



SYDNEY TRAMWAY MUSEUM

SUPPLEMENTARY TRACTION LEAD PROCEDURE & EXAMINATION

MARCH 2016MAY 2020

SYDNEY TRAMWAY MUSEUM

Document Control Record

1. Document Details:

Name: Supplementary Traction Lead Procedure & Examination

Number STM 6044

Version Number: 1.23

Document Status: Working Draft

Approved for Issue

Archived

Next Scheduled Review Date:

2. Version History:

Version Number	Date	Reason/Comments
1.0	03/11/2008	Initial issue
1.1	05/01/2010	Added comment about holding the lead.
1.2	31/03/2016	Amended Distribution List format and Document No. change
1.3	07/05/2020	Added details for pantographs and the Variotram 2107.

Approved by **Signature & Date**

3. Distribution List

Position	Date	Location of Documents
Rail Safety Manager		Original held on GOOGLE secure Website
STM WEB SITE		Updated regularly and put onto the STM Web site.
STM Office		STM Office Computer
STM Office		STM Office cupboard

SYDNEY TRAMWAY MUSEUM

1. Purpose

To provide a procedure for the handling of the Supplementary Traction Lead, within the Sydney Tramway Museum (STM), when moving trams with the Supplementary Traction Lead in areas where there is no overhead wiring to provide power.

2. Scope

This process applies to all uses of the Supplementary Traction Lead within the Sydney Tramway Museum. The examination paper is included at the back.

NOTE: This procedure does NOT apply to the Variotram 2107. Please refer to the Variotram manual STM6143, Appendix 1, for the procedure to use shore power connection.

3. Responsibilities

Only those authorised or those under supervision of an authorised person can use the Supplementary Traction Lead to move a tram.

4. References

- Chief Engineer's email of 27 July 2009

5. Definitions

STM Sydney Tramway Museum the trading name of South Pacific Electric Railway Co-Operative Society.

6. Actions

6.1 General

There are 3 very important things to remember:

- **REMEMBER WHEN CONNECTING A SUPPLEMENTARY TRACTION LEAD TO A TRAM ALWAYS PLACE THE LEAD CABLE ON THE OVERHEAD WIRE LAST.**
- **REMEMBER WHEN REMOVING A SUPPLEMENTARY TRACTION LEAD FROM A TRAM ALWAYS REMOVE THE LEAD CABLE FROM THE OVERHEAD WIRE FIRST.**
- **REMEMBER NEVER PUT ANY TROLLEY POLE OR PANTOGRAPH ON THE OVERHEAD UNTIL AFTER REMOVING THE SUPPLEMENTARY TRACTION LEAD FROM BOTH THE TRAM AND THE OVERHEAD WIRE.**

6.2 Placing The Supplementary Traction Lead On The Tram

- Remove the Supplementary Traction Lead from its storage area and carry it to the site, being careful not to get the lead cable caught on any obstacle along the way.
- Before proceeding to connect the device, ensure the car is:
 - Unpowered; and
 - All trolley poles and pantograph are pulled down and secured;
- Holding onto the timber support of the Supplementary Lead at the trolley pole or pantograph attachment hook end, place the hook end on the trolley wheel or pantograph of the tram first;
- Ensure that the tram controls are all set to the OFF position and the brakes are applied;

SYDNEY TRAMWAY MUSEUM

- Move from the end of the tram which has the Supplementary Traction Lead attached;
- Move forward of the tram at least 3 metres;
- Holding onto the timber support of the Supplementary Lead at the overhead attachment hook at the other end, place the end on the live overhead trolley wire; and
- Indicate to the driver of the tram that the lead cable is on the trolley wire and that the power is now on the tram.

PLEASE NOTE, that the lead must be held at the tram end whilst the car is moving to ensure that it does not snag on anything and that an amount of slack must be maintained between the end of the lead on the tram and the person holding it during the operation.

6.3 Moving The Tram With The Supplementary Traction Lead.

- Only move the tram the minimum distance required, whilst under the power supplied by the Supplementary Traction Lead. DO NOT COAST;
- Ideally the Supplementary Traction Lead should be attached to the rear end trolley pole **and pantograph**; then
 - As the trams moves forward to the limit of the lead length, carefully drag the Supplementary Traction Lead along the trolley wire ensuring sufficient slack so as to not allow the tram to pull the lead cable. This must be done whilst the tram is stationary & controller off otherwise damage will be done to both the lead hook & the overhead wiring.
- If the Supplementary Traction Lead must be connected to the front trolley wheel;
 - Ensure that there is ample room between front of the tram and the person holding the Supplementary Traction Lead. Place the lead cable on the overhead wiring at a reasonable distance from the tram to allow the tram to move accordingly;
 - The tram is not to move faster than walking pace.
 - Move the Supplementary Traction Lead along the trolley wire as the tram moves forward as per the previous instruction, ensuring that the person holding the Supplementary Traction Lead is NOT between the running rails;
 - Ensure that the tram cannot run over the Supplementary Traction Lead by having another person or persons ensure the lead cable is clear of the tram and track at all times.

6.4 Removing The Supplementary Traction Lead From a Tram

- Ensure that the tram driver has all of the controls set to the OFF position and the brakes fully applied;
- Ensure that **ALL trolley poles or pantograph** are down and secured (i.e. not attached to the overhead)
- Holding onto the timber support of the Supplementary Lead, remove the Supplementary Traction Lead from the live overhead trolley wire first;
- Holding onto the timber support of the Supplementary Lead at the other end (hook end), remove the Supplementary Traction Lead from the trolley wheel of the tram;
- The tram should now have NO POWER. If the car is to be driven normally from this point, the lead cable **MUST BE REMOVED** before placing any trolley pole **or pantograph** on the overhead wiring;
- Roll up the Supplementary Traction Lead and stow it back in the storage area allocated.

6.5 Use On Traffic Days

Except in an emergency, the lead is not to be used when members of the public are on site.

6.6 Qualifications For Use

SYDNEY TRAMWAY MUSEUM

Before being able to use the Supplementary Traction Lead, the user must have successfully completed the *Supplementary Traction Lead Usage Exam (STM6044)*.

SUPPLEMENTARY TRACTION LEAD USAGE EXAM

Please answer the following questions, writing your answers on the lines under each question.

These questions are based on information in the Supplementary Lead Usage Procedure above

Once completed, please return the exam papers to the Traffic Manager.

Membership No. :

Date:/...../.....

Member Name:

QUESTIONS

1. Before commencing using the supplementary lead, list two things to be checked.

.....
.....
.....

2. Give the sequence (3 parts) for attaching the lead.

i)
ii)
iii).....

3. Give the sequence (3 parts) for detaching the lead.

i)
ii)
iii)

4. What is the hazard if either trolley pole or pantograph is put up before all of supplementary traction lead is removed?

.....
.....

Member's Signature: :

Examiner's Name: Membership No. :

SYDNEY TRAMWAY MUSEUM

Examiner's Signature: Pass/Fail (please circle which is applicable)
ooo000ooo