



Service manual

PBVSBV

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2.1 List of tools

Table 32. List of tools

Tools	Part number P/N	Application
Communications cable, truck computer (ATC)	108005	Data transfer cable between truck and PC
ESD bracelet	158066	For electronic component handling, mainly open circuit boards
Lifting eye	104737	Lifting eye for drive unit
Lifting device	118515	Lifting tool
Insulation test instrument	158018	
Crimping tool (Molex)	006454	Cable connections
Pin extractor (Molex minifit)	006456	Cable connectors
Cleaning fluid	112268	Cleaning of electric motors from gearbox oil and other dirt
Chain spray	001196	Lubrication of chains
Shim	102561	Adjusting the fork angle
Service ramp	151179	Facilitates use of jack

For detailed information on the above products, please contact the truck manufacturer's spare parts department.

All special tools can be ordered from the truck manufacturer's spare parts department.

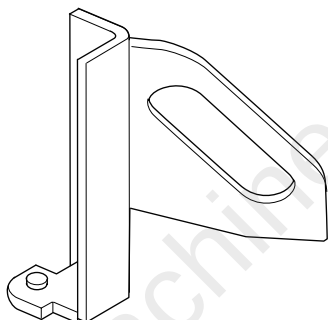


Fig. 5. Lifting device

Table 35. Drive unit (cont'd.)

Drive unit		
Inspection points	Checks	See Chapter
Drive shaft	Listen for unusual noises. Check for tightness and gaps.	-
Gear	Noise. Check the gears. Check the gear ratio.	5

Table 36. Steering

Steering		
Inspection points	Checks	Chapter
Steering Bearing	Listen for unusual noises. Check the lubrication.	5
Tiller arm attachment	Check for play, the bushings and attachments.	7
Steering belt	Check the play.	7

Table 37. Brake

Brake		
Inspection points	Checks	Chapter
Braking force	Check the braking distance.	11
Parking brake	Check the functions and the cable connections.	11
Brake cable	Check the attachments, and for damage.	11
Brake disc	Check for wear and that the friction surface is thicker than the minimum amount all round.	11

Table 38. Hydraulic system

Hydraulic system		
Inspection points	Checks	Chapter
Hydraulic tank	Check that the oil level is between minimum and maximum. Check that the air and oil filters are not clogged.	8, 9
Cylinders	Check the function. Check for damage. Check for leakage at the welded joints, wiper seals and piston rod. Check for weld damage and damage to the chain attachments. Check lowering speed.	8, 9
Hoses	Check for cracks, leakage and damage. Check that they are secure.	1, 3, 8
Nipples	Check for leakage. Check for tightness.	3
Pump motor	Listen for unusual noises. Check the operation and the cable connections.	10
Hydraulic pump	Listen for unusual noises. Check for damage and leakage between pump and motor.	8, 9

4.2.3 Castor wheel

4.2.3.1 Removing the castor wheel/bearing

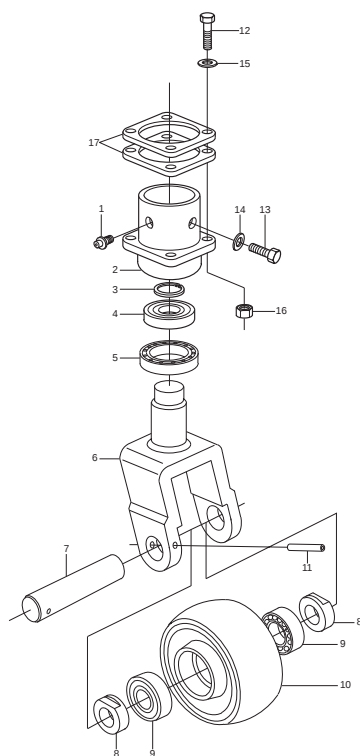


Fig. 12. Castor wheel

- 1 Remove the plastic cover from the machine housing.
- 2 Lift up the machine housing approx. 30 cm, and secure with blocks underneath. For lifting the truck, refer to 1.2.4 Lifting the truck page 4.
- 3 Remove the bolts (pos. 12), 12. Castor wheel page 45.
- 4 Take out the castor wheel assembly and support the fork in a vice.
- 5 Tap out the retaining pin (pos. 11), drive out the wheel axle (pos. 7) and remove the wheel from the fork.



NOTE

Keep the spacers (pos. 8) in a safe place.

- 6 Support the wheel in the vice instead of the fork.
- 7 Pull out the bearings with a bearing extractor.

4.2.3.2 Installation of the castor wheel/bearing

- 1 Lubricate the wheel bearing seats with grease, and press in the bearings with a suitable drift.
- 2 Lay the wheel fork with the side facing down.
- 3 Hold the wheel and spacers together, and insert the wheel in the fork.
- 4 Fit the wheel axle (pos. 7).

5.2.3 Gearbox

Service work on the gearbox is limited to changing the wheel studs on the wheel and changing the lower shaft seal.

Motor mounting

The motor mounting is screwed in the gearbox with three socket head cap screws. These should be treated with Loctite 243 or the equivalent when fitted.



TORQUE

The bolts must be tightened to a torque of **47 Nm**.

Changing the wheel studs

After removing the wheel stud that is to be changed the threads on the new wheel stud and the threads in the hole should be cleaned of oil and grease. The threads should be treated with Loctite 243 or the equivalent before the new wheel stud is screwed in.



TORQUE

The stud must be tightened to a torque of **37 Nm**.

Gearbox lower shaft seal

The shaft seal can be removed after removing the protective disc.

The seal seat in the casing and the surface of the seal should be cleaned and greased before installation of a new seal. The protective disc is replaced after installation of the shaft seal.

Steering bearing

The guide bearing is protected by rubber rings and is maintenance-free as long as no special cleaning has been performed with a high-pressure jet.

Gear collar and drive pinion (PBV)

The guide gear collar and drive pinion on the gearbox should be greased with standard grease.

Checking the oil level and filling up with oil

Oil is poured in through the upper filler screw hole. The correct level is at the lower edge of the hole.

The oil level should be regularly checked to avoid damaging the gearbox.



WARNING

Take care when removing the plug to check the oil level and to top up with oil. Overpressure can build up in which case there is a risk that the oil can spray out.

Oil change

The oil is drained out through the lower oil plug hole. The oil can be drained more easily if it is warm.

Spent oil must be handled and recycled in accordance with legislation in the respective country.

Before screwing in the oil plug again it should be cleaned.

5.2.4 Drive wheel

5.2.4.1 Replacing the drive wheel

- 1 Lift up the truck so that the drive wheel can rotate freely.
- 2 Release the battery plug.

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Mitsubishi PBV20PD Pallet Truck Service Manual (SM19GBPVB,SBVA4)

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