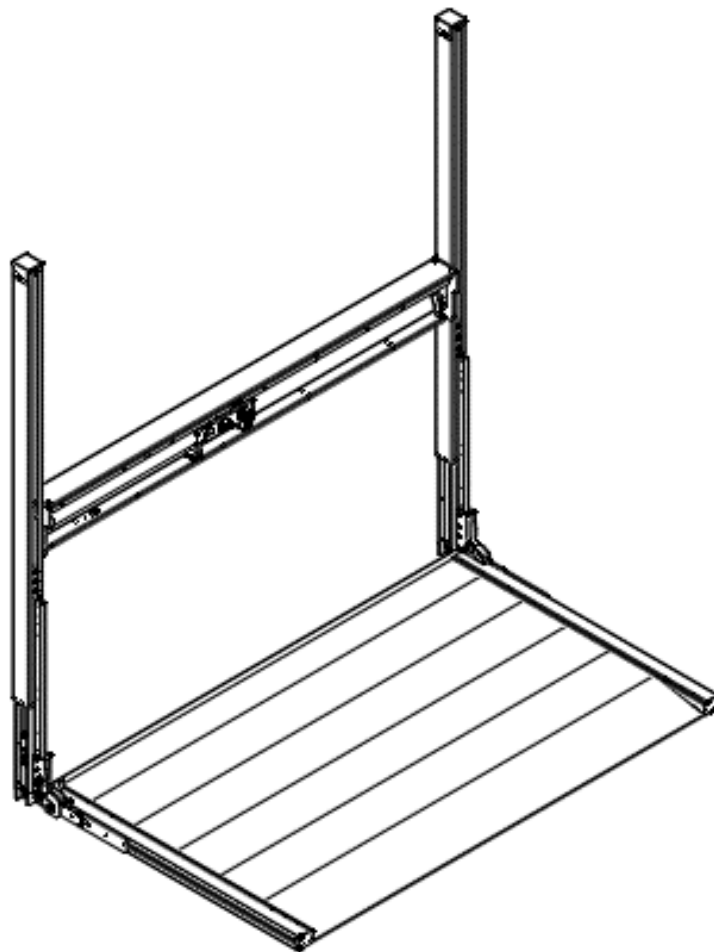




DHOLLANDIA

DH-VO* K1 & K9 column lifts

OPERATION MANUAL



Manufacturer:

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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 73 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]



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



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



NOTICE: is used to address practices not related to physical injury. [white letters on blue background]



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



SAFETY ALERT SYMBOL: 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]



- 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 CONTACT INFORMATION AND DISCLAIMERS

- 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 → Country & language selection → Distributors & service



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

www.dhollandia.com → Country & language selection → Downloads → Operation manuals → ... 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 IDENTIFICATION AND INSPECTION LOGBOOK (separate) contains the serial number identification, the CE 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.

WARNING

- 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

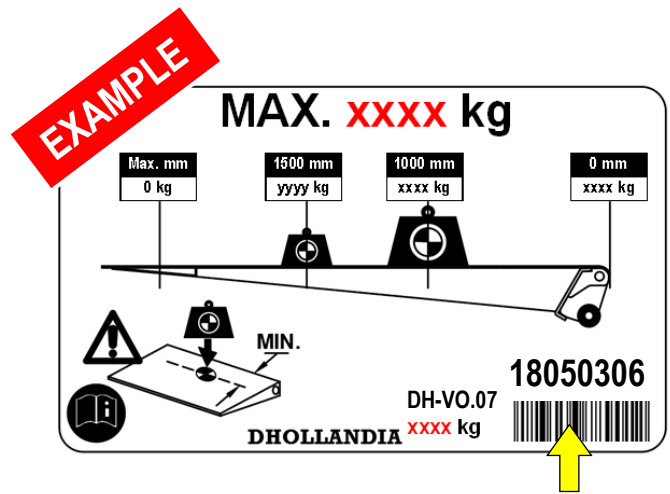
DHOLLANDIA tail lifts are designed to be fitted to commercial vehicles (commercial trucks, trailers and semi-trailers), and shall be used exclusively to load and unload the goods transported on the vehicle it is fitted to, within the limits of the load chart, in compliance with the operator instructions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

WARNING

- 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 certification number, the date of manufacture, etc...
- These labels are usually affixed to the body 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 main external control box



On the lift frame



On the platform

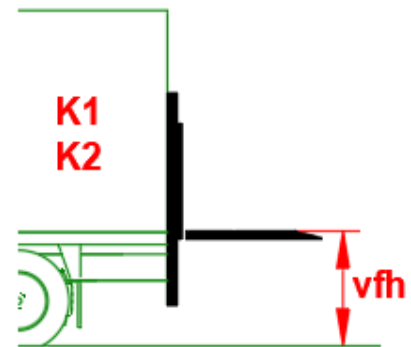
6 DESCRIPTION AND TAIL LIFT TERMINOLOGY

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 safety regulations mentioned in the Declaration of Conformity issued with each lift (unless agreed otherwise for tail lifts exported outside of CE region).
- The manual distinguishes between :
 1. Column lifts that stop at the vehicle floor [see 6.1.1 below]
 2. Columns lifts that travel above the vehicle floor [see 6.1.2 below]
- The product names DH-VO* and DH-VH* stand for generic, general purpose lifts. If complemented by a G, the tail lifts DH-VOG* and DH-VHG* refer to special executions adapted to the distribution of gas bottles.
- In its travel position, the platform of the column tail lift is stowed vertically behind the vehicle body. Before use, the platform is lowered approx. 15 cm, then tilted open 90 degrees from the vertical travel position to a horizontal work position.

6.1.1 Column lifts that stop at the vehicle floor

- These column lifts feature a restricted lifting height from the ground to the vehicle floor vfh. They are suitable for a wide variety of trucks, trailers and semi-trailers, and are available with lift capacities ranging from 500 to 2000 kg.
- Depending on tail lift model and options chosen, the opening and closing of the platform can be manual, or actuated by 1 or 2 hydraulic tilt cylinders. See table below:

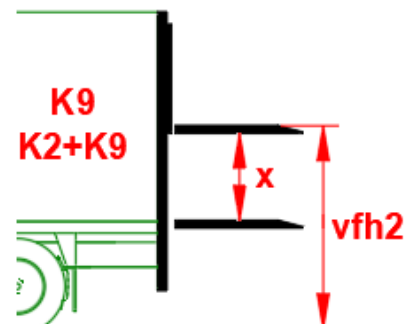


| Type | Lift capacity | Manual closure | Hydraulic closure 0-90° OVH004 | Hydraulic closure with adjustable platform orientation OVH011 |
|-------------|----------------|----------------|--------------------------------|---|
| DH-VO.07.K1 | 500 – 750 kg | standard | - | - |
| DH-VO.10.K1 | 750 – 1000 kg | standard | optional | - |
| DH-VO.15.K1 | 1000 – 1500 kg | standard | optional | optional |
| DH-VB.15.E1 | 1000 – 1500 kg | standard | optional | - |
| DH-VO.20.K9 | 1500 – 2000kg | standard | optional | optional |
| DH-VH.15.H1 | 1000 - 1500 kg | standard | optional | optional |

Note: where the suffix K1 is replaced by K2, this refers to special technology used to reach a normal vehicle floor height on very narrow lifts. There is no implications for the operating procedures in comparison to K1 column lifts.

6.1.2 Column lifts that travel above the vehicle floor

- These column lifts benefit from a much higher lifting height. The platform travels a distance X above the vehicle floor vfh. The maximum height vfh2 depends on the width of the columns. They are designed for a wide variety of trucks, trailers and semi-trailers, and are available with lift capacities ranging from 500-2000 kg.
- Depending on tail lift model and options chosen, the opening and closing of the platform can be manual, or driven by 1 or 2 hydraulic tilt cylinders. See table below:



| Type | Lift capacity | Manual closure | Hydraulic closure 0-90° OVH004 | Hydraulic closure with adjustable platform orientation OVH011 |
|-------------|---------------|----------------|--------------------------------|---|
| DH-VO.07.K9 | 500-750 kg | standard | - | - |
| DH-VO.15.K9 | 1000-1500 kg | standard | optional | optional |
| DH-VO.20.K9 | 1500-2000 kg | standard | optional | optional |

Note: where the suffix K9 is replaced by K2.K9, this refers to special technology used to reach a much higher level than would technically be achievable with a regular K9 lift, based on the given vehicle width. There is no implications for the operating procedures in comparison to K9 column lifts.

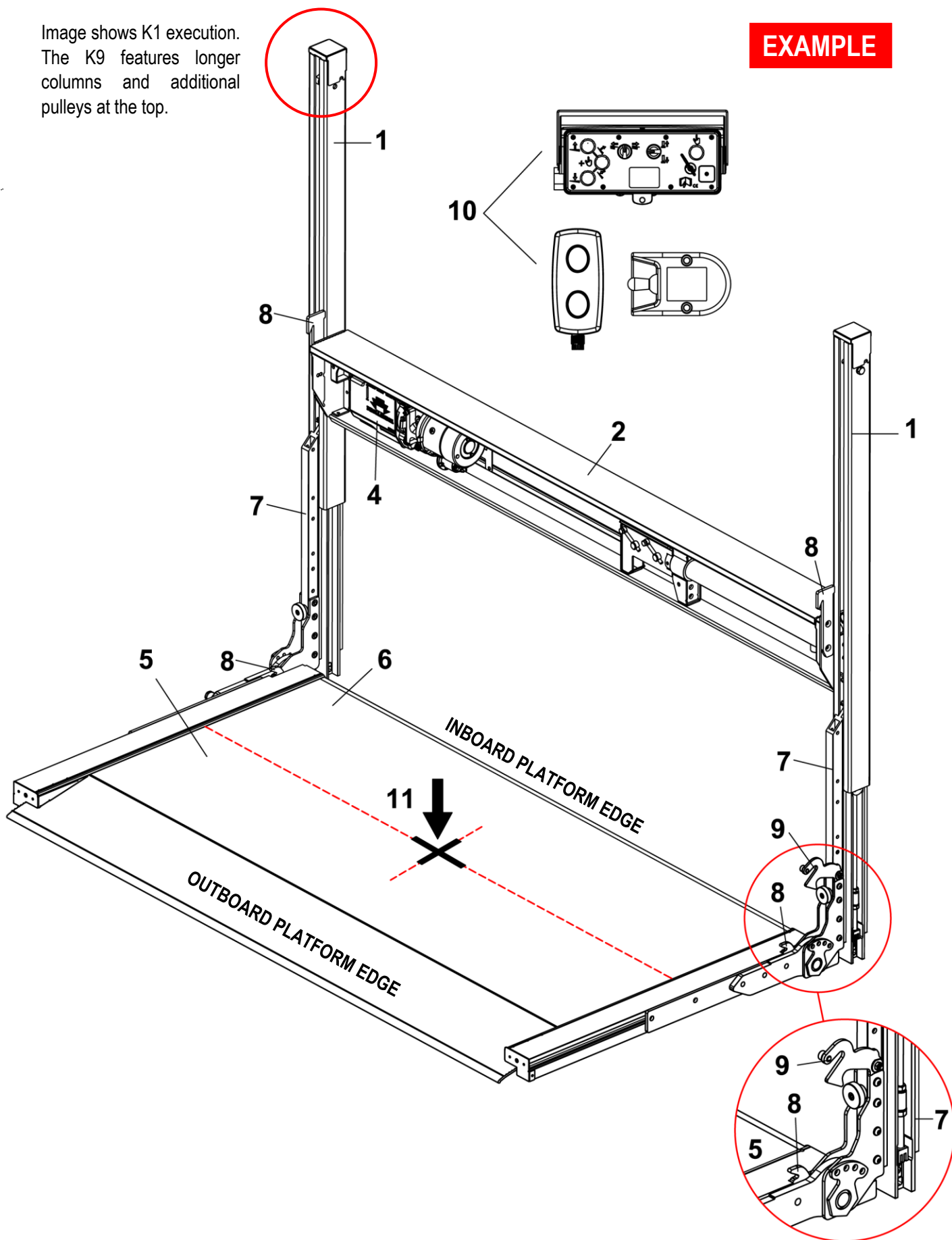
6.1.3 Executions and terminology

See below and following pages

| DH-VO.07.K1 / K9 • MANUAL CLOSURE • TERMINOLOGY | |
|---|--|
| See figure below for parts corresponding to numbers in this table | |
| # | Description |
| 1 | Lift columns: set of 2 columns mounted in a fixed position against the vehicle body. These form the rails within which the lift runners carrying the platform travel up and down. |
| 2 | Cylinder beam: horizontal beam mounted at the vehicle floor. This beam contains the lift cylinder; the drive system consisting of chains and pulleys; and often also the hydraulic pump unit. |
| 3 | Lift cylinder(s): 1 or 2 hydraulic cylinder(s) used to LOWER / LIFT the lift runners, the platform and its load. K1 and K9 executions are equipped with 1 lift cylinder. K2 executions have 2 lift cylinders and therefore offer increased lifting height for a given column width. |
| 4 | Hydraulic pump unit: contains the electric motor driving the hydraulic pump, the oil tank, and the control valves. The unit can be premounted inside the cylinder beam (if technical parameters allow so), or is mounted separately on the vehicle chassis. |
| 5 | Platform: carries the load during lifting and lowering. Manufactured from steel or light-weight aluminium and with a non-slip working surface. In standard execution, the platform is equipped with a fixed leading edge. Optional roll stops or retention ramps at the outboard platform edge, are available as an option. |
| 6 | Torsion bar(s): powerful spring device hidden inside the platform, assisting with the manual OPEN / CLOSE of the platform (in case of manual closure). |
| 7 | Lift runners: set of 2 slides carrying the platform, travelling up and down in the lift columns. They are lifted and lowered by the lift cylinder and the drive mechanism (chains and pulleys). |
| 8 | Stow lock: set of 2 lock plates mounted on the platform, L+R of the inboard platform edge; and 2 lock plates on the lift columns, L+R of the cylinder beam. To stow the platform in its travel position, CLOSE the platform from the open work position to the vertical position. Then LIFT the vertical platform against the underside of the cylinder beam until you hear the hydraulic system turn in over-pressure. |
| 9 | Platform lock: pivoting lock on the near-side lift runner with dual function: <ol style="list-style-type: none"> 1. Platform in vertical position [on all DH-VO.07.K1]: the hook holds the platform closed against the lift runners. Release the platform lock to open the platform. 2. Platform in horizontal position [only on DH-VO.07.K1 with foldable platform or retention ramps, not in case of fixed leading edge]: the lock blocks the platform in work position, and prevents the torsion bar(s) from tilting up the platform. Release the platform lock to close the platform. <p>Note: the platform lock is only used on column lifts with manual closure, not on lifts with hydraulic closure.</p> |
| 10 | Main external control box: mounted in a fixed position at the side of the vehicle or under the body. It contains the electrical switches to LOWER / LIFT the platform. |
| 11 | Centre 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 of this manual. |

Image shows K1 execution.
The K9 features longer
columns and additional
pulleys at the top.

EXAMPLE

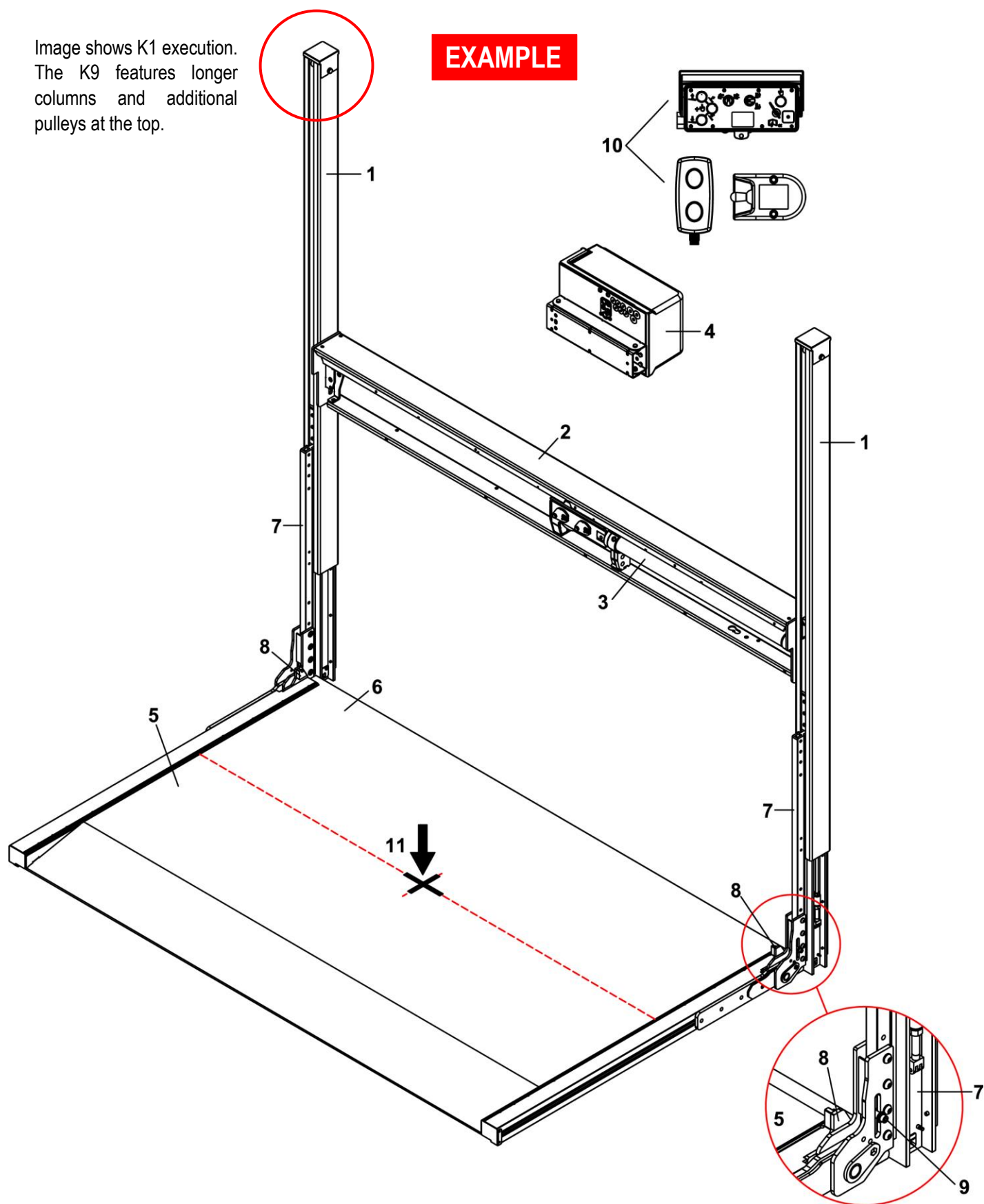


See figure below for parts corresponding to numbers in this table

| # | Description |
|----|--|
| 1 | Lift columns: set of 2 columns mounted in a fixed position against the vehicle body. These form the rails within which the lift runners carrying the platform travel up and down. |
| 2 | Cylinder beam: horizontal beam mounted at the vehicle floor. This beam contains the lift cylinder; and the drive system consisting of chains and pulleys. |
| 3 | Lift cylinder(s): 1 or 2 hydraulic cylinder(s) used to LOWER / LIFT the lift runners, the platform and its load. K1 and K9 executions are equipped with 1 lift cylinder. K2 executions have 2 lift cylinders and therefore offer increased lifting height for a given column width. |
| 4 | Hydraulic pump unit: contains the electric motor driving the hydraulic pump, the oil tank, and the control valves. The unit is mounted separately on the vehicle chassis. |
| 5 | Platform: carries the load during lifting and lowering. Manufactured from steel or light-weight aluminium and with a non-slip working surface. In standard execution, the platform is equipped with a fixed leading edge. Optional roll stops or retention ramps at the outboard platform edge, are available as an option. |
| 6 | Torsion bar(s): powerful spring device hidden inside the platform, assisting with the manual OPEN / CLOSE of the platform (in case of manual closure). |
| 7 | Lift runners: set of 2 slides carrying the platform, travelling up and down in the lift columns. They are lifted and lowered by the lift cylinder and the drive mechanism (chains and pulleys). |
| 8 | Stow lock: set of 2 lock plates mounted on the platform, L+R of the inboard platform edge; and 2 lock plates on the lift columns, L+R of the cylinder beam. To stow the platform in its travel position, CLOSE the platform from the open work position to the vertical position. Then LIFT the vertical platform against the underside of the cylinder beam until you hear the hydraulic system turn in over-pressure. |
| 9 | Platform lock: up and down sliding lock on the near-side lift runner with dual function: 1. Platform in vertical position: the lock holds the platform closed against the lift runners. Release the platform lock to open the platform. 2. Platform in horizontal position: the lock blocks the platform in work position, and prevents the torsion bar(s) from tilting up the platform. Release the platform lock to close the platform. Note: the platform lock is only used on column lifts with manual closure, not on lifts with hydraulic closure. |
| 10 | Main external control box: mounted in a fixed position at the side of the vehicle or under the body. It contains the electrical switches to LOWER / LIFT the platform. |
| 11 | Centre 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 of this manual. |

Image shows K1 execution.
The K9 features longer
columns and additional
pulleys at the top.

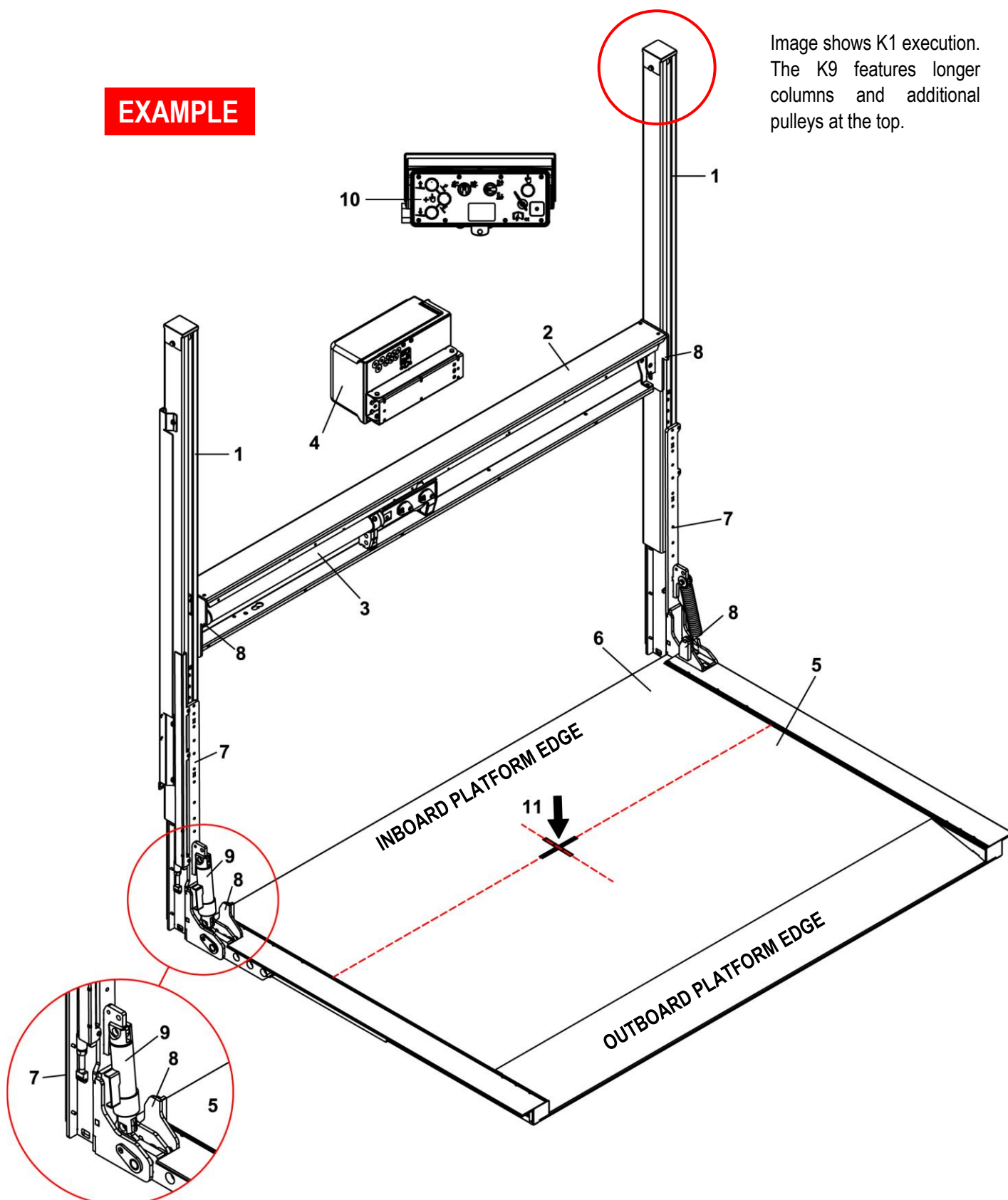
EXAMPLE



See figure below for parts corresponding to numbers in this table

| # | Description |
|----|--|
| 1 | Lift columns: set of 2 columns mounted in a fixed position against the vehicle body. These form the rails within which the lift runners carrying the platform travel up and down. |
| 2 | Cylinder beam: horizontal beam mounted at the vehicle floor. This beam contains the lift cylinder; and the drive system consisting of chains and pulleys. |
| 3 | Lift cylinder(s): 1 or 2 hydraulic cylinder(s) used to LOWER / LIFT the lift runners, the platform and its load. K1 and K9 executions are equipped with 1 lift cylinder. K2 executions have 2 lift cylinders and therefore offer increased lifting height for a given column width. |
| 4 | Hydraulic pump unit: contains the electric motor driving the hydraulic pump, the oil tank, and the control valves. The unit is mounted separately on the vehicle chassis. |
| 5 | Platform: carries the load during lifting and lowering. Manufactured from steel or light-weight aluminium and with a non-slip working surface. In standard execution, the platform is equipped with a fixed leading edge. Optional roll or retention ramps at the outboard platform edge, are available as an option. |
| 6 | Torsion bar(s): powerful spring device hidden inside the platform, assisting with the manual OPEN / CLOSE of the platform (in case of manual closure). |
| 7 | Lift runners: set of 2 slides carrying the platform, travelling up and down in the lift columns. They are lifted and lowered by the lift cylinder and the drive mechanism (chains and pulleys). |
| 8 | Stow lock: set of 2 lock plates mounted on the platform, L+R of the inboard platform edge; and 2 lock plates on the lift columns, L+R of the cylinder beam. To stow the platform in its travel position, CLOSE the platform from the open work position to the vertical position. Then LIFT the vertical platform against the underside of the cylinder beam until you hear the hydraulic system turn in over-pressure. |
| 9 | Tilt cylinder: optional hydraulic cylinder used to OPEN / CLOSE the platform. The option OVH004 offers hydraulic instead of manual OPEN / CLOSE, but the orientation of the platform is not adjustable. |
| 10 | Main external control box: mounted in a fixed position at the side of the vehicle or under the body. It contains the electrical switches to OPEN / LOWER / LIFT / CLOSE the platform. |
| 11 | Centre 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 of this manual. |

EXAMPLE



See figure below for parts corresponding to numbers in this table

Note: The DH-VOG.15.K1 is a special execution of the generic DH-VO.15.K1, specially adapted for loading and unloading gas bottles. It is pictured here with hydraulic closure [option OVH004], but is also available with manual closure.

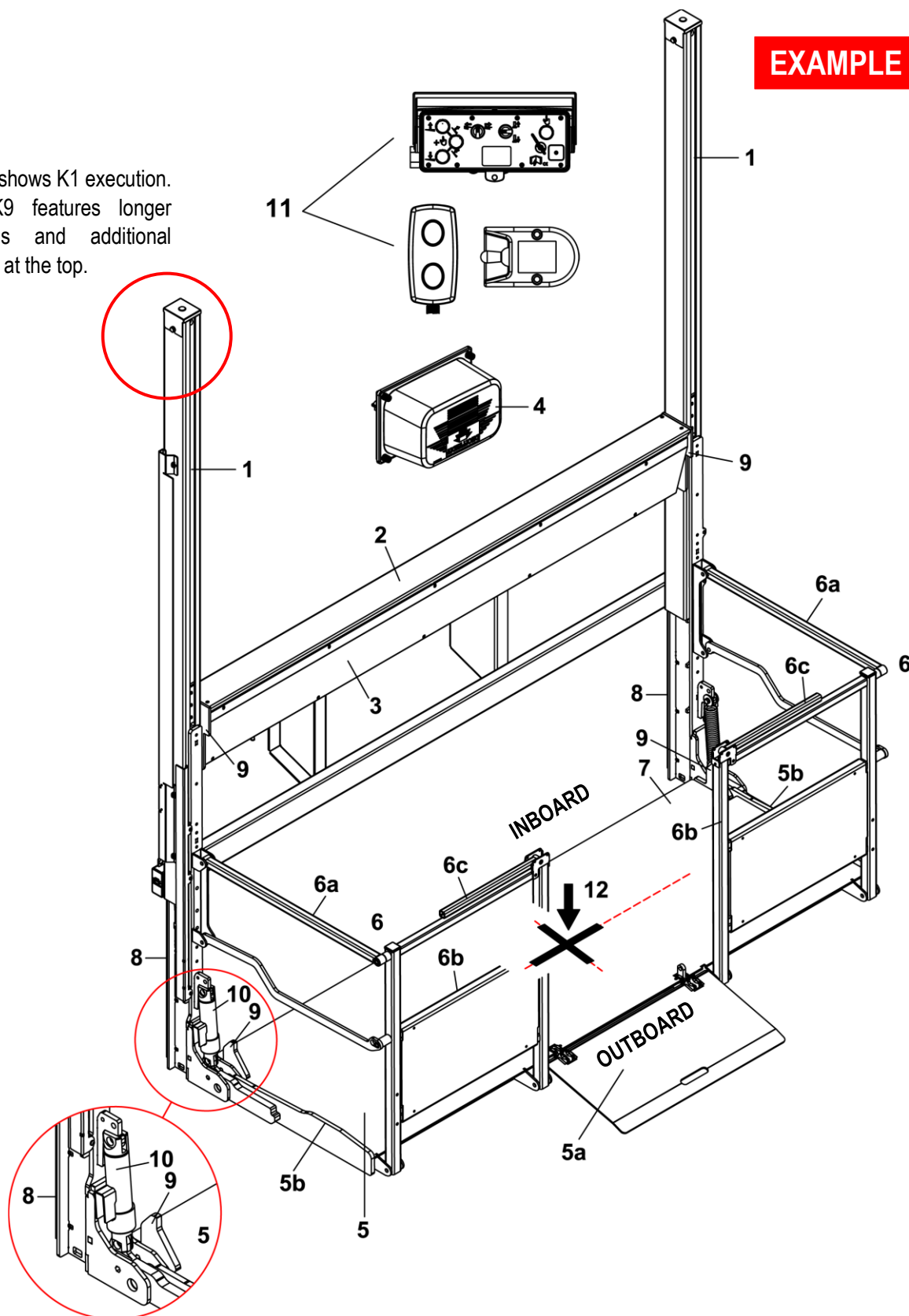
| # | Description |
|----|--|
| 1 | Lift columns: set of 2 columns mounted in a fixed position against the vehicle body. These form the rails within which the lift runners carrying the platform travel up and down. |
| 2 | Cylinder beam: horizontal beam mounted at the vehicle floor. This beam contains the lift cylinder; and the drive system consisting of chains and pulleys. |
| 3 | Lift cylinder(s): 1 or 2 hydraulic cylinder(s) used to LOWER / LIFT the lift runners, the platform and its load. K1 and K9 executions are equipped with 1 lift cylinder. K2 executions have 2 lift cylinders and therefore offer increased lifting height for a given column width. |
| 4 | Hydraulic pump unit: contains the electric motor driving the hydraulic pump, the oil tank, and the control valves. The unit is mounted separately on the vehicle chassis. |
| 5 | Platform: carries the load during lifting and lowering. Manufactured from steel or light-weight aluminium and with a non-slip working surface. In standard execution, the DH-VOG* and DH-VHG* platform is equipped with a centrally mounted retention ramp [5a] and side barriers L+R [5b]. |
| 5a | Central retention ramp: 1 ramp mounted centrally at the outboard platform edge, between 2 sets of guard rails [6a + 6b]. Before travelling up and down, the operator must raise and secure the ramp in vertical position to prevent the cargo from falling off the platform. At the ground, the ramp is tilted down as an access ramp to load and unload the cargo. |
| 5b | Side barriers: barriers at the L+R side edges of the platform, raised above the platform surface, preventing gas bottles from slipping sideways and falling off the platform. |
| 6 | Guard rails: guard rails at the L+R side edges [6a] and partially across the outboard platform edge [6b], preventing gas bottles from falling off the platform. This type of guard rails (*) deploys and stows automatically as the platform is opened and closed. (* Other type of guard rails are deployed manually.) |
| 6a | Lateral guard rails: guard rails at the L+R side edges of the platform. |
| 6b | Outboard guard rails: guard rails on L+R side of the central retention ramp at the outboard platform edge. |
| 6c | Central fall protection: pivoting barriers [option OVP311] mounted on the outboard guard rails, preventing gas bottles to fall through the central aperture between these rails. (see also 9.8 from page 65 onwards). |
| 7 | Torsion bar(s): powerful spring device hidden inside the platform, assisting with the manual OPEN / CLOSE of the platform (in case of manual closure). |
| 8 | Lift runners: set of 2 slides carrying the platform, travelling up and down in the lift columns. They are lifted and lowered by the lift cylinders. |
| 9 | Stow lock: set of 2 lock plates mounted on the platform, L+R of the inboard platform edge; and 2 lock plates on the lift columns, L+R of the cylinder beam. To stow the platform in its travel position, CLOSE the platform from the open work position to the vertical position. Then LIFT the vertical platform against the underside of the cylinder beam until you hear the hydraulic system turn in over-pressure. |
| 10 | Tilt cylinder: optional hydraulic cylinder used to OPEN / CLOSE the platform. The option OVH004 offers hydraulic instead of manual OPEN / CLOSE, but does not offer adjustable platform orientation. |
| 11 | Main external control box: mounted in a fixed position at the side of the vehicle or under the body. It contains the electrical switches to OPEN / LOWER / LIFT / CLOSE the platform. |

| | |
|----|---|
| 12 | Centre 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 at Section 8 of this manual. |
|----|---|

DH-VOG.15.K1 / K9 • HYDRAULIC CLOSURE REF. OVH004 • TERMINOLOGY

EXAMPLE

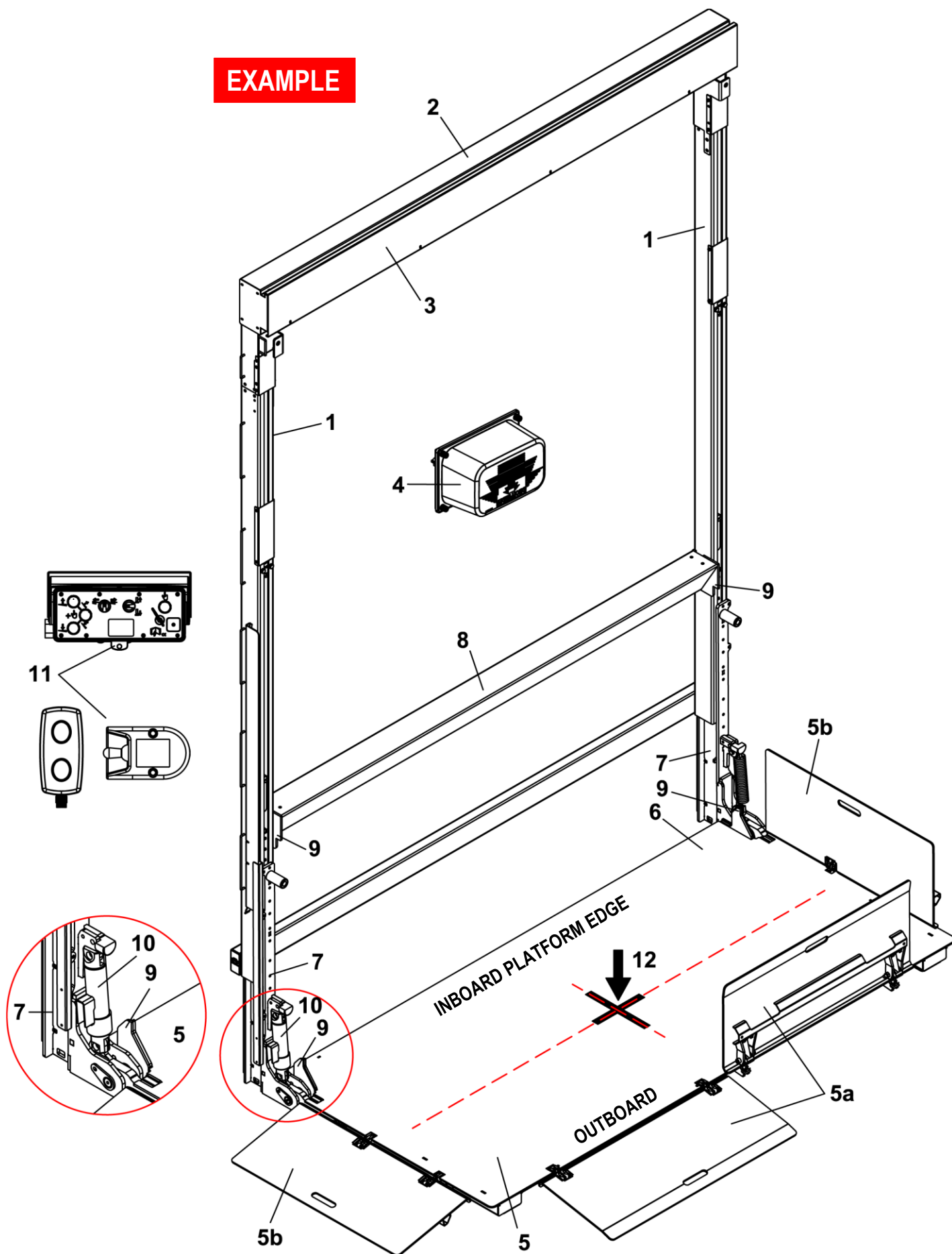
Image shows K1 execution.
The K9 features longer columns and additional pulleys at the top.



See figure below for parts corresponding to numbers in this table

| # | Description |
|----|--|
| 1 | Lift columns: set of 2 columns mounted in a fixed position against the vehicle body. These form the rails within which the lift runners carrying the platform travel up and down. |
| 2 | Cylinder beam: horizontal beam mounted at the vehicle roof level. This beam contains the lift cylinder; and the drive system consisting of steel cables and pulleys. |
| 3 | Lift cylinder: 1 hydraulic cylinder used to LOWER / LIFT the lift runners, the platform and its load. |
| 4 | Hydraulic pump unit: contains the electric motor driving the hydraulic pump, the oil tank, and the control valves. The unit is mounted separately on the vehicle chassis. |
| 5 | Platform: carries the load during lifting and lowering. Manufactured from steel or light-weight aluminium and with a non-slip working surface. In standard execution, the platform is equipped with a fixed leading edge. Optional roll or retention ramps at the outboard platform edge, are available as an option. |
| 5a | Rear or outboard retention ramps: 1 full-width or 2 partial width retention ramps mounted at the outboard platform edge. See LOAD RESTRAINTS at the end of this section.. |
| 5b | Side retention ramps: 2 retention ramps mounted at the side edges of the platform. See LOAD RESTRAINTS at the end of this section. |
| 6 | Torsion bar(s): powerful spring device hidden inside the platform, assisting with the manual OPEN / CLOSE of the platform (in case of manual closure). |
| 7 | Lift runners: set of 2 slides carrying the platform, travelling up and down in the lift columns. They are lifted and lowered by the lift cylinder and the drive mechanism (chains and pulleys). |
| 8 | Floor extension: horizontal beam mounted at the vehicle floor, used to join the L+R side lift columns, and executed with a CE-compliant toe-guard. |
| 9 | Stow lock: set of 2 lock plates mounted on the platform, L+R of the inboard platform edge; and 2 lock plates on the lift columns, L+R of the floor extension. To stow the platform in its travel position, CLOSE the platform from the open work position to the vertical position. Then LIFT the vertical platform against the underside of the cylinder beam until you hear the hydraulic system turn in over-pressure. |
| 10 | Tilt cylinder: optional hydraulic cylinder used to OPEN / CLOSE the platform. The option OVH004 offers hydraulic instead of manual OPEN / CLOSE, but the orientation of the platform is not adjustable. |
| 11 | Main external control box: mounted in a fixed position at the side of the vehicle or under the body. It contains the electrical switches to OPEN / LOWER / LIFT / CLOSE the platform. |
| 12 | Centre 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 of this manual. |

EXAMPLE



See figure below for parts corresponding to numbers in this table

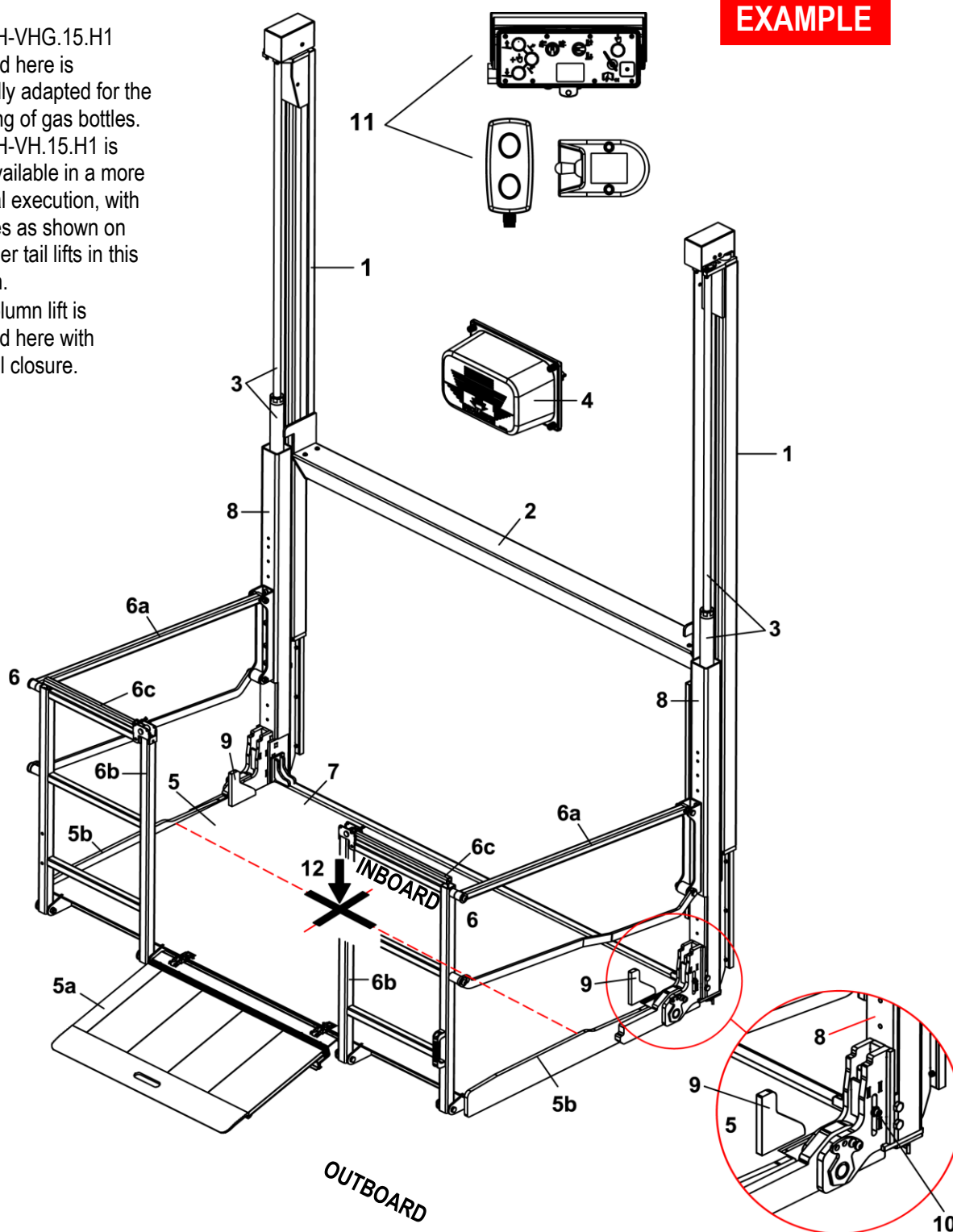
Note: The DH-VH.15.H1 is shown below in the special execution DH-VHG.15.H1, but is also available in a general execution similar to the DH-VO.15.K1 with manual or hydraulic closure.

| # | Description |
|----|--|
| 1 | Lift columns: set of 2 columns mounted in a fixed position against the vehicle body. These form the rails within which the lift runners carrying the platform travel up and down. |
| 2 | Floor extension: horizontal beam mounted at the vehicle floor, used to join the L+R side lift columns, and executed with a CE-compliant toe-guard. |
| 3 | Lift cylinders: 2 hydraulic cylinders mounted vertically in the L+R lift columns, used to LOWER / LIFT the lift runners, the platform and its load. |
| 4 | Hydraulic pump unit: contains the electric motor driving the hydraulic pump, the oil tank, and the control valves. The unit is mounted separately on the vehicle chassis. |
| 5 | Platform: carries the load during lifting and lowering. Manufactured from steel or light-weight aluminium and with a non-slip working surface. In standard execution, the DH-VOG* and DH-VHG* platform is equipped with a centrally mounted retention ramp [5a] and side barriers L+R [5b]. |
| 5a | Central retention ramp: 1 ramp mounted centrally at the outboard platform edge, between 2 sets of guard rails [6a + 6b]. Before travelling up and down, the operator must raise and secure the ramp in vertical position to prevent the cargo from falling off the platform. At the ground, the ramp is tilted down as an access ramp to load and unload the cargo. |
| 5b | Side barriers: barriers at the L+R side edges of the platform, raised above the platform surface, preventing gas bottles from slipping sideways and falling off the platform. |
| 6 | Guard rails: guard rails at the L+R side edges [6a] and partially across the outboard platform edge [6b], preventing gas bottles from falling off the platform. This type of guard rails (*) deploys and stows automatically as the platform is opened and closed. (* Other type of guard rails are deployed manually.) |
| 6a | Lateral guard rails: guard rails at the L+R side edges of the platform. |
| 6b | Outboard guard rails: guard rails on L+R side of the central retention ramp at the outboard platform edge. |
| 6c | Central fall protection: pivoting barriers [option OVP311] mounted on the outboard guard rails, preventing gas bottles to fall through the central aperture between these rails. (see also 9.8 from page 65 onwards). |
| 7 | Torsion bar(s): powerful spring device hidden inside the platform, assisting with the manual OPEN / CLOSE of the platform (in case of manual closure). |
| 8 | Lift runners: set of 2 slides carrying the platform, travelling up and down in the lift columns. They are lifted and lowered by the lift cylinders. |
| 9 | Stow lock: set of 2 lock plates mounted on the platform, L+R of the inboard platform edge; and 2 lock plates on the lift columns, L+R of the floor extension. To stow the platform in its travel position, CLOSE the platform from the open work position to the vertical position. Then LIFT the vertical platform against the underside of the cylinder beam until you hear the hydraulic system turn in over-pressure. |
| 10 | <p>Platform lock: up and down sliding lock on the near-side lift runner with dual function:</p> <ol style="list-style-type: none"> 1. Platform in vertical position: the lock holds the platform closed against the lift runners. Release the platform lock to open the platform. 2. Platform in horizontal position: the lock blocks the platform in work position, and prevents the torsion bar(s) from tilting up the platform. Release the platform lock to close the platform. <p>Note: the platform lock is only used on column lifts with manual closure, not on lifts with hydraulic closure.</p> |

| | |
|----|---|
| 11 | Main external control box: mounted in a fixed position at the side of the vehicle or under the body. It contains the electrical switches to LOWER / LIFT the platform. |
| 12 | 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 at Section 8 of this manual. |

DH-VHG.15.H1 • MANUAL CLOSURE • TERMINOLOGY

- The DH-VHG.15.H1 pictured here is specially adapted for the handling of gas bottles. The DH-VH.15.H1 is also available in a more general execution, with features as shown on the other tail lifts in this section.
- The column lift is pictured here with manual closure.

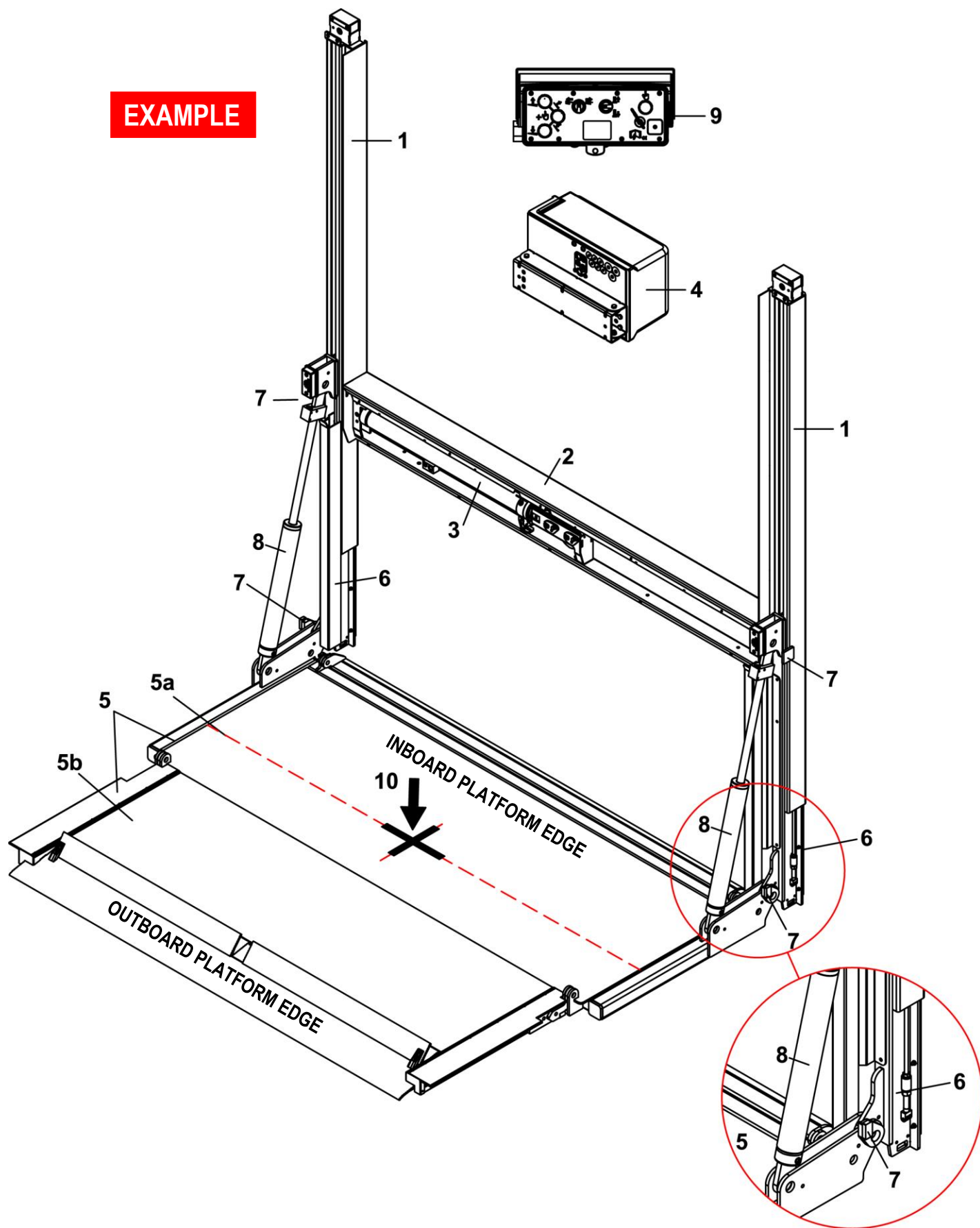


See figure below for parts corresponding to numbers in this table

Note: The DH-VO.20.K9 is available with manual and hydraulic closure (option). It is pictured here with hydraulic closure and adjustable platform orientation [2 tilt cylinders = option OVH011].

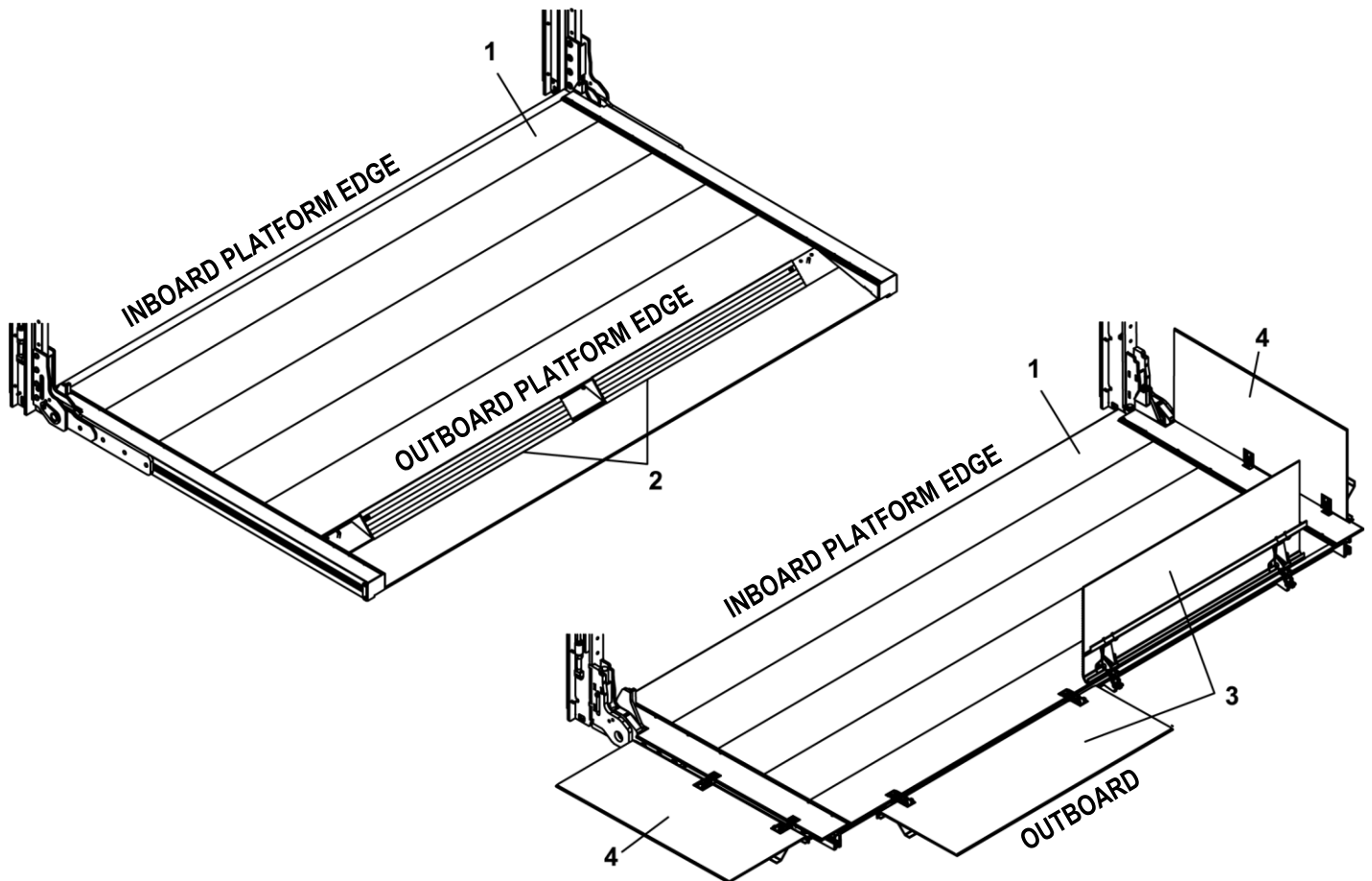
| # | Description |
|----|--|
| 1 | Lift columns: set of 2 columns mounted in a fixed position against the vehicle body. These form the rails within which the lift runners carrying the platform travel up and down. |
| 2 | Cylinder beam: horizontal beam mounted at the vehicle floor. This beam contains the lift cylinder; the drive system consisting of chains and pulleys; and often also the hydraulic pump unit. |
| 3 | Lift cylinder: hydraulic cylinder used to LOWER / LIFT the lift runners, the platform and its load. |
| 4 | Hydraulic pump unit: contains the electric motor driving the hydraulic pump, the oil tank, and the control valves. The unit is mounted separately on the vehicle chassis. |
| 5 | Platform / Foldable platform (optional): carries the load during lifting and lowering. Manufactured from steel or light-weight aluminium and with a non-slip working surface. In standard execution, the platform is equipped with a fixed leading edge. Optional roll stops or retention ramps at the outboard platform edge, are available as an option. |
| 5a | Platform main section: inboard section of the (optional) foldable platform. Manufactured from steel, with a non-slip working surface. |
| 5b | Flip-over point: foldable outboard section of the (optional) foldable platform. Manufactured from steel or light-weight aluminium, with a non-slip working surface. |
| 6 | Lift runners: set of 2 slides carrying the platform, travelling up and down in the lift columns. They are lifted and lowered by the lift cylinder and the drive mechanism (chains and pulleys). |
| 7 | Stow lock: set of 2 lock plates mounted on the platform, L+R of the inboard platform edge; and 2 lock plates on the lift columns, L+R of the cylinder beam. To stow the platform in its travel position, CLOSE the platform from the open work position to the vertical position. Then LIFT the vertical platform against the underside of the cylinder beam until you hear the hydraulic system turn in over-pressure. |
| 8 | Tilt cylinders: optional hydraulic cylinders (option OVH011) used to OPEN / CLOSE the platform, or to TILT DOWN / TILT UP the platform, and adjust its orientation to the slope of the ground. |
| 9 | Main external control box: mounted in a fixed position at the side of the vehicle or under the body. It contains the electrical switches to OPEN / LOWER / LIFT / CLOSE the platform. |
| 10 | Centre 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 page 42 of this manual. |

EXAMPLE



See figure below page for parts corresponding to numbers in this table



| # | Description – see also section 9.8 from page 65 onwards. |
|---|--|
| 1 | Platform: carries the load during lifting and lowering. Manufactured from steel or light-weight aluminium and with a non-slip working surface. In standard execution, the platform is equipped with a fixed leading edge. Optional roll stops or retention ramps at the outboard platform edge, are available as an option. |
| 2 | Roll stops: usually 2 flaps mounted in or just in front of the fixed leading edge of the platform. Depending on options chosen, the roll stops feature a manual or an automatic operation and are actuated by springs. |
| 3 | Rear or outboard retention ramps: 1 full-width or 2 partial width ramps mounted at the outboard platform edge. In travel position, the ramps lie folded back on the platform surface. When travelling up and down, the ramps can be raised and secured in vertical position to prevent trolleys, roll cages and other wheeled objects on the platform from falling off. At the ground, the ramps can be deployed as an access ramp to drive the load on and off the platform. |
| 4 | Side retention ramps: 2 load restraints ramps mounted at the side edges of the platform. In travel position, the ramps lie folded back on the platform surface. When travelling up and down, the ramps can be raised and secured in vertical position to prevent trolleys, roll cages and other wheeled objects on the platform from falling off. At the ground, the ramps can be deployed as an access ramp to drive cargo on and off the platform. |



6.2 SAFETY DEVICES



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 incidental bystanders, and the load itself. The following safety devices are incorporated or recommended on most tail lifts:

- **Electrical safety valve mounted on the lift cylinder** [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 position 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)** [depending on model – see 6.1.3 from page 7 onwards]. DHOLLANDIA column lifts are equipped with stow locks and platform locks, to 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 compensating 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, page 42, on load charts and correct loading procedures.
- **Load safety device (LSD)** [standard on chain or cable lifts, not used on fully hydraulic lifts]. Both lift runners are equipped with a chain break protection device (DH-VO*) or cable break protection device (DH-VB*). In the unlikely incident of a chain or cable breaking, the LSD will jam the lift runner in the lift column, keep the platform relatively stable, and prevent it from dropping more than 10 cm from its position at the time of the failure.
- **2-hand external control box** [optional]. It is recommended that all column lifts be ordered with a 2-hand external control box, mounted in a fixed position at the side of the vehicle body. This means that 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.

|  WARNING | |
|--|---|
|  | <ul style="list-style-type: none">• ALWAYS stand with both feet on the ground on a free-standing, safe operator position at the side of the body when operating the external control box (see also 7.5 on page 33). NEVER operate the external control box 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. |

- **Fuses** [standard]. A 15A fuse for the electrical control circuit is premounted in the pump unit and in the main external control box (for most types). A 150 - 250A fuse for the electrical main battery circuit is supplied by the truck manufacturer or by DHOLLANDIA. Both fuses protect the electrical circuits against short-circuits and amperage peaks.

- **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:
 1. A **cabin switch** (provided by the truck manufacturer or DHOLLANDIA [option OAE503.1]). This switch enables the operator to switch the control power to the main external control box on / off. If equipped with a cabin switch [option OAE503.2] and a position sensor [option OVE221], the tail lift can also be set-up to provide a signal if the platform is stowed in its travel position, or left open.
 2. A **main battery disconnect switch** integrated in the external control box [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** [standard]. The cylinder beam or floor extension of the column lifts type DH-VO* and DH-VH* are usually designed with a rear sloping edge conform EN1756-1 annex B.2.3.1. Despite this design, the operator must observe following precautions:

|  WARNING | |
|--|--|
|  | <ul style="list-style-type: none"> • 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 cylinder beam or 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 minimum 25 cm from the inboard platform edge. • See also 7.4.3 from page 32 onwards. |

- **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. [See also 9.8 from page 65 onwards.]
- **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 OVE201.C], 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 2 m 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. See also section 10 from page 69 onwards.

7 SAFETY INSTRUCTIONS FOR USING THE TAIL LIFT

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

- 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.

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.

Must:



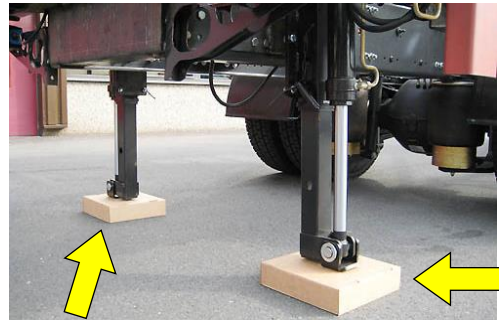
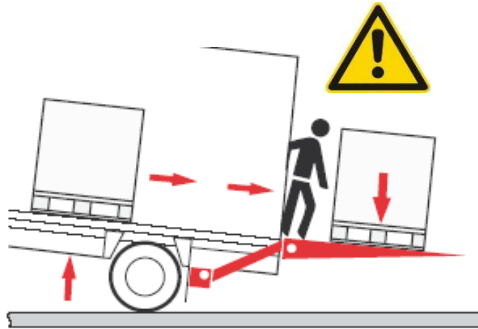
Recommended:



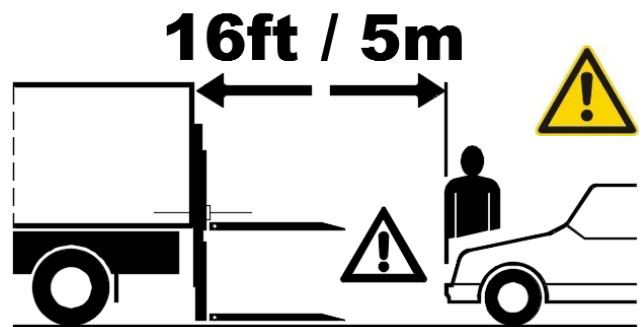
- Slipping (and falling) can result in serious bodily injury and death. To prevent injury by slipping:
 - ALWAYS wear professional safety-toe shoes with a good non-slip sole.
 - DO NOT use the tail lift if it is covered with snow, mud, dirt, debris, liquids or other substances.
 - DO NOT run on the platform.
- 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.
- Falling from the platform can result in serious bodily injury and death. To prevent injury by falling:
 - Make sure your footing is solid and you maintain 3 points of contact. See 7.5 on page 33.
 - Use guard rails where available. See 7.5 on page 33.
 - 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, without formal risk analysis by the client's health and safety manager, and issuance of clear safe work procedures for the operators.

! WARNING

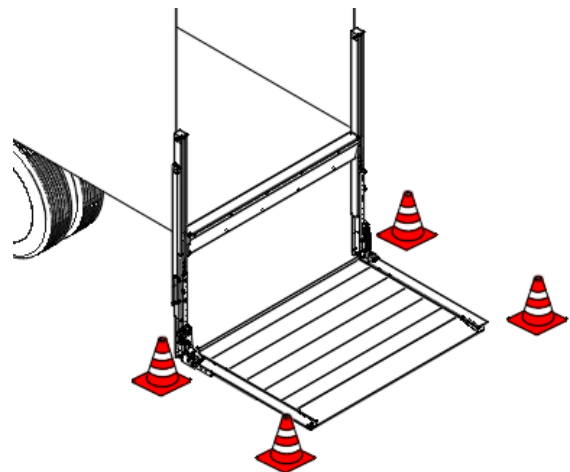
- Prior to operating the tail lift, the vehicle must be safely parked on level and solid ground, the parking brake applied, and the engine must be switched off. Lock open the rear doors and secure all other moving parts of the vehicle body. Failure to abide by these instructions can result in serious 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, etc...), 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 the work area of the platform. [See notice below].
- To reduce the risk of serious bodily injury or death, make sure the working zone is sufficiently lighted.

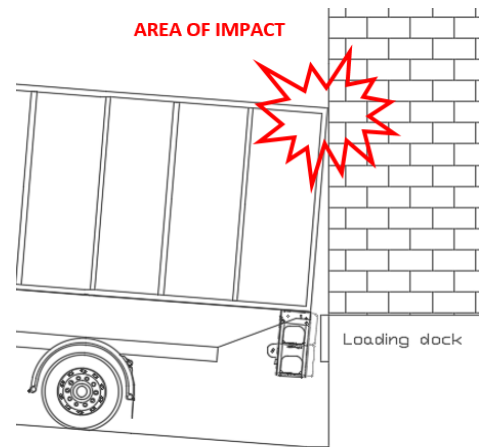


NOTICE

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.

! WARNING

- When loading or unloading at a loading dock, make sure to not hit the wall with the body / tail lift. Failure to abide by these instructions can result in material damage, serious bodily injury or death to the operator or bystanders.
- 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 7.7 page 39.
- 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.



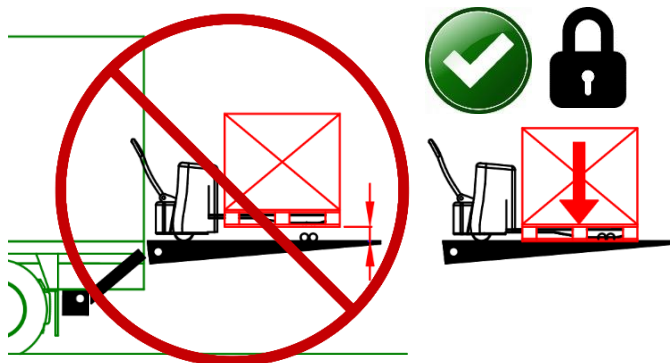
- DO NOT allow any other person, to stand in the proximity of the tail lift and its platform. ENSURE AT ALL TIMES THAT NOBODY STANDS UNDER OR WITHIN REACH OF THE MOVING PLATFORM.

- 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.



! WARNING

- 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.
- For loads on wheels, engage the 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, retention ramp(s) 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 9.8 from page 65 onwards for correct use of original DHOLLANDIA roll stops and retention ramp(s).
- 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 9.5 - 9.7 from page 53 onwards for instructions on properly stowing platform into its travel position.
- Unless this instruction could cause other important risks, 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.
- Exception: marshalling manoeuvres to reverse a vehicle into a loading dock or drive off, are excluded from aforementioned prohibition. It is strongly recommended that fleet operators execute site-specific risk analysis, and provide instructions to their drivers accordingly. When accepted by your Health & Safety management for specific sites or applications, driving manoeuvres with open platform must be supervised by a banksman, or controlled by other means such as a reverse camera and sensor system.
- 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 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 contra-indications 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



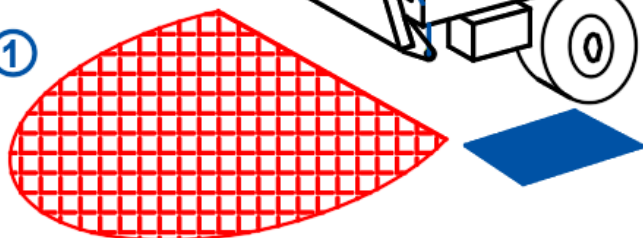
Danger zone



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



①



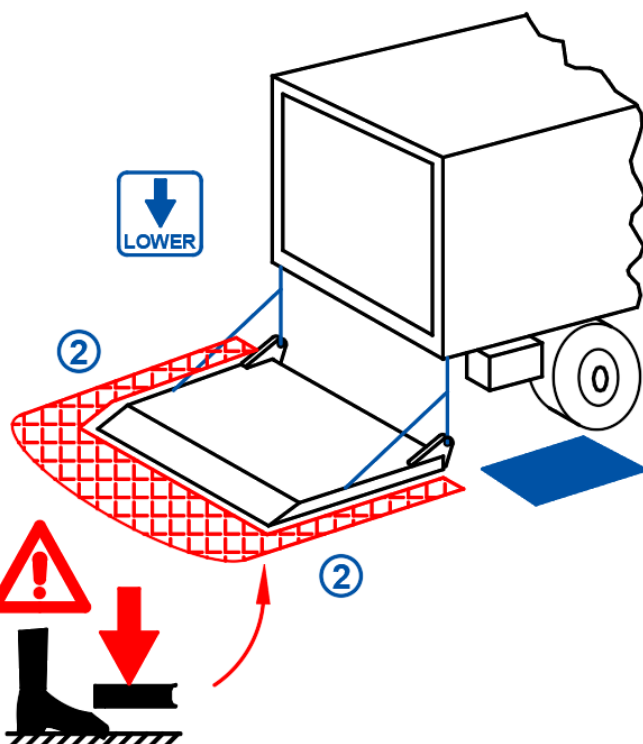
| ! WARNING | |
|------------------|---|
| | <p>Impact by the platform or the moving parts of the tail lift will result in serious bodily injury or death. To prevent people from being hit by the platform, by objects falling off the platform or being caught in pinch points or being pinched by the moving parts of the tail lift:</p> <ul style="list-style-type: none"> → 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 other 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.



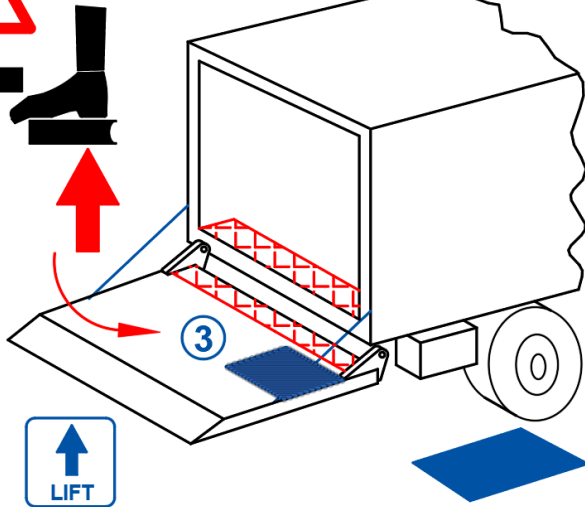
②



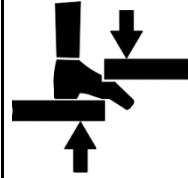
| ! WARNING | |
|------------------|---|
| | <p>Lowering an empty or fully loaded platform on one's feet may result in serious bodily injury. To prevent people from having their feet crushed or sheared by the lowering platform:</p> <ul style="list-style-type: none"> → Keep visual control over the entire 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.



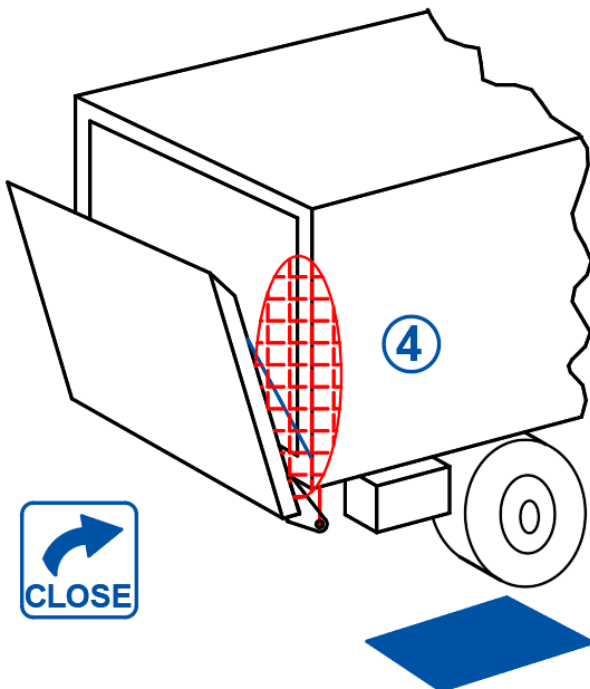
WARNING



- 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 cylinder beam or 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.



WARNING



- If the operator enters the zone between the closing platform and the lift columns 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 free-standing, 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 lift columns.
- 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.

In case of platforms equipped with manual closure and automatically folding guard rails (sides only), or gas-bottle execution (sides + rear), make sure you use the grab handle on the guard rail to open and close the platform.



! WARNING



- Opening and closing of the platform by holding the steel members of automatically folding guard rails can crush the operator's hands between the moving elements of the guard rail.
- To avoid bodily injury, always use the grab handle to manually open or close the platform and its guard rails, and beware of pinch points at all times.

Most column lifts are equipped with a device that shut closes the platform tight against the lift columns, after it was tilted in the vertical position and while it is lifted in its travel position.

Therefore, the operator **MUST** stand on the side of the platform and keep head, limbs and upper body clear of hazardous space between the platform and the lift columns, while stowing the platform in its travel position.

! WARNING



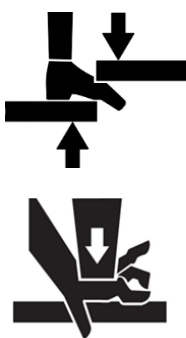
When stowing platform in travel position, platform will automatically shut close at the end of its vertical travel.

ALWAYS stand on the side of the vehicle, and stay clear of the platform area.

ALWAYS keep head, limbs and body clear of pinch points.

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! 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:



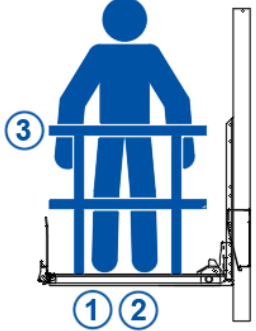
- **ALWAYS** stand clear of the range of motion of the platform and moving parts of the tail lift;
- Keep hands, feet and upper body clear of pinch points and moving parts of the tail lift;
- **DO NOT** allow any other person to stand near the tail lift and its platform.

7.4 ADDITIONAL RISKS OF LIFTING ABOVE THE VEHICLE FLOOR LEVEL

- The tail lift's capacity to travel above the cylinder beam and vehicle floor level can cause additional risks that must be taken into account by the operator while using the tail lift. ALWAYS pay special attention to the following issues.



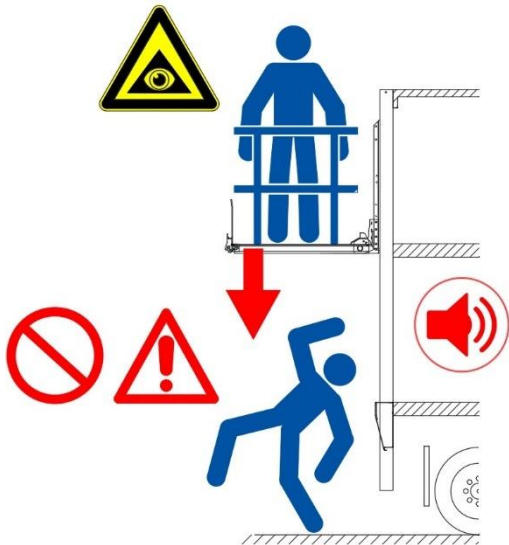
7.4.1 Risk of falling

- K9 models usually travel up to a much higher distance above the ground than conventional tail lift. The potential consequences of an accidental fall aggravate with the increased lifting height. Falling from heights can cause serious bodily injury or death.
- Tail lifts lifting higher than 2 m above the ground MUST be equipped with guard rails along the exposed edges of the platform. For tail lifts with a lower range, DHOLLANDIA still recommends that guard rails be used to mitigate the risk of falling.
- 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.

|  WARNING | |
|--|--|
|  | <ul style="list-style-type: none">Falling from heights can cause serious bodily injury or death.To prevent injury or death by falling from the platform:<ul style="list-style-type: none">→ ALWAYS make sure your footing is solid;→ ALWAYS hold onto the guard rails;→ ALWAYS maintain 3 points of contact.  |

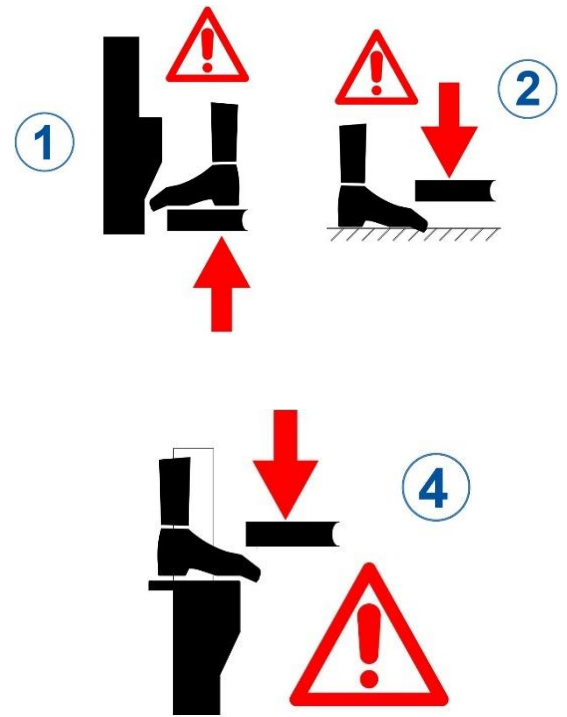
7.4.2 Risk of other persons standing under the platform

- K9 models usually travel up to a much higher distance above the ground than conventional tail lifts. Therefore, there is a greater risk that somebody could stand below the platform while the platform is situated high above the ground. Lowering the platform onto a person will cause serious bodily injury or death.
- Tail lifts lifting higher than 2 m above the ground MUST be equipped with a sound alarm, activated whenever the platform is lowered.

|  WARNING | |
|--|---|
|  | <ul style="list-style-type: none">If platform is lowered onto a person, this will cause serious bodily injury or death.To prevent bodily injury or death by a platform lowering onto a person:<ul style="list-style-type: none">→ NEVER allow any other person to come near the working area of the tail lift and its platform;→ ALWAYS keep visual control over the entire working area of the tail lift and its platform;→ For internal platforms, NEVER allow any other person inside the vehicle body when using the tail lift.→ Before lowering, ALWAYS inspect the area UNDER and BEHIND the platform.  |

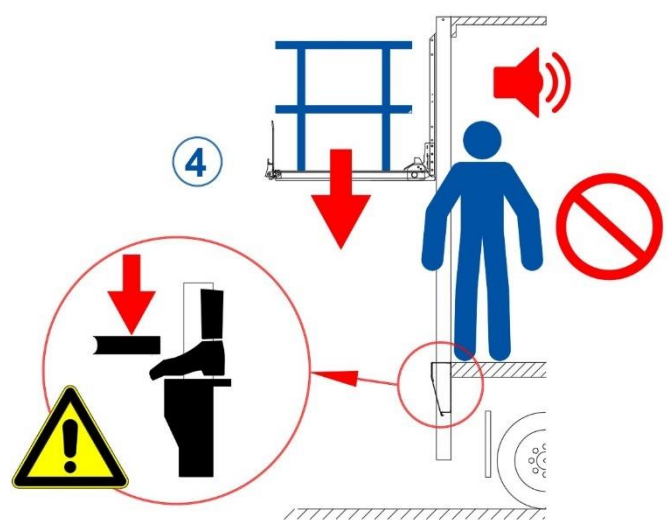
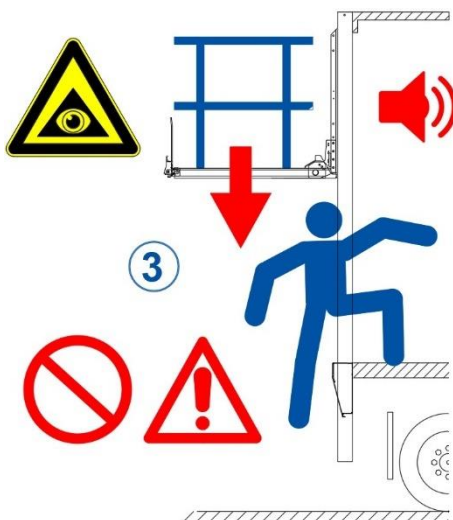
7.4.3 Risk of crushing and shearing

- For all brands and types of tail lifts, there is risks of crushing and shearing toes and feet between:
 - the rising platform and the vehicle floor (see 1 on right side),
 - or between the lowering platform and the ground (see 2 on right side).
- The operator must ALWAYS stand on a safe operator position while using the tail lift. See also 7.3 from page 28 onwards and 7.5 from page 33 onwards.
- Additional risk exists on K9 models for any person standing inside the vehicle body, or present in the scissor zone between the moving platform and the vehicle floor.
- Any person caught and crushed between the moving platform and the vehicle floor will suffer seriously injury or death (see 3 below).
- Any person standing inside the vehicle body, with feet protruding beyond the outboard edge of the vehicle floor, will suffer severe crushing and shearing of his feet or toes by a platform travelling down from a higher position. This can result in serious bodily injury (see 4 on right side and below).



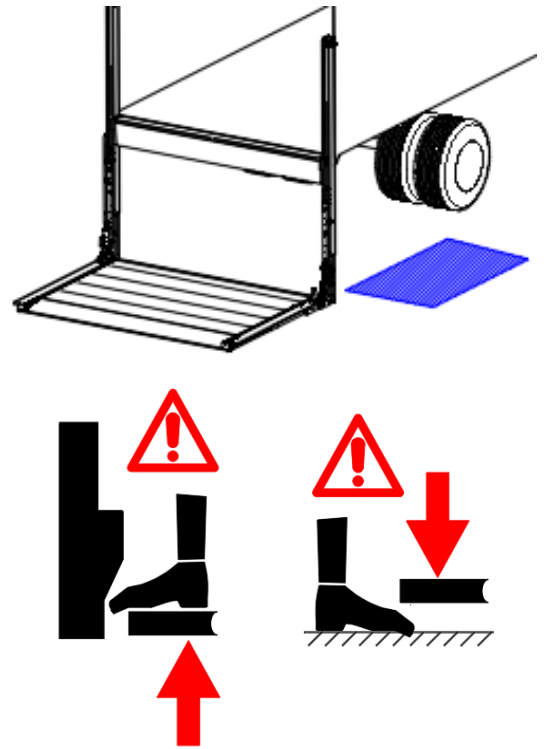
WARNING

- Any person standing on the platform or inside the vehicle body, too close to the inboard platform edge, risks being crushed or sheared between the moving platform and the vehicle floor. This can result in serious bodily injury or death.
- To prevent injury or death by crushing or shearing:
 - When standing on the platform, ALWAYS stand at a safe distance of min. 25 cm from the inboard platform edge;
 - When standing inside the vehicle body, ALWAYS stand at a safe distance of min. 25 cm from the outboard edge of the vehicle floor;
 - NEVER step in or out of the vehicle body while the platform is in motion.
 - Before moving the platform, ALWAYS inspect the area UNDER and AROUND the platform.

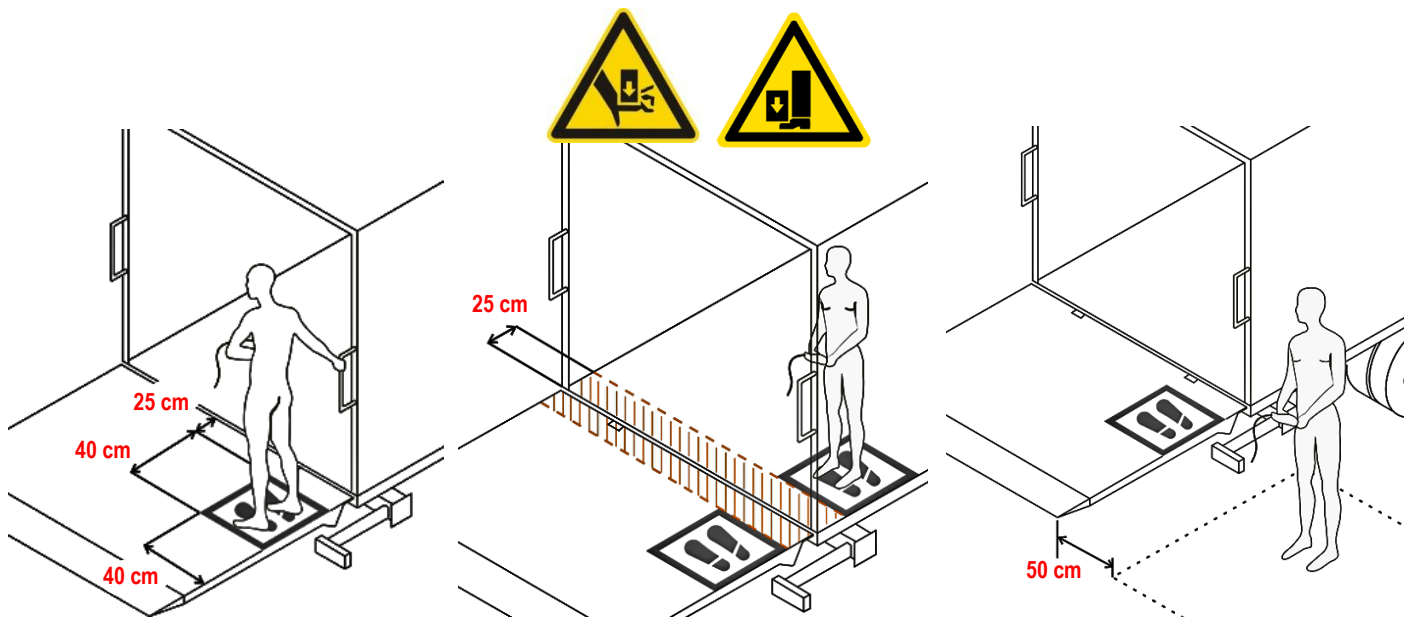


7.5 SAFE OPERATOR POSITION

- 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 against the risks of crushing and shearing as described in 7.3 – 7.4.3 from page 28 onwards.
- Main external control box:** the zone just in front of the side-mounted external control box, 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. In case of optional hydraulic closure, the main external control box is equipped with 2-hand operation.
- 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. See 7.3 - 7.5 from page 28 onwards regarding Danger zones, risk of crush and shear injury.



- Handheld auxiliary controls with a spiral cable should only be used under the following conditions (1):



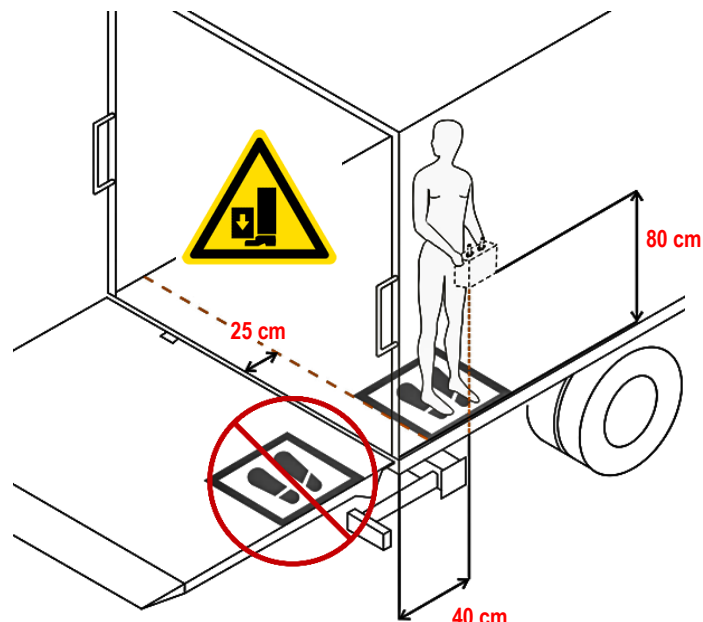
On the platform, from a safe operator position of minimum 40 x 40 cm square, clearly and permanently marked at minimum 25 cm distance from the hazard zone between the platform and the rear of the vehicle floor. Maintain 3 points of contact (see below).

Inside the vehicle body, from a safe operator position of minimum 40 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 shearing 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 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). 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.
- In case of a main external control box with 2-hand operation, the power to any of the auxiliary 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 activation of the external control box does not deactivate 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.

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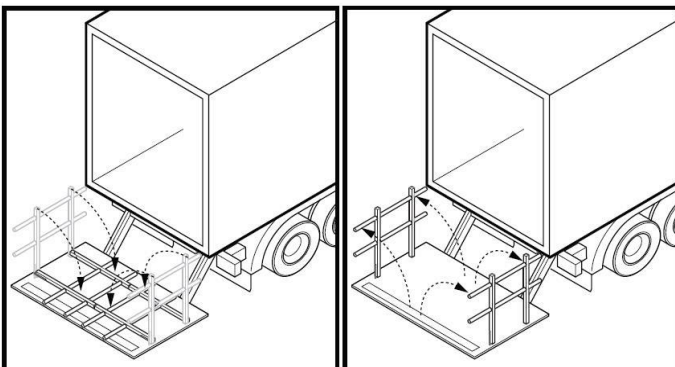
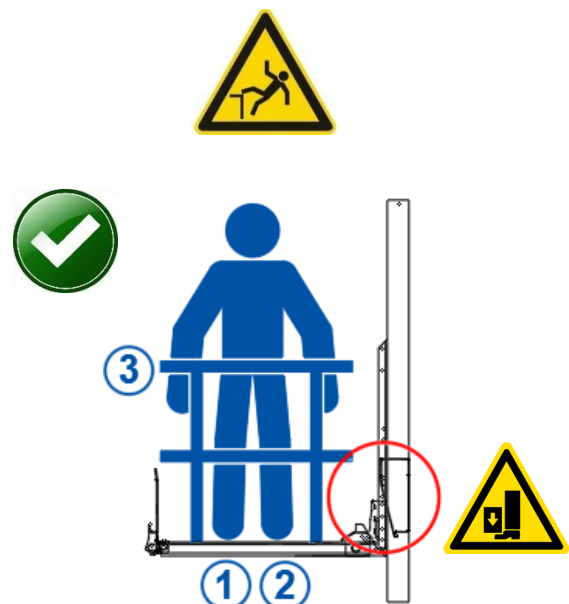
- Guard rails **MUST** be fitted in all applications where a significant risk exists that the operator could fall off the platform and suffer bodily injury. They are compulsory above 2 m lifting height.

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.

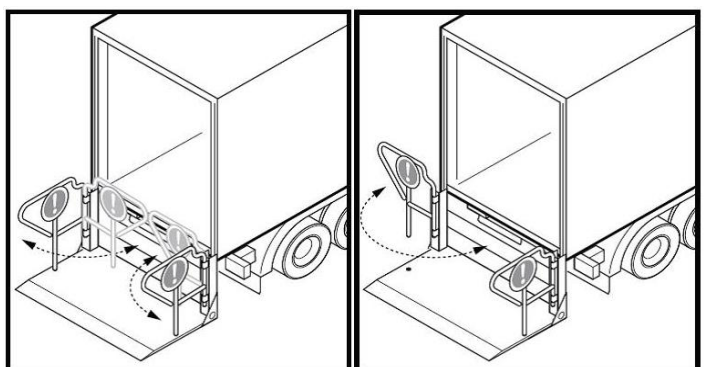
WARNING



- If not standing solidly, the operator could fall off the platform and suffer severe bodily injury or death.
- Therefore, while riding on the platform, **ALWAYS** make sure your footing is solid, and **ALWAYS** maintain 2 feet on the platform surface.
- If reaching out your hand for a 3rd point of contact, **ALWAYS** stay clear of the open lift columns and the moving lift runner, chains, and pulleys.
- If guard rails are available, **ALWAYS** hold onto the guard rail. Don't reach out for another 3rd point of contact near the lift columns.



Example: hinged guard rails

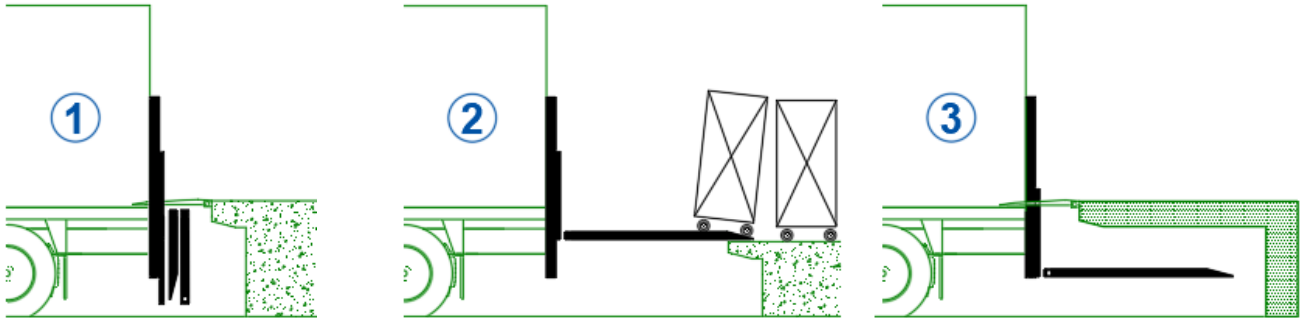


Example: pivoting guard rails mounted to the lift runners

7.6 INSTRUCTIONS FOR WORKING AT LOADING DOCKS

WARNING

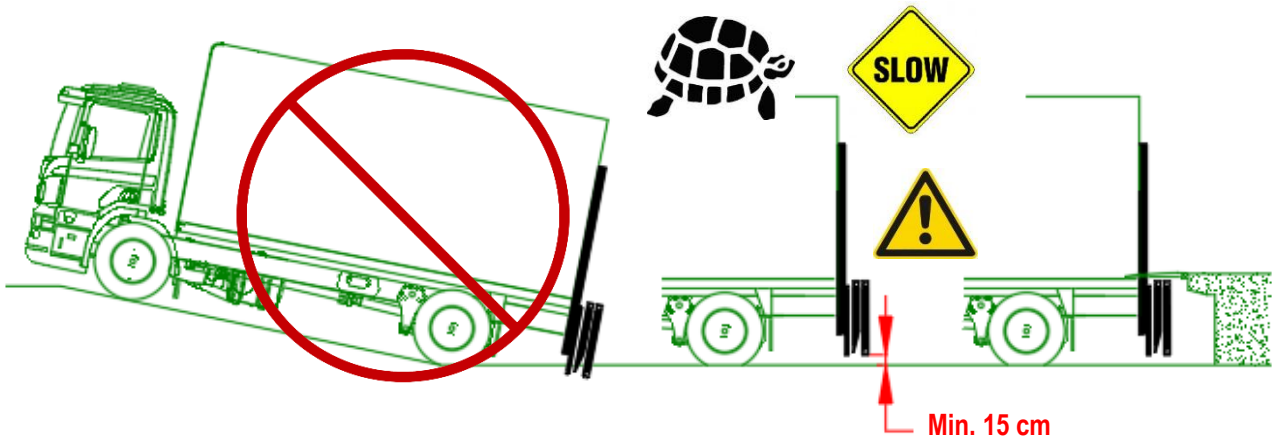
- Improper use of the tail lift may result in damage, premature wear or failure of the tail lift, and will increase the risk of serious injury or death to the operator and other persons nearby.
- In order to maximize the durability, ensure long-term reliability of the tail lift, and protect operators and bystanders from serious bodily injury or death, the operator must comply with the loading instructions and safe working procedures below.
- There are 3 main ways of handling a column lift at the loading docks: Restrictions and precautions do apply. See below.



1. Platform lowered below the vehicle floor level. All cargo is loaded / unloaded over a dock plate that links the dock and the vehicle floor.

2. Platform is used as a loading platform; or as a bridge plate (in case of optional tilt cylinders).

3. Platform is hidden in a pocket or briefcase under the loading dock. All cargo is loaded / unloaded over a dock plate that links the dock and the vehicle floor.

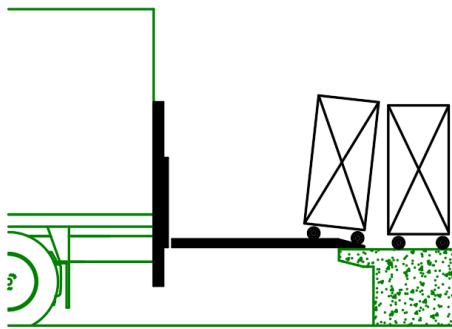


1. When the intention is to dock with the platform lowered below the vehicle floor level, DO NOT lower the platform until the vehicle is standing on flat even ground. ALWAYS reverse slowly, and make sure you maintain sufficient ground clearance between the lowest part of the tail lift and the ground. Take into account variations in the suspension and vehicle height.

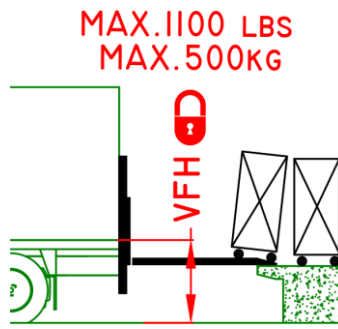
NOTICE

- When reversing a vehicle with column 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.

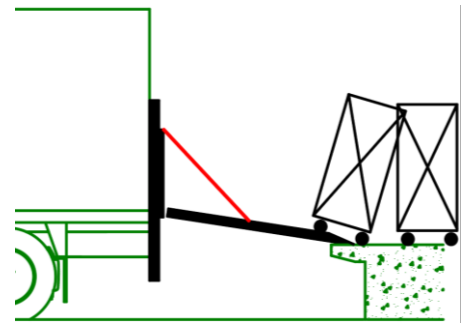
2. When the intention is to use the platform as a loading platform or bridge plate, the following instructions apply:



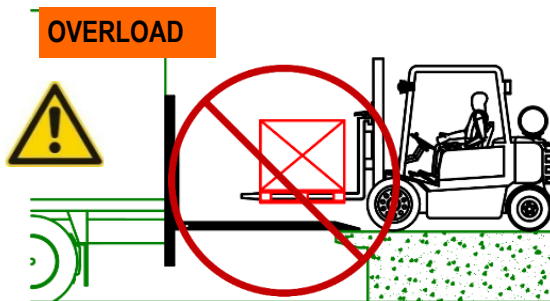
The tail lift can only be used as a loading platform if the dock is lower than the vehicle floor.



Unless the vehicle suspension can be blocked and the floor maintained at the original vfh, the max. load transferred over the platform should not exceed 1100 lbs / 500 kg. Exception: column lifts with 2 tilt cylinders [option OVH011].

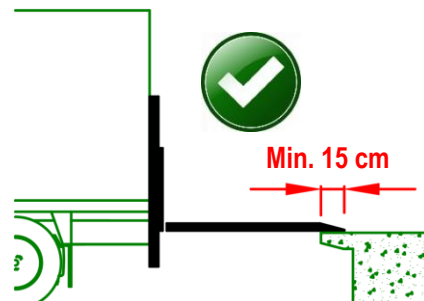


The tail lift can be used as a bridge plate, if it is equipped with the optional tilt cylinders with adjustable platform orientation [option OVH011].

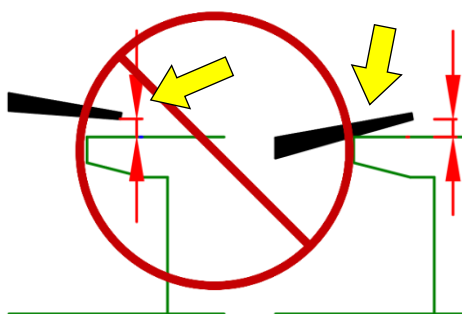


It is forbidden to drive forklifts or heavy electric pallet jacks over the platform.

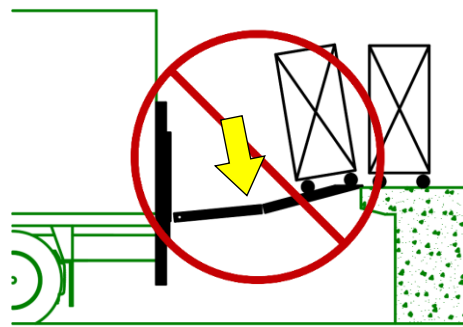
The total weight of the load and the lifting device must not exceed the maximum rated capacity of the tail lift. Beware not to overload!



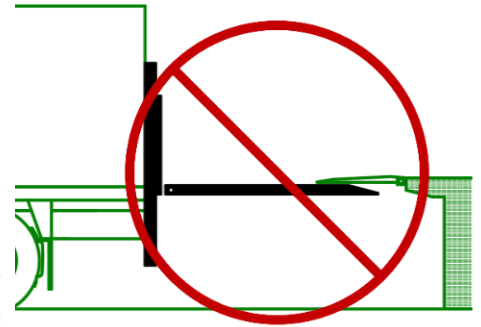
A minimum section of 15 cm of the outboard platform edge must rest on the loading dock.



While loading or unloading, the loading floor of the vehicle might lower or rise relative to the loading dock. Use the electrical controls to adjust the platform position flush with the loading dock surface.



NEVER use a foldable platform as a bridge plate between the vehicle floor and a loading dock.

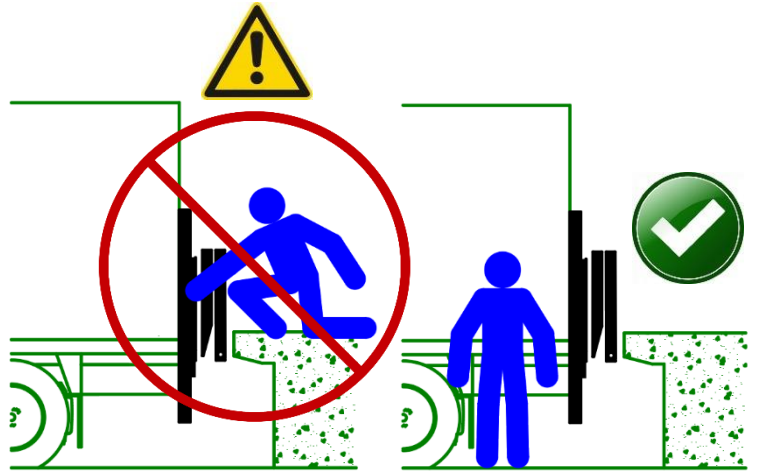


NEVER use a dock plate on top of a floating platform as a bridge plate between the loading dock and the vehicle floor.

! WARNING

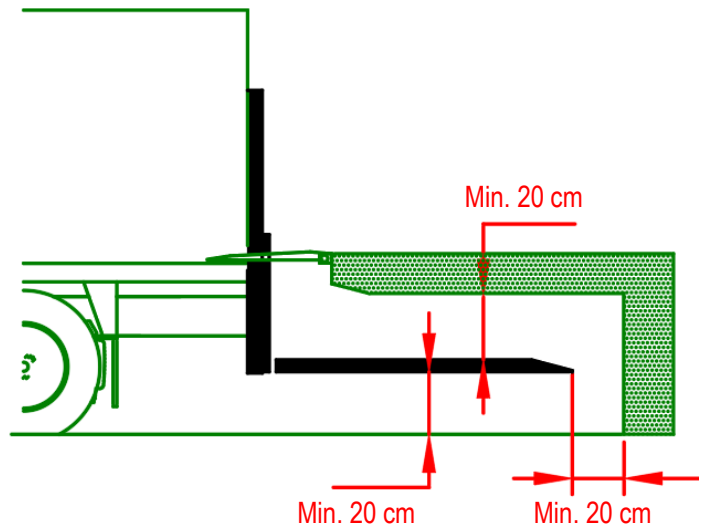


- ALWAYS stand with both feet on the ground on safe operator position at the side of the body when operating the external control box (see also 7.5 from page 33 onwards) or the platform locks. NEVER operate the external control box or the platform locks from an elevated position, such as the platform or a loading dock.
- NEVER reach over or through the platform and the moving parts of the tail lift while trying to operate the tail lift. ALWAYS keep your head, limbs and body clear of the moving platform and other pinch points.

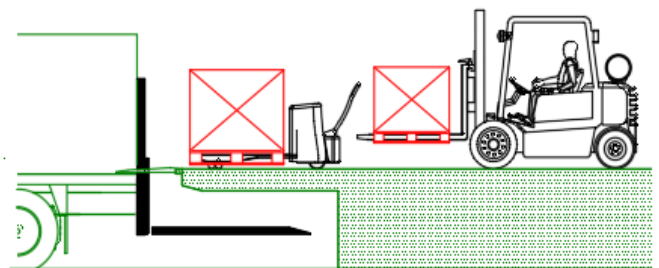
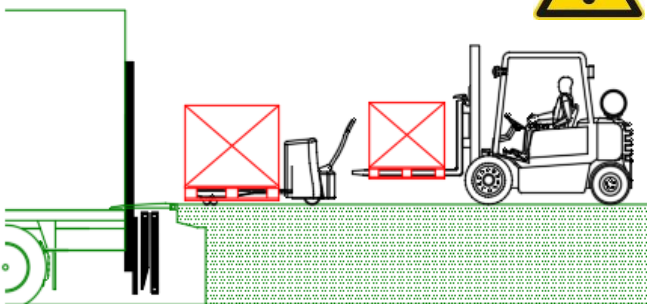


3. When the intention is to stow the platform in a pocket or brief case under the loading dock, observe following points before reversing into the dock:

- Make sure the pocket is deep enough for the depth of the platform.
- Make sure there is sufficient clearance above and below the platform, taking into account all possible variations in vehicle suspension and vehicle floor height.
- Make sure the platform does not touch the ceiling, ground or end wall of the pocket.



CLEARANCE !



- Whenever cargo is loaded or offloaded with forklifts, electric pallet jacks, and the total weight of the load plus handling equipment exceeds the maximum rated capacity of the tail lift, ALWAYS use a dock plate from the loading dock to the vehicle floor, and safely stow the lift below the vehicle floor level, or in the pocket or brief case under the loading dock.

7.7 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, DO NOT use the tail lift, and contact an authorized DHOLLANDIA agent for immediate repair [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) 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.
- ☐ Ensure the cover of the pump unit is properly installed and secured.
- ☐ Check the pump unit for visible oil leaks.
- ☐ Check if the platform is standing tight and straight between the columns (no cables, chains or pulleys damaged).

Follow the instructions in section 9 from page 45 onwards to open and lower the platform to the ground, and continue the checks:

- ☐ Visually inspect the general condition of the lift frame, lift runners, the mounting bolts or welds to the rear frame of the vehicle body, and diagonal braces supporting the underside of the columns. Look for cracks or deformation in the material and welds. Make sure the bolts of the columns to the rear frame are tightened.
- ☐ Visually inspect columns and lift runners. Visually inspect that the chains or cables are under tension and the platform hangs level with the vehicle floor. Make sure the inside of the columns is free of sand, dirt or debris.
- ☐ Make sure all pivot pins are properly locked and secured.
- ☐ Visually inspect the general condition of the platform and the stow lock. Look for cracks or deformation in the material and welds. If so equipped, make sure the platform-mounted options function correctly (roll stops, retention ramps, flashing warning lights).
- ☐ For lifts with manual closure: check the operation and overall condition of the platform lock. After lowering the platform down from its travel position, it should not be possible to pull the platform open by more than 10° without disengaging the platform lock.
- ☐ For lifts with manual closure: Check the operation and overall condition of the torsion bars. The platform can be manually opened and closed without excessive effort.

- ☐ Check the general condition and operation of the guard rails. Look for cracks or deformation in the material and welds. Ensure they remain locked in the raised position after deployment.
- ☐ 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 centre 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.
- ☐ Check the cylinder beam and optional tilt cylinders, their safety 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 9.4 on page 52].**

7.8 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.

WARNING



Impact by a falling platform will result in serious bodily injury or death. To reduce the risk of injury:

- Close the platform lock (if available), and apply additional means to immobilize the platform [see note below].
- 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

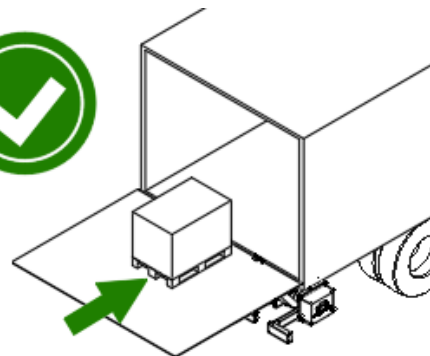
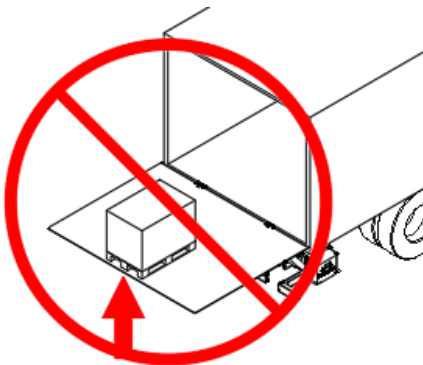
NOTICE

- 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 **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 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 centre of gravity of the **load** stands no further than the designated centre 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.

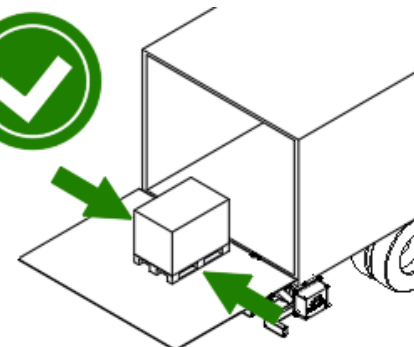
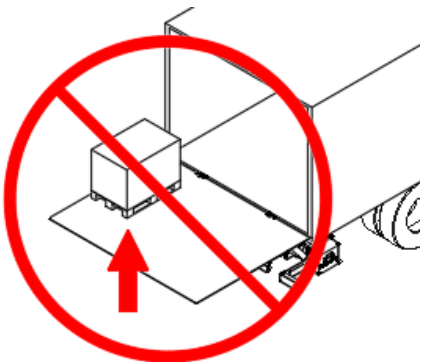
NOT OK
NEVER
position the
load at the
outboard
platform edge.



OK
ALWAYS
position the
load as close as
possible to the
rear of the
vehicle, near the
inboard
platform edge.



NOT OK
NEVER load on
one side of the
platform only.
Or limit load to
50% of
maximum
rated capacity.



OK
ALWAYS
position the
load mid-point
between the lift
arms.

- 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.

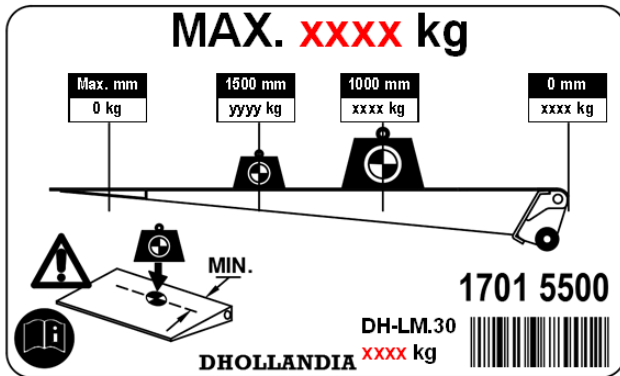
- The maximum **safe working load** GOES DOWN according to the load charts. The following type of load chart decals are supplied with the tail lift, and must be duly observed.

EXAMPLE

MAX. 1500 kg

EF0570.01500

EXAMPLE



PLATFORM LOADING INSTRUCTIONS

Position load as close as possible to inboard platform edge.

Position load in middle line of platform. Avoid loading on 1 side only.

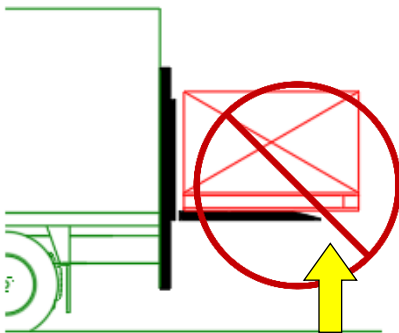
Operator should stand on side of load, well clear of inboard platform edge to avoid crushing feet.

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

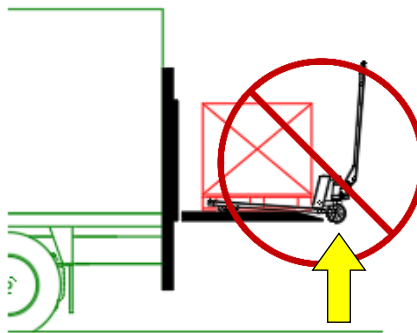
DHOLLANDIA EF0564.EN

! WARNING

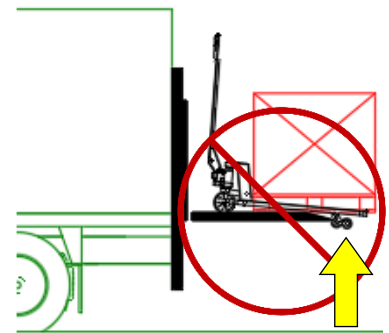
- Overloading and improper loading and unloading of the tail lift will put the operator and bystanders at great risk of serious bodily injury or death. Such conditions will also cause premature wear and damage to the tail lift, or failure of the tail lift.
- Pay attention to avoid concealed overload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



OVERLOAD



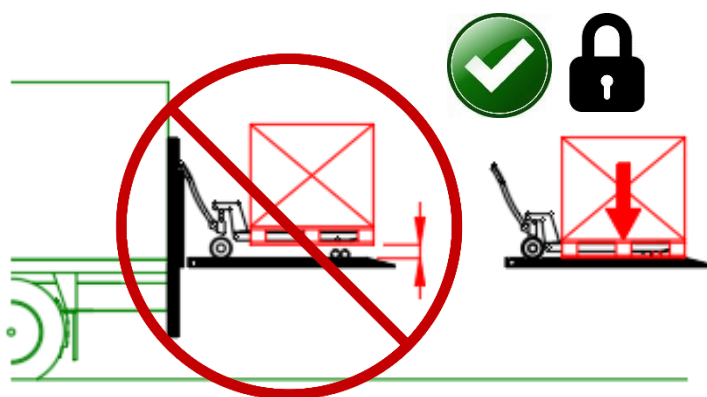
OVERLOAD



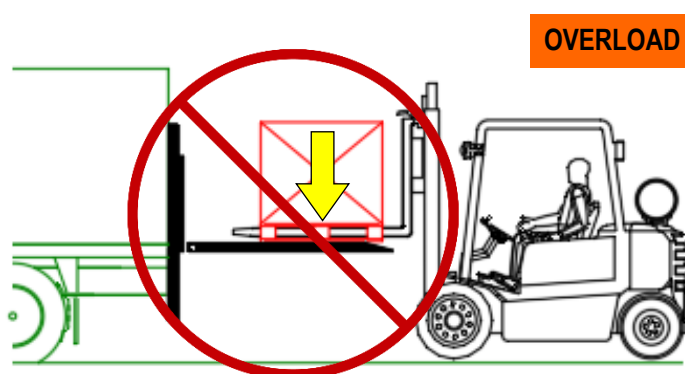
- NEVER let the load extend beyond the outboard edge or side edges of the platform.
- NEVER let the wheels of a pallet jack extend or drop down beyond the outboard or side edges of the platform. Keep the pallet jack and its load on the platform surface, as close as possible to the inboard platform edge. Lower and rest the pallet or load on the platform surface to prevent it from shifting position while lifting and lowering.

! WARNING

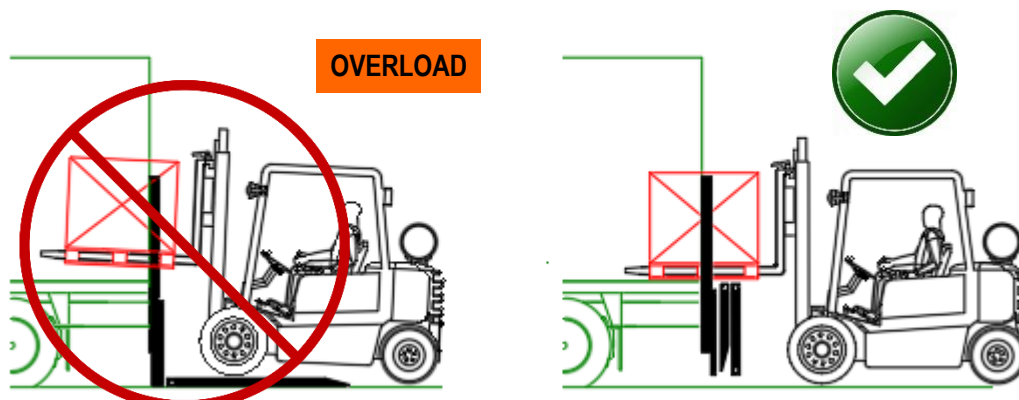
- Lower and rest the pallet or load on the platform surface to prevent it from shifting position while lifting and lowering.



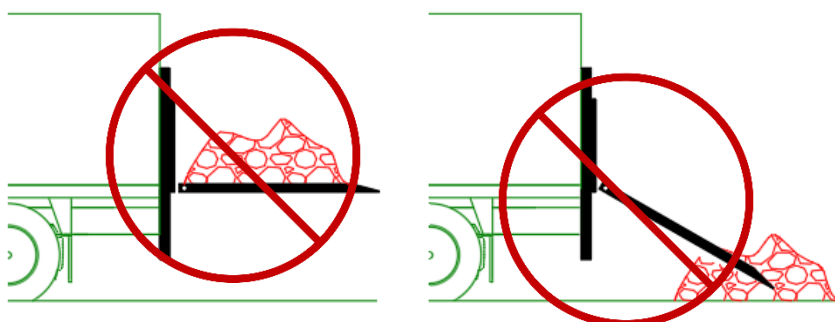
- NEVER drop any load on the platform (ex. by means of a forklift, gantry crane, etc...). The impact of dropping a load is far greater than the nominal weight of the load and can cause severe damage to the tail lift.



- NEVER drive a forklift onto the platform. Driving a forklift 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.

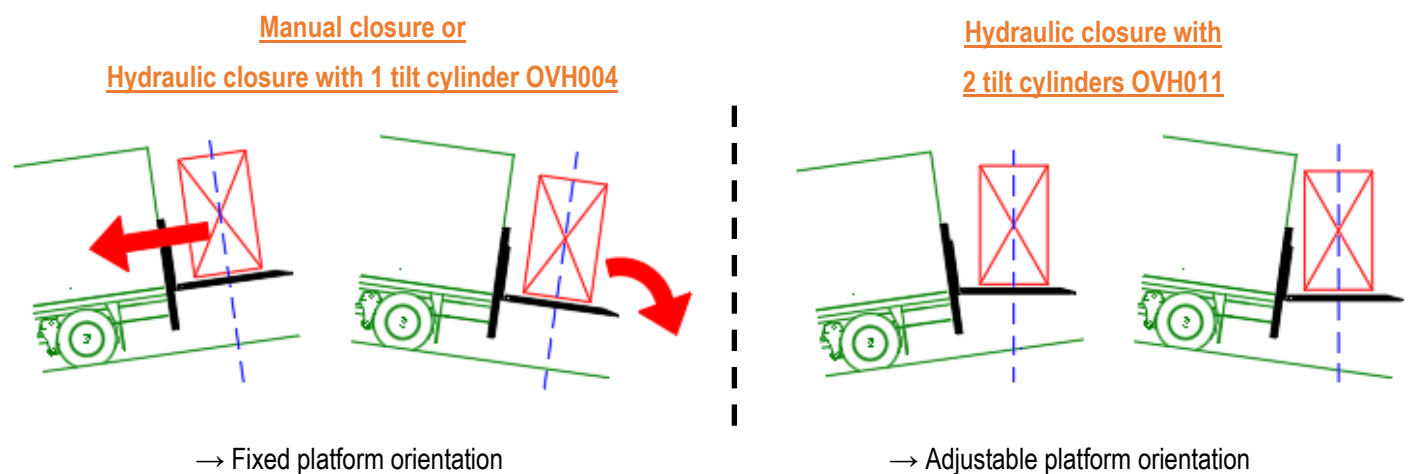


9 OPERATING INSTRUCTIONS – PRINCIPLES AND PROCEDURES

9.1 PLATFORM RIDE

- The ride of a tail lift describes the movement that its platform goes through when lifting and lowering. All column lifts in this manual are equipped with a flat platform and a level ride.
- While the platform travels up and down, the angle between the platform and the columns remains unchanged. If the vehicle is standing level on flat, even ground, the platform will travel up and down level with the ground.
- The majority of column lifts have manual closure. In option, certain models can be equipped with 1 or 2 tilt cylinders.
- Option OVH004 (= 1 tilt cylinder) enables the operator to open and close the platform hydraulically instead of manually, but the orientation of the platform is not adjustable. (Platform is fully closed at 90° or fully open at 0°).
- Option OVH011 (= 2 tilt cylinders) enables the operator to open and close the platform hydraulically instead of manually, and to adjust the orientation of the platform to the slope of the ground, or to tilt the platform towards a loading dock.

| | Lift capacity | Manual closure | Hydraulic closure 0-90° OVH004 | Hydraulic closure with adjustable platform orientation OVH011 |
|------------------|---------------|----------------|--------------------------------|---|
| DH-VO.07.K1 / K9 | 500-750 kg | standard | - | - |
| DH-VO.10.K1 | 750-1000 kg | standard | optional | - |
| DH-VO.15.K1 / K9 | 1000-1500 kg | standard | optional | optional |
| DH-VB.15.E1 | 1000-1500 kg | standard | optional | - |
| DH-VO.20.K9 | 1500-2000 kg | standard | optional | optional |
| DH-VH.15.H1 | 1000-1500 kg | standard | optional | optional |



WARNING

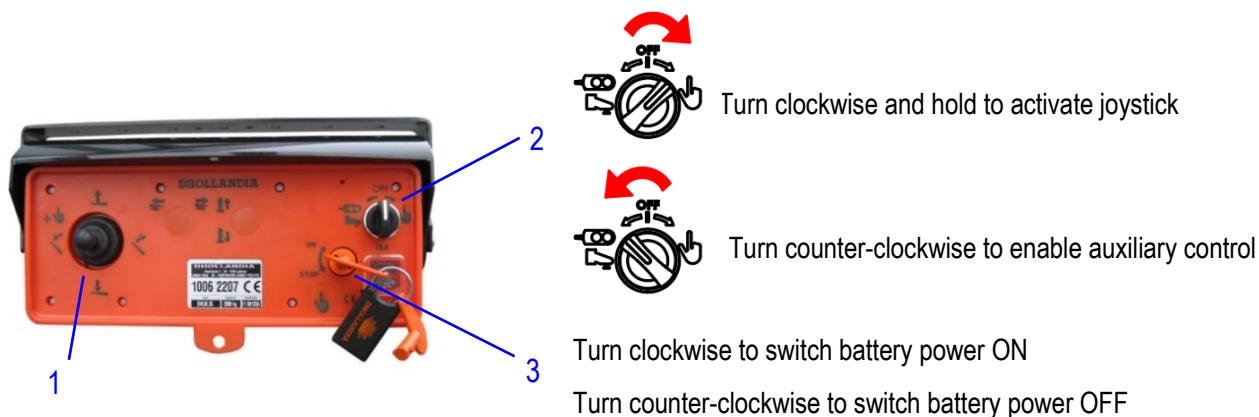
- It is important for both types of tail lifts that loads on wheels, or loads that could easily shift position and fall from the platform, are properly secured on the platform surface prior to operating the tail lift. See also 9.8 from page 65 onwards.
- For lifts with non-adjustable platform orientation, it is ESSENTIAL that the operator ensures that roll stops or retention ramps are deployed (if available), wheel stops or brakes are activated, or the load is secured on the platform in a different way prior to operating the tail lift.
- Improperly secured loads could fall off the platform, and put the operator and bystanders at great risk of serious bodily injury and death.

9.2 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, delivered per customer specification. Contact the national DHOLLANDIA distributor for more information, prior to ordering your tail lift. See contact info on page 3.
- Most standard external control systems are equipped with mandatory 2 hand operation, and are mounted at the side of the vehicle body, in order to:
 - prevent the operator from standing behind the platform when opening the platform, which could result in serious injury or death by crushing.
 - prevent the operator from crushing his / her limbs, upper body or head between the platform and the rear frame of the vehicle when closing the platform.
- The most popular models are outlined below. Contact the national DHOLLANDIA distributor for operation instructions on other models, or models with different options, prior to operating the tail lift. See contact info on page 3.

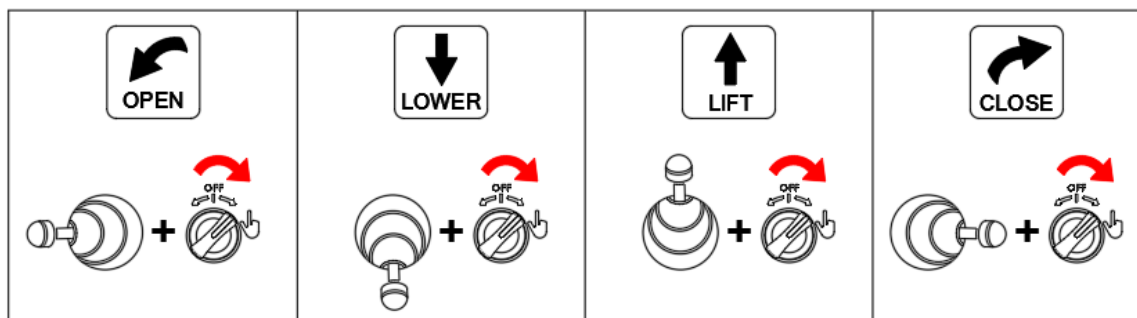


Joystick control box [ref. OAE030.BT]

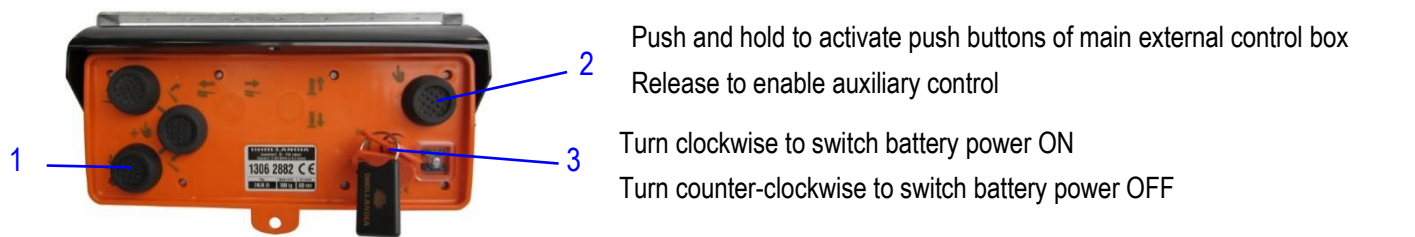


| | |
|---|--|
| 1 | Joystick operating the functions LOWER – LIFT, and OPEN – CLOSE in case of hydraulic closure. |
| 2 | Rotary safety switch to activate the joystick, or to switch over to the auxiliary control |
| 3 | Main battery disconnect switch (optional) to switch the main power from the battery to the pump unit of the tail lift on / off. <ul style="list-style-type: none"> Will stop the tail lift in case of emergency involving hazard to operator or bystander. Will stop the tail lift and reduce the risk of a pump unit burn-out if the motor solenoid is stuck and the motor runs continuously (control button or contact damaged, motor solenoid short circuited by low voltage.) |

Operation:

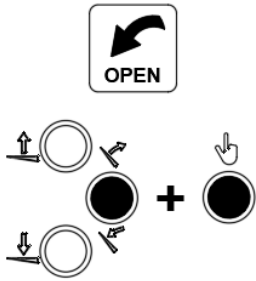
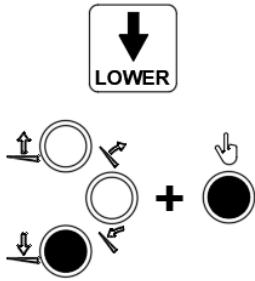
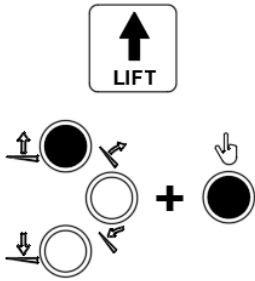
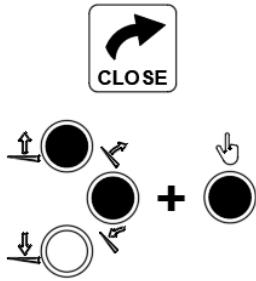
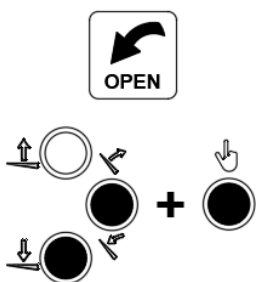
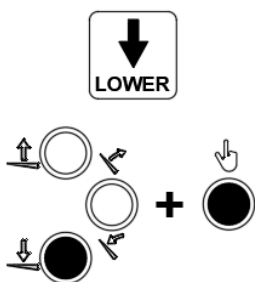
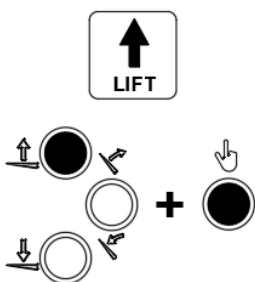
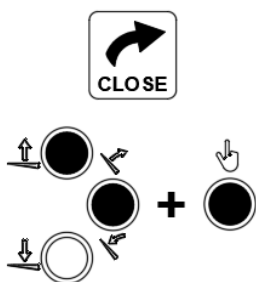


Arctic control box [ref. OAE041.BP]



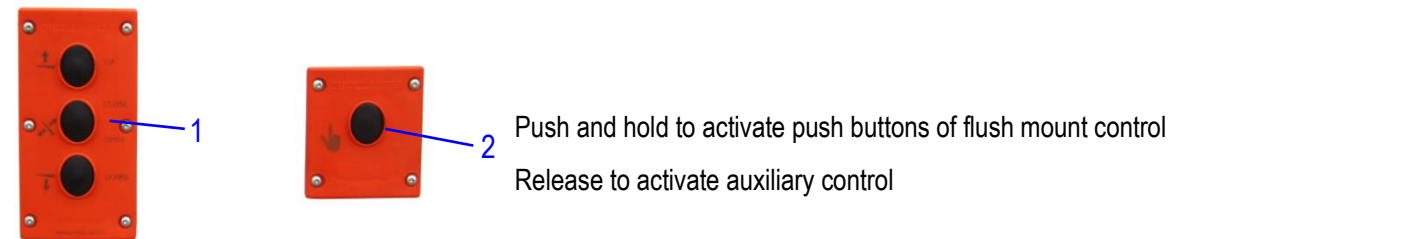
| | |
|---|---|
| 1 | Push buttons commanding the functions LOWER – LIFT, and OPEN – CLOSE in case of hydraulic closure. |
| 2 | Safety switch to enable the push buttons, or to switch over to the auxiliary control |
| 3 | Main battery disconnect switch (optional) to switch the main power from the battery to the pump unit of the tail lift on / off. <ul style="list-style-type: none">Will stop the tail lift in case of emergency involving hazard to operator or bystander.Will stop the tail lift and reduce the risk of a pump unit burn-out if the motor solenoid is stuck and the motor runs continuously (control button or contact damaged, motor solenoid short circuited by low voltage.) |

Operation:

| | | | | |
|--------|---|---|--|---|
| OVH004 |  |  |  |  |
| |  |  |  |  |

- Other control boxes with compulsory 2-hand controls feature push buttons or toggle switches to control the various functions OPEN – LOWER – LIFT – CLOSE. The units are not available with an integrated main battery disconnect switch.

Flush mount control unit (ref. OAE031.ZP)



| | |
|---|--|
| 1 | Push buttons commanding the functions LOWER – LIFT, and OPEN – CLOSE in case of hydraulic closure |
| 2 | Safety switch to enable the push buttons, or to switch over to the auxiliary control |

Operation:

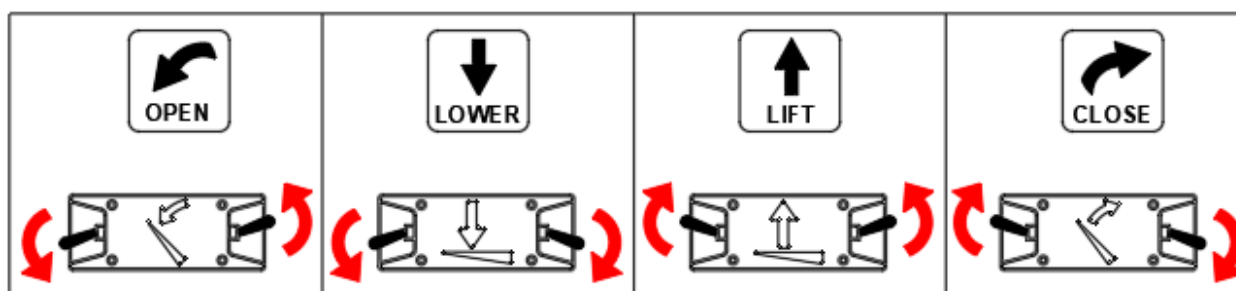
| | | | | |
|--------|--|--|--|--|
| OVH004 | | | | |
| | | | | |
| OVH011 | | | | |
| | | | | |

Dual toggle-switch control box (ref. OAE048.ZP)



| | |
|-----|---|
| 1-2 | Toggle switches commanding the functions LOWER – LIFT, and OPEN – CLOSE in case of hydraulic closure |
|-----|---|

Operation:



- The use of a 2-hand external control box is compulsory on all tail lifts with hydraulic closure. Also on column lifts with manual closure, it is strongly recommended to use a 2-hand external control box. Although it is most convenient to purchase such 2-hand controls along with your initial tail lift order, they may be purchased and retrofitted to your tail lift later. Please contact your national DHOLLANDIA distributor for further information. See page 3 for contact details.
- In applications where a 1-hand external control box is used, ALWAYS be aware that the stow lock will shut close the platform at the end of its vertical travel (see 7.3 from page 28 onwards) and ALWAYS take maximum safety precautions:
 - ALWAYS stand with both feet on the ground on a free-standing, safe operator position at the side of the body
 - ALWAYS keep head, limbs and upper body clear of hazardous space between the platform and the lift columns.

⚠ WARNING

When stowing platform in travel position, platform will automatically shut close at the end of its vertical travel.

ALWAYS stand on the side of the vehicle, and stay clear of the platform area.

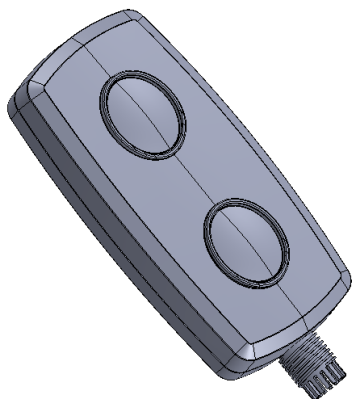
ALWAYS keep head, limbs and body clear of pinch points.

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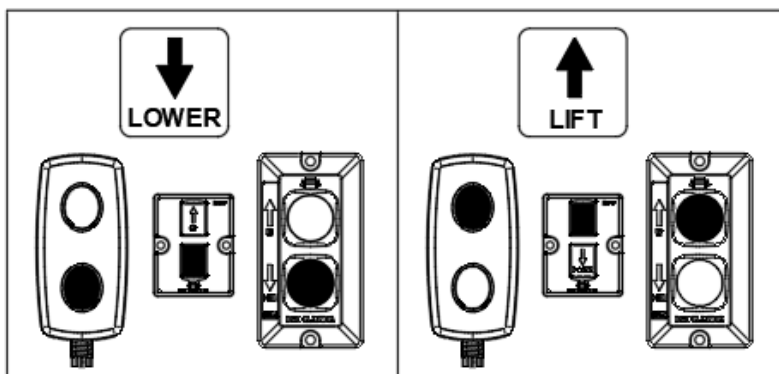
- These controls and their main alternatives are operated as shown below.

Push-button controls [ref. OAE012.PR / OAE010 / OAE019.2 etc.]

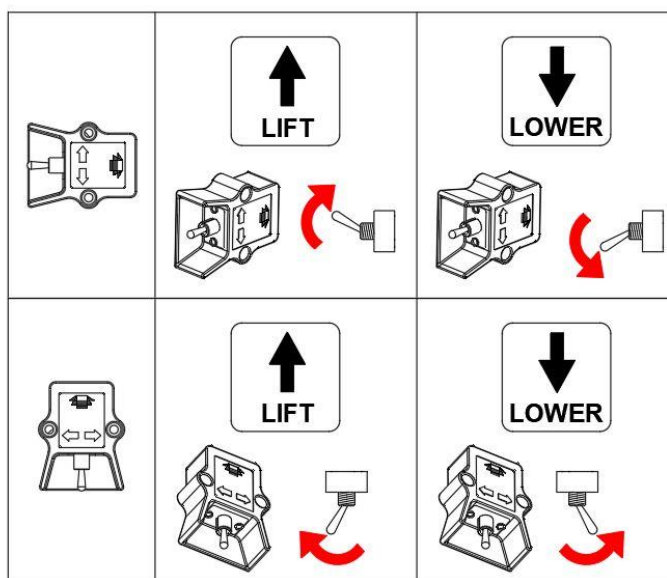
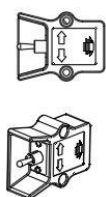
EXAMPLE



Operation:



Toggle-switch controls [ref. OAE015.PR]



WARNING

- While operating the tail lift, ALWAYS bear in mind the warnings on “Danger zones, risk of crush and shear injury” included in section 7.3 from page 28 onwards, and the instructions on “Safe operator position” in section 7.5 from page 33 onwards.
- The use of the controls from an unsafe position can put the operator at great risk of serious bodily injury and death.

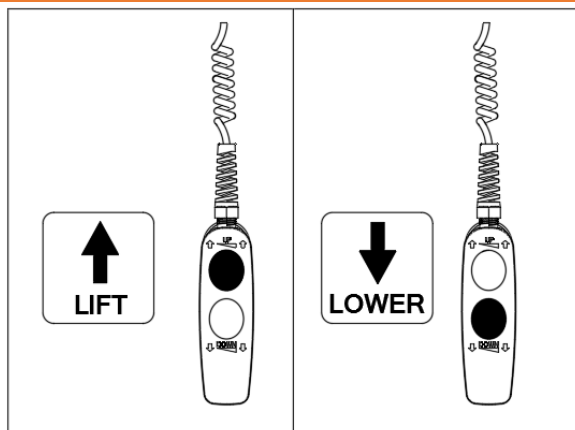
9.3 MOST POPULAR AUXILIARY CONTROLS

- 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.

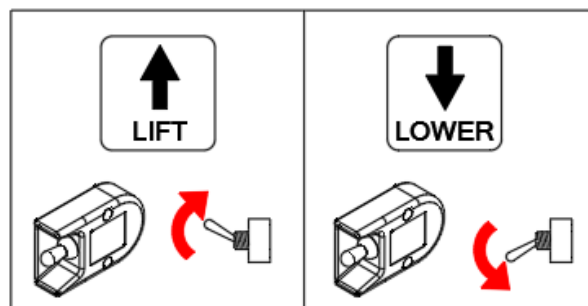
! WARNING

- 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, in accordance with the safety precautions described in section 7 from page 24 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.

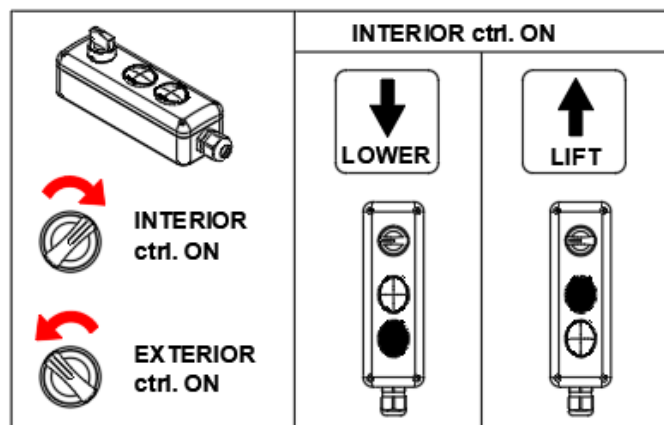
2-button handheld control with spiral cable [ref. OAE001]



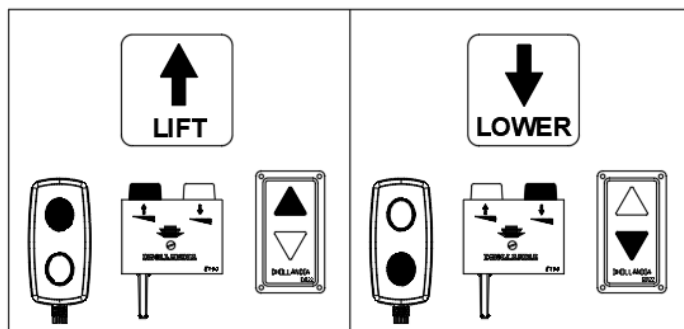
Toggle switch control [ref. OAE015.O]

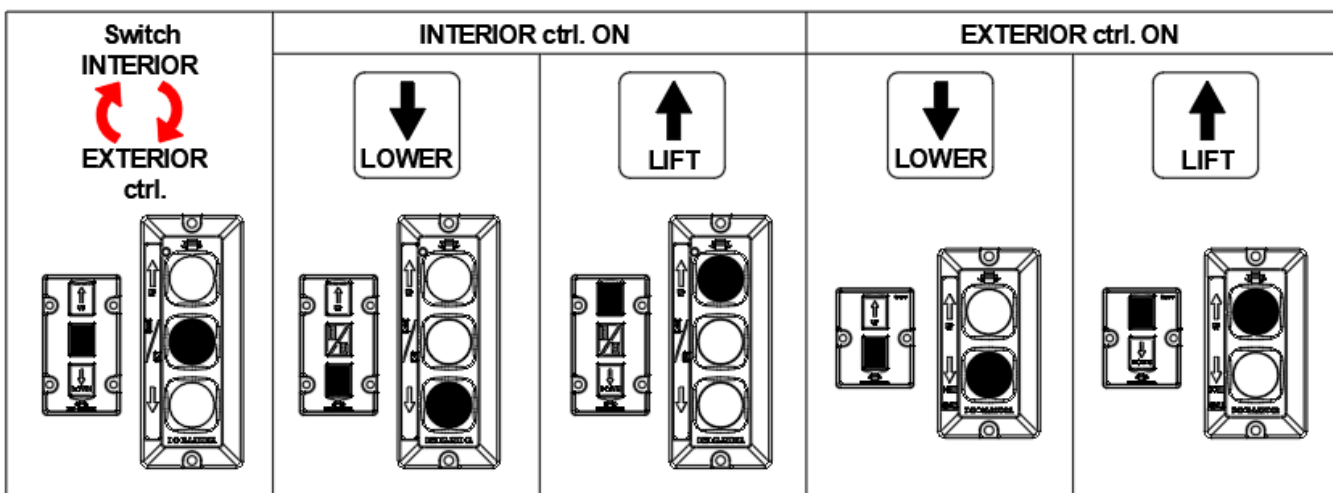
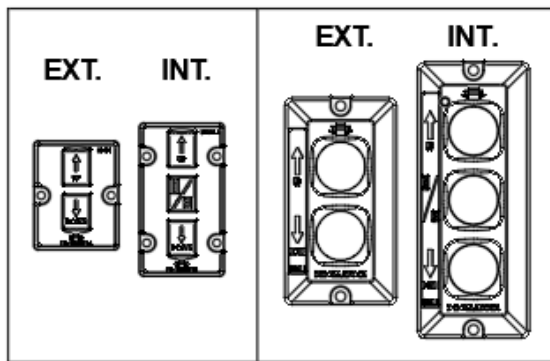


2-button internal controls plus change-over switch [ref. OAE008]



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





⚠ WARNING



- Handheld 3-button or 4-button controls, enabling the operator to OPEN and CLOSE the platform, can be operated from an unsafe operator position (see 7.3 from page 28 onwards).
- If used from an unsafe operator position, the use of such handheld controls will put the operator at great risk of serious bodily injury and death. To prevent these risks:
 - NEVER OPEN the platform while standing behind or in the range of motion of the platform.
 - NEVER CLOSE the platform, while standing close to the crushing zone between the closing platform and the rear frame of the vehicle body.
 - Only use the handheld 3-button or 4-button controls with extreme caution.
- DHOLLANDIA strongly discourages the use of handheld 3-button or 4-button controls. They should only be used after adequate risk analysis by the vehicle owner or his authorized occupational health and safety manager, and under guidance of safe work practices issued by them.

9.4 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, or a combination of both.

Cabin switch



If equipped with option OAE503.1:

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

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

If the tail lift is equipped with a platform position sensor [option OVE221] and a dual function cabin switch [option OAE503.2], the indicator light can be configured to switch on if platform is not closed in its travel position.

Main battery disconnect switch



Turn clockwise to switch battery power ON

Turn counter-clockwise to switch battery power OFF

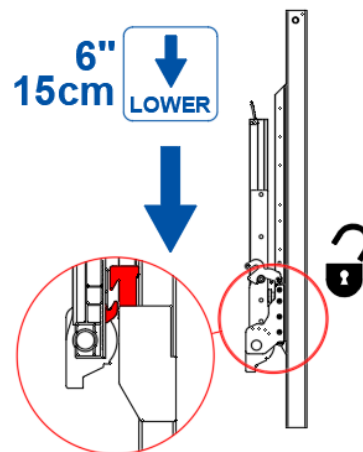
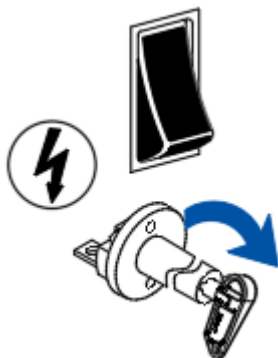
NOTICE

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 in use.

9.5 OPERATION OF COLUMN LIFTS DH-VO.07.K1 WITH MANUAL CLOSURE

- 9.2 - 9.3 above explain how each of the functions LOWER - LIFT are activated via the various types of controls. This section explains in which sequence the DH-VO.07.K1 must be operated, and which steps must be followed.
- The images shown refer to instruction decal ref. EF0590.EN, usually affixed to the side of the vehicle body. See also section 10 from page 69 onwards.

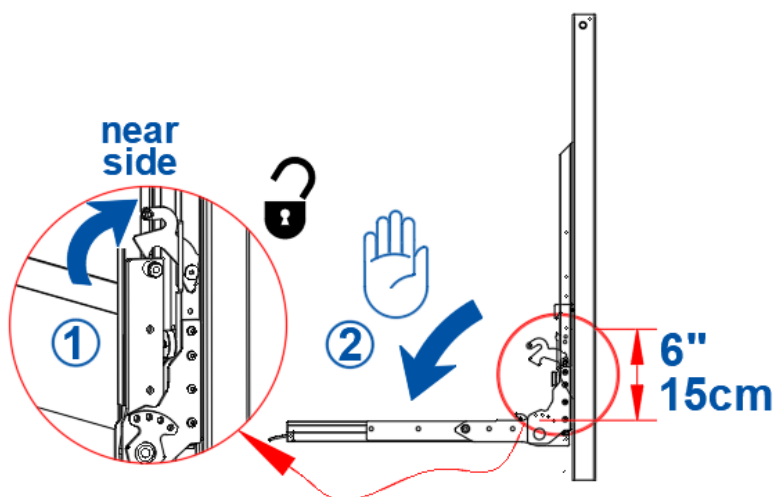
Opening the platform



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 in the external control box, or both if both are available).

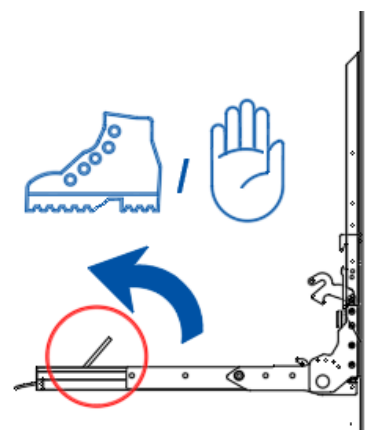
LOWER the platform approx. 15 cm to disengage the stow lock at the off-side.



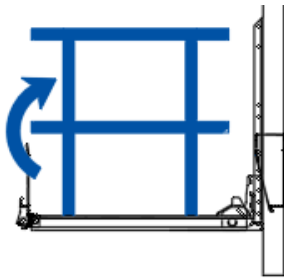
ALWAYS stand on the ground at the side of the platform, when opening it.

1. Raise the lever of the platform lock at the basis of the lift runner.
2. Manually OPEN the platform to the 90° open position.

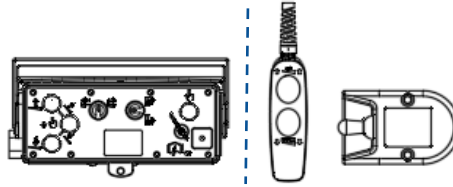
For DH-VO.07.K1 with foldable platform or retention ramps: push the platform down firmly, to ensure that the platform lock now locks the platform down in the open work position.



If so equipped, deploy the roll stops or retention ramps. The roll stops are operated by foot; the retention ramp by hand.

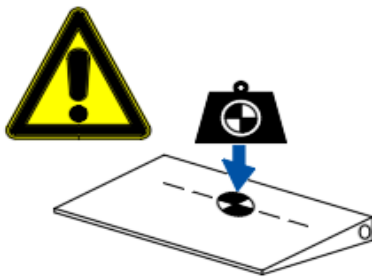


If the tail lift is equipped with guard rails, raise and lock them into vertical position (unless they are unfolding automatically).

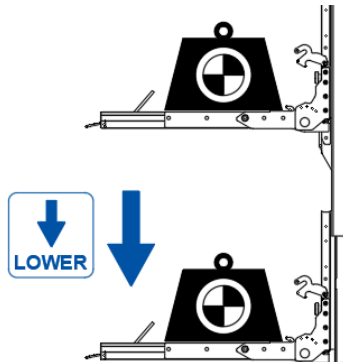


Select between main external control box or auxiliary control to continue [see from 9.2 – 9.3 from page 46 onwards].

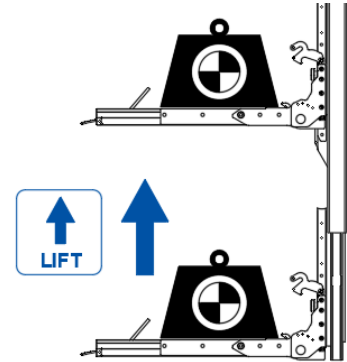
Loading and unloading



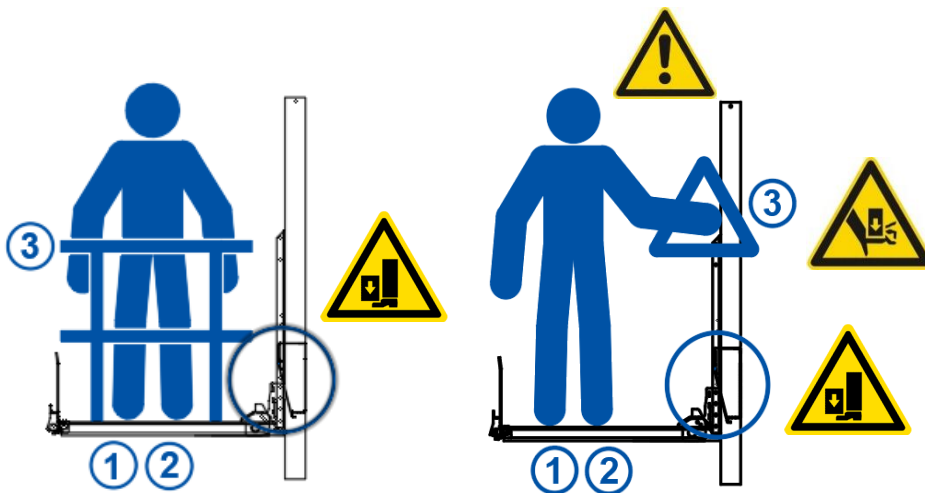
Make sure you comply with load charts and instructions at all times.



LOWER the platform to the ground.



LIFT the platform off the ground. At the vehicle floor, continue to press LIFT until you hear the hydraulic system go in overpressure. Then, release the controls.



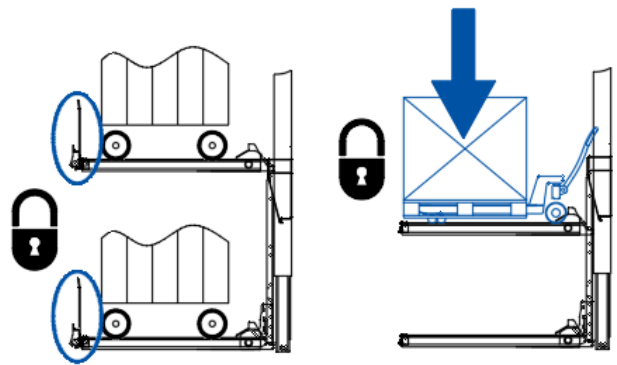
If the tail lift is equipped with guard rails, ALWAYS deploy the guard rails before operating the tail lift, and use these rails as 3rd point of contact.

When riding on the platform, make sure you stand min. 25 cm away from the inboard platform edge, make sure your footing is solid, and ALWAYS maintain 2 feet on the platform surface [see 7.5 from page 33 onwards].

When reaching out your hand for a 3rd point of contact, ALWAYS stay clear of the open lift columns and the moving lift runner, chains or cables, and pulleys.

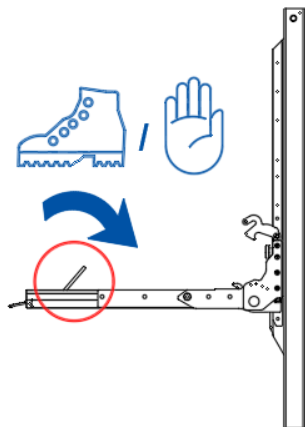


NEVER pull the load from the vehicle onto the platform. ALWAYS push it out. Pulling the load from the vehicle can result in a fall from the platform and cause serious injury or death.

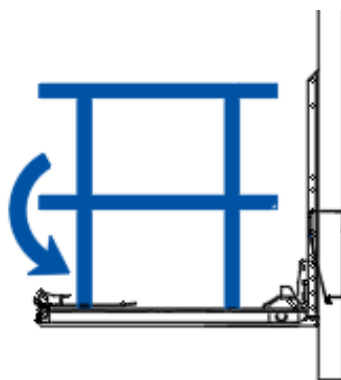


Before lifting or lowering loads, make sure the loads are secured on the platform surface. Deploy the roll stops or retention ramps (if so equipped), lower loads on a pallet jack down on the platform surface or immobilize the load via equivalent securement device.

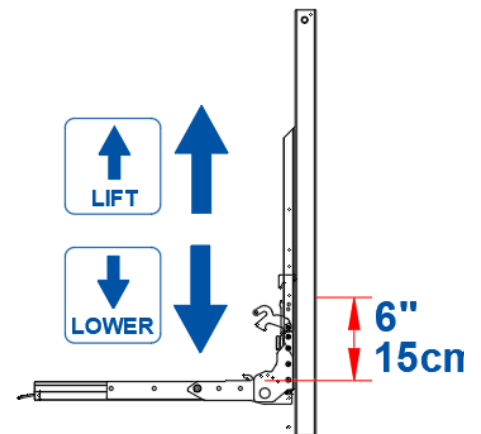
Closing up in travel position



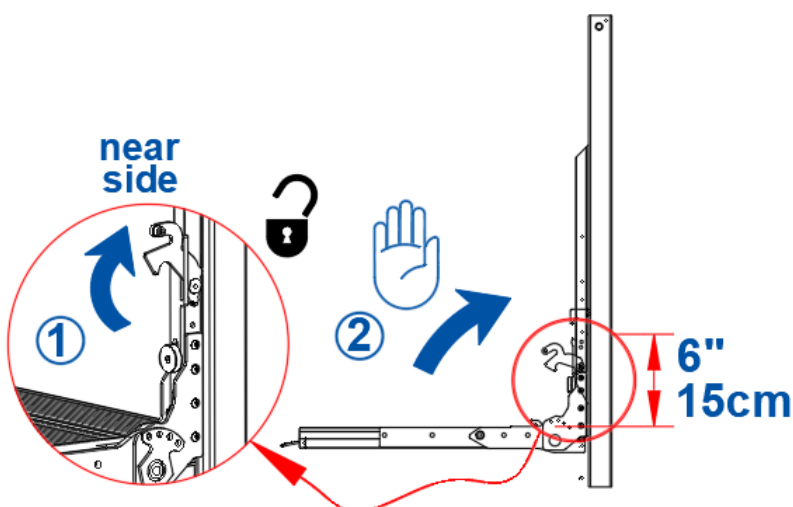
If so equipped, stow the roll stops or retention ramps. The roll stops are operated by foot; the retention ramp by hand.



If the tail lift is equipped with guard rails, stow and lock them in their travel position (unless they are folding automatically).

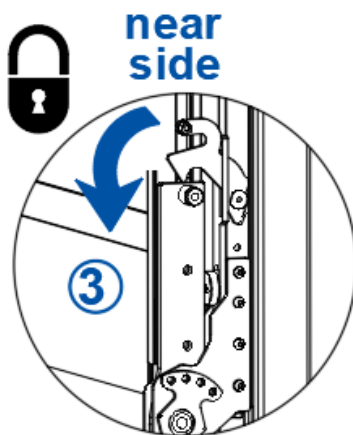


Depending on the start position, LOWER or LIFT the platform to approx. 15 cm below the vehicle floor level.

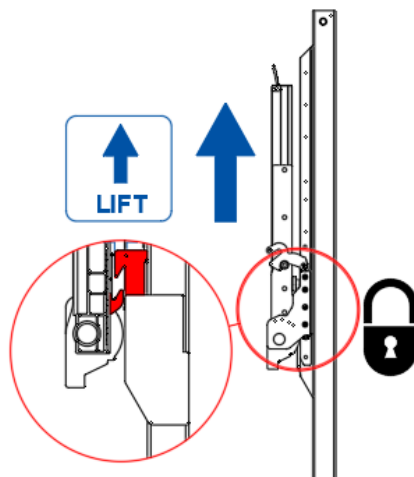


ALWAYS stand on the ground at the side of the platform when closing it.

1. For DH-VO.07.K1 with foldable platform or retention ramps: push the platform down firmly to release the tension from the platform lock at the basis of the lift runner. Then raise its lever.
2. Manually close the platform further into the vertical position.

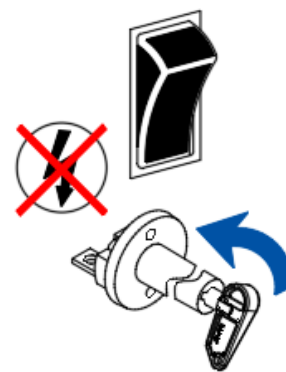


After manually closing the platform, make sure to re-engage the platform lock, and lock the platform in closed position.



LIFT the closed platform up to the vehicle floor to stow it in its travel position and engage the stow lock.

Continue to press LIFT until you hear the hydraulic system go in overpressure. Then, release the controls.



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 operator **MUST** stand on the side of the platform and keep head, limbs and upper body clear of hazardous space between the platform and the lift columns, while stowing the platform in its travel position.
- At any time during the operation, release the activated button(s) to stop the platform from moving. Additionally, if so equipped, turning the main battery disconnect switch counter-clockwise will switch off electrical power to the tail lift.

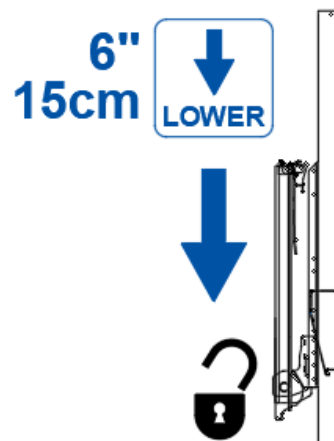
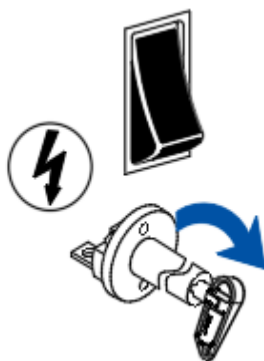
NOTICE

- The DH-VO*K1 is equipped with a stow lock that is automatically engaged when the closed platform is LIFTED up and pressurized against the underside of the cylinder beam.
- DO NOT try to OPEN or CLOSE the platform while it stands at its maximum level. To OPEN or CLOSE the platform, it must be LOWERED minimum 15 cm below the underside of the cylinder beam.

9.6 OPERATION OF THE OTHER COLUMN LIFTS WITH MANUAL CLOSURE

- 9.2 - 9.3 above explain how each of the functions LOWER - LIFT are activated via the various types of controls. This section explains in which sequence the column lifts with manual closure must be operated, and which steps must be followed.
- The images shown refer to instruction decal ref. EF0591.EN, usually affixed to the side of the vehicle body. See also section 10 from page 69 onwards.

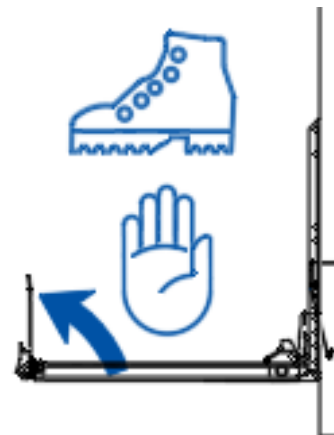
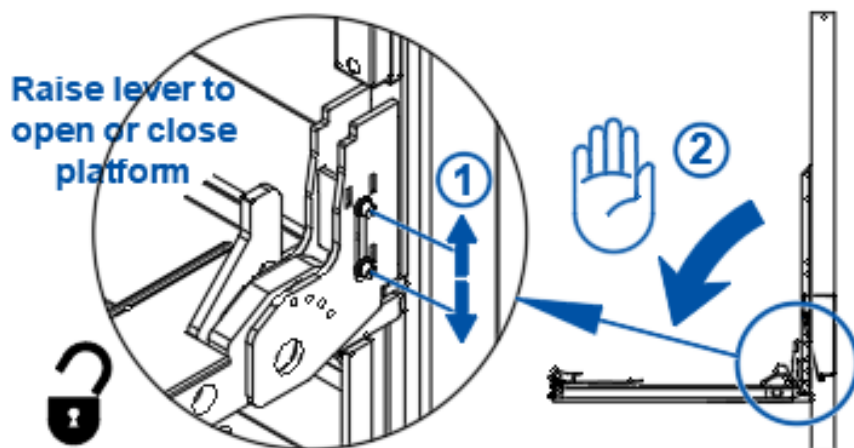
Opening the platform



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 in the external control box, or both if both are available).

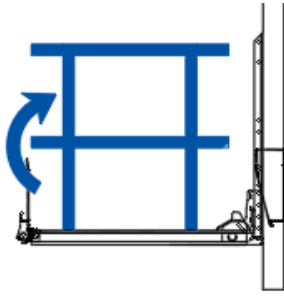
LOWER the platform approx. 15 cm to disengage the stow lock.



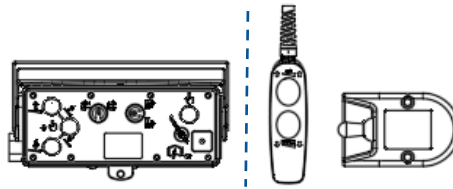
ALWAYS stand on the ground at the side of the platform, when opening it.

1. Raise the lever of the platform lock at the basis of the lift runner.
2. Manually OPEN the platform to the 90° open position. Push the platform down firmly, to ensure that the platform lock now locks the platform down in the open work position.

If so equipped, deploy the roll stops or retention ramps. The roll stops are operated by foot; the retention ramp by hand.

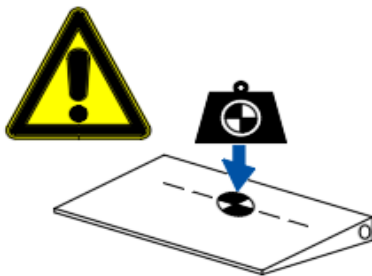


If the tail lift is equipped with guard rails, raise and lock them into vertical position (unless they are unfolding automatically).

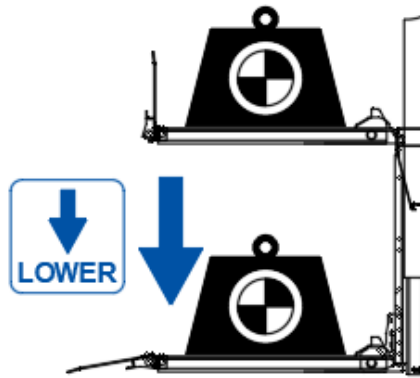


Select between main external control box or auxiliary control to continue [see from 9.2 – 9.3 from page 46 onwards].

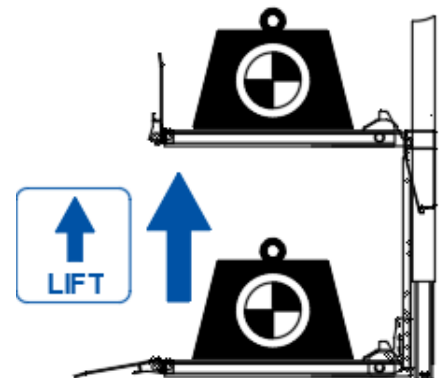
Loading and unloading



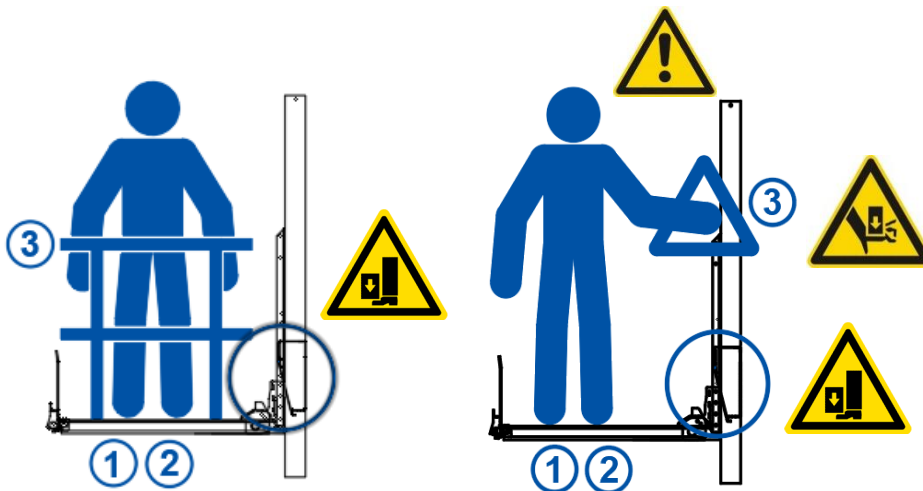
Make sure you comply with load charts and instructions at all times.



LOWER the platform to the ground.



LIFT the platform off the ground. At the vehicle floor, continue to press LIFT until you hear the hydraulic system go in overpressure. Then, release the controls.



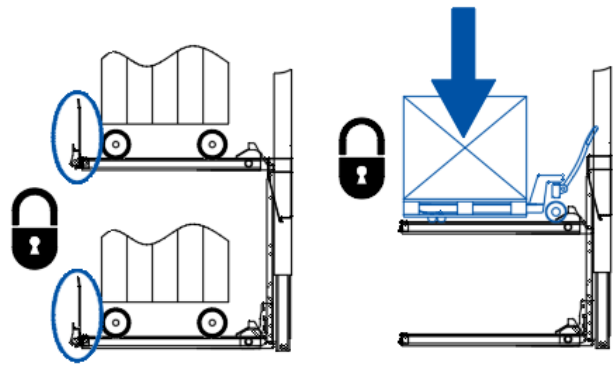
If the tail lift is equipped with guard rails, ALWAYS deploy the guard rails before operating the tail lift, and use these rails as 3rd point of contact.

When riding on the platform, make sure you stand min. 25 cm away from the inboard platform edge, make sure your footing is solid, and ALWAYS maintain 2 feet on the platform surface [see 7.5 from page 33 onwards].

When reaching out your hand for a 3rd point of contact, ALWAYS stay clear of the open lift columns and the moving lift runner, chains or cables, and pulleys.

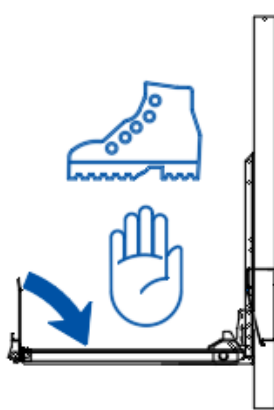


NEVER pull the load from the vehicle onto the platform. ALWAYS push it out. Pulling the load from the vehicle can result in a fall from the platform and cause serious injury or death.

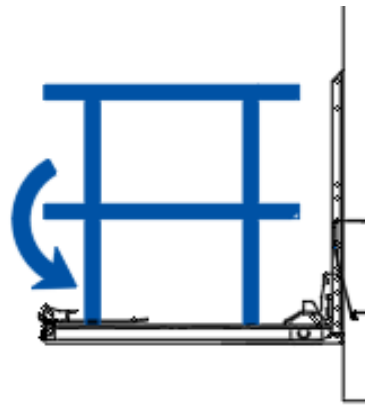


Before lifting or lowering loads, make sure the loads are secured on the platform surface. Deploy the roll stops or retention ramps (if so equipped), lower loads on a pallet jack down on the platform surface or immobilize the load via equivalent securement device.

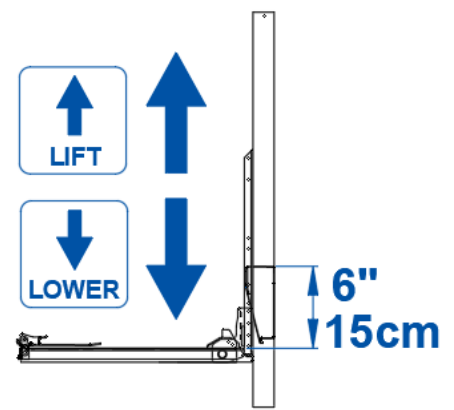
Closing up in travel position



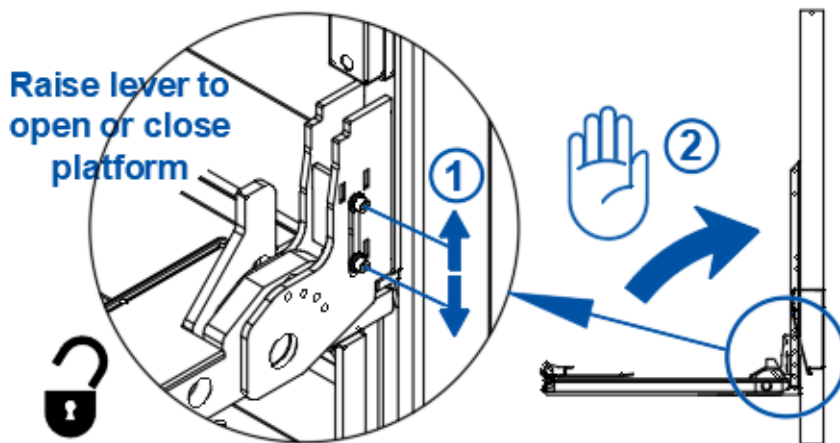
If so equipped, stow the roll stops or retention ramps. The roll stops are operated by foot; the retention ramp by hand.



If the tail lift is equipped with guard rails, stow and lock them in their travel position (unless they are folding automatically).

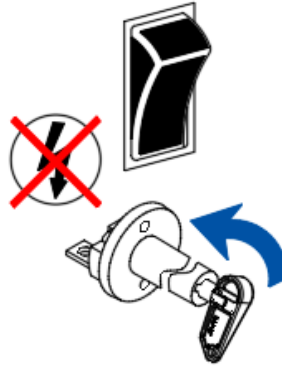


Depending on the start position, LOWER or LIFT the platform to approx. 15 cm below the vehicle floor level.



ALWAYS stand on the ground at the side of the platform when closing it.

1. Push the platform down firmly to release the tension from the platform lock at the basis of the lift runner. Then raise its lever.
2. Manually close the platform into vertical position, with assistance of the torsion bars inside the platform.



LIFT the closed platform up to the vehicle floor to stow it in its travel position and engage the stow lock.

Continue to press LIFT until you hear the hydraulic system go in overpressure. Then, release the controls.

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.

Most column lifts are equipped with a device that shut closes the platform tight against the lift columns, after it was tilted in the vertical position and while it is lifted in its travel position.

Therefore, while stowing the platform in its travel position, ALWAYS stand with both feet on the ground on a free-standing, 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 lift columns.

| ! WARNING | |
|------------------|--|
| | <p>When stowing platform in travel position, platform will automatically shut close at the end of its vertical travel.</p> <p>ALWAYS stand on the side of the vehicle, and stay clear of the platform area.</p> <p>ALWAYS keep head, limbs and body clear of pinch points.</p> |

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- The operator **MUST** stand on the side of the platform and keep head, limbs and upper body clear of hazardous space between the platform and the lift columns, while stowing the platform in its travel position.
- At any time during the operation, release the activated button(s) to stop the platform from moving. Additionally, if so equipped, turning the main battery disconnect switch counter-clockwise will switch off electrical power to the tail lift.

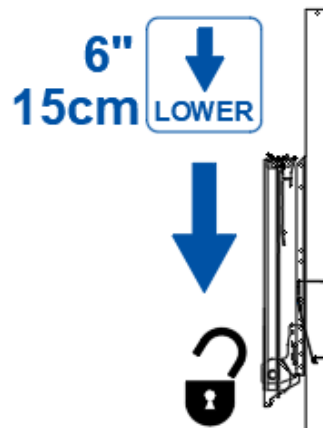
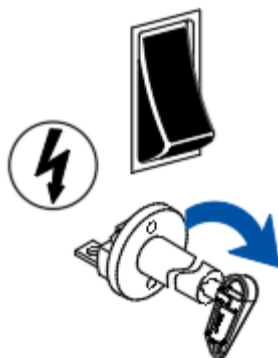
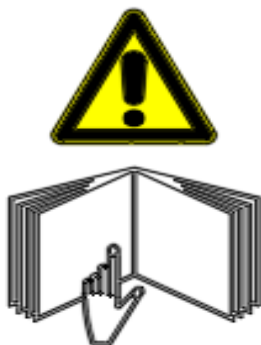
NOTICE

- These column lifts are equipped with a stow lock that is automatically engaged when the closed platform is LIFTED up and pressurized against the underside of the cylinder beam.
- DO NOT try to OPEN or CLOSE the platform while it stands at its maximum level. To OPEN or CLOSE the platform, it must be LOWERED minimum 15 cm below the underside of the cylinder beam.

9.7 OPERATION OF COLUMN LIFTS WITH HYDRAULIC CLOSURE [OVH004 OR OVH011]

- 9.2 - 9.3 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 column lifts with hydraulic closure must be operated, and which steps must be followed.
- The images shown refer to instruction decal ref. EF0592.EN, usually affixed to the side of the vehicle body. See also section 10 from page 69 onwards.

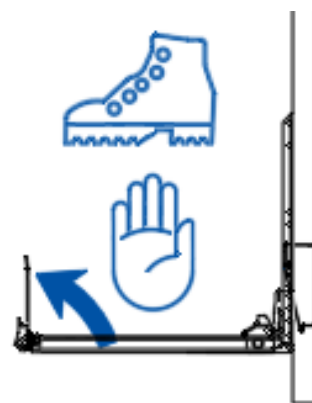
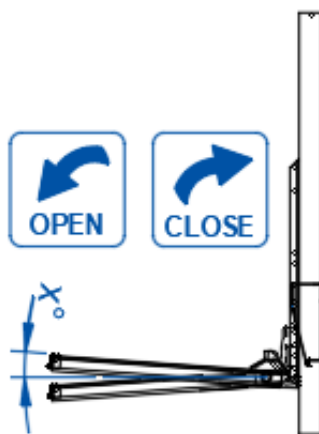
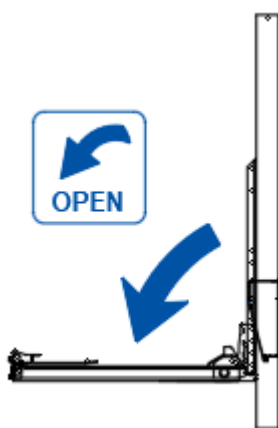
Opening the platform



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 in the external control box, or both if both are available).

LOWER the platform approx. 15 cm to disengage the stow lock.

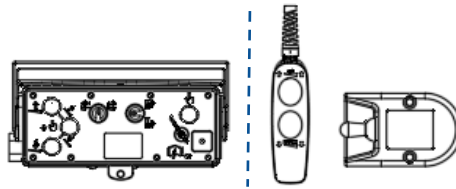
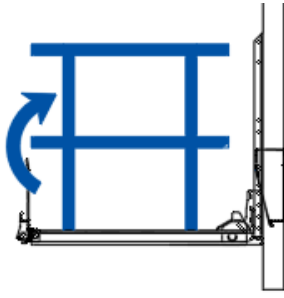


OPEN the platform to the horizontal work position. If the tail lift is equipped with 1 tilt cylinder only [ref. OVH004], press OPEN until the platform lands and stops in its preset horizontal position.

If the tail lift is equipped with 2 tilt cylinders [ref. OVH011], press OPEN until the platform lands in horizontal position.

OPEN or CLOSE the platform few degrees down or up to adjust the orientation of the platform to the slope of the ground.

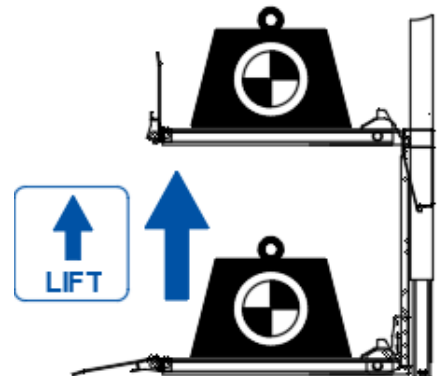
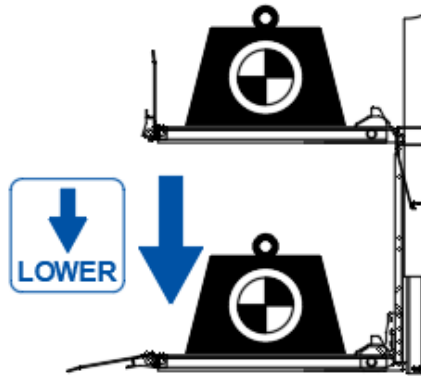
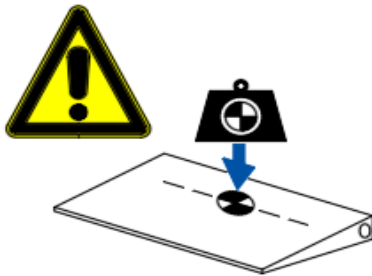
If so equipped, deploy the roll stops or retention ramps. The roll stops are operated by foot; the retention ramp by hand.



If the tail lift is equipped with guard rails, raise and lock them into vertical position (unless they are unfolding automatically).

Select between main external control box or auxiliary control to continue [see 9.2 – 9.3 from page 46 onwards].

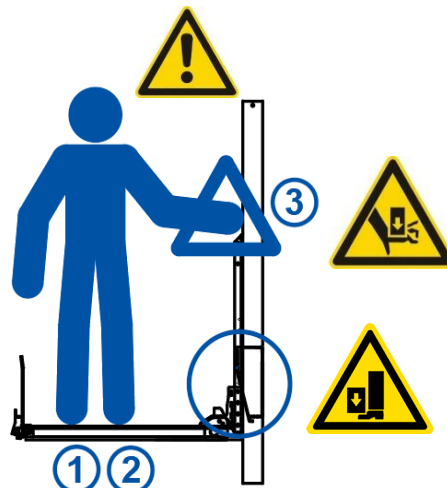
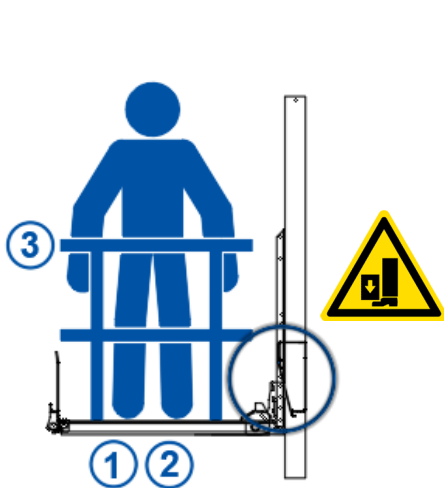
Loading and unloading



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

LOWER the platform to the ground.

LIFT the platform off the ground. At the vehicle floor, continue to press LIFT until you hear the hydraulic system go in overpressure. Then, release the controls.



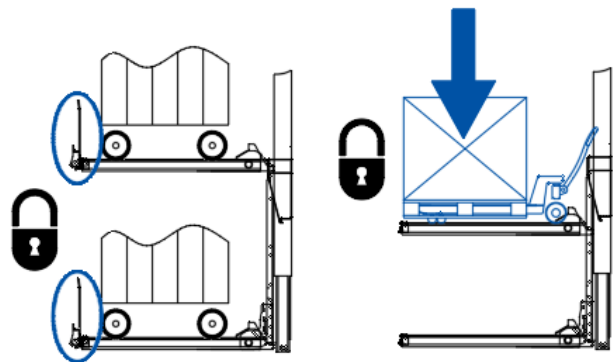
If the tail lift is equipped with guard rails, ALWAYS deploy the guard rails before operating the tail lift, and use these rails as 3rd point of contact.

When riding on the platform, make sure you stand min. 25 cm away from the inboard platform edge, make sure your footing is solid, and ALWAYS maintain 2 feet on the platform surface [see 7.5 from page 33 onwards].

When reaching out your hand for a 3rd point of contact, ALWAYS stay clear of the open lift columns and the moving lift runner, chains or cables, and pulleys.

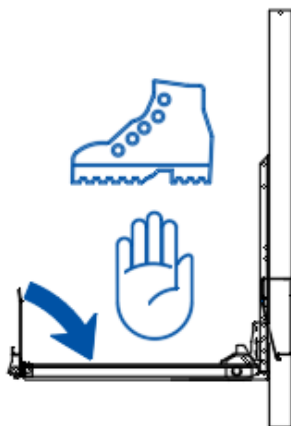


NEVER pull the load from the vehicle onto the platform. ALWAYS push it out. Pulling the load from the vehicle can result in a fall from the platform and cause serious injury or death.

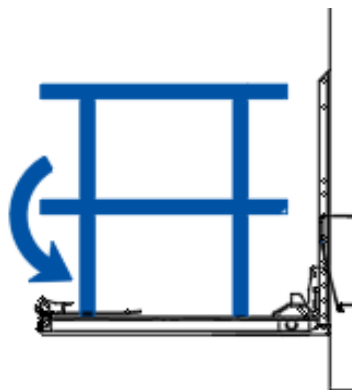


Before lifting or lowering loads, make sure the loads are secured on the platform surface. Deploy the platform roll stops (if so equipped), lower loads on a pallet jack down on the platform surface or immobilize the load via equivalent securement device.

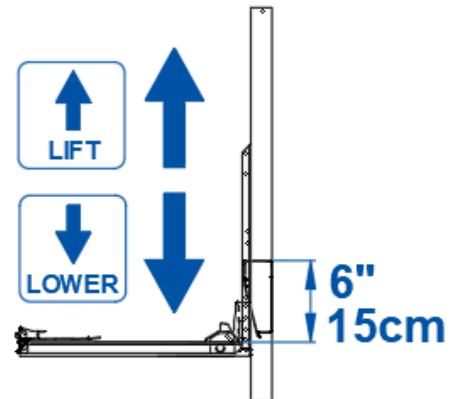
Closing up in travel position



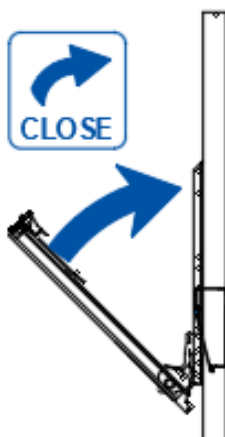
If so equipped, stow the roll stops or retention ramps. The roll stops are operated by foot; the retention ramp by hand.



If the tail lift is equipped with guard rails, stow and lock them in their travel position (unless they are folding automatically).



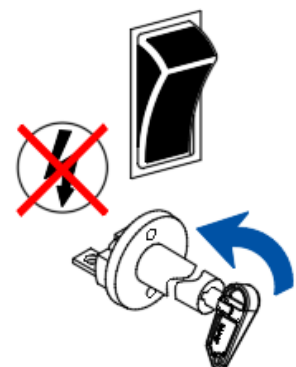
Depending on the start position, LOWER or LIFT the platform to approx. 15 cm below the vehicle floor level.



CLOSE the platform. Continue to press CLOSE until you hear the hydraulic system go in overpressure. Then, release the controls.



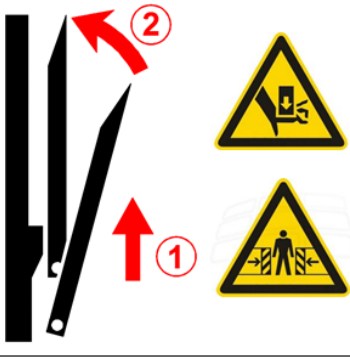
LIFT the closed platform until you hear the hydraulic system go in overpressure. Then release the controls. The stow lock is now engaged.



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.

Most column lifts are equipped with a device that shut closes the platform tight against the lift columns, after it was tilted in the vertical position and while it is lifted in its travel position.

Therefore, while stowing the platform in its travel position, ALWAYS stand with both feet on the ground on a free-standing, 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 lift columns.

| ⚠ WARNING | |
|--|--|
|  | <p>When stowing platform in travel position, platform will automatically shut close at the end of its vertical travel.</p> <p>ALWAYS stand on the side of the vehicle, and stay clear of the platform area.</p> <p>ALWAYS keep head, limbs and body clear of pinch points.</p> |

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- The operator **MUST** stand on the side of the platform and keep head, limbs and upper body clear of hazardous space between the platform and the lift columns, while stowing the platform in its travel position.
- At any time during the operation, release the activated button(s) to stop the platform from moving. Additionally, if so equipped, turning the main battery disconnect switch counter-clockwise will switch off electrical power to the tail lift.

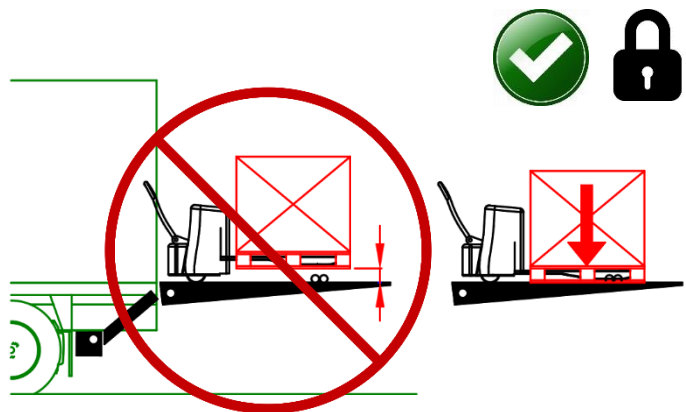
| NOTICE |
|---|
| <ul style="list-style-type: none">• These column lifts are equipped with a stow lock that is automatically engaged when the closed platform is LIFTED up and pressurized against the underside of the cylinder beam.• DO NOT try to OPEN or CLOSE the platform while it stands at its maximum level. To OPEN or CLOSE the platform, it must be LOWERED minimum 15 cm below the underside of the cylinder beam. |

9.8 THE USE OF ROLL STOPS

WARNING

- 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.



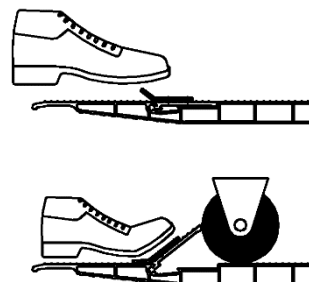
- Consult the DHOLLANDIA website to view operation videos on the various types of roll stop systems

<http://dhollandia.com/GB/en/101/Movies#/cat/0>

www.dhollandia.com → Country & language selection → Videos → General → Roll-stop systems

OAP100.M = Manual roll stops, operated by springs

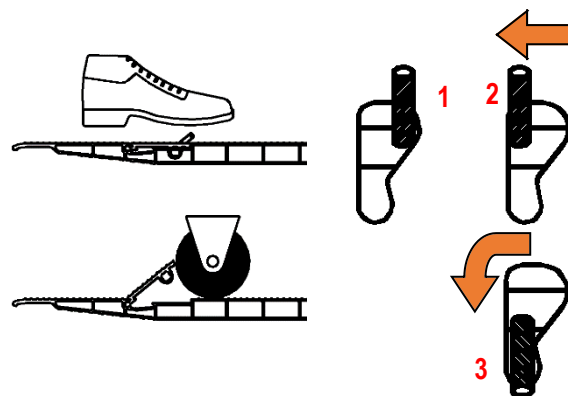
| | |
|-------|---|
| OPEN | Press the lever on the side of the roll stop flap. |
| CLOSE | Step on the roll stop flap. When driving a load from the ground onto the platform, the roll stop will automatically close. |



OAP100.A = Automatic roll stops, operated by springs.

Roll stop flap opens to 40°.

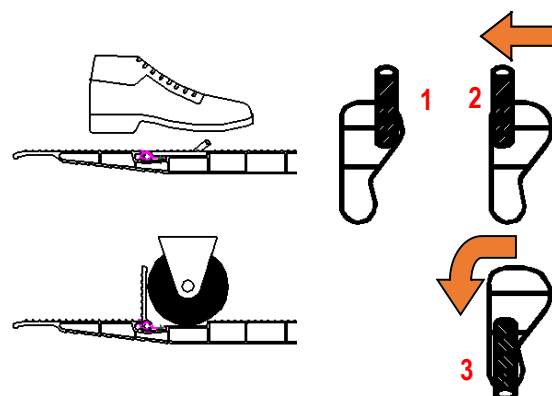
| | |
|------------------------|---|
| OPEN MANUAL MODE | Kick the lever on the side of the roll stop flap sideways from position 1 to position 2. The roll stop will now function as a manual roll stop OAP100.M. When stepping on the roll stop flap, or when driving a load from the ground onto the platform, 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 automatic 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. |



OAP100.VA = Vertical roll stops, operated by springs.

Roll stop flap opens to 90°.

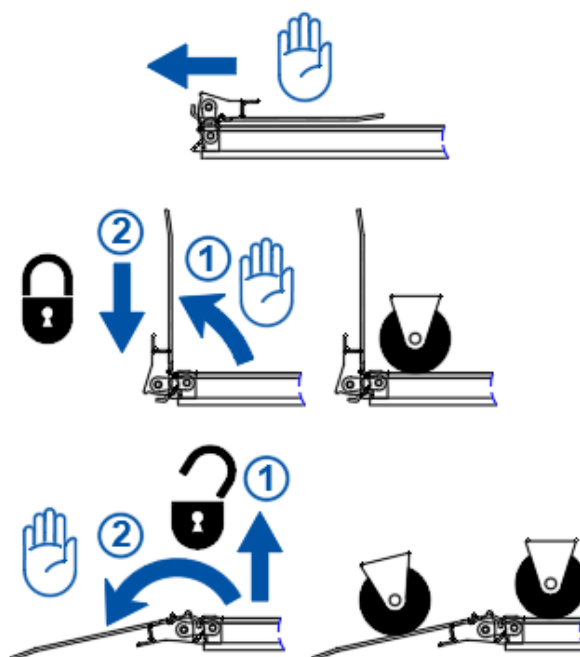
| | |
|------------------------|---|
| OPEN MANUAL MODE | Kick the lever on the side of the roll stop flap sideways from position 1 to position 2. The roll stop will now function as a manual roll stop OAP100.M. When stepping on the roll stop flap, or when driving load from the ground onto the platform, the roll stop will automatically close. |
| OPEN 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 automatic 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. |



OVP120.S.R / OVP120.A.R = Rear or outboard retention ramps in steel or aluminium

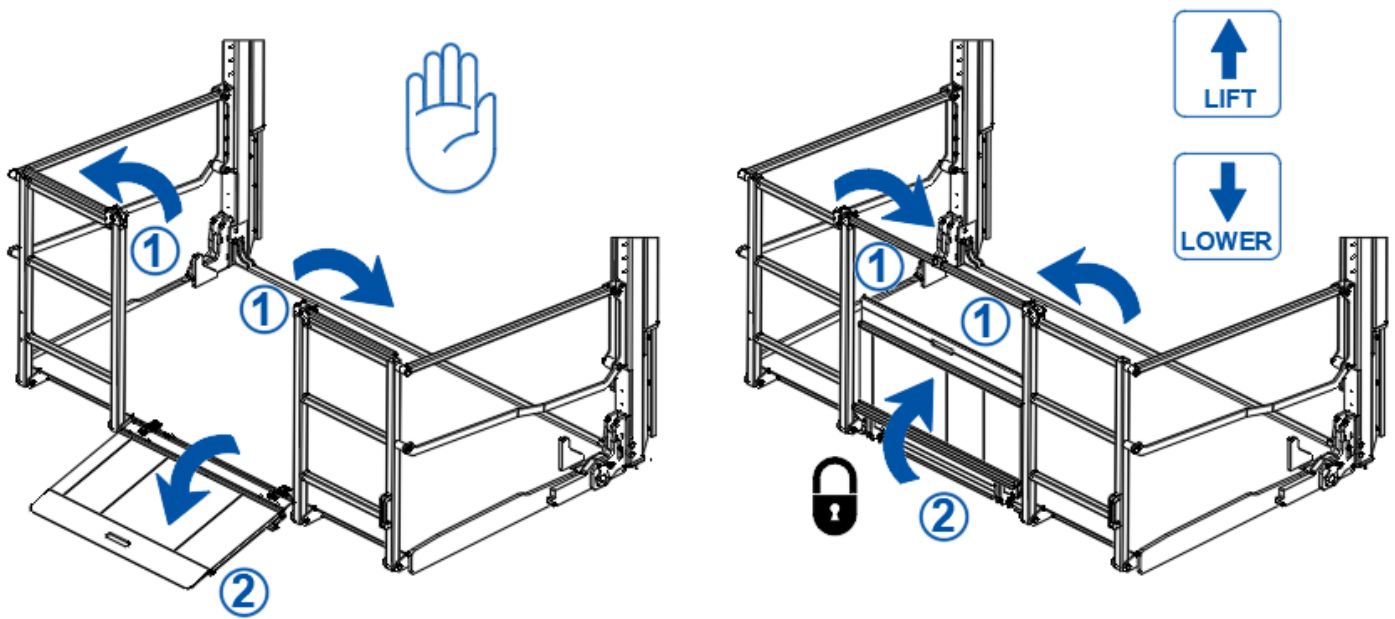
OVP120.S.S / OVP120.S.R = Side mounted retention ramps in steel or aluminium

| | |
|-------|---|
| OPEN | <p>Pull the rear side of the ramp towards you.</p> <p>Then raise the ramp in 90° vertical position and drop it down to lock.</p> |
| RAMP | <p>Raise the ramp to unlock.</p> <p>Swing it open towards the rear, and lay it open on the ground in ramp position.</p> |
| CLOSE | <p>Raise the ramp.</p> <p>Swing it forward over 180° to lay it back onto the platform surface.</p> <p>The ramp will automatically lock when the platform is closed.</p> |



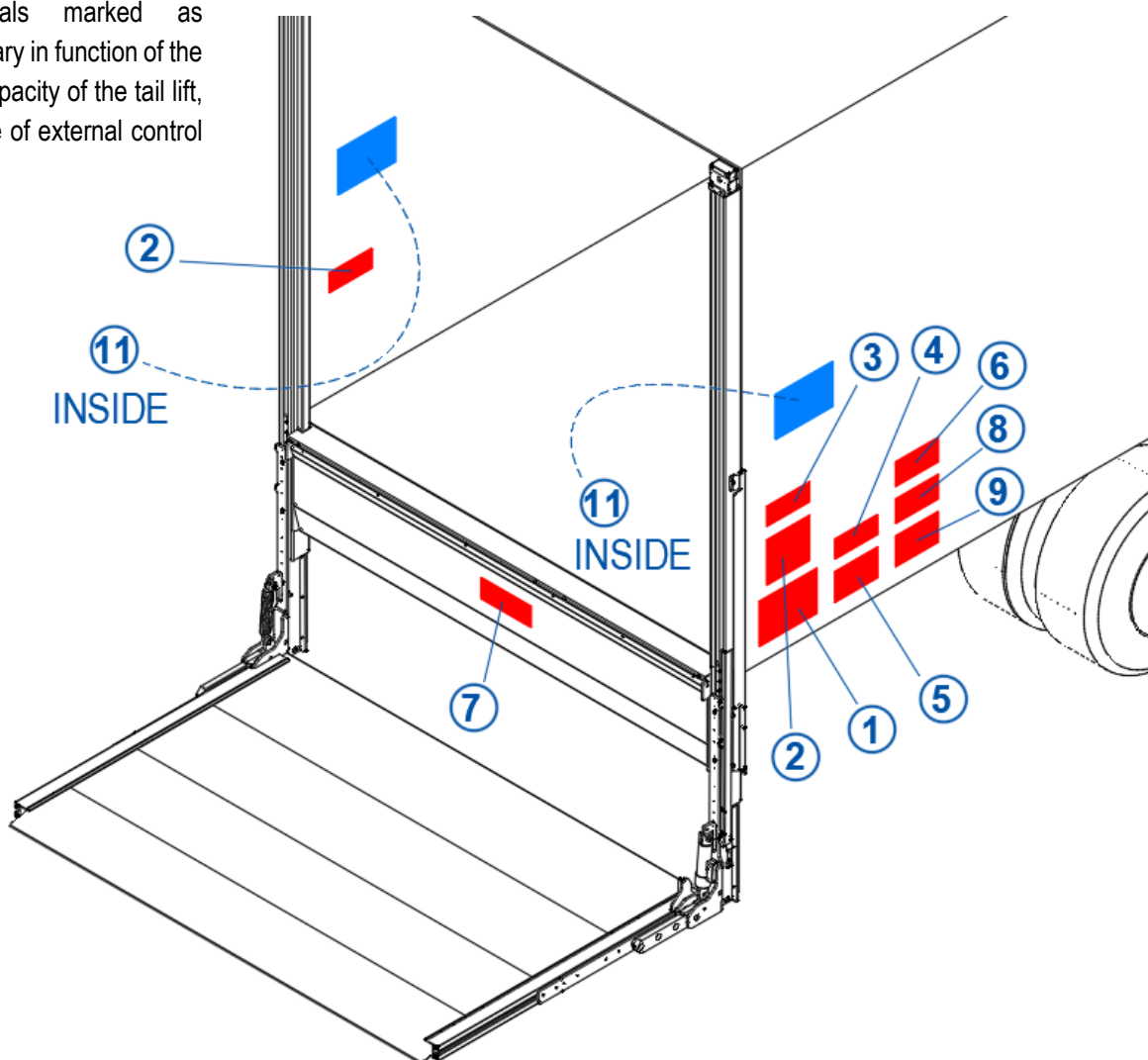
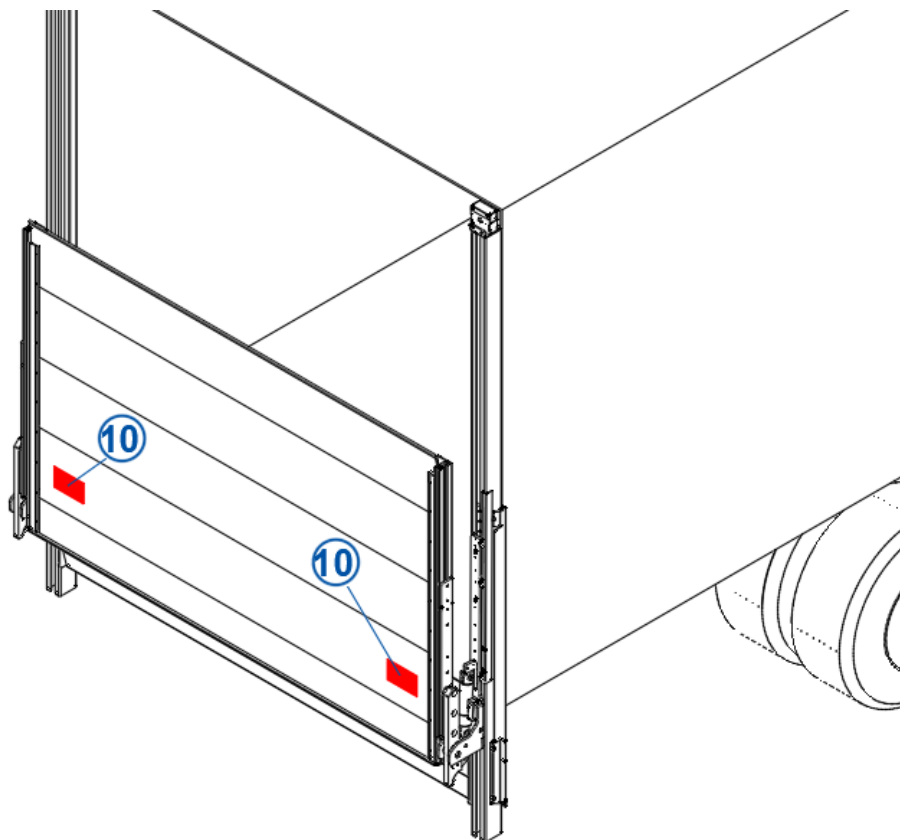
Note:

- The dedicated gas bottle lifts DH-VOG.15.K1 and DH-VHG.15.H1 are equipped with 1 single central retention ramp (*), operated as explained above. [See also 6.1 from page 5 onwards].
(*) option references OVP120.A.M for an aluminium ramp or OVP120.S.M for a steel ramp
- The guard rails on the gas bottle lifts can be equipped with an additional central fall protection [option OVP311]. [see also 6.1 from page 5 onwards].
 - Manually open the central fall protection [1] on left and right side, and fold down the central retention ramp [2] to load and unload the platform at the ground.
 - Manual close the central retention ramp [2] and the central fall protection [1] on left and right side, prior to LIFTING and LOWERING.
 - At the vehicle floor, keep the central fall protection [1] and the central retention ramp [2] closed while moving gas bottles from the platform to the vehicle floor and vice versa.



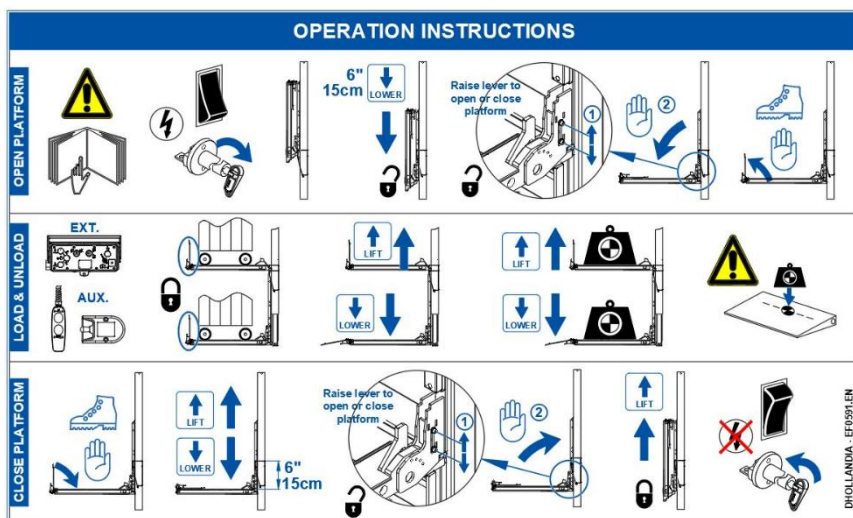
10 DECALS

- 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.

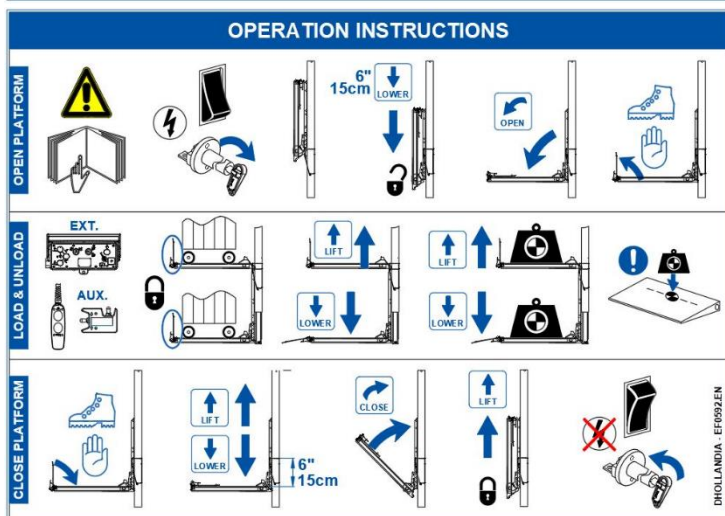


See table

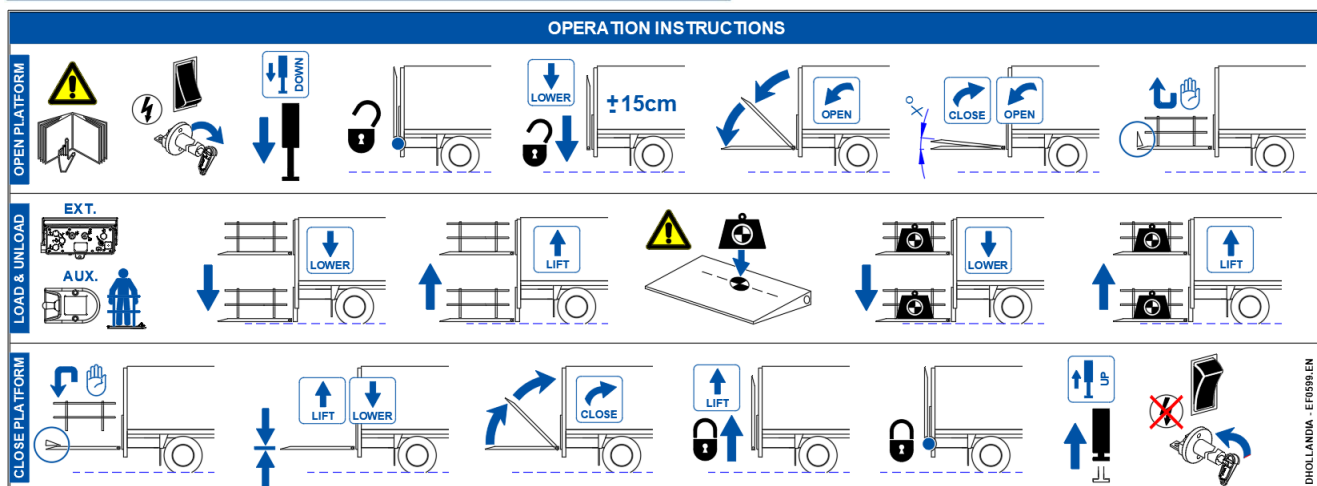
| Type | Lift capacity | Closure | Decal n° |
|---|---------------|---------------------------------|-----------|
| DH-VO.07.K1 | 500-750 kg | Manual | EF0590.EN |
| DH-VO.07.K9 - DH-VO.10* - DH-VO.15* DH-VO.20* - DH-VH.15* - DH-VB.15 | 500-2000 kg | Manual | EF0591.EN |
| DH-VO.10* - DH-VO.15* - DH-VO.20* DH-VH.15* - DH-VB.15 | 750-2000 kg | Hydr. 1 tilt cylinder = OVH004 | EF0592.EN |
| DH-VO.15* - DH-VO.20* - DH-VH.15* | 1500-2000 kg | Hydr. 2 tilt cylinders = OVH011 | EF0599.EN |

1
EF0591.EN

EF0592.EN



EF0599.EN



2 EF0583.VO15K9.EN

⚠ WARNING

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

Work in Progress

LM

DHOLLANDIA • EF0583.LM.EN

3 EF0565.EN

⚠ WARNING - SAFETY INSTRUCTIONS

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

Negligence or ignorance can put the operator and third parties at great risk.

- Do not use liftgate unless you have been properly trained and instructed, you have read and you understand the full operating instructions.
- Wear appropriate working clothes, incl. footwear with steel toe caps and a good non-slip sole, and wear protective gloves.
- Ensure the vehicle is safely parked and braked before using the liftgate.
- Where applicable, refer to the site's specific risk assessment, and follow the local work & safety instructions.
- Always inspect if liftgate can be used safely before using it. Do not use liftgate if there are signs of bad maintenance, abnormal wear or damage, or if the platform surface is slippery. Do not attempt to repair liftgate yourself, unless you have been trained and authorized to do so.
- Do not overload. Observe the maximum rated capacity and load charts.
- 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.
- 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.
- Beware of finger and toe traps at all times. When riding platform, stand at safe distance of min. 10" from the inboard edge of the platform adjacent to the rear sill of the vehicle body.
- It is prohibited for anyone other than the operator to travel on the platform.
- Liftgate is intended for loading and unloading cargo only. Do not use liftgate for anything else but its intended use.
- Make sure platform is clearly visible from all approach directions (by means of flashing platform lights, platform flags, traffic cones, etc...) and that the working zone is sufficiently illuminated.

4 EF0570+Capacity

MAX. 1500 kg

EXAMPLE

EF0570.01500

5 EF0585+Serial nr.

MAX. xxxx kg

| | | | |
|---------|---------|---------|---------|
| Max. mm | 1500 mm | 1000 mm | 0 mm |
| 0 kg | yyyy kg | xxxx kg | xxxx kg |

EXAMPLE
 1701 5500
 DH-LM.30
 DHOLLANDIA xxxx kg

DHOLLANDIA • EF0585.LM.EN

6 EF0564.EN

PLATFORM LOADING INSTRUCTIONS

Position load as close as possible to inboard platform edge.

Position load in middle line of platform. Avoid loading on 1 side only.

Operator should stand on side of load, well clear of inboard platform edge to avoid crushing feet.

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

DHOLLANDIA • EF0564.EN

7 EF0545

WARNING

Platform can crush. Keep feet clear from platform edge.

www.DHOLLANDIA.com

EF0545.EN

8 EF0567.EN

⚠ WARNING

When stowing platform in travel position, platform will automatically shut close at the end of its vertical travel.

ALWAYS stand on the side of the vehicle, and stay clear of the platform area.

ALWAYS keep head, limbs and body clear of pinch points.

DHOLLANDIA • EF0567.EN

9 EF0563.EN

⚠ WARNING

Liftgate hazards can result in crushing or falling. Keep hands and feet clear of pinch points. If riding liftgate, make sure load is stable and footing is solid.

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

DHOLLANDIA • EF0563.EN

10 EF0562.EN

⚠ WARNING

Always stand clear of platform area.

DHOLLANDIA • EF0562.EN
























| ⚠ WARNING | | |
|---|---|---|
| ① | ② | ③ |
| | | |
| <ul style="list-style-type: none"> Any person standing on the platform or inside the vehicle body, too close to the moving platform, risks being crushed between the moving platform and the vehicle floor, and can suffer serious bodily injury or death. To prevent injury or death by crushing or shearing: <ol style="list-style-type: none"> When standing inside the vehicle body, ALWAYS stand at a safe distance of min. 20" or 50 cm from the outboard edge of the vehicle floor. Before moving the platform, ALWAYS inspect the area UNDER and AROUND the platform. NEVER allow anybody step in or out of the vehicle body while the platform is in motion. When standing on the platform, ALWAYS stand at a safe distance of min. 10" or 25 cm from the inboard platform edge. | | |
| DHOLLANDIA • EF0594-4 EN | | |










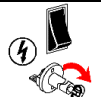



Tail lift decals used are affixed in areas, other than the rear of the vehicle:



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 | |
|---|--|
|  | Yes do this way. Correct work procedure. |
|  | Yes do this way. Correct work procedure. |
|  | No, DO NOT do this way. -Incorrect work procedure. |
|  | Position the load at the applicable center of gravity or load center. - Follow the load instructions. |
|  | Emergency stop. Will cause an immediate stop of the tail lift. |
|  | Emergency exit. Provision (lever, valve) creating an emergency exit. |
|  | Unlock. Disengage the mechanical locking system. |
|  | Lock. Engage the mechanical locking system. |
|  | Switch ON the electrical power. |
|  | Switch ON the electrical power to the tail lift via the main battery disconnect switch and / or cabin switch. |
|  | Switch OFF the electrical power. |
|  | Switch OFF the electrical power to the tail lift via the main battery disconnect switch and / or cabin switch. |
|  | This is an operation to be executed manually (as opposed to an electrical function controlled by means of one of the control units). |

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 → Country & language selection → Downloads → Checklists → ... select required manual

- All maintenance and repair work should be performed by authorized DHOLLANDIA service agents and using only authorized OEM DHOLLANDIA replacement parts.
- Consult the separate MAINTENANCE AND REPAIR MANUAL for safety instructions, maintenance guidelines, and troubleshooting support.
- 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 → Country & language selection → Downloads → Operation manuals → ... select required manual