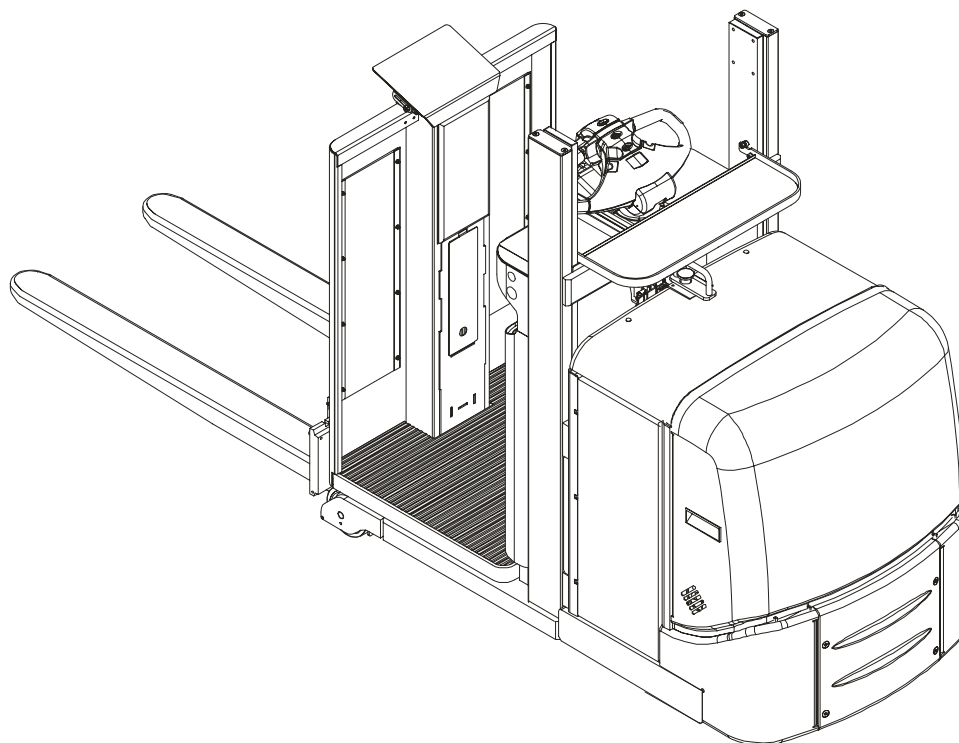
**WARNING!**

Do not use the truck before first reading through the OPERATOR'S MANUAL.

NOTE!

Keep for future reference.



Operator's Manual en

OSE100

Valid from serial number: 744051-

Order number: 222714-040

Issued: 2005-03-08 ITS

BT Products AB
S-595 81 MJÖLBY SWEDEN

Valid only for serial number:

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It is important that you read this Operator's Manual for your own safety!

Before you start to use this truck it is of extreme importance that you have **read** the contents of the entire Operator's Manual to be able to use the truck in a **safe** and **efficient** manner.

This Operator's Manual contains information on how you should use the truck, safety regulations and how to keep the truck in a safe condition by following daily service routines.

Only personnel who have been trained on the operation of this type of truck, are permitted to use this truck.

It is your employer's responsibility to ensure that you have sufficient knowledge of how to use your truck safely. Do not hesitate to contact your supervisor if you feel the slightest uncertainty of how to use this truck.

Always follow the warnings given in this Operator's Manual and on the truck to avoid accidents and incidents from occurring.

BT Products AB

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Safety regulations

Warning symbols

Always follow the warnings given in this Operator's Manual and on the truck to avoid accidents and incidents from occurring.

Warning levels

Warning texts regarding safety are given in four levels and provide information on the risks, describe the consequences and instruct how to avoid accidents.



DANGER!

Warns that an accident will occur if you do not follow the instructions.

The consequences are serious personal injury or possibly death and/or extremely large material damage.



WARNING!

Warns that accidents can occur if the instructions are not followed.

The consequences are serious personal injury or possibly death and/or large material damage.



CAUTION!

Warns that accidents can occur if the instructions are not followed.

The consequences are personal injury and/or material damage.

NOTE!

Marks the risk of a crash/breakdown if the instructions are not followed.

Prohibitory symbols



NO SMOKING

If smoking occurs in situations where a restriction against smoking is stated, a serious accident can occur.



NAKED FLAMES PROHIBITED

If naked flames are used in situations where naked flames are prohibited, a serious accident can occur.



GENERAL PROHIBITION

If the prohibition is ignored, a serious accident can occur.

Ordinance symbols



SAFETY SHOES

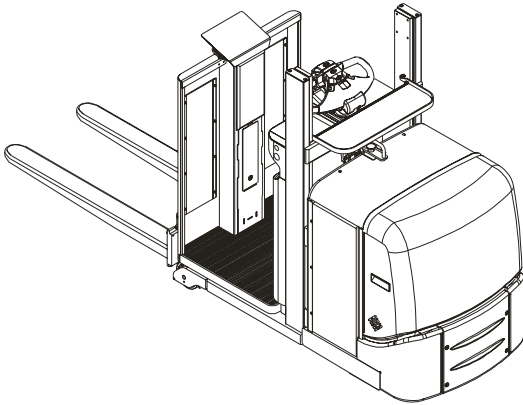
When the directive for safety shoes is given, safety shoes must always be worn to avoid personal injury.



PROTECTIVE GLASSES

When the directive for protective glasses is given, protective glasses must always be worn to avoid personal injury.

General safety regulations



Always carry out daily service before the truck is used, see chapter *Daily service and function checks*. The working order of all safety equipment, guards and safety switches should be checked before you use the truck. Such safety equipment must not be disengaged or removed.

- Check to make sure that all warning and machine designation plates are clean and undamaged.

The battery must be secured in its intended compartment. The battery shall have a weight that corresponds with the information stated on the truck's identification plate.

The truck must not be used if it is damaged or has faults that affect safety or its safe use. The truck may not be used if it has been repaired, modified or adjusted unless it has been checked and approved by personnel authorised by BT.

Operating the truck

The truck is designed and produced to be your tool for internal order picking in a warehouse when picking from floor level and from the first and second level of warehouse shelving (applies to standard design trucks).

If the truck is to be used in cold storage rooms the truck must be especially built for this type of use.

It is **not permitted** to use the truck for purposes that it has not been designed and produced for, e.g. the following applications:

- In areas where the atmosphere contains dust or gases that can cause fires or explosions.
- As a towing truck for trailers.
- To tow other trucks.
- To transport/lift passengers.

Operator's responsibility

- The truck shall only be driven by personnel that have been specially trained and have the management's permission to drive the truck.
- Each country (state) has its own safety regulations. It is the operator's obligation to know and follow these. This also applies to local regulations and for different types of handling. If the recommendations in this manual deviate from your national regulations, the local safety regulations should be followed.
- The truck should be insured in accordance with local directives and laws where the truck is used.

Safety regulations

- Any accidents that have caused personal injury or damage to buildings or equipment must be reported to the supervisor. Incidents and faults on the truck shall also be reported.
- The truck shall only be driven with care, good judgement and in a responsible manner.
- Local regulations regarding personal safety equipment shall be followed.
- The truck should **not** be driven with oily hands or oily shoes due to the risk of slipping.

Working area

- If there are marked truck routes these shall be used.
- The truck should only be driven on hard and even surfaces, e.g. concrete or asphalt.
- Ensure that the floor where the truck is to be used has sufficient load bearing capacity for the **total weight** of the truck including the maximum load and the weight of the operator.
- Take special care if there are protruding parts from racks, shelves or walls that can cause personal injury or damage to the truck.
- It is **prohibited** for persons to be present in the area around the truck when there is a risk of personal injury, e.g. areas that can be reached by falling goods, lowering load handling devices or in the truck's manoeuvring area.

Driving and conduct while driving

- It is **not permitted** to stand on the pallet and/or forks.
- Always drive the truck from a specified operator position.
- Always drive the truck in a responsible manner and with full control. Sudden starts and braking as well as cornering at high speed should be avoided.
- Reduce the speed if the surface is slippery to prevent the truck from sliding or overturning.
- Adapt your speed to suit the driving conditions, and where there are pedestrians or other trucks in the working area. Reduce speed when the line of vision is limited and when pedestrians or other vehicles can be encountered.
- Pay particular attention to other personnel as well as fixed and moving objects within the working area and thereby avoid accidents.
- Always be prepared to stop if other personnel are in the working area.
- Keep a safe distance from all vehicles ahead.

Safety regulations

- Always keep a safe distance from the edges of loading bays and loading ramps. Be attentive to marked risk areas.
- Sound the horn when overtaking and when the attention of other personnel is required.
- Always give way to a loaded truck at junctions and in confined aisles.
- **Never** allow passengers to ride on the truck.
- **Never** drive with any part of your body outside the operator compartment.

Handling loads

- Drive with care when collecting or depositing a load.
- Only handle loads that are within the truck's permitted lifting capacity. The length/width of the forks should be adapted to the load's shape and dimensions.
- Only handle loads that are stable and arranged in a safe manner.
- Particular care should be exercised when handling long and high loads.

Parking the truck

- Always park the truck with the load carrier and the operator cabin fully lowered. The brake is automatically applied if you do not activate the deadman's handle.
- Always park in designated areas if available.
- **Never** leave the truck parked with the current on.
- **Never** park the truck on an incline.
- **Never** park the truck so that it obstructs emergency exits.
- **Never** park the truck so that it obstructs traffic or work.

Handling the battery

- Always handle the battery and its connections with care. Read and follow the instructions carefully before replacing or charging the battery. See chapter *Battery*.
- Always wear protective glasses when working with the battery.
- Make sure the battery in the truck is of a weight that corresponds with the information on the truck's identification plate.
- Make sure the battery is secured in its compartment.



Maintenance and repair

Maintenance instructions should be followed to prevent faults and accidents, see the *Maintenance chart* in chapter *Maintenance*. Only qualified and BT trained personnel are permitted to maintain, adjust or repair the truck.

All replacement parts shall be BT approved spare parts.

Modifications or conversions to the truck that affect the safe use or function are not permitted.

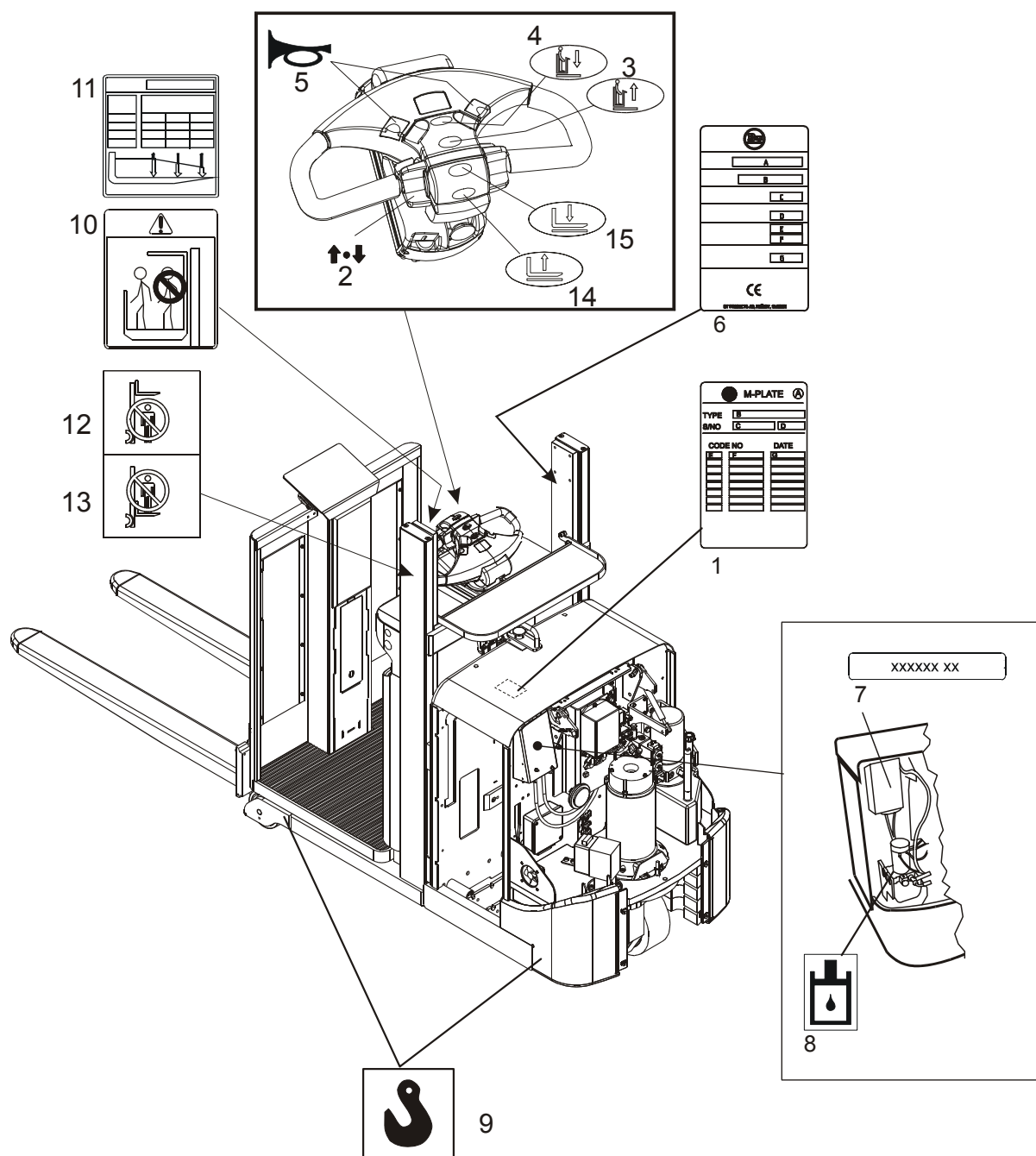
Safety regulations

Warning and information plates and symbols

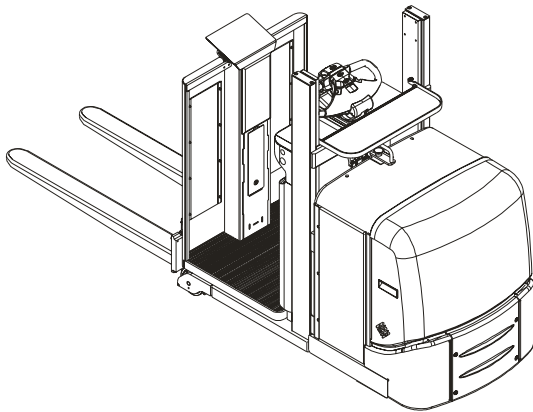
The figure shows the position and significance of the plates and symbols located on the truck.

1. Modification plate
2. Travel direction
3. Hydraulic control: Lift
4. Hydraulic control: Lower
5. Signal/Horn
6. Identification plate
7. Serial number
8. Hydraulic oil filling
9. Lifting points
10. Passengers prohibited
11. Capacity plate
12. Do not walk under elevated load
13. Do not stand on the forks
14. Hydraulic lever: Lifting the forks
15. Hydraulic lever: Lowering the forks

Warning and information plates and symbols



Presentation of the truck



The truck is an order picking truck designed to pick orders from ground level and the 1st and 2nd level in warehouse racks. The truck is designed for order picking with correct ergonomic posture. The operator's environment has been specially designed to provide a work position and an overview of truck handling for safe and comfortable operation.

The truck has a maximum lifting capacity of 1000 kg.

The truck has a 24V electrical system and the speed is regulated by means of a transistor controller to provide gentle control of acceleration and speed while driving. For reasons of safety and stability the speed in the direction of the forks is lower than the forward speed. Additionally, the speed is reduced in both directions if the platform is lifted higher than 500 mm.

The forks are lifted by using a powerful and compact hydraulic unit that is automatically shut-off when the forks reach their highest lifting position. The automatic shut-off is used to increase the service life of the hydraulic components and reduce the power consumption from the battery.

Note that some of the truck models described in the Operator's Manual may not be marketed in your country.

Intended application of the truck

The truck is solely designed and manufactured to handle goods. The trucks should be fitted with the appropriate accessories relevant to the application.

Prohibited application of the truck



The truck is designed for indoor order picking. It is not permitted to use the trucks for other purposes including the following:

- In areas that contain dust or gases which can cause fires or explosions
- As a tow-truck for trailers
- To tow other trucks
- To transport/lift passengers
- To drive on gravel or grass

Truck data

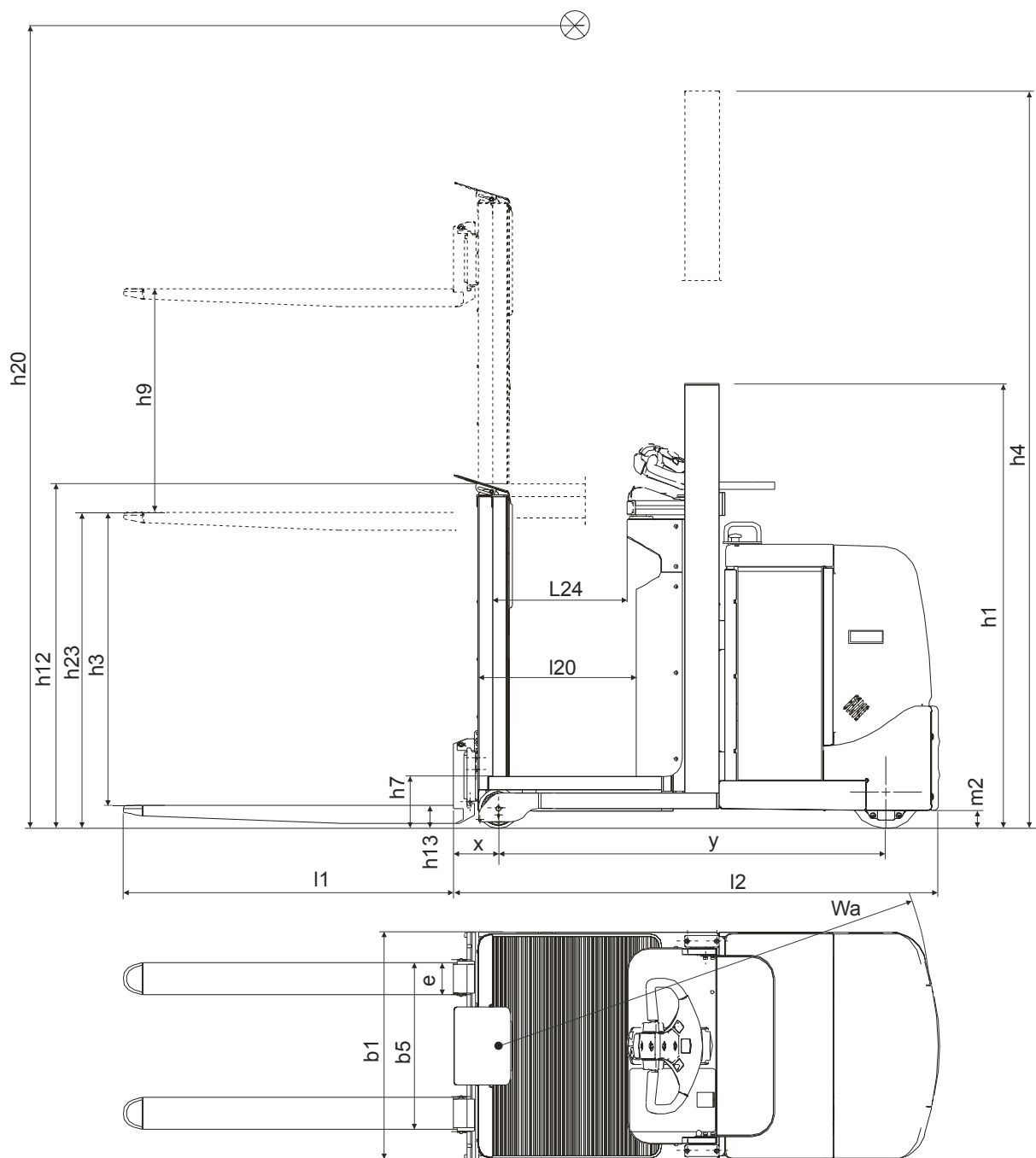
The table provides information regarding some technical data, which is of value with daily use of the truck.

Truck type	OSE100
Rated capacity, kg *	1000
Lift height, mm (platform height + 680 mm)	1100
Instep height, mm	180
Travel speed forward without load, km/h	12
Travel speed forward with rated load, km/h	8
Travel speed in fork direction without load, km/h	10.5
Travel speed in fork direction with rated load, km/h	6
Weight without battery, 1150 mm forks, kg	1162
Turning radius (Wa), mm	1490
Continuous equivalent noise level according to EN 12053, dBA	71
Vibration level according to EN 13059, m/s ²	0,9
Permitted drive wheel, material	Vulkollan Powerthane siped Tractothan

* Deviations may occur on trucks adapted to specific application; the correct value can be found on the truck's identification plate. In such cases the truck is also fitted with a modification plate.

Truck dimensions

The illustration shows external dimensions for the truck in its standard design.



Dimensions	OSE100
b_1 Chassis, mm	790
b_5 Width across fork, mm	justerbar 300 > 750
W_a Turning radius, mm	1540
l Fork length, mm	800 / 1000 / 1150

Presentation of the truck

Dimensions	OSE100
e Fork width, mm	115
l_2 Truck length incl. back of fork, mm	1690
l_{20} Platform length, mm	548
l_{24} Instep width, mm	471
x Back of fork to wheel centre, mm	158
y Wheel base, mm	1351
h_1 Height of truck, min., mm	1550
h_3 Lift movement, mm	1020
h_4 Height of truck, max., mm	2570
h_7 Instep height, mm	180
h_9 Initial lift	780
h_{12} Platform height, mm	1200
h_{13} Height of lowered fork, mm	80
h_{20} Picking height, mm	2800
h_{23} Total lift height, mm	1880
m_2 Floor clearance mid wheelbase, mm	70

Presentation of the truck

Diagram illustrating the layout of the identification plate on the truck. The plate consists of a vertical stack of labels A through F, and a separate label G at the bottom.

Identification plate

The illustration shows the identification plate used on the truck.

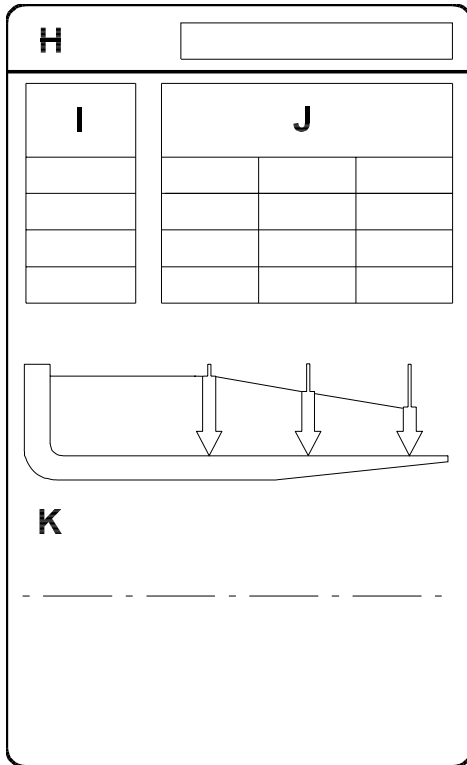
Item	Text		Unit
A	MODEL		
B	NO.		
C	RATED CAPACITY		kg
D	WEIGHT WITHOUT BATTERY		kg
E	BATTERY WEIGHT	MAX MIN	kg kg
F	BATTERY VOLTAGE		V
G	BATTERY TYPE — CLASS ACC TO UL583		

Modification plate

The illustration shows the modification plate which is found on the truck if it is supplied as non-standard or if it has been modified after leaving the manufacturer. The plate includes information according to the table below.

Diagram illustrating the layout of the modification plate (M-PLATE) on the truck. The plate includes fields for TYPE, S/NO, CODE NO, and DATE, with sub-labels B, C, D, E, F, and G.

Item	Text
A	Modification plate
B	Type
C	Serial number
D	Place of manufacture
E	Place of manufacture
F	Modification number
G	Date



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Capacity plate

The illustration shows the capacity plate used on the truck.

Item	Text	Unit
H	NO	
I	LIFT HEIGHT	mm
J	ACTUAL CAPACITY	kg
K	LOAD CENTRE	mm

Main components

1. Steering unit:

The truck can be manoeuvred by the operator either standing in the driver's compartment or walking by the side of the truck. The speed is reduced to 6.0 km/h when operating from the side. The brake is activated in the steering unit's raised position.

2. Identification plate:

With type designation, serial number, year of manufacture, weight without battery, battery weight, rated capacity, battery voltage, manufacturer and battery type (only ASME).

3. Cover:

Removable which provides good accessibility when servicing.

4. Drive wheel/motor:

Central placement of the drive wheel and drive motor.

5. Lifting points:

For the truck weight, see the identification plate.

6. Battery/Recharging connector:

The battery is charged via the permanently fitted charging connector.

7. Battery:

24 V.

8. Electrical steering motor:

Servo-steering for the drive wheel.

9. Emergency switch off:

Press the emergency switch to shut off the power.

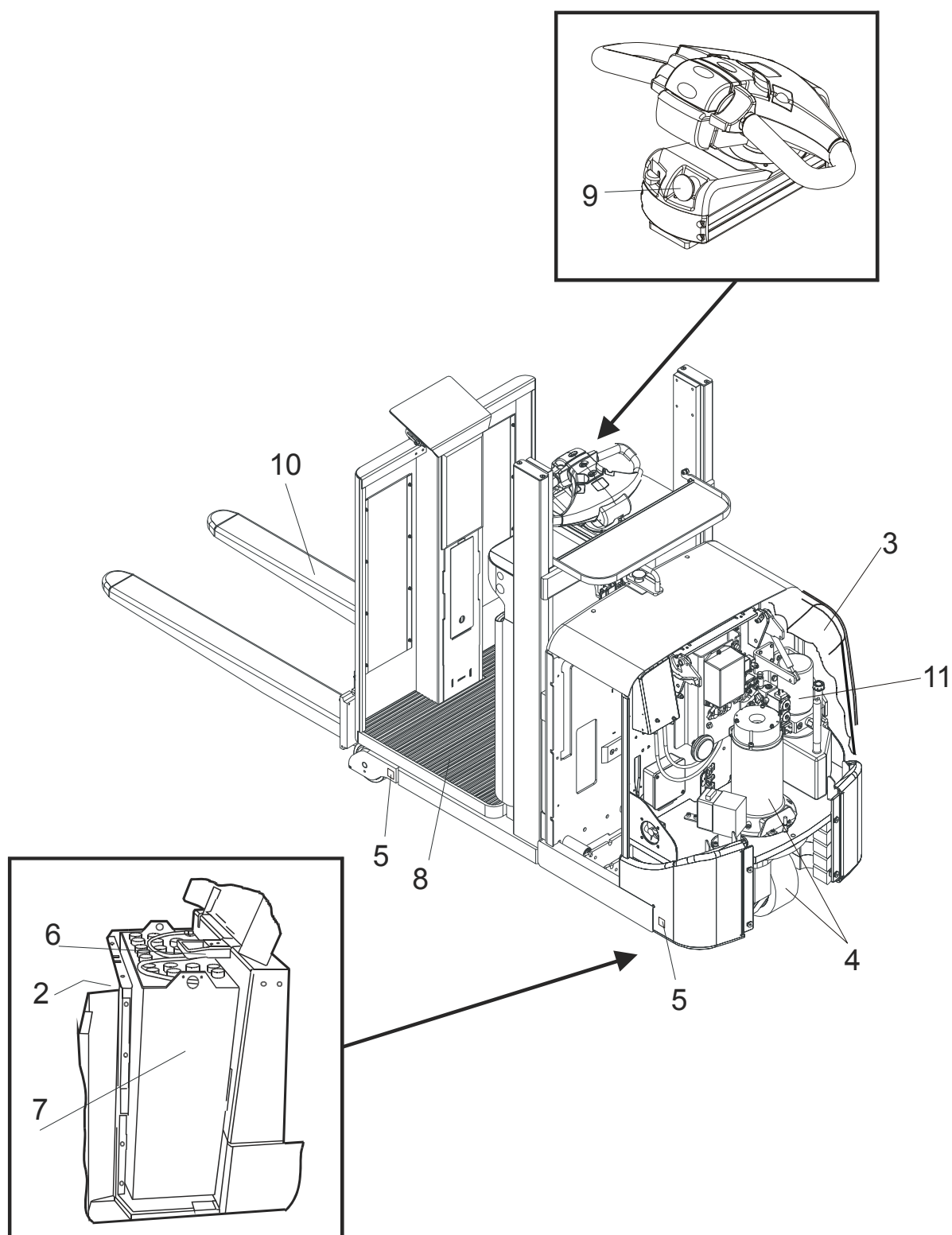
10. Initial lift mast:

The forks can be lifted/lowered separately.

11. Hydraulic unit:

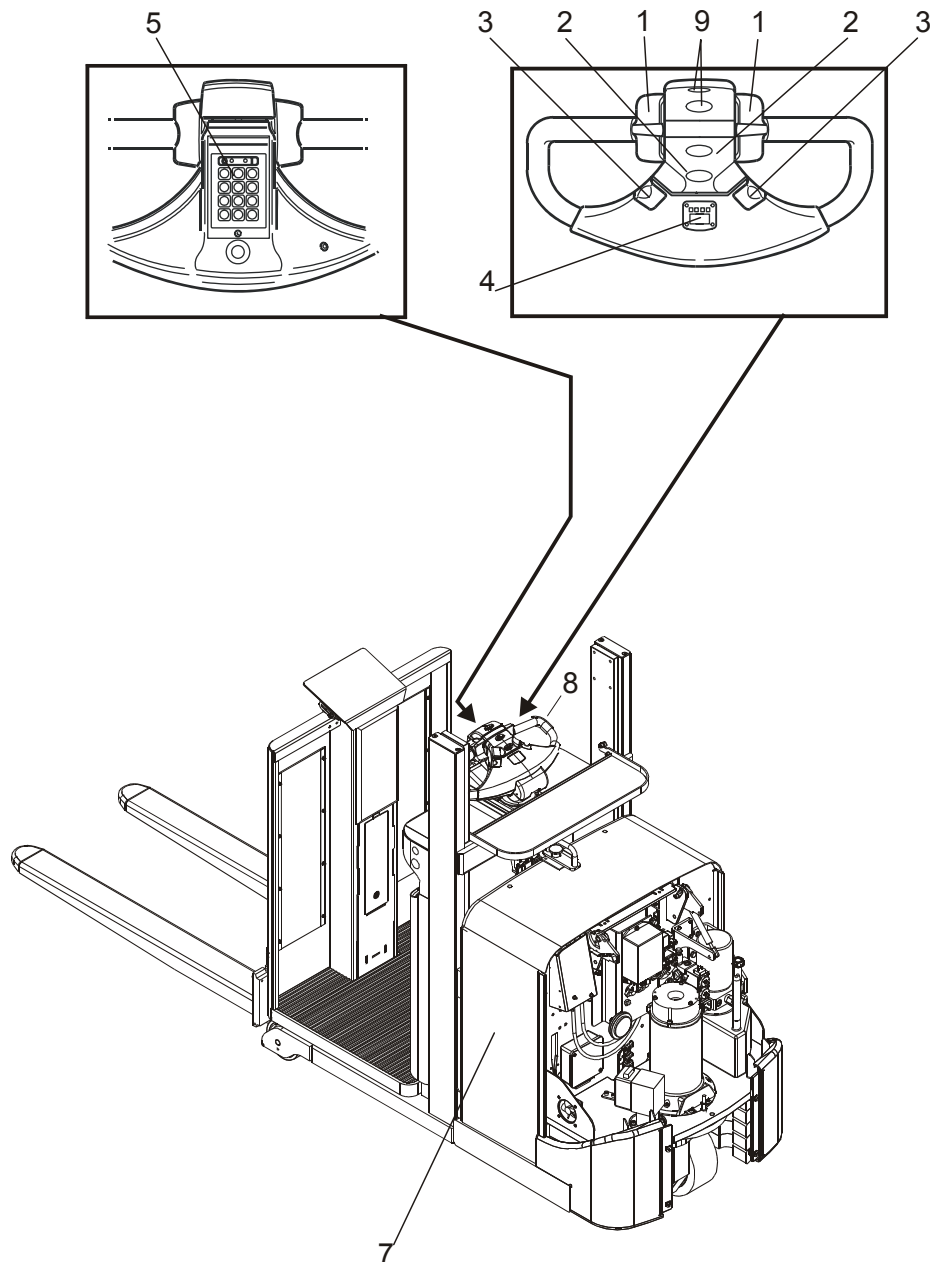
Pump motor, pump and oil tank are integrated in a compact unit.

Main components

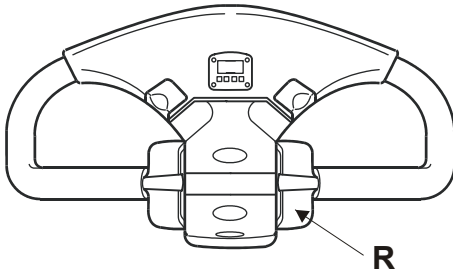


Controls and instruments

1. Travel direction selector and speed control
2. Control for lifting and lowering the operator platform
3. Horn
4. Display
5. Keypad
6. Emergency switch off
7. Battery disconnecter and battery connector
8. Steering unit and brake
9. Control for lifting and lowering the forks

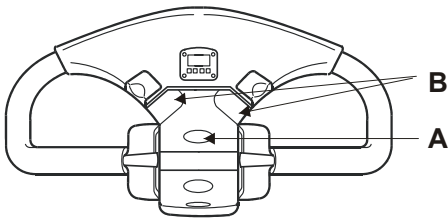


Travel direction selector and speed control (1)



- Select the travel direction by moving the lever, R, in the required direction. The speed is controlled variably based on the position of the lever. The brake is released at the same instant the lever is activated. The speed when reversing depends on the position of the lever. When the operator releases the lever and it returns to the neutral position the speed is automatically reduced.

Control for lifting and lowering the operator platform (2)



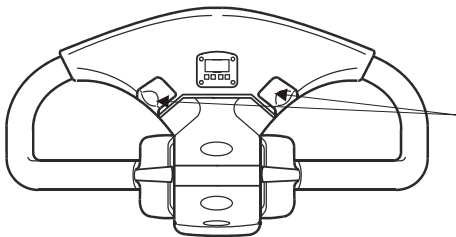
The control buttons activate a microswitch to start the pump motor with lifting and to control the solenoid valve when lowering. The lowering speed of the platform is controlled by a flow valve.

The diagram illustrates the controls, seen from the operator's position. Lift the platform by pressing A and lower by pressing B.

Note: The forks cannot be lowered when the truck has been switched off.

Pallet to ground protection (Option)

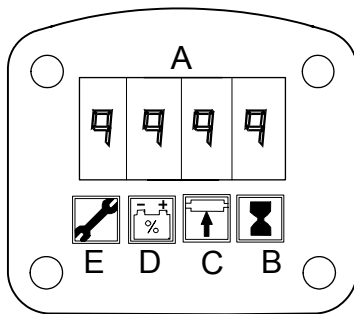
Lifting/lowering of the forks can only be operated when the operator is present on the platform. Lowering stops when the fork height is less than +/- 150 mm from the floor. From this position, the forks can only be lowered further by releasing the lowering button and then pressing it again.



Horn (3)

The horn sounds as long as the button is pressed.

Display (4)



- A: Numerical field
- B: Hour meter indicator
- C: Parameter control
- D: Battery indicator
- E: Error indicator

The display provides the operator with information on battery status, running time and any error messages. The display can also be used for changing the operator parameters.

Numerical field (A)

The battery's capacity is normally shown in this field in %, however, error codes and parameters can also be shown.

When driving walking at the side of the truck, "SLO" is shown in the field.

When driving standing on the platform and this has been lifted more than 500 mm, "High" is shown in the field.

Hour meter indicator (B)

When this symbol is lit the running time can be read off from the numerical field.

Parameter control (C)

When checking the set parameters the indicator window C will light. The parameter list can then be read off from the numerical field.

Battery indicator (D)

When this symbol is lit the battery capacity in % is shown in the numerical field as set out below:

- 100% = Fully charged battery
- 0% = Discharged battery

The symbol starts to flash when the field indicates 10% battery capacity, this is to attract your attention to the low battery capacity. When the field indicates a battery capacity of 0% the truck's lifting functions are disengaged to prevent overloading the battery. The truck can still be driven so that it can be taken to the charging station.

Error indicator (E)

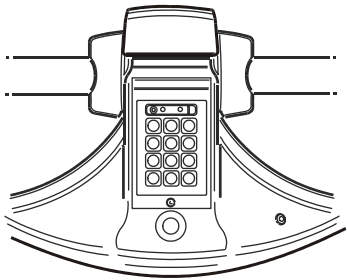
When this symbol flashes an error code is displayed in the numerical field. For the significance of the code see table "Error codes" on page 32.

Function

When the control current is switched on the driver version is shown first, followed by, for a few seconds, the hour meter with the hour meter indicator and then the continuous battery capacity and the battery indicator.

If an error should occur the error code indicator flashes on the display at the same time as the error code is shown in the numerical field.

Keypad (5)

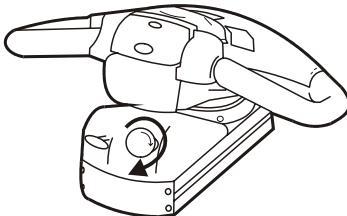


The truck is equipped with a keyboard for logging in using a PIN-code.

- Start the truck by entering your PIN-code and then press **I**. If you state the PIN-code incorrectly a red LED comes on.
- Switch off the truck by pressing **(0)**.

It is the four figures entered last that apply as the PIN-code. This means that with incorrect entry, you only need to start from the first number in the PIN-code.

Emergency switch off (6)



The truck is equipped with emergency switch off (see illustr.). Press in the emergency switch off to cut the power supply in the event of:

- An accident.
 - Emergency situation, risk of an accident.
 - With welding work.
- Release the emergency switch off by turning the knob in the direction of the arrow.

Battery disconnecter and battery connector (7)

- Remove the battery disconnecter to cut the power supply in the event of:
 - An accident.
 - Emergency situation, risk of an accident.
 - Welding work.

NOTE!

The battery can be damaged.

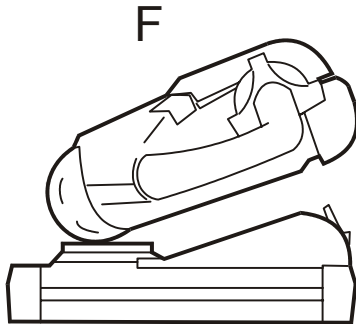
When welding using an electric power source the welding current can enter the battery.

It is necessary to disconnect the battery.

To charge the battery, pull out the battery disconnecter and connect the charger connector to the truck's permanent battery connector. After charging, replace the battery disconnecter.

Steering unit and brake (8)

- Drive the truck with the steering unit in the lowered position, F.
- Raise the steering unit (B2) for emergency braking, or press the emergency switch.



The brakes are applied electrically by the steering/brake unit. The brakes are applied with the unit in raised position (B2).

The travel brake has double functions - neutral brake and motor brake/reversing brake.

Neutral brake:

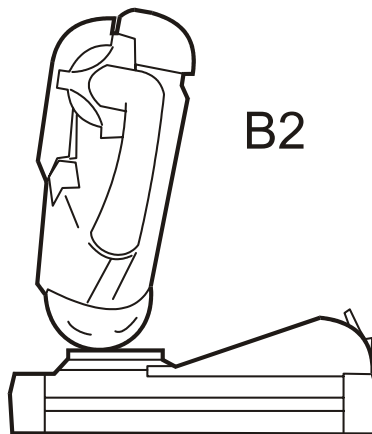
The neutral brake is activated when the operator releases the speed control to its centre position. The braking power can be adjusted using parameter 4 "Automatic speed reduction".

Motor brake/reversing brake:

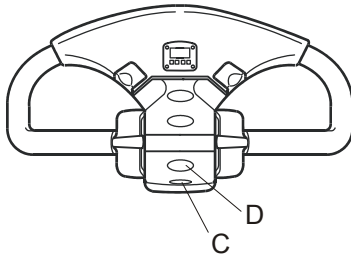
Will be activated when the operator moves the speed control in the opposite driving direction. When reversing the speed in this way the truck's driving system is being used most efficiently.

The mechanical brake is activated when the steering unit is raised (B2), which is the position it should be when the truck is not in use. For common order picking operations the steering unit does not need to be raised since the mechanical brake is activated as soon as the operator leaves the truck. The brake will be released as soon as the speed control is activated.

If the operator leaves the truck while driving, the truck will be stopped by means of the motor brake and after that the mechanical brake will be applied. The braking power for leaving the truck while driving can be adjusted using parameter 7 "Brake".



Control for lifting and lowering the forks (9)



The control buttons activate a microswitch to start the pump motor with lifting and to control the solenoid valve when lowering. The lowering speed of the forks is controlled by a flow valve.

The diagram illustrates the controls, seen from the operator's position.

- Lift the forks by pressing A and lower by pressing B.

Note: The forks cannot be lowered when the truck has been switched off.

Display and programming

It is possible to look in the machine-specific register, but not to re-programme. However, you can re-programme the operator-specific parameters. The parameters can be found in the table "Parameters" on page 30. For further information regarding parameters and warning and error codes, see the *Service Manual* (SM).

Display

Follow the instructions below to look into the operator and machine-specific register:

- Press the horn button while at the same time pressing "I".

The display will now show the functions:

- Running time and time remaining until next service (H)
 - Error codes (E)
 - Parameters (P)
 - Hardware and software numbers (Pn)
- Release the horn button at the required display.
 - Step between the different functions above by turning the speed control.

Programming

To re-programme the operator-specific parameters (if the change is permitted), carry out the following:

NOTE.

Truck handling.

The handling characteristics of the truck will change if you change any of the truck specific parameters. Do not change any parameters without possessing the necessary know-how.

Truck with keyboard

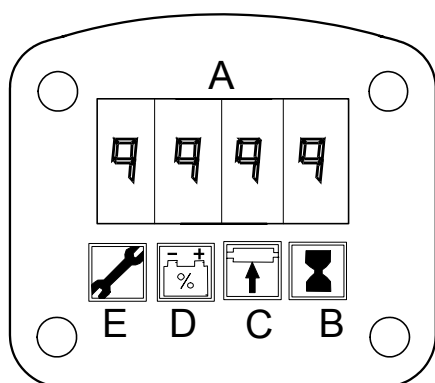
- Enter the number of the driver whose parameters are to be changed using the keyboard.
- Press "I" on the keyboard while at the same time pressing the horn button, or just press the horn button.
- Release the horn button when the display shows "P".
The parameter symbol on the display lights.
- To locate the required parameter turn the speed control until the display shows the correct parameter number.
- Press the horn button once to change the value.
The parameter symbol on the display starts flashing.
- Change the value by turning the speed control.

Controls and instruments

- Confirm by pressing the horn button once more.
The parameter symbol on the display stops flashing and remains lit.
- End programming by pressing “O” on the keyboard.

Parameters

No.	Parameter type	Unit	Min./ Max.	Std. value	Notes
1	Max speed, in fork direction	%	30/100	80	30: low speed 100: full speed To the nearest 5th value
2	Max speed in drive wheel direction	%	30/100	100	30: low speed 100: full speed To the nearest 5th value
3	Acceleration	%	10/100	80	10: low acceleration 100: full acceleration To the nearest 5th value
4	Automatic speed reduction	%	40/100	80	Braking power when the speed control is returned to the neutral position. 40: low speed reduction 100: high speed reduction To the nearest 5th value
5	Speed with the platform raised more than 0.5 m	%	0/100	100	Max speed with the platform raised more than 0.5 m. 100: 6 km/h 0 : disabled
6	Speed when driving the truck walking by the side	%	40/100	70	40: low speed 100: full speed Max. speed 6 km/h To the nearest 5th value
7	Brake	%	60/100	90	Brake power when the operator leaves the platform while driving



Warning codes

When an error occurs a code is displayed, during a 10 second period, on the right-hand side of the character window (A).

If the error remains after 1 minute the warning will be reactivated for a further 2 second period.

This process continues until the fault is rectified, however the truck can still be driven with all functions according to the table. The error is also indicated in the indicator window (E).



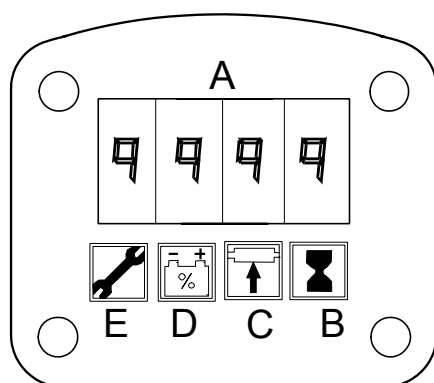
WARNING!

Ignoring error indications.

Truck safety in jeopardy.

Always contact a service technician before the truck is used again after an error code has been displayed.

Code No	Error type	Effect on the truck
C19	The truck's parameter values are not OK, standard values entered.	Truck driving characteristics changed.
C20	Speed control not in neutral at start	Truck cannot be driven
C26	No communication with the steer servo when starting the truck	Truck cannot be driven
C28	Emergency switch off has been activated.	The truck is stopped.
C29	Time for service	Cause of error is shown on the display
C31	Problem with the hydraulic sensor or the cables	The speed is maximized as if the truck was fully loaded.
C35	Steer servo, temperature warning	Cause of error is shown on the display
C41	Battery voltage too low	Cause of error is shown on the display
C42	Battery voltage too high	Cause of error is shown on the display
C43	High temperature in transistor panel	Driving performance reduced



Error codes

When an error occurs a code is displayed in character window (A) and the indicator window (E) lights.

The effect of each error code on the truck is shown in the table below.

Code No	Error type	Effect on the truck
E50	Platform switch active more than 5 minutes when truck is inactive	The truck drives in crawling speed; 2,5 km/h
E80	Steer servo error	The truck drives in crawling speed; 2,5 km/h
E81	Steer servo error, too low voltage	The truck drives in crawling speed; 2,5 km/h
E101	Hardware error	The truck cannot be started
E104	Hardware error	The truck is stopped
E106	Too high current on digital output or field current too high	The truck is stopped
E107	Main contactor not turned on	The truck is stopped
E108	Contactor welded	The truck is stopped
E110	System error	The truck is stopped
E113	Steer servo, unspecified error	The truck is stopped
E114- E134	Steer servo error	The truck is stopped
E135	Potentiometer must be calibrated, use parameter 36	The truck is stopped
E136	Potentiometer error	The truck is stopped
E137	Steer servo, check sum error	The truck is stopped
E138	Steer servo, no communication	The truck is stopped
E139	Communication error	The truck is stopped
E140	Check sum error	The truck is stopped
E141	Faulty software	The truck is stopped
E150	Communication fault	The truck is stopped
E151	Communication fault	The truck is stopped

Controls and instruments

Code No	Error type	Effect on the truck
E157	CAN-bus fault	The truck is stopped
E159	CAN-bus fault	The truck is stopped
E160	Faulty safety reversing function	The truck is stopped
E200	Shunt winding open	The truck is stopped
E201	Faulty M-minus, transistor unit	The truck is stopped
E202	Faulty current shunt in transistor unit	The truck is stopped
E214	CAN time-out, transistor unit	The truck is stopped

Accessories

The truck can be fitted with different accessories to increase your safety when using the truck. Accessories can be combined.

Battery rollers

Battery rollers enable easy replacement of the battery since it can be pulled out sideways. In the standard configuration, the battery rests on a level surface, in which case it needs to be lifted out by crane for replacement.

Battery replacement table

This table has rollers and can accommodate two batteries for swift battery replacement from the side

Writing board

The board features a paper clip to keep A4-size sheets in place.

Driving

Starting the truck

- Make sure the emergency switch off is not pressed in.
- Enter the code on the keyboard and exit with I.
- Make sure the battery controller indicates a sufficient charge level (1/2 - 1).

NOTE!

Low charge level.

A low charge level can result in damage to the battery with prolonged operating.

Do not drive without first charging the battery.

- Lower the steering unit to the drive position (F).
- Move the travel direction selector/speed control in the desired direction.
- The parking brake is released automatically when the speed control is activated.

The maximum travel speed of 12 km/h can only be achieved when the operator stands on the ride-on platform.

- Always drive with great care when cornering. Always reduce speed when approaching a corner.



WARNING!

Loss of function.

Safety risk.

Always check the safety functions listed below before beginning the day's work.

- That the speed control functions in both directions.
 - That the horn functions correctly.
 - That the steering functions correctly.
 - That the brakes function correctly.
 - That deceleration functions correctly.
 - That the hydraulic functions are operational.
- Start gently by accelerating slowly until you reach the desired speed.



WARNING!

Dangerous driving.

Accidents can occur.

Always drive with care, good judgement and responsibility as set out in the general safety regulations.

Braking

Reducing the speed ought to/should take place by using the drive motor, through turning the travel direction selector in the opposite travel direction. Speed reduction is regulated by means of an accelerator.

- Emergency brake by moving the steering unit to the raised position.

Deceleration

The speed of the truck can also be reduced by means of the electric drive motor by turning the travel direction selector to the opposite travel direction. Control the braking force by the position of the speed control.

The truck is equipped with so called automatic speed reduction, which means that the speed is automatically reduced as soon as the speed control is released and returns to the neutral position.

Steering

- Steer by using the steering unit.
- If the truck gets caught against an obstacle, do not use more force to steer than used when steering the truck under normal conditions. Try to free yourself by carefully driving forwards and backwards at the same time as you turn the steering unit.



WARNING!

Risk of slipping.

You can lose control of the truck if your hands or shoes are oily.

Always dry your hands and shoes before driving.

Parking the truck

- Stop the truck and disengage the travel direction selector.
- Raise the steering unit; the parking brake is activated and the brakes are applied.
- Lower the forks fully to the floor.
- Turn off the truck.



WARNING!

Unauthorised use.

Accidents can happen.

Always remove the ignition key when the truck is left unattended.

Transporting loads

The weight of the load should be within the truck's permitted lifting capacity. See the truck's identification plate.



WARNING!

Risk of overturning.

The lifting capacity is reduced if additional equipment is attached to the truck.

Always check the truck's overall lifting capacity.

- Only handle loads that are stable and arranged safely. Take particular care when handling high and long loads.



WARNING!

Lost stability.

High loads can fall when cornering at high speed.

Drive slowly and carefully when cornering.



WARNING!

Protruding loads.

The load can collide with personnel, fixed or moving objects. A truck with a protruding load requires more room when cornering.

- Drive the truck with the load trailing, when the load impairs the line of vision.
- If necessary, when the operator's vision is impaired, ask someone to direct operations so that transportation can take place without the risk of causing personal injury or material damage.

Order picking



- Always wear safety shoes when picking orders.
- **Never** stand with your feet under the forks or platform.



WARNING!

Risk of crushing under the forks/platform.

There is a risk of injury due to crushing with unintentional lowering of the forks or a fault with the hydraulic system.

Never stand with your feet under the forks/platform.

- Ensure the load is secured on a pallet.

Collecting a load

- Lower the forks and carefully position the forks under the load.
- Lift the forks. Do not drive at the same time as you lift the forks.



CAUTION!

Lost stability.

Lifting a loaded pallet when the truck is still moving can result in the load falling off of the pallet.

Never lift a load if the truck is moving.

- Start slowly and then increase the speed.

Depositing a load

- Stop the truck and lower the forks. Do not lower the forks until the truck has come to a standstill.
- Leave the load so that it does not block, e.g. truck aisles or emergency exits.



CAUTION!

Lost stability.

Lowering a loaded pallet when the truck is still moving can result in the load falling off the pallet.

Never lower a load if the truck is moving.

- Start slowly and then increase the speed.

Battery

The truck is designed so that it receives its energy supply from a so-called lead traction battery. If any other type of battery or energy source is used, measures shall be taken to ensure that the battery voltage during operation always exceeds 70% of nominal voltage: 17 volts for a 24 volt system. This is necessary in order for the truck to function as intended.

- Check that the battery in the truck is a 24 V traction battery having a weight within the minimum/maximum values stated on the identification plate.

Battery sizes from 465 Ah to 620 Ah are available for the truck if the battery is manufactured according to BT Products original drawings.

Fitting the battery and battery lock

- Make sure that the battery cables are correctly connected to the battery.



WARNING!

Risk of short-circuiting.

An incorrectly connected battery can cause short-circuiting.

Check that the polarity is correct. Compare the markings on the cables with those on the battery's poles.

The battery can be changed from either side as well as from above.

Replacing the battery

- Only replace the battery with a battery of the same weight as the original. The battery weight affects the truck's stability and its braking capacity. Information on the lowest permitted battery weight can be found on the truck's identification plate.



WARNING!

Risk of moving the centre of gravity.

A battery weight that is too low gives impaired stability and braking capacity.

The battery weight must be in accordance with the information on the truck's identification plate.

- Press in the emergency switch off.
- Open the battery compartment cover.
- Disconnect the battery connector from the battery.

Battery

- Release the battery from the battery lock, if fitted.
- Lift out the discharged battery and put in the charged one. If the truck has a battery change table: Slide out the discharged battery.
- Connect the intermediate cables from the truck to the charged battery and drive the truck into position near the charged battery.
- Turn off the truck, disconnect the intermediate cables and slide in the charged battery.
- Lower the battery lock into position and make sure it is properly fastened.
- Connect the battery connector to the battery
- Close the battery compartment cover.
- Reset the emergency switch off.



WARNING!

Falling battery.

If the truck should overturn the battery can fall if the battery catches are not fastened.

Ensure the battery catches are fastened.



WARNING!

Falling battery.

When changing the battery, it can be dropped.

Always lift the battery using an approved lifting device and use a battery yoke intended for the battery.

Charging the battery



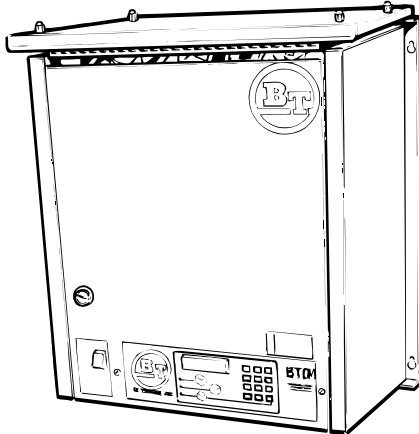
GENERAL PROHIBITION

When charging the battery it is absolutely prohibited to smoke or use a naked flame.

Use an automatic battery charger intended for charging traction batteries.

The charger shall have an automatic maintenance charging feature for a certain period after the main charging period has been completed. This eliminates the risk of overcharging the battery and the need to monitor the charging procedure is reduced to a minimum.

The charger shall have a minimum charging current of:



Battery (Ah)	Charger (A)
465 - 620	80 - 110



WARNING!

Corrosive acid.

The battery fluid contains sulphuric acid. Fluid spilt on the skin should be rinsed off immediately. Wash thoroughly with soap and water.

If the fluid has come into contact with the eyes, wash the eyes immediately using an eye shower, contact a doctor.



ALWAYS WEAR PROTECTIVE GLASSES AND PROTECTIVE GLOVES WHEN CHECKING THE BATTERY!

Before charging

- Park the truck in the assigned charging area.
- Ensure nothing prevents ventilation above the battery.
- Remove the emergency disconnecter.
- Make sure the battery charger is switched off.
- Connect the battery charger to the permanently fitted battery connector.
- Start the charging unit.



WARNING!

Risk of EXPLOSION.

During the charging process oxygen and hydrogen gases are always formed in the battery.

Short-circuits, naked flames and sparks in the vicinity of the battery can cause an EXPLOSION.

Always switch off the charging current BEFORE removing the battery connector.

Provide good ventilation, especially if the battery is charged in a confined area.

During charging

- After approximately ten minutes make sure that the ammeter indicates a normal reading and that the control lamp is on.

After charging

- Make sure that the ammeter indicates an insignificant or no reading and that maintenance charge lamp is on, if fitted.
- Switch off the battery charger.
- Disconnect the battery charger from the permanently fitted battery connector.
- Replace the emergency disconnecter.



CAUTION

Risk of short-circuiting.

The terminals can otherwise be damaged inside and result in a subsequent short-circuit.

Do not pull the cables to disconnect from the charger.

Battery maintenance

Carry out battery maintenance after recharging:



WARNING!

Corrosive acid.

The battery fluid contains sulphuric acid. Fluid spilt on the skin should be rinsed off immediately. Wash thoroughly with soap and water.

If the fluid has come into contact with the eyes, wash the eyes immediately using an eye shower, contact a doctor.



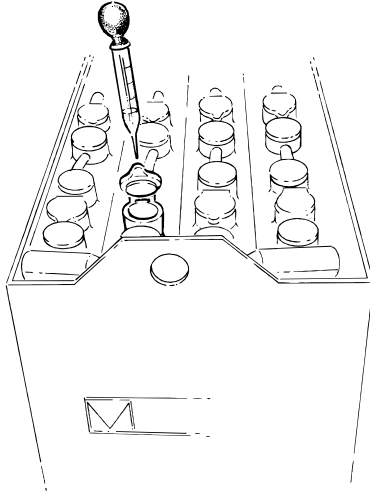
ALWAYS WEAR PROTECTIVE GLASSES AND PROTECTIVE GLOVES WHEN CHECKING THE BATTERY!

Each week:

- Remove all cell caps. Note: This does not apply to batteries with level caps or central filling.
- Check the fluid level in the cells and note any cells that consume more than a normal amount of fluid.
- Fill using distilled water. The fluid level should be 10 - 15 mm above the cell plates.
- Refit all of the cell caps.
- Rinse off and dry the battery.

Each month:

- Measure the temperature in one of the centre cells immediately after charging. The temperature should not exceed 50 °C.
- Measure the density of the battery fluid using an acid tester. Hold the acid tester absolutely vertical and extract sufficient fluid so that the hydrometer float moves freely.



Correct density values at different fluid temperatures for a fully charged battery:

Temperature °C	Density g/cm ³
-15	1.31
0	1.30
+15	1.29
+30	1.28
+45	1.27

Daily service and function checks

- The operator is responsible for the daily service and care of the truck.
- Carry out the daily service at the start of the working day or shift, before the truck is used. The daily service is a function control as set out in the checklist below.
- You need no tools to carry out the service checks.
- If you fail to carry out the daily service, the safety and reliability of the truck can be affected.



WARNING!

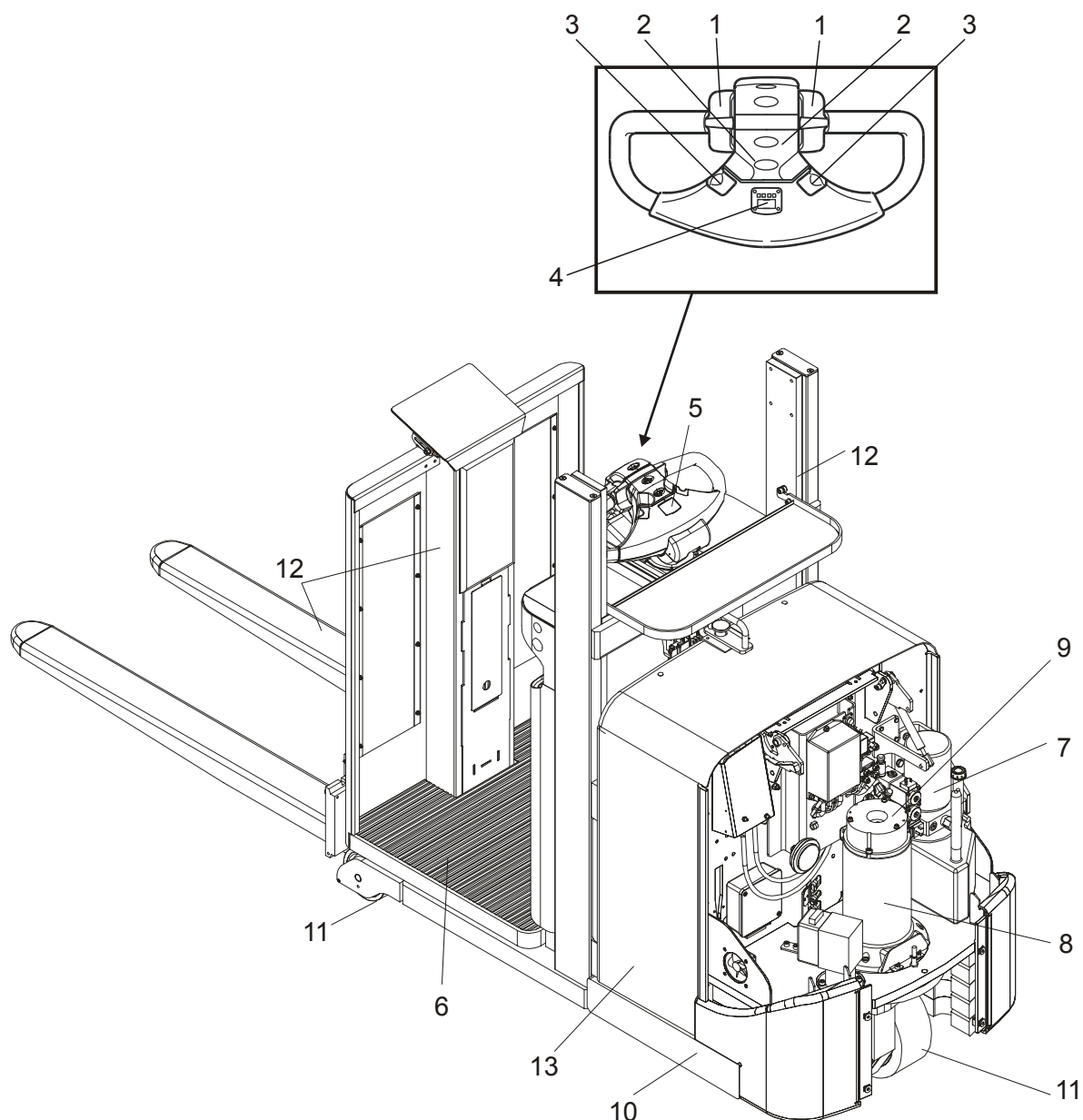
Never neglect the daily service and function checks.

Serious accidents can occur.

Always report any faults or damage to the management without delay. Never use a truck that has faults.

Pos no	Check points	Action
1	Operating control	Check its function, forwards/backwards
2	Hydraulic functions	Check its function
3	Horn	Check its function
4	Steering	Check its function
5	Running time	Carry out maintenance as set out in the table in chapter <i>Maintenance</i>
6	Platform/ Brake switch	Check its function
7	Hydraulic system	Check the oil level and for oil leakage
8	Drive unit	Inspect abnormal noises and leakage
9	Brake	Check its function
10	Chassis	Check for damage, remove dirt and the like
11	Wheels	Check for damage, remove oil, metal chips and the like
12	Lifting device	Check for damage, remove dirt and the like
13	Battery	Check the acid level and the charge condition

Daily service and function checks



Maintenance

Ensure the truck is given a regular maintenance service after 500 operating hours. The truck's safety, efficiency and service life is dependent on the service and maintenance it is given.

Only use BT approved spare parts when service and repair work are carried out.

BT recommends that you contact your closest BT representative to sign a service and maintenance agreement to ensure the truck's operating economy and safety.

Safety regulations with maintenance work

Only personnel that have been trained in the service and repair of this type of truck are authorised to carry out service and repair work.

- Do not carry out any maintenance work on the truck unless you have the correct training and knowledge to do so.
- Keep the area where you carry out the service clean. Oil or water makes the floor slippery.
- Never wear loose objects or jewellery when working on the truck.

The truck is equipped with a fan for cooling the electrical system. The fan keeps running as long as the main contactor (K 10) is activated. Note the danger for finger or hand injuries.



WARNING!

Short-circuiting/Burns.

When working with the truck's electrical system, short-circuiting/burns can occur if a metal object comes into contact with live electrical connections.

Remove watches, rings or other types of metal jewellery.

- Always disconnect the battery by pulling out the emergency disconnecter when carrying out maintenance work on the truck unless otherwise stated in this publication or the Service Manual.
- Always switch off the truck's power supply before opening the covers on the drive unit or electrical system.
- Relieve the system pressure slowly before starting work on the truck's hydraulic system.
- Use paper or a rigid sheet of cardboard when checking for oil leakage. **Never** use your hand.

- Bear in mind that the oil in the transmission or the hydraulic system can be hot.



WARNING!

*Risk of burns.
Hot transmission and hydraulic oil.
Let the truck cool before replacing the oil.*

- Only fill the hydraulic system with new and clean oil.



WARNING!

*The hydraulic system can be damaged.
If the oil is contaminated hydraulic components can be damaged.
Always use new and clean oil in the hydraulic system.*

- Store and dispose of changed oil in accordance with local directives.
- Do not release solvents and the like, which are used for cleaning/washing, into drains that are not intended for this purpose. Follow the local directives that apply for disposal.
- Disconnect the battery when welding on the truck.

NOTE!

*The battery can be damaged.
When welding using an electric power source the welding current can enter the battery.
The battery should therefore be disconnected.*

- Remove at least 100 mm (4") of paint around the welding/grinding area through sand-blasting or the use of a paint stripper when welding or grinding on painted surfaces.



CAUTION!

*Harmful gases.
Paint that is heated gives off harmful gases.
Remove 100 mm (4") of paint from the work area.*

- When working underneath the truck, support the truck on trestle-blocks.



WARNING!

*Risk of crushing.
A badly supported truck can fall.
Never work under a truck that is not supported on trestle-blocks and secured by a lifting device.*

Maintenance work that is to be carried out by the operator

Daily service and function checks as set out in the checklist in chapter *Daily service and function checks*.

Maintenance points with intervals 1 day, 1 week and 1 month as set out in the maintenance chart may be carried out by the operator.

Other maintenance points as set out in the maintenance chart may only be carried out by personnel who have completed maintenance training for this type of truck.

Maintenance work that may be carried out by trained maintenance personnel

All maintenance points as set out in the maintenance chart.

With uncertainty regarding working procedures, consult the Service Manual for the truck.

In addition to the maintenance points in the maintenance chart, all service and repair work should be carried out by personnel with special training for this type of truck.

Cleaning and washing

Cleaning and washing of the truck is important to ensure the truck's reliability.

- Carry out general cleaning and washing weekly.

NOTE!

Risk of short-circuiting.

The electrical system can be damaged

Disconnect the battery before washing by pulling out the emergency disconnect.

External cleaning

- Remove rubbish, etc. from the wheels daily.
- Use a well-known degreasing agent, diluted to a suitable concentration.
- Rinse off loose grime using tepid water.

NOTE!

Jamming, corrosion.

Mechanical components can be damaged.

After washing, the truck should be lubricated as set out in the lubrication chart in chapter Maintenance.

Cleaning the motor compartment

- Cover the electric motors, connections and valves before washing.

NOTE!

Risk of short-circuiting.

The electrical system can be damaged.

Electrical components must not be cleaned with a high pressure washing unit.

- Clean the motor compartment using a well-known degreasing agent, diluted to a suitable concentration.
- Rinse off loose grime using tepid water.

Electrical components

- Blow electric motors down using compressed air.
- Clean the electrical panels, electronic boards, contactors, connections, solenoid valves, etc. using a damp cloth and a cleaning agent.

NOTE!

Risk of short-circuiting.

Electrical components can be damaged.

Do not break the guarantee seal on the electronic board.

Maintenance chart

I: Inspect, rectify and change if necessary T: Tighten C: Clean L: Lubricate.

M: Control measurement, rectify if necessary

Pos. no.	Work to carry out					
	Interval in hours - may vary due to application	5	20	500	1000	3000
	Interval in days/weeks/months - may vary due to application	1 d	1 w	6 m	12 m	36 m
0000.	Chassis					
0000.1	Inspect all links and tension bolts				I	
0000.2	Inspect possible damage on the chassis, open the battery cover and use it as an aid				I	
0000.3	Inspect all cover locks				I	
0000.4	Inspect the finger protectors, load protectors				I	
0000.5	Inspect all plates and stickers				I	
0380	Fork carriage					
0380.1	Inspect for cracking and other damage				I	
0380.2	Inspect any play in bushings and links				I	
0380.3	Force grease into the lubricant nipples (note 6)			I		
0380.4	Inspect the lift limiter switch				I	
0380.5	Inspect guide pin wear and apply grease (note 6)			I		
0450	Frame-mounted components					
0450.0	Inspect the mounting bolts of the motor plate				I	
1700.	Motors					
1700.1	Inspect any play in the connectors			I/T ¹	I/T	
1700.2	Inspect the carbon brushes in the drive motor				M	
1700.3	Clean the drive motor				C	
1700.4	Tighten all mounting bolts			T ²		
1700.5	Inspect any noise in the bearings				I	
2550.	Drive unit					
2550.1	Check for leakage			I ³		I
2550.2	Inspect the oil level				I	
2550.3	Inspect any noise				I	
2550.4	Inspect the mounting and any play in the guide bearing				I	
2550.5	Replace the drive gear oil			L ⁴		L
2550.6	Lubricate the gear rim				L	
3100	Brake					
3100.1	Clean and verify correct functioning of the service brake and parking brake			C/I		
3100.2	Inspect brake disc wear and verify correct tightening torque (48 Nm)					M
3100.3	Inspect play in the neutral position					M

Maintenance

I: Inspect, rectify and change if necessary **T:** Tighten **C:** Clean **L:** Lubricate.

M: Control measurement, rectify if necessary

Pos. no.	Work to carry out					
	Interval in hours - may vary due to application	5	20	500	1000	3000
	Interval in days/weeks/months - may vary due to application	1 d	1 w	6 m	12 m	36 m
3500.	Wheels					
3500.1	Remove strings, dirt, etc.	I				
3500.2	Inspect drive wheel wear and its mounting			I		
3500.3	Verify that the swivel wheel rotates and turns freely. Lubricate the horizontal bearing. Inspect swivel wheel wear and its mounting			I		
4110.	Steering unit					
4110.1	Inspect any steering response restrictions and jogging			I		
4110.2	Inspect any play in steering couplings and the return spring			I		
4110.3	Inspect mechanical locking of the steering arm and its centre position			I		
4110.4	Inspect the gear of the steering servo-unit			I		
4110.5	Inspect correct mounting of the steering linkage on both sides			I		
5000.	Electric functions					
5000.1	Inspect correct operation of the micro brake switch	I		I		
5000.2	Inspect correct operation of the emergency stop switch	I		I		
5000.3	Inspect lift/lower function of the forks	I				
5000.4	Inspect correct operation of the platform switch	I		I		
5000.5	Inspect correct operation of the horn	I		I		
5000.6	Inspect cable wear			I		
5000.7	Inspect correct operation of operator controls	I		I		
5000.8	Inspect the error code log, operating hours and all segments in the display panel	I		I		
5110.	Battery					
5110.1	Inspect the electrolyte level: 10-15 mm above the cell plates		M			
5110.2	Inspect all battery, truck and charger connections		I			
5110.3	Verify that the cell and pole protectors are not damaged		I			
5110.4	Inspect the fluid density and temperature		M			
5110.5	Suck up excess fluid from the battery pan		C			
5110.6	Verify the battery locking device				I	

Maintenance

I: Inspect, rectify and change if necessary **T:** Tighten **C:** Clean **L:** Lubricate.
M: Control measurement, rectify if necessary

Pos. no.	Work to carry out						
	Interval in hours - may vary due to application	5	20	500	1000	3000	
	Interval in days/weeks/months - may vary due to application	1 d	1 w	6 m	12 m	36 m	
5400	Power system						
5400.1	Clean and inspect the mounting devices				C/T		
5400.2	Tighten all cable connectors				T		
5400.3	Inspect the K10 and K30 contactor tips				I		
5400.4	Inspect contactor mobility				I		
6100.	Hydraulic system						
6100.1	Inspect hoses and couplings for leakage				I		
6100.2	Inspect hoses for wear				I		
6100.3	Inspect the tank				I		
6100.4	Replace the oil and clean the filter			L ⁵	L		
7100.	Mast						
7100.1	Inspect the mounting of the lift cylinder			I			
7100.2	Lubricate lifting chains			L			
7100.3	Inspect the mounting bolts			I			
7100.4	Lubricate the mast rails at the steering rollers and the side steering rollers				L		
7100.5	Lubricate the contact surfaces of the chain roller			L			
7100.6	Check adjustment of lifting chains. Check chain bolts and chain mounting. Tighten lock nuts and inspect safety cotter on all chains.			I			
7160.	Initial lift mast						
7160.1	Lubricate lifting chains			L			
7160.2	Lubricate the contact surfaces of the chain roller				L		
7160.3	Adjust the forks			M			

1 = Retighten all connections the first time after 500 hours, and then every 1,000 hours.

2 = Retighten the mounting bolts after 500 hours to a torque of 45 Nm.

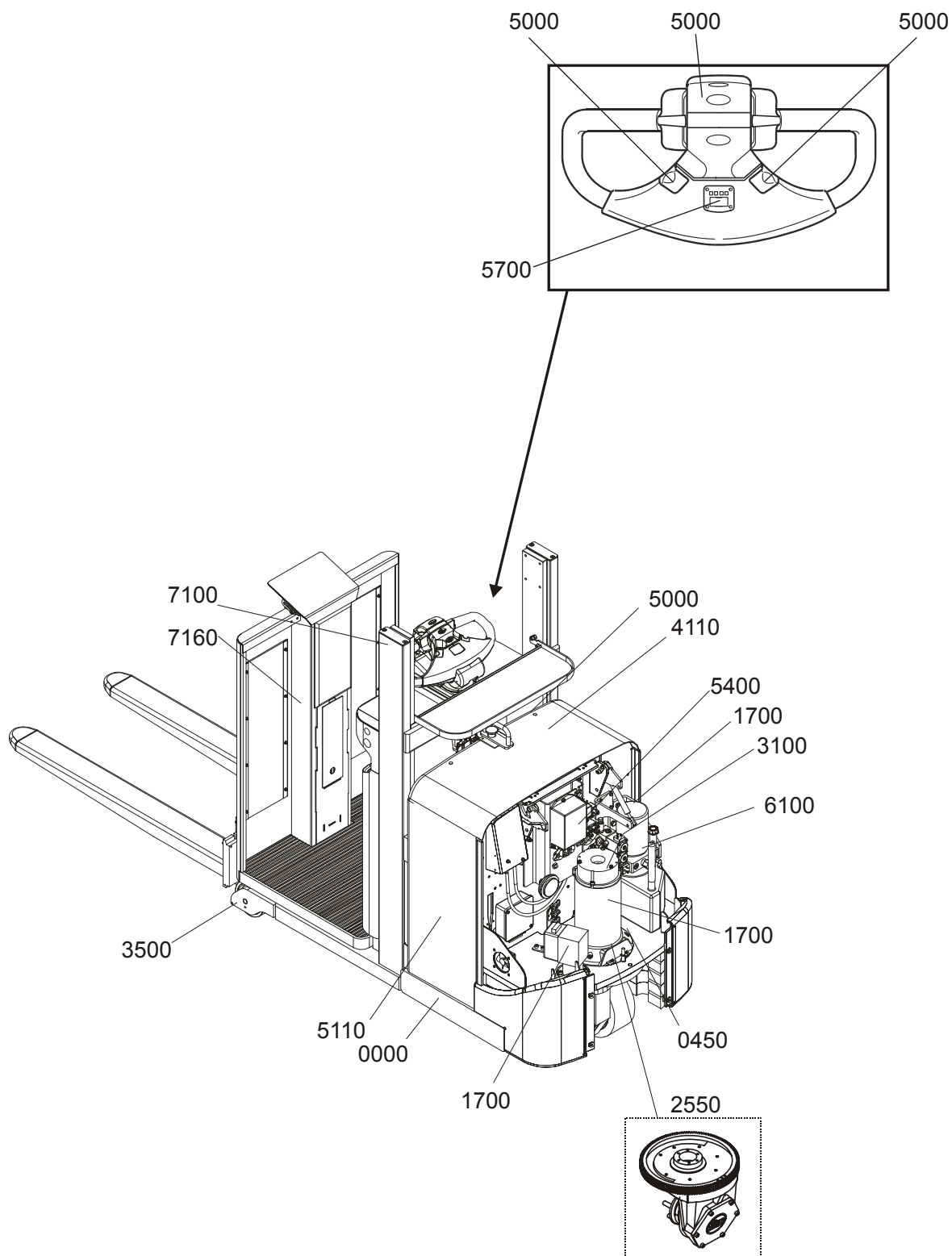
3 = Inspect for leakage during first oil replacement.

4 = Replace the oil the first time after 500 hours/6 months and then every 3,000 hours/36 months.

5 = Replace the oil and clean the filter the first time after 500 hours/6 months and then every 1,000 hours/12 months.

6 = If the machine is used in cold stores or other severe environments, perform this item every 250 hours.

When points are carried out according to higher hour intervals, even the points at lower time intervals are to be carried out, unless otherwise stated above.



Lubrication chart

Pos no	Service point	Interval/Running hours			Lubricant
		500 h	1000 h	3000 h	
2550	Drive transmission	O ⁴	C	O	C
2550	Gear ring		L		E
6100	Hydraulic system	O ⁵	O		B
7100	Mast rollers/profiles	L			D
7160	Initial lift mast/chains	L			A

L= Lubrication C = Check O = Oil change

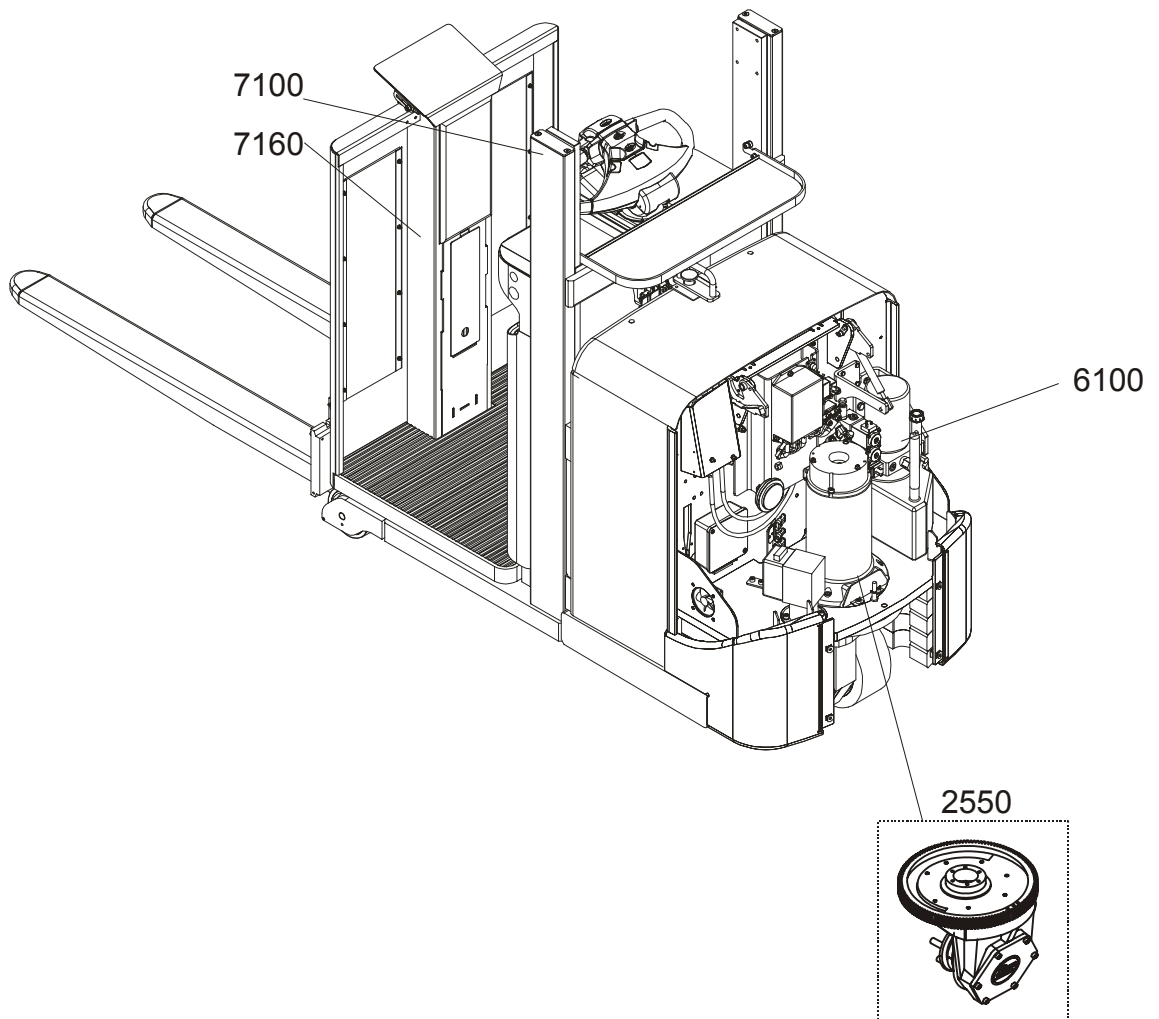
4 = Replace the oil the first time prior to 500 hours and then every 3000 hours/36 months.

5 = Replace the oil and clean the filter the first time prior to 500 hours and then every 1,000 hours/12 months.

Oil and grease specification

Lubricant		Specification		Application area
		> - 15°C	< - 15°C	
A	Grease	BT 055 73100 (tin) BT 055 73040 (spray)	BT 055 73100 (tin) BT 055 73040 (spray)	Initial lift mast/chains
B	Hydraulic oil	ISO-L-HM32	ISO-VG32	Hydraulic system
C	Transmission oil	Hypoid oil SAE 80W/90	Hypoid oil SAE 75W	Drive transmission
D	Grease	See table below	See table below	Mast rollers/profiles
E	Grease	Grafloscon A-G1 (Klüber)	Grafloscon A-G1 (Klüber)	Gear ring

Ambient temperature	Viscosity class	Recommended products (Similar products from other manufacturers may be used)
> - 40°C < - 30°C	VG 15	Klüberoil 4UH 1-15, Klüber Lubrication
> - 30°C < + 5°C	VG 68	Klüberoil 4UH 1-68N, Klüber Lubrication Anticorit LBO 160 TT, Fuchs DEA
> + 5°C < +45°C	VG 150	Klüberoil 4UH 1-150N, Klüber Lubrication Anticorit LBO 160, Fuchs DEA Rexoil, Rexnord Kette
>+ 45°C <+ 80°C	VG 220	Klüberoil 4UH 1-220N, Klüber Lubrication



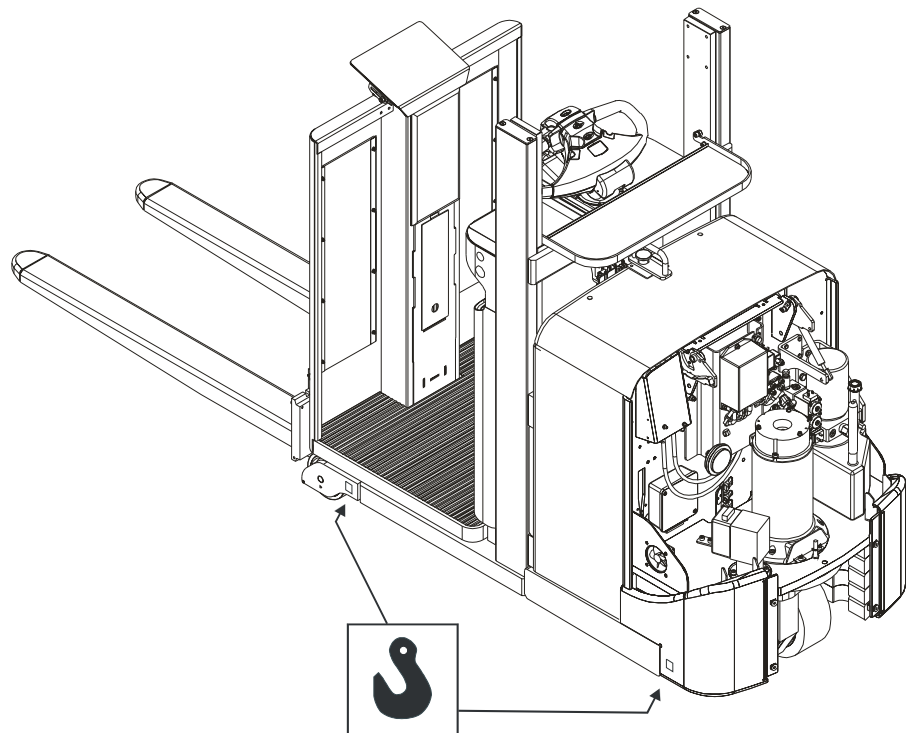
Transporting and storing the truck

The truck's dimensions and weight as standard

NOTE! the truck's dimensions and weight can vary with different accessories.

The truck's dimensions and weight	OSE100
Length	mm
Fork length 1150 mm	2840
Width	mm
	790
Height	mm
	1550
Weight without battery	kg
	1294
Battery weight	kg
465/620 Ah	350/530

Lifting the truck



- Lift the truck from the marked lifting points when using a lifting device.



WARNING!

Risk of overturning.

The truck can overturn if it is lifted from the wrong lifting points.

Always lift the truck from the marked lifting points.

- Lift from the truck's centre of gravity when using another fork lift truck.
- Secure the truck to the lifting truck's forks.
- Lift with the greatest of care.



WARNING!

Risk of overturning.

The truck can overturn if it is lifted incorrectly.

Always lift the truck secured to, and with the centre of gravity between, the lifting truck's forks.

Towing and transporting a defective truck

Tow or transport a defective truck to a repair station as follows:

- Tow the truck using a tow-truck and trailer if the truck's drive wheel is jammed. The truck's drive wheel must be lifted off the ground.

The towed truck shall always have an operator who can steer and apply the brake when towing using a tow-truck and tow-rope.

Storing the truck

Take the following action if the truck is not used for a long period of time:

Battery

- Recharge the batteries fully and carry out usual battery maintenance.
- Remove the battery connector if you do not intend to use the truck for periods longer than one week.
- Maintenance charge the battery every **third month** and check the fluid level.

Hydraulic system

- Change the oil in the hydraulic system when stored for periods longer than **one year**, see the oil specification in the *Lubrication chart* in chapter *Maintenance*.

Drive unit

- Block up the truck's drive section to take the load off the drive wheel, when stored for periods longer than **one week**.

Starting after a period of disuse

Before the truck is put into operation after a period of disuse it should undergo a function and safety check as set out in the chapter *Daily service and function checks*.

- When stored for a period greater than **three months** carry out preventive maintenance as set out in the instructions, 500 hours interval.

Recycling/discarding



Batteries are hazardous to the environment and should be returned to the manufacturer for recycling.

Discarding the battery

When the working life of the battery in the truck is at an end (change to a new battery) or if the entire truck is to be scrapped special regard to environmental risks shall be taken when disposing/recycling batteries.

Spent batteries shall be returned /sent to the manufacturer of the battery or its representatives (see the sign on the battery) for disposal/recycling. You can also return batteries to your local BT-representative who will then take care of returning the battery to the manufacturer.

Scrapping the truck

The truck consists of parts that contain recyclable metals and plastics. Below is a list of those materials used in the truck's sub-systems.

Chassis	
Chassis	Steel
Drive unit	Steel and cast material
Bushings	Polyamide
Finish	Epoxy-polyester
Wheels	Polyurethane

Recycling/discarding

Hydraulic system

Oil tank	Polythene
Pump unit	Steel and aluminium
Hoses	Rubber and steel
Cylinders	Cast iron and steel

Electrical system

Cables	Copper cores with PVC sheaths
Electronic board	Reinforced glass fibre circuit board laminate
Motors	Steel and copper

EC Declaration of Conformity

We,

Declare that the machine:

Make:

Type:

Notified body* - Cert.no.:

Serial no:

As described in attached documentation is in conformity with:

- The Machinery Directive 98/37 by complying to following standards: EN 1726-1, EN 1726-2 and EN 1175-1.
- The Directive Electromagnetic Compatibility 89/336 as amended by Directive 92/31 by complying to following standards; EN 12895.

Other information

Eriksson, Lars, V.P. Projects and Product Safety

For deliveries to countries outside the European Union, differences may occur with regard to requirements for documentation in the local language.

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Modification no _____

Place & date of issue)

Signature

(Company)

(Clarification of signature)