

REAL

March 2020

Torque

Elevated Work Platform (EWP): 6-monthly electrical insulation tests.

What are they and why do we do them? When you look at the number of inspections and tests EWP's require it may seem daunting and we may question why so many checks? Recently one of our late model leased units failed it's 6 monthly electrical insulation test so we thought it would be a good to explain why the need to carry out this test and how it is done.

An EWP insulated boom has a non-conductive fibreglass section that must be extended to a minimum of 800mm before safe insulation from the steel section of the boom and the rest of the truck can be achieved. There is a minimum safe working extension mark on the fibreglass section. All live line work requires the boom to be extended to at least this distance.



Contact maintenance for any questions on 0800 80 80 69



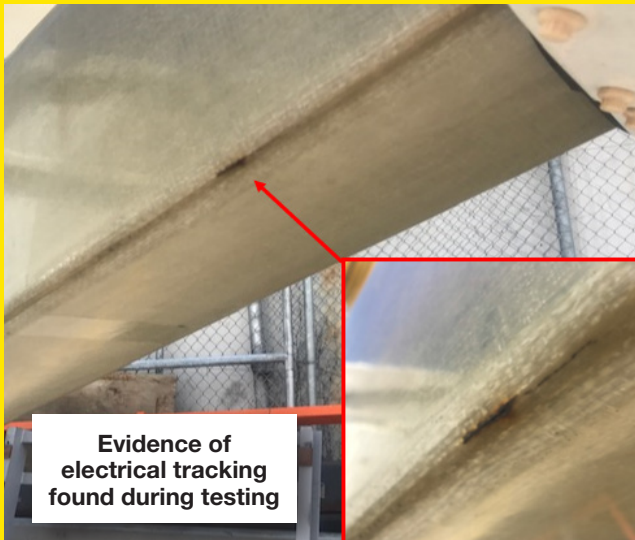
To test, the truck is raised off the ground and the extension leg feet are placed on insulated pads so that the truck is not grounded. The testing equipment used is a capacitor which can produce up to 100,000 volts. The capacitor is connected by a long cable to a suitable contact on the bucket.

The insulated boom is extended to the safe insulation mark and the main boom is raised to approximately 45 degrees. This is to keep the risk of electrocution to the person carrying out the inspection at a minimum. The further the boom is from the person carrying out the test, the better.



Voltage is gradually applied and the test equipment gauges are monitored for any sign of earthing between the insulated boom and bucket to the uninsulated boom and truck components. If after 3 minutes, at a minimum of 56,000 volts, there is no sign of leakage, the insulation can be declared safe and a passed test certificate will be issued and signed by a qualified electrical inspector.

In the case of our failed EWP, when placed under test conditions, the insulated boom failed immediately when high voltage was applied. Visible arcing and smoke were present along the lower edge of the insulated fibreglass boom section. This allowed a direct path for the electricity to get to the non-insulated steel section of the boom.



Evidence of electrical tracking found during testing

Electrical testing is only one of the routine inspections that need to be carried out.

We have a robust maintenance system that ensures all safety inspections and servicing are carried out when due by suppliers that are trained and qualified to carry out all aspects of EWP service and compliance work.

Had our EWP been put into service with this issue, there is the risk that the operator could have been electrocuted or even killed if engaged in high voltage work.



Tips and Tricks

- ▶ Only competent and trained operators should use EWPs.
- ▶ When operating, daily visual checks of the insulated boom section should be carried out as part of a comprehensive visual check of components. Any damage or defects to the fibreglass boom could result in the loss of its insulating properties. Do not operate if damaged.
- ▶ All safety inspections must be carried out when they're due and certification documentation must be kept with the EWP.
- ▶ Only qualified and approved repairers are to undertake any EWP repairs.
- ▶ Keep the insulated boom and bucket clean and dry and refit the bucket cover when it's not in use.

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