Procedure for the HIAB Delivery and Installation of Single and Double Storey Stacked Configuration Steel Units

Procedure Version

This procedure supersedes and replaces all previous versions and is accurate at the time of issue. As the procedure is subject to improvement and change, it important that checks are made prior to each use to ensure that this is the most up to date version. Information on the latest version can be found on our website at www.alsim.co.uk/procedures or via our head office on 01482 372525.

Preparation Notes

1) This procedure is intended as guidance only and outlines the Company's recommendations for best practice. You are advised to ensure that a competent person has undertaken adequate risk assessments and put into place a safe system of work ahead of any delivery or installation.
2) The driver and any personnel assisting with the completion of the installation should ensure that they are fully conversant with all aspects of this procedure prior to the commencement of work.
3) Please note that triple stacking cannot be undertaken with a HIAB and should therefore only be completed with a suitably specified crane. Any such work should be completed in accordance with Alsim's standard procedure for crane installations and the relevant version of Alsim's standard additional instructions for triple stacking both of which are available separately.
4) Alsim will not be held responsible for any incident, accident or injury, resulting from the installation of a unit, as described herein.
5) This procedure only applies to units manufactured by Alsim

Introduction

Alsim requires their Client to complete an appropriate site survey prior to the delivery date and arrange for the availability of the appointed site manager and any additional site personnel as required throughout the delivery and installation process. The survey should firstly ensure that suitable access is available to and throughout the site during the time of the delivery and installation, with particular reference to roadway condition, access width, overhead restrictions, and working hours. Secondly, the survey must ensure the suitability of the HIAB equipment and that sufficient space and appropriate foundations are provided, in accordance with Alsim's standard or otherwise agreed foundation detail, in order to allow the proper installation of the unit or complex to take place. Particular reference should be made

Please note that this procedure is subject to improvement and change. Please check that you have the current version of the procedure prior to the commencement of work.
This document must not be copied, reproduced, or distributed in any way without the express written permission of Alsim System Building Limited.
ALSIM SYSTEM BUILDING LIMITED
Stockholm Road, Hull, East Yorkshire, HU7 0XW, England
Tel: +44 (0)1482 372525 Fax: +44 (0)1482 372626
Email: enquiry@alsim.co.uk Website: www.alsim.co.uk

to the positioning of the transport vehicle and associate outriggers, the prescribed safe operating capacity and reach of the HIAB crane and the weight of the unit to be lifted. All units are fitted with an external data plate which indicates unit weight information including the maximum lift weight. If the data plate is missing then the lift should be postponed until the maximum lift weight is ascertained.

Procedure

1) On arrival at the site and prior to entry, the transport vehicle driver will announce his presence to the site manager and await permission to proceed onto the site.

2) The driver will be equipped with the following items of Personal Protective Equipment (PPE): lace up safety boots; high visibility clothing; hard hat; safety goggles; gloves; and fall arrest equipment. The driver will ensure that all relevant items of PPE will be worn at all times whilst on site and throughout the delivery and installation process.

3) The driver will then provide details of the load and describe the process of delivery and, where relevant, installation, that is proposed to be undertaken. The driver will inform the site manager of the risks to passing site personnel, vehicles, and plant, and warn of the need to maintain a safe distance at all times. If members of the public might be present, the working area should be isolated and appropriate signs erected.

4) The driver will request details of, and ensure adherence to, all prevailing safety instructions and PPE requirements for the site.

5) The driver will then assess access conditions with the site manager with particular reference to roadway condition, access width, other vehicles, site personnel and plant, overhead restrictions, members of the public, and any prevailing hazards, before progressing onto and through the site. The site manager and driver will assess the need for assistance in relation to the manoeuvring of the vehicle onto and throughout the site.

6) The driver will proceed to the proposed unit location taking appropriate care, adhering to all speed and other restrictions in force at all times, and following all instructions provided by any personnel designated to assist in relation to the manoeuvring of the vehicle onto and throughout the site.

7) At the proposed unit location, the driver will assess the site conditions with the site manager to ensure the suitability of the HIAB equipment and that sufficient space and appropriate foundations are provided, in accordance with Alsim's standard or otherwise agreed foundation detail, in order to allow the proper installation of the unit or complex to take place. Particular reference should be made to the positioning of the transport vehicle and associate outriggers, the prescribed safe operating capacity and reach of the HIAB crane, the weight of the unit to be lifted, overhead restrictions, other vehicles, site personnel and plant, members of the public, and any prevailing hazards. All units are fitted with an external data plate which indicates unit weight

Please note that this procedure is subject to improvement and change. Please check that you have the current version of the procedure prior to the commencement of work.
This document must not be copied, reproduced, or distributed in any way without the express written permission of Alsim System Building Limited.

information including the maximum lift weight. If the data plate is missing then the lift should be postponed until the maximum lift weight is ascertained.

8) When the driver and site manager are satisfied with all aspects of the proposed installation process, the driver will prepare to off-load the unit. If necessary, the driver will be assisted in the off-loading process by an appropriate number of suitably instructed personnel. Only authorised personnel with the appropriate training and certification will undertake any aspect of the off-loading of the unit by HIAB crane. The driver will ensure that supporting documentation is available at all times.

9) The driver will extend and lower the outriggers of the vehicle as appropriate onto firm ground, using blocks if necessary. All lifting equipment should undergo regular controlled inspections and tests to ensure safe operation, and supporting documentation should be available at all times with the vehicle. Additionally, the driver will complete a visual check of the crane, chains, slings, and hooks to be used in the installation prior to the commencement of the lift. The driver will adjust the chains and slings to the appropriate length for the lift, taking into account the attached slinging detail for chain and sling lengths required by each unit size.

10) The unit can be lifted using either the high level or, if fitted, the low level lifting eyes. The driver should complete a check visually and by hand on each lifting eye prior to use in order to identify any possible defects. Lifting eyes should be professionally tested every 6 months or after any sustaining impact or damage of any kind in order to ensure that they remain fit for purpose. Four high level lifting eyes are fitted as standard to the unit, and four low level lifting eyes are available as an optional extra. The optional low level lifting eyes can be reached from the ground when the unit is on the transport vehicle, and are therefore recommended for use, when fitted, in all situations whenever possible. When using the optional low level lifting eyes, suitable slings should be attached to the lifting eyes and then subsequently to the chains to avoid damage to the sides of the unit. The high level lifting eyes require the use of a ladder, positioned in each case adjacent to the lifting eye to allow access to the lifting point. Due to safe working height considerations, no personnel should climb onto the roof of a unit without suitable fall arrest equipment being used. Ladders must be footed, or otherwise secured to avoid slippage, at all times.

11) The driver will ensure that each lifting hook, chain, and sling is properly located and check that each is secure prior to commencing the lift. The driver should also complete a check visually and by hand on each lifting eye prior to the lift in order to identify any possible defects. Lifting eyes should be professionally tested every 6 months or after any sustaining impact or damage of any kind in order to ensure that they remain fit for purpose. The driver and site manager will consider, in relation to the nature of the site, adjacent structures, and weather conditions, the need for guide lines to be attached to one or more lower corners of the unit to avoid excessive movement of the unit during the lift and to assist in both the initial and the final positioning.

Please note that this procedure is subject to improvement and change. Please check that you have the current version of the procedure prior to the commencement of work.
This document must not be copied, reproduced, or distributed in any way without the express written permission of Alsim System Building Limited.

12) The driver will then detach all securing straps and other devices between the vehicle and the load. The chains should then be lifted until taught to establish that they are central to the lift and correctly positioned. The driver should then complete a test lift by raising the unit a small distance off the vehicle. All units are fitted with an external data plate which indicates unit weight information including the maximum lift weight. If the data plate is missing then the lift should be postponed until the maximum lift weight is ascertained. This test will provide evidence of the suitability of the HIAB to commence the lift operation and that the unit itself is safe to be lifted. When the driver and site manager are happy for the lift to commence, the appropriate signal should be given, and the unit lifted from the transport vehicle bed.

13) The unit will then be moved into position with the HIAB crane, guide lines being used where appropriate to avoid excessive movement in the air, and lowered into the agreed location onto the appropriate foundations. The driver and site manager should pay particular attention throughout the lift to the safe lifting reach of the HIAB in relation to the site conditions, unit dimensions and weight. All units are fitted with an external data plate which indicates unit weight information including the maximum lift weight. If the data plate is missing then the lift should be postponed until the maximum lift weight is ascertained. If there is any doubt in relation to the completion of the lift, the operation should be halted and the unit lowered to the ground or returned to the vehicle whilst the process can be re-evaluated in a controlled manner. If necessary the position of the vehicle should be altered or the installation should be completed in stages in order to allow the work to be done safely and within the prescribed operating limits of the equipment. It is imperative that good clear signals are employed between all relevant personnel throughout this process in order to avoid incident and particular care should be taken at all times to avoid trapped hands or other injury of the person, or damage to adjacent property. All units in all configurations must be positioned onto the foundations on the corners of the unit, irrespective of whether jacklegs have been fitted to the units.

14) The unit will then be levelled by the driver as required using approved metal shims to ensure that all external and internal doors open and close properly. Larger movements will be completed by means of the HIAB crane, but any small adjustments required to level the unit can be made using a hydraulic 'toe-jack' positioned close to the corner posts and under a wall panel corrugation. Good clear signals must be employed between all relevant personnel throughout this process to avoid incident and particular care should be taken at all times to avoid trapped hands or other injury of the person. The levelling should be finally checked with a suitable spirit level positioned in different directions and planes, and in alternative positions of the unit. Instructions on the levelling of store unit double doors are additionally provided on the door of the unit.

15) When the driver and the site manager are satisfied with both the location and the levelling of the unit, the driver will lower the crane and chains to allow the lifting hooks and slings to be disconnected from the unit.

Please note that this procedure is subject to improvement and change. Please check that you have the current version of the procedure prior to the commencement of work.
This document must not be copied, reproduced, or distributed in any way without the express written permission of Alsim System Building Limited.

16) The optional low level lifting eyes can be reached from the ground. The high level lifting eyes require the use of a ladder, positioned in each case adjacent to the lifting eye to allow access to the lifting point. Due to safe working height considerations, no personnel should climb onto the roof of a unit without suitable fall arrest equipment being used. Ladders must be footed, or otherwise secured to avoid slippage, at all times.

17) In the case of a double load or the use of the HIAB crane to off-load other transport vehicles, the process outlined above will be repeated until all relevant units are positioned and levelled to the satisfaction of the site manager.

18) In the case of a staircase, landing or steps also being installed, the erection should be completed in accordance with the relevant version of Alsim's standard additional instructions which are available separately.

19) In the case of a linkway also being installed, the erection should be completed in accordance with the relevant version of Alsim's standard additional instructions which are available separately.

20) In the case of the units being double stacked, the installation should be completed in accordance with the relevant version of Alsim's standard additional instructions which are available separately.

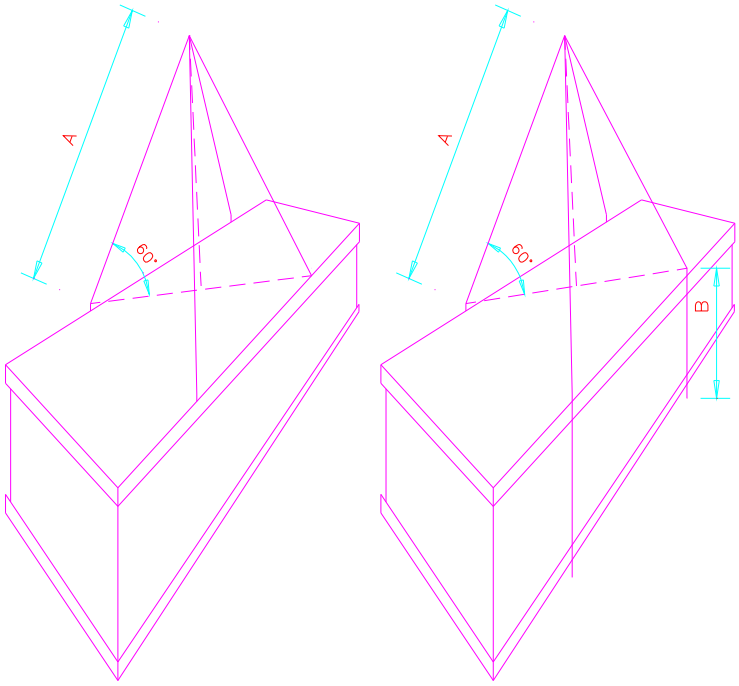
21) The driver will then retract the crane into the approved travel position, lift and retract the outriggers of the transport vehicle, and prepare to leave the site after ensuring that the site manager signs all relevant delivery notes and other paperwork in acceptance of the units.

22) The driver will inform the site manager prior to leaving the site, and when given the go ahead will leave as instructed.

Please note that this procedure is subject to improvement and change. Please check that you have the current version of the procedure prior to the commencement of work.
This document must not be copied, reproduced, or distributed in any way without the express written permission of Alsim System Building Limited.

Minimum Chain/Sling Lengths (A and B) Required to Lift Units Correctly

High Level Lifting Eyes | **Low Level Lifting Eyes**



Unit Size		Chain/Sling Length (A)		Webbed Sling Length (B)	
Feet	Metres	Feet	Metres	Feet	Metres
12’	3.66	11’-6”	3.50	10’-0”	3.05
16’	4.88	12’-3”	3.73	10’-0”	3.05
20’	6.25	14’-0”	4.27	10’-0”	3.05
24’	7.32	15’-0”	4.58	10’-0”	3.05
28’	8.54	16’-9”	5.11	10’-0”	3.05
32’	9.76	19’-0”	5.80	10’-0”	3.05

Please note that this procedure is subject to improvement and change. Please check that you have the current version of the procedure prior to the commencement of work.
This document must not be copied, reproduced, or distributed in any way without the express written permission of Alsim System Building Limited.