

KOMATSU

SHOP MANUAL

ELECTRIC REACH TRUCK

FB10RL/13RL/15RL/18RL-12

FB10RS/13RS/15RS/18RS-12

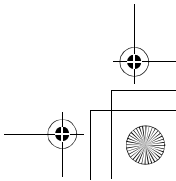
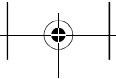
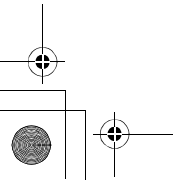
FB15RJ/18RJ-12

FB15RJW/18RJW-12

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KOMATSU FORKLIFT



SHOP MANUAL

ELECTRIC REACH TRUCK

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FB10RS/13RS/15RS/18RS-12

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SERIAL No. 85001 and up

FOREWORD

Proper operation, maintenance, troubleshooting and repairs are necessary to preserve the performance of vehicles and engines (engine-powered forklift trucks) over a long period of time and to ensure that fault and breakdowns do not occur. The object of this Shop Manual is to provide the information necessary especially in connection with the performance of inspections and repairs mainly in the maintenance areas.

For this purpose, it includes sections on "General and Specifications," "Inspection and maintenance," "Removal and installation," "Disassembly and Assembly" and the "Electrical system".

Maintenance data necessary for the performance of maintenance on the machines is also included, but reference should be made to the Operation and Maintenance Manual for further details.

Reference should also be made to this manual in connection with correct operation of the machine.

The content of the items mentioned above is as follows.

General and Specifications

This chapter explains the precautions for servicing, torque specification for common fastenings, and data related to vehicle dimensions and performance.

Inspection and maintenance

This chapter explains the service data, adjustment procedure, and dimensions to be referred to during servicing.

Removal and installation

This chapter explains the weight of component parts as well as the order of removal of the mast, lift cylinder, and engine, and the point of reinstallation of them.

Disassembly and Assembly

This chapter explains the point of disassembly, inspection/repair (or replacement), and reassembly of individual component parts.

Electrical system

Explanation is provided in this chapter of the electrical parts used inside the machine. Troubleshooting when breakdown occurs is also described.

Reference should be made to the "General Shop Manual" for safe operating and working methods which serve as the basis for the performance of repair and inspection works on machines.

PRECAUTIONS WHEN PERFORMING THE SERVICE WORK

Always pay attention to “Safety” before starting any work this is important.

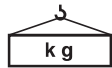
Never attempt any work where danger to yourself or to other persons.

Whenever work requiring safety precautions are described in this manual, a flag mark  inserted, always make double sure that safety measures are taken.

Other unmarked work, should always be performed after studying and using your common sense to prevent accidents.

DESCRIPTION OF THE SYMBOLS

The symbols described below are used in this manual for convenience and better understanding.

Symbol	Item	Description
	Safety	Special safety precautions are needed to perform the work.
	Note	Special technical precautions are needed to perform the work
	Tightening torque	Fastening parts that require specified tightening force when assembling.
	Weight	Weight of parts or systems
	Coat	Places to be coated with adhesives, etc. when assembling
	Filling	Oil filling and its amount

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PRECAUTIONS FOR MAINTENANCE

Careless performing of the easy work may cause injuries. Take care to always perform work safely, at least observing the following.

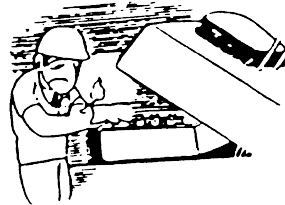
- Oil is a dangerous substance.
Never handle oil, grease or oily clothes in places where there is any fire or flame.
As preparation in case of fire, always know the location and directions for use of fire extinguishers and other fire-fighting equipment.



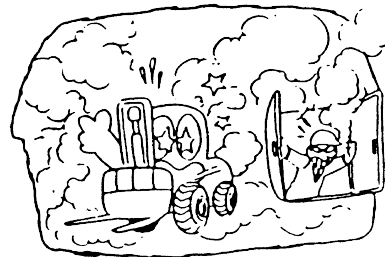
- Wear well-fitting helmet, safety shoes and working clothes. When drilling, grinding or hammering, always wear protective goggles.
Always do up safety clothes properly so that they do not catch on protruding parts of machines. Do not wear oily clothes.
When checking, always release battery plug.



- Flames should never be used instead of lamps.
Never use a naked flame to check leaks or the level of oil or electrolyte.

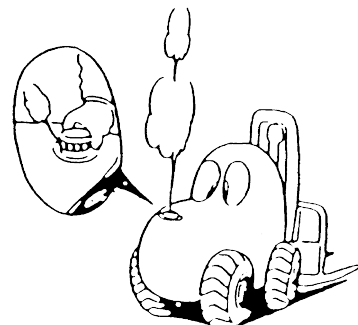


- Exhaust gas is dangerous. Provide adequate ventilation when working in a closed space.

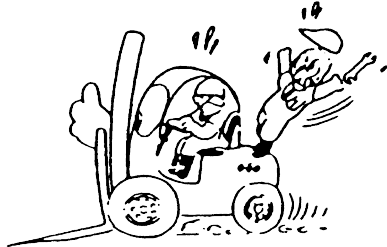


Be particularly careful when removing the radiator cap and the hydraulic oil tank filler cap. If this is done immediately after using the machine, there is a danger that boiling oil may spurt out.

- The procedure for releasing the hydraulic pressure is as follows, lower the fork to the ground, and stop the engine (motor), move the control levers to each position two or three times.

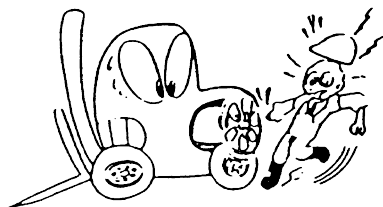


- When working on top of the machine, be careful not to lose your balance and fall.
- Hang a caution sign in the operator's compartment (for example "Do not start" or "Maintenance in progress"). This will prevent anyone from starting or moving the machine by mistake.

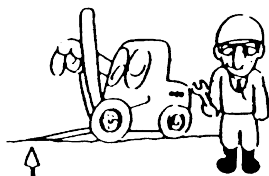


It is extremely dangerous to try to check the fan belt tension while the engine is running. When inspecting the fan belt or other moving parts, or near such parts, always stop the engine first.

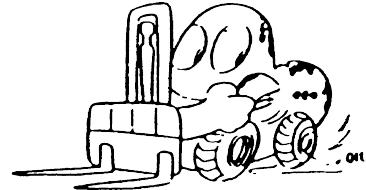
Before checking or servicing accumulator or piping, depress brake pedal repeatedly to release pressure.



- Park the machine on firm, flat ground. Lower the fork to the ground and stop the engine. Return each lever to "NEUTRAL," and apply the brake lock.



- Immediately remove any oil or grease on the floor of the operator's compartment, or on the handrail. It is very dangerous if someone slips while on the machine.



- When working with other, choose a group leader and work according to his instructions. Do not perform any maintenance beyond the agreed work.



- Unless you have special instructions to the contrary, maintenance should always be carried out with the engine stopped. If maintenance is carried out with the engine running, there must be two men present: one sitting in the operator's seat and the other one performing the maintenance. In such a case, never touch any moving part.
- Always remember that the hydraulic oil circuit is under pressure. When feeding or draining the oil or carrying out inspection and maintenance, release the pressure first.

