

## SPILKA OPUS HARDWARE – REPAIRS AND MAINTENANCE

These are guidelines for the repair and maintenance of Spilka Opus window hardware, including hinges, centre sash assemblies, u-profiles and head slides. Instructions are provided for the replacement or repair of damaged items and those needing replacement through wear and tear.

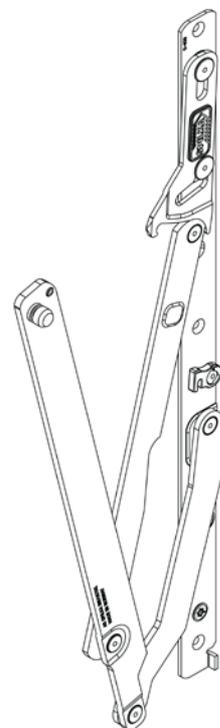
### MATERIALS AND ENVIRONMENT

Hinges are produced from standard grade steel of which 50 % is from recycled iron and the hinges may themselves be continuously recycled. Surfaces are treated with zinc, chromate and sealer. Because of this treatment the hardware needs no special handling or considerations.

### QUALITY ASSURANCE AND GUARANTEES

Spilka hardware is produced under a quality control system in accordance with requirements for the NDVK (Norwegian Door - and Window Control) and AS Spilka Industri has an approval from their control body.

Below are details of relevant requirements and qualities.



#### Strength

Opening the sash until the hinges are fully extended tests the window/hardware. A vertical load of 50kg is then applied to the bottom of the sash while the top is held fixed. This gives a total loading on the hinges of up to 3 times the maximum sash weight. Our hardware is designed to accept these loadings to provide a considerable safety margin in operation and longevity in service.

NB! Damage may be caused to the safety restrictor if exceptional force is applied before it is lifted to allow the sash to reverse. Damage caused in this way would not be covered by our guarantee.

#### Wear and tear

Windows are tested by opening and closing over 20 000 cycles with their maximum sash weight, this should correspond with the daily opening of a window over its lifetime.

NB! Damage may be caused if relevant maintenance is not carried out, or by opening the safety restrictor with excessive force. Damage caused in this way will not be covered by our guarantee.

#### Corrosion

The requirement for surface treatment is a minimum of 12 µm thickness of zinc and passivated with chrome. According to the NDVK this gives a performance level as follows: "Fittings in Class 3 are suitable for use in wet or polluted environments and also salt, acid or alkaline conditions. This includes special humid conditions inside buildings and most external conditions".

NB! Hardware life expectancy before corrosion will depend on climate conditions and material contacts, which can cause corrosive reactions. Maintenance, including painting or staining is very important in aggressive situations and conditions.

## MAINTENANCE

Hardware is used in window constructions and thereby as a part of a building facade. It is important that all items receive relevant initial treatment and that correct maintenance is carried out to sustain functionality and to achieve desired lifetime. Maintenance requirements may vary depending on local conditions and should be increased as appropriate.

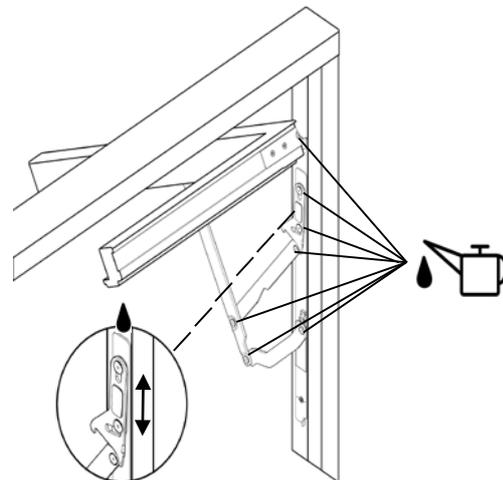
### Lubrication of safety catch

Place a few drops of oil behind the catch and slide it up and down to ensure that the oil spreads between the steel surfaces. Also lubricate the hook which engages with the catch, to reduce friction when closing the window.

### Lubrication of head slides and u-channel

Completely open the sash and place a few drops of oil on the white plastic part of each head slide as far as possible within the u-channel. Also lightly lubricate the pivot point on the head slide before turning the sash several times to ensure smooth operation. It is important that paint or stain is not introduced into the u-channel during decoration.

Application of oil between every surfaces and movable part must be carried out more frequently in corrosive environments.



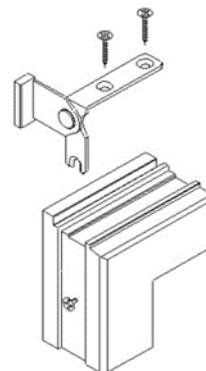
## REPAIRS AND REPLACEMENTS

Damaged components should usually be replaced.

Fitting instructions may be found on our website and these details may be used to order replacement items by their descriptions and part numbers.

### Head slides

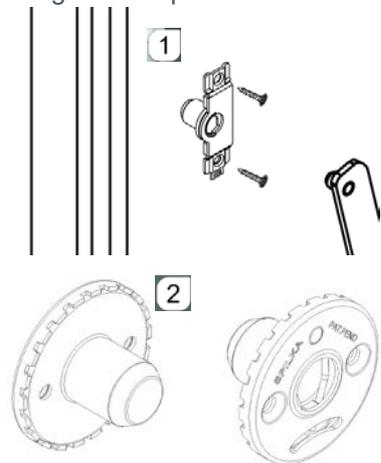
Open the window wide enough to loosen or remove the screw(s) from the groove in the side of the sash. Then remove the screws holding the head slide onto the top of the sash. Pull or press the head slide off the sash and out of the u-channel before fitting the new component and replacing all screws.



Please make sure you take necessary safety measures to prevent the sash falling out.

### Hinges

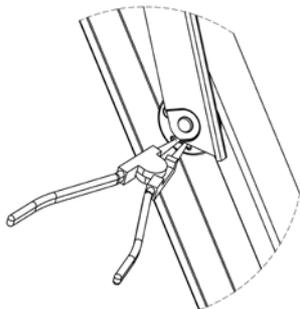
Personnel with relevant skills should generally carry this out, as it may be difficult and potentially dangerous dependent on the situation and health and safety requirements.



The sash is reversed almost to the washing position and a block is wedged between the lower sash (now reversed) and the window sill section. The (reversed) lower sash is then secured against the frame head. The sash weight will now be off the hinges.

The hinge is fitted to the sash through a center sash assembly. Spilka offers two different center sash assemblies – 1) with a locking slide, and 2) with a secured spring, also known as the Rondo. When using the center sash assembly alternative 1, its locking slide is released by removing its retaining screw. Once released, the hinge pivot point is pulled free.

For windows with center sash assembly alternative 3, the hinge pivot point is simply released by using a thin thong to release its spring.



The hinge is fixed to the frame by a screw, this can now be removed and the replacement hinge may then be fitted. Only one hinge should be replaced at a time 'in-situ'

N.B. It is vital to replace the relevant pins and screws before the sash is reversed again to ensure the sash does not fall out.