

**⚠ Read this handbook thoroughly and understand the whole information contained before trying to operate, inspect and service your machine!**

**OPERATING &  
MAINTENANCE  
INSTRUCTIONS**



3-WHEEL  
ROLLER

**MODEL**

**R2-4 R2H-4**

From 1R7 - 70101 —

**SAKAI®**

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**⚠ WARNING:** Negligence of these instructions can lead to accidents.

## 1 BASIC PRECAUTIONS FOR SAFETY

### ■ Wear protective clothing appropriate to work

- Wear clothing, safety shoes and hard hat to suit your work.
- Do not wear clothing and accessories that tend to get caught in the controls or protruded portions of the machine. Do not wear oily clothing.
- Depending on the type of job, wear gloves, earplugs safety goggles or a mask.



### ■ Know the work area in advance

- Know the terrain, geology and conditions of the road surface at the worksite. Start working after securing safety such as stationing a guardsman or putting up barriers where there is a risk of falling of the machine or collapse of shoulder.

### ■ The operator must make prior checks when moving the machine to a hazardous area under unusual conditions

### ■ Provide against an accident

- Decide in advance the means of communication in an emergency. Know the location and use of an extinguisher and first-aid kit.

### ■ Realize the capability of the machine

- Thoroughly understand the performance of your machine and correctly operate the machine to meet the requirements of the job site. Operating the machine beyond its capabilities may lead to an accident. Use your machine within its capability.

### ■ The machines not equipped with ROPS must not be operated on the slope or unsafe ground

### ■ The machines not equipped with CABIN must not be operated in the bad weather or a harmful contaminated zone

**▲ WARNING:** Negligence of these instructions can lead to accidents.

**1 BASIC PRECAUTIONS FOR SAFETY**

## 1.8 Handling the Battery

### ■ When handling the battery

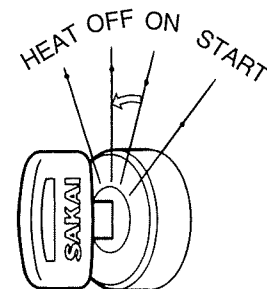
- Battery electrolyte contains sulphuric acid. It will destroy clothing and skin. If it touches your clothing or skin, flush with large quantities of water.
- In case of eye contact, flush with clean water and get medical help.
- If swallowed, drink large amount of water, milk, beaten egg or vegetable oil, and get medical help.
- Wear safety goggles when handling the battery. Wear safety goggles, full face shield, rubber gloves and rubber apron when adding fluids to the battery.
- Keep cigarettes and flames away, and avoid recharging the battery in poorly ventilated places when there is a danger or generating sparks.



### **▲ WARNING**

**Battery posts, terminals, and related accessories contain lead and lead compounds, chemicals known to the State of California to cause cancer and reproductive harm. Wash hand after handling.**

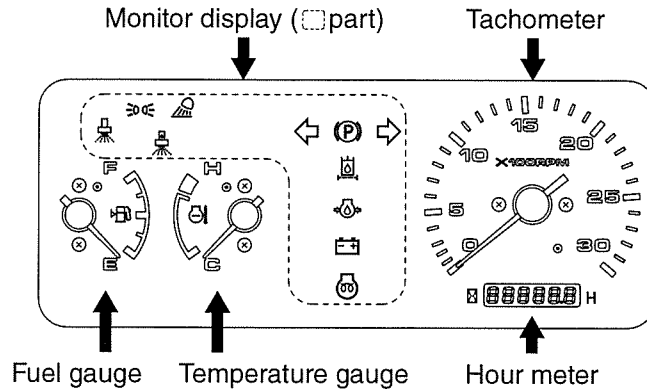
- Inspect or handle the battery with the engine stopped and the starter switch in the OFF position.
- Keep metallic items such as tools away from the battery terminals.
- Tangled terminals may generate sparks due to improper connections, resulting in the danger of explosions. Make sure terminals are connected firmly.
- The battery is for starting the engine and operating electrical equipment on the machine. Do not use it for any other purpose.
- Do not charge battery when the top surfaces of the liquids are at the LOWER level (the minimum liquid level) or below. Not only the internal parts of the battery are degraded and the battery lifetime are shortened but also it can cause explosions if you continue on using the battery when the top surfaces of the liquids are at the LOWER level or below. Immediately supply water until the water level is between the UPPER and LOWER levels.



### 2.1.2 Gauges, indicator lamps and warning lamps

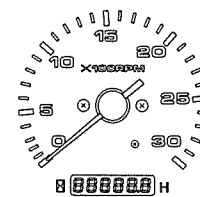
For safe execution of your job, fully understand the role and function of the systems involved.

#### Combination meter



#### Tachometer / Hour meter

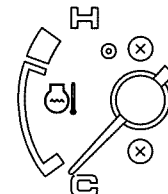
Indicates the engine RPM. The hour meter shows total operating hours. The service interval recommendation in this manual should be based upon the hour meter readings.



Tachometer / Hour meter

#### Temperature gauge

Indicates the coolant temperature. Zone close to symbol H indicates overheating. In case of overheating, run the engine at idling for about ten minutes before shutting it down. Then determine the cause. The engine has been overheated also when the overheat lamp comes on. Stop the engine and look into the cause.



Temperature gauge

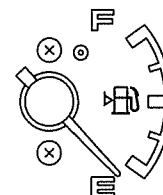
#### Fuel gauge

Indicates the fuel level in the tank.

E: The tank is empty.

F: The tank is full.

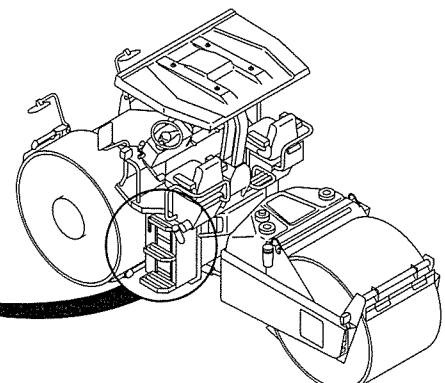
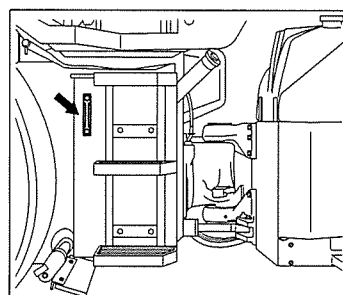
The fuel level can also be checked by looking in the sight glass as shown. Make a habit to refuel before the tank becomes empty.



Fuel gauge

#### CAUTION

Be sure to use fuel recommended by SAKAI (refer to page 88).



### 2.1.6 Fusible link

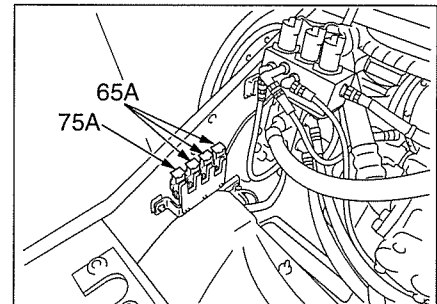
#### ⚠ WARNING

**Be sure to turn off the electricity (by turning the starter switch OFF) before replacing the fusible link.**

As with ordinary fuses, this protects electronic equipment and circuits from burnouts.

If the starter does not turn on when the starter switch is turned to the ON position, there is the possibility of a fusible link burnout caused by problems with the electronic equipment or circuits. Inspect and replace the fusible link after inspecting the electronic equipment and circuits.

Be sure to replace the fusible link with one of the same capacity.

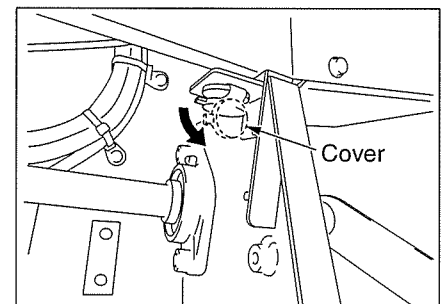


### 2.1.7 Accessory socket

The accessory socket is found under the dashboard on the right.

The accessory socket may be used when the starter switch is turned to the ON position.

Open the cover, and a 12V DC can be drawn from the socket for powering electronic equipment.



#### ⚠ CAUTION

- Use electronic equipment that consumes no more than 120W (12V, 10A).
- Keep the cover closed when not in use to prevent foreign matter from getting inside.
- There is a possibility of the battery running flat when the accessory socket is used for a long time to power electronic equipment with the engine turned off or idling.

## 2.3 Operation

### ⚠ WARNING

- This machine is a one-man roller.
- Operate the machine from the operator's seat.
- Be sure to wear the seatbelt during operation (with seatbelt).

### 2.3.1 Before-starting inspection

- 1) Check that the steering lock bar is in the carrying position.

### ⚠ WARNING

Make sure that the steering lock bar is connected in the carrying position before putting the machine in motion. Steering is impossible if the bar is in the steering lock position.

The bar is located at the right of the center of the machine.

To unlock the bar:

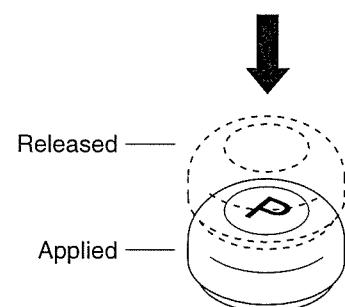
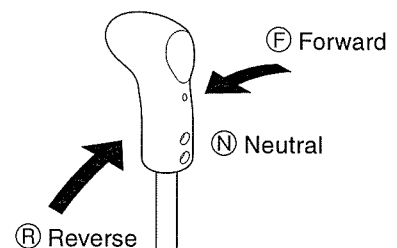
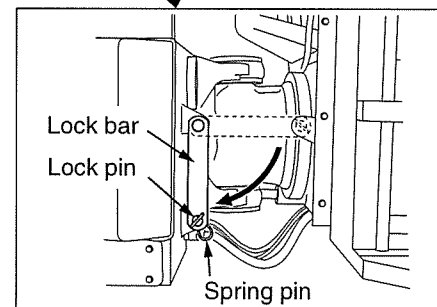
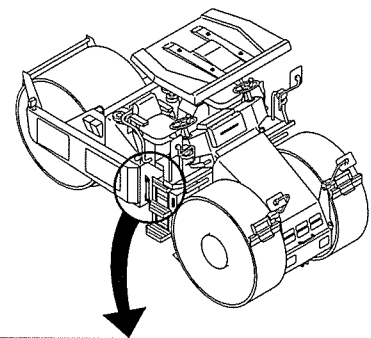
- ① Remove the spring pin.
- ② Pull out the lock pin.
- ③ Set the bar in the carrying position.

**NOTE:** Retain the lock bar in the locked position by inserting the lock pin into the lock holes. Fix the lock pin with the spring pin.

- 2) Check that the F-N-R lever is in the neutral position (N).

- 3) Check that the parking brake has been pressed.

**NOTE:** When the F-N-R lever is not at the neutral position or when the parking brake has been released, the interlock will be activated, preventing the engine from starting. Be sure to check that the F-N-R lever is at the neutral position and the parking brake has been pressed before starting the engine.



## 2.5 Precautions for Work

### 2.5.1 Compaction operation

#### ■ Change the direction of travel gently

- When changing the direction of travel during asphalt mix compaction, slowly shift the F-N-R lever.

#### ■ Drive at a speed appropriate for the road surface conditions

- Drive slowly on uneven surfaces.

### 2.5.2 When going downhill

#### ■ Use the F-N-R lever

- Run slowly by the operation of the F-N-R lever even if the travel distance is short.

#### ■ Use the engine brake

- Go downhill by applying the engine brake along with the F-N-R lever operation.

#### WARNING

When going uphill, run at low speed. Do not attempt to shift speeds during travelling. The machine can slip down the slope.

### 2.5.3 On a slope

#### ■ Working on a sidehill

- Work in an uphill / downhill direction, and avoid working on sidehill with the machine inclining sideways.

## 3 PERIODICAL MAINTENANCE

### 3.1 Precautions

Whether or not the inspection service and lubrication are performed at the correct regular intervals exerts significant influence on the occurrence of trouble and service life of the machine. In this manual, typical intervals for inspection and service are given. However, flexibility should be introduced as to interval or type of services to enable your machine to always operate in the best condition.

#### **⚠ WARNING**

**Be sure to take adequate care not to burn yourself when replacing filters, elements, oil, etc.**

#### **IMPORTANT**

- **After maintenance and inspection record the result of inspection. Remember that replacement of filter elements, replenishment and change of oil and grease, and cleaning the radiator fins are important.**  
**When draining a hot oil, use care not to get burned.**
- **The disposal of waste oil and coolant, and used filters, elements, etc., should be handled by specialized disposal companies.**

#### **General precautions**

- 1) Always use SAKAI genuine parts for replacement.
- 2) Use lubricants recommended by SAKAI. Avoid mixing different brand lubricants.
- 3) For hydraulic oil replenishment, changing, level checking, filter cleaning or replacement, oiling and greasing, use extreme care to prevent dust from entering.
- 4) For checking oil level or changing oil, park the machine on a level and hard surface.
- 5) Change oil while its temperature remains high after operation.
- 6) For a long-term storage, fill the fuel tank, lubricate necessary points and run the machine for more than 20 minutes once a month.
- 7) In freezing weather, add antifreeze to the coolant according to the ambient temperature.
- 8) For the hydraulic pump and motor, have them serviced at authorized service shops.
- 9) Turn the starter switch OFF when performing services such as repairing broken wires, short circuits and tightening loose terminals.

#### **Periodical replacement of essential maintenance parts**

In order secure safety for work and travel, conduct inspection and services.

Further, for enhanced safety, following parts and components should be replaced periodically. These parts are prone to material deterioration due to aging or physical change due to wear, while it is difficult to determine their useful limit by regular inspection, which makes it necessary to replace with new ones after certain period of service to maintain their perfect function.

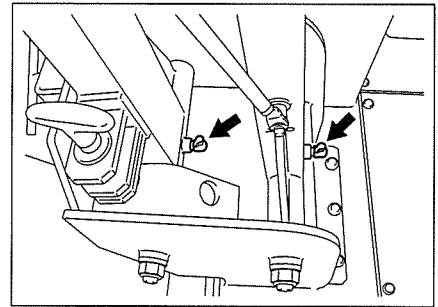
If any abnormality is detected such as crack, deformation, wear or oil leakage, go ahead and replace them even if it is within scheduled replacement time.

③② Sunshade supports

Supply grease to one point of the support on front and rear.

**⚠ CAUTION**

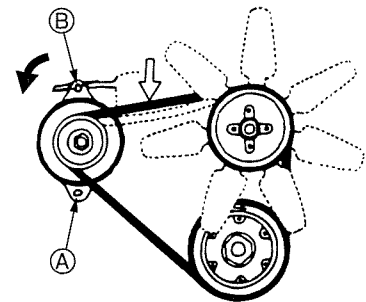
Be sure to use grease recommended by SAKAI (refer to page 88).



②⑦ Fan belt

➔ See the separate engine manual.

- 1) Check the fan belt for wear and damage. Replace as necessary.
- 2) Check tension of the fan belt.  
The deflection is recommended to be approx. 10 – 12 mm when pressing the center of belt by hand at about 98N (10 kg).
- 3) The fan belt is adjusted by loosening the bolts on the alternator bracket ① and adjust plate ②, then tilting the alternator.



**IMPORTANT**

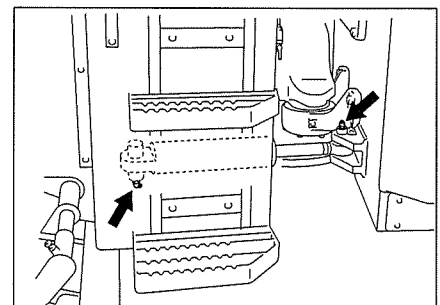
After purchasing a new machine, adjust the fan belt 50 hours after the initial operation.

②⑧ Steering cylinder

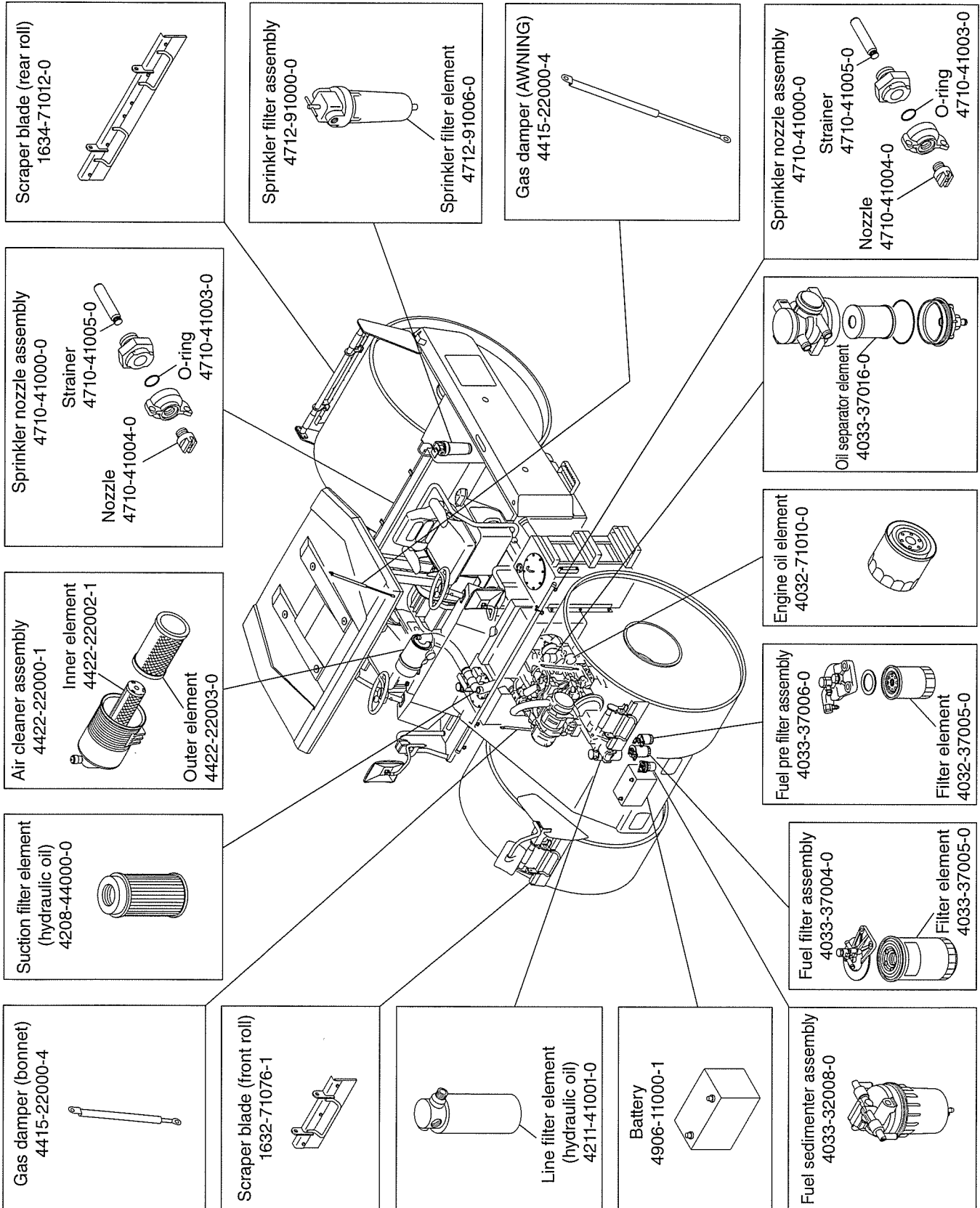
Grease the fitting at two locations.

**⚠ CAUTION**

Be sure to use grease recommended by SAKAI (refer to page 88).



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