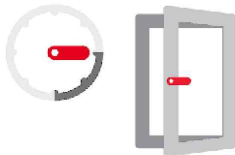


1. EXPOSED CORNER HINGE HEIGHT ADJUSTMENT

HEIGHT ADJUSTMENT

- 1a) Remove the cover cap. (see *DIAGRAM 1-1a*)
 - Move the handle to turn position (see *DIAGRAM A-A*)
 - 1b) Additional adjustment available as required.
 - 1c) Height adjustment -2.0 / +2.5 mm via screw **[A]** in the corner hinge. (see *DIAGRAM 1-1b*)
- Tool: Hex key Metric # 4.**



Sash in turned, open position.

DIAGRAM A-A

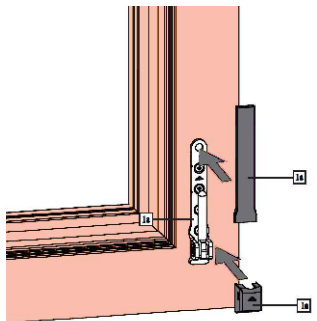


DIAGRAM 1-1a

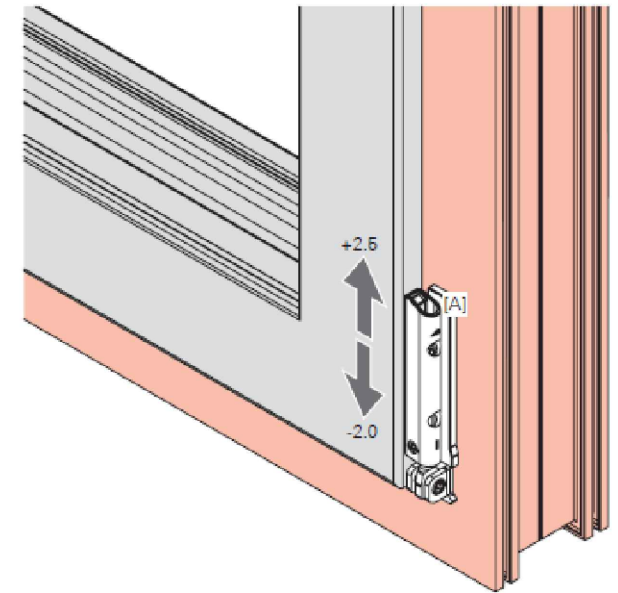
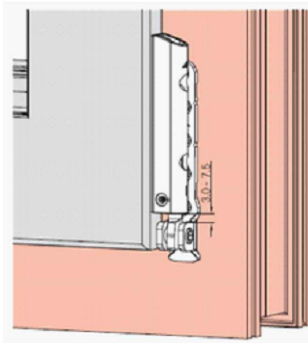


DIAGRAM 1-1b

DIAGRAM 1-1c

REFERENCE DIMENSION:
The height of the corner hinge can still be applied (3.0mm-7.5 mm) even if the corner hinge has already been adjusted (-2.0/+2.5 mm)

2. EXPOSED CORNER HINGE LATERAL ADJUSTMENT

LATERAL ADJUSTMENT

- 1a) Move the handle to the turn position. (see *DIAGRAM A-A*)
 - 1b) Lateral adjustment ± 2.0 mm via screw **[B]** in the pivot rest. (see *DIAGRAM 2-1a*)
- Tool: Hex key Metric # 4.**

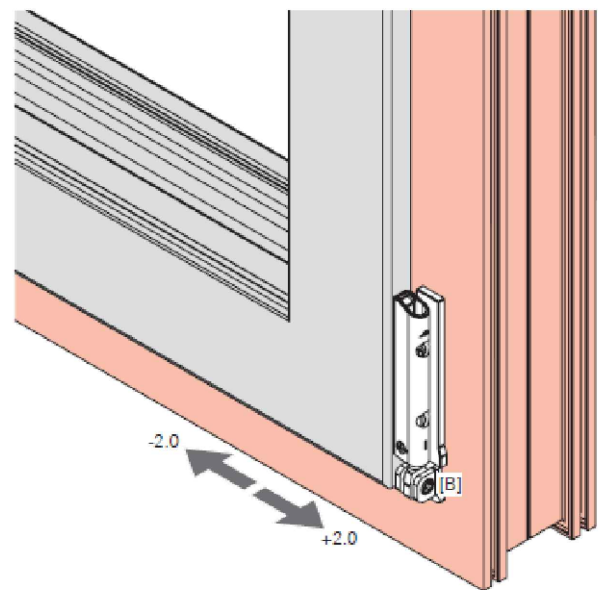


DIAGRAM 2-1a

All Content displayed is for guidance and reference purposes. Actual product may vary. Subject to changes without notice. Diagrams and instructions are based on hardware manual of Roto Frank, an independent hardware manufacturer. CRYSTAL design is registered trademark of Crystal Window & Door Systems, Ltd.

**3. EXPOSED HINGE SASH STAY
LATERAL ADJUSTMENT**

SASH STAY LATERAL ADJUSTMENT

3a) Sash should be opened at minimum of 180° (+) to access *sash stay* (see DIAGRAM B-B for sash position)

3b) Lateral adjustment -2.0 / +3.0 mm via screw

[A] in the sash stay (see DIAGRAM 3-1a)

Tool: Hex key Metric # 4.

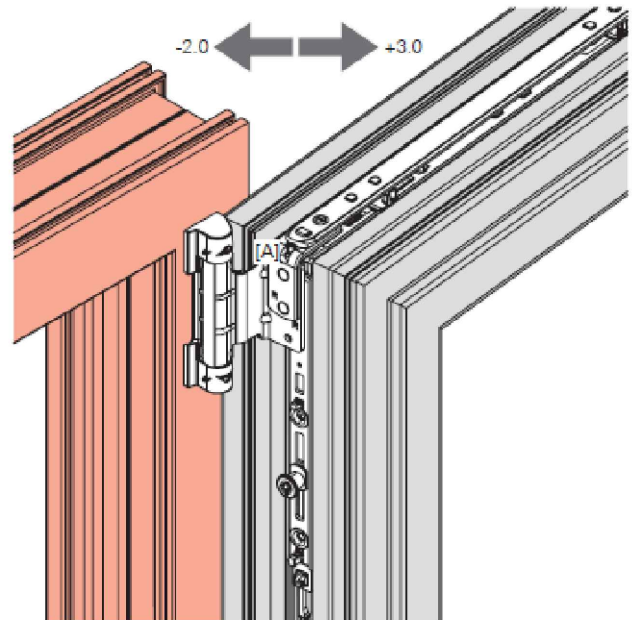


DIAGRAM 3-1a

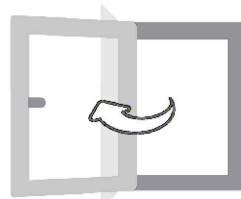


DIAGRAM B-B

**4. EXPOSED HINGE MID SPAN STAY BEARING(S)
LATERAL ADJUSTMENT
(TURN ONLY OPERATION)**

**MID SPAN STAY BEARING(S) LATERAL
ADJUSTMENT**

4a) Sash should be opened at minimum of 90° (+) to access *sash stay* (see DIAGRAM B-B for sash position)

4b) Lateral adjustment -3.0 / +2.0 mm via screw

[C] in the sash stay (see DIAGRAM 4-1a)

Tool: Hex key Metric # 4.

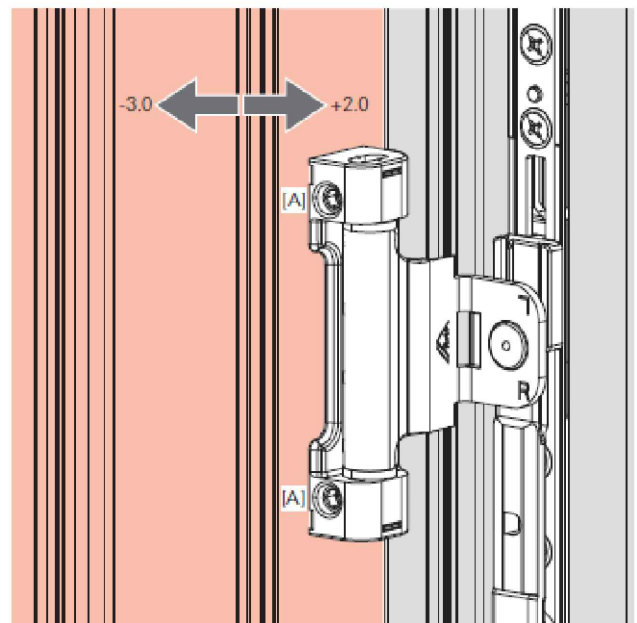


DIAGRAM 4-1a

**5. GASKET COMPRESSION
LATERAL ADJUSTMENT (CORNER HINGE)**

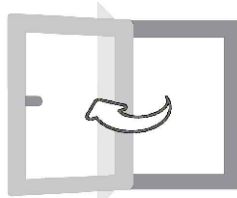


DIAGRAM B-B

COMPRESSION LATERAL ADJUSTMENT

- 5a)** Sash should be opened 180°
(see *DIAGRAM B-B* for sash position)
 - 5b)** Lateral adjustment ± 0.5 mm via eccentric
(see *DIAGRAM 5-1a* for sash position)
[C] in the corner hinge.
- Tool: Hex key Metric # 2.5.

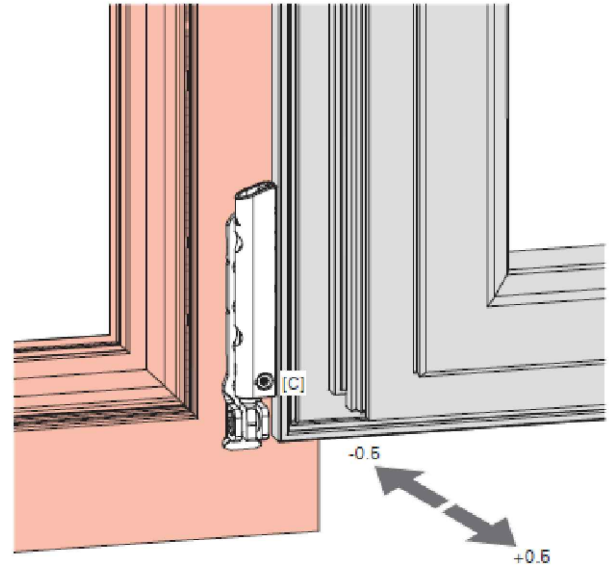


DIAGRAM 5-1a

**6. EXPOSED STAY BEARING HINGE
BEARING PIN REMOVAL**

Removing the stay-bearing pin

1. Arch

Turn the window shut but do not lock it.

Tilt-Only sash

Tilt the window shut but do not lock it.

- 2.** Push the locking element [1] in using a tool (e.g. screwdriver) while pushing the stay-bearing pin [2] out by approx. 4 mm at the stay-bearing pin point [3] using an extractor handle.

Shown using a Tilt-Only sash as an example.



INFO

Secure the sash to prevent it from falling.



INFO

Do not hit out the pin using a hammer.

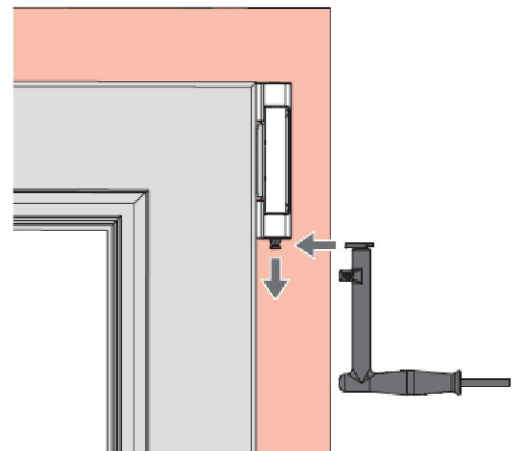
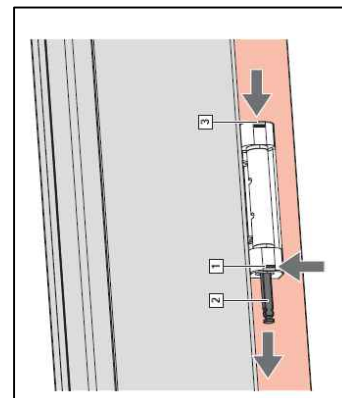


DIAGRAM 6-1a



- 3.** Fully pull out the stay-bearing pin using an extractor handle.

**7. GASKET COMPRESSION
(CAM ADJUSTMENT)**

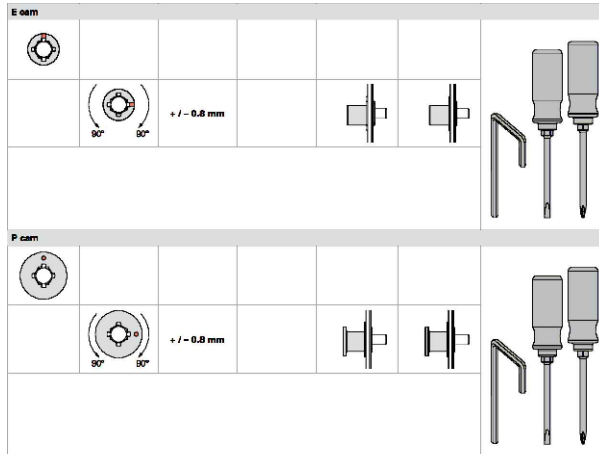


DIAGRAM 7-1a

COMPRESSION ADJUSTMENT (CAM)

7a) E-cam (See DIAGRAM 7-1a) should be rotated either to left or right 90° to tighten or loosen compression of sash perimeter gasket p E-cam into position to allow compression of gasket ± 0.8 mm

7b) P-cam (See DIAGRAM 7-1a) should be rotated either to left or right 90° to tighten or loosen compression of sash perimeter gasket p E-cam into position to allow compression of gasket ± 0.8 mm

Tool: Hex key Metric # 4

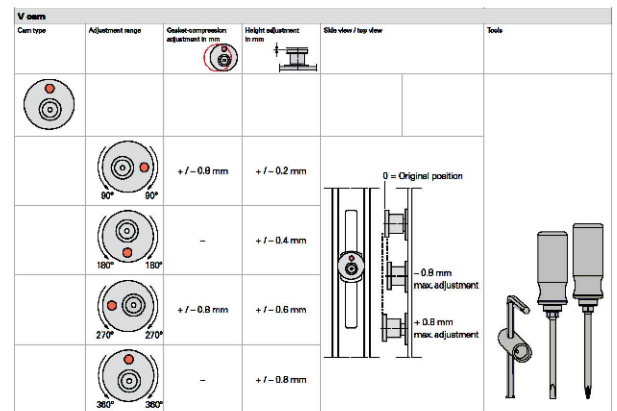


DIAGRAM 7-1b

COMPRESSION ADJUSTMENT (CAM)

7c) V-cam can rotate left and right 90° to bring V-cam into position to allow compression of gasket ± 0.8 mm. CAM adjust right and left to allow in and out V-cam adjustment is an incremental adjustment : [90° = ±0.2mm], [180° = ±0.4mm], [270° = ±0.6mm], [360° = ±0.8mm]

Tool: Hex key Metric # 4

All Content displayed is for guidance and reference purposes. Actual product may vary. Subject to changes without notice. Diagrams and instructions are based on hardware manual of Roto Frank, an independent hardware manufacturer. CRYSTAL design is registered trademark of Crystal Window & Door Systems, Ltd.

**8. PIVOT REST CONCEALED HINGE
HEIGHT ADJUSTMENT**

HEIGHT ADJUSTMENT

8a) Sash should be opened at minimum of 90° (+) to access *pivot rest concealed hinge* (see DIAGRAM B-B for sash position)

8b) Height adjustment -1.0 / +2.0 mm via screw

[A] in the pivot rest. (see DIAGRAM 8-1a)

Tool: Hex key Metric # 4.

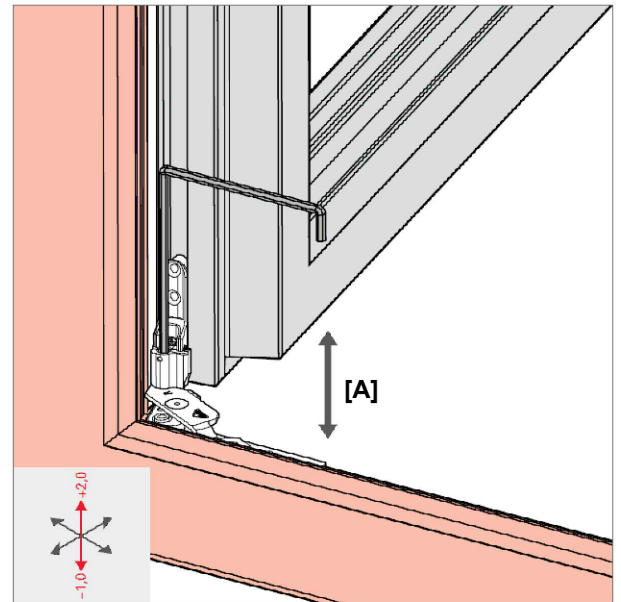


DIAGRAM 8-1a

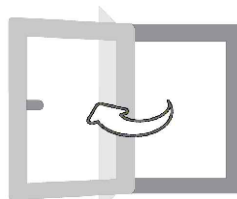


DIAGRAM B-B

**9. PIVOT REST CONCEALED HINGE
LATERAL ADJUSTMENT**

LATERAL ADJUSTMENT

9a) Sash should be opened at minimum of 90°(+) to access *pivot rest concealed hinge* (see DIAGRAM 9-1b for sash position)

9b) Lateral adjustment is allow by adjusting screw [B] in the corner hinge. (see DIAGRAM 9-1a) -1.5 / +2.0 mm via screw

Tool: Hex key Metric # 4.

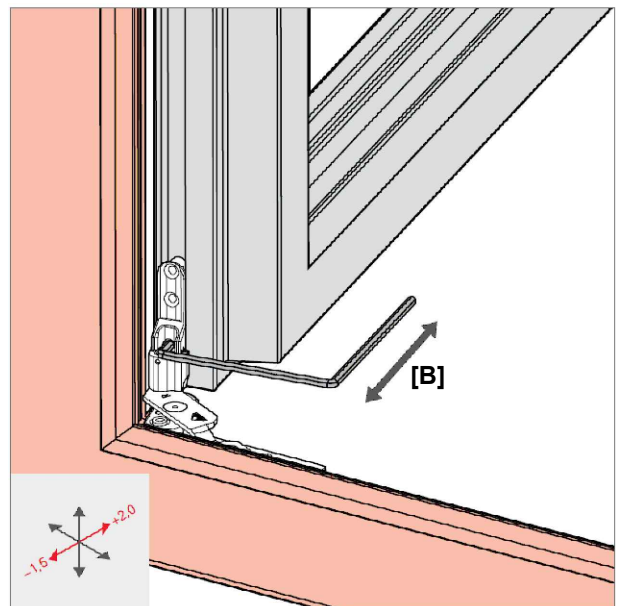


DIAGRAM 9-1a

All Content displayed is for guidance and reference purposes. Actual product may vary. Subject to changes without notice. Diagrams and instructions are based on hardware manual of Roto Frank, an independent hardware manufacturer. CRYSTAL design is registered trademark of Crystal Window & Door Systems, Ltd.

10. SASH STAY LATERAL ADJUSTMENT

SASH STAY LATERAL ADJUSTMENT

10a) Sash should be opened at minimum of 90° (+) to access *sash stay* (see DIAGRAM B-B for sash position)

10b) Lateral adjustment -2.0 / +2.0 mm via screw

[C] in the sash stay (see DIAGRAM 10-1a)

Tool: Hex key Metric # 4.

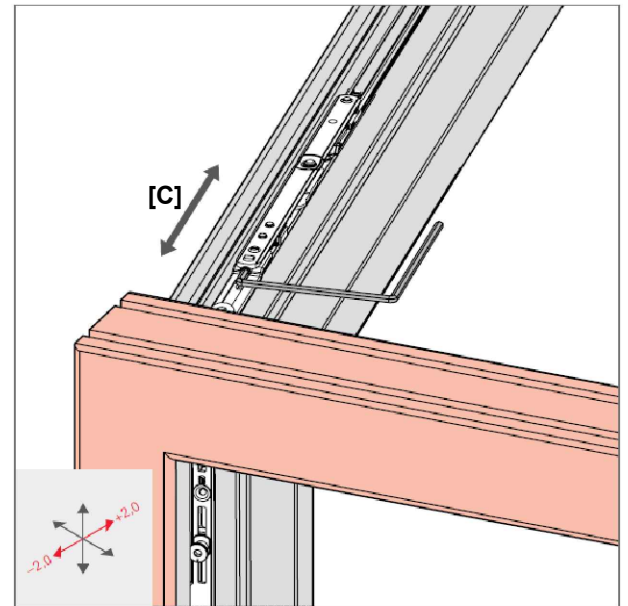


DIAGRAM10-1a

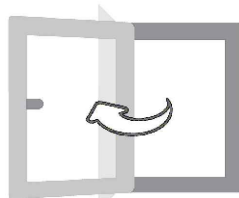


DIAGRAM B-B

11. GASKET COMPRESSION ADJUSTMENT (CONCEALED HINGE)

GASKET COMPRESSION ADJUSTMENT

11a) Sash should be opened at minimum of 90°(+) to access *pivot rest concealed hinge* (see DIAGRAM B-B for sash position)

11b) Gasket compression adjustment is allow by adjusting screw [D] at underside of concealed hinge. (see DIAGRAM 11-1a) -0.5 / +0.5 mm via screw

Tool: Hex key Metric # 4.

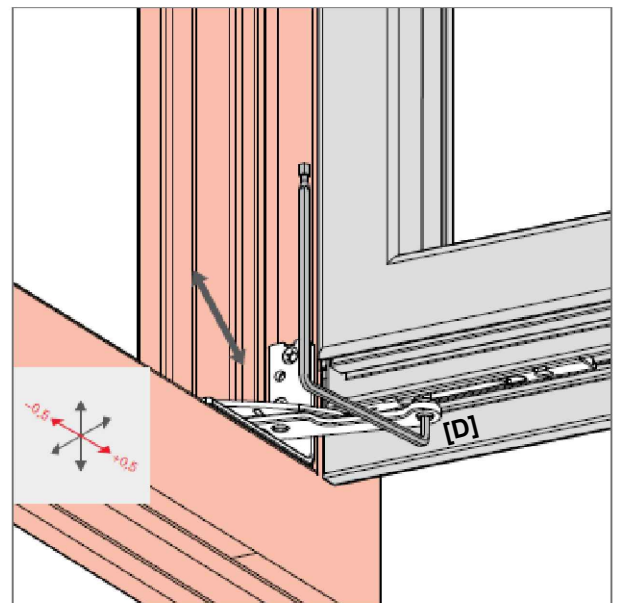


DIAGRAM11-1a

All Content displayed is for guidance and reference purposes. Actual product may vary. Subject to changes without notice. Diagrams and instructions are based on hardware manual of Roto Frank, an independent hardware manufacturer. CRYSTAL design is registered trademark of Crystal Window & Door Systems, Ltd.

**12. CONCEALED HINGE - SASH STAY
GASKET COMPRESSION ADJUSTMENT**

SASH STAY GASKET COMPRESSION

12a) Sash should be opened in the TILT position to access *sash stay* (see DIAGRAM C-C for sash position)

12b) Gasket compression adjustment achieved -2.0 / +2.0 mm via screw [E] in the sash stay (see DIAGRAM 12-1a)
Tool: Hex key Metric # 4.

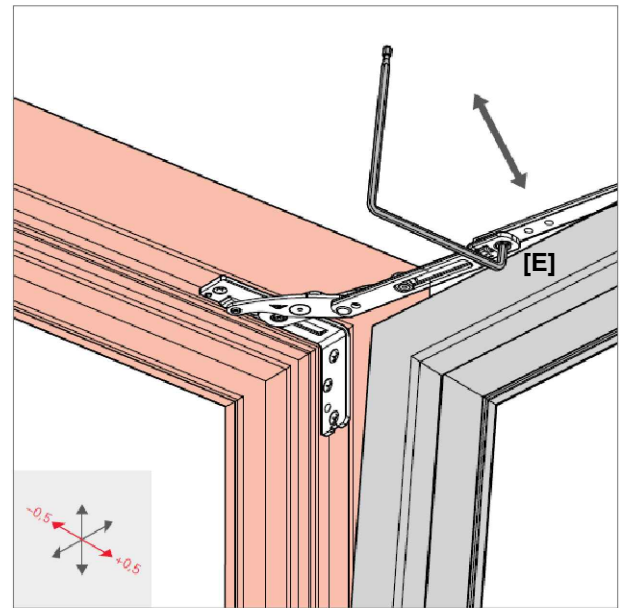


DIAGRAM 12-1a



DIAGRAM C-C

**13. EXPOSED CORNER HINGE - SASH STAY
GASKET COMPRESSION ADJUSTMENT**

SASH STAY GASKET COMPRESSION

13a) Sash should be opened in the TILT position to access *sash stay* (see DIAGRAM C-C for sash position)

13b) Gasket compression adjustment achieved -0.5 / +0.5 mm via eccentric [B] in the sash stay (see DIAGRAM 13-1a)
Tool: Hex key Metric # 4.

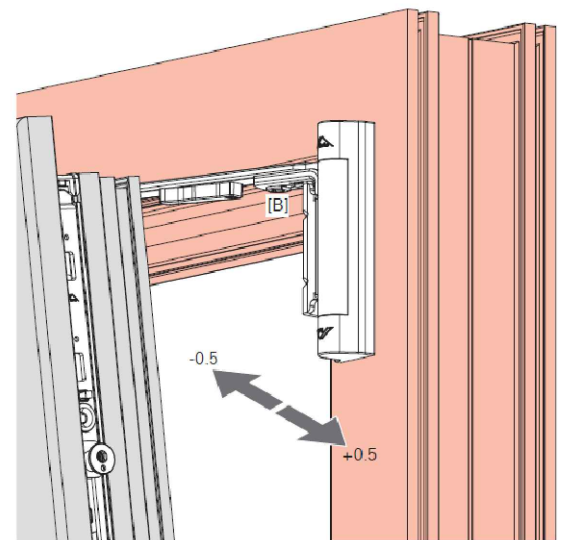


DIAGRAM 13-1a

All Content displayed is for guidance and reference purposes. Actual product may vary. Subject to changes without notice. Diagrams and instructions are based on hardware manual of Roto Frank, an independent hardware manufacturer. CRYSTAL design is registered trademark of Crystal Window & Door Systems, Ltd.