



# **Service Manual**

## **Chassis & Mast**

**EP40**

**EP45**

**EP50**

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# Technical Description of Components

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Used before explanations.

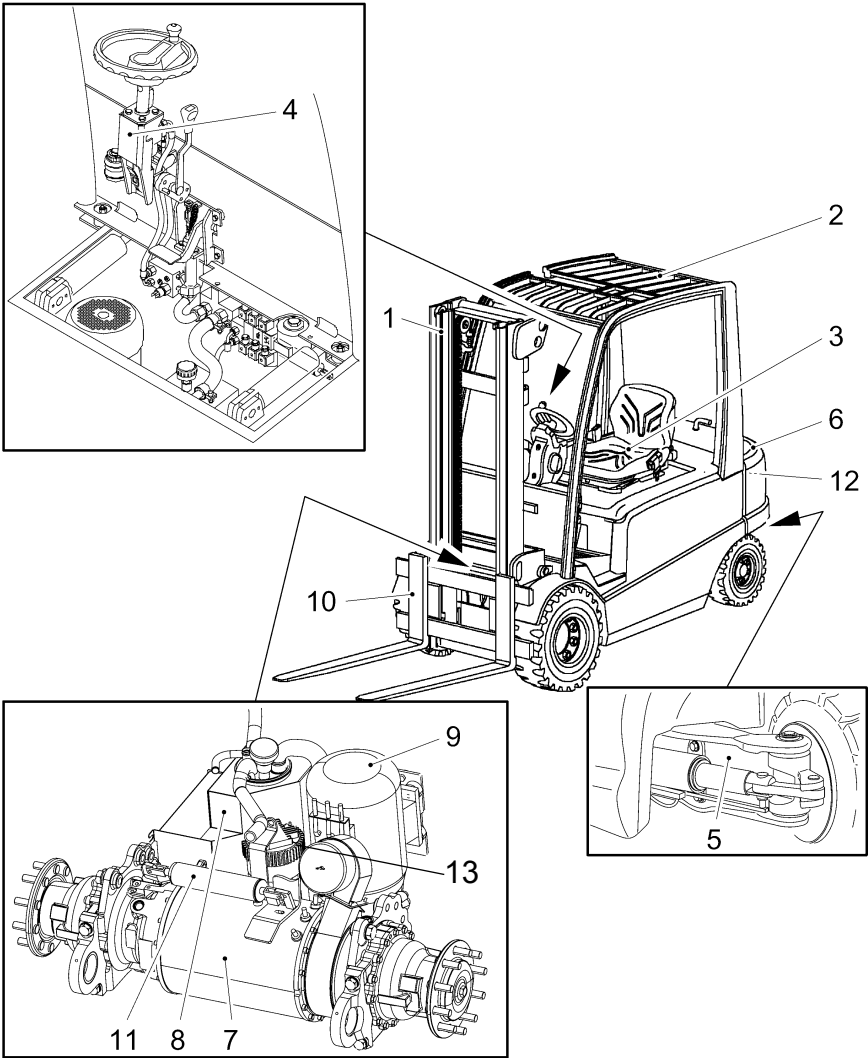


Used before notices which must be observed to avoid material damage.



Used before safety instructions which must be observed to avoid danger to personnel.

# Component Arrangement



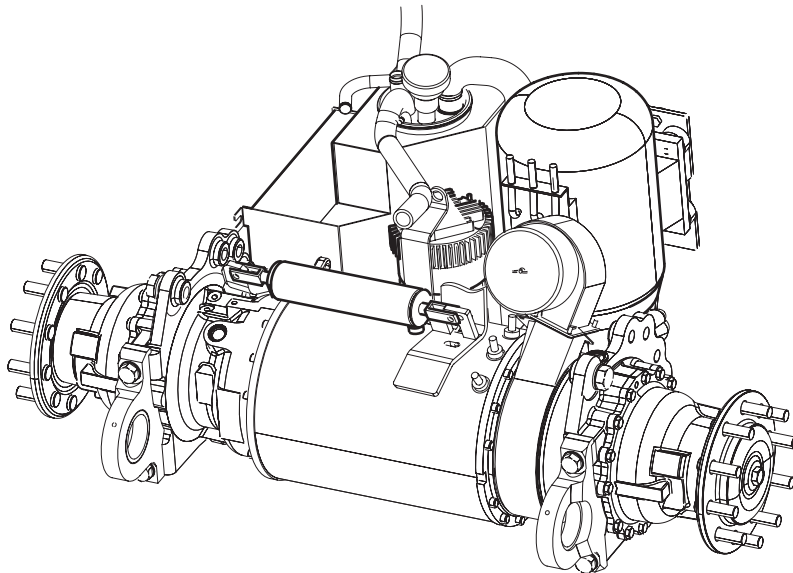
Item	Description
1	Mast
2	Overhead guard
3	Driver's seat
4	Steering column
5	Steering axle
6	Counterweight
7	Drive unit
8	Hydraulic reservoir
9	Hydraulic unit
10	Fork carriage
11	Spring-loaded accumulator cylinder
12	Electrical system
13	Steering unit

## Drive

### Drive system components

The drive system consists of a compact drive unit in which the following components form a functional unit:

- Traction motor
- Transmission
- Multi-plate brake
- Spring-loaded brake



- The complete drive unit is connected to the chassis with 16 industrial grade bolts.

### Traction motor

#### Temperature gauge and speed sensor

- The temperature gauge for temperature control is located in the stator coil, the speed sensor in the right sided transmission housing .

Motor overtemperature is shown by an indicator in the multifunction display.

#### Asynchronous motor direction of turn

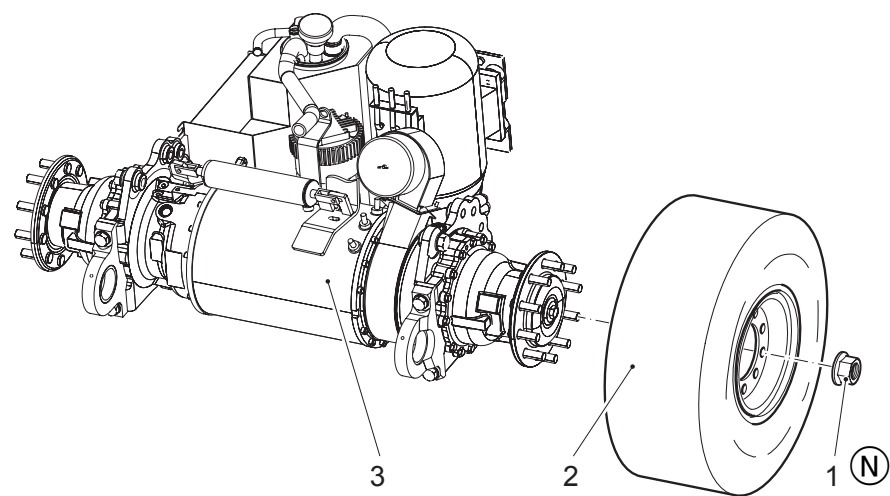
The direction of turn of a threephase asynchronous motor is determined by the rotary field of the 3 phases. If 2 phases are swapped, the motor will turn in the opposite direction. This assumes that tracks A and B of the sensor bearing have also been turned.

If the direction of turn of the 3 phases does not match the sensor signal when the accelerator is pressed, the controller will try to increase the motor speed. However, as the sensor feedback signal does not match the direction of turn applied, the motor remains at its lowest speed.

- If the phases are wrongly connected, the error message appears.

# Wheels/Axles

## Design

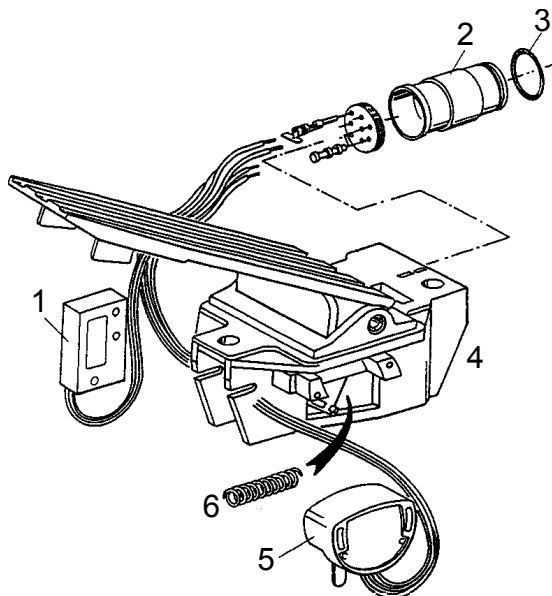


Item	Description
1	Wheel nut
2	Load wheel
3	Drive

➔ (N) For torques, see chapter 2

# Travel switch/Accelerator pedal

## Design



## Function

The microswitch releases the travel impulse if the seat switch is also applied at the same time.

The potentiometer controls the travel speed. The further the pedal is depressed, the less the resistance and the greater the speed.

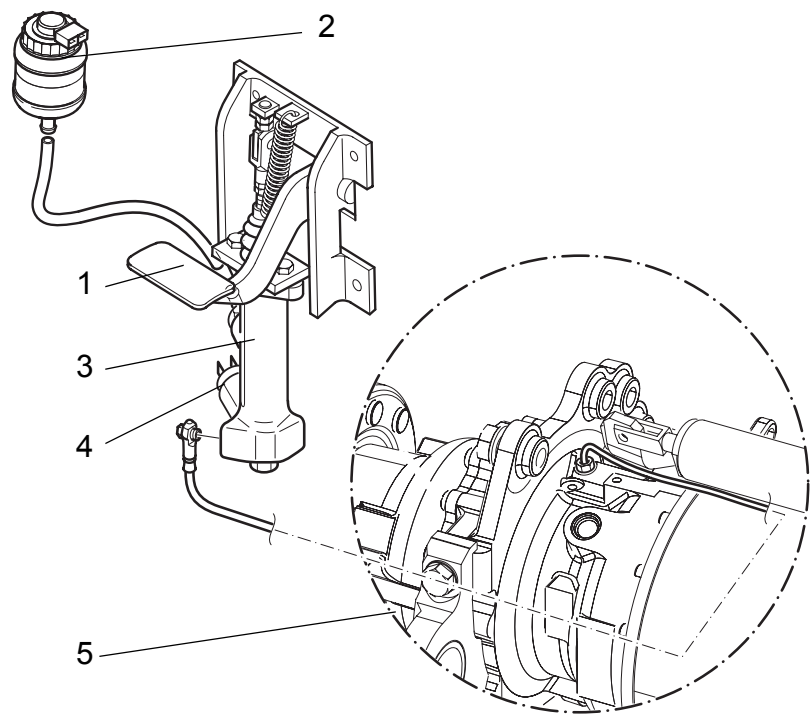


When the default settings have been made or the potentiometer replaced, check the “MIN” and “MAX” potentiometer voltage with the service program.

Item	Description
1	Microswitch
2	Coupler plug
3	Seal
4	Pedal/Pedal support
5	Potentiometer
6	Spring

# Brake system

## Service brake



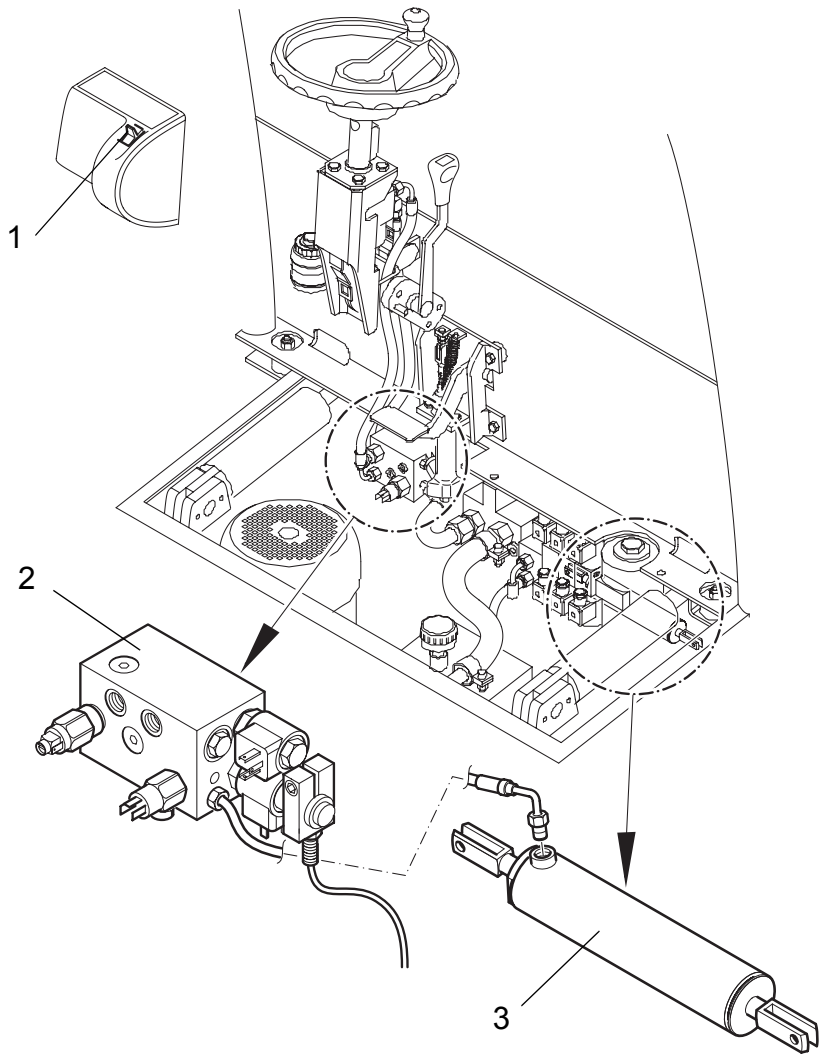
## Service note:

- ⚠ Do not add brake fluid!
- Fill the brake system with RENOLIN 22 hydraulic oil.

Item	Description
1	Brake pedal
2	Compensator reservoir
3	Main brake cylinder
4	Pressure switch
5	Drive unit

# Spring-loaded parking brake

## Design



Item	Description
1	Parking brake switch
2	Spring-loaded accumulator block
3	Spring-loaded accumulator cylinder

## Function

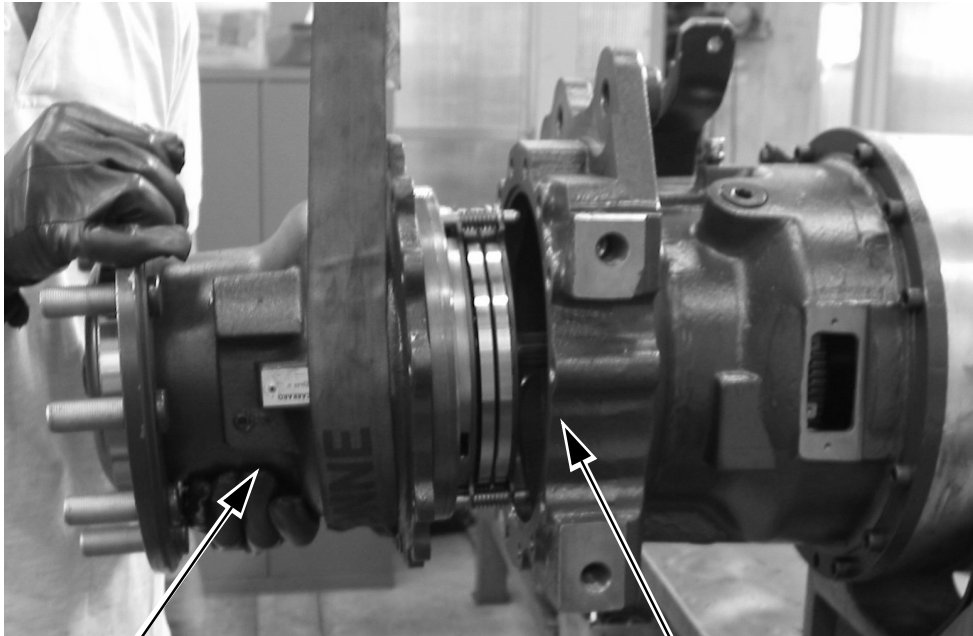
➔ For functional test see **Service Manual** page 4-17

## Service note:

⚠ Do not add brake fluid!

## Disc Brake

## Position



1

2

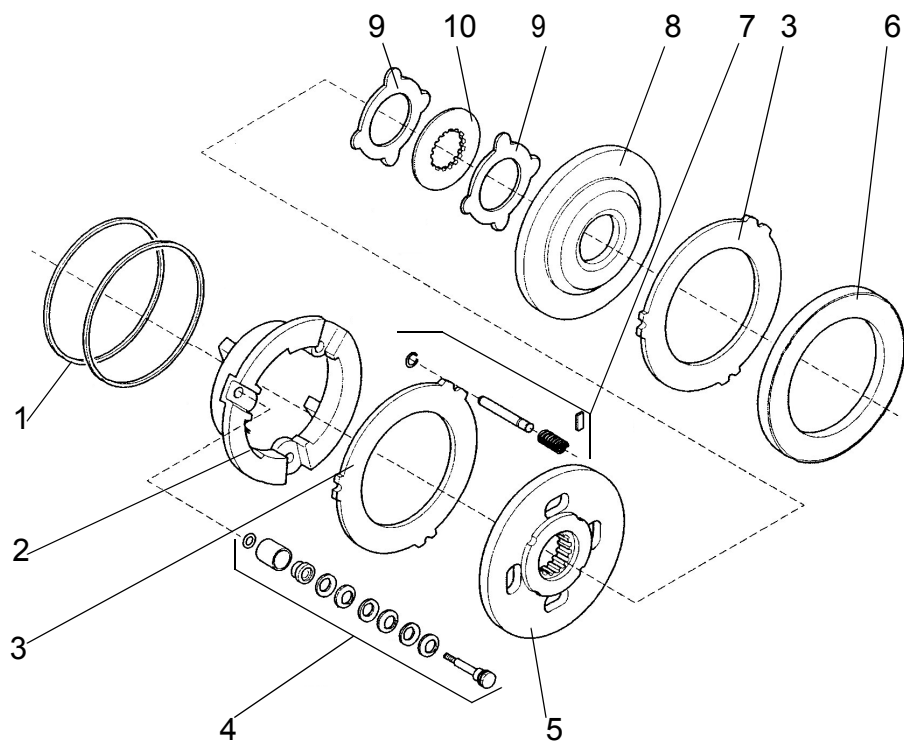
The disc brake is located in the right-hand bell of the drive unit (seen in the direction of travel).

Item	Description
1	RH reducing gear housing (transmission housing)
2	Disc brake housing (cylinder bell)
3	Brake lining

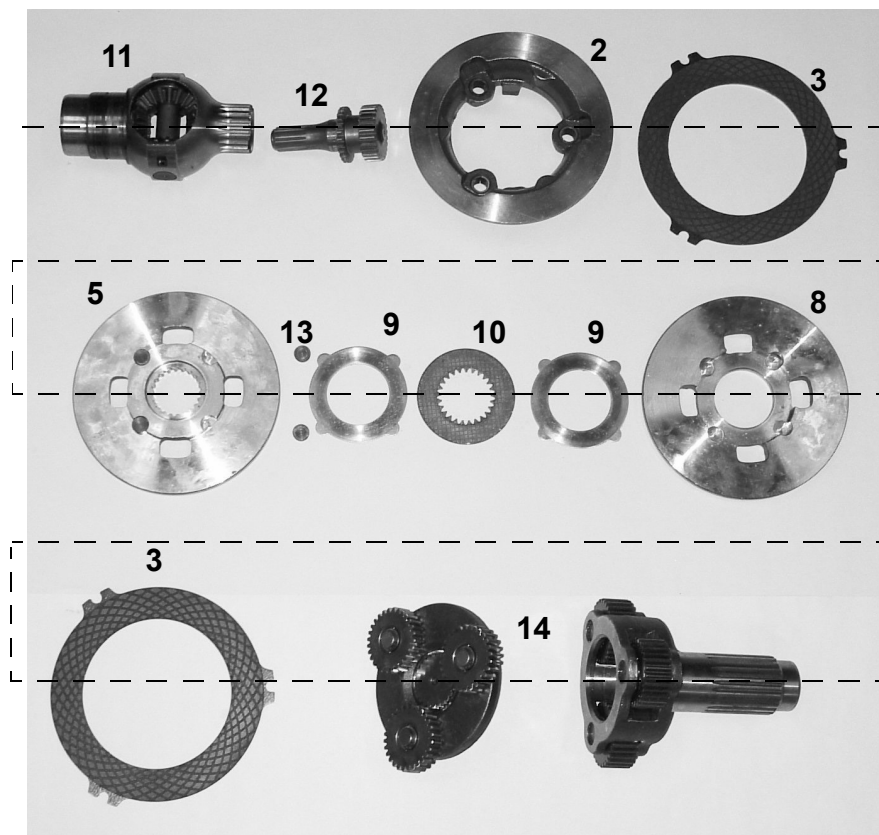
## Design



3



Item	Description
1	O ring (2 off)
2	Pressure plate and brake piston
3	Brake lining (2 off)
4	Self adjust kit complete with clamping sleeve (3 off)
5	Brake disc with internal toothing
6	Pressure plate
7	Moment support (3 off)
8	Brake disc
9	Pressure plate (2 off)
10	Brake lining with internal toothing

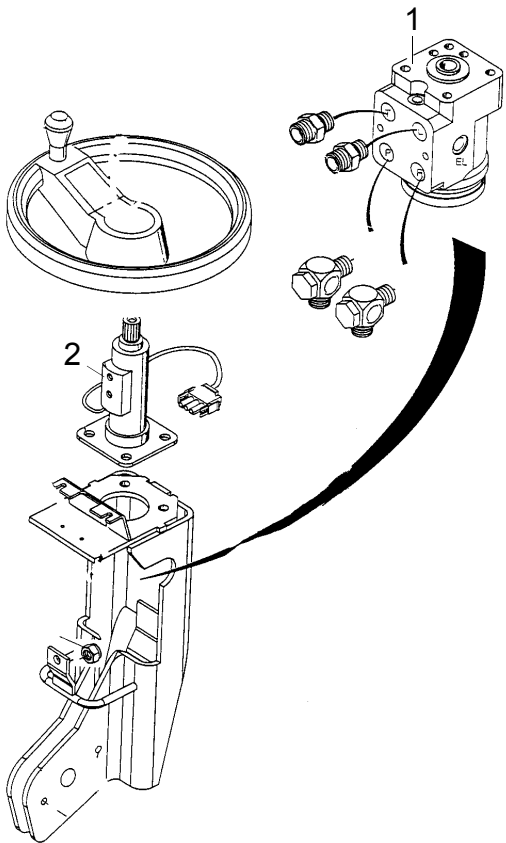


Item	Description
2	Pressure plate and brake piston
3	Brake lining (2 off)
5	Brake disc with internal tothing
8	Brake disc
9	Pressure plate (2 off)
10	Brake lining with internal tothing
11	Differential
12	Pinion
13	Carrier (4 off)
14	Two-stage planetary gear

**Service note: See service manual B 1003**

# Steering system

## Steering column



Item	Description
1	Servostat
2	Steering wheel sensor / Hall sensor

## Design

All truck models are fitted as standard with a hydraulic steering system with emergency steering.

The steering electronics are incorporated in the steering motor.

The system is controlled by a steering wheel sensor (Hall sensor) on the steering column.

## Function

When the steering wheel is turned the rotary movement is converted into an electric signal. The servostat controls the volume of oil in proportion to the speed of the steering wheel turn and directs it to the required side of the steering cylinder.

After turning, the servostat automatically reverts to neutral.

If the hydraulic pump fails, emergency steering is provided at all times by the emergency pump in the servostat.

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