



Service Manual

Chassis & Mast

EP13TCB(J)

EP15TCB(J)

EP16/18/20TCB(J)

EP16/18/20TBCB(J)

215E00001-up

216E00001-up

288E00001-up

283E00001-up

264E00001-up

265E00001-up

266E00001-up

267E00001-up

6- 3. Inspection and adjustment

6-3-1. Wheel brake - inspection and adjustment

⚠ CAUTION

Wheel brake is very important for safe operation. Always replace Wheel brake whenever it is damaged.

- ➔ See "2-2-5. Front axle - reassembly" step 9 and "2-3-5. Brake plates - inspection and replacement".

6-3-2. Master cylinder Ass'y - inspection and replacement

⚠ CAUTION

- Before inspecting, drain the oil from Reservoir tank Ass'y, clean the inside of Master cylinder with a volatile wash oil, and then blow oil off with compressed air.
- After inspecting, apply corrosion inhibitor [Metal Rubber#20] to inner surface of the cylinder and around Piston, and then reassemble the parts.

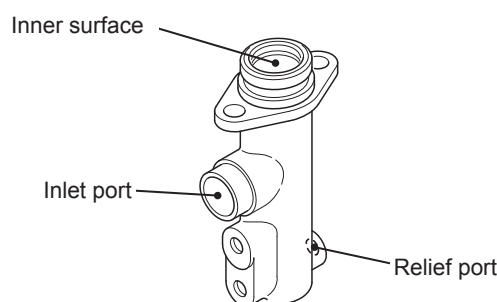
A. Before disassembly, check for the following.

- 1) Damage, deformation, wear, and oil leaks.
- ▶ If you find any parts with problems, replace them.
- 2) Oil leaks or other problems when the machine is operating at a Maximum effective stroke of Piston of 28mm.

B. Inspect cylinder body

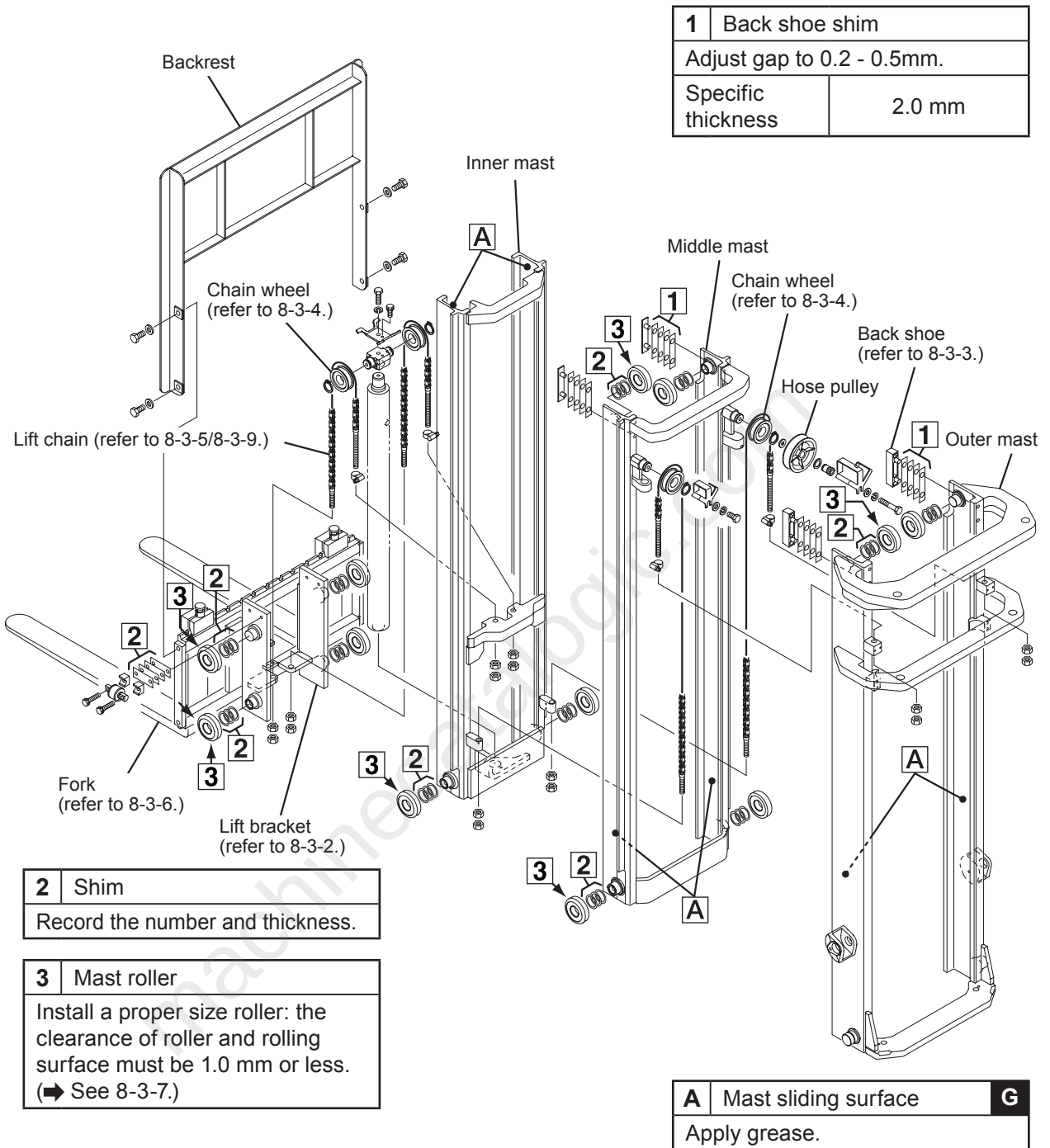
- 1) Check for rust, corrosion and wear of inner surface of the cylinder.
- 2) Check for clogging of Inlet port and Relief port.

● Checking cylinder body



215W0607

● Disassembling and reassembling Triplex mast



G : Apply grease

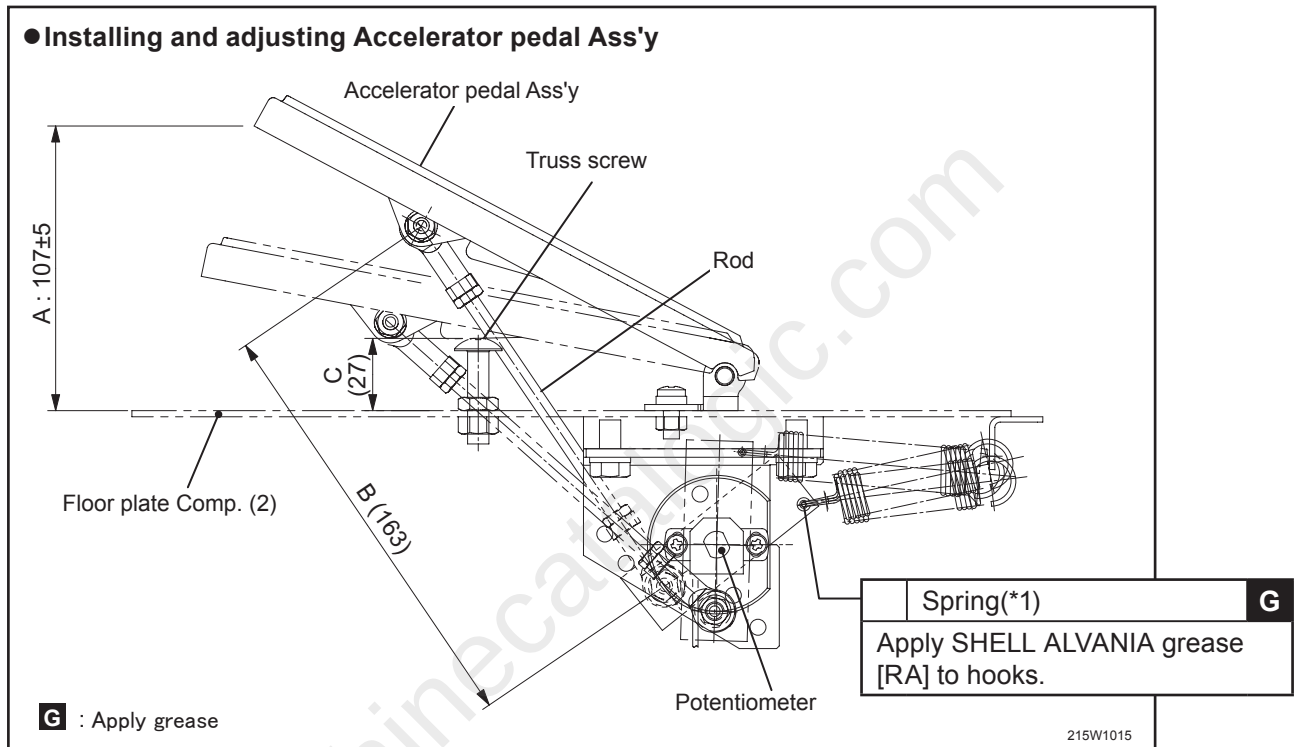
215W0818

10c-1-2. Accelerator linkage - installation

check and adjustment

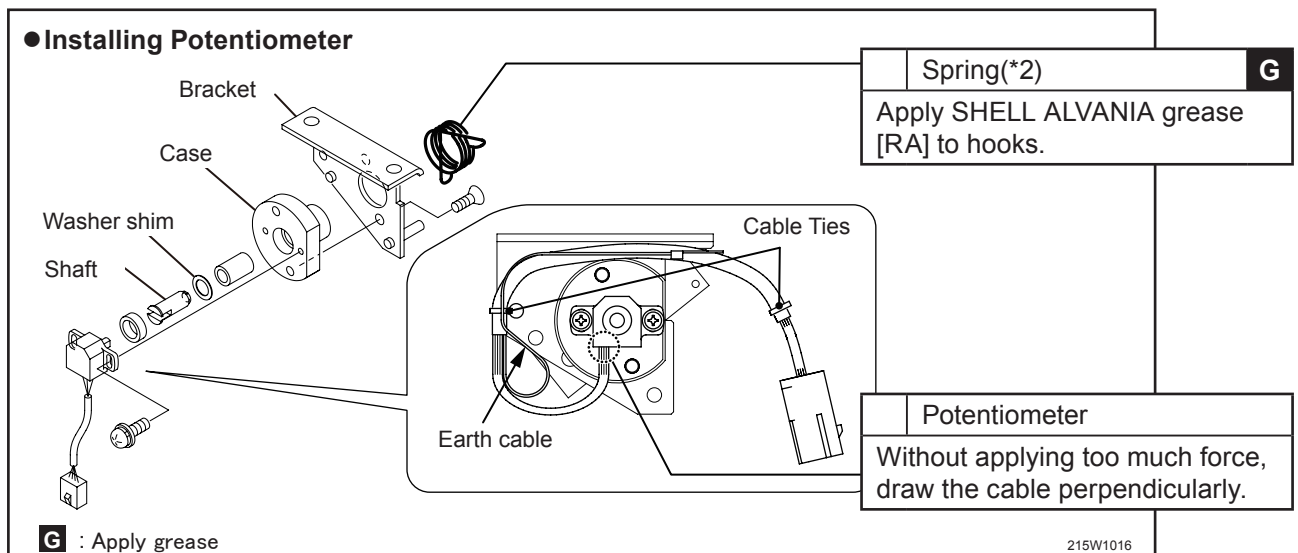
A. Accelerator pedal Ass'y - Installation and adjustment

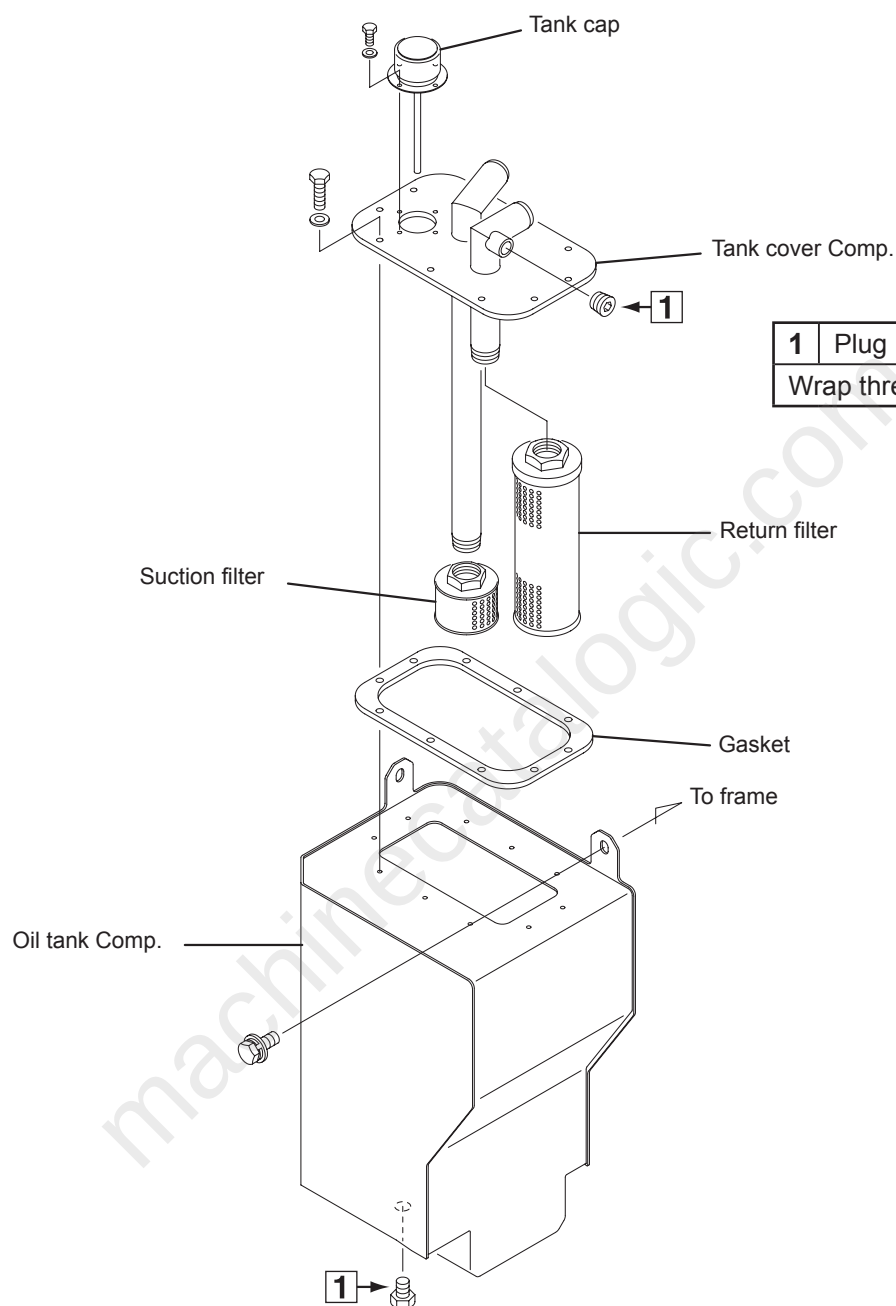
- 1) Adjust dimension B (design dimension: 163mm) so that dimension C is 107mm $\pm$ 5mm when releasing the accelerator pedal.
- 2) Adjust dimension C to 27mm.



B. Potentiometer - Installation

- 1) A small amount of SHELL ALVANIA grease [RA] between Shaft and Washer shim.
- 2) Apply SHELL ALVANIA grease [RA] to the surface of Spring(*1).
- 3) Attach a Ground cable to Potentiometer when tightening the connector.
- 4) Apply SHELL ALVANIA grease [RA] to the hooks of Spring(*2).

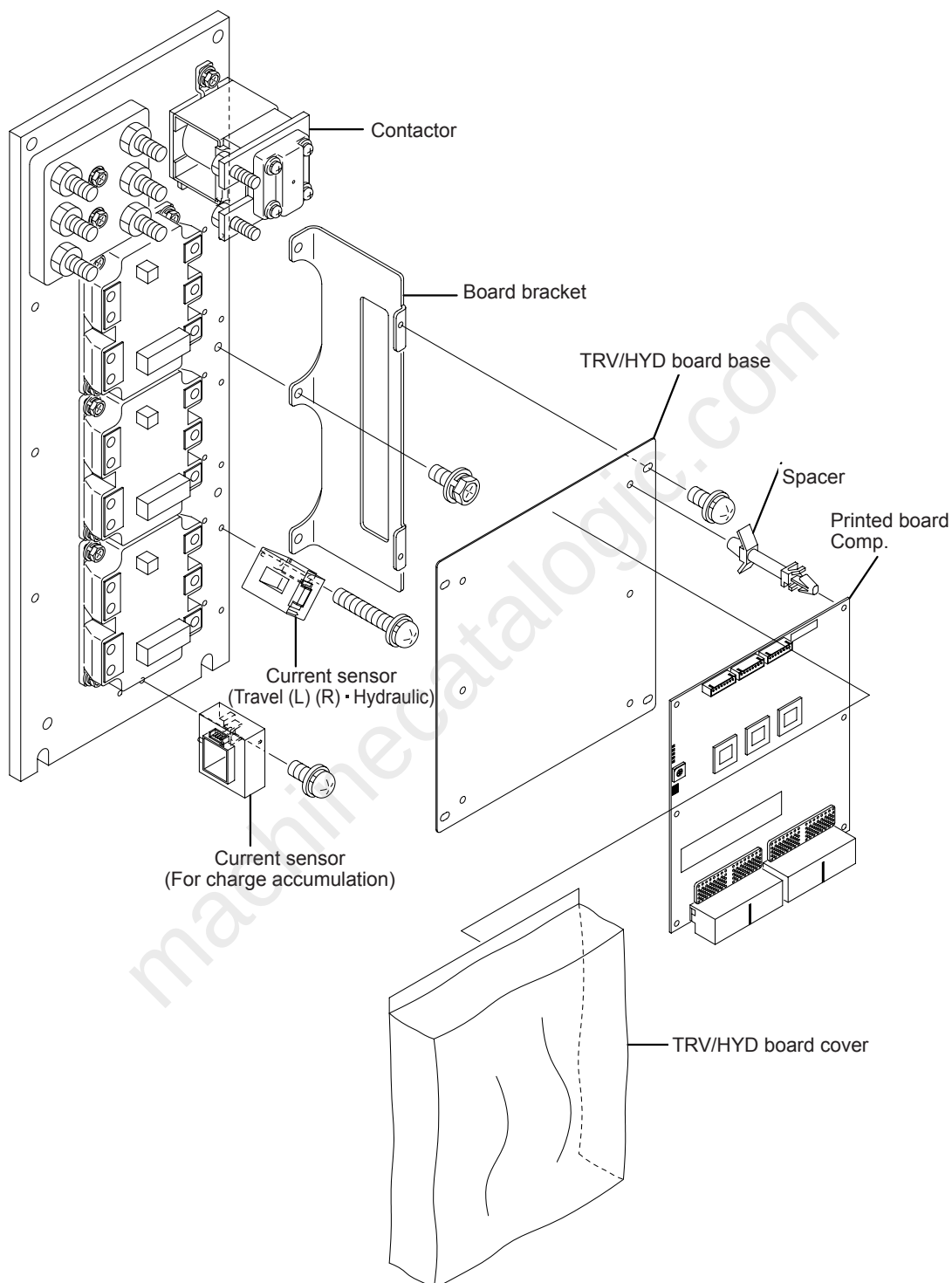


● Disassembling and reassembling Steel tank

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10a-2-4. Control unit - disassembly and reassembly

● Disassembling and reassembling Control unit (1)

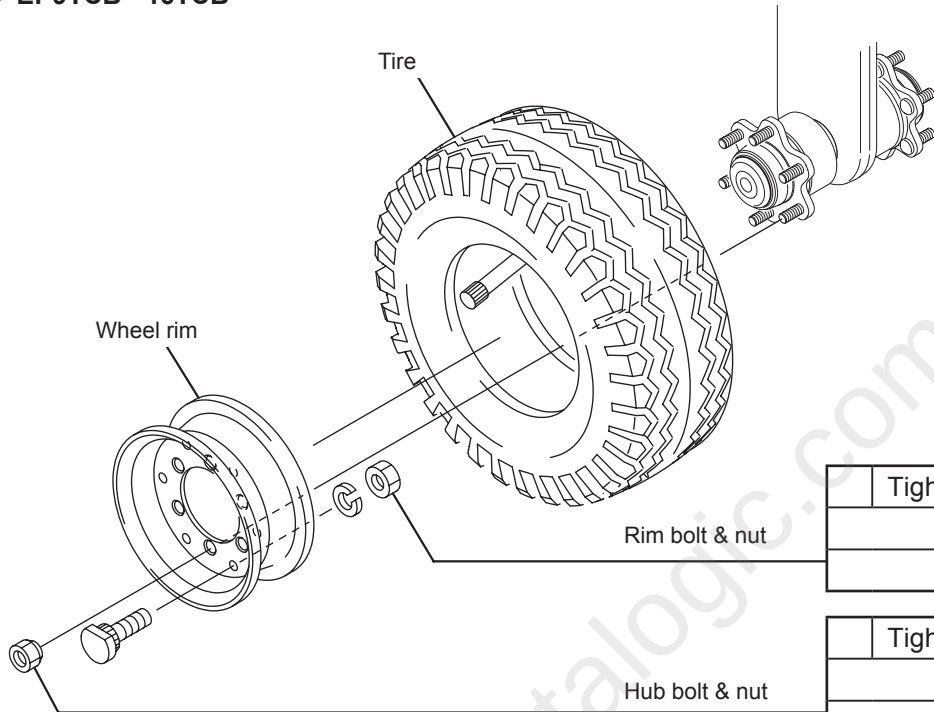


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4- 2. Rear tire

4-1-2. Names of parts

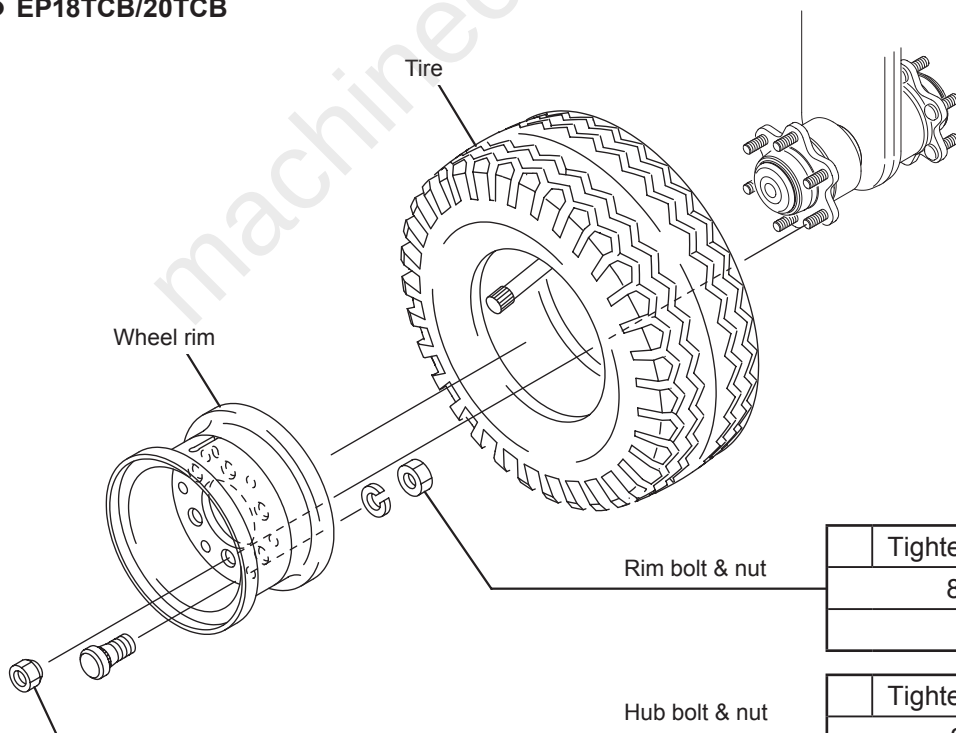
● EP9TCB - 16TCB



Tightening torque	
68.5 - 78.5 N · m	
{7 - 8 kgf · m}	

Tightening torque	
88.2 - 108 N · m	
{9 - 11 kgf · m}	

● EP18TCB/20TCB



Tightening torque	
88.2 - 108 N · m	
{9 - 11 kgf · m}	

Tightening torque	
216 - 264 N · m	
{22 - 27 kgf · m}	

 : Tightening torque

215W0402

10e- 2. Inspection and adjustment

10e-2-1. Battery - inspection and adjustment

Electrolyte level - inspection

CAUTION

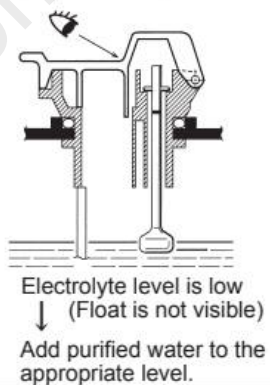
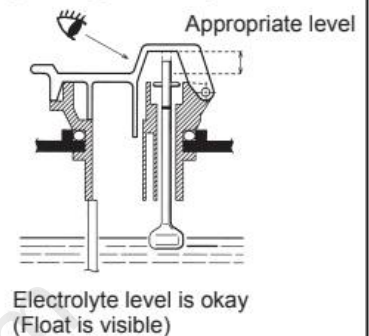
Always wear protection goggles, rubber gloves, and boots.

- 1) Disconnect Battery plug.
- 2) Remove Cover catch, and then open Battery cover.
- 3) Open the caps of all cells, and visually check the floats.

<Evaluation criteria>

- If you can see Float, the cell's electrolyte level is okay.
- ▶ If not be seen, replenish refined or distilled water till the appropriate level.

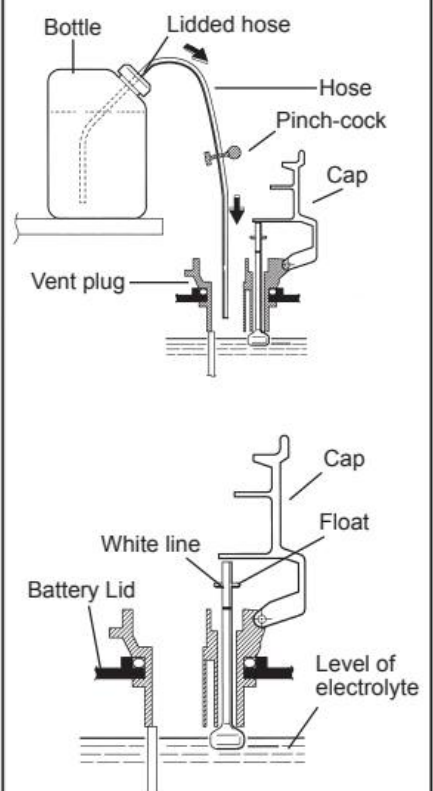
● Inspecting Electrolyte level



How to add water

- 1) Place Bottle of purified water so that it is higher than Battery.
- 2) Remove the lid of Bottle, insert Lidded hose deeply into Bottle, and then tighten lid.
- 3) Open Vent plug, and then insert Hose with Pinch-cock.
- 4) Loosen Pinch-cock, and then press the middle of Bottle several times to produce a siphon action that pushes the purified water through the hose.
- 5) Add purified water until White line of Float is at the same level as top of Vent plug.
- 6) When the water reaches the appropriate level, tighten Pinch-cock.

● Replenishing procedure



■ Using this "SERVICE MANUAL-CONTROLLER"

This manual has information about the layout and names of main components, explains disassembly, assembly, inspection, adjustment, and maintenance procedures, and contains troubleshooting hints that apply mainly to the model EP-TCB.

It is important to note that in order to improve quality, performance, and safety parts used in this forklift truck are subject to change and that some portions of the contents and illustrations in the SERVICE MANUAL-Chassis & Mast at the time of printing may not be identical due to these changes.

Instructions with  and  marks are very important and must always be followed.

	DANGER	Indicates a potentially hazardous situation that can result in death or serious injury if not avoided. You must always observe this precaution.
	WARNING	Indicates a potentially hazardous situation that can result in death or serious injury if not avoided. You must always observe this precaution.
	CAUTION	Indicates a potentially hazardous situation that can result in minor or moderate injury if not avoided. You must always observe this precaution.
	NOTE	Indicates suggestions, tips, and hints related to safe operation and maintenance.

1. Who should use this SERVICE MANUAL-CONTROLLER

The SERVICE MANUAL-CONTROLLER assumes that the person using it has a certain degree of technical knowledge and expertise. If you do not understand the content in this SERVICE MANUAL-CONTROLLER, perform your task under the guidance of someone who does.

2. Workshop conditions

This SERVICE MANUAL-CONTROLLER is written on the assumption that work will be performed at a workshop with the standard equipment and tools for performing maintenance on a Nichiyu Electric Forklift Truck. To ensure safety and reliability, perform maintenance and repairs at a workshop whose equipment and tools are equivalent or better than the equipment and tools described in this SERVICE MANUAL-CONTROLLER and always strictly follow instructions.

Full Version Available

Caterpillar EP20TCB Forklift Service and Operator Manual (99759-6T110)

Caterpillar EP20TCB forklift service manual, covers hydraulics, mast, wiring, drive systems, and service data. Searchable PDF download.

[VIEW THE FULL MANUAL](#)