

Thomson Engineering Design Ltd
Panel Lifting Hook Beam



Operator's Instructions

Original Document in English Language

**Issue 1
August 2013**



Introduction

The Thomson Engineering Design Panel Lifting Hook Beam has been designed for the tandem lifting of rail track panels.

The device requires no hydraulic, electrical or pneumatic feed and is capable of lifting all concrete and timber sleeper track panels.

This document is designed to give operators and crane controllers the information necessary to use the Panel Lifting Hook Beam in a safe and efficient manner. It includes routine daily maintenance operations which would normally be carried out by operators but attention is drawn to the maintenance plan for this attachment which gives more details of these operations as well as including check sheets.

The Panel Lifting Hook Beam Maintenance Plan is a separate document number PLHB-Maint-01.

Warning

The Thomson Engineering Design Panel Lifting Hook Beam must not be used for any purpose or in any way not described within this document. Using the Thomson Engineering Design Panel Lifting Hook Beam for any purpose not described in this document may be dangerous and may invalidate the manufacturer's warranty.

Warning

The maximum load which may be applied to the Panel Lifting Hook Beam is marked on the manufacturer's plate.

It is extremely dangerous to overload any lifting device and doing so may lead to severe injury.

The tare weight of the Panel Lifting Hook Beam must be taken into account when planning lifting operations.



The Thomson Engineering Design Panel Lifting Hook Beam is proudly designed and made in the United Kingdom.

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Specifications

Overall Dimensions	Height	1067 mm
	Width	300 mm
	Length	2085 mm
Tare Weight		235 kg
Maximum Working Load		10,000 kg
Proof Load (Factory Test)		20,000 kg

Issue Record

Issue 1

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Description of the Panel Lifting Hook Beam

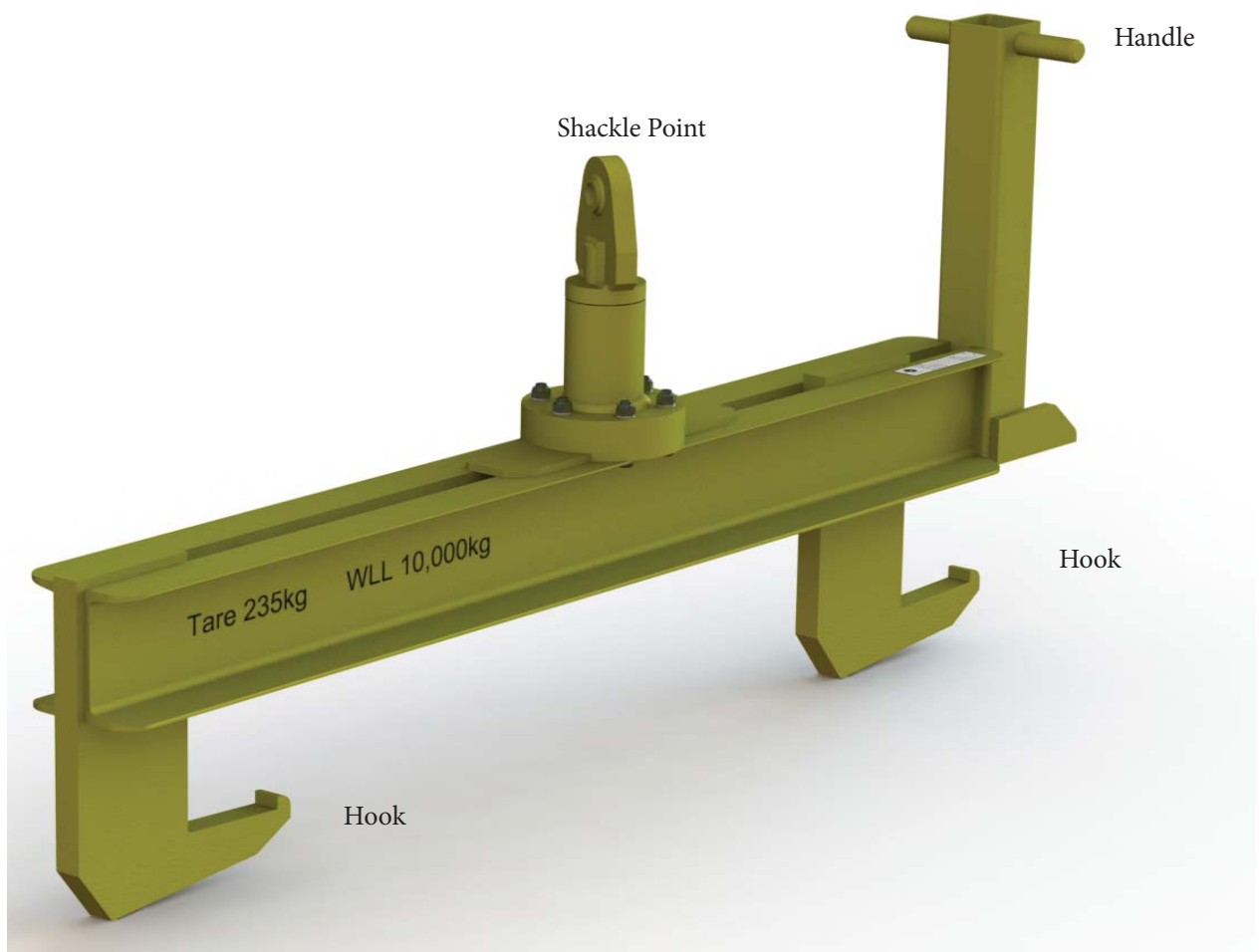
The main parts of the Thomson Engineering Design Panel Lifting Hook Beam are illustrated below.

These beams are designed to be used in pairs for the tandem lifting of track panels, they may be used individually on two separate cranes or fitted one to each jib of a twin-jib crane such as a track layer.

Each Panel Lifting Hook Beam is suspended from its host machine by the shackle point and is carefully balanced at the factory to ensure that it hangs level.

The shackle point is designed to swivel freely to allow the easy alignment of the beam.

Two handles are provided to allow machine controllers to help guide the Panel Lifting Hook Beam into position beneath the rails. When in place the hooks on the bottom of the beam (which are angled to align with standard gauge track geometry) pass below the rail foot and allow the track panel to be lifted.



Daily Checks and Maintenance

*D*aily checks of the Panel Lifting Hook Beam are designed to ensure that it is fit for use. Daily maintenance is limited to visual inspection of the structure and checking that the shackle point swivels freely on its shaft.



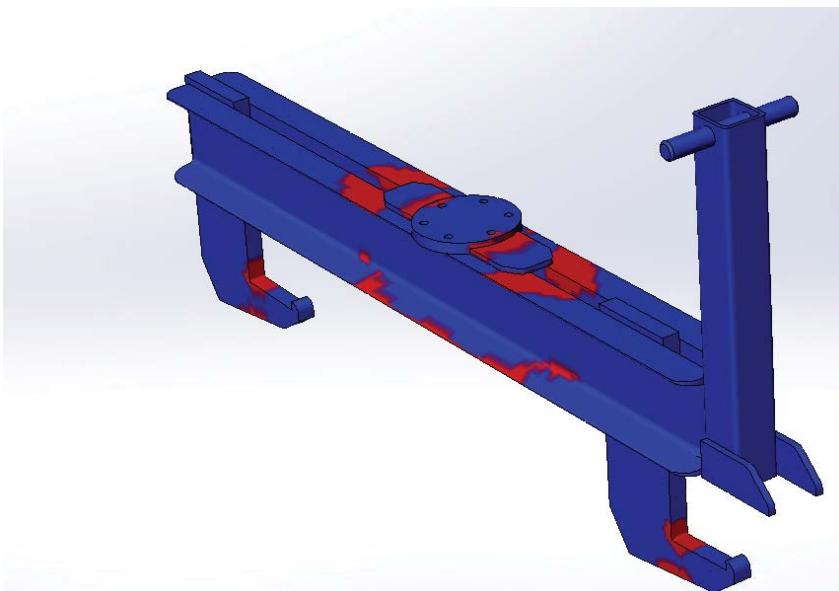
Check that the upper part of the attachment head (the shackle point) can be turned easily by hand

The following is a list of the relevant daily checks. These should be carried out at the start of the shift before putting the Panel Lifting Hook Beam into service. If the Panel Lifting Hook Beam is used for an extended period then these checks and maintenance operations should be repeated every eight to twelve hours of use.

Each of these operations is described in detail in the Panel Lifting Hook Beam Maintenance Plan.

- Swivel head shackle point spins freely
- Shackle point is free of cracks and distortion
- All bolts and nuts are tight
- Beam and hooks free of cracks, wear and distortion
- Handles are free of burrs and distortion
- Loler certificate is in date
- Manufacturer's plate is fitted and legible

Note: the illustrations indicate the most likely areas where stress cracks might occur in the event of repeated overloading of the beam however damage in transit and abuse of the Panel Lifting Hook Beam may lead to cracking at any point and the entire structure should be inspected carefully each time it is used.



The areas in red indicate the parts of the beam most vulnerable to stress fracture in the event of overloading or abuse.

Attaching and Connecting the Panel Lifting Hook Beam

Suspend the Panel Lifting Hook Beam from the Host Machine

Connect the shackle point of the Panel Lifting Hook Beam to the lifting point of the host machine using a short length of chain and a swivel hook or direct connection to the lifting rope.

It is important that the connection is secure.

Handling the Panel Lifting Hook Beam

Once securely attached to the host machine the Panel Lifting Hook Beam can be guided into position using the handles provided.

Never hold any other part of the Panel Lifting Hook Beam as to do so may place you below the beam and in danger.

BEFORE USING THE PANEL LIFTING HOOK BEAM ENSURE THAT A LIFTING PLAN IS PROPERLY PREPARED AND BRIEFED TO ALL PERSONNEL. ENSURE THAT THE LIFTING PLAN TAKES INTO ACCOUNT THE TARE WEIGHT OF THE BEAM AND THE TANDEM LIFT DUTY CHART OF THE HOST MACHINE.

A Panel Lifting Hook Beam attached to a Track Layer Crane



Using the Panel Lifting Hook Beam

Fitting the Panel Lifting Hook Beam to a Track Panel

To fit the Panel Lifting Hook Beam to a track panel follow the pictorial instructions on this page.

Lower the beam to just above the rails and align the length of the beam with the centre of a crib.

Now lower the beam onto the rails so that the hooks are in the ballast and below the rails.

Finally, pull on the handles to draw the hooks under the rails. Ensure that the hook plates come firmly against the edge of the rail foot.



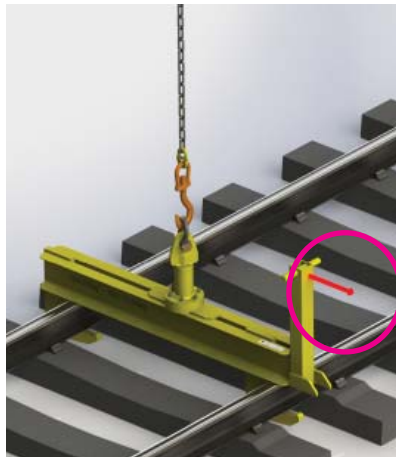
1.

Lower the Panel Lifting Hook Beam to just above the rail and align between two sleepers



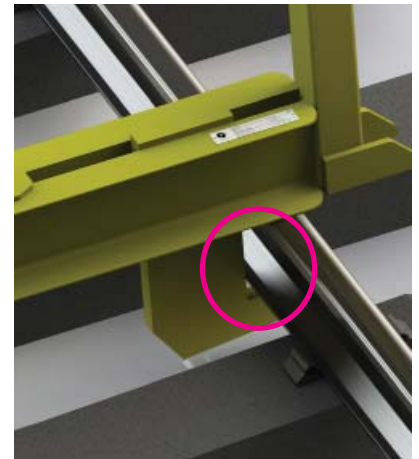
2.

Lower the Panel Lifting Hook Beam until it is resting on the rail heads



3.

Pull on the beam handles to slide the hooks under the rails



4.

Check that the hook is firmly against the foot of the rail before attempting a lift.

Tandem Lifting Track Panels using Panel Lifting Hook Beams

Once both beams are fitted to the track panel the panel may be lifted and handled safely.

Note that for the best results the beams should be placed approximately 1/4 of the length of the panel from each end.



Disconnecting and Transporting the Panel Lifting Hook Beam

Once the lifting operation is complete the Panel Lifting Hook Beam should be placed in its transport cradle or on a suitable surface and disconnected from the host machine.

Once the Panel Lifting Hook Beam is securely fitted to the transport cradle or safely positioned on a suitable surface stop the engine of the host machine.

Unhook the shackle point from the host machine hook. Check each beam for damage before leaving it. If damage is noted then ensure that a 'DO NOT USE' warning is firmly attached to the beam.

Carefully secure the Panel Lifting Hook Beams using webbing straps or similar devices before transporting by road or rail.

Ensure that nothing is likely to damage the beams in transit.

Warnings

WARNING

PANEL LIFTING IS A LIFTING OPERATION.

ALL LIFTING OPERATIONS MUST BE CAREFULLY PLANNED TAKING INTO ACCOUNT THE DUTY CHART OF THE HOST MACHINE TO ENSURE THAT NEITHER THE Panel Lifting Hook Beam NOR THE HOST MACHINE CAN BECOME OVERLOADED.

OVERLOADING OF THE Panel Lifting Hook Beam OR THE HOST MACHINE MAY LEAD TO SERIOUS INJURY OR DEATH.

WARNING

NEVER LIFT OR MOVE TRACK PANELS UNTIL YOU ARE SURE THAT THE WORK AREA IS CLEAR OF ALL PERSONNEL.

WORK SLOWLY AND SAFELY AT ALL TIMES.

NEVER STAND BENEATH ANY SUSPENDED LOAD

WARNING

ONLY TRAINED AND COMPETENT OPERATORS SHOULD USE THE Panel Lifting Hook Beam.

DO NOT ATTEMPT TO USE THE Panel Lifting Hook Beam UNTIL YOU HAVE READ AND UNDERSTOOD THIS OPERATORS' MANUAL.

ALWAYS COMPLETE THE DAILY CHECKS AND MAINTENANCE BEFORE USING THE Panel Lifting Hook Beam.

WARNING

THE Panel Lifting Hook Beam IS DESIGNED FOR THE TANDEM LIFTING OF TRACK PANEL SECTIONS. IT MUST NOT BE USED FOR ANY OTHER PURPOSE.

THE USE OF THE Panel Lifting Hook Beam FOR ANY OTHER PURPOSE MAY LEAD TO SEVERE INJURY TO PERSONS AND DAMAGE TO THE DEVICE.

If any part of this Operators' Instruction document is unclear or for any technical advice please contact the manufacturer.

Manufacturer's contact details can be found on Page 10.

Contacting the Manufacturer

The Thomson Engineering Design Panel Lifting Hook Beam is manufactured in the United Kingdom by:

Thomson Engineering Design Ltd
Valley Road
Cinderford
Gloucestershire
England
GL14 2NZ

Tel: +44 (0) 1594 82 66 11

Fax: +44 (0) 1594 82 55 60

Email: sales@thomsondesignuk.com

All spare parts, technical, training and sales enquiries should be directed to the manufacturer.

Please note that outside normal business hours all calls are diverted to an on-call technical advisor.





THOMSON ENGINEERING DESIGN LTD

RAIL PRODUCTS

Certificate of Conformity

WE:

THOMSON ENGINEERING DESIGN LTD

Valley Road

Cinderford

Gloucestershire

GL14 2NZ

Declare under our sole responsibility that the product known as:

PANEL LIFTING HOOK BEAM

To which this declaration relates is in conformity with the following standards:

2006/42/EC

Authorised signatory:

David Thomson BSc CEng MIMechE

August 2013

