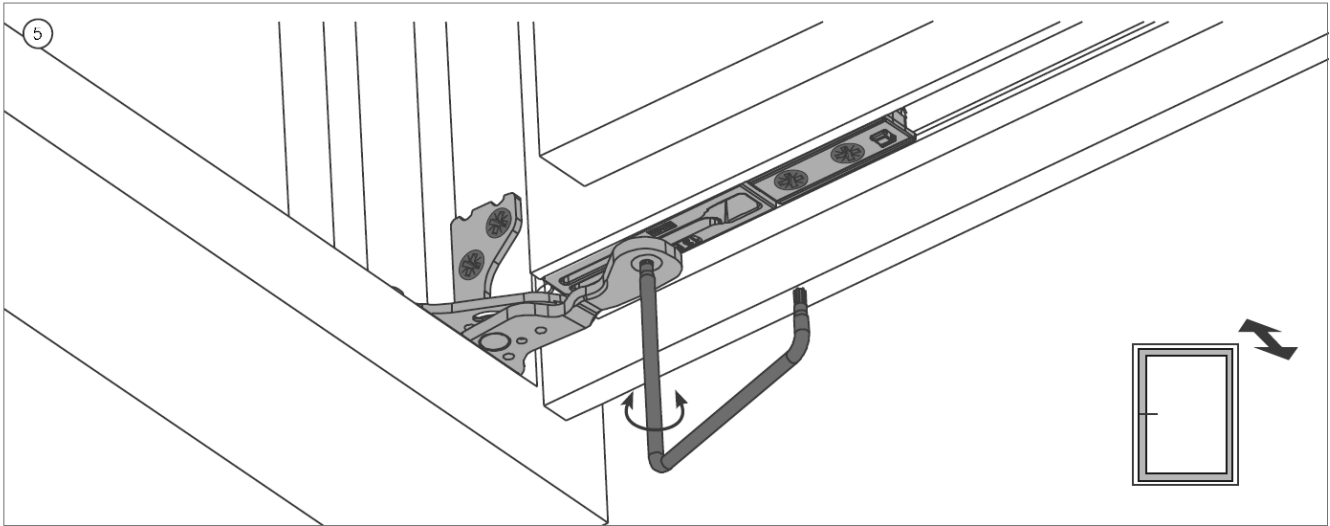
2) i.S. Safety Roller Cam



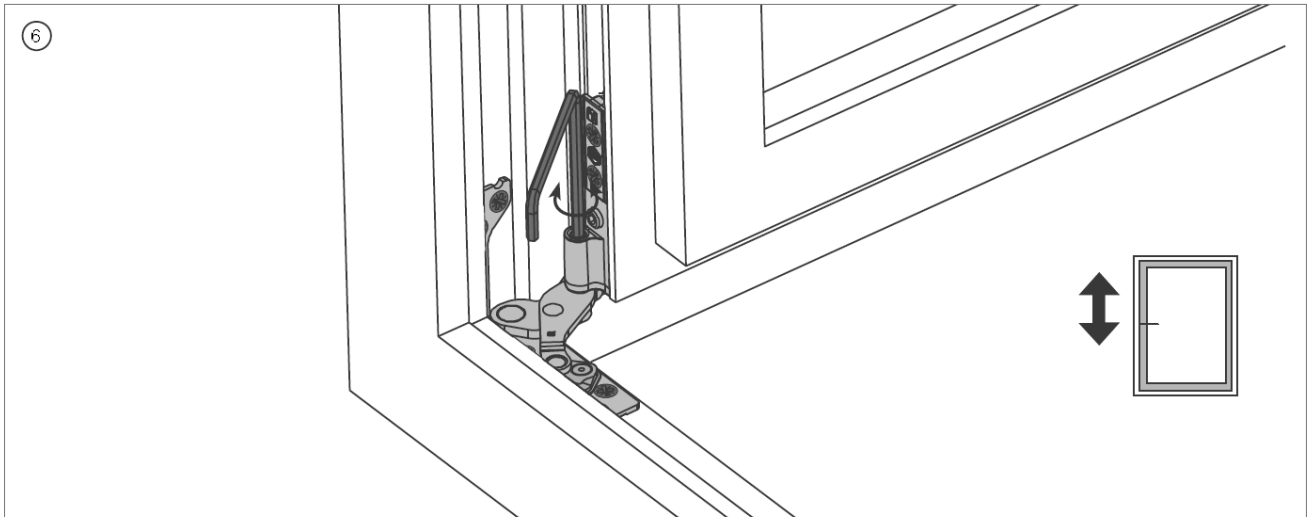
3) Scissor stay arm with hinge  
Tilt & Turn +/- 0.7mm with TX 15  
Night vent with +/- 1mm SW4



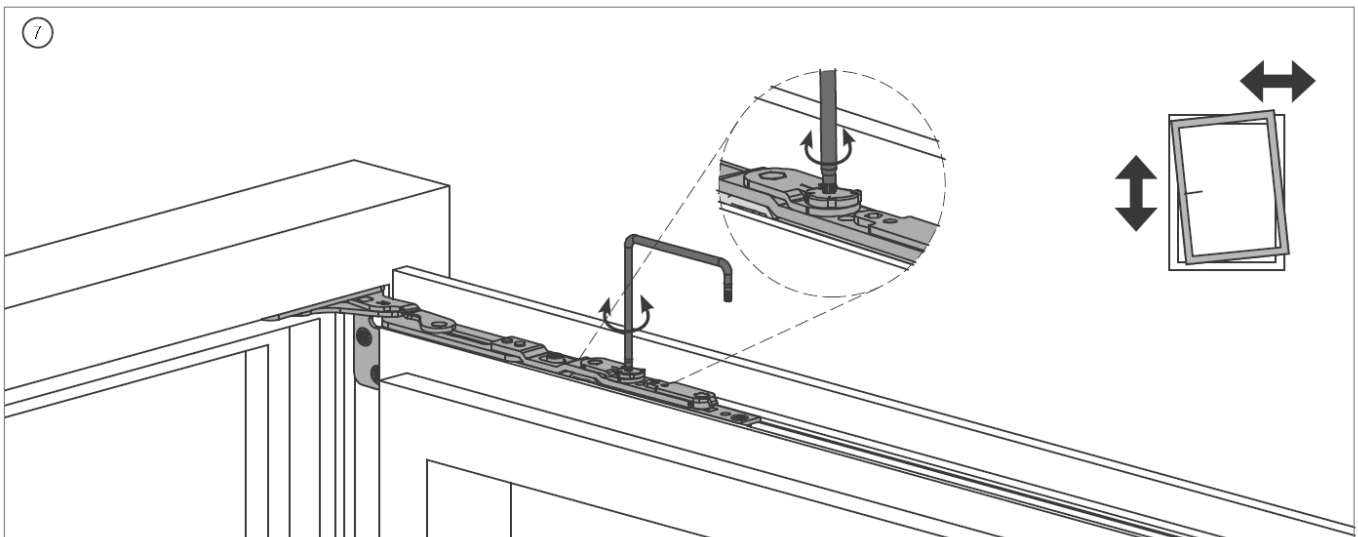
4.) Tilt & Turn hinge- arm with hinge  
+/- 1mm with SW4



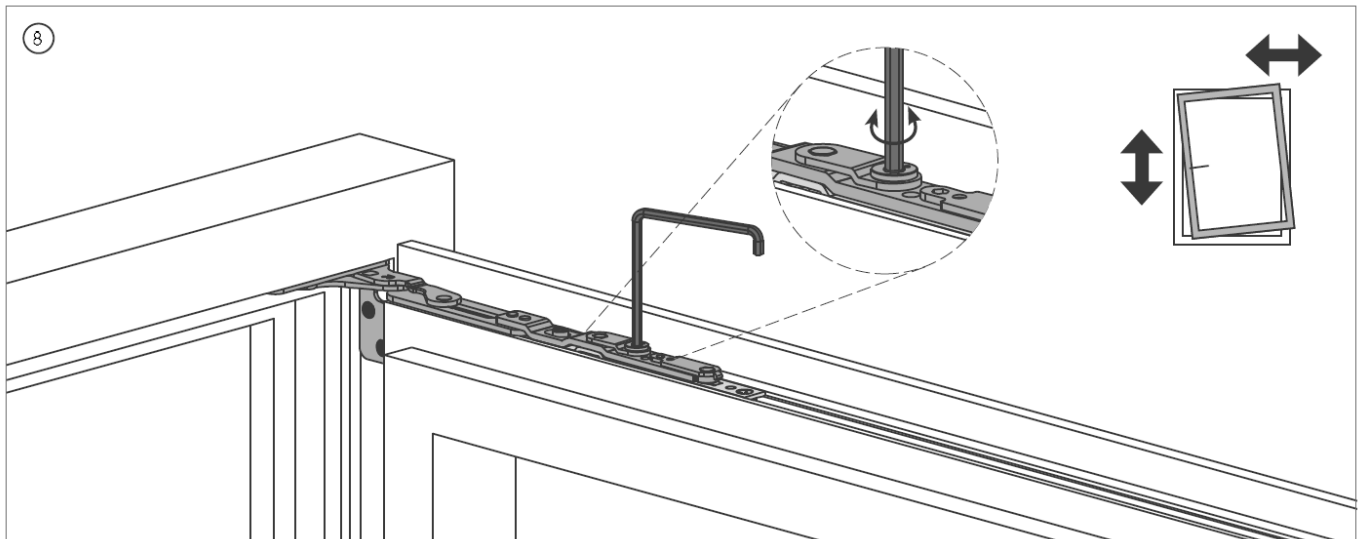
5.) **Pivot Post**  
 +/- 0.5mm with TX 15



6.) **Corner Support**  
 +2/-1mm with SW 4 (-1mm not possible with cover)



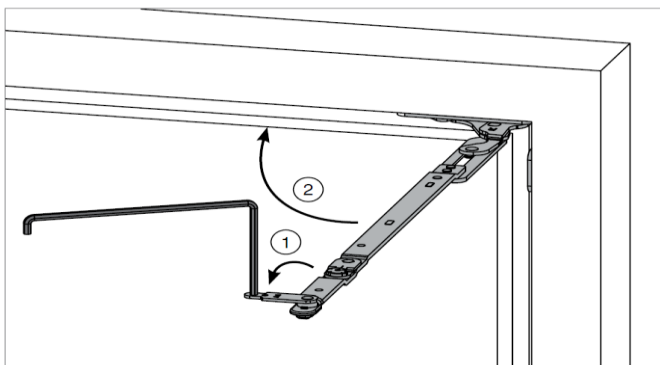
7.) **Scissor arm with hinge and turn only hinge- arm with hinge** +2.5mm/-1mm with TX 15



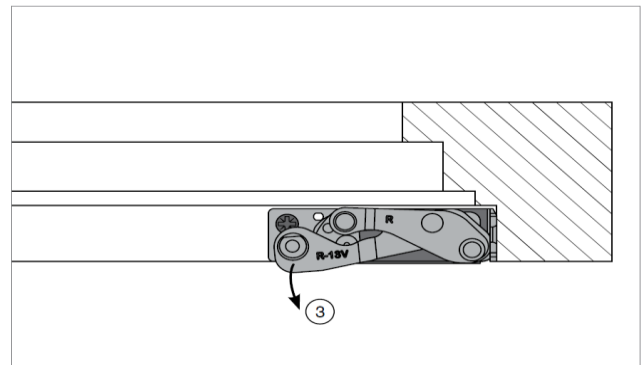
8.) Tilt hinge arm with hinge

### 5.3) Hinging/Un-hinging Tilt & Turn Sashes (Concealed Hinges)

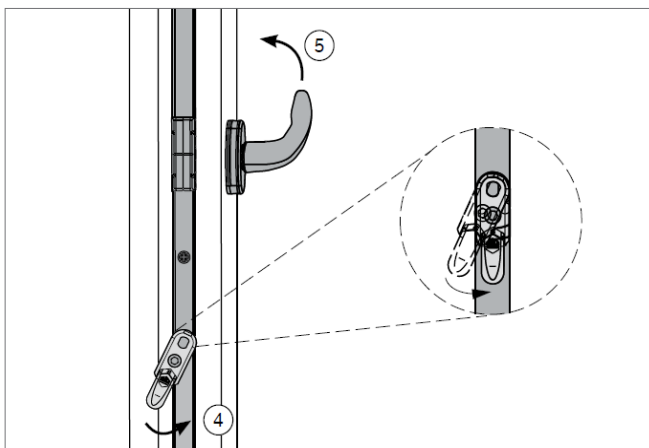
Hinging sashes:



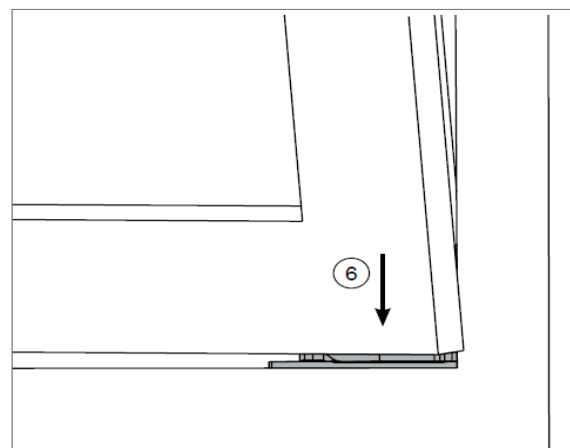
1. Open the safety catch of the scissor-stay arm with a 4 mm Allen key (1), then fold the scissor-stay arm up against the frame (2).



2. Open the pivot post approx. 5° (3)

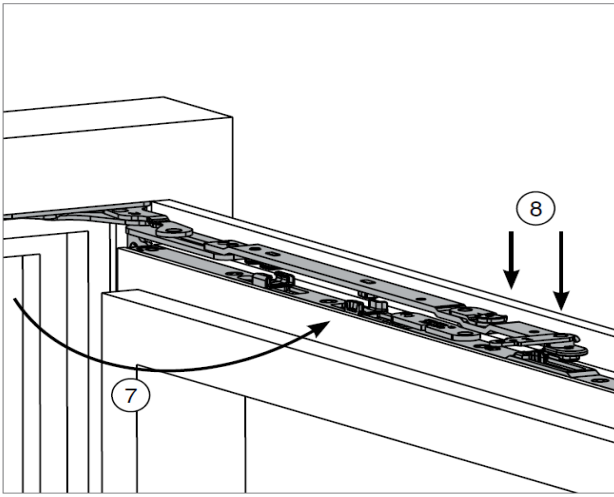


3. Perform mishandling at the mishandling device (4) and turn the handle to tilt position (5).

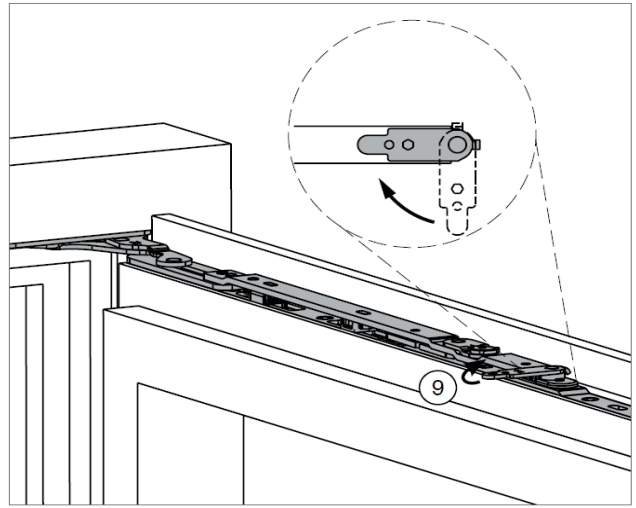


4. Place the sash tilted slightly parallel to the frame on both pivot post bolts (6)

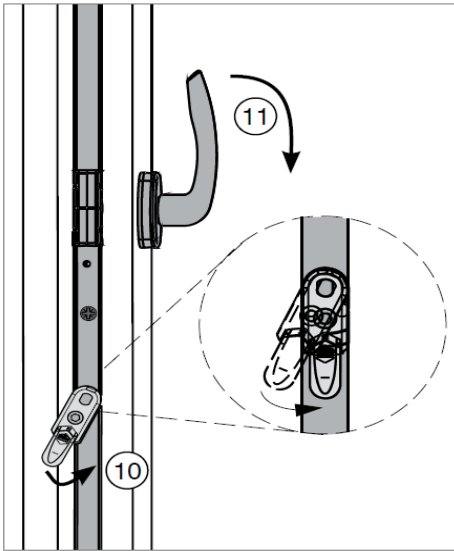




5. Fold out the scissor stay arm **(7)** and press into the scissor stay faceplate **(8)** so that the scissor stay arm bolts engage in the scissor stay faceplate. Open the sash 90.

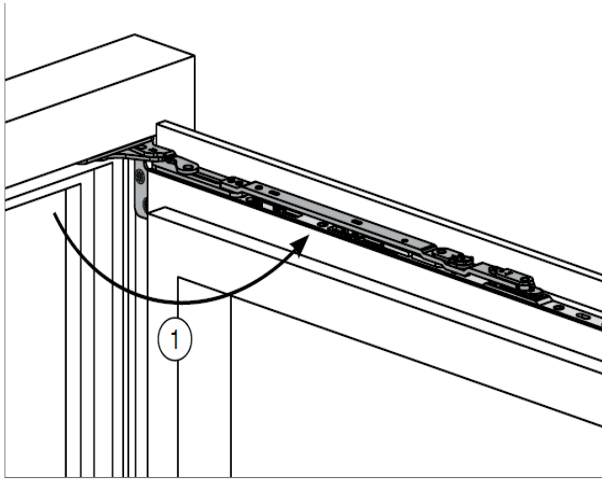


6. Close the scissor stay are retainer **(9)**

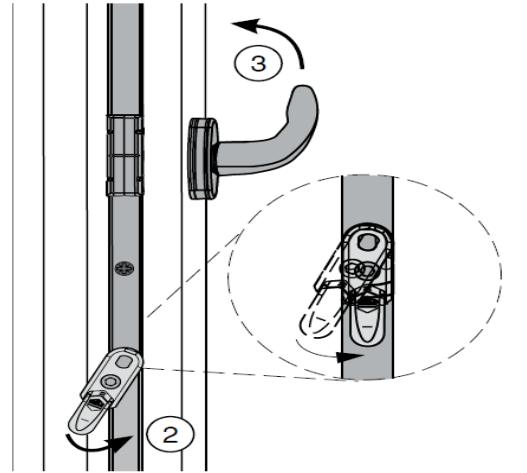


7. Perform mishandling at the mishandling device **(10)** and turn the handle to turn position **(11)**.

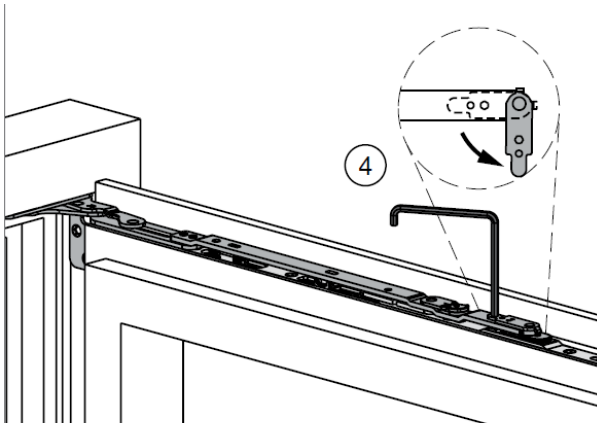
## Un-Hinging sashes:



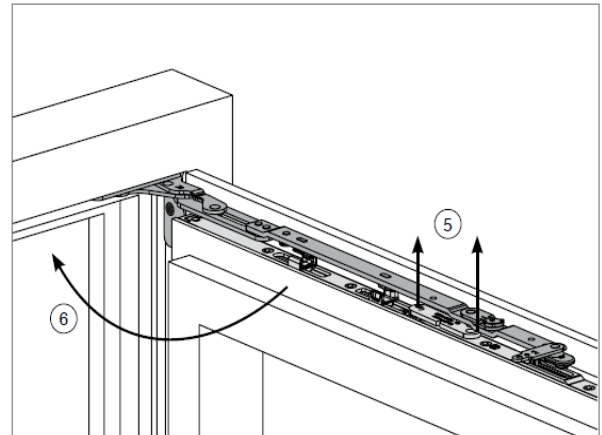
1. Open the sash 90° (1)



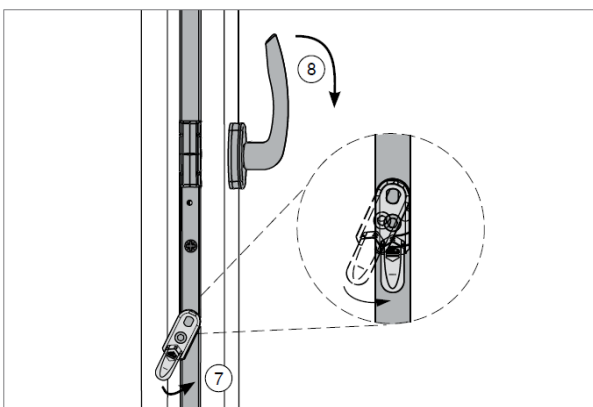
2. Perform mishandling at the mishandling device (2) and turn the handle to tilt position (3).



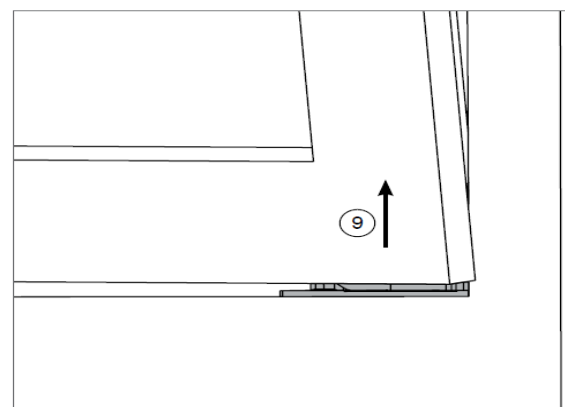
3. Open scissor-stay arm with SW4 Allen key (4)



4. Lift the scissor-stay arm (5) so that the scissor stay arm bolts are free. Then fold the scissor stay arm (6)

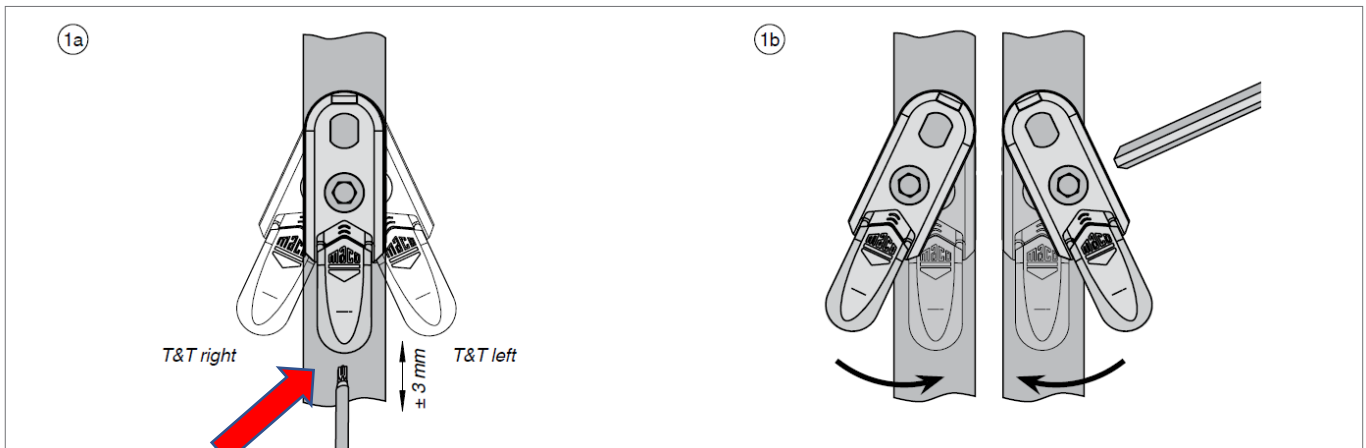


5. Perform mishandling at the mishandling device (7) and turn the handle to turn position (8) and close the sash.



6. Tilt the sash slightly and lift it up and out along the frame (9).

## 5.4) Adjusting the Sash- Lifter



**1a)** Set to the required height by turning the adjusting screw with a Tory-15 bit.

**1b)** Resetting the sash lifter  
Bring the lever to its centre position. In the position shown above, use an SW4 Allen key to turn unit it snaps into place.



**ATTENTION!**

*If the bottom air gap is correct, there should be a maximum of 0.5 mm air between the lever and the lever component.*

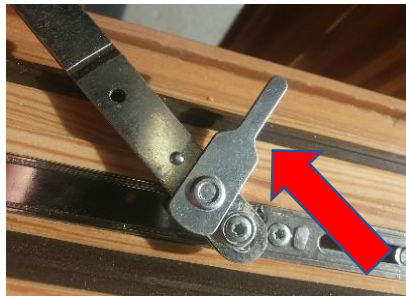
## 5.5) Hinging/Unhinging tilt- only sashes



To unhinge tilt- sashes please follow below steps. Please make sure the sash is secured and cannot fall out while removing the top hardware- risk of injury and damage to sash!



**1)** Open window sash, work on the top of the sash



**2)** Turn the small lever- handle to open the loosen the top scissor arm



**3)** Pull the hardware off the camp – hold on to sash arm



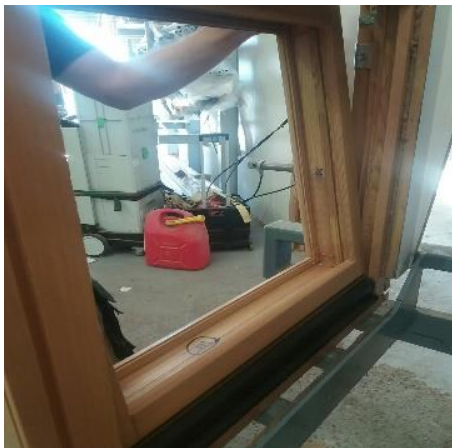
**4)** Tilt sash towards you and loosen both side scissor arms at the right and left hand bottom side of the sash with a allen key.



**5)** Turn small lever to side to loosen mechanism



**6)** Pull scissor arm (frame part) off the sash part. Do this on both sides and carefully remove sash.



**7)** To hinge the sash follow the same steps in reverse order:

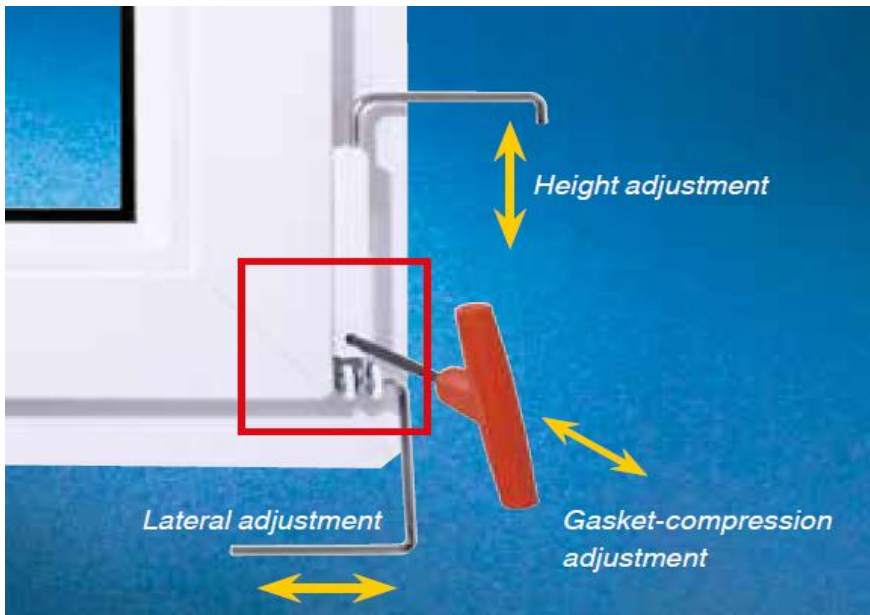
Make sure to insert the bottom of the sash lines up evenly and re-attach the bottom scissor arms.



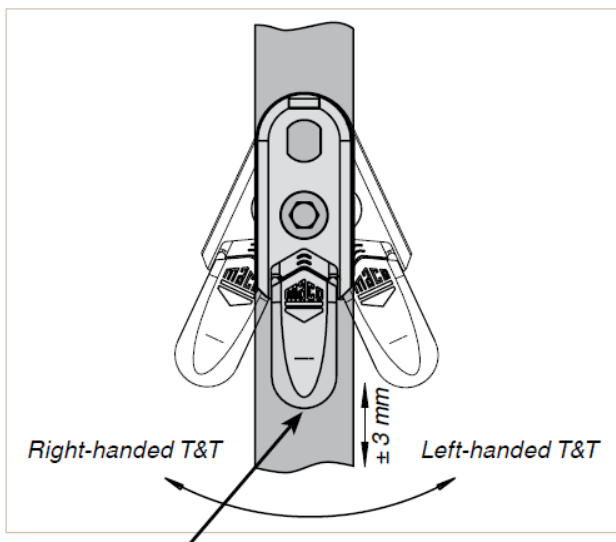
**8)** Hook the scissor arm on the top of the sash back into the camp and turn the little lever handle back into the closed position.

## 5.6) Adjustments Tilt & Turn windows and doors: (visible hinges)

### Corner hinge adjustment



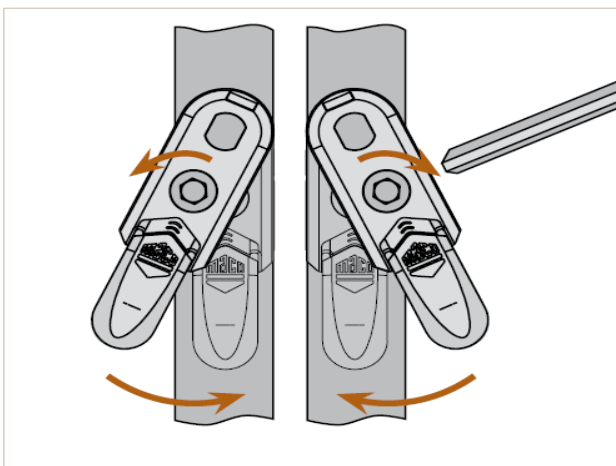
### Activating & adjusting the sash lifter



1. Tilt the drive-gear's sash lifter in the desired direction until you hear an audible click. The sash lifter is subsequently fully operational.

2. Set to the required height by turning the adjusting screw\* with a Torx 15 bit.

### Resetting the sash- lifter



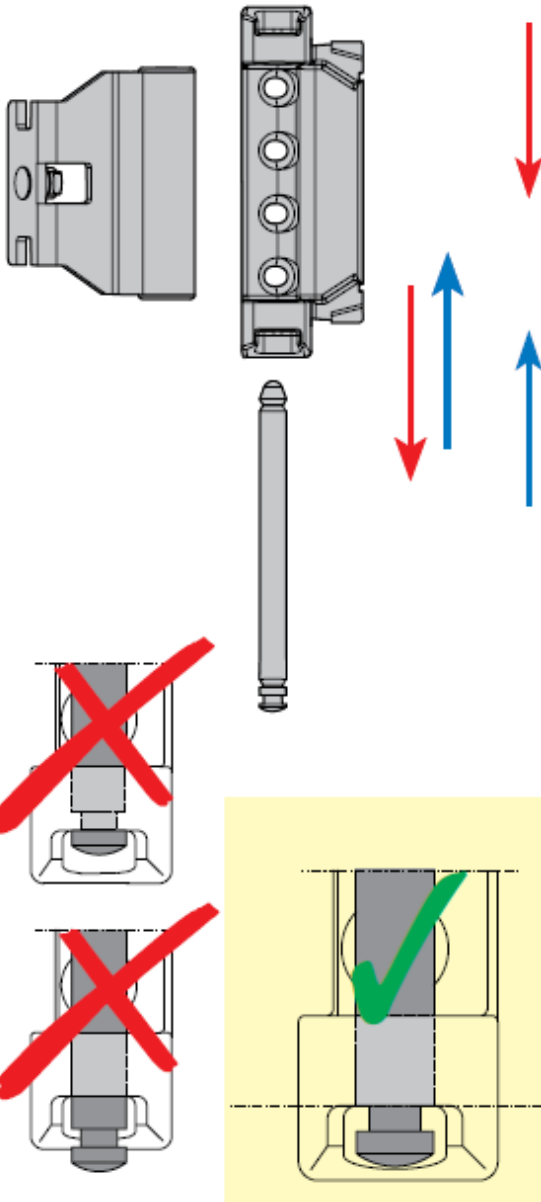
1. Position the lifter into the centre.

2. Turn in the direction depicted above until it snaps into place (4 mm Allen screw-head).

## 5.7) Hinging/- Un-hinging sashes (visible hinges)



Strictly follow the procedure- the sash can fall out otherwise, resulting in injury and damage to the sash!



### Un- Hinge:

Close the sash and pull the hinge- pin out (to the bottom)

### Hinge:

Hinge the sash into the pivot post at a 90° opening angle

1. Position the stay support arm into the scissor stay hinge and close the sash (do not lock!).
2. Push the scissor stay-hinge pin in fully while the window is closed.



**ATTENTION!**

Visual checking of the position of the scissor stay-hinge pin is imperative (refer to the illustration)!

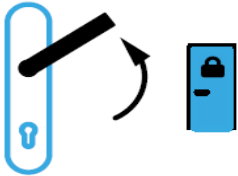
## 6.) MACO Doors: Operation

In the case of standard built front and secondary entrance doors the door sashes fitted with MACO door locks are moved by actuating **a handle** or **a cylinder**. This moves the door through its turning position to the inside or outside, or in a closed or locked position within the door frame.

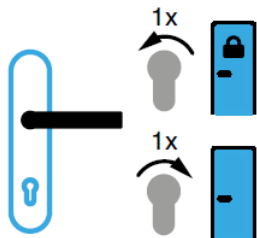
When closing a sash and locking the hardware, it is usually necessary to overcome the counterforce of a seal.

### Operating Instructions

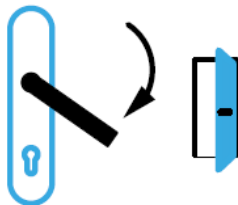
#### Handle operated locks:



When the handle is pushed up, all locking elements (pins, bolts, hooks) are activated.

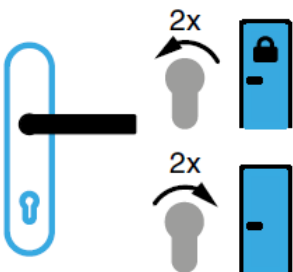


In the basic handle position, the door lock can be locked by a double 360° rotation (in the locking direction) or unlocked (against the locking direction).  
If the cylinder is used for locking, the handle will be blocked.

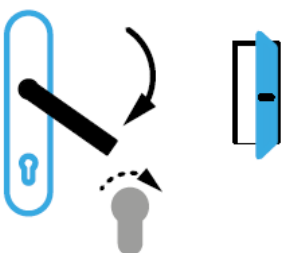


To open the door, push the handle downwards.

#### Cylinder operated locks



In the basic position, the door lock can be locked by a double 360° rotation (in the locking direction) or unlocked (against the locking direction).

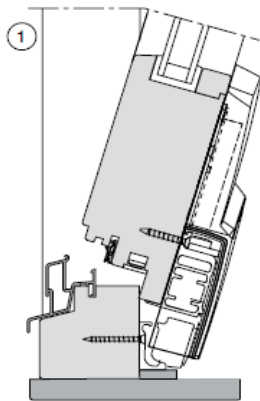


Open either by handle or cylinder.

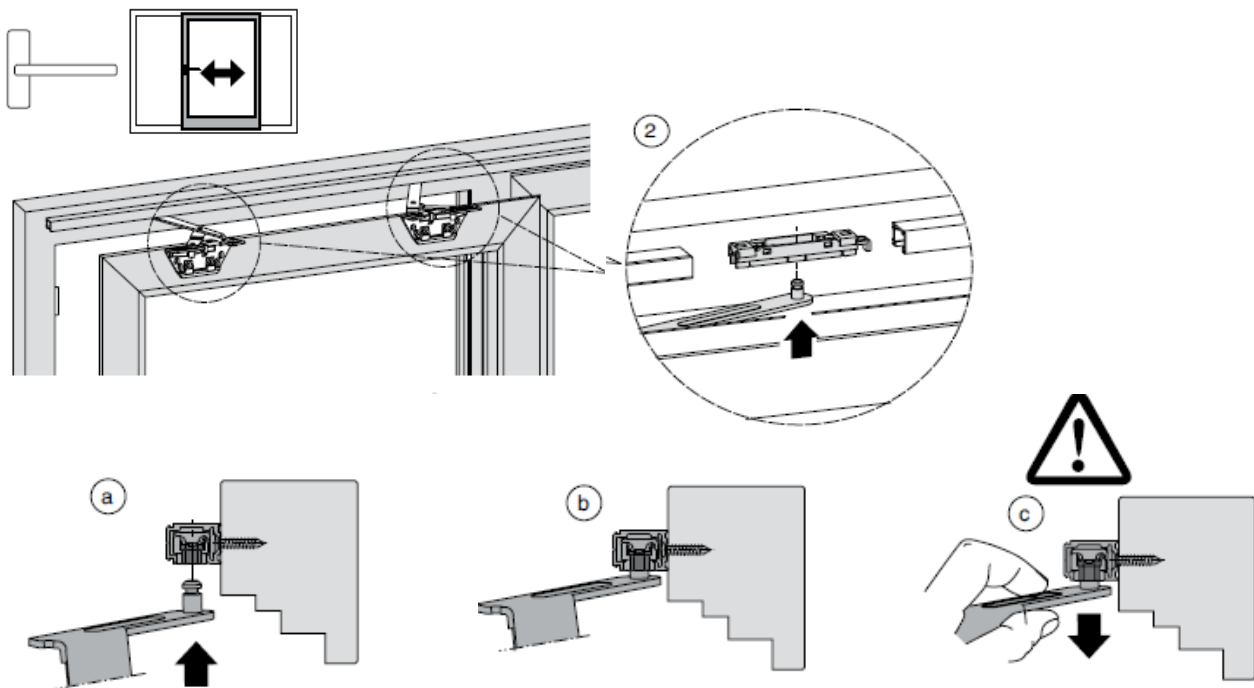
## 7.)MACO tilt & slide windows and doors

### 7.1) Inserting & removing the sash (System "S")

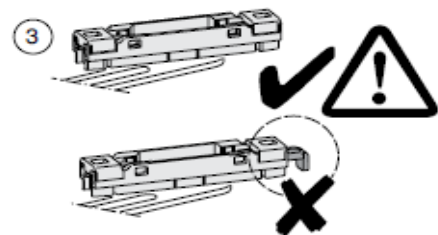
1) Insert the roller



2) Insert the scissor backsets into the centre slider openings until they a) snap into the sliders (audible click!) b). pull/press down the scissor arms to check that the connections are secure c)



3) When installed correctly, the security slider on the side snaps in flush with the edges of the slider housing



**CAUTION:** If the scissor back sets do not snap in correctly, the window sash will not be held securely and may fall out. Serious personal injuries may result.

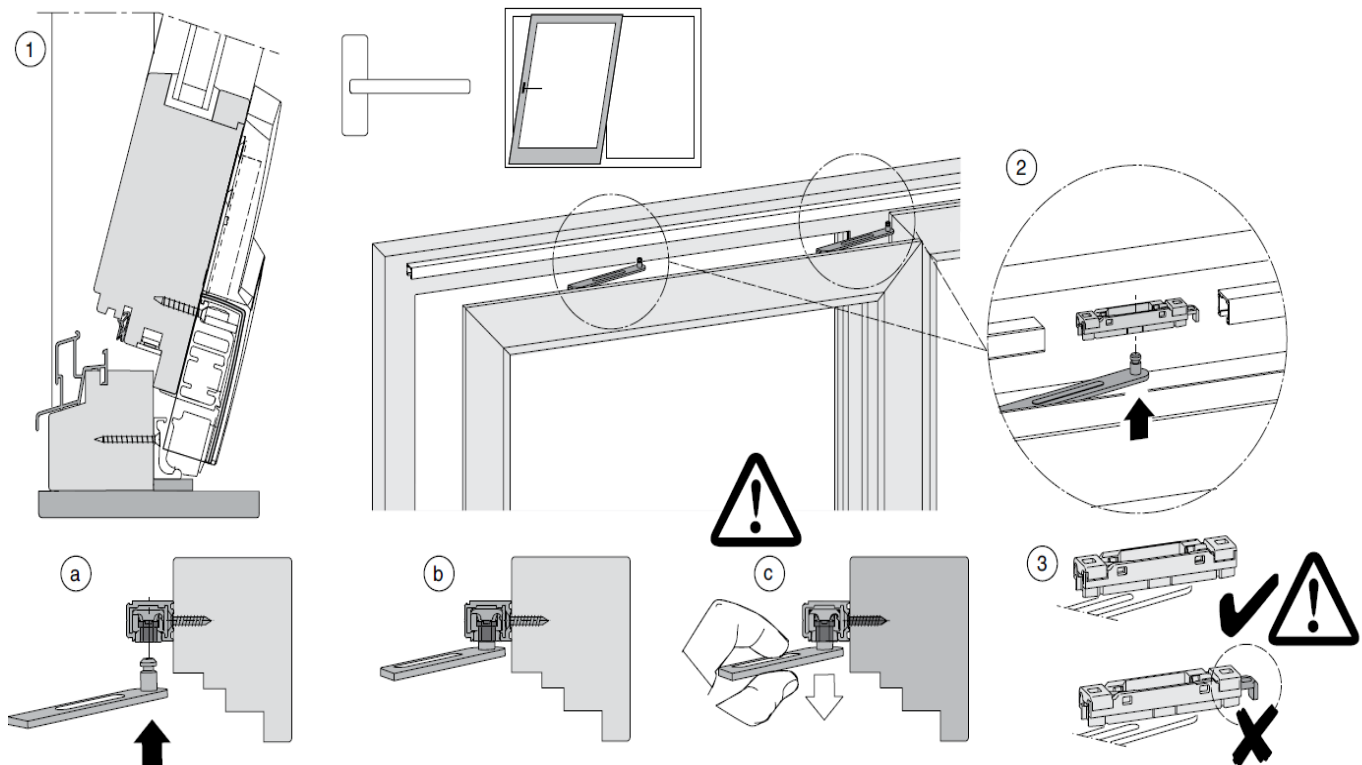


## 7.2) Inserting & removing the sash (System “Z”)

- 1.) Insert roller
- 2.) Insert scissor stay
  - a) – coming from the BOTTOM- into the slider openings
  - b) till they snap in (audible click!)
  - c) pull/press down the scissor arms to check that the connections are secure
- 3.) When installed correctly, the security slider on the side snaps in flush with the edges of the slider housing



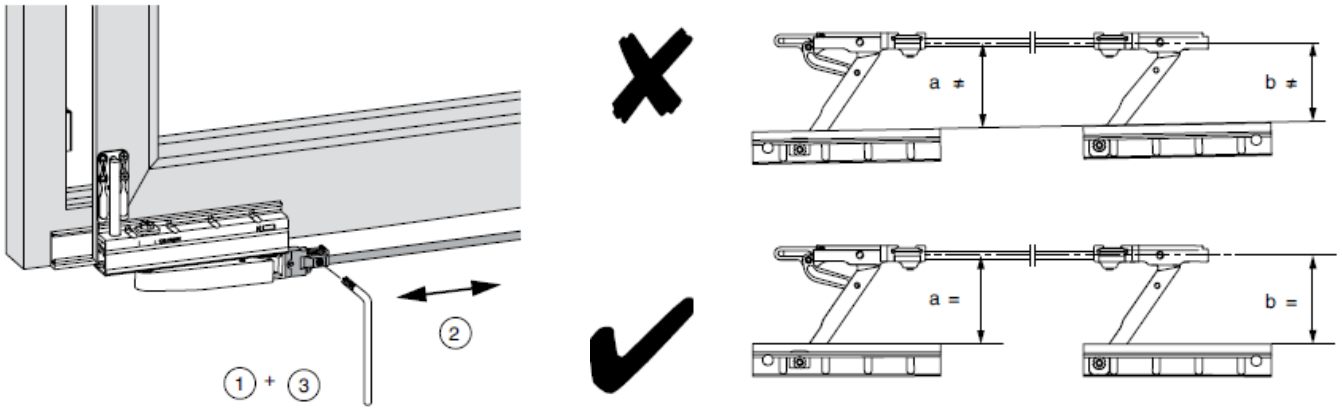
**CAUTION:** If the scissor back sets do not snap in correctly, the window sash will not be held securely and may fall out. Serious personal injuries may result.



## 7.3) Adjustments Tilt & Slide system:

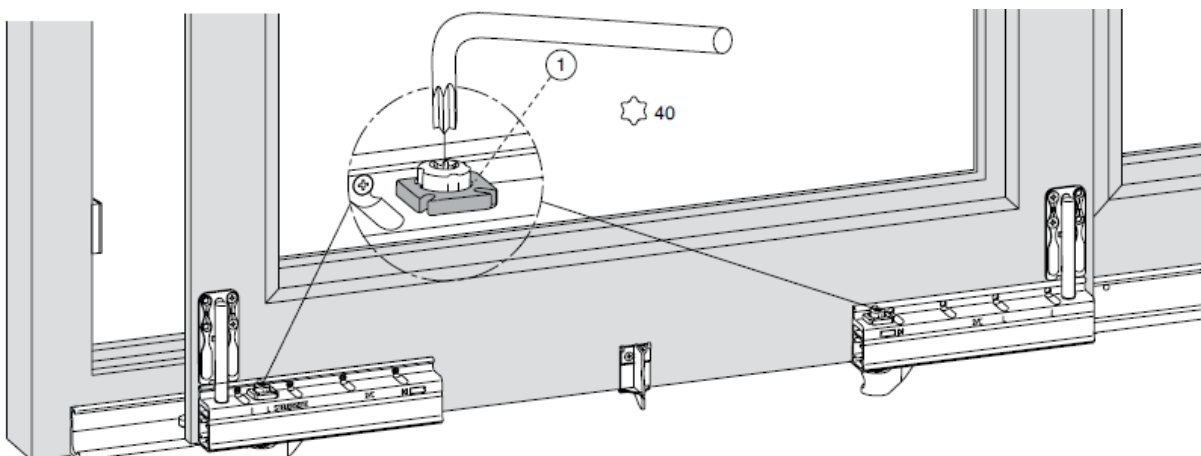
### Correct the parallel setting of the roller

- 1) Loosen the connecting rod on the roller at the handle side
- 2) Push the connecting rod to the left or right to position the rear roller (b) set parallel to the roller unit (a)
- 3) Fasten the connecting rod on the roller at the handle side

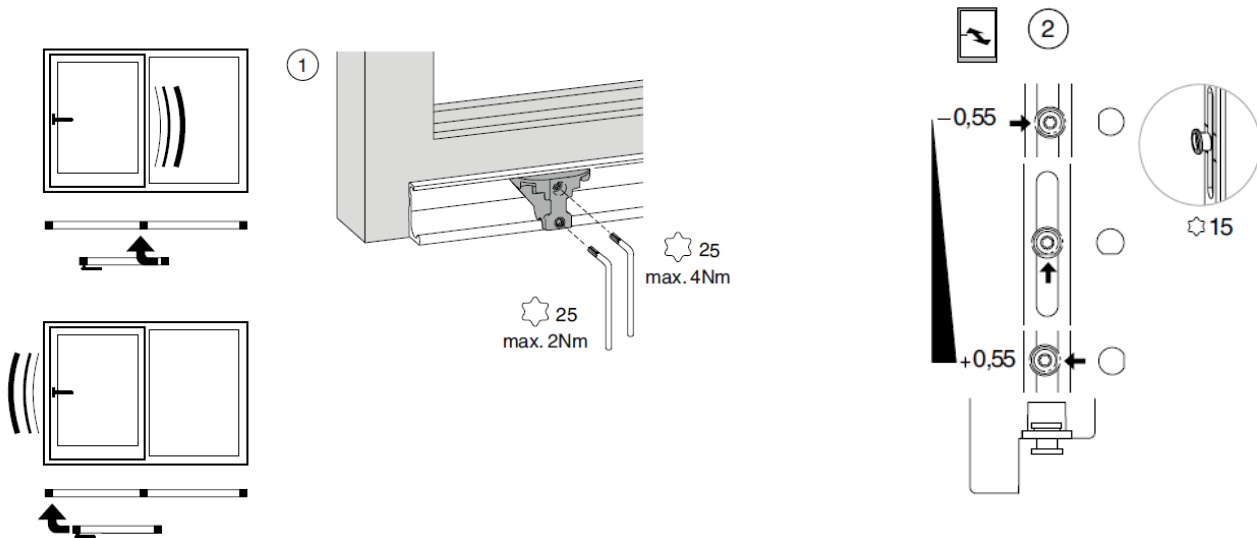


### Regulating the height of the roller

- 1) Lift the adjustment (1) lock
- 2) Set the height (+6mm)
- 3) Reattach the adjustment lock

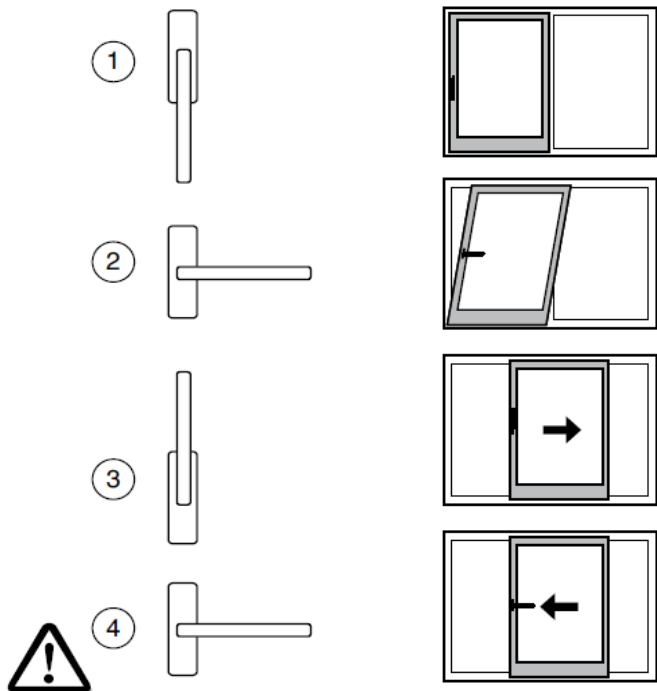


**Correct the sash entry (1) and set the correct pressure (2)**



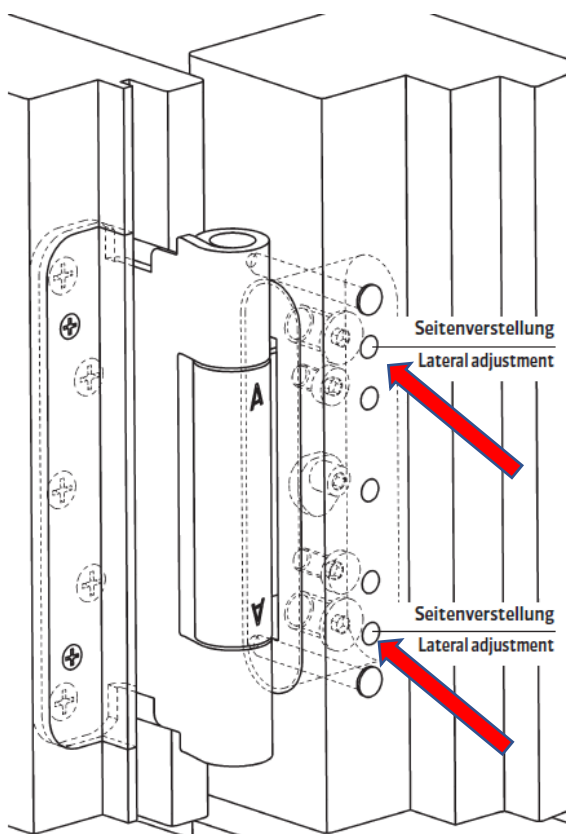
**Handle positions:**

- 1) Closed
- 2) Tilt
- 3) Open/Close
- 4) Close



## 8) BAKA Door hinge adjustments & maintenance instructions

3- dimensionally adjustable door hinges- adjustments can be made using a 4mm Allen key

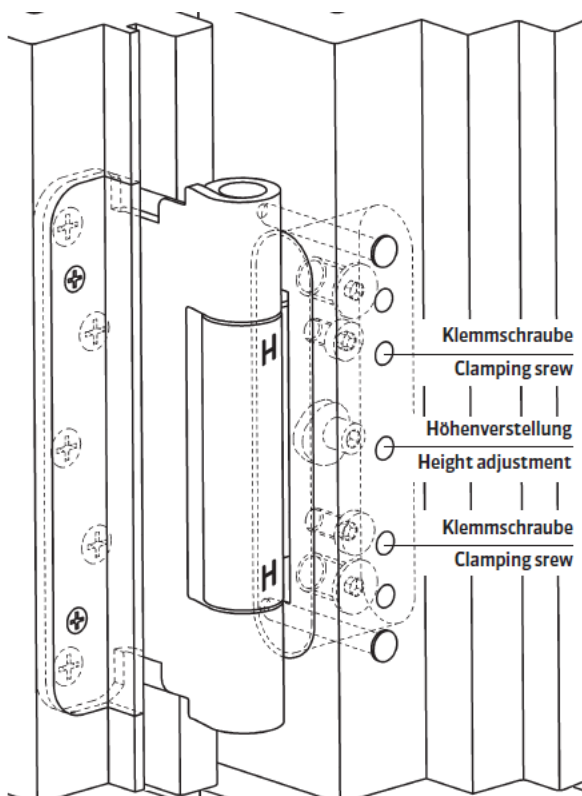


### Lateral adjustment

Turn both adjustment screws (**middle hole**) equally (max. one turn) in the relevant direction.

Avoid tilt knuckles and tension on the axis.

Proper alignment is crucial!



### Height adjustment

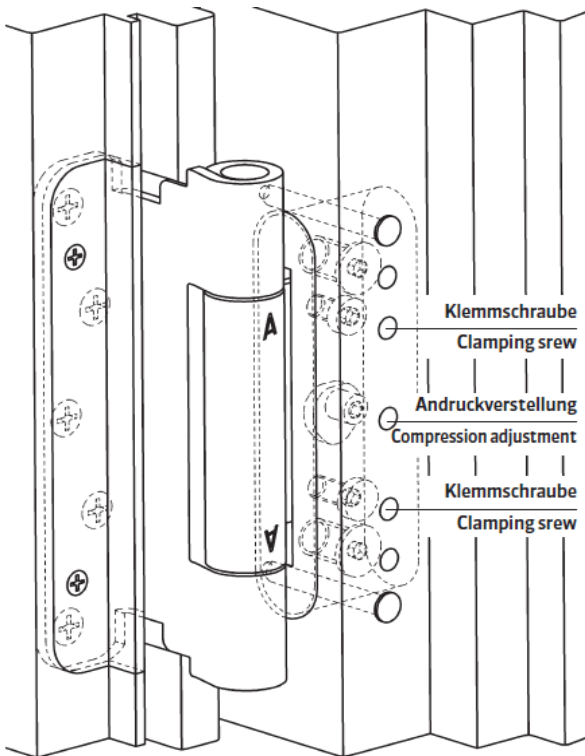
Slightly loosen the clamping screws in the frame part of all hinges

Adjust the height by turning the eccentric adjustments of the middle hinge in the desired direction.

Tighten the clamping screws of upper and lower hinge to relieve the central hinge.

Then retighten the clamping screws in all frame parts firmly.

## Compression adjustment

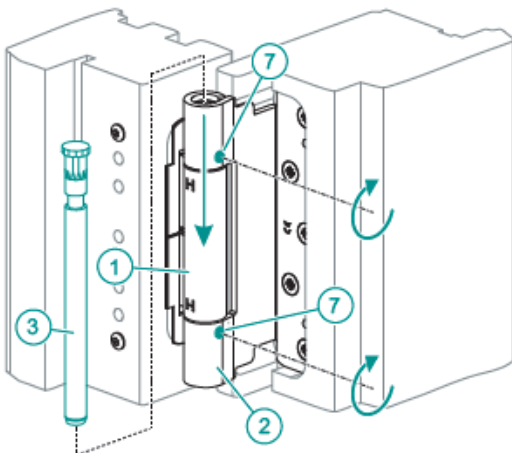


Slightly loosen the clamping screws in the frame part of all hinges

Adjust the compression by turning the eccentric adjustments of the upper and lower hinge in the desired direction.

Re-tighten the clamping screws.

## Hinging/Unhinging



### Hinging:

Place the door part into the frame. Do not damage the bearing technology!

Drive in the hinge pin (3) from above.

Turn the grub screws (7) into the hinge knuckle.

**Please note: grub- screws only in outward opening door hinges**

### Unhinging:

Loosen grub screws (if applicable)

Remove the hinge pin (3) carefully

Carefully remove sash

## Maintenance stainless steel hinges:

By choosing a stainless-steel product you have decided for a high class material. However, even noble material needs regular maintenance. Especially in industrial congested areas or near coastal areas deposits like flash rust may occur which can affect the material.

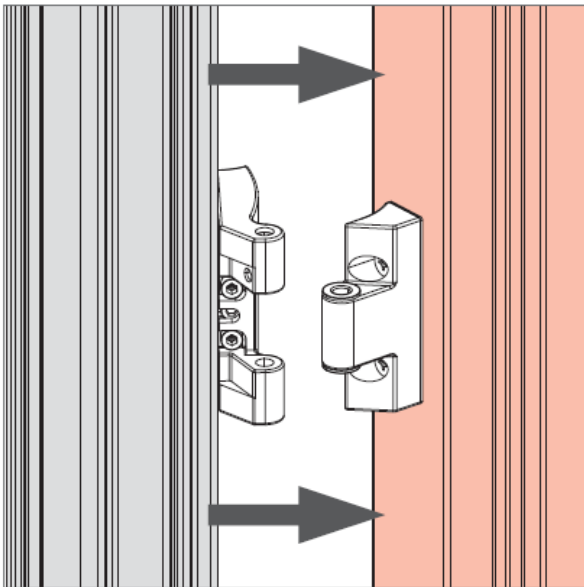
In order to ensure a long service life of your stainless steel door hinges, we strongly recommend a regular cleaning with commercially available cleansing agents. Tests have shown that referring to cleaning efficiency, conservation and easy application good results could be achieved with products like

**Cillit, Enablitz, Stahlfix and 3 M.**

By no means steel wool, wire brushes or similar may be used for cleaning, since these accessories harm the protective surface and extraneous rust may arise by reason of abrasion.

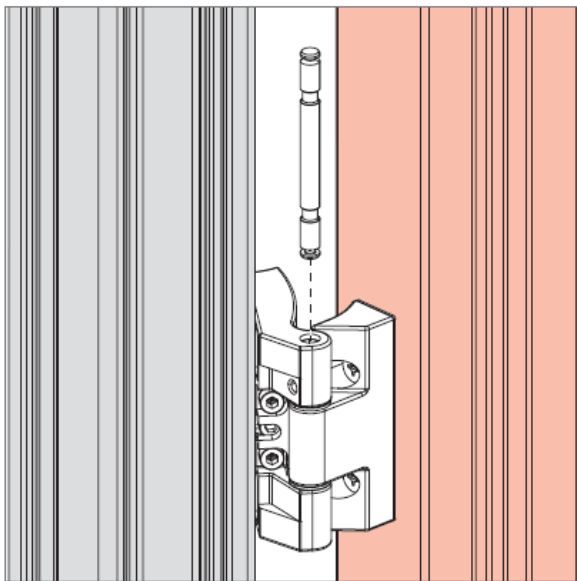
## 9) Special hinges: Bifold doors & windows, outward opening timber- alu doors

### 9.1) Hinging/Unhinging the sash

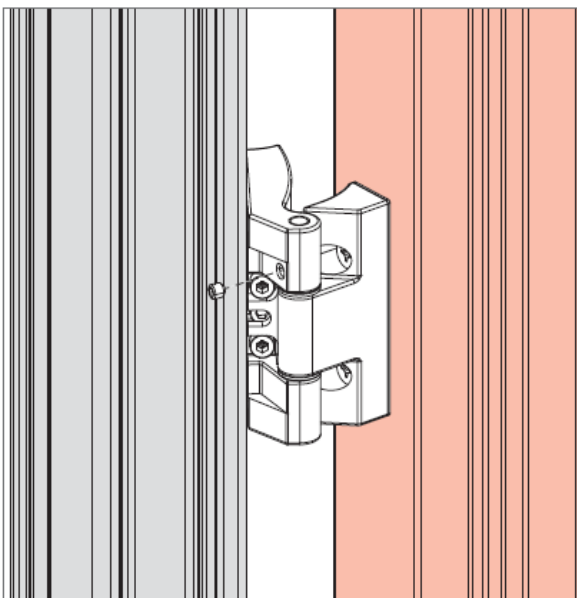


#### Installation & Securing

1) With the sash open, bring the hinge and bearing together



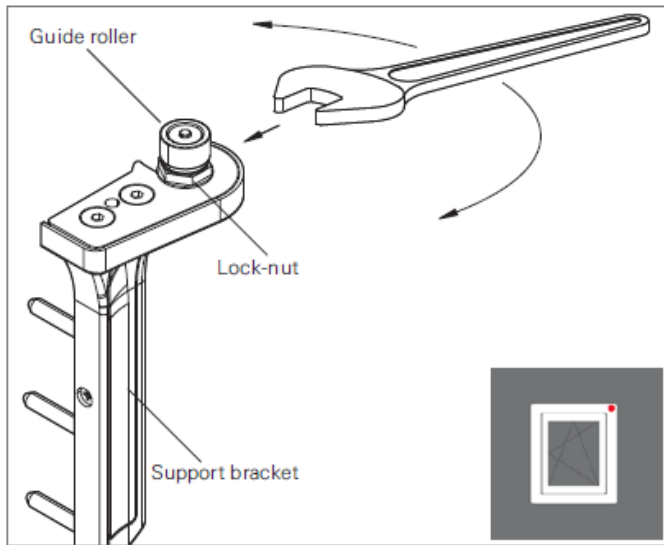
2) Insert the cylindrical pin flush



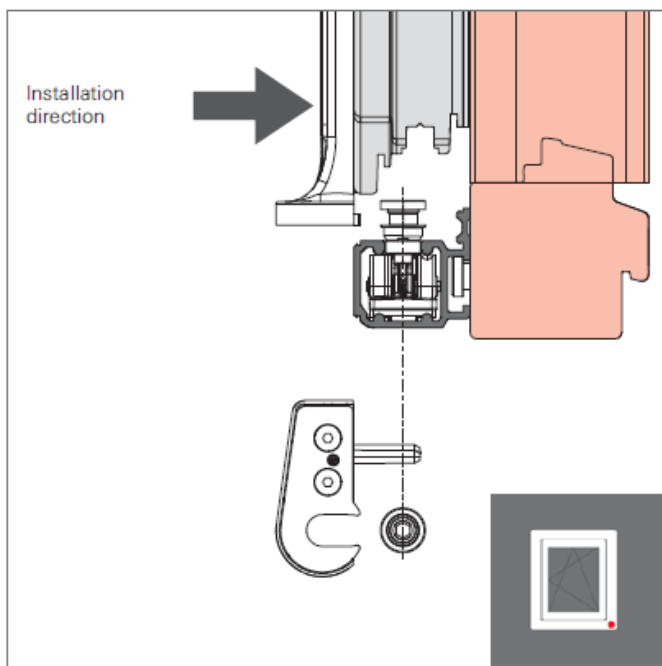
3) Secure the cylindrical pin with the size 2.5 bolt.  
Tightening torque: 5Nm

## 9.2) Bifold doors & windows: Sash hinging & adjustment

### Hinging the sash:



- 1) Insert the sash with the guide roller into the rail at the top and swing the sash
- 2) Screw fix the lock nut with an open-end spanner size 17.  
Tightening torque: 22 Nm  $\pm$  2Nm



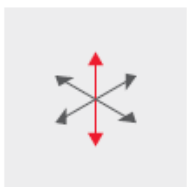
- 3) Connect the bogie and the support bracket:  
Tightening torque: 22 Nm  $\pm$  2Nm



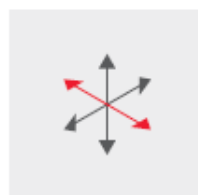
NOTE:

Pay attention to the installation direction!

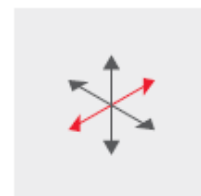
### General notes:



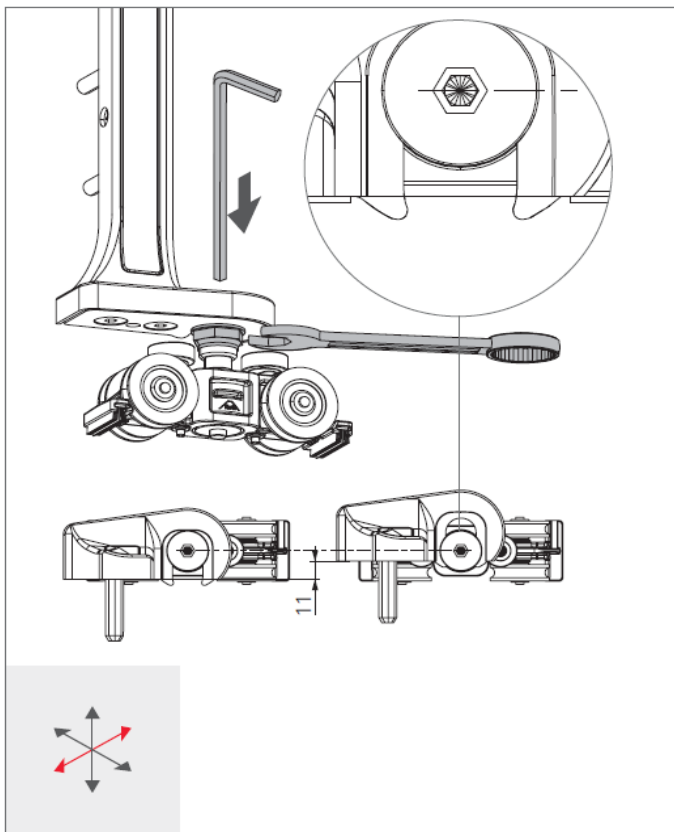
Height Adjustment



Lateral Adjustment

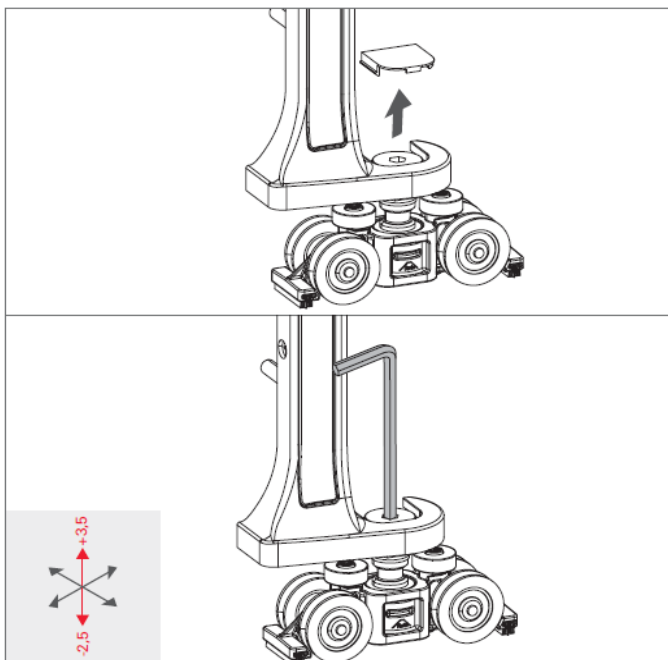


Gasket Compression Adjustment



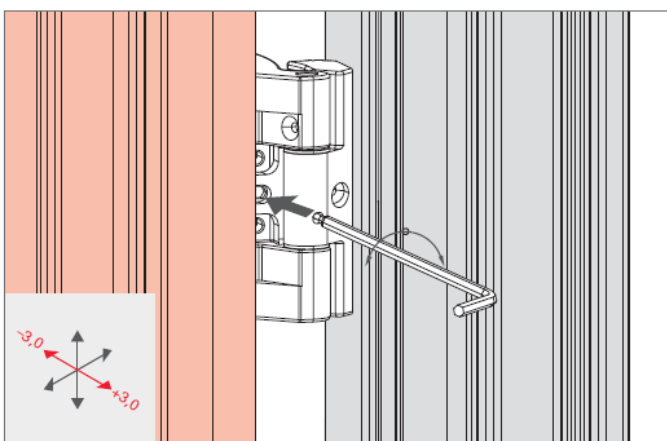
### Gasket- Compression adjustment of the sashes via bogie

- 1) Remove the cover cap
- 2) Release the support bracket on the threaded bolt.  
Allen key size 6 and open-end spanner size 17
- 3) Set the gasket compression
- 4) Tighten the screws



### Height adjustment of the sashes via bogie

- 1) Remove the cover cap
- 2) Adjust the bogie height by turning the threaded bolt with the 4mm Allen key.



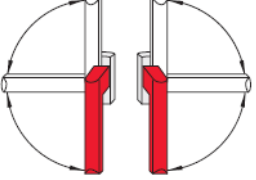


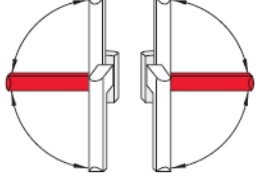


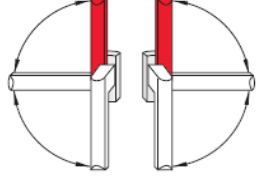




### Lateral adjustment of the shadow gap via the hinge

- 1) Open the sash resp. element
- 2) Turn the cylinder screw in the middle with a 4mm Allen key for adjusting the hinge  
4mm Allen key  
Turning 180 degrees: 0.5mm  
Turning 360 degrees: 1mm



### 9.3) Operating Instructions for bifold doors & windows

The following symbols show the different handle positions and the resulting sash positions




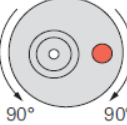
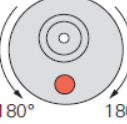
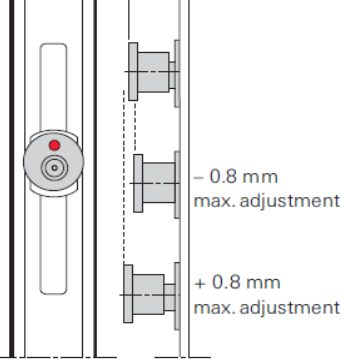
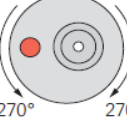
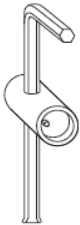
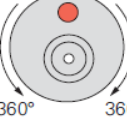
Handle position	Sash position	Symbol	Meaning
			Closed position of the sash
			Turn and fold position of the sash
			Opened tilt position of the sash
			Malpositioning of the sash

# 10) Locking cam adjustment:

Type of cams are system- dependent

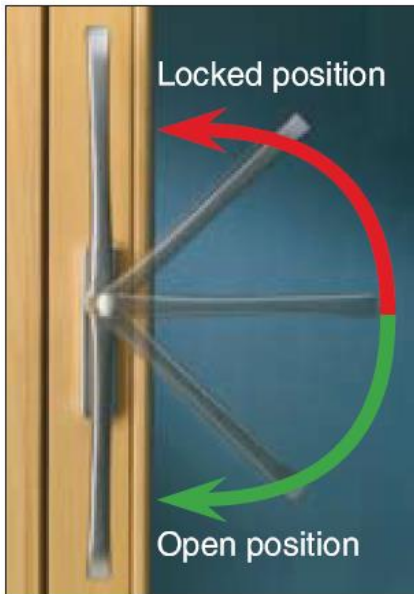
P cam						
Cam type	Adjustment range	Gasket-compression adjustment / mm	Height adjustment / mm	Side view / top view	Tools	
		$\pm 0.8$				
E cam						
Cam type	Adjustment range	Gasket-compression adjustment / mm	Height adjustment / mm	Side view / top view	Tools	
		$\pm 0.8$				
V cam, extended (10 mm clearance)						
Cam type	Adjustment range	Gasket-compression adjustment / mm	Height adjustment / mm	Side view / top view	Tools	
		$\pm 0.8$	$\pm 0.2$	<p>0 = Original position</p> <p>- 0.8 mm max. adjustment</p> <p>+ 0.8 mm max. adjustment</p>		
		-	$\pm 0.4$			
		$\pm 0.8$	$\pm 0.6$			
		-	$\pm 0.8$			

## V cam

Cam type	Adjustment range	Gasket-compression adjustment / mm	Height adjustment / mm	Side view / top view	Tools
					
		±0.8	±0.2		
		-	±0.4	 <p>0 = Original position</p> <p>- 0.8 mm max. adjustment</p> <p>+ 0.8 mm max. adjustment</p>	
		±0.8	±0.6		
		-	±0.8		

## 11) Lift & Slide door system

Handle operation:



Inserting sliding door sashes:



**Risk of injury!**

Always make sure to lift the doors with 2 persons (minimum), and when tilting the sashes that they are secured by another person!

**Step 1**



Lift the door sash in place- lean the bottom part onto the bottom rail.

Handles in closed position (pointing up)

**Step 2:**



Make sure the running gear on the sash is aligned with the bottom rail

**Step 3:**



Turn the handles down (open position)

**Step 4:**



Push the sashes in at the top

### Step 5



Turn the handles pointing up (closed position)

### Step 6



Get ready to insert the top running rails

### Step 7



Person 2 has to turn the handles down (open position), and carefully tilt the top of the sashes out.

### Step 8



Person 1 slides the top rail into the groove at the top of the sashes

### Step 9



Top rail sits in groove of top sashes

### Step 10



Turn handles slowly up while pushing the top of the sashes slowly back into a vertical position

### Step 11



Push top of sash carefully back, make sure the rail stays in the groove.

### Step 12



Turn both handles back into the closed position (pointing up)

### Step 13



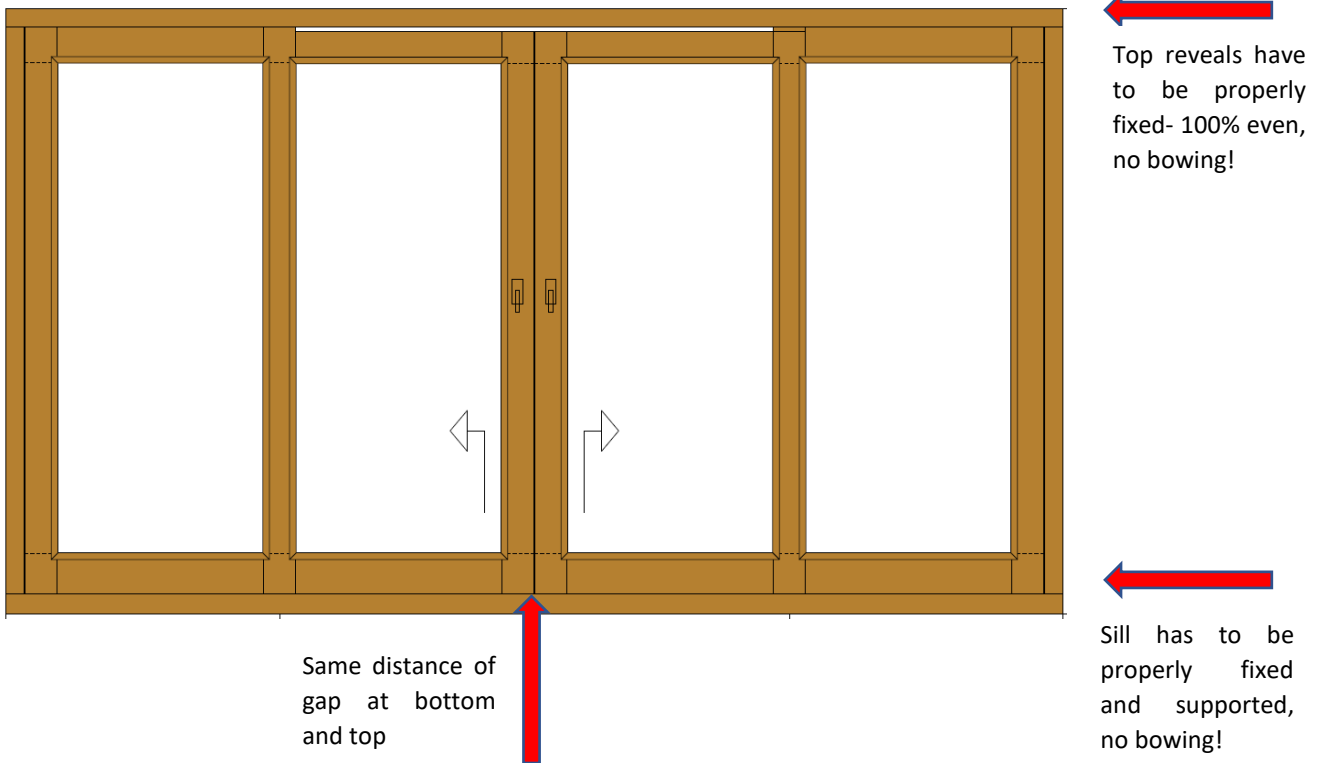
Top rail is properly aligned and can now be screwed into the frame



**Important:** make sure you also fit the **seal cushions at the end of the top rail**- they are essential to provide proper air tightness!

**General installation requirements:**

Lift & Slide doors – particularly the “Scheme C”, have to be installed 100% square and plum. The installer has to make sure that the top reveals have been properly fixed to the lintel so that it won’t sag and does not bow. The same is for the sill- it has to be properly supported so that the sill does not bow.

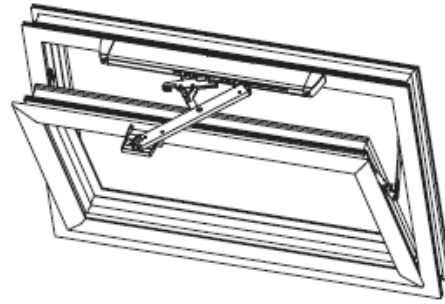


**Sashes won't close correctly if door has not been installed 100% level!**

**ATTENTION!**

## 12) HAUTAU Primat

- motorized skylight opener-



### Safety instructions:



#### **WARNING**

**Important safety instructions:**

**The safety of personnel requires that the following instructions be observed. Incorrect handling or installation can lead to severe injury.**

**Do only install unit strictly after manufacturer's specifications and manual.**



**WARNING:** danger for persons due to electricity.

Dangerous voltage. Can cause death, serious injury or considerable material damage. Disconnect the drive with switch acc. To overvoltage category II from the power supply at all poles before opening, assembling or carrying out any structural alterations. Observe VDE 0100 for 230 V power connection.



**ATTENTION:** non-observance leads to destruction. Danger to material due to incorrect handling

Before mounting the drives: test window and safety elements. The physical integrity and smooth operation of the window must be ensured. Before installing the drive, the installer must verify that the drive's temperature range has been adapted to its operating environment. No other persons are allowed in the vicinity of the drive when the deadman switch is actuated.



**WARNING:** danger to persons due to risks arising from the operation of equipment. Danger of crushing/trapping!

The window closes automatically. When opening and closing, the drive unit is stopped by the end switch. The corresponding pressure force is listed in the technical data. Take care- the pressure force is high enough to crush your fingers. During assembly and operation, do not interfere with the window gap or the travelling drive.

Children are not allowed to play with the device. Cleaning and user maintenance must not be carried out by children without supervision.

### **Applications on tilt windows**

require the installation of scissor type safety catches. They prevent damage caused by incorrect assembly and handling. Please note: the scissor type safety catches must be adapted to the opening stroke of the drive. This means that the opening width of the scissor type safety catches must be larger than the drive stroke in order to prevent blocking.

### **Intended use**

The drives are only suitable for the automatic opening and closing of tilt and turn windows (for ventilation, only). The drives are suitable for ambient temperatures 0 ... 65 °C. Follow the technical specifications (particularly driving forces, the opening time/speed, the temperature resistance of cables

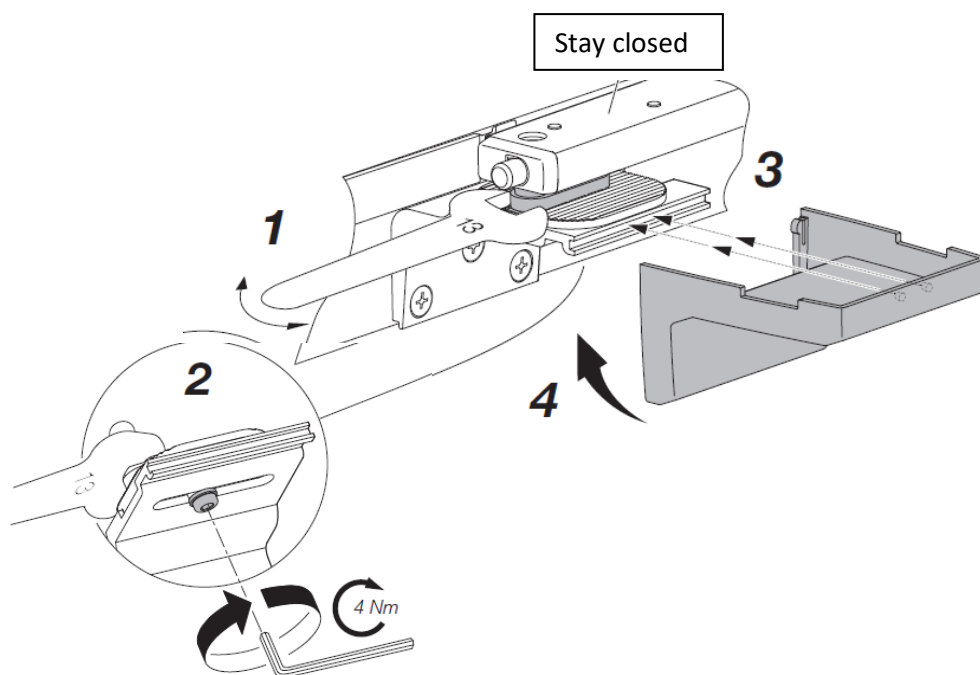
and devices, and wind loads) as well as all applicable regulations. Select the required mounting material in accordance with the structure and the respective load and use additional mounting material if necessary. Any individual applications or modifications of the drive which are not in compliance with intended use are explicitly prohibited. ThermoDura shall not be liable for any **damage** to personnel or material resulting from noncompliance with this provision.

It would be beyond the scope of these safety instructions to list all the valid regulations and guidelines. Always make sure that your system corresponds to the valid regulations.

### Adjustment:

Always refer to the complete manufacturer's manual!

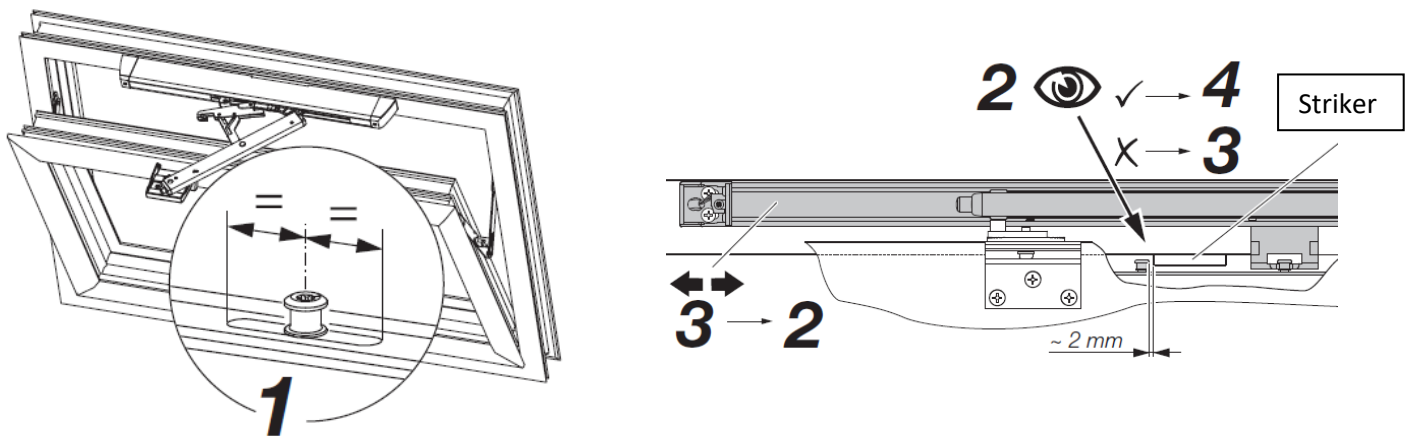
### Adjustment of sash closing pressure:



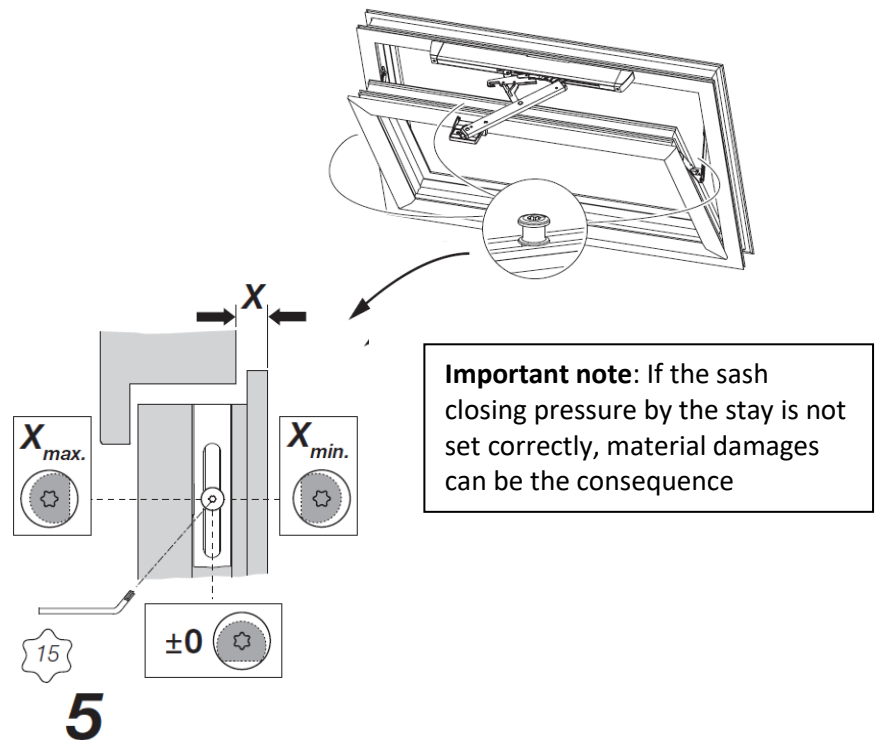
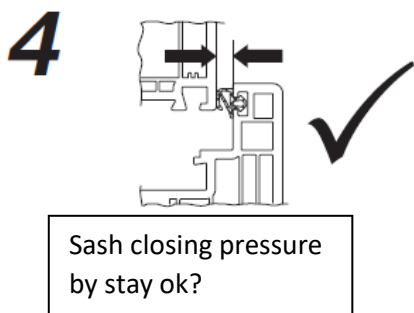
Please note: if the closing pressure is not set correctly, material damages can be the consequence.



## Adjustment of Central locking



## Adjustment of overrebate height



For more detailed installation and troubleshooting- instructions please refer to the complete HAUTAU manual.

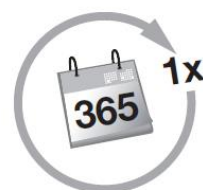
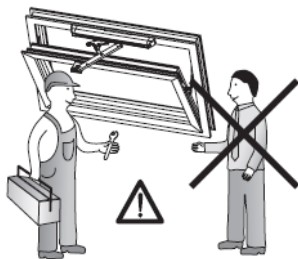
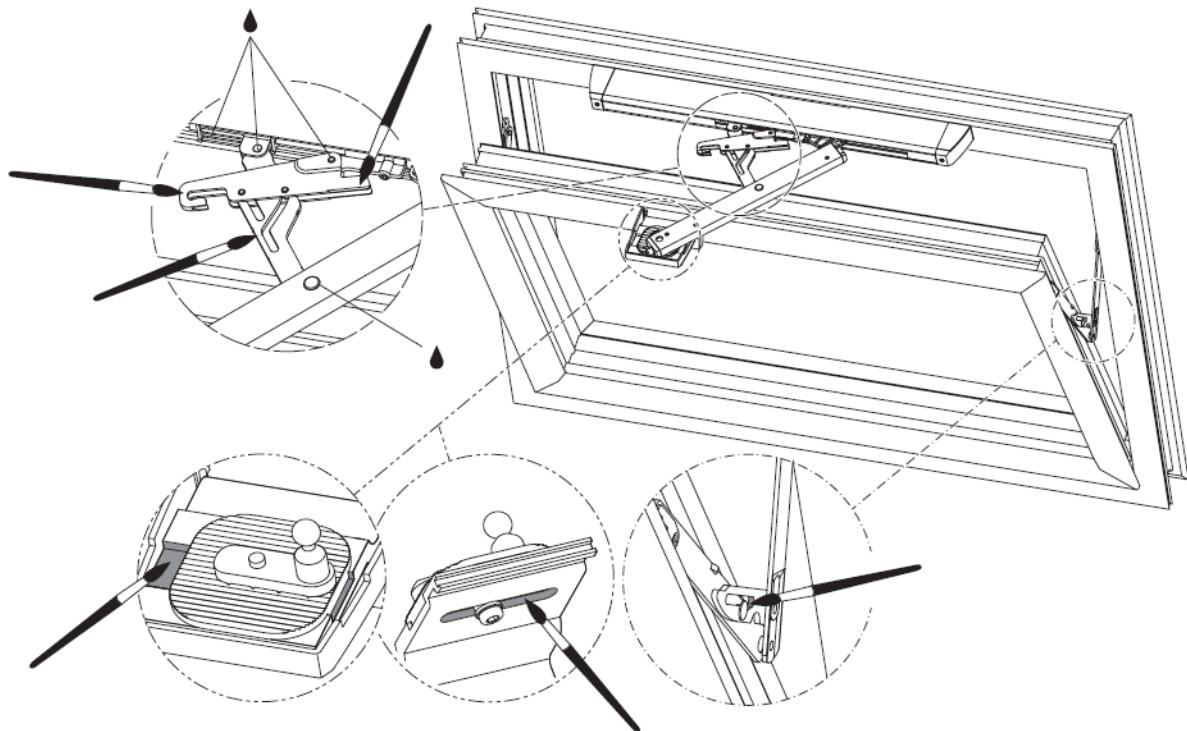
## Maintenance/repair/care

- The power supply to the device must be interrupted for the duration of any cleaning or other types of maintenance operations.
- Check all devices and cable connections for external damage and dirt. Free the equipment from any contamination.
- Check the tightness of fixing and clamping screws.
- Test the equipment by trial run. The gear system is maintenance free.
- Defective equipment must only be repaired from HAUTAU.

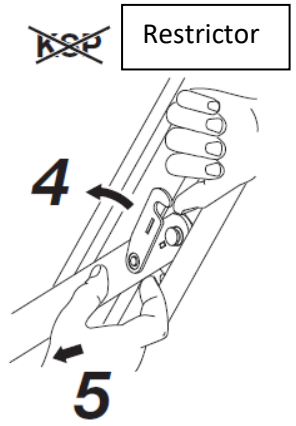
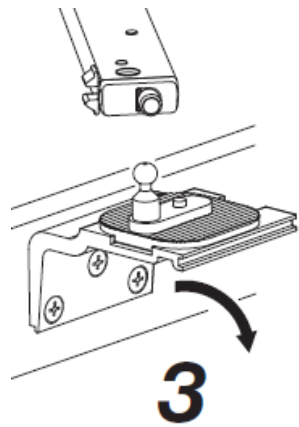
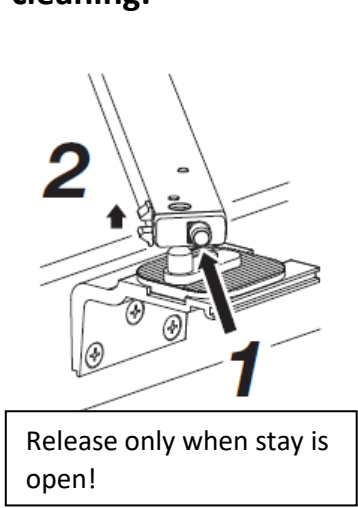
Only original spare parts are to be used. The readiness for operation has to be checked regularly. Provide all aggregates with durable protection against water and dirt!

### Before maintenance work or structural alterations

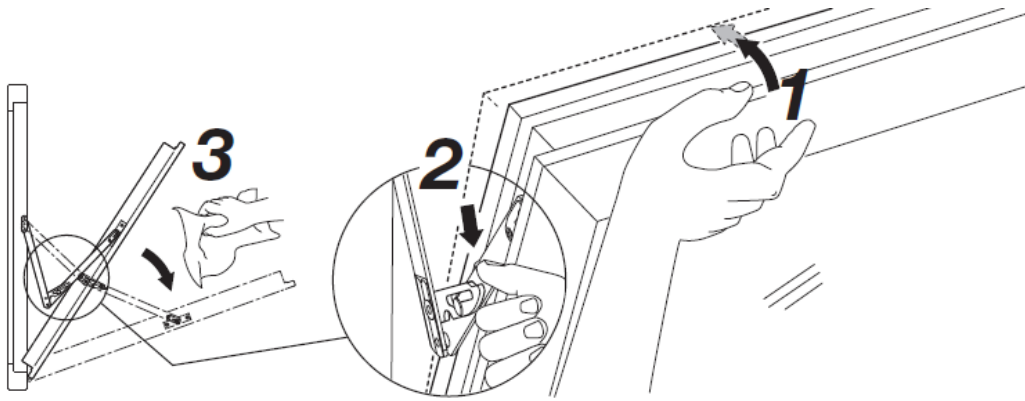
- The supply voltage and the "batteries" are to be disconnected at all poles.
- The system must be protected against unintentional restarting.
- Electrical controls must be voltage free before extension modules are taken off or added (disconnect mains voltage and "batteries").
- Use a soft, slightly dampened cloth to clean the housing components. To prevent damage to the housing surface, do not use any caustic chemicals, abrasive cleaners or agents containing solvents for cleaning.
- Cleaning and user maintenance must not be carried out by children without supervision.



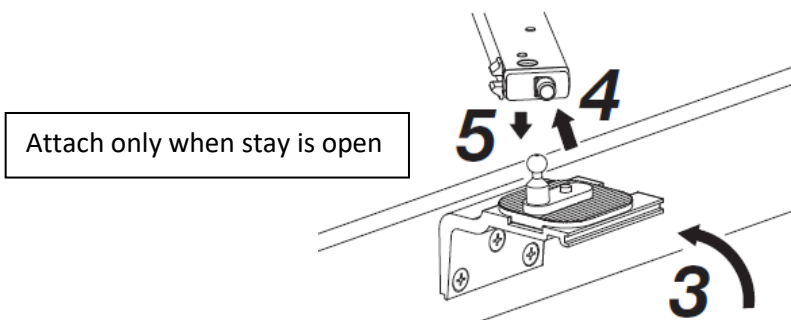
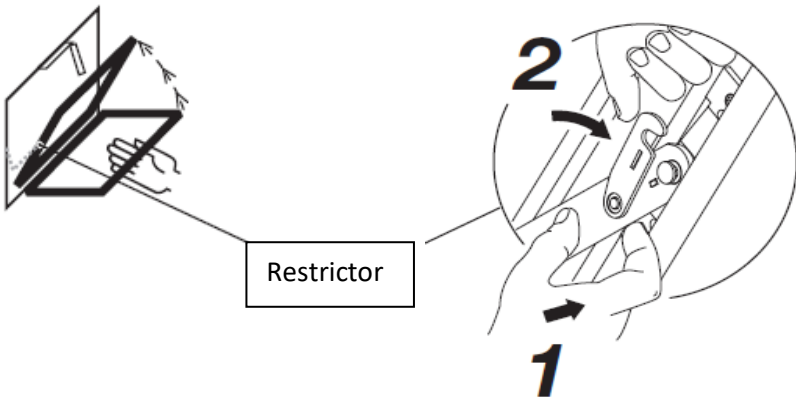
**Opening the sash for cleaning:**



KSP



**Close the sash after cleaning:**



### 13) Preparations for the Blower- Door test

A blower door test shows the airtightness of the building and also of the windows. It is therefore important that the doors and windows are adjusted properly after the installation (particularly if sashes have been taken out for easier installation) and before the blower door test.

It is also important that all seal cushions (lift & slide doors) are re-inserted in case sashes have been taken out of the frame by the installer.



#### General points to consider before getting a test done:

- ThermaDura recommends to get the blower door test done by an **accredited tester**- see the ATTMA website for a list: <https://www.attma.org/members/air-tightness-testers/new-zealand/>
- Ideally the person or company who does the testing is **independent**

#### Window/door specific things to check before starting the blower door test:

- Check all windows and doors are **properly closed!**
- **Tape off any handle – holes** (as handles might not have been fitted everywhere yet)
- Make sure the adjustment holes on doors with BAKA hinges have been closed with **rubber- seals**
- **Adjust** all windows and doors- particularly if you have removed any sashes during the installation process.
- Check that all window and door seals are **cleaned** and free of debris/dust or dirt
- For lift & slide doors: often the lift & slide door sashes are being transported separately and inserted after the frame has been installed, make sure all necessary **rubber and sealant-parts** have been re- attached!

#### **14) Disclaimer & Contact**

No legal claims can be derived from these recommendations, the application is to be conveyed for each concrete individual case.

ThermaDura's terms and conditions apply.

This document can be changed & updated at any time. Please contact ThermaDura for the most up to date version.

Please always refer to the original manufacturer's operations and installation manuals.

All electrical work only to be done by a certified electrician.

All restricted work to be done by a licensed tradesman.

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