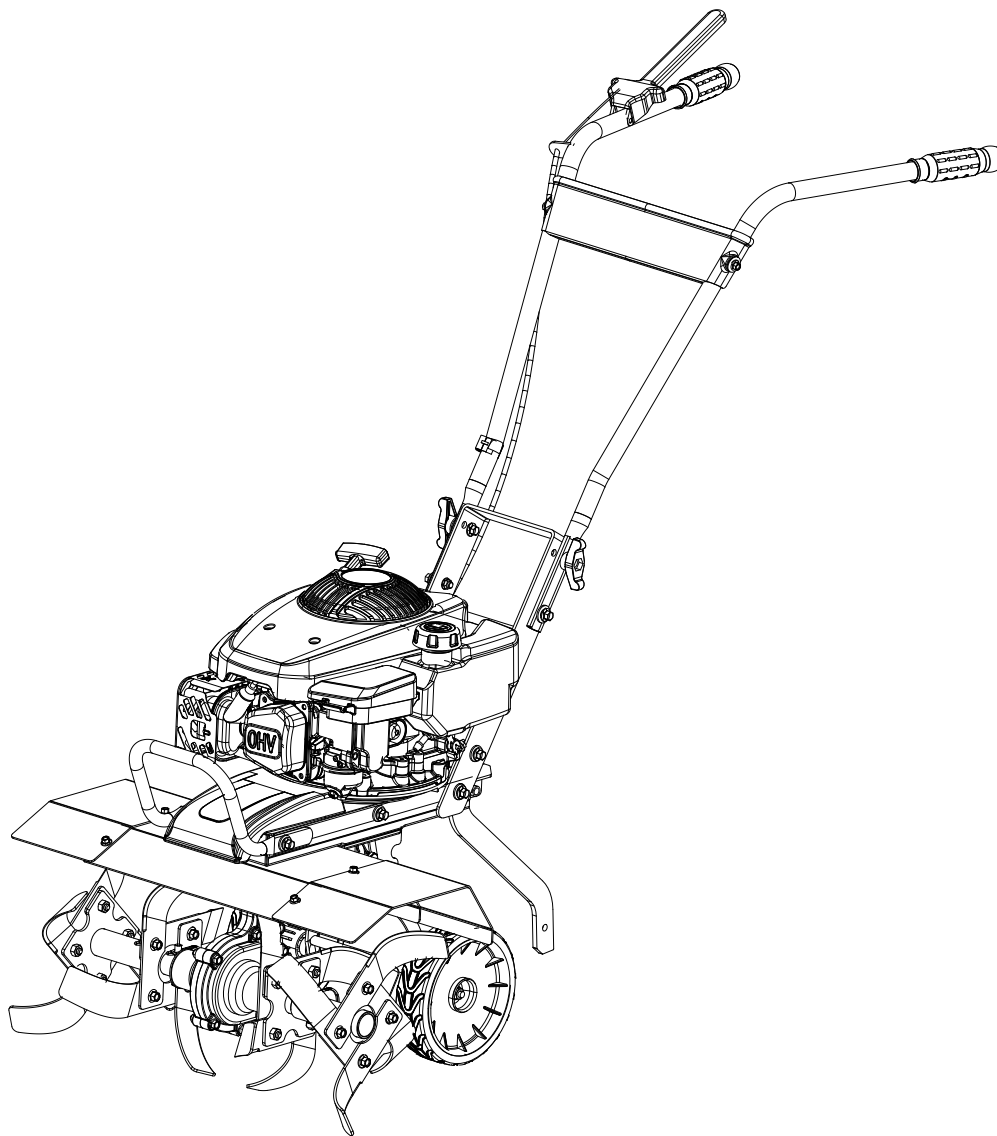




Model PTG1121

## 22 Inch Front Tine Tiller OPERATOR'S MANUAL



Warning: The Engine Exhaust from this product contains chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.



**DO NOT RETURN TO STORE!**

**HAVE QUESTIONS OR NEED SERVICE?**



866-591-8921



support@pulsar-products.com

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## Safety Information

### GENERAL SAFETY

Read this operator's manual carefully in its entirety before attempting to assemble this machine. Read, understand, and follow all instructions on the machine and in the manual(s) before operation. Keep this manual in a safe place for future and regular reference and for ordering replacement parts.

- ❑ Be completely familiar with the controls and the proper use of this machine before operating it.
- ❑ Regularly inspect the tiller. Make sure parts are not bent,
- ❑ Use this equipment for its intended purpose only.  
damaged, or loose.
- ❑ Operate the unit only with guards, shields, and other safety items in place and working correctly.
- ❑ Service the unit only with authorized or approved replacement
- ❑ Complete all unit maintenance and adjustments according to parts.
- ❑ To prevent accidental starting when setting up, transporting, the instructions in this manual.
- ❑ Be thoroughly familiar with the controls and the proper use of the tiller before starting. Know how to stop the engine quickly.



**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.



**IMPORTANT:** Indicates operation or maintenance information which is important but not hazard-related.

**NOTICE:** Indicates a practice not related to personal injury which, if not avoided, may result in property damage.

- ❑ To help avoid tiller tines contact or a thrown object injury, stay in operator zone behind handles and keep children, bystanders, helpers and pets at least 75 feet from tiller while it is in operation. Stop machine if anyone enters area.
- ❑ Always wear safety glasses or safety goggles during operation and while performing an adjustment or repair to protect your eyes. Thrown objects which ricochet can cause serious injury to the eyes.
- ❑ Wear sturdy, rough-soled work shoes and close-fitting pants and shirts. Shirts and pants that cover the arms and legs and steel-toed shoes are recommended. Never operate this machine while barefoot, in sandals, or in slippery or lightweight (e.g. canvas) shoes.

# Safety Information (continued)

## GENERAL SAFETY

- ❑ Do not put hands or feet near or under rotating parts. Keep clear of discharge area at all times as the rotating tines can cause injury.
- ❑ Never operate the tiller without proper shields, guards, control lever or other safety protective devices in place and working.
- ❑ Never operate the tiller with damaged safety devices. Failure to do so can result in personal injury.
- ❑ Familiarize yourself with all the safety and operating decals on this equipment.
- ❑ Thoroughly inspect the area where the tiller is to be used and remove all foreign objects. Your equipment can propel small objects at high speed causing personal injury or property damage.
- ❑ Check that all nuts and bolts are tight and equipment is in good condition before each use.
- ❑ Never allow children or young teenagers to operate the tiller.
- ❑ Only allow responsible individuals, who are familiar with the instructions, to operate the tiller.
- ❑ Do not operate the tiller while under the influence of alcohol or drugs.
- ❑ The control lever is a safety device. Never attempt to bypass its operation. Doing so makes the safety device inoperative and may result in personal injury through contact with the rotating tines. The control lever must operate easily in both directions and automatically return to the disengaged position when released.
- ❑ Do not put hands or feet near or under rotating parts.
- ❑ Operate only in daylight or in good artificial light. Walk, never run.
- ❑ Never operate on or crossing gravel drives, walks, or roads. Stay alert for hidden hazards or traffic.
- ❑ Exercise caution to avoid slipping or falling. Always be sure of your footing; keep a firm hold on the handle and walk; never run. Never operate the tiller at high transport speeds on slippery surfaces.
- ❑ If the equipment should start to vibrate abnormally, stop the engine and check immediately for the cause. Vibration is generally a warning of trouble.
- ❑ Never leave the tiller unattended when the engine is running. Stop the engine and make sure all moving parts have stopped. Remove the wire from the spark plug.
- ❑ Muffler and engine become hot and can cause a burn. Do not touch.
- ❑ Do not run the engine indoors or inside a closed area. The exhaust fumes are dangerous, containing CARBON MONOXIDE, an ODORLESS AND DEADLY GAS.
- ❑ Watch for holes, roots, bumps, or other rough ground. Tall grass can hide obstacles.
- ❑ Always look behind and down and use caution when using reverse or pulling the tiller towards you.
- ❑ Always start the tiller on the level surface.
- ❑ Only use parts and accessories made for this machine by the manufacturer. Failure to do so can result in personal injury.
- ❑ When starting engine, pull cord slowly until resistance is felt, then pull rapidly. Rapid retraction of starter cord (kickback) will pull hand and arm toward engine faster than you can let go. Broken bones, fractures, bruises or sprains could result.
- ❑ Disengage clutch lever and stop engine before leaving the tiller in operating position. Wait until the tines come to a complete stop before removing debris or making any adjustments to the tiller.
- ❑ Do not attempt to till hard soil, till too deep or till at too fast a rate that can overload the tiller.
- ❑ Gasoline is extremely flammable, and gasoline vapors can explode if ignited. Handle with care.
- ❑ Gasoline must be stored in an approved fuel container – usually 5 gallons or less.

# Safety Information (continued)

## GENERAL SAFETY

- Always be sure of your footing. A slip and fall can cause serious personal injury. If you feel you are losing your balance, release the control lever immediately and the tine will stop rotating.
- Do not till near drop-offs, ditches or embankments, you could lose your footing or balance.

## CHILDREN SAFETY

Tragic accidents can occur if the operator is not alert to the presence of children. Children are often attracted to the tiller. They do not understand the dangers. Never assume that children will remain where you last saw them.

- Keep children out of the tilling area and under watchful care of a responsible adult other than the operator.
- Be alert and turn tiller off if a child enters the area.
- Before and while moving backwards, look behind and down for small children.
- Use extreme care when approaching blind corners, doorways, shrubs, trees, or other objects that may obscure your vision of a child who may run into the tiller.
- Keep children away from hot or running engines. They can suffer burns from a hot muffler.
- Never allow children to operate this machine.

## SAFETY WHILE SERVICING

### Safe Handling Of Gasoline:

- To avoid personal injury or property damage, use extreme care in handling gasoline. Gasoline is extremely flammable and the vapors are explosive. Serious personal injury can occur when gasoline is spilled on yourself or your clothes, which can ignite. Wash your skin and change clothes immediately.
- Use only an approved gasoline container.
- Never fill containers inside a vehicle or on a truck or trailer bed with a plastic liner. Always place containers on the ground away from your vehicle before filling.

- Keep the nozzle in contact with the rim of the fuel tank or container opening at all times until fueling is complete. Do not use a nozzle lock-open device.
- Extinguish all cigarettes, cigars, pipes and other sources of ignition.
- Never fuel machine indoors because flammable vapors will accumulate in the area.
- Never remove gas cap or add fuel while engine is hot or running. Allow engine to cool at least two minutes before refueling.
- Never over fill fuel tank. Fill tank to no more than 1 inch below bottom of filler neck to allow for fuel expansion.
- Replace gasoline cap and tighten securely.
- If gasoline is spilled, wipe it off the engine and equipment. Move machine to another area. Wait 5 minutes before starting engine.
- Never store the machine or fuel container near an open flame, spark or pilot light as on a water heater, space heater, furnace, clothes dryer or other gas appliances.
- To reduce fire hazard, keep machine free of grass, leaves, or other debris build-up. Clean up oil or fuel spills and remove any fuel soaked debris.
- Allow machine to cool at least 5 minutes before storing.
- Never run an engine indoors or in a poorly ventilated area. Engine exhaust contains carbon monoxide, an odorless and deadly gas.
- If situations occur which are not covered in this manual, use care and good judgement. Contact Customer Support for assistance or the name of the nearest service dealer.

## Safety Information (continued)

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### GENERAL SAFETY

- Check the tines and engine mounting bolts at frequent intervals for proper tightness. Also, visually inspect tines for damage. Replace with the original equipment parts only.  
Use of parts which do not meet the original equipment specifications may lead to improper performance and compromise safety!
- Keep all nuts, bolts, and screws tight to be sure the equipment is in safe working condition.
- Never tamper with safety devices.
- After striking a foreign object, stop the engine, Thoroughly inspect the tiller for any damage.  
Repair the damage before starting and operating the tiller.  
Inspect tiller components, guards and shields regularly; repair or replace as necessary.
- Do not change the engine's governor setting or over-speed the engine.
- Check fuel line, tank, cap, and fittings frequently for cracks or leaks. Replace if necessary.
- Do not crank engine with spark plug removed.
- Maintain or replace safety and instruction labels.
- Follow proper disposal laws and regulations. Improper disposal of waste fluids and materials can harm the environment.

# Pre-Assembly

## PLANNING ASSEMBLY

Place box on a level surface. Remove all items from box. Make sure all items listed on the package contents list are included and not damaged.

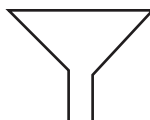
## TOOLS REQUIRED



Safety goggles



Adjustable wrench



Funnel

## HARDWARE INCLUDED



NOTE: Hardware is not shown to actual size.



AA



BB



CC



DD



EE



FF



GG



HH



II



JJ



KK



LL

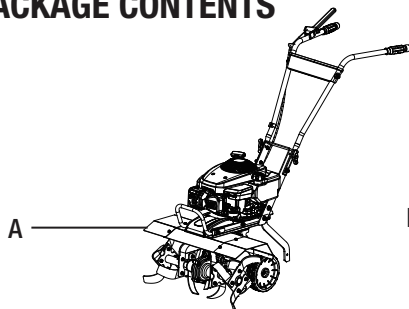


MM

Part	Description	Quantity
AA	Bolt M6x16	6
BB	Nut M6	6
CC	Bolt M8x38	2
DD	Flat Washer 8x24x2	4
EE	Bolt M8x35	4
FF	Nut M8	4

Part	Description	Quantity
GG	Flat Washer 8*20*2	2
HH	D Pin	4
II	Cable Clip	1
JJ	Wing Nut	2
KK	Washer GB93 8.1*2.1	2
LL	Cotter Pin	1
MM	Clevis Pin	1

## PACKAGE CONTENTS



A

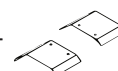
B



C



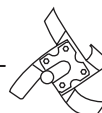
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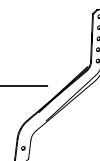
E



F



G



H



Part	Description	Quantity
A	Tiller Body/Upper Handle	1
B	Dust Cover	2
C	Face Plate	1
D	Tiller Protective Shield End Caps	2

Part	Description	Quantity
E	Tines	2
F	Secondary Tine	2
G	Depth Regulator	1
H	Use And Care Guide	1

# Assembly

## 1 Assembling the Rear Wheels

**NOTICE:** This tiller is shipped without gasoline or oil in the engine. Add gasoline and oil **BEFORE** operating your machine.

- Pull the rear wheel downward so that the rear wheel can rotate freely, then lift the rear wheel bracket to the proper position. The rear wheel bracket will automatically attach with the spring. See Figure 1-1.

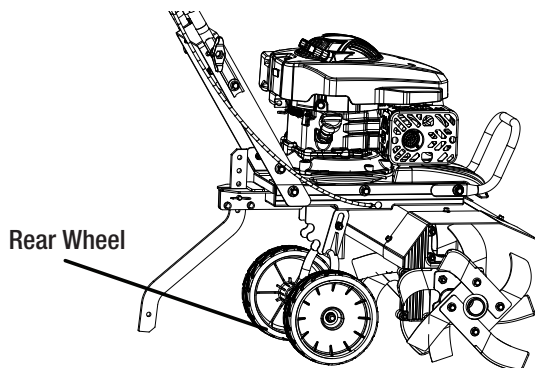


Figure 1-1

## 2 Assembling the Upper Handle

- Attach the upper handle to the lower bracket on the main body of the tiller. Properly align the holes and then secure with the M8x38 bolt (CC), the flat washer (DD), and the wing nut (JJ).
- Align the face plate (C) holes on the upper part of the handle. Insert the M8x35 bolt (EE) and flat washer (DD), use the nut (FF) to secure. See Figure 1-2.

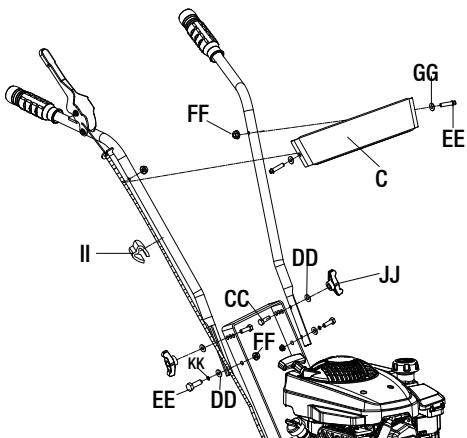


Figure 1-2

## 3 Assembling the Depth Regulator

- Insert the depth regulator to the holder, choose the proper height, and then lock the depth regulator (G) with a clevis pin (MM) and cotter pin (LL). See Figure 1-3.

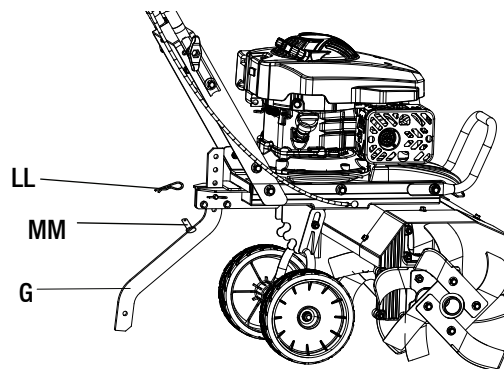


Figure 1-3

## 4 Assembling the Tines

- Insert the dust covers (B), the tines (E), and the secondary tines (F), onto the drive shaft in sequence and lock tines with the D Pins (HH). Make sure the tines and the secondary tines are facing the correct direction as per the illustration below. See Figure 1-4.

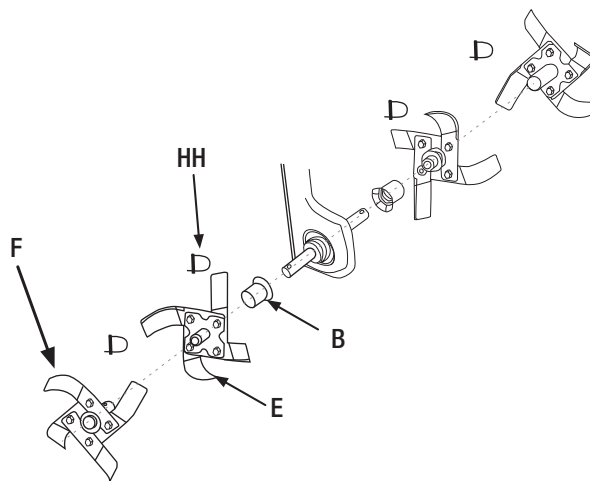


Figure 1-4

### 5 Assembling the Front Protective Shield

- Align holes on the protective shield end caps (D) to the main protective shield, and secure with M6x16 bolts (AA) and M6 nuts (BB). See Figure 1-5

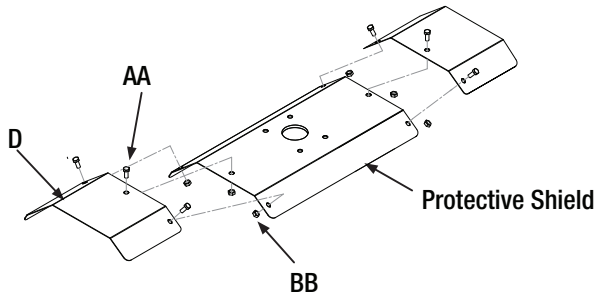


Figure 1-5



**WARNING:** Make sure the tiller protective shield is installed in place before starting the machine.



# Operation

## 1 Adding Gas and Oil



**WARNING:** Use extreme care when handling gasoline. Gasoline is extremely flammable and the vapors are explosive. Never fuel the machine indoors or while the engine is hot or running. Extinguish cigarettes, cigars, pipes and any other sources of ignition.

- Remove gas cap. Place funnel securely into the gas tank opening and add fuel. Do not top off the filler neck.
- Secure the gas cap and wipe off any excess fuel. See Figure 1-6.

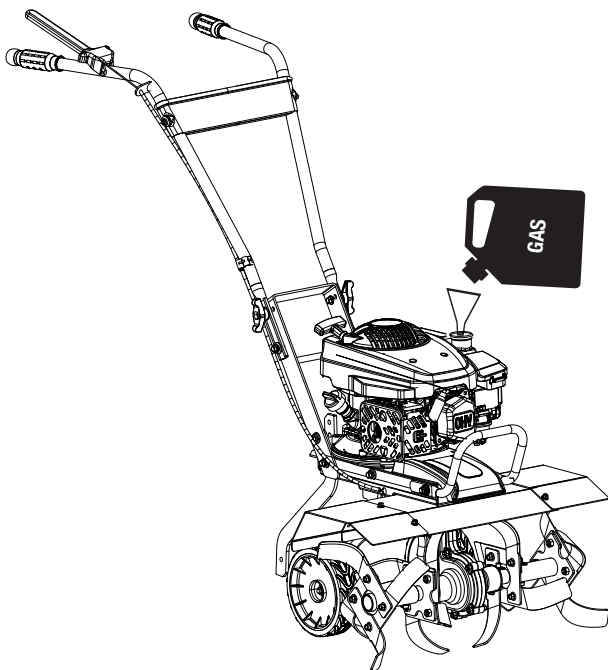
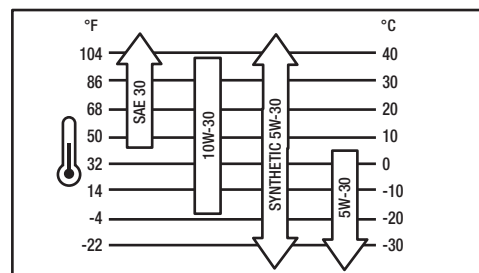


Figure 1-6



**IMPORTANT:** Use only Regular Fuel.

- Do not use additives.
- Outdoor temperatures determine the proper oil viscosity for the engine. Use the chart to select the best viscosity for the outdoor temperature range expected.



- Place the tiller on a level surface.
- Remove the oil filler cap. Place a funnel securely into the crankcase opening and add oil. Do not top off the oil. Check dipstick to confirm there is an adequate amount of oil.
- Secure the oil cap and wipe off any excess oil. See Figure 1-7.

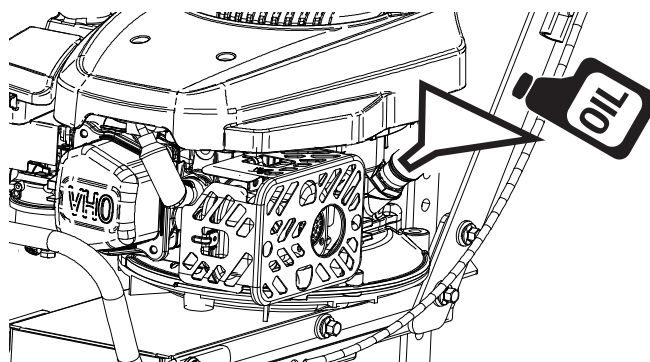


Figure 1-7

## Operation (continued)

# 2 Controls and Features

### RECOIL STARTER

- The recoil starter is attached at the top the engine handle. Stand behind the unit and pull the recoil starter rope until resistance is felt, let it retract, then put it out swiftly. Repeat until engine start.

### TILLER PROTECTIVE SHIELD

- The tiller protective shield is located in the top and rear of the tiller and it is used to shield you from debris being thrown.

### CLUTCH LEVER

- The forward lever located on the upper handle controls the tiller's action to start the tine rotation.

### ON/OFF SWITCH

- The On/Off switch is needed to start and stop the tiller.

### DEPTH REGULATOR

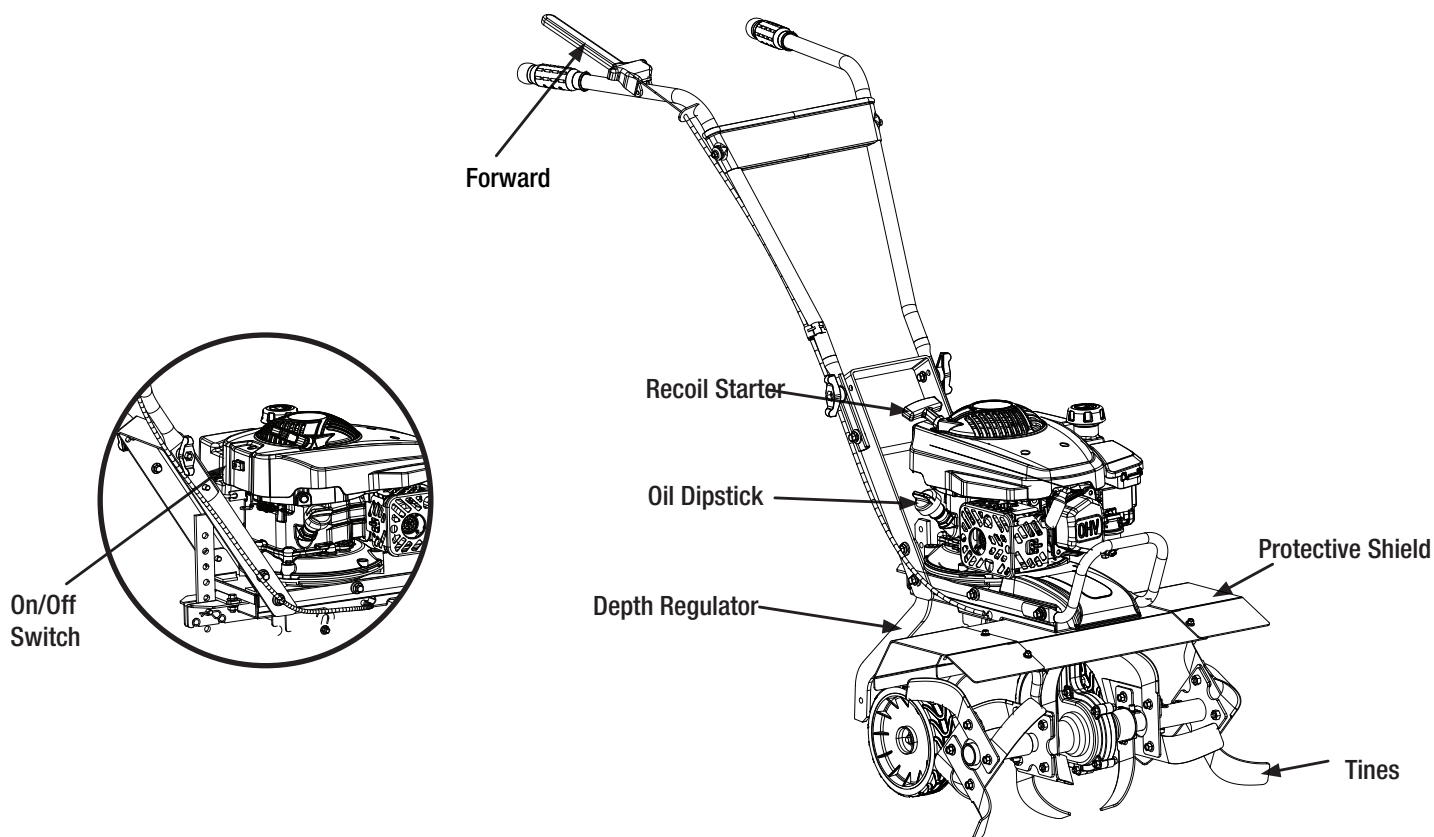
- In hard compacted soil, the depth regulator helps restrain the tiller's forward motion. In looser soil, it controls how deeply the tines can dig into the ground.

### TINES

- The tines and secondary tines are the are rotating metal blades that dig into the soil.

### OIL DIPSTICK

- Located on the engine, the opening for the oil dipstick is used to add oil. The oil dipstick is used to measure the amount of oil in the crankcase. This tiller does not come with oil. Oil must be added before operating the tiller.



## Operation (continued)

### 3 Pre-Start Inspection



**WARNING:** Gasoline is highly flammable and must be handled with care. Never fill the tank when the engine is hot or running. Always move outdoors to fill tank.

- Make sure all protective shields are in place and all nuts and bolts are secure.
- Check oil level in engine crankcase. Add oil if necessary.
- Check the gasoline supply. Fill the fuel tank no closer than 1 inch from the top of the tank to provide space for expansion.
- Examine underneath and around engine for signs of oil or fuel leaks.
- Inspect the fuel hoses for tightness and fuel seepage.
- Check the depth regulator lever position. plug is tightened securely.
- Be sure the spark plug wire is attached and the spark
- Look for signs of engine damage.
- Remove excessive debris from muffler area and recoil starter.
- Always set the wheels in tilling position before starting engine.
- Always put depth regulator in the upper transport position before starting engine..

### 4 Starting the Tiller



**CAUTION:** Be sure the clutch lever is disengaged to prevent sudden uncontrolled movement when the engine starts. The forward lever is engaged by squeeze in the lever and disengaged by releasing the lever.



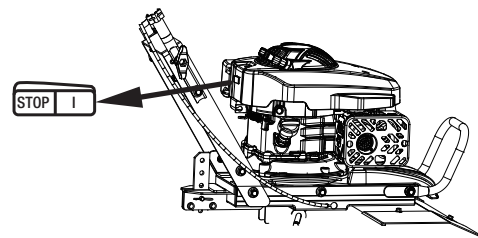
**CAUTION:** Do not start your tiller until you have read this manual that came with your tiller, including the tiller controls and safety sections. If you have read the manual, follow the steps below to start your tiller. Always perform this pre-start checklist before starting the engine.



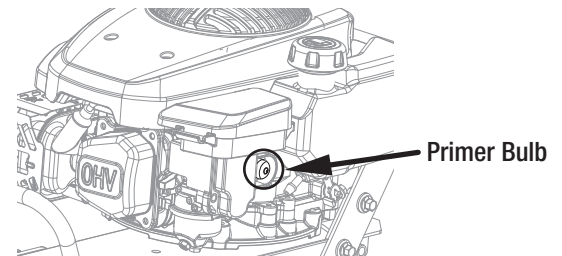
**DANGER:** Always keep hands and feet clear of rotating machine parts.

#### COLD STARTS

- Remove the engine switch to on.



- Press the primer bulb 3 times.



- Stand behind the unit and pull the recoil starter rope until resistance is felt, let it retract, then put it out swiftly. Repeat until engine start.

#### RESTARTING A WARM ENGINE

- Put the On/Off switch located on the back of the engine in the On position.
- Pull the recoil starter lightly until resistance is felt, and then pull rapidly.

## Operation (continued)

### 5 Switching off the Tiller

- To stop the engine at any time, turn the engine On/Off switch to the Off position.

### 6 Tilling

- Adjust the depth regulator to desired tilling depth. Insert the clevis and cotter pin to secure depth regulator to desired depth. See Figure 1-8.

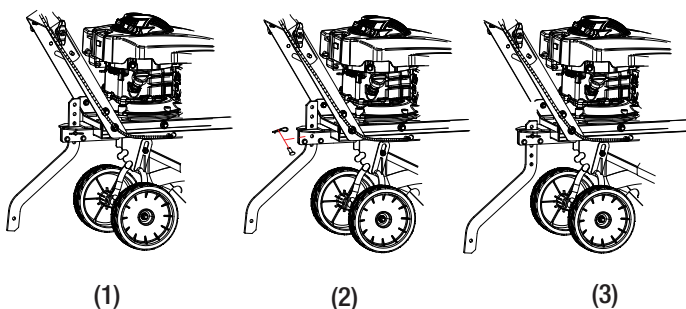


Figure 1-8



**WARNING:** Raise depth regulator up one hole at a time, testing tiller operation after each raise. Raising depth regulator too high can result in loss of control of tiller!

- Squeeze the clutch lever to engage the tines and make the tiller move forward.

**NOTICE:** You can slow the tiller's forward advance at any time by putting slight downward pressure on the handlebars. You can stop the tiller by releasing the clutch lever.

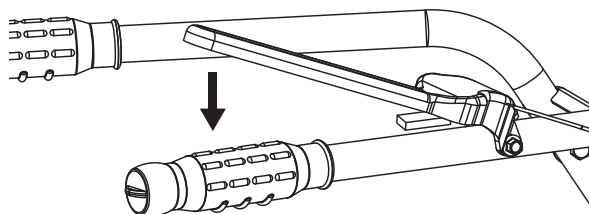


**WARNING:** Temperature of muffler and nearby areas can be extremely hot. Avoid these areas. Do not move choke control to stop engine, as backfire or engine damage may occur. To stop wheels and tines at any time, release clutch levers to neutral position. Always release drive safety control levers **ALWAYS STOP THE ENGINE** before adjusting the depth of the regulator lever.

### 7 Drive Safety Control Levers

#### CLUTCH LEVER

- Engages the tines forward.
- Squeeze the Clutch lever toward the handlebar engages the tines. Releasing the lever stops the tines and brings the tiller to a complete stop.



**IMPORTANT:** Practice operating the controls and tiller with tines out of ground before beginning to till. It is important that you know how to use the tiller properly, keep control at all times, stop the tines and wheels from turning, and stop the engine if necessary. If you do not know how to do these things, read the controls, adjustments and safety sections before proceeding.

### 8 Adjusting the Handle Height

- To adjust the handle height, remove upper handle hardware (CC)(DD)(JJ), and loosen lower hardware (FF & EE)

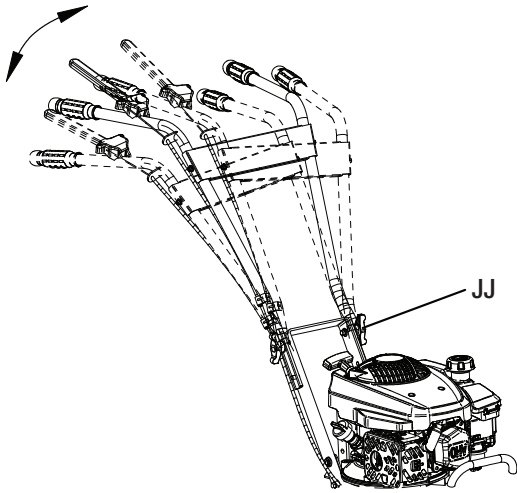


Figure 1-9.



**CAUTION:** Before adjusting the handle bar, place the tiller on firm level ground to prevent the handle from collapsing accidentally.

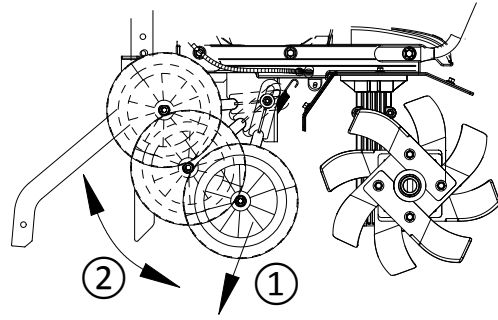


**WARNING:** Keep a firm grip on the upper handle, and do not allow it to move freely.

### 9 Adjusting the rear wheel

- Move the wheel carriage down, to allow transportation over pavement. Raise the tiller wheels back up for tilling.

- (1) Pull the rear wheel downward
- (2) lift the rear wheel up to proper position



Important: When tining, you can adjust the wheel height to adapt different soils..

### 10 Tilling Tips

- The key to successful tilling is to begin with a shallow cut on the first pass, and then work an inch or two deeper on each successive pass.
- Tilling depth will vary with ground conditions.
- When beginning to till in unbroken ground or in extremely hard soil, start depth regulator at the highest position. This will allow for shallow tilling. With the depth regulator in this position, make several light passes over the area to be tilled. Reset for deeper depths with successive passes.
- If tiller jumps or skids uncontrollably, lower the depth regulator. This will allow for shallower tilling. Hold firmly to the handlebars to control sudden movements.
- If roots, vines, or other materials clog or jam the tines, stop the engine, and clean the debris.
- Start the depth regulator lever to one of the highest positions. This will allow for shallow cultivation necessary to turn over weeds, and break up the soil.

### CULTIVATING

- Plant rows on 20 - 22 in. centers for consistent tilling. This will allow for shallow cultivation necessary to turn over weeds, and break up and aerate the soil.

# Maintenance

Always observe safety rules when performing any maintenance.

- The warranty on this tiller does not cover items that have been subjected to operator abuse or negligence. To receive full value from warranty, operator must maintain the tiller as instructed here.
- Changing of engine-governed speed will void engine warranty.
- All adjustments should be checked before each use season.
- Periodically check all fasteners and make sure these are tight.
- Good maintenance is your responsibility.
- Follow good shop practices.
- Keep service area clean and dry.
- Use adequate light for the job at hand.
- Make sure the engine is off before you begin any maintenance or repairs.
- Be sure there is adequate ventilation whenever you operate the engine to avoid carbon monoxide poisoning.
- Never operate the engine in a closed building.
- Let the engine and exhaust system cool before touching.
- Do not run the engine unless instructed to do so.
- Read the instructions before you begin, and make sure you have the tools and skills required.
- To reduce the possibility of fire or explosion, follow all previous safety warnings for gasoline.
- Never use gasoline as a cleaning solvent.
- Lubricate the wheels at least once a season with light oil (or motor oil). If the wheels are removed for any reason, lubricate the surface of the axle bolt and inner surface of the wheel with light oil.
- Always use personal protection devices such as eye, hand and hearing protectors when performing any service or maintenance.
- Frequently check tiller tines. They should be free of damage and cracks and securely fastened in place.
- Where replacement parts are necessary for periodic maintenance and servicing, use only OEM replacement parts for repair and replacement to restore your equipment to original specifications.
- The manufacturer and/or distributor will not be responsible for injuries or damages caused by use of unapproved parts and/or accessories.
- A first aid kit should be kept readily accessible while performing maintenance on this equipment.

## Maintenance (continued)

### MAINTENANCE SCHEDULE

- Your tiller has been designed and produced by a leading manufacturer of outdoor power equipment to provide you with years of reliable operation. Keeping your tiller in top running condition will prolong its life, and maintain optimum performance. □

Please read this normal care schedule, and note the recommended care operating intervals to extend the life of your tiller.

Maintenance Operation		Before Each Use	First Month or 20 Hours	Every 3 Months or 50 Hours	Every 6 Months or 100 Hours	Every Year or 300 Hours
Engine Oil	Check Level	√				
	Change		√		√	
Air Filter	Check	√				
	Clean			√*	√*	
	Replace					√
Tine Shaft	Clean	√				
Wheel Axle Shaft	Lubricate			√		
Spark Plug	Clean Adjust				√	
Fuel Strainer	Clean				√	
Fuel Line	Check	Every 2 Years (Replace if necessary)				

\*Service more frequently when used in dusty areas.



**WARNING:** Use only genuine replacement parts. Other parts may damage the tiller or result in injury.

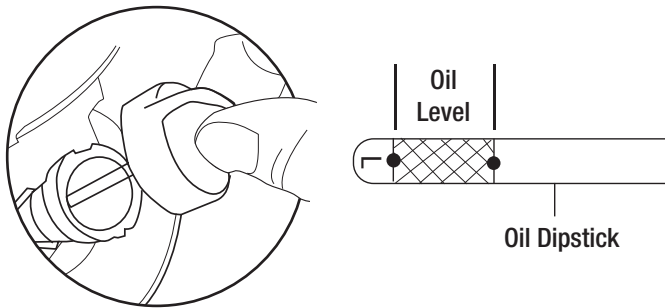
## Maintenance (continued)

### CHECK OR FILL ENGINE CRANKCASE

1. Clean the top of the oil fill and the area around it.
2. Add the appropriate type of oil until the oil level is at the proper level. SAE 10W-30 oil is recommended for general use.

Check engine oil level daily and add as needed. Remove and clean the dipstick. Reinsert the dipstick but do not screw it back in. Remove the dipstick and verify the oil is at the correct level.

3. When the engine oil is at the correct level, reinstall the dipstick and screw it down until it is sealed.



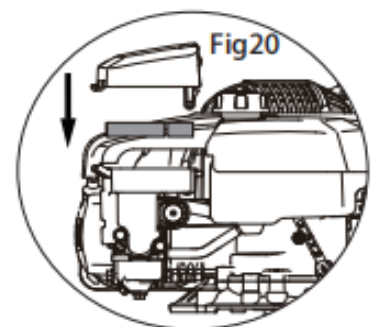
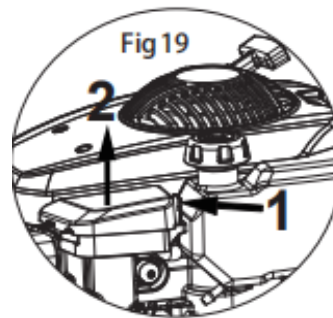
- Always check oil level before starting engine.



**IMPORTANT:** Engine is shipped from factory without oil. You must add engine oil before starting engine.

### Cleaning Air Filter

1. Remove the air cleaner outside cover.
2. Separate all filter elements from the air filter housing.
3. If the filter elements are dirty, clean them in a solution of hot, soapy water. Squeeze the solution through the filter elements until they are clean.
4. Place the cleaned filter elements in a clean, absorbent towel, then squeeze the elements repeatedly until most of the water is gone. Allow the filter elements to air-dry thoroughly before replacement.
5. Reinstall the filter elements in the correct location and reinstall the air cleaner outside cover, and snap the latch into place.



**WARNING:** Never run the engine without the air filter element installed.



## Care, Cleaning and Storage

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Follow the steps below to prepare your tiller for storage.

- ☐ Drain fuel system completely or add fuel stabilizer to prevent fuel from gumming up during extended storage period.
- ☐ While engine is still warm, drain the oil from the engine. Refill with fresh oil of the recommended grade.
- ☐ Clean external surfaces, engine and cooling fan.
- ☐ Remove spark plug, pour one teaspoon of engine oil into spark plug hole.
- ☐ Reinstall spark plug.
- ☐ Store tiller in a suitable location.

### **CLEAN TINE AXLE SHAFT**

- ☐ Remove the D pins, tines and secondary tines. Inspect for damage, remove debris. Clean and lubricate the tine shaft with fresh engine oil. Reassemble in reverse order.

# Troubleshooting

Problem	Cause	Solution
The engine is difficult to start.	<ul style="list-style-type: none"> <li>□ The engine is out of fuel.</li> <li>□ The engine switch is Off.</li> <li>□ The engine is not primed.</li> <li>□ The spark plug wire is disconnected.</li> <li>□ The spark plug is fouled.</li> <li>□ The carburetor is dirty.</li> <li>□ The air filter is clogged.</li> <li>□ The fuel is contaminated.</li> </ul>	<ul style="list-style-type: none"> <li>□ Add fresh fuel.</li> <li>□ Turn the engine switch On.</li> <li>□ Move the choke lever to the On position.</li> <li>□ Attach spark plug wire to the spark plug.</li> <li>□ Remove spark plug and inspect. Replace if necessary.</li> <li>□ Take the tiller to an authorized service center to clean the carburetor.</li> <li>□ Remove and clean the air filter.</li> <li>□ Drain and clean the fuel tank. Fill with fresh fuel.</li> </ul>
The engine is running poorly. Problems may include smoking excessively, running very "rough," running erratically, or not maintaining full speed.	<ul style="list-style-type: none"> <li>□ There is no engine oil in the crankcase.</li> <li>□ The engine oil is not at proper level.</li> <li>□ The spark plug is fouled.</li> <li>□ The air filter is clogged.</li> <li>□ The fuel is contaminated.</li> <li>□ The carburetor is dirty</li> </ul>	<ul style="list-style-type: none"> <li>□ Add engine oil.</li> <li>□ Check engine oil, and add or drain engine oil if necessary.</li> <li>□ Remove spark plug, inspect or replace if necessary.</li> <li>□ Remove and clean air filter.</li> <li>□ Drain and clean the fuel tank. Fill with fresh fuel.</li> <li>□ Take the tiller to an authorized service center to clean the carburetor.</li> </ul>
The tiller produces excessive vibration and noise.	<ul style="list-style-type: none"> <li>□ There are loose parts.</li> <li>□ Refer to The Engine is running poorly section (above).</li> </ul>	<ul style="list-style-type: none"> <li>□ Tighten all fasteners.</li> <li>□ Refer to The Engine is Experiencing Problems section (above).</li> </ul>
The tines will not rotate.	<ul style="list-style-type: none"> <li>□ There is debris interfering with the tines. □ Tines are loose.</li> </ul> <p>Make sure the clutch lever is functioning appropriately</p>	<ul style="list-style-type: none"> <li>□ Remove debris from around tines.</li> <li>□ Replace tine bolts and nuts.</li> </ul>
The engine will not stop.	<ul style="list-style-type: none"> <li>□ The On/Off switch is not working properly.</li> </ul>	<ul style="list-style-type: none"> <li>□ Replace the On/Off switch.</li> </ul>
The tines do not cut properly.	<ul style="list-style-type: none"> <li>□ The tines are assembled incorrectly.</li> </ul>	<ul style="list-style-type: none"> <li>□ Refer to the "Install the Tines" section.</li> </ul>
The engine stalls frequently.	<ul style="list-style-type: none"> <li>□ The tilling speed / depth is too fast for conditions.</li> </ul>	<ul style="list-style-type: none"> <li>□ Till at a moderate pace. Make multiple passes.</li> </ul>

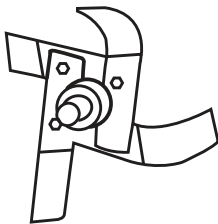
# Service Parts

Part	Description	Quantity
MM	Wheel	2
NN	Tine	2
00	Secondary Tine	2

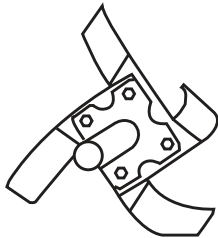
Part	Description	Quantity
PP	Air Filter Assembly	1
QQ	Recoil	1



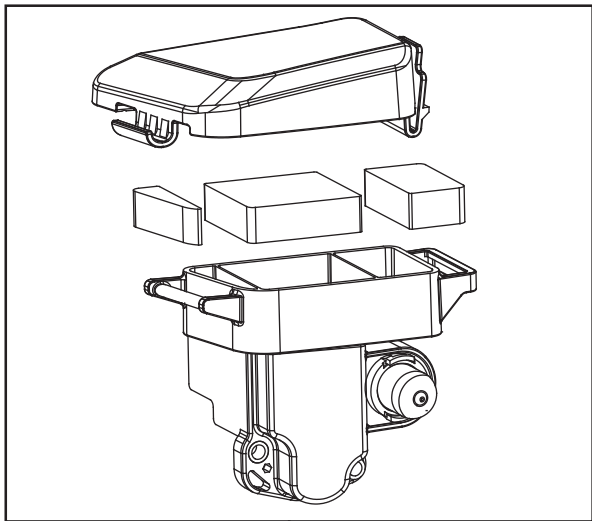
Wheel



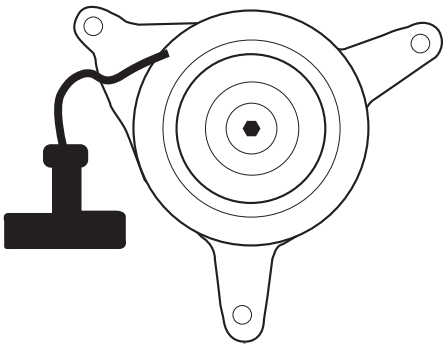
Tine



Secondary Tine



Air Filter Assembly



Recoil

