



# Tomahawk *PC4515* Power Forward Plate Compactor

## Operation and Instruction Manual



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This manual provides information and procedures to safely operate and maintain this model. For your own safety and protection from injury, carefully read, understand and observe the safety instructions described in this manual.

Keep this manual or a copy of it with the machine. If you lose this manual or need an additional copy, please contact Tomahawk Power LLC or visit [www.tomahawk-power.com](http://www.tomahawk-power.com). This machine is built with user safety in mind; however, it can present hazards if improperly operated and serviced. Follow operating instructions carefully. If you have questions about operating or servicing this equipment, please contact Tomahawk Power.

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## 1. SAFETY INFORMATION

### 1.1 Safety Precautions

This manual contains DANGER, WARNING, CAUTION, and NOTE callouts which must be followed to reduce the possibility of personal injury, damage to the equipment, or improper service.



This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.



DANGER indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.



WARNING indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.



CAUTION indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury.

**CAUTION:** Used without the safety alert symbol, CAUTION indicates a potentially hazardous situation which, if not avoided, may result in property damage.

## **1.2 Operating Safety**

- Beware of uneven or slippery work surfaces, as they may cause injury or death.
- Exercise care when working in the vicinity of unprotected holes or excavations.
- NEVER allow any person to operate the machine without adequate instruction.
- NEVER allow any person to operate the machine without adequate instruction.
- ENSURE all operators read, understand and follow the operation instructions.
- Serious injury could result from improper or careless use of the machine.
- Plate compactors are heavy units and should be positioned by two people with appropriate strength, using the lifting handle provided with the machine according to the correct lifting techniques.
- Plate Compactor may only be used for compaction jobs.
- DO NOT operate the machine unless all protective guards are in place.
- ENSURE that the engine switch is in the OFF position and the spark plug ignition lead is disconnected before removing the guards or making adjustments.
- ENSURE both the machine and the operator are stable by setting up on level terrain so that the machine will not tip over, slide off or fall while in operation or unattended.
- DO NOT leave the machine in operation, while it is unattended.
- DO NOT pull the machine backward with transportation wheels, it can only be pushed forward.
- ENSURE that the walls of a trench are stable and will not collapse due to the action of the vibration, prior to commencing compaction.
- ENSURE that the area to be compacted does not contain any “live” electrical cables, gas, water or communication services which may be damaged by the action of vibration.
- EXERCISE CARE when operating unit. Exposure to vibration or repetitive work actions may be harmful to hands and arms.
- NEVER stand on the machine while it is operating.
- DO NOT increase the governed no-load motor speed above 3,500 r/min. Any increase may result in personal injury and damage to the machine.
- Be careful and DO NOT come in contact with the muffler when the engine is hot, as it can cause severe burns.
- ENSURE that the repairs to the engine and machine are carried out by competent personnel.
- DO NOT use the machine near flammable material or in explosive environments.

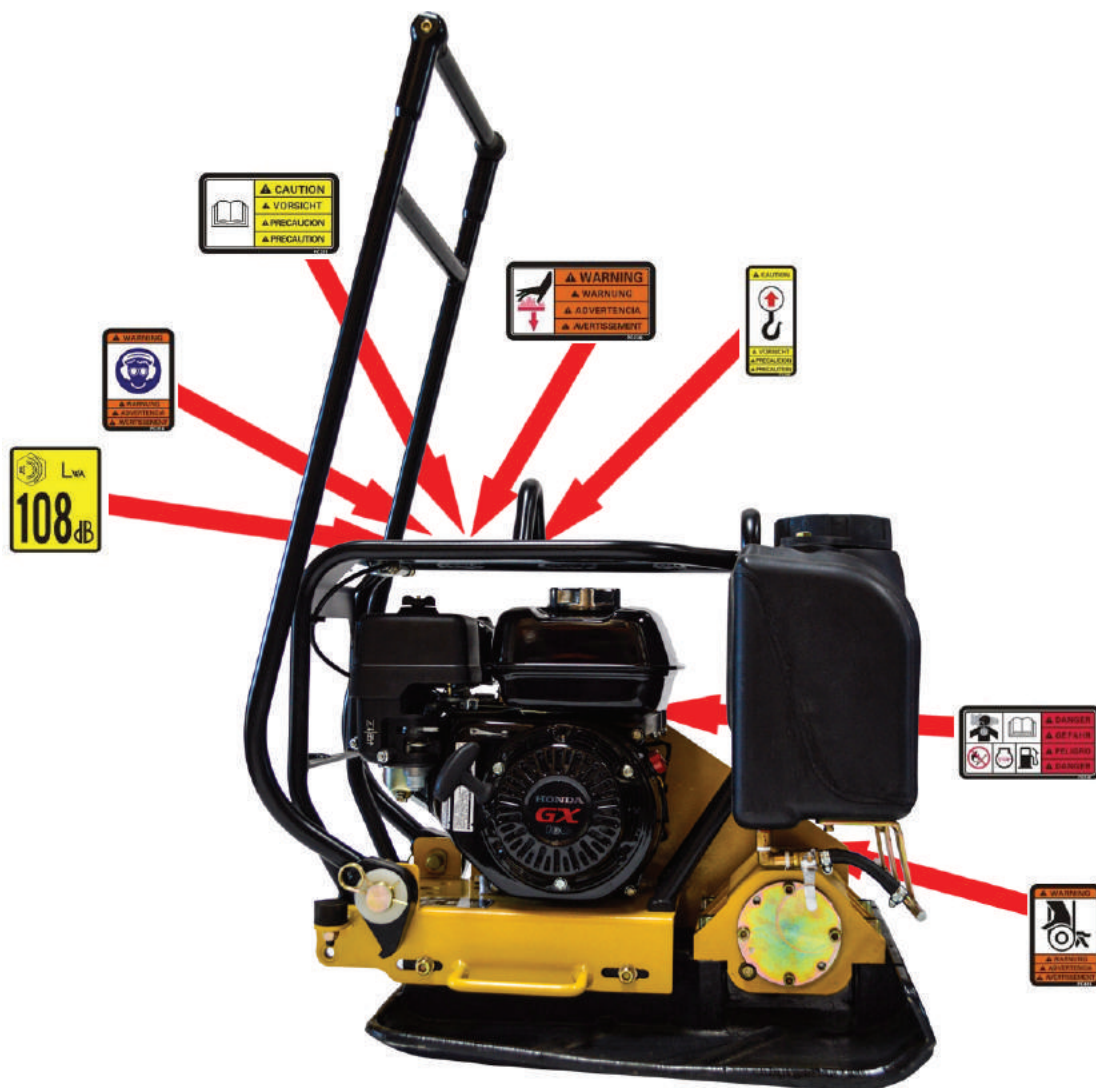
- Petrol is extremely flammable and explosive under certain conditions.
- ENSURE that the petrol is only stored in an approved storage container.
- DO NOT refuel the engine while it is in operation or hot.
- DO NOT operate or refuel the engine in a confined area without adequate ventilation.
- DO NOT refuel the engine in the vicinity of sparks, a naked flame or smoking.
- DO NOT overfill the fuel tank and avoid spilling petrol when refueling. Spilled petrol or petrol vapor may ignite. If spillage occurs, ensure that the area is dry before starting the motor.
- ENSURE that the fuel tank cap is securely fitted after refueling.
- DO NOT operate or refuel a petrol or diesel motor in a confined area without adequate ventilation.
- Carbon monoxide exhaust gases from engine driven units can cause death in confined spaces.
- EXCESSIVE NOISE can lead to temporary or permanent loss of hearing.
- WEAR an approved hearing protection device to limit noise exposure. As required by Occupational Health and Safety regulations.
- ALWAYS wear an approved hearing protection when working in a confined work space. Protective goggles and a dust mask should be worn when working in a dusty environment. Protective clothing and footwear may also be desirable when working with hot mix bitumen.
- Store the machine properly in a clean, dry place.

### **1.3 Operator Safety while using Internal Combustion Engines**

- DO NOT smoke when refueling the engine or operating the machine.
- DO NOT refuel a hot or running engine.
- ALWAYS keep away from all hot or spark-generating objects when refueling the engine.
- ALWAYS refill the fuel tank until the machine has cooled, and in a well-ventilated environment.
- DO NOT spill fuel when refueling the engine.
- ALWAYS take care to use the right type of fuel.
- ALWAYS inspect the fuel leakage regularly.
- NEVER perform any work on the machine while it is running. Before working on it, stop the engine and disconnect the spark plug wire to prevent accidental starting.
- Avoid prolonged breathing of exhaust gases.
- ALWAYS transport and handle fuel only when contained in approved safety containers.








- ALWAYS keep the area around the muffler free of debris such as leaves, paper, cartons, etc. A hot muffler could ignite the debris and start a fire.
- NEVER run the engine without the air filter.

## 1.4 Label Locations



## 1.5 Safety and Operating Labels

Tomahawk Power's machines use international pictorial labels where needed. These labels are described next:

LABEL	MEANING
	<p><b>DANGER!</b> Engine emits carbon monoxide; operate only in well-ventilated areas. Read the Operator's Manual for machine information. No sparks, flames, or burning objects near the machine. Shut off the engine before refueling. Use only clean, filtered, unleaded gasoline.</p>
	<p><b>WARNING!</b> Always wear hearing and eye protection when operating this machine.</p>
	<p><b>CAUTION!</b> Read and understand the supplied Operator's Manual before operating the machine. Failure to do so increase the risk of injury to yourself or others.</p>
	<p><b>CAUTION!</b> Lifting point.</p>
	<p><b>WARNING!</b> Injuries to hand may be caused if caught in moving belt. Always replace belt guard.</p>
	<p><b>WARNING!</b> Hot surface!</p>
	<p><b>NOTICE!</b> Throttle control lever: Turtle=Idle or slow, Rabbit=Full or fast.</p>





A nameplate listing of the model number and serial number is attached to each unit. Please record the information found on this plate so it will be available if the nameplate is lost or damaged. When requesting service information, the serial number should be specified in the unit.

## 2. OPERATION

### 2.1 Operating Principle

The following instructions were compiled to provide you information on how to obtain long and trouble free use of the unit. Periodic maintenance of this unit is essential. Read the manual in its entirety and follow the instructions carefully. Failure to do so may injure yourself or a bystander.

### 2.2 Delivery Checks

Immediately on taking delivery of your new equipment and before putting it into service.

- Read the operation manual completely—it could save a great deal of unnecessary expense.
- Read the engine manual supplied.
- Check the general condition of the equipment –has it been damaged during delivery?
- Check engine oil level.
- Check fuel levels.

Recommended lubricants are detailed in the Care and Maintenance section.

### 2.3 Before Starting

The following pre-start-up inspection must be performed before the start of each work session or after every four hours of use, whichever is first. If any issue is discovered, the compactor must not be used until the issue is fixed.

1. Thoroughly inspect the compactor for signs of damage. Make sure all components are present and secure. Pay special attention to the belt drive safety guard fitted between the engine and the vibrator unit.
2. Check the engine oil and fuel levels and top off as necessary.



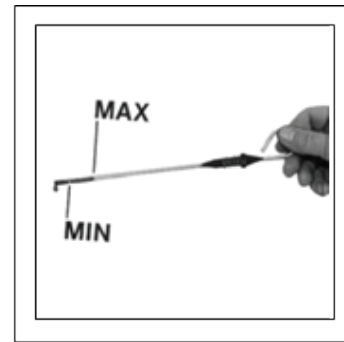
### 3. Check for fuel and oil leaks

**NOTICE:** Check the oil level in the engine and exciter. Engine and compactor warranties are VOID if this unit is run without oil.

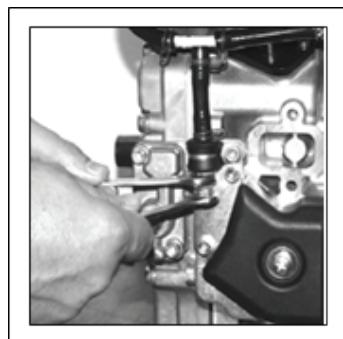
## 2.4 To Start

### 2.4.1 Gas Engine

1. Oil filling and level inspections must be carried out with the engine on a flat surface.
2. Remove oil filter cap, pour the oil in and reassemble oil cap.
3. Make sure that the oil is filled nearly at max., fit the dipstick correctly back in place.
4. Check and refill oil up to the maximum level.

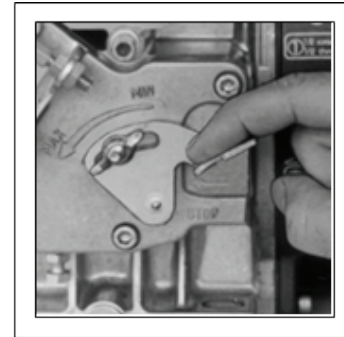
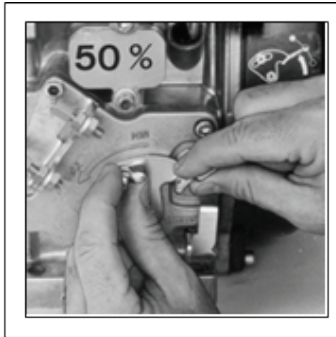
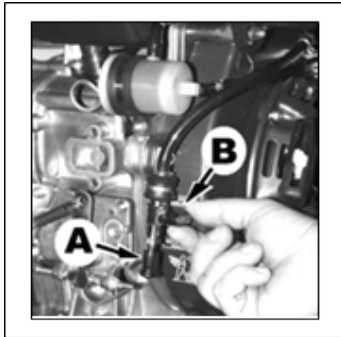


5. Should start-up be difficult, purge air from union as indicated in the figure.
6. Do not fill the fuel tank completely, but just up to 1 cm (0.39 in) from the top of the tank, to provide space for fuel movement. Wipe any fuel spillage from engine before starting.
7. Remove fuel tank cap. Pour the fuel and reassemble fuel tank cap. With low ambient temperatures ( $-10^{\circ}\text{C}$ ) add specific additives to diesel fuel, to avoid paraffine crystals solidification.



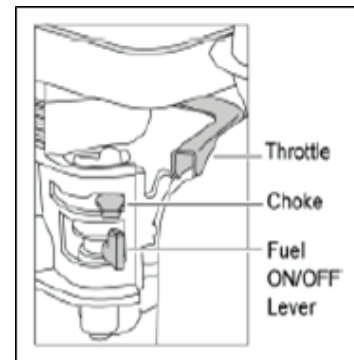
8. To eliminate any possible water and dirt residue from the tank bottom, remove the plug (A) and open the cock (B) to enable discharging. Once the operation is over, close the cock and screw back the protecting plug.
9. Accelerator at 50% speed.

11. Take the handle and pull the cord softly until it is extended to its full limit. Let the cord rewind completely. Start the engine pulling strongly the cord.
12. To stop the engine, move the lever and/or key into stop position, and move the accelerator lever into the stop position.



### 2.4.2 Petrol Engine

1. Open the fuel cap by moving the fuel ON/OFF lever fully to the right.
2. If starting the engine from cold, set the choke to ON by moving the choke lever fully to the left. If restarting a warm engine, the choke is usually not required. However, if the engine has cooled to a degree, partial choke may be required.
3. Turn the engine's ON/OFF switch clockwise to the "1" position.
4. Set the throttle to the idle position by moving the throttle lever fully to the right. Do not start the engine on full throttle, as the compactor will vibrate as soon as the engine starts.
5. Taking a firm hold of the control handle with one hand, grasp the recoil starter handle with the other. Pull the recoil starter until engine resistance is felt, then let starter return.
6. Taking care not to pull the starter's cord fully out, pull the starter handle briskly.
7. Repeat until the engine fires.
8. Once the engine fires gradually, set the choke lever to the OFF position by moving it to the right.
9. If the engine fails to fire after several attempts, follow the trouble-shooting guide.
10. To stop the engine, set the throttle to idle and turn the engine ON /OFF switch counterclockwise to the "0" position.
11. Turn the fuel off.



## 2.5 To Stop

1. Push the throttle lever to “O” position.
2. Turn the key switch to “O” (off).
3. Close the fuel valve.

## 2.6 Application

Trench compaction	Earthworks
Road maintenance	Landscaping
Brick paving	Driveway topping

## 2.7 Operation

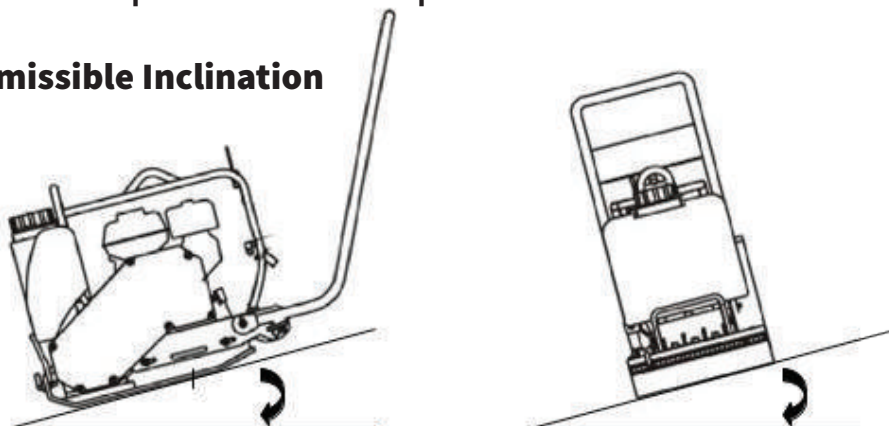
Run the engine at full throttle and allow plate to pull itself along at its normal speed. When operating it may be necessary to assist plate by pushing it forward slightly. Depending on the material being compacted, three or four passes are recommended to achieve the best compaction.

The machine is best suited for the compaction of bituminous and granular materials e.g. granular soils such as silt and clay are best compacted using the impact force produced by a vibrating plate. Where possible the site should be graded and leveled before commencing compaction.

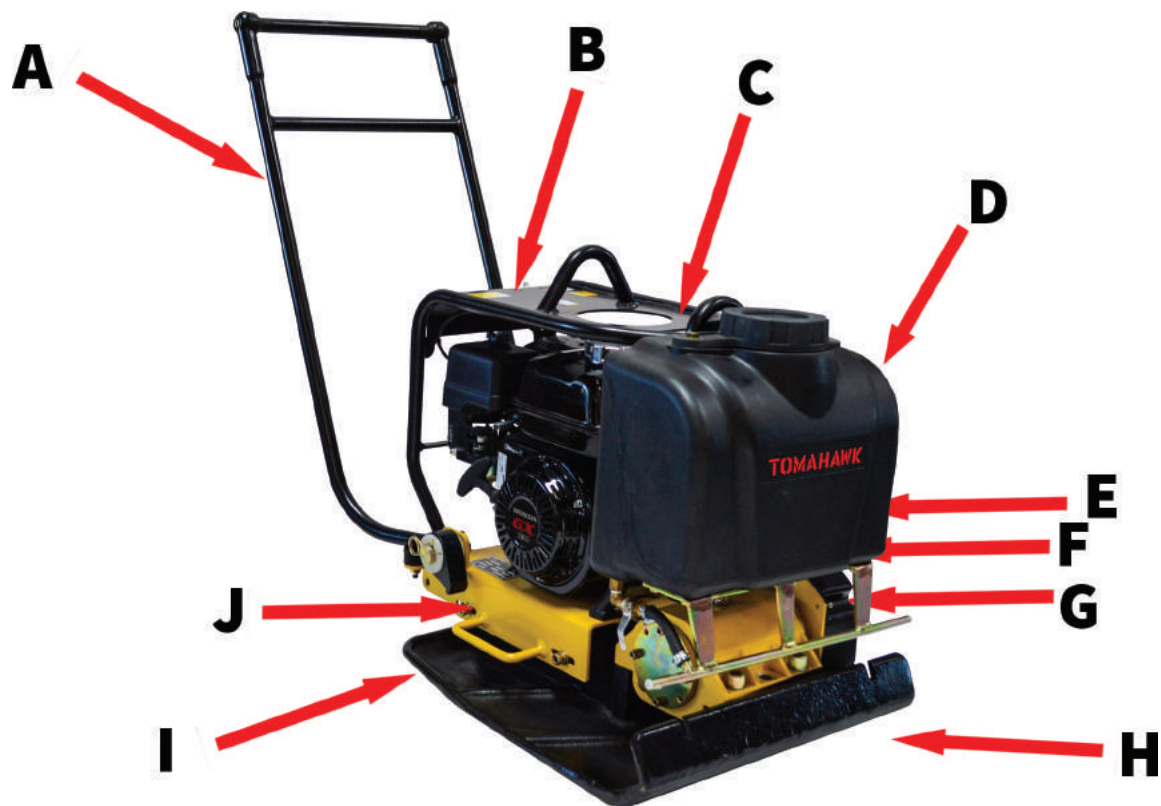
Correct moisture content in soil also is vital to proper compaction. Water acts as a lubricant to help slide soil particles together. Too little moisture means inadequate compaction; too much moisture leaves water-filled voids that weaken the soil's load-bearing ability. Compaction of dry materials will be facilitated by moistening with a water hose fitted with a sprinkler. Excessive watering or water content will cause the machine to stall.

The optional water tank kit is recommended when the machine is used on bituminous surfaces as the water film prevents a build up of material on the underside of the plate.

## 2.8 Maximum Admissible Inclination



## 2.9 Main parts and accessories



- A. Handle
- B. Throttle lever
- C. Protective frame
- D. Water tank (optional)
- E. Belt cover
- F. Belt
- G. Clutch
- H. Rubber mat (optional)
- I. Base plate
- J. Exciter

### 3. Maintenance

#### 3.1 Periodic Maintenance Schedule

	Daily	After first 20 hours	Every 50 hours	Every 100 hours	Every 200 hours
(Starting check)	●				
Loosened or lost screws	●				
Damage to parts	●				
Control system functioning	●				
Exciter oil check				●	
Exciter oil replacement					●
V-belt (clutch) check					●
Leakage of oil fuel	●				
Tightness of fastening threads	●				
Engine oil check and replenishment	●				
Engine oil replenishment		●		●	
Air filter cleaning			●		



These inspection intervals are meant for operation under normal conditions. Adjust your inspection intervals based on the number of hours your plate compactor is in use, and particular working conditions.

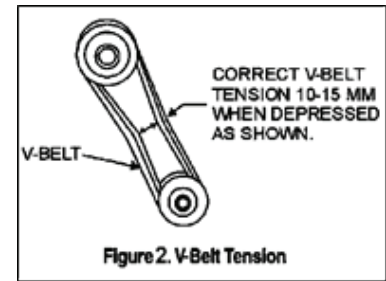
#### 3.2 Exciter Oil

When changing the exciter oil, place the exciter on a flat, horizontal surface, remove the drain plug located at the bottom-right of the vibrator, and simply tip the compactor to drain the oil. Note that the oil will drain more easily while it is hot. DO NOT pour in too much oil.

### 3.3 V-Belt and Clutch

#### 3.3.1 Checking the V-Belt

After 200 hours of operation, remove the upper belt cover to check the V-belt tension (Figure 2). Tension is best if the belt bends about 0.4 in when depressed firmly with finger between shafts. Loose or worn V-belts reduce power transmission efficiency, causing weak compaction, reducing the life of the belt itself.



**NEVER** attempt to check the V-belt while the engine is running. Severe injury can occur if your hand is caught between the V-belt and the clutch. Always use safety gloves, while the engine is off.

#### 3.3.2 Replacing the V-Belt

Remove the belt covers. Use an offset wrench (13mm) or the like on the vibrator pulley (lower) fastening bolt. Utilize a waste cloth or the like at midway of V-belt on the left side and while pulling it back strongly, rotate the offset wrench clockwise so that the V-belt is removed.

#### 3.3.3 Checking the Clutch

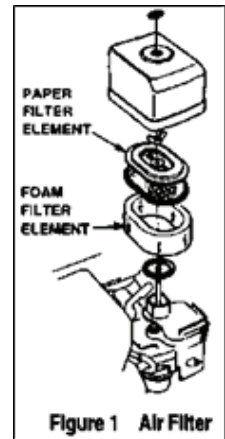
Check the clutch simultaneously with V-belt. With the belt removed, check the outer drum of the clutch for seizure and “V” groove for wear or damage. Clean the “V” groove as necessary. Wear of the lining or shoe should be checked with running check. If the shoe is worn, power transmission becomes deficient and slipping will result.



Whenever the compactor’s vibration becomes weak during normal operation (regardless of operation hours), check the V-belt and clutch immediately.

### 3.4 Air Filter

1. The air filter element should be cleaned as a clogged air filter can cause poor engine starting, lack of power, and shorten engine life substantially.
2. To clean or replace the air filter, loosen the wing nut on the air filter housing (Figure 1), remove the cover and take out air filter cartridge. If only cleaning of the air filter is needed, blow through the air filter cartridge from the inside, with a jet of dry compressed air, up and down until all dust is removed.



### 3.5 Spark Plug

Check and clean spark plugs regularly. A fouled, dirty spark plug may cause hard starting and poor engine performance. Set the spark plug gap to recommended clearance. Refer to engine manual.



The muffler and engine cylinder become very hot during operation and remain hot for a while after stopping the engine. Allow engine to cool before removing spark plug.

**NOTICE:** A loose spark plug can become very hot and may cause engine damage.

### 3.6 Transport Wheels

1. Always shut off engine when transporting the machine.
2. Make sure the lifting device has enough capacity to hold the machine (see nameplate on machine for weight).
3. Use lifting point when lifting the machine.
4. The optional trolley wheel is used for short distance transportation.



## 3.7 Troubleshooting

### 3.7.1 Machine Troubleshooting

SYMPTOM	POSSIBLE CAUSES	SOLUTION
Travel speed too low, and the vibration is weak.	Engine speed too slow?	Set engine speed to correct RPM.
	Clutch slips?	Check or replace clutch.
	V-belt slips?	Adjust or replace V-belt.
	Excessive oil in vibration?	Drain excess oil and fill to proper level.
	Malfunction in vibrator housing?	Check excentric, gears, and counter weights.
	Bearing failure?	Replace bearing.
	Insufficient engine output?	Check engine, compression, etc.

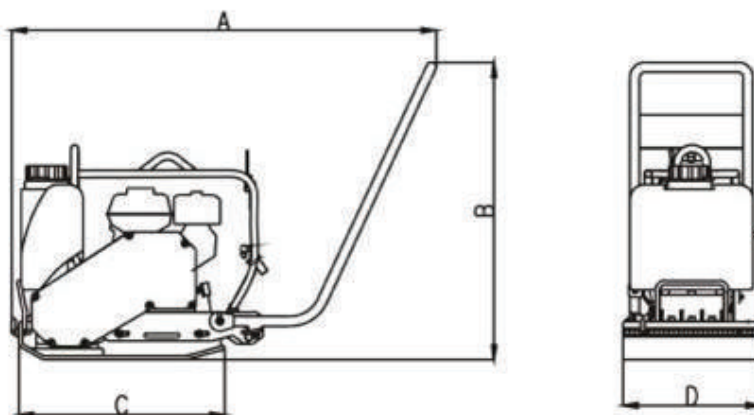
### 3.7.2 Engine Troubleshooting

SYMPTOM	POSSIBLE CAUSES	SOLUTION
Difficult to start, fuel is available, but no SPARK at spark plug.	Spark plug bridging.	Check gap, insulation or replace spark plug.
	Carbon deposit on spark plug.	Clean or replace spark plug.
	Short circuit due to deficiency.	Check spark plug insulation, replace if needed.
	Improper spark plug gap.	Set to proper gap.
Difficult to start, fuel is available, and SPARK is present at spark plug.	ON/OFF switch is shorted.	Check switch wiring, replace switch.
	Ignition coil defective.	Replace ignition coil.
	Improper spark gap, points dirty.	Set correct spark gap and clean points.
	Condenser insulation worn or short circuiting.	Replace condenser.
	Spark plug wire broken or short circuiting.	Replace defective spark plug wiring.
Difficult to start, fuel is available, SPARK is present and compression is normal.	Wrong fuel type.	Flush fuel system and replace with correct type of fuel.
	Water or dust in fuel system?	Flush fuel system.
	Air cleaner dirty.	Clean or replace air cleaner.
Difficult to start, fuel is available, spark is present and compression is low.	Suction/exhaust valve stuck or protruded?	Re-seat valves.
	Piston ring and/or cylinder worn.	Replace piston rings and or piston.
	Cylinder head and/or spark plug not tightened properly.	Torque cylinder head bolts and spark plug.
	Head gasket and/or spark plug gasket damaged.	Replace head and spark plug gaskets.
No fuel present at carburetor.	Fuel not available in fuel tank.	Fill with correct type of fuel.
	Fuel cock does not open properly.	Apply lubricant to loosen fuel cock lever, replace if necessary.
	Fuel filter clogged.	Replace fuel filter.
	Fuel tank cap breather hole clogged.	Clean or replace fuel tank cap.
	Air in fuel line.	Bleed fuel line.
“Weak in power” compression is proper but misfires.	Water in fuel system.	Clean or replace spark plug.
	Dirty spark plug.	Flush fuel system and replace with correct type of fuel.
	Ignition coil defective.	Replace ignition coil.

SYMPTOM	POSSIBLE CAUSES	SOLUTION
“Weak in power” compression is proper and does not misfire.	Air filter not clean.	Clean or replace air filter.
	Improper level in carburetor.	Check float adjustment, re-build carburetor.
	Defective spark plug.	Clean or replace spark plug.
Engine overheats.	Spark plug heat value improper.	Replace with correct type of spark plug.
	Correct type of fuel.	Replace with correct type of fuel.
	Cooling fins dirty.	Clean cooling fins.
Rotational speed fluctuates.	Governor adjusted correctly.	Adjust governor.
	Governor spring defective.	Replace governor spring.
	Fuel flow restricted.	Check entire fuel system for leaks or clogs.
Recoil starter malfunction.	Recoil mechanism clogged with dust and dirt.	Clean recoil assembly with soap and water.
	Spiral spring loose.	Replace spiral spring.

## 4. TECHNICAL DATA

### Working Size (in):



Model	A	B	C	D
PC4515	42.1	38.1	21.9	17.7

### Sound Specification (According to 2000/14/EC)

Model	Guaranteed sound power level
PC4515 series	108dB(A)

### Vibration Specification (According to ISO 2631 and EN 1033) :

Model	
PC4515	5 m/s <sup>2</sup>

Engine Type	Honda GX160
Power kW (HP)	4.0kW (5.5 HP)
Operating Weight (lb)	198 lbs
Plate Size L x W (in)	22 x 20 in
Centrifugal Force kN	15 kN
Vibration Frequency	5,400 vpm (90 Hz)
Travel Speed	78 ft/min
Exciter Lubrication	0.25 L, SG15W-40 motor oil

## WARRANTY

Tomahawk Power products are covered by a Warranty for a period of twelve (12) months from the date of purchase against defects in material or workmanship provided that:

- The product concerned has been operated and maintained in accordance with the operating instructions.
- Has not been damaged by accident, misuse, or abuse.
- Has not been tampered with or repaired by any unauthorized person.

The owner is responsible for the cost of transportation to and from the authorized repairer and the unit is at the owner's risk while in transit to and from the repairer.

**Impact damage is not covered under warranty. Clutches are not covered under any warranty.**

**Engines are officially guaranteed by Honda.**

## **MAINTENANCE RECORD**

### **PREVENTATIVE MAINTENANCE AND ROUTINE SERVICE PLAN**

Tomahawk's PC4515 Forward Plate Compactor has been assembled with care and will provide years of service. Preventative maintenance and routine service are essential to the long life of your plate compactor. After reading through this manual thoroughly, you will find that you can do some of the regular maintenance yourself. However, when in need of parts or major service, be sure to see your dealer. For your convenience we have provided this space to record relevant data about your plate compactor.

Invoice Number:		Type of Machine:	
Date Purchased:		Dealer Name:	
Serial Number:		Dealer Phone:	

REPLACEMENT PARTS USED					MAINTENANCE LOG	
PART NO.	DESCRIPTION	QTY	COST	DATE	DATE	OPERATION



**USA (866) 577-4476**

**MX 01 (800) 099 0778**

**[www.tomahawk-power.com](http://www.tomahawk-power.com)**

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