

Upright Rammer

Operator's Manual

MODEL NUMBER : 29350

SERIAL NUMBER : _____

Both model number and serial number may be found on the main label.
You should record both of them in a safe place for future use.

FOR YOUR SAFETY

READ AND UNDERSTAND THE ENTIRE MANUAL BEFORE OPERATING
MACHINE

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INTRODUCTION

Your new Upright Rammer will more than satisfy your expectations. It has been manufactured under stringent quality standards to meet superior performance criteria. You will find it easy and safe to operate, and with proper care, it will give you many years of dependable service.



Carefully read through this entire operator's manual before using your new unit. Take special care to heed the cautions and warnings.

The upright rammer is a powerful compacting tool capable of applying a tremendous force in consecutive impacts to a soil surface. Its applications include soil compacting for road, embankments and reservoirs as well as backfilling for gas pipelines, water pipelines and cable installation work.

The impact force of this rammer levels and uniformly compacts voids between soil particles to increase dry density.

The Engine Manufacturer is responsible for all engine-related issues with regards to performance, power rating, specifications, warranty and service. Please refer to the Engine Manufacturer's owner/operator's manual, packed separately with your unit, for more information.

Specifications

Item No.	29350	
Ramming Shoe Size	355mmx280mm	
Impact Blows / Minute	660-700	
Impact Force / Blow	18500 N	
Impact Plate Stroke	60mm-70mm	
Travel Speed	11m/min-14m/min	
Engine	149cc, 5.0HP, Gas	
Overall Size	Height	1010 mm
	Width	580 mm
	Length	715 mm
Operating Weight	78.0 kg	

RECYCLING AND DISPOSAL



This marking indicates that this product should not be disposed with other household wastes. To prevent possible harm to the environment or human health from uncontrolled waste disposal, recycle it responsibly to promote the sustainable reuse of material resources. To return your used device, please use the return and collection systems or check with your local authority or local stores for advice of environmental safe recycling.

SYMBOLS

The rating plate on your machine may show symbols. These represent important information about the product or instructions on its use.



Read these instructions for use carefully.



Use safety equipment. Always wear eye and hearing protection, safety footwear, gloves and helmets.



It is forbidden to remove or tamper with the protection devices and safety devices.



Keep feet away from the bottom.



Do not pull the handrail over.



Do not smoke or have open flames.



Use extreme caution when storing, handling and using fuels, as they are highly volatile and explosive in vapor state.



Do not touch parts which are hot from operation. Serious burns may result.



Keep children and bystanders off and away.

SAFETY

General Safety Rules

Understand your machine

Read and understand the operator's manual and labels affixed to the machine. Learn its application and limitations as well as the specific potential hazards peculiar to it.

Be thoroughly familiar with the controls and their proper operation. Know how to stop the machine and disengage the controls quickly.

Make sure to read and understand all the instructions and safety precautions as outlined in the Engine Manual, packed separately with your unit. Do not attempt to operate the machine until you fully understand how to properly operate and maintain the Engine and how to avoid accidental injuries and/or property damage.

Work area

Never start or run the engine inside a closed area. The exhaust fumes are dangerous, containing carbon monoxide, an odorless and deadly gas. Operate this unit only in a well ventilated outdoor area.

Never operate the machine without good visibility or light.

Keep children and bystanders away while operating a rammer. Distractions can cause you to lose control.

Personal safety

Do not operate the machine while under the influence of drugs, alcohol, or any medication that could affect your ability to use it properly.

Dress properly. Wear heavy long pants, boots and gloves. Do not wear loose clothing, short pants, jewelry of any kind. Secure long hair so it is above shoulder level. Keep your hair, clothing and gloves away from moving parts. Loose clothes, jewelry or long hair can be caught in moving parts.

Check your machine before starting it. Keep guards in place and in working order. Make sure all nuts, bolts, etc. are securely tightened.

Never operate the machine when it is in need of repair or is in poor mechanical condition. Replace damaged, missing or failed parts before using it. Check for fuel leaks. Keep the machine in safe working condition.

Do not use the machine if the engine's switch does not turn it on or off. Any gasoline powered machine that can not be controlled with the engine switch is dangerous and must be replaced.

Form a habit of checking to see that keys and adjusting wrenches are removed from machine area before starting it. A wrench or a key that is left attached to a rotating part of the machine may result in personal injury.

Stay alert, watch what you are doing and use common sense when operating the machine.

Do not overreach. Do not operate the machine while barefoot or when wearing sandals or similar lightweight footwear. Wear protective footwear that will protect your feet and improve your footing on slippery surfaces. Keep proper footing and balance at all times. This enables better control of the machine in unexpected situations.

Avoid accidental starting. Be sure the engine's switch is off before transporting the machine or performing any maintenance or service on the unit. Transporting or performing maintenance or service on a machine with its switch on invites accidents.

Fuel safety

Fuel is highly flammable, and its vapors can explode if ignited. Take precautions when using to reduce the chance of serious personal injury.

When refilling or draining the fuel tank, use an approved fuel storage container while in a clean, well-ventilated outdoor area. Do not smoke, or allow sparks, open flames or other sources of ignition near the area while adding fuel or operating the unit. Never fill fuel tank indoors.

Keep grounded conductive objects, such as tools, away from exposed, live electrical parts and connections to avoid sparking or arcing. These events could ignite fumes or vapors.

Always stop the engine and allow it to cool before filling the fuel tank. Never remove the cap of the fuel tank or add fuel while the engine is running or when the engine is hot. Do not operate the machine with known leaks in the fuel system.

Loose the fuel tank cap slowly to relieve any pressure in the tank.

Never overfill fuel tank (there should be no fuel above the upper limit mark).

Replace all fuel tank and container caps securely and wipe up spilled fuel. Never operate the unit without the fuel cap securely in place.

Replace all fuel tank and container caps securely and wipe up spilled fuel. Never operate the unit without the fuel cap securely in place.

Avoid creating a source of ignition for spilled fuel. If fuel is spilled, do not attempt to start the engine but move the machine away from the area of spillage and avoid creating any source of ignition until fuel vapors have dissipated.

Store fuel in containers specifically designed and approved for this purpose.

Store fuel in a cool, well-ventilated area, safely away from sparks, open flames or other sources of ignition.

Never store fuel or machine with fuel in the tank inside a building where fumes may reach an spark, open flame, or any other source of ignition, such as a water heater, furnace, clothes dryer and the like. Allow the engine to cool before storing in any enclosure.

Machine use and care

Never pick up or carry a machine while the engine is running.

Do not force the machine. Use the correct machine for your application. The correct machine will do the job better and safer at the rate for which it was designed.

Do not change the engine governor settings or over-speed the engine. The governor controls the maximum safe operating speed of the engine.

Do not run the engine at a high speed when you are not pounding.

Do not put hands or feet near rotating parts.

Avoid contact with hot fuel, oil, exhaust fumes and hot surfaces. Do not touch the engine or muffler. These parts get extremely hot from operation. They remain hot for a short time after you turn off the unit. Allow the engine to cool before doing maintenance or making adjustments.

If the machine should start to make an unusual noise or vibration, immediately shut off the engine, disconnect the spark plug wire, and check for the cause. Unusual noise or vibration is generally warning of trouble.

Use only attachments and accessories approved by the manufacturer. Failure to do so can result in personal injury.

Maintain the machine. Check for misalignment or binding of moving parts, breakage of parts and any other condition that may affect the machine's operation. If damaged, have the machine repaired before use. Many accidents are caused by poorly maintained equipment.

Keep the engine and muffler free of grass, leaves, excessive grease or carbon build up to reduce the chance of a fire hazard.

Never douse or squirt the unit with water or any other liquid. Keep handles dry, clean and free from debris. Clean after each use.

Observe proper disposal laws and regulations for gas, oil, etc. to protect the environment.

Store idle machine out of the reach of children and do not allow persons unfamiliar with the machine or these instructions to operate it. Machine is dangerous in the hands of untrained users.

Service

Before cleaning, repair, inspecting, or adjusting, shut off the engine and make certain all moving parts have stopped. Always make sure the engine's switch is in its "OFF" position. Disconnect the spark plug wire, and keep the wire away from the plug to prevent accidental starting.

Have your machine serviced by a qualified repair personnel using only identical replacement parts. This will ensure that the safety of the machine maintained.

To avoid injury, keep hands, fingers and feet away from the base plate. Grip the handle of the plate upright rammer firmly with both hands. If both hands are holding the handle and your feet are clear of the upright rammer base, your hands, fingers and feet can not be injured by the upright rammer base.

Always operate the machine from behind, never pass or stand in front of the machine when the engine is running.

Never place tools or any other item under the plate upright rammer.

If the unit strikes a foreign object, stop the engine, disconnect the spark plug, thoroughly inspect the machine for any damage, and repair the damage.

Do not overload the machine capacity by compacting too deep in a single pass or at too fast a rate.

Never operate the unit at high transport speeds on hard or slippery surfaces.

Exercise extreme caution when operating on or crossing roads. Stay alert for hidden hazards or traffic. Do not carry passengers.

Never leave the operating position and leave the upright rammer unattended when the engine is running.

Always stop the engine when compacting is delayed or when walking from one location to another.

Stay away from the edged of ditches and avoid actions that may cause the upright rammer to topple over.

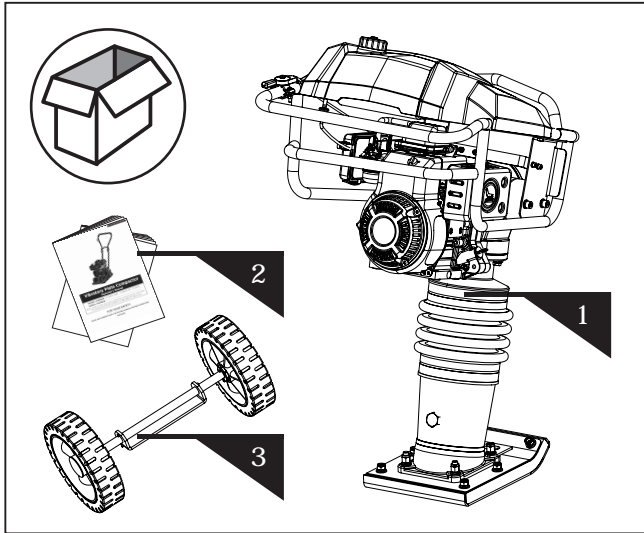
Always ascend slopes carefully, in a direct path and in reverse to present the upright rammer from toppling over onto the operator.

Always park the unit on a firm and level surface and shut the tool off.

To reduce exposure to vibration, limit the hours of operation and take periodic breaks to minimize repetition and rest your hand. Reduce the speed and force in which you do the repetitive movement. Try to fill each day with jobs where operating hand-held power equipment is not required.

CONTENTS SUPPLIED

The Upright Rammer comes partially assembled and is shipped in carefully packed carton. After all the parts have been removed from the carton, you should have:

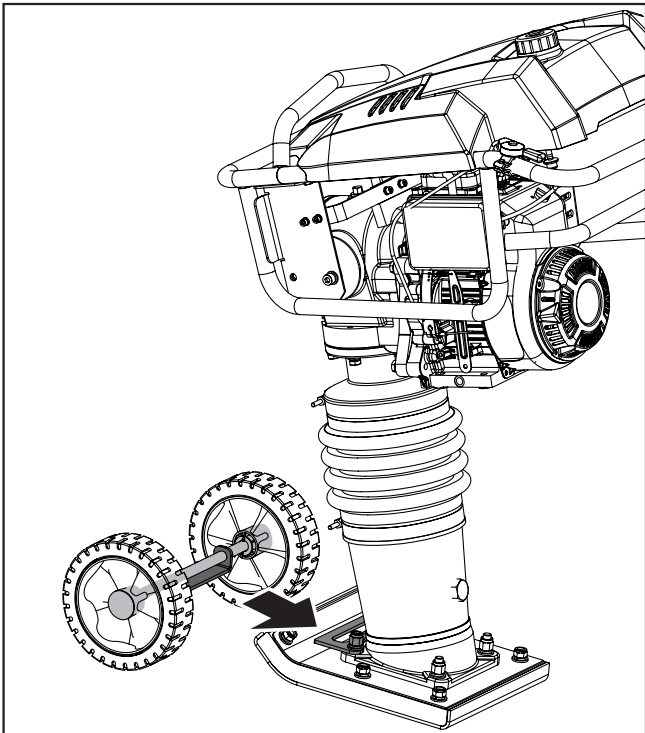


1. Upright Rammer Chassis with Engine
2. Operator's Manual & Engine Manual
3. Wheels Kit (Optional)

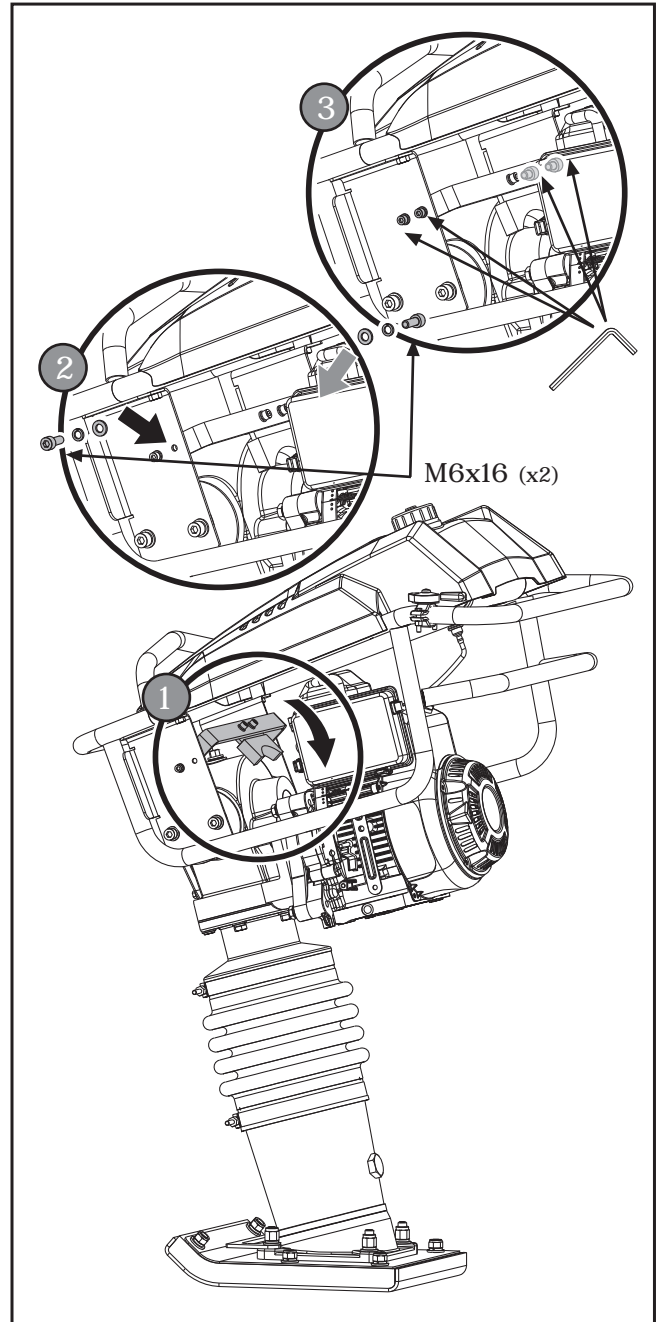
ASSEMBLY

Assembly

Following the assembly directions below, you will assemble the upright rammer in a few minutes.



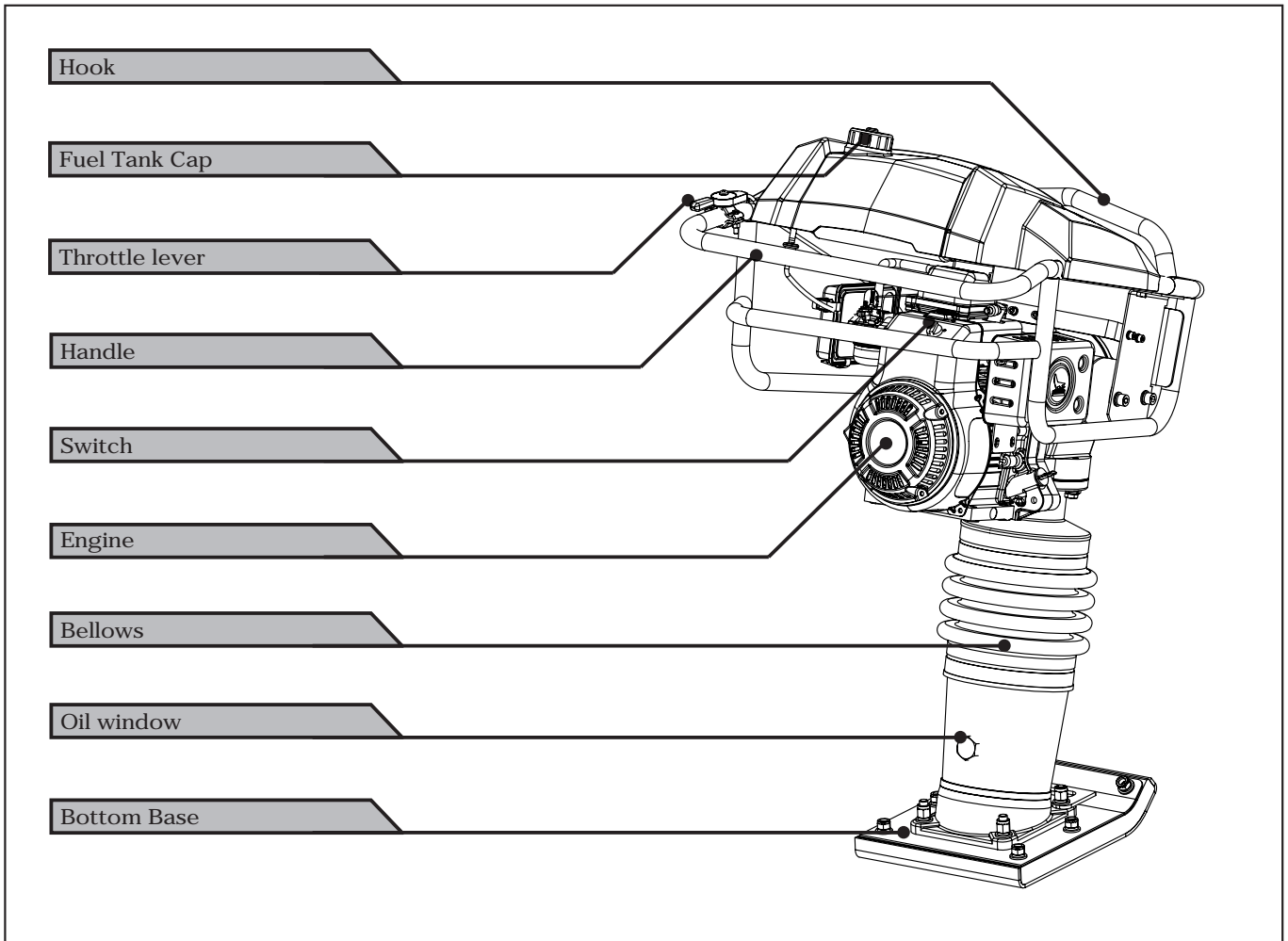
Insert the fixing plate of the wheels kit under the support plate of machine.



Push down the fixing plate, make sure the holes in the fixing plate align with the holes in the handle weldment. Secure each side using M6x16 screw, spring washer and flat washer. Tighten the screws and the ones behind them.

KNOW YOUR RAMMER

Features and Controls



Throttle lever

Used to adjust engine speed (rpm). Move lever forward (SLOW) to reduce engine speed, move lever back toward operator (FAST) to increase speed. Always operate the rammer at full speed (rpm).

Handle

To operate rammer, grip handle assembly firmly on both sides.

Fuel Tank Cap

Remove this cap to add unleaded gasoline to the fuel tank. Make sure cap is tightened securely. Do not over fill.

Fuel Tank Capacity 1.8L

Hook

Used to lift rammer for transporting.

Switch

It cuts out power to the machine at the end of working or stop the engine.

Bellows

Reservoir for oil bath.

Bottom Base

Rubber with tempered steel plate for superior shock absorption.

Oil window

Indicates the level of oil in the oil bath reservoir.

Operation

This machine is intended to be used for compacting friable soil (rushed stone ratio < 30%). It can be used widely in highway, construction, dam, airport, railway and so on. It can offer them a solid soil basis.



It cannot be used in the following areas: solid or sharp surface like cement ground, stone and so on, or it will make the rammer damage.

Manufacturer does not assume responsibility for any accident due to equipment modifications.

Check before work

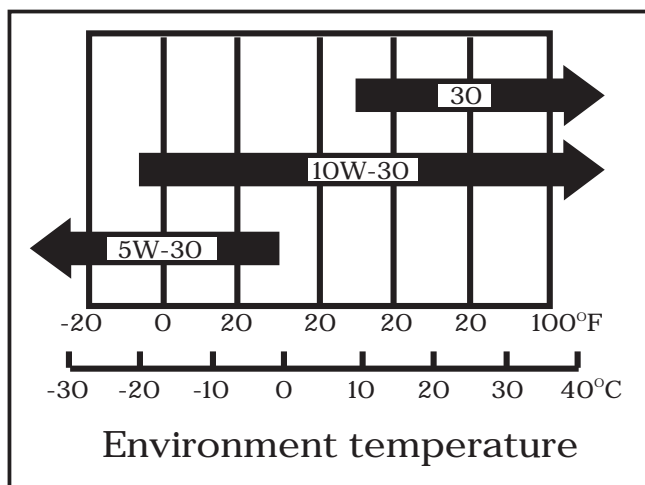
1. Add the engine oil : Make sure the machine with engine stands vertically. remove the oil dipstick, then add the engine oil, insert the dipstick into the oil tank to check the oil level, if the oil lever comes near to the lower limit mark, refill the oil tank up to the upper limit mark.

Engine oil capacity is 0.5L.

Oil recommended: generally SAE10W-30 is recommended, as it is suitable to the common environment temperature. If choose other ones,



It will short the work life if use the oil lack of deterative or the oil for two-stroke engine.



2. Check the impact system lubricating oil level, Fill the oil to the upper location of the oil window. Oil recommended: 15W40.

3. Check the air cleaner: check whether the filter is blocked and sponge is broken; dirty filter will block the air cleaner, which will weaken the engine even make the engine fail to start.

Make sure all the screws are tightened.

Check the fuel tank: the fuel must be above 90# lead-free gasoline. The recommended fuel is above 93# lead-free gasoline. Do not get dust, water or other foreign matter into the fuel tank, do not mix the fuel with engine oil.



Never fill fuel tank while operating the unit.

Operating Instruction

1. Position the rammer on a flat, level ground surface.
2. Start to operate the engine according to the provided engine manual.
 - 2.1 Turn on the engine switch.
 - 2.2 Close the choke lever, which can not be closed if the machine is overheated or the weather is hot.
 - 2.3 Pull the fuel lever to the open position
 - 2.4 Set throttle lever to the idle slow speed position
 - 2.5 Slowly pull the handle until to feel hard, then pull the line to start the engine quickly.



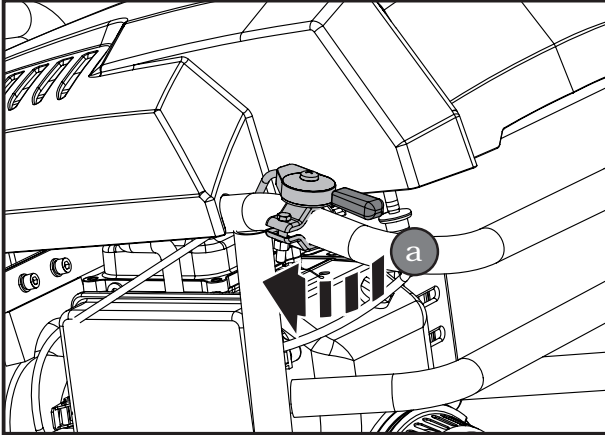
First pull the line slowly, when you feel the resistance, pull quickly, which is to protect the engine.



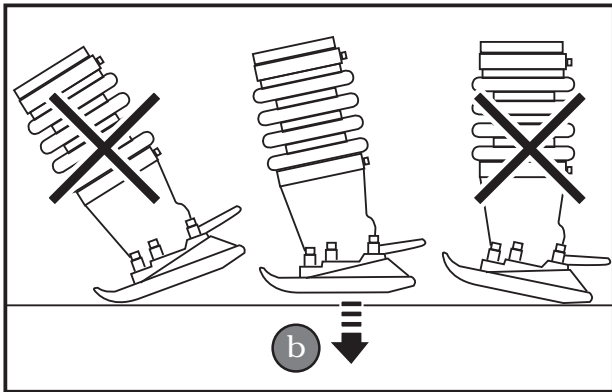
Do not let the handle to crush the engine when loose the handle. Replace the handle within the resilience force of the engine rope.

- 2.6 Open the choke lever after starting the engine, it needs 5 minutes to warm up.

3. Put the throttle lever towards to FAST position. The rammer will commence the pounding action. Guide the rammer by handrail to move automatically. The rammer will show the best effect if keep it in balance. Push the handrail to make the rammer unstable, which will damage the engine.



- 3.1 Run rammer at the full throttle position (a) for maximum performance.
- 3.2 Guide rammer with its handle. Allow machine to pull itself forward. Do not try to over-power the machine.



- 3.3 For best compaction, the shoe must hit the ground flat (b), not on its toe or heel. This will save on excessive shoe wear.



Do not stop the engine when the rammer is in high speed, or it will cause engine oil deteriorate or parts are in jam as the temperature of engine rises suddenly.



When operating the rammer, keep feet clear from the Bottom plate to avoid personal injury.



Do not operate plate on concrete or on extremely hard, dry, compacted surfaces. The plate will jump rather than vibrate and could damage both plate and engine.

The upright rammer is designed to run at an engine speed (engine take off shaft) of 3600 rpm (Normally considered full throttle). Running the engine at lower rpm's will result in a decrease of compaction force and lower travel speed. It will create excessive "out-of-synch" vibrations resulting in poor compaction, maneuverability, excessive wear to the machine, and discomfort to the operator.

4. In operation, guide the machine, but let the upright rammer do the work. Bearing down on the handle is unnecessary and causes shock absorber wear.

Stopping engine

To stop the engine in an emergency, simply turn the engine switch to the OFF position. Under normal conditions, use the following

- 4.1 Move the throttle lever to the SLOW position.
- 4.2 Let engine idle for one or two minutes.
- 4.3 Turn the engine switch to the OFF position.
- 4.4 Turn the fuel valve lever to the OFF position.



Do not move choke control to CLOSE to stop engine. Backfire or engine damage may occur.



Stop the engine while leaving the operating position.

Idle speed

Set throttle control lever to its "low" position to reduce stress on the engine when compacting is not being performed. Lowering the engine speed to idle the engine will help extend the life of the engine, as well as conserve fuel and reduce the noise level of the machine.

MAINTENANCE

Maintaining your upright rammer will insure long life to the machine and its components.

Preventive Maintenance

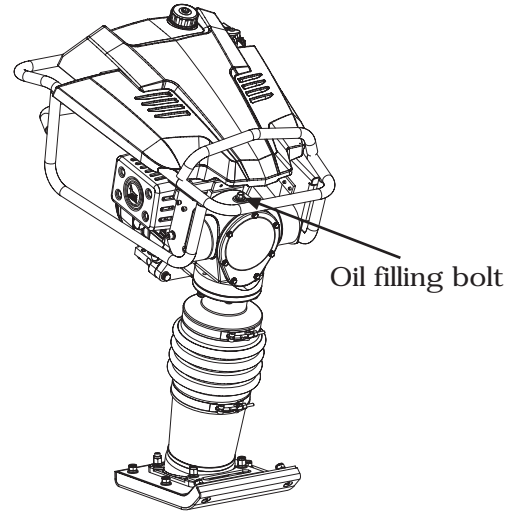
1. Turn off engine. Engine must be cool.
2. Keep the engine's throttle lever in its SLOW position, and remove spark plug wire from spark plug and secure.
3. Inspect the general condition of the upright rammer. Check for loose screws, misalignment or binding of moving parts, cracked or broken parts, and any other condition that may affect its safe operation.
4. Remove all debris from the upright rammer with a soft brush, vacuum, or compressed air. Then use a premium quality lightweight machine oil to lubricate all moving parts.
5. Clean the bottom of the upright rammer base as soon as it begins to pick up soil being compacted. The unit can not do a good job if the bottom surface is not smooth and clean.
6. Replace spark plug wire.



Never use a "pressure washer" to clean your upright rammer. Water can penetrate tight areas of the unit and cause damage to spindles, pulleys, bearings, or the engine. The use of pressure washers will result in shortened life and reduce serviceability.

Checking Oil Level of Ramming System

1. Place the rammer on a level surface. Its shoe rest on the ground.
2. Checking the oil level through the oil window. Proper ramming system lubrication is indicated when approximately 1/2-3/4 of the window is full.
3. If the oil is not visible, oil must be added through the oil filling bolt.
4. Oil recommended: generally SAE 10W30 is recommended.
5. After adding oil, screw the oil filling bolt tightly.



Engine maintenance

Refer to the Engine Manual included in your plate upright rammer for the information on engine maintenance. Your engine manual provides detailed information for performing the tasks.

STORAGE

If the plate upright rammer will not be used for a period longer than 30 days, following the steps below to prepare your unit for storage.

1. Drain the fuel tank completely. Stored fuel containing ethanol or MTBE can start to go stale in 30 days. Stale fuel has high gum content and can clog the carburetor and restrict fuel flow.
2. Start the engine and allow it to run until it stops. This ensures no fuel is left in the carburetor. Run the engine until it stops. This helps prevent deposits from forming inside the carburetor and possible engine damage.
3. While the engine is still warm, drain the oil from the engine. Refill with fresh oil of the grade recommended in the Engine Manual.
4. Allow the engine to cool. Remove the spark plug and put 60 ml of SAE-30 of high quality motor oil into the cylinder. Pull the starter rope slowly to distribute the oil. Replace the spark plug.



Remove the spark plug and drain all of the oil from the cylinder before attempting to start the unit after storage.

- Use clean cloths to clean off the outside of the upright rammer and to keep the air vents free of obstructions.



Do not use strong detergents or petroleum based cleaners when cleaning plastic parts. Chemicals can damage plastics.

- Carefully fold the upper handle down. Do not allow control cables to become pinched or bent.
- Store your plate upright rammer in upright position in a clean, dry building that has good



Do not store upright rammer with fuel in a non-ventilated area where fuel fumes may reach flame, sparks, pilot lights or any ignition sources.

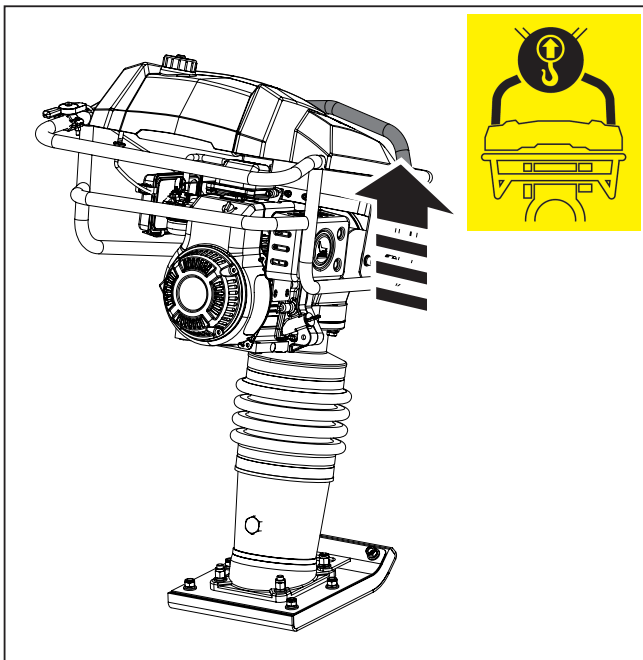
Use only approved fuel containers.

LIFTING / TRANSPORTING

Lifting

See technical data for the weight of the machine.

To avoid burns or fire hazards, let engine cool before lifting / transporting machine or storing indoors.



The unit can be lifted by the handles in front and back of the unit as shown.

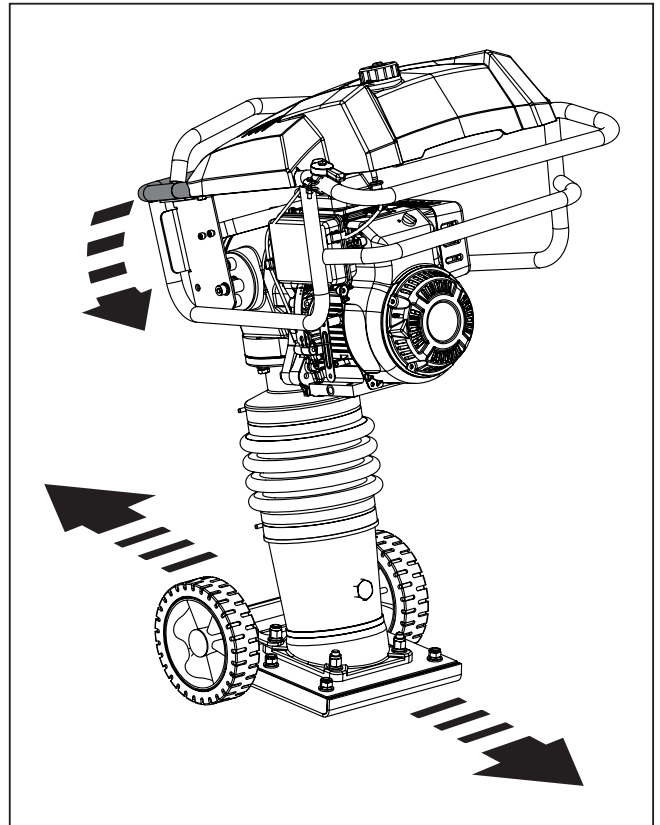
The unit must be transported in the upright position to prevent fuel from spilling. Do not lay machine on its side or top.

Secure or tie down unit using the lifting handle to prevent machine from sliding or tipping over.



Machine may fall and cause damage or injury if lifted incorrectly. Lift using handles at base of plate.

Transporting



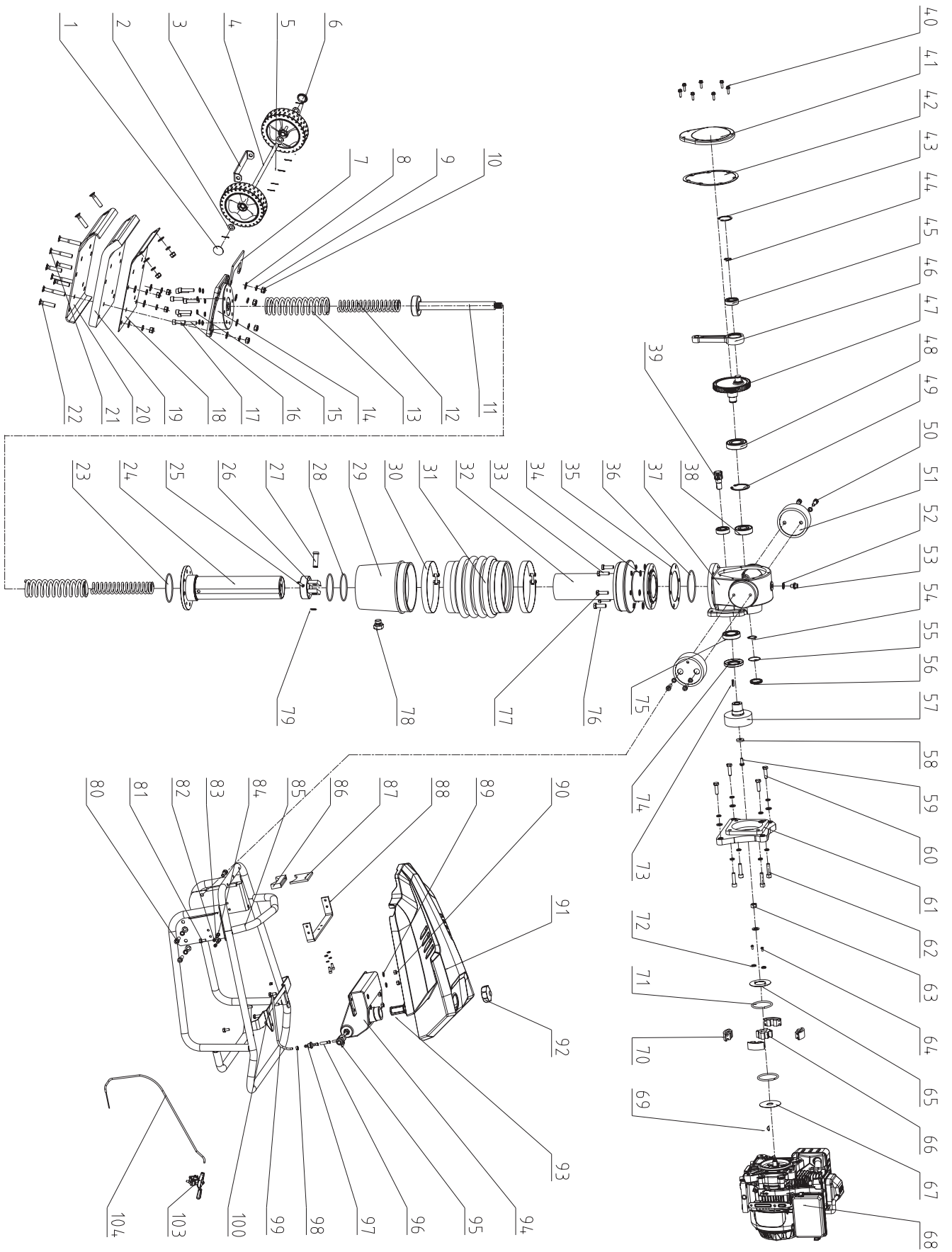
If user buy the optional wheel, follow the instruction of wheel assembly to assemble wheel first, then transport via using wheels.

If user haven't bought the optional wheel, move carefully and securely in an upright position. With additional assistance, strap the rammer to a dolly (Dolly and straps not included) capable of supporting the weight of rammer. Then carefully move the rammer to the work location.

TROUBLE SHOOTING

Problem	Cause	Remedy
Engine fails to start.	<ol style="list-style-type: none"> 1. Spark plug wire disconnected. 2. Out of fuel or stale fuel. 3. Throttle control lever not in correct starting position. 4. Choke not in ON Position. 5. Blocked fuel line. 6. Fouled spark plug. 7. Engine flooding. 	<ol style="list-style-type: none"> 1. Attach spark plug wire securely to spark plug. 2. Fill with clean, fresh gasoline. 3. Move throttle control lever to start position. 4. Throttle must be positioned at choke for a cold start. 5. Clean the fuel line. 6. Clean, adjust gap, or replace. 7. Wait a few minutes to restart, but do not prime.
Engine runs erratically.	<ol style="list-style-type: none"> 1. Spark plug wire loose. 2. Unit running on CHOKE. 3. Blocked fuel line or stale fuel. 4. Vent plugged. 5. Water or dirt in fuel system. 6. Dirty air cleaner. 	<ol style="list-style-type: none"> 1. Connect and tighten spark plug wire. 2. Move choke lever to OFF. 3. Clean fuel line. Fill tank with clean, fresh gasoline. 4. Clear vent. 5. Drain fuel tank. Refill with fresh fuel. 6. Clean or replace air cleaner.
Engine overheats.	<ol style="list-style-type: none"> 1. Engine oil level low. 2. Dirty air cleaner. 3. Air flow restricted. 	<ol style="list-style-type: none"> 1. Fill crankcase with proper oil. 2. Clean air cleaner. 3. Remove blower housing and clean.
Engine will not stop when throttle control is positioned at stop, or engine speed does not increase properly when throttle control is adjusted.	Debris interfering with throttle linkage.	Clean dirt and debris.
upright rammer is difficult to control when pounding (machine jumps or lurches	Too high engine speed on hard ground.	Set the throttle lever at lower speed.

PARTS SCHEDULE



No.	Description	Q'ty
1	Wheel Cap	2
2	Flat Washer 12	4
3	Axle Fixing Plate	1
4	Axle	1
5	Pin 2.5×25	6
6	Wheel	2
7	Axle Support Plate	1
8	Flat Washer 12	13
9	Spring Washer 12	12
10	Lock Nut	10

11	Piston Rod	1
12	Big Spring	2
13	Small Spring	2
14	Base	1
15	Spring Washer 10	28
16	Screw M10×50	4
17	Screw M10×25	4
18	Upper Baseplate	1
19	Vibration Damper Plate	1
20	Lower Baseplate	1

21	Bolt M12×80	4
22	Bolt M12×60	8
23	O-Ring 95×3.55	1
24	Cylinder Weldment	1
25	Pin 6×50	1
26	Piston	1
27	Pin Shaft	1
28	O-Ring 92.5×3.55	2
29	Lower Connector	1
30	Hose Clamp *180×20	2

31	Rubber Sleeve	1
32	Upper Connector	1
33	Bolt M10×45	2
34	Flat Washer 10	16
35	Upper Connector Gasket	1
36	O-Ring 106×3.55	1
37	Gearbox	1
38	Deep Groove Ball Bearing6305-2Z	1
39	Driving Gear	1
40	Bolt M6×20	7

41	Gearbox Cover	1
42	Gearbox Sealing Gasket	1
43	Circlip For Hole 47	1
44	Circlip For Shaft A20	1
45	Deep Groove Ball Bearing 6204-2Z	2
46	Connecting Rod	1
47	Gear	1
48	Deep Groove Ball Bearing 6207-2Z	1
49	Circlip For Hole 62	1
50	Screw M10×30	4

No.	Description	Q'ty
51	Damping Block	2
52	Flat Washer	1
53	Plug M14×1.5	1
54	Circlip A25	1
55	O-Ring 38.7×1.8	1
56	Duct Plug	1
57	Clutch Housing	1
58	Flat Washer	1
59	Bolt M8×25	1
60	Bolt M10×45	4

61	Coupling Flange between Gear Box and Engine	1
62	Screw M10×40	4
63	Nut 12×1.25	1
64	Bolt	2
65	Baffle Plate	1
66	Axle Sleeve	1
67	Baffle Plate	1
68	Engine	1
69	Arch Key 4×13.2	1
70	Centrifugal Block	4

71	Tension Spring	2
72	Spring Washer 5	2
73	Rubber Oil Seal 40×68×8	1
74	Flat Key C5×23	2
75	Deep Groove Ball Bearing 6007-2Z	1
76	Bolt M12×45	4
77	Bolt M10×50	4
78	Transparent Window for oil checking	1
79	Circlip A16	1
80	Screw M10×20	4

81	Self-tapping Screw ST8×25	4
82	Bolt M6×16	6
83	Spring Washer 6	6
84	Flat Washer 6	7
85	Handle Weldment	1
86	Damping Knot	1
87	Location Plate	1
88	Location Bracing Plate	1
89	Flat Washer 8	4
90	Nut M8	4

91	Dash Board	1
92	Oil Tank Cap	1
93	Oil Tank filter net	1
94	Oil Tank Assy	1
95	Oil Tank Switch	1
96	Rubber Intake Hose-1	1
97	Filter Bowl	1
98	Spring Clamp	4
99	Rubber Intake Hose-2	1
100	Screw M8×25	4

101	Throttle Handle	1
102	Throttle Control Cable	1

