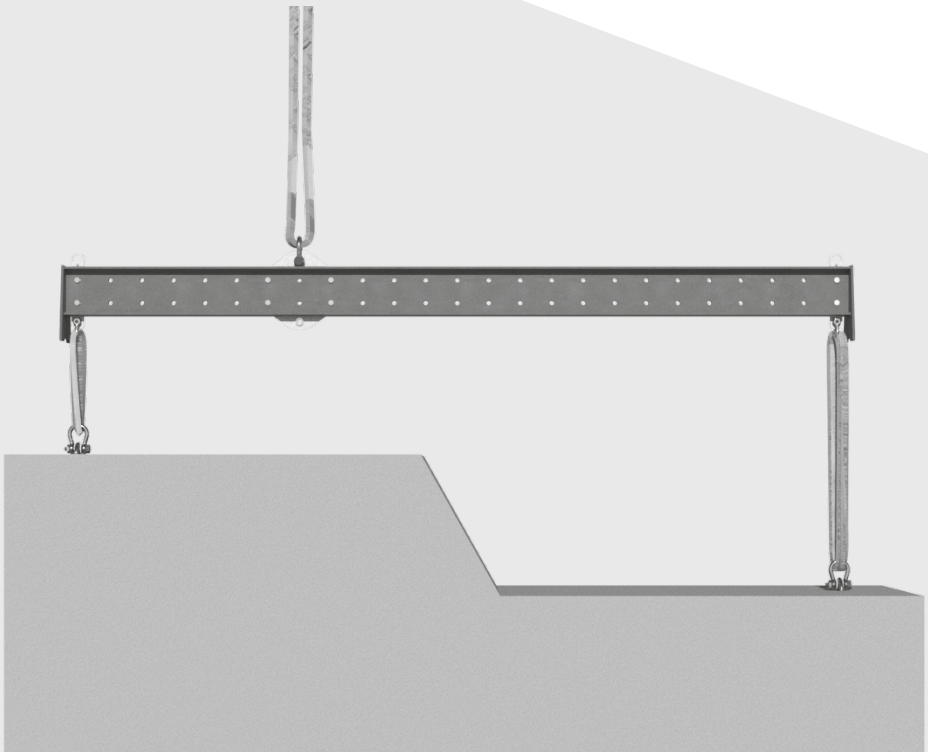




AL15 ADJUSTABLE LIFTING BEAM

CREATING SAFE WORKING ENVIRONMENTS



CREATING SAFE WORKING ENVIRONMENTS

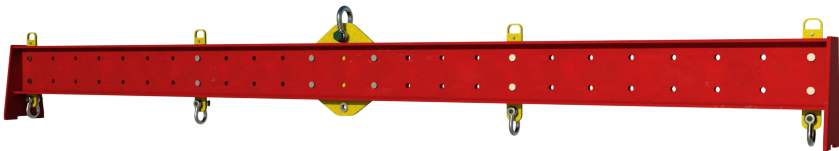
With 40 years of experience, MGF is a privately-owned company whose primary focus is the provision of fully engineered excavation support solutions to the civil engineering, construction, rail and utilities sectors. We combine technical expertise and operational performance to ensure the highest levels of customer service. With a focus on developing and promoting industry best practice in excavation safety we aim to assist our customers in creating safe working environments for their employees.

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CONTENTS

SECTION 1: INTRODUCTION	4
SECTION 2: COMPONENT LIST	5
SECTION 3: ASSEMBLY PROCEDURE	6
SECTION 4: STABILITY	9
SECTION 5: BASIC SAFETY	10

INTRODUCTION

The AL15 Adjustable Lifting Beam is a fully adjustable, single point lifting beam which can lift up to 15t with a maximum span of 6m. The system is suitable for lifting heavy, uneven loads and can be provided with up to 4 lower hanging points (D) and one upper lifting point (C). These can be adjusted in 250mm increments, to suit the load being lifted by simply relocating them along the beam.

Lifting beams and lifting frames are typically low-height solutions, they are the optimum solution for indoor lifts or where lifts have restricted headroom. Lifting beams tend to be for lifts where the lifting points on the load are all in-line, whereas a lifting frame is used for a square/rectangular pattern of lifting points.

The design of the beam features endplates (B) which act as feet, to simplify transport and storage onsite, as well as to protect the lower hanging points from damage.

Endless round slings are available in a variety of lengths, the lower slings simply connect to the 9.5t green pin bow shackles (F) connected to the lower hanging points, while the upper sling connects to the 17t green pin bow shackle (E) on the upper lifting point.

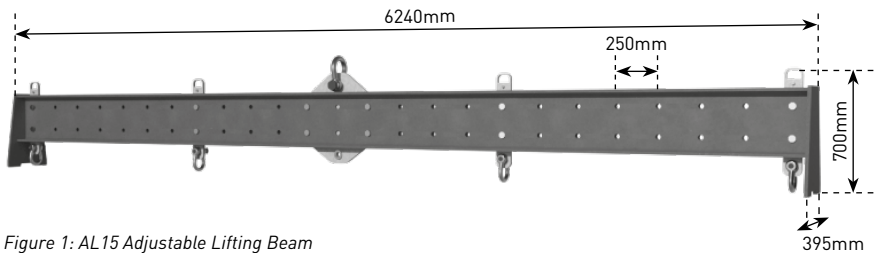


Figure 1: AL15 Adjustable Lifting Beam

PRODUCT ID	HEIGHT (mm)	WIDTH (mm)	LENGTH (mm)	MAX. ASSEMBLED WEIGHT (kg)	WLL (kg)
2.916	700	395	6240	832	15000

OVERVIEW

- Ideal low height solution for lifts with restricted headroom
- Versatile, robust, single point lifting beam rated at 15t WLL in all lifting configurations at up to 6.0m span
- Slidable hanging and lifting points ensure uneven loads can be safely lifted
- Lower hanging points feature handles that allow the points to be easily adjusted by hand
- Up to 4 lower hanging points available should loads require a 4 point lift, if the weight needs spreading out
- Each lower hanging point is rated to 7.5 tonne WLL
- Upper lifting point is rated to 15 tonne WLL
- All lifting/hanging points require M30 bolts, nylock nuts and washers
- Available with a range of slings to suit different applications

COMPONENT LIST

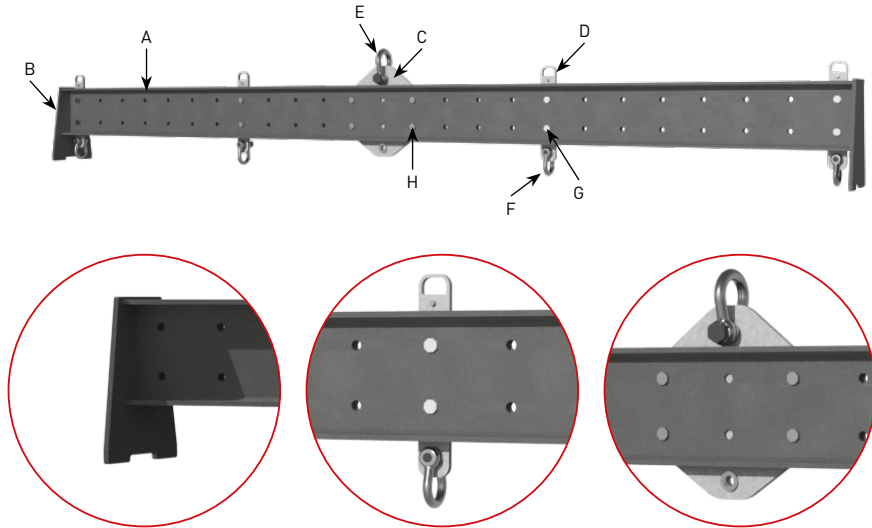


Figure 2: Components

EQUIPMENT IDENTIFICATION AND WEIGHT

REF	DESCRIPTION	WEIGHT EACH (kg)	QUANTITY	WEIGHT (kg)
A	AL15 Adjustable Lifting Beam	725	1	
B	End Plate Feet	-	2	725
C	Upper Lifting Point	38	1	38
D	Lower Hanging Point	8.5	4	34
E	17t Green Pin Bow Shackle	8.2	1	8.2
F	9.5t Green Pin Bow Shackle	3.7	4 (max.)	14.8
G	M30x85 grade 8.8 bolts, nylock nuts and washers	1	8 (max.)	8
H	M30x85 grade 8.8 bolts, nylock nuts and washers	1	4	4

ASSEMBLY PROCEDURE

- Ensure that the upper lifting point is located directly above the centre of gravity of the load to be lifted. If the load is unevenly distributed, then the lifting point must be adjusted to suit
- There must be at least 2 lower hanging points installed, up to a maximum of 4. If an additional lower sling is required then this can be fitted to the underside of the upper lifting point, allowing up to a maximum of 5 lower slings
- The lower lifting points are adjusted by removing the M30 fixing bolts and simply sliding the point along the beam using the handle, prior to securing in its new location using the same fixing bolts and nuts
- Bolt lifting/hanging points in place using M30 x 85 bolts, combined with M30 nylock nuts and washers. The upper hanging point requires 4No. bolts, while the lower lifting points require 2No. bolts. Fully tighten all bolts, 2 threads minimum must be visible beyond the nut. Bolts should be re-tightened before every lifting operation
- Place a top sling onto the body of the upper shackle and put jaw of top shackle over the upper hanging point before securing the shackle pin
- Attach free end of top sling to crane hook
- Attach lower slings and shackles to the lower lifting points and attach them to the load to be lifted
- Recommended equipment: torque wrench, podger spanner, ring spanner

PRE-LIFT CHECKS

Before lifting there are several checks which should be done:

- ✓ Ensure exclusion zones are in place prior to lifting. These must be adhered to throughout the lifting processes
- ✓ Ensure a full lifting plan is produced prior to every lifting operation
- ✓ All lifting and hanging points must be inspected prior to use
- ✓ Must ensure that all shackles are free to rotate and that the slings are not twisted or tangled
- ✓ Ensure all connection bolts are fully tightened, prior to every lifting operation
- ✓ It is recommended to first conduct a test lift, lifting the load slightly off the ground, to ensure the lift is stable. If the lift is not stable, then the load must be lowered and the hanging/lifting points adjusted to suit the load

USAGE INSTRUCTIONS

- The assembled lifting beam and lifting rig must be thoroughly checked by a competent person prior to lifting
- Using the crane transport the lifting beam and materials to the relevant location, moving slowly and carefully to avoid shock loads
- When the load is in its final position and secure, disconnect the lower slings from the lifting beam, so the beam can be moved over to a safe area for storage

CRITICAL ASSEMBLY RULES

- The Adjustable Lifting Beam must be adjusted to suit the load and ensure a stable and level lift
- Lifting and hanging points can be adjusted in 250mm increments
- The upper lifting point must be located over the centre of gravity of the load being lifted
- The beam must be assessed by a competent lifting operative prior to each use
- The lower slings cannot be rigged at more than a 6° angle (see figure 3)
- The lifting beam cannot be used when the beam deviates at more than a 6° angle (see figure 4)

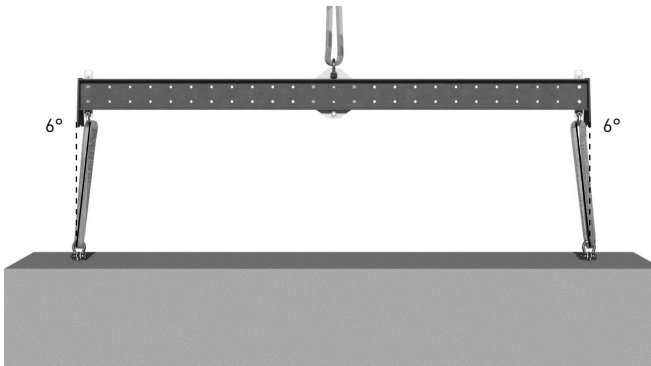


Figure 3: Max. allowable lower sling angles

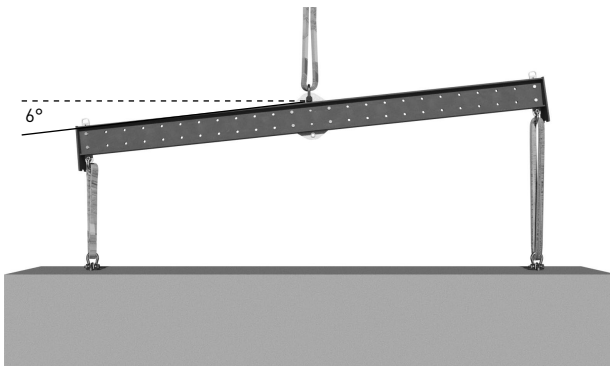


Figure 4: Max. allowable beam tilt angle

SAFE USE WARNINGS



Before operatives use the equipment, they should read and understand these warnings:

- Do not exceed stated WLL of 15t
- For use with cranes only, not suitable for use with mobile plant
- When moving or positioning the lifting beam and load use tag lines to control movement
- Individual components can be heavy and extreme care must be taken if manual handling, the lifting/hanging points can be adjusted by simply removing the fixings and sliding the points along the beam
- The Adjustable Lifting Beam must only be lifted with a single leg chain or sling via the upper lifting point. At no point must the beam be lifted using the handles of the lower hanging points - these are purely for manually adjusting the position of the lower hanging points
- Load must be lifted through the lower hanging points, never hang loads from the beam itself by looping slings around the beam - adjust the hanging points to suit the load being lifted and ensure a level lift
- Keep the loaded lifting beam clear of obstacles - any contact could cause unsafe release of load or beam failure
- The equipment must be used in accordance with the procedures from 'Lifting Operations and Lifting Equipment Regulations 1998' (LOLER)
- Operatives using this system should be suitably trained, competent and have a clear understanding of safe slinging procedures
- The equipment must only be used with the shackles supplied by MGF
- Ensure that suitably rated chains/slings are used

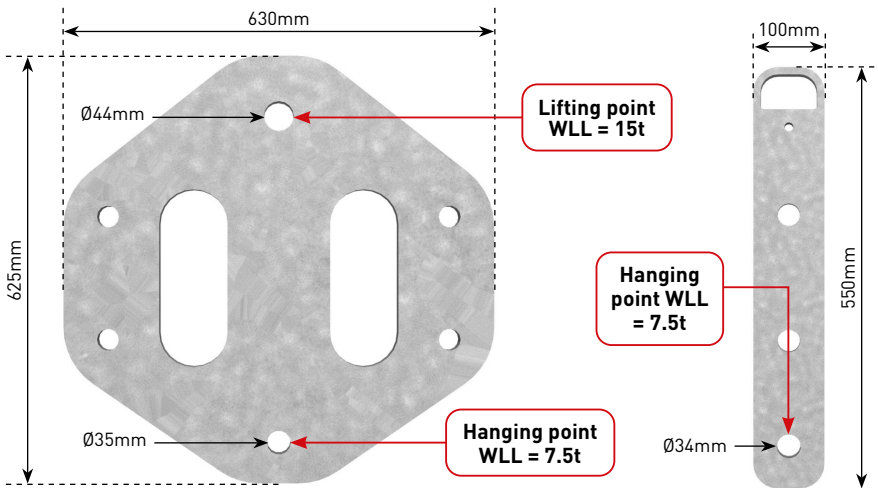


Figure 5: Upper Lifting Point

Figure 6: Lower Hanging Point

STABILITY

When lifting a load using the Adjustable Lifting Beam the stability of the beam and load depends on the position of the centre of gravity, 'G', with respect to the suspension point of the beam. The stability must be ensured longitudinally, in addition the lower slings must not be angled at more than 6° (figure 3) and the angle of the beam itself must not be more than 6° (figure 4).



Figure 7: Unstable Lift

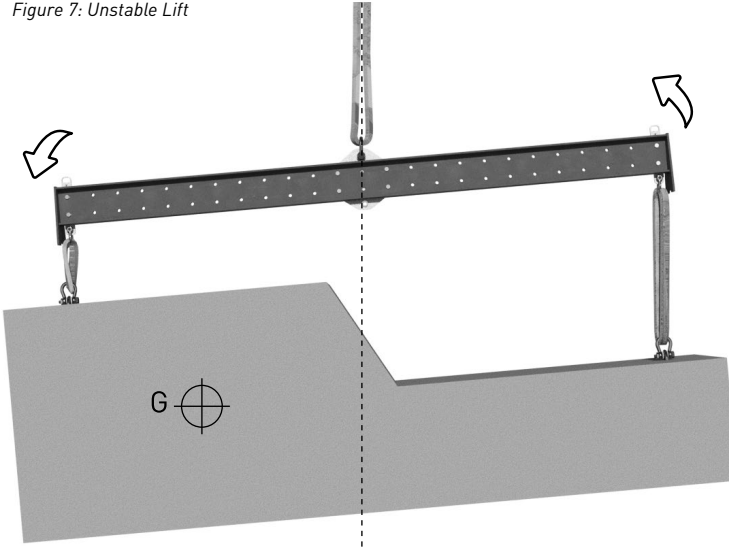
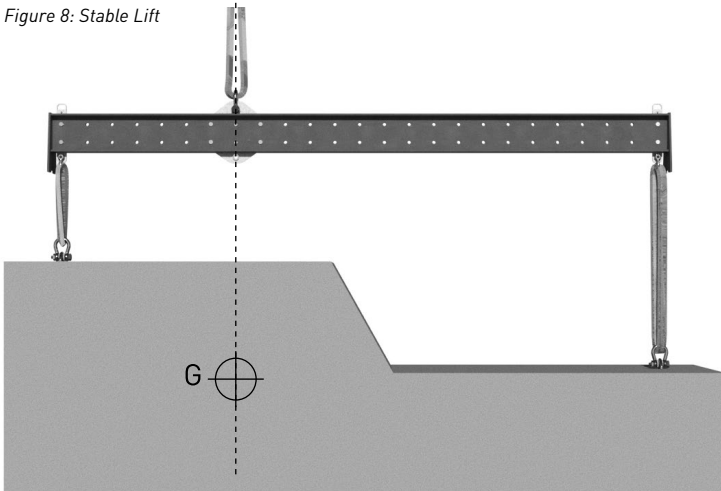


Figure 8: Stable Lift



BASIC SAFETY

A site-specific risk assessment and lift plan, must be completed by the responsible person before using this equipment to control risks, produce a safe system of work and ensure safety for you, your colleagues and others. Your risk assessment will determine the correct Personal Protective Equipment (PPE) for the task you are doing. MGF recommends that you should wear:

- Suitable clothing
- Gloves
- Hard hat
- Protective footwear (steel toecaps)
- Safety glasses

IMPORTANT SAFETY NOTES



Read these instructions before using this equipment. If there is anything you do not understand or if you have any concerns do not use this equipment. Contact your supervisor or MGF for advice.

- You must check that you have considered all the safety requirements for the task you are doing and that this equipment is suitable
- You must protect bystanders and the general public by preventing access to the working area
- Do not use this equipment if you are tired, unwell or under the influence of alcohol or drugs. If you are taking any medicine or undergoing treatment you should inform your supervisor
- It is the hirer's responsibility to inspect the beam and all fittings prior to any lifting operations being undertaken. Consult an MGF representative before lifting if there is any doubt over the quality of the equipment or if you are unsure about any aspect of these rules
- Equipment to be used in accordance with MGF's terms and conditions of hire
- All operations must be carried out to approved method statements and risk assessments



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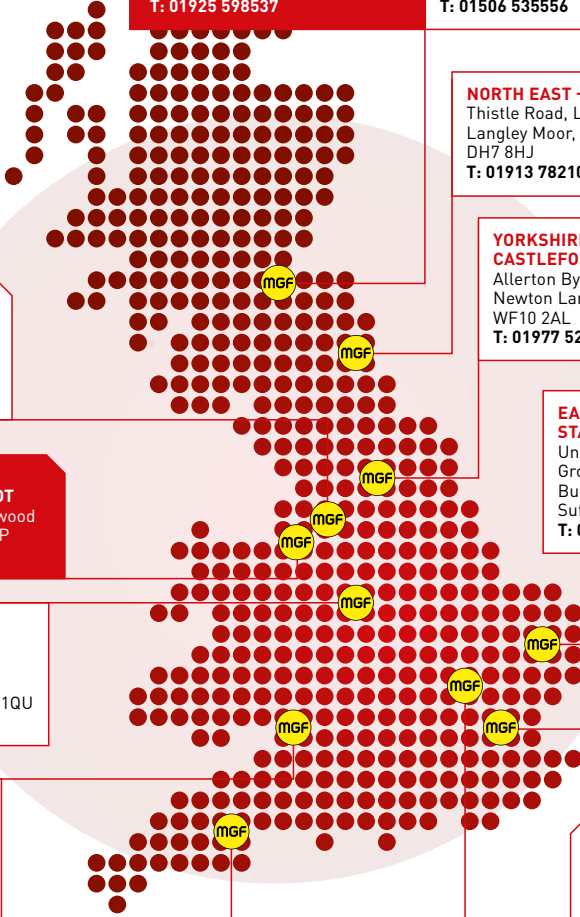
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