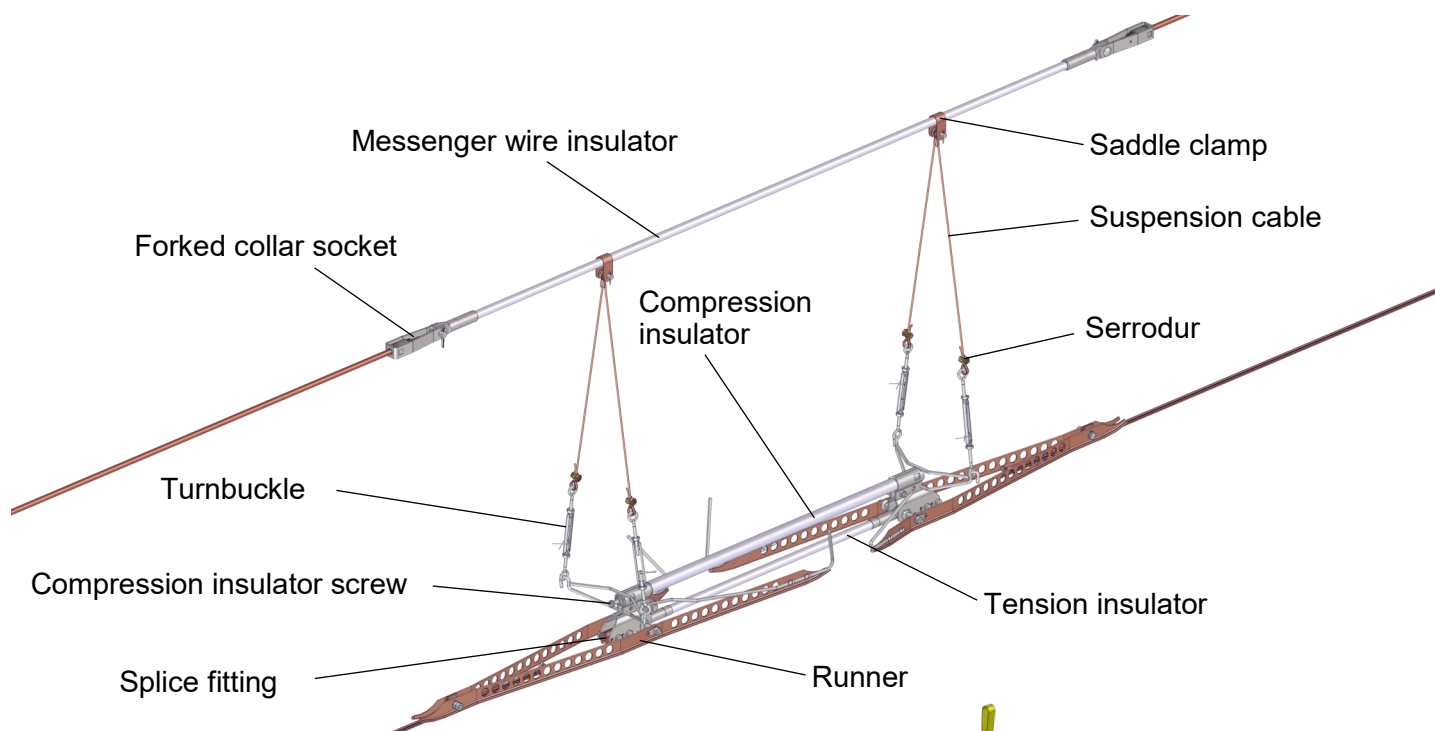


Section insulator ZS / ZSD / ZSK

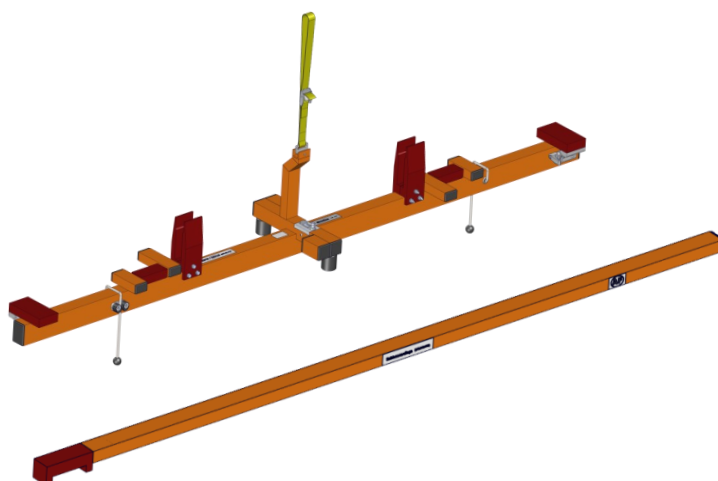
V 2025/10



Optional accessories:

Installation jig: Art. no. 655.400.113

Alignment bar: Art. no. 696.016.010



Index

A) Tools	2
B) Installation	2
C) Maintenance	10
D) Legal information	11



RISK OF DEATH

Before working on the overhead line: Ensure that the overhead line is de-energized and properly grounded according to the regulations.

A) Tools

- 1 ring / open-end wrench 17 mm.....Art. no. 656.000.001
- 1 torque wrench 17 mm (50 Nm).....Art. no. 655.114.000
- 1 adustable spirit levelArt. no. 655.141.000
- 1 bolt cutter
- 1 copper hammer.....Art. no. 656.000.009
- 1 flat nose plier or gas plierArt. no. 656.000.004
- 1 straightening wood.....Art. no. 656.000.005

Additionally for messenger wire insulator installation or replacement of a section insulator:

- 1 pulley block with 2 cable sockets

B) Installation

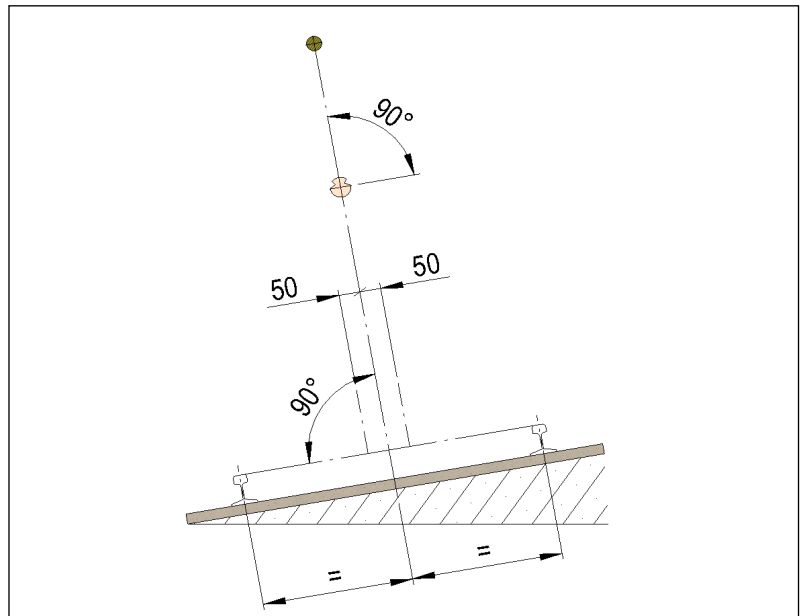
1. Preparing the contact and messenger wire

Straighten the contact wire at the installation location and make sure it is not twisted.

The section insulator should be well centred and aligned parallel to the track. The carbon strip of the pantograph must run centred over the section insulator.

Align the contact wire and the messenger wire in the middle of the track (+/- **50 mm**).

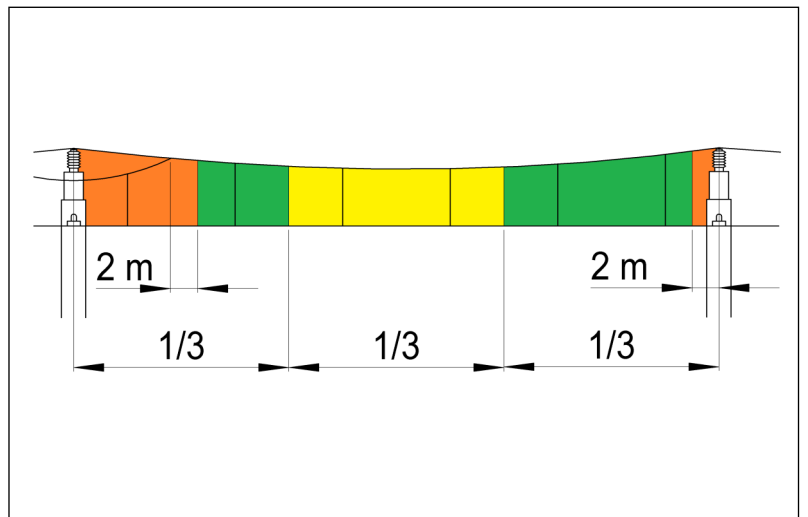
The contact wire and messenger wire must be positioned vertically within **50 mm** above each other.



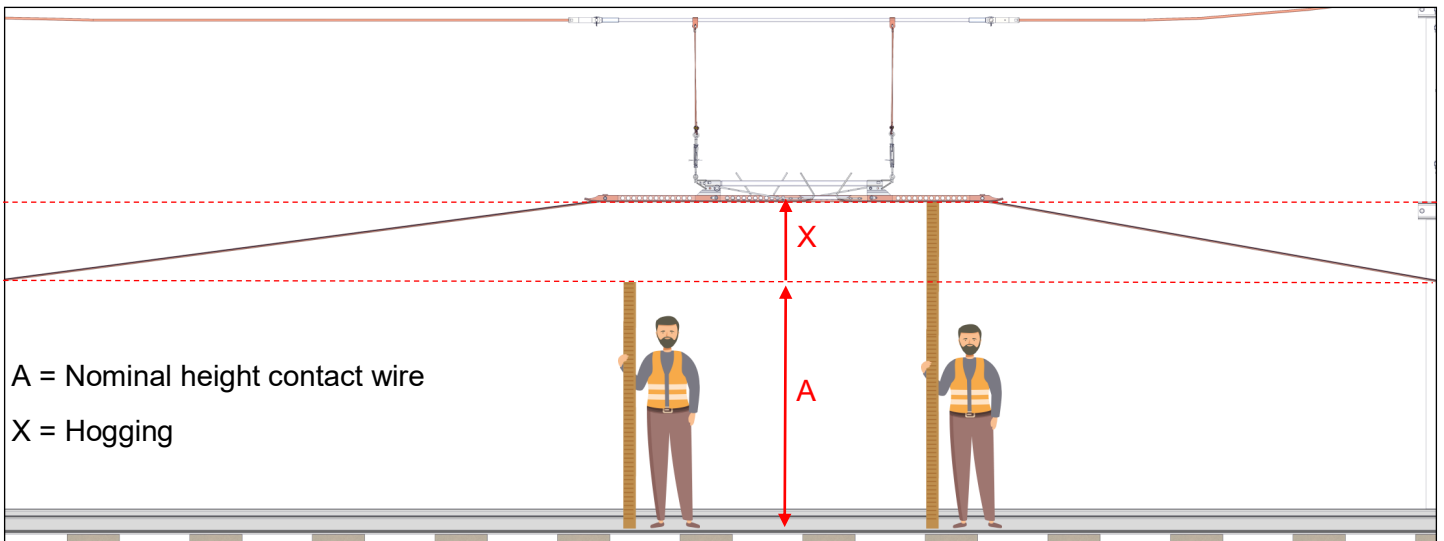
2. Installation location

It is recommended to install the section insulator in the green zone, at least 2 m away from the guide arm or the Y-cable (stitch wire). An installation in the yellow zone is less optimal and an installation in the orange zone should be avoided.

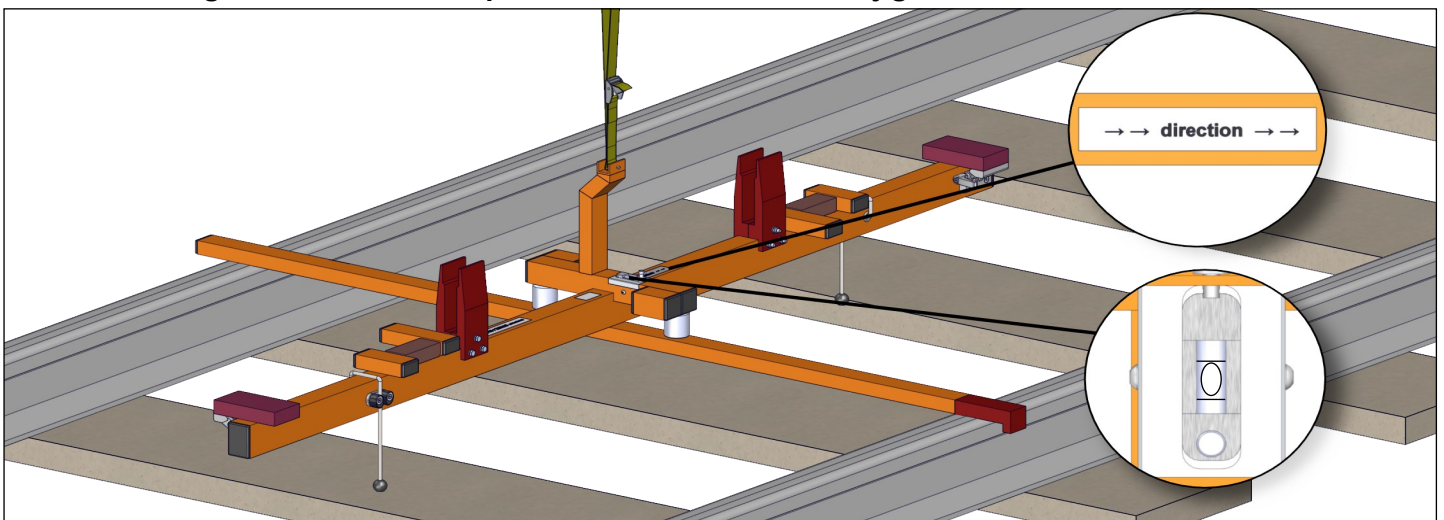
If the suspension is able to glide on the messenger wire the maximum allowable angle of the messenger wire is 5°.



3. Installation height of the section insulator after the installation

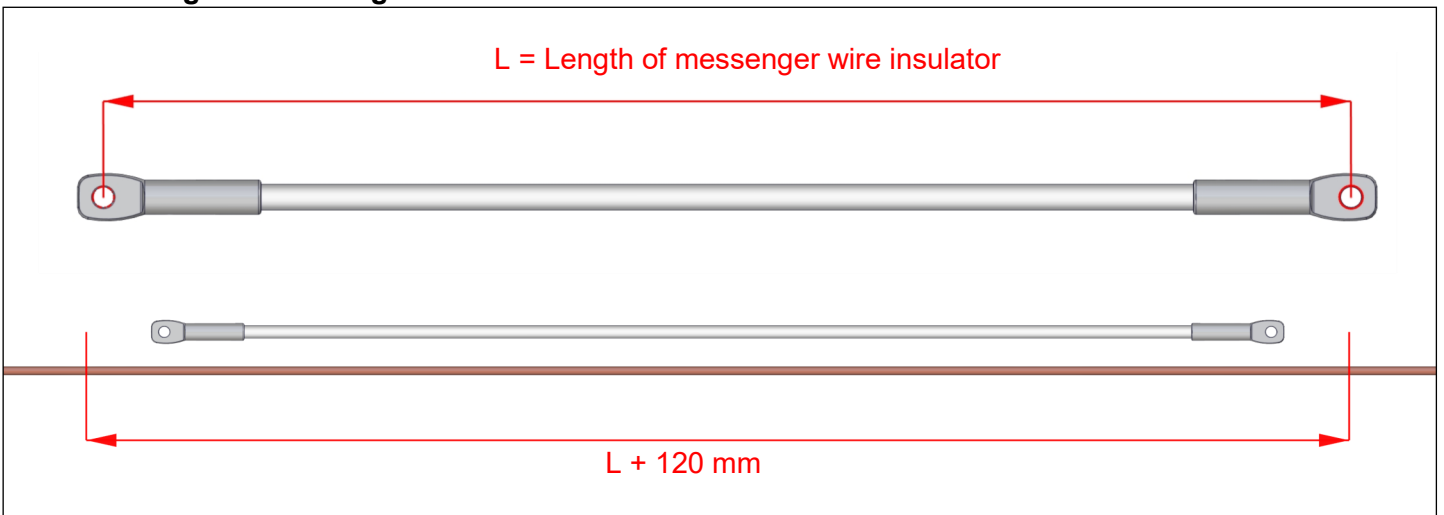


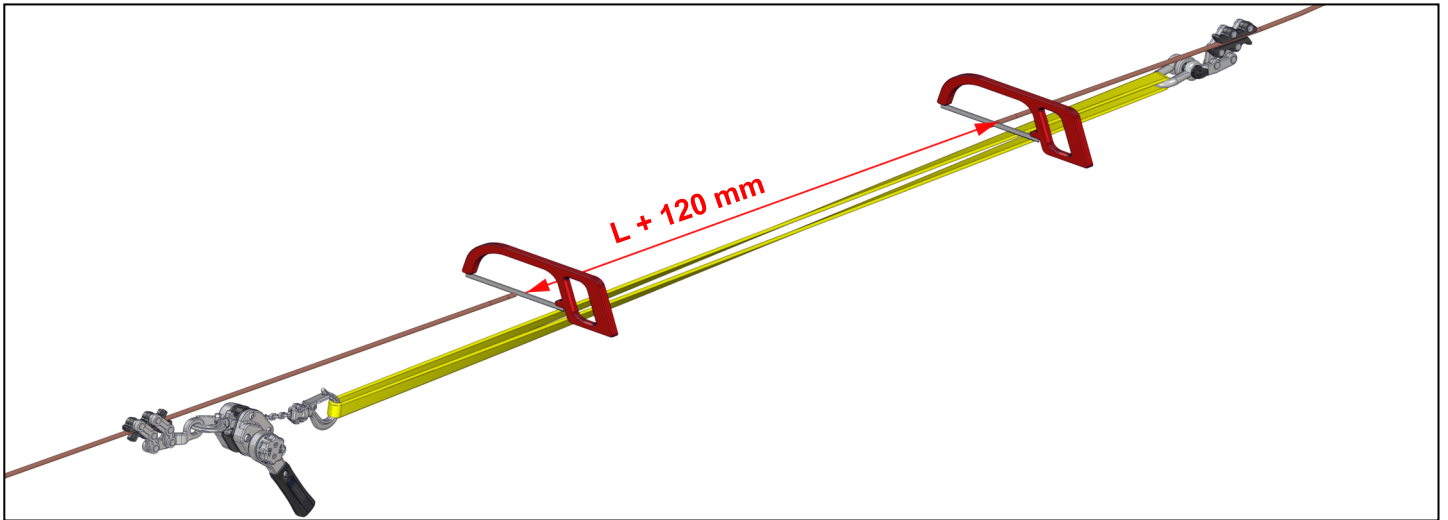
4. Measuring the cant with the spirit level of the installation jig



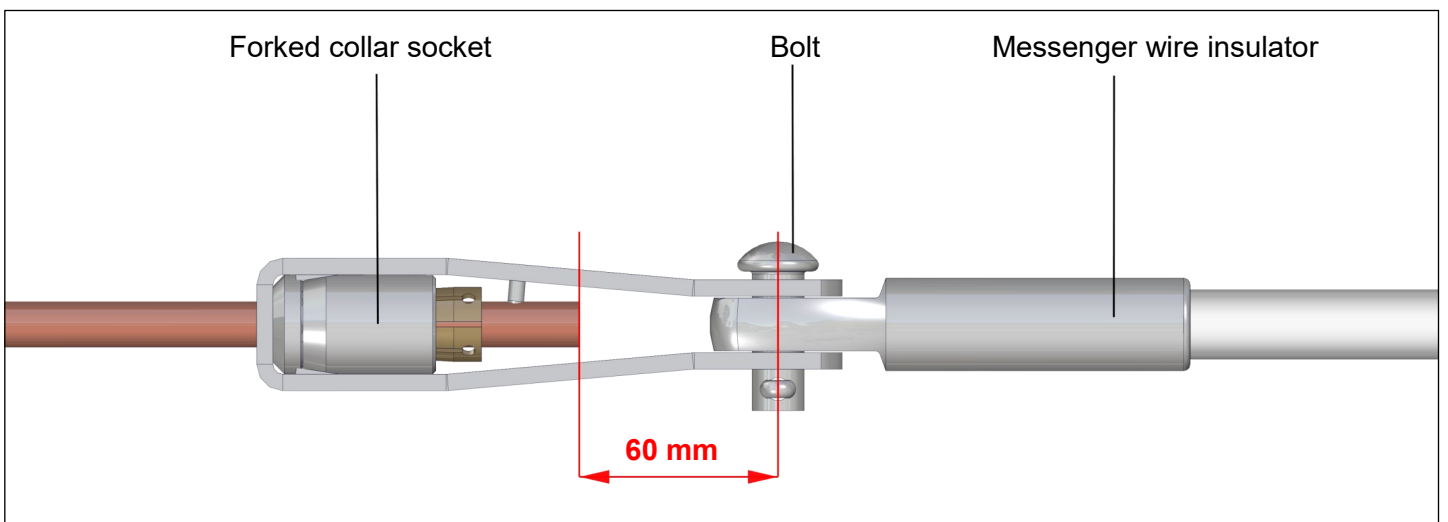
Place the installation jig in the main driving direction. The direction can be chosen as desired, but must be maintained during installation in the overhead line. Calibrate the integrated spirit level.

5. Installing the messenger wire insulator

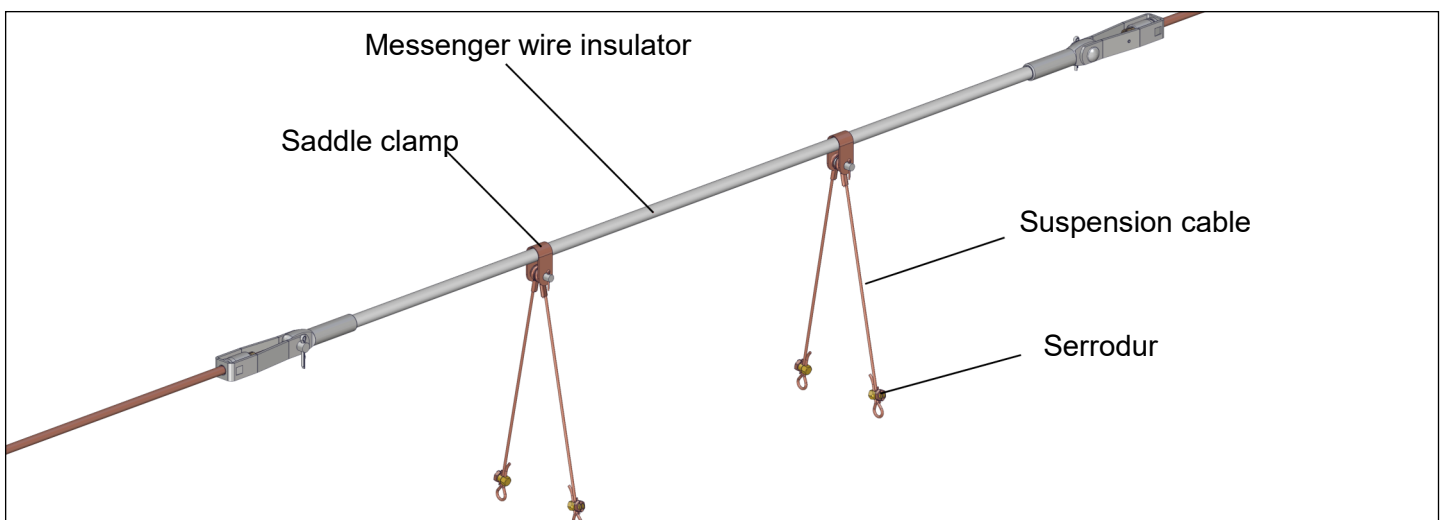




$L + 120 \text{ mm}$ = Length of the messenger wire to be cut for the installation of the messenger wire insulator.

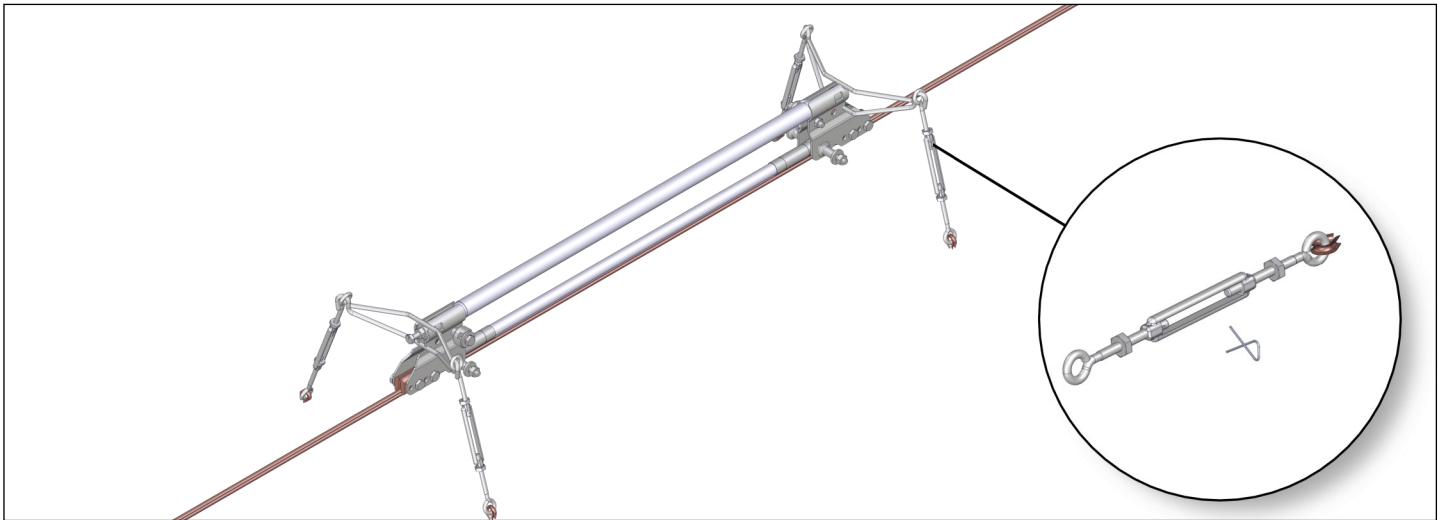


Attach the messenger wire insulator to the forked collar socket on both sides.

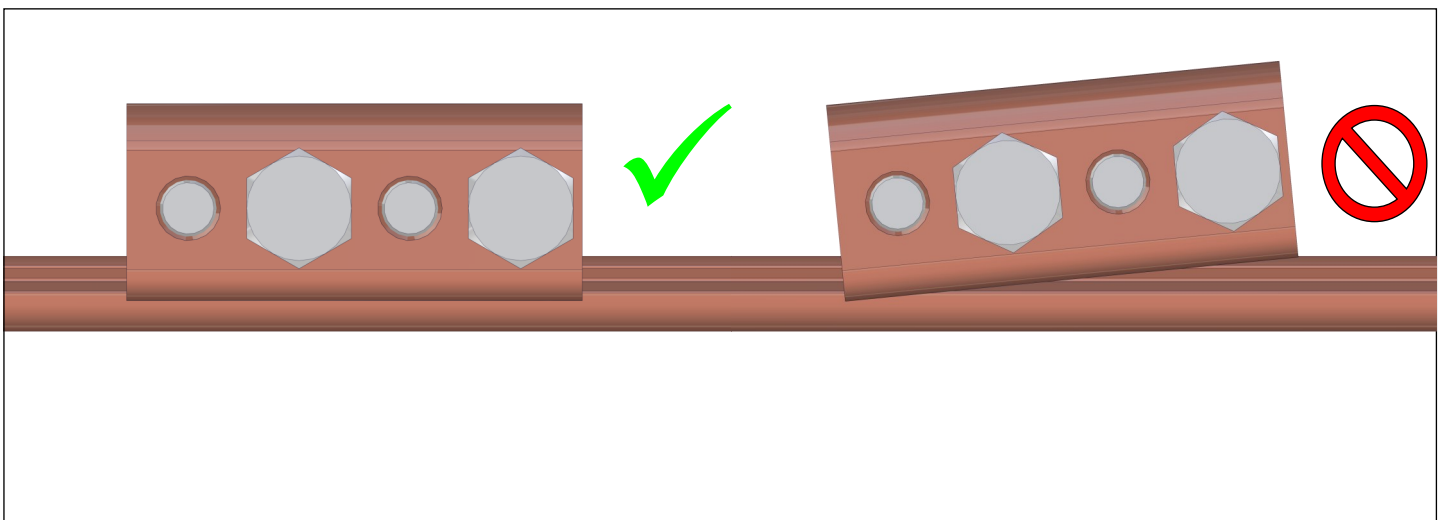


Attach both suspensions to the messenger wire insulator.

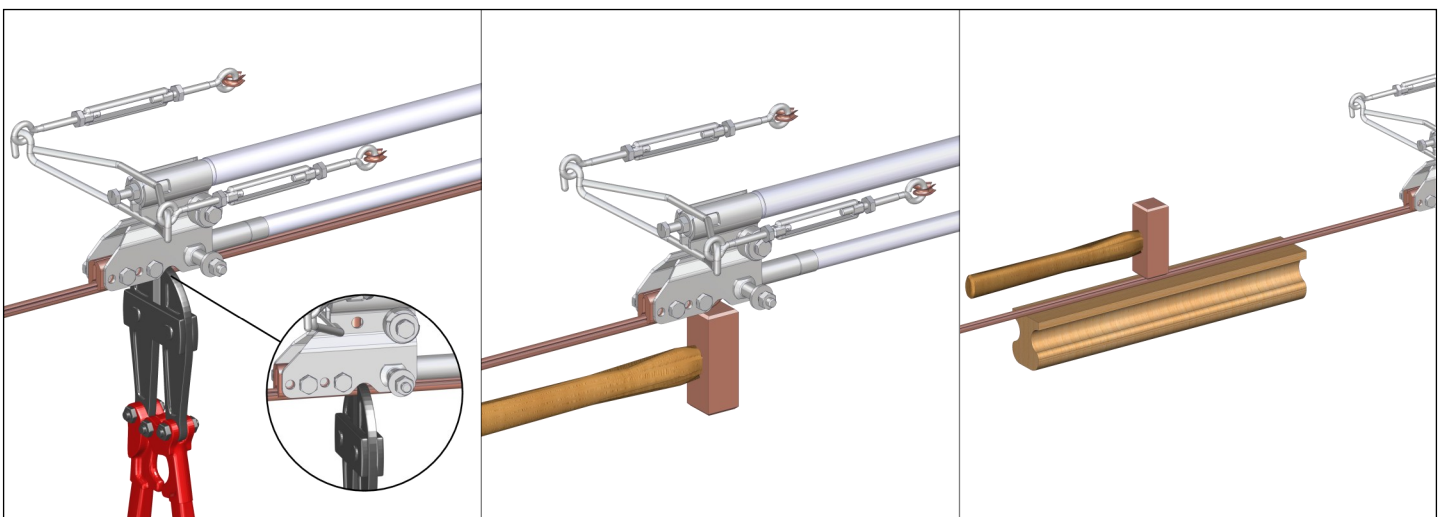
6. Installing the section insulator body onto the contact wire



Place the section insulator with slightly spreaded splice fittings onto the contact wire.
Open the turnbuckles completely.



The splice fittings must grip in the contact wire groove over the full length. Tighten the bolts of both splice fittings one after the other with a torque wrench to **50 Nm**. Repeat this process twice (a total of three times).

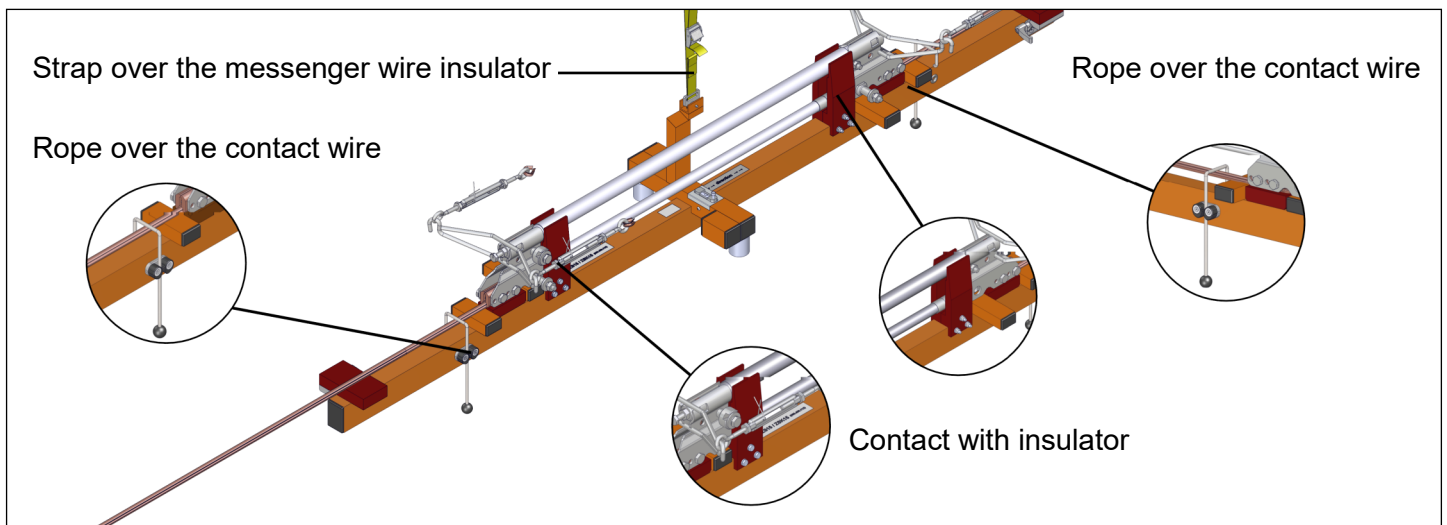


Cut the contact wire on both sides of the section insulator body.

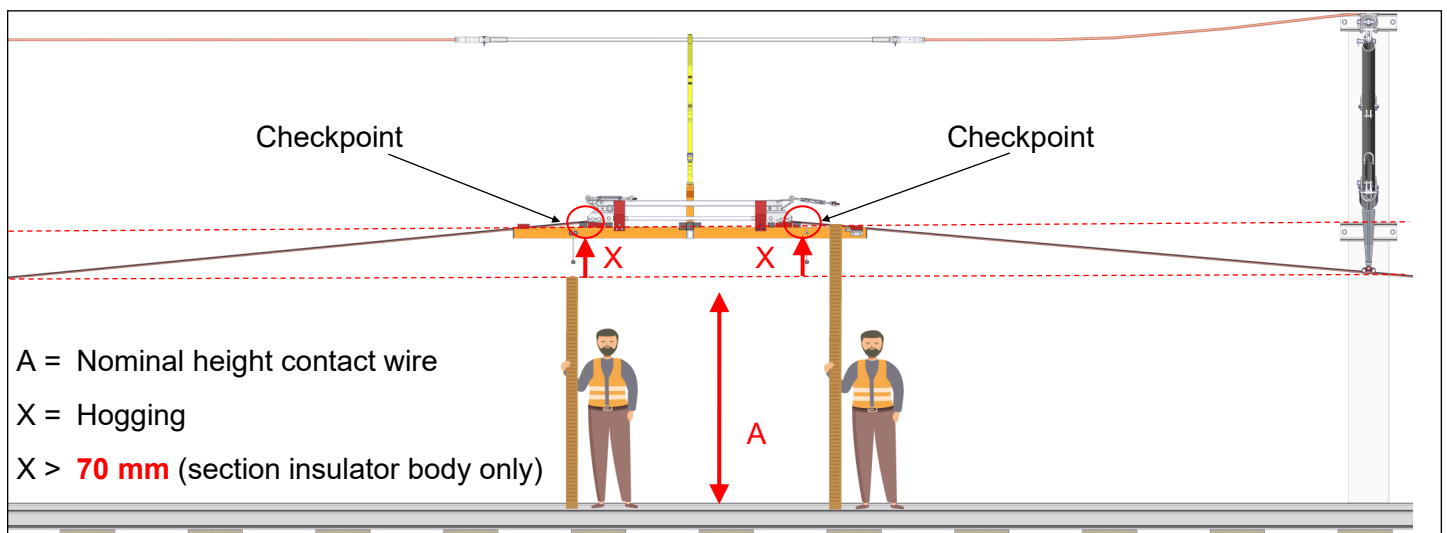
Bend up the contact wire ends on both sides (at least 30°).

Straighten the contact wire on both sides.

7. Adjusting the hogging with the installation jig

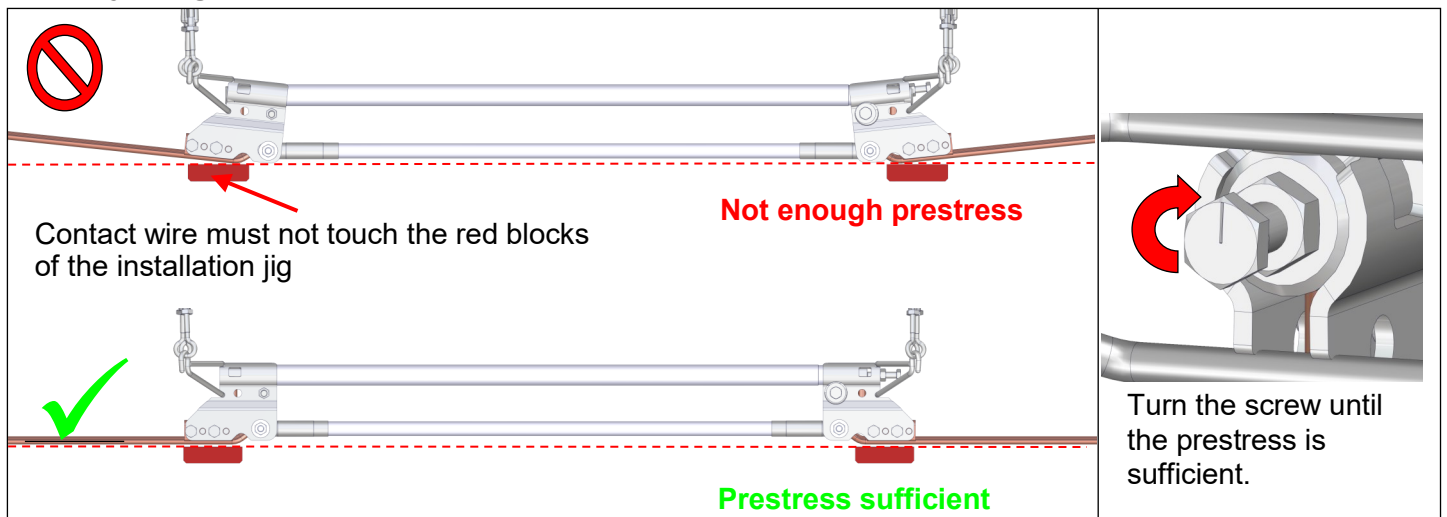


Attach the installation jig to the section insulator and fix the jig strap to the messenger wire insulator. Observe the main driving direction as per point 4.

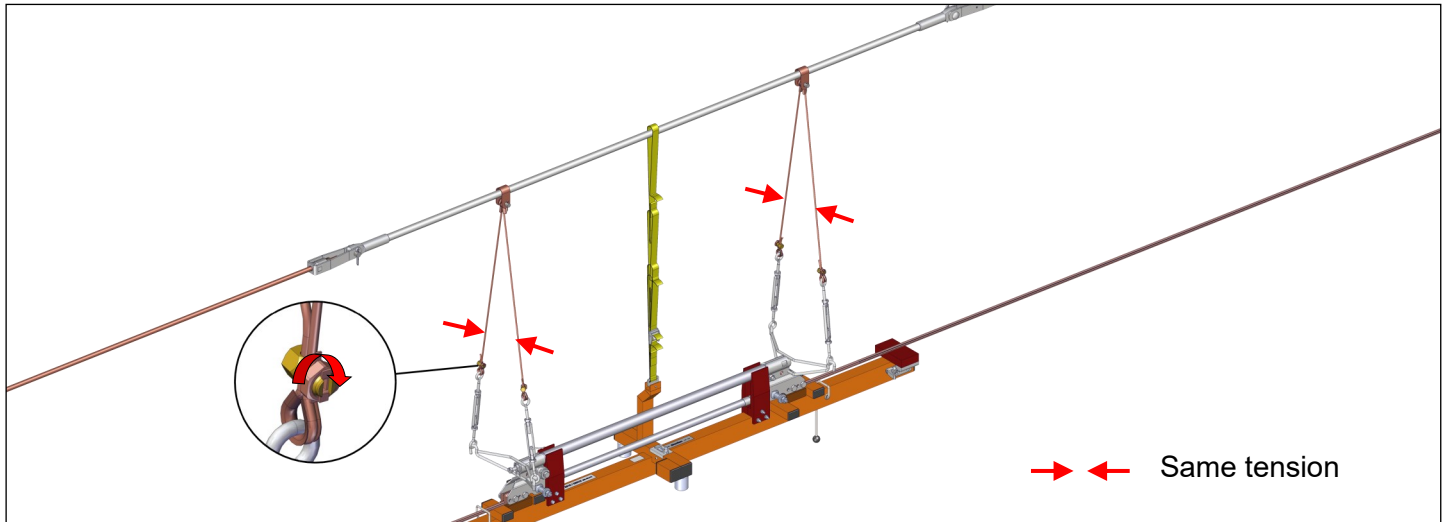


Set the hogging. It must be at least **70 mm** and **equal** on both sides of the section insulator.

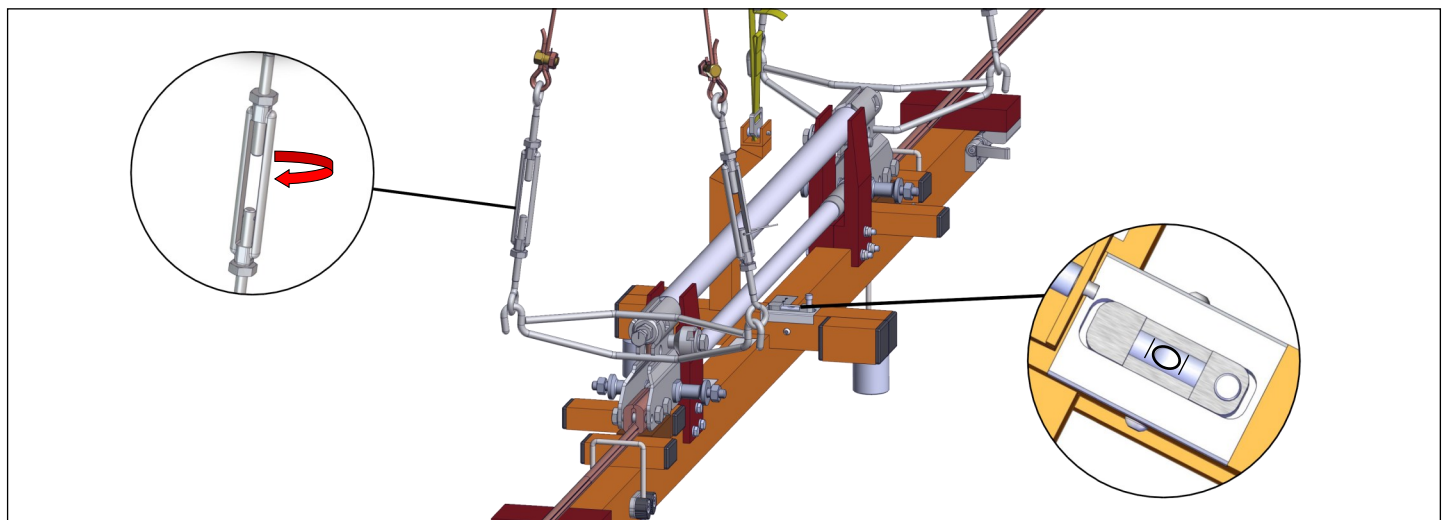
8. Adjusting the section insulator



Preload the compression insulator until the splice fittings hold the contact wire without deflection. Counter with the locking nut.

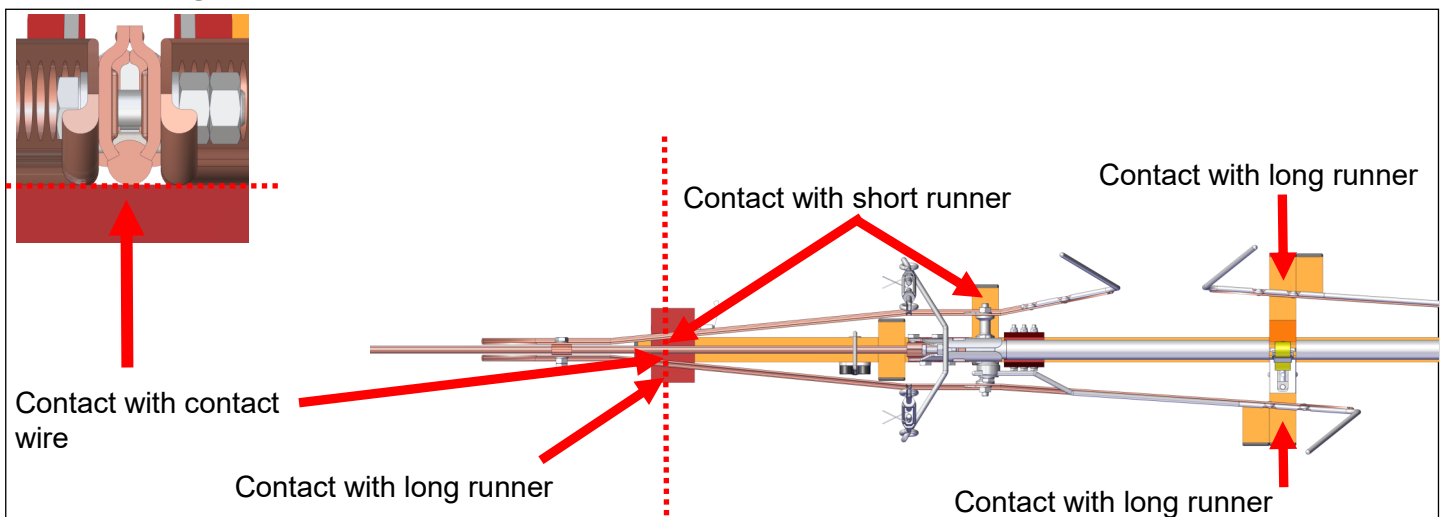


Attach both suspensions to the section insulator. The tension in the suspension cables must be the same for all suspension cables. Move the Serrodur close to the thimble and tighten to **25 Nm**.

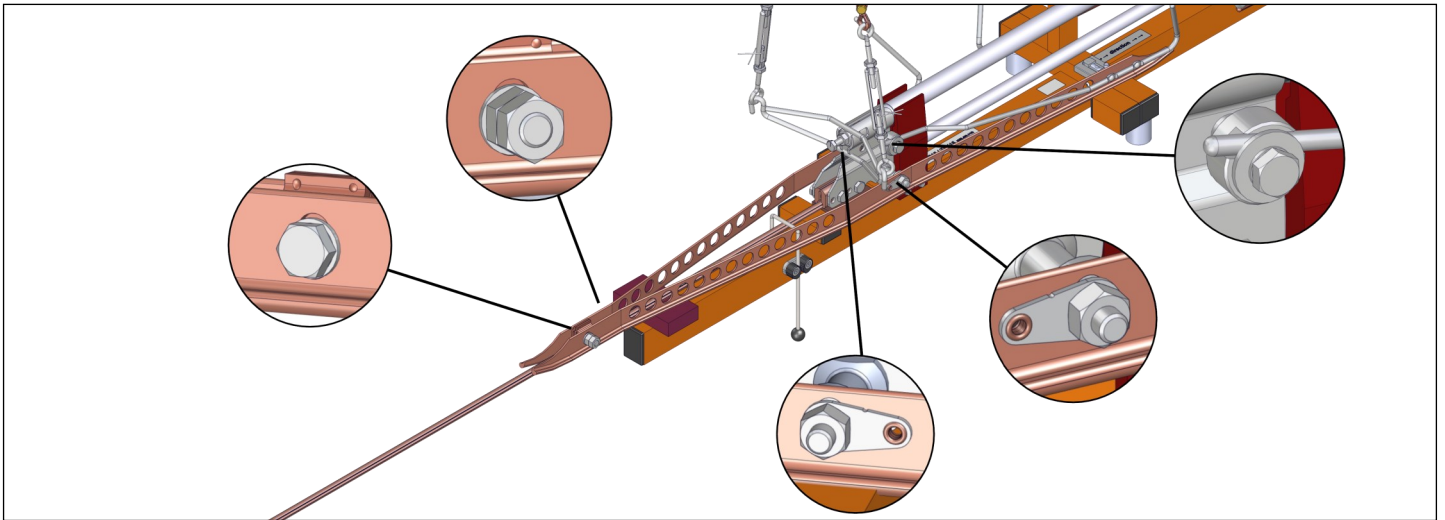


After hogging, align the section insulator with the spirit level and the turnbuckles according to the spirit level. Always adjust both turnbuckles on one side together and synchronised.

9. Mounting the runners

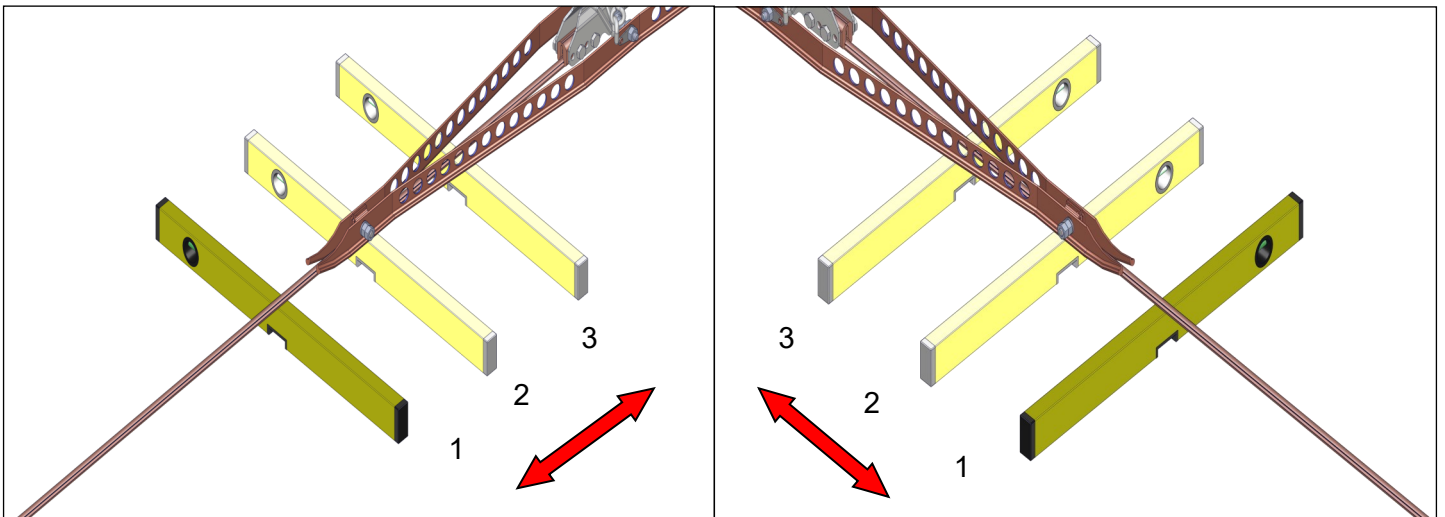


Mount the runners and tighten the nuts and bolts by hand.



Tighten all runner bolts and nuts to **50 Nm**. Remove the installation jig.

10. Checking the gliding, level and cant

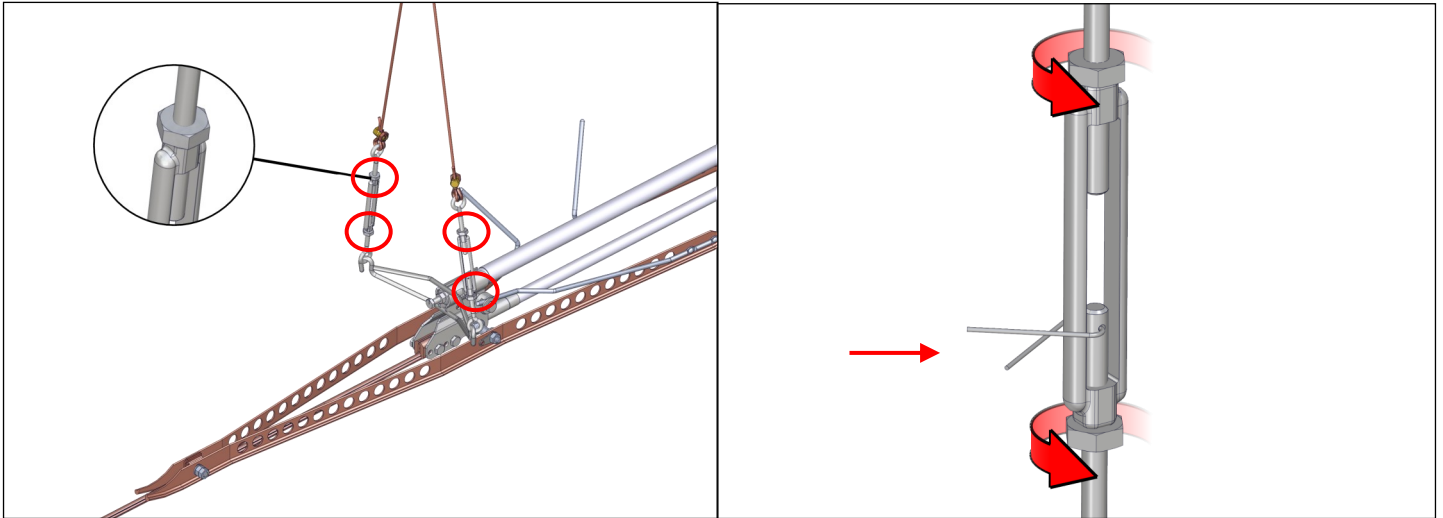


Gliding must be smooth and the runners must be parallel to the track..

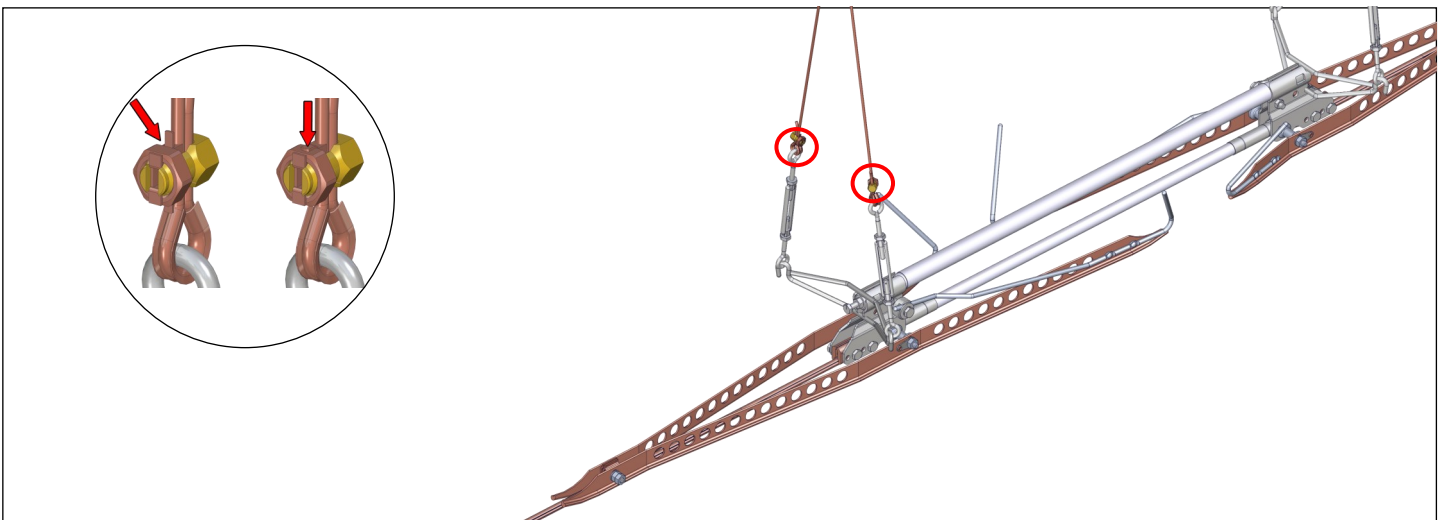


Test alternatively with a pantograph.

11. Countering the turnbuckles and secure with wire

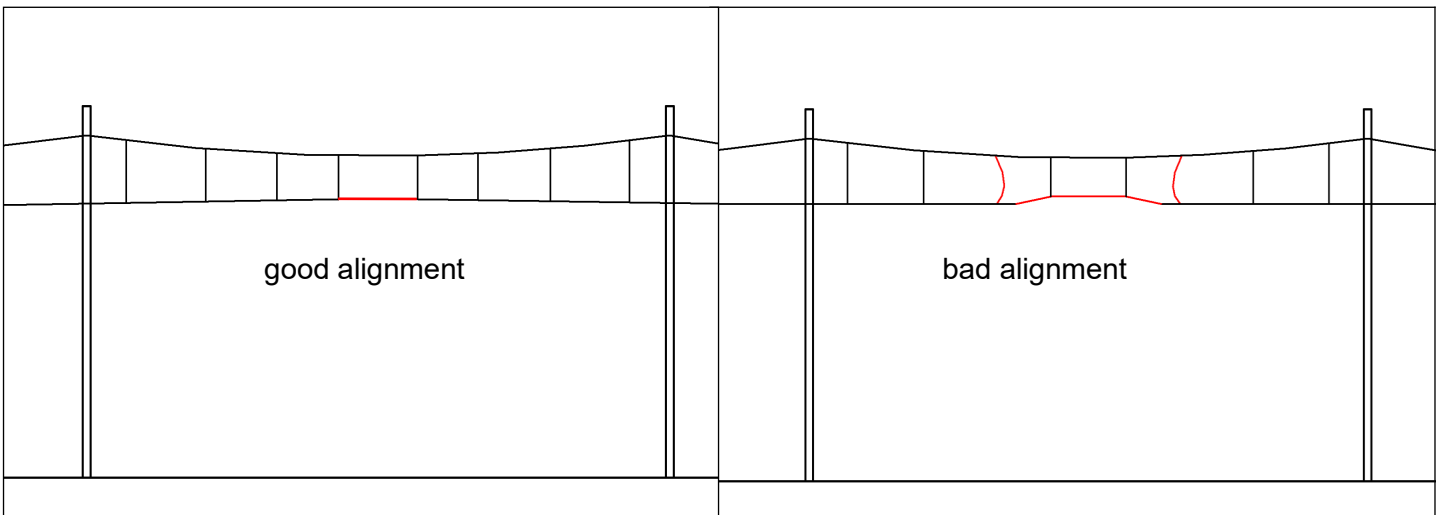


12. Securing the Serrodurs and shorten exceeding suspension cables



Cut the exceeding suspension cables to a max of **50 mm**.

13. Aligning the droppers



Check the next three droppers in both directions and adjust as needed.

C) Maintenance

A correctly adjusted Arthur Flury AG section insulator requires no maintenance over a long period of time.

Insulator

The insulators are usually sufficiently cleaned by rain. In the case of extreme soiling (e.g. due to regular use of diesel engines or when installed in a tunnel, etc.), we recommend cleaning the section insulator with water and commercially available soap.

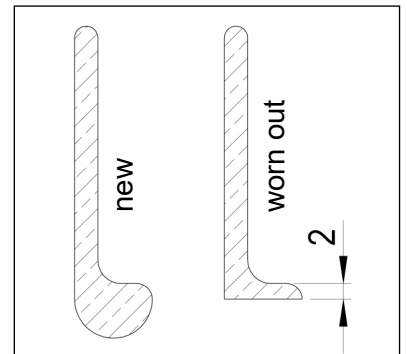
If there is visible damage to the insulator cover, the insulator must be replaced immediately.

Runners

If the runners show increased wear at the entry, it indicates that they have not been adjusted accurately enough. The runners must be readjusted according to the installation instructions.

Well adjusted runners show even wear over the entire length.

Should the wear have reached the maximum value (bulb only 2 mm) the runners must be replaced.



Running properties

The section insulator must remain stable during the passage of a pantograph. The section insulator and any installed suspension must be observed while passing with the pantograph. If the installation vibrates strongly or even becomes loose, this is a sign that the pantograph is creating too much pressure on the section insulator. In this case the section insulator must be positioned higher (increase hogging).

D) Legal information

The product must only be operated by trained specialists.

The product can be permanently damaged by loads that exceed the maximum values. If the product is exposed to absolute maximum loading for an extended period, it may impair the product's reliability and life. Arthur Flury AG will not accept any liability in this case.

Arthur Flury AG will not accept any liability for incorrect use and use for applications other than those specified in these instructions.

If damage to the product is suspected, any use or operation must be stopped immediately. Arthur Flury AG will not accept any liability in the event of continued use despite suspected damage.

Due to the diverse ways in which this product can be used, the instructions for use represent a general guide only and do not constitute a guarantee of the product's suitability for use in a specific application. The user is responsible for checking the full product data and clarifying the product's suitability for the intended use. The user is responsible for the choice of product and compliance with all the safety regulations and warnings. Please contact Arthur Flury AG if you require additional product information.

Our products comply with the current legal requirements and regulations (including RoHS, REACH, WEEE) in the markets where we operate. Please refer to Arthur Flury AG's Code of Conduct, available on our website, for further information.

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