

Edition 2008B

## General information and technical data

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Edition 2008B

# 1 General information and technical data

## 1.1 Introduction

This manual describes the service procedures for ATLET picking trucks in the OP series. Use the manual for quick and correct service of respective truck models.

You may find contradictions in the manual compared to the models supplied due to optional designs and the like.



### **Warning!**

**If the truck is rebuilt after delivery or supplemented in such a manner that safety may be affected, ATLET AB or its authorised representative should be contacted.**

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In the event of inconsistent information in the Swedish and translated editions, it is the Swedish edition that applies.

Modifications and updates will be distributed via ATLET AB Service Manual Change.

## 1.2 General information, OP series

Picking trucks in the OP series include OPM, OPH, OPC and OPS.

## 1.3 How to use the manual

The manual is arranged according to the same principles as ATLET's spare part catalogues, i.e. a system consists of 12 sections, where sections 4 -12 contain information limited to a specific part of the truck. For example, Chassis (section 4) and Hydraulic System (section 8). Sections 1 - 3 in this manual contain more comprehensive information regarding technical data, general service, instructions and tools. The main principle for extra accessories is to place them under the respective sections. Otherwise they are placed under section 12 "Miscellaneous". For this reason section 12 is not always included in the Service Manual.

For specific problems or information about procedures, look in the main index for the correct section.

### 1.3.1 History

Important changes to be taken into consideration during service on the OP models.

**Table 1.1**

Date	Chassis no.	Changed
2001-03-20	OP1429	New connectors for steering and speed controller units.
	OP1107	New type of cable in the mast.
2001-03-20	OP1429	New attachment plate for both ends of the electric cables in the mast.
2001-03-20	OP1429	New cabling in the platform.
2001-02-20	OP1429	The E4 card has been replaced with a module with fixed resistance.
		New version of regulator for main hydraulic valve, with extra electronic filter for improved reliability.
2001-06-15	OP1496	The Ergomast is welded.
		Fixed forks welded at the platform.
	OP1377	New type of chain. 5/8 inch.
		Third chain removed.
2000-10-06		Alternative safety line available as accessory.
	OP1431	Platform lighting changed to two halogen lamps.
2001-05-14		New decals in new position.

### 1.3.2 Symbol key



#### ***Warning!***

Used with risk of personal injury.



#### ***Important!***

Used with the risk of damage to the machine.



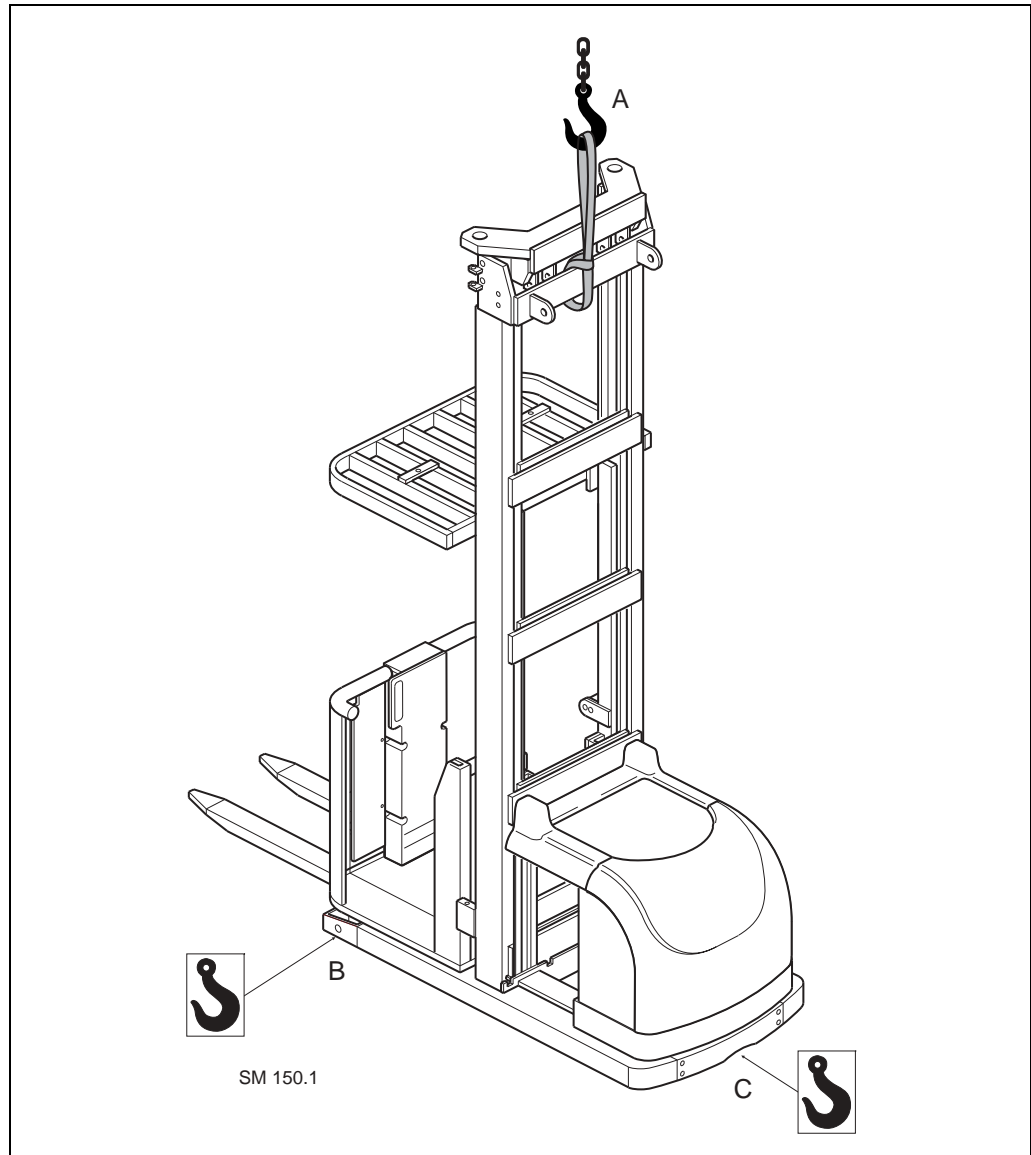
#### ***Note!***

Used for general observation.



## 1.4 Tips before next step

### 1.4.1 Lifting points



**Figure 1.1** Lifting points

Figure above shows where the permitted lifting points are placed on the truck.

When lifting complete truck: Lift in the first instance in the upper mast strut, point A. Make sure not to damage the hydraulic pipe between the cylinders.

Lifting with jack: Lift at point C.

## 1.4.2 Safety instructions

When the truck is lifted using a jack, make sure you secure it with blocks. The truck must not rest on the jack, while work is carried out.

Ensure that straps, wires or chains have a sufficient lifting capacity before lifting the truck.

Pull out the battery plug before working on the electrical system.

Ensure that the drive wheel runs free of the floor before trouble shooting.

The system should not be pressurised, e.g. the pump motor shut off and the forks down, when dismantling parts of the hydraulic system.

## 1.4.3 General safety risks when working on fork trucks

Extreme importance must be placed on precautionary measures to avoid accidents during all work on the vehicle.

A general rule is to always implement preventive measures that are adapted to the type of vehicle to be worked on. The general rules below must always be observed:

- Smoking or naked flames are strictly forbidden as there is a risk of explosion in the vicinity of batteries and while working on gas equipped vehicles.
- The battery should always be protected during grinding work.
- The fire regulations for the building should also be observed.

The drive wheel should always be lifted up free from the floor during service work to prevent the vehicle from moving. The vehicle must not rest solely on the jack, but must be secured by some form of blocking.

To prevent injuries caused by crushing, the battery plug should always be pulled out when working around the mast, reach carriage and hydraulic unit on electric Reach Trucks. The mast, reach carriage and hydraulic unit can be actuated due to an electrical fault or a mistake while working. The battery plug may only be connected while trouble shooting, and when the greatest of care is exercised, (with the truck raised).



### **Warning!**

**Standing on the reach carriage between the mast and battery partition with the current connected to the truck can result in fatal injury!**

When working on and around the mast and hydraulic unit, they must be locked by using a mast lock, wooden blocks or some other appropriate means.

No other persons should be in the vicinity of the truck when it is test run in conjunction with repair work, in view of the risk of accidents or near-accidents caused by the truck making an unexpected manoeuvre.

When working on the gas equipment on gas driven vehicles the gas system should be emptied first, if possible, by shutting the main tap and running the motor or equipment until the system is empty and stops.

Escaping gas is heavier than air and has a tendency to collect in cavities, and can be ignited by sparks or a naked flame. The machine should therefore be ventilated with compressed air before service work is begun. Ventilation should also be carried out after repairs before the motor or another unit is started, since sparks from the starter or relays can cause explosions.

The system should not be pressurised, e.g. the pump motor shut off and the forks down, when dismantling parts of the hydraulic system.

All metal objects such as watches and rings should be removed when working on the electrical system, or in its immediate vicinity. A short-circuit from such objects can result in serious burn injuries.

#### **1.4.4 Environmentally hazardous waste – environment**

Atlet AB takes care of the environment. Waste material in conjunction with repairs, maintenance, cleaning, or scrapping, should be collected and disposed of in an environment-friendly way and in accordance with the directives of respective countries. Such work must only be carried out in areas intended for this purpose.

Environmentally hazardous waste, such as oil filters, batteries, hydraulic hoses and electronics, can have a negative effect on the environment, or health, if handled incorrectly. Recyclable material should be taken care of by specialised authorities.

#### **1.4.5 Handling**

Make sure that you have all the essential tools close at hand before starting work.

Before cabling or other electrical components are disconnected, check the colour codes and check for damage to cables or connections.

When complex, complete components are repaired and dismantled, make sure that you have good control of the different component parts to avoid the risk of confusion.

When repairing or maintaining sensitive components, make sure that you use clean tools and work on a clean work surface.

Dismantle, inspect and adjust components according to the prescribed routines. See respective sections for detailed information.

Make sure that gaskets and O-rings, etc. are replaced with new parts each time they are dismantled.

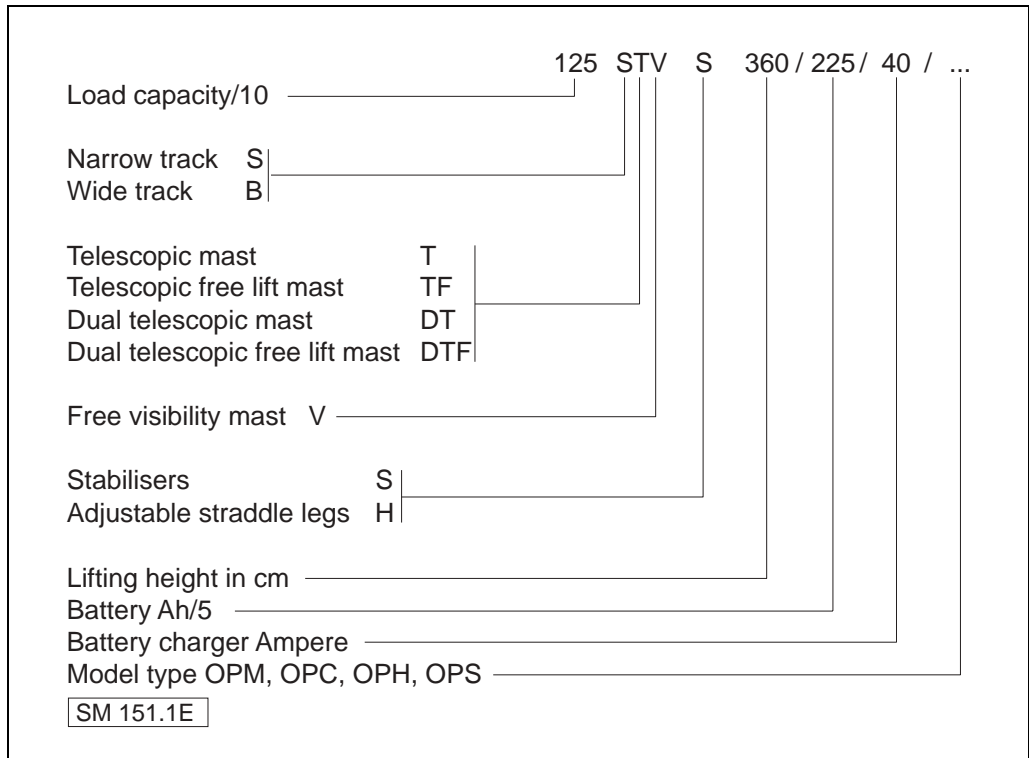
Always use ATLET's original spare parts.

Use the screws and bolts specified in the spare parts catalogue. Tighten according to instructions. In those cases where the tightening torque is not specified, refer to the table of standard tightening torque in section 1.7.

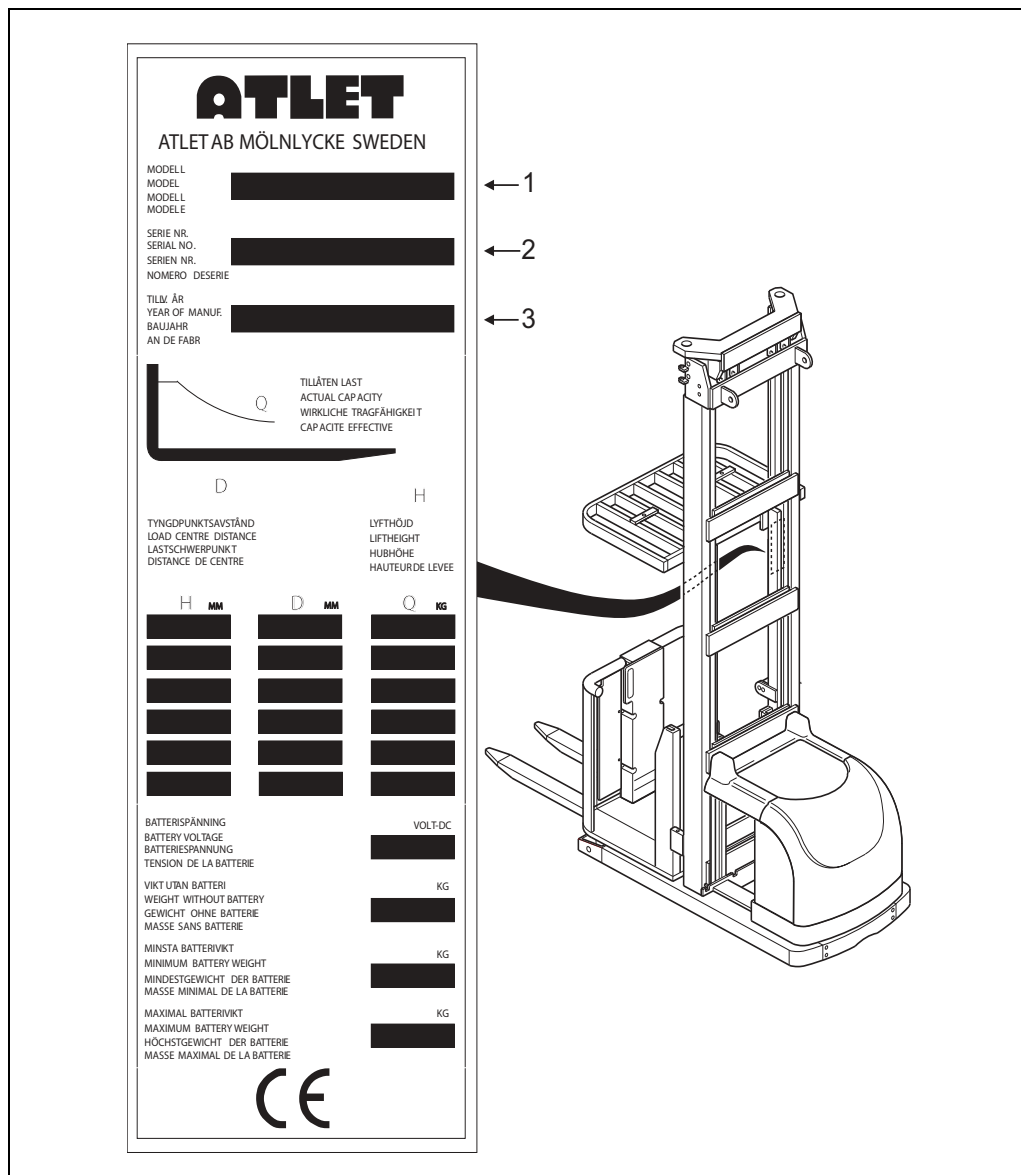
### **1.4.6 Troubleshooting**

When you suspect a faulty component, do not replace it immediately. First check the surrounding equipment and carry out complete troubleshooting routines. Make sure you know the reason for the fault before replacing a component.

# 1.5 Data OP

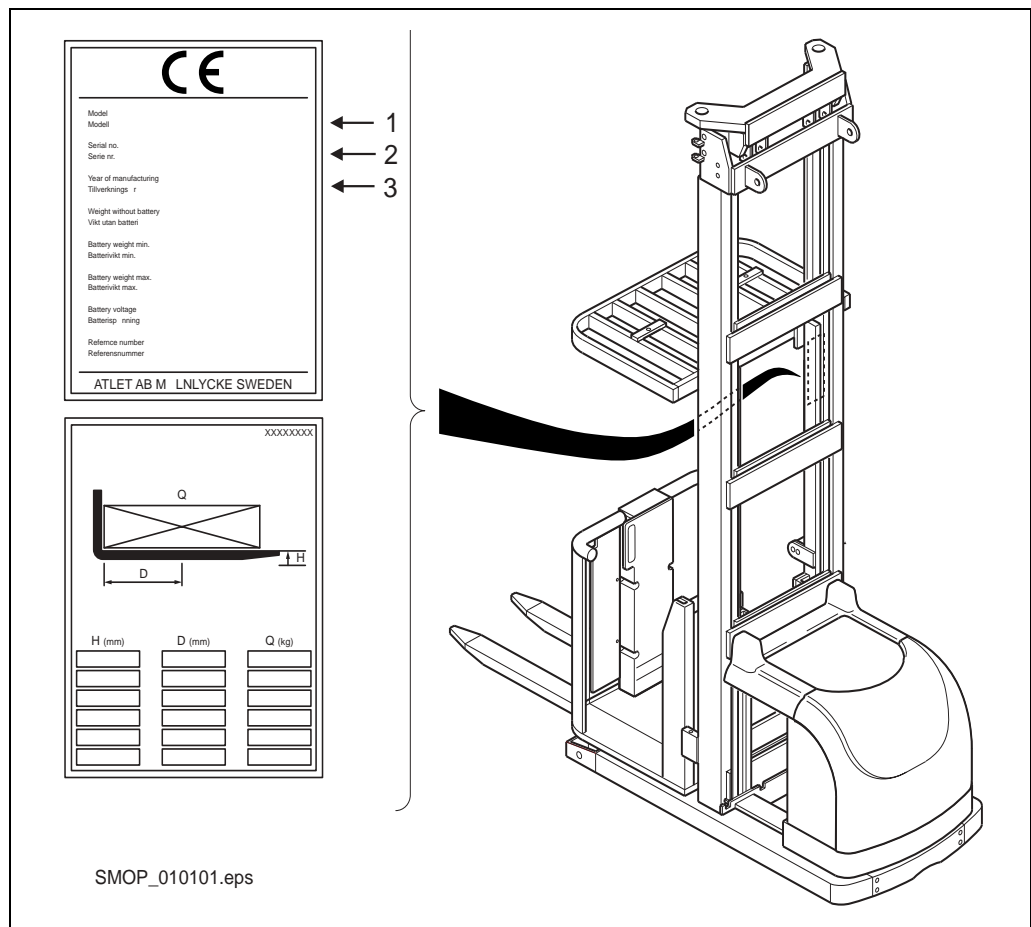


**Figure 1.2** Type designations (example)



**Figure 1.3** Machine name-plate (–2006w36)

1. Type designation.
2. Serial number.
3. Year of manufacture and warranty period in months.



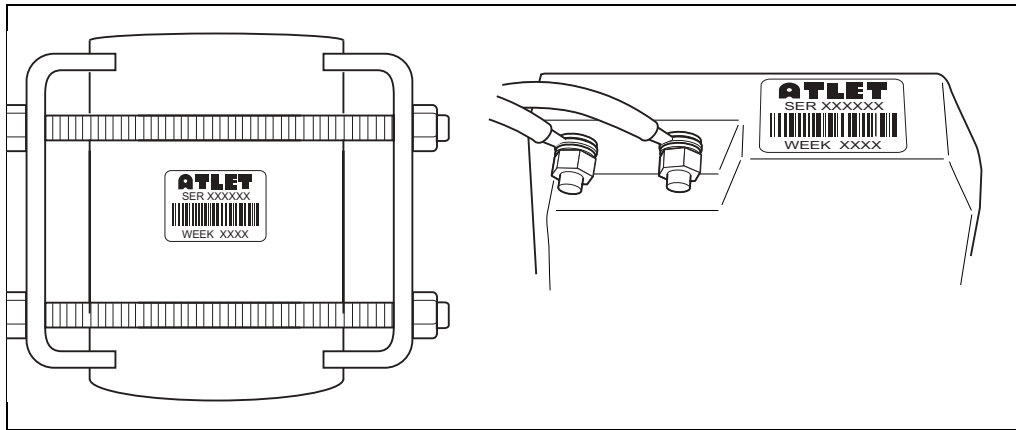
**Figure 1.4** Machine name-plate (2006w37-)

- 1 Type designation.
2. Serial number.
3. Year of manufacture and warranty period in months.

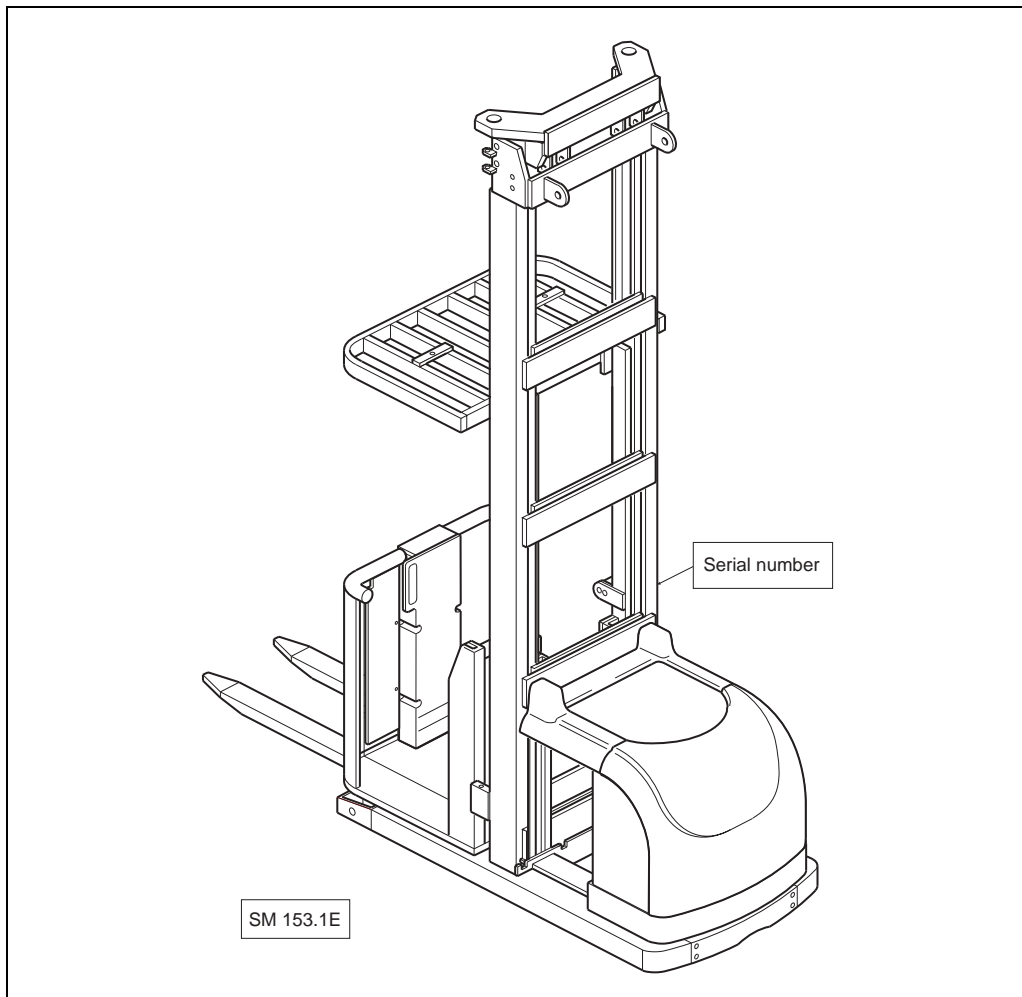


### **Note!**

In cases where the machine plate has been lost or become illegible, it must be renewed immediately. In order to identify the machine's serial number, there is a plate located on each main component such as drive motor, gearbox, hydraulic unit, TMC etc. For some machines there is even a plate attached inside the battery compartment, or serial number punched on the side of the mast.



**Figure 1.5** Example of plate with serial number.



**Figure 1.6** Serial number



## 1.6 Dimensions and weights

### 1.6.1 Dimensions OP

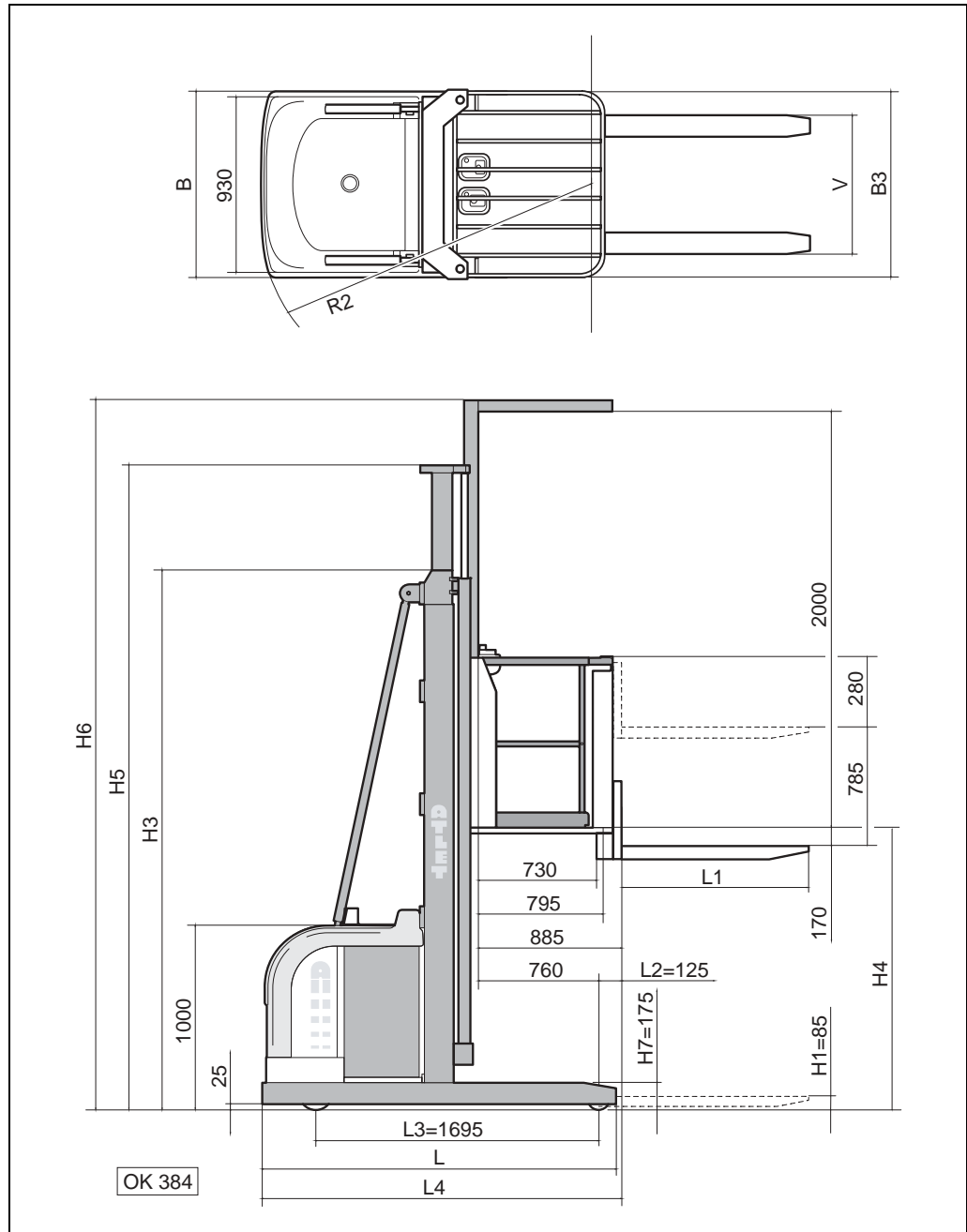
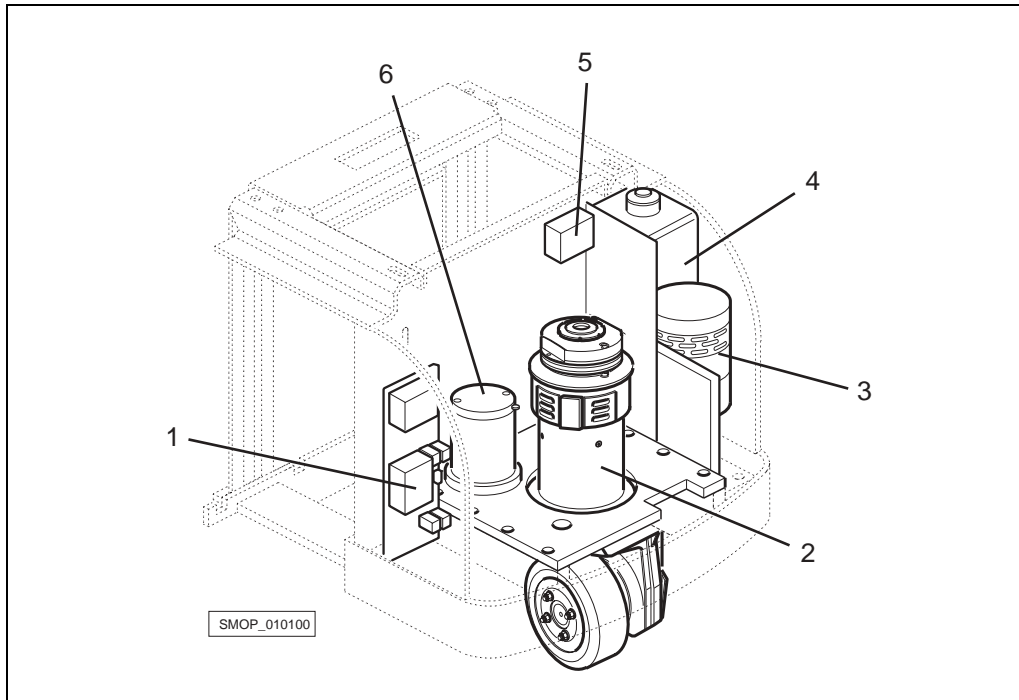


Figure 1.7

## 1.7 Overview of motor compartment



**Figure 1.8** Overview

**Table 1.2**

Position	Designation	Section
1	Distribution board	10
2	Drive unit	5
3	Hydraulic unit	8
4	Hydraulic tank	8
5	Hydraulic valve	8
6	Servo motor	7

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