Alban Giacomo spa

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TECHNICAL MANUAL

GALILEO SA

Sliding Coplanar
Semi-automatic System

for all types of profile with gap 4 and 12 mm
and rebate 15/18/20

GALILEO SA

Information

Starting operations

Sash operations

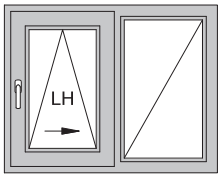
Frame operations

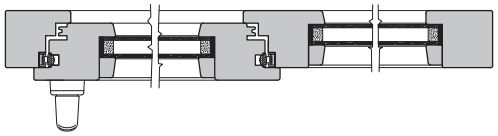
Assembly and adjustments

Mintenance

Opening layouts

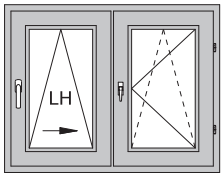
Layout A

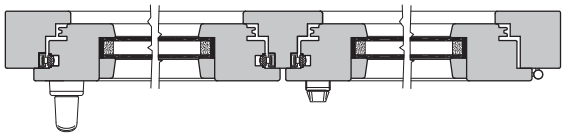




One sliding sash and one fixed sash.

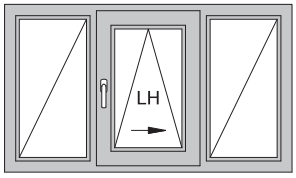
Layout B

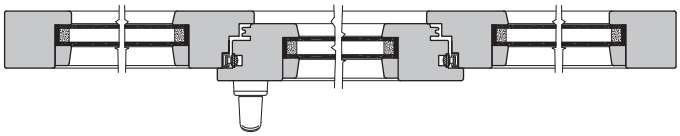




One sliding sash and one sash with fixed central sash.

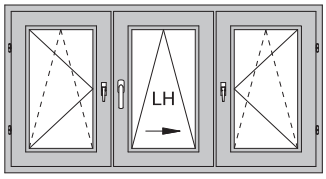
Layout C

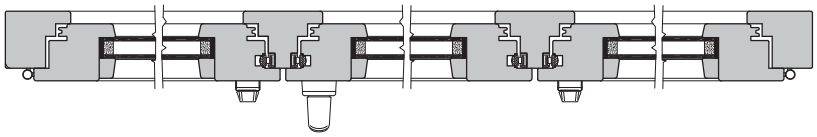




One sliding central sash and two fixed lateral sashes.

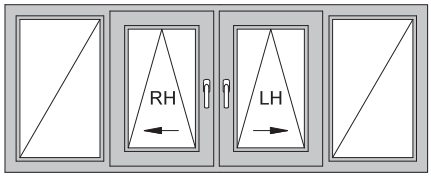
Layout C1

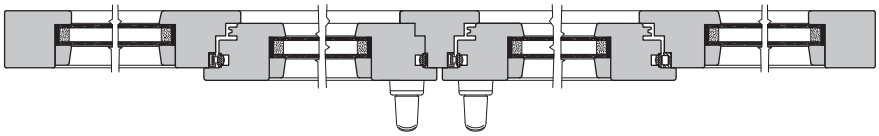




One sliding central sash and two lateral sashes with fixed central sash.

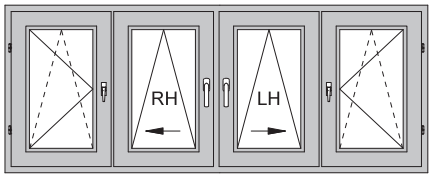
Layout E

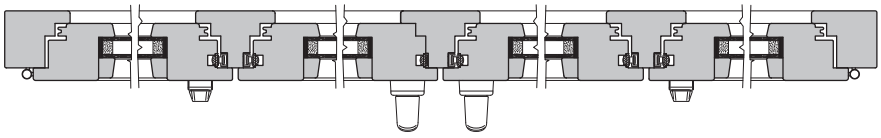




Two outward sliding coaxial central sashes and two fixed lateral sashes. Central point system between the two sliding sashes with mullion to be installed (**MR** central point system) and single control handle on both sliding sashes.

Layout F





Two outward sliding coaxial central sashes and two swinging lateral sashes. Central point system between the two sliding sashes with mullion to be installed (**MR** central point system) and single control handle on both sliding sashes.

Technical features

Applications

On Wooden, PVC and Alu-Wood systems apart from gap and rebate. Galileo SA allows to use a traditonal DK handle avoiding the use of a special handle.

Dimensions

The Galileo SA system is used for the construction of sliding sashes with sash rebate width (SRW) ranging from 720 to 1760 mm, and sash rebate height (SRH) ranging from 835 to 2400 mm.
A 400 mm extension (which can be trimmed to 250 mm) is available, allowing for the construction of sliding sashes with SRH in excess of the specified upper limit.

Maximum weight

The weight of each sliding sash equipped with the Galileo SA hardware must not exceed 150 kg.

Lower transom

Galileo SA can also be installed on very reduced sill sections. The minimum useful dimension allowed is based on a fixed 43 mm width + the overlap of the sash rebate on the frame:

- 54 mm for gap 4 rebate 15
- 57 mm for gap 4 rebate 18
- 49 mm for gap 12 rebate 18
- 51 mm for gap 12 rebate 20

System advantages

Adjustable locking cams

All the locking telescopic cams can be adjusted using a 11 mm fix wrench.

Screw holes

Every screw hole is equipped with a rod guide/spacer that prevents the jamming of the sliding rods in the event that the 16/12 milling is not perfect, or when the screws are screwed down too tight.

Handle height

All the vertical elements can be trimmed also at the bottom: the handle heights specified for the various GRs can therefore be modified (generally speaking, to a minimum of 400 mm for windows and 975 mm for doors). Moreover, for the intermediate size between window and door (from SRH 1745 to 1910, for a total of 165 mm) a handle height of 500 or 1050 mm can be selected.

Carriages connecting rod

The rod which connects front and rear carriages is made of steel and has a vertical oval cross section of 10x12 mm. This enables the “direct” transmission (with reduced tolerances) of the forced drive from the front to the rear carriage.

Coverplates

The cover plates are pre-assembled on the corner movements. They are made of pressed steel and shaped so as to ensure a more integrated match between the different elements of the system.

Anti-burglar system

Thanks to telescopic mushroom cams as a standard, there's the possibility to combine standard strikers with anti-burglar ones.

Coaxial sashes

Sash layouts include the possibility of assembling coaxial sashes (layouts E or F) with double handle, thus ensuring the functionality of the semi-stationary sliding sash (only when designed with **MR** type central system point).

DK handle with short neck

For layouts featuring a sliding sash which opens over a swing sash (B, B1, C1, C2 and F) a handle can be applied directly on the semistationary
sash thus avoiding the use of a cover moulding.
The movement of the system to the sliding position has been increased so as to enable the application of a standard handle with short neck (overall dimension 25 mm).

Basic kits

To expedite the processing of orders, all the accessories (with the exception of “special” strikes and hardware) are sold in basic kits to be selected according to the hand, design and dimensions of the sliding sash.

Operating sequence

1) Measure and compare the diagonal dimensions (fig. 1) to make sure that the door rails and stiles and the frame jambs are square.

2) Identify the "Opening pattern" (see page 4).

3) Measure the SRW (fig. 2) and SRH (fig. 3) of each sliding sash.

4) Make sure that the gap between the rebate of the sash on which the hardware is installed and the corresponding rebate on the frame housing the strikes conforms to the specifications for the type of door construction.

5) Determine whether the sash is left or right handed. (fig. 4).

Diagonal **A** = Diagonal **B**

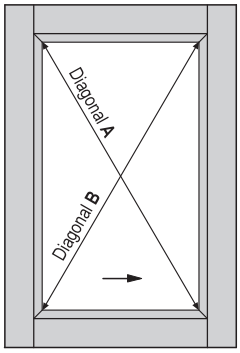
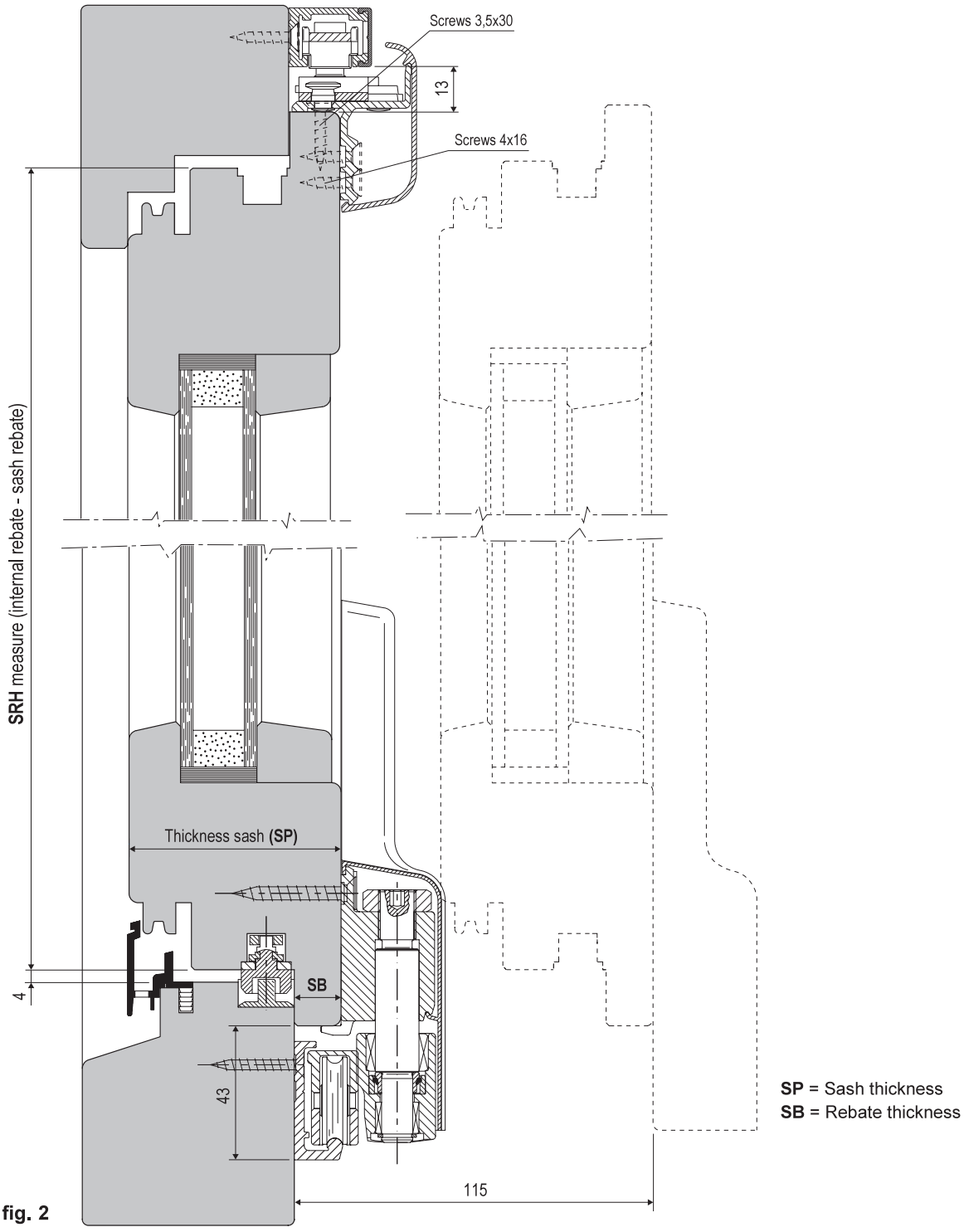


fig. 1

Vertical section



SP = Sash thickness
SB = Rebate thickness

fig. 2

Horizontal sections

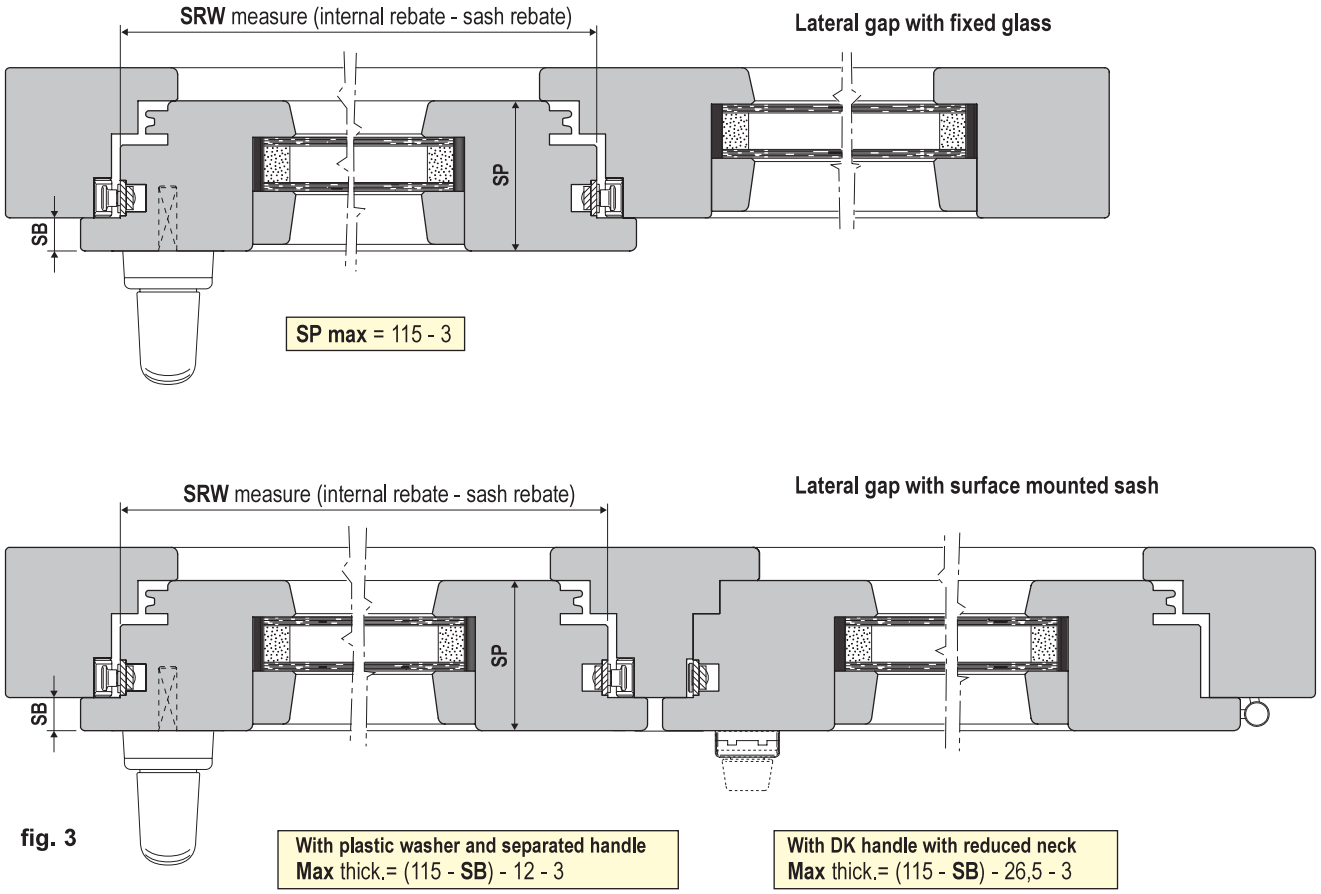


fig. 3

Operating sequence

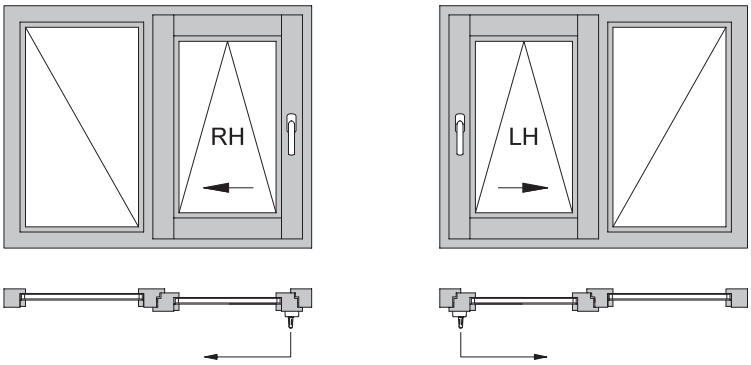


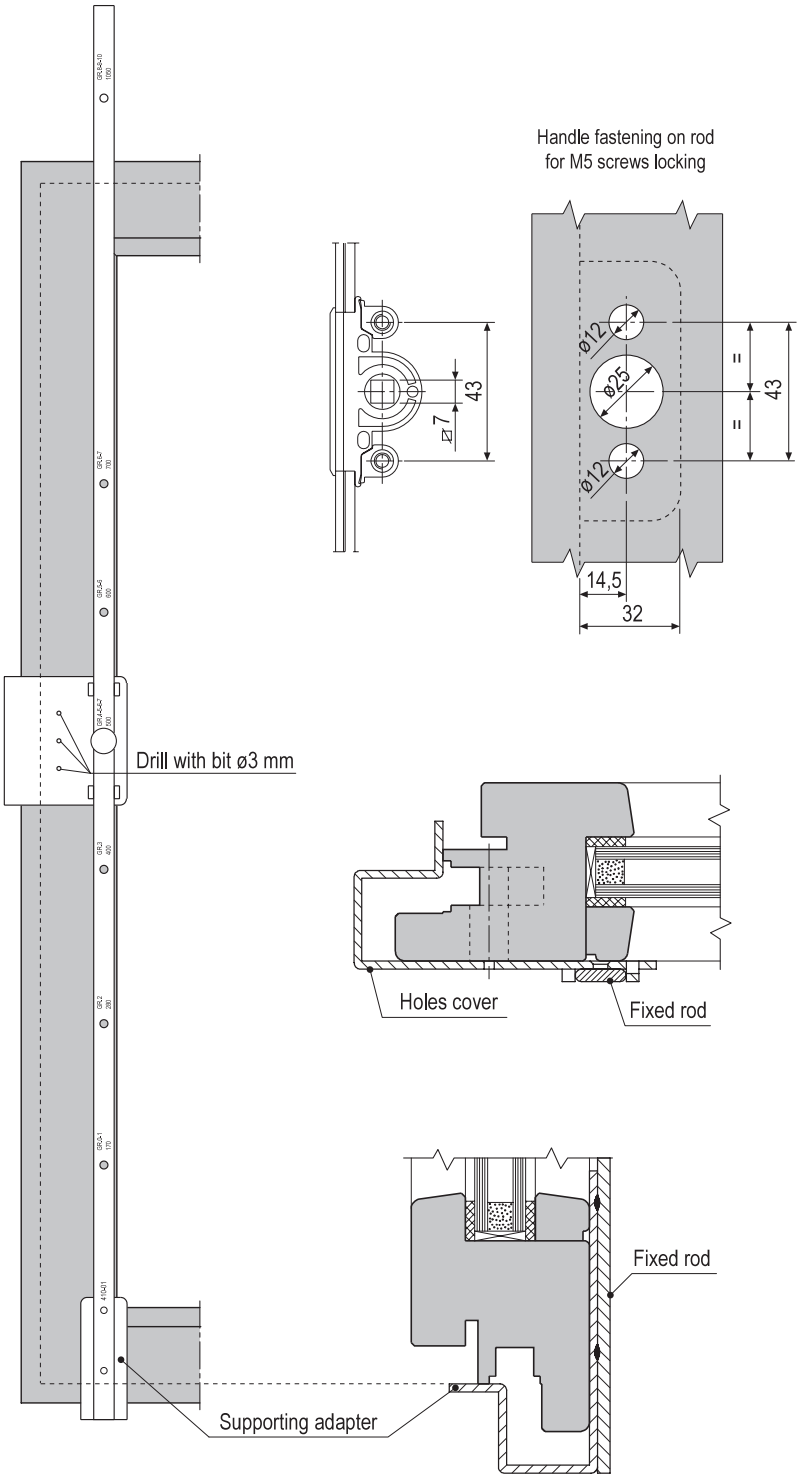
fig. 4

Millings for handle assembly

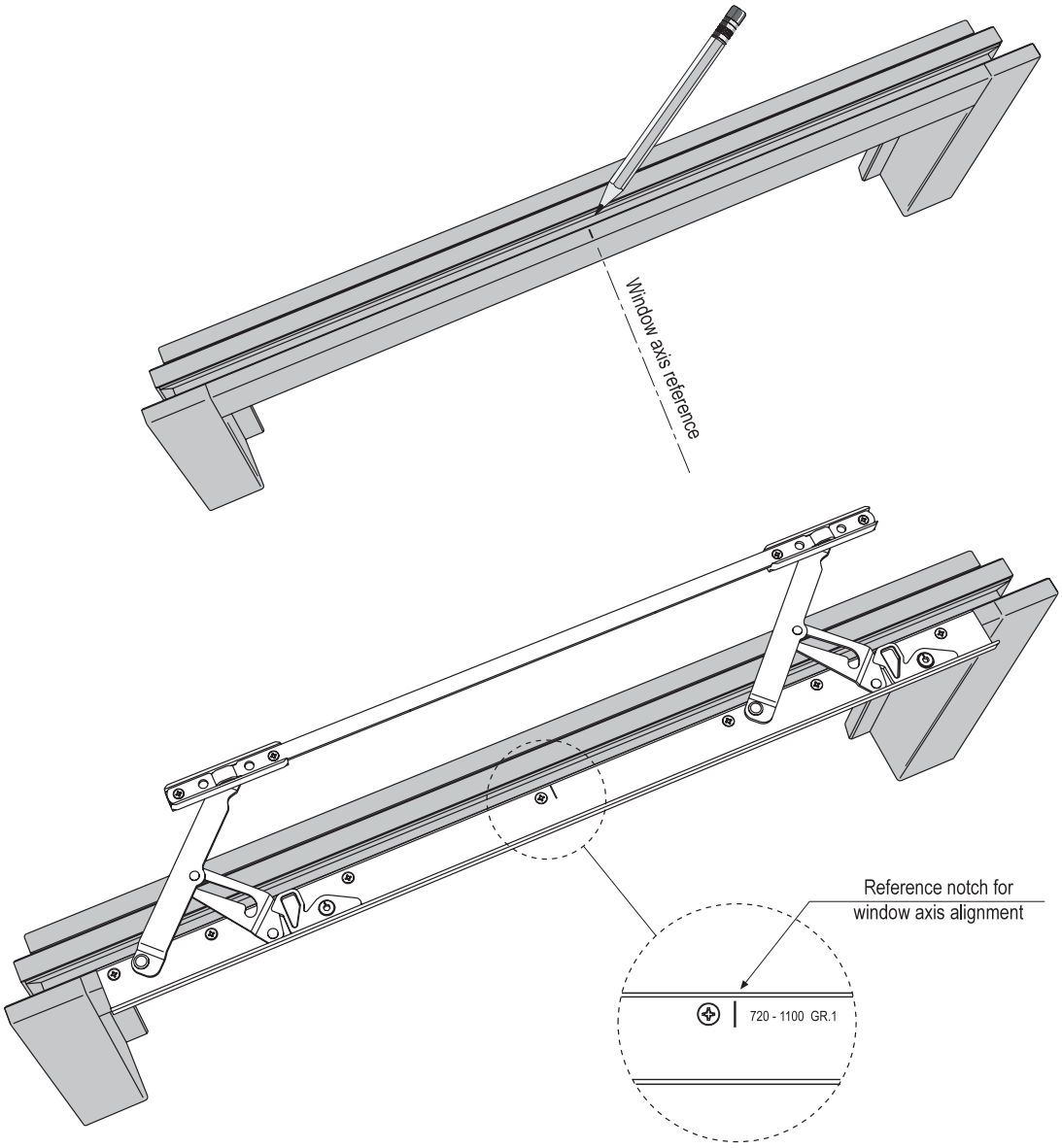
The rod has a series of holes that correspond to the various handle heights. The sliding part (template) must be positioned on the rod to suit the GR size of the selected espagnolette and the opening direction.
After the jig has been assembled and positioned on the stile, drill 3 guide holes using a 3 mm bit and then proceed as follows:

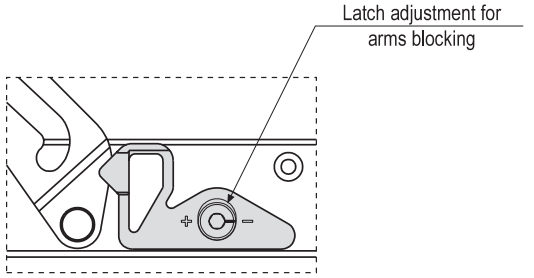
1) for timber systems. Using a 25 mm diameter cup-head bit, widen the central hole to the base of the 16/12 mm groove, to create the housing for both the handle pin and the espagnolette case.

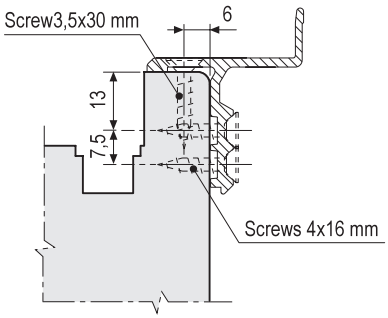
2) for PVC or mixed systems. Using a 12 mm diameter bit widen the 3 holes to the base of the 16/12 mm groove. In this case, to create the housing for the espagnolette case, the 16/12 mm groove must be pierced with a new horizontal milling.

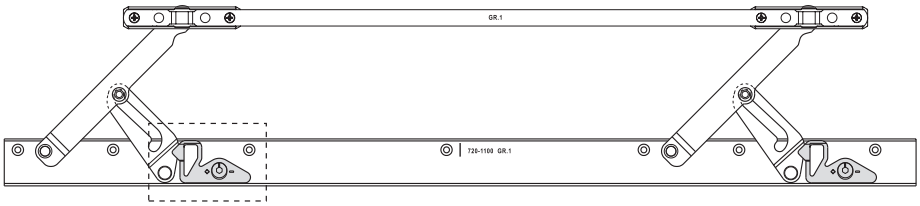


Stay arm positioning

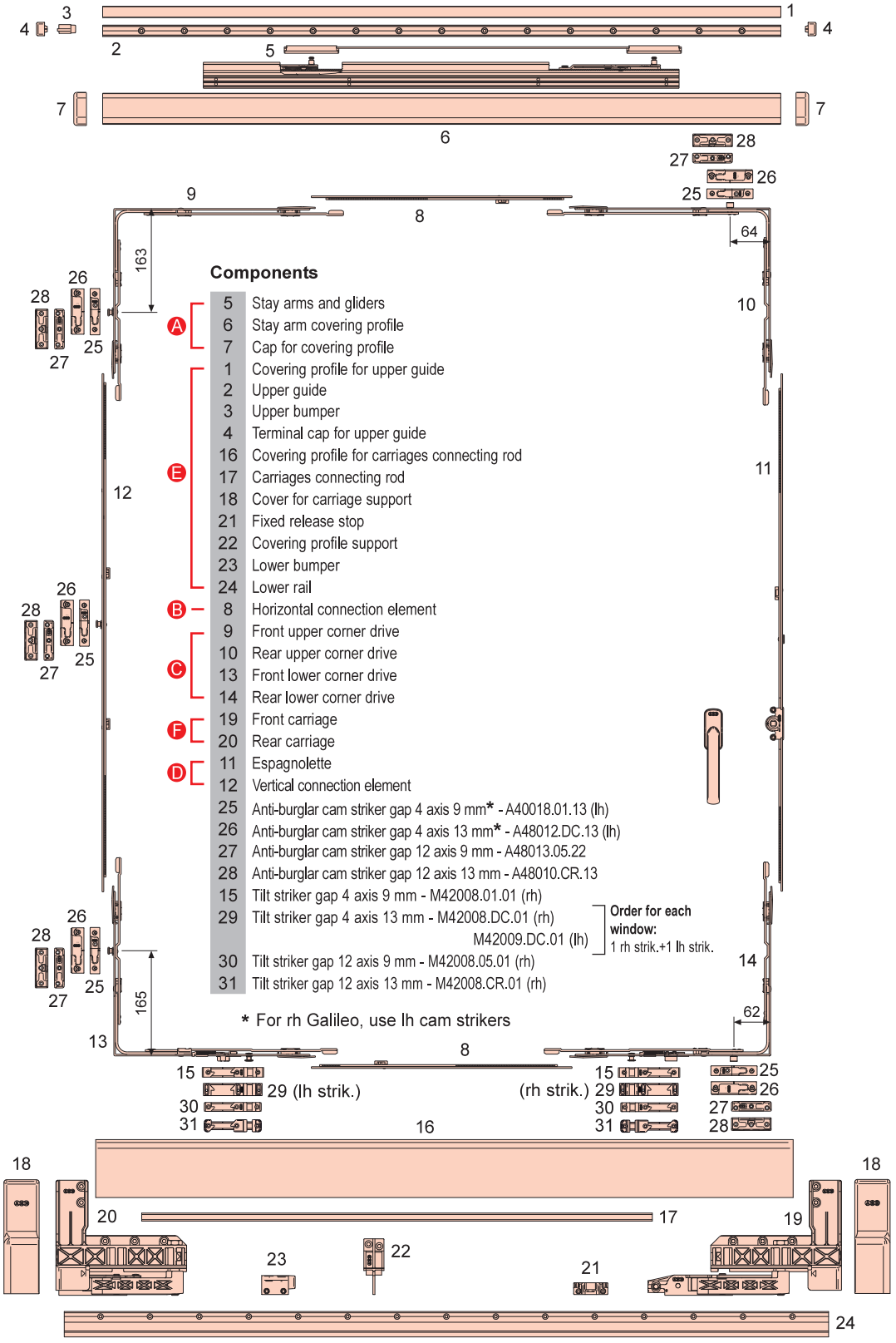








Example of hardware diagram for layout E - rh second sash



A Stay arms and accessories kit

M00501.01.**XX** - SRW = 720-1100
M00501.02.**XX** - SRW = 1101-1450
M00501.03.**XX** - SRW = 1451-1760

B Horizontal connecting kit

M43023.00.00 - LBB = 720-1035
M43023.00.0B - LBB = 830-1035
M43023.00.01 - LBB = 1036-1260
M43023.00.02 - LBB = 1261-1510
M43023.00.03 - LBB = 1511-1760

C Corner drives kit

M41310.00.DX (rh) semi-fixed sash

D Vertical connecting kit

M43024.15.01 - SRH = 835-1160
M43124.15.02 - SRH = 1161-1410
M43124.15.03 - SRH = 1411-1660
M43124.15.04 - SRH = 1661-1910
M43124.15.05 - SRH = 1745-1995
M43124.15.06 - SRH = 1900-2150
M43124.15.07 - SRH = 2151-2400

E Width accessories kit

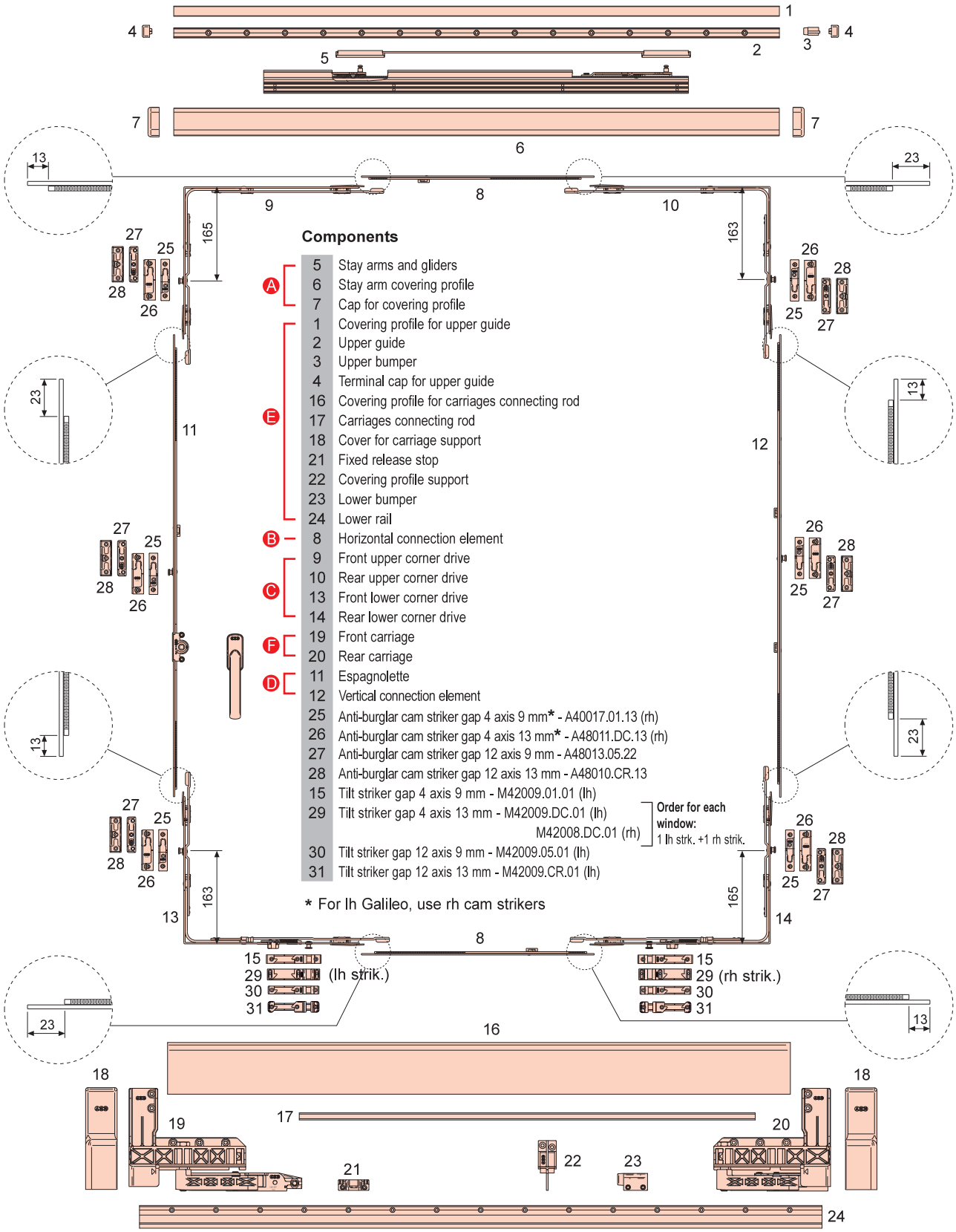
M02022.01.**XX** - SRW = 720-1035
M02022.02.**XX** - SRW = 1036-1260
M02022.03.**XX** - SRW = 1261-1510
M02022.04.**XX** - SRW = 1511-1760

F Carriages kit 130 Kg

M42401.DX.00 (rh)

XX = 91 White RAL 9010
94 Marrone
34 Matt chromium plated

Example of hardware diagram for layout E - lh sash



A Stay arms and accessories kit

M00501.01.**XX** - SRW = 720-1100
M00501.02.**XX** - SRW = 1101-1450
M00501.03.**XX** - SRW = 1451-1760

B Horizontal connecting kit

M43023.00.00 - SRW = 720-1035
M43023.00.0B - SRW = 830-1035
M43023.00.01 - SRW = 1036-1260
M43023.00.02 - SRW = 1261-1510
M43023.00.03 - SRW = 1511-1760

C Corner drives kit

M41210.00.SX (lh)

D Vertical connecting kit

M43024.15.01 - SRH = 835-1160
M43024.15.02 - SRH = 1161-1410
M43024.15.03 - SRH = 1411-1660
M43024.15.04 - SRH = 1661-1910
M43024.15.05 - SRH = 1745-1995
M43024.15.06 - SRH = 1900-2150
M43024.15.07 - SRH = 2151-2400

E Width accessories kit

M02022.01.**XX** - SRW = 720-1035
M02022.02.**XX** - SRW = 1036-1260
M02022.03.**XX** - SRW = 1261-1510
M02022.04.**XX** - SRW = 1511-1760

F Carriages kit 130 Kg

M42401.SX.00 (lh)

XX = 91 White RAL 9010
94 Brown
34 Matt chromium plated

Assembly of corner movements and connecting elements

1) Apply and fix the upper corner drives (fig.1).

2) Apply and fix the lower corner drivesby following the instructions impressed in the hardware forend: A = front; P = rear.

Note. Use 3,5x35 mm screws partially threaded.

3) Adapt the connecting horizontal and vertical elements to the windows dimensions, by trimming the side with longer knurling. Before doing this operation, align the fixed rod and the movable rod, and then trim as needed (see table).

Vertical connecting kit

GR	SRH	Measure	Handle height	Trim	
				Low.	Up.
1	835-1060	640	400	100	225
1	885-1110	640	450	50	225
1	935-1160	640	500	0	225
2	1161-1410	890	500	75	250
3	1411-1660	1140	500	75	250
4	1661-1910	1390	500	75	250
5	1745-1995	1476	1050	75	250
6	1900-2150	1630	1050	75	250
7	2151-2400	1880	1050	75	250

Horizontal connecting kit

GR	SRW	Measure	Trim	
			Low.	Up.
0	720-1035	415	-	225
0 bis	830-1035	415	-	205
1	1036-1260	640	100	225
2	1261-1510	890	75	250
3	1511-1760	1140	75	250

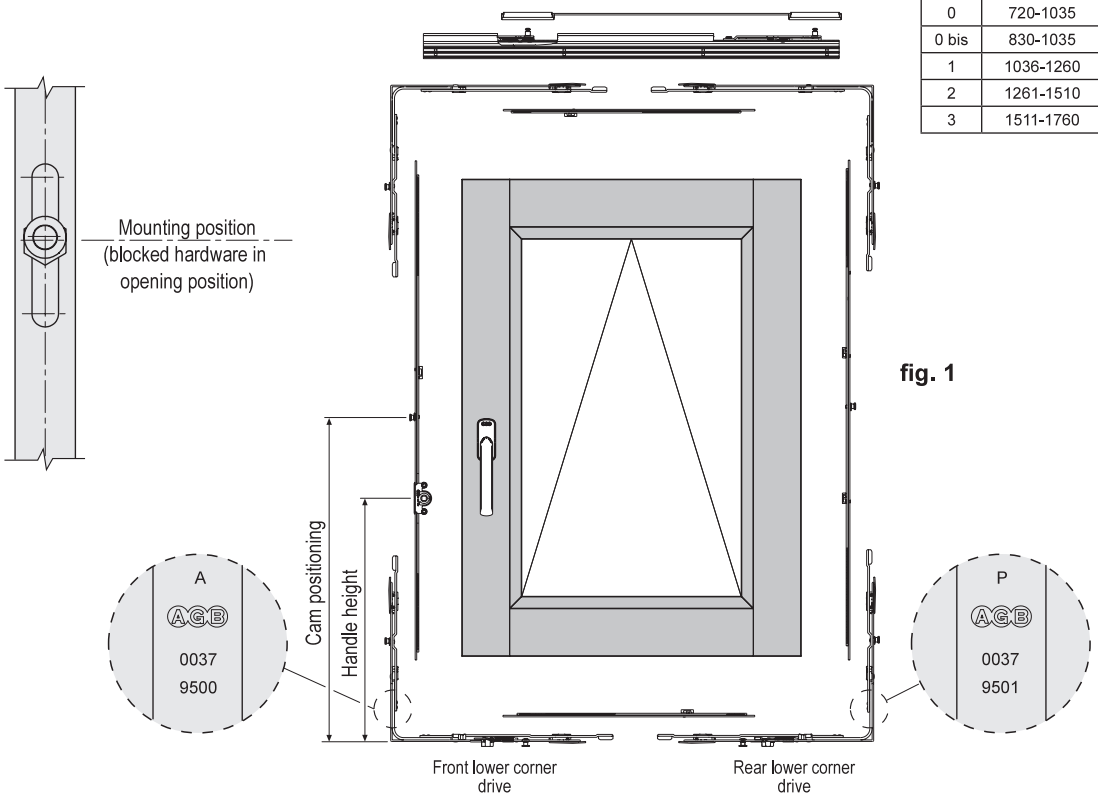
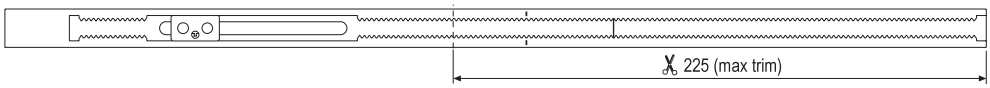


fig. 1

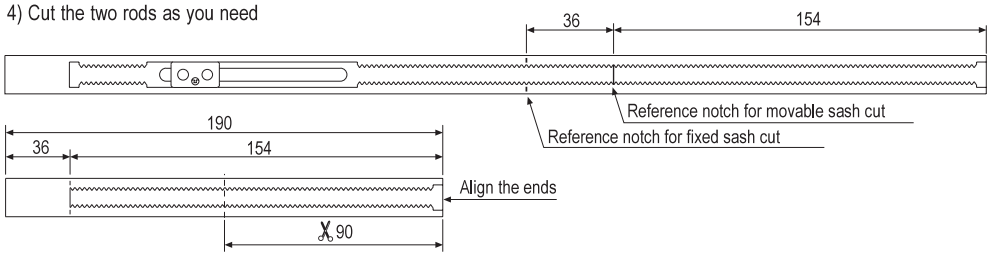
Instructions for rod trim GR0

For SRW from 810 to 1035 mm



For SRW from 720 to 809 mm

Please do the following procedure:
1) Cut the movable rod in correspondence of the notch
2) Cut the fixed sash in correspondence of the notch
3) Check that the extremity of fixed and movable sashes are aligned
4) Cut the two rods as you need



Carriage installation

1) Adjust the carriage drilling jig, art. M02030.00.02 (**a**), keeping in mind that, when X = 34 (fig. 1), the carriage cover remains at 2 mm distance from the sash rebate edge (fig. 2).

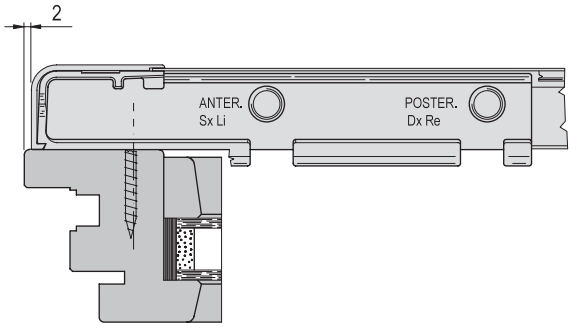


fig. 2

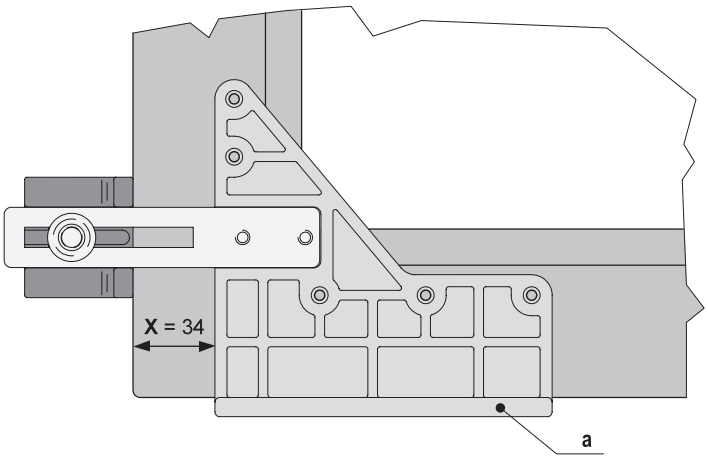
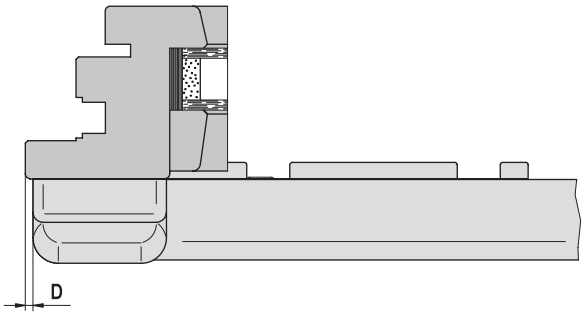


fig. 1



Note. To increase the distance between the cover and the sash rebate edge (D), adjust the jig (X) in the following manner:

Ex: For **D**= 5 mm ⟶ **X**= 34+5-2

For **D**= 0 mm ⟶ **X**= 34+0-2

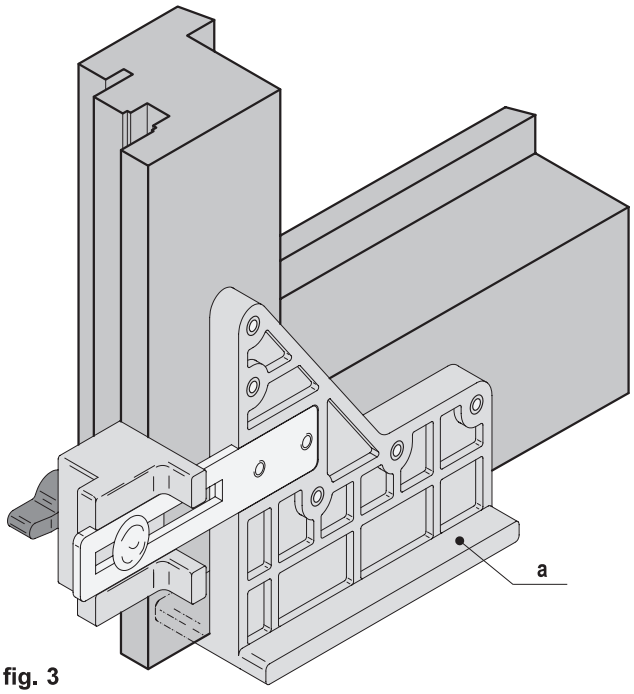


fig. 3

2) Position the jig art. M02030.00.02 (**a**) on the rebate of the lower rail or on a stile of the sliding sash (fig. 3). Drill 5 holes using a 4 mm drill bit, depth 40 mm.

3) Flip the jig art. M02030.00.02 (**a**) 180°, position it on the rebate of the lower rail and of the opposite stile. Drill five more holes using a 4 mm drill bit (fig. 4).

4) Position and fasten the carriages using 5x40 mm screws.

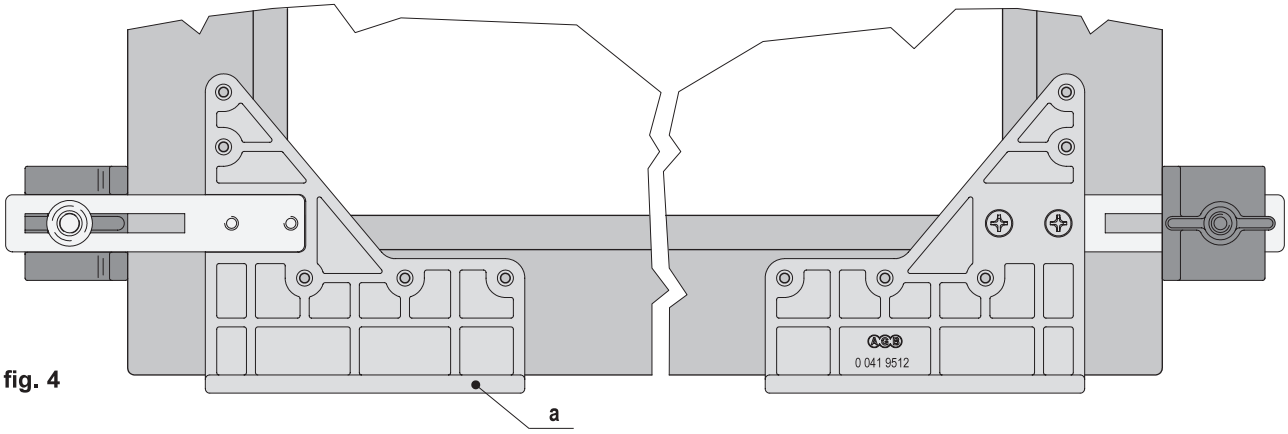


fig. 4

5) Lay the carriage connecting rod (**b**) in the seat (marked by an arrow) of one of the two carriages and mark the cutting dimensions corresponding to the arrow on the opposite carriage (fig. 5).

6) Insert the connecting rod in the proper carriage seats. Fasten the socket head screw of the rear carriage using a 4 mm Allen wrench. Close the carriages and fasten the socket head screw of the front carriage.

7) To cut the cover trim to size refer to the arrows marked on the carriages (fig. 5).

8) Position the supports for the cover trim (**c**) and fasten them on the lower rail using 5x40 mm screws (you will need approximately one support for each meter of trim).

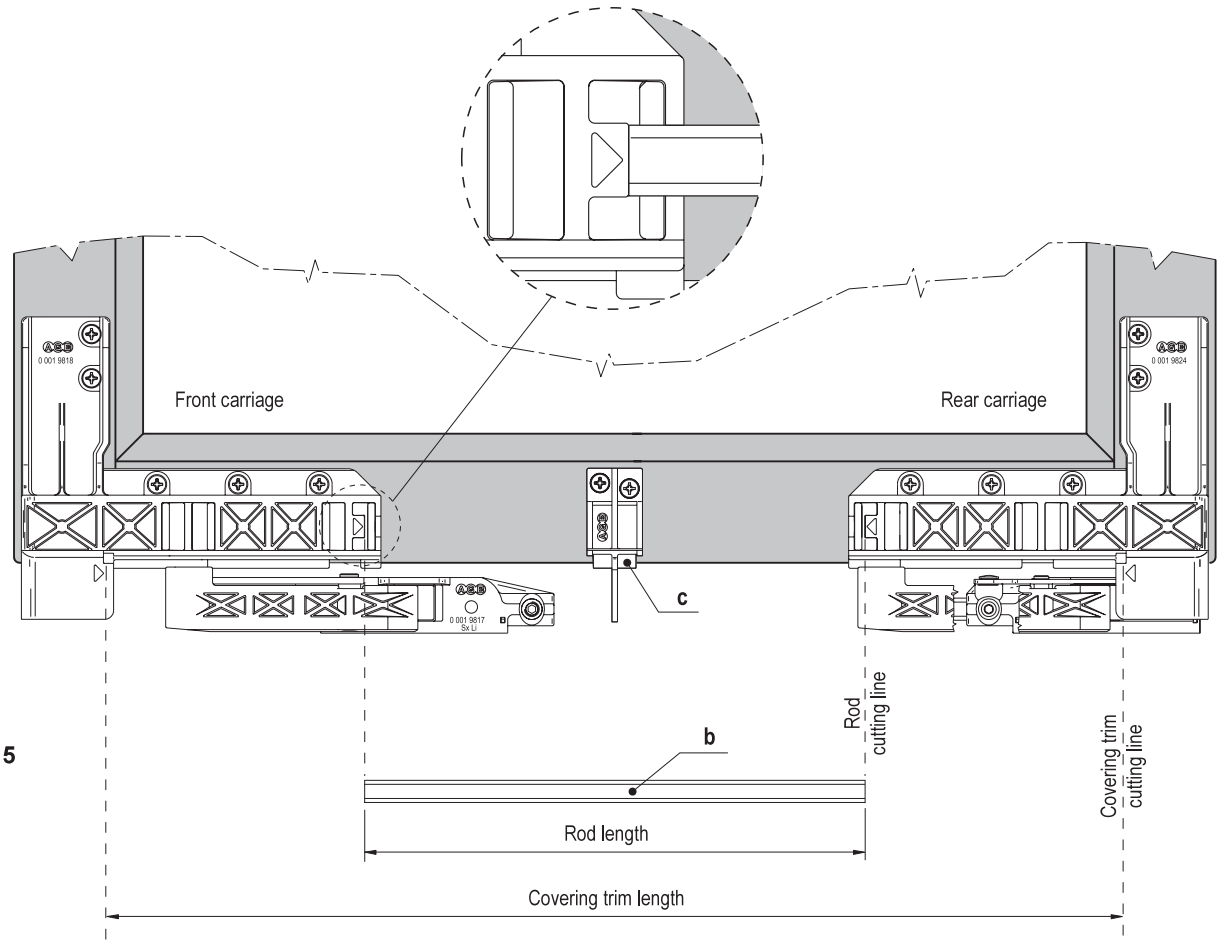


fig. 5

Millings on wood casings, gap 4 mm, for striker installation

All the millings for the strikers must be executed using a pantograph fitted with a 27 mm guide ring and 16 mm mill.

Millings on the jambs

1) Check the number of locking cams present on one of the vertical connecting elements (fig. 1).

2) For sashes with 500 mm max. handle height, insert a jig art. A20030.01.27 (**a**) on rod art. A20030.01.28 (**b**) and place it according to the GR size of the vertical connecting elements on the handle side (fig. 2). If you use a GR size without locking cams the millings can be done without the help of a jig rod.

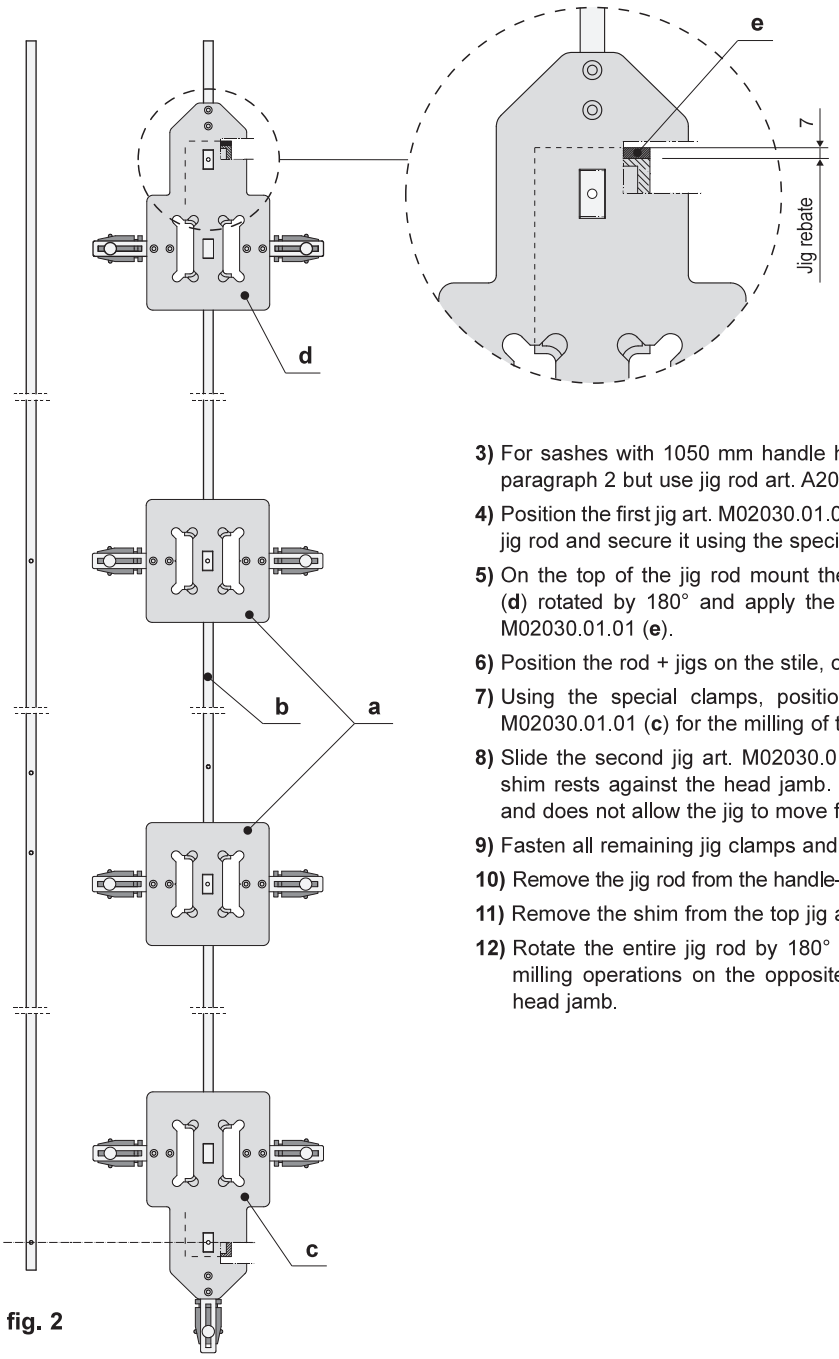


fig. 2

3) For sashes with 1050 mm handle height, follow the instructions in paragraph 2 but use jig rod art. A20030.01.29.

4) Position the first jig art. M02030.01.01 (c) over the bottom hole of the jig rod and secure it using the special threaded spring nut.

5) On the top of the jig rod mount the second jig art. M02030.01.01 (**d**) rotated by 180° and apply the 7 mm compensating shim art. M02030.01.01 (**e**).

6) Position the rod + jigs on the stile, on the handle side.

7) Using the special clamps, position and fasten the first jig art. M02030.01.01 (**c**) for the milling of the striker on the lower section.

8) Slide the second jig art. M02030.01.01 (**d**) along the rod until the shim rests against the head jamb. Make sure the clamp is locked and does not allow the jig to move from its proper position.

9) Fasten all remaining jig clamps and mill the striker slots.

10) Remove the jig rod from the handle-side jamb.

11) Remove the shim from the top jig and mount it on the bottom one.

12) Rotate the entire jig rod by 180° and repeat the positioning and milling operations on the opposite jamb, always referring to the head jamb.

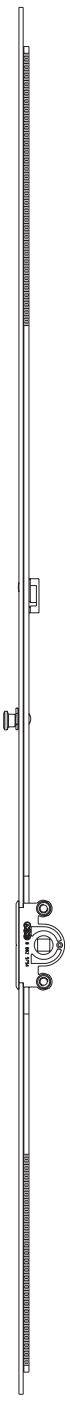


fig. 1

13) For the opening types with rebate reversal (SB point) or with centre mullion to be installed (MR system central point for diagrams B1, C2, E and F), mount the shims art. A20030.01.24 (**e**) and shim art. M02030.01.02 (**f**) on the upper (**d**) and lower (**c**) jigs, as shown in fig. 4. For the lateral rebate, install on the jigs only the shims (**e**).

14) Make sure that the shim (**f**) of jig (**c**) rests on the sash bottom rail. Slide the jig (d) along the rod until it rests against the top rail and secure it.

fig. 3

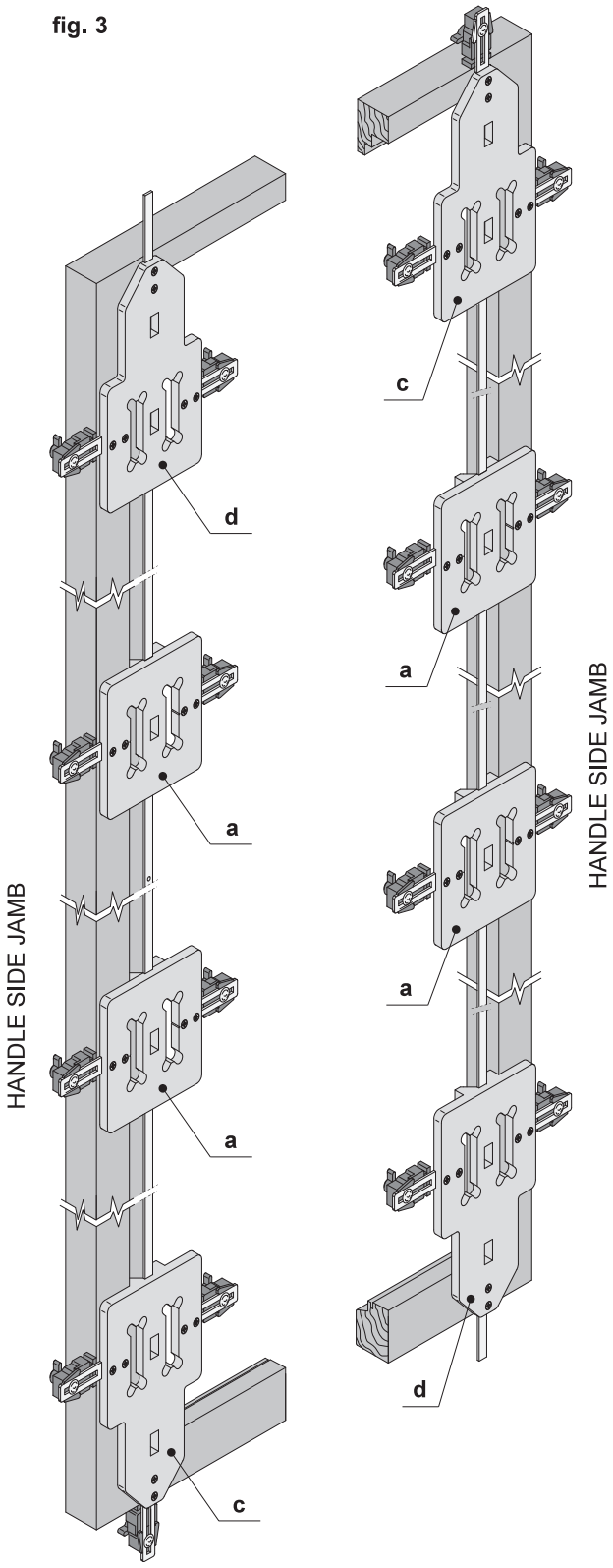
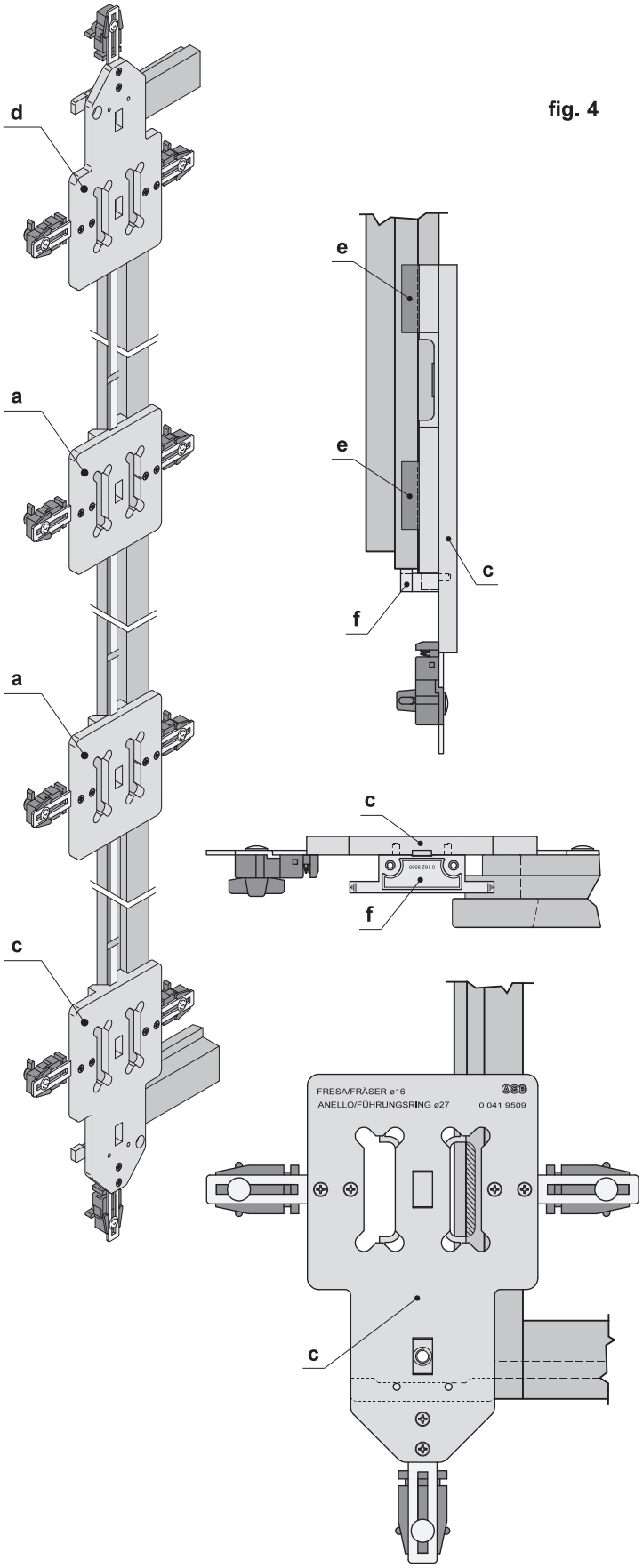


fig. 4



Millings on the lower transom

1) Mount the first jig, art. M02030.01.03 (**e**), on the jig rod, art. A20030.01.28 (**b**), positioning it over the base hole and fasten it using the special threaded spring nut.

2) Mount a jig, art. A20030.01.27 (**d**), positioning it according to the GR size of the horizontal connecting elements.

3) Mount the second jig, art. M02030.01.03 (**a**), on the end of the rod, and rotate it by 180° as compared with the previous one. Apply the compensating shim art. A20030.01.01 (**c**).

4) Rest the rod + jigs on the lower transom.

5) Using the clamps, fasten jig art. M02030.01.03 (**e**) for the milling of the tilt striker to the jamb opposite to the handle side (fig. 2).

6) Slide the second M02030.01.03 jig (**a**) on the rod until it rests against the jamb, then make sure the clamp is tight and does not allow the jig to move from its proper position.

7) Fasten all remaining jig clamps and mill the gains for the strikers.

8) If you use a GR size without locking cams (SRW less than 1260 mm) the millings for the tilt strikes can be made without using the jig rod.

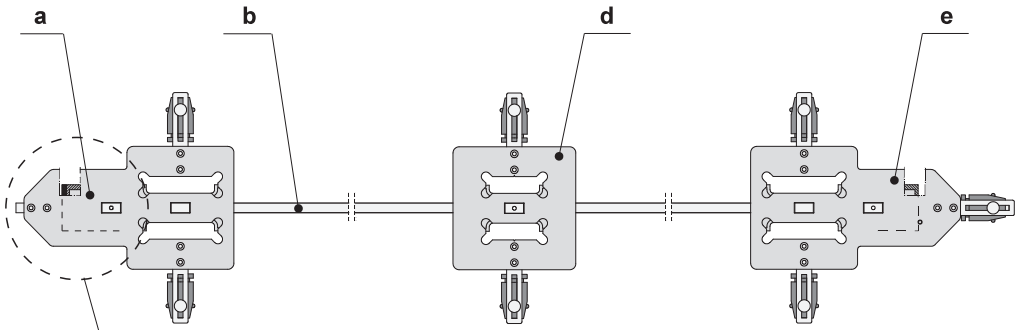
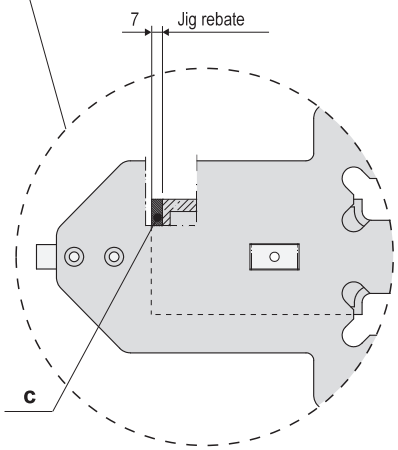


fig. 1



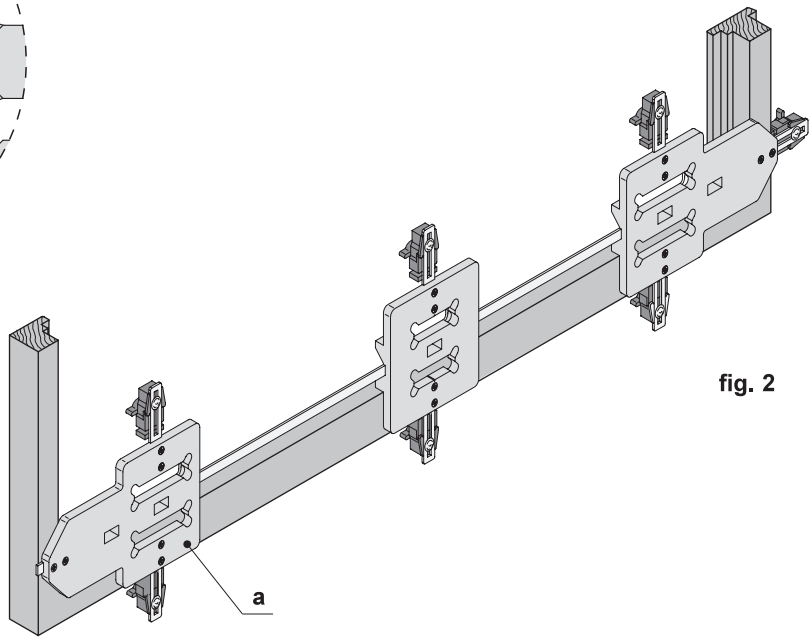


fig. 2

Striker positioning, gap 4, for layout A

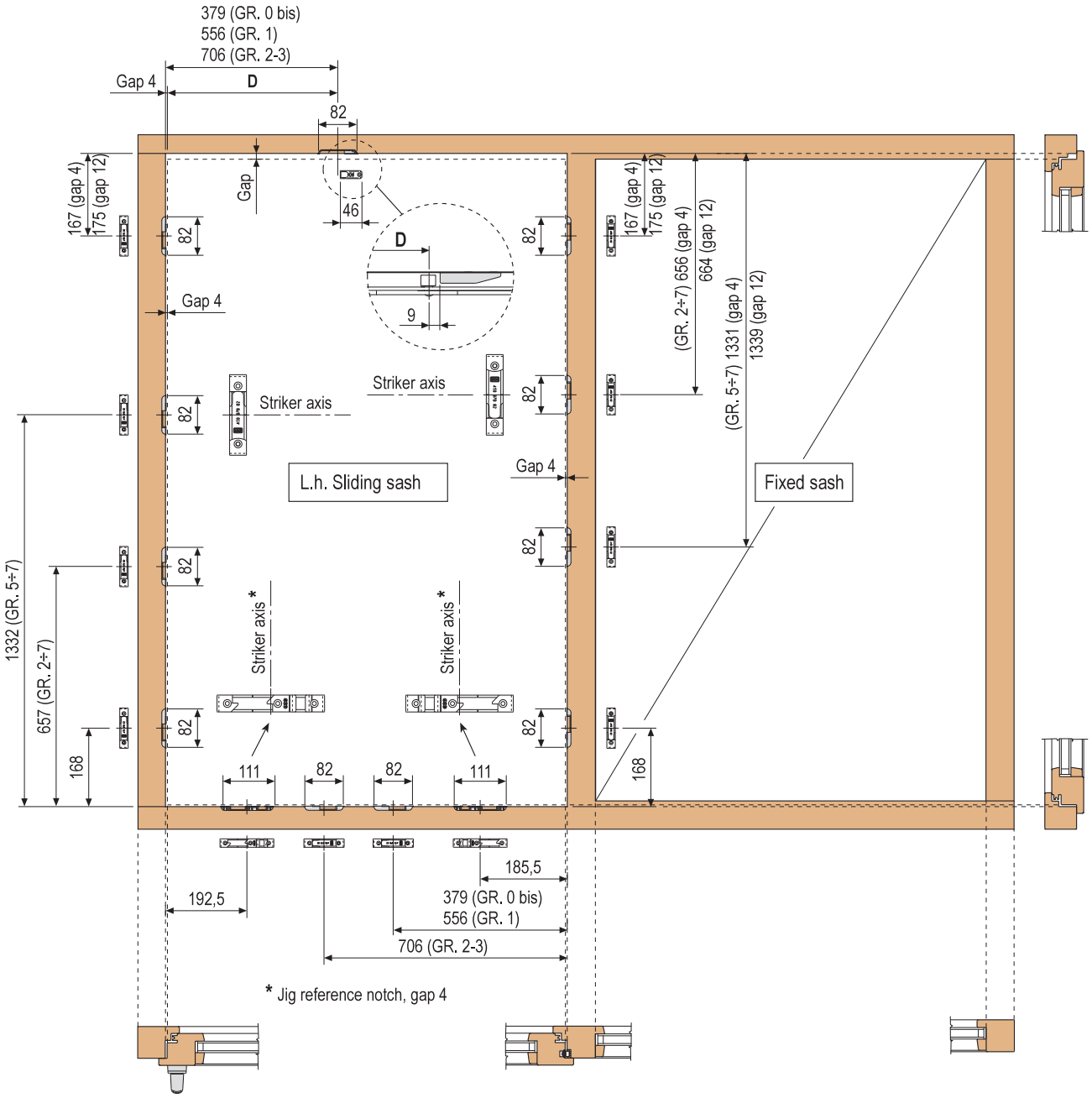
1) The locking cam strikers, art. M02008.01.02, must be installed according to the closing direction of the hardware: clockwise direction for left-handed sashes and counterclockwise for right-handed sashes. Use 4x30 mm screws to fasten the strikers.
2) The locking cam strikers on the head jamb are always surface mounted (art. A38010.05.02, gap 12 mm). Their position on the frame, according to the GR size of the linking element, is determined according to the following rule:

D + 4 + 9

D = closing position of the locking cam in relation to the hardware (552 for GR1, 702 mm for GR 2 and GR 3)

4 = gap

9 = distance from locking cam axis to end of striker



Striker positioning, gap 12, for layout A

1) The locking cam strikers, art. M02008.01.02, must be installed according to the closing direction of the hardware: clockwise direction for left-handed sashes and counterclockwise for right-handed sashes. Use 4x30 mm screws to fasten the strikers.

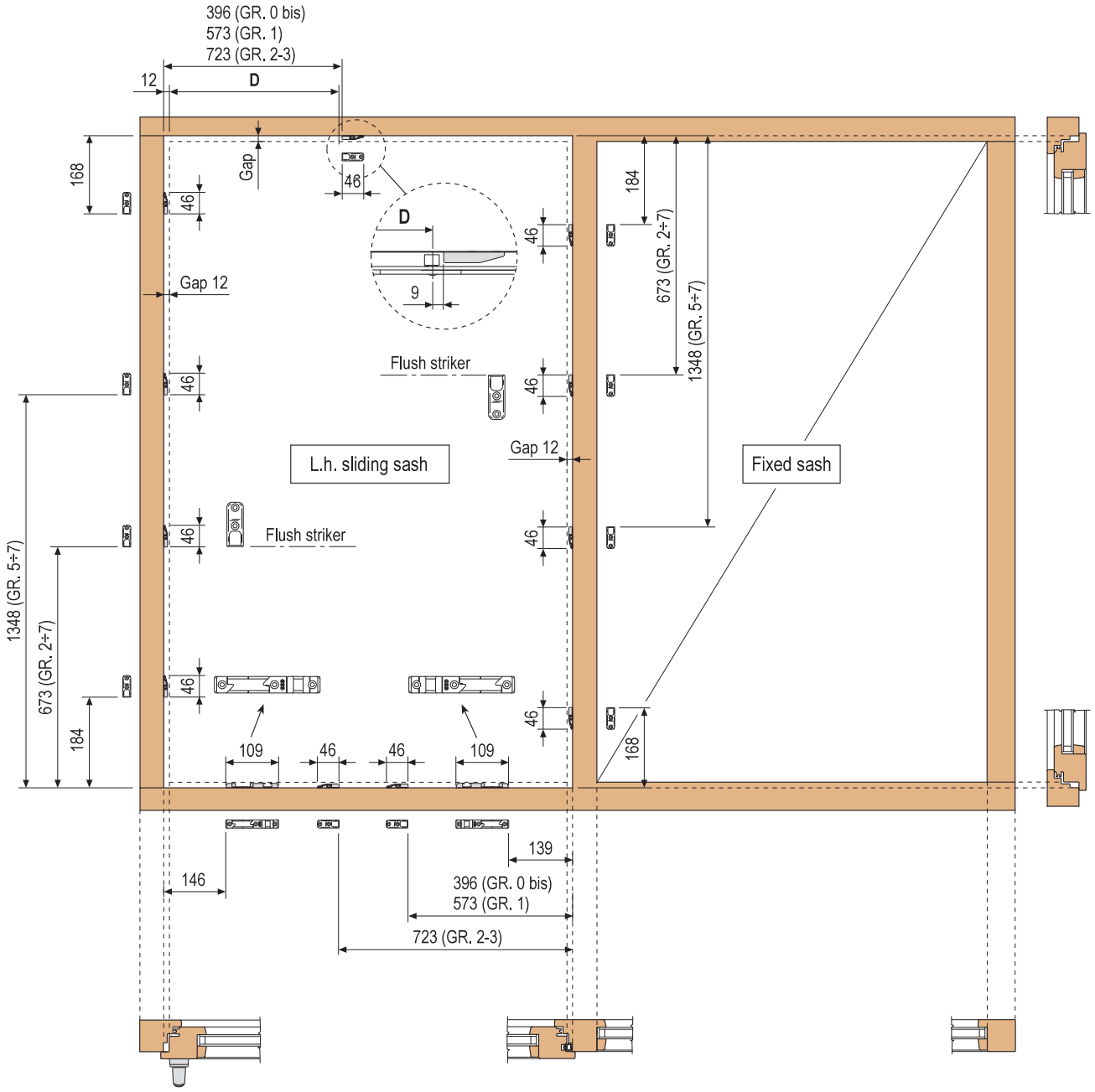
2) The locking cam strikers on the head jamb are always surface mounted (art. A38010.05.02, gap 12 mm). Their position on the frame, according to the GR size of the linking element, is determined according to the following rule:

D + 12 + 9

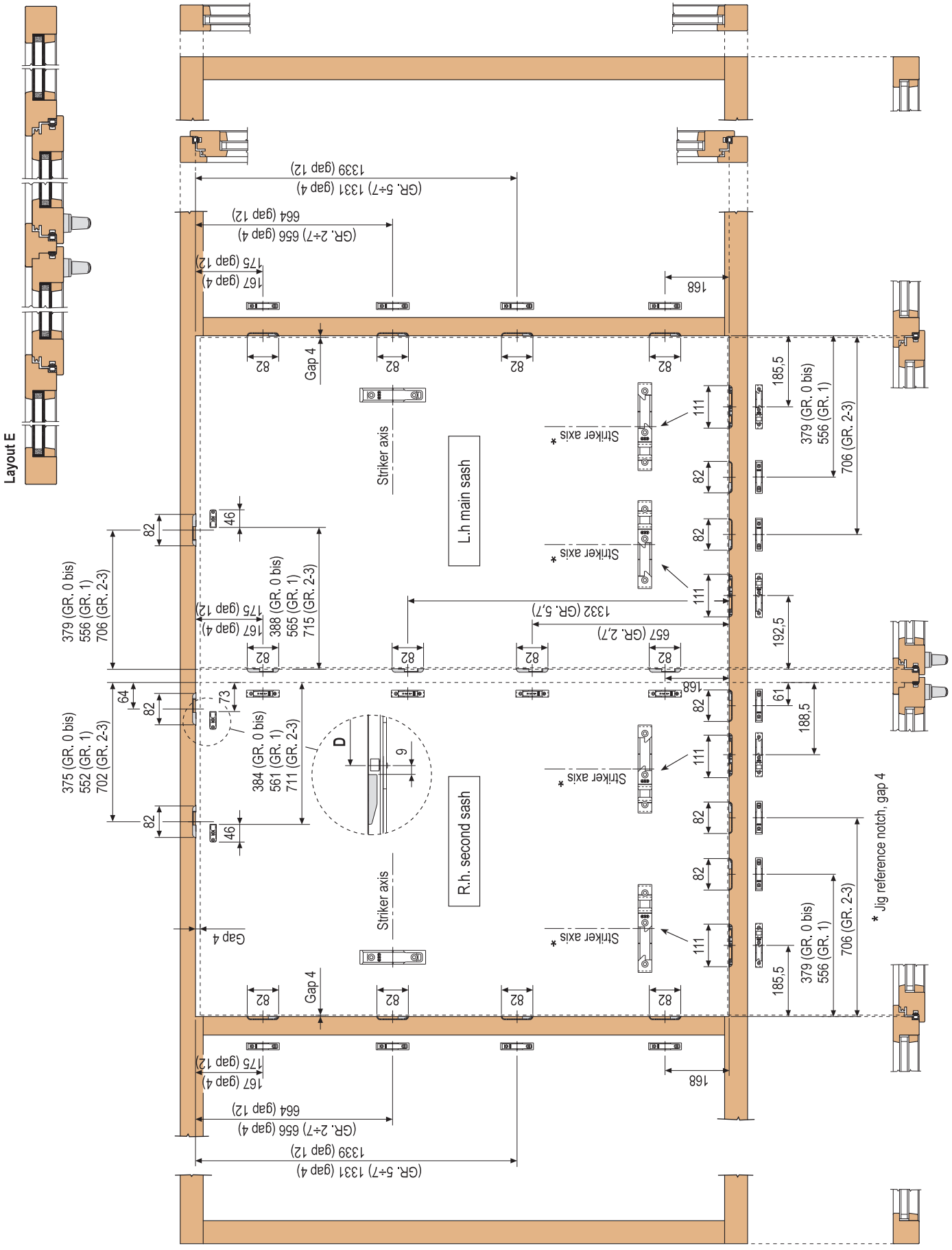
D = closing position of the locking cam in relation to the hardware (552 mm for GR1, 702 mm for GR 2 and GR 3)

12 = gap

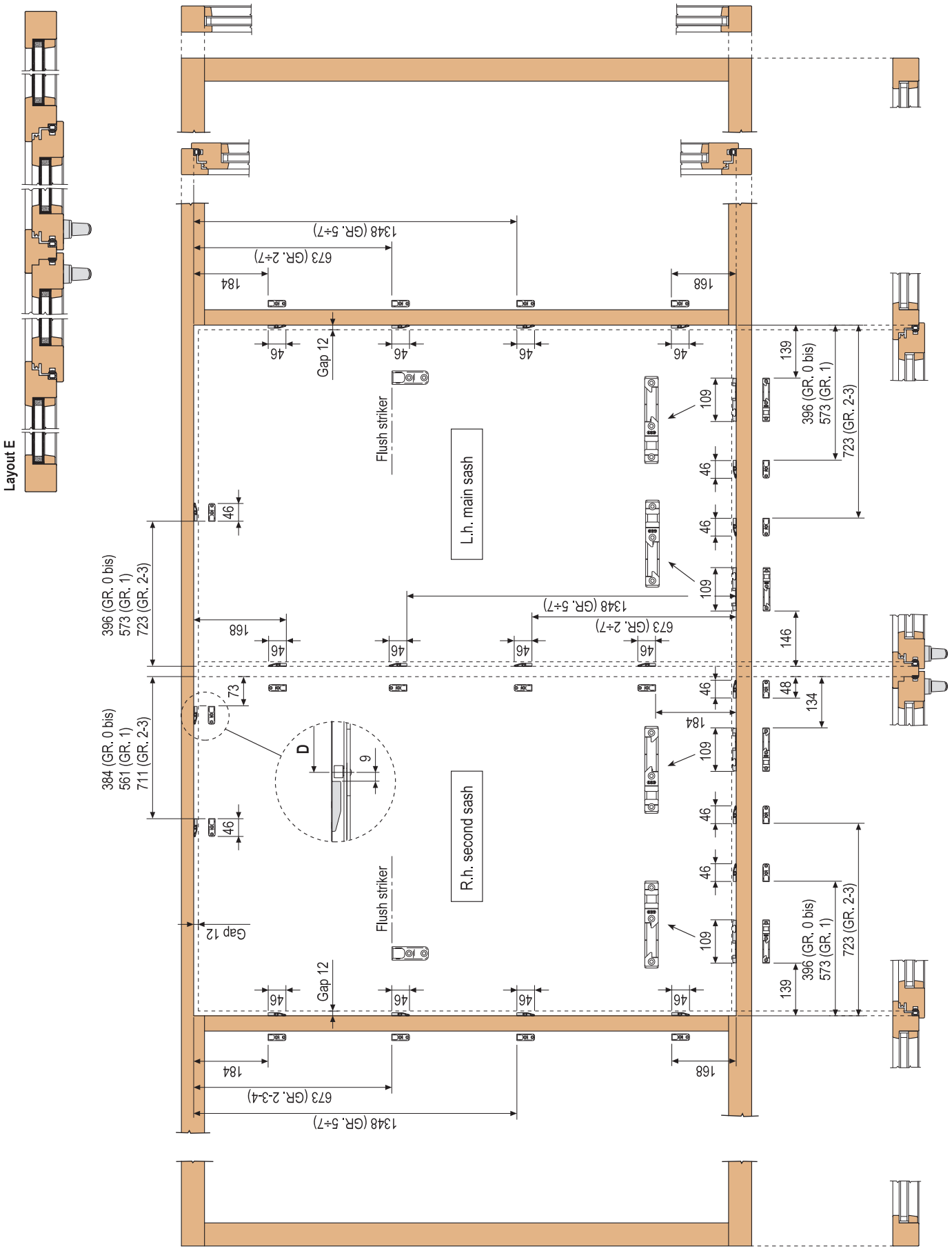
9 = distance from locking cam axis to end of striker



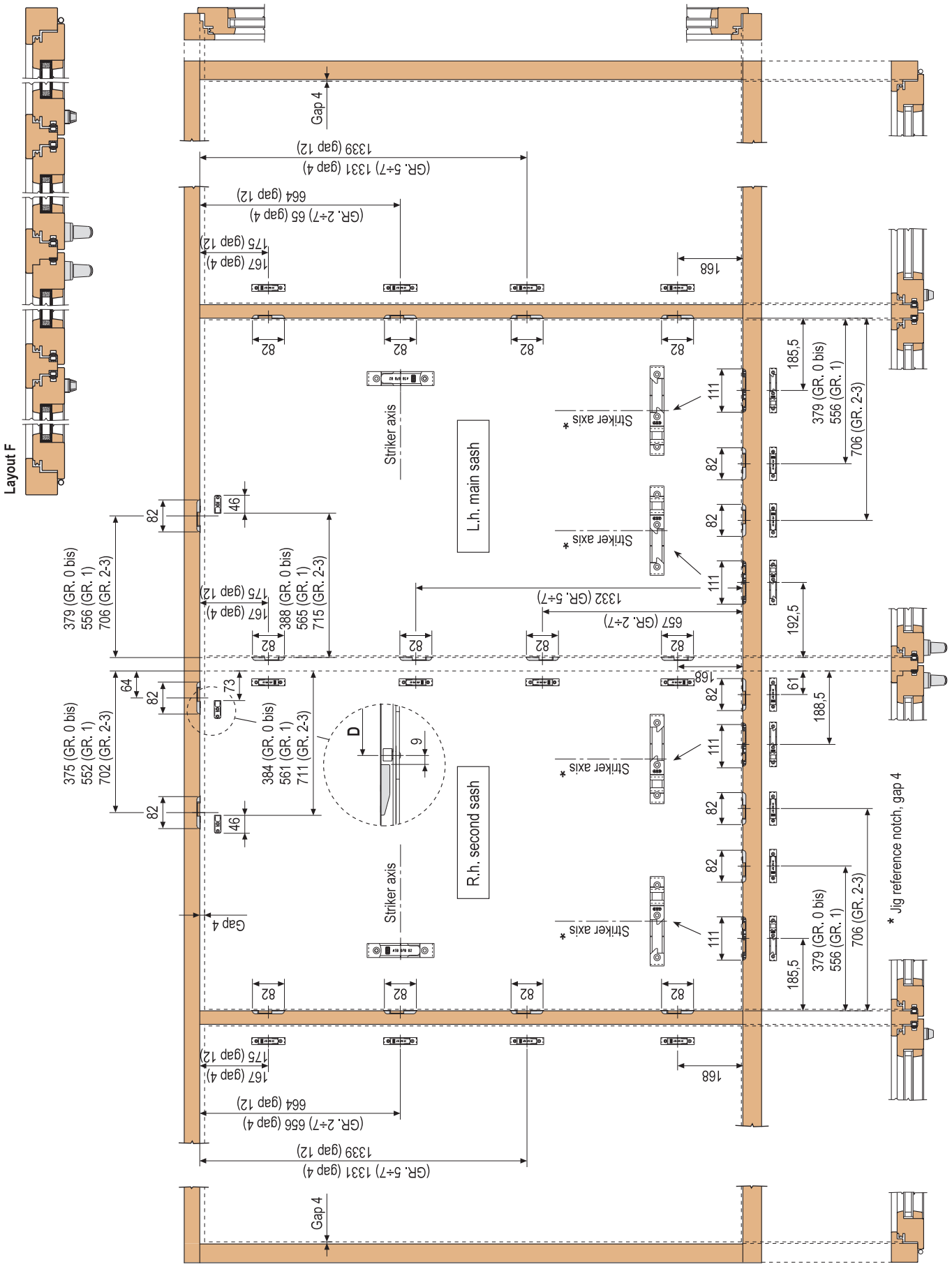
Striker positioning on layout E - gap 4 mm



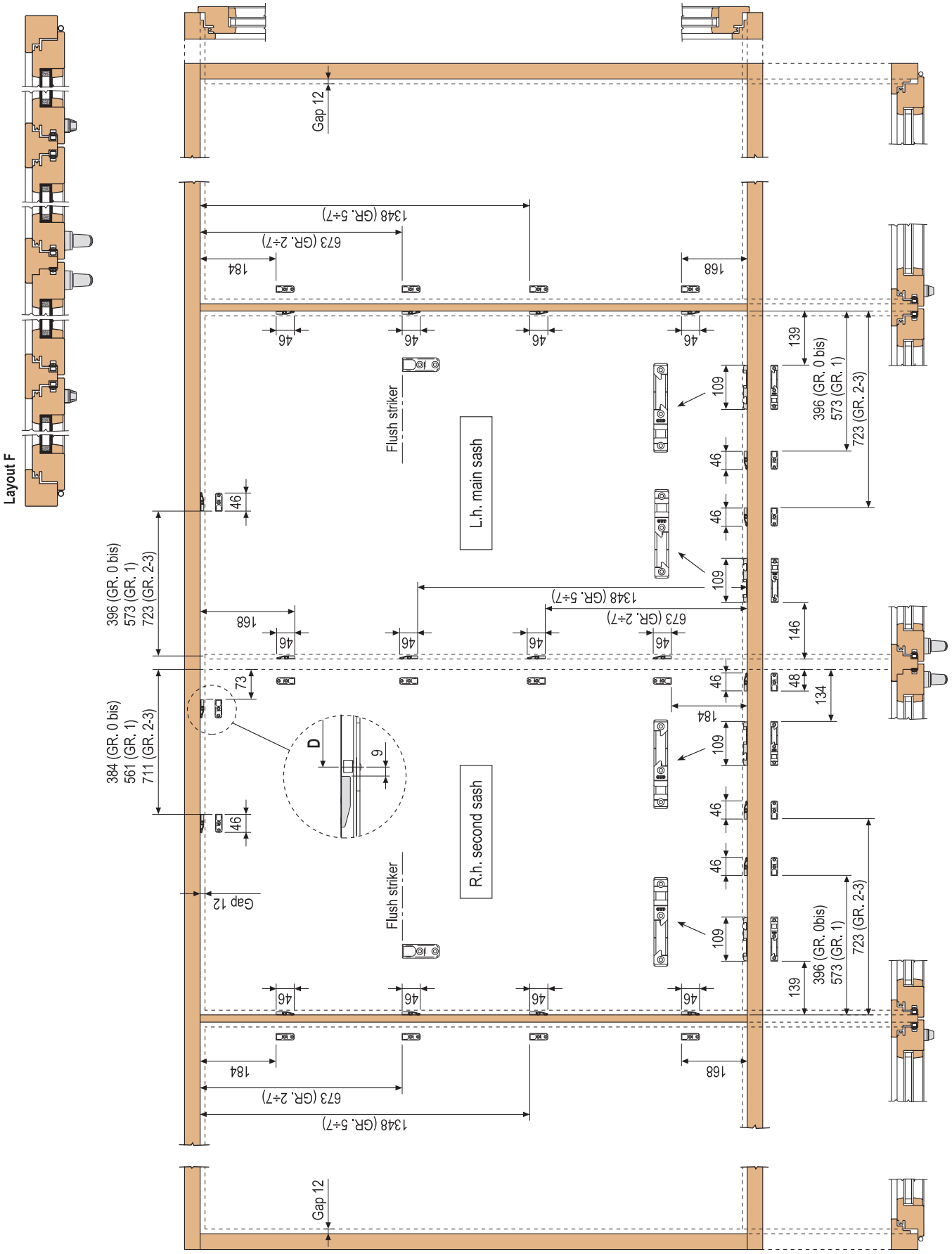
Striker positioning on layout E - gap 12 mm



Striker positioning on layout F - gap 4 mm



Striker positioning on layout F - gap 12 mm



Bottom rail installation

Before proceeding with the installation of the rail and top guide you must decide whether you wish to refer to the internal or the external rebate of the frame. Jig art. M02030.00.04 (**a**) is suitable for both types of installation and must be adjusted accordingly.

1) Adjust the jigs, art. M02030.00.04 (**a**), according to the X measure, with reference to the internal rebate (fig. 1); place to lower block on the frame and secure it.

2) The number of jigs (at least two) needed for proper assembly depends on the length of the rail (we recommend using one jig for every 500 mm of length).

3) Cut the sanp-in rail (**b**) (fig. 2).

4) Position the rail art. M02004 (**b**) on the frame sill with the help of the jigs (fig. 3) and fasten everything using clamps.

5) For proper operation of the system, counterbore each screw hole by 3 mm (fig. 4) using jig art. M02030.00.05 (**c**).

Fasten the rail using 4x30 mm screws.

Note. Leave at least 5 mm gap between rail and floor. In case of particularly large or heavy sashes made of soft wood or PVC, rest the rail, if possible, on the floor or insert a shim (d) (fig. 5).

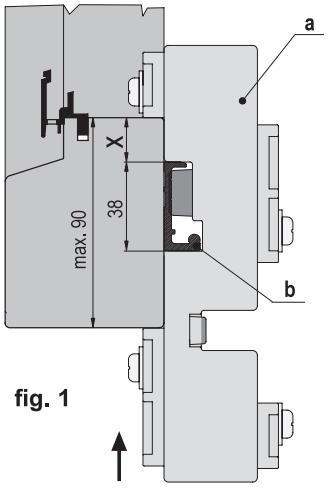
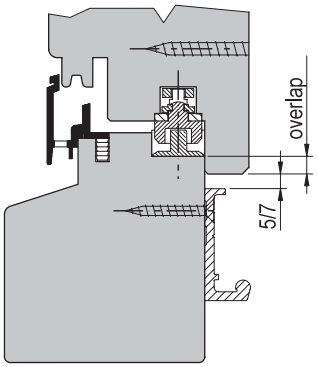


fig. 1



In case of use of carriage basic kit in version 3 or later, use the following formulas:

X = overlap + 7 *for sashes up to 80 kg*

X = overlap + 5 *for sashes from 80 to 130 kg*

overlap = rebate-gap

Ex.
gap = 4 mm rebate = 15 mm
overlap = 15-4 = 11 mm
X = 11+5 = 16 mm

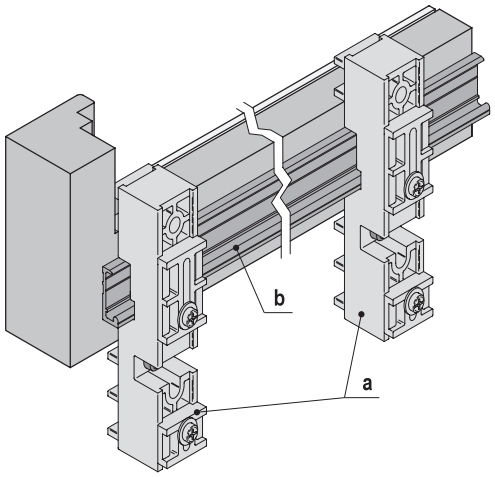


fig. 3

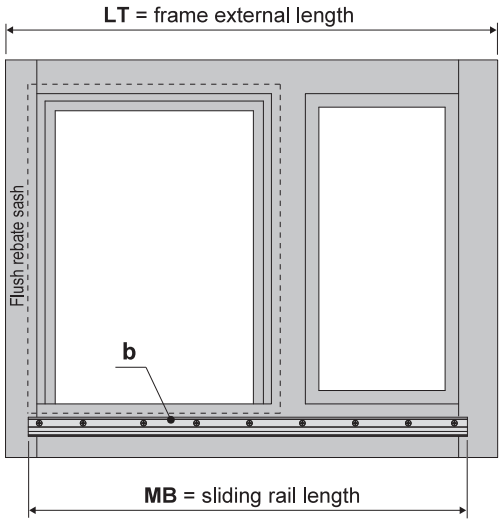


fig. 2

MB = LT - 2X

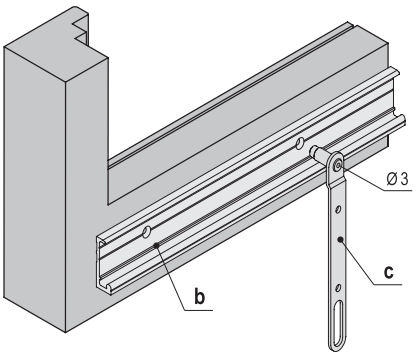
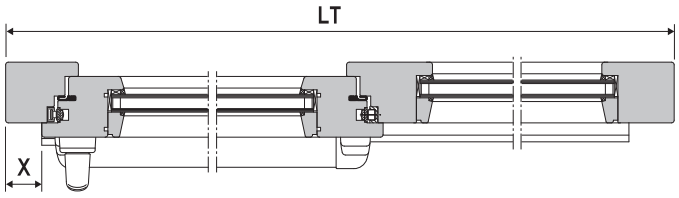


fig. 4



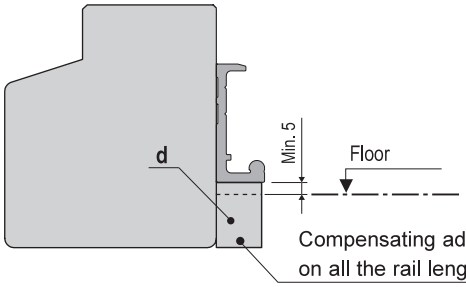


fig. 5

Compensating adapter to be applied on all the rail length.

Top guide application

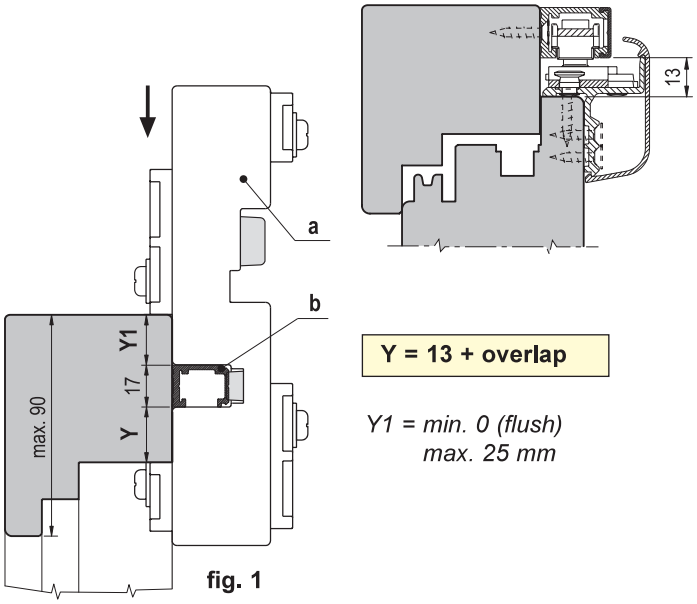
1) Adjust the jigs, art. M02030.00.04 (**a**), according to the Y measure, with reference to the internal rebate (fig. 1); place to lower block on the frame and secure it.

2) Cut the top guide (**b**) (fig. 2).

3) Position the guide on the head jamb of the frame with the help of the jigs (fig. 3) and fasten everything using the clamps.

4) For proper operation of the system counterbore each screw hole by 3 mm (fig. 4) using jig art. M02030.00.05 (**c**). Fasten the rail using 4x30 mm screws.

5) Insert the two support runner in the guide (**d**).



Y = 13 + overlap

Y1 = min. 0 (flush)
max. 25 mm

fig. 1

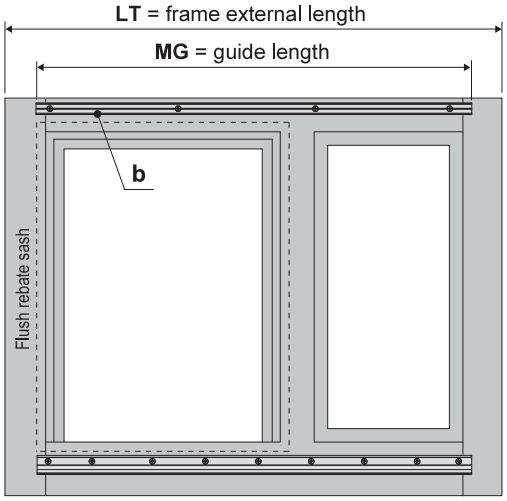
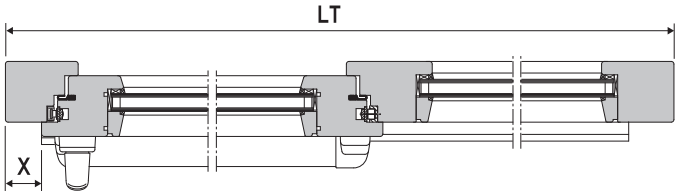


fig. 2

MG = LT - 2X



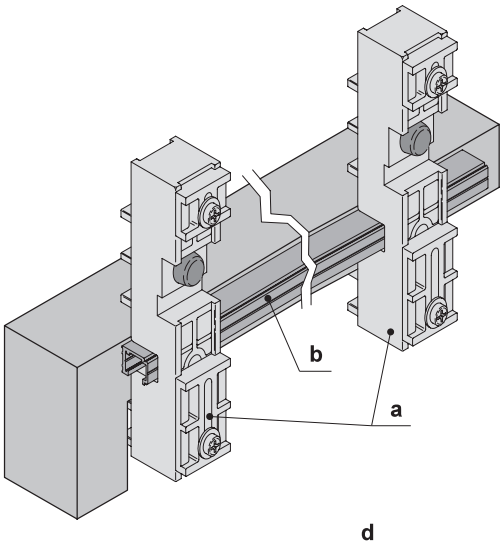


fig. 3

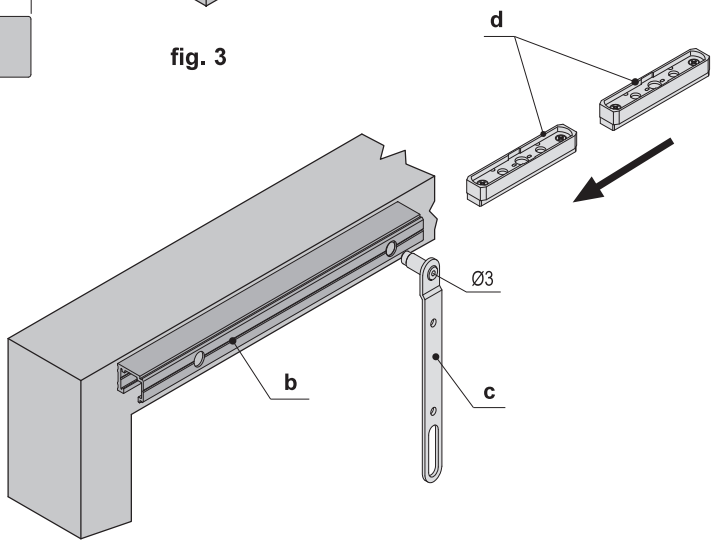
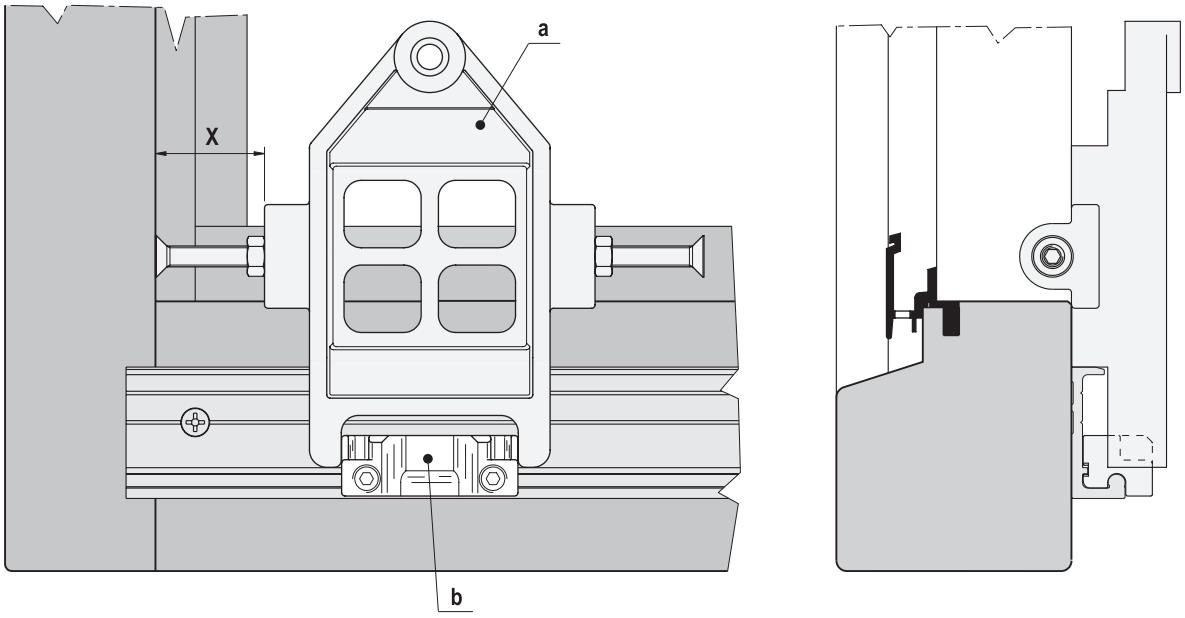


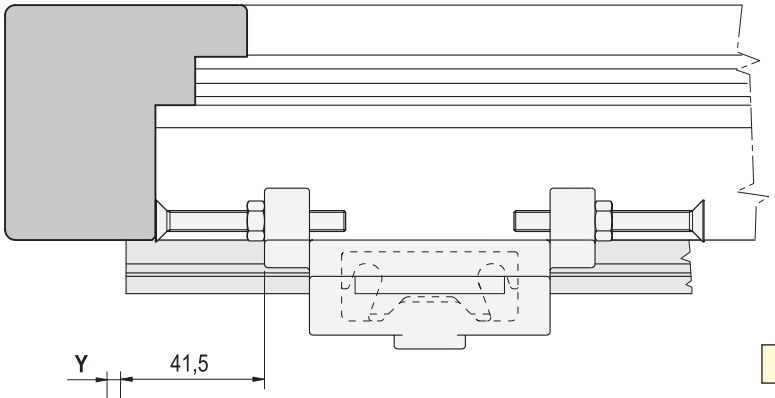
fig. 4

Installation of fixed release block

(standard version included in basic kit - For A, B, C, C1, E layouts)

1) Adjust the **X** measure of the jig, art. M02030.00.03 (**a**), for the positioning of the release block, art. M02011.01 (**b**), as follows:

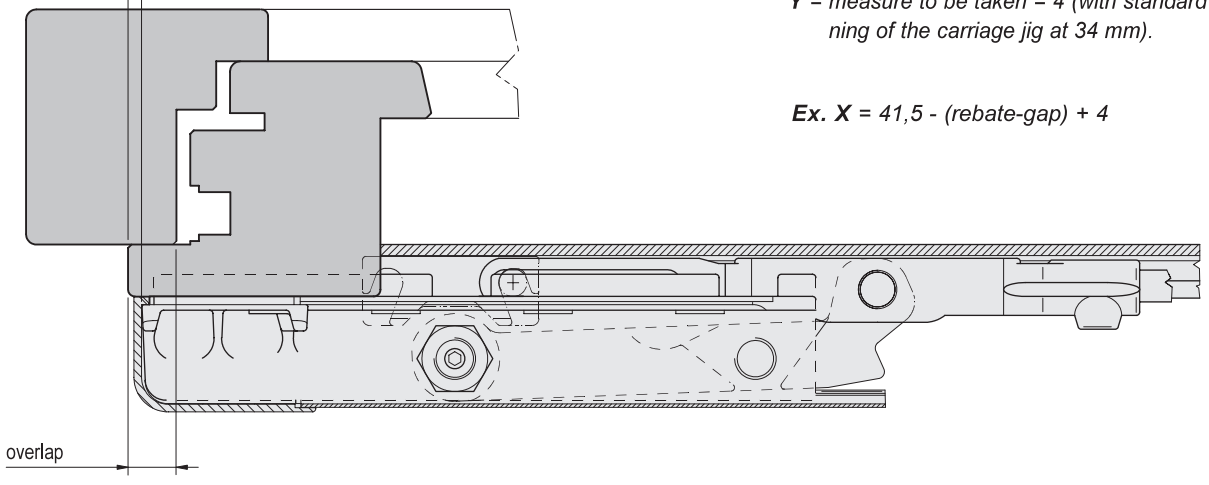




X = *41,5 + Y - overlap*

Y *= measure to be taken = 4 (with standard positioning of the carriage jig at 34 mm).*

Ex. X *= 41,5 - (rebate-gap) + 4*



2) Slide the release block (**b**) on the bottom rail (**c**), handle side, by the sliding track and security tooth (fig. 1).
3) Place the jig (**a**) over the release block and slide it along the frame sill until the side adjustment screw rests against the jamb on the handle side (fig. 2).
4) With a 4 mm Allen wrench, fasten the release block by means of the pre-assembled socket head screws (**d**).

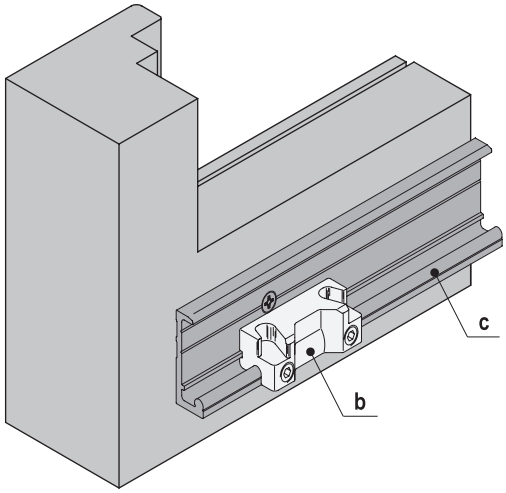


fig. 1

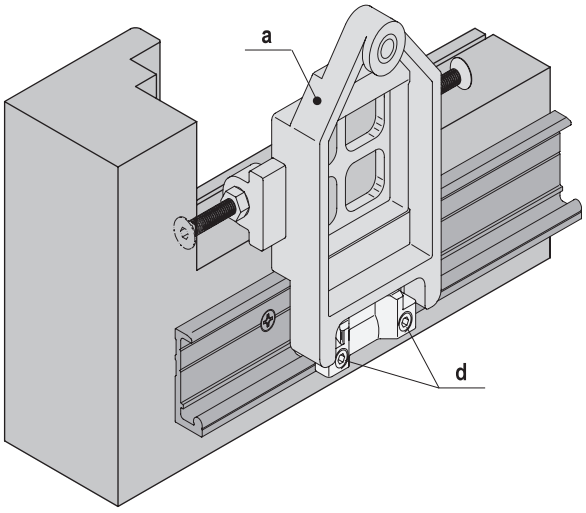


fig. 2

Sash assembly on the frame

1) Position the handle horizontally (tilt opening).

2) Open the stay arms.

3) Place the sliding sash (**a**) on the bottom rail (**b**) making sure that the carriage wheels are aligned to run on the rail (fig. 1).

4) Position the sliding sash vertically.

5) Align the support runners (**c**) (previously inserted in the top guide) with the corner movement hinge pins. Slide the pin in the centre hole of the runner and push the hinge arm until you hear it snap on. Repeat the operation for the other hinge arm.

Note. To release the runners, insert a screwdriver in the holes at the sides of the pin, or push and simultaneously lower the hinge arm.

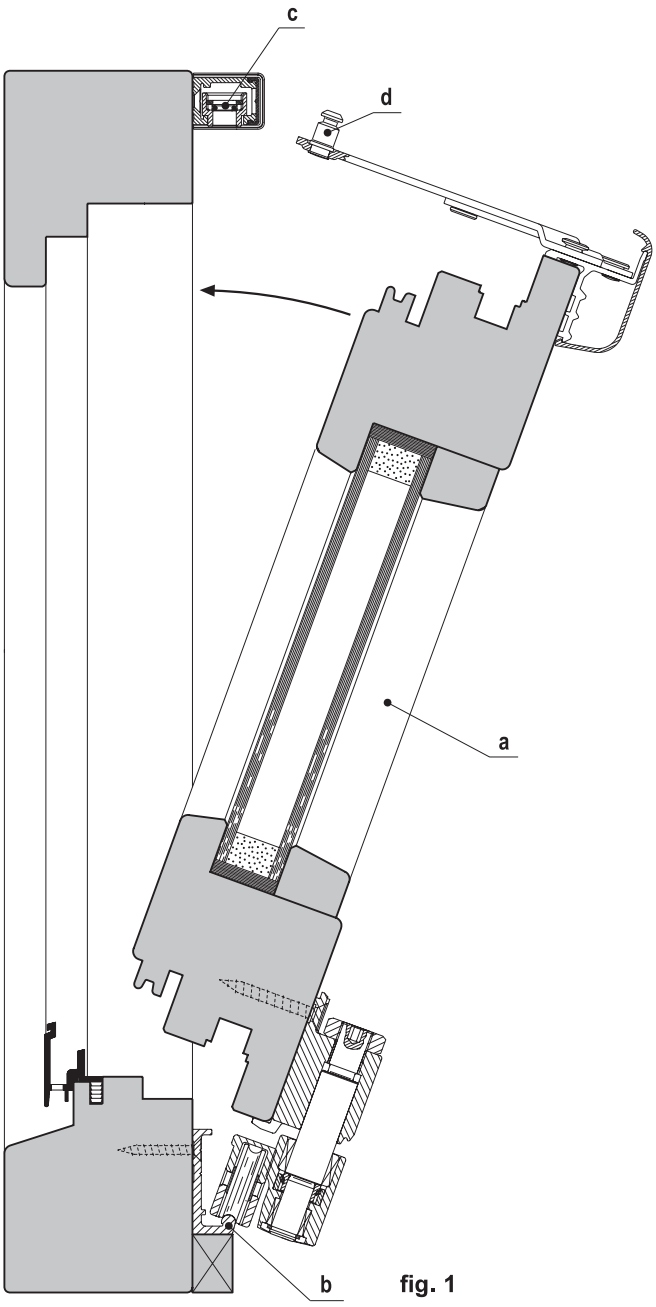


fig. 1

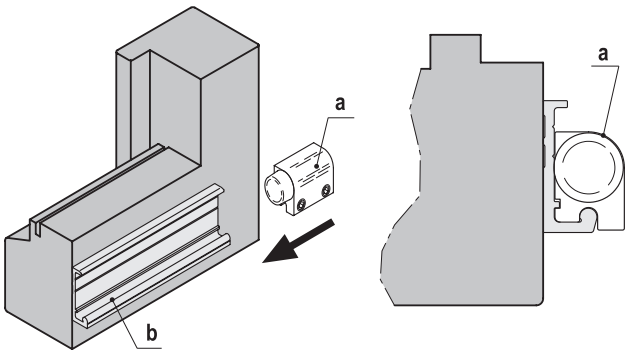
Bumper installation

Rear bottom bumper:

1) Mount the bumper, art. M02011.03 (**a**), on the bottom rail art. M02004 (**b**), by the sliding track and security tooth.

2) Align the bumper with the edge of the bottom rail.

3) Using a 4 mm Allen wrench fasten the bumper by means of the socket head screws.



Upper bumper:

To prevent the derailment of the sliding sash a bumper must be installed on the top guide.

1) Position the sliding sash against the rear bottom bumper.

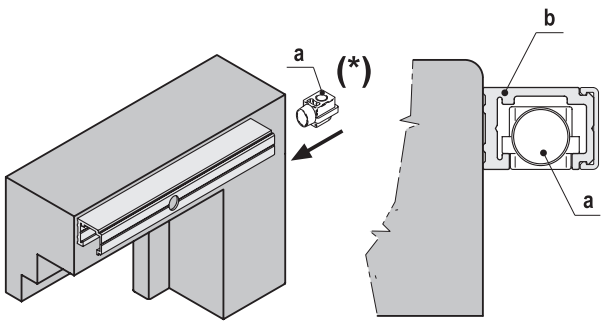
2) Mount the top bumper M02010.00.04 (**a**) on the top guide art. M02006.04 (**b**) and push it until it rests against the upper hinge runner.

3) Move the sliding sash to the closed position.

4) Move the top bumper about 2 mm towards the opening side to compensate for the hinges tolerances.

5) Using a 4 mm Allen wrench fasten the bumper by means of the pre-assembled socket head screw.

(*) Note. Do not use on right hand sash (slides from right to left).



WARNING !!!

If you disassemble the system you should provide for adequate sash support (2 people) after the release of the upper hinges to avoid damage to people or property.

System adjustment

The GALILEO SA Coplanar Sliding System has been designed keeping in mind all the problems (and related solutions) that are commonly encountered at installation sites. If the frame is properly constructed and assembled and the sliding sash has a constant 4, 11 or 12 mm gap between the perimeters of the two rebates, no further adjustments are normally needed. If these conditions are not satisfied or in case of structural settling or increased play, proceed as follows:

Vertical adjustment of carriages *(fig.1)*

The sash sliding carriages must be adjusted so that the bottom edge of the sash and the upper edge of the rail are parallel and at a constant distance of 5 mm.

Proceed as follows:

1) Loosen the lock nuts (**a**) using a 19 mm Allen wrench.

2) Using a 4 mm Allen wrench, regulate the adjustment dowels (b). The adjustment stroke is + 6, -3 mm from the original position.

3) Tighten the lock nuts (**a**).

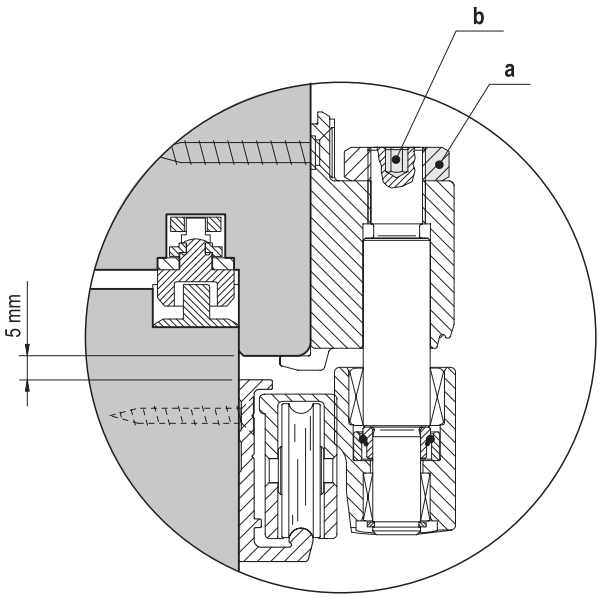


fig. 1

Sash position horizontal adjustment

To move the sash right or left, just move the release block. Keep in mind that:

1) The movable release block, if properly installed, does not require any further adjustments.

2) The fixed release block may shift due to the loosening of the socket head screws with time.

Sash pressure adjustment *(fig.2)*

If the sash does not exert proper and evenly distributed pressure around the entire seal, adjust each locking cam (**c**) using a 11 mm fix wrench.

The locking cam adjustment range is ± 1 mm (fig.2).

Arm block adjustment (4 mm Allen wrench).

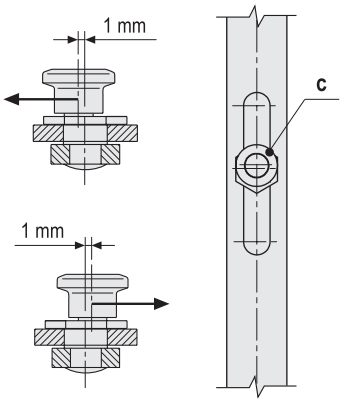
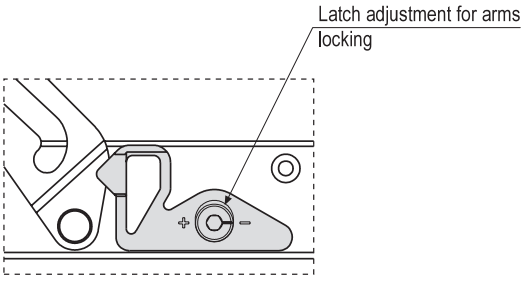


fig. 2



Covers application

To simplify adjustment and prevent damage to the covers during transportation, we suggest that you install them on site as the final operation.

Carriages cover (fig. 1-2)

1) Hook on the previously cut carriage cover trim (**a**) as indicated by the arrow, point (1).

2) Press the cover trim (**a**) down and push it forward, point (2), until you hear it snap on.

Note. To remove the cover, press downwards and pull.

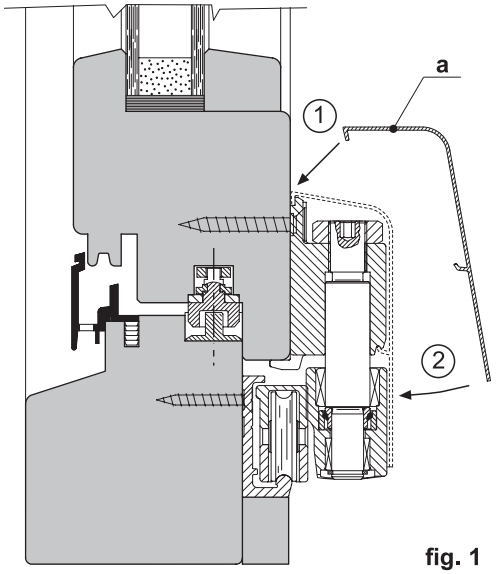


fig. 1

Carriage support covers (fig. 2)

1) Apply the plastic side covers (**b**) inserting them in the special slits from the top.

2) Push the covers downward until they are aligned with the cover trim.

Top guide cover (fig. 2)

1) Insert the plastic cover trim (c) in the top guide until it covers its entire length.

2) With scissors, trim off the excess.

3) Apply the end caps (**d**).

Stay arm cover (fig. 2-3)

Aluminium profile (**e**) to be cut on total external sash length minus 34 mm.
Position the profile on rebate as indicated in the drawing (fig. 3) and make it snap into the proper seat. Install the right and the left side caps (**f**).

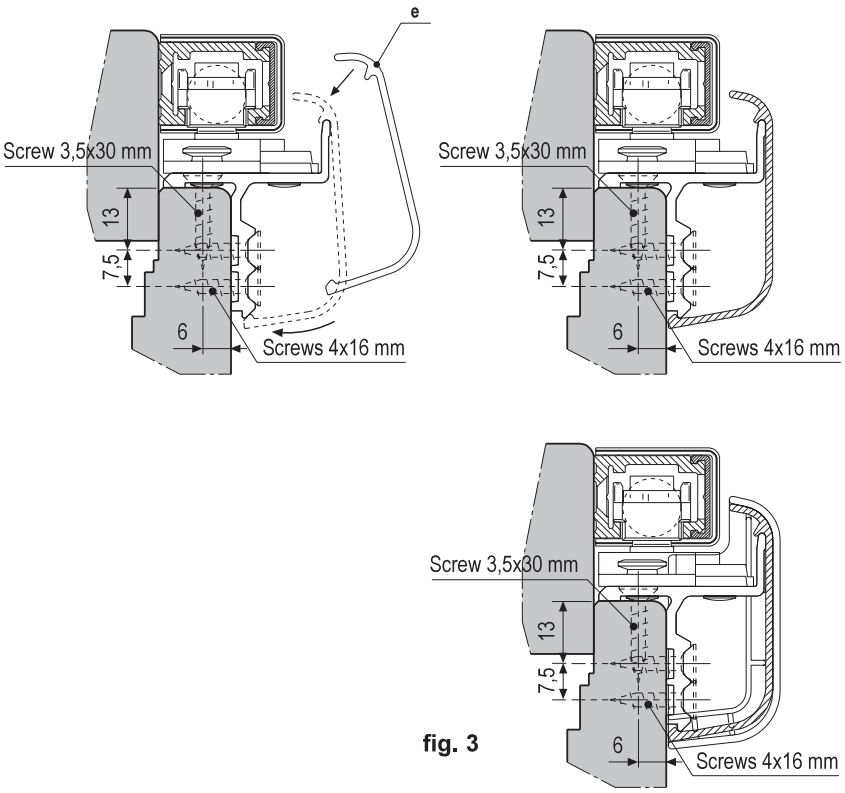
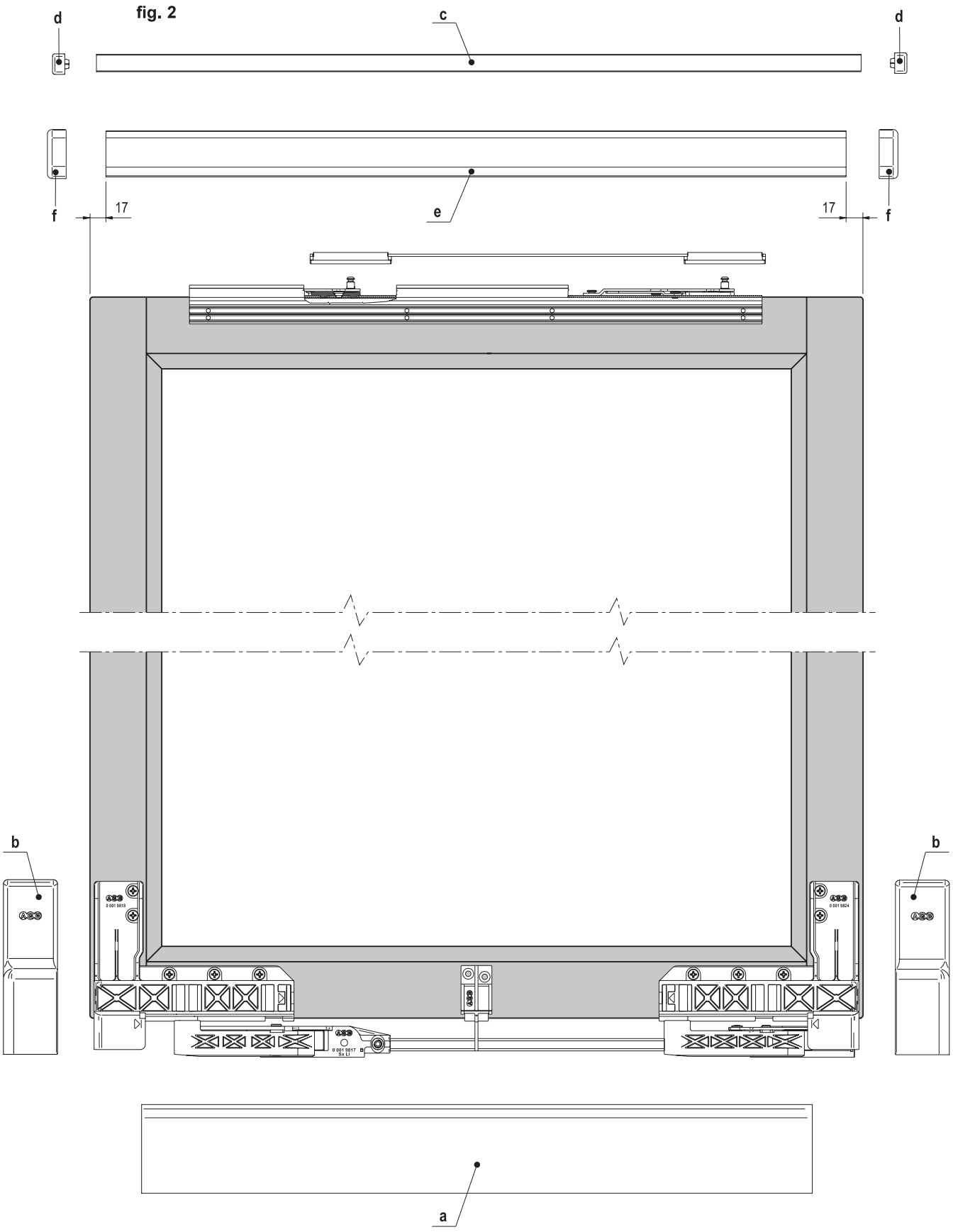


fig. 3

Covers application



Routine maintenance

For excellent system performances, we recommend that you carry out the following operations periodically:

Every two weeks

1) Brush the bottom rail to remove any accumulated debris that may obstruct wheel movements.

2) Vacuum the dust accumulated inside the tracks.

During assembly, and then annually

You need to lubricate with oil or grease:

- Locking cams and locking cam strikers
- Release block and tilt strikers
- Bottom carriage articulations and pins

Every two or three years

Make sure that:

1) The dowels of the release block and of the top and bottom bumpers are tight to prevent the derailment of the sliding sash.

2) The hardware, especially the “load bearing” accessories, do not show any evident signs of wear that could compromise system performances.

Troubleshooting

PROBLEM	CAUSE	SOLUTION
The sliding sash hits and does not hook	Handle in release position	Turn handle to horizontal position
	Release block improperly positioned	Adjust position of release block
	Connecting rod loose or badly adjusted	Adjust and fasten the connecting rod: - Remove the carriage cover - Open the sash - Tighten the rear carriage dowel and loosen the front carriage one - Close the sash - Tighten the front carriage dowel
	Carriages too high/low	Adjust carriage height
The sliding sash hooks onto the front carriage only	Connecting rod badly adjusted	Adjust carriage height
“Stiff” handle when closing	Misaligned carriages Carriages too high/low	Adjust carriage height
The sash closes badly or with insufficient pressure	Badly-adjusted locking cams	Adjust the locking cams
Sash does not slide smoothly	Damaged or dirty bottom rail	Clean and/or replace the bottom rail

NOTES

NOTES

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Z90353.14.29 - 07.18 - Communications Dept. - Printed in Italy