

Truck Crane Quick Change Attachment System



A system to facilitate easier exchange of crane attachments on truck mounted cranes



Introduction

With the increasing emphasis on health and safety, particularly where working at height is concerned, truck mounted cranes are often fitted with special purpose grabs.

With specialised haulage vehicles dedicated to specific loads this is not normally an issue but in general haulage fleets where vehicles are required to handle a variety of different loads changing attachments can be a very time consuming process.

With the Thomson Quick Change System, attachments can be swapped in seconds: minimising down time and allowing a fleet of vehicles to share attachments and maximise utilisation.

The system can be retro-fitted to existing attachments or supplied as standard with our wide range of tools and attachments for truck mounted cranes. This range includes grabs and devices for handling all types of materials including pipes, bags, pallets, loose materials and containers.

We specialise in handling equipment for the rail industry and have a range of more than 30 attachments for different rail and component handling requirements.

This short form brochure is intended to present the Quick Change System. The attachments illustrated and described are intended to show examples of how the system is integrated into our attachments as standard fit. This brochure DOES NOT illustrate the full range of attachments which may be used with this system which currently runs to over 50 separate products.

Rotator Adapter

The heart of the system is the Rotator Adapter.

This is permanently fitted to the crane attachment point and connected to the crane auxiliary functions.

On the base of the rotator is a precision manufactured high tensile steel adapter for connecting to attachments and a double-acting hydraulic outlet for powering jaws and other hydraulic functions on the attachments.

This unit is available with 6,000kg , 10,000kg or 12,000kg Working Load Limit (higher and lower ratings available to special order) and is supplied with maintenance instructions and a lifting test certificate (LOLER).

The adapter link on the top of the rotator fully articulates the attachment to ensure that no bending or twisting loads are applied to the crane jib.

As standard the hydraulic outlets are fitted with flat-face quick release couplings but for heavy duty applications these may be exchanged for screw-together couplings.



A typical Attachment

As an example of the system we show here the Thomson Engineering TRLB20 Telescopic Rail Lifting Beam which was developed in association with Network Rail and, at the time of writing, is the only hydraulic rail lifting beam recommended by Network Rail for handling 18.1m (60ft) lengths of new rail.

This beam has a unique cam operated mechanism which is inherently fail safe, is not prone to jamming with rust and also incorporates a highly visible 'red flag indicator' to allow the operator to see at a glance when the jaws are securely fitted to the rail.

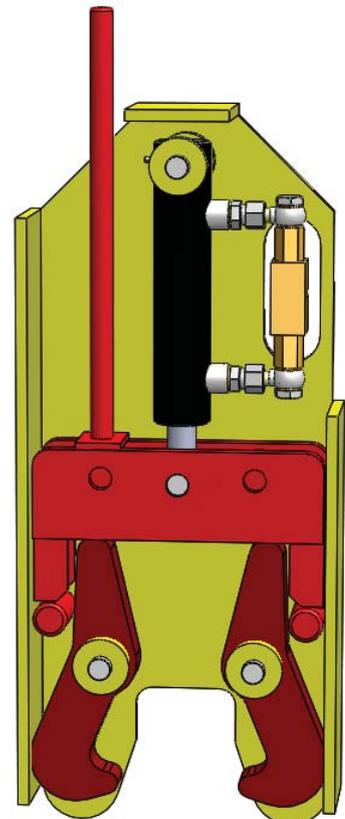
The beam illustrated is designed to work with the Thomson Truck Crane quick attachment system - having a matching attachment point built into the centre of the beam.

To fit this attachment the crane adapter square drive section is aligned and lowered into the square drive fitting on the beam then, when fully inserted, the cross pin is installed and two hoses coupled to complete the connection.

Once connection is complete, the operator can remotely align the beam and control the jaws through the crane's auxiliary hydraulic services. As an optional extra this beam can also be fitted with a hydraulic telescopic function with built-in load levelling system for the fastest possible rail handling operation.

As with many of our attachments the TRLB20 beam is fitted with a safety interlock system which prevents the jaws being released while the load is suspended.

All our products are CE marked.

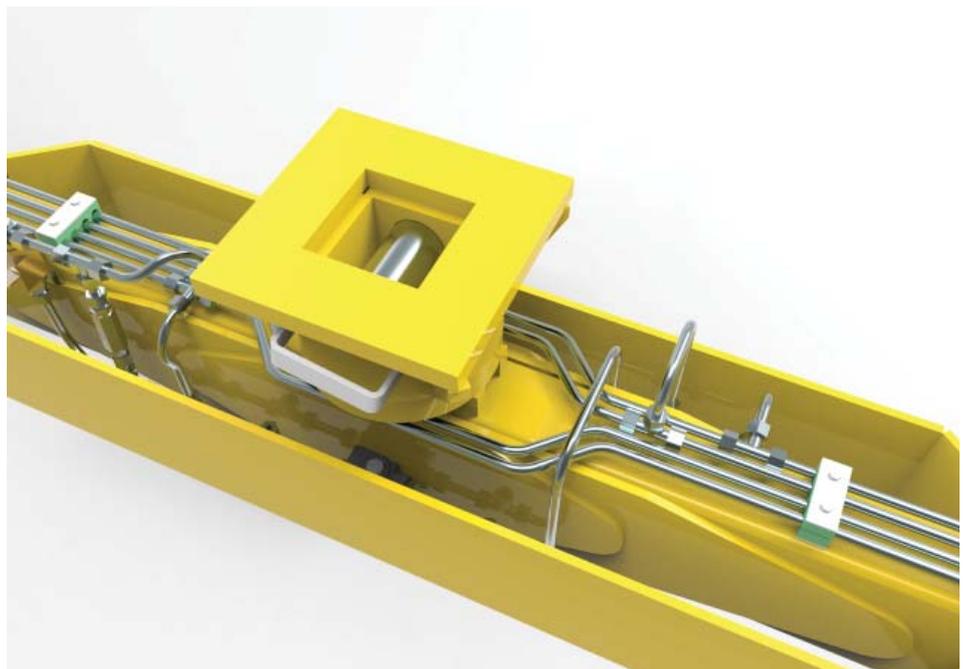




The TRLB20 fitted with square drive head has a safe working load of 1,250kg and is proof load tested to 2,500kg.

This beam is supplied as standard with stands for ease of transport and for safe storage. Using the quick change system it can quickly be swapped from vehicle to vehicle for maximum utilisation.

Every Thomson attachment includes built in pressure and flow control ensuring so there is no need to adjust the crane system pressures or flows.



7 Sleeper Spreader Beam

A more sophisticated example is shown in the Thomson 7-Sleeper Spreader Beam which is designed to lift, spread and lay sleepers in place.

Although rarely used in road haulage applications this attachment nevertheless serves to illustrate how all our range of excavator attachments can be converted to work with the Truck Crane Quick Attachment System.

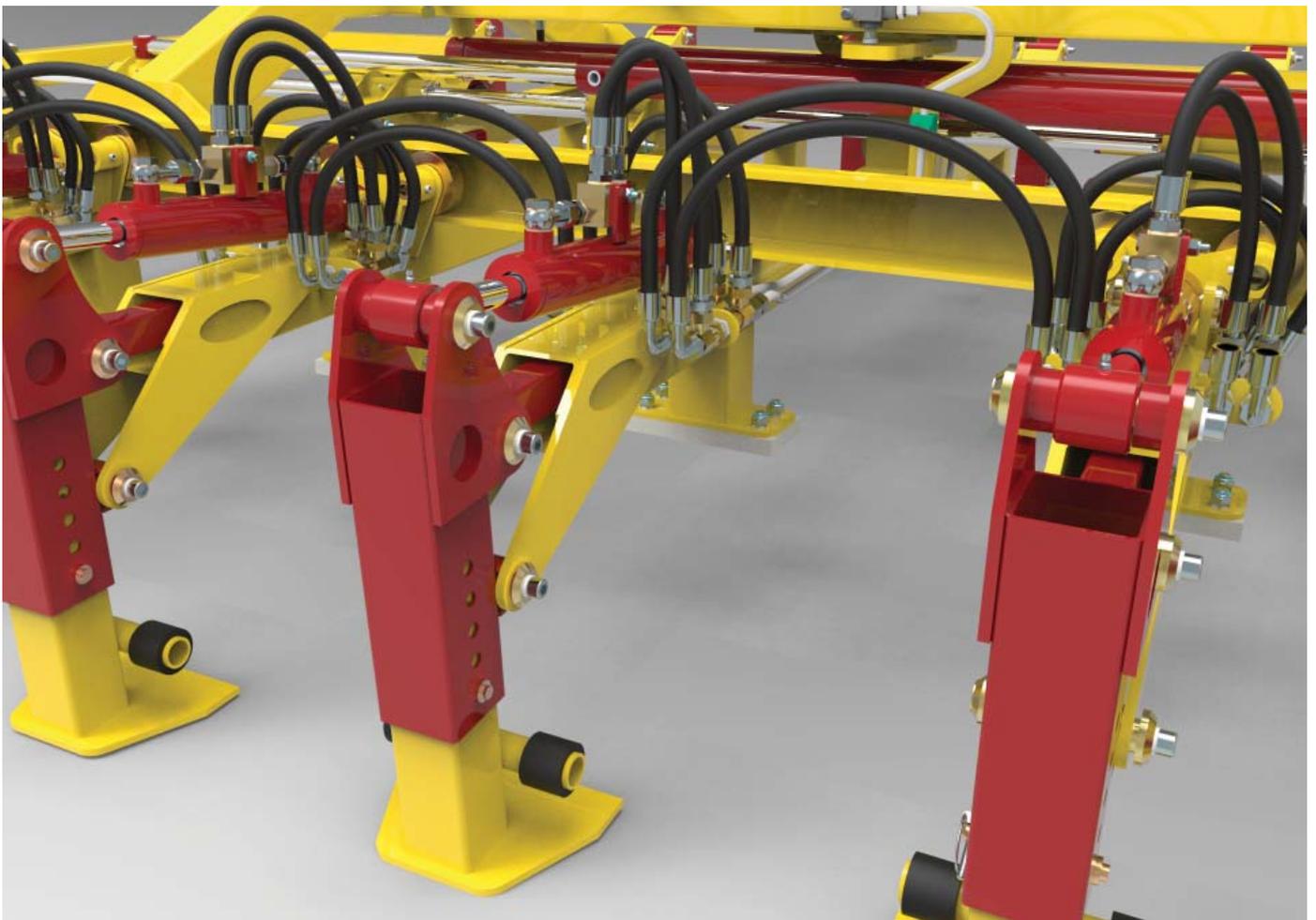
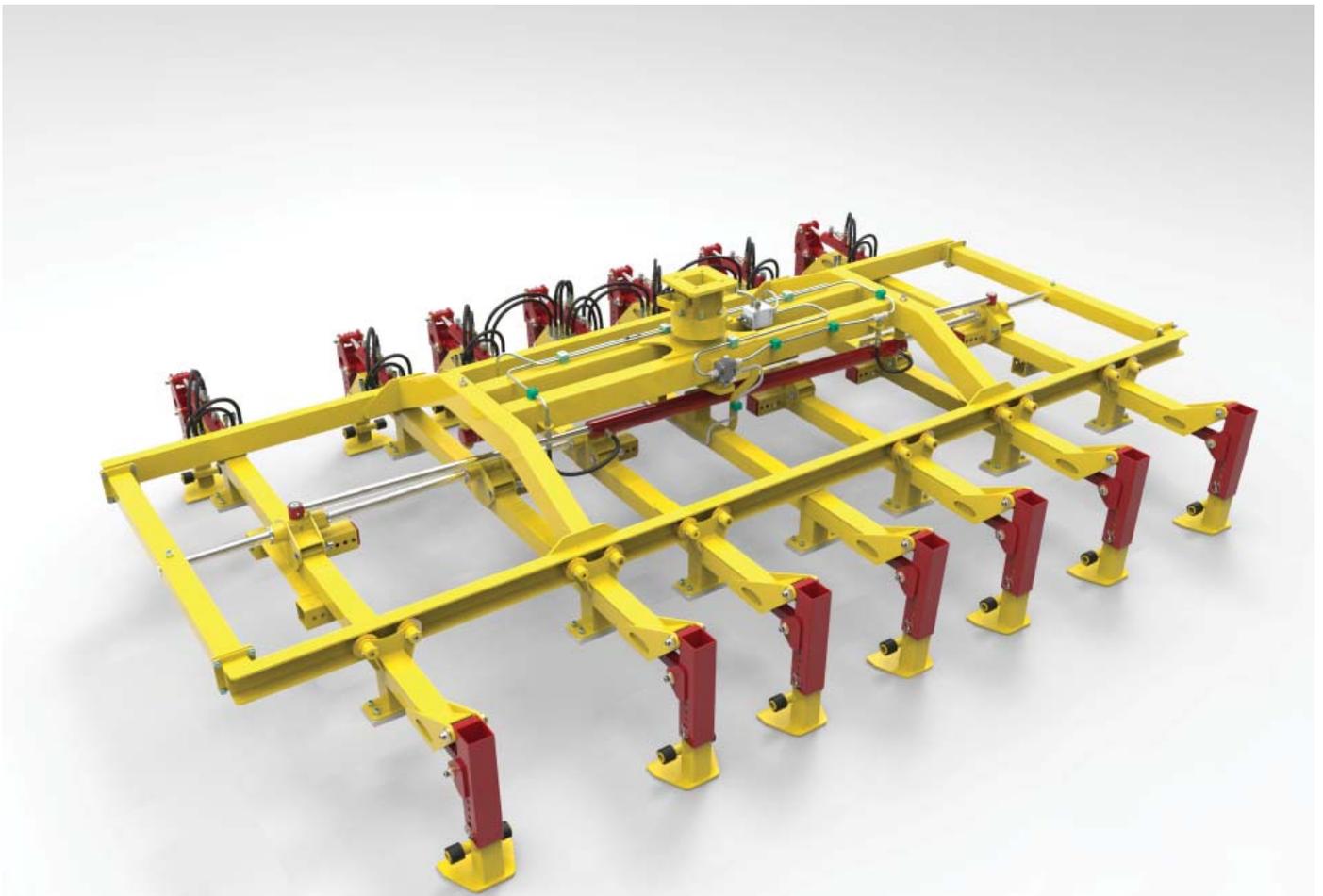
Compatible Excavator Rotator attachment heads are available allowing our attachments to be used on site as well as on the road.

The system can also be retro-fitted to any attachment designed with a standard 4-bolt or 6-bolt rotator mount.



A few of our standard attachments which can be adapted for the Truck Crane Quick Attachment System.

Including: Fabric Handler, Cable Drum Carrier, sleeper pack grab, Universal Lifting Beam, Sleeper Handler, Bag Handler



Using Attachments with other Cranes

When the truck is off the road for maintenance or repair the attachments can still be put to use by fitting the swivel adapter and suspending them from a normal crane hook.

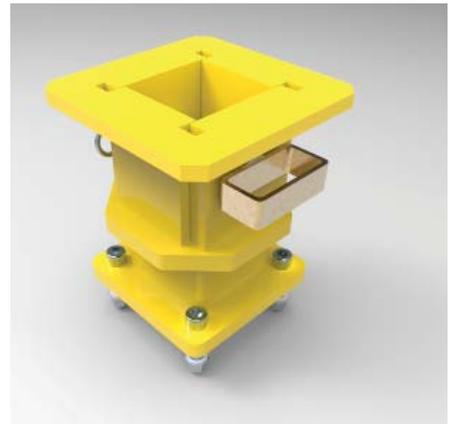
These adapters weigh 60kg and each is individually serial numbered and supplied with a LOLER test certificate. These adapters are rated to 12,000kg.

The upper section of the adapter incorporates a free swivel and a 12 tonne safety pin bow shackle making them suitable for use with fixed and swivel hooks.

Retro-fitting to Existing Attachments

Existing attachments can be used with the Thomson Truck Crane Quick Attachment System by fitting an adapter head to the attachment.

Adapter heads are available for standard 4-bolt and 6-bolt flange fittings. Other fitting arrangements can be accommodated through our bespoke design and build service.



Hook Attachment

Thomson Engineering Design are proud to produce the world's widest range of lifting attachments and new products are continuously being developed.

However, if the load has to be lifted on a hook there is no need to remove the rotator adapter from the crane: just fit the Hook Attachment.

The Hook Attachment is rated to 12,000kg Working Load Limit.





