GEORGE BARNSDALE

Est. 1884

Installation Guide

TIMBER WINDOWS & DOORS

Planning & Preparation Checklist

IMPORTANT: Before any work commences, the installation team should ensure the following:

- ☐ They have received and understood all necessary drawings, survey details, etc. If any clarification is needed, please call us on **01775 823000** or email **customercare@georgebarnsdale.co.uk**
- ☐ If it is likely further works will be carried out around the fitted items it is very important to fit adequate protection. For instance, grinding of metal and other building materials can create particles that can cause damage through abrasion and rusting.
- ☐ They have adequate availability of tools and personal protective equipment.
- ☐ They have adequate protective coverings for the immediate vicinity of the installation and all walkways to the area.
- ☐ Where the installation requires portable access equipment for working at height, all necessary safety best practice has been adhered to. The Glass and Glazing Federation offer guidance on Health and Safety and working at heights for the installation of windows and doors.
- ☐ Do they plan to install and seal the new windows and doors on the same day that the existing items have been removed.
- ☐ They carry with them sufficient fixings, sealants and architraves/trims for the installation.
- ☐ Should unavoidable circumstances arise, they have arrangements in place to ensure all structural openings, windows and doors can be made secure and weathertight.
- ☐ The building is adequately ventilated

IMPORTANT: It is essential that our windows are installed correctly to ensure optimum performance and to validate the guarantees.

Please check all products **AT THE TIME OF DELIVERY** and notify us of any damage or other issues within **THREE** working days.

Store windows upright, wherever possible and **DO NOT** stack on top of each other. If they have to be, please ensure they are spaced off to allow adequate ventilation around the products.

It is important to follow all instructions in this manual to ensure your windows and doors perform to the highest standard. The following are **CRITICAL PROCESSES** that must be followed to prevent issues with the product and paint finish during and after installation:

- Correct storage
- Controlled humidity
- Bay Window Cills (when applicable)
- Redecorating cut trims (when applicable)

Installing Your Windows & Doors

It is essential that our timber windows and doors are installed correctly to ensure that they meet their performance potential, operate as intended and to validate the guarantees.

To help with correct installation, we have produced this **Installation Manual** as a guide in good practice. Within this manual you will find an outline of the general installation process and product specific installation requirements, in addition to recommendations concerning suitable materials and tools.

Contents

Delivery & Storage

Your windows and doors will be delivered in protective packaging to prevent damage during transit, off-loading and whilst in short-term storage.

IMPORTANT: Most damage is caused on site and therefore it is very important to check for damage on delivery, as once signed off, we will not be able to accept responsibility for damage.

Delivery

Always check your deliveries as soon as they arrive, as we must be notified of any issue within three working days.

All products should be checked at the time of delivery to ensure that they match the order schedule, that the delivery is complete and that no damage has occurred during transit. Upon checking, if any issues are discovered then you should notify us within three working days of delivery.

Storage

Ensure products are stored correcting and packaging removed if storing for more than 2 weeks.

Ensure a clear space is available to store the windows that will protect them – be aware that the building works create brick dust, iron filings and other contaminants that will damage the paintwork. If you have to store the windows onsite for more than 2 weeks, use a covered area and remove the packaging material as this prevents moisture getting trapped inside.

When off-loading products from the delivery vehicle or stillages, you should store them upright in the same orientation as the installation. Products should not be stacked on top of each other. However, should this be necessary due to site conditions then the products should be spaced-off each other to allow for adequate ventilation below each item. Please note, if the spaces below each item are too narrow then the product coating may get damaged.

Long term storage greater than 28 days.

If there is a delay in the installation that means the products are not installed within 28 days please let us know, as we will be able to give special advice on longer term storage. If our standard packaging is kept in place for more than a few days then it may cause damage to the high performance microporous coating which takes time to fully cure. If we know beforehand, we can package the products on timber packers and fix them with battens to ensure that they remain separate - please be aware that there will be an additional fee for this enhanced packaging. The product must be kept dry whilst in the protective packaging. If water gets between the product and the protective packaging it will lead to the paint system bubbling. If externally stored the products should be raised off ground level to prevent them being in contact with any standing water. They should also be covered with a waterproof sheet to protect them from the elements. When stored internally, they should be protected from dirt and damage, and adequate ventilation around the products must be maintained.

Pre-Installation

Removal of old windows & doors

In the removal of old windows and doors, all installation teams should adhere to the following steps:

Step 1 - Before any existing windows and doors are removed, they measure the existing structural opening and the new window or door to make sure they fit.

Step 2 - In addition, before removal it's important to check that the building structure will not be damaged when removing the existing window or door.

Step 3 - When removing existing windows and doors it's important not to apply large forces to the building structure. If necessary, timber blocks should be used as contact points.

Step 4 - After removal, old windows and doors should be safely disposed of, with extra care taken to clean up any glass debris.

Installation

Our guidance on installation is to provide support to a competent fitter. Due to the variations in building design, installation sequence and many other variables, it is not possible to provide a complete step by step guide to installation. The approach requires a competent fitter to follow our guide to best practice, adapting to suit the building requirements and observing the specific instructions provided.

Best Practice

"Sometimes it's felt that the greatest challenges lie on site rather than the product itself; particularly on refurbishment projects. The drafting panel's aim was to produce straightforward guidance to help all parties, be it the surveyor, designer, installer or assessor. But, not least to ensure the final installation compliments the high quality of products now being produced." Comments by the BS8213 drafting panel.

Best practice is defined by BS8213 which was revised in 2016. Installers should:

- Operate within the British Standard for Window Installation (BS8213), a summary of the main points are provided in the next section.
- It is crucial to install square and plumb within the opening. When openings are not square or plumb the difference must be dealt with in a way that doesn't compromise the window and door installation. This can include, but is not limited to, varying the width of the mastic bead, using trims to cover the variation works or carrying out building works to correct the issue.
- Windows and doors should be fixed at the recommended intervals and also at points where the frame can experience load, for example door hinges, keeps and also top hung bifold doors through the head track.
- If any trims are cut on site, it is critical that they are fully decorated according to our instructions and the required time is allowed for this.
- Bay windows must be installed with complete attention to the instructions to avoid issues at the corner joints.
- Site glazing is challenging and must be installed with complete attention to the instructions to ensure that it provides the guaranteed performance.
- At all times the products must be protected from site contaminants (the worst being brick dust, cement and metal swarf) to prevent damage to the coating and furniture.
- If internal wet works are being carried out, such as floor screeding, this should be done prior to the installation or humidity control measure must be in place.
- Adjust the products once installed and check for further adjustment during the following 6 weeks to check if any allowance is required after initial settlement.

Summary of BS 8213

There have been significant developments over the past few years in the design of components and materials used in the fabrication of windows and doors. Products are now both considerably more thermally efficient and durable and advances have been made in fixing materials, techniques and adjacent detailing. To enable the windows and doors to perform most efficiently and effectively, the overall installation must be appropriate for the product being installed together with its use in service and the conditions that need to be satisfied.

Fixing of the frame into the opening

During the process of fixing the new frame, the following points need to be considered:

1. Levelling the cill

It's crucial that the replacement window or door is fitted onto a solid and level cill. The window should not be fitted directly onto the cill, therefore a 5mm gap/packer should be used. The following steps are recommended:

Step 1 - Remove any loose debris from the cill and ensure that the remaining material is in good repair.

Step 2 - If the cill is not level, apply packers on a bed of mastic sealant at intervals of no more than 450mm (centre to centre). The packers that are used must be capable of supporting the load, be resistant to rot and provide as much contact area as possible, with a maximum of 150mm in thickness.

IMPORTANT: It's recommended that the packers are set to provide the same spacing between the top and bottom of the window or door. Products with extended cills, particularly door cills, will need properly supporting underneath. Failure to do this will result in the joint between the frame and cill, or the frame itself, cracking when subjected to a load.

2. Removal of sashes

It's often simpler and safer to install the frame with the sashes/doors removed. If required, sashes and doors can be removed by following the instructions that are outlined in the *Product Specific Information* section of this manual - see from page 14 onwards.

3. Position in frame in opening

Insert the frame into the opening and level using wedges if required. Wedges should be used in the corner or within the corner connection to ensure that the frame remains square. It is vital that the products are fitted level and plumb within the opening.

4. Fixing locations

Once the frame is square in the opening it will need fixing in place with at least two fixings points on each jamb. These should be located 150mm down from the head and 150mm up from the cill. If the space between these fixing points is greater than 450mm, additional fixings at 450mm centres will be required as shown in Figure 01.

In the following cases head and cill fixing may be required:

- The product information in this manual specifies it;
- The window or door exceed 1800mm in width;
- Coupled frames are being fitted;
- A structural engineer has requested it.

Head and cill fixings should be located at the centre point of the frame as shown in Figure 01.

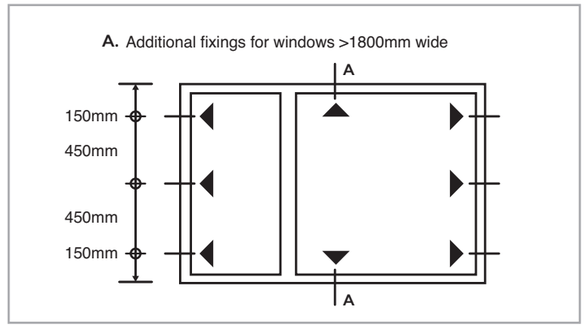


Figure 01: Fixing locations

5. Recommended fixing methods

Depending upon the type of installation, to fix the frame into the opening we recommend either fixing the frame directly to the building or using straps to attach the frame to the wall. Always use stainless steel straps and fixings to the frames.

Direct fix method

For most replacement window or door installations the direct fix method will be the most suitable because it does not cause a lot of damage to interior decorations. However, it does require the installer to drill through the frame and touch up any damage caused to the coating.

Step 1 - Fit packers at the screw points to fill any gaps between the wall and the frame.

Step 2 - Drill through the frame and packer deep enough to allow a minimum of 25mm of fixing engagement into the buildingstructure (we recommend to allow for 50mm). Offset these drill holes (across the depth of the frame) to provide a more solid fixing and to prevent twisting.

Step 3 - Fit a suitable fixing plug into the building structure and fix the screw.

Step 4 - Check the frame is true, plumb and is not twisting.

Step 5 - Repair any damage to the coating using the process described in the recoating section of the **Owners' Manual.**

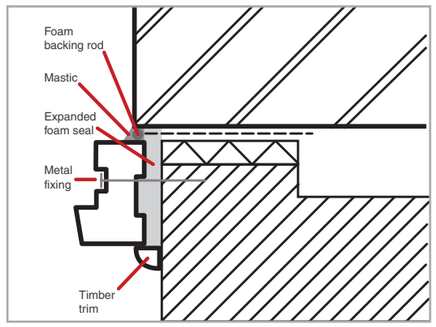


Figure 02: Direct fixing method

Couple Frames: If more than one frame is being fitted into an opening, the frames should be connected using joining strips fixed in with a mastic seal along its length. This can either be done outside of the opening or by placing one frame in the opening with a bead of mastic in the jointing grove, sealing the joining strip into the second frame and then placing the second frame into the opening allowing the joining strip to engage with the first frame. The frames should then be packed off in the opening and then joined before the overall frame is fixed to the building.

The joining grooves have been designed in such a way to allow frames to be aligned on the inside or the outside, even when different frame thicknesses are specified. If there are different frame thicknesses specified the exposed outer frame should always be finished with a covering trim.

Straps method

The straps method should be used when installing windows and doors before the plastering and decoration of a room has taken place, so is more suited to new build installations.

Step 1 - Select straps which are suitable for external installation of windows and doors and are the correct specification for the size and weight of the product.

Step 2 - Fix the straps to the frame at intervals as defined in Figure 1, predrilling the frame for each screw. Ensure that the fixing points line up with a solid section of the building structure and do not line up with mortar joints or other weak points.

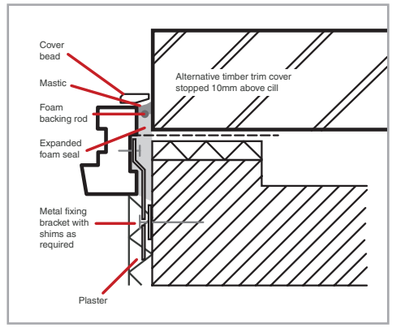


Figure 03: Straps fixing method

Step 3 - Fit a suitable fixing plug into the building structure and install the screws.

Step 4 - Check the frame is true, plumb and has no twisting.

6. Fit of cill extensions and drips

Certain components are supplied loose to allow easier handling and/or installation. These should now be fitted to the frame using appropriate fixings. Bay window cill extensions are normally supplied separately. They are specially bonded together to avoid splitting on the joints. It is very important not to stress these joints when fitting them to the frames. We recommend that the following steps are followed in order to avoid this:

Step 1 - Prior to sealing it is important to make sure that the cill is adequately packed.

Step 2 - Apply the HS20 sealer/adhesive liberally across the whole length of the cill on the top flat section. A sufficient amount of the sealant should be applied to provide a good seal between the groove and the extension.

Step 3 - Apply a thin bead of HS20 sealer/adhesive onto the vertical section. This will bond the cill to the frame.

Step 4 - Offer the cill into the window frame being careful not to push out the sealant. (There is a gap on the underside of the tongue that allows this).

Step 5 - Gently push up the cill and fix the screws in the holes provided. **DO NOT SCREW THEM IN TIGHTLY.** They only need screwing in far enough to keep a gap of around 1mm between the frame groove and the flat top section of the cill; this will allow a differential movement between the cill and the frame.

Step 6 - Remove any excess sealer as necessary. The sealer is clear and does not need overpainting but can be once the surface has skinned over. (Usually within a couple of hours).

Step 7 - Ensure that there is no more than 30mm ±10mm of cill projecting without very good support from the underside. This must be done prior to installation. If it is necessary to remove any timber from the product it is essential to make good the exposed timber thoroughly. Before re-coating (according to the instructions) any end grain must be sealed with a liberal coating of **Induline SW910** End Grain Sealer.

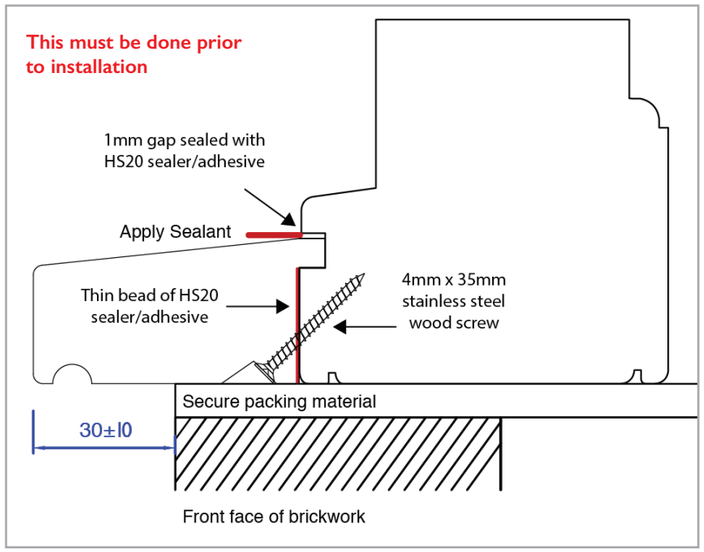


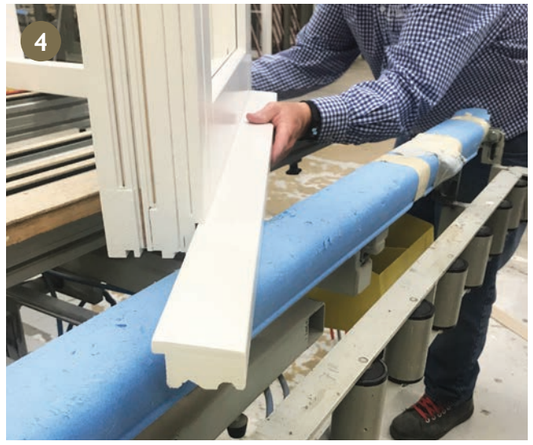
Figure 04: Fitting of loose components

7. Bay windows

Apply a 6mm bead of **Hodgson HS45 Hybrid** adhesive sealant to the length of the frame ensuring no gaps are left.

Repeat the process to the lower section of the frame,

Then apply a bead of **Hodgson HS45 Hybrid** sealant to the back of the cill groove.

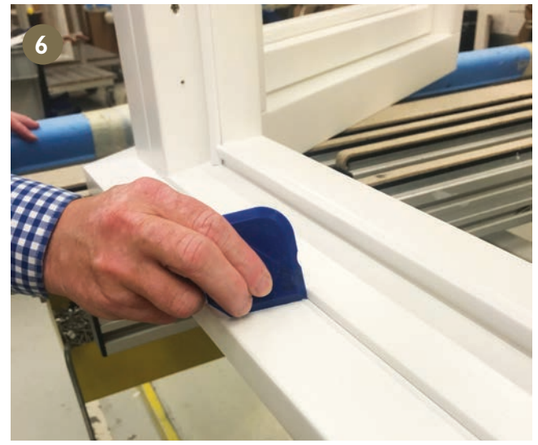


Place the cill extension into the frame groove and apply firm pressure ensuring the cill has been pushed as far back as possible.

IMPORTANT: When installing a bay window or any other window with a corner post it is very important not to distort the angle the window has been made to. Any distortion will cause the posts or frames to split, causing failure of the coating and the joints in the cill to fail.

IMPORTANT: Where bay windows are to be replaced, do not stress the joints of the cill by altering the angle of the bay windows.

Using 5.0 x 70mm stainless screws fix the cill from the underside taking care not to overtighten the screws.



Before the sealant has set using a mastic pointing tool remove any excess sealant from the frame.

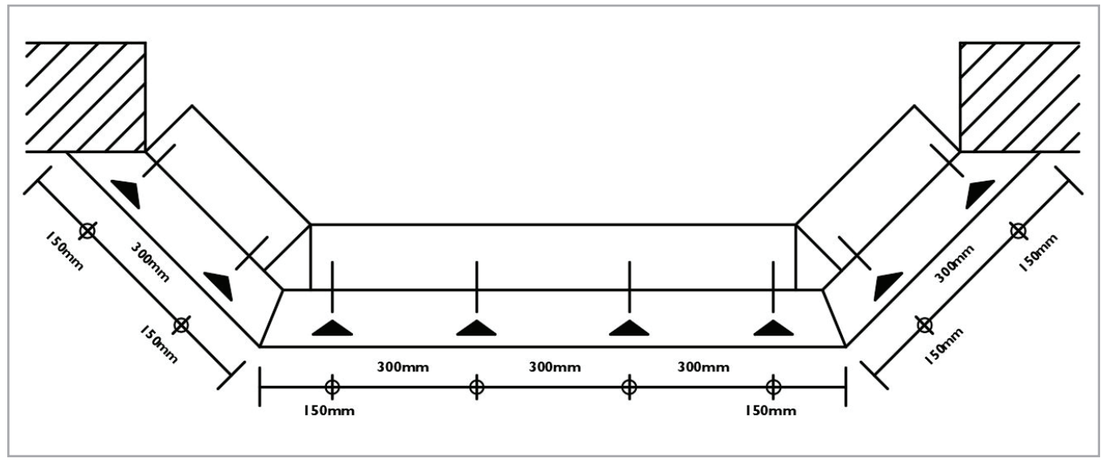


Figure 05: Fixing positions for bay window plant on cills

IMPORTANT: Do not overtighten. Screws should hold extension in position not pull it in to frame.

IMPORTANT: Incorrectly installed bay cills will result in the failure of the coating at the corners and the joint opening up. This is not covered by the warranty.

8. Refit the sash / door

The sash/door can now be refitted according to the *Product Specific Information* instructions - see from page 16 onwards.

IMPORTANT: If brass / black iron fittings have been supplied they should be removed prior to installation to protect the finish from damage. It is recommended that they are reinstalled when the hardware can be kept clean and free from damage.

9. Adjust the hinges and locks

For easy operation and long term performance it is crucial that the hinges and locks are correctly adjusted at this stage. The procedures for each product are detailed in the *Product Specific Information* section of this manual - see from page 16 onwards.

IMPORTANT: This process may need to be repeated after a few days/weeks/months to counteract any movement from the sash/door settling into the correct position.

10. Application of foam around the frame

If required, apply low expansion foam according to the fixing specification method you have chosen and the manufacturer's instructions. Foam continues to expand after it has been applied and care must be taken not to over apply the foam as this can result in distortion of the frame (especially on deeper frames such as those found on sash windows and patio doors).

IMPORTANT: Always use low expansion foam and do not overfill

11. Application of mastic

Apply the mastic, if required, according to the fixing specification method you have chosen and the manufacturer's instructions (do not use silicone). We recommend that you use a low modulus modified polymer to do this.
A closed cell backing rod should be applied first which gives the mastic a surface to adhere to and prevents it falling into the cavity.

12. Fit of trims

The window or door is now ready to be finished with any required trims. If we have supplied these trims, ensure that any damage to the coating is repaired according to our remedial instructions in the Owners' Manual. For other trims, follow the manufacturer's instructions. When fixing exterior trims ensure stainless steel fixings are used.

13. Protection

It is important to ensure that if other works are continuing in the location of the installation of the products, such as plastering or works to the floors, that the correct protective covering is applied.

General Advice on Ventilation

We manufacture all products in a humidity controlled environment to ensure that the timber has a moisture content during production that equates closely to the level it will experience when installed. This prevents excessive movement of the timber that can lead to operation issues as well as coating damage.

During the drying phase of new buildings or renovations where large amounts of plastering or cement based flooring has occurred, a large amount of water vapour is set free. This can cause extremely high humidity levels within the building and as a result the timber will take on moisture that can cause joints to open, damage to the coating, promote fungal growth and corrosion of the hardware.

To avoid these issues and to safeguard the validity of the guarantees, is crucial to adequately ventilate the building by either opening the windows or using dehumidification equipment. The photographs below were taken during a period of building work, which involved a floor being removed in order to install underfloor heating, and clearly show the damage that can be caused if there is inadequate ventilation.

Highlighting damage caused by inadequate ventilation

IMPORTANT: Inadequate ventilation can cause serious damage to the product and will invalidate the guarantees. Please refer to Best Practice guidelines on page 6

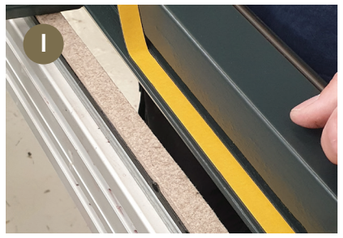
Types of damage caused by inadequate ventilation includes cracks in sills and paint bubbling.

Many building materials are also either acidic or alkaline, both of which are highly corrosive. The internal ironmongery supplied is not designed to cope with high humidity or any form of corrosion. Adequate protection must be provided, or the ironmongery removed until the work is completed.

Additional Installation Information

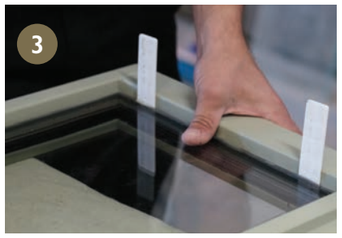
Site Glazing

Where windows are supplied to site with loose glazing:



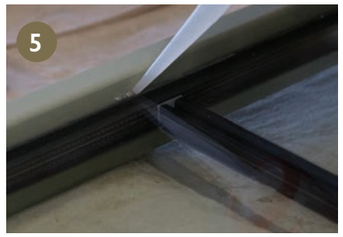
On the bottom rail apply **Tremco Glazing Tape** leaving a 2~3mm gap between the tape and the edge of the sash.*

Use the original packers to align the glass unit in place before removing the backing from the new bonding tape.

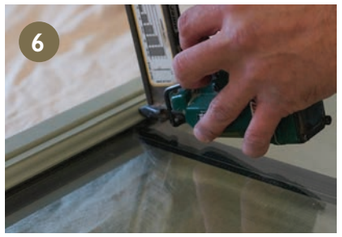


Once happy with the fit, remove the tape backing and fit the glass unit in place. Ensure the glass is fully bedded on the glazing tape.

It may be necessary to use a glazing shovel to gently move the glass unit to allow for the placement of the packers.

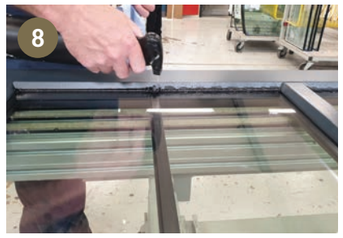


Before re-applying the internal beading apply a strip of silicone to the gap between the glass unit and the sash frame on the bottom rail and 100mm up the sides.**



Reapply the internal beading using pins and bar tape to secure the strips in place.

On the external face, apply **Otto sealer**: on a door, seal all around the perimiter and on a sash across the bottom rail only.



Spray sealer with a mild detergent solution to allow for smooth removal of excess sealant.

Use a silicone profiling tool to remove excess sealant. If any silicone smears remain, wait until the silicone has cured before removing with a suitable wipe; e.g. **Repair Care Easy Q Wipes** or **Everbuild Multi Use Wonder Wipes**.

Glazed Doors and Leaded Glazing Units: *Glazing units fitted to doors and those with lead detailing will require more attention. Follow the above steps however, when applying the Tremco Glazing Tape please leave a 2-3mm gap between the edge of the sash and the tape on all edges. **Before reapplying the internal beading apply a strip of silicone to all edges to seal the gap between the glazing unit and the sash frame.

Site Decoration

Touching up/Making Good

Any minor areas of damage to the paintwork incurred during installation can be made good using the touch up paint supplied. Applied in accordance to the instructions, it will not affect the Coating's guarantee but there may be a small difference to the original sprayed finish.

In the event that there has been any damage to the joints or the glazing sealant, these damages must be rectified in order to ensure the long term performance of the product. If it has been necessary to cut the cill ends to fit a window it is essential that the cut end is properly treated and coated before installation is complete.

A step-by-step gude to repairing damage

	Required:	Procedure:
Step 1 – Preparation	For all repairs.	Any flaking or loose coating should be removed using an P120 abrasive. Ensure that the area is clean and free from dirt or grease prior to the application of coatings.
Step 2 – Sealing	If any end grains or open joints are exposed.	Seal the end grains using **Remmers End Grain Sealer***. Fill any small cracks, cuts and open joints using the sealer.
Step 3 – Preservation, base staining	If the damage exposes bare timber.	Brush apply a coat of **Remmers GW306 Base Stain*** (in the appropriate colour if you are repairing a stain finish).
Step 4 – Priming opaque finishes	After any preservation of bare areas.	Brush apply **Remmers AG26 Primer***
Step 5 – Mid and finishing coats	To finish any repairs.	For intermediate and finishing coats on soft and hardwoods, apply two to three coats of **Remmers DW601*** (In appropriate colour) for paint colours (you can add up to 10% water to help application if required), or **Remmers LW700*** (In appropriate colour) for stain colours (you can add up to 10% water to help application if required).

*All consumable products (Careset, paint, stains, etc.) can be ordered by calling us on **01775 823000** or emailing **customercare@georgebarnsdale.co.uk.**

IMPORTANT: Please note, approved products must be used to recoat your windows and doors. The use of unapproved products will invalidate the guarantee.

Product Specific Information

Casement Windows
(C1/C2)

Casement Windows can be fitted according to the standard installation instructions & have no specific requirements. The locking espagnolettes are fitted adjustable cams for adjustment if necessary.

Sash removal/refit

To aid installation it is possible to remove the sashes and refit them afterwards.

To remove the sash, first open it and remove the screws that attach the hinge to the frame (using an R1 square drive for friction hinges, and PZ2 for butt hinges), ensuring that the sash is well supported at all times. Refitting is the reverse of the removal process.

Sliding Sash Windows
(S1/S2/S3)

Our traditional box sliding sash windows (S1) have been tested to BS 6275: Part 1 and have excellent air penetration performance. However care must be taken when fitting them to ensure there is no air leakage from the cavity as the box is not sealed on the outer side. The position of the air seal will depend on the location where **EDPM rubber sheeting** will be needed to be applied. Failure to do this will result in air penetration, particularly through the sash pullies.

Sash removal/refit

It is not advised to remove sashes once they are fitted. If the size/weight of the sashes are an issue then we recommend that you ask for the windows to be supplied with the sashes loose. If the sashes are supplied loose, please refit as detailed on page 17.

To remove a sash on all variations of a sash window, you must first remove the box bead on the inside of the frame (it is only necessary to remove it on the sides). The box bead is pinned onto the window and can be removed by carefully levering it loose with a chisel or similar tool. Once the bead is removed the sashes can be detached according to the balance type.

Cords and weights (S1):

Step 1 - The sash can be pulled out of the frame, exposing the point at which the cord is screwed to the sash.

Step 2 - The cord (shown in grey in Figure 06) can then be unscrewed on each side allowing the sash to be removed.

IMPORTANT: Ensure the cord is not pulled through the pulley into the frame by tying a knot at the end.

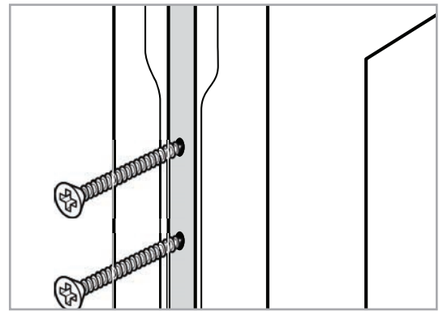


Figure 06: Screw locations on a cords and weights system

Spiral balance (S2):

Step 1 - Raise the sashes as high as possible and prop up.

Step 2 - Unscrew the balance foot attachment on the underside of the bottom rail.

Step 3 - Unfold foot attachment.

Step 4 - Unscrew the balances from the jamb and remove.

Figure 07: Screw locations for a top sash S2 system

Figure 07b: Screw locations for a bottom sash S2 system

Tilting Mechanism (S3):

Step 1 - Undo the tilt catches to allow the sash to tilt forwards.

Step 2 - Detach the restrictor by pressing the spring clip and sliding the arm free (as shown in Figure 08).

Step 3 - Unscrew the quick release arm at the bottom of the base.

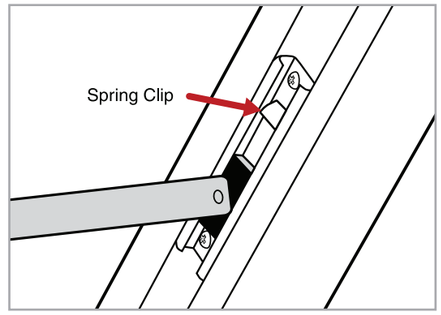


Figure 08: Location of window release clip on a tilting system

Pivot Windows
(P1)

Sash removal/refit

The sash can be simply removed on both the surface mounted and flush type hinges. The sash should be opened until the screw is visible - see Figure 09. This screw should be removed from both hinges allowing the sash to be lifted off the hinge. Replacing the sash is the reverse of the above process.

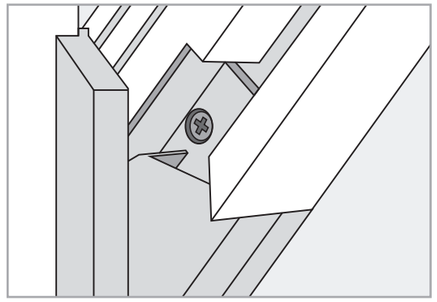


Figure 09: Hinge screw location.

Entrance & French Doors
(DS2/DS5)

IMPORTANT: Do not allow any cill to protrude more than 35mm without adequate support.

Frame installation

It is important to ensure that the doorset is installed with good fixing around the hinge and locking points (see *Installation Process* on pages 6-12 for more details), making sure that fixing points are positioned in these areas.

Doors should also be supported by durable packers no greater than 150mm on the head and cill, at 450mm centres.

It is even more essential that patio doors are installed plumb and square. Any error will be magnified due to the size. It is also very important that there are adequate fixings across the frame head.

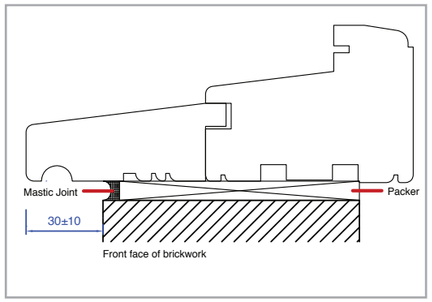


Figure 10: Packing below the door frame.

IMPORTANT: To comply with the requirements of CE marked panic exit doors:

- Check that the door is correctly adjusted and ensure that the force required to open is a maximum of 70N/40Nm
- Ensure that the door is installed according to the standard including, but not limited to, correct signage and unimpeded engress

Sash removal/refit

The hinge pins have been left loose on both our standard and stable door hinges. This allows removal of the pins to separate the sash and frame for ease of installation. Once the door has been installed into the opening, the pins should be knocked in fully using a soft headed mallet, before doing this make sure the pin and the joints are well lubricated with light clear grease. In the event you need to remove the sash, these pins can be knocked out again from below.

Please Note: If black iron furniture is fitted a liberal coating of light clear grease will need to be applied to the connection between the back plate and the handle and between the fixing screws and the back plate.

Keep adjustment

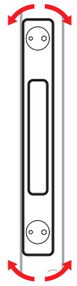
Most keeps we supply are fully adjustable. When the hinges have been adjusted, the keeps should be adjusted to meet the instructions below:

Striker plate:

Allow the door to latch shut but not so that it is necessary to slam it shut. Use a **T15 torx** to adjust the compression on the gasket by turning the eccentric cam located at the top and bottom of the adjustable striker plate.

Figure 11: Striker plate adjustment

Hook bolt plates:



When the bolts are engaged it holds the stile true and against the seals. The seals will force the stile of the door away from them and it is important to stop the door warping to keep the stile true. Use a **T15 torx** to adjust the compression on the gasket by turning the eccentric cam located at the top and bottom of the adjustable hook bolt plate.

Figure 12: Hook bolt plate adjustment

IMPORTANT: Do not adjust with a power tool, hand tool adjustment only.

Hinge adjustment

Most hinges we supply are fully adjustable. When the fitting is complete please check that the door is true and square in the frame with an equal gap. The standard hinges can be adjusted vertically and horizontally as shown in the series of diagrams on page 20.

Flush door hinge (standard)

Horizontal adjustment

Adjust the horizontal position (±2mm) by turning the upper and the lower screw of each hinge.

Unlock the hinge

The adjustment is to be carried out without unhanging the door. Open the door by approximately 90° and fix it by wedging. Loosen the two central clamping screws of each hinge.

Height & compression

Adjust the height (±3mm) and the compression (±2mm) of the door leaf by moving the sash in the appropriate directions.

Lock the hinge

Tighten the clamping screws and remove the wedges.

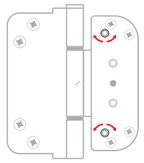


Figure 13: Horizontal adjustment

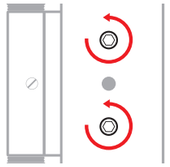


Figure 14: Unlocking the hinge

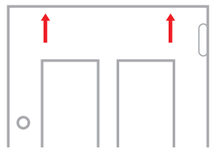


Figure 15: Height adjustment

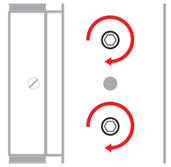


Figure 16: Locking the hinge

IMPORTANT: Do not adjust with a power tool, hand tool adjustment only.

Flush door hinge (alternative)

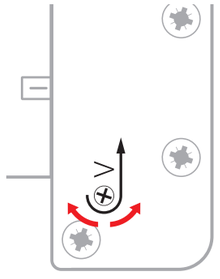


Figure 17: Vertical adjustment

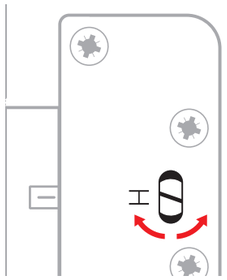


Figure 18: Horizontal adjustment

All adjustments

The horizontal and the vertical adjustments are to be carried out without unhanging the door. Open the door by approximately 90° and adjust the sash vertically (±3mm) by turning the "V" screw in the middle hinge. Adjust the sash horizontally (±2mm) by turning the "H" screws in the upper and the lower hinge.

After final adjustment apply a light clear grease to the friction area between the knuckle and the pin

Concealed hinge

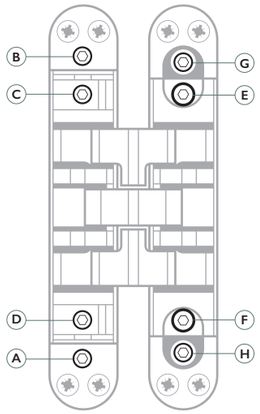


Figure 19: Concealed hinge adjustment locations

Horizontal adjustment

Tighten or loosen screws C and D to increase or decrease the air gap ±3mm.

Height adjustment

Loosen screw A by at least 3 turns, then tighten or loosen screw B to alter the height of the sash ±3mm. Lock by tightening screw A.

Compression adjustment

Loosen screws G and H. Tighten or loosen screws E and F to alter the compression ±1mm. Lock by tightening screws G and H.

Online video instructions available at:
georgebarnsdale.co.uk

Sliding Doors
(DS13)

Frame installation

As with all doors, it is essential to install the sliding door plumb and square and allow for adequate fixings across the frame head.

Sash removal/refit

The following steps outline the installation process for our sliding doors, to uninstall the reverse of this process should be followed.

Step 1 - As with all installations ensure the cill is level before proceeding.

Step 2 - Remove the pre-installed rubber end stops.

Step 3 - If the door frame is fitted with an extended cill it is important to check that it is adequately supported as shown in Figure 20.

Step 4 - Remove all stop plates and front side track guide.

Step 5 - Move the handle into the 'sliding position'.

Step 6 - Offer the sash into the top track then position the sash on the bottom roller track.

Step 7 - Line up the rear side stop plate (top) and screw the plate in place as shown in Figure 21.

Step 8 - Line up the rear side stop plate (bottom) and screw the plate in place as shown in Figure 22.

Step 9 - Screw the front side track guide in place to install as shown in Figure 23.

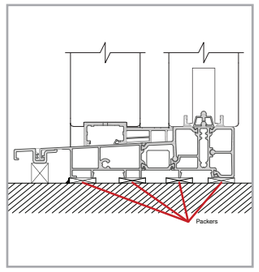


Figure 20: Packing locations to support a door cill

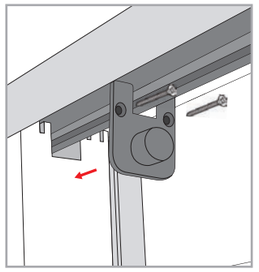


Figure 21: Top rail stop plate.

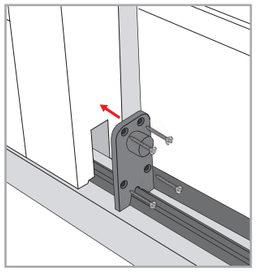


Figure 22: Bottom rail stop plate.

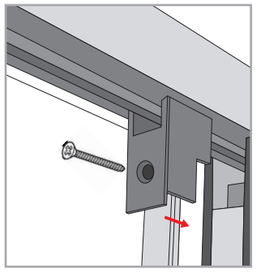


Figure 23: Installing the front side track guide.

IMPORTANT: The doors will not align if the cill is not level.

Bifold Doors

(Outward Opening DS17)

Frame installation

Due to the size of the bifold doors, it is important not to exceed a maximum tolerance of 2mm (see Figure 24). In addition, allowance is to be made for adequate fixings across the frame head. It may be necessary to check with a structural engineer that the lintel above is capable of carrying the weight. The cill also needs to be adequately supported and packed across the whole length and depth. There are weep holes on the underside of the aluminium cill. These must be kept clear.

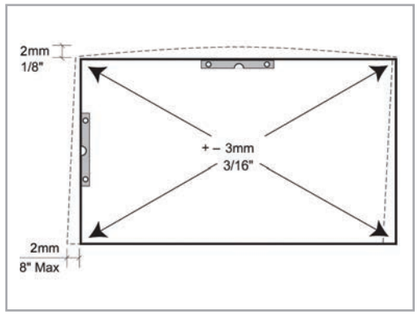


Figure 24: Installation tolerances

It is critical to ensure that the frame is fixed according to the maximum track fixing centres (as shown in Figure 25 and 26) making sure that the screws fixing the track do not impede the carriers.

It is important that the cill is adequately supported.

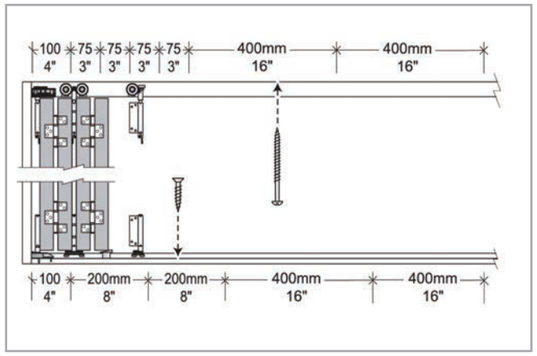


Figure 25: Maximum track fixing centres

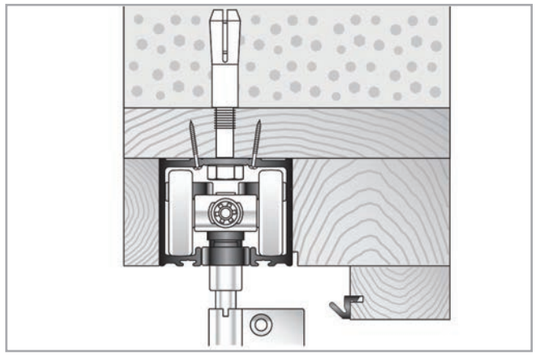


Figure 26: Track fixing and carrier clearance

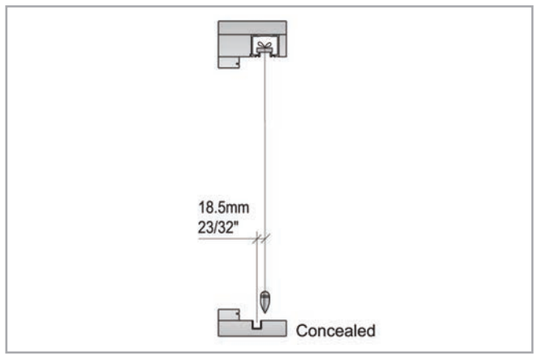


Figure 27: Front alignment measurement offset

Sash removal/refit

Starting with the panel that will be located on fixed pivot hinge, remove the existing screws, bring the door up to the hinge or roller and fix in place using the existing screw holes. Reverse this process to remove the individual bifold door sections.

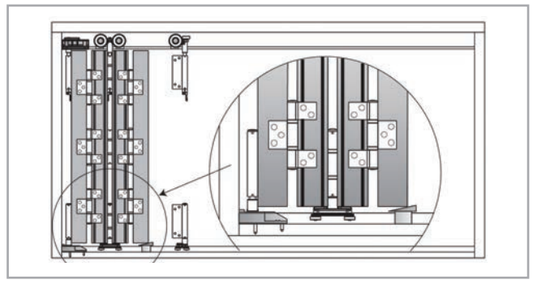


Figure 28: Hinge fixing locations

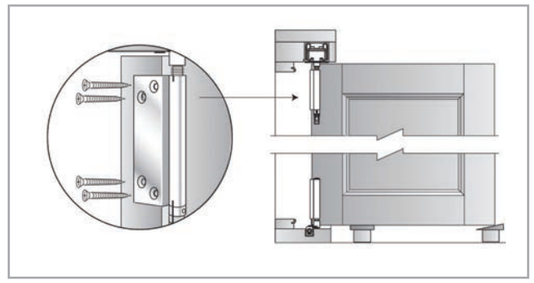


Figure 29: Fitting the pivot panel

Adjustments

Vertical and horizontal adjustment can be made on the hinges to allow for any movement after installation.

Vertical adjustment

Step 1 - With the doors closed, using an H8 bit, turn anti clockwise to lower the door and clockwise to raise the door.

Horizontal adjustment

Step 1 - With the doors open, using a pozi screwdriver adjust the horizontal screws found in the top and bottom rollers (as shown in Figure 31).

Step 2 - Turning the screws clockwise will increase the gap between the frame and sash, turning anti-clockwise will reduce the gap.

Figure 30: Vertical adjustment

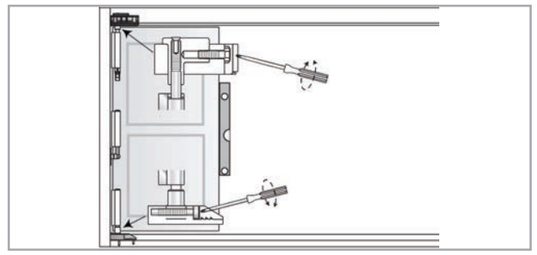


Figure 31: Horizontal adjustment roller locations

IMPORTANT: Ensure the shipping clip is kept safe for any future adjustments.

Magnetic door catch

The magnetic door catches are supplied loose and should be fitted to the doors once they have been installed and adjusted to ensure that they line up accurately.

The location of the door catch is recommended as in the opposite diagrams. Ensure there is enough clearance for door furniture.

To install the magnetic door catch, the following process should be adhered to:

Step 1 - Assemble the door catch in the order shown in Figure 33. Ensure the springs remain in place.

Step 2 - To accurately position the door catch onto the door panel, cut out the door catch template (see *Appendix*, page 30).

Step 3 - Mark the doors with the desired location of the door catch. Line up the template and mark the screw holes.

Step 4 - Pre-drill the screw holes.

Step 5 - Fix the set onto the door panel. Add the cover, ensuring that the clip is through the slots on each side.

Step 6 - If you ever need to remove the door catch, you will need to push the clips in on both sides and remove the cover from the base. Unscrew the screws to remove the door catch from the door panel.

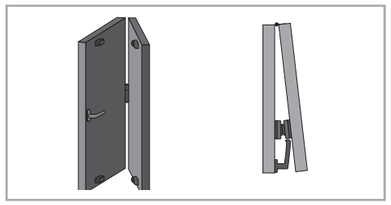


Figure 32: Locations of magnetic door catches

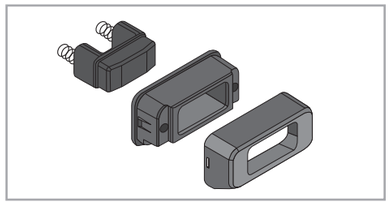


Figure 33: Parts of the door catch

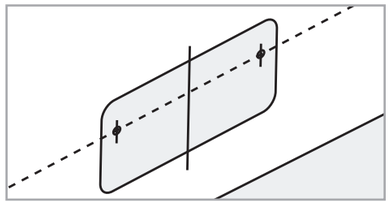


Figure 34: Aligning the template

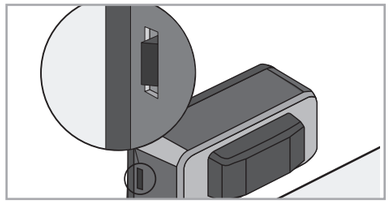


Figure 35: Locations of the cover clips

Hold Back Magnets

For intermediate panels we also supply an additional set of magnetic catches (1 pair as standard and 2 pairs if the door is over 2250mm high). These should be fitted to the bottom of each intermediate panel (and also to the top if a second pair is supplied) as shown in Figure 36.

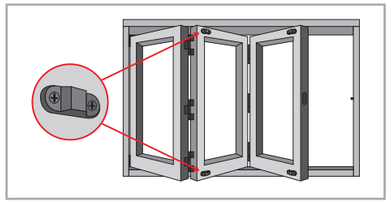


Figure 36: Hold back magnet locations

Tilt & Turn Windows/Doors & BiFold Doors (Inward opening)

(E1/DS11/DS12/DS16)

Our tilt & turn windows/doors and inward opening bifold doors are fully adjustable. In the unlikely event the sash weighs over 100kg a load transfer device will also be fitted - please contact us for instructions on how to adjust this. The following general guidance applies to each product, where there are specific instructions relating to DS12 and DS16 please refer to their individual sections.

Sash removal/refit

To remove the sash follow the steps below. Refitting is the reverse of the removal process.

1. Bring the handle into the tilt mode and open.
2. Press down the lifting mishandled device (if mounted).
3. Bring the handle into the turn mode and secure the sash manually or with mechanical support.
4. Whilst supporting the sash lift it upwards, slightly tilted open.

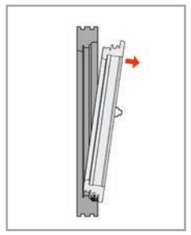


Figure 37: Tilting the sash.

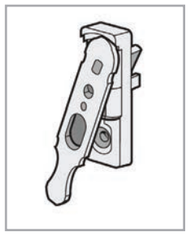


Figure 38: lifting mishandled device

Figure 39: Locations for supporting the sash

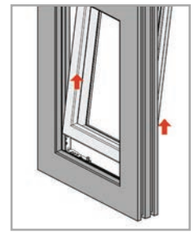


Figure 40: Lifting the sash away from the frame

Adjustments

The sash can be adjusted in multiple ways to ensure that it opens smoothly and closes tightly; adjustments can be made to the sash stays and corner hinges as shown in the diagrams below:

Sash stay adjustments

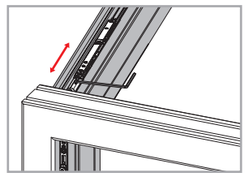


Figure 41: Horizontal adjustment ±2.0mm

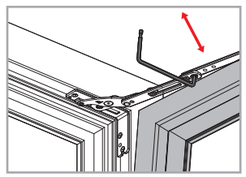


Figure 42: Compression adjustment ±0.5mm

Pivot hinge adjustments

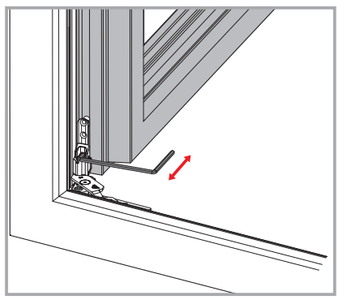


Figure 43: Horizontal adjustment
+2.0/-1.5mm

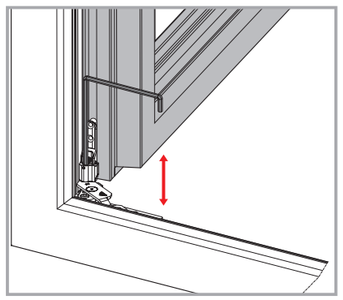


Figure 44: Height adjustment
+1.5/-1.0mm

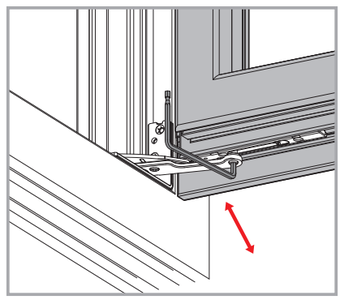


Figure 45: Compression adjustment
±0.5mm

Tilt & Slide Doors (DS12)

Frame installation

As with all doors, it is crucial to install the tilt & sliding door plumb and square and allow for adequate fixings across the frame head.

Sash removal/refit

The following steps explain the procedure of removing the sash from the frame, to refit please reverse the process.

Step 1 - Loosen the clamping screw on the scissors-slider.

Step 2 - Slide scissor-slider out of the stay-connecting profile.

Step 3 - Place the sash at the 30° angle and lift out of the bottom roller track.

Adjustment

To see if any adjustment is necessary, test the parallel positioning in the sliding direction. If adjustment is needed, loosen the clamping-screw for the connecting rod (as shown in Figure 46) on the leading roller, align the sash parallel and tighten the clamping-screw firmly.

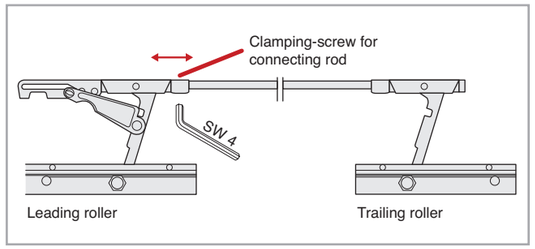


Figure 46: Adjust by loosening / tightening the clamping screw on the leading roller positioned on the bottom rail.

Bifold Doors (Inward Opening DS16)

Frame installation

As is the case for outward opening bifold doors, inward opening bifold doors should be installed plumb and square and an allowance for adequate fixings across the frame head.

Sash installation/removal

Installation to frame

Step 1 - Join the frame hinge-bearing and hinge in the opened sash position by inserting the cylindrical pin.

Step 2 - Secure the cylindrical pin with the countersunk screw.

Installation to sash

Step 1 - Join the sash hinge-bearing and hinge in the opened sash position by inserting the cylindrical pin.

Step 2 - Secure the cylindrical pin with the countersunk screw.

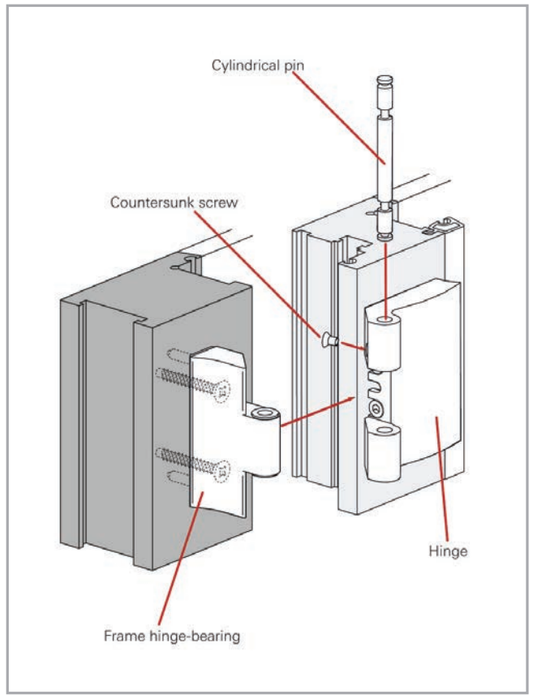


Figure 47: Fitting a sash to the frame

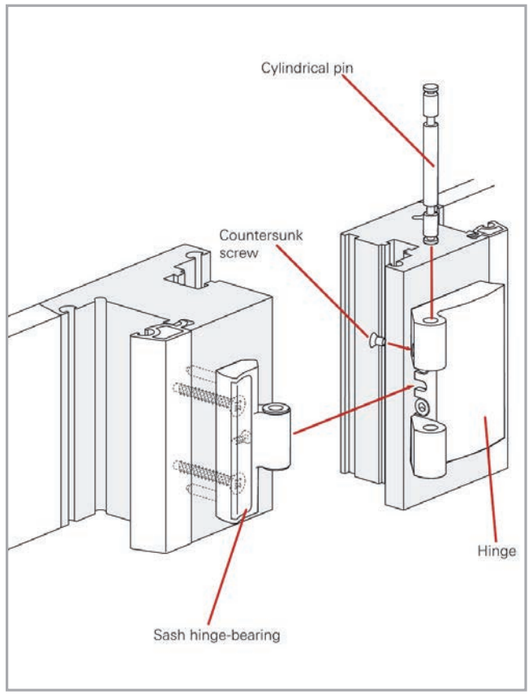


Figure 48: Fitting a sash to a sash

Support-bracket with guide roller

Step 1 - Insert the guide roller into the track and position to the support-bracket.

Step 2 - Tighten the lock-nut with a 17mm open-ended spanner.

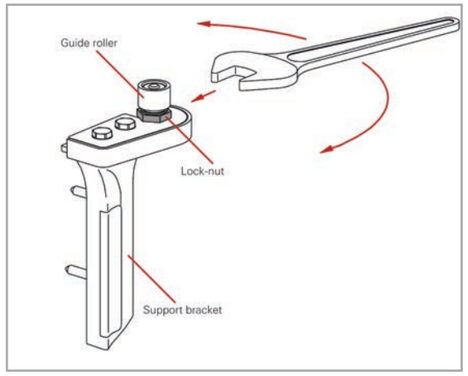


Figure 49: Fitting the guide roller

Adjustments

Adjustment of the door spacing

Step 1 - Open the door to expose the hinge that requires adjusting.

Step 2 - Adjust the hinge by turning the centre head bolt using a 4mm Allen key.

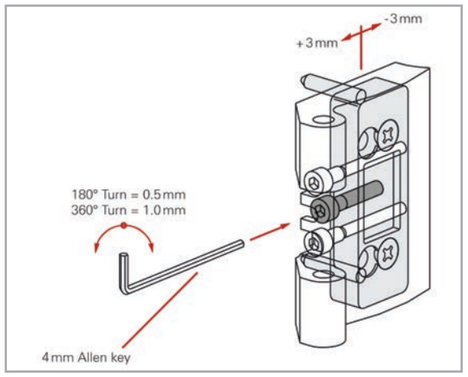


Figure 50: Hinge adjustment location

Adjustment of the sash via the roller

Step 1 - Remove the cover cap.

Step 2 - Loosen the lock-nut with a 17mm open-ended spanner.

Step 3 - Carry out the height adjustment by turning the threaded bolt using a 4mm Allen key.

Step 4 - Tighten the lock-nut again.

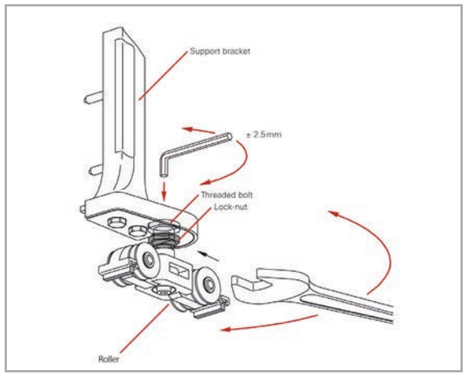


Figure 51: Roller adjustment location

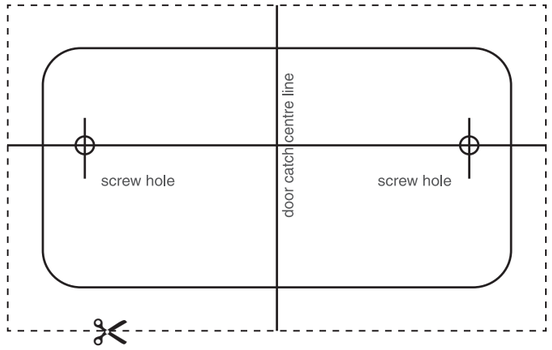
Additional Guidance

On completion check that all ironmongery screws are secure, particularly door and window handles which can come loose in transit. Most of the ironmongery we supply is fully adjustable and it is essential that it is adjusted after installation. Further fine adjustment may be required thereafter.

The coating system we provide is micro porous which means that the timber will absorb moisture in the winter and release it in the summer. All our products are designed to cope with this variation. We carefully measure the moisture of timber on delivery and control the humidity throughout the factory which allows us to despatch our products at a consistent moisture content.

Appendix

Door catch positioning template



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