



SYDNEY TRAMWAY MUSEUM

CLIMBING ONTO ROOFS OF TRAMS PROCEDURE

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1. Purpose

To explain the methods and dangers when someone needs to climb onto the roof of a tram at the Sydney Tramway Museum when the tram is not within the Museum complex.

2. Scope

This process applies to all of the trams used at the Sydney Tramway Museum.

NOTE: This procedure does NOT apply to the Variotram 2107. Please refer to the Variotram manual STM6143, Appendix ?, for the procedure to use if required to climb onto the roof.

3. Responsibilities

Normally there should be no reason for anyone, other than maintenance staff, to climb onto the roof of a tramcar. However, appropriately traffic staff may have to climb onto the roof of a tram if the trolley cord breaks and the trolley pole cannot be retrieved from the ground, whilst the tram is outside the Museum's boundary. **With regards to trams with a pantograph, there should be no need to access the roof of these trams, except 11W, as the pantographs are raised or lowered by the driver in the cab.**

Staff MUST first ensure that the power to the overhead wire has been turned OFF before accessing the roof.

4. References

- STM6046 - Working On Elevated Platforms Procedure

5. Definitions

Non-conducting rails	This is rail that will not allow electric contact to be made between the tram wheels and the rail.
OIC	Officer in Charge
RNP	Royal National Park
STM	Sydney Tramway Museum: the trading name of South Pacific Electric Railway Co-Operative Society Limited for tram activities, therefore references to STM.

6. Actions

6.1 General

Before accessing the roof the overhead trolley wire above the tram shall be de-energised before any person climbs onto the roof. So, staff MUST first organise with the OIC to have the power to the overhead wire, turned OFF. The OIC MUST then confirm with the relevant person(s) that the power has been turned OFF before any person needs to climb onto the roof.

Normally there should be no reason for anyone, other than maintenance staff, to climb onto the roof of a tramcar. If the maintenance staff are on site, no traffic staff should need to be on the roof of a tram when it is in the depot complex. The maintenance staff should attend to the problem, as a wooden ladder should be used to access the roof instead of the footholds provided on the side of some of the trams.

Another alternative is that there is a "high tension pole switch rod" available for untangling pole ropes from ground level without having to climb on the roof.

However, if a problem develops whilst the tram is outside the Museum area (i.e. on the RNP or Sutherland line), traffic staff who are been trained, may climb onto the roof to fix the problem.

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For most trams the roof is canvas covered and painted which may be slippery when wet. Persons climbing onto the roof must take special care in such a situation.

However, if the trolley cord breaks, or for any other reason, any person is required to climb onto a tram roof (e.g. the trolley cord has wrapped itself around the trolley pole or breaks), the tram must be brought to a stand and secured. The reverser handle must be removed and given into the care of the person climbing onto the roof.

As an added precaution, on two pole cars, at least one trolley pole should be in contact with the overhead wire if there is any chance of the person making simultaneous contact with the overhead wire and a trolley pole, otherwise both poles should be down. On single pole cars, extra care should be taken when the pole is NOT in contact with the overhead wire. If possible, ALL switches on the tram should be opened to increase the safety margin.

Special attention must be given to climbing onto the roof of the all-metal bodied trams, such as 548, 1014, 1054, the Berlin trams and the Munich trams, as these cars have metal roofs which could cause an electrical shock if touching the live trolley pole or wire. Climbing on to the roof of these trams should be avoided as much as possible. Thus, any work done on the car roof, e.g. replacing broken trolley ropes, etc., should be done with both trolley poles pulled down and secured.

Should it run onto non-conducting rails or be badly derailed, all metal parts on the tram should be considered “live” until the trolley pole is removed from the overhead wire.

Finally, if the traffic staff are in any doubt or have any difficulty accessing the roof, they must use the timber ladder to gain access to the roof or the “high tension pole switch rod”, located in the Workshop. The wooden ladder or switch pole can be brought to the location on the footboard of another tram.

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