

# LIFT-O-FLEX



MOBILE LIFTERS | CRANES | VACUUM LIFTERS

## Operator's manual

Lift-O-Flex® 20500HS PRX, 19000 PRX & 19500 PRX



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# 1 Introduction

## 1.1 Product description

Lift-O-Flex® is an ergonomically designed lifter to simplify handling, lifting and transportation of goods.

The lifter can be equipped with different types of tooling, such as load platform, probe, fork, squeeze tool, turn tool or a customized solution.

The lifting solutions are handled by the tooling on the lifter, and by pressing the level on the hand control the load carrier is adjusted to the desired height.

The lifter is powered by rechargeable batteries.

The lifter is only to be used indoors in well-lit environments on level surfaces.

In this manual the pictures of the tooling are exemplified by a generic platform.

Additional technical documentation can be ordered from the manufacturer.

## 1.2 Warranty

The warranty is valid for one (1) year from the date of delivery for defects in material and manufacturing.

For the warranty to be valid maintenance must have been carried out in accordance with this manual.

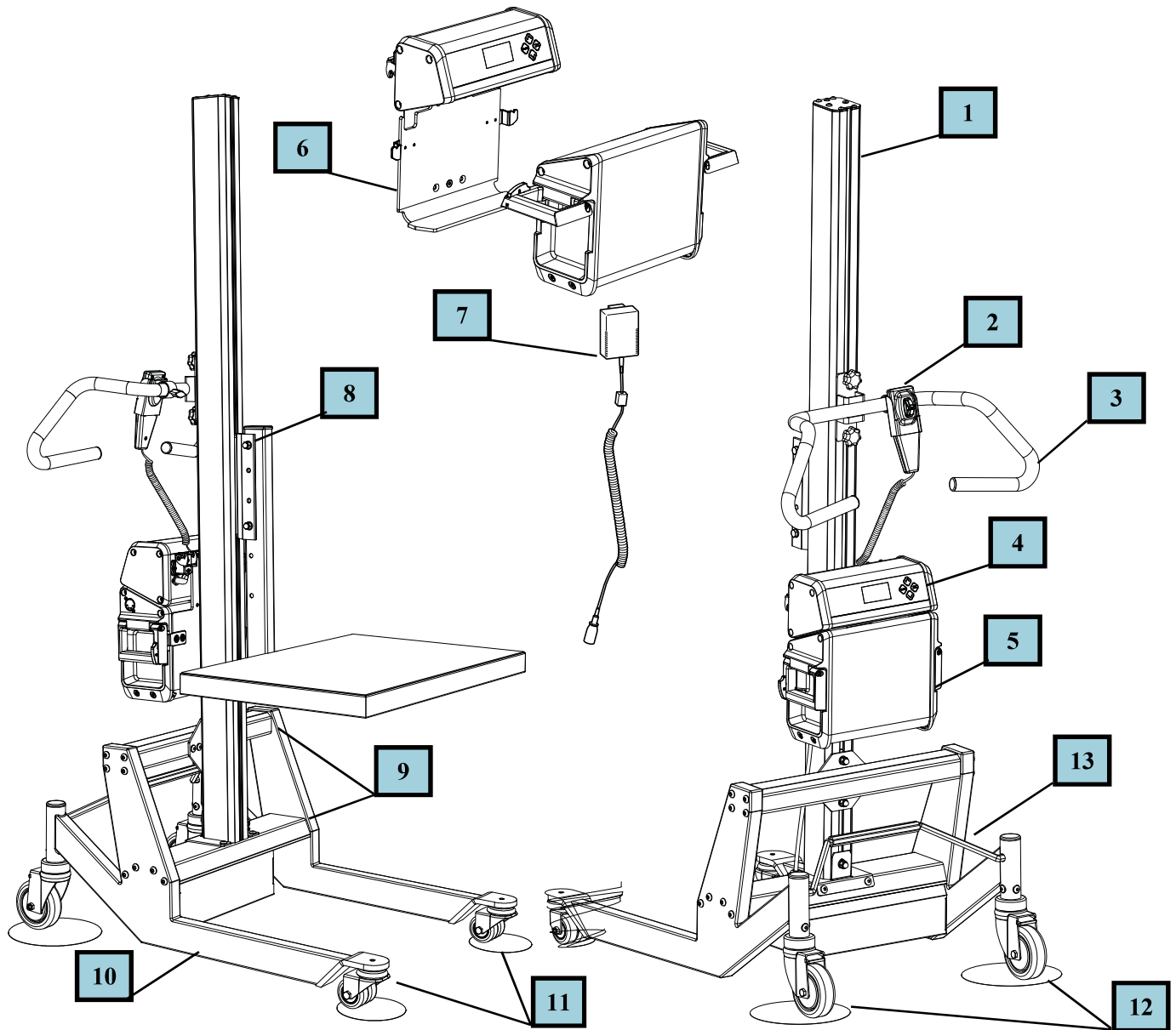
The warranty does not cover normal maintenance, settings, adjustments or associated labor costs.

Damage due to misuse or incorrect use of the equipment will void the warranty.

## 1.3 Components

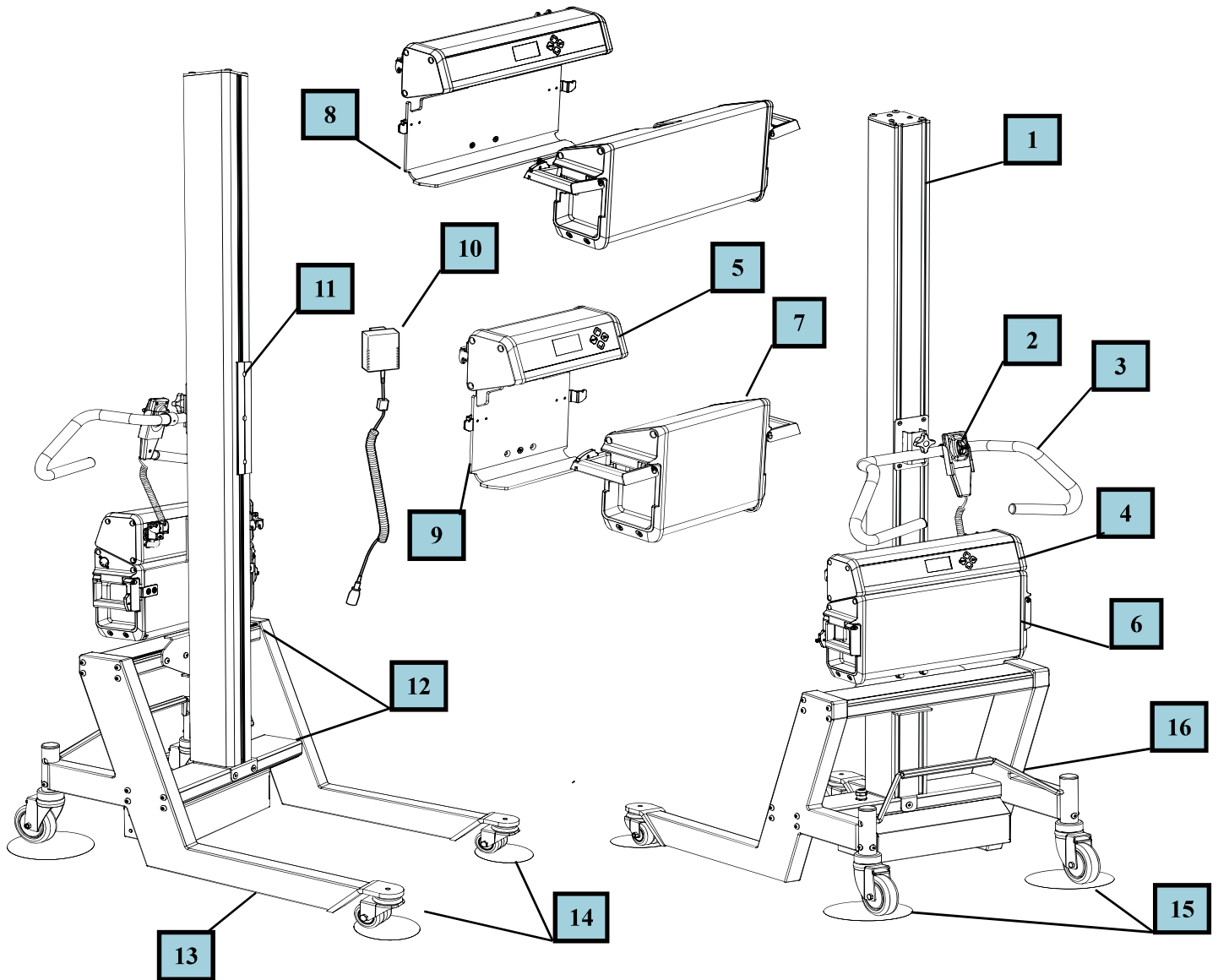
The appearance of the lifter may differ from the image.

Model 20500HS PRX:



1. Mast
2. Hand control
3. Handle bar
4. Control unit
5. Battery unit
6. Mounting shelf
7. Battery charger
8. Mounting post
9. Intermediate (upper and lower)
10. Lets
11. Front castor
12. Rear castor
13. Brake rod

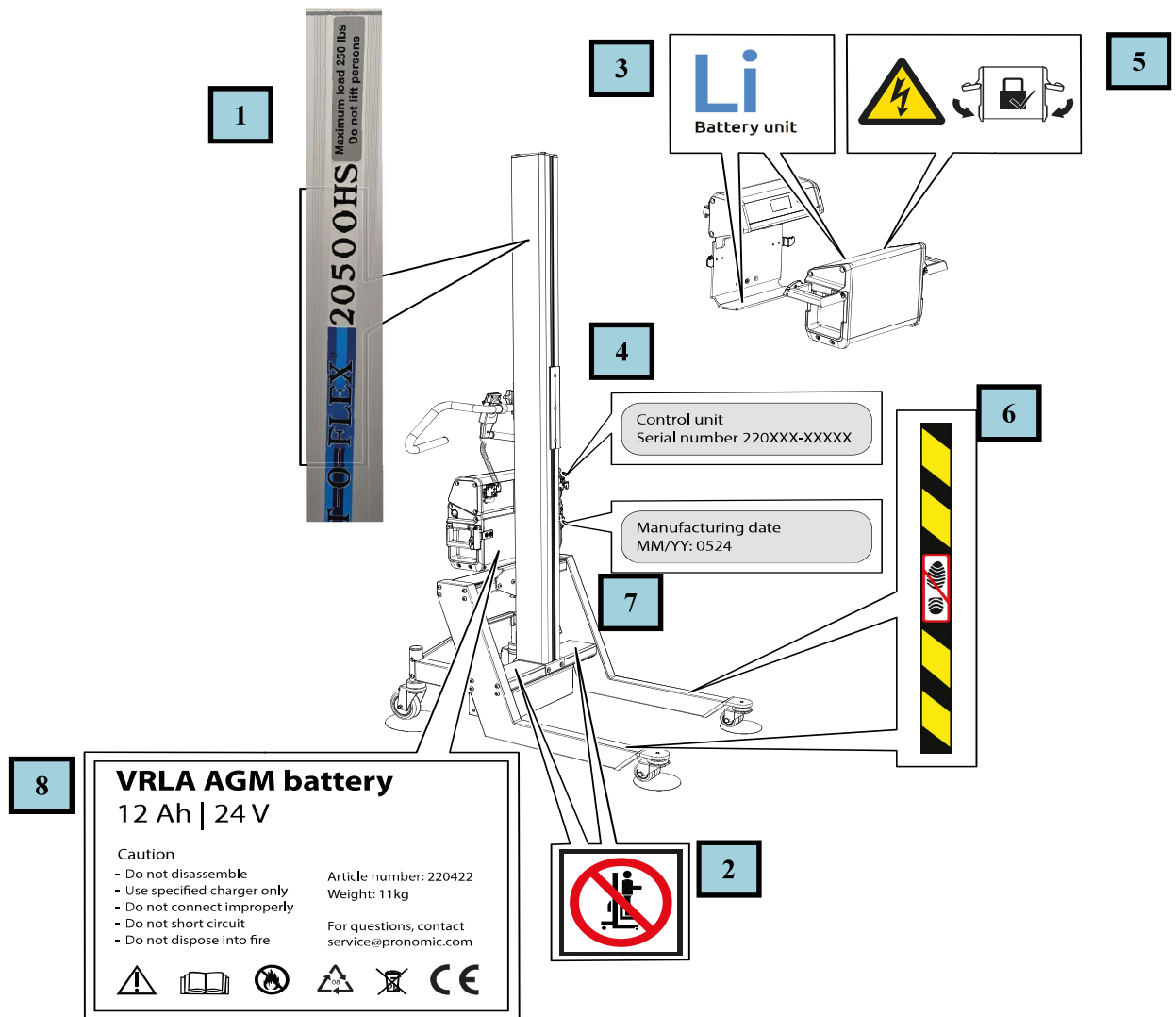
Model 19000 & 19500 PRX:



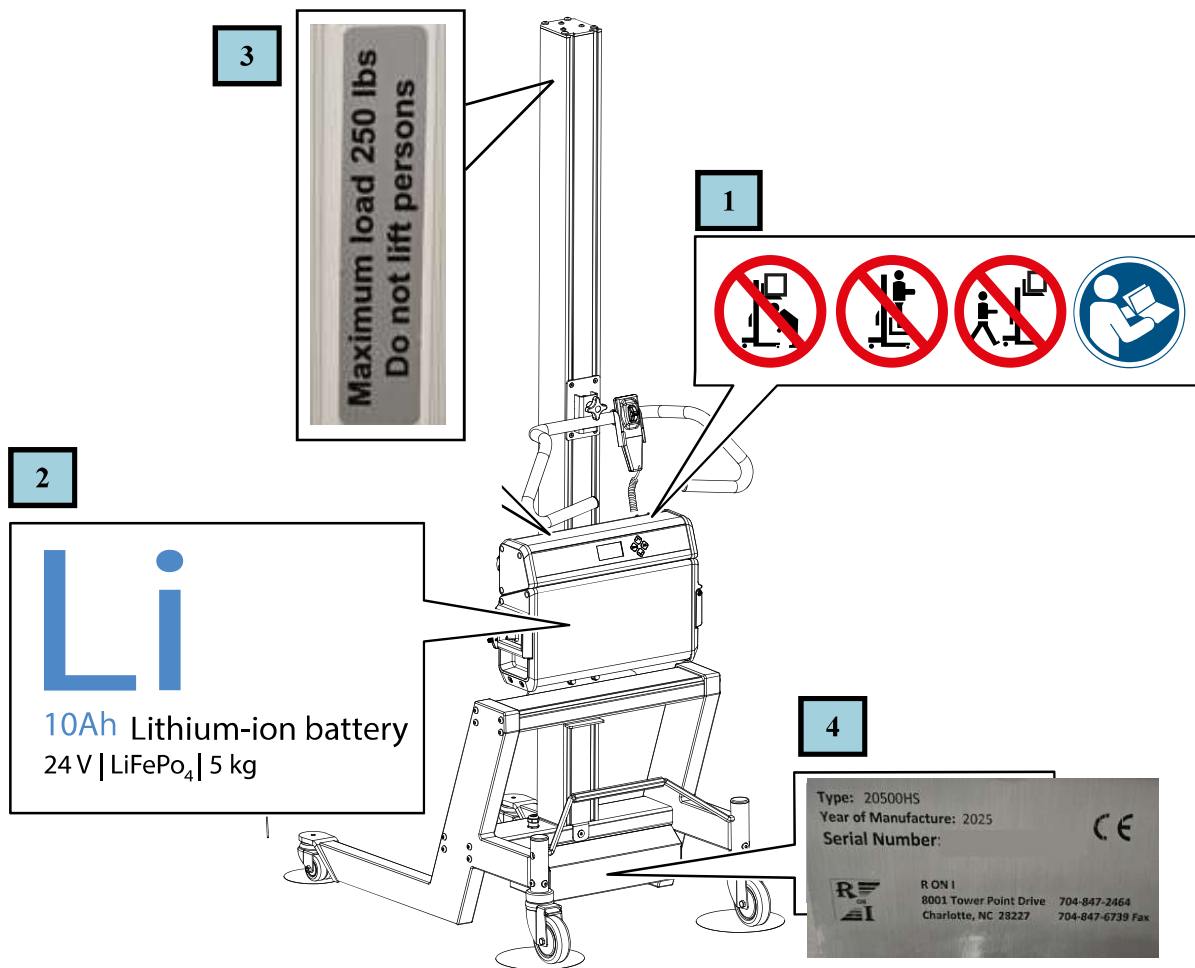
1. Mast
2. Hand control
3. Handle bar
4. Control unit (wide)\*
5. Control unit\*
6. Battery unit (wide)\*
7. Battery unit\*
8. Mounting shelf (wide)\*
9. Mounting shelf\*
10. Battery charger
11. Mounting Post
12. Intermediate (upper and lower)
13. Lets
14. Front castor
15. Rear castor
16. Brake rod

## 1.4 Signs

Verify that the following plates and decals are attached and fully readable.



|   | Signs                         | Description                                                                                                        | Placement                                                     |
|---|-------------------------------|--------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------|
| 1 | Information                   | Model and type of lifter                                                                                           | 2 pcs each side of the column                                 |
| 2 | Safety symbol                 | Do not use this lifter for people                                                                                  | 2 pcs each end of lower cross-member                          |
| 3 | Instruction                   | Battery type Li (LiFePO4) or Pb (VRLA AGM)                                                                         | 2 pcs one on shelf and one on upper side of battery unit      |
| 4 | Information                   | Serial number control unit                                                                                         | Back side of the control unit                                 |
| 5 | Safety symbol and instruction | Electrical hazard of battery terminals. Make sure that the handle locks when insert the battery unit to the shelf. | Clearly visible on upper side of the battery unit when needed |
| 6 | Safety symbol                 | Do not stand on the frame                                                                                          | 2 pcs on the wheel frame                                      |
| 7 | Information                   | Battery unit date of manufacture                                                                                   | Back side of the battery unit                                 |



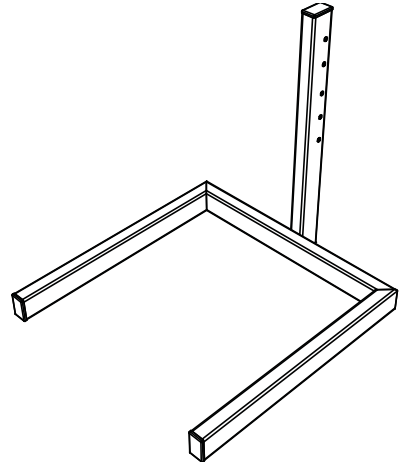
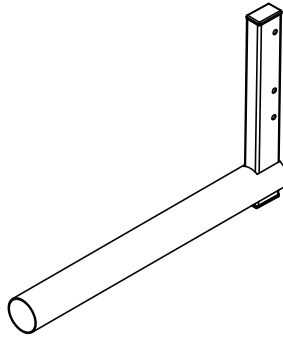
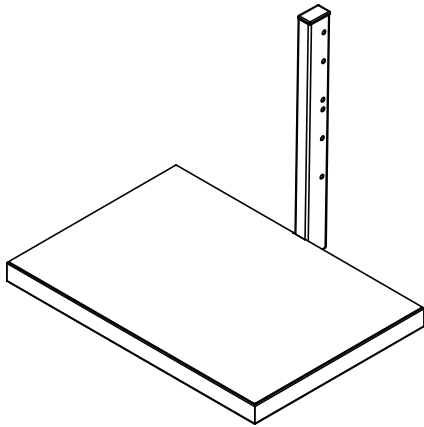
|   | Signs                          | Description                                                                                                                                     | Placement                             |
|---|--------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------|
| 1 | Safety symbols and instruction | Do not stand under the load platform.<br>Do not use this lifter for people.<br>Keep platform in lower position when moving.<br>Read the manual. | On the upperside of the control unit  |
| 2 | Information                    | Battery type Li (LiFePO <sub>4</sub> ) or Pb (VRLA AGM)                                                                                         | On the front side of the battery unit |
| 3 | Information                    | The maximum load of lifter                                                                                                                      | On the top of the lift mast           |
| 4 | Information                    | Nameplate with lifter serial no etc                                                                                                             | On the front side of the cross-member |

## 1.5 Functional description of the tool

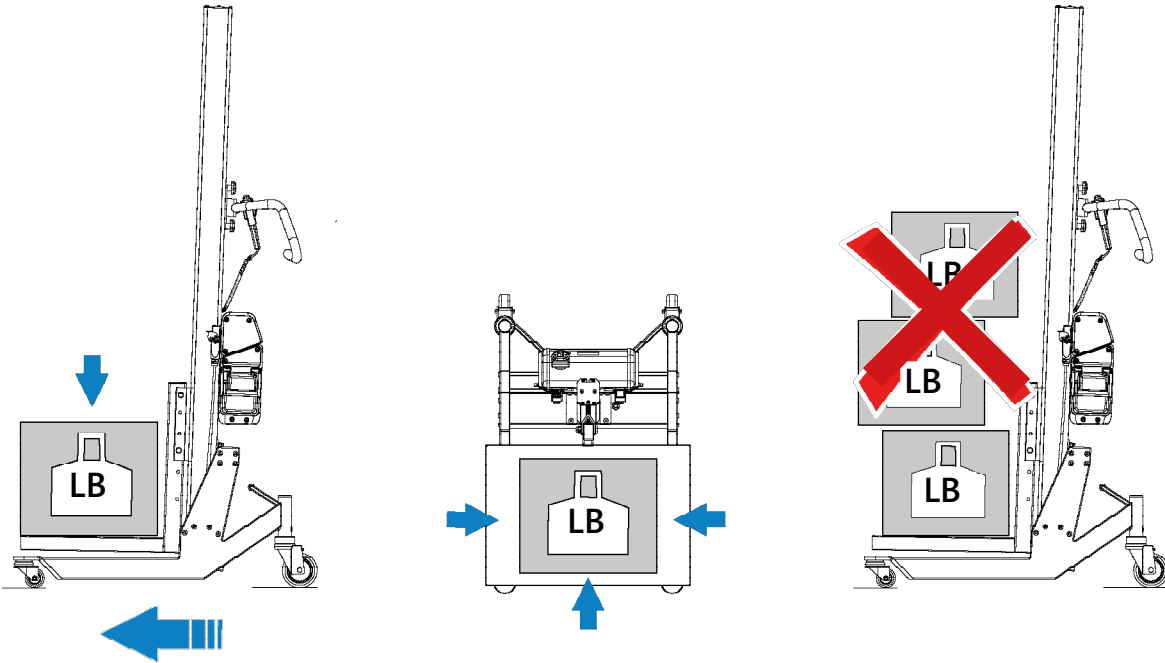
Lifters are offered with different tools. The tool is selected depending on which application the Lifter is to be used for.

The tools can be completely mechanical such as a platform or specially adapted and customer unique.

Tools could have an electric drive or compressed air drive. Above are examples of standard tools: platform, probe and fork.



## 1.6 Handling goods



**WARNING: Heavy load!**  
Always wear protective shoes when operating the lift.

When handling goods on the lifter engage the central brake.

Use the hand control to position the tooling with the tool to the pick up position. If it is a manual loading (platform) use a ergonomic pick up position.

Make sure the load is centered and stands safe on the tool. Do not stack the goods.

Raise or lower the tool with the load. Always keep the tool in the lowest position when moving a loaded lifter.

Deactivate the central brake and move the lifter to the unloading place.

## 2 Safety

To make sure the lifter is used in a safe way please read this additional safety information.

### 2.1 Safety definitions



**WARNING:** A warning is used where there is risk of serious personal injury or death.



**CAUTION:** A caution is used where there is risk of minor personal injury or risk of damage to the product.

**NOTE:** A note is used to provide additional information that is good to know.

### 2.2 Hazards

#### 2.2.1 Handling goods hazards



**WARNING**

- Do not use the lifter as support for ladders.
- Always center the load before raising or lowering the load carrier or when transporting goods.
- Never stand, work or keep body parts under a suspended load.
- Never exceed the maximum load.
- Do not move the load or touch moving machine parts while the tooling is lowered or raised.
- Do not leave the lifter with a suspended load unsupervised.
- Make sure the lifter is braked before lifting and lowering loads and when handling a load on the tooling.
- Never reach arms through the handlebar to reach something on the tooling.
- Mind your colleagues and surroundings when moving the lifter in narrow spaces.
- Do not stack the load.



**CAUTION**

- Be careful when raising or lowering the tooling- do not bump into any fixed object.
- Always use lower speed when approaching positions near objects.

#### 2.2.2 Transportation hazards



**WARNING**

- Always keep the tooling in the lowest position when moving the lifter.
- Always use the lifter on a level floor. Uneven floors or level variations can cause the lifter to become unstable. Goods can fall from the lifter if it becomes unstable.
- If objects hang from the ceiling, make sure that they cannot collide with the lift mast while moving the lifter.
- Pay attention to obstacles on the floor, such as cables or thresholds.
- Be aware of the machine height in spaces with low ceiling or when passing through doors.
- Move your hands to the inside of the handlebar when passing edges, doors, walls or protruding objects.

#### 2.2.3 Environmental hazards



**WARNING**

- The lifter is to be used indoors only.
- Only use the lifter in well-lit environments.
- Only charge the battery unit in a dry and ventilated space.



**CAUTION**

- Do not use running water to clean the lifter.

### 2.2.4 Improper use hazards

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#### WARNING

- 
- Do not use the lifter if there is suspicion of damaged or faulty components.

### 2.2.5 Electrical hazards

---



#### WARNING

- 
- Never use a damaged battery charger.
  - Never use a damaged battery unit (battery).
  - Make sure that no charger is connected to the battery unit when doing maintenance on the battery or electrical components.
  - If the battery has been subjected to mechanical shocks (eg dropped), check the status and function of the battery: Make a visual examination, evaluate whether the battery unit can be installed correctly, check that when using the hand control the lifter runs correctly, evaluate whether the charger connector and internal cables are functional by fully charging the battery unit.



#### CAUTION

- 
- Never use the battery charger with a power outlet that is not matching the specification of the charger.

### 2.2.6 Replacement parts

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#### WARNING

- 
- Only use original spare parts from an official supplier of the product.
  - Do not perform service or maintenance without permission and proper training.

### 2.2.7 Personal protection equipment

---



#### WARNING

- 
- Heavy load! Always wear protective shoes when operating the lift.



#### WARNING

- 
- Only authorized personnel are allowed to operate the lifter.

# 3 Storage, disposal and transportation.

## 3.1 Storage

Ensure that the lifter is stored in a dry place and should not have any leakage or corrosive gases entering it.

The lifter could be equipped with one of two different battery types, LifePo4 Lithium batteries or VRLA AGM batteries. Both battery types are maintenance free and need charging regularly to function properly. Always disconnect battery from control box when storing.

When the battery is not in use, it will always slowly lose its charge over time.

The self-discharge in the battery is low.

### VRLA AGM batteries:

The recommended storage temperature is 20-25° C (68-77° F). The storage time must not exceed 12 months without charging. This is applicable to fully charged batteries. Empty batteries put in storage will degrade in months.

| Temperature         | Maximum storage time before charging |
|---------------------|--------------------------------------|
| 20-25° C (68-77° F) | 12 month                             |
| 30° C (86° F)       | 8 month                              |
| 40° C (104° F)      | 4 month                              |

### LiFePO4 batteries:

Store at 50-80% of charge. The self-discharge in the battery is very low, about 2% per month with a temperature 0-60° C (32 to 140° F).

| Temperature            | Maximum storage time before charging |
|------------------------|--------------------------------------|
| 0-60° C (32 to 140° F) | more than12 month                    |

## 3.2 Disassembly, scrapping and disposal

Disassemble the lifter, refer to chapter 4.1 “Unpacking and inspection”. Use the assemble instructions in reverse order

When the lifter is due to be recycled (including the batteries), it should be handed in to a recycling center or to your supplier. Follow local regulations to ensure reuse and safe handling of all parts.

## 3.3 Transportation

If the lifter is fully assembled, it must stand up during transport/shipping. The hand control can be disconnected and the battery unit can be lifted out of the lifter and packed together in a separate box. Make sure the lifter is secured properly when shipping.

# 4 Set up

Ensure the battery is charged and test all lifter functions before first use, after transportation or when the lifter has been stored for more than a month.

## 4.1 Unpacking and inspection

Recycle and dispose of protective packaging correctly in a safe and environmentally friendly way.

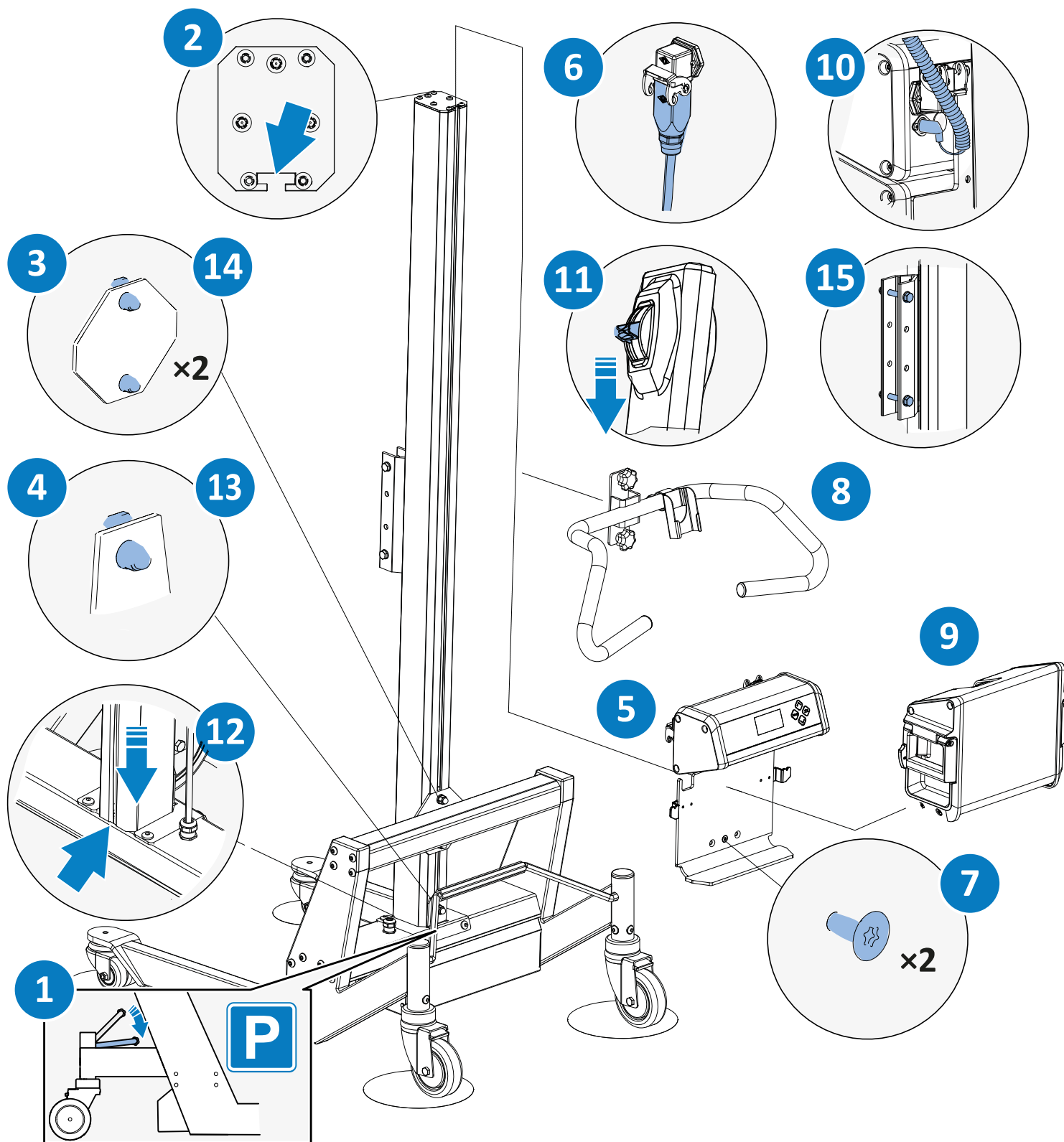
Make sure that the delivered goods have no visible damage.

When order the Lift-O-Flex lifter, it will be delivered fully assembled on a pallet or in a crate.

### 4.1.1 Ordered and delivered as fully assembled

- Remove the plastic that covers the pallet.  
If using a knife, make sure to not scratch or damage any part of the lifter.
- Cut and remove the plastic straps that hold the lifter to the pallet.
- Release the brake by moveing the brake rod to its middle position to disengage/unlock the central brake.
- It is recommended to use ramps when moving the lifter from the pallet. Move the lifter forward and down from the pallet on the ramps.
- If no ramps are available, make sure that at least 2 people move the lifter from the pallet. Make sure the lifter has no visible damage.

#### 4.1.2 Orderd and delivered as partially assembled Model HS 20500HS PRX



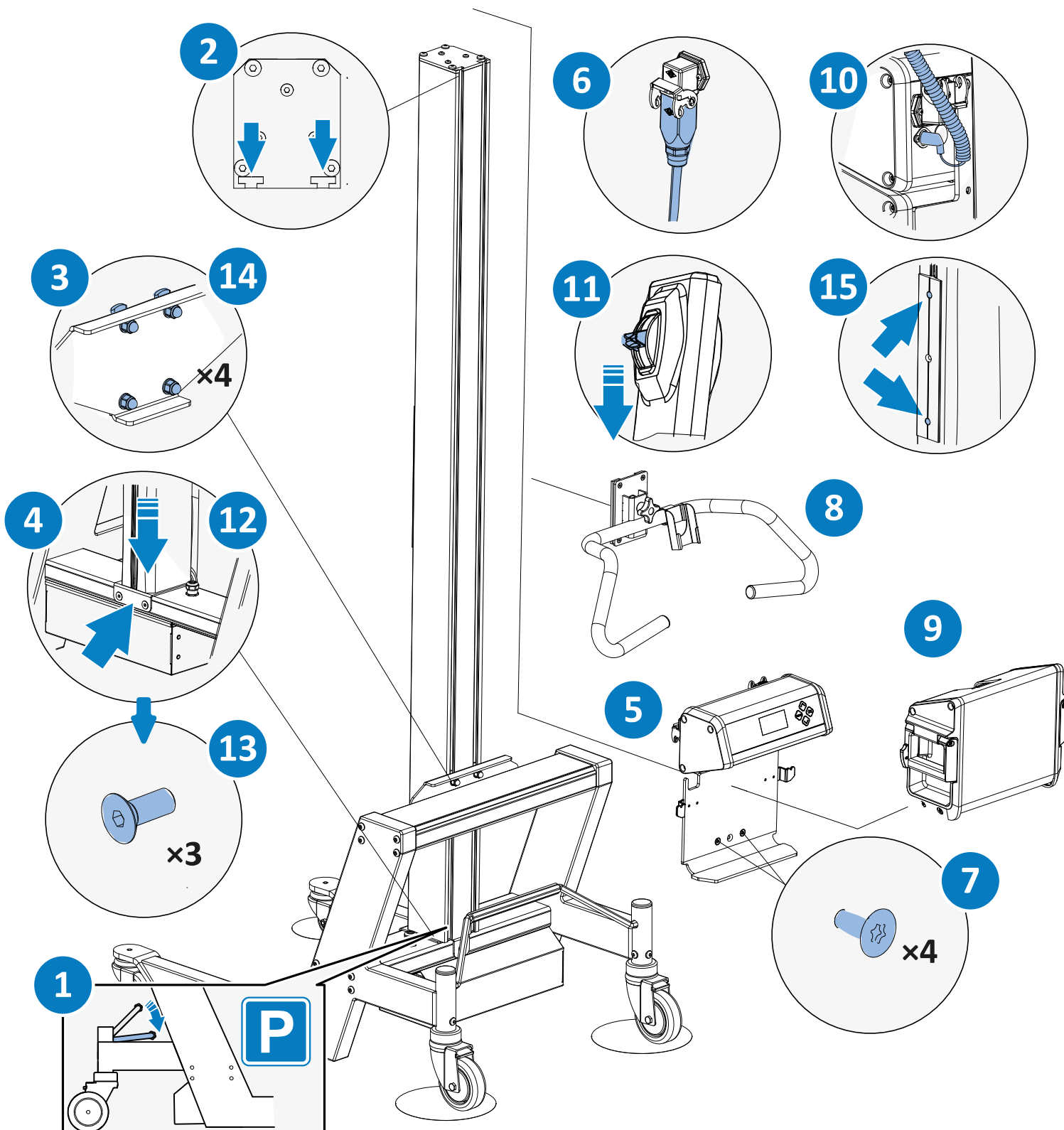


**WARNING: Heavy load!**  
Always wear protective shoes when operating the lift.

1. Place the chassis of the lifter on the floor. Engage the central brake.
2. The bracket with a T-slot located on the top of the mast. T-slots run along the entire back of the mast.
3. The bracket with T-slot bar. On delivery this bracket is fixed to the cross-member.
4. The lower cross-member bracket with T-slot bar. On delivery this bracket is fixed to the cross-member. Mounting: Slide the T-slot on the back of the column into the upper bracket on the cross-member. Place the column at the cross-member over the lower cross-member bracket. Slide the T-slot on the back of the column into the T-slots bar of the lower bracket.
5. On delivery the control unit are attached to the mounting shelf. Slide the shelf into the T-slot on the back of the column.
6. The cable from crossmember to the electrical control unit determines the height of the shelf with the control unit. Connect the contact, secure with its toggle lock. Make sure the cable is straight.
7. Fix the shelf with the two screws.
8. Slide the handlebar into the T-slot on the back of the column. Use the two knobs to lock the handlebars at the desired height.
9. The battery unit will be placed under the electrical control unit on the shelf. Lift the battery unit by the handles at each gable of the battery unit. Angle the far and bottom side of the battery unit towards the holder. Then slide the battery in. Release the handles.  
(To remove the battery unit, refer to chapter 5.2 Remove the battery unit from trolley)
10. Insert the hand controller into its holder. Connect the cable from the hand control to the control unit.
11. Push the lever down on the hand control to make the column go down to its lowest position.
12. The column should now stand directly on the cross-member.
13. Use 13 mm wrench to tighten the nut on the lower cross-member bracket, 15 Nm.
14. Use 13 mm wrench to tighten the two nuts on upper cross-member bracket, 15 Nm.
15. Attach the tool to the load carrier.

Note, once the column has been mounted/remounted perform the static load test, chapter 4 "Set up".

#### 4.1.3 Ordered and delivered as partially assembled Models 19000 & 19500 PRX

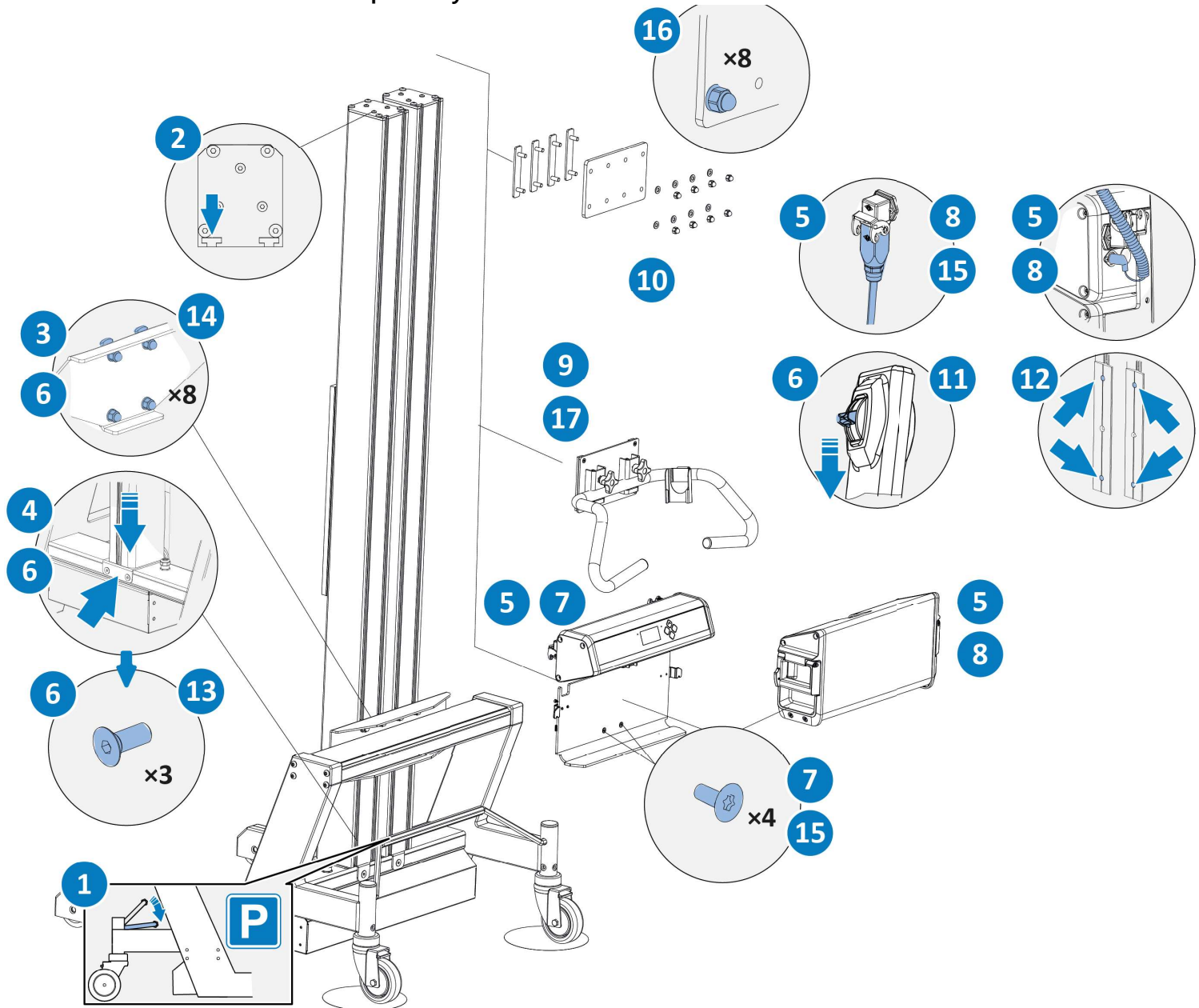




**WARNING: Heavy load!**  
Always wear protective shoes when operating the lift.

1. Place the chassis of the trolley on the floor. Engage the central brake.
  2. The bracket with two T-slots of the top of the column. T-slots runs along the entire back of the column
  3. The upper cross-member bracket with two T-slot bars. On delivery this bracket is fixed to the cross-member.
  4. The lower cross-member bracket. On delivery this bracket is fixed to the column. Mounting: Slide the T-slots on the back of the column into the upper bracket on the cross-member. Place the column with the cross-member bracket on the cross-member.
  5. On delivery, the control unit are attached to the mounting shelf. Slide the shelf into the T-slot on the back of the column.
  6. The cable from crossmember to the electrical control unit determines the height of the shelf with the control unit. Connect the contact, secure with its toggle lock. Make sure the cable is straight.
  7. Fix the shelf with four screws.
  8. Slide the handlebar into the T-slot on the back of the column. Use the knob to lock the handlebars at the desired height.
  9. The battery unit will be placed under the electrical control unit on the shelf. Lift the battery unit by the handles at each gable of the battery unit. Angle the far and bottom side of the battery unit towards the holder. Then slide the battery in. Release the handles.  
(To remove the battery unit; refer to chapter 5.2 "Remove the battery unit from trolley").
  10. Insert the hand controller into its holder. Connect the cable from the hand control to the control unit.
  11. Push the lever down on the hand control to make the column go down to its lowest position.
  12. The column should stand directly on the cross-member.
  13. Use 5mm hex key to tighten the three countersunk screw on the lower cross-member bracket, 15 Nm.
  14. Use 13 mm wrench to tighten the four nuts on the upper cross-member bracket, 15 Nm.
  15. Attach the tool to the load carrier.
- Note, once the column has been mounted/ remounted perform the static load test, chapter 4 "Set up".

### 4.1.3 Ordered and delivered as partially assembled Model 19700 PRX



**WARNING: Heavy load!**  
Always wear protective shoes when operating the lift.

1. Place the chassis of the trolley on the floor. Engage the central brake.
2. The trolley is equipped with two columns. The top of each column is equipped with a T-slot bracket. The T-slots run along the entire back of the columns.
3. The upper cross-member bracket with 8 nuts. (4 nuts are intended for each column.) On delivery this bracket is fixed to the cross-member.
4. On delivery each column is mounted with a lower cross-member bracket with 3 screws to attach the column to the cross-member. The screws should be attached to the lower cross member, 2 screws attached from the front, 1 screw attached from the back.  
The two T-slots on the back of the column are pushed onto the rails on the upper cross member bracket. Place the column on the lower cross member. Mount the second column. The columns should stand loosely next to each other.
5. On delivery the control unit is attached to the mounting shelf. Install the battery on the mounting shelf. Use two people, one holding the shelf and the other mounting the battery on the shelf. Chapter 5.3 shows how to mount the battery unit on a trolley.

Place the control unit with the battery installed on the floor near the trolley. Connect the hand control to the control unit and the motor cable to the chassis.

6. Use the handcontrol to run the column movement upwards. Both columns should slide down into their respective positions in the lower cross member. The columns should be tight against the lower cross member. Loosely anchor each column to the lower crossmember by tightening the 2x3 screws a few turns. Loosely anchor each column to the upper crossmember by tightening the 2x4 screws a few turns.  
Disconnect the hand control and motor cable. Remove the battery from the control unit and shelf.
7. The control unit with the mounting shelf should be attached to the two inner T-slots on each column. Slide the rails on the back of the mounting shelf from above into the two middle T-slots on the back of the column.  
Let the shelf rest on the chassis. Loosely anchor the shelf by tightening the 4 screws a few turns.
8. Mount the battery unit carefully on the shelf under the control unit. Chapter 5.3 shows how to mount the battery unit.  
Connect the hand control to the control unit and the motor cable to the chassis.
9. The handle should be attached to a T-slot on each column. Slide the handle into the outer two T-slots from the top on the back of the columns. The handle should rest loosely on the control unit.
10. Fix the columns together by mount the column plate. The column plate is mounted at the top vertically on the back of the columns. The plate should be placed 3cm from the height end of the column. Tighten the screw located in the outermost T-slot at the bottom-right. Loosely anchor the screw located in the outermost T-slot at the bottom-left.
11. Use the handcontrol to run the column movement upwards and downwards a few times. Check that both load carriers move at the same speed. Listen for knocking noises from the safety coupling. (If noise is heard, the columns have not been mounted parallel.)

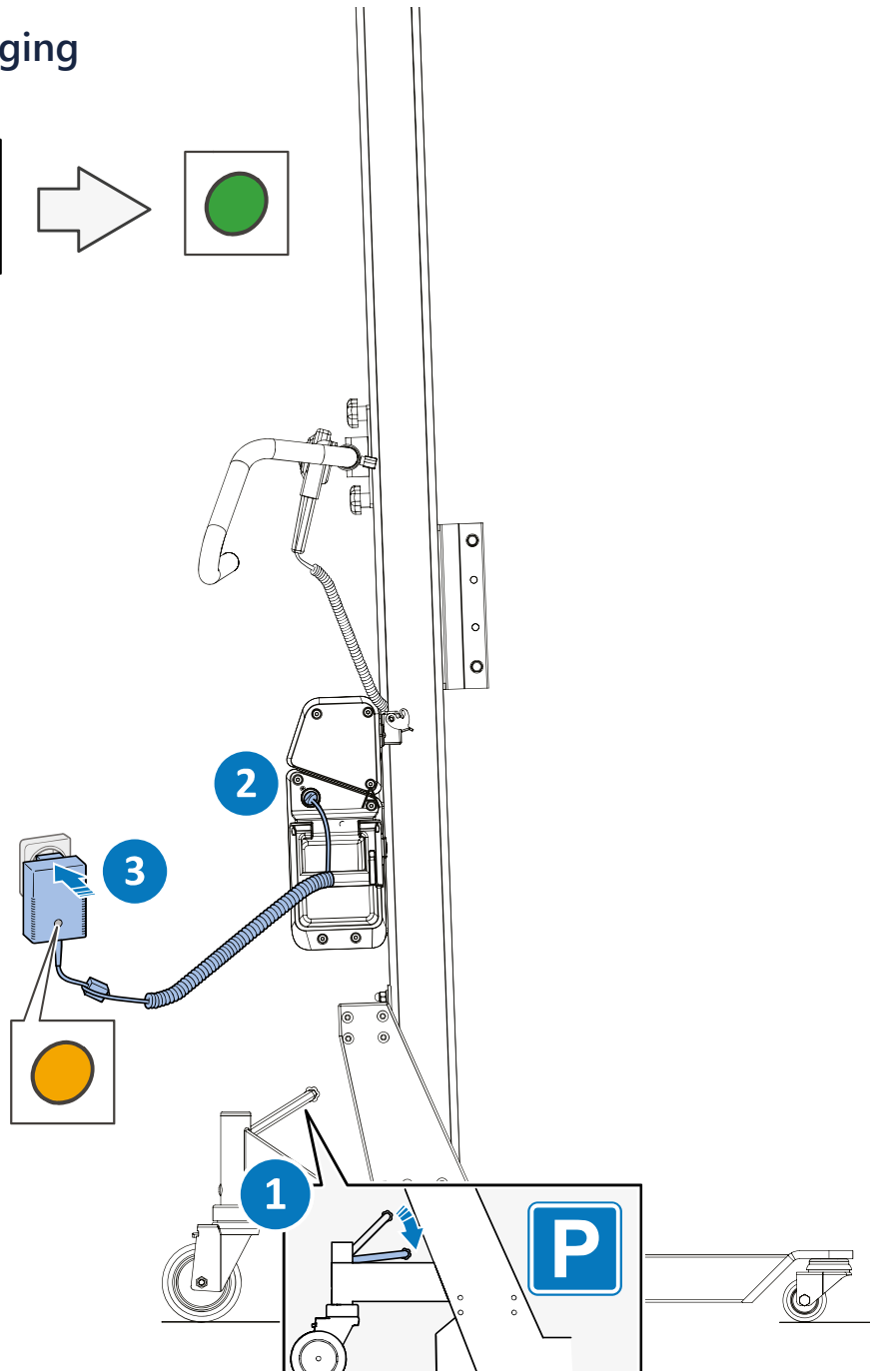
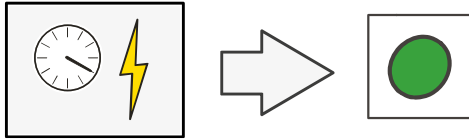
When the movement is smooth and no noise is heard, run both load carriers to the lowest position.

12. The load carriers can be fixed together by a plate or with the trolley's tool. See the current customer order. If the trolley is ordered with a plate, loosely anchor the plate by tightening the plate's screws a few turns. Operate the column movement down and up with the hand control. Listen for knocking sounds from the safety coupling. When the movement is smooth and no noises are heard, tighten the screws and run the movement and listening again for bad sounds.
13. Fix the columns to the lower cross member. To tighten the 2X3 screws to the column to the lower crossmember, use a 5 mm Allen key 15Nm. Operate the column movement up and down with the hand control. Listen for knocking.
14. Fix the columns to the upper cross member. Use a 13 mm wrench to tighten the 2x4 nuts against the upper crossmember, 15 Nm. Operate the column movement up and down with the hand control. Listen for knocking.
15. The motor cable from the chassis determines the height of the shelf with the control unit. Connect the connector, secure with its toggle lock. Make sure the cable is straight. Fix the shelf with the 4 screws.  
Operate the column movement up and down with the hand control. Listen for knocking.
16. Tighten the 8 screws on the column plate (top and back of the columns), 15Nm.  
Operate the column movement up and down with the hand control. Listen for knocking.
17. Adjust the height of the handle. Tighten the two knobs on the handle securely.  
Operate the column movement up and down with the hand control. Listen for knocking.

Attach the tool to the load carrier.

Please note that once the column has been assembled/reassembled, the static load test must be performed, chapter 4.4 "Static load test".

## 4.2 First time charging



**WARNING:** Make sure that personnel cannot trip over the lifter or its connected cables.



**WARNING:** Position the lifter in a dry and ventilated space when charging the power pack.

1. Engage the central brake.
2. Connect the 4-pin plug to the battery unit.
3. Connect the 2-pin male plug to the wall socket. The indicator light on the charger turns orange if the battery unit is not fully charged. The indicator light turns green when the battery unit is fully charged.

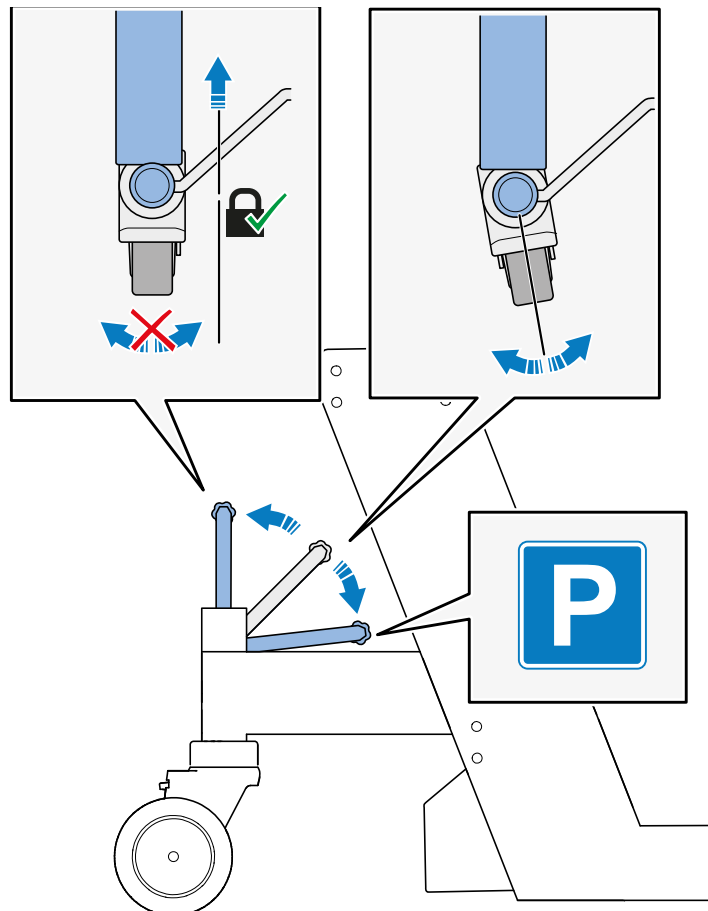
The battery unit should be charged after longer transport or storage periods.

The battery unit must be charged for min. 8 hours before performing basic function tests.

Disconnect the charger from the battery unit before using the lifter.

## 4.3 Basic function tests

### 4.3.1 Testing the brakes



**The brake rod has 3 positions:**

- Lowest position – central brake
- Middle position – disengaged/unlocked
- Upper position – directional lock

#### Testing the central brake:

The central brake prevents the lifter from moving.

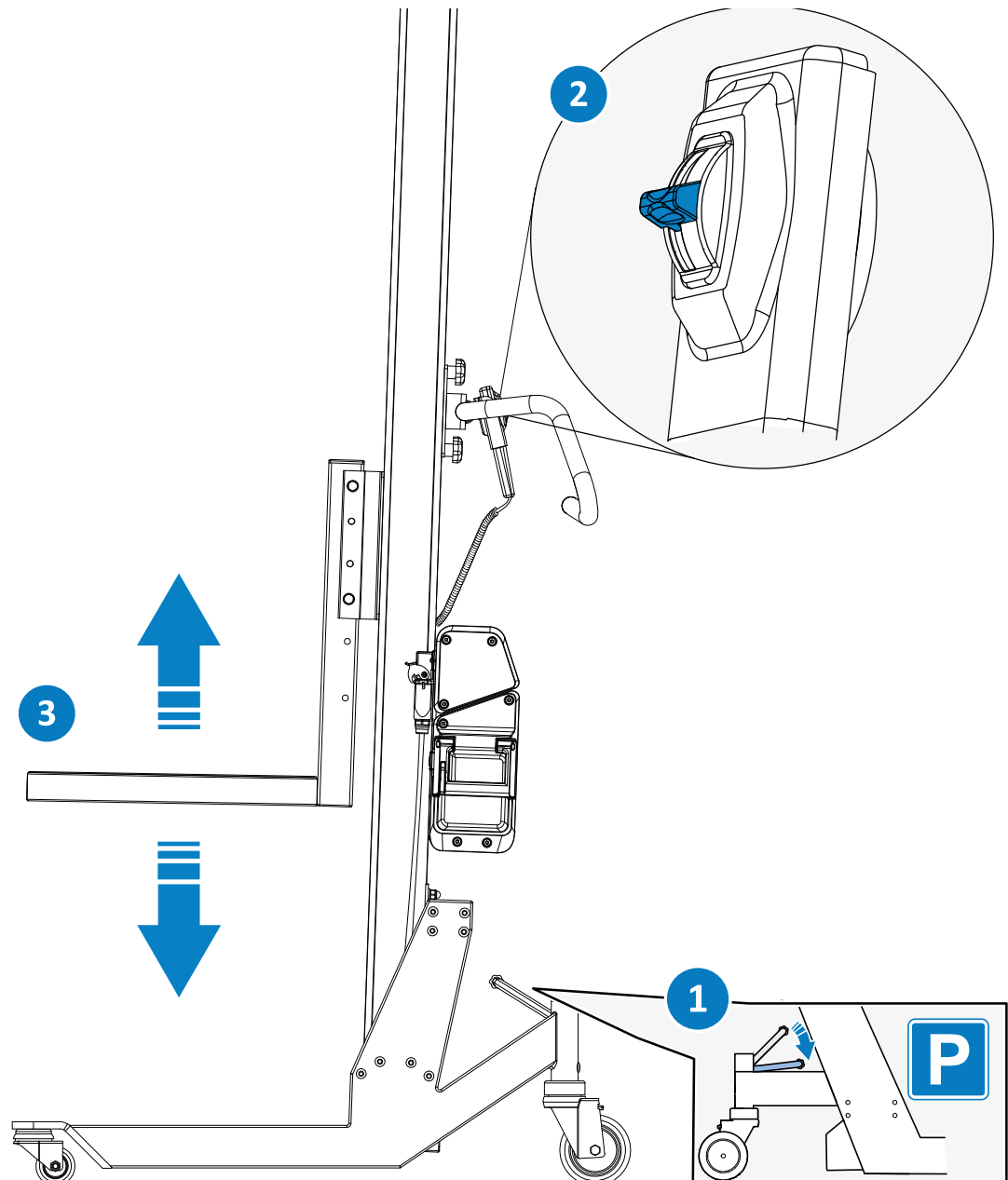
- Move the brake rod forward to its lowest position to engage the central brake.
- Make sure that the rear castor wheels are locked and that the lifter cannot move.
- Move the brake rod to the middle position to release the central brake.
- Make sure that the rear castor wheels can move freely and swivel.

#### Testing the directional brake:

The directional lock locks the position of the rear wheels allowing the lifter to travel straight forward or backwards.

- Align the rear castor wheels parallel to the lifter frame.
- Move the brake rod to the highest position to engage the directional lock.
- Make sure that the rear castor wheels do not swivel and that the lifter only travels straight forward and backwards.
- Move the brake rod to the middle position to release the directional lock.
- Make sure that the rear castor wheels can move freely and swivel.

### 4.3.2 Testing the lift movement



The vertical movement direction and speed of the tooling is operated by the remote control.

1. Engage the central brake.

2. A slight push on the remote control button gives low stepless speed. A hard push on the remote control button gives high stepless speed. Release the remote control button to stop motion.

3. When the remote control button is pushed upwards the tooling is raised. When the remote control button is pushed downwards the tooling is lowered.

### 4.3.3 Testing the safety clutch

The safety clutch prevents personal injury and equipment damage when lowering the tooling. The safety clutch is released when the tooling reaches its lowest position or when encountering an obstacle in its downwards traveling path.

---

**NOTE: The lifter emits more noise when the safety clutch is released than during normal operation.**

---

Test the safety clutch in the lowest position.

- If necessary, raise the tooling by pushing the button on the remote control upwards.
- Release the button to stop motion.
- Lower the tooling, by pushing the button on the remote control downwards. When the tooling reaches its lowest position, the safety clutch is released, and movement stops.
- Release the button to stop motion.

## 4.4 Static load test

When a mast has been mounted/remounted, perform the static load test. Drive the tooling to the middle of the mast and apply the load with 1.25 x the maximum load. The lifter should hold the load. Conclude this test with visual damage inspection.

# 5 User instructions

## 5.1 Battery charge

To read out the actual battery voltage (V) use the buttons beside the display. Press “Enter” > “System info”. Line one will show xx% xx,xV.

The main menu of the display shows the state of charge of the battery unit.

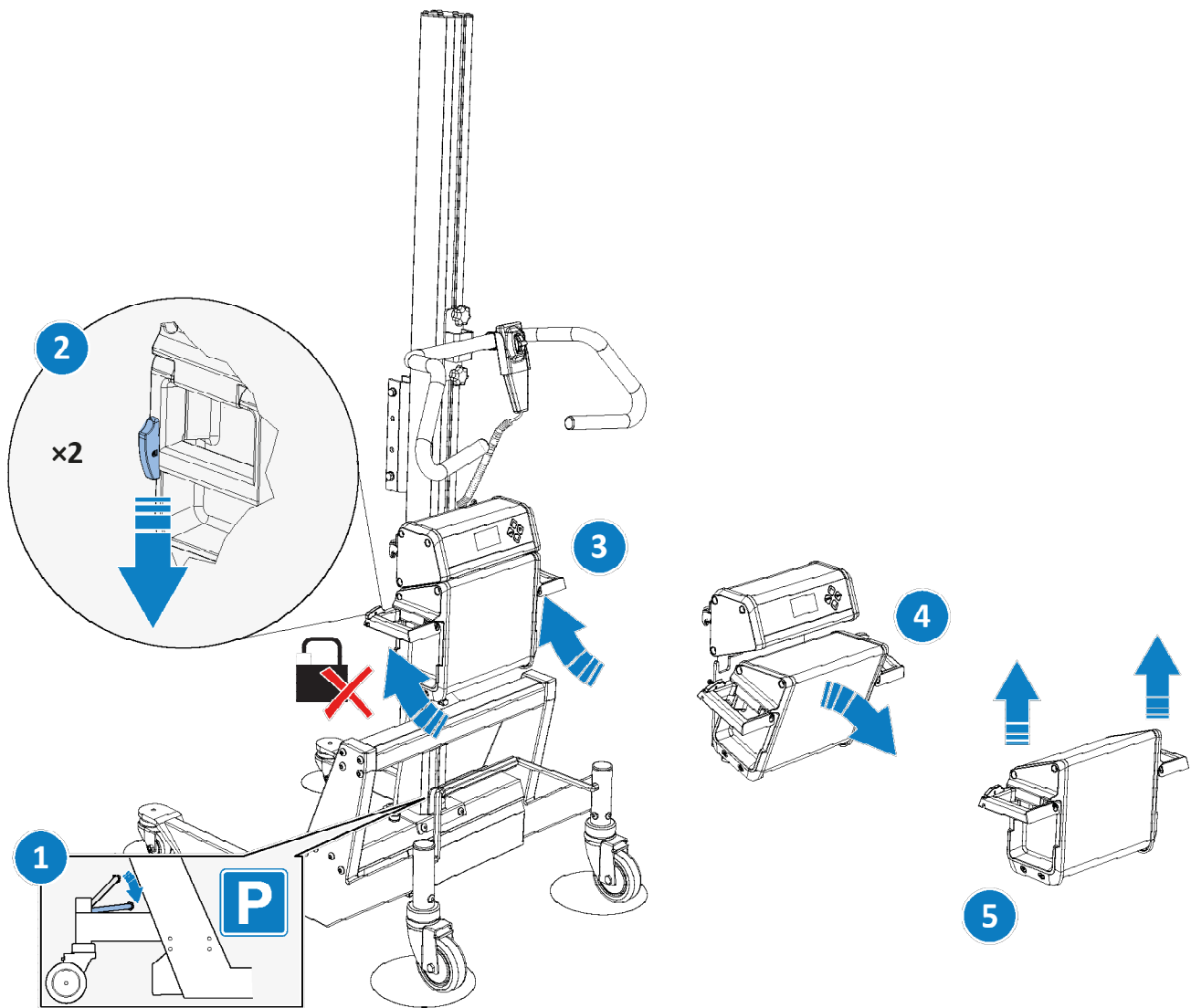
A fully charged battery is indicated by a full battery symbol. When the battery charge runs out during use, the symbol shows the degree of discharge.

For accurate state of charge LiFePo4 batteries should be fully charged when re-installed on the lifter.

When it's time to charge or replace the battery unit the symbol shows empty. It is no longer possible to raise the tooling. This is to prevent the batteries from getting damaged by extensive discharges. It is still possible to lower the tooling.

(If the display doesn't light up raise and lower the tooling or remove and replace the battery unit. Refer to chapter 5.7 “Raising and lowering the tooling” or chapter 5.2 “Remove the battery unit from the lifter”.)

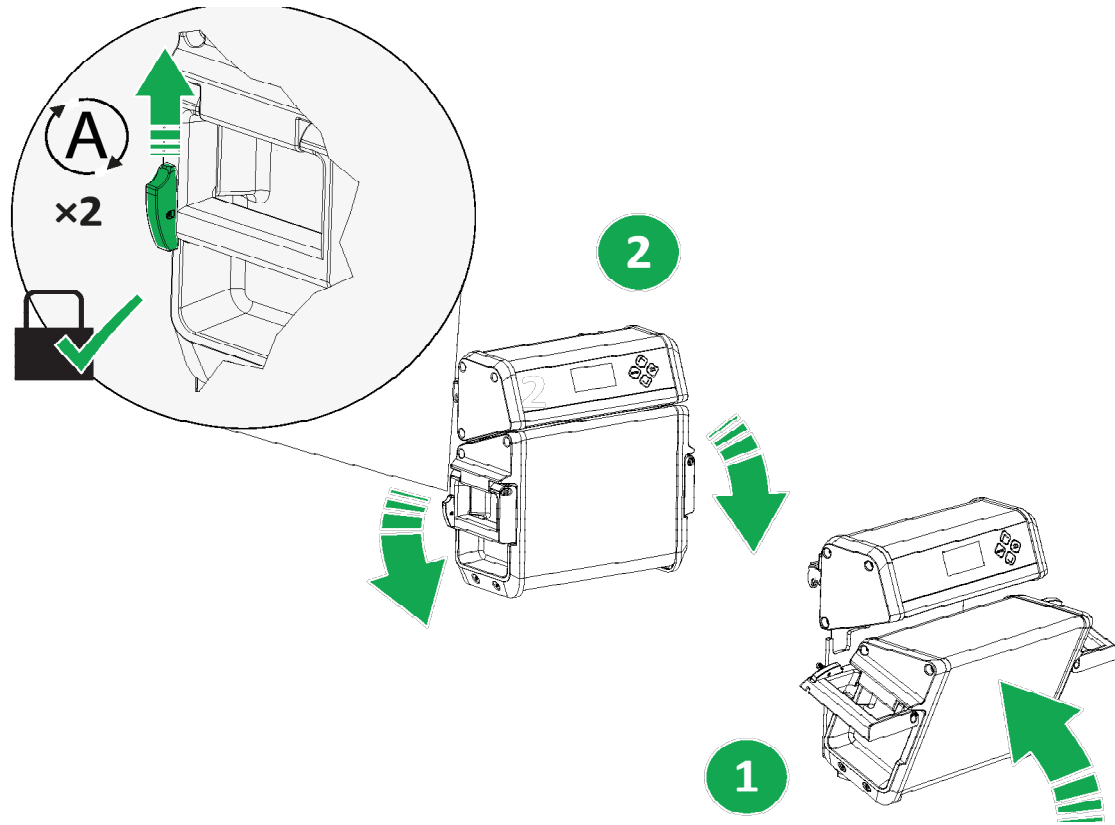
## 5.2 Remove the battery unit from lifter



**WARNING: Heavy load!**  
Always wear protective shoes when operating the lift.

1. Engage the central brake.
2. Slide down the button on each handle.
3. When holding the button down, lift the handles up to unlock the batteries position.
4. Angle the battery unit towards the user. Release the buttons.
5. Lift the battery unit by the handles.

## 5.3 Insert the battery unit to the lifter



**WARNING: Heavy load!**  
Always wear protective shoes when operating the lift.

1. Engage the central brake. Lift the battery unit by the handles. Angle the far and bottom side of the battery unit towards the holder.
2. Slide the battery unit in to the shelf. Release the handles all the way down. Make sure the two buttons have locked the battery unit to the shelf.

## 5.4 Charging function

Table for charging time:

| Charging time(h)                                             |                   |                  |                  |                 |
|--------------------------------------------------------------|-------------------|------------------|------------------|-----------------|
| Charger                                                      | VRLA AGM<br>7.2Ah | VRLA AGM<br>12Ah | VRLA AGM<br>17Ah | LiFePO4<br>10Ah |
| 1.5 Amp                                                      | 3.3*              | 5.5*             | 7.8*             | 7.7**           |
| 4.5 Amp                                                      | -                 | 1.8*             | 2.6*             | 2.5*            |
| *D.O.D 60%<br>**D.O.D 100%<br><br>D.O.D = depth of discharge |                   |                  |                  |                 |

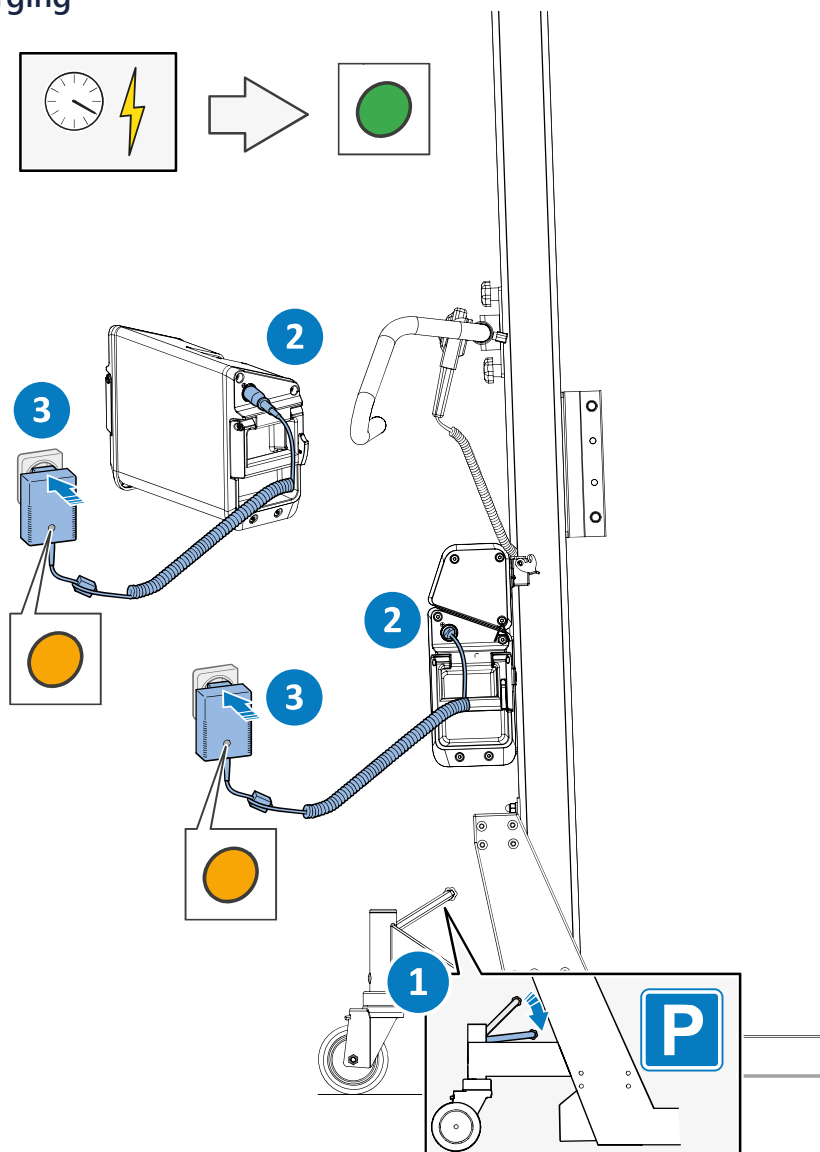
If there is one battery for every lifter, it is recommended to charge the batteries after every work shift.

When it is possible to charge the batteries while not on a lifter, there is an opportunity to allocate several battery units for each lifter. Then the lifter could be used when charging the next battery unit. No break is needed to use the lifter.

Lifter manufactured to use the same battery type, VRLA AGM or LiFePo4, can share battery units.

The batteries should be charged when the lifter is not used for an extended period, e.g., during weekends and holidays. The lifter can remain connected to the charger indefinitely without risk of overcharging.

## 5.4.1 Charging



**CAUTION:** Do not use the lifter or the hand control while charging!

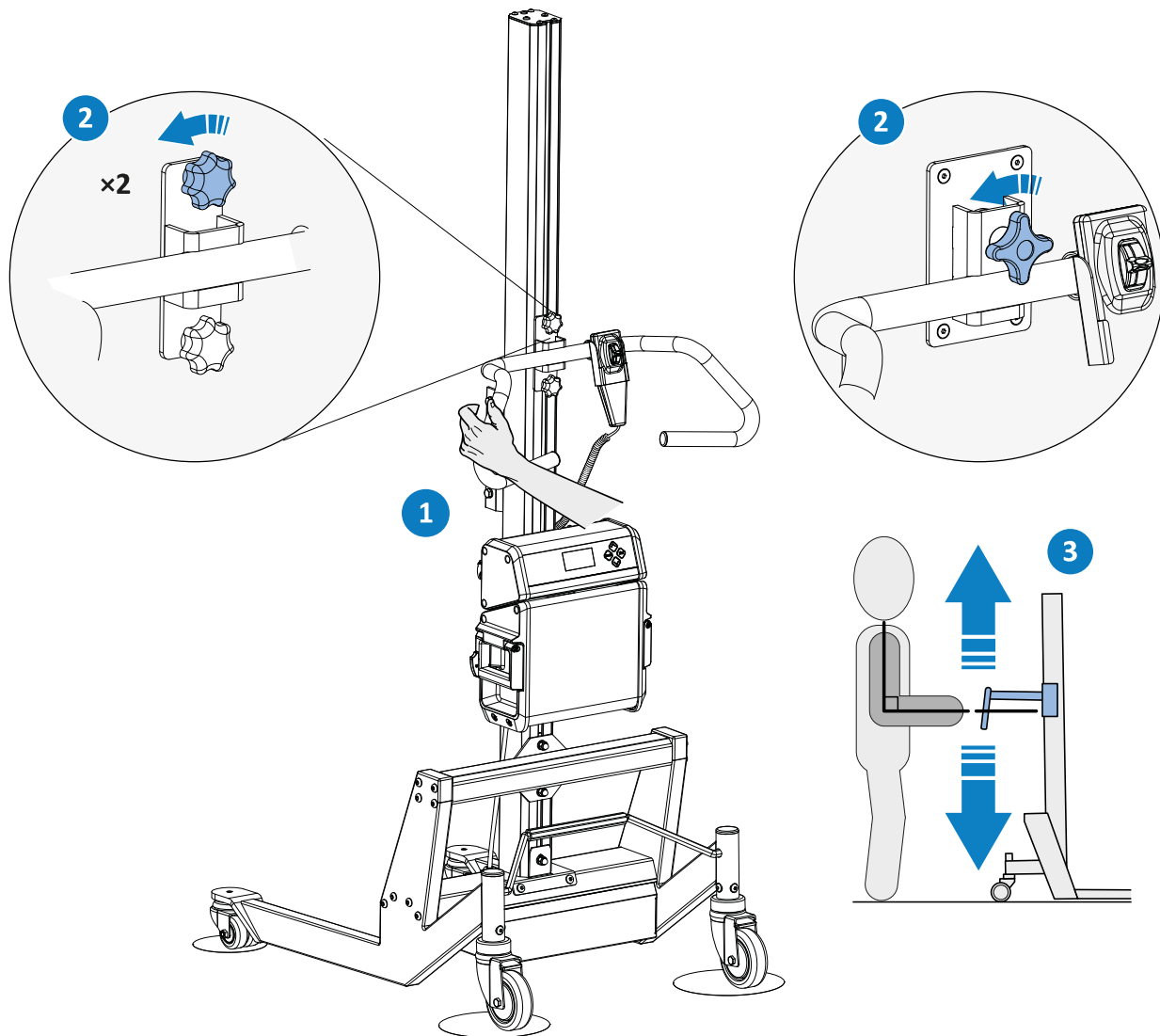
**NOTE:** The battery type LiFePO4 is equipped with a BMS (Battery Monitoring System) to protect the battery from damage. When voltage (over/under) or temperatures (high/low) is out of level BMS turns the main power supply off.

**NOTE:** When the state of charge reaches minimum level the tooling will not raise. This function is to prevent damage to the batteries. The tooling can still be lowered.

**NOTE:** The battery type LiFePO4 can quickly go from 50-0% state of charge. If this occurs and the lifter is loaded, remove battery unit and charge it separately.

1. Engage the central brake.
2. If charging the batteries separately from the lifter, remove the battery unit from lifter. Instructions under chapter 5 "User instructions".
3. First connect the connector to the battery module, then connect the connector to the wall outlet. The indicator lamp on the charger turns orange if the battery unit is not fully charged. The indicator lamp turns green when the battery unit is fully charged. Don't stop charging until the indicator turns green. Disconnect the charger from the battery unit before using the lifter.
4. If charging the batteries separately from the lifter, remount the battery unit to the lifter using instructions under chapter 5 "User instructions."

## 5.5 Adjusting the handlebar



To achieve an ergonomic working position the handlebar should be adjusted to a correct height.

1. Use one hand to hold the handlebar in place.
2. With the other hand loosen the knob(s), turning counterclockwise.
3. Move the handlebar up or down. The recommended position of the handlebar for the user is at least a 90-degree angle between elbow and lower arm. Lock the handle by turning the knob clockwise.

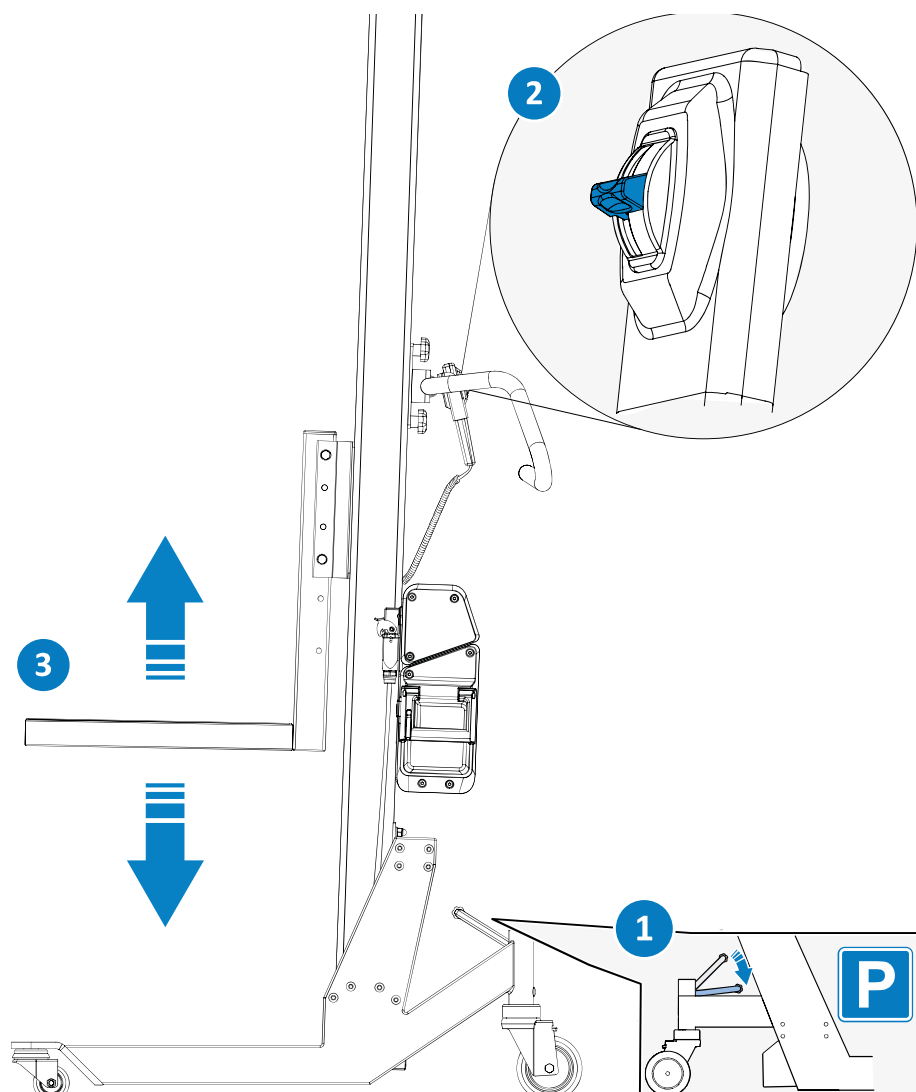
## 5.6 Adjusting the remote control bracket

The bracket for the remote control is mounted on the handlebar. Adjust/move the bracket to achieve a good ergonomic working position.

The bracket can be tilted or placed in any position on the handlebar by loosen the black knob (turn counterclockwise). To tighten the position turn the black knob (clockwise).

The hand control can be removed from the bracket when the user needs to step in front of the tooling.

## 5.7 Raising and lowering the tooling



**CAUTION:** Make sure there is enough space to raise the tooling.



**CAUTION:** To avoid damage, always use lower speed when approaching a position.



**WARNING:** Heavy load!  
Always wear protective shoes when operating the lift.

The vertical movement, both direction and speed, of the tooling is operated by the button on the remote control.

1. Engage the central brake.
2. A slight push on the button gives low stepless speed. A hard push on the button gives high stepless speed. Release the button to stop motion.
3. When the button is pushed upwards the tooling is lifted. When the button is pushed downwards the tooling is lowered.

**NOTE:** When the state of charge reaches minimum level the tooling will not raise. This function is to prevent damage to the batteries. The tooling can still be lowered.

## 5.8 Loading and unloading



**WARNING:** Do not attempt to lower the load or remove the load in any way other than what the lifter is intended for.

---



**WARNING !** During transport and when the lifter is loaded, have the tooling in its lowest position.

---

The user is responsible for ensuring that the lifter is loaded correctly.

Always apply the brake when loading/unloading.

For maximum stability the center of gravity of the lifting solutions should always be centered on the tooling and as close to the mast as possible.

Position the tooling at the desired height before loading/unloading.

## 5.9 Display

The display for the lifter is used to select various settings, functions, retrieve or save information and to configure the lifter. To use the display, use the buttons next to the display.

Some of the menus are protected by pincode to avoid changing important settings/configurations that could affect the lifters performance or security.

(If the display doesn't light up raise and lower the tooling or remove and replace the battery unit. Refer to chapter 5.7 "Raising and lowering the load tooling" or chapter 5.2 "Remove the battery unit from the lifter".)

The sub-menus of the The Liftcontrol start menu:

System Info  
Service Mgn  
Factory Cfg

### MENU System Info

|                 |                                                  |
|-----------------|--------------------------------------------------|
| Batt:           | The battery charge in procentage and in volatage |
| Chargings:      | Number of charges when control unit is connected |
| Active:         | Lifter in active status                          |
| Running:        | Motortime running                                |
| Display Elog:   | Fault codes refer to chapter 9.2 "Fault codes"   |
| Display stamps: | Info of Active and Running at a date             |
| Compressed Cfg: | Machine type configuration                       |
| SW:             | Software version                                 |
| BCC:            | Software version (if it is a LiFePO4 lifter)     |

### MENU Service Mgm

|                   |                                                          |
|-------------------|----------------------------------------------------------|
| Error log:        | Fault codes ref . chapter 9.2 "Fault codes"              |
| Service stamps:   | Date when service info of Active and Running when stamp. |
| BCC Test:         | Check if BCC is active                                   |
| Clear statistics: | Clear Active and Running info                            |
| Reset system:     | Restart lifter with update of settings                   |

### MENU Factory Cfg.

Menu is protected with a PINCODE

Menu holds settings of Battery config information, Handcontrol set variant, Machine type configuration, Motor function motion, End stop sensor, 24V output tool.

## 5.9.1 Declaration of Compressed Cfg

| Compressed Cfg |   |   |   |   |   |   |   |   |   |   |   |   |   |
|----------------|---|---|---|---|---|---|---|---|---|---|---|---|---|
| X              | X | X | X | / | X | X | X | X | / | X | X | X | X |
| A              | B | C | D |   | E | F | G | H |   | I | J | K | L |

|            |                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|------------|----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>A</b>   | Battery type   | 1= VRLA AGM, 2= LiFePO4                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>B</b>   | Remote control | 1=Stepless                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| <b>C</b>   | Machine type   | 1=Single, 2=Telescope (two switches), 3=Telescope basic (one switch), 4=Parallel, 5=Separate                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>D</b>   | Motor function | 1=Standard                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| <b>E-H</b> | End stop       | No end switch: E=0, F=0, G=0, H=0<br>J100-2 input, Up (accessories): E=1, F=0, G=0, H=0<br>J100-3 input, Down (accessories): E=0, F=1, G=0, H=0<br>J101-2 input, Up (tools): E=0, F=0, G=1, H=0<br>J101-1 input, Down (tools): E=0, F=0, G=0, H=1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <b>I-L</b> | 24V            | J104-1 output, Always off: I=0, J=0, K=0, L=0<br>J104-1 output, Follow input J100-1: I=0, J=1, K=0, L=0<br>J104-1 output, Invert input J100-1: I=1, J=1, K=0, L=0<br>J104-1 output, Follow input J100-2: I=0, J=2, K=0, L=0<br>J104-1 output, Invert input J100-2: I=2, J=2, K=0, L=0<br>J104-1 output, Follow input J100-3: I=0, J=3, K=0, L=0<br>J104-1 output, Invert input J100-3: I=3, J=3, K=0, L=0<br>J104-1 output, Follow input J100-4: I=0, J=4, K=0, L=0<br>J104-1 output, Invert input J100-4: I=4, J=4, K=0, L=0<br>J104-1 output, Follow input J100-6: I=0, J=6, K=0, L=0<br>J104-1 output, Invert input J100-6: I=6, J=6, K=0, L=0<br>J104-1 output, Always on: I=1, J=6, K=0, L=0<br>J104-2 output, Inactive: N/A |

# 6 Maintenance

## 6.1 Periodic maintenance



**WARNING:** Do not use the lifter if there is suspicion of damaged or faulty components.

---

Periodic maintenance should be carried out every year, or when needed.

Always replace broken or suspected broken parts. Use parts supplied and approved by Ronl.

If needed contact your supplier for advice.

### 6.1.1 Preparations before maintenance

- Make sure the battery charger is not connected to the lifter.
- Park the lifter where there is good light and room to walk around the machine to do visual inspections.
- Engage the central brake.

### 6.1.2 Cleaning the lifter



**CAUTION:** Do not use running water to clean the lifter.

---

Clean the lifter using detergent suitable for painted surfaces, aluminum and stainless steel. Follow the instructions on the detergent.

Wipe the lifter dry after cleaning.

Do not use hose or high-pressure jets as this may damage the electronics and the paint.

### 6.1.3 Checklist maintenance

- **Mechanical parts:**  
Check the mechanical parts of the lifter for wear and cracks.

- **Electrical connectors:**  
Remove the battery unit from the lifter; refer to chapter 5.2 “Remove the battery unit from the lifter”. Check all the electrical connectors and visible wires for wear and tear. If dirty remove in a safe manner.
- **Nuts and bolts:**  
Make sure all nuts and bolts are tightened.
- **Brakes:**  
Check the brakes are working. Refer to chapter 4.3.1 “Testing the brakes” for further instructions.
- **Wheels:**  
The condition of the wheels is important due to ergonomics. Make sure all wheels roll normally and smoothly. Remove dirt and other debris between wheel and castor. Inspect the castors and the tire rubbers on the wheels for wear and tear.
- **Knobs:**  
Knobs for handlebar and bracket to the remote control. Check that the knobs can be loosen and tighten properly.
- **Mast:**  
Clean the brush strips and wipe the mast clean.
- **Battery maintenance:**  
Ask the operator who normally uses the lifter if it holds the charge or if it needs to be charged during the work shift. Check the chapter 7 “Battery unit performance”.

### 6.1.4 Tests

Perform all function tests referring to chapter 4.3 “Basic function tests” before the lifter is put back into use again.

# 7 Battery unit performance

Damage to the battery can be caused by wear, sub-standard charging procedures or a faulty charger.

With an empty battery or a low battery level, the battery risks an inferior performance and a shorter lifetime etc. To protect the battery of a rested lifter, charging needs to be done at intervals.

Even if the battery indicates a full charge, it may be necessary to replace it with a new one. After charge, check the battery by raising and lowering the tooling a few times. Rest the lifter for 5 minutes and then read out the battery voltage. Has the voltage dropped and stayed below 25V?

Depending on the amount of lifting and the weight of the load handled, batteries may need to be replaced at an idle voltage higher than 25V.

Used batteries should be handed in to a recycling center.

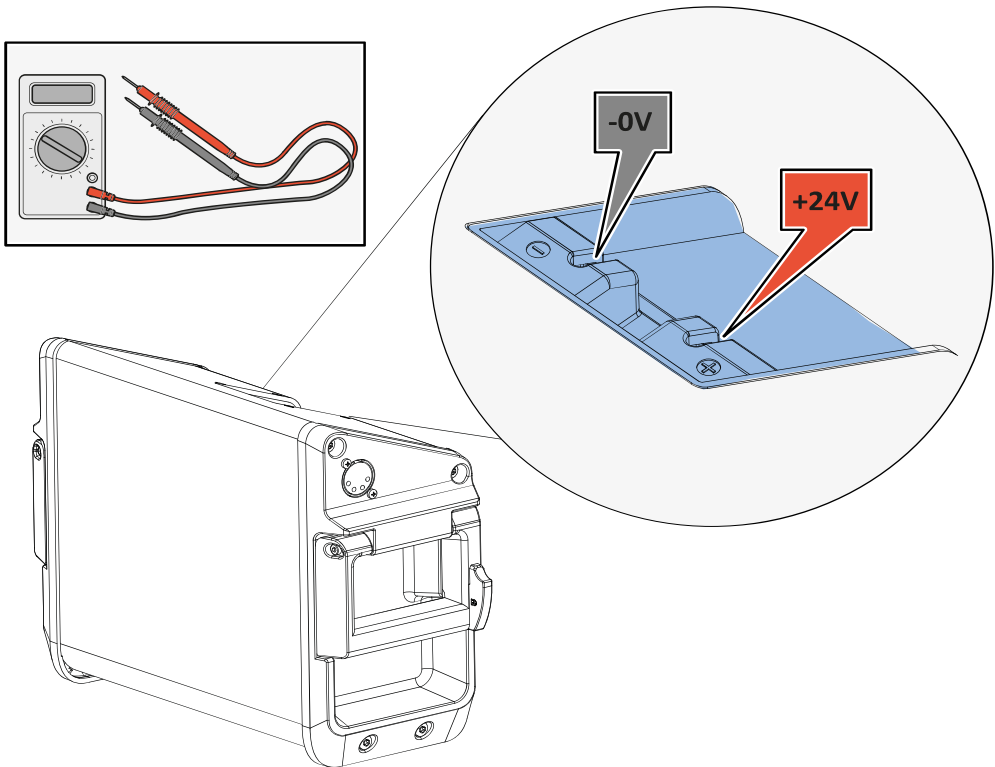
| Low voltage idle | Acceptable voltage idle |
|------------------|-------------------------|
| <25V             | >26V                    |

## 7.1 Checking the Voltage

Checking the voltage by the display:

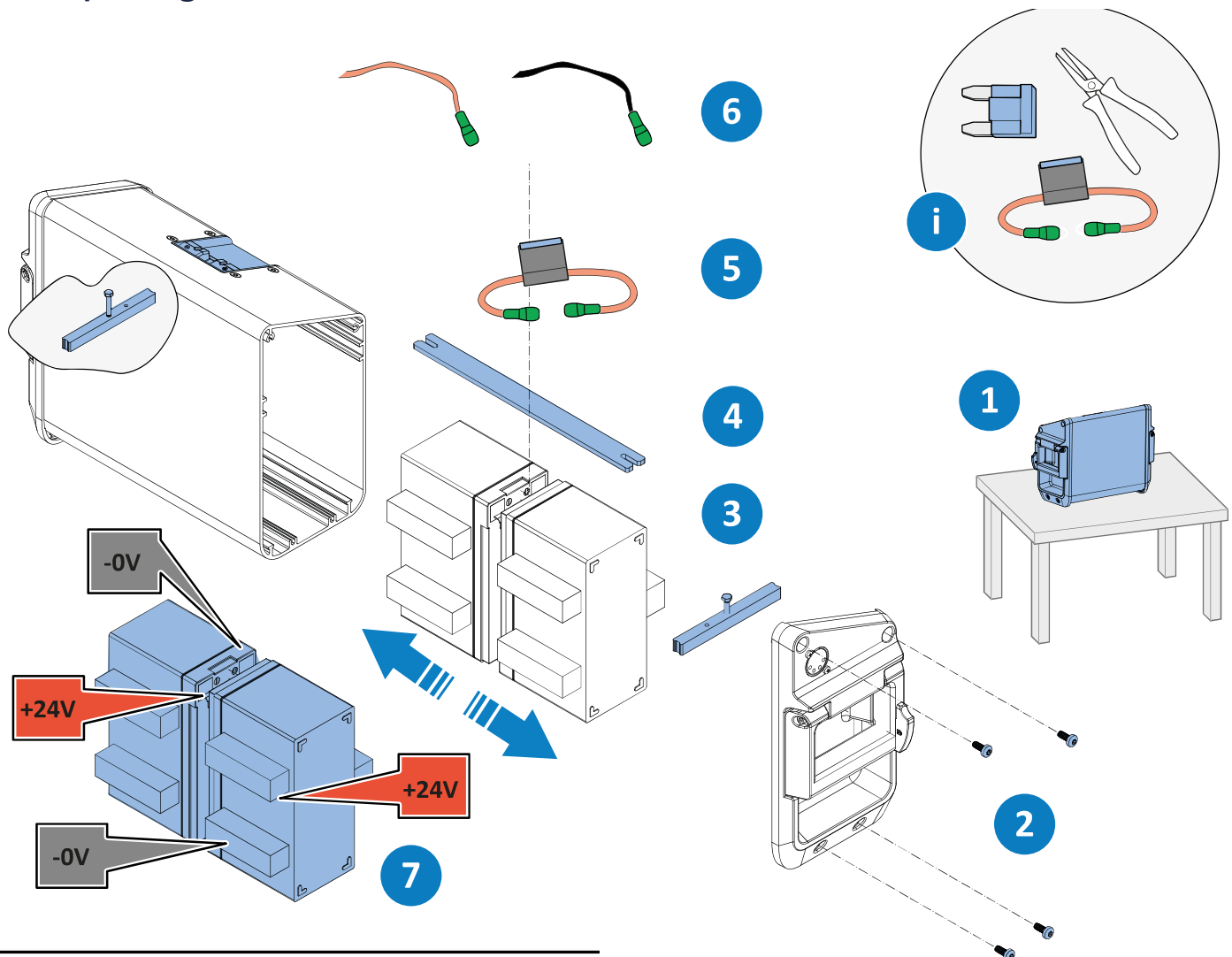
To read out the actual battery voltage (V) use the buttons beside the display. Press “Enter” > “System info”. Line one will show xx% xx,xV.

Checking the voltage by multimeter:



**WARNING: Electrical hazard!**  
Caution when handling the batteries and their terminals.

## 7.2 Replacing the batteries/fuse VRLA AGM 12Ah



**WARNING: Electrical hazard!**  
Make sure that no charger is connected to the battery unit.



**WARNING: Electrical hazard!**  
Caution when handling the batteries and their terminals.

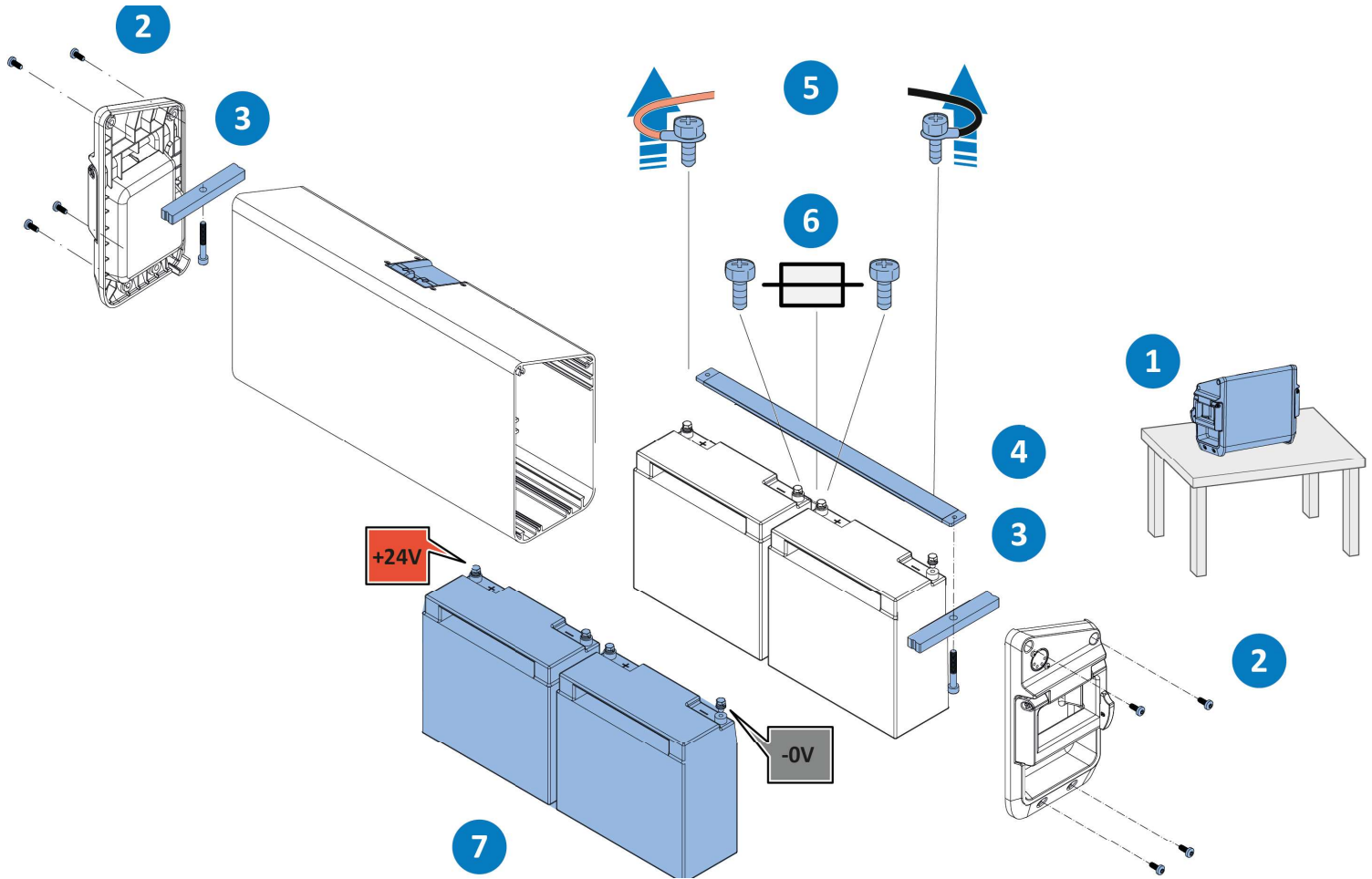
For fuse replacement only follow numbers 1-5 and figure i.

1. Place the battery unit securely on a table.
2. Open the battery enclosure by loosening the four screws of the right gable enclosure. Leave the cables connected to the gable enclosure.
3. Remove the short side fixing plate by loosening its screw. Remove the long side fixing plate.

4. Carefully slide out the batteries from the battery enclosure.
5. At the blade receptacles of the cables, detach the fuse and its holder from the batteries. (For fuse replacement, figure i; replace the fuse in the holder. Reconnect cables. Remount by following numbers 4-2).
6. At the blade receptacles of the cables, detach the cables to the connector of the battery enclosure. Remove the old batteries.
7. Arrange the new batteries with the contacts facing each other. Connect the cables in figure 5 and figure 6 to the new batteries. Remount by following figure 4-2.

**WARNING** Avoid short circuit, keep distance between batteries terminals.

## 7.3 Replacing the batteries/fuse VRLA AGM 17Ah



**WARNING: Electrical hazard!**  
Make sure that no charger is connected to the battery unit.



**WARNING: Electrical hazard!**  
Caution when handling the batteries and their terminals.

For fuse replacement only follow numbers 1-6

1. Place the battery unit securely on a table.
2. Open the battery enclosure by loosening the four screws of each gable enclosure. Leave the cables connected to the right gable enclosure.
3. Unscrew the two screws that secure each short side fixing plate to the long side fixing plate.

4. Remove the two short side fixing plate and the long side fixing plate. Be careful not to come into contact with the battery terminals! Slide out the batteries from the battery enclosure.
5. Detach the cables from the batteries.
6. Disconnect the fuse by the two screws. Remove the fuse. For fuse replacement: Insert a new fuse, reconnect cables, figure 5., remount by following numbers 4-2), and remove the old batteries.
7. Arrange the new batteries with the contacts facing the same direction. Connect the fuse in figure 6 and cables in figure 5 to the new batteries. Replace by following figure 4-2.

**WARNING** Avoid short circuit, keep distance between batteries terminals.

## 8 Spare part list

| Spare part number            | Description                                 | Used for the below PRX units |
|------------------------------|---------------------------------------------|------------------------------|
| <b>REMOTE CONTROL</b>        |                                             |                              |
| 21462                        | Stepless Remote Control                     | 20500HS, 19000, 19500        |
| 21451                        | Bracket for Remote Control                  | 20500HS, 19000, 19500        |
| <b>HANDLEBAR</b>             |                                             |                              |
| 220426                       | Handlebar                                   | 20500HS                      |
| 220425                       | Handlebar                                   | 19000, 19500                 |
| <b>BATTERY</b>               |                                             |                              |
| 2403SRL                      | Battery Charger                             | 20500HS, 19000, 19500        |
| 220412                       | Control Unit                                | 20500HS                      |
| 220414                       | Control Unit                                | 19000, 19500                 |
| 220422                       | Battery Pack (24V/12Ahr)                    | 20500HS                      |
| 220423                       | Battery Pack (24V/17Ahr)                    | 19000, 19500                 |
| <b>LIFT MOTOR &amp; GEAR</b> |                                             |                              |
| 19265A                       | Lift Motor                                  | 20500HS, 19000, 19500        |
| 220344                       | Motor Cable (lift moter to power pack)      | 20500HS, 19000, 19500        |
| 220321                       | Contact Insert 7+ ground for tool connector | 20500HS, 19000, 19500        |
| 19277-01                     | 15:1 Lift Gear (w/brake)                    | 20500HS                      |
| 19263A                       | 30:1 Lift Gear                              | 19000, 19500                 |
| 19269A                       | 25:1 Lift Gear                              | 19000, 19500                 |
| <b>SLIDE</b>                 |                                             |                              |
| 21108                        | Standard Slide (210mm)                      | 20500HS                      |
| 19180                        | Standard Side (280mm)                       | 19000, 19500                 |
| 19180 HDS                    | HD Slide (380mm)                            | 19000, 19500                 |
| 19275                        | 19700 Slide (480mm)                         | 19500                        |
| <b>CASTERS</b>               |                                             |                              |
| 20011-01                     | 2.44" Low Built Front Caster (Dual Swivel)  | 20500HS, 19000, 19500        |
| 17557                        | 4" Low Built Rear Caster (Single Swivel)    | 20500HS, 19000, 19500        |
| 20010-01                     | 4" Standard Front Caster                    | 20500HS, 19000, 19500        |
| 19118                        | 6" Standard Rear Caster                     | 20500HS, 19000, 19500        |

## REMOTE CONTROL

**21462**



**21451**



## HANDLEBAR

**220426** (attached with 2 knobs)



**220425** (attached with 1 knob)



## BATTERY

**2403SRL**



**220412** (holds 12Ahr battery)



**220414** (holds 17Ahr battery)



**220422** (12Ahr battery)



**220423** (17 Ahr battery)



**LIFT MOTOR & GEAR**

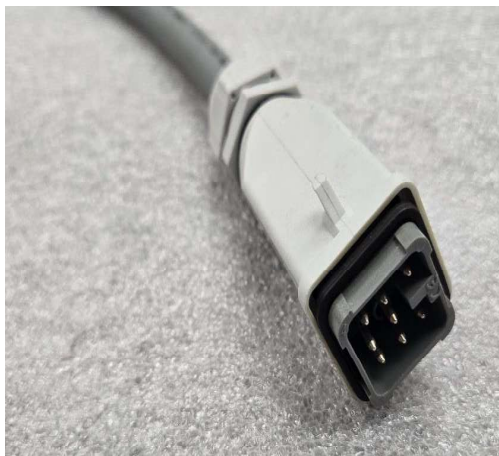
**19265A**



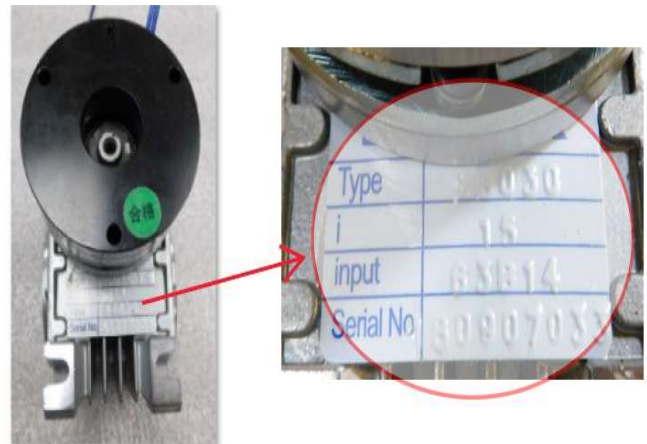
**220344** (connector contains 4 pins)



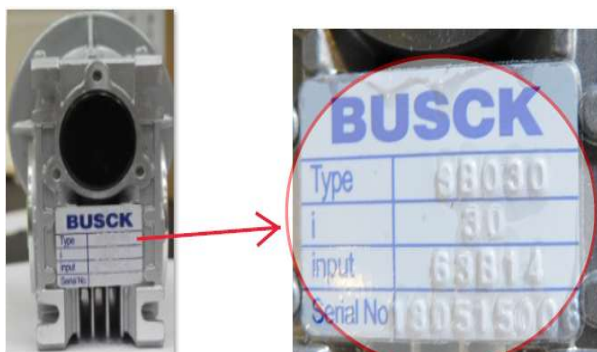
**220321** (connector contains 8 pins)



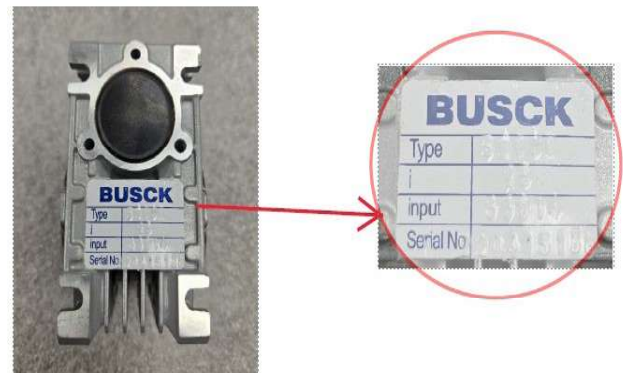
**19277-01**



**19263A**



**19269A**



## SLIDE

**21108** (210mm overall length)



(20500HS side view)



**19180** (280mm overall length)



(19000, 19500 & 19700 side view)



**19180 HDS** (380mm overall length)



**19275** (480mm overall length)



## CASTERS

**20011-01** (dual swivel 2.44" front caster)



**17557** (4" rear caster)



**20010-01** (single swivel 4" front caster)



**19118** (6" rear caster)



# 9 Troubleshooting

## 9.1 Remedy

The lifter is designed for safe and efficient operation. Follow the provided routine maintenance and instructions. If problems arise, some guidance is provided below. If the problem persists after these actions, contact your dealer or supplier.

|   | Remedy                                                                                                                                                                                                                                                                                                                                                                              |
|---|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|   | <b>If the tooling does not move at all, or very slowly</b>                                                                                                                                                                                                                                                                                                                          |
| 1 | Verify that the battery unit is correct mounted.                                                                                                                                                                                                                                                                                                                                    |
| 2 | Verify that the maximum load is not exceeded.                                                                                                                                                                                                                                                                                                                                       |
| 3 | Check all cable connectors. Re-plug and make sure they are fully inserted.                                                                                                                                                                                                                                                                                                          |
| 4 | Battery charge - has the battery unit been charged recently? The power unit status is shown with the level icon at the display of the control box. When the power of the battery is low, the battery level icon starts flashing. It is no longer possible to raise the tooling. Charge the battery for 8 hours and check the voltage (24V), refer to Chapter 5 "User instructions". |
| 5 | Check that the battery charger is working.<br>When connected to power, a light will be visible on the charger.                                                                                                                                                                                                                                                                      |
| 6 | If the display lights up but there is no movement of the tooling in any direction, charge the batteries installed on the lifter for 30 min and test the lifting functions                                                                                                                                                                                                           |
| 7 | Check the fuse inside the battery unit, if blown, replace it.                                                                                                                                                                                                                                                                                                                       |
|   | <b>If the lifter sounds strange</b>                                                                                                                                                                                                                                                                                                                                                 |
| 1 | Make sure the lifter is correctly assembled, refer to Chapter 4 "Set up".                                                                                                                                                                                                                                                                                                           |
| 2 | Substandard maintenance? refer to Chapter 6 "Maintenance".                                                                                                                                                                                                                                                                                                                          |
|   | <b>If the battery level is too low even though charging has been done recently</b>                                                                                                                                                                                                                                                                                                  |
| 1 | Charge the battery unit for 8 hours. The battery unit must be in the cart (in contact with the control unit). For instructions, see chapter 4.2 First charge. When charging is complete, start the control unit and check that the control unit shows the icon that the battery is charged.                                                                                         |
| 2 | When charging is complete, check the battery performance. For instructions, see the beginning of chapter 7 Battery unit performance and chapter 7.1 Checking the voltage.                                                                                                                                                                                                           |

## 9.2 Fault codes

The display located centrally on the control unit can show various status ID:s (Fault codes). The Fault codes show upon startup by pressing “Enter” or by accessing the Service menu by using the push buttons. The fault codes disappear from the display as soon as a lifting/lowering motion is started.

Fault codes does not indicate any danger, but if shown repeatedly they can help troubleshooting if the Lifter behaves in an unexpected manner.

The fault code history can be cleared from the service menu.

Any recurring Fault codes will be saved under fault codes.

After a problem has been diagnosed and corrected, clearing the Fault history is advisable. This allows the Lifter to accumulate a new file of faults.

By checking the new history file at a later date, you can readily determine whether the problem was indeed completely fixed.

| Fault code | Fault description                                       | Trouble shooting                                                                                                                                                                                                                                                                                                   |
|------------|---------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 11         | Thermal fault                                           | 1. Temperature $>80^{\circ}\text{C}$ or $<-10^{\circ}\text{C}$ . cutback<br>2. Operation in extreme environments.<br>3. Electromagnetic brake not releasing.                                                                                                                                                       |
| 12         | Throttle fault                                          | The Lifter is operated by a potentiometer (placed in hand control).<br><br>Fault code will indicate if potentiometer resistance is out of limit or if there is damaged wire(s) between remote control and control unit. Persistent fault will cause lifting motion to stop.<br><br>Replace hand control if needed. |
| 14         | Under voltage                                           | 1. Battery voltage $<17$ volts.<br>2. Bad connection at battery or controller.                                                                                                                                                                                                                                     |
| 15         | Over voltage                                            | 1. Battery voltage $>31$ volts.<br>2. Intermittent battery connection.                                                                                                                                                                                                                                             |
| 31         | Wiring fault                                            | The Lifter is operated by a potentiometer (placed on hand control).<br><br>Fault code will indicate if potentiometer is broken and no control signal reaches the motor control.                                                                                                                                    |
| 42         | Hardware Fail Safe                                      | 1. Motor voltage does not correspond to throttle request.<br>2. Short circuit in motor or in motor wiring.                                                                                                                                                                                                         |
| 4A-4D      | Lift controller on board temperature and voltage levels | MCU voltage or control signals out of range.                                                                                                                                                                                                                                                                       |
| 84         | BCC STOP (LiFEPo4 batteries only)                       | If batteries are nearly empty the BCC controller will prevent lifting. When this occurs Fault code 84 is logged. Plan charging the batteries more regularly.                                                                                                                                                       |
| 42         |                                                         |                                                                                                                                                                                                                                                                                                                    |

| General                        |                                                            |
|--------------------------------|------------------------------------------------------------|
| Machine type:                  | Electrically operated material lift - Lifter               |
| Model                          | Lift-O-Flex – 90PRX/130PRX/175PRX/225PRX/325PRX            |
| Main voltage (battery charger) | 230 V AC 50 Hz or 115 V AC 60 Hz                           |
| Safety                         | CE                                                         |
| IP class                       | IP 2X<br>IP 3X (battery unit and electrical control units) |
| Vibration                      | Vibrations do not exceed 2.5 m/s <sup>2</sup>              |
| Noise                          | The noise level does not exceed 70 dB(A)                   |
| Test factor for static testing | 1.25                                                       |

| Base Standards – Loading specifications are application-specific and are documented on the customer drawing. |                              |
|--------------------------------------------------------------------------------------------------------------|------------------------------|
| 2500HS PRX                                                                                                   |                              |
| Maximum load                                                                                                 | Max 130kg @300mm from column |
| Lifting speed (empty)                                                                                        | 132mm/s                      |
| 19000 PRX                                                                                                    |                              |
| Maximum load                                                                                                 | Max 175kg @400mm from column |
| Lifting speed (empty)                                                                                        | 78 mm/s                      |
| 19500 PRX                                                                                                    |                              |
| Maximum load                                                                                                 | Max 225kg @400mm from column |
| Lifting speed (empty)                                                                                        | 65mm/s                       |
| 19700 PRX                                                                                                    |                              |
| Maximum load                                                                                                 | Max 325kg @400mm from column |
| Lifting speed (empty)                                                                                        | 65mm/s                       |

| Power Electronics VRLA AGM 20500HS PRX, 19000 PRX, 19500 PRX |                                 |
|--------------------------------------------------------------|---------------------------------|
| <b>Control unit</b>                                          |                                 |
| Part Number                                                  | 220412 / 220412-CF              |
| Description                                                  | VRLA AGM, 30A                   |
| Motor power / voltage                                        | 30A, 0-24V                      |
| Power output                                                 | 30A, 0-24V                      |
| <b>Battery unit</b>                                          |                                 |
| Part number                                                  | 220422                          |
| Description                                                  | Battery unit 24V/12Ah, VRLA AGM |
| Battery Technology                                           | Absorbent Glass Mat AGM, VRLA   |
| Battery Design Life                                          | 3-5 years                       |
| Power Electronics VRLA AGM 20500HS PRX, 19000 PRX, 19500 PRX |                                 |
| <b>Control unit</b>                                          |                                 |
| Part Number                                                  | 220414 / 220414-CF              |
| Description                                                  | VRLA AGM, 30A High amph         |
| Motor power / voltage                                        | 30A, 0-24V                      |
| Power output                                                 | 30A, 0-24V                      |
| <b>Battery unit</b>                                          |                                 |
| Part number                                                  | 220423                          |
| Description                                                  | Battery unit 24V/17Ah, VRLA AGM |
| Battery Technology                                           | Absorbent Glass Mat AGM, VRLA   |
| Battery Design Life                                          | 3-5 years                       |

| Power Electronics VRLA AGM 19700 PRX |                                 |
|--------------------------------------|---------------------------------|
| <b>Control unit</b>                  |                                 |
| Part Number                          | 220415 / 220415-CF              |
| Description                          | VRLA AGM, 60A                   |
| Motor power / voltage                | 30A, 0-24V                      |
| Power output                         | 2 X 30A, 0-24V                  |
| <b>Battery unit</b>                  |                                 |
| Part number                          | 220423                          |
| Description                          | Battery unit 24V/17Ah, VRLA AGM |
| Battery Technology                   | Absorbent Glass Mat AGM, VRLA   |
| Battery Design Life                  | 3-5 years                       |

| Power Electronics LiFePO4 20500HS PRX, 19000 PRX, 19500 PRX |                                              |
|-------------------------------------------------------------|----------------------------------------------|
| <b>Control unit</b>                                         |                                              |
| Part Number                                                 | 220413 / 220413-CF                           |
| Description                                                 | VRLA AGM, 30A                                |
| Motor power                                                 | 30A, 0-24V                                   |
| Power out                                                   | 30A, 0-24V                                   |
| <b>Battery unit</b>                                         |                                              |
| Part number                                                 | 220421                                       |
| Description                                                 | Battery unit 24V/10Ah, LifePo4               |
| Battery Technology                                          | Absorbent Glass Mat VRLA AGM                 |
| Battery Design Life                                         | >2000cycles @1C,100% DOD, more than 10 years |

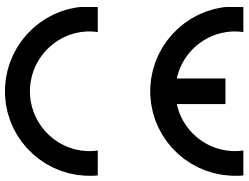
## 10.1 CE-Declaration

The CE declaration can be found on the next page.

# EC- Declaration of conformity of the machinery

ORIGINAL

(In accordance with 2006/42/EC, Annex II 1A)

**Manufacturer:**

Pronomic AB  
Box 5504 192 05, Sollentuna, SWEDEN

**Machine Type**

Electrically operated material lift - Lifter

**Models and serial numbers:**

|                                                                                               |                                                                                                          |                                                                                                           |                                                        |
|-----------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|--------------------------------------------------------|
| Lift-O-Flex 20500HS<br>PRX<br>21000- xxxxx<br>220510- xxxxx<br>220511- xxxxx<br>220512- xxxxx | Lift-O-Flex 19000PRX<br>19000- xxxxx<br>220520- xxxxx<br>220521- xxxxx<br>220522- xxxxx<br>220523- xxxxx | Lift-O-Flex 19500 PRX<br>19500- xxxxx<br>220530- xxxxx<br>220531- xxxxx<br>220532- xxxxx<br>220533- xxxxx | Lift-O-Flex 19700 PRX<br>19500- xxxxx<br>220537- xxxxx |
|-----------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|--------------------------------------------------------|

**Authorized to compile the technical file:**

Samuel Pierre, Pronomic AB, BOX 5504, 192 05 Sollentuna, SWEDEN

Applied EC directives:

**2006/42/EC**

Machinery Directive

**2014/30/EU**

EMC Directive

Applied standards:

**SS-EN ISO 12100:2010**

Safety of machinery- General principles for design – Risk assessment and risk reduction (ISO 12100:2010)

**SS-EN ISO 13854:2019**

Safety of machinery- Minimum gaps to avoid crushing of parts of the human body

**EN/(IEC) 61000-6-2:2019**

Electromagnetic compatibility (EMC). Generic standards. Immunity for industrial environments

**EN/(IEC) 61000-6-4:2019**

Electromagnetic compatibility (EMC). Generic standards. Emission standard for industrial environments

**FCC Part 15 subpart B, Class A**

We hereby declare that the above-referenced machine, built and equipped with attachments included in this manual, is in conformity with the applicable conditions stated in the directives and standards.

Sollentuna, Sweden, 31-03-2025

.....  
Fredrik Dahlborg, Pronomic AB

The lifter has been modified and/or equipped with attachments as follows (P/N & Description):  
.....

After modification a supplementary risk analysis has been performed and the machine is certified to be in conformity with the directives and standards above.

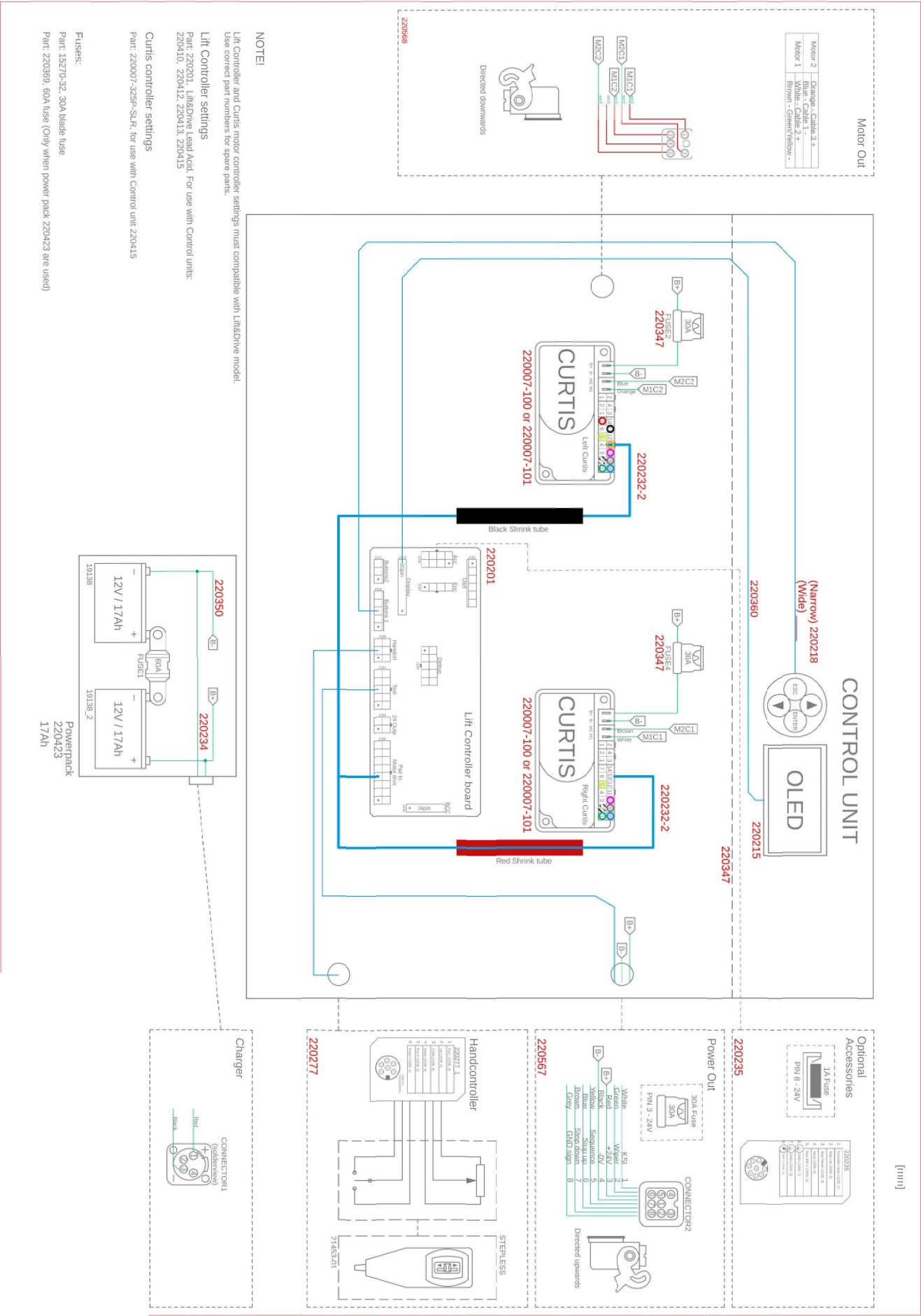
Name: .....

Place and date: .....

Company: .....

2023-06-16 13:51 t=0.96 S:\data\DATA\CAD\STD\# Eagle\Eagle Projects\Eagle - STD\STD - PowerPacks\# Proxima - Lift & Drive 2.0\220410-100\_Lead.sch (Sheet: 1/1)







## 10.3 Approved attachment and static load test

Attachments can be divided into groups. Below is a table of approved attachments.

If the lifter/tool is modified or lifter is equipped with other attachments a supplementary risk analysis must be carried out according to declaration of conformity with directive 2006/42/EC.

The lifter is marked with a maximum load sign. The maximal load sign is clearly placed on top of the control unit ref. to chapter 1.4 Signs. Lifters with more than one tool will be marked with a sign per tool.

The table below is valid for a lifter without tools or a lifter with standard tools. The lifter's maximum load is defined according to "Rated capacity (Label) Kg". The static loadtest is made according to the "Test load production (x1,25)".

For lifters with customer-adapted tool ref. to chapter 10.4 2 Ronl customized attachments and loadtest customer project.

| 20500HS<br>PRX                                            | 19000<br>PRX | 19500<br>PRX | 19700<br>PRX |          |                                                            |
|-----------------------------------------------------------|--------------|--------------|--------------|----------|------------------------------------------------------------|
| Rated capacity (Label) Kg<br>Test load production (x1,25) |              |              |              | Part now | Discription                                                |
| 130<br>163                                                | 175<br>219   | 225<br>281   | 325<br>406   |          | No Tool                                                    |
| Platform / Fork                                           |              |              |              |          |                                                            |
| 70<br>88                                                  |              |              |              | 17710    | Platform Scale, 500x450, 20500HS PRX                       |
| 70<br>88                                                  |              |              |              | 17720    | Counting Scale, 500x450, 20500HS RX                        |
| 70<br>88                                                  |              |              |              | 17730    | Roll-on platform, 600x438, front feed, 90IE<br>20500HS PRX |
| 70<br>88                                                  |              |              |              | 17740    | Roll-on platform, 600x438, side feed, 90IE<br>20500HS PRX  |
| 120<br>150                                                |              |              |              | 21851    | Std platform, 600x400, 20500HS PRX                         |
| 120<br>150                                                |              |              |              | 21852    | Std platform, 600x400, front roller, 20500HS PRX           |
| 120<br>150                                                |              |              |              | 21853    | Std platform, 600x400, L&R rollers, 20500HS PRX            |
| 120<br>150                                                |              |              |              | 21854    | Std platform, 600x400, 3 rollers, 20500HS PRX              |

|                                                                   |              |              |              |                 |                                                |
|-------------------------------------------------------------------|--------------|--------------|--------------|-----------------|------------------------------------------------|
| 20500HS<br>PRX                                                    | 19000<br>PRX | 19500<br>PRX | 19700<br>PRX |                 |                                                |
| <b>Rated capacity (Label) Kg<br/>Test load production (x1,25)</b> |              |              |              | <b>Part now</b> | <b>Discription</b>                             |
| <b>Prong</b>                                                      |              |              |              |                 |                                                |
| 85<br>125                                                         |              |              |              | 17241           | Pin for roll handling, 20500HS PRX             |
|                                                                   | 160<br>200   | 160<br>200   |              | 19201           | Pin for roll handling, 19000/19500 PRX         |
| <b>Squeeze Tool</b>                                               |              |              |              |                 |                                                |
| 60<br>75                                                          |              |              |              | 220604          | Squeeze & Turn, w/o arms, 20500HS PRX          |
| 60<br>75                                                          |              |              |              | 220605          | Squeeze & Turn, with arms, 20500HS PRX         |
|                                                                   | 110<br>138   | 110<br>138   |              | 220610          | Squeeze & Turn, without arms, 19000/19500 PRX  |
|                                                                   | 110<br>138   | 110<br>138   |              | 220611          | Squeeze & Turn, with std-arms, 19000/19500 PRX |
|                                                                   | 110<br>138   | 110<br>138   |              | 220612          | Squeeze & Turn,doub. no arms, 19000/19500 PRX  |
|                                                                   | 110<br>138   | 110<br>138   |              | 220613          | Squeeze & Turn,doub. arms, 19000/19500 PRX     |
| <b>Expander</b>                                                   |              |              |              |                 |                                                |
| 40<br>50                                                          |              |              |              | 17940           | Expand&Turn Light, 3 inches, 20500HS PRX       |
| 60<br>75                                                          |              |              |              | 220601          | Pneum.Expand&El.Turn, 3 inches, 20500HS PRX    |
|                                                                   | 110<br>138   | 110<br>138   |              | 220607          | Pneu. Expand&Turn, 3 inches, 19000/19500 PRX   |
| <b>Turn Unit</b>                                                  |              |              |              |                 |                                                |
|                                                                   | 155<br>195   | 205<br>256   |              | 220614          | Turn 2x, with motor control, 19000/19500 PRX   |
| 110<br>137                                                        |              |              |              | 220602          | Turn 0x, with motor control 20500HS PRX        |
| 110<br>137                                                        |              |              |              | 220603          | Turn 2x, with motor control, 20500HS PRX       |
| 110<br>137                                                        |              |              |              | 220606          | Turn 4x, with motor control 20500HS PRX        |

|                                                           |              |              |              |          |                                              |
|-----------------------------------------------------------|--------------|--------------|--------------|----------|----------------------------------------------|
| 20500HS<br>PRX                                            | 19000<br>PRX | 19500<br>PRX | 19700<br>PRX |          |                                              |
| Rated capacity (Label) Kg<br>Test load production (x1,25) |              |              |              | Part now | Discription                                  |
|                                                           | 155<br>195   | 205<br>256   |              | 220616   | Turn 4x, with motor control 19000/19500 PRX  |
|                                                           | 155<br>195   | 205<br>256   |              | 220609   | Turn 0x, with motor control, 19000/19500 PRX |
|                                                           |              | 150<br>188   | 200<br>250   | 220619   | HT Turn, no slipring, 19500/19700 PRX        |
|                                                           |              | 150<br>188   | 200<br>250   | 220620   | HT Turn, slipring x4, 19500/19700 PRX        |
| Mast                                                      |              |              |              |          |                                              |
| 110<br>137                                                |              |              |              | 220615   | Telecopic mast, 20500HS PRX                  |
|                                                           | 160<br>200   | 160<br>200   |              | 220608   | Telescopic mast, 19000/19500 PRX             |

## 10.4 Ronl customized attachments and static loadtest

Loadtest for a lifter with Ronl customized attachments is made according to the information from the project:

.....

Project no

.....

Serial number

.....

Rated capacity (Label) Kg

.....

Test load production (x1,25)

.....

Signature from project

10.5 Static load test certificate

Marked for the current load test (One load test per lifter).

|  |                                                                                                                                 |
|--|---------------------------------------------------------------------------------------------------------------------------------|
|  | When lifter is delivered with “No tool”<br>Refer to chapter 10.3 Approved attachment and load test                              |
|  | When lifter is delivered with an “Approved attachment”<br>Refer to chapter 10.3 Approved attachment and load test               |
|  | When lifter is delivered with “Ronl customized attachment” Re-<br>fer to chapter 10.4 Ronl customized attachment and load test. |

This machine has undergone a dynamic load test with the above mentioned load  
as well as a static load test with a testfactor of  
1.25x its max load.

This machine has performed flawlessly during the load test.

.....  
kg

.....  
Serial number

.....  
Signature, Inspector

.....  
Place, date

Ronl - USA





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