



# OPERATION & MAINTENANCE MANUAL

Window, door and curtain wall systems



SENIOR ARCHITECTURAL SYSTEMS



# INTRODUCTION

**Senior Architectural Systems offers a complete range of integrated windows, doors and curtain wall systems.**

**Our team of experienced architectural advisers, together with our technical services department, are happy to advise on all issues relating to specification, technical data and calculations.**

**This document is intended to provide assistance with a range of operational and maintenance areas. For further information or support please contact us on 01709 772 600 or email [info@sasmail.co.uk](mailto:info@sasmail.co.uk)**

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# CASEMENT WINDOW

## OPERATION

Despite having a variety of configurations, hinge and locking methods; the casement window is operated in the same manner. To operate the casement window, insert the key and depress the button (depending on the handle type) and rotate the handle through 90° to disengage the locking mechanism and open by pushing outwards. To lock the window, reverse the process.

## CONFIGURATIONS

- **Top-hung:** the vent opens from the bottom of the window.
- **Side-hung:** the vent opens from a vertical side of the window.
- **Bottom-hung:** the vent opens from the head of the window.

## HINGE OPTIONS

The casement window consists of being installed with either friction stays or butt hinges. Both are effective in supporting the weight of the window in the open and close cycle.

## FRICTION STAYS

- **Standard Friction Stays** allow a quick and easy one handed operation which doesn't incorporate any sort of restrictor.
- **Restrictor Stays** open to a certain extent that is determined by positioning and fixing a slide bar to a pre-set position, which can permanently restrict the window to an opening angle.
- **Easy Clean Stays** have the same initial opening of the restrictor hinge and will open to a 90° angle. To move the window to the cleaning position, push down and slide the purple slide along. Fully closing this will reset the stay to its normal position.

## RESTRICTORS ARMS

On outward opening windows supported by either standard butt hinges or friction stays, a restrictor can be added. This is independently fixed and is used to restrict the window and provide ventilation and child safety.

## BUTT HINGES

Butt hinges aren't adjustable and are visible externally at the juncture of the frame and vent.

## LOCKING OPTIONS

On all configurations, the three main methods of locking on the casement window consist of:

- Espagnolette Locking
- Cockspur Locking
- Shoot-bolt Locking

### Espagnolette Locking

Espagnolette locking systems have a handle fitted in the centre of the vertical or horizontal stile, which operates gearing located within the window section. When the handle closes, the mushroom heads move into recessed keeps and engage, locking the window securely. When closed, the handle will sit equal to the rail. The vent can be secured by with a key supplied by the installer.

To operate, unlock using key and rotate handle through 90° to disengage the locking component and open the window. To lock, simply reverse the process.

### Cockspur Locking

This is a surface mounted handle and engages against a nylon wedge on the visible upstand of the outer frame.

To operate, depress button and rotate through 90° to open the vent. To lock, simply reverse the process.

### Shoot-bolt Locking

Shoot-bolt locking is has the concept of mushroom heads from espagnolette locking but also includes shoot-bolts situated at the corners of the opening vent of the windows that locate into fitted keeps on the frame of the window. This locking method is used for enhanced security purposes.

To operate, unlock using key or depress button and rotate about 90° and open the window. To lock, simply reverse the process.

## FOLDING OPENERS

In most cases, folding openers are installed on high level windows. This system will have a 'folding cam' system, often linked by rods. There may also be a ring fitted, commonly known as a 'Tandem eye'. This is fitted so it may accept a hook which will usually be fitted on a pole.

To operate, the top arm operating eye is to be pulled upwards to 'unsnap' the folding opener. Rotate the eye away from the window and push down to achieve maximum opening position. To close vent, the top arm operating eye is to be pulled upwards then the tandem eye to be rotated in towards the window. 'Snap' down the top arm to achieve the locked closed position.

## MAINTENANCE

### WINDOW ESPAGNOLETTES

To ensure that your window espagnolettes function correctly, it is important that the maintenance procedure (shown in the adjacent diagrams) is carried out **every 12 months**.

### HANDLES

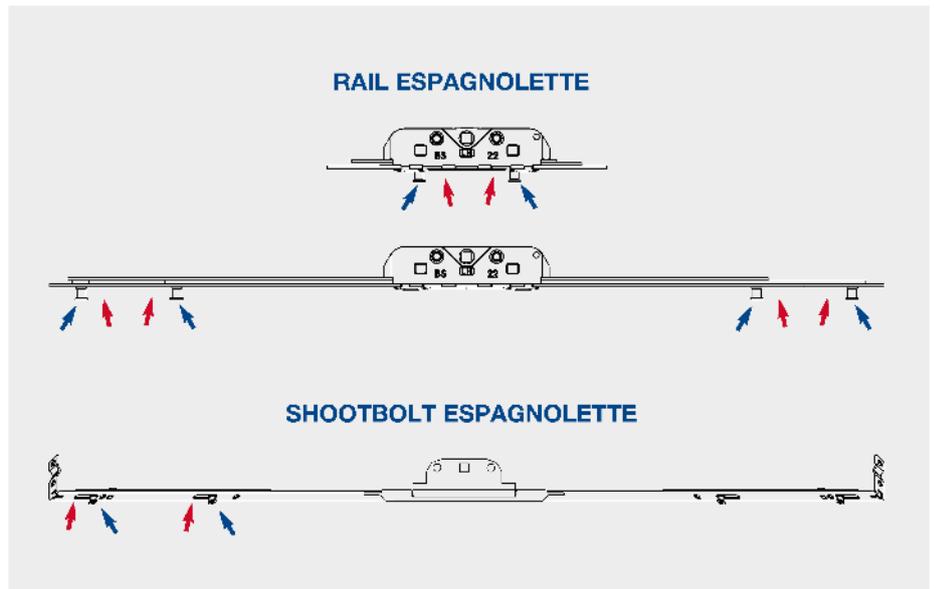
We recommend a maintenance check **every 6 months**:

- Ensure the handle is free from and building materials and debris which could affect the mechanism. The handle may be cleaned using warm soapy water or a mild detergent using a soft sponge. Ensure that the handle is thoroughly rinsed and dry after cleaning.
- All fittings must be inspected to ensure that they are firmly fixed. Where necessary all fixing screws have to be tightened, with all damaged/worn parts exchanged for original parts by a qualified technician.
- Lubricate the pivot points of handles using general light engineering oil with corrosion inhibitors such as 3 in 1.
- Over tightening of the fixing screws could apply unnecessary strain to the locking mechanism's gearbox therefore impairing the lock.

### LOCK MECHANISMS

We recommend a maintenance check **every 12 months**:

- Ensure the lock is free from grime, dirt and any debris which could affect the mechanism. Lubricate the component using general light engineering oil such as 3 in 1.
- All fittings must be inspected to ensure that they are firmly fixed. Where necessary all fixing screws have to be tightened, with all damaged/worn parts exchanged for original parts by a qualified technician.
- Mechanism can be cleaned using detergent liquids or aerosol based cleaners.
- Ammonia based and abrasive cleaning fluids must not be used on any hardware, only use cleaners that



have no effect on the corrosion protection properties of the fittings.

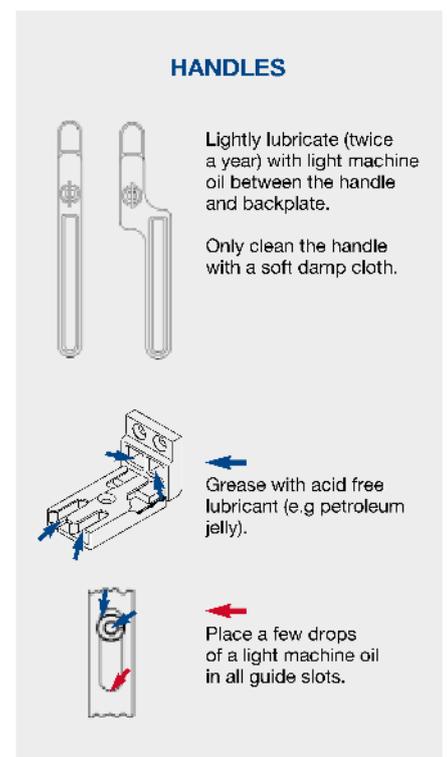
- Exposed components when the window is opened such as locking cams and hook bolts should be wiped with a soft cloth to rid of any residue lubricant and grime.

### FRICTION STAYS

We recommend a maintenance check **every 6 months**:

- Friction stays, restriction arms and safety catches should be lubricated with light engineering oil such as 3 in 1.
- Remove any dirt and debris from the, pivot, sliding shoe and track, re-apply lubrication to the pivot points only.
- The friction stays are to be cleaned using a damp cloth, with a mild solution of warm soapy water.
- All fittings must be regularly inspected to ensure that they are firmly fixed. Where necessary all fixing screws have to be tightened, with all damaged/worn parts exchanged for original parts by a qualified technician.

**A qualified technician must execute all major adjustments or replacements. Any attempts to complete repairs without the correct resources or product awareness could result in personal injury or damage to the mechanism.**



### HANDLES

Lightly lubricate (twice a year) with light machine oil between the handle and backplate.

Only clean the handle with a soft damp cloth.

Grease with acid free lubricant (e.g petroleum jelly).

Place a few drops of a light machine oil in all guide slots.

# TILT & TURN WINDOW

## OPERATION

These versatile, inward opening windows are capable of two methods of operation: tilt mode to allow ventilation and a turn mode to allow cleaning on the external face and emergency exit. Locking is achieved by a series of cams (espagnolettes) which are positioned on a sliding mechanism around the periphery of the window. When the handle is in the 'closed' position (downwards) and the window is fully shut, the cams are engaged in the keeps installed around the outer frame.

The handle is rotated to one of three modes – 'closed', 'tilt' or 'turn'. Ensure that the window is completely shut before changing the handle position.

To operate the Tilt & Turn window, turn key to unlock if a locking handle has been fitted.

To select 'tilt', from the 'closed' position, rotate the handle through 90° until the handle is horizontal and pull inwards. The top of the window will tilt inwards to allow ventilation.

To select "Turn" from the "Tilt" position, close the window and rotate the upwards and pull inwards. To lock the window, push the window shut and rotate the handle downwards until it reaches the 'closed' position. This is 180° downwards. Secure using the key and ensure that it is removed when not in use. Do not attempt to open the window when the handle is in between any of the three positions.

## MAINTENANCE

All aspects of the gearing should be visually checked **every 6 months** and adjusted if necessary:

- Fixings of link arm, handle, hinges, corner transmission and wedges.
- Ensure that the link arm friction is sufficient to keep the window in tilt position without affecting the normal operation of the window. If necessary the friction can be adjusted by the adjustment screw.
- Check the working of the mishandling device. The handle can only be turned a few degrees when the window is in open position, certainly do not force the handle.

## HANDLES

We recommend a maintenance check **every 6 months**:

- Ensure the handle is free from and building materials and debris which could affect the mechanism. The handle may be cleaned using warm soapy water or a mild detergent using a soft sponge. Ensure that the handle is thoroughly rinsed and dry after cleaning.
- All fittings must be inspected to ensure that they are firmly fixed. Where necessary all fixing screws have to be tightened, with all damaged/worn parts exchanged for original parts by a qualified technician.
- Lubricate the pivot points of handles using general light engineering oil with corrosion inhibitors such as 3 in 1.
- Over tightening of the fixing screws could apply unnecessary strain to the locking mechanism's gearbox therefore impairing the lock.

## GEARING

We recommend a maintenance check **every 12 months**:

- Lubricate the locking points with a light oil or grease.
- Corner transmissions, handles and mishandling device are greased during manufacture therefore no additional lubrication is necessary.
- When necessary any dust and dirt must be removed from the perimeter locking components as this could affect the smooth operation of the system.
- The system must not be cleaned with water and or other cleaning products as this could affect the lubricants and the corrosion resistance of the gear.
- All fittings must be regularly inspected to ensure that they are firmly fixed. Where necessary all fixing screws have to be tightened, with all damaged/worn parts exchanged for original parts by a qualified technician.

**A qualified technician must execute all major adjustments or replacements. Any attempts to complete repairs without the correct resources or product awareness could result in personal injury or damage to the mechanism.**

# PIVOT WINDOW

## OPERATION

The pivot window allows for maximum ventilation and allows the external surface of the window to reverse to allow sufficient cleaning. Pivots shall be suitable for horizontally or vertically hinging reversible windows. The pivot is available in restricted (with various degrees of restriction to a maximum of 100mm) or in unrestricted. The restrictor has a fully automatic ventilation stop at an angle of 10°, 15° or 22° and a spring loaded reverse stop at 180°.

To operate, depress the handle and rotate through 90° and push. If the pivot is restricted, this will open the window marginally to a restricted position. To free this restriction, push the restrictor down. This will allow reversal of the window and will automatically engage the reverse position at 180° for cleaning purposes. To close the window, simply reverse the process.

## MAINTENANCE

### HANDLES

We recommend a maintenance check **every 6 months:**

- Ensure the handle is free from and building materials and debris which could affect the mechanism. The handle may be cleaned using warm soapy water or a mild detergent using a soft sponge. Ensure that the handle is thoroughly rinsed and dry after cleaning.
- All fittings must be inspected to ensure that they are firmly fixed. Where necessary all fixing screws have to be tightened, with all damaged/worn parts exchanged for original parts by a qualified technician.
- Lubricate the pivot points of handles using general light engineering oil with corrosion inhibitors such as 3 in 1.
- Over tightening of the fixing screws could apply unnecessary strain to the locking mechanism's gearbox therefore impairing the lock.

### LOCK MECHANISMS

We recommend a maintenance check **every 12 months:**

- Ensure the lock is free from grime, dirt and any debris which could affect the mechanism. Lubricate the component using general light engineering oil such as 3 in 1.
- All fittings must be inspected to ensure that they are firmly fixed. Where necessary all fixing screws have to be tightened, with all damaged/worn parts exchanged for original parts by a qualified technician.
- Mechanism can be cleaned using detergent liquids or aerosol based cleaners.
- Ammonia based and abrasive cleaning fluids must not be used on any hardware, only use cleaners that have no effect on the corrosion protection properties of the fittings.

## GEARING

We recommend a maintenance check **every 6 months:**

- Gearing located on the vent should be cleaned using a soft, damp cloth or sponge with soapy water and thereafter wiped dry.
- All fittings must be regularly inspected to ensure that they are firmly fixed. Where necessary all fixing screws have to be tightened, with all damaged/worn parts exchanged for original parts by a qualified technician.
- Clean pivot using a damp cloth.  
**DO NOT LUBRICATE PIVOT.**

**A qualified technician must execute all major adjustments or replacements. Any attempts to complete repairs without the correct resources or product awareness could result in personal injury or damage to the mechanism.**

# OVERSWING (REVERSIBLE) WINDOW

## OPERATION

Overswing windows are fully reversible windows which are top hung and protrude outwards. When in operation, the opening vent is situated outside the building structure. There are multiple restricted positions that are used in the operation of the Overswing window.

To operate the Overswing window, turn the key and depress the button to unlock handle. Rotate the handle 90° upwards to disengage the locking component and open by pushing outwards. The window will open marginally to a restricted position. To enable the window to open further, depress the release lever located in the frame. To fully reverse the window, push the bottom of the window out as far as possible. Continue the reversal by gripping the top of the vent and pulling downwards until the vent restricts into the fully reversed position. To close the window, depress restrictor lever and push vent in the opposite direction until the restrictor re-engages. Again, depress restrictor lever and pull the window shut ensuring that the handle is turned back into the lock position.

**DO NOT ATTEMPT TO DANGEROUSLY OVER REACH.**

## MAINTENANCE

### HANDLES

We recommend a maintenance check **every 6 months**:

- Ensure the handle is free from and building materials and debris which could affect the mechanism. The handle may be cleaned using warm soapy water or a mild detergent using a soft sponge. Ensure that the handle is thoroughly rinsed and dry after cleaning.
- All fittings must be inspected to ensure that they are firmly fixed. Where necessary all fixing screws have to be tightened, with all damaged/worn parts exchanged for original parts by a qualified technician.
- Lubricate the pivot points of handles using general light engineering oil with corrosion inhibitors such as 3 in 1.
- Over tightening of the fixing screws could apply unnecessary strain to the locking mechanism's gearbox therefore impairing the lock.

### LOCK MECHANISMS

We recommend a maintenance check **every 12 months**:

- Ensure the lock is free from grime, dirt and any debris which could affect the mechanism. Lubricate the component using general light engineering oil such as 3 in 1.
- All fittings must be inspected to ensure that they are firmly fixed. Where necessary all fixing screws have to be tightened, with all damaged/worn parts exchanged for original parts by a qualified technician.
- Mechanism can be cleaned using detergent liquids or aerosol based cleaners.
- Ammonia based and abrasive cleaning fluids must not be used on any hardware, only use cleaners that have no effect on the corrosion protection properties of the fittings.

## GEARING

We recommend an Overswing maintenance check **every 6 months**:

- Lubricate the locking points with a light oil or grease.
- Gearing located on the vent should be cleaned using a soft, damp cloth or sponge with soapy water and thereafter wiped dry.
- Moving parts are to be lubricated with general light engineering oil.
- All fittings must be regularly inspected to ensure that they are firmly fixed. Where necessary all fixing screws have to be tightened, with all damaged/worn parts exchanged for original parts by a qualified technician.

**A qualified technician must execute all major adjustments or replacements. Any attempts to complete repairs without the correct resources or product awareness could result in personal injury or damage to the mechanism.**

# REBATED DOOR SYSTEMS

SPW300 / SPW600 / Hybrid Series 1/ PUn<sup>®</sup> FOLD / Ali FOLD

## OPERATION

### SINGLE DOOR

Residential Doors are available in a variety of styles and operations. The doors are rebated meaning they are single action, opening either inwards or outwards.

To unlock the door, insert key in cylinder, turn to unlock and depress handle to disengage the lock mechanism and open the door outwards/inwards depending on the configuration.

To lock the door, ensure the door is fully closed to the stage where the latch engages. Lift the handle upwards until you feel hesitation, then resume action to overcome hesitation and engage the locking device and then release the handle.

### DOUBLE DOOR

To operate double doors, ensure that the master door is always opened first to avoid spraining the locking mechanism. Your installer should have pointed out which is the master door and which is the slave door.

Dependant on the locking mechanism installed on the door, there are two methods of locking the slave door:

- Full slave locking
- Finger levers

Full slave locking has a shoot bolt which is handled operated, as the master door is. Once the master door is open, you can operate the slave door by depressing handle and open inwards/outwards depending on the configuration.

When there isn't a handle fitted to the slave door, this is finger lever operated. To operate, lift the finger lever located at the head and bottom of the slave door or integral to the keep and push or pull the door depending on the door configuration. To lock the slave door, reverse the process.

## MAINTENANCE

### HANDLES

We recommend a maintenance check **every 6 months:**

- Ensure the handle is free from and building materials and debris which could affect the mechanism. The handle may be cleaned using warm soapy water or a mild detergent using a soft sponge. Ensure that the handle is thoroughly rinsed and dry after cleaning.
- All fittings must be inspected to ensure that they are firmly fixed. Where necessary all fixing screws have to be tightened, with all damaged/worn parts exchanged for original parts by a qualified technician.
- Lubricate the pivot points of handles using general light engineering oil with corrosion inhibitors such as 3 in 1.
- Over tightening of the fixing screws could apply unnecessary strain to the locking mechanism's gearbox therefore impairing the lock.

### LOCK MECHANISMS

We recommend a maintenance check **every 12 months:**

- Ensure the lock is free from grime, dirt and any debris which could affect the mechanism. Lubricate the component using general light engineering oil such as 3 in 1.
- All fittings must be inspected to ensure that they are firmly fixed. Where necessary all fixing screws have to be tightened, with all damaged/worn parts exchanged for original parts by a qualified technician.
- Mechanism can be cleaned using detergent liquids or aerosol based cleaners.
- Ammonia based and abrasive cleaning fluids must not be used on any hardware, only use cleaners that have no effect on the corrosion protection properties of the fittings.
- Keep locking keeps lubricated using petroleum jelly and ensure that excess oil is wiped clean with a soft cloth or a sponge.

We recommend a Residential Door maintenance check **every 6 months:**

- The frame and vent should be cleaned using a soft, damp cloth or sponge with soapy water and thereafter wiped dry.
- All fittings must be regularly inspected to ensure that they are firmly fixed. Where necessary all fixing screws have to be tightened, with all damaged/worn parts exchanged for original parts by a qualified technician.

**A qualified technician must execute all major adjustments or replacements. Any attempts to complete repairs without the correct resources or product awareness could result in personal injury or damage to the mechanism.**

# NON-REBATED DOOR SYSTEMS

## SD / SPW501

### OPERATION

To operate a standard commercial door, unlock using key and push or pull depending on the door configuration. A majority of commercial doors will have a face mounted or concealed door closers. When the door is pushed or pulled into position, the closer will automatically revert to its neutral closed position, unless a hold-open closer is used. In this case, if this door is opened past 90°, the door will hold and remain open. The speed of this will depend on how the door closer has been set. The speed can also be adjusted to suit, please refer to door closer in Maintenance.

To lock the door, allow the door to self-close back into its neutral position. Insert key into cylinder and turn to engage the locking mechanism. The key should be removed from the door when not in use. If your door is fitted with automatic gearing, please refer to the manufacturers guide to operation.

### PANIC EXIT DEVICES

Emergency exit devices can be fitted on the internal section of the door. It utilises a push bar or paddle handle which operates a latch. It is important to realise the internal bar/handles are designed to be pushed in an emergency to release the door and although the handles can be used to pull the door closed to reset the hardware (or close automatically), they are not intended to be used in high traffic areas where the handles are used to pull door closed on regular intervals.

### DOOR CLOSERS

Providing the closing and final latching speeds of the door closer have been correctly set on installation, it should not be necessary to readjust at a later date. However, after the door closer has completed a short settling period, minor adjustments may be required. It should be noted that inexperienced tampering with the valve screws would cause irreparable damage. The following notes will enable the operator to make simple adjustments – if in any doubt please seek advice from the manufacturer.

It is important to realise that the two valve screws will adjust the closing and latching speeds of the door closer, they will not adjust the closing or opening forces in any way. It is very likely the door closer will require only very minor adjustment, perhaps one half turn of the valve screw. After any adjustment the door closing speed should be checked twice by opening the door fully and allowing it to close, before proceeding.

Care must be taken not to unscrew the valve head beyond the level of the closer body when increasing the closing speed. Turning the valve past this limit will allow oil to escape and the closer will need to be replaced. On the other hand if the valve is turned clockwise, decreasing the closing speed, adjustment must cease when resistance is felt as will be damaged along with the oil seal if excessive force is used.

### MAINTENANCE

#### PROFILE

We recommend a maintenance check **every 12 months:**

- Ensure frames are free of grime and dirt by wiping with warm soapy water.
- Check drainage holes and remove any blockages which may have accumulated over time. Check for obstructions and ensure fixings are secure.

#### HANDLES

We recommend a maintenance check **every 6 months:**

- Ensure the handle is free from and building materials and debris which could affect the mechanism. The handle may be cleaned using warm soapy water or a mild detergent using a soft sponge. Ensure that the handle is thoroughly rinsed and dry after cleaning.
- All fittings must be inspected to ensure that they are firmly fixed. Where necessary all fixing screws have to be tightened, with all damaged/worn parts exchanged for original parts by a qualified technician.

- Lubricate the pivot points of handles using general light engineering oil with corrosion inhibitors such as 3 in 1.
- Over tightening of the fixing screws could apply unnecessary strain to the locking mechanism's gearbox therefore impairing the lock.

#### LOCK MECHANISMS

We recommend a maintenance check **every 12 months:**

- Ensure the lock is free from grime, dirt and any debris which could affect the mechanism. Lubricate the component using general light engineering oil such as 3 in 1.
- All fittings must be inspected to ensure that they are firmly fixed. Where necessary all fixing screws have to be tightened, with all damaged/worn parts exchanged for original parts by a qualified technician.
- Mechanism can be cleaned using detergent liquids or aerosol based cleaners.
- Ammonia based and abrasive cleaning fluids must not be used on any hardware, only use cleaners that have no effect on the corrosion protection properties of the fittings.

#### PANIC EXIT DEVICE

We recommend a **6 monthly** maintenance of the following:

- Check that the emergency exit hardware operates and the door can be opened in the correct manner. Ensure the door operates monthly and carry out routine maintenance as per door manufacturers instructions.
- With the door open depress the bar or paddle handle and release, the bolts should remain retracted whilst the door is in this open position.
- The top bolt should clear the underside of the transom by no less than 3mm. In most cases this will be level with the top of the door. With the door still open activate the trip mechanism, positioned at the top of the door on the closing face, the bolts should throw immediately.

- It is important that the catch operates correctly, especially in the case of fire doors and alarmed door which will otherwise remain ajar or unlocked. If adjustment is necessary remove the screws securing the nylon guide block in place. Take care not to allow it to drop down inside the stile.
- Remove the nylon block and lubricate the steel catch until the spring and catch operate freely.
- If the bolt position requires height adjustment, turn the bolt head until the correct projection is achieved. Ensure the bolt retracts completely when depressing the panic bar or handle.
- Refit the guide block by reverse procedure.
- Adjustment to the bottom bolt can be carried out in the same way.
- Check the housing to both door stiles for the push bar type or the single housing for the push paddle type. The housings can be removed by slackening the three 15/32" x 1/4" set screws with a 3mm Allen key. The active housing can be removed from the door by sliding out the connecting pin from the actuator pin. This will present the two shoulder bolts which should be secured firmly. If an outside rim cylinder has also been fitted two screws should also be visible. Check these screws are secure taking care not to over tighten. The operating mechanism can be lubricated with spray grease through the actuator pin slot and the housing reinstated by the reverse procedure.

If faults can not be rectified using the information above, contact the supplier for further advice.

#### CONCEALED OVERHEAD TRANSOM CLOSERS

We recommend a **6 monthly** maintenance of the following:

Detach the door (you may need a professional to carry out such a task), remove the cover plate and expose the closer. Tighten all fixing screws and bolts. Inspect the door bearing and wipe away any debris, check the bearing rotates freely and the bolt is secured firmly in the plate or threshold. Lubricate with grease if

necessary. Tighten all fixings, including the three screws to the bottom rail of the door securing the pivot shoe. Replace the cover plate and remount the door. Tighten all the top arm fixings, particularly the clamp block screws and centre screw. Replace the name plate and clean down the door as per finisher's recommendations.

#### CONCEALED OVERHEAD TRANSOM CLOSERS SPEED ADJUSTMENT

Providing the closing and final latching speeds of the door closer have been correctly set on installation it should not be necessary to readjust at a later date. However, after the door closer has completed a short settling in period, minor adjustments may be required. It should be noted that inexperienced tampering with the valve screws would cause irreparable damage. The following notes will enable to operator to make simple adjustments – if in and doubt please seek advice from the manufacturer.

It is important to realise that the two valve screws will adjust the closing and latching speeds of the door closer, they will not adjust the closing or opening forces in any way. It is very likely the door closer will require only a very minor adjustment, perhaps only one half turn of the valve screw. After any adjustment the door closing speed should be checked twice, by opening the door fully and allowing it to close, before proceeding.

Care must be taken not to unscrew the valve head beyond the level of the closer body when increasing the closing speed. Turning the valve past this limit will allow the oil to escape and the closer will need to be replaced. On the other hand if the valve is past this limit will allow oil to escape and the closer will need to be replaced. On the other hand if the valve is turned clockwise, decreasing the closing speed, adjustment must cease when resistance is felt as will be damaged along the oil seal if excessive force is used.

**A qualified technician must execute all major adjustments or replacements. Any attempts to complete repairs without the correct resources or product awareness could result in personal injury or damage to the mechanism.**

# INLINE/LIFT & SLIDE DOOR

## OPERATION

For Inline/Lift & Slide Door operation guidance please refer to the relevant End User Guidance manual, which can be obtained from our website:

- PRe® SLIDE Inline Sliding End User Guidance
- PRe® SLIDE Lift & Slide End User Guidance
- Hybrid Lift & Slide End User Guidance

## MAINTENANCE

### BOTTOM PROFILE/TRACK

We recommend maintenance on the bottom profile **every month**:

- Overtime, dirt and general debris may gather in the bottom profile of your sliding door. Clean and if necessary, clear the drainage slots of any materials which may have collected over time.
- Keep the tracks free from obstruction and excessive dirt or water. Visible surfaces should be cleaned using a damp cloth and mild detergent, then wiped dry.

### HANDLES

We recommend a maintenance check **every 6 months**:

- Ensure the handle is free from and building materials and debris which could affect the mechanism. The handle may be cleaned using warm soapy water or a mild detergent using a soft sponge. Ensure that the handle is thoroughly rinsed and dry after cleaning.
- All fittings must be inspected to ensure that they are firmly fixed. Where necessary all fixing screws have to be tightened, with all damaged/worn parts exchanged for original parts by a qualified technician.
- Lubricate the pivot points of handles using general light engineering oil with corrosion inhibitors such as 3 in 1.
- Over tightening of the fixing screws could apply unnecessary strain to the locking mechanism's gearbox therefore impairing the lock.

## LOCK MECHANISMS

We recommend a maintenance check **every 12 months**:

- Ensure the lock is free from grime, dirt and any debris which could affect the mechanism. Lubricate the component using general light engineering oil such as 3 in 1.
- All fittings must be inspected to ensure that they are firmly fixed. Where necessary all fixing screws have to be tightened, with all damaged/worn parts exchanged for original parts by a qualified technician.
- Mechanism can be cleaned using detergent liquids or aerosol based cleaners.
- Ammonia based and abrasive cleaning fluids must not be used on any hardware, only use cleaners that have no effect on the corrosion protection properties of the fittings.

## GEARING

We recommend a maintenance check **every 6 months**:

- All fittings must be inspected to ensure that they are firmly fixed. Where necessary all fixing screws have to be tightened, with all damaged/worn parts exchanged for original parts by a qualified technician.
- Locks, rollers, guides etc. should be checked and lubricated with general light engineering oil.

**A qualified technician must execute all major adjustments or replacements. Any attempts to complete repairs without the correct resources or product awareness could result in personal injury or damage to the mechanism.**

# FOLDING SLIDING DOOR

## OPERATION

For Folding Sliding Door operation guidance, please refer to the End User Guidance manual, which can be obtained from our website:

- PURe® FOLD Outward Opening End User Guidance
- PURe® FOLD Inward Opening End User Guidance
- Ali FOLD Outward Opening End User Guidance
- Ali FOLD Inward Opening End User Guidance
- Hybrid Folding Sliding Door End User Guidance

## MAINTENANCE

### BOTTOM PROFILE/TRACK

We recommend maintenance on the bottom profile **every month**:

- Overtime, dirt and general debris may gather in the bottom profile of your folding sliding door. Clean and if necessary, clear the drainage slots of any materials which may have collected over time.
- Keep the tracks free from obstruction and excessive dirt or water. Visible surfaces should be cleaned using a damp cloth and mild detergent, then wiped dry.
- Check on the tracks to ensure they are free of debris and in a suitable condition. If grease is applied, this will just retain dirt and dust therefore minimizing the lifespan of the wheels, so we recommend avoiding this.

### HANDLES

We recommend a maintenance check every **6 months**:

- Ensure the handle is free from and building materials and debris which could affect the mechanism. The handle may be cleaned using warm soapy water or a mild detergent using a soft sponge. Ensure that the handle is thoroughly rinsed and dry after cleaning.
- All fittings must be inspected to ensure that they are firmly fixed. Where necessary all fixing screws have to be tightened, with all damaged/worn parts exchanged for original parts by a qualified technician.
- Lubricate the pivot points of handles using general light engineering oil with corrosion inhibitors such as 3 in 1.
- Over tightening of the fixing screws could apply unnecessary strain to the locking mechanism's gearbox therefore impairing the lock.

### LOCK MECHANISMS

We recommend a maintenance check **every 12 months**:

- Ensure the lock is free from grime, dirt and any debris which could affect the mechanism. Lubricate the component using general light engineering oil such as 3 in 1.

- All fittings must be inspected to ensure that they are firmly fixed. Where necessary all fixing screws have to be tightened, with all damaged/worn parts exchanged for original parts by a qualified technician.
- Mechanism can be cleaned using detergent liquids or aerosol based cleaners.
- Ammonia based and abrasive cleaning fluids must not be used on any hardware, only use cleaners that have no effect on the corrosion protection properties of the fittings.

### ROLLERS & PIVOTS

We recommend a maintenance check **every 6 months**:

- Wash with soap or mild detergent and warm water followed by rinsing with clean cold water and wipe dry.
- Apply a light application of corrosion preventative to all surfaces.

### GUIDES

We recommend a maintenance check **every 6 months**:

- Guide roller and guide channel must be kept clear and free of obstructions.
- Wash with soap or mild detergent and warm water followed by rinsing with clean cold water and wipe dry.
- Apply a light application of corrosion preventative to all surfaces.

### HINGES

We recommend a maintenance check **every 3 months**:

- Visible surfaces should be cleaned using a damp cloth and mild detergent, then wiped dry
- Apply a light application of corrosion preventative to all surfaces, using a dry cloth to remove excess.

**A qualified technician must execute all major adjustments or replacements. Any attempts to complete repairs without the correct resources or product awareness could result in personal injury or damage to the mechanism.**

# OVERALL GENERAL MAINTENANCE

## MAINTENANCE

Senior Architectural Systems offers a range of systems which are easy to use and maintain but in order to ensure maximum lifespan it is important to maintain individual parts regularly.

In order to maintain the system warranty the following cleaning and maintenance instructions should be carried out at least **once per year**. However a more regular maintenance regime will be required if they are subjected to any of the following:

- Strong sunlight on south facing facades.
- Installed in a marine or industrial environment.

## CURTAIN WALL

In terms of maintenance, not much can be done when it comes to Curtain Wall systems. We recommend frequent cleaning of the aluminium profile and glazing with warm soapy water using a soft sponge/cloth. All cleaned areas should be thoroughly rinsed and dried after. Gaskets may be cleaned using warm soapy water or a mild detergent using a soft cloth or sponge. Ensure no gaskets become dislodged when cleaning.

## TIMBER

The wood frame should be dusted with the occasional use of domestic furniture polish and wiped clean regularly.

Wood is a natural product that can contain resin. Occasionally beads of crystallised resin may form on the surface of the frame. These beads can be removed by gently rubbing with a cloth dampened with meths or other alcohol based substance. After this process the lacquer must be re-applied to the repair area. The frames should be checked for breaches in surface treatment at least once per year.

If the surface has been damaged it should be repaired immediately using a water based lacquer, to prevent the wood from absorbing moisture. If any algae growth exists, a fungicidal wash is recommended as a pre-treatment for external wood.

Replacement: 40+ years.

## GASKETS

Gaskets should be cleaned using warm water with a few drops of mild detergent. Contact with paint or wood preservative must be avoided.

The visible part of the surface of the product shall be cleaned **every 6 months** (e.g. in connection with window-cleaning, etc). When cleaning, use a lukewarm soap and water mixture or a 1.5% sodium bicarbonate solution, some dilute alcohol solution can be used when the surface is very dirty. Apply the solution on the product using a sponge or cloth; wipe the wet product with a clean soft cloth. When cleaning, do not use any sharp edged objects or tools e.g. wire brushes, emery paper, etc. and do not use any kind of strong solvents as white spirit, acetone, etc. Special requirements, like to have a more "glossy" surface, use products for treatment of rubber products, e.g. sold by traders in spare parts for cars. These surface treatment products should be used in accordance with the information from the respective agent.

When cleaning the gaskets, it is essential to ensure that a mild cleaning agent is used, which contains no organic solvents. Sharp acidic or caustic cleaners are also to be avoided. Commercial glass cleaners that contain ethanol or isopropanol are not a problem for the sealing-materials, as long as they are allowed to evaporate directly after use.

To prepare the gaskets optically, they can be treated with a suitable care product like glycerine, applied by softly rubbing on to the surface. Strong pressure on the gaskets while cleaning or applying a care or cleaning agent is to be avoided.

Replacement: 20-25+ years.

## GLASS

This should be cleaned with a soft cloth and luke warm water with a few drops of mild detergent (detergents must not contain solvent or abrasive substances). Hard brushing, scrubbing or the use of steel wool will produce scratches and must therefore be avoided.

Replacement: 25+ years.

## POWDER COATED FINISH

To retain the aesthetic qualities and ensure a long coating life, powder coated articles have to be cleaned.

The British Standard for powder coating on aluminium for external use, BS 6496:1984 (1991) states that a six monthly cleaning schedule is the maximum recommended frequency. Areas of high industrial pollution, marine or swimming pool environments (aggressive environments) will require different cleaning frequencies and other coating/fabrication parameters should be considered on an individual project basis but generally cleaning should be carried out at least every 3 months. To retain a guarantee on the coated metal it is a mandatory requirement to have logged proof of cleaning on a monthly basis, which is to be retained by the building occupier. This is to be held for the lifetime of the guarantee, normally 15 to 25 years, except in aggressive environs where each building is given an individual time span for the powder coating guarantee.

To clean the building, mild detergent dissolved in warm water is to be used. Approved products to dilute are: Ajax Cream / Liquid Gumption / Flash and Ajax Liquid Abrasive cleaners, strong acidic or alkaline cleaners or cleaning products containing solvents, bleach, washing soda, caustic soda, hydrochloric acid brick wash etc. must not be used on or near the coated articles. The use of these cleaning agents will negate the guarantee for the coating, and will reduce its life span. An assessment of the cleaning product data sheet will be required to ensure safe working practice is observed by the cleaning contractor, ensure splashing and run off rinse is not going to be a problem to your employees or the Local Environmental Agency.

Replacement: 40+ years.

## CONDENSATION

Water vapour is indefinitely present in the atmosphere. In a home environment the content is increased through daily activities such as cooking, boiling water, bathing etc.

To control condensation, sufficient ventilation is the best method. Achieve this by opening windows, fitting extraction units or by fitting wall vents to provide an air flow.

# CLEANING DOS AND DON'TS

## NATURAL ANODISED / ANOLOK FINISH

In order to protect the appearance of the materials, the finish must be regularly maintained. This is best carried out as part of the window cleaning programme.

Fabrications should be protected by tape during installation. Any adhesion residue should be removed with solvent recommended by the tape supplier. The anodised surfaces should be washed down every three months. In Heavy Industrial or Marine environments, this cleaning may need to be more frequent, but the condition of the surface will make this apparent. This should be carried out using a non-alkaline detergent (i.e. Tepol) in warm water and dried down with a cloth such as a chamois leather. Cleaning solutions should have a PH figure of between 6.5 and 7.5.

Use of a more aggressive cleaner will not compensate for the lack of regular maintenance. In fact the use of such a cleaner will damage the surface.

An unobtrusive area should be test cleaned before work begins. The cleaner should be in the same concentration as will be used and applied in the same manner. The cleaner should be allowed to dry on the surface to judge the effect on the finish. It may be necessary to scrub some surfaces, particularly in areas where dirt accumulates because rain does not wash away very fine deposits naturally. This should be carried out using Scotchbrite pads (fine or ultra fine), stiff bristle or nylon brush. In the case of tenacious deposits or smut reformation, it may be necessary to use more aggressive cleaners such as Floxal Reiniger or Scotchbrite pads. The latter problems usually only occur when the general cleaning is inadequate for the local environment. After all cleaning, surfaces should be washed down to prevent deposits remaining on the finish. A normal 25 micron Anolok film, located in a city, rural or marine atmosphere maintained as described, would be expected to give excellent performance for many years.

Replacement: 40+ years.

## DO

- Carry out a trial in an inconspicuous area to make sure cleaning has no adverse affects.
- Clean frames with mild detergent and warm water every month to remove grime and dirt which may have built up over time.
- Remove stubborn dirt with a non-abrasive proprietary.
- Ensure drainage slots are free of blockages and clean regularly.
- Clean and lubricate hardware as necessary.
- Clean weather seals with warm soapy water and should they come loose and carefully re-insert them to their grooves.
- Clean the internal glazing using window cleaner and a dry lint free cloth.
- Clean the external glazing using a soft sponge/cloth with a mild detergent and warm water.

## DON'T

- Use high pressure hose or steam cleaners.
- Use solvent based cleaners.
- Use steel wool, sandpaper, abrasive papers etc. to clean.
- Disturb sealants when cleaning.
- Use unnecessary force when cleaning the glass with leaded Georgian bars.
- Use abrasive cream cleaners or bleach when cleaning weather seals.

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ALUMINIUM

HYBRID

GLASS



SENIOR ARCHITECTURAL SYSTEMS

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