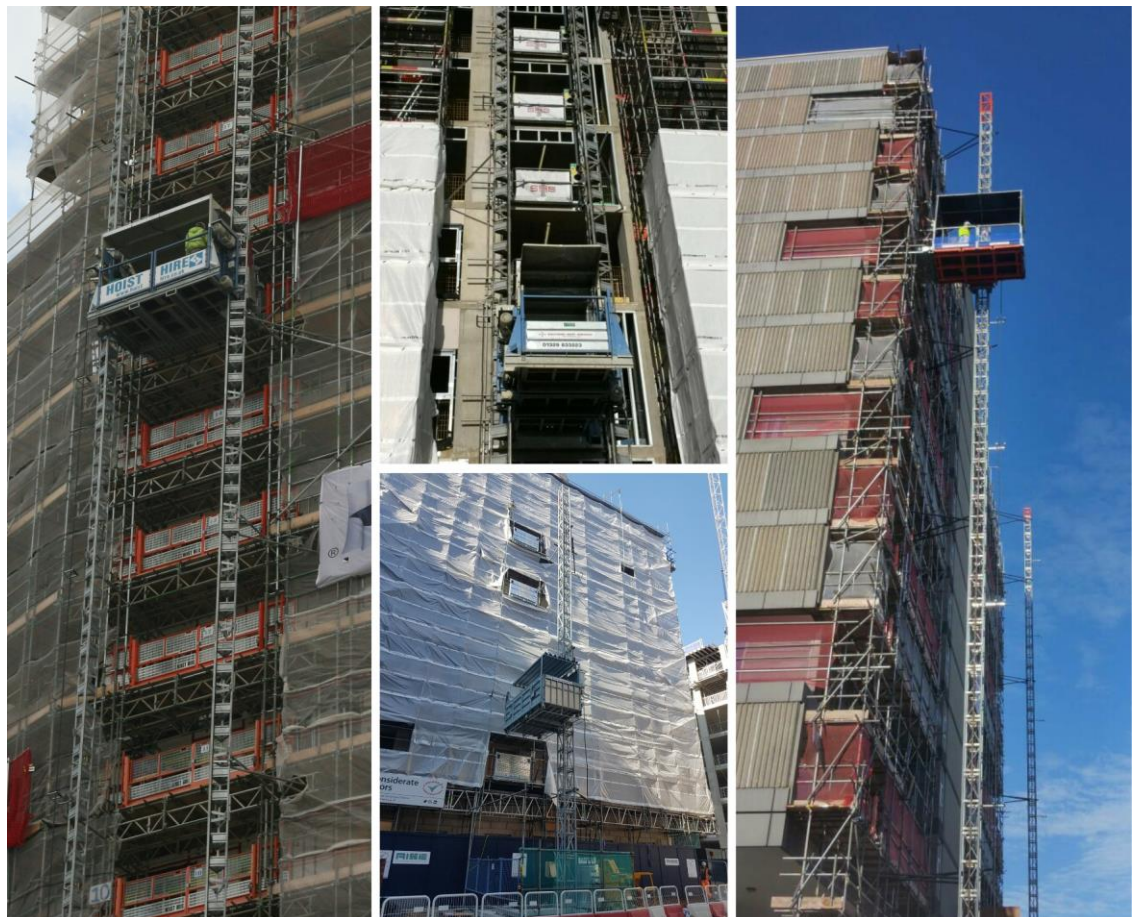


GOOD PRACTICE GUIDE

Safe Use of Transport Platforms



Safe Use of Transport Platforms

CPA Good Practice Guide



Working in Partnership

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Foreword

The transfer of people and materials to places of work at height is a important part of construction work. The use of transport platforms for this purpose brings significant benefits in both productivity and safety, provided that the equipment is correctly selected, installed, used and maintained. Failure to do this may result in serious accidents or fatalities. Not only do such accidents have a terrible cost in terms of human suffering, they also have a significant financial cost for all concerned. There is therefore a very strong business case, as well as a moral case, for improving safety performance.

Using transport platforms safely depends on several factors, including the planning and supervision of both installation and use, selection of transport platforms, competence of personnel, maintenance and thorough examination. If any of these are deficient, the risk of a serious accident increases significantly and it is therefore essential that all of those involved ensure that the installation and use of transport platforms is planned, managed, supervised and carried out safely by competent people.

This guidance was originally published in 2002 and has been completely revised to reflect the significant changes to both transport platforms and working practices that have occurred in the intervening years. The purpose of this guidance is to help those involved with planning, installing and carrying out lifting operations using transport platforms to achieve a better awareness of the particular risks involved and the measures that can be put in place to mitigate those risks.

The document has been developed by a working group with many years' experience in the provision of transport platforms. It provides clarity on the installation, use and maintenance of transport platforms and will help transport platform suppliers and users improve health and safety standards. The guidance addresses planning, people, machine selection, installation, use, maintenance and thorough examination. The advice in this document is straightforward, comprehensive and easy to adopt.

I thank those who have been involved in its preparation and commend the guidance to anyone who manages, plans, supervises or carries out lifting operations with transport platforms. Please read the publication and turn the advice into action.



Kevin Minton
Chief Executive
Construction Plant-hire Association

1.0 Introduction and Scope

This guidance on the safe use of transport platforms was first published in 2002 at a time when a significant number of transport platforms were coming into use. Since then the numbers of transport platforms in the UK has increased significantly, with larger, higher capacity machines coming onto the market.

In March 2018 the harmonised European Standard BS EN 16719:2018, *Transport platforms* was published and provides requirements for the design, manufacture and placing on the market of transport platforms. The majority of transport platform manufacturers will adopt this harmonised standard to demonstrate conformity to the essential health and safety requirements (EHSRs) of the Supply of Machinery (Safety) Regulations 2008, which implement the European Machinery Directive 2006/42/EC. It is however open to manufacturers to have their products type examined by a notified body to the EHSRs of the Directive. The notified body may allow departures from the requirements of BS EN 16719 if the manufacturer can demonstrate that they provide an equivalent level of safety.

The requirements of BS EN 16719 are not retrospective and machines that are already on the market are not affected.

Prior to March 2018 transport platforms were typically designed, constructed and CE marked to meet the EHSRs of the Machinery Directive.

The purpose of this revision of the guidance is to provide good practice guidance for those involved with, and responsible for, the planning, safe installation, use, maintenance, inspection and thorough examination (including testing) of transport platforms.

Transport platforms are temporarily-installed, guided powered platforms with rack and pinion drive, which have an open platform and hold-to-run controls operated by authorized, trained operators on the platform.

They are used for transporting a limited number of authorized passengers and materials vertically (or along the path 15° maximum from the vertical), at limited speed (12m/minute max), with a minimum safety offset distance and serving fixed levels on a building or structure for construction related activities including renovation and maintenance.

With their restricted speed, transport platforms are not replacements for the fast-moving building hoists for the carriage of persons and materials. They primarily enable the safe transportation of materials and/or a restricted number of persons. Transport platforms generally have lower tie loads than conventional passenger goods hoist.

Some transport platforms can also be used as materials hoists and as such have a dual function. In this case a key operated changeover switch is provided to enable the appropriate function to be selected. In materials mode the transport platform controls should be isolated on the platform.

This guide is not applicable to:

- builders' hoists used only for materials, typically operated from control stations at the ground or landings (BS EN 12158);
- builders' hoists for persons and materials (BS EN 12159);
- mast climbing work platforms (BS EN 1495);
- mobile elevating work platforms (BS EN 280);
- permanently installed hoists and lifts (BS EN 81 series).

2.0 Definitions

2.1 **base frame**

part of a transport platform that provides support for the mast and elevating assembly

2.2 **base enclosure**

a barrier to prevent the unauthorised entry of persons to the area below the transport platform

2.3 **buffer**

resilient stop at the end of the travel of a transport platform, comprising a means of arresting the movement of the transport platform

2.4 **drop test**

test in which a platform is allowed to free fall in order to check the correct functioning of the overspeed safety device(s)

2.5 **dual function**

some transport platforms can also be used as materials hoists and as such have a dual function. In this case a key operated changeover switch is provided to enable the appropriate function to be selected. In materials mode the transport platform controls should be isolated on the platform.

2.6 **erection**

installation and reconfiguration of the transport platform

2.7 **erection load**

maximum load permitted on the platform of the transport platform during the erection process

NOTE The erection load is specified by the transport platform manufacturer and is normally less than the rated load for the transport platform.

2.8 **falling object protection guard**

guard covering the platform area to protect persons on the platform from objects falling from above

NOTE: This is often referred to as a roof, it is however, **not** a load carrying structure.

2.9 **final ultimate limit device/switch (also known as ultimate limit device)**

emergency device/switch arranged to stop the transport platform automatically, in the event of the platform travelling a predetermined distance beyond a terminal landing

2.10 **guides**

parts of the mast which provide guiding for the transport platform's platform

2.11 **hoistway**

total space which is travelled by the platform and its load, including any offset and clearance

2.12 **in-service**

condition of a transport platform in which the platform (laden or unladen) is in a position other than at the lowest landing level, or in which the platform is at the lowest landing level and laden

2.13 **inspection**

careful scrutiny of equipment or part(s) of that equipment to determine its condition

2.14 landing

area in a building or construction intended for loading and unloading the platform to and from which persons can enter and leave the transport platform

2.15 lift plan

information provided to the person supervising the lifting operation to enable them to complete the operation safely

NOTE: This normally consists of at least the risk assessment, method statement and any relevant drawings.

2.16 load

goods, materials, containers and/or passengers transported by the transport platform within the confines of the platform

NOTE The load includes the operator of the transport platform.

2.17 maintenance

the process of ensuring that a transport platform is kept in a safe state, in efficient working order and in good repair

2.18 mast

structure that supports and guides the transport platform outside the mast structure

2.19 mast tie

anchorage system used to provide lateral restraint to the mast, anchored to the building or other structure

2.20 normal operation

the usual operating conditions for the equipment when in use for carrying persons and materials or persons, but excluding routine maintenance, erection, dismantling etc.

2.21 operator

competent person, authorized by the appointed person (user), who operates the transport platform for its intended use

2.22 out-of-service

condition of a transport platform in which the platform is at the lowest landing level and unladen with the platform positioned at a designated landing level where it has the most shelter from the wind

NOTE 1: This is normally, but not necessarily, ground level.

NOTE 2: The platform is unladen and isolated to prevent unauthorized use.

2.23 overspeed safety device

mechanical device for stopping and maintaining stationary the platform in the event of overspeed in the downward direction

2.24 personnel

2.24.1 appointed person: supplier

competent person appointed by the transport platform supplier who is responsible for planning the installation, risk assessments and method statements for the erection, safe operation, inspection, maintenance, thorough examination and dismantling of the transport platform

2.24.2 appointed person: user

competent person appointed by the management/user organisation who is responsible for providing the risk assessments, devising safe systems of work and other aspects of use of the transport platform

2.24.3 authorised passenger

person who is authorised by their employer to travel on the transport platform, undertakes to follow the instructions of the transport platform operator and is provided with the necessary safety information

2.24.4 competent person

person who has such training, practical skills and theoretical knowledge and such experience of the transport platform and its equipment as are necessary to carry out specific duties and responsibilities

2.24.5 demonstrator

competent person trained, and authorized by the appointed person (supplier), to demonstrate the controls and functions of the transport platform to trained operators

2.24.6 erection supervisor

competent person, authorized by the appointed person (supplier), who is responsible for the erection, reconfiguration and dismantling of transport platforms and who is on site at all times that such work is taking place

NOTE: Also known in the industry as an installation supervisor, a first man or lead erector.

2.24.7 erector

competent person, authorized by the appointed person (supplier), who carries out the erection, reconfiguration and dismantling of transport platforms under the direction of the erection supervisor

NOTE: Also known in the industry as an installer.

2.24.8 operator

competent person, authorized by the appointed person (user), who operates the transport platform controls for its intended use

NOTE: The transport platform is operated by a dedicated authorized operator (see **Table 1**).

2.24.9 transport platform supervisor

competent person, authorised by the appointed person (user), who supervised the use of the transport platform on site

2.25 *platform (load carrying device)*

the vertical travelling part of the installation upon which the person, equipment and materials are carried, including platform guarding, entrance and exit systems. This is as opposed to “transport platform”, which refers to the whole of the installation, including the platform, mast, mast ties, base and chassis. The platform includes the load carrying platform and any extending erection platform

2.26 *rated load*

the maximum load (persons and materials) that the transport platform configuration has been designed to carry in normal operation

2.27 rated number of persons

the maximum number of persons (operator and authorised passengers) that the transport platform configuration has been designed to carry in normal operation

NOTE: *Transport platforms meeting the requirements of EN 16719:2018 are limited to a maximum of seven persons on the platform*

2.28 rated speed

the speed that the platform has been designed to travel when being used as a transport platform

2.29 reconfiguration

the process of changing the configuration of the transport platform within the parameters permitted by the transport platform manufacturer

NOTE: *Examples of reconfiguration are alteration of mast height, the addition or removal of ties and changes to the platform configuration*

2.30 standoff distance

horizontal distance between the landing side of the gate or barrier and any travelling part of the transport platform in normal operation

NOTE *This is referred to as safety distance in BS EN 16719:2018*

2.31 supporting structure

The structure to which ties are fastened e.g. a building, scaffold, bridge or shaft wall

2.32 temporary works

parts of the works that allow or enable construction of, and provide protection, support or access to, the permanent works and which might or might not remain in place at the completion of the works

NOTE *Examples of temporary works are structures, supports, back-propping, earthworks and accesses.*

2.33 thorough examination

examination by a competent person in such depth and detail as the competent person considers necessary to enable them to determine whether the equipment being examined is safe to take into use or continue in use both following installation and periodically

NOTE *The thorough examination is not part of the maintenance regime for the equipment but provides owners with information which could be used to determine the effectiveness of the regime.*

3.0 Legal Commentary

3.1 *The Law Relating to the Use of a Transport Platforms*

Employers who provide work equipment for use at work, (this includes hire companies and user organisations), have duties under health and safety legislation.

The principal legislation applying to the use of transport platforms is:

- Health and Safety at Work etc Act 1974 (HSWA),
- Provision and Use of Work Equipment Regulations 1998 (PUWER),
- Lifting Operations and Lifting Equipment Regulations 1998 (LOLER)
- Work at Height Regulations 2005 (WAHR),
- Management of Health and Safety at Work Regulations 1999 (MHSWR)
- Construction (Design and Management) Regulations 2015 (CDM 2015).

3.2 *The Health and Safety at Work etc Act 1974*

HSWA sets out general duties which employers have towards their employees and members of the public. Duty holders must ensure, so far as is reasonably practicable, the health, safety and welfare of:

- Their employees - section 2(2)(a) in particular, places a duty on employers to provide and maintain “plant and systems of work that are, so far as is reasonably practicable, safe and without risks to health”;
- Other people who may be affected by their work activities such as members of the public (section 3);
- Of any other people who may use, or have access to, the workplace (section 4).

Duty holders also must ensure that, if they design, manufacture, import or supply any article for use at work, that it is designed and constructed to be safe and without risks to health (section 6).

In practice this means that employers need to assess the risks to health and safety and take effective measures to tackle or minimise them.

3.3 *The Provision and Use of Work Equipment Regulations 1998*

PUWER places requirements on duty holders, such as employers and the self-employed, to ensure that equipment provided for use at work is:

- suitable for the intended use;
- maintained in a safe condition;
- used only by people who have received adequate information, instruction and training;
- accompanied by suitable safety measures, e.g. protective devices, markings, warnings.

Details of PUWER, its accompanying Approved Code of Practice and guidance are given in the HSE publication L22 *Safe use of work equipment* which can be downloaded from the HSE website.

3.4 *The Lifting Operations and Lifting Equipment Regulations 1998*

LOLER implements the lifting provisions of the Use of Work Equipment Directive, 95/63/EC and builds upon the requirements of PUWER. LOLER applies to all premises and work situations subject to the HSW Act. It includes requirements to ensure that lifting equipment is:

- Strong and stable enough for the particular use;
- Marked to indicate the rated load;

- Installed to minimise risk;
- Positioned and used safely, i.e. the work is planned, organised and performed by competent people;
- Thoroughly examined by competent people.

The LOLER regulations, and their accompanying Approved Code of Practice and guidance are given in HSE publication L113 which can be downloaded from the HSE website.

3.5 *Work at Height Regulations 2005 (WAH)*

The Work at Height Regulations impose health and safety requirements for work at height. These include:

- organisation and planning;
- hierarchy of control;
- competence and supervision;
- steps to be taken to avoid risk from work at height;
- selection of work equipment;
- inspection of work equipment;
- planning for the easy and timely rescue of persons working at height.

The Regulations define work at height as:

- a) work in any place, including a place at or below ground level;
- b) obtaining access to or egress from such place while at work, except by a staircase in a permanent workplace.

3.6 *Management of Health and Safety at Work Regulations 1999*

MHSWR introduce general provisions for health and safety management. These include risk assessment and co-operation and co-ordination with other employers sharing the same workplace. For example, the supplier who installs a transport platform will need to liaise closely with the user to establish the intended use of the machine. The user must assess the risks at each particular installation on a site. The user must take appropriate precautions to eliminate or control risks identified by the assessment and the supplier must provide information to enable him to do this, see **4.0**. The nature and extent of the risk will dictate what steps need to be taken to control the risk.

3.7 *The Construction (Design and Management) Regulations 2015 (CDM 2015)*

CDM 2015 is divided into five parts:

- Part 1 deals with the application of CDM 2015 and definitions;
- Part 2 covers the duties of clients for all construction projects. These duties apply in full for commercial clients. However, the duties for domestic clients normally pass to other duty holders;
- Part 3 covers the health and safety duties and roles of other duty holders, including:
 - Designers;
 - Principal designers;
 - Principal contractors;
 - Contractors.
- Part 4 contains general requirements for all construction sites;
- Part 5 contains transitional arrangements and revocations.

HSE has published Legal Series guidance L153 which supports CDM 2015 and provides further explanation.

4.0 Management of Installation, Use and Dismantling

4.1 Organisational Arrangements

The user organization, which is the body that procures the transport platform for use on the site, has primary responsibility for the management of the erection, reconfiguration and dismantling, and for the thorough examination, operation and maintenance, of the transport platform.

The safe erection, reconfiguration and dismantling of transport platforms should be planned and carried out in co-ordination with a specialist transport platform supplier, using their knowledge and experience, alongside the user organization's knowledge of the site and intended use of the transport platform.

The two parties should each appoint, in writing, one person, the appointed person (user) and the appointed person (supplier), respectively, who have the responsibilities defined in **2.24.1** and **2.24.2**.

NOTE: It is recognized that the appointed person (user) might need to draw upon the experience, expertise and knowledge of the appointed person (supplier) to assist them in the fulfilment of their responsibilities.

Regular liaison should be maintained between the appointed person (supplier) and the appointed person (user) throughout the project, and especially during the selection and planning of the transport platform installation, when detailed site-specific information and preparation of the site is needed. In cases where the transport platform is hired through a third party (e.g. a scaffolder) this liaison should be maintained throughout the project.

Records of liaison between the two appointed persons should be made and retained.

NOTE: The appointed persons could delegate tasks to other persons where considered appropriate, taking into account the ability, competence and authority of the person concerned.

The appointed persons should check that any tasks delegated to other persons are completed.

To ensure a correct installation of the transport platform, the user organization should carry out the following:

- a) nomination of the appointed person (user) (see **4.2**);
- b) identification of the user organization's requirements including transport platform type, rated load, height of travel, number of landings, types of load, length of time for which the installation is required and frequency of use (see **5.1**);
- c) identification of temporary works requirements (see **5.13**), any necessary approvals and monitoring of completion;
- d) identification of the methods and equipment to be used for loading and unloading the goods/passengers (see **8.3**);
- e) identification of the transport platform location (see **5.16**);
- f) specification of the appropriate transport platform and selection of a suitable transport platform supplier (see **5.1**);
- g) identification of the organizations using the transport platform (see **5.1**);
- h) identification of the persons who are operating the transport platform (see **6.0** and **8.1**);
- i) identification of the training needs of the operators and provision of any necessary training (see **6.0**);
- j) ensure the nomination of the appointed person (supplier) (see **4.3**);
- k) site surveys (**5.16**);
- l) planning of the installation including pre-erection activities (**5.16**);

- m) ensure the safe erection of the transport platform (see **7.0**);
- n) thorough examination of the transport platform (including testing as appropriate) before it is put into use for the first time (see **10.1**);
- o) ensure the formal hand-over of the transport platform to the user organization by the supplier organization, familiarization of the trained operator(s) and supply of information for safe use of the transport platform (see **6.8**);
- p) day-to-day management of the transport platform operation including pre-use checks and emergency procedures (see **8.0**);
- q) maintenance, inspection and in-service thorough examinations (see **9.0** and **10.0**);
- r) record keeping and retention (see **9.7** and **10.11**);
- s) possible reconfigurations of the installation, or changes of use (see **7.5**);
- t) planning for dismantling and removal (see **7.6**);
- u) review of the dismantling and removal planning procedures (see **7.6**);
- v) ensure the safe dismantling of the transport platform and removal from site (see **7.6**);
- w) arrange for investigation and communication of any dangerous occurrences or accidents during use.

These activities should form the basis of the responsibilities of the appointed persons as described in **4.2** and **4.3**.

Safe systems of work should be established and followed in accordance with **6.5**.

4.2 Responsibilities of the appointed person (user)

The appointed person (user) should act on behalf of the user organization and should be responsible for the management (including supervision) of the operation of the transport platform or transport platforms.

NOTE: This appointment does not remove any legal responsibility from the management of the user organization but enables them to use this person's expertise to better fulfil their responsibilities.

The appointed person (user) could have other duties and need not be an employee of the user organization but should have training, theoretical knowledge and experience in accordance with **Table 1**.

The appointed person (user) should, as a minimum, carry out the following:

- a) identify the user organization's requirements, including transport platform type, rated load, height of travel, number of landings, types of load, length of time for which the installation is required and frequency of use;
- b) identification of temporary works requirements (see **5.13**), any necessary approvals and monitoring of completion;
- c) identify the methods to be used for loading and unloading the goods/passengers and the loads imposed on the ramps and landings, including any temporary storage at landings;
- d) identify the transport platform location;
- e) ensure that site surveys are carried out;
- f) specify the appropriate transport platform and select a suitable transport platform supplier;
- g) ensure that the supplier nominates the appointed person (supplier);
- h) in collaboration with the appointed person (supplier), draw up a safe system of work for the operation, inspection, thorough examination and maintenance of the transport platform (see **4.2**);

- i) understand the safe systems of work, method statements and lift plans, and be responsible for making sure that these are implemented (see 4.5);
- j) identify the organizations using the transport platform;
- k) identify the persons operating the transport platform;
- l) identify the training needs of the operators and arrange for the provision of any necessary training;
- m) plan the transport platform installation including pre-erection activities; ensure that planning is carried out for delivery, erection, reconfiguration and dismantling of the transport platform and its removal from the site;
- n) ensure that pre-erection activities are undertaken in a timely manner (including base preparation, delivery and unloading of the transport platform, provision of power, provision of safe access and any necessary exclusion zones);
- o) arrange for thorough examination (including testing as appropriate) to be carried out before the transport platform is put into use for the first time on that site and after any subsequent reconfiguration, selecting a competent organization/person to undertake this task;
- p) ensure that the hand-over to the user organization, demonstration to the trained operator(s), including emergency procedures, and supply of information for safe use is carried out by the supplier (see 4.3p));
- q) carry out day-to-day management of the transport platform operation including pre-use checks, emergency procedures and wind speed monitoring;
- r) arrange for maintenance, inspection and in-service thorough examinations of the transport platform installation and ensure the competence of those undertaking these tasks;
- s) arrange for reporting and rectification of defects;
- t) manage any reconfiguration of the transport platform installation or changes of use;
- u) review the dismantling and removal plan with the appointed person (supplier).

Regular liaison should be maintained between the appointed person (user) and the appointed person (supplier) throughout the project, and especially during the selection and planning of the transport platform installation, when detailed site-specific information and preparation of the site is needed. In cases where the transport platform is hired through a third party (e.g. a scaffolder), this liaison should be maintained throughout the project.

Records of liaison between the two appointed persons should be made and retained.

4.3 Responsibilities of the appointed person (supplier)

The appointed person (supplier) should act on behalf of the transport platform supplier and should be responsible for the transport platform specification (as agreed with the user), the planning and execution of the delivery, erection, reconfiguration, dismantling, removal and maintenance of the transport platform.

NOTE: *This appointment does not remove legal responsibility from the management of the transport platform supplier but enables them to use this person's expertise to better fulfil their responsibilities.*

The appointed person could have other duties and need not be an employee of the transport platform supplier but should have such training, theoretical knowledge and experience in accordance with **Table 1**.

The appointed person (supplier) should, as a minimum, carry out the following, in consultation with the appointed person (user):

- a) identify the user organization's requirements including transport platform type, rated load, height of travel, number of landings, types of load, length of time for which the installation is required, frequency of use;

- b) identification of temporary works requirements (see **5.13**), any necessary approvals and monitoring of completion;
- c) identify the methods to be used for loading and unloading the goods and passengers (see **8.3**);
- d) identify the transport platform location;
- e) specify the appropriate transport platform;
- f) identify the organizations using the transport platform;
- g) identify the persons operating the transport platform;
- h) discuss with the appointed person (user) the training needs of the operators and arrange training as requested;
- i) carry out site surveys;
- j) supply all necessary technical information to the appointed person (user), e.g. tie forces, foundation loads, power requirements;
- k) plan the installation of the transport platform including pre-erection activities;
- l) plan the delivery, erection, reconfiguration and dismantling of the transport platform and its removal from the site;
- m) in collaboration with the appointed person (user), draw up a safe system of work for the delivery, erection, reconfiguration, dismantling and removal of the transport platform (see **4.5**);
- n) work with the appointed person (user) to ensure that the pre-erection activities are undertaken in a timely manner (including base preparation, delivery and unloading of the transport platform, provision of power, safe access and any necessary exclusion zones are in place);
- o) establish from the appointed person (user) who is to conduct the thorough examination (including testing as appropriate) before the transport platform is put into use for the first time;
- p) ensure that the hand-over to the user organization is carried out, including the supply of information for safe use, including inspection and maintenance requirements, and that demonstration to trained operator(s) is made available;
- q) supply information to the appointed person (user) on emergency procedures, including manual lowering of transport platforms to the next available landing;
- r) inform the appointed person (user) of their duty to ensure that maintenance, inspection and in-service thorough examination of the transport platform installation is carried out (see **9.0** and **10.0**);
- s) establish from the appointed person (user) who is to carry out maintenance, inspection and in-service thorough examination of the transport platform installation;
- t) establish from the appointed person (user) the requirements for any reconfiguration of the transport platform, installation or changes of use of the transport platform;
- u) review the plans for dismantling and removal, and conduct a site survey before the start of dismantling paying particular attention to ties and base conditions.

Regular liaison should be maintained between the appointed person (supplier) and the appointed person (user) at all times, and especially during the selection and planning of the transport platform installation, when detailed site-specific information and preparation of the site is needed. Even in cases where the transport platform is hired through a third party (e.g. a scaffolder) this liaison should be maintained throughout the project.

Records of liaison between the two appointed persons should be made and retained.

4.4 Site Specific Risk Assessment

Although the manufacturer addresses the intrinsic hazards associated with the use of these platforms, there is a requirement for site specific risk assessments to be undertaken by the user. This assessment should take note of the following hazards:

- access and egress to and from the platform;
- type of load being lifted, its weight, shape and what it consists of;
- loading and unloading of the platform;
- falling objects;
- the platform striking a person or some other object;
- the transport platform falling over while in use;
- failure of any supporting structures;
- electrical hazards;
- persons falling from a height.

This list is not exhaustive. Some additional hazards are identified in **Annex A**.

The risk assessment should also cover the loading and unloading, installation, examination, operation, maintenance and dismantling. It should be noted that site conditions, and hence the hazards to be considered, may change during the period on site.

Hence there is an implicit need for planning in order to fulfil the requirements highlighted by the Risk Assessment.

The outcome of this planning should be documented and communicated to all parties involved in the erection/dismantling process, including the management of the site on which the activity is to take place. (See 4.5)

Any changes to the use of the transport platform such as changes to site conditions, components or the loads being carried should be discussed with the supplier.

4.5 Safe systems of work and method statements

Both the appointed person (user) and the appointed person (supplier) should co-operate in the establishment of the safe systems of work to be followed in the erection.

NOTE: Safe systems of work can be established for an individual transport platform or for a group of transport platforms. The safe systems of work could also include contributions from interested parties, including the providers of scaffolding, lifting equipment, means of access, foundations and power.

Any contributions from interested parties should be collated by the appointed person (supplier) and the appointed person (user) to produce the safe systems of work, and should be recorded in a series of documented method statements and in-service lift plans.

The following should be documented in the safe systems of work, as applicable:

- a) method statements for the delivery, unloading, erection, and reconfiguration;
- b) dismantling, loading and collection, and operation and maintenance, of the transport platform installation;
- c) procedures for ensuring that the supporting structure can accommodate the tie and foundation loads;
- d) procedures for ensuring that the landing interfaces and hoistway protection are suitably designed, constructed and maintained;
- e) procedures for ensuring that the transport platform erectors have been trained and assessed for competence;

- f) procedures for ensuring that the transport platform is serviceable;
- g) procedures for ensuring that the transport platform operator(s) have been assessed for competence, and provided with familiarization or training as appropriate for the transport platform type supplied, including emergency lowering;
- h) a schedule of loads that might be transported in the transport platform and any special control measures required;
- i) plans for loading and unloading goods/passengers to and from the transport platform, including any additional material handling equipment required;
- j) plans for temporary storage of goods adjacent to landings and at ground level;
- k) plans for the security of loads during transportation;
- l) procedures for rescuing persons trapped in the transport platform at height;
- m) procedures for the inspection and maintenance of the transport platform or transport platforms in accordance with the supplier's instructions;
- n) procedures for provision of adequate supervision of the transport platform delivery, unloading, erection, reconfiguration, operation, dismantling, loading and removal by properly trained, competent and authorized personnel;
- o) procedures to prevent unauthorized operation of transport platforms at all times;
- p) procedures for ensuring the safety of all persons not involved in transport platform operation;
- q) arrangements for the monitoring of wind speed, placing the platform in the designated out-of-service position and ensuring that the transport platform is correctly isolated;
- r) procedures for ensuring that appropriate information is communicated to all parties concerned;
- s) procedures for ensuring that a thorough examination of the transport platform is carried out before first use and after any subsequent reconfiguration;
- t) procedures for ensuring that all necessary instructions, manuals, periodic inspection records, maintenance records, thorough examination reports, other relevant documents, and warning and information signs are provided;
- u) procedures for hand-over of the transport platform to the appointed person (user);
- v) procedures for ensuring that all personnel involved have been made aware of their statutory duties;
- w) procedures for ensuring that third parties are excluded from the working area, and for reducing the likelihood of falling objects;
- x) procedures for ensuring that personnel involved in any way with the transport platform are not under the influence of alcohol or drugs;
- y) procedures for ensuring that personnel involved in any way with the transport platform are able to understand the information provided.

NOTE: This might require information to be supplied in more than one language.

NOTE: These procedures could form part of the Principal Contractors site health and safety plan

5.0 Selection of Transport Platforms, Site Considerations and Installation Planning

5.1 General recommendations

Regulation 4 of the Provision and Use of Work Equipment Regulations 1998 (PUWER) requires that employers ensure that work equipment provided for their employees is the most suitable for the purpose for which it is being used and reduces or eliminates risks to the user and other people.

Selection of the transport platform is a central part of the planning process (see Clause 9) and should take account of the entirety of the planned transport platform usage.

Capacity, size, speed and the number of transport platforms needed should be determined in the selection process.

The appointed person (user) should select the transport platform in co-operation with potential transport platform suppliers who should be consulted for guidance (see 6.3).

When selecting the transport platform, the following should be determined:

- a) mode of use: change of mode during period on site, including the specialized transportation of scaffolding materials (see **5.15**);
- b) duration: the length of time that the transport platform is on site;
- c) power supply requirements: to run the transport platform and to supply peak starting currents, and the availability of a suitable power supply including earth protection (generally RCD) (see **5.3**);
- d) capacity: the maximum number of passengers and/or mass and size of load to be carried on the transport platform at any one time (see **5.4**);
- e) duty: the quantity of goods and/or persons to be moved and the required cycle times;
- f) configuration: both the configuration of the transport platform itself and its intended site position and orientation (see **5.11**);
- g) access to the transport platform at the base: the required access positions to and from the transport platform at ground level (see **5.7**);
- h) landing levels: the required entry points on to the scaffold or structure (see **5.8**);
- i) ties: the number and location of the ties required to restrain the mast(s), the loads imposed, the ability of the structure to support them and access to the ties (see **5.9**);
- j) site constraints: restrictions imposed on the type of transport platform selected, by site constraints, including location, available area for erection, reconfiguration and dismantling, size and type of payload, available tie positions and suitability of the supporting structure (see **5.10**);
- k) siting of the transport platform (see **5.11**);
- l) temporary works: any requirements (see **5.13**);
- m) work programme: time required for all activities (see **5.14**).

5.2 Duration

The length of time that the transport platform is on site should be determined when deciding upon the correct transport platform.

Potential changes of use for the transport platform during the time on site should also be taken into account.

5.3 Power supply requirements and electrical installation

Transport platforms should have a stable power supply which should comply with the manufacturer's requirements in terms of current, voltage and number of phases. For a transport platform to operate correctly the power supply required at start-up could be significantly larger than that required once the transport platform is travelling.

Generators can be used in place of the mains supply, but should be capable of supplying the potentially high starting current of the transport platform.

An unsuitable power supply could result in problems operating the transport platform, with potential power problems on other parts of the site. Small transport platforms may require a single-phase supply and larger transport platforms a 3-phase supply.

To avoid problems with voltage drop, the distance between the isolator and the transport platform should be determined when selecting the conductor size of the connecting power cable. All electrical installations should comply with the latest edition of BS 7671, *Requirements for Electrical Installations*.

The provision of the power supply is the responsibility of the user organization. The user organization should confirm that the electrical supply conforms to the required specification. Once the selected transport platform has been installed and connected to the site power supply, the insulation resistance and continuity of the protective bonding circuit of the supply should be tested.

The power supply, suitably fused, isolated and earthed (usually with an RCD), in accordance BS 7671, should be provided adjacent to the working position on or before the start of the installation, since the transport platform requires a power supply during the erection and dismantle phases.

5.4 Capacity

The capacity of the transport platform should be based upon the weights and geometry of the loads to be lifted.

A transport platform should be selected so that the combined mass of the intended payload, any mechanical handling equipment, e.g. pallet trucks, passengers and the persons involved in loading or unloading the platform, does not exceed the overall rated load or permissible point loads.

If a transport platform is required to take heavy point loads, or loads that cannot be evenly distributed, the transport platform supplier should be consulted with, if necessary, guidance from the manufacturer.

NOTE: *The rated load quoted for a transport platform is for an evenly distributed load.*

An overload limiting and indicating device should be fitted to all transport platforms to reduce the likelihood of overloading the transport platform.

If the transport platform is to be used to transport items that cannot be fitted within the confines of the platform, e.g. scaffold tubes, this should be determined when selecting the transport platform and should be agreed with the transport platform supplier who might be able to make suitable suggestions/alternatives. A safe system of work should be developed in these circumstances.

For further information on the transportation of scaffold material see CPA *Good Practice Guide on Transporting Scaffolding in Construction Hoists*.

5.5 Dual Function

Some machines have a dual function capability of either operation from the platform in "Transport Platform" mode or operation from the base station in "Material Hoist" mode.

When being operated from the base station (in hoist mode), the equipment is subject to the conditions as laid down by LOLER and EN12158-1 (Builders Hoists for Goods). This mode expressly excludes the carrying of persons on the platform except during erection, dismantling, maintenance and thorough examinations.

Should the platform be required to be operated in either of the alternative modes, the employer / duty holder should make provision for both these modes of operation to be taken into account at the planning stage. Dual function machines should always be installed with transport platform clearances, even if the initial intention is to use it as a material hoist.

Both modes of operation should be controlled by a suitably authorised and competent operator. It is essential that the user organisation effectively manages the change from one mode to the other.

5.6 Travel

In some instances, it might not be possible to erect a transport platform to the final top landing height when it is first installed. Most transport platforms can be extended later in the construction programme.

If a transport platform requires extension during the construction programme, the number of extensions needed and the oversail to be left after each extension should be determined when the transport platform is selected. Each installation stage should then be checked for stability and loadings and undergo a thorough examination each time it is reconfigured (see **10.4 and Table 2**).

5.7 Access to the transport platform at the base

When selecting a transport platform, the following should be determined:

- a) whether means of access and egress is needed at both ends of the platform, at the sides of the platform, or all three;
- b) whether mechanical handling equipment is to be used;
- c) whether a ramp or pit should be provided for access to the platform;
- d) whether there is a sufficient loading and unloading area adjacent to the platform;
- e) whether there are adjacent hoists or transport platforms;
- f) whether there is segregation of pedestrian, vehicle and working areas.

5.8 Landing levels

There should be sufficient space on each landing to load and unload items to and from the transport platform. This is particularly important when long and/or bulky materials are to be transported.

The transport platform and type of landing gate should be chosen for their suitability for the scaffold or other landing interface provided and the type of materials to be transported. This is particularly important when loose materials are being transported.

The thresholds and landings should be able to withstand the loads imposed on them. This is particularly important where a pallet truck or other mechanical handling equipment is used, as significant point loads can be transferred to the landing. Where a landing transfers load on to the transport platform structure, the weight of the load should be restricted to avoid overloading. The likelihood of falling materials, overloading and congestion on landings should be determined when storing materials on landings.

5.9 Tie Requirements

When selecting a transport platform, the requirements for tying to the supporting structure should be determined in accordance with the manufacturer's instructions. Supporting structures differ in the tie spacing and tie loads that they can accommodate. The magnitude of the tie loads is dependent on the transport platform type and on the configuration of the ties, i.e. the vertical distance between the ties, and the way in which they are offset from, and connected to, the supporting structure.

The mast or masts should be securely tied to the building or other structure unless the unit is being used freestanding (not supported by ties). These ties should be configured and installed according to the manufacturer's instructions.

All ties should be fixed to a sound structural member, normally a concrete or steel building element or scaffold designed for this purpose. All loads imposed by the ties should be checked to ensure they do not overload such an element. All tie fixings, that connect the tie itself to the building should be selected and installed correctly for required design strength.

All tie loads on the supporting structure should be checked with the appropriate wind loadings for both in and out-of-service conditions, together with due allowance for any site-specific loadings. The supporting structure should be assessed to ensure it can support the horizontal and vertical loads that the transport platform will impose. Advice on out-of-service wind speeds is given in **Annex B**.

The erectors and users of the transport platform should have at least the following information available to them:

- maximum permissible vertical spacing of mast ties;
- maximum vertical length of mast allowable above last tie position;
- the loads imposed at each tie position.

Ties should only be altered by authorised competent transport platform erectors.

Further detailed advice on ties and bases is given in *Tying Construction Hoists & MCWPs to Supporting Structures – Good Practice Guide*. Construction Plant-hire Association (free download from www.cpa.uk.net)

5.10 Site constraints

The following site constraints should be taken into account when selecting a transport platform:

- a) any limitations on the area available for the transport platform, in terms of both ground area and tie locations, e.g. interface with cladding, offset/standoff distance, facade shape;
- b) any limitation of access to the site and to the intended location of the transport platform, e.g. if the transport platform is to be placed in a lift well or in a courtyard where crane access is difficult;
- c) any limitation of access to the site for transport platform removal;

NOTE: Failure to consider this point might increase the difficulty and time required to remove the transport platform.

- d) any limitations on the size and weight of component parts;
- e) any ground conditions that could limit the foundation load;
- f) location of hazards such as power lines and railway tracks;
- g) changes to the site during progress of the work;
- h) other work adjacent to the installation position which might take place during the period when the transport platform is on site;
- i) the need to protect members of the public;
- j) limitations on working hours and noise levels;
- k) environmental factors, including wind, rain, ice, snow and light levels.

5.11 Siting of the transport platform

The siting of the transport platform should be determined at the earliest opportunity in the planning stages of the work to allow integration of the transport platform into the logistics plan for the overall site work programme (see 8.15) and should allow for:

- a) access routes to be provided for both personnel and materials (see Clause 9);
- b) temporary works, plant or equipment in the vicinity of the transport platform to ensure safe running clearances.

5.12 Base Requirements

Many factors may affect the overall stability of a transport platform, the base requirements being one of the most critical. Note should be taken of all aspects of the erection, examination, operation, maintenance, reconfiguration and dismantling of the transport platform as well as the following factors:

- ground conditions – no mud or debris under the machine/mast base;
- ground conditions should be stable;
- ground/base should be suitable for all foreseeable imposed loads – check allowable ground pressures or support structure integrity;
- different requirements for single/twin masted units and possibly different mast heights;
- different requirements for bases sitting directly on the ground and those with levelling jacks, including jack legs used during the erection/dismantling process;
- preparation of unit prior to installation with respect to any transport specific items i.e. supports, link bars etc;
- possible requirements for bolting the bases down or counter weighting them to give stability;
- proximity of underground services.

This list is not exhaustive.

Guidance on the assessment of ground conditions is given in *Ground Conditions for Construction Plant - Good Practice Guide*. Strategic Forum for Construction - Plant Safety Group (free download from www.cpa.uk.net)

5.13 Temporary works

Where necessary, temporary works should be carried out to enable a transport platform to be installed. Temporary works could include:

- support for the transport platform base;
- access for delivery of the transport platform to its intended location;
- tie connection points to the supporting structure;
- access to the tie connection points;
- landings, run-offs and hoistway protection.

5.14 Work programme

The work programme should allow time to carry out the following:

- a) procurement, configuration and preparation of the transport platform by the supplier;
- b) preparation and review of documentation including risk assessment, method statements, installation/removal and in-service lift plans that document the safe system of work to be followed;

- c) base preparation and completion to accept design loads;
- d) site specific inductions;
- e) installation and checking of the power supply;
- f) erection of the transport platform;
- g) completion of hoistway protection, run-offs, landings, edge protection and any base ramp, which should be completed before the transport platform installation is offered for thorough examination;
- h) thorough examinations and testing;
- i) operator training;
- j) hand-over including demonstration;
- k) daily pre-use checks;
- l) weekly inspections;
- m) maintenance;
- n) any reconfiguration;
- o) dismantling of the transport platform and removal from the site.

5.15 Transportation of scaffolding

Transport platforms used for transporting scaffolding materials during the erection and dismantling of scaffolding are referred to as a temporary scaffolding transportation system (TSTS) to differentiate them from transport platforms used conventionally. The term TSTS includes all forms of construction hoist, including transport platforms, used for this purpose.

The transport platform supplier, scaffolding contractor and site management should work together when planning, operating and supervising the use of a TSTS for transporting scaffold materials. To eliminate the likelihood of hazards, the TSTS selected should be properly equipped, a safe system of work put in place, and personnel trained, familiarized, assessed as competent and supervised. It should be the responsibility of the user organization to carry out risk assessments.

In undertaking the risk assessments, the user organization should consult with the transport platform supplier and scaffolding contractor. The user organization should then prepare a method statement to document the safe system of work to be followed.

When a transport platform is delivered to a site and erected adjacent to scaffolding, it is common practice for the scaffolding contractors to use the machine to carry scaffold materials as the scaffolding is extended to the higher levels. Both transport platform erectors and scaffolders should be trained and competent to work at heights when installing equipment.

Scaffolders work in situations where scaffold guard rails and platforms have yet to be installed. They can therefore take on the extra responsibilities of operating transport platforms for transporting scaffolding materials when gates and hoistway protection have yet to be installed.

Scaffolders should undertake training in the specific skills of operating the TSTS if they are to operate transport platforms for transporting scaffolding materials when gates and hoistway protection have not been installed.

During the time that a transport platform is specially adapted as a TSTS for use by scaffolding contractors, it should not be operated by any other person on the site, apart from the transport platform supplier's personnel and should not be used for any other purpose.

Once all gates and hoistway protection are in place, the whole transport platform installation should be thoroughly examined before it is handed over to the user organisation for use as a transport platform.

Detailed guidance on the planning and safe use of TSTSs, including procedures before handing over the TSTS to scaffolders is given in *Transporting Scaffolding in Construction Hoists (Including Transport Platforms) – Good Practice Guide*. Construction Plant-hire Association (free download from www.cpa.uk.net)

5.16 Planning the Installation

Before work commences on the installation of a transport platform, the appointed person (supplier) should undertake an assessment of the work to be carried out and ensure that a method statement is produced to determine how the safe installation and subsequent removal of the transport platform will proceed.

A site survey should be carried out. A checklist for a site survey should include the following, and should cover erection, reconfiguration and dismantling:

- a) primary purpose for which transport platforms are to be used, as established with the client at the outset, together with any other additional requirements for each unit, e.g. prevention of falling debris;
- b) maximum height of travel;
- c) transport platform loading capacity and method of loading to be agreed with the user;
- d) access and egress of personnel and materials;
- e) ground/supporting base conditions (levels and load bearing capacity);
- f) area conditions around base;
- g) tie fixing point strengths and fixing point details on the structure, including suitable means of access to such points for installation, reconfiguration, inspection, maintenance, thorough examination and dismantling;
- h) the strength of the structure both horizontally and vertically to support the transport platform, as assessed by the appointed person (user);
- i) any potential increases of wind areas, e.g. debris netting, banners, signage, weather protection, fencing;
- j) uninsulated electrical conductors in the vicinity of transport platform should be adequately shielded, isolated or moved;
- k) whether the power supply and connection arrangements are suitably located with adequate earth protection and power capacity;
- l) base and landing;
- m) access provisions to and from site for the transport platform – details/obstacles – and provision of suitable task lighting for these operations;
- n) off-loading the equipment from the delivery vehicle;
- o) potential cable snagging hazards;
- p) access provision for maintenance;
- q) a check on the likely loads to be carried, which should be within the transport platform's Rated Load during erection as specified by the manufacturer;
- r) consideration of works adjacent to the transport platform installation;
- s) inclusion of photographs of relevant areas (e.g. access/egress to location, façade for installation, ground conditions).

Due to the weight and size of many of the component parts that will need to be installed by the erectors of this equipment, the method statement should take into account and detail how such parts will be handled. For instance, is there any form of lifting equipment available to assist the transport platform erector in the positioning of the mast sections or other components?

5.17 Protection

The type and style of protection from the moving parts of the transport platform at adjacent areas surrounding the base, landings and other accessible areas should be ascertained from the risk assessment.

The distance that the platform is set away from the building or any accessible point determines the requirements for landing equipment. Due account should be taken of the manufacturer's instructions.

5.17.1 Base Enclosure

The base of a transport platform can be protected by either a full height (at least 2m) or reduced height (minimum 1.1m) base enclosure. The requirements for these, from EN 16719, are as follows:

5.17.1.1 Full height enclosure

The transport platform base enclosure should protect all sides to a height of at least 2,0 m and should conform to Clause 5.5.4 of EN 16719 and have a clearance of at least 0,5 m between the enclosure and the inner face of platform where a shearing hazard exists.

Measures should be put in place to prevent persons entering the space between the enclosure and the platform and remaining there once the entrance gate is closed

Entrance gates should be fitted with a locking device such that it should not be possible under normal operating conditions

- a) to open the entrance gate unless the platform floor is within ± 0.15 m of the base level,
- b) to start or keep in motion the platform unless the entrance gate is in a closed and locked position;

5.17.1.2 Reduced height enclosure

The height of the transport platform base enclosure can be less than 2.0 m but not less than 1,1 m provided that:

- a) the distance between the base enclosure and any moving part of the transport platform is at least 0.5 m but no more than 2 m (in order to reduce the likelihood of material storage within the base enclosure);
- b) the base enclosure consists of at least a guard rail with intermediate rail(s) with a free space of no more than 0.6 m;
- c) the enclosure and gate comply with Clause 5.5.4 of EN 16719;
- d) the stopping distance of the platform with rated load and rated speed is not more than 0,1 m, in the down direction;
- e) the downward movement should be automatically stopped at a height of 2 m above base level by a safety device in accordance with Clause 5.10 of EN 16719. Further downward movement should only be possible after release and reselection of the down control. A 3 second time delay is required between reselection of the down control and movement of the platform. An audible alarm will sound on selection of the down control for restart and continues to sound for the remainder of the descent. The sound level of the audible alarm should be in accordance with EN ISO 7731:2008;
- f) where parts of the enclosure are less than 0,5 m from moving parts of the transport platform, they should be made according to EN ISO 13857:2008, Table 1.

5.17.2 Landing Protection.

Each and every landing should be fitted with a landing gate interface which should comply with the requirements of Clause 5.5.3 of EN 16719:2018, *Transport platforms*. This sets out requirements for gate materials, sizes, clearances and interlocking. When using reduced height gates, it is essential that safe clearances are maintained to reduce the risk of people in the platform or on landings from falling or being struck by any part of the moving transport platform (see **Figures 1 & 2**)

5.17.3 Falling object protection

To reduce the risk of persons inside the carrier being struck by falling objects and items that protrude into the hoistway, the platform should be fitted with a falling object protection guard which should cover all the platform area. The guard:

- should be a minimum height of 2,0 m above the platform floor;
- should be designed for a load of 1,0 kN applied on any point of 0,1 m x 0,1 m.;
- alternatively, the guard should be able to withstand the impact of a steel ball weighing 7 kg, falling from a height of 2 m, without plastic deformations exceeding 50 mm).
- where the guard is perforated, the openings should not allow the passage of a 25 mm sphere.

5.17.4 Platform Gates

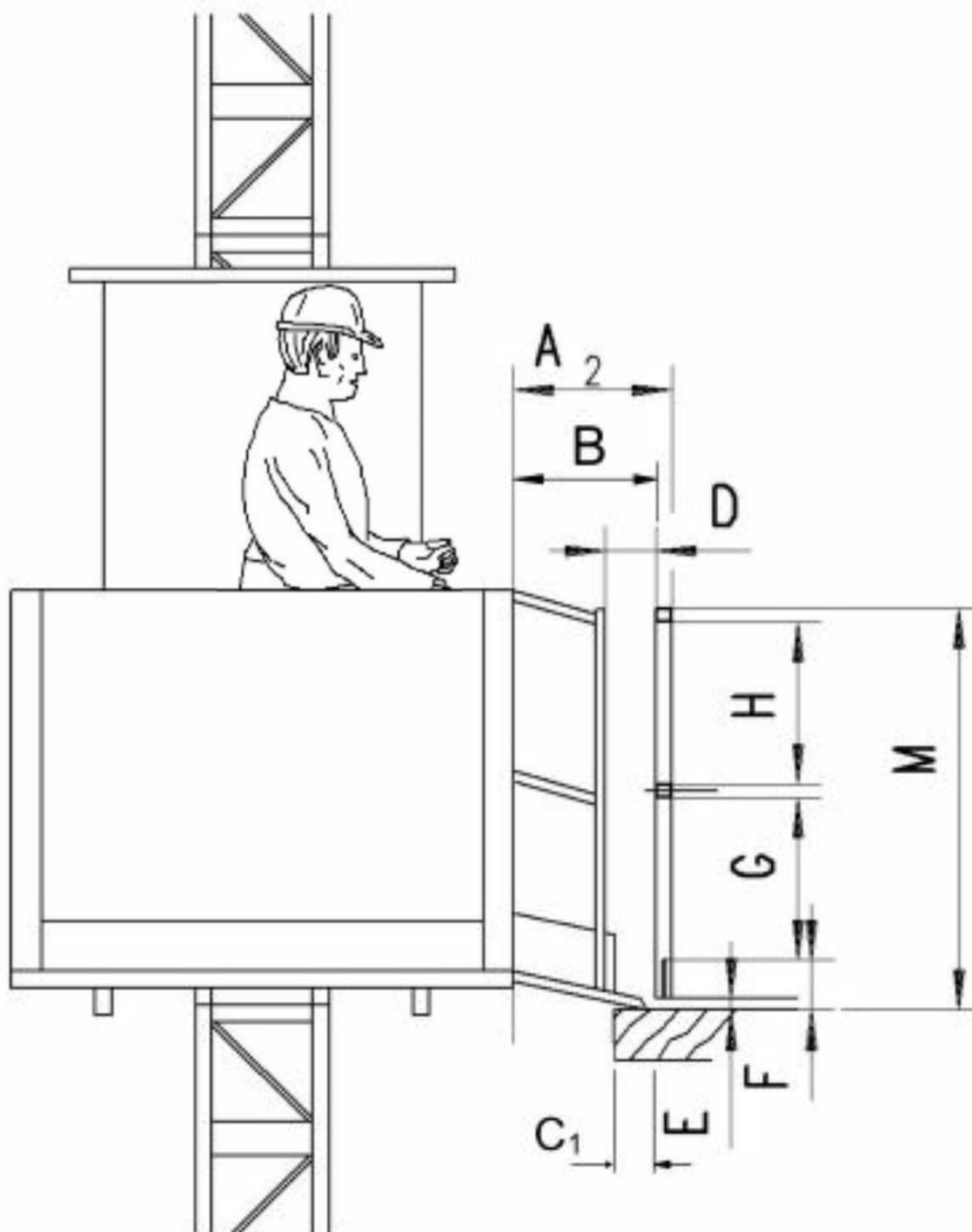
The requirements for platform gates are detailed in Clause 5.6.1.5 of EN 16719:2018

Requirements for latching and interlocking differ depending on whether the gates open in the direction of falling or not i.e. gates open outwards or inwards. A summary of the requirements is shown in **Figure 3**.

5.18 *Access, Component Storage and Erection Area*

Suitable access to the erection/dismantle area for the delivery vehicle and lifting equipment should be agreed and provided by the site management. This area should be sited adjacent to the erection location and give adequate room for component storage and the erection of the unit.

Site personnel should be advised of the intended installation and warned of the hazards that may result.



Key

$A_2 \geq 0,5 \text{ m}$

$B \geq 0,4 \text{ m}$

$C_1 \leq 0,15 \text{ m}$

$D \leq 0,15 \text{ m}$

$E \leq 35 \text{ mm}$

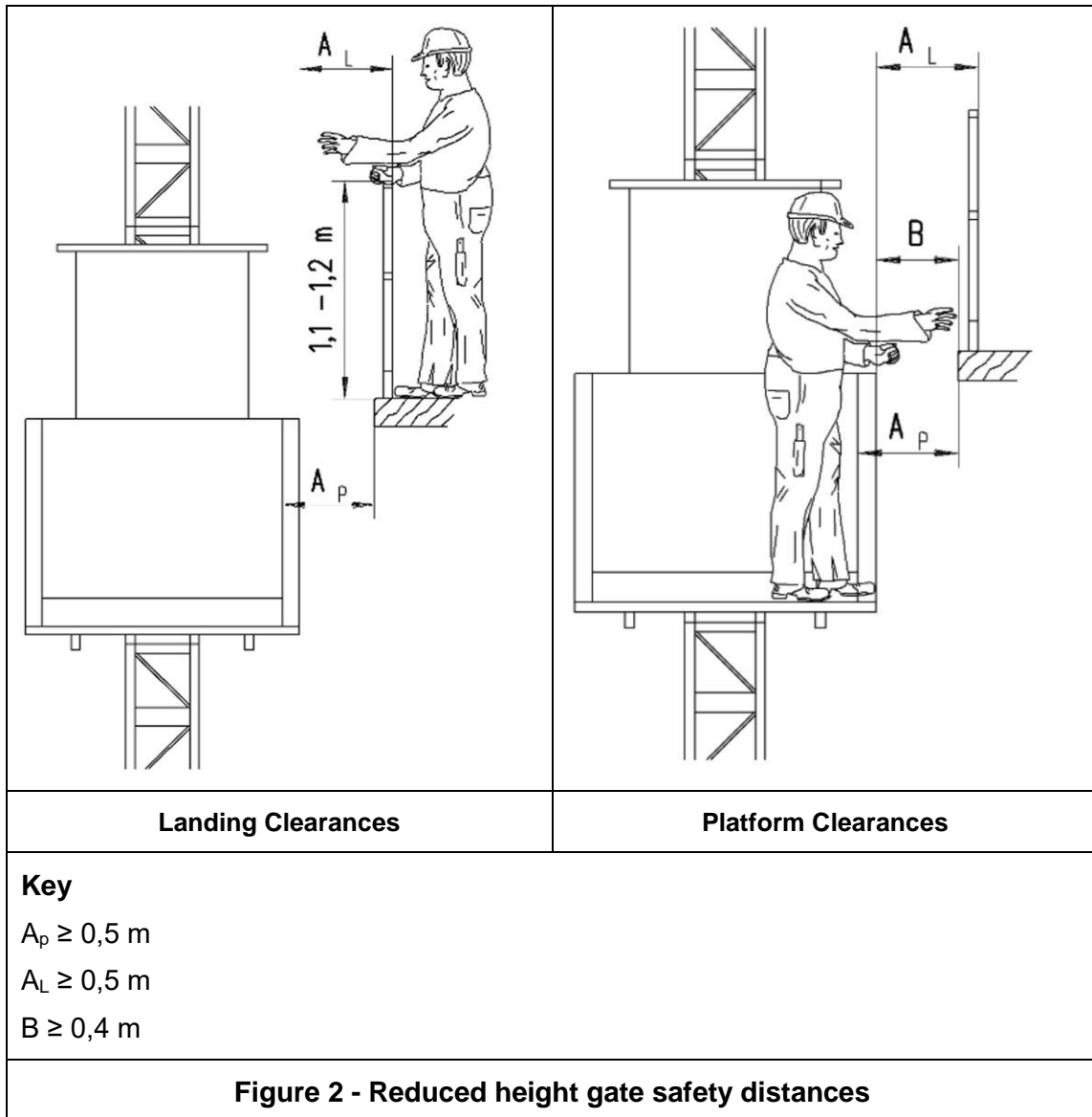
$F \geq 0,15 \text{ m}$

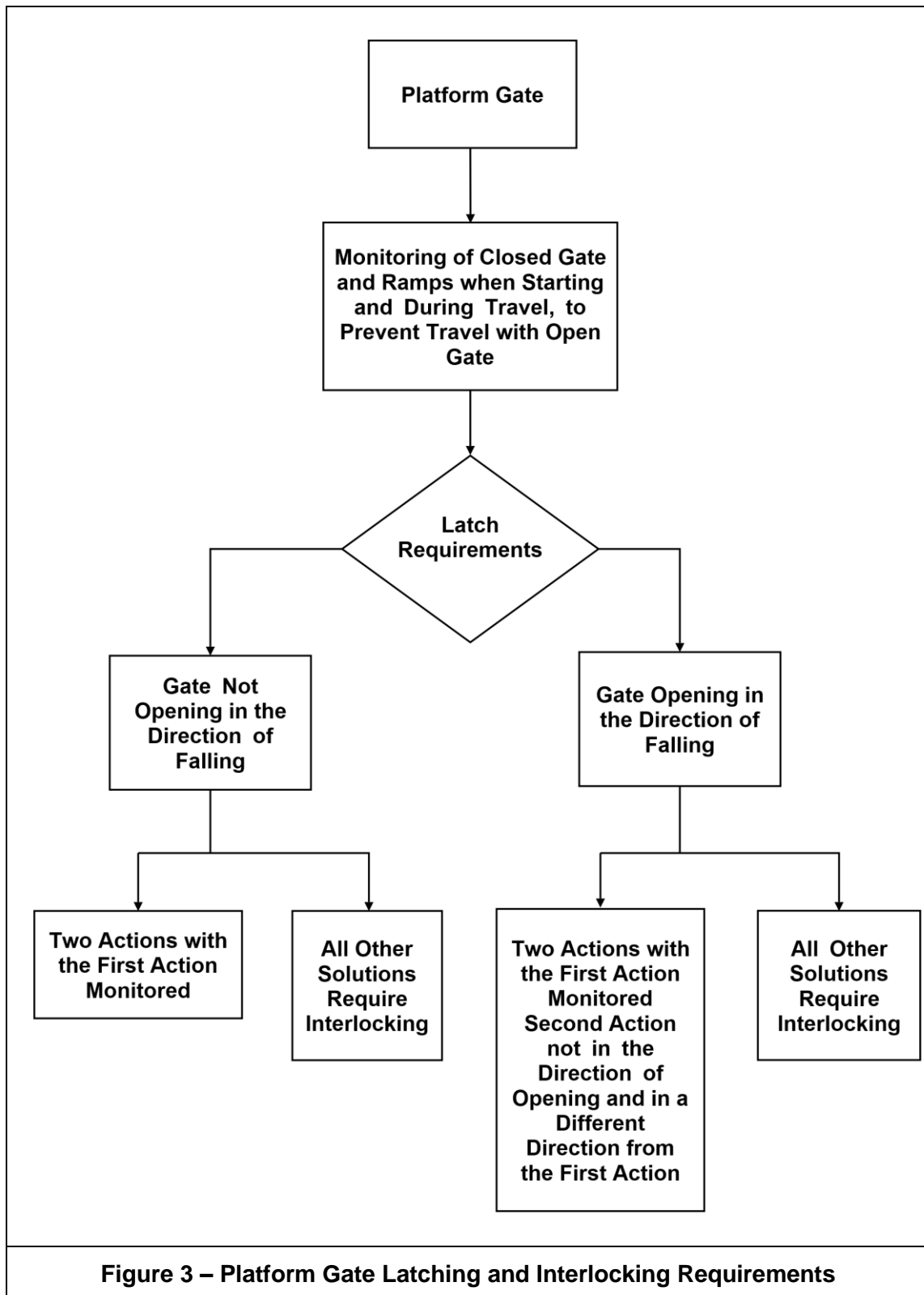
$G \leq 0,5 \text{ m}$

$H \leq 0,5 \text{ m}$

$M = 1,1 \text{ m to } 1,2 \text{ m}$

Figure 1 - Example of a Reduced Height Landing Gate





6.0 Personnel – Selection and Training

6.1 General

Persons associated with the erection, reconfiguration and dismantling, and the operation, inspection, thorough examination and maintenance of transport platforms should include:

- a) appointed person (user);
- b) appointed person (supplier);
- c) transport platform supervisor;
- d) transport platform erection supervisor;
- e) transport platform erector;
- f) transport platform demonstrator;
- g) transport platform operator (dedicated);
- i) maintenance personnel;
- j) competent person carrying out thorough examination.

6.2 Selection of personnel

All persons who are selected to carry out the erection, reconfiguration and dismantling, and the operation, inspection, thorough examination and maintenance of transport platforms should be trained and competent to carry out all their duties and responsibilities in accordance with **Table 1**.

Records of their training and experience should be consulted to assist in this selection, see also **6.3**.

Persons responsible for selection should ensure that all personnel are aware of their duties.

NOTE: One person could carry out multiple job functions, with the exception of combining the roles of the two appointed persons, and the erection supervisor carrying out a thorough examination of a transport platform they have erected/ reconfigured/ dismantled.

NOTE: Attention is drawn to the Management of Health and Safety at Work Regulations 1999.

6.3 Training and competence

All persons associated with the provision and use of transport platforms should be trained and competent to carry out their duties and responsibilities (see **Table 1**).

NOTE: The training of personnel can be formal or informal depending on circumstances. Formal training is a structured approach involving a teaching body, informal training is on-the-job training, learning from a mentor as in an apprenticeship.

NOTE: In addition to the provision of appropriate training all personnel should have their competence to carry out the tasks allotted to them assessed. This assessment should be recorded and reviewed at appropriate intervals. Additional assessment of competence should be carried out if additional skills are required to perform new tasks.

Training should be followed by supervised, on-the-job practice in specific roles and responsibilities.

Once attained, competencies should be reviewed, and further training and assessment provided, where necessary, to reflect changes in practices and products.

The individual employer should be responsible for determining the training needs of persons, and for making the necessary arrangements for training and supervised practice.

NOTE: In the case of self-employed persons, the employing organisation need to satisfy themselves that the self-employed person is competent.

Training and supervised practice should be recorded by the employer. If a training provider issues a certificate stating competencies achieved by a trainee, their employer should retain a copy.

6.4 Person carrying out daily or pre-use checks

Only a competent, trained person, authorized by the appointed person (user) to inspect the transport platform should carry out daily or pre-use checks (see **9.6.2**).

NOTE: A transport platform operator could perform this task provided that they meet these criteria.

6.5 Maintenance personnel

Maintenance and inspection activities should only be carried out by those who possess knowledge of and expertise in the particular transport platform and have been assessed as competent to carry out the work (see **Table 1**).

NOTE: Maintenance is usually carried out by a service engineer employed by the owner of the transport platform, however the responsibility for ensuring that this is carried out rests with the user.

6.6 Person carrying out thorough examinations

A competent person should carry out thorough examinations (see **Table 1**).

The competent person should be sufficiently independent and impartial to allow objective decisions to be made.

The competent person does not have to be from an external source. If the transport platform supplier or the user organization have the necessary competence within their own organization, they are permitted to use it (see **10.8**).

However, if the competent person is appointed from within, the user organization should ensure that the competent person has the authority and independence to ensure that examinations are carried out correctly and that the recommendations arising from them are carried out.

All competent persons should be assessed on appointment, again within their first 12 months, and at regular intervals (not exceeding four years) thereafter.

Assessment should form part of any training.

Further information on competent persons carrying out thorough examination can be found in Clause **14.0** of *Maintenance, Inspection and Thorough Examination of Construction Hoists – Best Practice Guide*. Construction Plant-hire Association (free download from www.cpa.uk.net)

6.7 Machine Familiarisation

Operators should receive product familiarisation on the specific machine type that they are to operate. This should include:

- maximum permitted operating wind speed;
- specific location and function of its safety devices;
- safe operation of the emergency lowering devices to the nearest available access/egress point;
- rated load (materials and persons);
- loading/unloading procedures;
- distribution of the load on the platform.

6.8 Further Information

Detailed information on competence assessment is given in *Competence to Operate Construction Plant - Good Practice Guide*. Strategic Forum for Construction - Plant Safety Group (free download from www.cpa.uk.net)

Role	Duties and Responsibilities	Attributes
Appointed person (user)	See 4.2	<p>Minimum two years relevant experience.</p> <p>Basic mechanical and electrical awareness.</p> <p>Ability to read drawings and understand construction methods.</p> <p>Ability to develop and document safe systems of work, including undertaking risk assessments.</p> <p>Working knowledge of the principles and practice of health and safety legislation.</p> <p>Awareness of personal responsibilities under the law (civil and criminal), for their own safety and that of others.</p> <p>Awareness of all other activities on the site.</p> <p>Ability to exercise the authority given to them to fulfil their responsibilities.</p> <p>Thorough knowledge of the specific site conditions.</p> <p>Familiar with BS 7212 and supporting guidance.</p>
Appointed person (supplier)	See 4.3	<p>Minimum two years relevant experience.</p> <p>Physically fit to undertake site survey.</p> <p>Basic mechanical and electrical awareness.</p> <p>Ability to read drawings and understand construction methods.</p> <p>Ability to develop and document safe systems of work, including undertaking risk assessments.</p> <p>Working knowledge of the principles and practice of health and safety legislation.</p> <p>Awareness of personal responsibilities under the law (civil and criminal), for their own safety and that of others.</p> <p>Ability to exercise the authority given to them to fulfil their responsibilities.</p> <p>Knowledge of the transport platform and the transport platform manufacturer's manual.</p> <p>Understanding of basic mechanical and electrical parameters of the transport platform installation.</p> <p>Familiar with BS 7212 and supporting guidance.</p>
Table 1 – Minimum Attributes of Personnel		

Role	Duties and Responsibilities	Attributes
Transport platform supervisor	<p>To be responsible to the appointed person (user).</p> <p>To ensure that the transport platform is used safely.</p> <p>To be familiar with the lift plan and ensure that only items on the lift plan are transported.</p> <p>To ensure that any additional items to be transported are brought to the attention of the appointed person (user).</p> <p>To ensure that daily pre-use checks and weekly inspections are carried out and that any reported defects are rectified before transport platforms continue in use.</p> <p>To ensure they monitor all other activities on the site that may affect the use of the transport platform.</p> <p>To ensure that transport platform time is allocated.</p> <p>To ensure that transport platforms are maintained and that records are kept.</p> <p>Thorough knowledge of the specific site conditions.</p> <p>To ensure that the transport platform is taken out of service and isolated at the end of the working period or in adverse weather conditions.</p>	<p>Minimum two years relevant experience.</p> <p>Basic mechanical and electrical awareness.</p> <p>Ability to read drawings and understand construction methods.</p> <p>Ability to develop and document safe systems of work, including undertaking risk assessments.</p> <p>Working knowledge of the principles and practice of health and safety legislation.</p> <p>Awareness of personal responsibilities under the law (civil and criminal), for their own safety and that of others.</p> <p>Ability to exercise the authority given to them to fulfil their responsibilities.</p>
Erection supervisor	<p>To communicate with both the appointed person (supplier) and the appointed person (user) before and during the task to be carried out.</p> <p>To supervise the erectors.</p> <p>To understand the manufacturer and model specific transport platform configuration parameters.</p> <p>To become familiar with the site and the task to be carried out using the method statement provided by the appointed person (supplier).</p> <p>To erect, reconfigure and dismantle the transport platform or transport platforms according to the manufacturer's instructions and the site-specific method statement.</p> <p>To install and test ties and anchors according to the manufacturer's instructions (where required).</p> <p>To operate the transport platform safely.</p>	<p>Physically fit, particularly with regard to eyesight, hearing and reflexes, and ability to accurately judge distances, heights and clearances.</p> <p>Ability to lift transport platform components and materials safely.</p> <p>Ability to operate the transport platform safely.</p> <p>Ability to supervise the erectors.</p> <p>Basic mechanical and electrical awareness.</p> <p>Awareness of basic health and safety practice, including asbestos awareness.</p> <p>Awareness of personal responsibilities under the law (civil and criminal), for their own safety and that of others.</p> <p>Ability to work at heights using appropriate fall protection equipment and other PPE.</p> <p>Ability to establish weights.</p> <p>Knowledge of slinging and signalling and the selection and safe use of the appropriate lifting gear.</p> <p>Knowledge and practical experience of the erection, reconfiguration and dismantling of the particular transport platform and the setting and testing of all safety devices.</p> <p>Thorough knowledge of all emergency and safety systems on the transport platform.</p>
Table 1 – Minimum Attributes of Personnel (continued)		

Role	Duties and Responsibilities	Attributes
Erector	<p>To work under the direction of the erection supervisor.</p> <p>To understand the manufacturer and model specific transport platform configuration parameters.</p> <p>To become familiar with the site and the task to be carried out using the method statement provided by the appointed person (supplier).</p> <p>To erect, reconfigure and dismantle the transport platform or transport platforms according to the manufacturer's instructions and the site-specific method statement as directed by the erection supervisor.</p> <p>To operate the transport platform safely.</p>	<p>Physically fit, particularly with regard to eyesight, hearing and reflexes, and ability to accurately judge distances, heights and clearances.</p> <p>Ability to operate the transport platform safely.</p> <p>Basic mechanical and electrical awareness.</p> <p>Awareness of personal responsibilities under the law (civil and criminal), for their own safety and that of others.</p> <p>Awareness of basic health and safety practice, including asbestos awareness.</p> <p>Ability to work at heights using appropriate fall protection equipment and other PPE.</p> <p>Ability to establish weights.</p> <p>Knowledge of slinging and signalling and the selection and safe use of the appropriate lifting gear.</p> <p>Knowledge and practical experience of the erection, reconfiguration and dismantling of the particular transport platform and the setting and testing of all safety devices.</p> <p>Thorough knowledge of all emergency and safety systems on the transport platform.</p>
Demonstrator	<p>To communicate with both the appointed person (supplier) and the appointed person (user) before and after the task to be carried out.</p> <p>To demonstrate, to trained operators only, the following:</p> <ul style="list-style-type: none"> • the controls and functions of the transport platform; • the emergency lowering procedures for transport platforms; <p>Limitations on the loading, positioning and securing of materials on to the transport platform;</p> <p>The limiting operational parameters of the specific transport platform.</p> <p>To explain all the safety and emergency systems on the transport platform.</p> <p>To provide information and/or explanation on the daily pre-use checks and weekly inspections to the competent persons nominated to carry them out.</p>	<p>Physically fit, particularly with regard to eyesight, hearing and reflexes, and ability to accurately judge distances, heights and clearances.</p> <p>Ability to operate the transport platform safely.</p> <p>Basic mechanical and electrical awareness.</p> <p>Awareness of personal responsibilities under the law (civil and criminal), for their own safety and that of others.</p> <p>Awareness of basic health and safety practice.</p> <p>Ability to work confidently and safely at heights.</p> <p>Ability to convey information in a comprehensible manner.</p> <p>Knowledge of the transport platform and of the transport platform manufacturer's instruction manual.</p> <p>Practical experience of the normal and emergency operation of the transport platform types being demonstrated.</p>
Table 1 – Minimum Attributes of Personnel (continued)		

Role	Duties and Responsibilities	Attributes
Operator (dedicated)	<p>To communicate effectively with both the appointed person (supplier) and the appointed person (user) before and during the task to be carried out.</p> <p>To operate the transport platform correctly in accordance with the manufacturer's instructions, the demonstration provided, the site conditions, and to only transport goods/passengers in accordance with the lift plan.</p> <p>To carry out and record daily pre-use checks and report any defects to their supervisor.</p>	<p>Physically fit, particularly with regard to eyesight, hearing and reflexes, and ability to accurately judge distances, heights and clearances.</p> <p>Ability to operate the transport platform safely.</p> <p>Awareness of basic health and safety practice.</p> <p>Awareness of personal responsibilities under the law (civil and criminal), for their own safety and that of others.</p> <p>Ability to work confidently and safely at heights.</p> <p>Ability to interpret the load diagrams and lift plan.</p> <p>Trained in the operation of the type of transport platform being operated and have a working knowledge of the use of the emergency lowering procedures for transport platforms.</p> <p>Knowledge of the transport platform and its safety systems.</p>
Maintenance personnel	<p>To communicate with both the appointed person (supplier) and the appointed person (user) before and during the task to be carried out.</p> <p>To maintain the transport platform in accordance with the manufacturer's instructions and record all defects found, rectification and maintenance carried out.</p> <p>To carry out maintenance in accordance with safe systems of work and any permit to work.</p>	<p>Physically fit, particularly with regard to eyesight, hearing and reflexes, and ability to accurately judge distances, heights and clearances.</p> <p>Ability to lift transport platform components and materials safely.</p> <p>Ability to understand information required to carry out maintenance.</p> <p>Ability to operate the transport platform safely.</p> <p>Awareness of basic health and safety practice.</p> <p>Awareness of personal responsibilities under the law (civil and criminal), for their own safety and that of others.</p> <p>Ability to work confidently and safely at heights using appropriate fall protection equipment and other personal protection equipment.</p> <p>Knowledge of slinging and signalling and the selection and safe use of the appropriate lifting gear.</p> <p>Knowledge of the mechanical and electrical machinery they are required to maintain.</p> <p>Practical experience of mechanical and electrical maintenance relevant to the transport platform type.</p> <p>Knowledge of the maintenance requirements of the particular transport platform installation and setting and testing of all safety devices.</p> <p>Ability to keep accurate records of all maintenance work carried out.</p>
Table 1 – Minimum Attributes of Personnel (continued)		

Role	Duties and Responsibilities	Attributes
Competent person carrying out thorough examination	<p>To communicate with both the appointed person (supplier) and the appointed person (user) before and during the task to be carried out.</p> <p>To carry out a thorough examination of the complete transport platform installation.</p> <p>To report verbally and in writing on the findings of the thorough examination including whether or not the transport platform installation is safe to use.</p>	<p>Physically fit, particularly with regard to hearing and eyesight.</p> <p>Working knowledge of the principles and practice of health and safety legislation.</p> <p>Awareness of personal responsibilities under the law (civil and criminal), for their own safety and that of others.</p> <p>Practical experience of working on sites. Ability to work confidently and safely at heights using appropriate fall protection equipment and other PPE.</p> <p>Knowledge of the principles and practice of carrying out thorough examinations (including testing) within a defined scope of examination.</p> <p><i>NOTE Attention is drawn to Lifting Operations and Lifting Equipment Regulations (LOLER) 1998 [2].</i></p> <p>Theoretical knowledge and practical experience of the specific transport platform to detect defects or weaknesses and to assess their importance in relation to the safety of the transport platform and its fitness for continued use. Ability to produce accurate written reports.</p>
<p>NOTE: The following ages indicates the age at which a person can be expected to have gained the experience, maturity and competence to carry out their duties and responsibilities:</p> <p>a) appointed person (user): 25 years old;</p> <p>b) appointed person (supplier): 25 years old;</p> <p>c) hoist supervisor: 22 years old;</p> <p>d) erection supervisor: 25 years old;</p> <p>e) erector: 22 years old (unless undergoing supervised training);</p> <p>f) demonstrator: 22 years old;</p> <p>g) operator: 18 years old (except when under the direct supervision of a competent person for the purpose of training);</p> <p>h) competent person carrying out thorough examination: 25 years old.</p>		
Table 1 – Minimum Attributes of Personnel (continued)		

7.0 Erection, Reconfiguration and Dismantling

7.1 Personnel

Personnel should not be permitted to erect, reconfigure or dismantle a transport platform unless they are trained, competent and authorized to do so, in accordance with **4.0**, or are undergoing formal training under supervision.

The user organization should ensure that all personnel carrying out the erection, reconfiguration or dismantling of transport platforms are physically and mentally fit to undertake the work, in accordance with **Table 1**.

The user organization, together with the employers of personnel carrying out the work should ensure that all personnel understand the potential hazards associated with erection, reconfiguration and dismantling of the transport platform, including means of access/egress at height and stability of the structure.

NOTE: Attention is drawn to *The Work at Height Regulations 2005*.

The user organization, together with the employers of personnel carrying out the work, should ensure that all personnel are trained and competent in the use of personal fall protection, work restraint, work positioning, fall arrest or rescue systems, including attachment to anchor points on the platform, prior to starting work.

NOTE: Fall protection PPE will normally only be required during erection, reconfiguration or dismantling.

The personal fall protection equipment supplied should be fit for use, inspected and records kept. Defective equipment should be removed from service immediately.

The appointed person (supplier) should consult the appointed person (user) to ensure planning for rescue at height, which may involve the emergency services, is contained within the total site rescue planning process.

When selecting personnel to erect, reconfigure and dismantle transport platforms, it should be borne in mind that for the tasks to be undertaken safely, a reasonable degree of physical and mental fitness is required.

7.2 Information

Before erecting, reconfiguring or dismantling a transport platform, adequate information required for these tasks should be made available to the personnel involved. This should include as a minimum:

- the manufacturer's recommended methods of erection/dismantling;
- the operating procedures;
- a site-specific method statement resulting from the planning process and risk assessment;
- the post-installation inspection and testing report.

7.3 Erection

Personnel erecting the transport platform should:

- obtain an erection method statement produced by the appointed person (supplier) before they commence work;
- attend a briefing to confirm the tasks to be carried out and should raise areas of concern or lack of clarity with the appointed person (supplier);
- ensure they have the required information, tools and equipment.

The erection supervisor should carry out the following tasks:

- ensure that after the briefing each person signs a copy of the method statement to confirm that they have attended the briefing and understand what tasks are to be

carried out, in accordance with the safe systems of work (see 6.5). The signed copy should be retained;

- any safety measures highlighted in the method statement, such as exclusion zones above, below and around the work area and personal protective equipment (PPE), have been put in place, or supplied to the transport platform erectors;
- check the site to ensure that it is as stated in the planning documents and that no additional hazards have been introduced. This should include a check that any temporary works (such as bases and tie points) have been completed;
- check the proposed hoistway for the presence of overhead obstructions such as scaffold projections, power lines or crane jibs
- check the transport platform and component parts post-delivery on site to ensure that they are in a suitable condition for erection.

The erection supervisor should know the rated erection load capacity of the transport platform and should ensure, during all stages of erection, that the number of persons, mast sections, ties and other equipment on the platform at any one time does not exceed the rated erection load of the transport platform.

If guarding is removed during erection, a safe system of work should be adopted which takes into account the particular hazards created by the removal of the guards.

If asbestos is found on site it should be confirmed by the appointed person (user) and appropriate measures taken.

The rated load should not be exceeded in any circumstances other than for testing, as part of thorough examination, under the supervision of a competent person in accordance with the manufacturer's recommendations.

Wind speeds should be monitored, and the erection supervisor should cease works before the wind speed exceeds the maximum values specified in the erection method statement.

NOTE: *It is the responsibility of the appointed person (user) to make arrangements for the monitoring of wind speed.*

If at any stage during the erection process, the erection supervisor encounters problems with any aspect of the erection method statement, they should consult the appointed person (supplier) before proceeding further.

No significant change to the planned method described in the erection method statement should be made unless it has been agreed by the appointed person (supplier) and appointed person (user). Any change to the method statement should be recorded.

The mast sections on the mast assembly should be bolted (or otherwise fixed) in place at the end of each period of work or before any further work is carried out.

NOTE: *Accidents have occurred in the past where mast sections have been left unsecured and the equipment has subsequently been driven onto the unsecured mast section with disastrous consequences.*

After the transport platform has been erected, and before the transport platform installation is thoroughly examined by a competent person, the erection supervisor should ensure that:

- the platform of the transport platform is complete and installed in accordance with the manufacturer's instructions;
- all tasks detailed in the method statement have been completed;
- the platform is not fouling the structure;
- all mast sections are secured as specified in the manufacturer's manual;
- all relevant mast ties are secure and in accordance with the installation drawing;
- all landing gates are fitted;

- all safety interlocks, including limit devices/switches, are securely fitted and working correctly;
- the transport platform is responding correctly to the controls;
- the correct rated load for the configuration (materials and persons) is clearly and durably marked on the transport platform;
- all guards are installed correctly;
- all electrical control panels are closed and locked;
- the electrical supply to the transport platform is isolated to prevent unauthorized use;
- all safety signs are in place;
- the hoistway protection, including the base enclosure, run offs, landings, edge protection and any base ramps are completed.

7.4 Hoistway protection and landings

The ultimate responsibility for the provision and management of hoistway protection rests with the user organization, which might be the principal contractor.

The planning, design and structural integrity of the hoistway protection and the landing interfaces should be the responsibility of the user organization.

The provision of landing gates, landings and hoistway protection should be included in the installation process. Where the user's risk assessment (see 4.4) highlights the risk of falling objects, the gates should be in-filled to prevent materials falling through. Such infill may be provided on the gates as supplied. If this is not the case, the provision of alternative protection should be considered.

Landing gates, landings and hoistway protection serve a threefold purpose, as follows:

- prevention of persons and/or materials falling from a height;
- provision of safe access for materials and persons to and from the platform;
- prevention of persons being struck by any part of the moving transport platform.

Hoistway protection should be provided over the full height of travel of the platform and the thresholds between the platform and the landings should be in-filled to prevent persons or materials from falling through.

7.5 Reconfiguration of the transport platform installation

Once the initial transport platform installation has been completed in accordance with the method statement, no reconfiguration of the installation should be carried out without a re-assessment by the appointed person (supplier) or a nominated person.

The re-assessment should include an assessment of the proposed reconfiguration and their implications for safety during the remainder of the planned use of the transport platform and its subsequent dismantling. A method statement for the reconfiguration should then be prepared.

Before undertaking reconfiguration of the transport platform installation, the erection supervisor should be in possession of written authorization from the appointed person (supplier) making the re-assessment and a copy of the method statement for the reconfiguration.

NOTE: This reconfiguration may also be subject to further thorough examination (see 12.3).

7.6 Dismantling and removal from site

The dismantling and removal of the transport platform from the site should be carried out in accordance with 7.3.

Before dismantling a transport platform, the persons carrying out the dismantling operation should ensure, by reference to the erection method statement, that:

- a) there have been no changes from the original installation that might adversely affect the safety of the dismantling operation (e.g. missing or loose mast ties or fixing bolts, missing hoistway protection, removal of landings);
- b) there are no visible signs of stress or weakness in the transport platform or ties which might affect the safety of the dismantling operation;
- c) arrangements are in place to ensure that any temporary ties used during erection are replaced as required during the dismantling;
- d) suitable fall protection or measures in place to close off landings prior to removal of gates;
- e) the base frame can be relied upon to provide sufficient stability, in all directions, when the last mast tie has been released and any additional stabilisers are reinstalled;
- f) the maximum number of mast sections and ancillary equipment that can be carried by the transport platform, and their required distribution such as not to exceed the manufacturer's specified erection load, is known by all those taking part in the dismantling;
- g) where appropriate a drop test is carried out in accordance with the manufacturer's instructions, prior to dismantling (see **10.10.4**);

NOTE: *This may be with or without a load.*

- h) a functional test of the transport platform motor brake is carried out, with a load, prior to dismantling.

If any of the above provisions are not met, the dismantling operation should not proceed and the appointed person (supplier) should be contacted for instructions.

8.0 Transport Platform Use

A risk assessment should be carried out on all lifting operations, which should, at the very least, take into account the following:

- the intended use;
- risks to persons;
- possibility of a dual function machine being operated in the incorrect function;
- the loading of the platform;
- environmental factors.

8.1 Operator

The transport platform should only be operated by a person who has been authorised by the appointed person (user) and has been assessed as competent. The operator should at all times consider the safety of all persons travelling on the transport platform taking into account at least:

- the risk of persons falling from height;
- the risk of objects falling onto the platform;
- the risk of being struck by protrusions extending from the structure towards the platform;
- the risk of objects falling from the platform, including loading and unloading.

8.2 Dual Function

Some machines have a dual function capability either operation from the platform in “Transport Platform” mode or operation from the base station in “Material Hoist” mode (see 5.5).

8.3 Loading of Platform

When loading the platform:

- the rated load should not be exceeded;
- the weight of the operator and any persons travelling on the platform should be included with all loads;
- the weight of any tools carried should also be included;
- any restriction regarding load position, concentration and point loads as indicated by the manufacturer should be adhered to;
- the load should be secure and should not overhang the platform;
- the effect of the base enclosure on the access/ egress of the load to/from the platform should be considered.

All load chart signs should be maintained in good condition.

Any load transported in the transport platform should be secure so that it remains within the confines of the platform.

Where necessary, the load should be secured on the platform, or should be contained by means of, e.g. bins, banding or shrink wrapping, to prevent movement during travel.

For loads with a large surface area, e.g. sheeting, plasterboard, plywood or cladding, the effect of wind speed on the load should be taken into account, with the transport platform supplier consulted regarding safe operating wind speeds. The design criteria

for wind loading on transport platforms assumes that materials do not protrude above the top guardrail of the platform, hence the need to consider a reduced in-service wind speed when materials do protrude above the top guardrail.

NOTE: *It is the responsibility of the appointed person (user) to make arrangements for the monitoring of wind speed.*

If mechanical handling equipment is used to load the transport platform, the choice and use of such equipment should be assessed as part of the relevant safe system of work.

The following precautions should be taken when using mechanical handling equipment to avoid damage to the transport platform:

- When loading the transport platform, the mechanical handling equipment should not collide with the transport platform;
- Loads should not be slid across the floor of the platform as excessive loads might be imposed on the transport platform;
- When lowering loads on to the floor of a platform, excessive loads should not be imposed on the transport platform;
- If a pallet handling device is used for moving loads on to the platform, the appointed person (supplier) should be consulted.

NOTE: *Loads carried onto the platform with pallet handling devices could impose extremely high point loads which might not be uniformly distributed and could cause damage to the floor structure of the transport platform or its entrance ramps.*

Where passengers are being carried in a transport platform, the maximum number of persons specified by the manufacturer should not be exceeded.

8.4 Environmental Conditions

The manufacturer's recommendation of maximum in-service wind speeds should be adhered to at all times and some method of assessing the wind speed at the transport platform location and throughout the path of travel should be made available to the operator.

The possible need to protect the operator from the elements should be considered (see **8.5**).

In certain circumstances transport platform structures may require bonding to a suitable earth to provide lightning protection. The need for this should be determined by a risk assessment, carried out by the transport platform user and performed in accordance with BS EN 62305-2 (see **Annex I**).

8.5 Additions to the Platform

Any additions to the transport platform such as panels, signs and banners should only be made with the written permission of the supplier/manufacturer.

9.0 Inspection and Maintenance

9.1 *Transport Platform Users Responsibilities for Maintenance*

The Health and Safety at Work etc. Act 1974 sets out a general duty requiring that work equipment is maintained so that it is safe. This requirement is reinforced by Regulation 5 of the Provision and Use of Work Equipment Regulations (PUWER) 1998 which requires that “*Every employer shall ensure that work equipment is maintained in an efficient state, in efficient working order and in good repair.*” In the case of a hired-in transport platform the actual undertaking of the maintenance is often delegated to the transport platform owner by the user. The user, however, retains the legal responsibility for ensuring that the maintenance, including the rectification of defects, is carried out.

It is essential that adequate time is allowed in the construction programme for planned maintenance to be carried out safely, including taking account of weather, lighting levels and the avoidance of lone working.

9.2 *Maintenance Personnel*

Only those persons who are both familiar with the equipment and competent should carry out maintenance activities.

The health and safety of these maintenance personnel should be ensured, consequently they should be provided with such training, instruction, time and facilities to enable them to carry out the work in a safe manner at all times.

9.3 *Frequency*

The frequency of the maintenance activities that are carried out should take into account the intensity of use, the operating environment, the nature of the work and the risks to health and safety from possible malfunction or failure. The maintenance programme should be based on both the manufacturer’s recommendations and the owner’s/user’s risk assessment, and should address those parts of the equipment, that are likely to deteriorate and lead to health and safety risks.

The results of maintenance activities should be review at appropriate intervals to ensure that the system is effective, and that maintenance frequency is appropriate (see 9.7)

9.4 *Information*

The persons involved in maintaining the equipment should be provided with the manufacturer’s maintenance instructions together with copies of the most recent daily, weekly and other inspection records and thorough examination reports. This will ensure that they are made aware of defects and have the information required to rectify them.

9.5 *Disposal of Maintenance Materials*

All materials (including parts and fluids) requiring disposal after maintenance activities should be dealt with in an environmentally appropriate manner in accordance with the manufacturer’s instruction.

9.6 *Periodic Checks and Inspections*

9.6.1 General

Periodic checks should be carried out according to the supplier’s instructions, based on the manufacturer’s information. The appointed person (user) responsible for the transport platform should ensure that the checks and inspections have been carried out.

Common practice is for daily (pre-use) checks to be made by the user and all other inspections to be carried by the supplier.

NOTE: The designated operator may be authorised to carry out periodic checks to the extent that they are considered to be competent.

9.6.2 Daily (Pre-use) Checks

The following checks, where appropriate to the specific transport platform, should be carried out daily or before the start of each shift:

- Check all information, instruction, operating and warning notices are clear and legible;
- Check the condition and operation of the mains isolator switch;
- Check condition and security of power supply;
- Check condition and security of machine supply cable;
- Check for peripheral damage to the machine, gates and base protection;
- Check for fluid leaks;
- Check alignment of cable guides;
- Check operation of upper and lower travel limit switches;
- Check operation of descent alarm and auto-stop;
- Check for the correct operation of all ramps, gates and interlocks on the platform;
- Check for the correct operation of all ramps, gates and interlocks at the landings;
- Check correct operation of the base enclosure landing gates and interlocks;
- Check that the hoistway is clear of obstructions;
- Check (visual) that the mast ties are secure (with no undue movement);
- Check all operational controls for correct function;
- Check emergency controls (with the exception of the safety brake) for correct operation;
- Run the transport platform empty through its operational cycle to check the correct operation of the upper and lower limit devices/switches;
- Check the satisfactory operation of the trailing cable storage system;
- Check to ensure that the brake is operating normally;
- Check for any unusual noises from motors, gearboxes etc;
- Check any audible or visual warning alarms for correct operation;
- Check that any communication system fitted between platform and ground level is in good working order;
- Check for debris in the base enclosure.

These checks should be supplemented by any model specific checks specified by the transport platform manufacturer.

9.6.3 Monthly Inspections

Monthly inspections should be carried out in addition to the daily checks and, at the very least, these should include the following:

- Inspect the structure for damage, e.g. bent mast bracings or ties, indentations on mast guides, cracked weld, loose bolts and other fasteners;

- Inspect the security of the ground frame support, including drainage;
- Ensure the falling object protection is in place and in good condition;
- Inspect the rack and pinion for correct engagement, undue wear or damage and with adequate lubrication;
- Inspect the gearbox(s) for leaks;
- Ensure the tie bolts are secure with no undue movement;
- Ensure the foundation bolts, rack retaining bolts and other fixing bolts are fitted and secure;
- Ensure the guide rollers are correctly positioned and operational;
- Ensure the brake friction linings have no undue wear and brakes operate correctly;
- Ensure that the hoistway protection, machinery guards and their fasteners are in place and secure;
- Inspect the condition and function of all interlock and gate latching devices;
- Inspect electrical cables for damage and visible bare wires;
- Ensure that plugs and sockets are in good condition, their casings are free from cracks, their pins are not bent and there is no debris or dirt in the socket;
- Ensure that cables do not have taped or non-standard joints;
- Ensure that the cable covering has not been pulled out of the grips at the plug or equipment (the coloured insulation of internal wires should not be visible);
- Inspect casing of electrical equipment for damage, loose or missing parts and loose or missing screws;
- Inspect electrical equipment for contamination by oil, grease, water or dirt;
- Inspect cables, plugs and other equipment for overheating or burn marks;
- Check any RCD power breaker by operating test button;
- Visually inspect the overspeed safety device.

9.7 *Inspection and Maintenance Records*

All maintenance and inspection should be recorded and kept up to date. The keeping and retention of inspection and maintenance records, is essential as a key tool in improving safety standards, as well as possibly enhancing the residual value of equipment. This will provide evidence of maintenance and be useful in planning future maintenance schedules.

Established good practice dictates that every machine should have a “cradle to grave” history file in which all records relating to the machine throughout its life are kept.

9.8 *Management Review of Maintenance Records and Procedures*

A regular management review of transport platform maintenance records and procedures is essential for the safe and efficient operation of a transport platform fleet. It ensures that management can be confident that a robust maintenance system is in place and will rapidly highlight any shortcomings and the need for corrective action. The review should include:

- A review to see that faults are being corrected and closed out appropriately and maintenance schedule is being completed to plan;

- A review to determine if the regime and frequencies are appropriate and to analyse trends.

9.9 Site Issues for Maintenance

Maintaining a transport platform on site presents a particular set of issues when compared with carrying out maintenance operations in a workshop or yard. These issues are best addressed at the planning stage before the transport platform is erected on site and taken into use. The effective maintenance of transport platforms on site will require the cooperation of the user and an example of a document informing them of the issues they should consider when maintenance is being undertaken, is given at **Annex H**.

Planning for work at height is of particular importance when carrying out maintenance on site and detailed guidance is given in the CPA Best Practice Guide - *Work at Height on Construction Hoists* (free download from www.cpa.uk.net)

9.10 Further Information

Further information on inspection and maintenance is given in:

- BS 7212:2016, *Code of practice for the safe use of construction hoists*
- *Maintenance, Inspection and Thorough Examination of Construction Hoists – Best Practice Guide*. Construction Plant-hire Association (free download from www.cpa.uk.net)

10.0 Thorough Examination (including testing)

10.1 Introduction

The primary purpose of thorough examination is to ensure that a transport platform is safe to be taken into, or to continue in, use. It is in addition to any inspection carried out as a part of the maintenance regime and is a statutory requirement.

NOTE: The user is responsible for ensuring that the transport platform has a current report of thorough examination.

Transport platforms operate in a high-risk environment which includes lifting loads above people and with the operator and passengers in an elevated position. These factors should be taken into account by the competent person when determining the scope and nature of the thorough examination.

NOTE: The thorough examination is not part of the maintenance regime for the equipment but provides owners with information which could be used to determine the effectiveness of the regime. The competent person may require supplementary tests as part of thorough examination.

NOTE: The legal requirements covering thorough examination are set out in HSE publication L113 - Approved Code of Practice and Guidance to LOLER. It is essential that anyone undertaking thorough examinations of transport platforms or the management of the thorough examination of transport platforms obtains and familiarises themselves with this document.

10.2 Types of Thorough Examination

There are three situations where thorough examination is required by Regulation 9 of LOLER:

- After each installation of the transport platform and before putting into service, LOLER Regulation 9(2)(a) & (b);
- After any reconfiguration;
- Periodically whilst in service, LOLER Regulation 9(3)(a)(i) & (ii);
- After exceptional circumstances have occurred, LOLER Regulation 9(3)(a)(iv).

NOTE: Requirements for thorough examination of transport platforms and any associated testing are set out in **Table 2**.

10.3 Initial Post Installation Thorough Examination

Once a transport platform has been installed on a new location (site) it should be thoroughly examined by a competent person, before being taken into service, to ensure that it has the adequate strength and stability for its intended use and that any defects present have been identified and are rectified.

This initial thorough examination will require a high degree of scrutiny of the configuration and all relevant documentation to ensure that the transport platform has been installed correctly and is safe to use.

If the configuration of the transport platform is changed while it is still at a given location, e.g. a change in height or additional ties, the transport platform will require further thorough examination before it is returned to service. (See **Table 2**)

10.4 Thorough Examination Following Reconfiguration on Site

If the configuration of the transport platform is changed whilst it is still at its new location, the transport platform will need to be thoroughly examined further before being put back into use. This examination is mandatory irrespective of any previous periodic thorough examinations (see **10.2**). The scope and nature are at the discretion of the competent person.

This thorough examination should concentrate on the integrity of those parts of the installation that have changed. For certain re-configurations, **Table 2** recommends that

a load test is always carried out. The competent person is advised to look at the service history and previous thorough examination report to inform their judgement on the extent of the thorough examination.

If the scope of this examination does not cover all the elements normally included in an initial post installation thorough examination (See **10.3**), then it is recommended that the existing date of the next periodic thorough examination remains unchanged.

10.5 Periodic Thorough Examination

Once a transport platform has been taken into service on a new site it should be thoroughly examined periodically to ensure that it is safe to continue in use. LOLER specifies that the maximum intervals between thorough examinations are six months for transport platforms as they lift people.

10.6 Thorough Examination Interval

The maximum interval between thorough examinations of six months may be reduced at the discretion of the competent person, taking into account environmental factors or the general age and condition of the transport platform etc. To assist the competent person in assessing the interval they should view the planned in-service usage information (risk assessment, method statement and schedule of lifts) to ascertain the likely load spectrum and frequency of use of the transport platform.

10.7 Thorough Examination After Exceptional Circumstances

If the transport platform is subjected to exceptional circumstances it should be removed from service and subjected to a thorough examination to ensure that it is safe to be returned to service. Exceptional circumstances may include misuse, an overload, use for particularly arduous duties, collision, a failure of a structural component or being subjected to exceptionally high winds.

10.8 Competent Persons

It is essential that the thorough examination of transport platforms is always carried out by competent persons who have been assessed as competent and have adequate training, information and independence to carry out the work required. They should be able to draw up a scope of thorough examination for each examination and amend the scope in the light of their findings.

It is also essential that the competent person is sufficiently independent and impartial to allow objective decisions to be made. Employers may use a third-party inspection body to carry out thorough examinations and are responsible for ensuring that the third party is competent.

In certain circumstances it may be possible for thorough examinations to be carried out by an in-house competent person. Further guidance is given in *Maintenance, Inspection and Thorough Examination of Construction Hoists – Best Practice Guide*. Construction Plant-hire Association (free download from www.cpa.uk.net)

10.9 Responsibility for the Rectification of Defects

On a construction site where transport platforms are often hired in, any rectification of defects is normally carried out by the transport platform owner, however the user organisation is responsible for ensuring that the work has been done. If a transport platform is owned by the using employer or has been hired under a 'bare lease' agreement the employer will need to make arrangements for the work to be done.

Where the competent person identifies defects affecting the continued safe use of the transport platform, the responsibility for the rectification of these defects' rests with the user organisation.

The competent person making a thorough examination should notify the user organisation of any defect which, in their opinion, is or could become a danger to persons. If the defect needs to be rectified quickly, they should specify the time-scale and submit this report promptly.

Where a defect poses an imminent risk of serious personal injury, the competent person should forward the report to the Health and Safety Executive as soon as practicable.

In all cases, the user organisation responsible for the lifting operations on site will need to ensure that all defects in the competent person's report have been rectified, the defect rectification recorded and that the transport platform is safe before it is used.

10.10 Testing

The following tests should be undertaken as shown in **Table 2**.

10.10.1 Functional test

The competent person should undertake the following tests to confirm correct operation. Where possible, undertake the test with the platform near ground level:

- residual current device (RCD) and the machine isolator switch;
- electrical control/safety circuits of the platform - check the operation of emergency stop controls, alarms, operating controls and erection controls;
- any other controls such as landing call stations;
- all transport platform trailing cable restraint and storage systems;
- terminal stopping switches and their activating devices;
- ultimate stopping switches/devices and their activating devices;
- landing and platform gates - mechanical, electrical and activating devices;
- the brakes for satisfactory operation.

10.10.2 Overload detection device test

On transport platforms fitted with overload detection devices, these should be tested according to the manufacturer's instructions.

10.10.3 Load test

The load test is a test to confirm the structural integrity of the mast sections, ties and their fixings, and platform. It also confirms the effectiveness of the braking systems. Before carrying out the load test, carry out a visual examination and functional tests.

After the erection of the transport platform, reconfiguration on site and exceptional circumstances, the load test is initially carried out at 100% of the rated load and then at overload as per manufacturer's instructions.

At in-service periodic thorough examinations, the test load is a minimum of 100% of the rated load.

During the test, the transport platform should be tested over the full range of normal operated travel.

Following the load test, the transport platform installation should be examined for signs of damage or deterioration caused by the test.

10.10.4 Drop test

Transport platforms make use of an overspeed safety device(s) that may require drop testing. The method of drop testing and the acceptance criteria should be in

accordance with the manufacturer's safety instructions. It is advisable to devise a written method statement based on risk assessment.

Any suspected fault in an overspeed safety device should be referred to the manufacturer for proper checks to be carried out (some safety devices have a set service life and should be replaced at the end of the specified period). If necessary, other parts of the transport platform might have to be dismantled by a skilled person to the degree required by the competent person for his inspection.

10.10.5 Non-destructive testing

During thorough examination of a transport platform's structure and mechanism, it may be appropriate to use certain non-destructive testing (NDT) techniques to assess the integrity of components. These techniques can assist in the detection of cracks or wear that might grow in service and ultimately lead to failure.

NOTE: *NDT is generally best undertaken on machines under repair in the supplier's workshop.*

NDT should only be carried out by people who are competent in appropriate NDT techniques who should be briefed on the purpose and extent of the NDT examination required, for example, the typical locations and type of defect anticipated.

Guidance on the qualifications and certification of persons undertaking NDT is given in " *BS EN ISO 9712:2012: Non-destructive testing. Qualification and certification of NDT personnel. General principles*".

The three most common types of NDT used for in-service inspections of transport platforms are:

- ultrasonic examination;
- dye penetrant;
- magnetic particle examination.

For further information on these types of NDT, HSE has published:

"Best practice for the procurement and conduct of non-destructive testing"

- *Part 1 – Manual ultrasonic inspection*
- *Part 2 – Magnetic particle and dye penetrant inspection*

These can be found on the HSE site at <http://www.hse.gov.uk/comah/sragtech/ndt1.pdf> and <http://www.hse.gov.uk/comah/sragtech/ndt2.pdf>

10.11 *Thorough Examination Records*

LOLER (Regulation 11) requires that records of inspection and thorough examination are kept. The retention period depends on the circumstances in which the relevant inspection/thorough examination were conducted:

- Thorough examination of the transport platform before it is first put into service - keep report until the equipment is taken out of use;
- Thorough examination of transport platform after assembly and before use on a new site - keep report until the equipment is no longer used on that site.
- Thorough examination of an accessory for lifting, (lifting tackle), before it is first put into service - keep report for two years;
- Subsequent periodic thorough examinations of the transport platform and any lifting accessories used with the transport platform - keep records until the next report is made or for two years, whichever is later;

NOTE: *This also applies where a thorough examination is carried out following the occurrence of exceptional circumstances.*

- Inspections at intervals between thorough examinations - keep report until next report is made.

The above periods are the statutory minimum. Established good practice dictates that every machine should have a “cradle to grave” history file in which all records relating to the machine throughout its life are kept.

10.12 Further Information

Further information on thorough examination is given in:

- BS 7212:2016, *Code of practice for the safe use of construction hoists*
- *Maintenance, Inspection and Thorough Examination of Construction Hoists – Best Practice Guide*. Construction Plant-hire Association (free download from www.cpa.uk.net)

Table 2 – Transport Platform Through Examination and Testing (Derived from BS7212:2016)

Activity		Thorough Examination	Functional Test (10.10.1)	Load Control Test (10.10.2)	Load Test (10.10.3)	Drop Test (10.10.4)	NDT (10.10.5)	Documentation
Initial and complete transport platform installation		✓ (10.3)	✓	✓	100 + % ¹	100% ²	Discretionary	Schedule 1 Report
Periodic Thorough Examination		✓ (10.5)	✓	✓	100 % ¹	100% ²	Discretionary	Schedule 1 Report
Thoro' Exam. after exceptional circumstances		✓ (10.7)	Discretionary	Discretionary	Discretionary	Discretionary	Discretionary	Schedule 1 Report
RECONFIGURATION	Increase mast height	✓ (10.4)	Discretionary	✖	100 + % ¹	✖	Discretionary	Schedule 1 Report ⁶
	Reduce mast height No ties removed	✓ (10.4)	Discretionary	✖	✖	✖	Discretionary	Schedule 1 Report ⁶
	Reduce mast height Ties removed	✓ (10.4)	Discretionary	✖	100 + % ¹	✖	Discretionary	Schedule 1 Report ⁶
	Adding gate(s)	✓ (10.4)	Discretionary	✖	✖	✖	✖	Schedule 1 Report ⁶
	Removing gate(s)	✓ (10.4)	Discretionary	✖	✖	✖	✖	Schedule 1 Report ⁶
	Adding ties	✓ (10.4)	Discretionary	✖	100 + % ¹	✖	Discretionary	Schedule 1 Report ⁶
	Removing ties	✓ (10.4)	Discretionary	✖	100 + % ¹	✖	Discretionary	Schedule 1 Report ⁶
	Platform reconfiguration	✓ (10.4)	Discretionary	✖	100 + % ¹	✖	Discretionary	Schedule 1 Report ⁶
Dismantling		See notes below		✖	✓ ³	✓ ⁴	✖	✖ ⁵
✓ = Carry out this activity.		✖ = This activity is not required.		Discretionary = This activity is at the discretion of the competent person (see sections 10.4 and 10.7).				
1	Transport platforms should be proof load tested in accordance with the manufacturer's instructions.							
2	The load may be reduced as per the manufacturer's instructions.							
3	A functional test of the transport platform motor brake with a load should be carried out before dismantling.							
4	A drop test should be carried out prior to dismantling. This may be with or without a load.							
5	Documentation is not normally required, but if defective components are discovered these should be noted for subsequent action.							
6	Transport platform configuration changes which affect safety require a thorough examination before being returned to service, (See 10.4).							

Annex A – List of Hazards

The following list of hazards associated with the erection, reconfiguration, use, maintenance and dismantling of transport platforms is not exhaustive:

A.1 Erection, reconfiguration and dismantling

When erecting, reconfiguring or dismantling transport platforms, the following hazards should be assessed as part of the risk assessment:

- persons carrying out work without the necessary competence;
- work at height including rescue;
- mechanical handling and lifting;
- falling objects, e.g. materials and tools;
- failure of supporting structure, e.g. ground, slab, grillage, scaffolding;
- instability of the mast due to failure to bolt up the mast sections correctly or due to failure to secure the mast ties correctly to the supporting structure;
- loss of stability of the transport platform following the removal of the last ties during dismantling;
- use of the platform for material storage/transportation;
- deterioration of the transport platform and associated parts;
- unauthorized reconfiguration or alteration;
- mixing of components from different models of transport platform and manufacturers without manufacturers approval;
- manual handling of heavy items;
- loss of stability of the transport platform following failure of the mast, mast ties or fixings;
- movement of the drive mechanism and movement of the transport platform, which could result in a person becoming trapped;
- exposed live electrical conductors;
- uncontrolled movement of the carrier due to overloading;
- hazards arising from the drilling of mast tie anchorages, e.g. noise, dust, foreign objects, hand/arm vibration;
- uncontrolled ascent or descent of the platform;
- unexpected movement of the platform;
- wet and/or uneven surfaces which can cause persons to slip or trip;
- environmental hazards such as low lighting levels, extremes of temperature, rain and wind;
- hazards arising from failure to follow the manufacturer's instructions.

A.2 Operation and maintenance



When operating or maintaining transport platforms, the following hazards should be assessed as part of the risk assessment:

- persons carrying out work or operating the transport platform without the necessary competence;
- hazards arising from unauthorized or inappropriate use, or from misuse, of the transport platform including use prior to thorough examination and handover;

- hazards arising from unauthorized modifications, alterations or additions to the transport platform;
- hazards arising from overloading of the platform;
- hazards arising from inappropriate loading of the platform, e.g. eccentric loading, unsecured loading, point loading, loads protruding outside the confines of the platform;
- tools, materials, etc. falling from, or on to, the platform;
- moving parts of the transport platform which could strike a person or in which they could become trapped or entangled;
- moving parts of the transport platform which could trap a person between the transport platform and a fixed obstruction such as the building or a piece of scaffolding;
- the carrier being stuck in a raised position due, e.g. to a power or control circuit failure, which could result in a person being stranded on it;
- uncontrolled ascent or descent of the platform;
- exposed live electrical conductors;
- hazards arising from failure to operate, maintain or inspect the transport platform in accordance with the manufacturer's instructions;
- environmental hazards such as low lighting levels, extremes of temperature, rain and wind;
- passengers of a transport platform and persons carrying out maintenance are at risk of slipping, tripping or falling when on the platform or at the landings, of falling from a landing on to the hoistway and of falling from the platform during the loading or unloading of goods.

Annex B - TIN 302 Construction Hoist Out-of-Service Wind Speeds



	Construction Plant-hire Association Construction Hoist Interest Group																																																																								
	Construction Hoist Technical Information Note																																																																								
TIN 302	Construction Hoist Out-of-Service Wind Speeds																																																																								
Introduction																																																																									
<p>When planning the installation of a construction hoist on a site the planning process must take into account both the in-service and the out-of-service wind speed on the hoist. The out-of-service wind speed will have an effect on both the structure, base and ties of the hoist and thus a bearing on the stability of the hoist. This Technical Information Note (TIN), which applies to all types of construction hoist, outlines the steps to be taken in assessing appropriate out-of-service wind speeds for construction hoists in the UK.</p>																																																																									
Legal Requirements																																																																									
<p>The requirement to ensure that an appropriate out-of-service wind speed is taken into account when configuring a construction hoist and designing the ties and base for a particular location is contained in several pieces of legislation:-</p> <ul style="list-style-type: none">• Health and Safety at Work etc. Act 1974. - Sections 2 & 3• Provision and Use of Work Equipment Regulations (PUWER) 1998 – Regulation 20• Lifting Operations and Lifting Equipment Regulations (LOLER) 1998 – Regulation 4• Management of Health and Safety at Work Regulations 1999 – Regulation 3• Construction (Design and Management) Regulations 2015																																																																									
Current Requirements																																																																									
<p>The majority of construction hoists supplied into the UK until recently were designed using the out-of-service wind load requirements of BS 4465:1989.</p> <p>Construction hoists produced in the past few years have been designed to the European Harmonised Standard for construction hoists - EN 12159:2012. This standard specifies that construction hoists should be designed to take account of out-of-service wind pressures set out in Table 4 of EN 12159, which is reproduced below.</p>																																																																									
<table><tr><th rowspan="3">Height H of parts of hoist above ground level [m]</th><th colspan="8">Wind Region</th></tr><tr><th colspan="2">A/B</th><th colspan="2">C</th><th colspan="2">D</th><th colspan="2">E</th></tr><tr><th>Wind Pressure [N/m²]</th><th>Wind Speed [m/s]</th><th>Wind Pressure [N/m²]</th><th>Wind Speed [m/s]</th><th>Wind Pressure [N/m²]</th><th>Wind Speed [m/s]</th><th>Wind Pressure [N/m²]</th><th>Wind Speed [m/s]</th></tr><tr><td>0<H≤10</td><td>544</td><td>30</td><td>741</td><td>34</td><td>968</td><td>39</td><td>1225</td><td>44</td></tr><tr><td>10<H≤20</td><td>627</td><td>32</td><td>853</td><td>37</td><td>1114</td><td>42</td><td>1410</td><td>48</td></tr><tr><td>20<H≤50</td><td>757</td><td>35</td><td>1031</td><td>41</td><td>1347</td><td>46</td><td>1704</td><td>52</td></tr><tr><td>50<H≤100</td><td>879</td><td>38</td><td>1196</td><td>44</td><td>1562</td><td>50</td><td>1977</td><td>56</td></tr><tr><td>100<H≤150</td><td>960</td><td>39</td><td>1306</td><td>46</td><td>1706</td><td>52</td><td>2159</td><td>59</td></tr></table>				Height H of parts of hoist above ground level [m]	Wind Region								A/B		C		D		E		Wind Pressure [N/m ²]	Wind Speed [m/s]	Wind Pressure [N/m ²]	Wind Speed [m/s]	Wind Pressure [N/m ²]	Wind Speed [m/s]	Wind Pressure [N/m ²]	Wind Speed [m/s]	0<H≤10	544	30	741	34	968	39	1225	44	10<H≤20	627	32	853	37	1114	42	1410	48	20<H≤50	757	35	1031	41	1347	46	1704	52	50<H≤100	879	38	1196	44	1562	50	1977	56	100<H≤150	960	39	1306	46	1706	52	2159	59
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Table 1 – Minimum Design Wind Pressure and Speed, based on Table 4 of EN 12159:2012																																																																									
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	Construction Plant-hire Association Construction Hoist Interest Group							
	Construction Hoist Technical Information Note							
TIN 302	Construction Hoist Out-of-Service Wind Speeds							
<p>The wind pressure varies for both the height of parts of the hoist above ground level and the geographical region in which the hoist will be erected. The geographical regions are set out in the European Storm Wind Map.</p> <p>EN 13001-2:2014, <i>Crane safety. General design. Load actions</i>, encourages the use of detailed national wind maps or local meteorological with the European Storm Wind Map only being used in the absence of more precise data.</p> <p>The UK National Annex to the Eurocode EN 1991-1-4:2005, <i>General actions - Wind actions</i>, was published in 2008 and contains a map of the UK showing the values of fundamental basic wind velocity <i>v_b</i> map before the altitude correction factor is applied. Taking these values and correcting for altitude, it has been possible to produce Figure 1, which shows that with the advantage of more precise information, England and Wales fall into Region C, whilst Scotland and Northern Ireland fall into Region D.</p> <p>It is important to note that whilst this holds true for most areas up to 200m above sea level, higher or more exposed areas will require an individual assessment to be made.</p> <p>A more detailed explanation of Figure 1 is given in Annex 2 of CPA Tower Crane Technical Information Note TIN 027 which can be downloaded from the CPA's website at http://www.cpa.uk.net/tower-crane-interest-group-tcig-publications/</p>								
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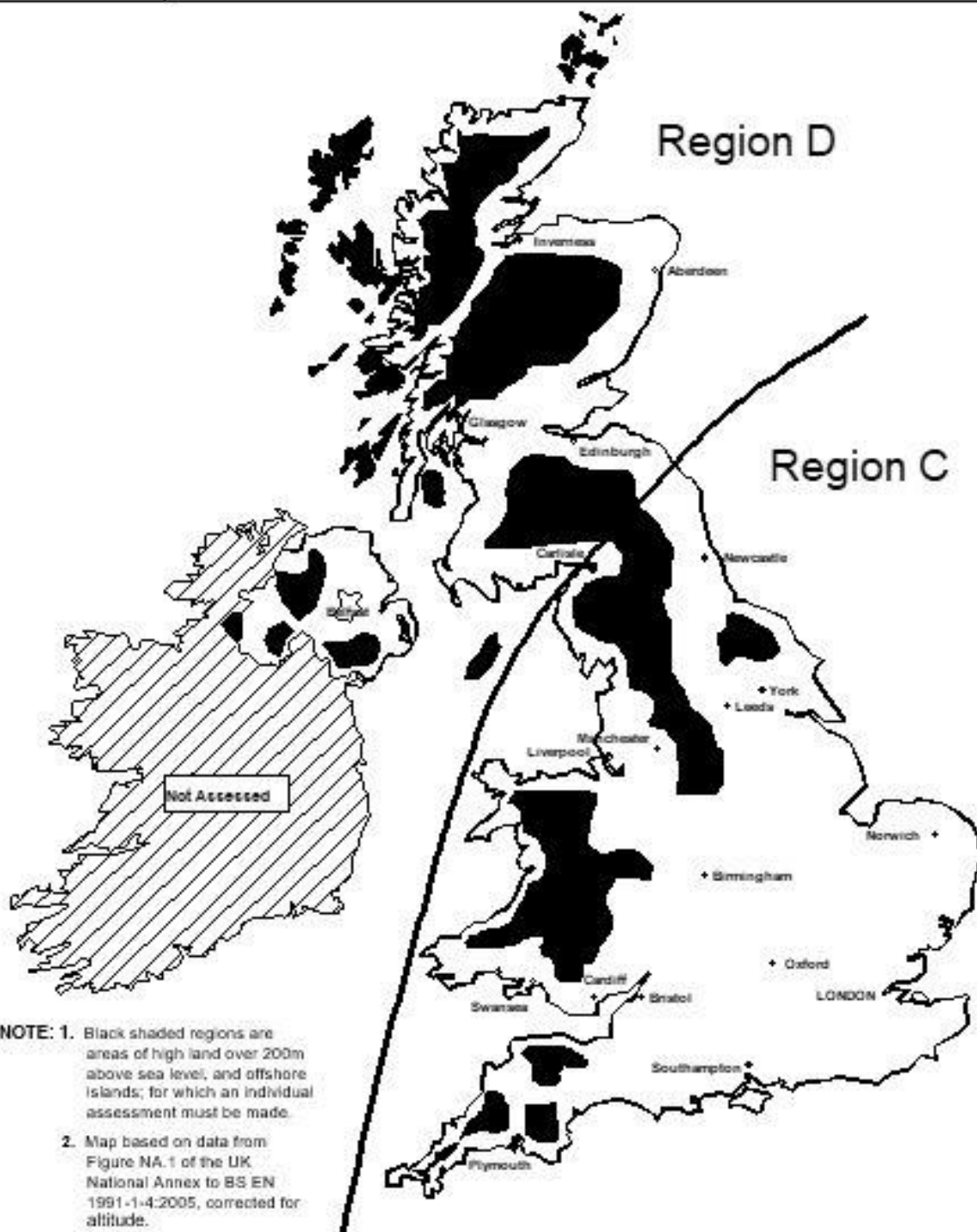


Figure 1 - UK Out-of-Service Wind Region Map for Construction Hoists

Annex C – Example of a Handover (Familiarisation) Report

Transport Platform Handover Report

Client:			
Project:			
Transport Platform type:		Transport Platform Plant No:	
Issued by (Name)		Hand-over Date:	

Documents Attached			
Safety Instructions	<input type="checkbox"/>	Yes/No	Monthly Inspection Checklist
			<input type="checkbox"/>
			Yes/No
Daily Pre-use Checklist	<input type="checkbox"/>	Yes/No	TE Report
			<input type="checkbox"/>
			Yes No

Transport Platform Hand-over to Appointed Person (User) or his Nominee	
<p><i>I, the undersigned, acknowledge that I have received, and that I understand, the information in the above documentation. I also confirm that the operation of the transport platform, the controls, all safety devices and emergency procedures have been demonstrated to me. I accept that the demonstration does not constitute operator training since no assessment of my competence as an operator was made by the demonstrator. I further agree that only trained and competent transport platform operators will use the transport platform and that the daily pre-use checks and monthly inspections will be carried out in full.</i></p>	
Name: (Print)	
Signature:	
Position:	

Demonstration(s) Given to Transport Platform Operators		
<p><i>I, the undersigned, acknowledge that I have received, and that I understand, the information in the above documentation. I also confirm that the operation of the transport platform, the controls and all safety devices have been demonstrated to me. I accept that the demonstration does not constitute operator training since no assessment of my competence as an operator was made by the demonstrator.</i></p>		
Name (Print)	Signature	Date

Annex D - Example Checklist and report for Pre-use Checks

Transport Platform Daily Pre-Use Checklist and Report

Week Commencing	Company	Site						
Transport Platform Type	Serial no.	Plant no.						
✓ = in good order ✕ = defect N/A = not applicable								
Transport Platform Item	Mon	Tue	Wed	Thu	Fri	Sat	Sun	
Correct operation of platform ramp, gates and interlocks (electrical and mechanical)								
Correct operation of landing ramp, gates and interlocks (electrical and mechanical)								
Correct operation of base enclosure gates and interlocks								
Hoistway clear of obstructions								
Mast ties are secure (no undue movement) – visual								
Correct function of operational controls								
Correct function of emergency controls (except emergency brake)								
Mains isolator switch in good conditions and operating correctly								
Correct operation of upper and lower limit switches								
Satisfactory operation of trailing cable storage system								
Cable guide springs/rubbers are intact								
Brakes operate normally								
No unusual noises from motor, gearbox, etc								
Correct operation of 2m stop								
Information, instruction, operating, safe working load and warning notices clear and legible								
Correct operation of audible or visual warning alarms								
Communication system from platform to ground level in working order								
No debris in base enclosure, platform roof or cable storage								
Check wind speed for operation is not exceeded								
Initials of person carrying out checks								
Details of defects found, and repairs carried out								
Name of Appointed Person	Signature		Company					

Annex E - Example Checklist and Report for Monthly Inspections

Transport Platform Monthly Inspection Report

Date		Company		Site	
Transport Platform Type		Serial no.		Plant no.	
All daily checks to be carried out prior to monthly inspection					
✓ = in good order		✗ = defect		R = repaired fault	
				N/A = not applicable	
Transport Platform Inspection Item					✓, ✗, R or N/A
Inspect the structure for damage, e.g. bent mast bracings or ties, indentations on mast guides, cracked weld, loose bolts and other fasteners					
Inspect the security of the ground frame support, including drainage					
Ensure the falling object protection is in place and in good condition					
Inspect the rack and pinion for correct engagement, undue wear or damage and with adequate lubrication					
Inspect the gearbox(s) for leaks					
Ensure the tie bolts are secure with no undue movement					
Foundation the bolts, rack retaining bolts and other fixing bolts are fitted and secure					
Ensure the guide rollers are correctly positioned and operational					
Ensure the brake friction linings have no undue wear and brakes operate correctly					
Ensure that the hoistway protection, machinery guards and their fasteners are in place and secure					
Inspect the condition and function of all interlock and gate latching devices					
Inspect electrical cables for damage and visible bare wires					
Ensure that plugs and sockets are in good condition, their casings are free from cracks, their pins are not bent and there is no debris or dirt in the socket					
Ensure that cables do not have taped or non-standard joints					
Ensure that the cable covering has not been pulled out of the grips at the plug or equipment (the coloured insulation of internal wires should not be visible)					
Inspect casing of electrical equipment for damage, loose or missing parts and loose or missing screws					
Inspect electrical equipment for contamination by oil, grease, water or dirt					
Inspect cables, plugs and other equipment for overheating or burn marks					
Check any RCD power breaker by operating test button					
Visually inspect the overspeed safety device					
Details of defects found, and repairs carried out – inform appointed person					
Contacted transport platform supplier		Yes	No		
Carried out by		Signature		Company	

Annex F - Example Checklist and Report for Maintenance

Company:					Site:									
Date:		Transport Platform Type:		Serial No.		Hour Clock:		O/S No.						
Key: A – In good order; B – requires early attention; C – requires immediate action; D – not applicable														
					A	B	C	D						
Base Enclosure														
1.	Side panels													
2.	Cable basket(s) and trailing cable(s)													
3.	Electrical panel													
4.	Ultimate limit switch ramp													
5.	Isolators													
6.	Gate													
7.	Foundation fixing													
8.	Buffer springs													
9.														
Platform														
10.	Gate, entrance													
11.	Gate, exit													
12.	Side panels, roof and floor													
13.	Limit switches for gates													
14.	Ultimate limit switch													
15.	Up limit switch													
16.	Down limit switch													
17.	Control switch/buttons													
18.	Electrical equipment													
19.	Safety notices/signs													
20.														
Machinery														
21.	Guide roller, hook assemblies													
22.	Guide roller adjustment													
23.	Guide roller wear													
24.	Safety device unit													
25.	Safety device resetting tool													
26.	Drive motors													
27.	Brakes													
28.	Brake adjustment													
29.	Gearboxes													
30.	Gearbox oil levels													
31.	Drive pinions													
32.	Drive pinion wear													
33.	Drive pinion adjustment													
34.	Safety pinion													
35.	Safety pinion wear													
36.	Safety pinion adjustments													
37.														
Structure														
37.	Mast sections													
38.	Mast bolts and nuts													
39.	Mast racks and bolts													
40.	Rack lubrication													
41.	Cable guides standard													
42.	Landing beams													
43.	Pipe supports													
44.	Wall ties and fixings													
45.	Vertical pipes													
46.	Limit cams top													
47.	Limit cams bottom													
48.	Cable anchorages													
49.	Erection crane and accessories													
50.														
Gates														
51.	Landing gates													
52.	Mechanical interlocks													
53.	Gate cam and switch assembly													
54.	Hoistway protection													
55.														
Special equipment														
56.	Emergency stop control													
57.	Alarm system													
58.	Stop next landing													
59.	Load sensing													
60.	H frame clips													
61.	Emergency lowering													
62.	No undue noises													
63.	Guards replaced and secure													
64.														
Other items to be recorded														
65.	Load control device test													
66.	Load test													
67.	Drop test													
68.	Site register signature													
69.	Report of thorough examination													
70.														
71.														
72.														
Name (Print)					Signature					Company				

Annex G - Example Report of Thorough Examination

Report of Thorough Examination of a Transport Platform			
Date of thorough examination:	Date of report:	Report No.	Date of last thorough examination:
Name and address of hirer/user:		Name and address of owner:	
Description of equipment:			Maker's name:
Date of manufacture:	Plant No.	Serial No.	TP Location:
Mast height:	Number of landing gates:	Number of ties:	Rated load:
Rated number of persons:	Test load applied:	Drop test carried out with:	Safety device serial No.
Examination after installation at a new location		Yes/No	State if any parts were inaccessible:
Periodic examination at interval not exceeding 6 months		Yes/No	
Examination following reconfiguration or repair		Yes/No	Particulars of any tests carried out:
Examination following exceptional circumstances		Yes/No	
Is the equipment installed correctly?	NA/Yes/No	Is the equipment safe to operate?	Yes/No
Particulars of any defects for which repair, renewal or reconfiguration is required, which are, or could become, a danger to persons:			Date (time) the defect must be rectified:
I hereby declare that the equipment described in this report was thoroughly examined and was found to be free from any defect likely to affect safety, (unless otherwise stated above) and that the particulars are correct.			
Name of competent person (Print):	Signature:		Job title/qualification:
Name of person authenticating report:	Signature:		Job title:
Address of competent person or their employer:			
The next thorough examination will be due on or before:			

Annex H – Sample Document Covering Maintenance and Thorough Examination Issues for Transport Platform Users

The effective maintenance and thorough examination of transport platforms erected on construction site depends of a significant degree of cooperation between the transport platform supplier/owner and the Principal Contractor. Transport platform users (Principal Contractors) are frequently unaware of the part they have to play, and the intention of this document is to provide transport platform suppliers/owners with a means of making users aware of their responsibilities and the need for effective cooperation.

H.1 Introduction

An important part of the safe use of transport platforms on construction sites is ensuring that transport platforms are effectively maintained and subject to thorough examination at the appropriate intervals. This is normally undertaken by the transport platform owner and it is essential that transport platform users fully appreciate the need to allocate sufficient time in the construction programme to allow these tasks to be carried out effectively.

This document identifies the maintenance and thorough examination issues that should be agreed between the transport platform owner and user before a transport platform is erected on site.

H.2 Responsibility for Maintenance and Thorough Examination

Both the *Provision and Use of Work Equipment Regulations 1998* (PUWER) and the *Lifting Operations and Lifting Equipment Regulations 1998* (LOLER) are very clear that the responsibility for ensuring that the maintenance and thorough examination of transport platforms is carried out, lies with the user of the transport platform. In the case of a hired-in transport platform the actual undertaking of maintenance or thorough examination is often delegated to the transport platform owner by the user. The user, however, retains the legal responsibility for ensuring that both maintenance, including the rectification of defects, and thorough examinations are carried out.

H.3 Downtime During Maintenance and Thorough Examination

The main purpose for a transport platform being on site is to carry out lifting operations as part of the construction process. Site managers are understandably reluctant to stop the transport platform whilst maintenance or thorough examination is carried out. If maintenance or thorough examination downtime is not scheduled into the construction programme it is pushed to the back of the queue and ends up being carried out hurriedly in unsafe conditions such as poor light.

It is therefore essential that transport platform users understand that both maintenance and thorough examination are a legal requirement and that adequate downtime should be built into the site programme. Transport platform owners should inform those hiring their transport platforms of the frequency and expected time required for maintenance and thorough examination at the planning stage, well before the transport platform arrives on site.

Construction projects in built up areas often have environmental restrictions imposed on them which severely limit working time at weekends and such restrictions should be taken into account when planning maintenance and thorough examinations.

H.4 Lines of Communication

It is essential that effective lines of communication are established between the user and those planning and carrying out both maintenance and thorough examination of transport platforms. This will avoid much frustration and misunderstanding on both sides.

H.5 *Availability of Persons to Assist*

Maintenance and thorough examination may require the assistance of a person familiar with the safe operation of the transport platform. Arrangements should be made to ensure that a person such as the operator is available on such occasions.

H.6 *Availability of Power*

Maintenance and thorough examination require the transport platform to be operational and arrangements should be made to ensure that power is available.

H.7 *Availability of Site Facilities*

When maintenance or thorough examination is being carried out outside normal working hours, arrangements should be made to ensure that site management, safety and welfare facilities are available to maintenance personnel, the competent person and any personnel assisting them.

H.8 *Access for Deliveries*

Maintenance operations, particularly the rectification of breakdowns often require spare parts to be delivered to site. Care should be taken to ensure that there is adequate access for delivery and that adequate acceptance procedures are in place to ensure that the parts are available when required by maintenance personnel and are not lost on site.

H.9 *Load Testing*

Any load testing of transport platforms will require careful planning. The consequence of a collapse during testing should be evaluated and a suitable exclusion zone put in place. Planning should also ensure that test weights can be safely transported to the transport platform, taking particular note of manual handling issues.

H.10 *Lone Working*

Lone working should be avoided at all times by suitable liaison with the person in control of the site to ensure that site personnel are always in attendance at the transport platform.

The planning process for work at height on transport platforms should take into account the particular hazards of lone working and thorough examination at height by lone workers should not be undertaken.

H.11 *Work at Height*

Some maintenance and thorough examination activities on erected transport platforms may require maintenance personnel or competent persons to work at height outside edge protected areas on the transport platform structure. The Work at Height Regulations 2005 set out a hierarchy of fall protection measures to be taken when planning work at height.

Annex I - Further Information and Guidance

Legislation

Health and Safety at Work etc. Act 1974

Provision and Use of Work Equipment Regulations 1998

L22 *Safe use of work equipment*, HSE Books

The Lifting Operations and Lifting Equipment Regulations 1998

L113 *Safe Use of Lifting Equipment - Lifting Operations and Lifting Equipment Regulations 1998 Approved Code of Practice and Guidance (Second Edition) Published 2014* - ISBN 978 0 7176 6586 0 HSE Books

The Management of Health and Safety at Work Regulations 1999 as amended

The Workplace (Health, Safety and Welfare) Regulations 1992

Work at Height Regulations 2005

The Supply of Machinery (Safety) Regulations 2008

The Construction (Design and Management) Regulations 2015

Personal Protective Equipment at Work Regulations 1992

The Reporting of Injuries, Diseases and Dangerous Occurrences Regulations 2013

Standards

BS EN 16719:2018, *Transport platforms*

BS EN 62305-2:2012, *Protection against lightning. Risk management*

BS 5975:2008 + A1:2011, *Code of practice for temporary works procedures and the permissible stress design of falsework*

BS 7212:2016, *Code of practice for the safe use of construction hoists*

BS 7671:2018, *Requirements for electrical installations*

BS EN 62305-2:2012, *Protection against lightning. Risk management*

Other Publications

HSE Leaflet INDG218 – *Guide to Risk Assessment*

HSE Leaflet INDG163 – *Five Steps to Risk Assessment*

HSE Publication L73 - *A guide to the Reporting of Injuries, Diseases and Dangerous Occurrences Regulations 1995*, Fourth edition 2012, HSE Books

HSE Publication GS6 - *Avoidance of Danger from Overhead Electric Power Lines* 2013, HSE Books

HSE Publication HSG 47 - *Avoiding Danger from Underground Services*, Third Edition 2014, HSE Books

Maintenance, Inspection and Thorough Examination of Construction Hoists – Best Practice Guide. Construction Plant-hire Association (free download from www.cpa.uk.net)

Transporting Scaffolding in Construction Hoists (Including Transport Platforms) – Good Practice Guide. Construction Plant-hire Association (free download from www.cpa.uk.net)

Work at Height on Construction Hoists – Best Practice Guide. Construction Plant-hire Association (free download from www.cpa.uk.net)

Tying Construction Hoists & MCWPs to Supporting Structures – Good Practice Guide. Construction Plant-hire Association (free download from www.cpa.uk.net)

Competence to Operate Construction Plant - Good Practice Guide. Strategic Forum for Construction - Plant Safety Group (free download from www.cpa.uk.net)

Medical Fitness to Operate Construction Plant - Good Practice Guide. Strategic Forum for Construction - Plant Safety Group (free download from www.cpa.uk.net)

Ground Conditions for Construction Plant - Good Practice Guide. Strategic Forum for Construction - Plant Safety Group (free download from www.cpa.uk.net)

Useful Websites

Build UK (formally UKCG)	www.builduk.org
Construction Equipment Association	www.thecea.org.uk
Construction Plant-hire Association	www.cpa.uk.net
CITB	www.citb.co.uk
Health and Safety Executive	www.hse.gov.uk
Home Builders Federation	www.hbf.co.uk
Lifting Equipment Engineers Association	www.leea.co.uk
National Plant Operators Registration Scheme	www.npors.com
Safety Assessment Federation	www.safed.co.uk
Strategic Forum for Construction	www.strategicforum.org.uk

Annex J - Working Group Membership

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P Bonner	Mace Industries
L Foster	Southern Hoist Services
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T P Watson - <i>Editor</i>	CPA

NOTE: The above list includes all those who have kindly given freely of their time and expertise to work on any of the versions of the guidance document and does not necessarily reflect the current membership of the Working Group.



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