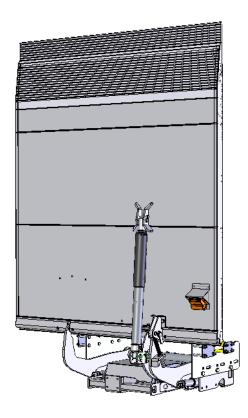
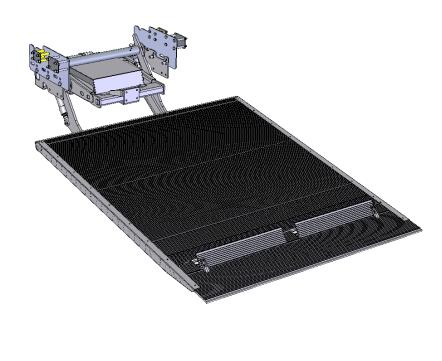


# DH-LSP\* van lifts OPERATION MANUAL





CE

UK

Manufacturer: DHOLLANDIA N.V. Zoomstraat 9 9160 LOKEREN (Belgium) Tel : +32 (0)9 349 06 92 Fax : +32 (0)9 349 09 77 e-mail : info@dhollandia.be website : www.dhollandia.com



Read the manual in its entirety before operating the tail lift

Keep this manual in the vehicle cab, as reference for the driver and tail lift operator

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#### 1 UNDERSTANDING SAFETY AND WARNING SIGNS

Many safety signs and symbols used in this manual are based on international standards, others refer to specific situations or actions.

Consult section 11 from page 52 onwards for an overview of signs and symbols used in DHOLLANDIA manuals, and their meaning.

Please take special notice of the following signs used in the manual. They indicate the likelihood and severity of a potential injury if a person fails to follow the instructions presented on the safety sign.



**DANGER**: indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury. [white letters on red background]



<u>WARNING</u>: indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury. [black letters on orange background]



<u>CAUTION</u>: indicates a potentially hazardous situation which, if not avoided, could result in minor or moderate injury. [black letters on yellow background]



**<u>NOTICE</u>**: is used to address practices not related to physical injury. [white letters on blue background]



**<u>SAFETY INSTRUCTIONS</u>**: indicate general instructions relative to safe work practices, reminders of proper safety procedures, or the location of safety equipment. [white letters on green background]



**<u>SAFETY ALERT SYMBOL</u>**: is used to alert the user to potential hazards. All safety messages that accompany this sign shall be obeyed to avoid possible harm. [free-standing, or on back-ground colours red, orange, yellow or black]



### WARNING

- Failure to understand and to follow the instructions in this manual can put the operator and any bystanders at great risk of serious bodily injury and death.
- Prior to operating the tail lift, make sure you understand the safety and warning signs used, and read them in conjunction with the instructions in this manual.
- If in doubt, DO NOT operate the tail lift. Contact your national DHOLLANDIA distributor. See page 3 for contact info.

#### 2 <u>CONTACT INFORMATION AND DISCLAIMERS</u>

 DHOLLANDIA tail lifts are regularly being adapted to new vehicle and chassis developments, and specialized customer requirements. Therefore DHOLLANDIA reserves the right to alter product specifications without prior notice; and potentially modifications or new developments might not have been taken into account at the time of printing.

#### NOTICE

Please confirm you have reviewed the most up-to-date version of this manual prior to operation of the associated DHOLLANDIA tail lift. See below for instructions to download the latest version of the manual.

 Contact your national DHOLLANDIA distributor if you have any questions regarding the installation, operation, repair and maintenance of DHOLLANDIA tail lifts, to obtain replacement copies of manuals or decals, or to learn about available equipment options for DHOLLANDIA tail lifts.



If in doubt where to find your national DHOLLANDIA distributor, visit the official DHOLLANDIA website:

www.dhollandia.com  $\rightarrow$  Country & language selection  $\rightarrow$  Distributors & service



The latest version of all manuals can also be downloaded from the DHOLLANDIA website:

www.dhollandia.com  $\rightarrow$  Country & language selection  $\rightarrow$  Downloads  $\rightarrow$  Operation manuals  $\rightarrow$  ... select required manual

• Take notice of following important disclaimers:

### DISCLAIMERS

- DHOLLANDIA disclaims liability for any personal injury, death, or property damage that results from **operating a tail lift that has been modified from the original design**, without explicit written approval from the manufacturer.
- DHOLLANDIA disclaims liability for any personal injury, death, or property damage that results from use of aftermarket or non-OEM replacement parts for service or repair of the tail lift.
- DHOLLANDIA disclaims liability for any personal injury, death, or property damage that results from **improper use of the tail lift**.
- DHOLLANDIA disclaims liability for any personal injury, death, or property damage that results from **overloading or improperly loading the platform**, disregard of the maximum rated lift capacity and the applicable load charts.
- There are no warranties, express or implied, including the warranty of merchantability or a warranty of fitness for a particular purpose extending beyond that set forth in this manual.

#### 3 GENERAL INTRODUCTION

- This OPERATION MANUAL explains how the DHOLLANDIA tail lift is manufactured; what safety devices are incorporated in its
  design; and how to use the tail lift in a correct manner, that preserves the integrity of the machine over the intended lifetime and
  helps maximize the safety of the operator and any bystanders.
- The MAINTENANCE AND REPAIR MANUAL (separate) explains how to maintain and service the tail lift in the appropriate manner, maximizing the safety of the operator and any bystanders, and ensuring the reliability of the tail lift over the intended lifetime.
- The CE / UKCA IDENTIFICATION AND INSPECTION LOGBOOK contains the serial number identification, the CE / UKCA
  Declaration of Conformity, the Fitting Declaration to be filled out by the installer of the tail lift, and an overview of the owner's legal
  obligations in terms of periodic testing and certification.
- The manuals must be kept with the tail lift at all times, as a reference book for the operators and technical service.

### 

- Improper use of the tail lift will put the operator and other parties at great risk of serious bodily injury and death. Therefore, the use of the tail lift is restricted to skilled operators only, who have been properly trained, and who know and understand the full contents of this manual.
- Unauthorized modifications to the tail lift can put the operator and other parties at great risk of serious bodily injury and death. Therefore, it is strictly forbidden to modify the tail lift and its safety devices in any way.
- Use of aftermarket or non-OEM replacement parts to repair or maintain the tail lift is strictly prohibited and may result in serious bodily injury or death to the operator or any bystanders.

#### 4 INTENDED USE

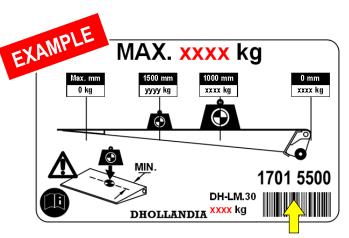
DHOLLANDIA tail lifts are designed to be fitted to commercial vehicles (commercial trucks, trailers and semi-trailers), and shall be used exclusively to load and unload the goods transported on the vehicle it is fitted to, within the limits of the load chart, in compliance with the operator instructions and safety instructions described in this manual.

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- Improper use of the tail lift will put the operator and bystanders at great risk of serious bodily injury and death. Therefore, it is strictly forbidden to use the tail lift in a different way, or for different purposes, than described in the operation manual.
- The tail lift must NEVER be used as an elevated work platform, to push loads, to carry people.
- The tail lift must NEVER be used as a wheelchair lift.
- DHOLLANDIA disclaims liability for any personal injury and / or property damage that results from improper use.

#### 5 IDENTIFICATION

- Every DHOLLANDIA tail lift is identified by and labelled with a unique 8-digit serial number (with or without a space between the first and last 4 digits). Use this number for any inquiry on a particular tail lift, or when ordering replacement parts.
- In addition to the tail lift type and serial number, the various serial number labels provide additional information, such as the maximum rated lift capacity and load chart, the bumper certificate number, the date of manufacture, etc...
- These labels are usually affixed to the vehicle body and various tail lift components, and can be found in following locations (the yellow arrows point to the serial numbers):



Affixed to the side of the vehicle body, or on the platform



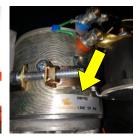
On the lift frame



On the hydraulic cylinders



On the platform



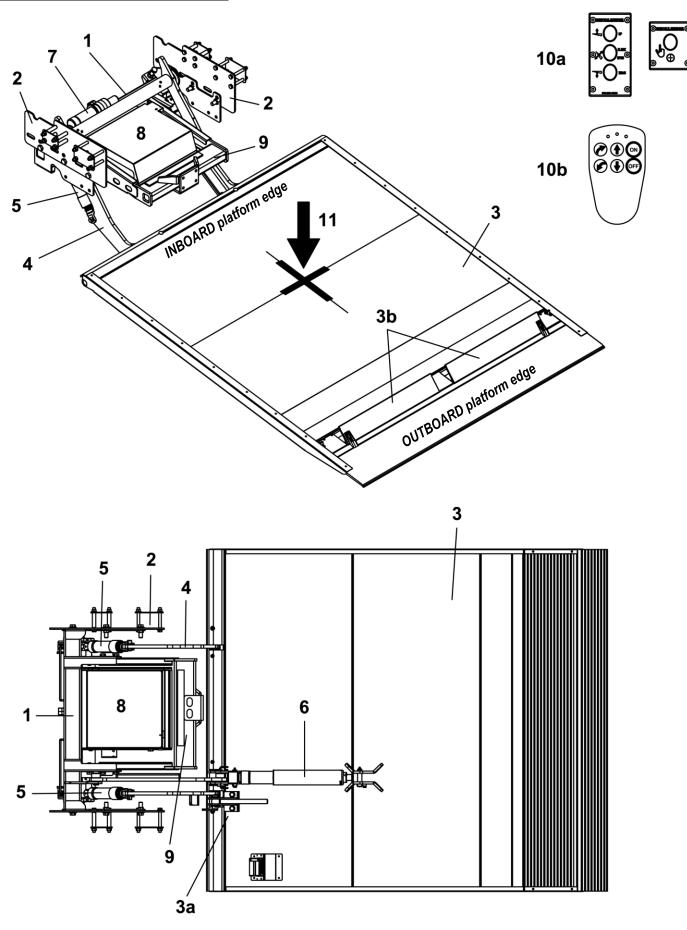
In the pump unit

#### 6 DESCRIPTION AND TAIL LIFT TERMINOLOGY

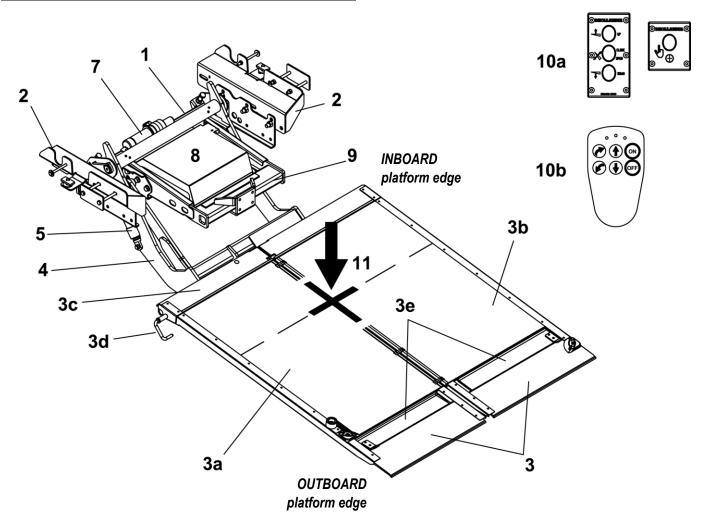
#### 6.1 GENERAL

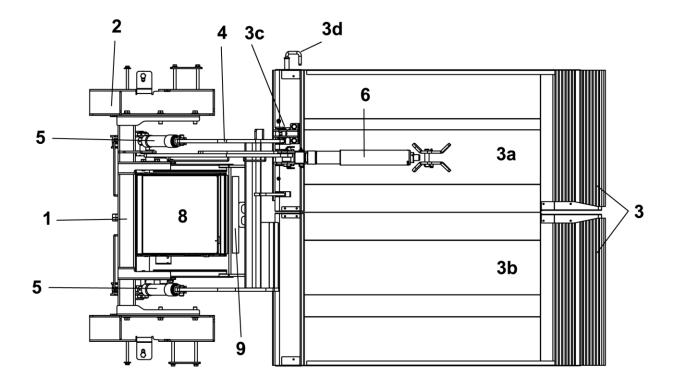
- DHOLLANDIA tail lifts are developed and manufactured, using state-of-the-art technology, high quality materials and components, and highly skilled workmanship. They comply with the European CE and UKCA safety regulations mentioned in the Declaration of Conformity issued with each lift (unless agreed otherwise for tail lifts exported outside of CE / UKCA region).
- The DH-LSP... series comprises of a range of cantilever tail lifts, designed for a wide range of factory built panel vans 500 to 1000 kg.
- In its travel position, the platform of the van lift is stowed vertically behind the vehicle body. Before use, the platform is tilted open 90 degrees from the vertical travel position, to a horizontal work position.
- Main details and terminology: see next page.

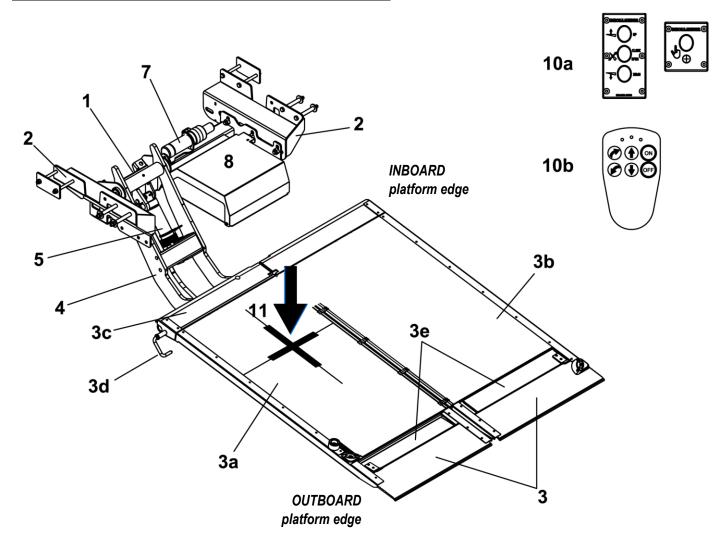
#### DH-LSP.05 / DH-LSP.07 with full width platform • TAIL LIFT TERMINOLOGY See figure below for parts corresponding to numbers in this table # Description 1 Lift frame: mounted in a fixed position under the vehicle chassis. It bears the platform and its load via connection to the lift arms and hydraulic cylinders. 2 Mounting plates: used to mount the lift frame to the vehicle chassis. 3 Platform: carries the load during loading / unloading, lifting / lowering. Manufactured from lightweight aluminium and with a non-slip working surface. Platform stow lock: mechanical lock to prevent the platform from falling open in case of accidental loss of hydraulic pressure 3a in the TILT circuit. Roll stops: usually 2 load restraint flaps mounted just near the outboard platform edge. Depending on options chosen, the 3b roll stops feature a manual or automatic operation (see also 9.9 from page 47 onwards). 4 Lift arms L+R: actuated by the hydraulic lift cylinders, used to LIFT / LOWER the platform and its load. 5 Lift cylinders L+R: 2 hydraulic cylinders used to LIFT / LOWER the lift arms, the platform and its load. 6 Tilt cylinder: hydraulic cylinder, mounted at the rear face of the platform, used to OPEN / CLOSE the platform, or to change its angle when opened in work position. 7 Hydraulic memory cylinder: hydraulic cylinder, mounted on the lift frame, used to actuate the automatic auto-tilt at ground level (see also 9.1 page 31). 8 Hydraulic pump unit: contains the electric motor driving the hydraulic pump, the oil tank, and the control valves. 9 **Towing hitch construction**: optional mounting construction for a towing hitch. Main external control box: mounted in a fixed position at the side of the vehicle, integrated in the body panel. Contains the 10a electrical switches allowing the operator to execute all tail lift functions OPEN - LOWER - LIFT - CLOSE. 10b Wireless remote control: Wireless remote control: portable control allowing the operator to execute all tail lift functions OPEN – LOWER – LIFT – CLOSE under strict observance of the applicable safety precautions. 11 Center point of maximum load: point up to which the maximum rated capacity of the tail lift is valid. Beyond that point, the maximum safe working load diminishes according to the applicable load charts found in section 8 from page 27 onwards of this manual.

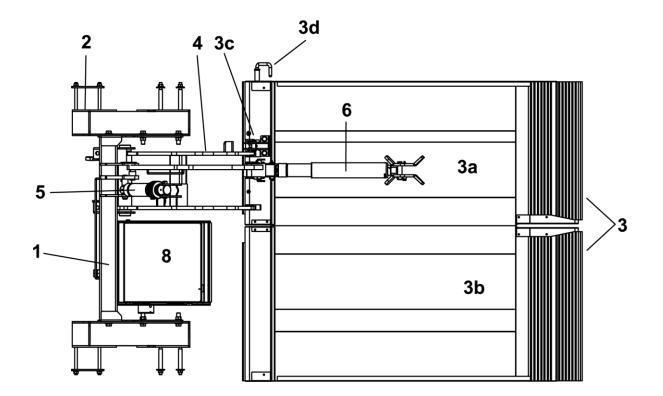


	DH-LSPZ.05 / DH-LSPZ.07 with half-width or foldable platform   TAIL LIFT TERMINOLOGY		
	See figures on below for parts corresponding to numbers in this table		
#	Description		
1	Lift frame: mounted in a fixed position under the vehicle chassis. It bears the platform and its load via connection to the lift arms and hydraulic cylinders. The arm width (narrow or wide) depends on the technical parameters of the vehicle (brand, wheelbase, overhang dimension).		
2	Mounting plates: used to mount the lift frame to the vehicle chassis.		
3	Half-width or foldable platform: carries the load during loading / unloading, lifting / lowering. Manufactured from lightweight aluminium and with a non-slip working surface.		
3a	<b>Platform main section</b> : platform section supported by the tilt cylinder. This section stands on the opposite side of the door panel (L or R) that opens up first.		
3b	<b>Flip-over point</b> : foldable section not supported by the tilt cylinder. This section stands on the same side as the door panel (L or R) that opens up first.		
3c	<b>Platform stow lock</b> (on all platforms): mechanical lock to prevent the platform from falling open in case of accidental loss of hydraulic pressure in the TILT circuit.		
3d	<b>Platform fold lock</b> (on foldable platforms): mechanical lock to hold the 2 folding sections together while the tail lift is stowed in its travel position.		
3e	<b>Roll stops</b> : usually 2 load restraint flaps mounted just near the outboard platform edge. Depending on options chosen, the roll stops feature a manual or automatic operation (see also 9.9 from page 47 onwards).		
4	Lift arms L+R: actuated by the hydraulic lift cylinders, used to LIFT / LOWER the platform and its load.		
5	Lift cylinders L+R: 1 or 2 hydraulic cylinder(s) used to LIFT / LOWER the lift arms, the platform and its load.		
6	<b>Tilt cylinder</b> : hydraulic cylinder, mounted at the rear face of the platform, used to OPEN / CLOSE the platform, or to change its angle when opened in work position.		
7	Hydraulic memory cylinder: hydraulic cylinder, mounted on the lift frame, used to actuate the automatic auto-tilt at ground level (see also 9.1 on page 31).		
8	Hydraulic pump unit: contains the electric motor driving the hydraulic pump, the oil tank, and the control valves.		
9	Towing hitch construction: optional mounting construction for a towing hitch.		
10a	<b>Main external control box</b> : mounted in a fixed position at the side of the vehicle, integrated in the body panel. Contains the electrical switches allowing the operator to execute all tail lift functions OPEN - LOWER - LIFT - CLOSE.		
10b	<b>Wireless remote control</b> : Wireless remote control: portable control allowing the operator to execute all tail lift functions OPEN – LOWER – LIFT – CLOSE under strict observance of the applicable safety precautions.		
11	<b>Center point of maximum load</b> : point up to which the maximum rated capacity of the tail lift is valid. Beyond that point, the maximum safe working load diminishes according to the applicable load charts found in section 8 from page 27 onwards of this manual.		









#### 6.2 <u>SAFETY DEVICES</u>

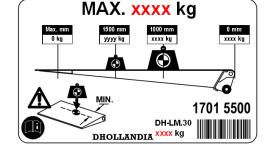
DHOLLANDIA tail lifts are equipped with a multiple safety devices in order to ensure that goods can be loaded and unloaded with maximum safety for the operator, any potential bystanders, and the load itself. The following safety devices are incorporated or recommended on most tail lifts:

Electrical safety valves mounted on all cylinders [standard]. The safety
valves lock the oil inside the hydraulic cylinders, as long as they are not
energized via the electrical controls. The purpose is to secure the platform
in its travel while driving, or in any other fixed position, in case of accidental
failure of a hydraulic pipe (as soon as the electrical controls are released).

DHOLLANDIA safety valves are equipped with a manual emergency control, allowing the operator or repair agent to open the valve manually in case of electrical failure (see MAINTENANCE AND REPAIR MANUAL).

 Mechanical platform lock(s) [optional]. DHOLLANDIA offers (a) mechanical platform lock(s) as an option, to further secure the platform in its travel position in case of accidental loss of hydraulic pressure.

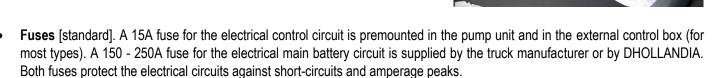
- Pressure relief valve [standard]. Safety device integrated in the pump unit, enabling the manufacturer and the installer of the tail lift to limit the real lift capacity to the maximum rated capacity of the tail lift sold, and to protect it against overload while LIFTING.
- **Pressure compensated flow valves** [standard]. Flow valves are integrated in the hydraulic circuits to ensure the platform lowers at a safe speed, both when empty as when fully loaded.
- Marking of the centre point of maximum load [standard]. Tail lifts are not designed to LIFT and LOWER weights corresponding to their maximum rated capacity over the entire surface of the platform. The maximum rated capacity is only valid at a specified distance or "centre point of maximum load" behind the vehicle body. Behind that point marked on the platform, the maximum safe working load diminishes according to the load diagrams supplied with the tail lift. See also section 8 from page 27 onwards on load charts and correct loading procedures.
- 2-hand external control box [standard]. On the external control box mounted in fixed position at the side of the vehicle body, all functions are actuated by means of a control switch and a safety switch. The compulsory use of the 2 hands to actuate the various lift functions, protects the operator from crushing his head, limbs or upper body between the LIFTING or CLOSING platform and the rear frame of the vehicle body.



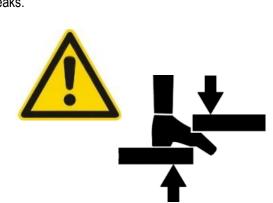




- **Tail lift on/off switch** [min. 1 compulsory]. Depending on configuration, the electrical power to the tail lift is switched on / off by means of:
  - A cabin switch (provided by the truck manufacturer or DHOLLANDIA [option OAE503.2]). This switch enables the operator to switch the control power to the external control box on/off. If equipped with a position sensor [option OAE502], it also provides a signal if the platform is stowed in its travel position, or left open.
  - 2. A **main battery disconnect switch** installed near the driver's seat [optional]. This switch enables the operator to switch the main battery power to the tail lift on/off. If available, the operator MUST switch off the main battery disconnect switch after each use of the tail lift.
  - 3. A combination of both.



- Protection of toes and feet against crushing and sheering [1 min. compulsory]. The tail lift standard EN1756-1 and DHOLLANDIA's fitting manuals provide a number of solutions to prevent the operator from crushing his toes or feet between in the inboard platform edge of the rising platform and the rear sill of the vehicle floor. At least 1 solution, ordered from DHOLLANDIA, or realised during installation, must be foreseen. Consult the installation manual FIT-ELEC-OPTION in its latest version. In case of doubt, contact DHOLLANDIA. See page 3 for contact information.
- Foot controls [optional]. See also previous point. Platform mounted foot controls (2 buttons or 4 buttons) immobilise the feet of the operator on a safe position on the platform, and protect him from crushing his toes or feet between in the inboard platform edge of the rising platform and the rear sill of the vehicle floor.
- Roll stops [optional]. If a platform is aimed at LIFTING and LOWERING loads that cannot be braked or secured by their design or their method of transportation, the platform MUST be equipped with roll stops that prevent the load from accidentally rolling off the platform, and hitting the operator or any bystanders. DHOLLANDIA offers a variety of roll stops that can be fitted near the outboard platform edge, or at intermediate distances.









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- Visibility of the deployed platform [min. 1 compulsory]. Any platform protruding beyond the extremities of the vehicle MUST be clearly visible from all approachable sides in daylight and at night. Check any applicable national or local regulations, as these can be very strict on the application, size and type of means used. The visibility of the platform can be optimized by:
  - 1. **Reflective marking tape** applied to the sides of the platform [standard] applied during installation]
  - 2. **Platform flags** [option OAT020-023], mounted to the underside of the platform, near the outboard platform edge
  - 3. Bi-directional **flashing platform lights** [option OAE200], mounted on the platform surface, near the outboard platform edge
  - 4. **Warning cones** (2 or 4) [widely available] placed around the work area of the platform
  - 5. A combination of 2 or more of the above. The various means above have variable efficiency depending on the direction of approach and the light conditions (e.g. bright sunlight versus night darkness). DHOLLANDIA strongly recommends a combination of 2 or 3 means to cover all circumstances.
- Guard rails [optional]. Guard rails MUST be fitted in all applications where a significant risk exists that the operator could fall off the platform and suffer bodily injury. They are compulsory above 2m lifting height.

Guard rails may be purchased along with your tail lift at the initial order, or may be purchased and retrofitted to your tail lift later. They are available in a wide range of different executions to suit the particular needs of many applications. Contact your national DHOLLANDIA dealer for further information. See page 3 for contact info.

 Decals [standard]. The tail lifts are supplied with a number of operation decals, load diagrams and safety decals, most of them to be applied to the vehicle body during installation. These decals must be kept clean and legible at all times, and replaced whenever required.









#### 7 SAFETY INSTRUCTIONS FOR USING THE TAIL LIFT

#### DO NOT USE TAIL LIFT WITHOUT ADEQUATE SAFETY AND OPERATOR TRAINING 7.1

DHOLLANDIA tail lifts shall be exclusively used to load and unload the goods transported on the carrying vehicle, within the limits of the applicable load chart, in compliance with the operator instructions and safety instructions in this manual.

### A WARNING

- Improper use of the tail lift will put the operator and other parties at great risk of serious bodily injury and death. •
- To reduce the risk of serious bodily injury to the operator and any bystanders, the use of the tail lift is restricted to skilled • operators, who have been properly trained, and who know and understand the full contents of this manual.
- To reduce the risk of serious bodily injury or death, THE OPERATOR MUST COMPLY WITH ALL SAFETY INSTRUCTIONS AND WARNING LABELS IN THIS SECTION AND THE ENTIRE MANUAL before and while operating the tail lift.
- The operator should follow all other policies and procedures applicable to the job situation including health & safety regulations, road and traffic regulations, as well as company procedures. The operator should not use the tail lift if he/she cannot use it in accordance with all applicable regulations and instructions.
- The operator shall be at least 18 years of age.

#### 7.2 **GENERAL SAFETY INSTRUCTIONS**

# WARNING

To avoid serious bodily injury or death, the operator must use appropriate work clothes. NEVER wear loose-fitting clothes that • may be trapped in the moving parts of the tail lift. ALWAYS wear professional safety-toe shoes, protective gloves, and eye protection. Use of hardhat is recommended.



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Recommended:



- Slipping (and falling) can result in serious bodily injury and death. To prevent injury by slipping:
  - ALWAYS wear professional safety-toe shoes with a good non-slip sole.



- DO NOT use the tail lift if it is covered with snow, mud, dirt, debris, liquids or other substances. 0
  - DO NOT run on the platform.
- Tripping (and falling) can result in serious bodily injury and death. To prevent injury by tripping:
  - DO NOT use tail lift platform as a step. NEVER leave the tail lift unattended in partially deployed position.



- Pay attention to protruding items on the platform surface at all times (ex. platform lights, roll stops and their levers, foreign objects, etc...).
- DO NOT run on the platform.  $\cap$

Falling from the platform can result in serious bodily injury and death. To prevent injury by falling:

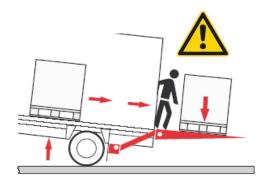


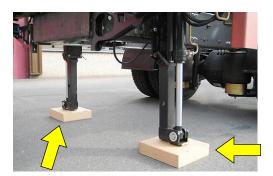
- Make sure your footing is solid, and maintain 3 points of contact. See 7.4 from page 20 onwards. 0 0
  - Use guard rails where available See 7.4 from page 20 onwards.
  - NEVER move the vehicle while a person is standing on the platform, or inside the vehicle body.
- NEVER use the platform as an elevated working platform. 0

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# WARNING

- Prior to operating the tail lift, the vehicle must be safely parked on level and solid ground, the parking brake applied, and the engine must be switched off. Lock open the rear doors and secure all other moving parts of the vehicle body. Failure to abide by these instructions can result in serious bodily injury or death to the operator or bystanders.
- Ensure that the vehicle cannot tip-over when putting heavy weight on the platform. If the vehicle or the tail lift are equipped with mechanical or hydraulic stabilizing legs, deploy these before opening the platform. Ensure that the stabilizing legs are positioned on solid even ground. In case of soft terrain (sand, gravel,...), solid support blocks must be used under the stabilizing legs. Failure to abide by these instructions can result in serious bodily injury or death to the operator or bystanders.





• To reduce the risk of serious bodily injury or death, which may result from other vehicles when parked, ALWAYS make sure a safety distance of 16 ft. or 5 m is kept between the back of the truck and the following vehicle.

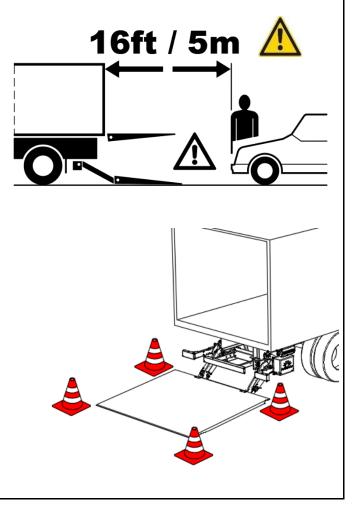
To reduce the risk of serious bodily injury or death,

ALWAYS make sure the platform is clearly visible to other persons from all approach directions. DHOLLANDIA recommends the use of 4 warning cones, placed around

To reduce the risk of serious bodily injury or death, make

the work area of the platform [See notice below].

sure the working zone is sufficiently lighted.



### NOTICE

DHOLLANDIA offers optional platform mounted flashing lights and flags to make the platform more visible to other people. Please visit www.dhollandia.com or contact the national DHOLLANDIA distributor for more information. See page 3 for contact info.

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- Prior to releasing the mechanical platform lock (if so equipped) and using the tail lift, check if the tail lift can be used safely. Take precautions to ensure your own safety, and the safety of bystanders or other parties in traffic. Clear the working area of any objects that could potentially impede movement of the tail lift. Failure to abide by these instructions can result in serious bodily injury or death to the operator or bystanders.
- Inspect the tail lift prior to each use. If any unsafe condition exists or unusual noises or movements are noticed, DO NOT use the tail lift and contact an authorized DHOLLANDIA service agent for repair. Please see 'pre-trip inspection' procedures under 7.6 on page 25.
- Read and comply with all warning decals, pictograms and instructions affixed to the tail lift. Failure to abide by warnings and instructions may result in serious bodily injury or death.
- The tail lift must not be used if the operator is intoxicated, impaired or distracted in any way. NEVER use a phone or mobile device when operating the tail lift.
- The tail lift shall be used by means of original control units only. Operating the tail lift with unauthorized control units will increase risk of serious bodily injury or death to the operator or any bystanders.
- Limit the operation of the tail lift to one single operator. Operation of the tail lift by more than one operator at a time may cause confusion and increase the risk of serious bodily injury or death.
- To prevent people from being hit by the platform, by objects falling off the platform or being caught in pinch points or being pinched by the moving parts of the tail lift:

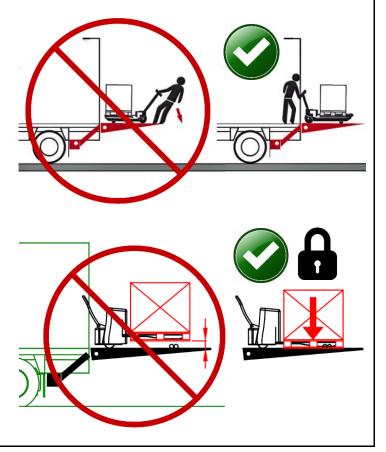


→ Keep visual control over the entire working area of the tail lift and its platform at all times, including the area DIRECTLY BEHIND and UNDER the platform.



→ DO NOT allow any other person, to stand in the proximity of the tail lift and its platform. ENSURE AT ALL TIMES THAT NOBODY STANDS UNDER OR WITHIN REACH OF THE MOVING PLATFORM.

- When unloading from the vehicle body to the platform, ALWAYS push the load out, to prevent the load from hitting you. NEVER pull the load from the vehicle onto the platform. Pulling the load from the vehicle can result in a fall from the platform causing serious injury or death.
- If pushed out too far, the load can fall off the platform, and cause serious bodily injury or death to other people. Deploy the roll stops before pushing out the load. If not available, push the load slowly while checking the outboard platform edges.
- The load must ALWAYS be secured when raising or lowering on the tail lift, to prevent it from shifting position and rolling off the platform edges. Failure to properly secure the load will increase the risk of serious bodily injury or death to the operator or any bystanders.
- When using a pallet jack, lower and rest the pallet or load upon the platform surface before operating the tail lift.



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- For loads on wheels, engage wheel brakes of carts, trolleys and machinery (if available) before operating the tail lift.
- For loads that could slip, the use of original DHOLLANDIA roll stops or an appropriate alternative securement device (ex. ratchet straps) is required. The load must not be able to move during movement of the platform. See 9.9 from page 47 onwards for correct use of original DHOLLANDIA roll stops.
- NEVER leave the tail lift unattended in open position. Before leaving the vehicle unattended, close the doors of the vehicle, stow the platform in its travel position and switch OFF the main battery disconnect switch in the external control box (if so equipped), or the cab switch. Leaving the tail lift in open position unattended can result in serious bodily injury or death to unaware bystanders. See 9.6 9.7 from page 38 onwards for instructions on properly stowing platform into its travel position.
- NEVER move the vehicle with the tail lift in the open position. ALWAYS close and secure the doors of the vehicle, stow the tail
  lift in its travel position and switch OFF the main battery disconnect switch in the external control box (if so equipped), or the
  cab switch, before moving the vehicle. If so equipped, close the mechanical platform lock after stowing the platform in its travel
  position. Failure to properly stow the tail lift in its travel position prior to moving the vehicle may result in serious bodily injury
  or death.
- Use of the tail lift near vehicular traffic may result in serious bodily injury or death from being struck by another vehicle. When
  operating the tail lift on or near a street or parking lot, be sure to stay clear of vehicular traffic. ALWAYS be sure to clearly
  identify to other drivers that the tail lift is in use. DHOLLANDIA recommends use of warning cones to clearly identify to drivers
  that the tail lift is being operated. When the tail lift is operated near vehicular traffic, wear working clothes in high-visibility
  colours and a retro-reflective safety vest.
- DO NOT raise the tail lift with the rear doors partially open. Doing so may damage the doors or the tail lift platform and may also result in serious bodily injury or death to the operator or any bystanders.
- Above all, USE GOOD COMMON SENSE when operating the tail lift. DO NOT operate the tail lift until the contents of this
  manual have been read and fully understood. Improper use of the tail lift increases the risk of serious bodily injury or death to
  the operator and any bystanders.
- NOTICE

  The most important safety and operation instructions are summarized in a product video that can be viewed online at:

  For LSP with full width or half width platform:
  <a href="http://www.dhollandia.com/uservideo/LSP-CE-2018-01">http://www.dhollandia.com/uservideo/LSP-CE-2018-01</a>

  For LSPZ with foldable platform:
  <a href="http://www.dhollandia.com/uservideo/LSPZ-CE-2018-01">http://www.dhollandia.com/uservideo/LSPZ-CE-2018-01</a>

  Make sure you review these instructions prior to operation of the associated DHOLLANDIA tail lift.

### NOTICE

- The safety instructions in this manual are drawn up with an average, common use of the tail lift in mind.
- For specific applications or work conditions, other instructions might be appropriate to reach a higher level of safety. If contraindications exist, a formal risk analysis must be performed by the client's health and safety management and safe work procedures for the drivers and operators must be issued.

#### 7.3 DANGER ZONES, RISK OF CRUSH AND SHEAR INJURY

• There are 4 main danger zones on and around the platform, that can be hazardous to the operator and any other persons nearby:



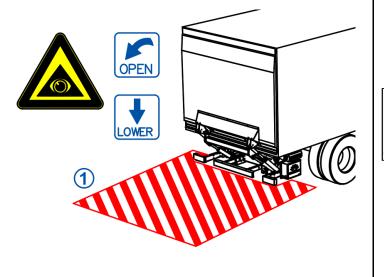
Correct operator position

Danger zone



1. ALWAYS stay clear of the range of motion of the platform

1

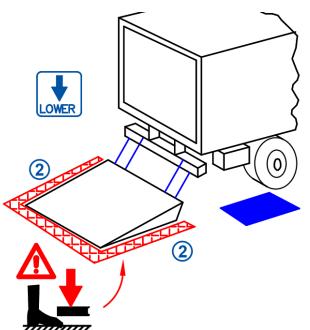


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Impact by the platform or the moving parts of the tail lift will result in serious bodily injury or death. To prevent people from being hit by the platform, by objects falling off the platform or being caught in pinch points or being pinched by the moving parts of the tail lift:

- → Keep visual control over the entire working area of the tail lift at all times, including the area directly behind and under the platform;
- → DO NOT allow any person to stand near the tail lift and its platform. Ensure at all times that nobody stands under, or within reach of the moving platform and its load.

2. Beware of crushing zone between lowering platform and ground



### WARNING

Lowering an empty or fully loaded platform on one's feet may result in serious bodily injury. To prevent people from having their feet crushed or sheared by the lowering platform:

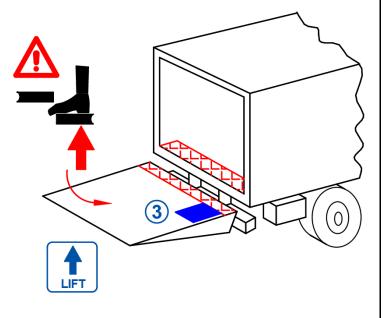
→ Keep visual control over the entire working area of the tail lift at all times, including the area directly behind and under the platform;

→ When operating the tail lift from a position on the ground, ALWAYS stand at the side of vehicle body, at a safe distance of minimum 50 cm away from the moving platform.



# 3. Beware of the crushing zone between

rising platform and vehicle floor

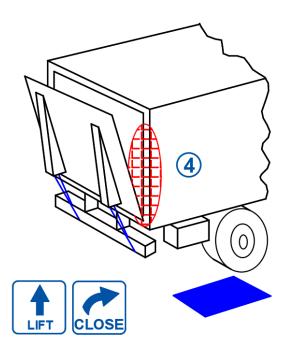


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- If the operator on the platform stands too close to the inboard platform edge, protruding toes might be crushed or sheared between the rising platform and the vehicle floor. This can cause serious bodily injury.
- Therefore, when operating the tail lift from a position on the platform, ALWAYS stand at a safe distance of min. 25 cm from the inboard platform edge.
- NEVER reach over or through the platform and the moving parts of the tail lift while trying to operate the lift. ALWAYS keep your head, limbs and body clear of the moving platform and other pinch points.



4. Beware of the crushing zone between closing platform and rear frame of vehicle body



# 

- If the operator enters the zone between the closing platform and the rear frame of the vehicle body with his head, upper body or limbs, protruding body parts may be hit, crushed or sheared by the closing platform. This will cause serious bodily injury or death.
- Therefore, while stowing the platform in its travel position, ALWAYS stand with both feet on the ground on a freestanding, safe operator position at the side of the body and ALWAYS keep head, limbs and upper body clear of hazardous space between the platform and the rear frame of the vehicle body.
- NEVER reach over or through the platform and the moving parts of the tail lift while trying to operate the lift.
   ALWAYS keep your head, limbs and body clear of the moving platform and other pinch points.

### WARNING



The operator or other persons approaching too close to these danger zones risk serious bodily injury or death by pinching, crushing or shearing of limbs, upper body or head. To prevent these hazards:

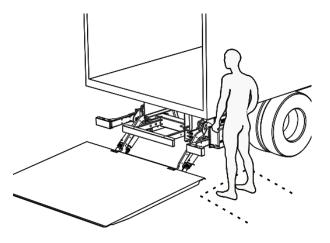
→ALWAYS stand clear of the range of motion of the platform and moving parts of the tail lift;

→Keep hands, feet and upper body clear of pinch points and moving parts of the tail lift;

 $\rightarrow$ DO NOT allow any other person to stand near the tail lift and its platform.

#### 7.4 SAFE OPERATOR POSITION

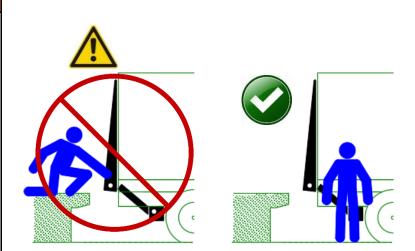
- The instructions on safe operator position aim to enforce that the operator stands in a safe position before and while operating the tail lift and protect him/her against the risks of crushing and sheering as described in 7.3 from page 18 onwards.
- Main external control box: the zone just in front of the sidemounted external control box, equipped with mandatory 2-hand operation, is the only position from where the operator can safely OPEN and CLOSE the platform. It is also safe to LOWER and LIFT the platform from this position.



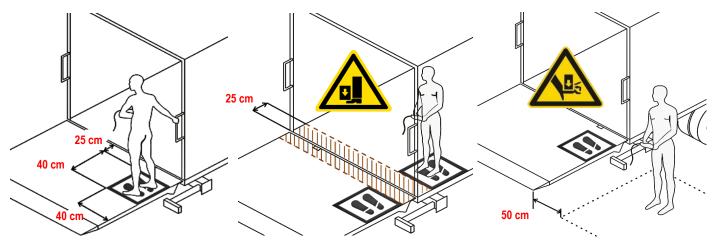


### WARNING

- ALWAYS stand with both feet on the ground on safe operator position at the side of the body when operating the external control box (see also 7.3 from page 18 onwards) or the platform locks. NEVER operate the external control box or the platform locks from an elevated position, such as the platform or a loading dock.
- NEVER reach over or through the platform and the moving parts of the tail lift while trying to operate the lift.
   ALWAYS keep your head, limbs and body clear of the moving platform and other pinch points.



- Auxiliary controls: the operator may also LOWER and LIFT the platform through use of the auxiliary controls. The operator must use extreme caution when lowering or lifting the platform with the auxiliary controls and must ensure it is done from a safe position. Use of auxiliary controls from an improper position greatly increases the operator's risk of crushing or shearing of toes, limbs, head, and upper body as well as death.
- The operator may also LOWER and LIFT the platform through the use of the platform mounted foot controls (optional) which restrict both operator's feet to a predetermined position on the platform. The operator must use **extreme caution** when using platform mounted foot controls to avoid falling from the platform. ALWAYS maintain 3 points of contact (see below).
- Handheld auxiliary controls with a spiral cable should only be used under the following conditions (1):



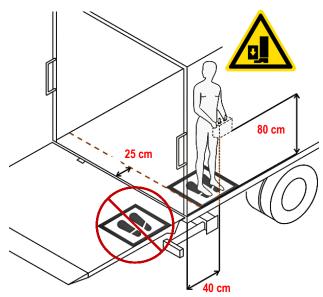
**On the platform**, from a safe operator position of minimum 40 cm x 40 cm square, clearly and permanently marked at minimum 25 cm distance from the hazard zone between the platform and the rear of the vehicle floor. Maintain 3 points of contact (see below).

**Inside the vehicle body**, from a safe operator position of minimum 40 cm x 40 cm square, clearly and permanently marked at minimum 25 cm distance from the hazard zone between the platform and the rear of the vehicle floor.

**On the ground**, from a safe operator position minimum 50 cm away from the side edge of the platform.

(1) Remark: The CE standard EN1756-1 suggests a number of other, less usual solutions providing sufficient protection against crushing and sheering of the toes and feet, such as a hinged foot protector or cut-out switch. Consult the latest edition of DHOLLANDIA's fitting instructions FIT-ELEC-OPTION or contact your national DHOLLANDIA dealer for more information. See page 3 for contact info.

- A fixed internal control should only be used inside the vehicle body from a safe operator position that is a minimum 40 cm x 40 cm square, clearly and permanently marked at a minimum of 25 cm from the hazard zone between the platform and the rear of the vehicle floor (see 3 in 7.3, from page 18 onwards). A fixed internal control should NEVER be used from a position on the platform.
- The marked operator positions on the platform must be kept clear at all times. It is prohibited to place a load on these dedicated areas.
- The power to any of the auxiliary controls (hand held controls or platform mounted foot controls) must be connected to and dependent upon the safety switch in the main external control box. Activation of the auxiliary controls must deactivate the functions on the external control box.
- It is prohibited to bypass or modify any of the safety features of the tail lift. If connection of the power to the external control box does not deactivate the auxiliary controls, stop using the tail lift, and contact an authorized DHOLLANDIA agent to rectify.

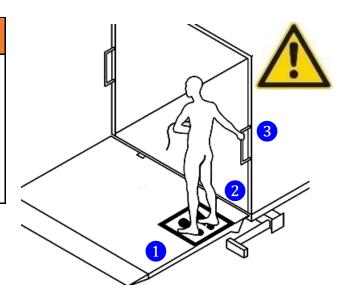


### WARNING

- When standing in front or behind the load, the operator risks being pushed off the platform, or being crushed between the moving load and the rear frame of the vehicle body, resulting in serious bodily injury or death.
- To prevent this hazard, ALWAYS stand on the side of the load, NEVER in front or behind.

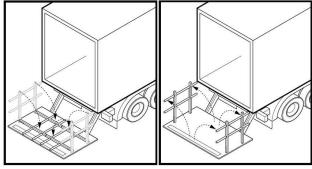


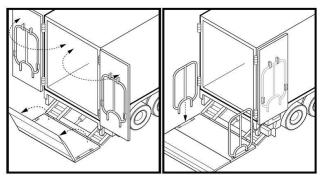
• Note: these 3 points of contact usually include the 2 feet positioned solidly on the platform, and a handgrip mounted to the rear frame of the vehicle body.





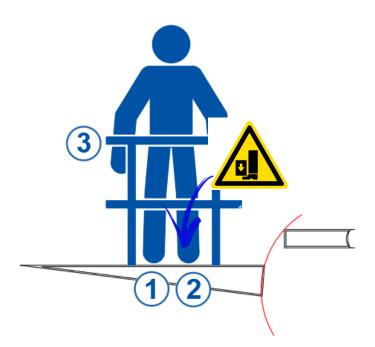
To reduce the risk of serious bodily injury or death from falling, DHOLLANDIA recommends the use of guard rails along the exposed edges of the tail lift platform. Guard rails may be purchased along with your tail lift at the initial order, or may be purchased and retrofitted to your tail lift later. Please see www.dhollandia.com for further information or contact your national DHOLLANDIA distributor. See page 3 for contact info.





Example: hinged guard rails

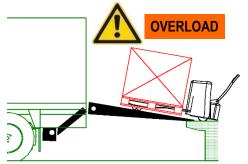
Example: demountable guard rails



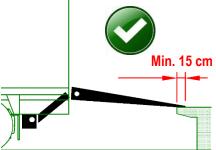
#### 7.5 INSTRUCTIONS FOR WORKING AT LOADING DOCKS

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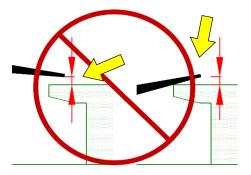
- Improper use of the tail lift may result in damage, premature wear or failure of the tail lift, and will increase the risk of serious injury or death to the operator and other persons nearby.
- In order to maximize the durability, ensure long-term reliability of the tail lift, and protect operators and bystanders from serious bodily injury or death, the operator must comply with the loading instructions and safe working procedures below.
- When using the tail lift platform as a bridge plate between the loading floor of the vehicle and the loading dock, follow the instructions below:



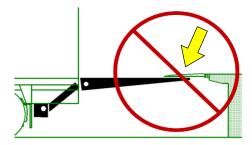
The total weight of the load and the lifting device (forklift, electric or manual pallet jack, etc...) must not exceed the maximum rated capacity of the tail lift. Beware not to overload!



A minimum section of 15 cm of the platform point must rest on the loading dock.



When loading or unloading, the loading floor of the vehicle might lower or rise relative to the loading dock. Use the electrical controls to tilt the platform to maintain flat contact with the dock.



NEVER place dock plates or bridges on an unsupported platform. The platform point should ALWAYS overlap a rigid support structure over a minimum span of 15 cm. Min. 20 cm

Wherever the loading dock is equipped with a storage pocket for tail lift platforms, it is strongly recommended to tuck the platform away in this area. Before reversing into the dock, check if it is deep enough for the depth of the platform. Ensure there is sufficient clearance under and above the platform, taking into account all anticipated position shifts of the vehicle suspension. Make sure the platform does not touch the ceiling, ground or end wall of the storage pocket.

### NOTICE

- When reversing a vehicle with tail lift into a loading dock, ALWAYS make sure there is sufficient ground clearance between the lowest part of the tail lift and the ground.
- ALWAYS reverse slowly, and avoid hard dock impact on the tail lift.
- Reversing with insufficient ground clearance, or with too hard dock impact may result in severe damage to the tail lift.

#### 7.6 RECOMMENDED DAILY PRE-TRIP INSPECTION

### WARNING

- Using a tail lift that is damaged or improperly serviced, can put the operator and bystanders at great risk of serious bodily injury and death.
- To avoid this risk, inspect the tail lift prior to the first use of each day. Ensure that all safety systems and all functions operate correctly, and that no maintenance or repair is required.
- If any unsafe condition exists or unusual noises or movements are noticed and contact an authorized DHOLLANDIA agent [see Notice].
- DO NOT cover up any accidents or damage; it can be dangerous to you, your co-workers, and other persons.

### NOTICE

Authorized DHOLLANDIA service agents may be found at www.dhollandia.com or by calling your regional DHOLLANDIA distributor. See page 3 for contact info.

Before operating the tail lift, the operator must conduct the following daily pre-trip inspection. Use caution: stay clear of the area directly behind the platform while conducting the daily pre-trip inspection.

- □ Replace missing, worn or illegible warning decals immediately. See page 3 for contact info.
- Make sure the cabin switch and / or main battery disconnect switch in the control box switch on and off accordingly.
- □ Make sure the battery is fully charged, the main fuse is in good condition, and battery terminal connections are corrosion-free and tight.
- Check the overall condition of the main external control box and its switches. Confirm that all switches (except the ON / OFF cabin switch) the swiftly return to the neutral position after releasing them.
- Check the overall condition of the cables entering the various control units, and of the cables to the pump unit. Make sure cables are not chafed, loose or damaged.
- $\hfill\square$  Ensure the cover of the pump unit is properly installed and secured.
- □ Check the pump unit for visible oil leaks.

# Follow the instructions in section 9 from page 31 onwards to open and lower the platform to the ground, and continue the checks:

- □ Visually inspect the general condition of the lift frame, lift arms, and mounting plates to the vehicle chassis. Look for cracks or deformation in the material and welds. Make sure the bolts of the mounting plates to the chassis are tightened.
- □ Make sure all pivot pins are properly locked and secured.
- □ Visually inspect the general condition of the platform. Look for cracks or deformation in the material and welds. If so equipped, make sure the platform-mounted options function correctly (roll stops, foot controls, flashing warning lights).
- Check the overall condition of the auxiliary controls and their switches. Confirm that all switches swiftly return to the neutral position after releasing them. In case of a handheld control with spiral cable, inspect the spiral cable for wear or damage.
- □ Make sure safe operator position and center point of maximum load are clearly marked on the platform.
- Make sure the platform surface is clean and can be accessed safely. Remove any snow, mud, dirt, debris, or slippery liquids. Make sure you wear safety-toe shoes with a good non-slip sole.
- □ If so equipped, visually inspect the general condition of the bridge plate and its hinge. Make sure its surface is clean and can be accessed safely. Remove any dirt, debris or slippery liquids.
- □ Check the lift and tilt cylinders, their lock valves and fittings for visible oil leaks. Follow the hydraulic pipes and fittings to the pump unit. Make sure all wires and hydraulic pipes are undamaged, not pinched or chafed anywhere, and adequately secured with cable ties. Check for visible oil leaks.



# Perform all movements with an unloaded platform several times with all available control units. Use the operation manual for guidance.

□ Make sure all movements occur smoothly and quietly, without jerking motion or unusual noises. During LIFT and CLOSE functions, only the sound of the electric motor in the pump unit should be audible.

#### Remember: if any part of the pre-trip inspection reveals a need for service or repair



DO NOT use the tail lift until it has been serviced or repaired by a qualified service technician.

Switch OFF power at the main battery disconnect switch or cabin switch see 9.5 page 37.

#### 7.7 IMPORTANCE OF PREVENTATIVE MAINTENANCE

NOTICE				
	• Competent and regular preventative maintenance is essential to the operational reliability of the tail lift as well as the safety of the operator and all bystanders.			
	• All maintenance and repair work must be performed by authorized DHOLLANDIA service agents and using original DHOLLANDIA replacement parts only.			
	Please consult the separate MAINTENANCE AND REPAIR MANUAL for specific instructions regarding periodic maintenance.			

- If a tail lift cannot be repaired immediately in case of breakdown, it must be put out of operation and secured against unauthorized use.
- A tail lift put into its travel position with the help of external devices (forklift, gantry crane, etc.), is not supported by its hydraulic cylinders. After releasing the mechanical platform lock, the platform and lifting mechanism will drop in free fall, without any possibility to stop the fall by means of the regular controls.

	Impact by a falling platform will result in serious bodily injury or death. To reduce the risk of injury:		
	<ul> <li>Close the platform lock (if available), and apply additional means to immobilize the platform [see Note below].</li> </ul>		
	• Attach a clear and highly visible warning tag to the platform and the external control box.		
	Warn your supervisor and have this vehicle put out of service.		
•	• Contact an authorized DHOLLANDIA service agent to repair the tail lift prior to any further use.		

- Note: examples of additional means are additional securing of the platform lock (if available), or securing the platform by means of ratchet straps, hoists, etc.
- To re-open the tail lift, use again an external device (forklift, gantry crane, etc.) for additional support. Or repair the breakdown first, bring the hydraulic system under pressure, and release the platform locks after satisfactory testing of the hydraulic integrity. Follow the MAINTENANCE AND REPAIR MANUAL for all maintenance and repair works.

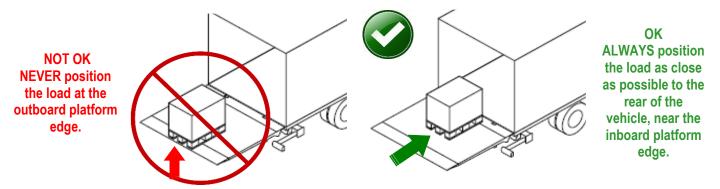
#### 8 LOAD CHARTS AND CORRECT LOADING PROCEDURES

### NOTICE

- Tail lifts are NOT designed to LIFT / LOWER weights corresponding to their maximum rated capacity over the entire surface
  of the platform. The maximum rated capacity is valid at a certain distance or center point of maximum load behind the vehicle
  body. Behind that point marked on the platform, the maximum safe working load diminishes according to the load charts below.
- When LIFTING, the tail lift is normally protected against overload by the pressure relief valve in the hydraulic circuit. Most of overload events and resulting damage happen when LOWERING loads.

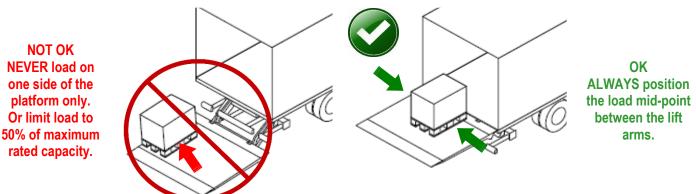
# WARNING

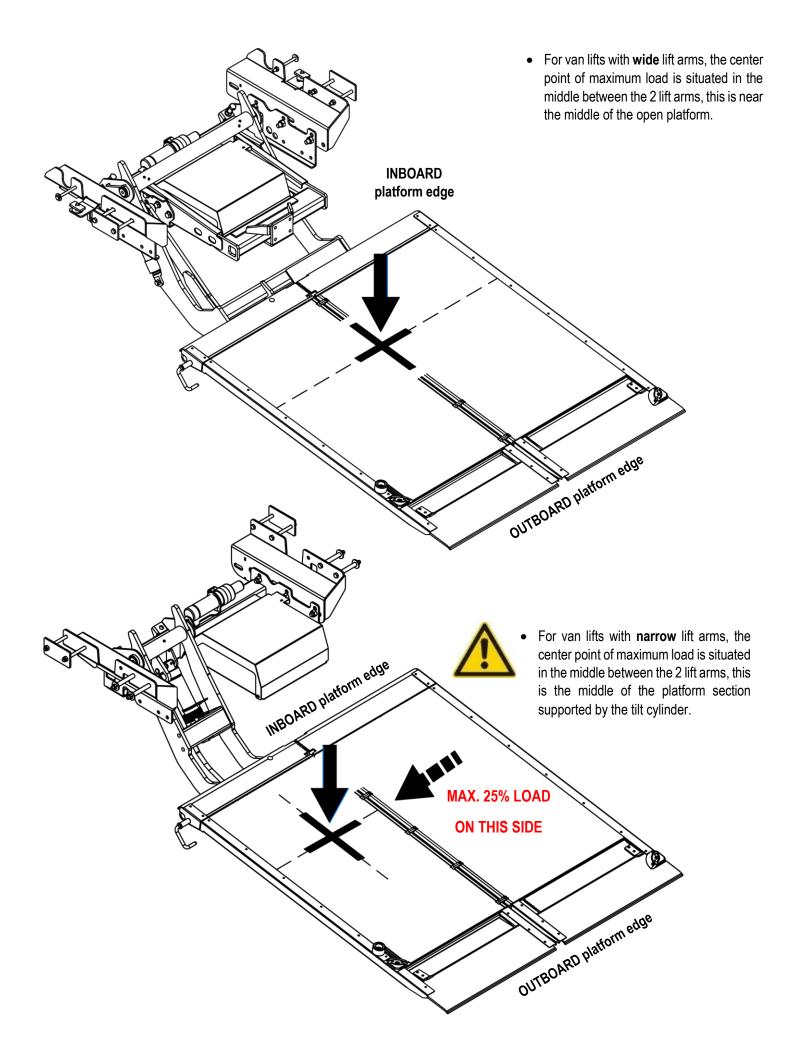
- Overloading and improper loading and unloading of the tail lift will put the operator and bystanders at great risk of serious bodily injury or death. Such conditions will also cause premature wear and damage to the tail lift, or failure of the tail lift.
- Therefore it is essential that the operator respects the maximum rated capacity and follows the loading instructions and the load chart with great care.
- DHOLLANDIA disclaims liability for all personal bodily injury and / or property damage that results from overloading practices.
- The maximum rated capacity is the maximum weight that the tail lift can carry under the following best possible circumstances:
  - → The center of gravity of the **load** stands no further than the designated center point of maximum load of the **tail lift**, marked on the platform surface, and
  - → The load stands mid-point between the lift arms, and is at equal distance from both platform sides.



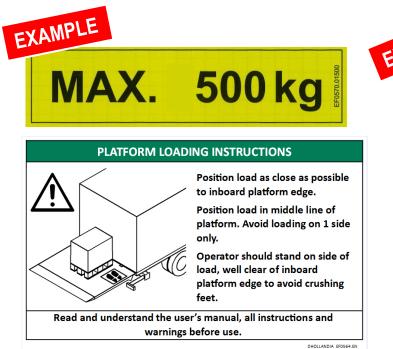


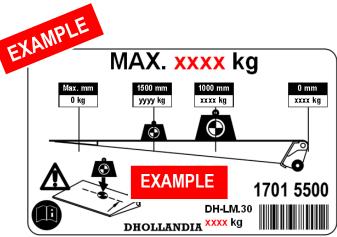
Uneven loading on one side of the platform should be avoided. Limit the load to 50% of the maximum rated capacity when loading on one side of the platform only.





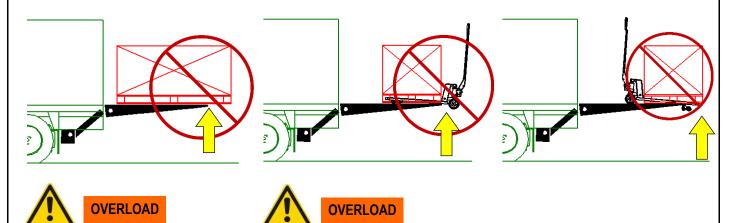
The maximum **safe working load** GOES DOWN according to the load charts. The following type of load chart decals are supplied with the tail lift, and must be duly observed.



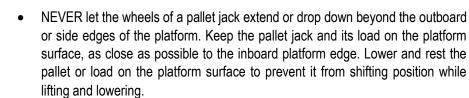


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- Overloading and improper loading and unloading of the tail lift will put the operator and bystanders at great risk of serious bodily injury or death. Such conditions will also cause premature wear and damage to the tail lift, or failure of the tail lift.
- Pay attention to avoid concealed overload situations as shown in examples below. Serious bodily injury or death may result from failure to abide by these warnings.



 NEVER let the load extend beyond the outboard edge or side edges of the platform.



### 

• Lower and rest the pallet or load on the platform surface to prevent it from shifting position while lifting and lowering.

 NEVER drop any load on the platform (ex. by means of a forklift, gantry crane, etc...). The impact of dropping a load is far greater than the nominal weight of the load and can cause severe damage to the tail lift.

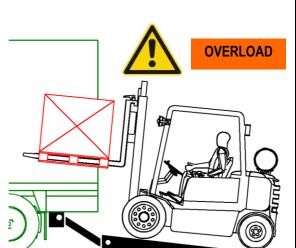
• Forklift access is allowed only when the platform is in <u>full contact</u> with the ground. The combined weight of the forklift plus load must not exceed 1.5 x the maximum rated capacity.

### WARNING

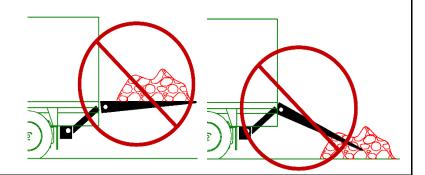
Driving too heavy loads onto the platform can cause severe structural damage, potentially invisible to the operator at first glance. Further use of an overloaded or damaged platform can put the operator and bystanders at great risk of serious bodily injury and death.

- NEVER try to scoop loose material (ex. sand, gravel, rocks, etc...) from the ground, to attempt to move it by means of the platform, or to lift / lower it on the platform.
- NEVER use the platform to level the ground surface, or to push or pull loads or material by means of the platform. NEVER use the platform to move snow or other debris.

30



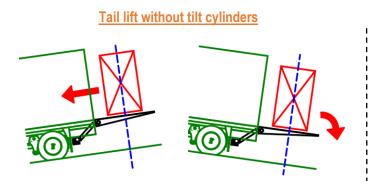
**OVERLOAD** 



#### 9 OPERATING INSTRUCTIONS - PRINCIPLES AND PROCEDURES

#### 9.1 AUTOMATIC TILT AT GROUND LEVEL

• DH-LSP Van lifts are equipped with 1 or 2 tilt cylinders. Upon platform deployment, they enable the operator to adjust the orientation of the platform to the slope of the ground, and maximize the stability of the load on the platform.



 DH-LSP are designed as level-ride tail lifts with automatic tilt at ground level. This means:

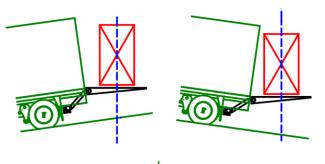
When lowering, the platform remains level from the vehicle<br/>floor down, until the platform makes contact with the ground.<br/>Next, the platform will tilt down automatically to a declined<br/>position that allows loading and unloading, as LOWER<br/>button(s) are held.Image: Market content of the ground, it will first tilt up from its declined position at the ground<br/>to the horizontal position, then continue a level ride to the

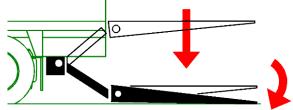
• The tilt at ground level does NOT require the activation of an additional tilt button, as is required on various competing products.

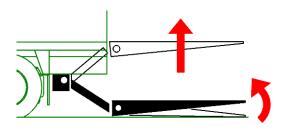
vehicle floor.

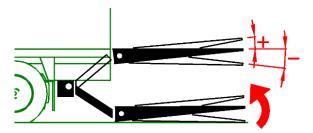
 The automatic tilt incorporates a "memory": the orientation of the platform (set by the operator upon opening the platform) is automatically repeated upon every new LIFT cycle off the ground. This orientation is repeated or "memorized".

#### Tail lift with tilt cylinders









#### NOTICE

Automatic tilt should be used with auxiliary controls which allow to LIFT / LOWER only: foot controls, 2-button handheld controls, 2-button fixed internal controls. DHOLLANDIA strongly recommends that you DO NOT use 3-button or 4-button handheld controls, that would also enable you to OPEN, CLOSE or TILT the platform.

#### 9.2 REMARKS ON USE OF THE TILT CYLINDERS

 Decal EF0581.EN is usually affixed to the side of the vehicle body. Make sure you understand the meaning of this decal, and apply the precautions when operation the tail lift.

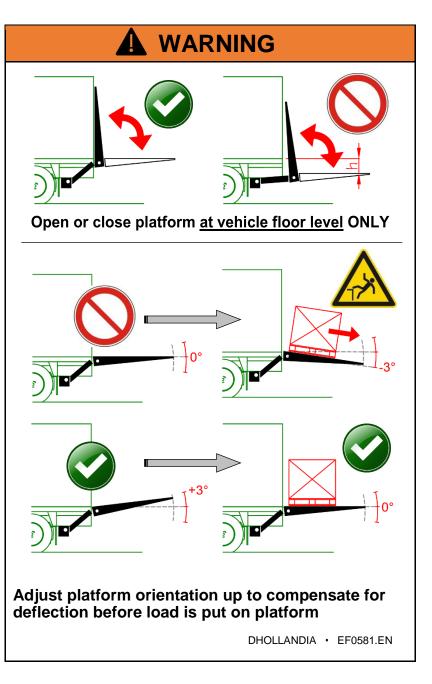
### WARNING

- If the platform is CLOSED when situated below vehicle floor level, this can cause severe damage to the tilt cylinders. Further use of a tail lift with damaged tilt cylinders can put the operator and any bystanders at great risk of serious bodily injury and death.
- Therefore, OPEN and CLOSE the platform at vehicle floor level only.
- When the platform is loaded, the platform orientation can be few degrees lower then when the platform is empty, due to the compression of the vehicle suspension, some deflection of the vehicle chassis, and tolerances in the tail lift itself.

### WARNING

- Platform deflection can cause instability of the load on the platform, followed by a fall of the load from the platform. This can put the operator and any bystanders at great risk of serious bodily injury and death.
- Therefore, anticipate platform deflection.
- Compensate for platform deflection by setting its orientation a few degrees higher than the intended orientation [note], when opening the platform.

Note: the intended orientation is not always horizontal, it may depend on the slope of the ground. See 9.1 page 31.



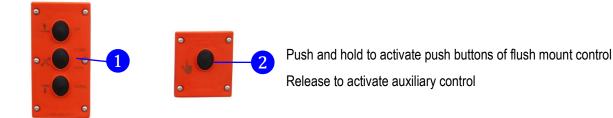
#### 9.3 MAIN EXTERNAL CONTROL BOXES

 All images, pictograms and decals in this manual represent the version for left hand drive vehicles, with the main external control box mounted on the right side of the vehicle.



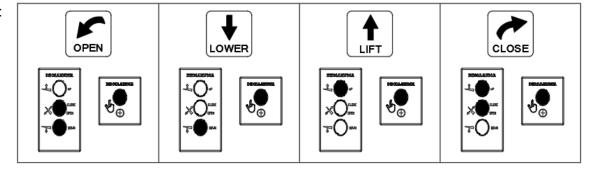
- DHOLLANDIA offers various control boxes, that may be purchased along with your tail lift upon initial order or may be purchased and retrofitted to your tail lift later. Please see www.dhollandia.com for further information or contact your national DHOLLANDIA distributor. See page 3 for contact info.
- The most popular models are outlined below. If your tail lift is equipped with a different style of control box, contact the national DHOLLANDIA distributor to confirm operation instructions, prior to operating the tail lift. See contact info on page 3.

#### Flush mount control unit (ref. OAE031.ZP)



1	Push buttons commanding the functions OPEN - LOWER - LIFT - CLOSE	
2	Safety switch to enable the push buttons, or to switch over to the auxiliary control	

#### Operation:



#### Wireless remote control (ref. OAE045.LSP.PR)

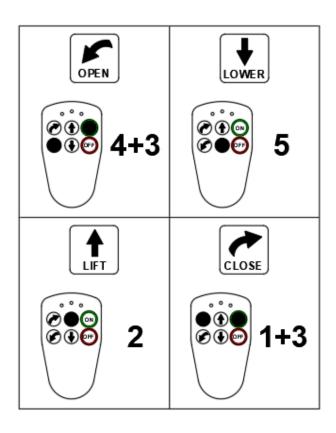
- These are condensed instructions. Make sure you read the full instructions included in the wireless remote control kit.
- The wireless remote control features a restricted safety zone, measured from the receiver, from where the transmitter can be activated, and the platform OPENED or CLOSED, safely outside reach of the opening or closing platform.
- The functions LIFT and LOWER, used to load and unload the vehicle, can be addressed from a further distance on or besides the platform.

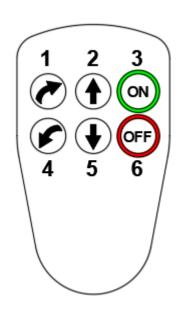


# 

- While OPENING the platform, ALWAYS stand out of reach of the moving platform, at the side of the vehicle. An impact or hit by the platform can result in serious bodily injury or death.
- While CLOSING the platform, ALWAYS stand out of reach of the moving platform, at the side of the vehicle. A crush between the closing platform and the rear frame of the vehicle body will result in serious bodily injury or death.
- While operating the tail lift, ALWAYS observe all safety precautions, particularly the precautions in 7.3 7.4 from page 18 onwards.

1	Push button to CLOSE, in combination with button 3
2	Push button to LIFT
3	Push button ON to activate the receiver
4	Push button to OPEN, in combination with button 3
5	Push button to LOWER
6	Push button to STOP.





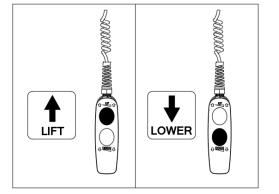
#### 9.4 MOST POPULAR AUXILIARY CONTROLS

- DHOLLANDIA offers various types of auxiliary controls, delivered to customer specification. Contact your national DHOLLANDIA distributor for more information, prior to ordering your tail lift. See contact info on page 3.
- The most popular options are outlined below. Contact your national DHOLLANDIA distributor for operation instructions on other models, or models with different configurations, prior to operating the tail lift. See contact info on page 3.

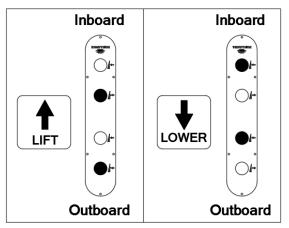
### 

- To reduce the risk of injury to the operator or any bystanders, the auxiliary controls must only be used from a safe operator position on or beside the platform, conforming with the safety precautions described in section 7 from page 14 onwards.
- Any operator on the platform must stand clear of the crushing zone between the lifting platform and the rear of the vehicle floor.
- Any operator on the ground must stand clear of the crushing zone between the lowering platform and the ground.
- Keep head, hands and feet clear of pinch points and moving parts. Beware of hand, foot and head traps at all times.
- NEVER wear loose fitting clothing when operating or standing near the tail lift as it increases the risk of serious bodily injury and death.
- ALWAYS be aware of vehicular traffic when using controls to operate the tail lift.
- Failure to abide by these warnings may result in serious bodily injury or death to the operator or any bystanders.

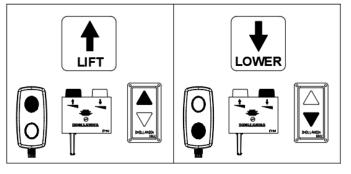
#### 2-button handheld control with spiral cable (ref. OAE001)



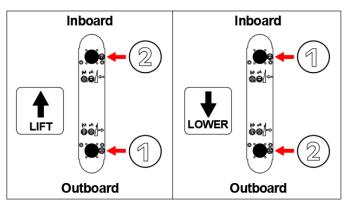
#### 4-button foot controls on platform (ref. OAE060 / OAE064)



#### 2-button internal control (ref. OAE003 / OAE005 / OAE012)



#### 2-button foot controls on platform (ref. OAE067)



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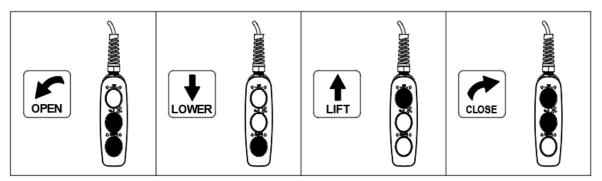
**OAE046.1** 

**OAE046.2** 

- If the tail lift is ordered with a wireless remote control ref. OAE045.LSP.PR, the lift frame is also equipped with a plug (ref. OAE046.1).
- This plug enables the operator to connect an optional 3-button back-up control (ref. OAE046.2) and replace the wireless emergency control in case of failure.



• To operate this back-up control, remove the cap from the fixed plug ref. OAE046.1 on the lift frame, and connect the plug at the end of the cord of the 3-button control to it. Then operate the control unit as follows:



## 

- To reduce the risk of injury to the operator or any bystanders, the auxiliary controls must only be used from a safe operator position on or beside the platform, conforming with the safety precautions described in section 7 from page 14 onwards.
- While OPENING the platform, ALWAYS stand out of reach of the moving platform, at the side of the vehicle. An impact or hit by the platform can result in serious bodily injury or death.
- While CLOSING the platform, ALWAYS stand out of reach of the moving platform, at the side of the vehicle. A crush between the closing platform and the rear frame of the vehicle body will result in serious bodily injury or death.
- While operating the tail lift, ALWAYS observe all safety precautions, particularly the precautions in 7.3 7.4 from page 18 onwards.
- Keep head, hands and feet clear of pinch points and moving parts. Beware of hand, foot and head traps at all times.

## NOTICE

The van lifts are equipped with automatic tilt at ground level (see 9.1 page 31), operated from the functions LOWER and LIFT of the controls shown in this section. Handheld 3-button controls are NOT needed to tilt the platform at the ground.

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### 9.5 SWITCHING THE MAIN POWER ON/OFF

• Depending on configuration, the power to the tail lift can be switched ON / OFF by means of a cabin switch, a main battery disconnect switch mounted near the driver's seat, or a combination of both.

#### Cabin switch



#### Main battery disconnect switch



Turn clockwise to switch battery power ON Turn counter-clockwise to switch battery power OFF



Push button to switch tail lift power ON (indicator light on) Push button to switch tail lift power OFF (indicator light off)

If platform is equipped with a tilt sensor, indicator light can be configured to switch on if platform is not closed in its travel position.

## NOTICE

In case of combined system, (main battery disconnect and cabin switch) both must be switched on to activate the tail lift. Switching off only one of two will deactivate the tail lift, but it is strongly recommended to switch-off both. NEVER leave the main battery disconnect switch on while tail lift is not is use.

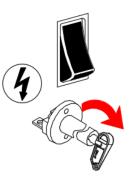
#### **OPERATION OF THE STANDARD PLATFORM** 9.6

9.3 - 9.4 from page 33 onwards explain how each of the functions OPEN - LOWER - LIFT - CLOSE are activated via the various types of controls. This section explains in which sequence the DH-LSP must be operated, and which steps must be followed.

#### Opening the platform



Consult the operation manual before getting started. Follow ALL safety and operation instructions.



Switch on the electrical power to the tail lift (cabin switch or main battery disconnect switch mounted near the driver's seat, or both if both are available).



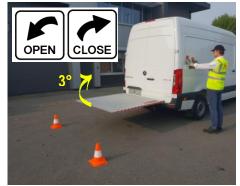
The tail lift is ready for use.



Observe all safety instructions, and open the platform lock by turning it up and pulling it backwards.



OPEN the platform, and adjust its orientation to the slope of the ground. DO NOT LOWER before the horizontal work position has been reached.



platform orientation Adjust the to compensate for the slope of the ground [see 9.1 page 31] and platform deflection under load [see 9.2 page 32].



LOWER the platform half-way to the ground.



Open the doors of the van and secure Manually deploy the bridge plate. them in open position.





LOWER the platform to the ground. At the ground, use the AUTOMATIC TILT to decline the platform to the ground.



LIFT the platform off the ground. Use the AUTOMATIC TILT to return the platform to level orientation. If riding on the platform, DON'T place your feet beyond the inboard platform edge.



When LIFTED fully, the platform will line up with the bridge plate and connect to the vehicle floor. Release the buttons when you hear the hydraulic system turn in overpressure.



When riding on the platform, make sure you stand minimum 25 cm away from the inboard platform edge, make sure your footing is solid, and ALWAYS maintain 3 points of contact. [See 7.4 from page 20 onwards].

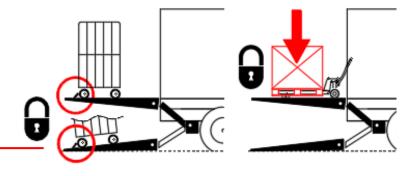


NEVER pull the load from the vehicle onto the platform. ALWAYS push it out. Pulling the load from the vehicle can result in a fall from the platform and cause serious injury or death.











Make sure you comply with load charts and instructions at all times.



LOWER the platform to the ground. At the ground, use the AUTOMATIC TILT to decline the platform to the ground.



LIFT the platform off the ground. Use the AUTOMATIC TILT to return the platform to level orientation. Release the buttons when you hear the hydraulic system turn in overpressure.

#### **Closing up in travel position**



Fold the bridge plate back onto the vehicle Close the roll stops. floor.





Make sure the platform is below the rear door bottom level and close the rear doors.



LIFT the platform to the vehicle floor level before closing the platform. NEVER CLOSE the platform before it is at maximum height at vehicle floor level.



CLOSE the platform until it reaches the closed vertical position and you hear the hydraulic system turn in overpressure.



Engage the platform stow lock by turning the pin and pushing it inside.



Switch off the electrical power to the tail lift (cabin switch or main battery disconnect switch in the external control box, or both if both are available). Close the cover of the control box.



The tail lift is now readily stowed for travelling.



At any time during the operation, release the activated button(s) to stop the platform from moving. Additionally, turning the main battery disconnect switch (if so equipped) counter-clockwise will switch off electrical power to the tail lift.

# NOTICE

OPEN and CLOSE the platform at vehicle floor level only. Opening and closing the platform at a lower level can cause serious damage to the hydraulic cylinders of the tail lift.



Consult the DHOLLANDIA website to view the operation video on the DHLSP\* van lift, or scan the QR code on the decal affixed above the control box.

http://www.dhollandia.com/uservideo/LSP-CE-2018-01



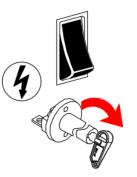
#### **OPERATION OF THE LSPZ PLATFORM** 9.7

9.3 - 9.4 from page 33 onwards above explain how each of the functions OPEN - LOWER - LIFT - CLOSE are activated via the various types of controls. This section explains in which sequence the DH-LSPZ must be operated and which steps must be followed.

#### **Opening the platform**



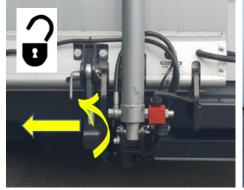
Consult the operation manual before getting started. Follow ALL safety and operation instructions.



Switch on the electrical power to the tail lift (cabin switch or main battery disconnect switch near the driver's seat, or both if both are available).



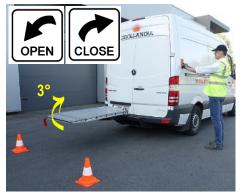
The tail lift is ready for use.



Observe all safety instructions. Open the platform stow lock by turning the pin up and pulling it backwards.



OPEN the platform, and adjust its orientation to the slope of the ground. DO NOT LOWER before the horizontal work position has been reached.



the platform orientation Adjust to compensate for the slope of the ground [see 9.1 on page 31] and platform deflection under load [see 9.2 on page 32].



LOWER the platform half-way to the ground.



Open the platform fold lock to clear the Unfold the flip-over point. flip-over point.





Open the doors of the van and secure them in open position.



Manually deploy the bridge plate.

Loading and unloading



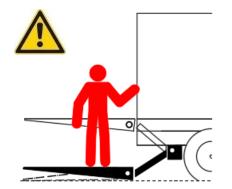
LOWER the platform to the ground. At the ground, use the AUTOMATIC TILT to decline the platform to the ground.



LIFT the platform off the ground. Use the AUTOMATIC TILT to return the platform to level orientation. If riding on the platform, DON'T place your feet beyond the inboard platform edge.



When LIFTED fully, the platform will line up with the bridge plate and connect to the vehicle floor. Release the buttons when you hear the hydraulic system turn in overpressure.



When riding on the platform, make sure you stand minimum 25 cm away from the inboard platform edge, make sure your footing is solid, and ALWAYS maintain 3 points of contact. [see 7.4 on page 20].



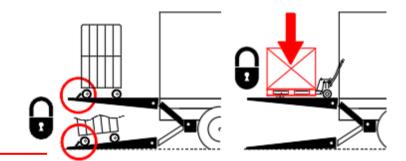
NEVER pull the load from the vehicle onto the platform. ALWAYS push it out. Pulling the load from the vehicle can result in a fall from the platform and cause serious injury or death.











Before lifting or lowering loads, make sure the loads are secured on the platform surface. Deploy the platform roll stops (if so equipped), lower loads on a pallet jack down on the platform surface or immobilize the load via equivalent securement device.



Make sure you comply with load charts and instructions at all times.



LOWER the platform to the ground. At the ground, use the AUTOMATIC TILT to decline the platform to the ground.



LIFT the platform off the ground. Use the AUTOMATIC TILT to return the platform to level orientation.

**Closing up in travel position** 



Fold the bridge plate back onto the vehicle Close the roll stops. floor.





Make sure the platform is below the rear door bottom level and close the rear doors.



Fold the flip-over point back on the platform main section.



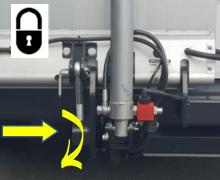
Engage the platform fold lock firmly.



LIFT the platform to the vehicle floor level before closing the platform. NEVER CLOSE the platform before it is at maximum height at vehicle floor level.



CLOSE the platform until it reaches the closed vertical position and you hear the hydraulic system turn in overpressure.



Engage the platform stow lock by turning the pin and pushing it inside.



Switch off the electrical power to the tail lift (cabin switch or main battery disconnect switch in the external control box, or both if both are available). Close the cover of the control box.



At any time during the operation, release the activated button(s) to stop the platform from moving. Additionally, turning the main battery disconnect switch (if so equipped) counter-clockwise will switch off electrical power to the tail lift.

## NOTICE

OPEN and CLOSE the platform at vehicle floor level only. Opening and closing the platform at a lower level can cause serious damage to the hydraulic cylinders of the tail lift.

• Consult the DHOLLANDIA website to view the operation video on the DHLSPZ\* van lift, or scan the QR code on the decal affixed above the control box.

http://www.dhollandia.com/uservideo/LSPZ-CE-2018-01



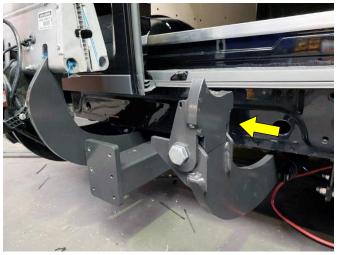


### 9.8 ARTICULATED PLATFORM SUPPORT ON DH-LSPZ WITH WIDE ARM CENTER

- The DH-LSPZ with foldable platform [option OAP406] and wide arm center have an articulated platform support on the free lift arm that is not connected to the platform.
- This support MUST be tilted down in order to open or close the free door. It MUST be raised prior to unfolding the platform to the open work position.



Pivot the articulated platform support down prior to opening or closing the rear door of the vehicle



Raise the articulated platform support to vertical position and rest the deployed platform on it prior to loading the platform.

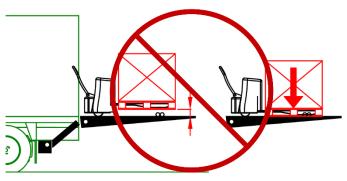
## NOTICE

- When opening / closing the rear door of the vehicle while the platform support is still raised, you might hit the door against support and cause damage to the door and the tail lift.
- When deploying the platform, not raising the platform support to vertical position will cause a lack of platform stability and might cause overloading if the platform is incorrectly loaded or loaded to near the maximum rated capacity.

## 9.9 THE USE OF ROLL STOPS

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- If the load is not properly secured on the platform while lifting or lowering, it could shift position, destabilize the operator riding on the platform, and cause him / her to fall. Or the load could fall off the edge, and hit the operator or bystanders.
- Improperly secured cargo can put the operator and any bystanders at great risk of serious bodily injury and death.
- Therefore all cargo must be properly secured on the platform, before lifting or lowering.
- Before lifting or lowering loads, ALWAYS apply all brakes or stops available to secure the load. Engage the wheel brakes of carts, trolleys or machinery (if available). When using pallet jacks, lower and rest the pallet or load onto the platform surface.
- DHOLLANDIA offers various roll stop options, delivered to customer specification. Contact your regional DHOLLANDIA distributor for more information, prior to ordering your tail lift. See page 3 for contact info.
- The most popular roll stop models are discussed below. Contact your regional DHOLLANDIA distributor for operational instructions on other models or models with different options, prior to operating the tail lift. See page 3 for contact info.





Consult the DHOLLANDIA website to view operation videos on the various types of roll stop systems http://dhollandia.com/GB/en/101/Movies#/cat/0

www.dhollandia.com  $\rightarrow$  Country & language selection  $\rightarrow$  Videos  $\rightarrow$  General  $\rightarrow$  Roll stop systems

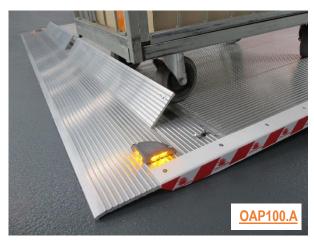
<b>OAP100.M</b> = Manual roll stops, operated by springs			
OPEN	Press the lever on the side of the roll stop flap.		
CLOSE	Step on the roll stop flap.		
	When driving a load from the ground onto the platform, the roll stop will automatically close.		

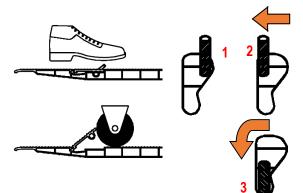






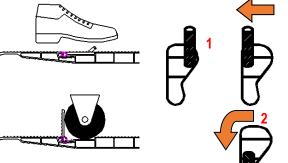
<b>OAP100.A</b> = Automatic roll stops, operated by springs.				
Roll stop flap opens to 40°.				
OPEN MANUAL MODE	Kick the lever on the side of the roll stop flap sideways from position 1 to position 2. The roll stop will now function as a <b>manual</b> roll stop OAP100.M.			
	When stepping on the roll stop flap, or when driving a load from the ground onto the platform, the roll stop will automatically close.			
OPEN AUTOMATIC MODE	Kick the lever on the side of the roll stop flap sideways + rearward, from position 1 to position 3. System will now function as <b>automatic</b> roll stop.			
	When stepping on the roll stop flap, or when driving a load from the ground onto the platform, the flap automatically jumps back to the open position after releasing it, or when the load is passed over it.			
CLOSE Kick the lever into position 1.				
	Step on the roll stop flap.			





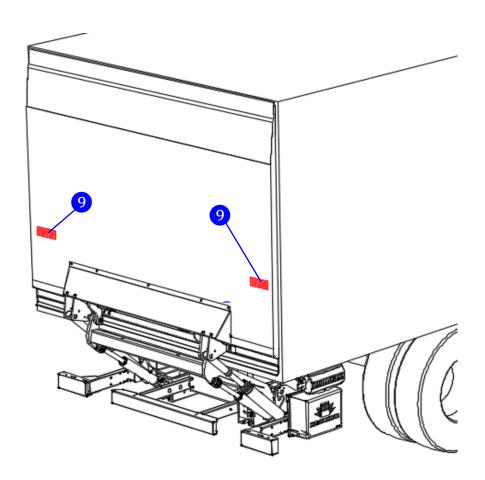
<b>OAP100.VA</b> = Vertical roll stops, operated by springs.				
Roll stop flap opens to 90°.				
OPEN	Kick the lever on the side of the roll stop flap sideways from position 1 to position 2. The roll stop			
MANUAL MODE	will now function as a <b>manual</b> roll stop OAP100.M.			
	When stepping on the roll stop flap, or when driving load from the ground onto the platform, the roll stop will automatically close.			
OPEN	Kick the lever on the side of the roll stop flap			
AUTOMATIC MODE	sideways + rearward, from position 1 to position 3. System will now function as <b>automatic</b> roll stop.			
	When stepping on the roll stop flap, or when driving a load from the ground onto the platform, the flap automatically jumps back to the open position after releasing it, or when the load is passed over it.			
CLOSE	Kick the lever into position 1.			
	Step on the roll stop flap.			

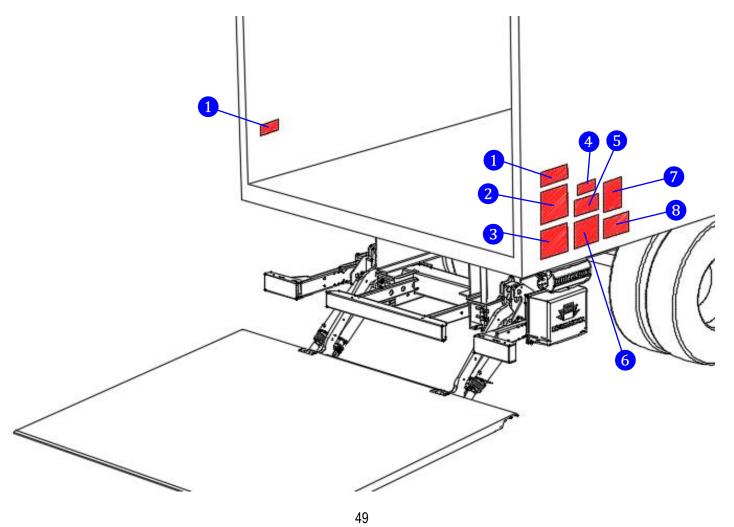




## 10 DECALS

- The following decals are supplied with each new tail lift, and should be affixed to the vehicle body during installation in the manner set forth in the adjacent drawings.
- NEVER remove or paint over any decal. Missing, worn or illegible warning decals must be immediately replaced. Get free replacement decals from DHOLLANDIA. Contact your regional DHOLLANDIA distributor. See page 3 for contact info.
- The operator should comply with all affixed safety and instructions decals. Be aware that the decals merely summarize the main points, and that the operator must know, understand, and comply with the full contents of the operation manual.
- Note: the decals marked as "EXAMPLE" can vary in function of the maximum rated capacity of the tail lift, or the chosen type of external control box.





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- · DO NOT use this liftgate without adequate safety and operator training.
- View safety and operator video prior to use. Use this QR-code to connect.
- Review operation manual prior to use. Manuals can be obtained from your DHOLLANDIA distributor, or downloaded from: www.dhollandia.com
- · Improper use of the liftgate will put the operator and other parties at great risk of bodily injury and death.
- · In case of doubt, contact DHOLLANDIA toll free: US West: 855 856 8225
- US East: 855 894 1888
- CAN: 888 750 5438



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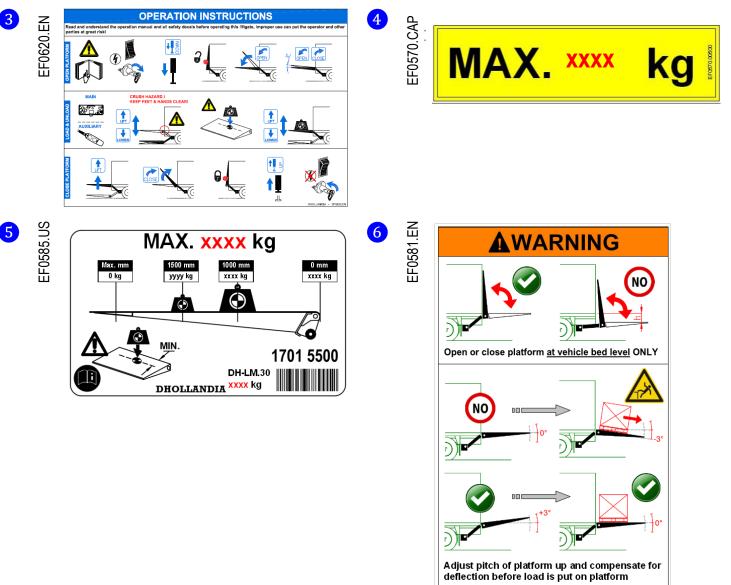
DHOLLANDIA • EF0583.LSP.EN US

#### **AWARNING** - SAFETY INSTRUCTIONS

Read and understand the user's manual, all instructions and II warnings before use

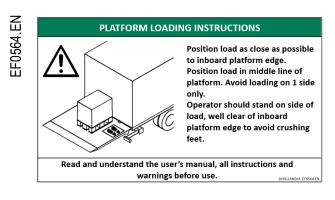
Carelessness or ignorance will put the operator and third parties at great risk of serious injury and death.¶

- 1. Do not use liftgate unless you have been properly trained and instructed, you have read and you understand the full operating instructions.
- 2. Wear appropriate working clothes, incl. footwear with steel toe caps and a good non-slip sole, and wear protective gloves.
- 3. Ensure the vehicle is safely parked and braked before using the liftgate. 4.
- Where applicable, refer to the site's specific risk assessment, and follow the local work & safety instructions. Aways inspect the fit gate before using it. DONOT use liftgate if there are signs of bad-maintenance, subnormal wear or damage, or if the platform surface is slippery. DONOT-attempt to repair liftgate yourself, unless you have been trained and +2 authorized to do so.¶
- 6. Do not overload. Observe the maximum rated capacity and load charts.
- 7. Do not stand behind or within reach of the platform.
- Make sure that platform area, including the area in which loads may fall from platform, is clear of obstacles and other people at all times. 8.
- 9. Make sure you can see and keep visual control over the whole working area of the liftgate, the platform and its load at all times.
- 10. Beware of finger and toe traps at all times. When riding platform, stand at safe distance of minimum 10" from the inboard edge of the platform adjacent to the rear sill of the vehicle body.¶
- 11. It is prohibited for anyone other than the operator to travel on the platform
- 12. Liftgate is intended for loading and unloading cargo only. Do not use liftgate for anything else but its intended use.
- allything the on the inclusion of the second zone is sufficiently illuminated.



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• Tail lift decals used and affixed in areas, other than the rear of the vehicle:



Cabin switch in driver's cabin to switch electrical power to tail lift on / off (if so equipped).

## 11 MEANING OF SAFETY AND WARNING SIGNS

WARNING signs	MANDATORY ACTION signs		
Overview and keep visual control over the working area of the tail lift at all times.	Contact your regional DHOLLANDIA distributor.		
General warning sign used to alert the user to potential hazards. All messages that follow this sign shall be obeyed to avoid possible harm.	Consult the DHOLLANDIA website. Download from DHOLLANDIA website.		
Entrapment hazard. Keep hands, limbs, loose clothes and long hair away from moving parts.	Read the manual or instructions.		
Crushing & shearing hazard. Keep hands away from moving parts.	Hold onto guard rail. Protect yourself from falling off the platform, or vehicle floor.		
Crushing & shearing hazard. Keep feet away from moving parts.	Wear safety gloves.		
Slipping hazard.	Wear safety-toe shoes.		
Tripping hazard.	Wear appropriate work clothes, avoid loose-fitting clothes that might be trapped in the moving parts of the lift.		
Hazard caused by tilting objects.	Wear safety protection, eye protection and a safety hard hat.		
Hazard of falling from heights.	Use a safety shield.		
Crushing and entrapment hazard. Keep head, upper body and limbs away from moving parts.			

PROHIBITION signs				
General prohibition. DO NOT do!	DO NOT use machine by more than 1 operator!			
General prohibition. DO NOT do!	DO NOT step or stand here!			

	Other frequently used signs	Signs for electro/hydraulic functions	
	Yes do this way. Correct work procedure.	OPEN	OPEN: deploy / open the platform from its travel position to its work position.
$\overline{\mathbf{c}}$	No, DO NOT do this wayIncorrect work procedure.	LOWER	LOWER: lower the platform.
	Position the load at the applicable center of gravity or load center Follow the load instructions.	LIFT	LIFT: lift the platform
Engens to And Constants	Emergency stop. Will cause an immediate stop of the lift.	CLOSE	CLOSE: stow / close the platform from its work position to its travel position.
	Emergency exit. Provision (lever, valve) creating an emergency exit.		LEG(S) DOWN: lower down the stabilizing legs
	Unlock. Disengage the mechanical locking system.		LEG(S) UP: raise the stabilizing legs
	Lock. Engage the mechanical locking system.		SWITCH between internal and external controls
4	Switch ON the electrical power.		Instructions for maintenance, repair, or emergency operation in case of a breakdown
(F)	Switch ON the electrical power to the lift via the main battery disconnect switch and / or cabin switch.		Normal operation by means of the electric controls
	Switch OFF the electrical power.		Manual emergency operation
XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX	Switch OFF the electrical power to the lift via the main battery disconnect switch and / or cabin switch.		
<b>B</b>	This is an operation to be executed manually (as opposed to an electrical function controlled by means of one of the control units).		

## DHOLLANDIA

## 12 <u>END NOTE</u>

## NOTICE

- The most important safety and operation instructions are summarized in a product video that can be viewed online at:
  - 1. For LSP with full width or half width platform: http://www.dhollandia.com/uservideo/LSP-CE-2018-01
  - 2. For LSPZ with foldable platform: http://www.dhollandia.com/uservideo/LSPZ-CE-2018-01



- Make sure you review these instructions prior to operation of the associated DHOLLANDIA tail lift.

NOTICE		
• Competent and regular preventative maintenance is essential to the operational reliability, and the safety of the operator and bystanders.		
The latest update of our check-list for preventative maintenance & inspection can be downloaded from:		
www.dhollandia.com $\rightarrow$ Country & language selection $\rightarrow$ Downloads $\rightarrow$ Checklists $\rightarrow$ select required manual		
<ul> <li>All maintenance and repair work should be performed by authorized DHOLLANDIA service agents and using only authorized OEM DHOLLANDIA replacement parts.</li> </ul>		
<ul> <li>Consult the separate MAINTENANCE AND REPAIR MANUAL for safety instructions, maintenance guidelines, and troubleshooting support.</li> </ul>		
• Lubricate the tail lift on a regular basis to maximize its durability and operational reliability. this is at least 3 times per year in a single shift operation; more frequently in case of very intensive use (multiple shift, 24h operation, etc.) or use in hostile environment conditions (frequent high pressure cleaning with strong detergents, etc.).		
The latest version of the MAINTENANCE AND REPAIR MANUAL can be downloaded from the DHOLLANDIA website:		
www.dhollandia.com $\rightarrow$ Country & language selection $\rightarrow$ Downloads $\rightarrow$ Operation manuals $\rightarrow$ select required manual		