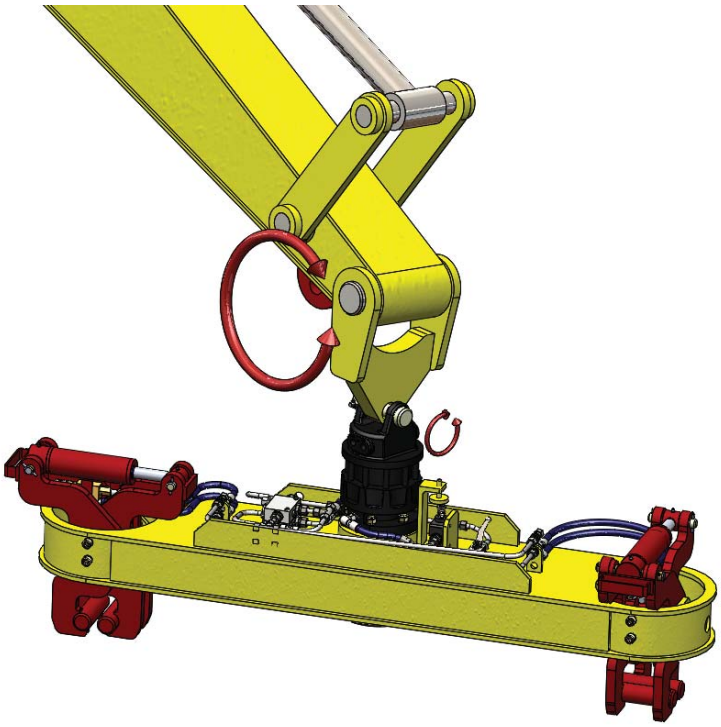
TECHNICAL BULLETIN
Selection and Use of Adapter Systems



Important Technical Bulletin regarding the attachment of lifting beams to RRV's and Knuckle Boom Cranes

Issue 2

June 2015

SCOPE

All lifting beams with 4-bolt or 6-bolt adapter flange mounting points

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Important Note When Specifying Adapters

Hinged Connection

When specifying an adapter system for any lifting attachment equipped with a bolted flange adapter mount it is very important to ensure that the system chosen allows the attachment to swing freely to align with the load.

Our two-pin and one-pin rotator adapters incorporate hinges at 90 degrees to each other to allow the attachment to swing around the machine boom end pin and the rotator top pin to give the attachment complete freedom of movement.

Without this feature the flange will become overloaded unless the load is perfectly balanced and this can lead to failure of the flange bolts and the catastrophic failure of the attachment.

Free Rotation

When using a hydraulic rotator it is also important to ensure that a suitable pressure relief system is installed to prevent shock loading: for example, when an operator is rotating a load and suddenly releases the control: the momentum of the load can cause extremely high shock loads if no relief system is fitted.

Hydraulic Rotators fitted to our attachments have a small bore cross line connection installed between the hoses on the rotate circuit to dampen out shock loads.

WHAT TO DO

If you suspect that beams may have been connected incorrectly the adapter head assembly should be dismantled and carefully checked for cracks and distortion and the M16 bolts and nuts should be replaced.

Bolts should be a minimum of Grade 8.8 and nuts should be minimum Grade 8

Tighten Grade 8 nuts to 180Nm. Higher grades may be tightened further (see our Short Guide to Metric Nuts and Bolts at www.thomsonrail.com for details)

Rotator hoses are connected together using a 1mm bore fitting to dampen out shock loadings

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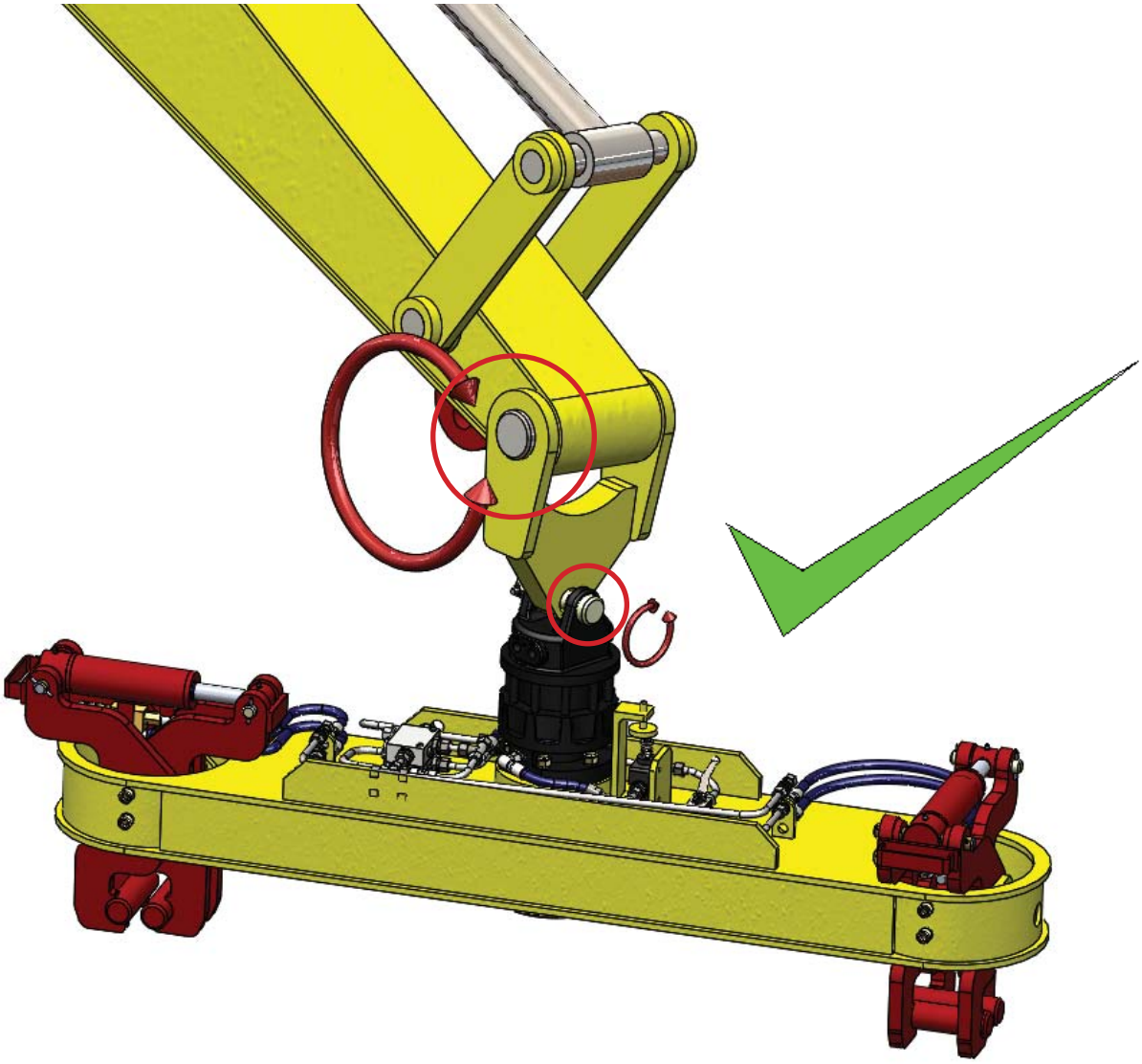

Two Hinges at 90 degrees to each other allow the attachment to swing freely and prevent the bolted flange becoming overloaded.

A rigid connection between the boom and the beam puts great strain on the flange bolts and can lead to failure

Thomson Engineering Design will be pleased to advise on individual applications.

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