HTT

Harsco Track Technologies

Harsco

User Guide

Type B Trolley (Standard and LUL)

HTT UK MANUFACTURES PERMAQUIP PRODUCTS

SAFE GUARD

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1 INTRODUCTION

The Permaquip™ Type B Trolley is designed to be used as a manual propelled, stand-alone load-bearing rolling platform for use on-track.

Each Type B Trolley is equipped with a fail-safe braking system and is supplied with detachable Brake and Push Handles.

The Type B Trolley has been designed to be split into 2 halves to aid handling and transporting to and from site.

2 SAFE AND CORRECT USE

Please keep this User Guide for future reference.

To ensure safe and correct use of the Type B Trolley the following should be noted:

Wear feet and hand protection when using the Type B Trolley. Additional Personal Protective Equipment (PPE) should be worn according to local regulations.

The Type B Trolley, or parts of, must be replaced if damage occurs. Do not use the Type B Trolley if any components are damaged.

Store the Type B Trolley in a secure position.

LUL Type B Trolleys and other Type B Trolleys fitted with insulated wheels must not be used in locations where live AC overhead power lines are present. Do not use the Type B Trolley near live DC third-rail or fourth-rail systems.

Ensure the Type B Trolley Sides are only used on a Permaquip™ Type B Trolley.

Both halves of each trolley have the same serial number. Ensure they are kept together as one unit.

Before using, undertake a Manual Handling Risk Assessment and follow the assessment guidelines at all times. Use the Brake and Push Handles provided. Do not exceed walking pace, noting underfoot and rail head conditions. Do not walk on sleepers or the rail head.

Stopping distances will greatly increase by icy or wet conditions; gradients; an increase in load; an increase in speed.

Do not allow any load protrusions to face downwards such that they could interfere with the braking mechanism.

Do not ride on or tow the Type B Trolley.

Do not use the Type B Trolley for any other purpose than as described in the introduction.

Do not hold off the Brake Handle using mechanical means.

3 TECHNICAL SPECIFICATION

3.1 Physical Data for the Type B Trolley

	Trolley Assembly (standard)	Trolley Assembly (LUL)	Trolley Sides
Width	1800 mm		1805 mm
Length	1940 mm		1810 mm
Height	335 mm (without handles)		157 mm (above trolley load area)
Total Mass	138 kg		24 kg
Centre of mass	Central		

3.2 Load Specification

- Maximum load capacity 2,000 kg UDL[1]
- Maximum load capacity when Trolley Sides are fitted 1,976 kg UDL[1]

[1] Note that all loads up to and including the maximum shown should be uniformly distributed. The load must be positioned equally about the Trolley centre.

3.3 Product Compliance

The standard Type B Trolley complies with GM/RT1310 and BS EN13977.

4 STORAGE AND TRANSPORTATION

4.1 Storage

The Type B Trolley and any associated spare parts should be stored in a dry and secure environment. Safety critical spare parts must be stored in a dry, secure and controlled environment.

The maximum number of Type B Trolleys that can be stacked during storage is 8.

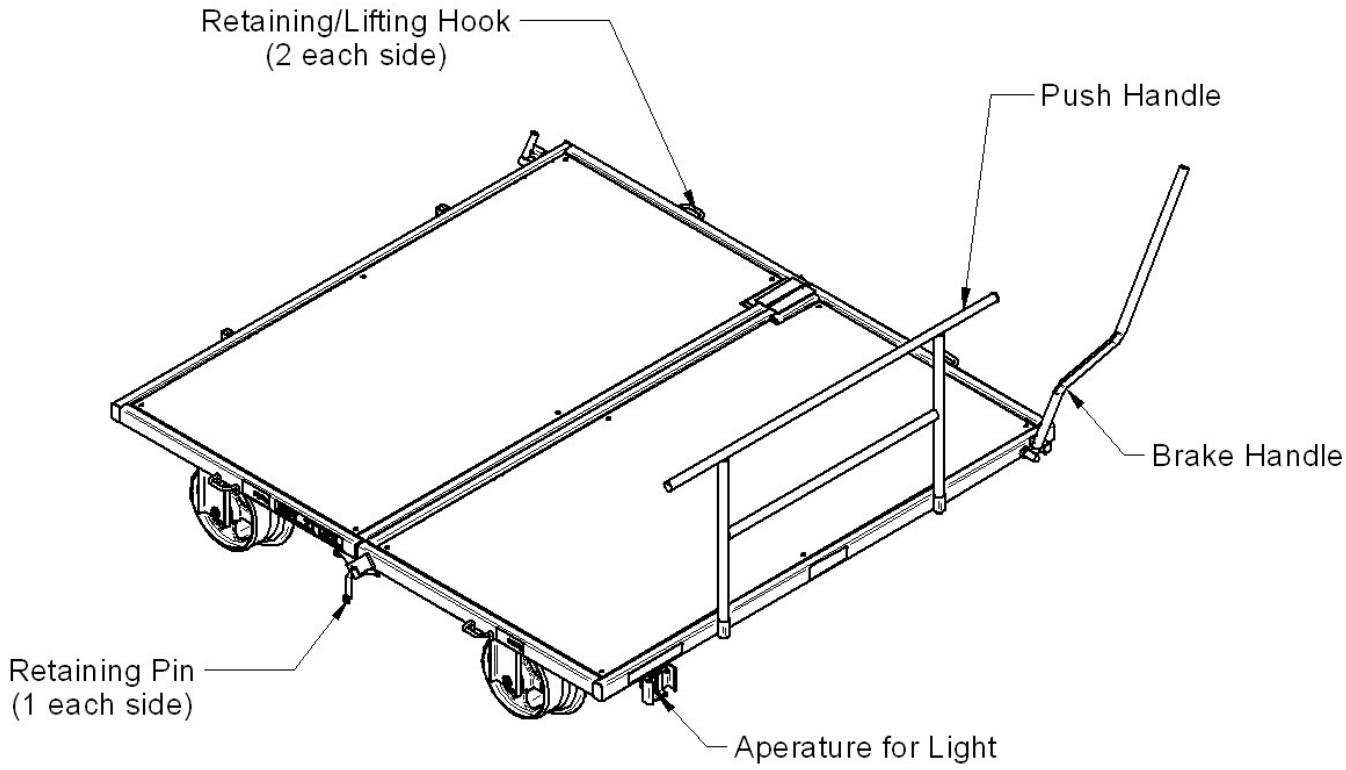
4.2 Transportation

During transit the Type B Trolley should be secured, and kept away from all electrified lines. Ensure that any method used to secure the Type B Trolley in/on a vehicle applies the load uniformly and does not exceed the SWL. Do not use excessive force when using a ratchet type loading strap. Two Retaining/Lifting Hooks are provided each side for use during transit. These can be used to retain the Type B Trolley and for lifting with suitable lifting equipment.
If the two halves are separated for transit, ensure that no damage occurs to the brake mechanism or frame.

The maximum number of Type B Trolleys that can be stacked during transit is 5, provided that this is within the vehicles operating capabilities. Note that the load must be secure and stable.

5 GENERAL LAYOUT

The following shows the main components of the Type B Trolley.



6 OPERATING INSTRUCTIONS

The following procedure outlines the correct method for operation.

Always push, never pull, the Type B Trolley.

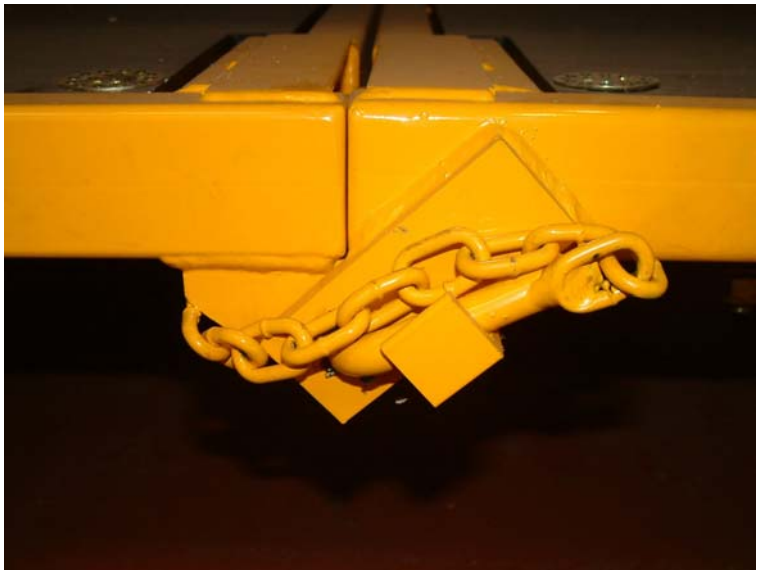
All work should only be performed by competent personnel.

Always follow local regulations.

Observe Manual Handling Regulations.

6.1 Mounting on the Track

1. It is recommended that the Type B Trolley is lifted by four persons.
2. Check that both Type B Trolley halves have the same serial number, are identified with the SWL and the 'Next Brake Test Due' has not expired.
3. Check that the brakes are in good working order. To do this, access the braked wheels and rotate with one hand. The wheels should resist movement. If in doubt do not use until it has been checked by a competent person.
4. Assemble the two halves on firm level ground or on the track by standing both halves onto their wheels, with the locating lugs facing each other. Bring both halves together whilst interlocking the brake locating lugs. Once together push both Retaining Pins fully into both halves and rotate so the Pin is locked in position, as shown below.



5. Ensure that all four wheels are in contact with the rail head.
6. Fit the Brake Handle and Push Handle onto the Type B Trolley at the opposite end to the intended direction of travel.
7. Check the brakes are working correctly – they are fail-safe so should be on when the Type B Trolley is stationary.

6.2 Loading the Type B Trolley

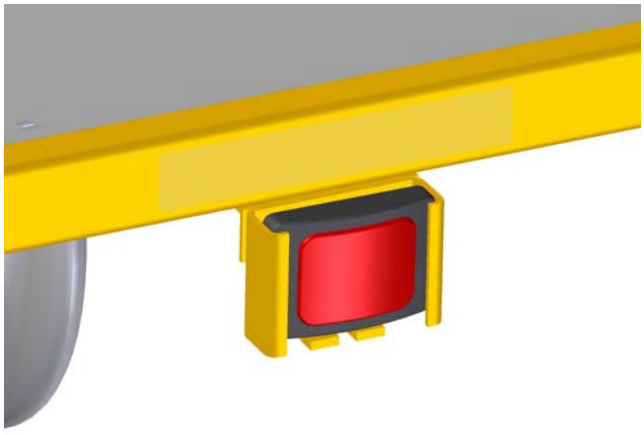
1. Ensure that the SWL is not exceeded. Note that the SWL is reduced when the Trolley Sides are fitted.
2. Ensure that the load is stable and is uniformly distributed over the Type B Trolley loading area.
3. Ensure that the load does not overhang the Type B Trolley sides and infringe on the track gauge.

6.3 Using the Type B Trolley

1. Move the Brake Handle sideways to release the brakes. Use the Push Handle on the trolleys to aid movement.
2. Releasing the Brake handle will then re-apply the brakes.

6.4 Fitting the Red Light

1. The Red Light is located in 2 positions on the Type B Trolley. There are no additional fixings required as they slot into the Light Brackets fitted within the apertures, as shown below.



2. The Red Lights have to be removed to switch them on and off.

7 MAINTENANCE

All work should only be performed by competent personnel.

Always follow local regulations.

Observe Manual Handling Regulations.

For components that require replacing please refer to the Type B Trolley Spare Parts List. Please contact Harsco Track Technologies Ltd for additional copies.

Note that:

- **The Maintenance and Testing of the Brakes, Wheels and Axles are defined as Railway Safety Critical under CoP0010, Railway Safety Critical Maintenance Elements of Small Plant and Equipment.**
- **The Maintenance and Testing of the Brakes are covered under CoP0018, Rail Mounted Manually Propelled Equipment. The brakes must be maintained and tested at a periodicity of no greater than 3 months.**

7.1 Wheels and Axles

1. With the brakes released using the Brake Handle, check the wheels rotate freely.
2. Resistance to rotation or rocking of the wheel on the axle indicates either a worn axle or a cracked bearing. The wheel bearings are sealed for life and do not require lubrication. There should be no more than 2.0mm end float of the wheels.
3. Check the wheel profile for wear or damage. Replace damaged or worn wheels.
4. Check the Axle Retaining Pin is securely in place.

7.2 Brakes

1. Remove the brakes and check the brake linings. Remove any dirt or oil from the working surfaces. The recommended minimum thickness of the brake pad lining is 2.5mm.
2. Check the operation of the brake to ensure that the brake rod, mechanism and adjusters are in good condition.
3. Lubricate all brake pivot pins, brake rod and adjusters with a general purpose lubricant.
4. Check that both brake shoes apply and release simultaneously. The adjusting screw enables this to be achieved. Once both of the brakes are in contact with their wheels, the chain should have no tension.
5. Test the brake efficiency using the Brake Test Tool. Ensure that the wheels and brake pads are dry. The brakes should be tested at all four quadrants of each braked wheel and in both directions. The average torque at which the wheel resists movement should be equal or greater than 80 Nm.
6. If the brake torque is not achieved, check and adjust the brakes as described previously and repeat the tests.
7. Fix a 'Next Brake Test Due' label onto the Trolley. The date specified must be within 3 months. Complete the Maintenance Brake Test Record Sheet.

7.3 Type B Trolley Assembly

1. Check that the frame structure is free from deformation and that all welds are in good condition.
2. Ensure that the axle mounts are straight and are in-line.
3. Check that all four wheels make contact with the rail head when in an unladen condition.
4. Check that the brake rod and chain/cable assemblies are in good condition.
5. For standard Type B Trolleys fitted with wooden decks, check the condition of the wood. Decks that are loose, de-laminated, cracked or have holes need to be replaced.
6. For LUL Type B Trolleys fitted with aluminium decks, check the condition of the aluminium. Decks that are loose, damaged or deformed need to be replaced.
7. Check that the Retaining/Lifting Hooks are in good condition, that they are fit for purpose and that the lifting SWL label is fitted next to each of the Hooks

7.4 Red Light

1. To replace the batteries within the Red Light, remove the 4 off cross-headed screws from the rear of the light assembly and lift off the rear cover.
2. Replace the 2 off batteries to the correct specification, noting the polarity.
3. With the gasket in position replace the rear cover and secure using the 4 off screws.
4. Discard the old batteries according to local and national regulations.
5. Check the light operation using the rotary switch on the rear cover.
6. Replace into the Type B Trolley.

7.5 Trolley Sides

1. Place both of the long Trolley Sides along the length of the assembled Type B Trolley so that the Side Supports are resting in the Trolley Retaining Hooks. Move the Antiluce Retaining Pins into the horizontal position.
2. Place one of the short Trolley Sides at one end of the Trolley and locate onto the long trolley Side.
3. Secure in position by moving the Antiluce Retaining Pins to the vertical position.
4. Repeat for the other end.

8 TEST SPECIFICATION

The Type B Trolley should be tested to the following specification after the Maintenance procedures have been completed.

Note the testing of the Brakes is defined under the Maintenance section of this User Guide. This is important as the brakes must be checked and maintained before testing.

1. Note the Serial Number of the Type B Trolley (note that both halves have the same serial number).
2. Mount the Type B Trolley onto a test track and ensure the brakes are on.
3. Measure the height between the track and the centre position of the Type B Trolley frame on all four sides.
4. Lower a 2,500kg calibrated test mass onto the trolley (1.25 x SWL).
5. Leave for 10 minutes.
6. Remove the test mass.
7. Measure the heights again. There should be no more than 1.5mm difference in the two measurements.
8. Check the frame has no deformation or weld damage.

The standard Type B Trolley should also be tested to the following specification in addition to that above.

1. The conductivity between the wheels and frame of the Type B Trolley needs to be checked using a calibrated resistance meter.
2. Lower a 2,000 kg calibrated test mass onto the trolley (1.0 x SWL).
3. Ensure the brakes are on.
4. Zero the meter so the display reads 0.00Ω.
5. Connect one lead to an unpainted section of the Type B Trolley frame. Connect the other lead to one of the wheels. The measured resistance should be less than 0.15Ω.
6. Repeat for the other trolley half.

The LUL Type B Trolley and other Type B Trolleys fitted with insulated wheels should also be tested to the following specification in addition to that above.

1. The resistance of the insulation of the Type B Trolley needs to be checked using a calibrated resistance meter.
2. Ensure the brakes are on.
3. Check that the meter display reads 1Ω or less when the two leads are connected together.
4. The resistance between the trolley frame and wheels needs to be checked. Connect one lead to an unpainted section of the Type B Trolley frame. Connect the other lead to one of the wheels of the same trolley half. The measured resistance should be less than 5 MΩ.
5. Repeat for the remaining three wheels and record the four measurements taken.
6. The resistance between the wheels needs to be checked. Connect one lead to one of the wheels. Connect the other lead to the opposite wheel that sits on the opposite rail head of the same trolley half. The measured resistance should be at least 5 MΩ.
7. Repeat for the remaining pair of wheels and record the two measurements taken.

Harsco Track Technologies Ltd offer a testing and maintenance service – please contact us for further details.

9 TRAINING

Persons that will operate, maintain and test the Type B Trolley should undertake a programme of training. This programme of training should include the following aspects:

- Product familiarisation.
- Component location and function.
- Product preparation.
- Safe and Correct Use.
- Maintenance.
- Testing.
- Practical experience.

Harsco Track Technologies Ltd offer a training service – please contact us for further details.

10 ORDERING

DESCRIPTION		PADS Cat. No.	PART NO
Type B Trolley (Standard)		68/19193	24681
Type B Trolley (LUL)		LUL Cert. Number PE007/123B	27791
Type B Trolley (Standard with insulated wheels)			27789
Brake Test Tool			34712
Trolley Sides			33043
Gas Cylinder Support Frame	Please refer to Lawton Tools (Rail Products) for details. Tel: 01270 753636	094/006005 (094/011011 for fitting kit)	-
Red Light			040820218

For spare parts please see the Type B Trolley Spare Parts List.

Please contact Harsco Track Technologies Ltd for further information and support.

Our contact details are shown on the front of this User Guide.

In order to avoid delay and to have your orders fulfilled promptly,

Please telephone, e-mail, fax or write giving the following information:

1. **Company name.**
2. **Contact details.**
3. **Invoicing and delivery details.**
4. **Purchase order number.**
5. **Method of delivery.**
6. **Part number, description and quantity for each item.**

Your Notes

Your Notes

Your Notes

Stressors

Link Trolley

Rail Creep Adjuster

Type B Trolley

Ironman

The **BIG** Name in Small Tools

Long regarded as the industries standard for quality, durability and reliability, PERMAQUIP small track tools are strengthening their position as a market leader with continual product innovation and competitive pricing.

Stressors
The most tried and tested Stressors available. Stressors and Stressor / Powerpack combinations now at lower prices.

Link Trolley
Compact, expandable lightweight trolley system with fail safe braking and low deck height. Up to three link trolleys can be connected together to give flexibility for different load sizes. No need for oversized trolleys for small jobs. You only use what you need. A range of add-on accessories include mesh sides for bulky loads and scaffold attachments for tower scaffolding.

Rail Creep Adjuster
For adjusting gaps in jointed track without damaging rail ends. Hydraulically operated, the unit can push or pull lengths of rail and is obstructionless.

Type A & B Trolleys
Whether in the general movement of materials or more specific handling of rail and track, Permaquip products are designed for ease of track access to give safe and efficient use of track possession times.

Ironman
For use in pairs or more for transporting, lifting and transposing rail, CWR and S&C components. Dismantles for portability. Assembled by two persons, S.W.L 1.5 tonnes per single unit, fail safe brakes. Includes rail bracket for carrying extra rail.

For further production information, call: **01773 539480**
or visit our website: **www.harscotrack.co.uk**

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