

EVI – HVC PANTOGRAPH DOWN

Cleaning Pantograph-Down rails

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OWNING ORGANIZATION ABB EV charging	DOCUMENT ID. 6AGS000018	REV. A	LANG. en	PAGE 1/9
PRODUCT TYPE HVC Panto.Down	ASSISTANCE - 2ND LINE SUPPORT REQUIRED? No			ESTIMATED TIME 1

1. Purpose and Basic Description

Periodic cleaning of the pantograph shall be performed to avoid isolation issues.

Dirt and water create paths for electric current generating creeping currents and consequent isolation issues.

2. Specific Risks and Points of Attention

There is no need of 2nd line support for this procedure



Before starting the cleaning, follow the safety guide 6AGS000030
Safety instructions for service HVC - Pantograph Down rails V1.0

Risk of injury!

During and after operation of the pantograph the contact rails become very hot!
To avoid injuries due to burnings STEMMANN-TECHNIK GmbH arranges warning labels at the appropriate positions, which advice persons of hot surfaces:



Environmental damage!

Do not pollute the environment with plastic packing, grease or oil. Depollute these things according the regional applicable regulations as well as environment-friendly



Risk of Falling

Identifies a hazard that could result in severe injury or death through falling of heights



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3. Required PPE, Equipment & Tools

Use Personal Protective Equipment (PPE) according to the local regulations!



Ear protection, eye protection, gloves, masks and protective shoes.

Material needed:

-Grinder, sand paper 120 or an abrasive sponge, cloth and detergent/cleaner.

The detergent/cleaner should possess a pH-value between 4 and 9 (preferable pH 7).



- Platform. Approx. 1,5m height.



-Service hook.



Part Description: SER HVC CE PD pantograph service hook:

Part number: 6AGC083912

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4. Procedure

4.1. Bringing the Pantograph down

-Extend the service hook.

-Bring the pantograph down by hooking the red horizontal red bar of the Pantograph and keep holding it down.

-Place a ladder or working platform to perform the cleaning.



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4.2. Cleaning of the Pantograph complete collector head

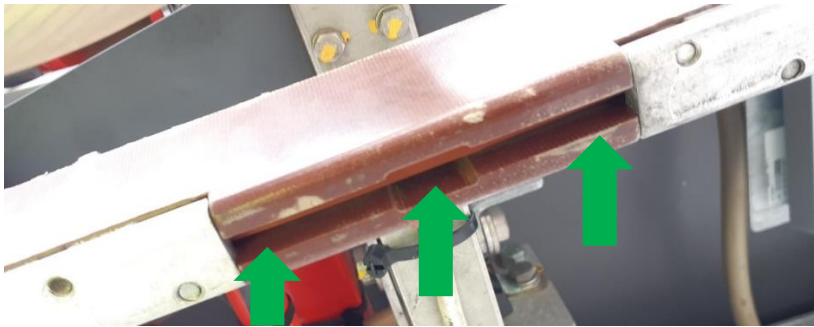
The main reasons for cleaning the rails and complete collector head of the pantograph is to improve the quality of the electrical contact of the rails and avoid isolation issues due to creeping currents on the parts of the collector head.

Do not use high-pressure machines!

First step:

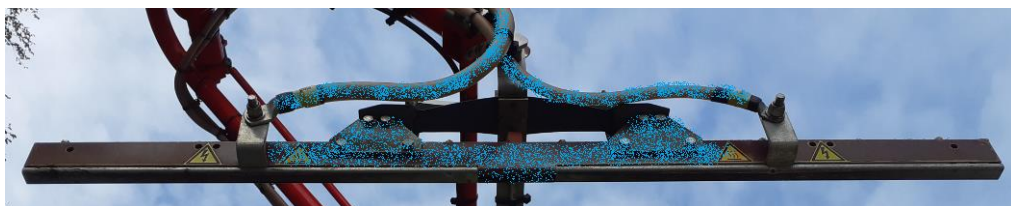
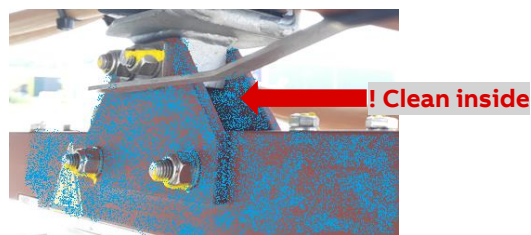
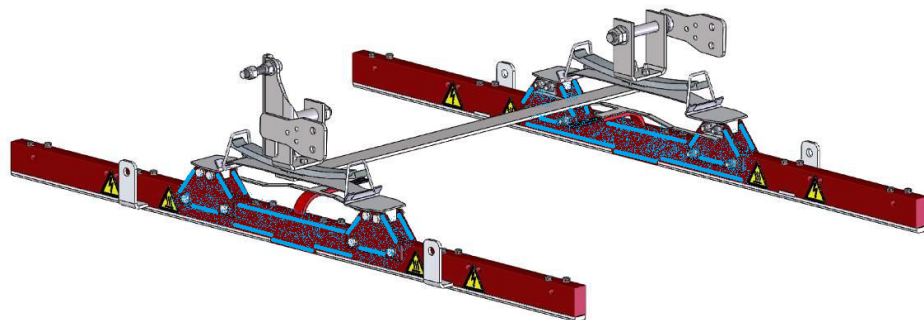
Remove the dust/mud from the groove in between the rails using a cloth, detergent and water.

Excess of dirty and moisture might cause current leakage between rails and electric isolation issues.



Second step:

Using a cloth and detergent and water, clean the cables and the surfaces of the parts with the light blue contrast. After cleaning it should be free of old silicon paste and any other kind of dirt.



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4.3. Visual check of the rails and connections.

Check the connecting bolts for firm tightness.

Check all 4 rails condition.

There should be no thick layer of dirt on the rails

The surface of the rails shall not be covered of arc spots. A few arc spots are tolerated.

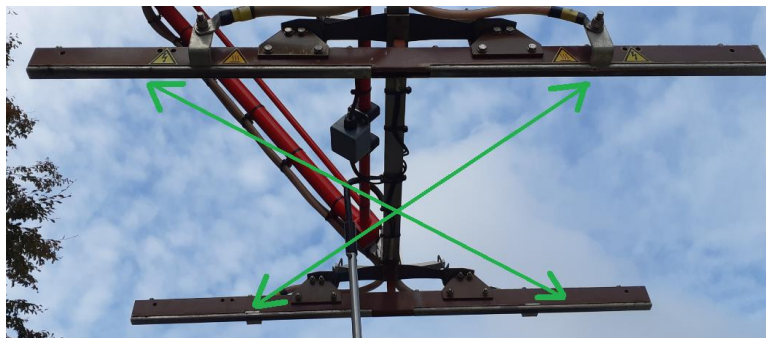


***In case of need of rails replacement the spare part quantity, description and part number are:**

4X HVC ACS Panto. Stemman contact rail: 6AGC072497



If there are a few arc spots, grind the rails and recommended to swap the rails diagonally.



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4.4. Applying silicon paste

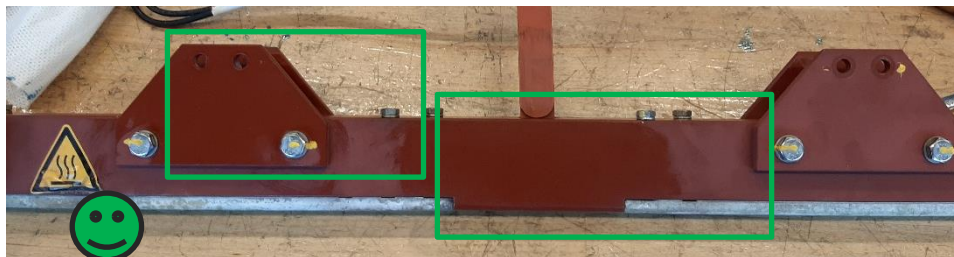
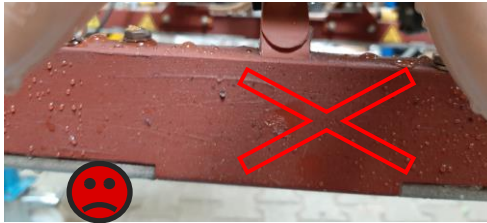
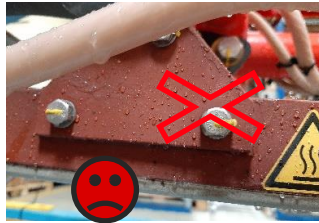
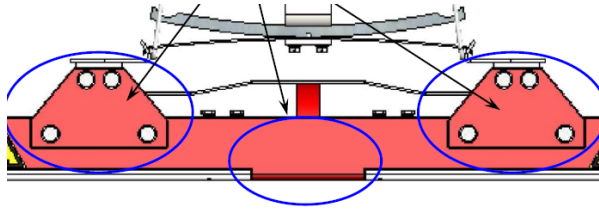
The combination of dirt and moisture cause isolation issues, to solve such issue it is recommended to apply silicone paste to the surfaces of the synthetic supports on both sides.

The silicone paste can be applied with a cloth and then spread on the synthetic supports.

The silicon layer shall be thin, DON'T apply a thick layer, it increases the deposition of undesired particulates

Recommended silicone paste: P250- Fa. Wacker

DON'T apply silicon paste on the metal rails surface!

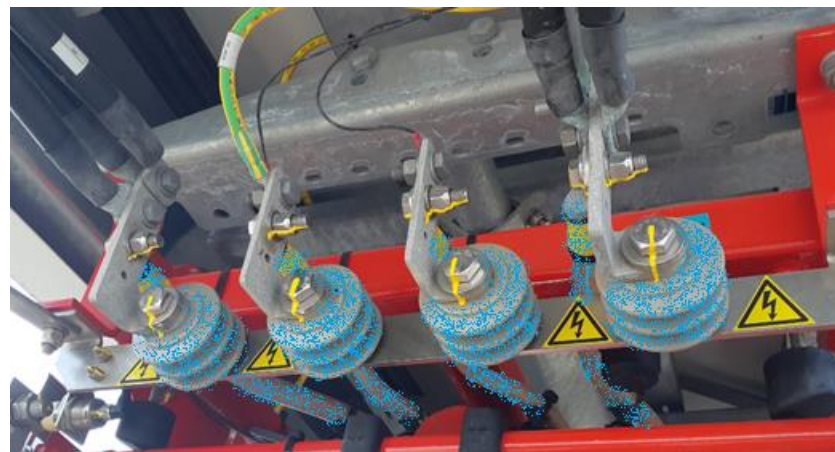
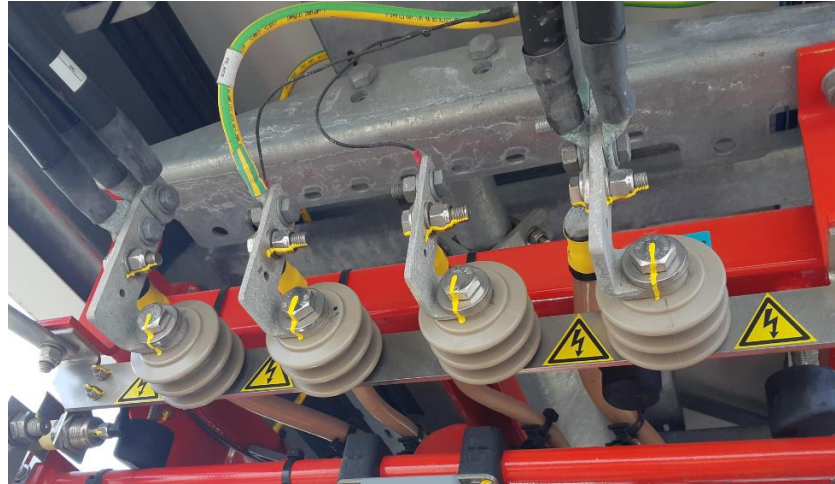


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4.5. Cleaning the Isolators

Isolators get dirt on the surface over time, dirt combined with moisture generate isolation issues.

Recommended to clean the Isolators and cables from the pantograph connected to the isolators according to the light blue contrast in the pictures.



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5. Additional Information

5.1. Listing of related documents

Ref #	Document Kind, Title	Document No.
	Safety instructions for service HVC - Pantograph Down rails V1.0.pdf	6AGS000030

6. Revisions

Rev.	Page (P) Chapt. (C)	Description	Date Dept./Init.

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