



Western Instruments

Established 1965

September, 2016

Cleaning and Maintenance of Yokes

Yokes need to be maintained to ensure their long term use. This just doesn't mean replacing a power cord when it is broken or replacing a switch cover or switch when it is unusable. This guide will address the 4 main areas of concern;

- Electric Power Cord and mains plug
- Yoke Housing (Rubber Encapsulate).
- Activation Switch and Switch Cover (membrane).
- Yoke Legs and feet.

Review; www.westerninstruments.com/markcontent/yokenomenclature.pdf

1. Power Cord

- The mains plug is usually the first item to fail, ensure the jacket as it exits the Plug is not damaged. Most Plugs are fitted with a clamp that can cause damage if it is tightened too much. Inspected at the end of every shift, and Repair or replace as necessary.

See; www.westerninstruments.com/markcontent/7powercordtroubleshooting.pdf

- The power cord jacket is typically made of rubber (higher quality cord) or vinyl (on low quality cord), Both Cord types are affected by oil or grease and UV radiation (sun light or UV Lamps). Power Cords should be inspected at the end of every shift and cleaned with a mild soap solution when necessary.
- All power cords enter the Yoke housing with some type of Strain Relief (also called a Cord Protector). Good quality strain reliefs provide a thickening of the Power Cord over about a 7cm (or 3") length. These good quality devices are a tight fit over the power Cord, and may also have a cullet type clamp on them. Low quality Straight Reliefs use a crimp connector to lock the power cord to the Yoke housing. These crimp connectors tend to yield the Cord Jacket so they have a very short life. The Power Cord Strain Relief needs to be inspected at the end of every shift, and Repair or replace as necessary.

2. Yoke Housing

- Western's Yoke Housing (Hand Grip) is encapsulated from Urethane Rubber, and is resilient from many oils and grease. Like any other electrical power tools keeping them clean allows any issues (wear and tear) to be obvious. Yokes should be inspected at the end of every shift and cleaned with a mild soap solution when necessary.
- Any lifting of urethane or surface damage should be treated in such a manner that it will not lead to further damage. This may include cutting (smoothing) of small tears that might lead to further peeling. This may also include using a fine jeweler's file to dress damaged areas.
- Do not remove excessive amounts of material as the Urethane Rubber Encapsulant is only so thick and protects any wire in the Yokes internal Coil and any internal interconnection wiring.

3. Activation Switch and Switch Cover

- Great effort has gone into the engineering and development of Western's Yoke

Switch Housings and Switch Covers. There is a great deal of information on this that can be obtained through you local distributor.

See: www.westerninstruments.com/markcontent/5testingWCSeriesFrame.pdf
www.westerninstruments.com/markcontent/15WETroubleShooting.pdf

- Western has 2 different switching designs WC-Series and WE-Series. The 'E' in WE-Series stands for Economy. While the WC-Series uses a unique solid state design with high reliability. Documents are posted on our Web Site for trouble shooting (diagnostics) and Replacement of our 2 types of Yoke Switches and Switch Covers (Membraines).

See: www.westerninstruments.com/markcontent/16WESwitchReplacement.pdf
www.westerninstruments.com/markcontent/8WCSwitchReplacement.pdf

- WE-Switch Membranes are of a very inexpensive Slip In design. When installing a new or cleaned WE-Series switch membrane, clean the switch housing and membrane receptacle with a dry nylon brush and use compressed air to remove the dust. A very small amount of Lubrication (Mild Soap and Water) helps slipping the switch cover in place. Do not glue in WE Series Switch Covers!

4. Legs and Feet

- Great effort goes into the assembly of Western's Universal Yoke Legs and Feet, to ensure their smooth manipulation and free hinging. When Wet and ry Method media are used with the same Yoke, each of the 4 hinged assemblies (Upper legs and lower feet) should be cleaned with carrier and a brass brush followed by blasts of compressed air.
- If a water carrier is used, these hinges need to be flushed regularly. Then at the end of the shift these hinges should be flushed and dried with compressed air. After drying the hinges should be treated with a water repelling corrosion inhibitor.
- All yokes must pass a lift test before and after testing. This requires the contact portion of the feet to be made flat and parallel on at least an annual basis. This requires the compression of the splayed foot, followed by grinding of the feet in a special fixture than most distributors have for there ongoing service work.

Notes;

- Yokes should not be soaked in a mild soap solution. Typically, for cleaning, personnel should use sparring amounts of dish soap and water and an old tooth brush. Personnel should avoid getting this soap solution on the Yoke Legs/ Foot Assemblies. Avoid the ingress of the soap solution into the Mains Plug, and the Power Cord Strain Relief. Again the soap solution should not be left to dwell on the Power Switch Cavities or Switch Membranes. While scrubbing with the old tooth brush, one wants only to produce a lather, and not wet suds.
- Yokes should not be soaked in a carrier (Mineral Spirits / Varsol / Stoddard Solvent) to clean the hinge assemblies. Prolonged exposure will affect the Rubbers used on power cords and the Urethane Rubber used to cast the body.