

M A N U A L

672 SPRING BREAK DEVICE

INSTALLATION / MAINTENANCE / USAGE

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**NEW STANDARD
IN SAFETY**

APPLICATION RANGE



Heart distances: 111, 127, 152.

Connects to FF263, FF375N, FF600N spring fittings

1", key-wayed tube shaft (672M) and solid shaft with key-way (672L)

Doors: 5.000 x 4.200 mm (w x h), ≤ 300 kg, 156Nm.

PRODUCT RANGE



672M L/R

tube, 1", with key way

Inside diameter: 25,4 mm
 Shaft type: tube, 1", with key way
 Max torque: 156Nm
 Material: galvanized steel
 Dimensions w*h: 159x162mm
 Thickness: 27mm
 Description: innovative spring break device designed for optimum safety and ease of installation. This device is designed for 1" tubular shafts with key-way. The key is integrated in the pawl wheel for perfect installation on the shaft.



672L L/R

solid, 1", with key way

25,4 mm
 solid, 1", with key way
 156Nm
 galvanized steel
 159x162mm
 27mm
 innovative spring break device designed for optimum safety and ease of installation. This device is designed for 1" solid shafts with key-way. The key is integrated in the pawl wheel for perfect installation on the shaft.

ATTENTION! GENERAL WARNING!

SPECIAL SAFETY WARNINGS OR REMARKS IN THIS MANUAL ARE INDICATED WITH THIS SYMBOL:  READ THESE WARNINGS CAREFULLY.

This manual has been written for use by experienced fitters and as such is not suitable for D.I.Y.-purposes or for use by trainee fitters.

This manual describes the installation of a hardware component. Be sure to supplement this manual if needed with instructions for any additional components not described in this manual.

Before starting, read this manual carefully!

Torsion springs are under high tension! Do not try to remove, adjust or repair, without releasing the tension! Always be careful during installation!

Certain components may be sharp or have jagged edges. As such you are advised to wear safety gloves.

This product is designed for use with overhead doors. Replacement or adding additional components may have an adverse effect on the safety of, and the guarantee on, the product and complete door. Also the possible CE-approval which has been granted to this product will be cancelled when components are changed or installation is not done according to this manual! The installer is responsible for this.

During tensioning, springs can exert large forces. Work carefully. Use the proper equipment. Ensure that you are standing in a steady position. Ensure that there is sufficient light during installation. Remove obstacles and dirt. Make sure that there is no one else present other than the fitters. Other people (children!) may get in the way or endanger themselves during the installation.

Ensure that the building is constructed strong enough to carry the overhead door construction. It is the responsibility of the installing company to use fixing materials which are strong enough and equipped to fix the overhead door to the building.

APPLICATION RANGE

The FlexiForce spring break devices 672MR, 672ML, 672LR & 672LL can be applied on industrial sectional overhead doors which are rope-, chain- or electrical operated. Models 672MR & 672ML are suitable for industrial overhead doors having a 1" (25,4 mm) tubular shaft with key way (being FlexiForce model 705GB-....). Models 672LR & 672LL are suitable for industrial overhead doors having a 1" (25,4 mm) solid shaft with key way (being FlexiForce model 702-....Z/702C....)

The models must be applied on doors: max. 5000mm x 4200mm (w x h), max. 300kg and max. 156Nm.

CALCULATION EXAMPLE

 The maximum torque per spring break device is 156 Nm (Newton Meter).

For a specific drum the minimum number of spring break devices per door can be determined as follows:

$$\text{Door weight} = \frac{\text{Maximum torque}}{0,5 \times \text{drum diameter} \times g} = \text{_____ kg} \quad (g = 10 \text{ m/s}^2)$$

Drum diameter: in meters measured from the point where the cable peels off the drum when door is fully closed.

Example: FF-NL-18 drum for normal lift having 5 mm cable, gives a diameter of 138,4 mm =

$$\frac{156}{0,5 \times 0.1384 \times 10} = 225 \text{ kg} = 2250 \text{ N}$$

So for a door weight, as lifted by the cables, up to 225 kg you may apply the minimum of 1, or more spring break devices. Over 225 kg you need a minimum of 2, or more spring break devices.

The number of spring break devices must be equal to the number of springs.

ATTENTION!

 **Never exceed the maximum weight per pair of drums as given by your drum supplier. Apply one spring break device per torsion spring.**

Installation can be done on cable drums type FFNL32, FFNL18, FFNL12 etc. according to the FlexiForce Product catalogue. Only testes and approved with FlexiForce spring fittings (cones).

CERTIFICATION

The spring break device models 672MR, 672ML, 672LR & 672LL have approval number 9P05630 of RiSe Sweden. (as Notified Body Nr. 0402).

FlexiForce has applied the mandated INITIAL TYPE TESTING (EN13241-1) for doors at the RiSe Sweden (as Notified Body Nr. 0402). Mentioned article codes spring break devices have been tested and approved for "Safe opening" The results are included in the INITIAL TYPE TESTING REPORT that has been rewarded.

INSTALLATION INSTRUCTIONS

 The fixation of the spring break device via plates to the wall has to be done with proper fixing materials. This is the responsibility of the installer. Proper installation depends on mounting surface (brick, concrete or steel), the fixing material, max. force and of course good installation.

WHAT TO DO AFTER BLOCKING OF THE DEVICE AFTER SPRING BREAKAGE*

1. The installer has to prevent the door from falling by supporting the bottom section (e.g. by placing the forks of a forklift truck under the section) and relieve tension from the cables.
2. Remove the spring break device. Remove the adjusting plate, if installed, and remove the broken spring.
3. Install a new spring and a new spring break device, according to the installation instruction.
4. Check the possible damage of the shaft (torsion: keyway in line) In case of a tubular key way shaft always replace the shaft.

* To temporarily close the door before replacing the spring:

1. The installer has to prevent the door from falling by supporting the bottom section (e.g. by placing the forks of a forklift truck under the section) and relieve tension from the cables.
2. Remove the blocking pin from the spring break device.
3. Lower the door until it's closed.

ATTENTION!

 If the spring break device has been activated due to spring breakage the device and/or its parts may not be used again.

MALFUNCTIONING

In case of malfunctioning of the spring break device the cause has to be determined and solved. If necessary the spring break device has to be replaced and send to the manufacturer, indicating :

1. nature of malfunctioning
2. door leaf panel weight applied
3. cable drum diameter
4. The falling distance, if known

The manufacturer will research the reason of the malfunctioning.

TESTS

A skilled door installer has to check the tension of the pawl during the regular 6 months main-tenance/check of the door. If the double torsion spring is broken it has to be replaced.

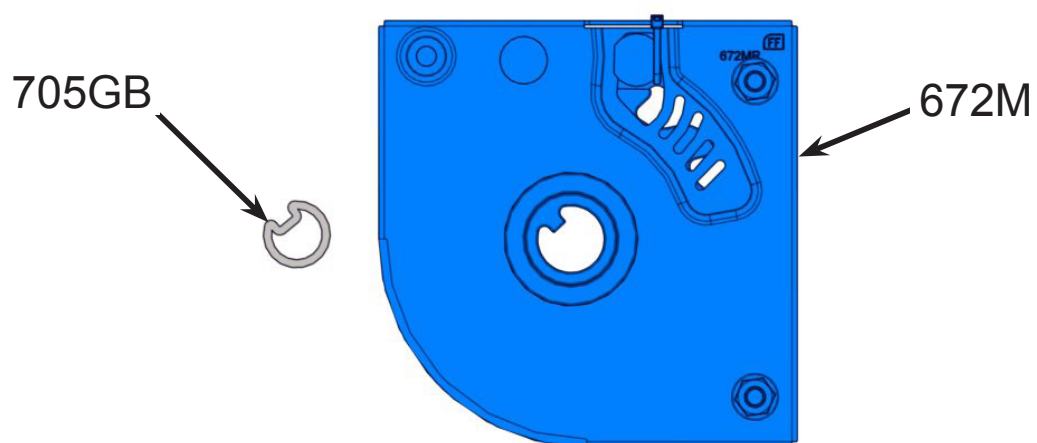
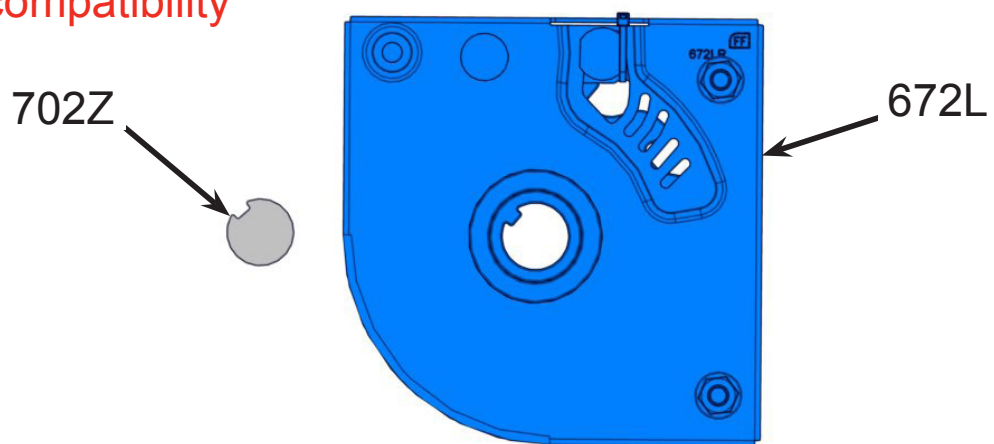
MAINTENANCE

In principle the spring break device does not need maintenance. However, it is advisable to prevent dirt entering or to remove this regularly.

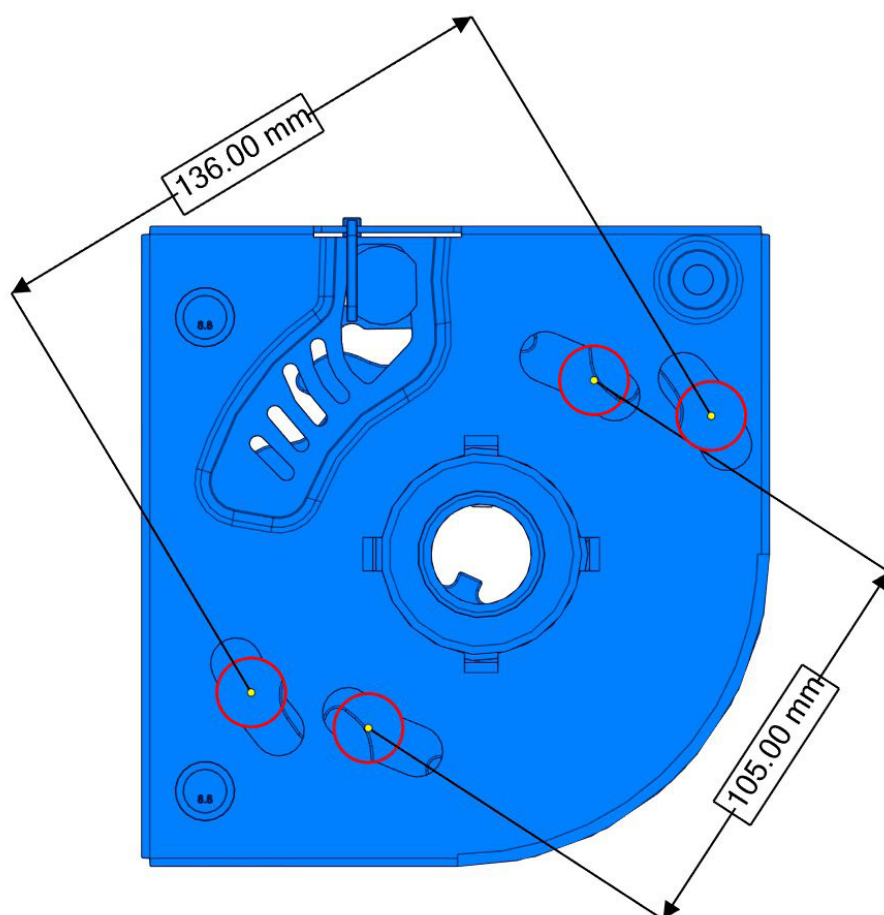
TERMS AND CONDITIONS OF DELIVERY

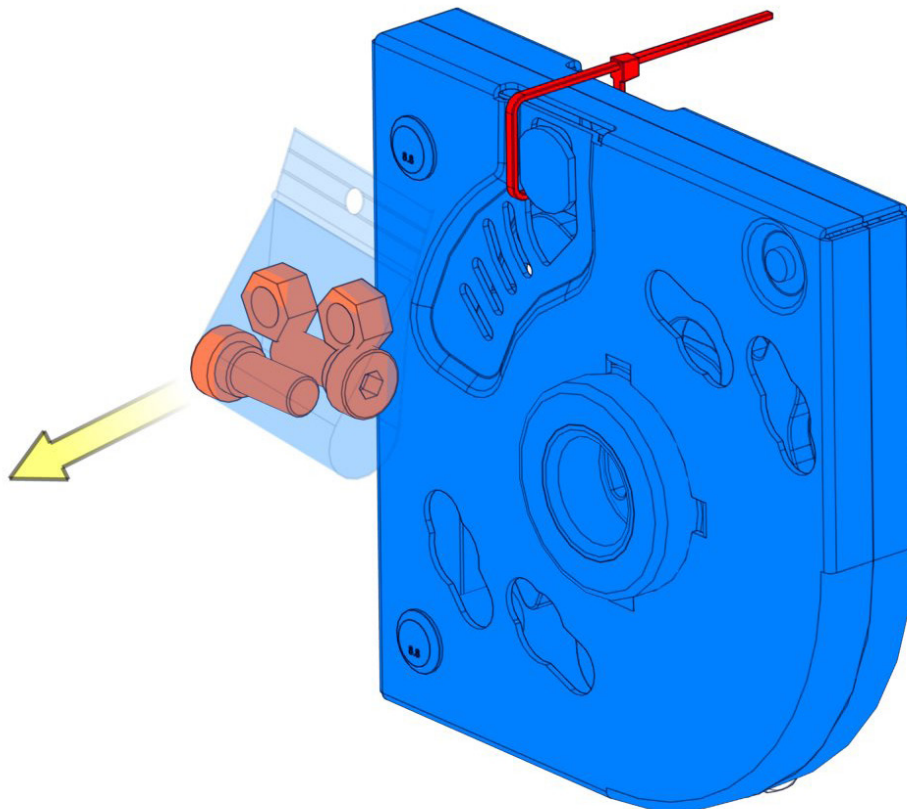
The general terms and conditions of delivery and payment issued by the Metaalunie and designated as METAALUNIE CONDITIONS are fully applicable to all our quotations, contracts and their implementation. We expressly reject all other terms and conditions. A copy of these terms and conditions can be downloaded from www.flexiforce.com

Shaft compatibility

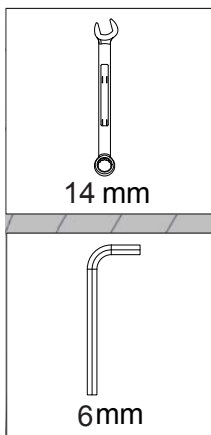


Plug compatibility

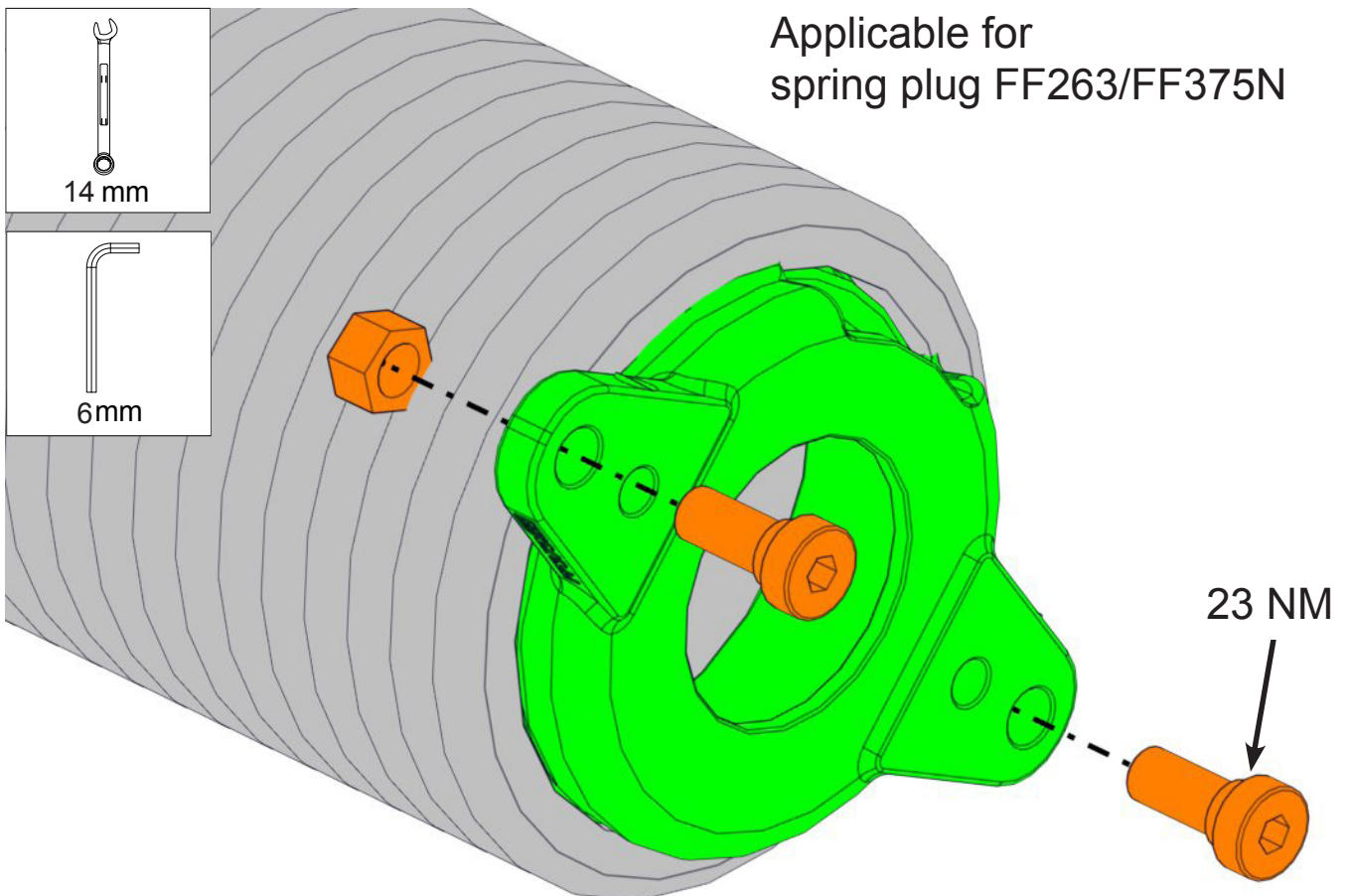


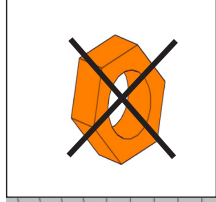
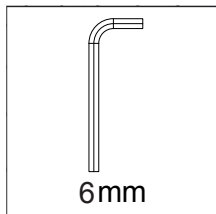


DO NOT REMOVE THE TIE WRAP.

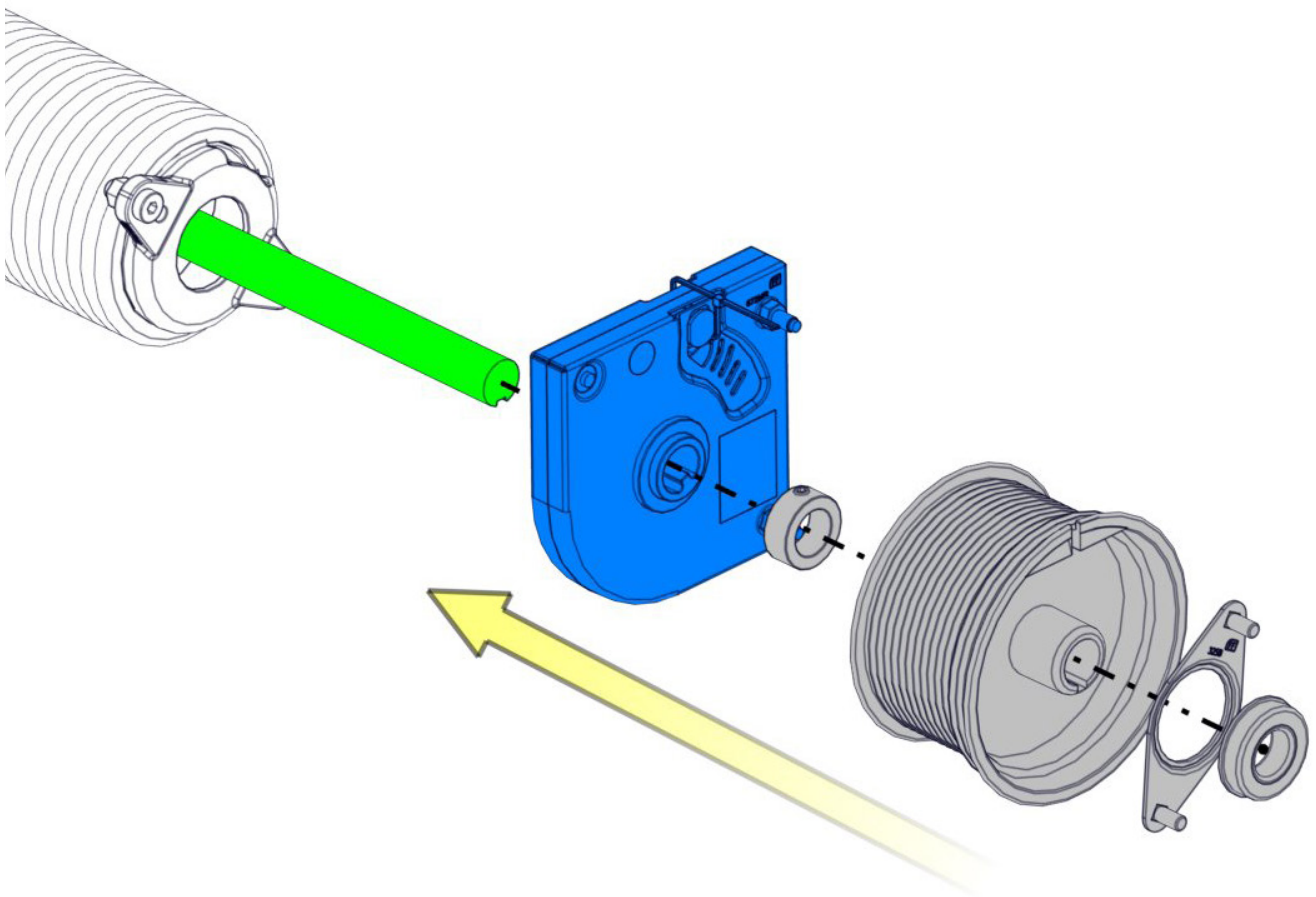
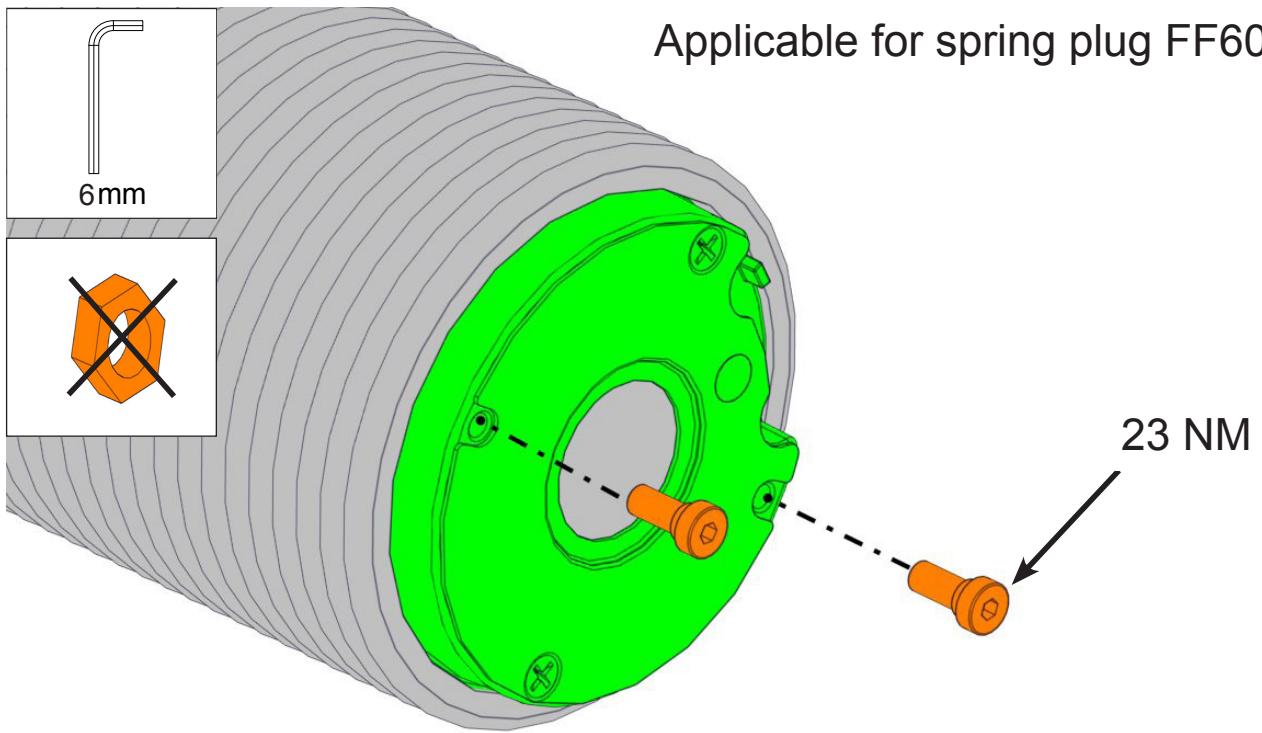


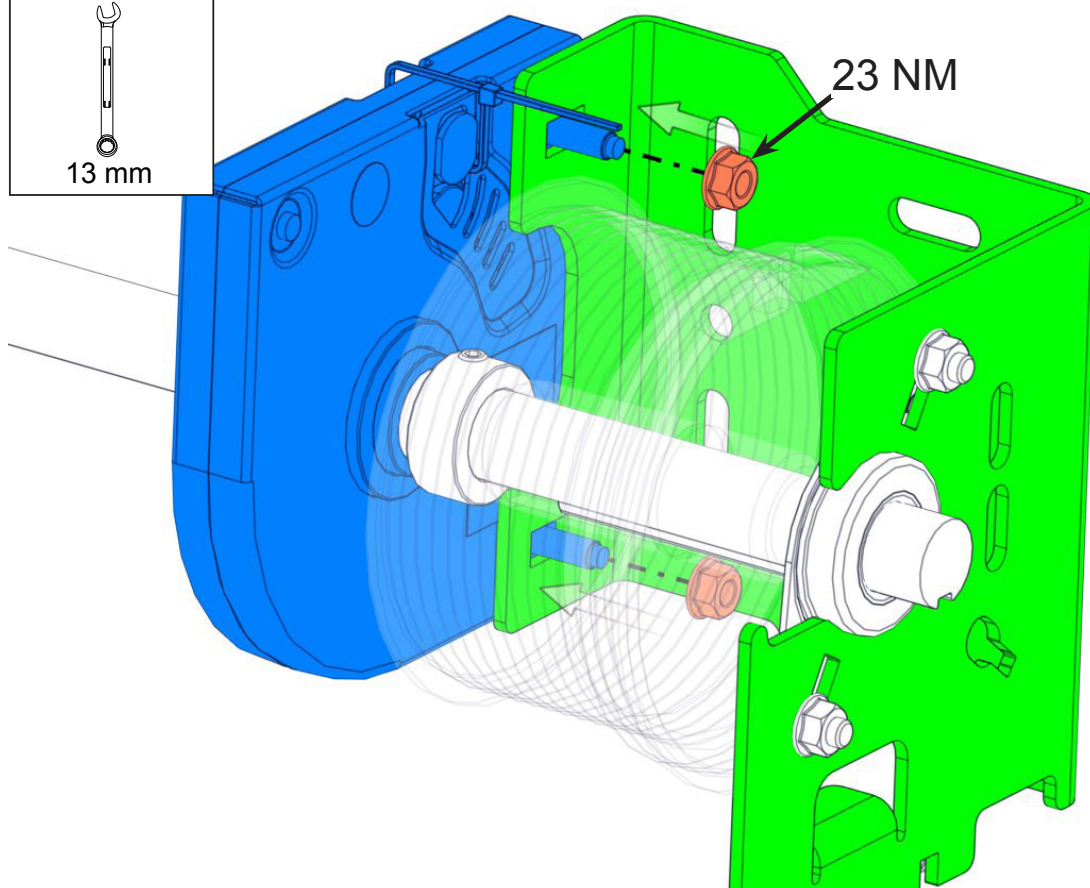
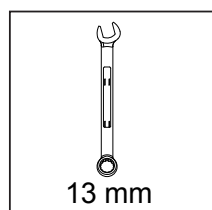
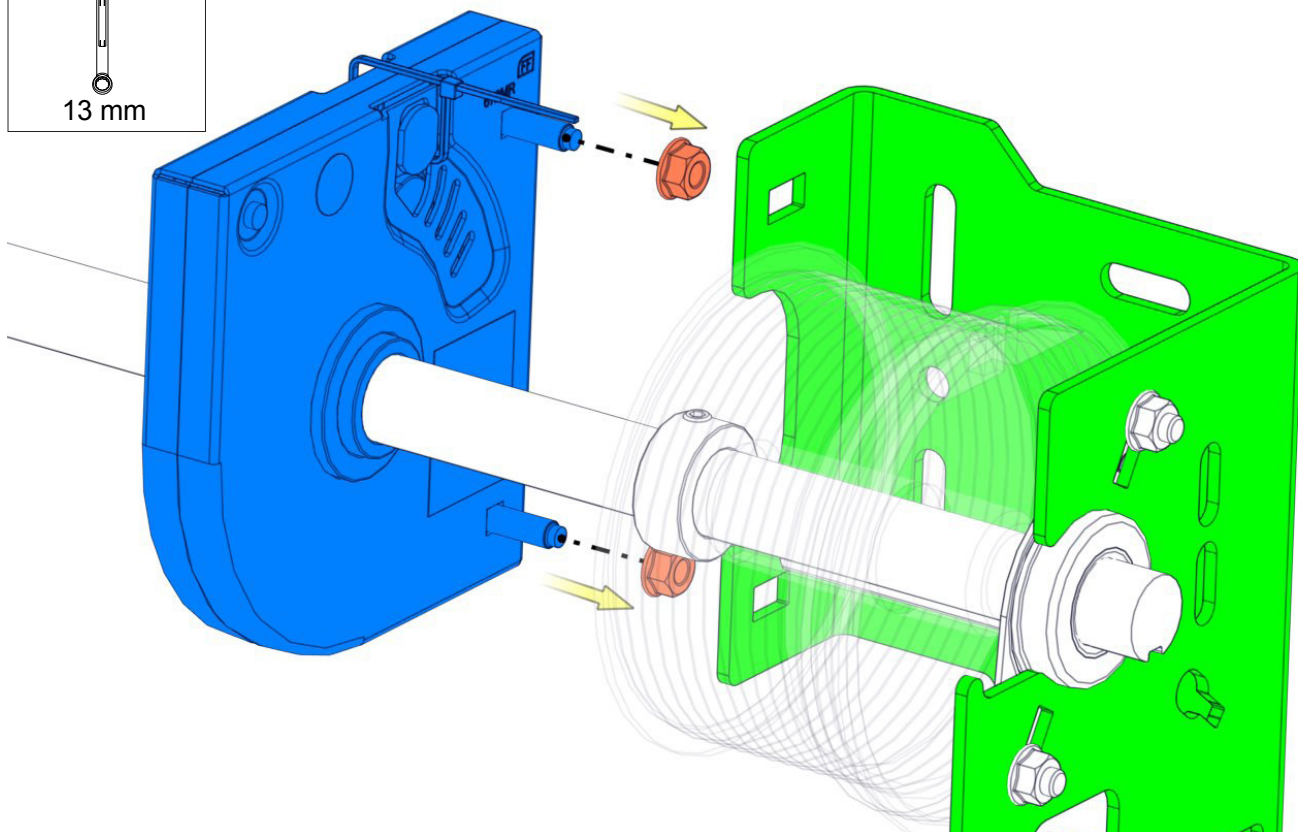
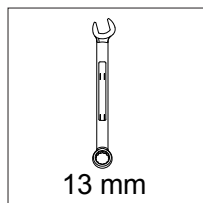
Applicable for
spring plug FF263/FF375N

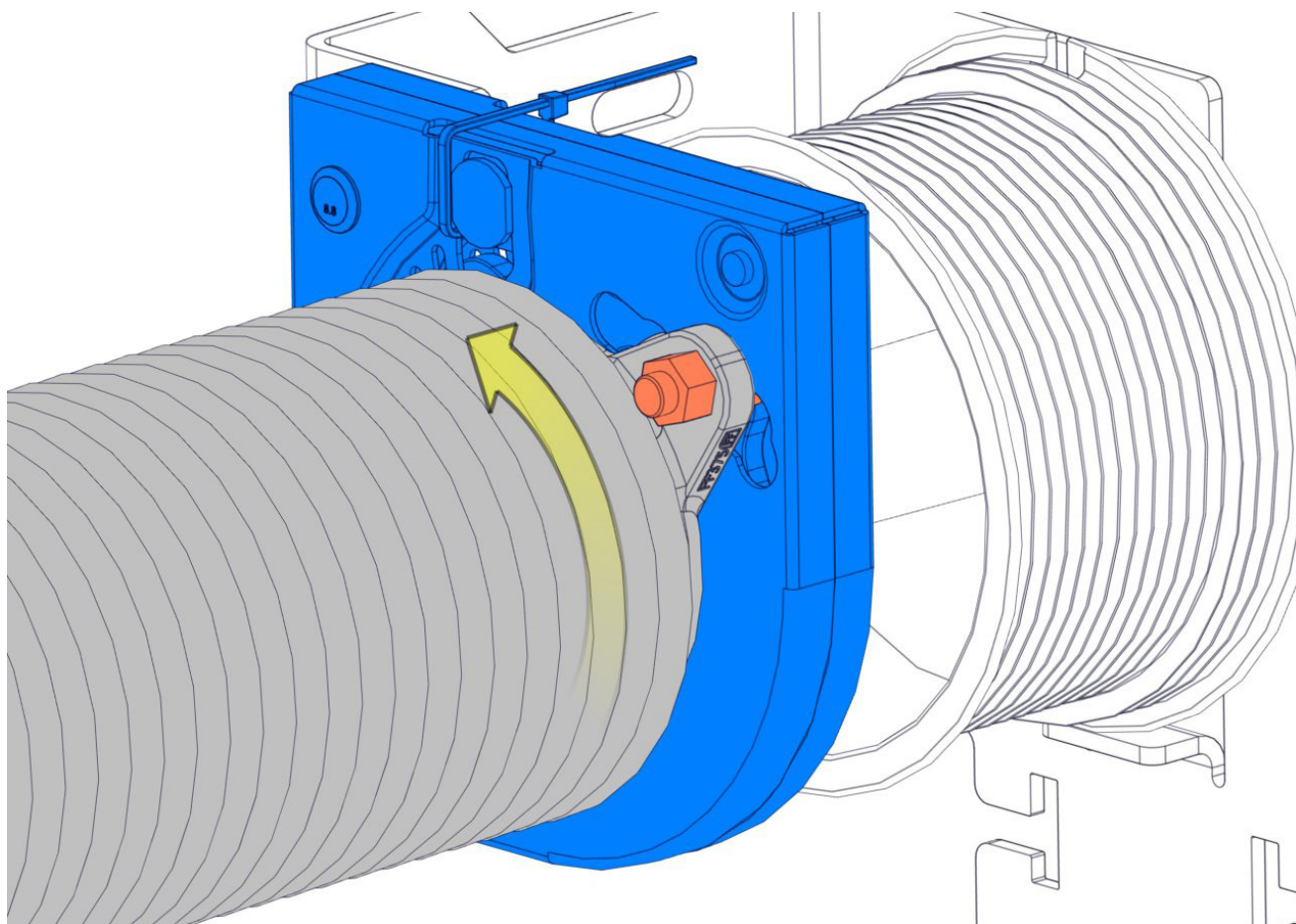
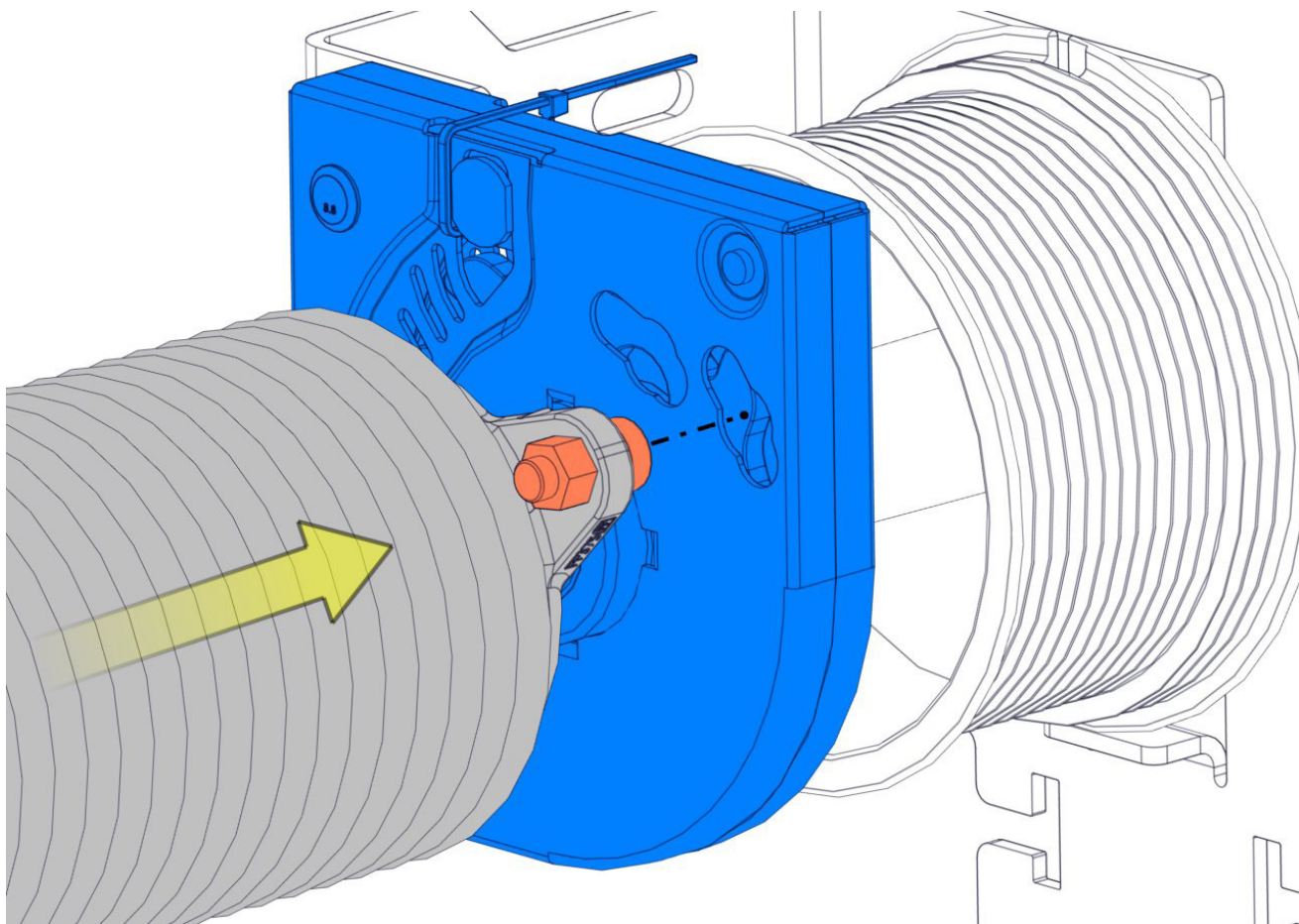


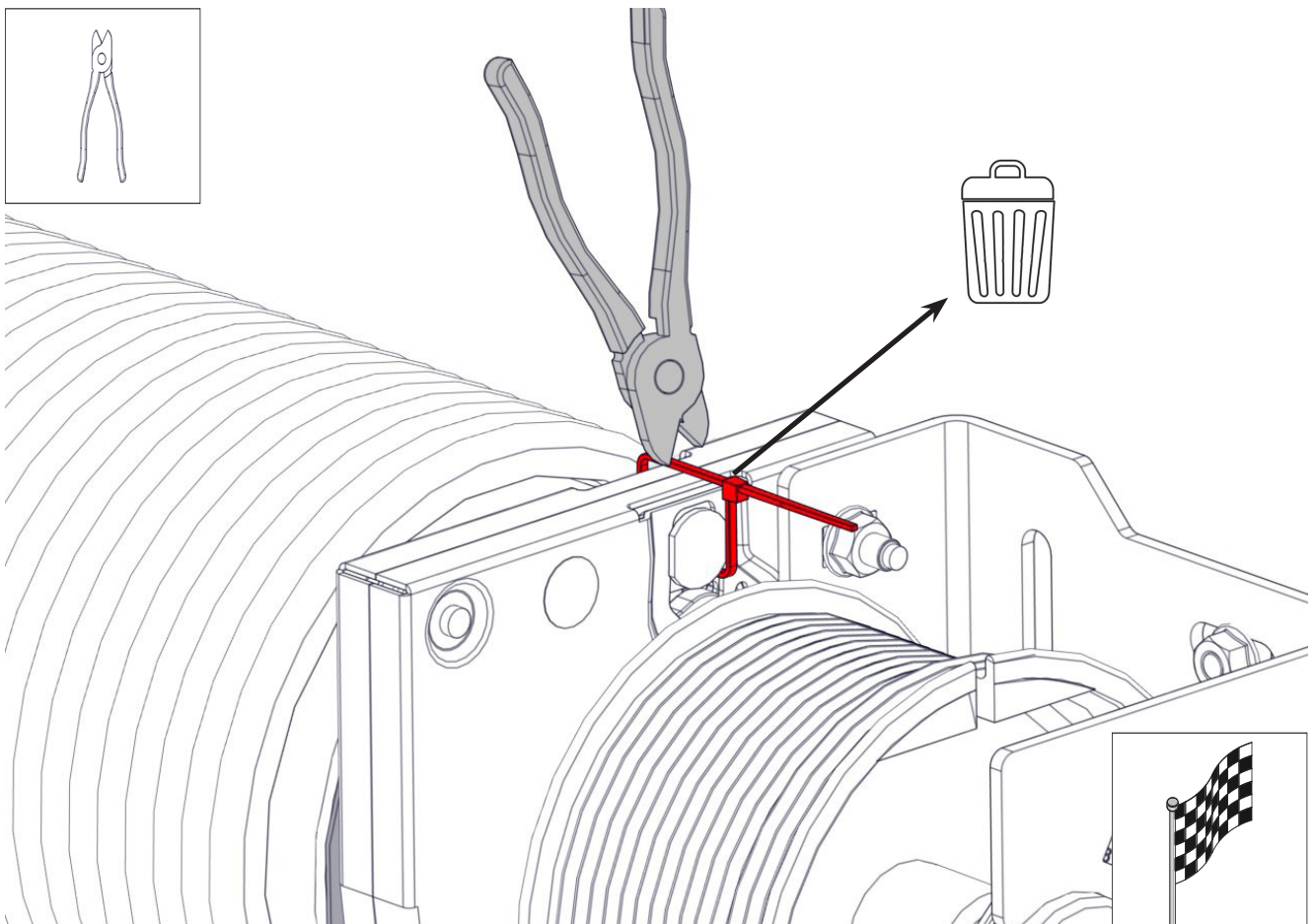
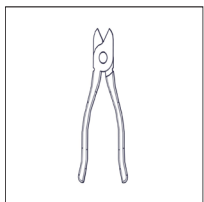
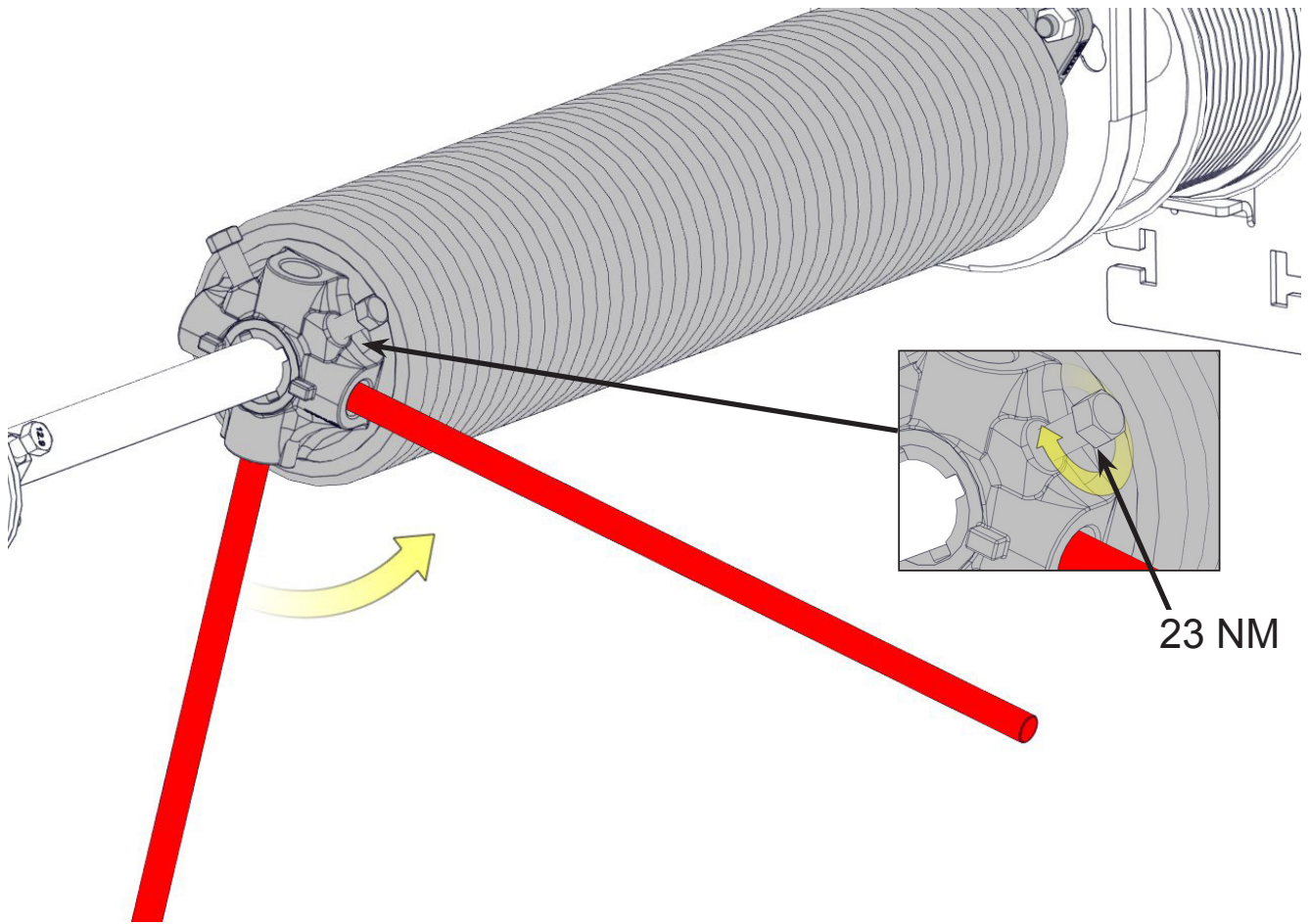


Applicable for spring plug FF600N



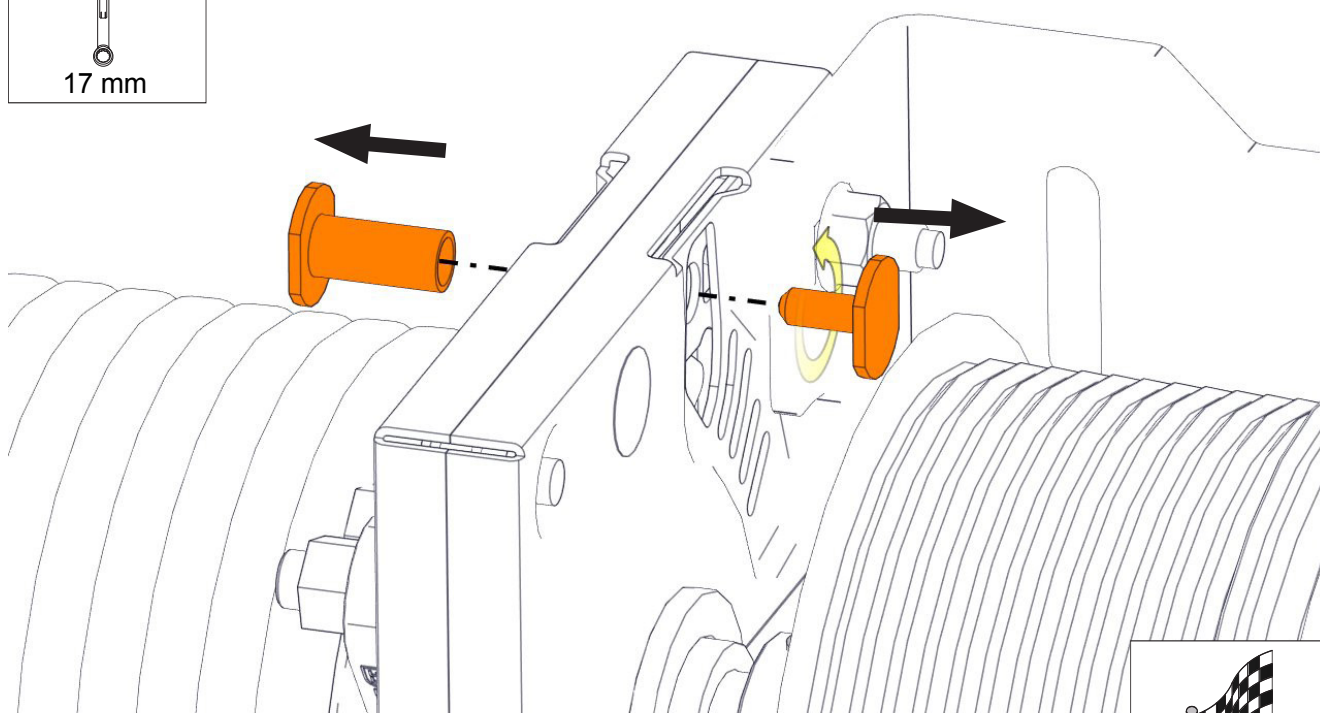
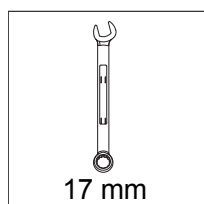








In the event of the Spring Break Device initiating its safety procedure.



The two parts of the activation pin must be unscrewed in order to freely rotate the mechanism.

