Transport for London
London Underground

Access

Track Trolley Controller

Learning information booklet

Effective July 2014

Issue 1

MAYOR OF LONDON

Contents

1 Introduction

The Track Trolley Controller (TTC) course will provide an individual with the skills and knowledge to:

- safely assemble a track trolley
- carry out safety checks
- supervise the loading and unloading of a track trolley
- safely operate a track trolley
- safely disassemble a track trolley
- store a track trolley safely.

You must achieve the required standard in order to be awarded a track safety certificate endorsed TTC.

You must carry your track safety certificate at all times when on or about the track.

2 Safety overview

2.1 Misuse of work equipment

Under the Health and Safety at Work act it is a criminal offence for anyone to interfere with, or misuse work equipment.

Unauthorised modification of a track trolley is prohibited when working on London Underground (LU). This can include the:

- adjustment of the brake mechanism to reduce brake-shoe application force and reduce brake release movement
- use of methods to keep the brake handle in the released position.

You must never:

- use a track trolley if you have not been trained to use it
- use a track trolley if you think it is not safe to do so
- interfere with the braking system
- overload a track trolley
- ride on the track trolley (unless purpose built).

2.2 Electricity

Before allowing a track trolley to be placed on the track the person providing protection must make sure traction current is 'off' with a:

- Current Rail Indicator Device (CRID)
- Permanent Current Rail Indicator Device (P-CRID).

Traction current must always be 'off' when using a track trolley.

2.3 Manual handling

You must be familiar with manual handling techniques, before assembling and operating a track trolley.

2.4 Planning the work

The following must be taken into consideration when planning the work:

- the number of staff required to load and push a track trolley
- uneven ballast
- rails
- slipping and tripping hazards.

For a team lift, a person must be in charge of the lift and communicate clear instructions.

3 Roles and responsibilities

As a TTC you may be under the protection and instructions of a:

3.1 Protecting Workers on the Track

A person certificated by LU to safely manage worksites and provide protection for themselves and others in:

- Engineering Hours
- depots.

3.2 Protecting Workers on the Track – Train Movements

A person certificated by LU to safely manage worksites and to supervise and control the movement of an engineer's train or mechanised vehicle within a Specified Area (SA) or an Engineer's Current Area (ECA).

3.3 Protecting Workers on the Track – Possession Worksite

A person certificated by LU to safely manage a possession worksite and to supervise and control the movement of an engineer's train or mechanised vehicles, within this worksite.

4 Responsibilities of the track trolley controller

It is your responsibility to:

- wear the required Personal Protective Equipment (PPE)
- use the right manual handling techniques
- have the correct number of staff to lift, load and push the track trolley
- consider the site conditions, including other staff working in the area
- check with the person proving protection that protection is in place and traction current is 'off' before placing the track trolley on the track
- make sure you look out for other staff on the track
- use the track trolley in accordance with the manufacturer's instructions
- carry out the pre-use checks
- check the fail-safe brakes
- load the track trolley evenly
- make sure loads are secure
- unload the track trolley safely
- store the track trolley safely in an approved storage location.

5 Track trolley

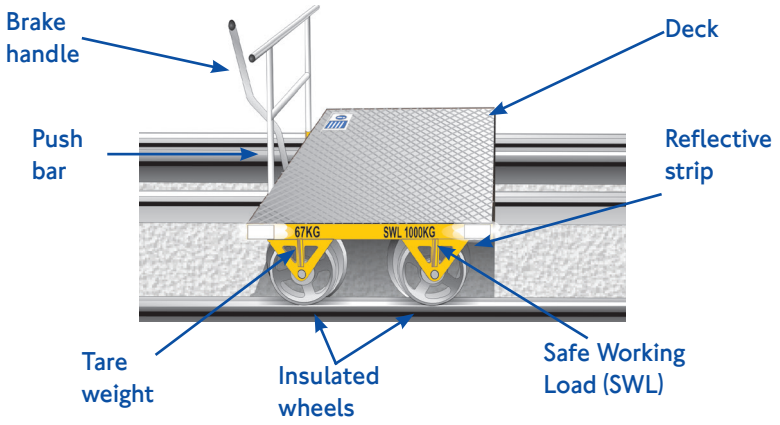
The definition of a track trolley is any vehicle certificated to run on LU track by the Permanent Way Engineer (LU) and the Rolling Stock Engineer (LU) and approved by the LU Chief Operating Officer (or equivalent), which:

- uses both running rails for support and guidance
- has an approved brake
- is manually placed on or removed from the track.

It must also be either:

- manually propelled and used for transporting tools and materials or
- self-powered (not by traction current) and used for transporting staff and light loads.

The different components and features of a standard track trolley are:



A standard track trolley will also include:

- owners contact details
- stabling notice
- expiry date tag
- unique asset number (same for both parts of a track trolley).

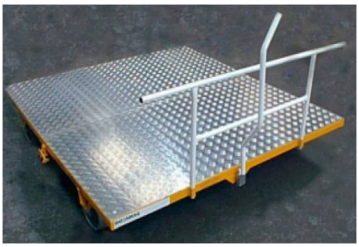
There are various types of approved track trolleys on LU, these include the:

5.1 Permaqip B type (two part) track trolley

The 'Permaquip B type' track trolley has:

- a SWL of 1000kg
- a tare weight of 69kg for each half
- a push handle
- a twist and 'slot in' brake handle on the side
- a warning light holder
- a lifting handle
- insulated solid rectangular shape over wheels.

5.2 Rotamag (two part) track trolley



The 'Rotamag' two part track trolley has:

- a SWL of 1000kg
- a tare weight of 69kg for each half
- a brake handle which is located in the middle of the track trolley
- insulated wheels.

5.3 Permaquip link track trolley

The 'Permaquip link' track trolley has:

- an aluminium deck
- a SWL of 625kg for one track trolley
- a SWL of 1000kg if two or three track trolleys are linked together
- a tare weight of 57kg
- push handle
- brake handle

- warning light holder
- lifting handle
- insulated wheels.

5.4 Rotamag connecta (link) track trolley

A 'Rotamag connecta link' track trolley has:

- an aluminium deck
- link pins
- push handle
- brake handle
- warning light holder
- lifting handle
- insulated wheels.

5.5 Trakrat track trolley

The 'Trakrat' track trolley has:

- an aluminium deck
- bogey
- a tare weight of 69kg
- a SWL of 1000kg
- push handle
- brake handle
- brake pivot plate
- warning light holder
- lifting handle
- insulated wheels.

All correct components are interchangeable even though they have unique serial numbers.

You must check that the brake test date label is valid on each bogey (i.e. 1250A is interchangeable with any 1250A irrespective of serial number, likewise with the 1500A).

You must only use a track trolley(s) that you have been trained to use.

6 Where and when can you use a track trolley

A track trolley can only be used:

- under Line Clear/Line Safe procedures with the permission of the person providing protection
- in a SA with the agreement of the PWT-TM or Train Master
- in a possession worksite with agreement from the Site Person in Charge (SPC)/PWT-PW.

A track trolley can only be used in a depot within a possession with traction current 'off'.

7 General safety rules

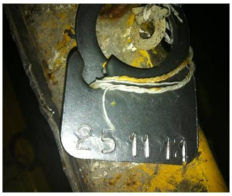
As a TTC you must never:

- use a track trolley you are not certificated for
- allow individuals to ride on a track trolley (unless purpose-built)
- overload a track trolley
- use a track trolley for something it is not designed for
- drop loads onto a track trolley
- tamper with the brakes
- leave an unsecured track trolley on the track
- store a track trolley against cables or other assets.

8 General pre-use safety checks

As the TTC you must make sure:

- the track trolley is an approved type with fail safe brakes
- the brakes hold the track trolley securely, both loaded and unloaded
- the general physical condition of the track trolley is checked
- the wheels, or both axles are insulated
- the wheels are clear of oil and grease
- the flashing lights are operating correctly
- the reflective tape is visible from all sides of the track trolley
- the track trolley is in date
- all warning notices are in place and labels are legible
- the SWL and tare weight are known.



Expiry date

Tare weight 57kg

Tare weight 69kg

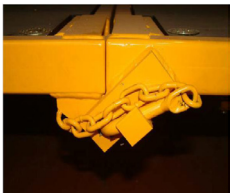
SWL and track trolley number

Owners name and number

Track trolley number

General pre-use safety checks

Labels



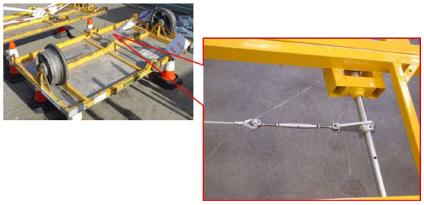
Connector pins

As part of the pre-use checks for certain track trolleys, the TTC must check:

- the condition of wheels and brake pads (remove excessive grease)
- the condition of brake adjuster on the underside of the track trolley
- there are no signs of brake tampering
- there are no loose locking nuts.

B type brake adjuster

Permaquip link brake adjuster



Rotamag brake adjuster

Twist brake

9 Assembling a track trolley

9.1 Assembling a two part track trolley

When assembling a two part track trolley:

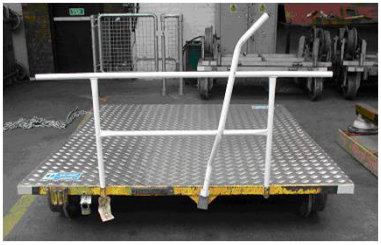
- both parts must have the same asset number
- the locking pins must be checked to make sure they are securely in position.

The track trolley must not be used if the locking pins are missing.

To assemble a two part track trolley you must make sure:

- one person stands each side of the track trolley and push the two halves together
- the location dogs are fully engaged correctly
- the locking pins are pushed into the locating holes and twisted to secure.

Assembling a track trolley



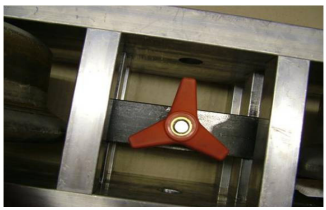
Once the track trolley is assembled, the TTC must:

- select the direction of travel
- insert the push handle
- insert the brake handle.

A track trolley must be pushed, not pulled.

9.2 Assembly of Trakrat track trolley

When assembling a 'Trakrat' track trolley the deck must be placed upside down on a flat surface, and each aluminum bogey must be placed onto the deck with the brake push rod facing inward.



Once the 'Trakrat' track trolley is assembled, it must be turned over onto the four wheels and placed onto the track (minimum of four people should lift the LT I 500A). The push handle must be inserted into the receiving sockets, ensuring that it is securely engaged and the brake pivot handle inserted onto the brake pivot plate.

Retain the bogey in place by turning the locking hand wheel clockwise until secure.

Assembly of linked Trakrat track trolley

The 'Trakrat' track trolley (LT I 250A and LT I 500A) can be linked together to form a larger track trolley. This can be done by placing two 'Trakrat' track trolleys in tandem on the track and:

- making sure the brake release directional arrows point in the same direction on each track trolley
- bringing both track trolleys together
- when the brake pivot plates make contact slide the pivot connecting cap over the two brake pivot plates
- check that they are locked together and that the brakes activate and release when the handle is used.

Once assembled check for sharp edges.

9.3 Trakrat track trolley – brake handle

The 'Trakrat link' track trolley is fitted with two disc brakes on either side, which remain engaged.

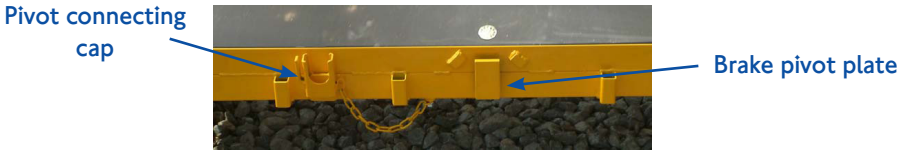
When moving the 'Trakrat' track trolley the brake mechanism must be manually released by moving the brake handle to the right and held in position to allow movement. To re-engage the brakes, the brake handle must be released.

The operation of the brake handle is moving it to the right in one direction and to the left in the other direction as indicated by the arrows and the stop block by the brake handle lever blade.

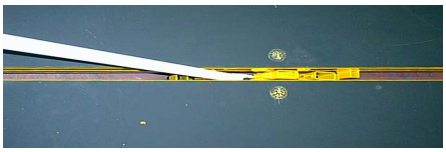
9.4 Connecting link track trolleys

To connect link track trolleys, you must:

- place both track trolleys on the track
- remove the pivot connecting cap for each track trolley
- bring the link track trolley together until the brake pivot plates are touching
- place one of the pivot connecting caps over both brake pivot plates.



To disassemble and avoid getting hands trapped, you must use the brake handle to remove the pivot connecting cap.



It is recommended that no more than two linked track trolleys are connected together, as more could affect the control and braking system.

10 Pre-use check of the wheels

Before using a track trolley you must:

- check the wheels to make sure there are no cracks or signs of damage
- check for damage to the axles or axle mountings
- check that the wheels 'run true' on the axles
- check the wheels are free of any grease contamination
- clean any heavy contamination of grease.

11 Pre-use brake test

The TTC must test the brakes when a track trolley is:

- unloaded
- loaded.

There are three brake tests that must be carried out before a track trolley is used:

1. Check the wheels by turning the track trolley upside down and using one hand to ensure wheels resist movement.

2. If the braked wheel does not turn then proceed and assemble the track trolley and carry out a brake test on the unloaded track trolley.

3. If satisfied then load the track trolley and carry out a brake test.

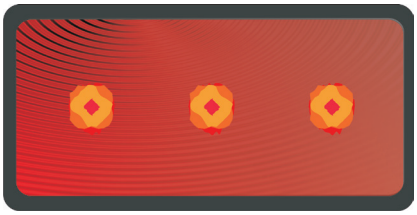
On certain track trolleys you must also check:

- the integrity of all bogey fastenings
- the security of axle retaining pins
- the maintenance brake test label is in date for each bogey
- and inspect the brake linkage tubes
- the condition of the brake adjuster on the underside of the track trolley
- there are no signs of brake tampering.

12 Warning lamps

The TTC must make sure that the track trolley is fitted with warning lights both front and rear. There are two types of warning lights in use:

- red aspect flashing lights
- amber 360 flashing lamp.



13 Loading and unloading a track trolley

When loading and unloading a track trolley the TTC must make sure:

- the correct manual handling techniques are used
- that heavy loads are placed and not dropped onto the track trolley
- the track trolley never exceeds its SWL
- that no part of the load over hangs the side of the track trolley, unless detailed in the method statement for the work, and when appropriate route availability is given
- there are sufficient staff available to handle the load.

The load should be arranged so that:

- the weight is centralised
- it cannot tip up or slip off
- it does not obscure the view of the TTC
- it is evenly distributed on the track trolley, gradient and curvature must be taken into consideration
- unstable or high loads should be secured if necessary
- materials should be clear of any structure
- unload it safely and in the correct sequence.

If necessary the load must be secured by the use of ratchet straps.

14 Operating a track trolley

A TTC is responsible for making sure a track trolley does not cause harm to other staff on the track. The TTC must:

- check for staff and other track trolleys before moving
- push the track trolley
- keep control of the track trolley at all times
- keep the track trolley separated from other track trolleys when moving
- make sure points are secured for movement over them.

Staff must not ride on a track trolley unless it is purpose-built with fitted seats. There are exceptions to this for tasks such as:

- cleaning tunnel telephone wires
- off loading cables
- transporting a scaffold tower.

If a track trolley is used to move scaffold towers, a method statement must be provided detailing the arrangements. The PWT/SPC will brief the TTC on the details of the method statement, this will include:

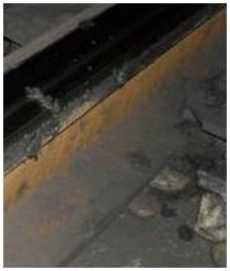
- track gradients and curves
- overhead structures or cables
- local hazards
- number of track trolleys required
- number of staff required and their competencies.

15 Moving over points

The TTC must make sure that the points have been secured before moving a track trolley over them. If the TTC is not competent to secure the points, this must be done by either the person providing protection or a competent member of the work group.

16 Grease contamination

When using track trolleys near wheel flange lubricators there is a possibility, grease built up by a wheel flange lubricator, can be transferred to the rail head by the track trolley. Grease on the rail head can cause train wheels to lock/slide and create under braking conditions.

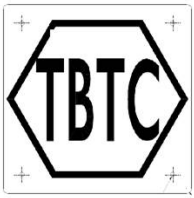


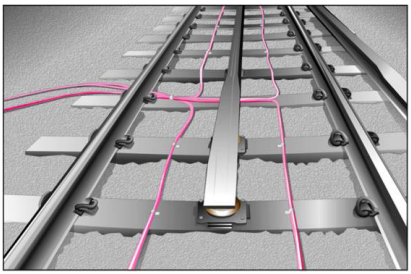
To prevent track trolleys from contaminating the rail head with grease, the TTC must inspect the:

- wheels of the track trolley before it is placed on the track, if it is heavily contaminated with grease then it must be cleaned before use
- rail heads for grease transfer once the work is complete, if any grease has transferred it must be removed using a clean dry cloth.

It is a mandatory requirement within AP COO Track that form F0905 'Rail Contamination Certificate' is adhered to and fully completed when working on the track.

17 Transmission Based Train Control track





Transmission Based Train Control (TBTC) is the new signalling system on the Jubilee and Northern lines.

Before placing a track trolley onto TBTC track, the person providing protection must tell the relevant control room that a track trolley will be in operation, including where it will be loaded and off loaded onto the track.

Once the work has finished, the person providing protection must contact the relevant control room and tell them that the track trolley has been removed.

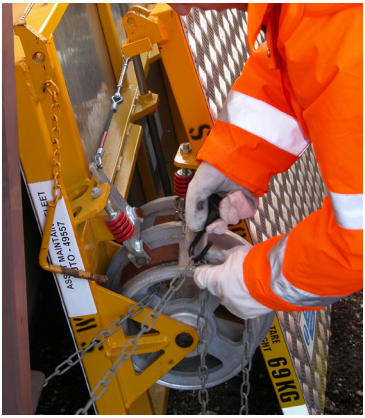
When a track trolley is placed on lines fitted TBTC, the signalling system detects the track trolley as a train and occupies that section of track; this ultimately affects the signalling system which will need to be reset.

18 Storing a track trolley

As the TTC you must make sure the track trolley:

- is kept within a locked compound, where possible
- is clear of the track
- does not block the cess or walkways
- is not stored in refuges or recesses in retaining walls
- is disassembled (if applicable) and each piece of the track trolley is secured
- is displaying a storage licence.

Do not lean track trolleys against walls where there is a risk they could fall and land on the wheels. Any concerns must be reported to the person proving protection.



19 References

- Rule Book 1 Communications
- Rule Book 18 Engineer's trains, vehicles' and trolleys
- Form F0905 'Rail Contamination Certificate'

Notes

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