

Thomson Engineering Design Ltd
Drag Clamp



Operator's Instructions

Original Document in English Language

**Issue 2
March 2015**



Introduction

The Thomson Engineering Design Drag Clamp has been designed for dragging long sections of flat bottomed running rails including both BS113A and UIC60 (60E1) rail sections.

A unique feature of the design is the use of a cam surface to grip the rail between the foot and the underside of the head. In this way the Drag Clamp may be used for handling both worn and new rail sections.

This document is designed to give operators and crane controllers the information necessary to use the Drag Clamp in a safe and efficient manner. It includes routine daily maintenance operations which would normally be carried out by operators.

Warning

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

Warning

The maximum tow force which may be applied to the Drag Clamp is 100kN (10 tonnes force).

It is extremely dangerous to over load any device of this kind.

Issue Record

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The Thomson Engineering Design Drag Clamp is proudly designed and made in the United Kingdom.

Contents

<i>Introduction</i>	2
<i>Specifications</i>	3
<i>Description of the Drag Clamp</i>	4
<i>Daily Checks and Maintenance</i>	5
<i>Attaching and Connecting the Drag Clamp</i>	6
<i>Using the Drag Clamp</i>	7
<i>Warnings</i>	8
<i>Contacting the Manufacturer</i>	10
<i>Certificate of Conformity</i>	11

Specifications

Overall Dimensions	Height	306 mm
	Width	300 mm
	Length	426 mm
Overall Weight		45 kg
Maximum Pull Force		10,000 kg
Proof Load (Factory Test)		15,000 kg

Description of the Drag Clamp

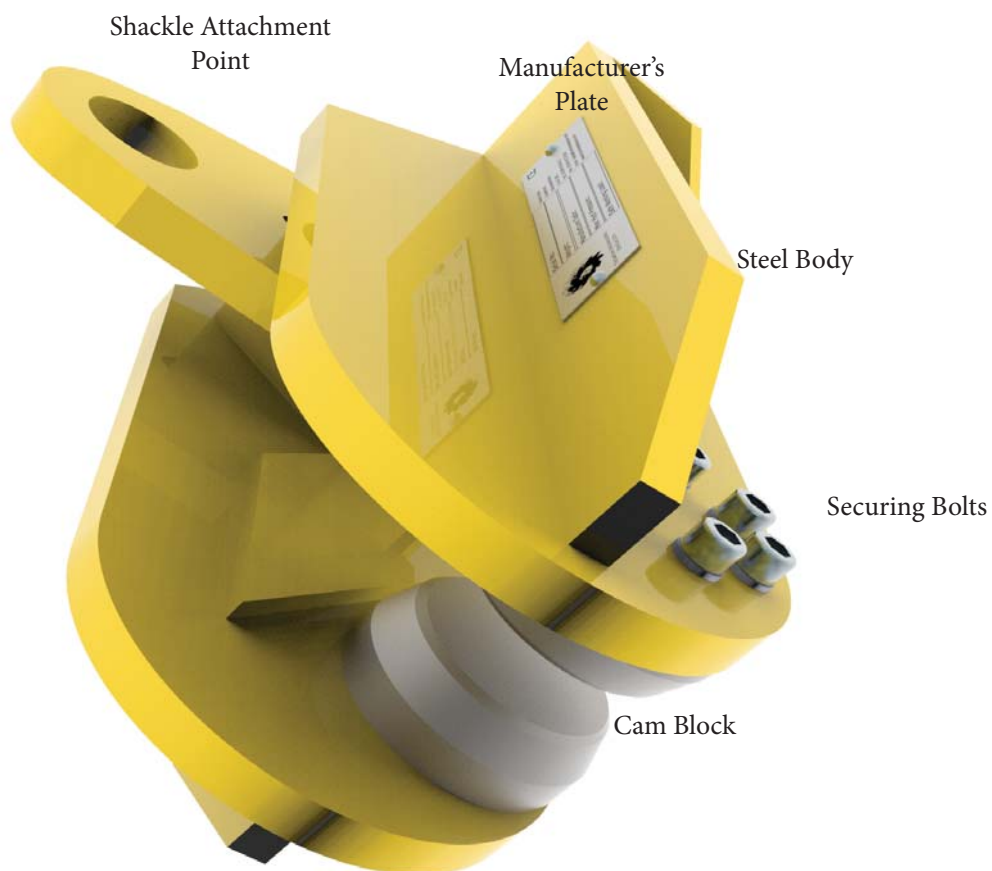
The main parts of the Thomson Engineering Design Drag Clamp are illustrated below.

The Drag Clamp is attached to the host machine by a drag chain connected to the shackle point. The Drag Clamp is normally used by Road Rail Excavators and may be attached to either the towing point or to the boom of the host machine.

In use the cam lugs are placed either side of the web of the rail as the Drag Clamp is slid onto the end of the rail section.

Simply pulling on the shackle attachment point rolls the clamp towards an upright position and in doing so the cam blocks bear on the underside of the rail foot to lock the Drag Clamp firmly in place.

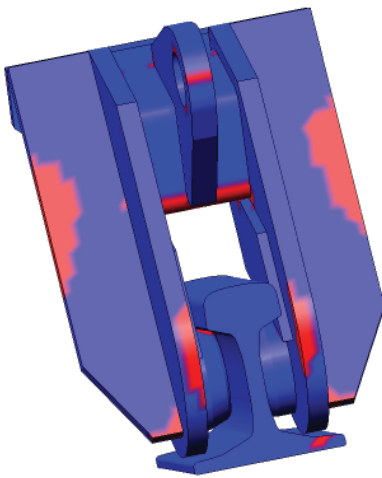
The Drag Clamp can then be used to drag rail sections up to 800ft (244m).



Daily Checks and Maintenance

*D*aily checks of the Drag Clamp are designed to ensure that it is fit for use. Daily maintenance is limited to checking that the securing bolts are tight and that no cracks are present within the fabricated body.

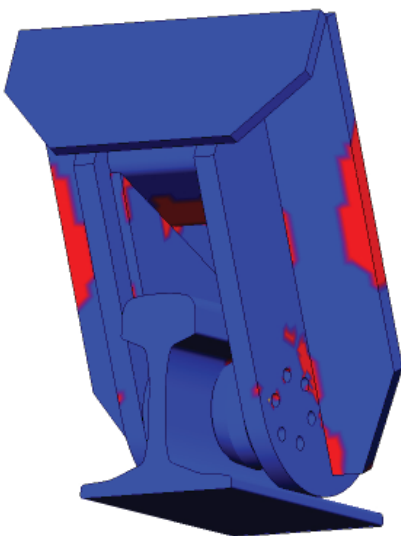
The following is a list of the relevant daily checks. These should be carried out at the start of the shift before putting the Drag Clamp into service. If the Drag Clamp is used for an extended period then these checks and maintenance operations should be repeated every six to eight hours of use.



- All securing bolts are tight
- Shackle attachment point is free from cracks and burrs
- Distortion of shackle hole does not exceed 5mm
- Body free from cracks
- Cam blocks not worn by more than 2mm

The cam lock must be clean and free from grease which might cause it to slip on the rail.

Pay particular attention to the areas shown in red in the images on this page when checking the body of the Drag Clamp for cracks and distortion.



Attaching and Connecting the Drag Clamp

Attach the Drag Clamp to the Host Machine

Connect the chain of the Drag Clamp to the lifting point of the host machine swivel hook or swivel link connector.

It is important that the connection incorporates a free swivelling connection so that the Drag Clamp can rotate freely.

Handling the Drag Clamp

The Drag Clamp should be lifted into place and slid onto the end of the rail by suspending it from the boom of the RRV as shown below.

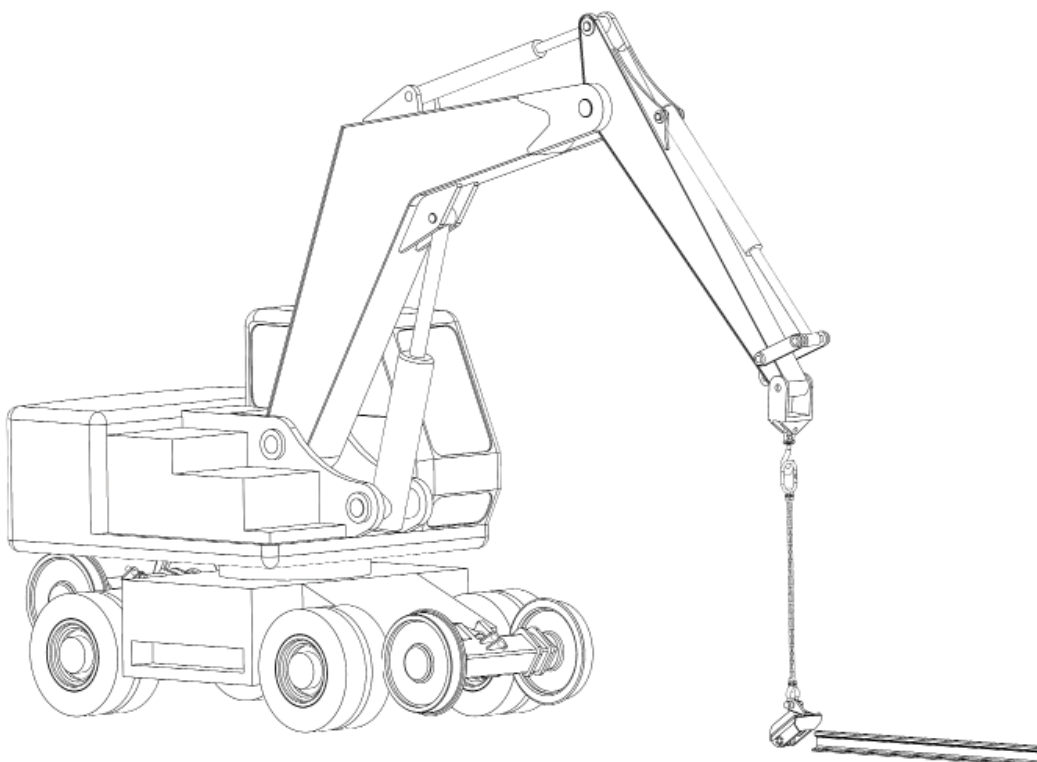
If at any time it becomes necessary to manually guide the Drag Clamp then this must be done by holding the chain with GLOVED HANDS.

Never hold any other part of the Drag Clamp as a collision with the rail could lead to serious injury.

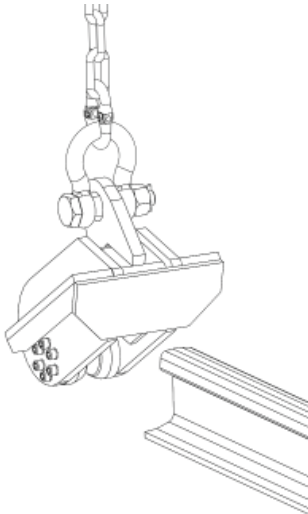
Releasing the Rail

Before releasing the rail ensure that the rail is properly supported so that it will not roll over or whip.

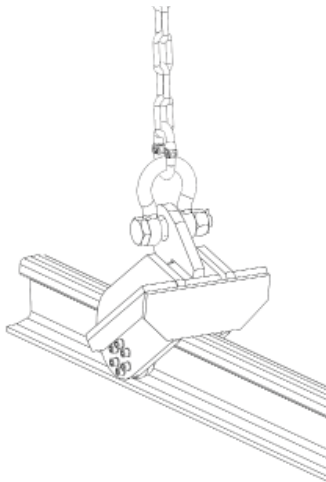
Once the rail is in a safe position the tension in the Drag Clamp chain is released and the Drag Clamp slid off the end of the rail.



Using the Drag Clamp



1.
Offer the Drag Clamp up to the end of the rail section



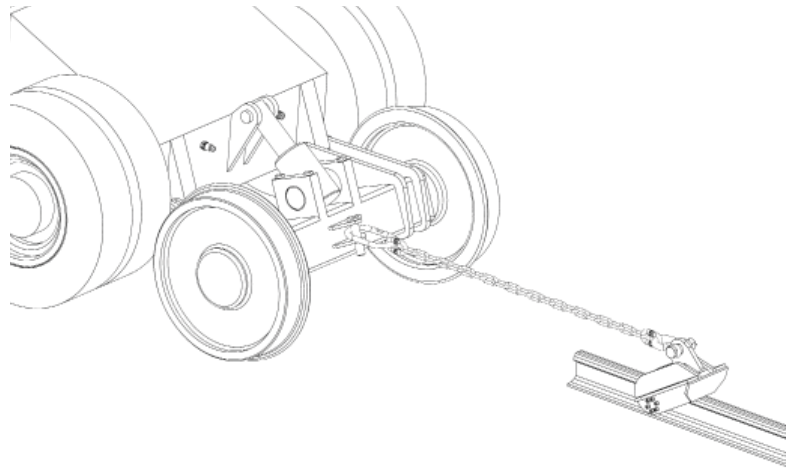
2.
Slide the Drag Clamp to approximately 500mm in from the rail end

Fitting the Drag Clamp to the Rail

To fit the Drag Clamp to the rail follow the pictorial instructions on this page.

With the weight of the Drag Clamp suspended from the host machine, slide the Drag Clamp onto the end of the rail so that one cam block sits either side of the rail web.

Transfer the chain to the RRV tow point or lower the boom so that the chain is more-or-less horizontal. Pulling on the chain will automatically tighten the Drag Clamp onto the rail.

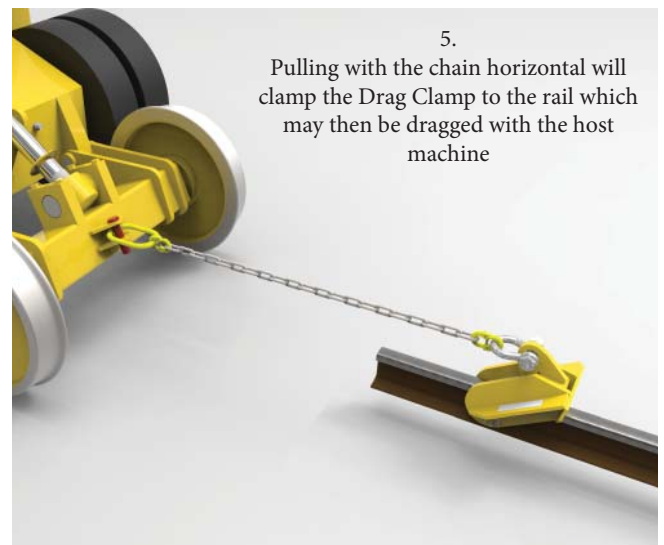


3.
Attach the chain to the towing point on the RRV as shown or lower the boom so that the chain is horizontal.

Dragging Rail using the Drag Clamp

Drag rail in accordance with the rules and codes of practice laid down by the local and national rail authorities.

Take care to ensure that the host machine is of sufficient weight and power for the operation and that the tow chain is of at least ten tonnes rating and in good condition.



5.
Pulling with the chain horizontal will clamp the Drag Clamp to the rail which may then be dragged with the host machine

Warnings

Dragging rail is a dangerous operation for the operator, the machine controller and any personnel in the vicinity of the rail.

Remember that with long sections of rail it is often impossible to see the whole length. A safe system of work must be set up to ensure that no movement of the rail occurs until all personnel are clear of the area.

It is unwise to drag rail in areas where it might roll down an embankment. If this operation has to be carried out consider using a thimble to thread the rail into the four-foot first. A drag chain with a 10 tonne shear link should be used in these circumstances.

Apply the pull force steadily. Do not 'snatch' the chain as this may damage the rail or the Drag Clamp.

Do not use the Drag Clamp if you observe any defects. If defects are found the Drag Clamp and its chain should be quarantined until a qualified inspector has checked it.



Warnings

WARNING

ALWAYS STOP THE ENGINE OF THE HOST MACHINE AND APPLY THE PARKING BRAKE BEFORE ATTACHING OR DETACHING THE DRAG CLAMP.

MAXIMUM TOW FORCE OF 100KN (10,000 KGF) MUST NOT BE EXCEEDED.

WARNING

NEVER THREAD OR MOVE RAIL UNTIL YOU ARE SURE THAT THE WORK AREA IS CLEAR OF ALL PERSONNEL.

IF IT IS NECESSARY TO MANUALLY GUIDE THE Drag Clamp ONTO THE RAIL THEN THIS MUST ONLY BE DONE USING THE CHAIN WITH GLOVED HANDS.

MANIPULATING THE DEVICE BY GRIPPING ANY OTHER PART MAY LEAD TO SERIOUS INJURY.

WARNING

CONSIDER THREADING THE RAIL INTO THE FOUR FOOT BEFORE DRAGGING IT TO PREVENT THE RISK OF RAIL FALLING DOWN EMBANKMENTS

WARNING

DRAGGING RAIL INVOLVES HIGH FORCES.

ALL DRAGGING OPERATIONS MUST BE CAREFULLY PLANNED TAKING INTO ACCOUNT THE CAPACITY OF THE HOST MACHINE TO ENSURE THAT NEITHER THE Drag Clamp NOR THE HOST MACHINE CAN BECOME OVERLOADED.

OVERLOADING OF THE Drag Clamp OR THE HOST MACHINE MAY LEAD TO SERIOUS INJURY OR DEATH.

WARNING

THE Drag Clamp IS DESIGNED FOR THE DRAGGING OF LONG FLAT BOTTOM RAIL SECTIONS. IT MUST NOT BE USED FOR ANY OTHER PURPOSE.

THE USE OF THE Drag Clamp FOR ANY OTHER PURPOSE MAY LEAD TO SEVERE INJURY TO PERSONS AND DAMAGE TO THE DEVICE.

WARNING

ONLY TRAINED AND COMPETENT OPERATORS SHOULD USE THE Drag Clamp.

DO NOT ATTEMPT TO USE THE Drag Clamp UNTIL YOU HAVE READ AND UNDERSTOOD THIS OPERATORS' MANUAL.

ALWAYS COMPLETE THE DAILY CHECKS AND MAINTENANCE BEFORE USING THE Drag Clamp.

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 Drag Clamp 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

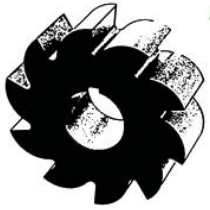
Fax: +44 (0) 1594 82 55 60

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.





Certificate of Conformity

WE:

THOMSON ENGINEERING DESIGN LTD

Valley Road
Cinderford
Gloucestershire
GL14 2NZ

Declare under our sole responsibility that the product known as:

DC2 DRAG CLAMP

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

2006/42/EC

Authorised signatory:

David Thomson BSc
January 2013

