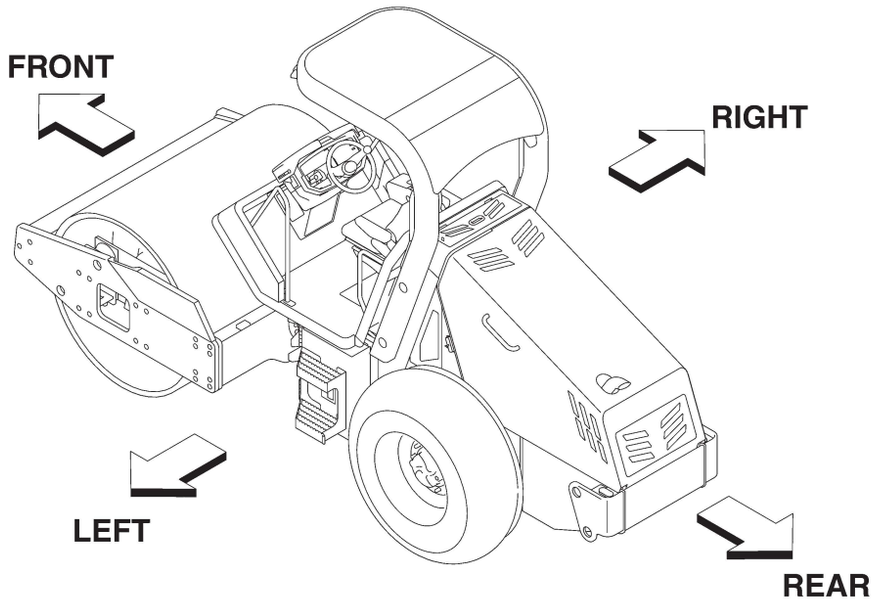
PREFACE

This operator's manual serves as a guide for the use of your SAKAI SV414 Series Vibrating Roller for those who are new to the machine, and also for the people who have experience in using the machine and want to refresh their knowledge for the machine.

Read this manual thoroughly and try to fully understand the information before operating your machine. Keep this handbook at hand whenever you do your work.
When an instruction manual is lost or is damaged and is not legible, replace it immediately.

The main subjects of this manual are:
(1) Basic precautions for safety, (2) Operation, (3) Daily maintenance and (4) Specifications.
For operation and maintenance of the engine, refer to the Engine Instruction Manual furnished separately. Descriptions in this manual can differ from the machine instructions of your machine due to the results of the investigation and improvement in its design. If you have any inquiry regarding your machine or this manual, contact our distributors.



CALIFORNIA
Proposition 65 Warning
Diesel engine exhaust and some of its constituents are known to the State of California to cause cancer, birth defects, and other reproductive harm.

■ Be careful with fire

- The fuel, oil, and anti-freeze will catch fire if open flames or ignition sources are used close to them. Particularly, the fuel is highly flammable.

- Do not smoke or use a match or cigarette lighter close to inflammables (combustibles).
- When refueling, stop the engine and do not smoke.
- The filler caps of the fuel and oil tanks must be kept tight.

■ Ensuring safety in a fire

- Machine fires may cause serious injuries or death, so stop the engine by turning the starter switch to the OFF position, then move away from the machine as quickly as possible.

■ While the engine is running or immediately after it has been turned off, do not touch the muffler, exhaust pipe or DPF

- While the engine is running or immediately after it has been turned off, do not touch the muffler, exhaust pipe or DPF, as they will be hot.

■ Mount on or dismount from your machine after it has come to a complete stop

- For getting on and off, face the machine and use the handrail and step.
- Watch your step when getting on or off the machine.
- Do not jump on or off a machine, particularly when it is moving.
- When getting on and off an articulated machine, straighten it out before stopping the machine. In the turned state, there is danger that personnel gets caught because the getting on and off space narrows.

■ Be careful not to fall

- Falling off the machine may cause serious injuries or death, so do not place your feet anywhere other than on the steps, and in the driver's seat.

■ Do not lock out yourself when leaving the machines

- Always bring the key with you by pulling it out from the starting switch when leaving the machine.

1.10 Before Servicing

■ Attach warning tags when servicing the machine

- Serious accidents can occur if the machine is unexpectedly started or controls carelessly touched by an unauthorized person.
- Attach a warning tag at a clearly visible location in the operator's station and insure the key has been removed from the starter switch.

⚠ DANGER

Do not operate.

Keep this warning tag, if not used, in tool box.

■ Setting the chocks

- Set chocks in front of and behind the roller drum (wheels) to prevent the machine from moving before beginning inspections or maintenance work.

■ Use proper tools

- It is very dangerous to use damaged or deteriorated tools or to use tools for other purposes than intended. Use correct tools for their intended use only.

■ Change safety-related parts at regular intervals

- Change any seatbelt found to be abnormal even if it is within its recommended service interval.
- Change any ROPS found to be abnormal even if it is within its recommended service interval.
- Replace fuel hose, high pressure hydraulic hoses and liquid hoses regularly to prevent fire. Replace high pressure hoses of the power steering system every two years.

☆ Change these parts at regular intervals even if found to be normal. They will deteriorate as time goes on.

☆ Change any hose found to be abnormal even if it is within its recommended service interval.

★ Engine overheat warning lamp [ ]
It will turn on when the starter switch is turned to the "I" position, and turn off when the engine starts running.
When the Engine overheat warning lamp lights, there is a possibility of overheating.
Stop the machine and cool the engine by set the engine speed select switch in the IDLE position.
If the lamp does not go out, the engine may be abnormal. Receive proper checking / maintenance or repairing.

★ Engine stop warning lamp [STOP]
It will turn on when the starter switch is turned to the "I" position, and turn off when the engine starts running.
When the Engine stop lamp lights, it means a serious abnormality occurs with the engine.
Stop the machine and the engine, and receive proper checking / maintenance or repairing.

★ Engine warning lamp [!]
It will turn on when the starter switch is turned to the "I" position, and turn off when the engine starts running.
When the Engine warning lamp lights, water may be accumulated in the fuel pre-filter.
Drain the fuel pre-filter (refer to page 66).
If the lamp lights just because the water is accumulated in the pre-filter, it will go out after draining.
If the lamp does not go out, the engine may be abnormal. Receive proper checking / maintenance or repairing before a serious failure occurs.

⚠ CAUTION

Hydraulic oil filter warning lamp may go on when the engine rpm is increased before the engine has been warmed up enough. Keep the engine idling until the lamp goes off, before starting your work.

2.2.4 Disengaging the brake when towing

⚠ WARNING

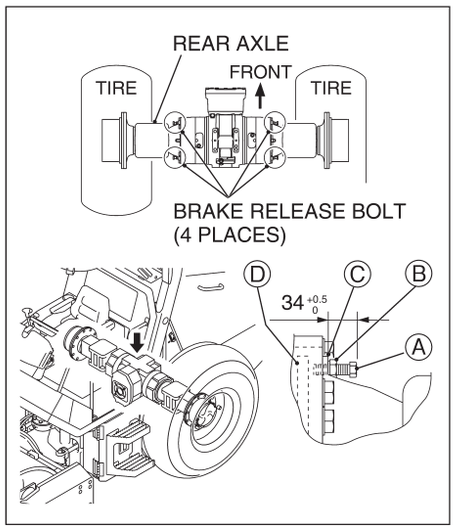
- **On a slope, chock the drums and prepare for towing before disengaging the brake.**
- **Avoid a long-distance towing.**

For towing the machine when the engine is disabled or when trouble has developed in the hydraulic propulsion, system disengage the brake as instructed below:

1) Rear brake

①Loosen the lock nuts Ⓑ . Tighten bolts Ⓐ so as to fasten them onto the pressure plate Ⓓ .

②Using a wrench, tighten the bolts Ⓐ in an alternate sequence by 1/4 turn at a time so as to compress the belleville washers and disengage the braking disks.



IMPORTANT

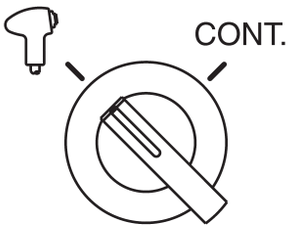
Tighten max by one turn.
When it is overtightened,it may be broken.

③After towing is completed, remove bolts Ⓐ completely with nuts Ⓑ and seals Ⓒ . Then replace seals Ⓒ apply silicone-based.
Tecon Lupu / 101 grease to the bolts Ⓐ and install all parts again.

④Adjust bolts Ⓐ to obtain a jut of $34^{+0.5}$ mm. Then lock into position with nuts Ⓑ .

2) Turn the unloader valve counterclockwise to release it.
Refer to “Unloader valve” on page 33 for its operation method.

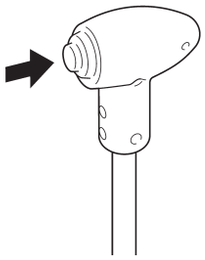
Vibration can be turned ON / OFF with the vibrator switch. Select a suitable setting depending on a working site condition.



Vibration selector switch

: Vibration can be turned ON or OFF with the switch located on the F-N-R lever. Pressing this switch causes the vibration to start and pressing it again to stop.
This vibrator switch on the lever should be used with the vibration selector switch on the panel placed at ≋ or ∿ position.

CONT.: Have this switch placed at this position when vibration is not to be actuated.
At this point, use the amplitude vibrator switch to turn ON / OFF vibration.



Vibrator switch

3) Proper travel speed for vibratory compaction is 2–5 km/h (1.2–3.1 mile/h), however, select speeds dependingupon job requirements.

IMPORTANT

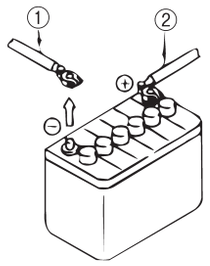
- **Keep the vibrator shut off when the machine is not rolling.**
- **Stop vibration if the machine has encountered a running difficulty, for example, when it gets stuck in the mud.**
- **Set the speed change switch in the 1st or 2nd position during vibratory rolling compaction. Use the 3rd position only for driving on flat straight roads.**

2.15 When the Battery Has Discharged

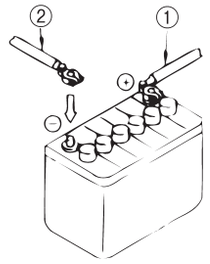
⚠ WARNING

- **To check and handle the batteries, keep the engine stopped with the starter switch in the ○ position.**
- **The batteries give off explosive gases. Do not smoke close to the batteries. Keep flames and sparks away from the batteries.**
- **The electrolyte is very corrosive and will harm your clothing or skin. If the electrolyte has come into contact with your clothing or skin, flush with sufficient amount of water. In case the electrolyte has gotten into your eyes, flush with water and get medical help.**
- **To disconnect the battery cables, start with the negative terminal (earth). When connecting, start with the positive terminal. Do not allow a metallic item to bridge between the positive terminal and machine body. This can generate sparks, causing an explosion.**
- **Loose battery terminals can cause sparks. An explosion will result. When connecting the terminals, make certain that they are tight.**

Disconnect with negative cable first



Connect with positive cable first



⚠ CAUTION

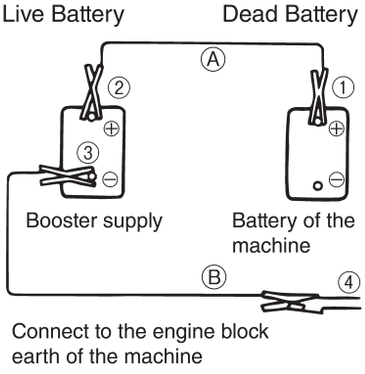
The power-supply voltage of this machine is 12 V.

2.15.1 Connection and disconnection of booster cables

When jump-starting the engine, connect the booster cables as follows:

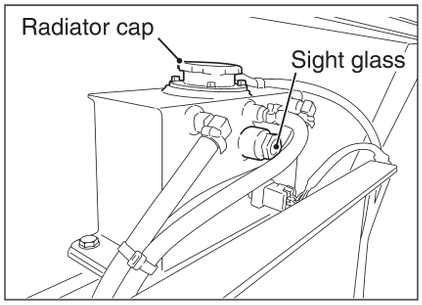
■ Connection of booster cables

1) Connect one end of the positive booster cable Ⓐ to the positive (+) terminal of the dead battery on the machine.
2) Connect the other end of the positive booster cable to the positive (+) terminal of the live power supply.
3) Connect the negative live power cable Ⓑ to the negative (–) terminal of the booster supply.
4) Connect the other end of the negative booster cable to a good earth ground on the engine block of the machine.



⑮ Radiator and auxiliary tank

Check to see coolant level in the sight glass, if coolant can not be seen, replenish with the auxiliary tank cap removed.Use soft water only.



⚠ WARNING

- **Do not remove the radiator cap and auxiliary tank cap while the coolant is hot.**
- **Hot water may be spouted out that can cause scald. Relieve pressure by slowly turning the cap after the water temperature is dropped, then remove the cap.**

⚠ CAUTION

Failure to follow this procedure can result in severe engine damage.

Fill : 1) Open heater valves that can be found beneath the engine, and turn the heater to "heat" mode (only the appropriate machine.)

2) Fill coolant at 3 gallons per minute (12 liters per minute) until coolant reaches the bottom of the fill neck. Wait for 1 minute, then top up coolant to the bottom of the fill neck if needed.

3) Start engine and run at "mid" speed for 1 minute or until engine warning lamp comes on.

4) Turn off engine and top up coolant to bottom of fill neck if needed.

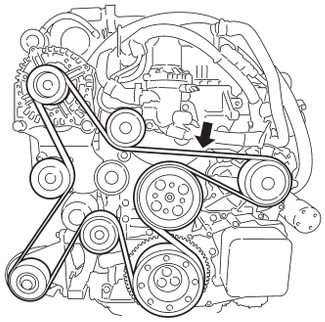
5) Replace the cap.

IMPORTANT

Change the cooling water every two years.

⑯ Fan belt

Check the fan belt for wear and damage. Replace as necessary.



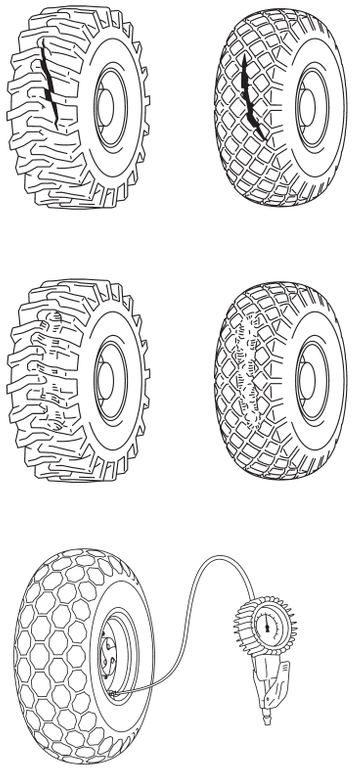
⚠ WARNING

- **Stop the engine before inspection, cleaning, or maintenance, otherwise dust will enter the engine, causing the breakdown of the engine.**
- **Wear protective goggles, a dust respirator, and other protective gear before cleaning the air cleaner and outer element in order to prevent dust from entering your eyes or nose.**
- **Be sure to use our genuine element.**

4) Attach the element and service door it with a clips.

⑨ Tires and wheel hub nut

1) Check if there are wears and flaws.
   Please check if there are any cracks and damages such as wears on one side, partial wares, step-shaped wares, nails and stones stuck or cut into the tires on the contacting surfaces with the grounds, both side surfaces and all around of the tires. If you find any abnormal conditions, replace tires.
2) Check air pressures.Check air pressures with tire gauges when tires are cool enough, and make certain that they are at 177 kPa {26 psi}. Adjust air pressures of the tires if they are NOT appropriate.
3) Check whether or not the wheel nuts are loose. Check if the wheel hub nuts are loose or fallen off or if wheel hub bolts are broken. Also check if there are any rust fluids and/or whether or NOT the lengths of all the wheel hub bolts projected out of the wheel hub nuts are the same.



Check the wheel hub nut for looseness. If it is loose, tighte'n it. Be sure to torque it to the specified value.
Tightening torque: **785 N·m**