



Be sure to operate, inspect, and maintain the products after you have read this manual carefully to understand the contents.

# OPERATING & MAINTENANCE INSTRUCTIONS

PLATE COMPACTOR

# PF120 PF150

for HONDA ENGINE

# SAKAI®



## **Forward**

This manual has been prepared as a guide to operate SAKAI PLATE COMPACTOR, PF120 and PF150.

It is hoped that the manual is useful for experienced operators to refresh the knowledge and the experiences as well as for inexperienced operators.

You are requested to use this product after you have fully understood the contents of this manual. Furthermore, keep this manual at a suitable place for your easy access.

Refer to a separate Engine Operation Manual for operation and maintenance of the engine.

If you lend or let other person to operate the machine, thoroughly explain how to operate it and guide him to read this manual in advance before operation. In addition, if you transfer the product to someone, provide him with the Engine Operation Manual as well as this instruction manual.

Please note that the purchased product may be somewhat different in the the contents of the manual due to our constant efforts to improve its design.

## **Contents**

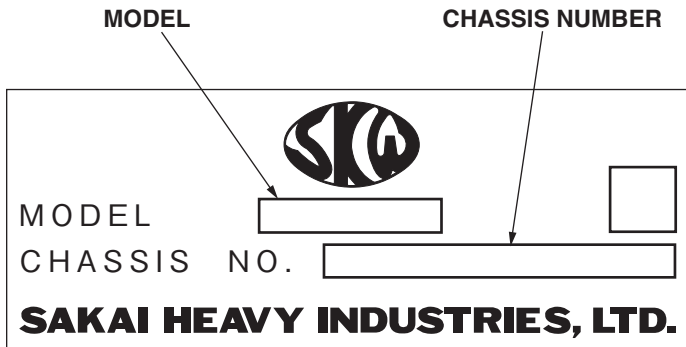
When you order parts or get instructions for trouble correction .....	1
Safety precautions.....	2
1. Basic safety precautions.....	4
2. Sticking position of warning notice(Label) .....	7
3. Inspection before operation.....	8
4. Starting-up.....	11
5. Operation.....	14
6. Shutting down .....	16
7. Inspection and Maintenance.....	18
8. Fuel and Lubricant .....	22
9. For a long-term storage .....	23
10. Overall View .....	24

***When you order parts or get instructions for trouble correction***

## **When you order parts or get instructions for trouble correction**

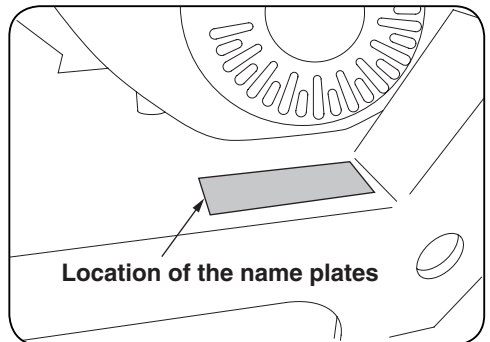
Be sure to inform us of the MODEL and its CHASSIS NUMBER when you are ordering parts or getting instructions for trouble correction. The PRODUCT MODEL and BODY NUMBER (Serial No.) are indicated on the body name plate.

The name plate is located on the right hand side of the body.



**MODEL**  
PF120  
PF150

**CHASSIS NUMBER**  
○○○○○  
○○○○○



## **Safety precautions**

In order to use this product safely, correct operation and periodical maintenance are absolutely essential. Do not operate and/or carry out maintenance of the product until you read the manual carefully to understand the safety precautions.

The operation and safety precautions illustrated in this manual are only limited for what it is to be used as a plate compactor. If the product is to be used for works other than what the manual covers, every safety consideration must be made on your responsibility.

In this manual, precautions, if they are failed to be observed, which may lead to an accident resulting in injury or death, are marked as "**⚠ DANGER**" or "**⚠ WANING**".

Precautions, if they are failed to be observed, which may lead to injury or to serious damage to the machine, are marked as "**⚠ CAUTION**", and for precautions which may result in damage to the machine or shortening its service life are marked as "**IMPORTANT**".

In addition, labels indicating precautions in carrying out safety operation and maintenance service are stuck on the compactor as follows:

### **⚠ DANGER**

**Indicates extremely high risk of an accident resulting in serious injury or death if it is failed to be observed.  
(This is marked in red.)**

### **⚠ WANING**

**Indicates a possibility to an accident resulting in serious injury or death if it is failed to be observed.  
(This is marked in orange.)**

### **⚠ CAUTION**

**Indicates a possibility resulting in injury or damage to the machine if it is failed to be observed.  
(This is marked in yellow.)**

In order to avoid an accident, you are requested to pay close attention to the safety other than the precautions indicated in this manual and/or on the labels during machine operation, as they could not cover all the precautions by foreseeing any possible danger.

 **WARNING**

**Do not operate the machine until the operator has understood the contents by reading this manual carefully.**

**Wrong operation may invite an accident resulting in injury or death.**

**Safety operation of the machine is on operator's responsibility.**

☆ **Cautions to be taken when making an alteration of the machine:**

Making an alteration without our recommendation is a matter of question in terms of safety.

Contact our local sales agent or office in advance for alteration.

We will not bear any responsibility for injury or breakdown of machine resulted from alteration without approval from our side.

☆ Basic safety precautions to be taken in operating the machine are illustrated on the next page on.

## 1. Basic safety precautions

### **WARNING**

**Be sure to observe the safety precautions to secure safety.**

**Failure to observe the precautions will invite accidents or machine troubles.**

## 1. Basic safety precautions

### ■ **Read the instruction manual carefully.**

- Understand functions of operation control equipment and familiarize yourself with where it is and how to control it. Also, have a proper understanding of how to operate and meaning of each symbol.



### ■ **Observe the rules in work site.**

- Observe the established rules such as prohibitions in the work site, cautions, and work procedures.

### ■ **Wear clothes suitable for the work, and protective means.**

- Wear clothes suitable for the work, safety shoes, and safety cap.
- Do not wear clothes which are likely to be caught in a projection of the machine, and/or an ornament. Also, do not wear a cloth stained with oil as it may catch fire easily.
- Never forget to wear protective goggles and a mask when required in the work.



### ■ **Handle with care when hot members are at high temperature.**

- Take care not to be burned as the engine as a whole is very hot during operation or immediately after it has been stopped.
- Do not allow your hand, body and clothes to be touched to the muffler as it is very hot while the engine is running or immediately after it has been stopped.
- Take care, while the engine is still hot, not to be burned from oil spray when draining or filling oil.





### ■ Pay attention to fire.

- Bringing a open flame close to fuel and oil may invite a fire. In particular, fuel can catch fire very easily and it is dangerous.
- Do not bring a fire such as of cigarette or of match close to the flammable materials.
- Supply fuel with the engine stopped after no fire has been confirmed around the compactor.
- Tighten the caps such as for fuel and for oil securely.



### ■ Pay attention to ventilation.

- Exhaust gas is harmful for your health. If the engine has to be run in a room or in a poorly ventilated area, ventilate the area by opening windows and/or entrances.



### ■ Check the machine body before operation.

- Check to see if each part of the machine functions properly at a safe place. If it is found anything wrong, be sure to take corrective measures to start operating the machine.
- Check the machine for unusual noise, unnatural vibration, heat and smell. If it is found something wrong, stop the machine at a safe place immediately and check and locate the cause to repair it.

### ■ Be careful not to be caught in the machine.

- Do not stand close to the machine while operating the machine because your hand, body, or clothe is likely to be caught in the rotating members which may result in an injury. Be sure to stop the engine before performing inspections and maintenance for rotating members such as V-belt, PTO pulley and its vicinity.
- Never try operating the machine with any of covers removed from the rotating members.



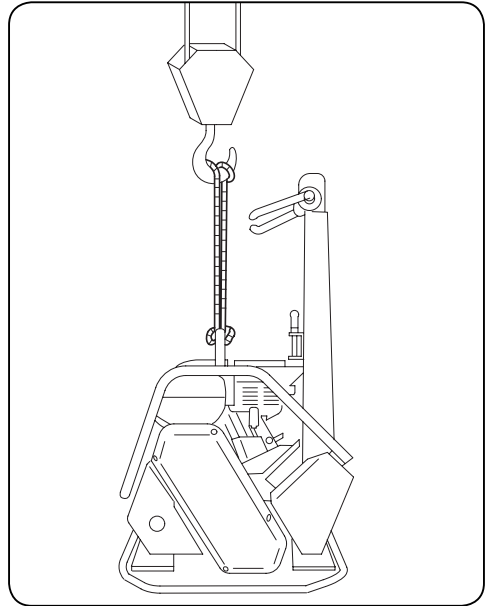
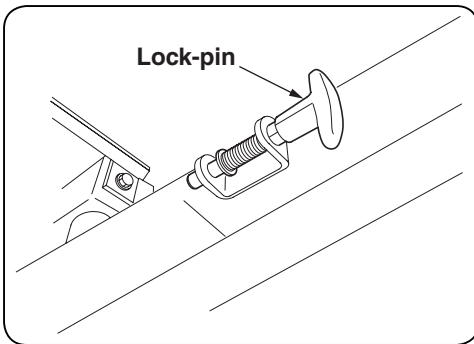
## 1. Basic safety precautions

### ■ Cautions to be taken when loading and unloading the machine.

- Load and unload the machine in/from a transporting vehicle with two persons in order to avoid an accidental drop of the machine.
- Drain fuel from the fuel tank, the carburetor, and the fuel strainer before transporting it on a long distance or on a rough road.

### ■ Cautions to be taken when loading and unloading using a crane.

- Put a wire rope to the guard securely as illustrated on the right.
- Raise the control handle to lock it with a lock-pin.

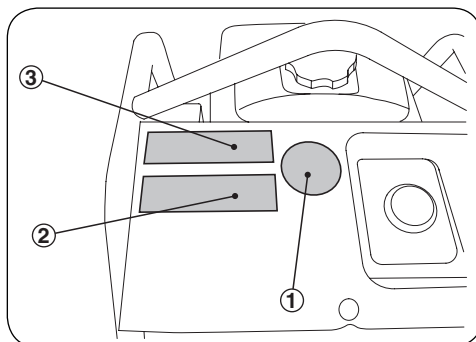


## 2. Sticking Position of Warning Notice (Label)

### 2. Sticking Position of Warning Notice (Label)

For safety's sake, warning notice (label) is stuck to below mentioned position of our products.

Keep the label clean and free of breakage. If it is broken or missed, replace it with a new one. When ordering labels, be sure to mention the relative part number printed at the bottom right corner of it.

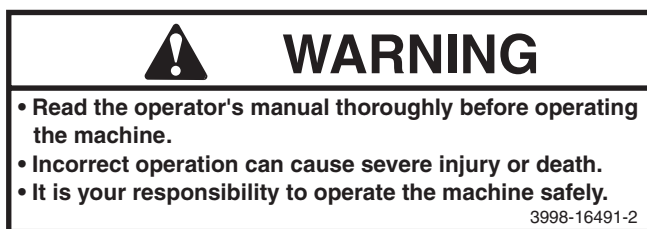


### Detail of Warning Notice (Label)

① 3998-06140-0



② 3998-16491-2



③ 3998-16490-0



### **3. Inspection before operation**

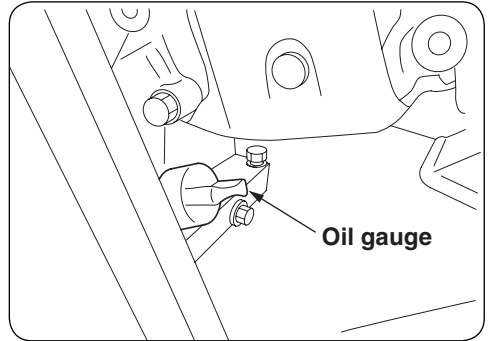
## **3. Inspection before operation**

### **3.1. Engine**

Refer to a separate Engine Operation Manual for the engine.

### **3.2. Checking engine oil**

- ① Remove the oil gauge and wipe off oil stuck on the gauge with a rag.
- ② Push the oil gauge against the oil fill port without screwing it in to check oil level.
- ③ Refill oil until it comes to the upper limit mark when the level is insufficient.



### **⚠ CAUTION**

- **Screw in the oil gauge securely after oil level has been checked and refilled .**

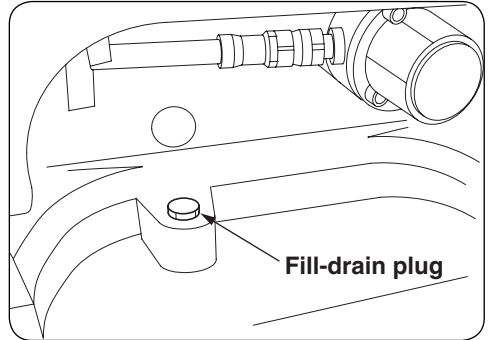
### **IMPORTANT**

- **Be sure to check and refill oil with the engine held level. Check the oil level again at approx. 3 minutes after it has been refilled.**
- **Do not supply oil more than the specified since over-supply of oil may result in blowing out of oil and poor output of the engine.**
- **Shortage of oil may cause seizure of the engine.**
- **If an oil other than the specified is used, service life of engine is likely to be shortened.**

### **3.3. Checking vibrator oil**

Remove the fill-drain plug located in the vibrating plate with the machine body held level and check that the oil is filled up to the mouth of the port.

If it is found insufficient, supply oil to the extent that it comes full to mouth of the port.



#### **IMPORTANT**

- Be sure to check and refill oil with the machine body held level.
- Run the engine for a while after oil has refilled then check the oil level again at approx. 3 to 5 minutes after engine has been stopped. If oil has been filled more than the specified, malfunction results. Be sure to wipe it off when over-filled.
- If an oil other than the specified is used, service life of engine is likely to be shortened.

### **3.4. Checking fuel**

#### **⚠ WARNING**

- Wipe off fuel thoroughly when it has been spilled out.
- Be sure to stop the engine when filling fuel.
- Tighten the cap on the fuel tank securely after fuel has been filled up.

#### **⚠ CAUTION**

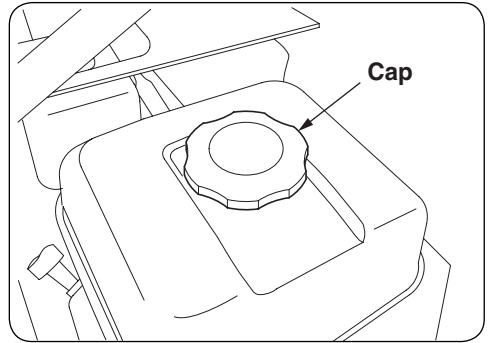
- In order to prevent fuel from being blocked, be sure to fill up fuel through a filter.

### **3. Inspection before operation**

Remove the cap on the fuel tank to check remaining oil visually. Refill fuel if it is found insufficient.

**Fuel to be employed:** Regular gasoline

**Fuel tank capacity:** 3.6 liters



### **⚠ WARNING**

•Be sure to check if it is the right fuel before refilling fuel.

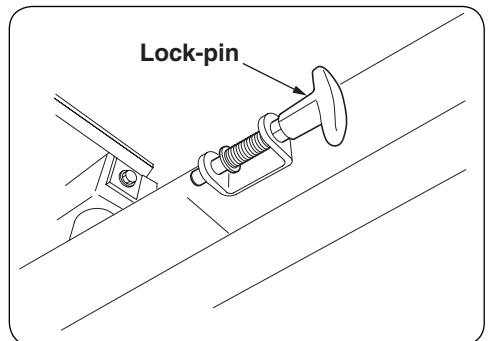
### **3.5. Checking bolts and nuts for their tightness**

Bolts and nuts are likely to become loose due to vibration of the machine body.

If it is operated with the bolts and/or nuts loosened, lowering in function and damage to the machine may result. Inspect the machine body to re-tighten any loosened bolts and nuts.

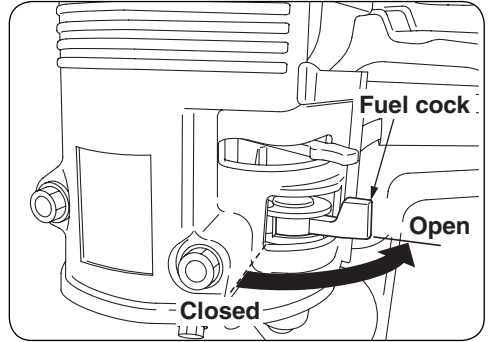
### **3.6. Releasing lock on the control handle**

If the control handle has been locked with a lock pin, pull the lock pin toward this side to release the lock and push down the control handle backward.

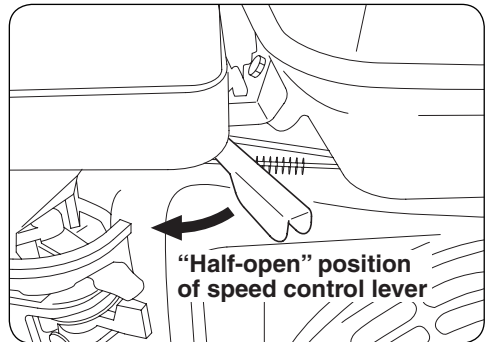


## 4. Starting-up

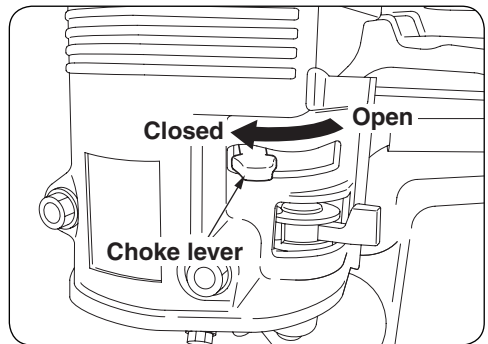
(1) Open fuel cock full.



(2) Move speed control lever to half-open position.

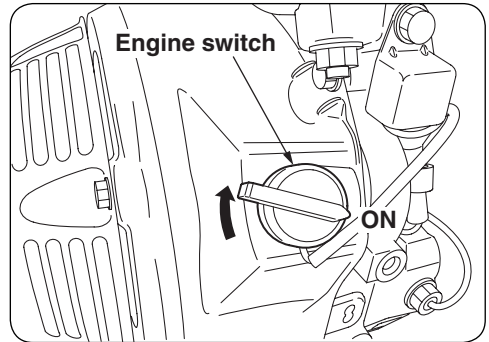


(3) Turn carburetor choke lever to fully closed position to facilitate ignition.  
(Turn lever to half-open position if engine is warm or when starting in warm weather.)

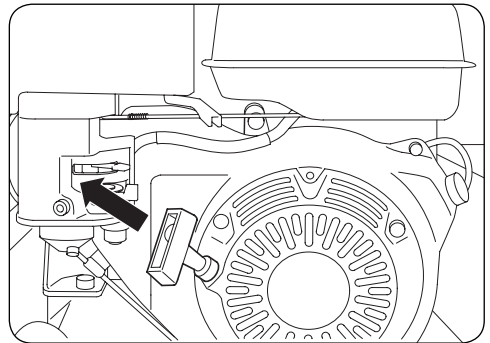


#### 4. Starting-up

(4) Turn the engine switch ON.



(5) Pull the starting knob forcibly.



#### **⚠ WARNING**

- Start the engine after looking around to confirm the safety of its surroundings .
- Pull up the starter knob so that hand will not hit the engine guard.

#### **⚠ CAUTION**

- Do not pull out the rope up to its extreme. And when returning the rope, return it slowly as an abrupt release of the rope will cause damage to the cover with a shock.



(6) Shift the choke lever to Fully open position after the engine has been started.

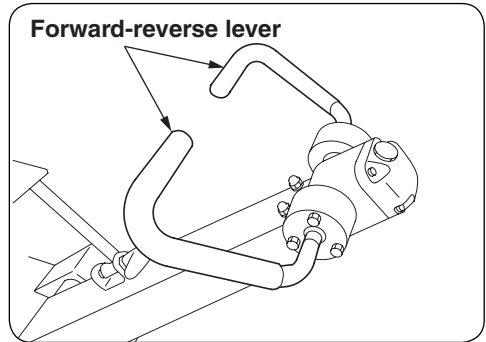
 **CAUTION**

- **Warm-up the engine at an idling speed for 1 to 3 minutes after the engine has been started.**
- **If the engine fails to start, check the spark plug and the fuel system for blockage.**

## 5. Operation

### 5. Operation

- (1) Put the throttle lever at “Full Throttle” position.
- (2) The machine moves forward or backward in accordance with control of the forward-reverse lever.



### **⚠ CAUTION**

- Do not operate the engine with an intermediate speed as the centrifugal clutch repeats ON and OFF in this speed which may result in seizure of the engine.
- Operate the lever slowly.
- Do not operate the compactor for driving a pile or on a solid ground exceeding capacity of the machine such as surface paved with asphalt, concrete, cobblestone, and solid rock. Otherwise, this may cause damage to the machine as too much stress is applied to the machine body.
- Do not get your hands off the handle while operating.
- When operating the compactor on a slope, operate it within a gradient of 1/4 (approx. 14 degrees).
- When operating the compactor on a ground surface with a large roughness and a large level difference, or on a steep slope, take care that you will not be injured in your wrist due to overturn or slip of the machine body.  
In addition, this may cause earlier damage to the machine as an excessive stress is also applied to the machine body.
- Be sure to stop the engine before leaving the compactor unattended.

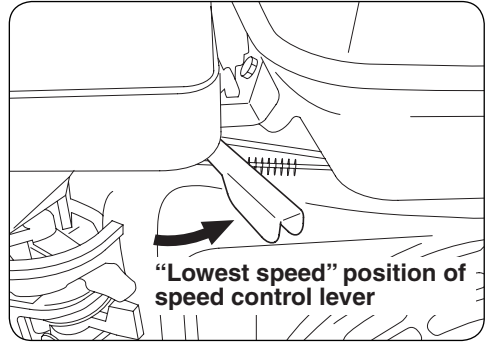
 **WARNING**

- **When moving the machine backward, take good care to avoid any obstacle behind you.**

## 6. Shutting down

### 6. Shutting down

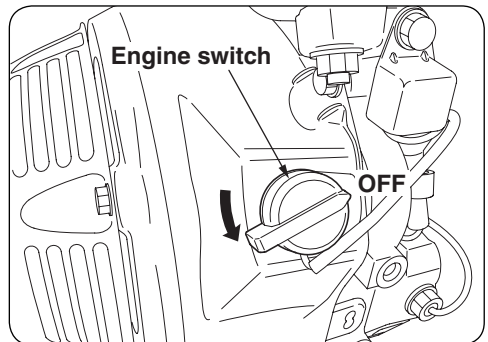
- (1) In order to cool the engine, shift the throttle lever to the lowest speed position to idle the engine for about 1 to 2 minutes with the forward-reverse lever shifted to neutral position.



### **⚠ CAUTION**

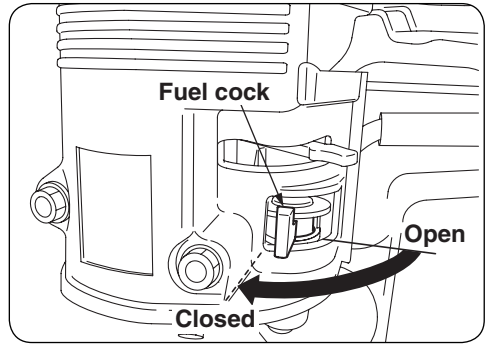
- Do not stop engine immediately after high-speed operation, otherwise oil deteriorates or motion members are stuck fast since the engine temperature rises suddenly.

- (2) Turn the engine switch OFF.



## 6. Shutting down

(3) Turn the fuel cock to Close position.



## 7. Inspection and Maintenance

# 7. Inspection and Maintenance

## 7.1. Engine

Refer to a separate Engine Operation Manual for the engine.

## 7.2. Compactor body

Wipe off dust, dirt, and oil stuck to the machine to check that it is in good order.

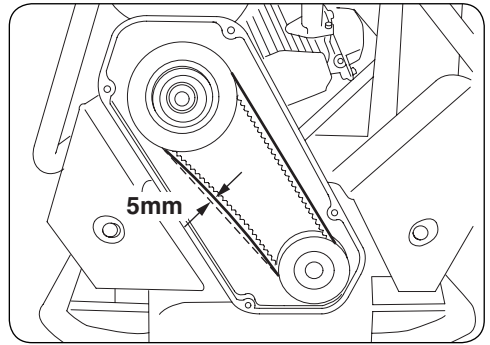
Check the bolts for tightness and check intensively around the engine, the belt cover, the cushion rubber, the control handle, and the sling hook.

## 7.3. V-belt

Check the V-belt for its tension.

Adjust the tension so that it deflects 10mm to 15mm with a pressure applied with your thumb to a center point between both shafts. If deflection is found too excessive, replace the V-belt with the new one (RPF-3330).

Parts No. : 1487-47034-0

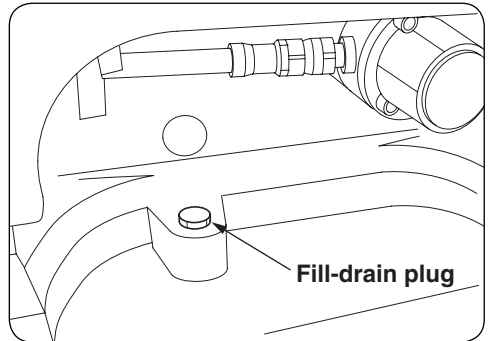


## 7.4. Vibrator

- ① Stop the engine and keep the compactor level.
- ② Remove the fill-drain plug to check that the oil spills out of the plug.
- ③ Supply oil if it has been found insufficient.

### Specified oil quantity:

700cc (when in replacement)



### How to change oil:

Remove the oil plug and tilt the compactor body to drain the oil, then fill the new oil. Wipe off oil stuck on the outside of compactor after oil change.

Replace oil after 500 hours for initial operation and every 1000 hours or once a year thereafter.

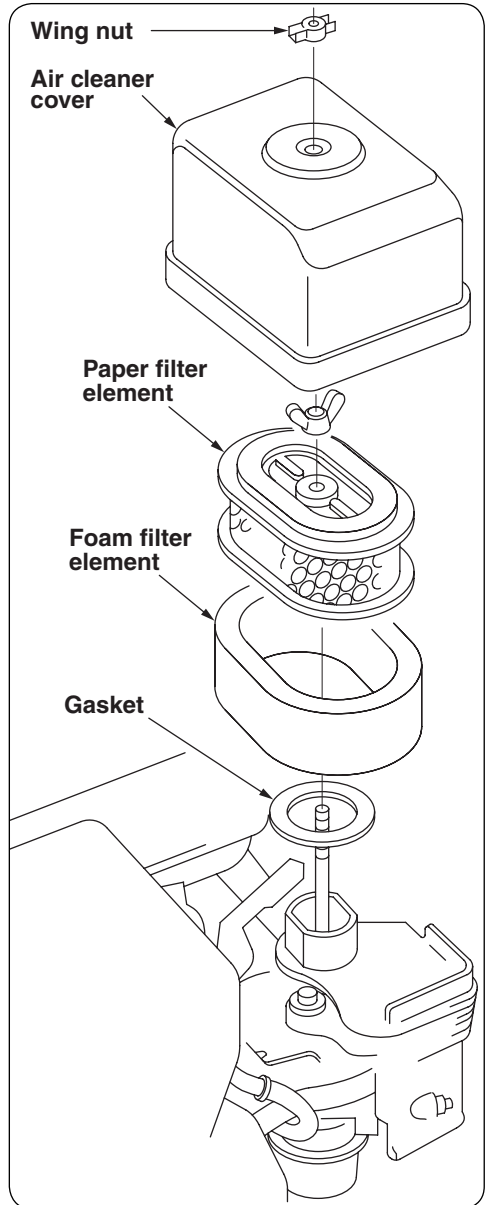
### 7.5. Air cleaner

- ① Remove the wing nut from the air cleaner cover, and remove the cover.
- ② Remove the wing nut from the air filter, and remove the filter.
- ③ Remove the foam filter from the paper filter.
- ④ Inspect both air filter elements, and replace them if they are damaged. Always replace the paper air filter element at the scheduled interval.
- ⑤ Clean the air filter elements if they are to be reused.

**Paper air filter element :** Tap the filter element several times on a hard surface to remove dirt, or blow compressed air [not exceeding 30 psi (207 kPa, 2.1kg/cm<sup>2</sup>)] through the filter element from the inside.

Never try to brush off dirt; brushing will force dirt into the fibers.

**Foam air filter element :** Clean in warm soapy water, rinse, and allow to dry thoroughly. Or clean in nonflammable solvent and allow to dry. Dip the filter element in clean engine oil, then squeeze out all excess oil.

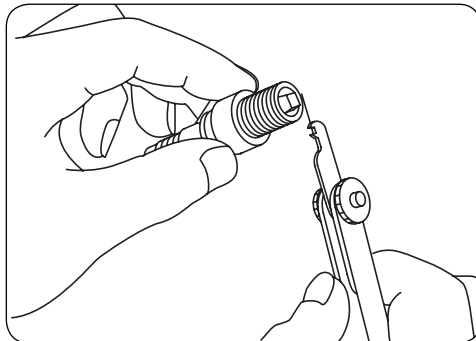


## ***7. Inspection and Maintenance***

### **7.6. Spark plug**

Remove the spark plug to clean off carbon deposit on the plug. Adjust electrode gap to between 0.7mm and 0.8mm.

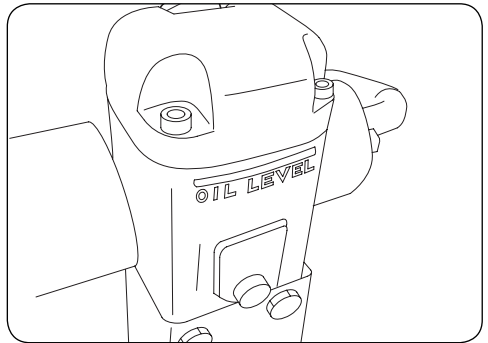
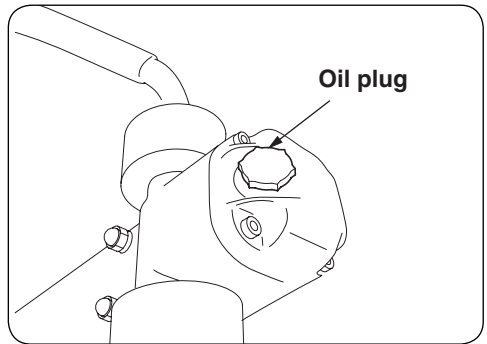
Plug : BPR6ES (NGK)





### 7.7. Hydraulic oil

- (1) Put the handle at vertical position to remove the oil plug and check that the oil is filled up to a level that is almost overflows out of the port.  
If it is found insufficient, replenish the specified hydraulic oil.
- (2) Replacement of hydraulic oil are to be carried out after 500 hours of initial operation and every 1000 hours of operation thereafter.



## 8. Fuel and Lubricant

# 8. Fuel and Lubricant

## 8.1. Fuel

**Fuel to be employed:** Regular gasoline for automobile

**Fuel tank capacity:** 3.6 liters

## 8.2. Recommended lubricant

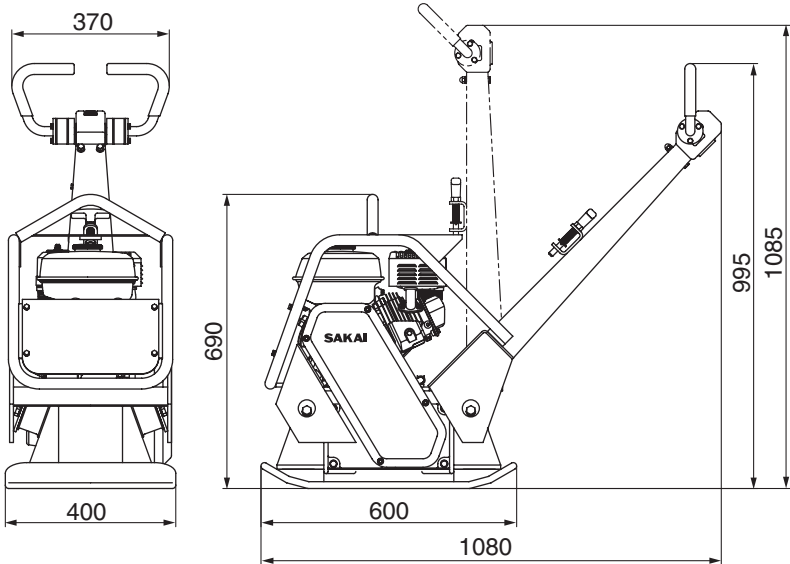
Lubricant	Service classification	Ambient temp. and applicable viscosity rating		
		-15~30°C Cold	0~40°C Moderate	5~55°C Tropical
Engine oil	API grade SD	SAE 10W-30	SAE 30	SAE 40
Vibrator oil	API grade SD	SAE 10W-30	SAE 30	SAE 40
Hydraulic oil	Wear resistant	ISO-VG32 over VI 140	ISO-VG32 over VI 140	ISO-VG68 over VI 110

## **9. For a long-term storage**

- (1) Check the engine and the vibrator for oil leakage.
- (2) Wipe off oil stains, if any, on the rubber dampers.
- (3) Check bolts and nuts for tightness and re-tighten them as necessary.
- (4) Put the cover over the compactor and store it in a dust-free, dry area.

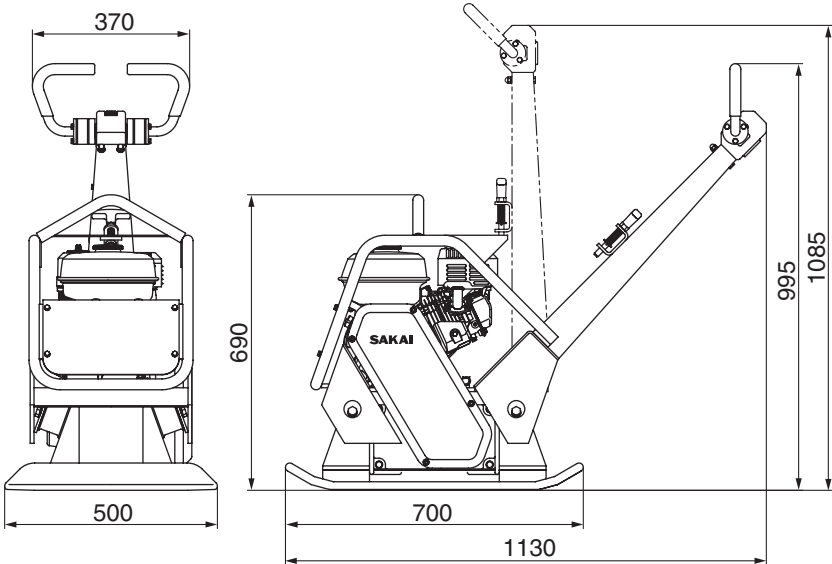
## 10. Overall View

### 10. Overall View PF120



Model	PF120
Physical	
Machine Weight	120 kg
Total Length	1080 mm
Total Width	400 mm
Total Height	995 mm
Size of Tamping Plate	600 mm(L) X 400 mm(w)
Performance	
Vibration Frequency	93 Hz {5580vpm}
Traveling Speed	0 - 23 m/min
Vibratory Force	26 kN {2653kgf}
Engine	
Manufacturer's Model	HONDA model GX160U
Maximum Output	4.1 kW/3600 min <sup>-1</sup> {5.5 ps/3600rpm}
Fuel	Gasoline
Starting System	Recoil starter

## PF150



Model	PF150
Physical	
Machine Weight	150 kg
Total Length	1130 mm
Total Width	500 mm
Total Height	995 mm
Size of Tamping Plate	700 mm(L) X 500 mm(w)
Performance	
Vibration Frequency	93 Hz {5580vpm}
Traveling Speed	0 - 23 m/min
Vibratory Force	31 kN {3160kgf}
Engine	
Manufacturer's Model	HONDA model GX200U
Maximum Output	4.8 kW/3600 min <sup>-1</sup> {6.5 ps/3600rpm}
Fuel	Gasoline
Starting System	Recoil starter

**MODEL PF120/PF150**

December-2006

**SAKAI HEAVY INDUSTRIES, LED.**

**Head office:** 1-4-8, Shiba-Daimon, Minato-ku  
Tokyo, Japan

**Cable address:** "SKWSAKAI" TOKYO

**Telex:** 242-3525 SKWMONJ

**Telephone:** Tokyo(03)3431-9971

2006.12.240①C.D



---

**SAKAI HEAVY INDUSTRIES, LTD.**

---