



## **Enhancing life, improving ease of operation & Performance of EHV Isolator by refurbishment, retrofit and up gradation/ Overhauling**

We S&S PSE Ltd are a part of S&S Power Group and collectively the group is offering following core capabilities to its esteemed customers and potential associates;

- Single supplier for multiple products- EHV Disconnectors, MV Switchgear, Control & Relay Panels.
- One stop solution for Application Engineering, System Design & Manufacture of products and offering competitive field services for commissioning and after commissioning services.
- Lower overhead- Affordable Products and Services
- Project Manager for all major executions
- Flexibility to adopt to customer need
- S&S service, Innovation and Quality
- Strong Indo European background- ability to leverage Europe technology and Supply Chain to offer global executions
- Long switchgear experience- more than 40 years in its field of service in India and UK through its joint ventures and subsidiaries.

S&S PSE is a joint venture company of S&S Power Group and leading manufacturer of EHV Isolators. Very large installed base of S&S Isolators especially at 420KV Sub-station have reached the life of re-electrification. This is great opportunity for S&S Customers to avail the special refurbishment, retrofit and up gradation package offered by S&S at affordable cost with service warranty and enhanced life of the product.

**This paper presents some work already done in this direction by S&S Service Team.**

## Case Study of Pantographs:

We S&S PSE Ltd, Manufacturing and providing services for 420 kV, 245 kV & 145 kV Pantographs till date.



Huge installed base of S&S Isolators in field with rigid design has further life left out, provided we provide adequate overhauling by OEM experts and Test them at site for compliance to the standard requirement.

Following are the recommended spare parts to do overhauling.

- Two or Three complete pole of scissors assembly.
- Overhauling Kit.
- Moving Contacts with accessories
- Fixed Contact tube.
- Male and female Transfer contacts.
- Rotating contacts.
- Electrical items of the drive box. Also we can provide enhanced design of drive box with aluminium enclosures to avoid corrosion.

### Overhauling Kit:-



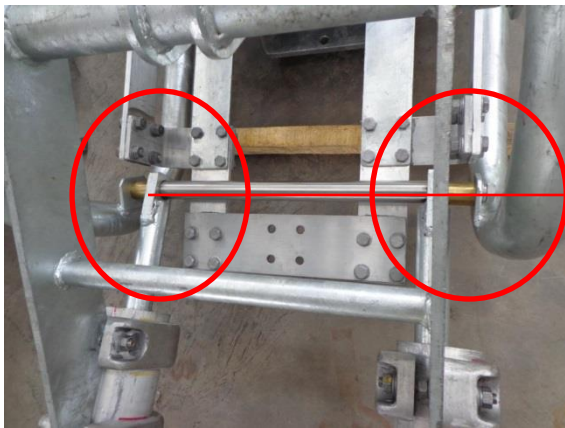
Needle roller bearing  
without sleeve

Needle roller  
bearing with sleeve

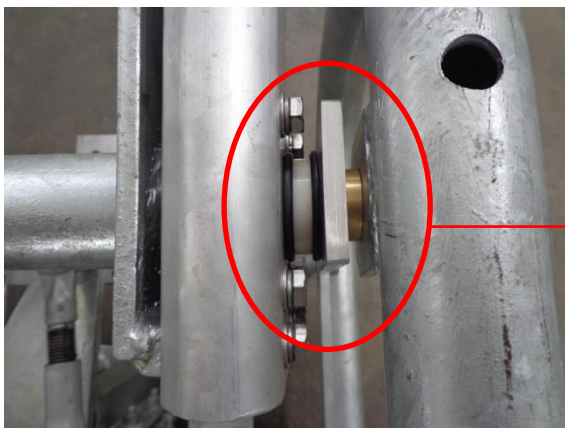
Nylon washers



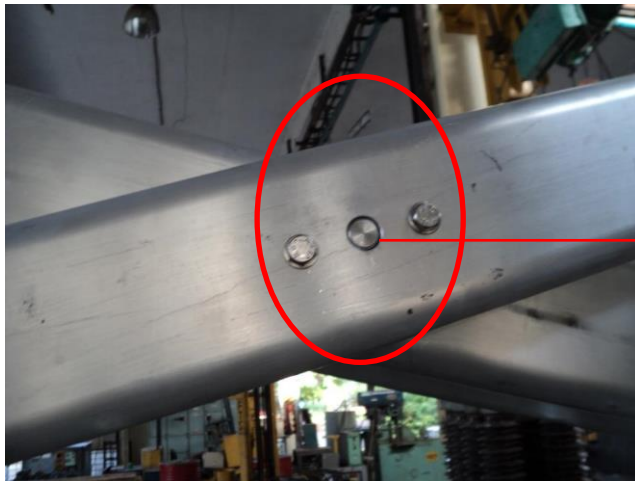
Complete scissor assembly.



Needle roller  
bearing



"O" ring



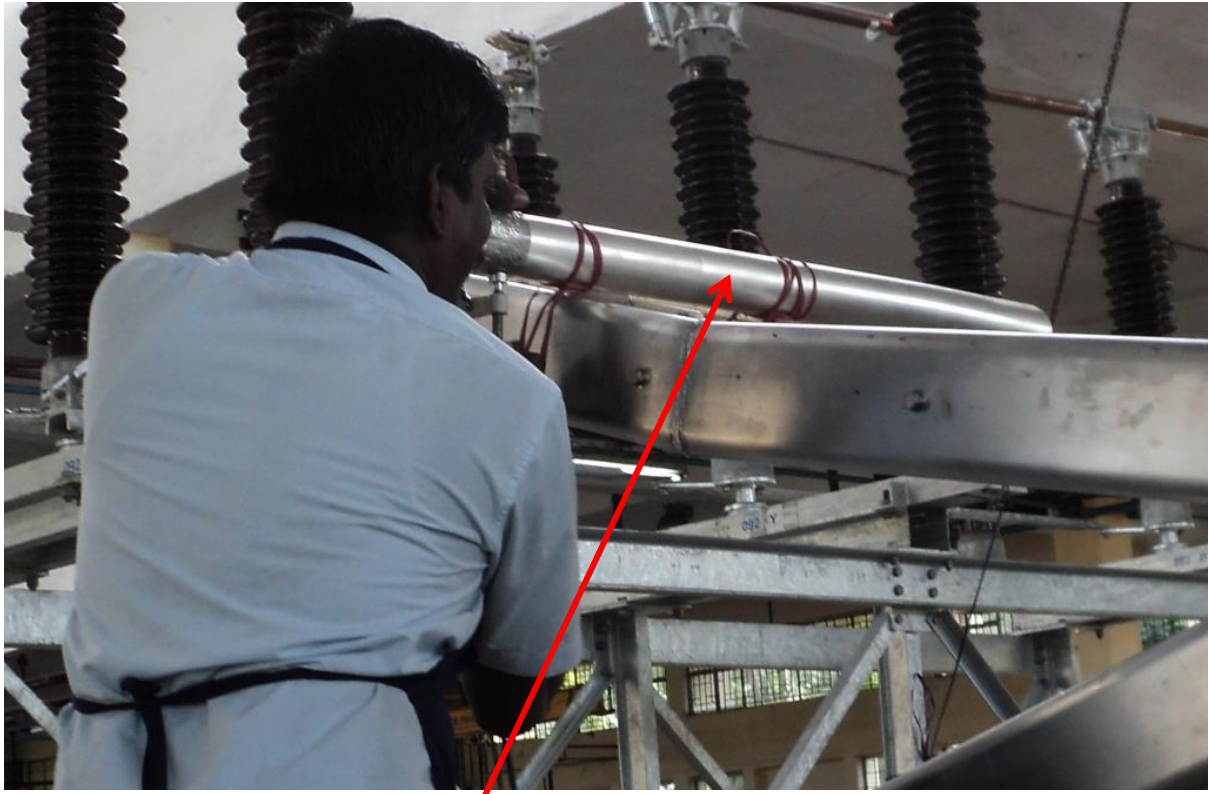
Nylon washer

We recommend buying these above overhauling kit to enhance the Pantograph life. While ordering for this overhauling kit, we recommended purchasing 3 to 4 complete poles, so that it will be easy to skip outages/shut down duration while doing overhauling/servicing.



Moving contact with accessories.

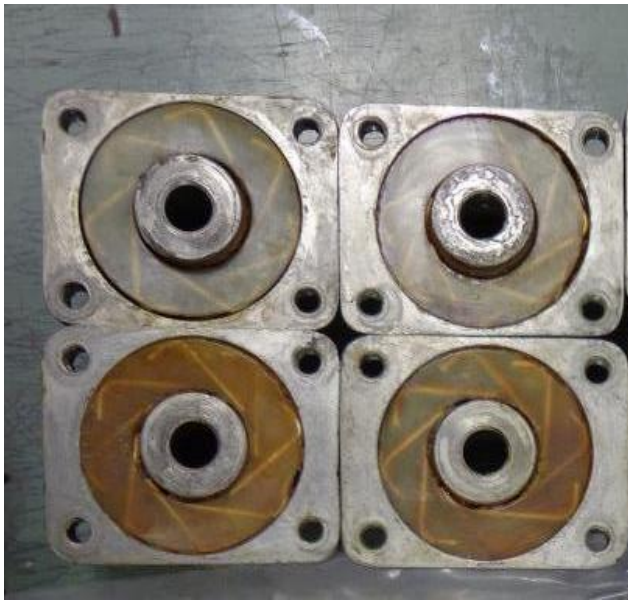
While doing the over hauling we have to check the contacts. If heavy pitting mark noticed then those contacts to be replaced with new one.



Fixed contact tube. They will be hung from the top bus bar.



Male and Female Current transfer assembly.



**Rotating Contacts Assembly.**

While doing the over hauling we have to check the moving contacts, Fixed contact tube, Transfer contact assembly and rotating contacts. If any damage or heavy pitting mark noticed then those contacts to be replaced with new one.

**We have executed Overhauling, Refurbishment, and Retrofit work at GETCO.**

**Jetpur – Work carried out on 69 poles of Pantograph during 2010-11**

**Asoj - – Work carried out on 35 poles of Pantograph during 2012-13**

**Jetpur:**

**Following spares materials ordered to carry out the over hauling work. The materials supplied through M/s Unique Sales Corporation.**

- Complete top hamper assembly – 2 poles.
- Moving contact - 20 sets.
- Overhauling Kit – 69 sets
- Modification kit for Down pipe – 69 sets.
- **Work carried out site.**
- First two poles removed from the existing support and replaced with newly supplied one. The existing Down pipe arrangement modified with universal yoke arrangement to take care of any miss-alignment between operating rod insulator centre to drive box output flange centre. Operation Check carried out in presence of GETCO engineer and found satisfactory.
- The overhauling work carried out on the removed poles by changing the bearings, Nylon washers and 'O' rings. Now this poles were to put in service.
- Step one followed and like this all the 69 poles overhauling work were carried out.
- Damaged Moving contacts changed where ever required during over hauling.

- All 69 poles over hauling work carried out in presence of S&S service engineer.

**Asoj -**

- **Following spares materials ordered to carry out the over hauling work. The materials supplied through M/s Unique Sales Corporation.**
- - o Moving contact - 20 sets.
  - o Overhauling Kit – 35 sets
  - o Modification kit for down pipe – 35sets.

They were having stock of complete hamper assembly hence poles were not ordered.

Same procedure followed as did in Jetpur S/s for overhauling of poles.

Same way we can do **Overhauling, Refurbishment, and Retrofit work for 420/245kV Centre Break Isolators also.**

Robust Isolators provided by S&S can be maintained and capital investment into fresh isolator can be saved by overhauling, retrofitting and refurbishing these isolators.

We can also take this opportunity to upgrade the drive box and make the mechanism suitable to operate from PGCIL Kiosk from remote at site.

We look forward for your valued enquiry and opportunity to discuss with you on enhancing life of Isolators, upgrading them and improving reliability at low cost.

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