BENCHMARK™

HH0408

MANUAL

BENCHMARK | MIDLAND POWER

This product is supported by **Midland Power**. Contact us directly for assistance and warranty help. Do not return this product to store.

You must register online for your warranty to be valid.
It only takes a minute, do it now while you still have your purchase receipt.

Register Your Product Online
www.benchmark.midlandpowerinc.com/register-warranty

Support for your product is available online, including parts, service center locations, and live expert advice.

Visit us online at
www.benchmark.midlandpowerinc.com

Or call us anytime at **1-877-528-3772**.

Thanks for choosing the HH0408!

You're excited to get started, we'll keep this brief.

READ THIS ENTIRE GUIDE BEFORE USING THIS PRODUCT AND SAVE FOR LATER USE.

This user guide contains important instructions including safety, setup, operation, and maintenance that must be followed. All information in this guide is based on information available at the time of print. This guide or revised editions can be found on our website for download. No part of this publication may be reproduced without written permission.

THIS PRODUCT MEETS ALL CERTIFICATION REQUIREMENTS FROM:

EPA

The engine exhaust from this product contains chemicals known to cause cancer, birth defects or other reproductive harm.

HH0408_Manual_EN_2023-09-13

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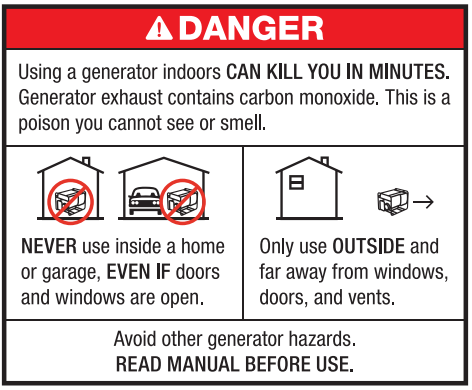
1. SAFETY



⚠ WARNING!

This product can expose you to chemicals including carbon monoxide, which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov

1.1 OPERATOR SAFETY

⚠ WARNING!

- Always perform an oil, fuel and air filter check before starting the engine.
- Properly inspect, clean, and maintain the equipment.
- Operate the tiller according to instructions for safe and dependable service.
- Before operating the tiller, read the user guide carefully. Otherwise, it may result in personal injuries or equipment damage.
- Never run the tiller in an enclosed area to avoid harm from exhaust emissions of a poisonous carbon monoxide gas.
- Be careful not to touch the exhaust system during operation due to risk of burns.
- Pay attention to the warning labels. The engine exhaust system will become heated during operation and remain hot immediately after the engine is stopped.
- Gasoline is a highly flammable and explosive liquid. Refuel in a well-ventilated area with the engine stopped.
- Use of gasoline with an ethanol content greater than 10% can damage the engine and fuel system and will void the manufacturer's warranty.
- When refueling the tiller, keep it away from cigarettes, open flames, smoke and/or sparks.

- Place the tiller at least 3 feet away from buildings or other equipment during operation.
- Know how to stop the tiller quickly and understand operation of all the controls. Never permit anyone to operate the tiller without proper instructions.
- Keep children, pets and machinery with rotating parts away during operation.
- DO NOT operate the tiller in rain or snow.
- DO NOT operate the tiller if damaged. Have the machine repaired before use.
- DO NOT touch the spark plug while the engine is operating or shortly after the engine has been shut down.
- Wear ear and eye protection while operating this unit.
- Wear sturdy, rough-soled work shoes (steel-toed shoes are recommended) and close-fitting pants and shirts. Never operate this machine while barefoot, in sandals, slippery or lightweight (e.g. canvas) shoes.

1.2 USE SAFETY

⚠ WARNING!

- DO NOT operate the tiller in a confined space where dangerous carbon monoxide fumes can collect.
- Refuel outdoors only and DO NOT smoke while refueling. Never remove the cap of the fuel tank or add gas while the engine is running or when the engine is hot.
- If gas 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 gas vapours have dissipated.
- Operate only in daylight or in good artificial light.
- 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.
- 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.
- 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.
- Never attempt to start the tiller in transport mode. Switch back to tilling mode before beginning to till.
- Always start the tiller on the level surface.
- DO NOT attempt to till hard soil, till too deep or till at an overly fast rate that can overload the tiller.
- 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.
- After striking a foreign object, stop the engine, disconnect the spark plug wire and ground against the engine. Thoroughly inspect the tiller for any damage. Repair the damage before starting and operating the tiller.

1.3 MAINTENANCE SAFETY

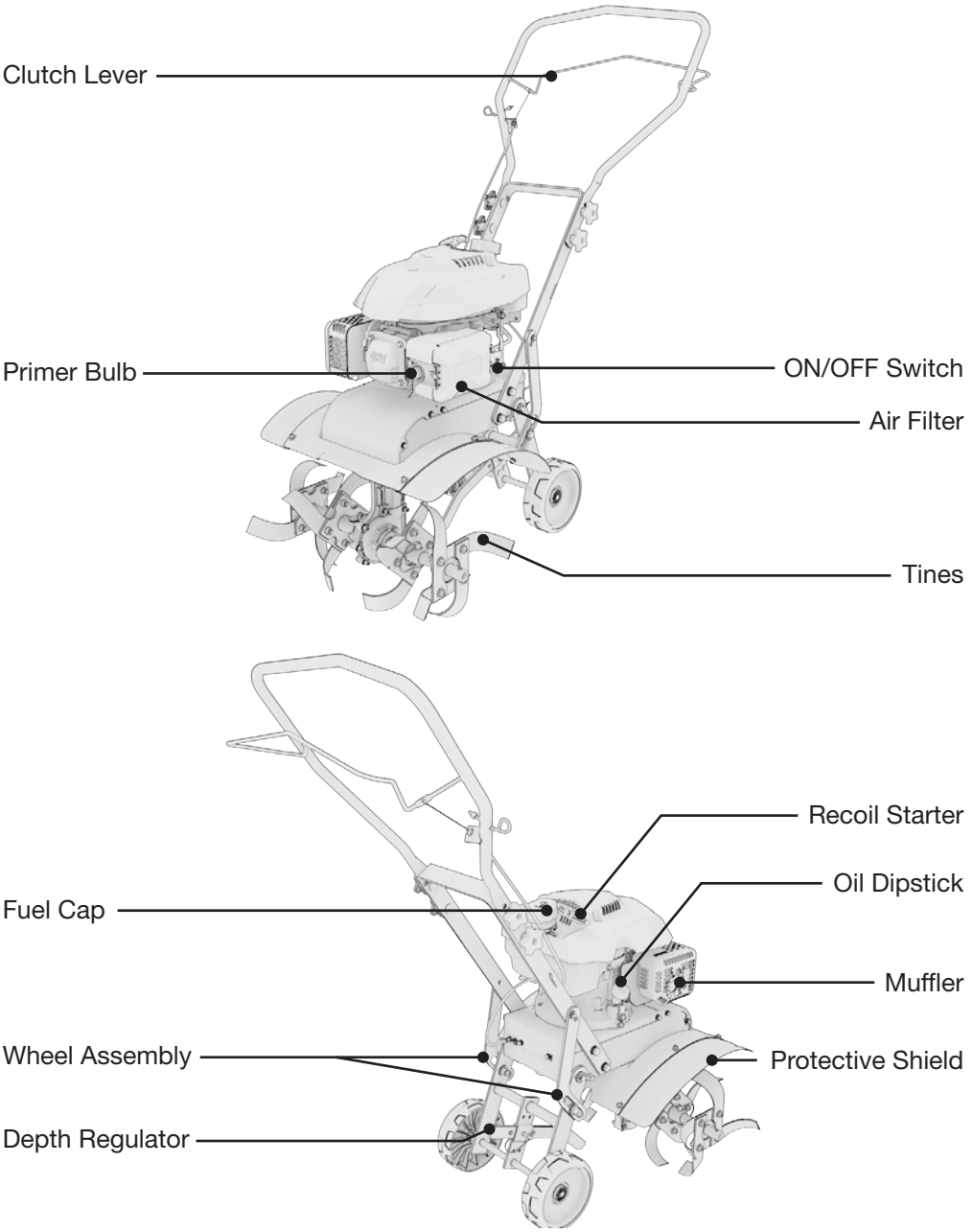
⚠ WARNING!

- Turn off the engine before performing any maintenance. Failure to do so can cause severe personal injury or death.
- Use rubber gloves when coming into contact with engine oil.
- After any maintenance is performed, wash immediately using soap and clean water. Repeated exposure to lubricant may cause skin irritation.
- DO NOT clean the filter element with flammable liquids like gasoline; an explosion may occur.
- Allow the tiller to cool down before performing any maintenance.
- Always stop the tiller before removing the oil filler cap.
- To reduce the fire hazard, keep the engine and gasoline storage area free of grass, leaves, or excessive grease.
- Drain the fuel tank outdoors only.
- Tiller components, guards, and shields are subject to wear and damage which could expose moving parts or allow objects to be thrown. Frequently check components and replace immediately with original equipment manufacturer's (O.E.M.) parts only, listed in this manual.
- Only qualified maintenance personnel with knowledge of fuels and machinery hazards should perform maintenance procedures.
- See 'Maintenance Schedule' for the recommended maintenance schedule.

2. LEARN ABOUT YOUR TILLER

This section will show you how to identify key parts of your tiller. Going over the terminology below will make sure we're on the same page.

2.1 COMPONENT IDENTIFICATION



2.2 CONTROL FUNCTIONS

Clutch Lever

- Engage the tines by bringing the clutch lever to the handle. Releasing the lever stops the tines and brings the tiller to a stationary position.

Depth Regulator

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

Protective Shield

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

ON/OFF Switch

- The ON/OFF switch is needed to start and stop the tiller.

Recoil Starter

- The recoil starter is attached to the right side of the upper handle. Stand behind the unit and pull the recoil starter rope to start the unit.

Tines

- Tines are rotating metal blades that dig into the soil.

Wheel Assembly

- The wheel assembly can be switched between transport mode and tilling mode.

2.3 MAKE SURE YOU HAVE EVERYTHING

Make sure your tiller has everything listed in the table below.

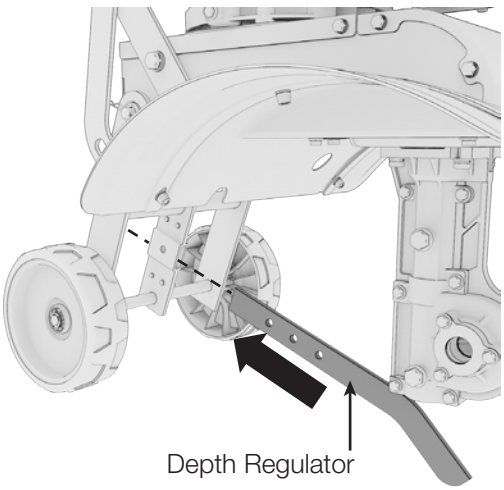
Part Name	Quantity
Tiller	1
User Guide	1
Oil Bottle (500mL)	1
Spark Plug Wrench	1

3. GETTING STARTED

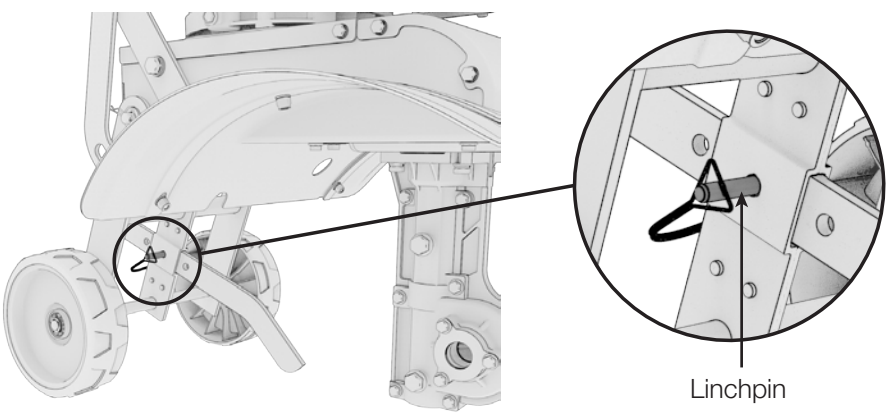
Setup of your tiller is designed to get you up and running as quickly as possible. Cut the four corners of the carton from top to bottom instead of attempting to lift it out of the box.

3.1 ASSEMBLING THE DEPTH REGULATOR

1. Insert the depth regulator into the bottom of the wheel bracket assembly.

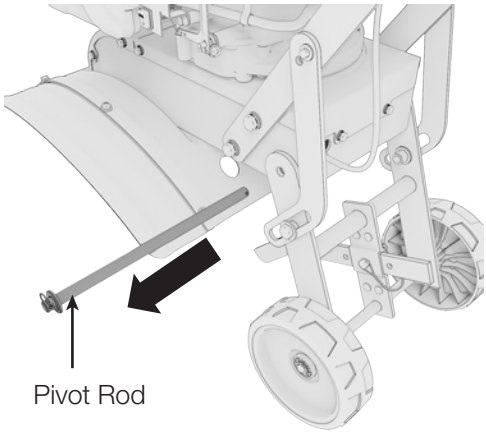


2. Insert the linchpin through the bracket and the middle hole of the depth regulator.

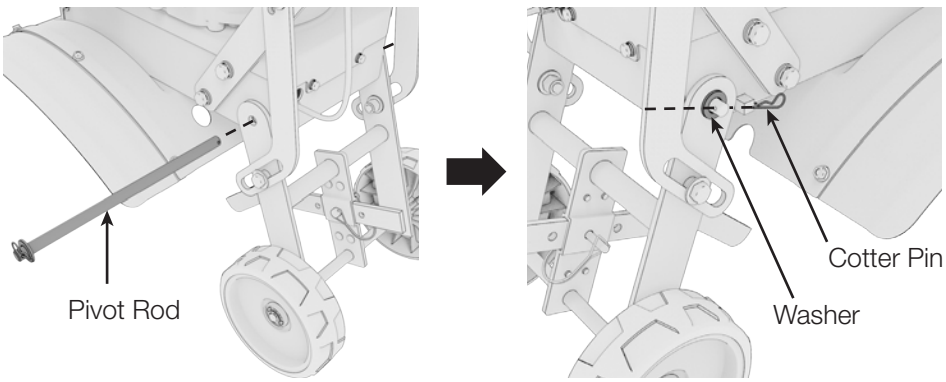


3.2 ASSEMBLING THE WHEELS

1. Remove the cotter pin and flat washer from one end of pivot rod. Remove the rod from frame.

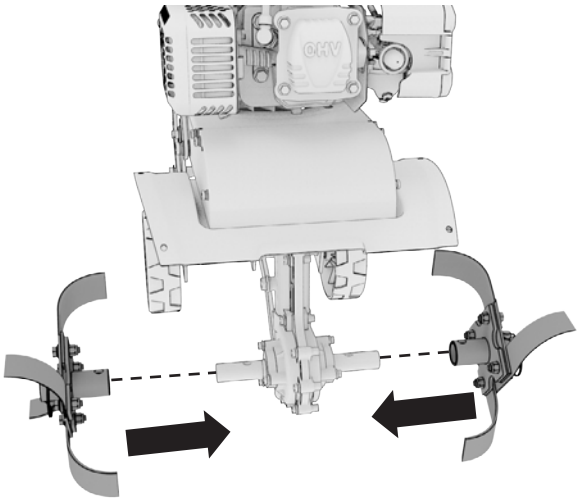


2. Align the pivot holes in the wheel assembly to the pivot holes in frame and slide the pivot rod through the aligned holes. Secure by reinstalling flat washer and cotter pin.

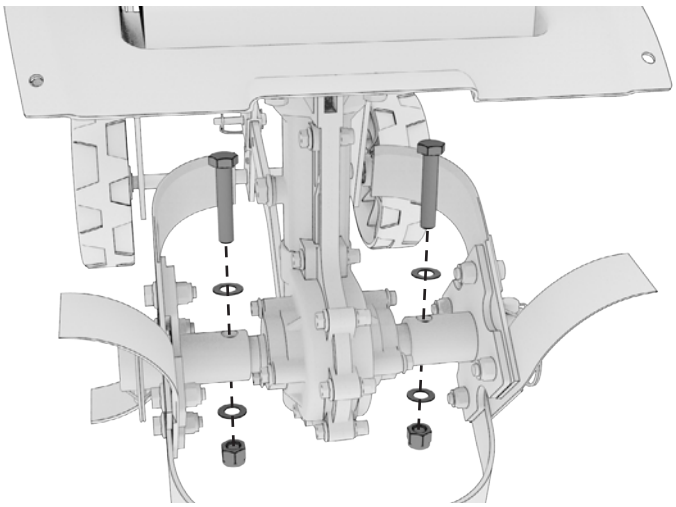


3.3 ASSEMBLING THE TINES

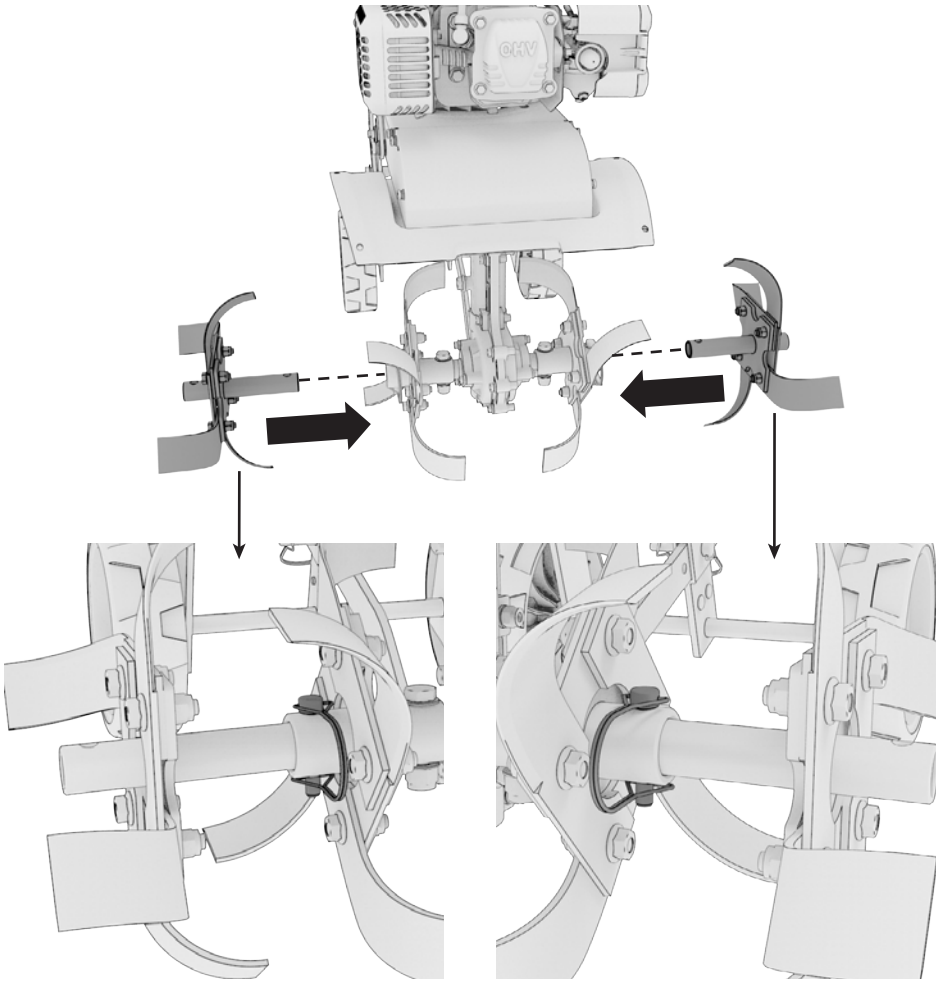
1. Slide the tine assemblies onto the tine axle, with the smaller tines on the outside. The sharp edge of the tines should face down and forward.



2. Using the M10 x 50 bolt, lock nut and washer provided, secure the inner tines. Tighten securely.



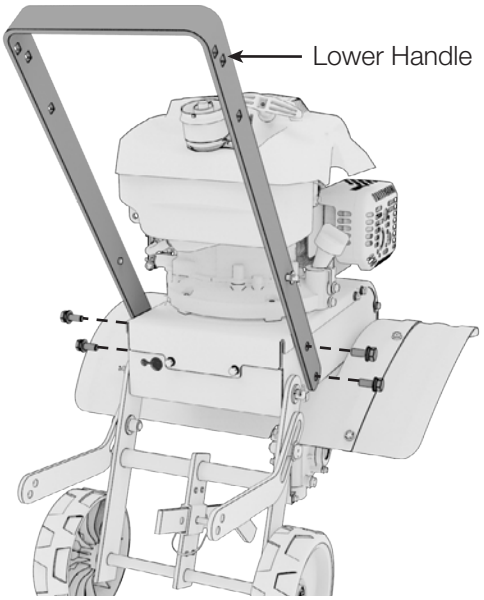
3. Align the pivot holes of the outer tines with pivot holes of inside tines. Open the wire loop from the linchpins and insert the linchpins through the pivot holes. Ensure the wire loop is locked back over the linchpin to secure in place.



3.4 ASSEMBLING THE HANDLES

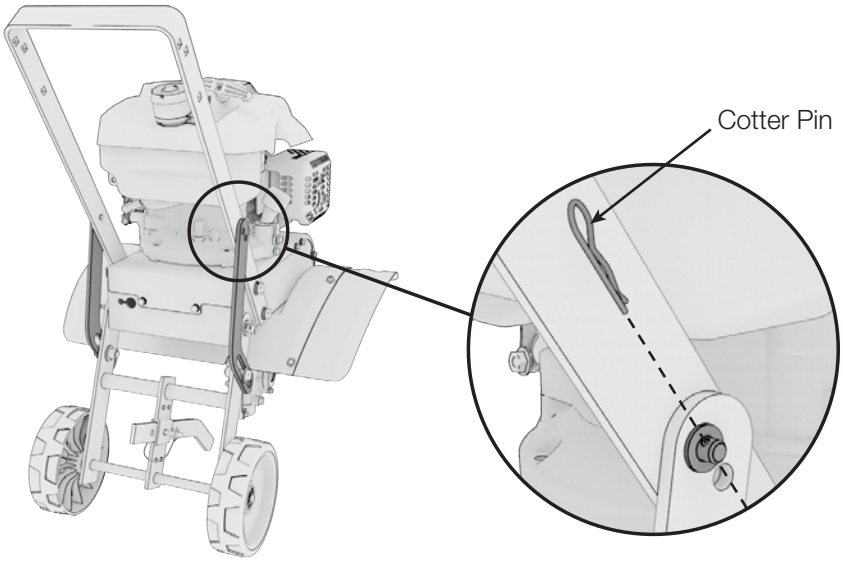
Installing the Lower Handles

1. Align the lower handle mounting holes to the holes on the rear end of the tiller body. Install four M10 x 25 bolts onto each side of frame. Use a wrench to tighten bolts securely.

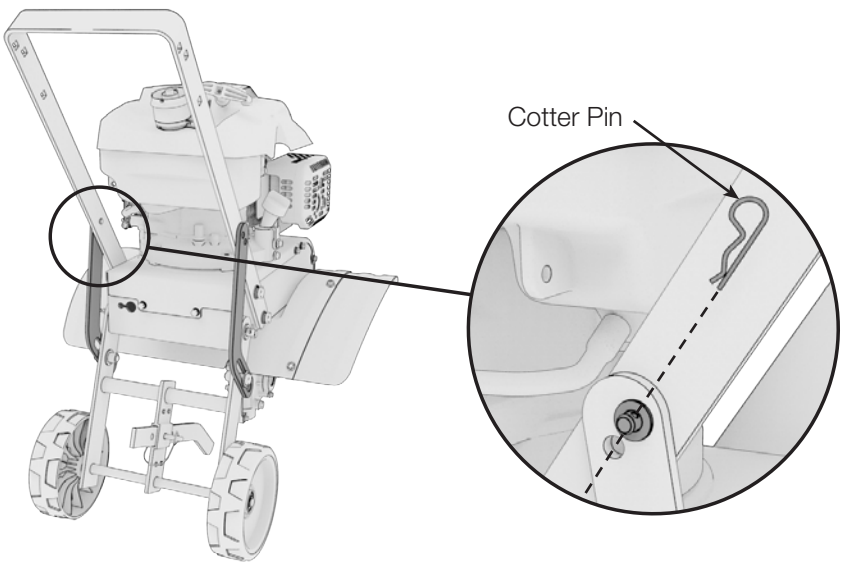


2. Remove the cotter pin and washer from the clevis pin in the lower handle and align with the top hole on the “L” shaped bracket on the wheel assembly.

3. Insert the clevis pin through both parts and reinstall the washer and cotter pin.

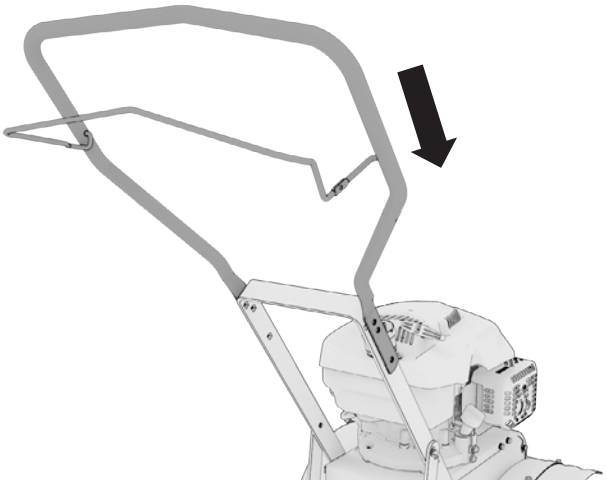


4. Repeat on opposite side.

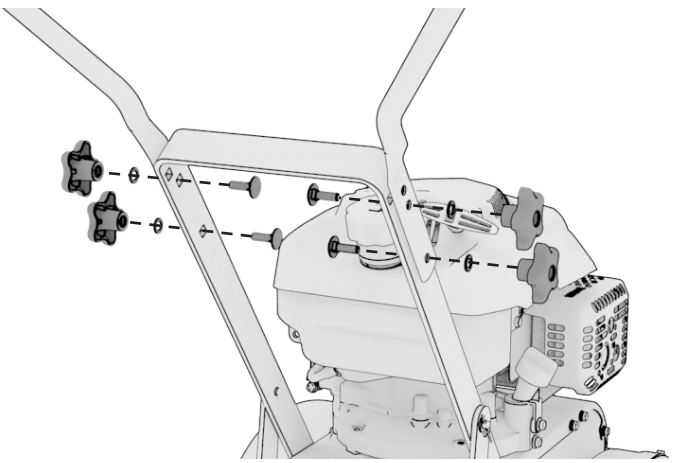


Installing the Upper Handles

1. Slide the upper handle down over the lower handle and align the mounting holes. The clutch lever should be below the handle.

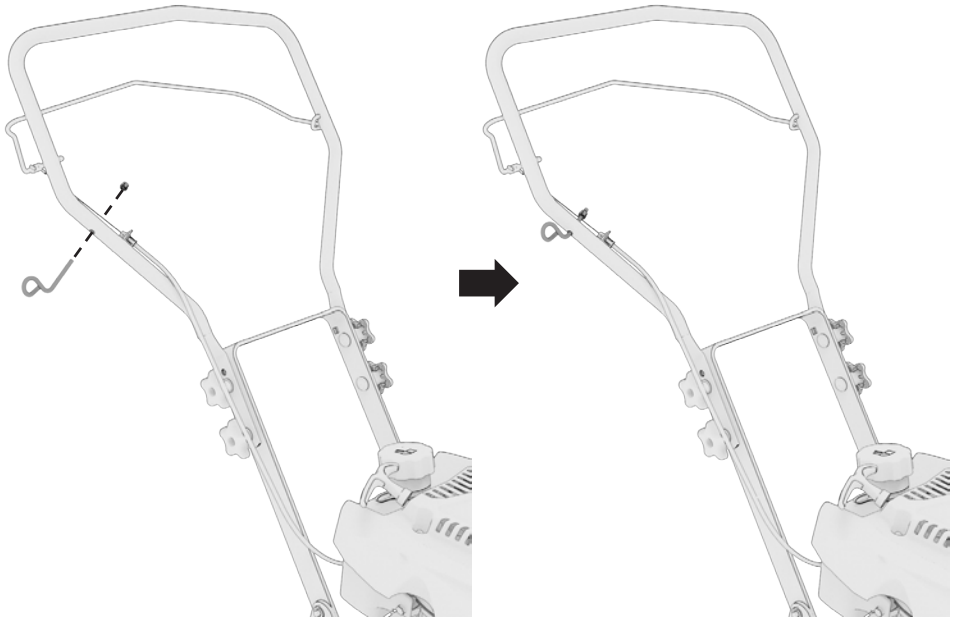


2. Insert the saddle bolts through both handles and secure with the flat washers and handle knobs. Tighten the handle knobs securely.



3.5 INSTALLING THE ROPE HOOK

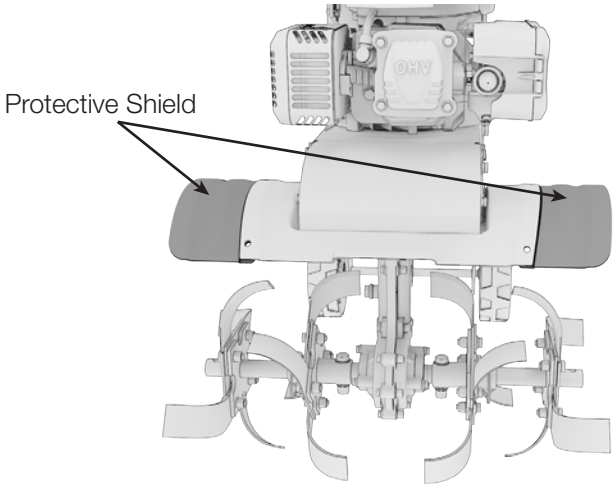
1. Insert the rope guide onto the right side of the upper handle. Secure tightly in place using the lock nut.



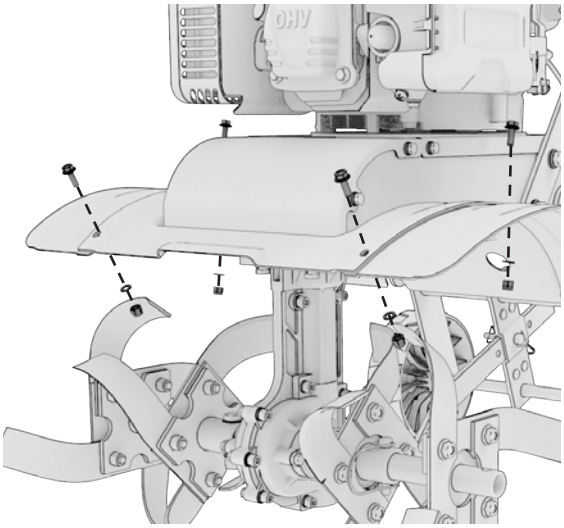
2. Gently pull the engine rope and thread it through the hook.

3.6 INSTALLING THE OUTSIDE TINE SHIELDS

1. Place the outside tine shield underneath the main tine shield and align the mounting holes.



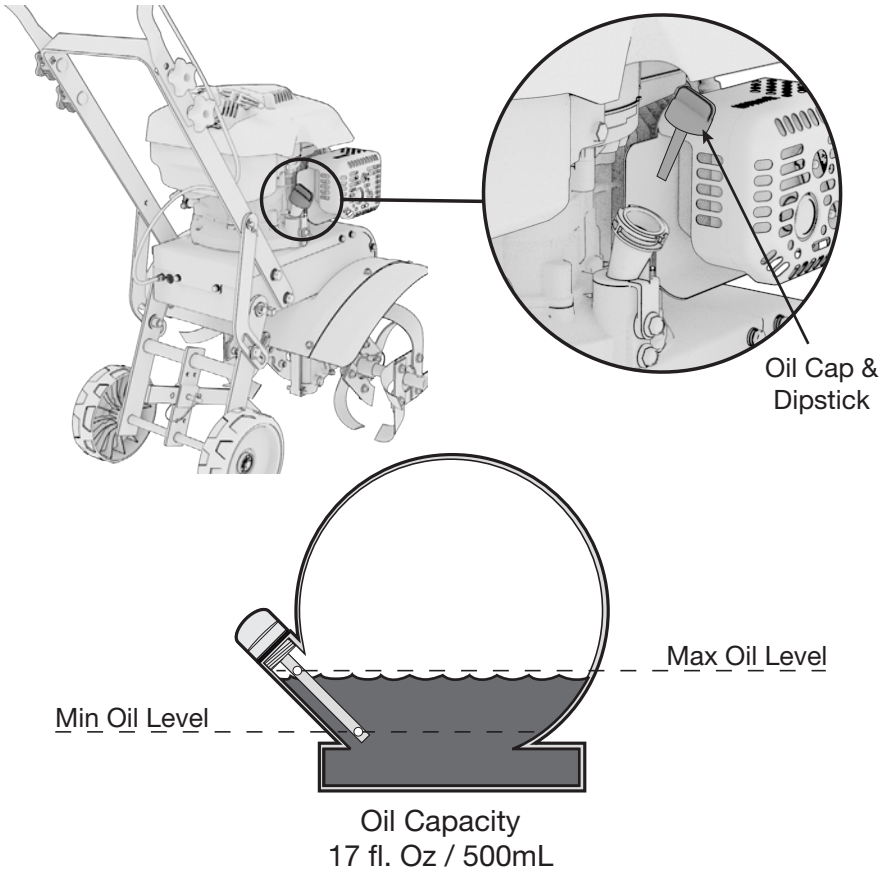
2. Tight securely each outside tine shield to the main tine shield with six M6 x 16 bolts, M6 nuts and Ø6 flat washer.



3.7 ADD ENGINE OIL

⚠ WARNING!

Used motor oil can cause skin irritations if left in long-term contact with skin. Thoroughly wash off used oil as soon as possible with soap and water.



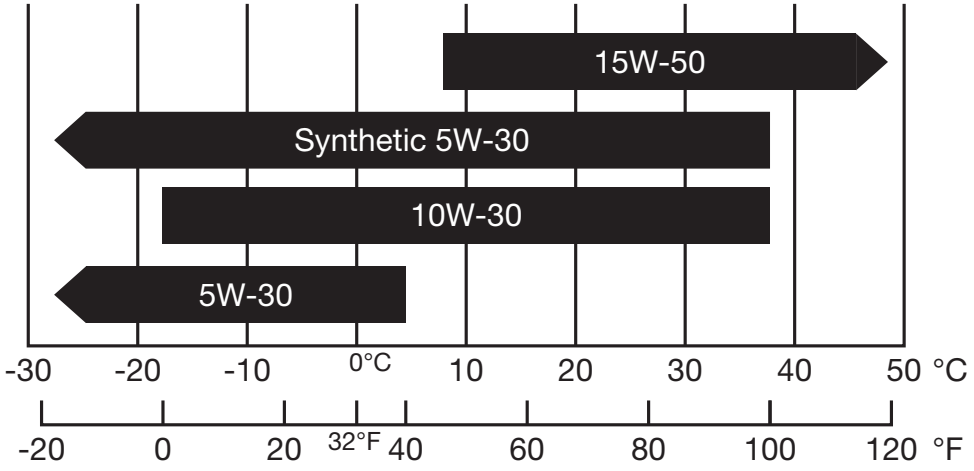
1. Place the tiller on a level surface and ensure the depth regulator is set so that the main frame of the tiller is level.
2. Remove the filler cap.
3. Place the funnel securely and add oil. DO NOT top off.
4. Check dipstick to confirm adequate amount of oil.
5. Secure the oil cap and wipe off any excess oil.

NOTE

- Max oil capacity: 17 fl. oz / 500mL
- SAE 10W-30 oil is recommended for general use.
- Use of synthetic oil does not change maintenance intervals.

- DO NOT OVERFILL.

Effective Viscosity Range of Engine Oils

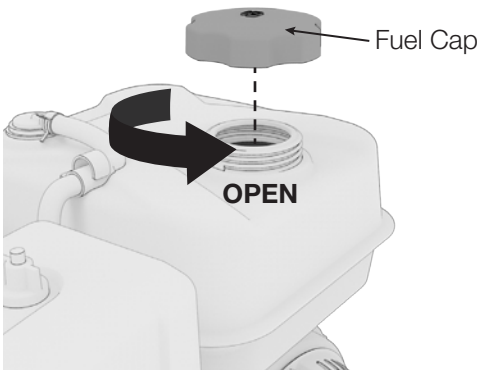


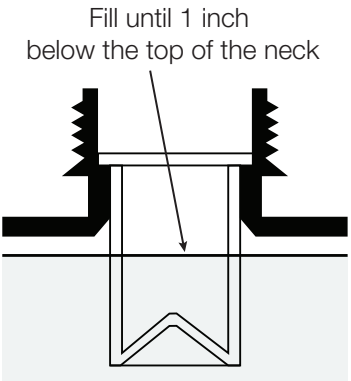
3.8 ADD FUEL

⚠ WARNING!

Gasoline is highly flammable and explosive under certain conditions. Refuel in a well-ventilated area with the engine stopped. DO NOT smoke or allow open flames or sparks in the area where the tiller is being refueled or where gasoline is stored. DO NOT overfill the tank. Be careful not to spill fuel when refueling. Wipe up any spilled gasoline and let the area dry before starting the engine.

Gasoline substitutes such as gasohol are not recommended. They may be harmful to the fuel system components.





Fuel Capacity: 0.3 Gal / 1.2 L

1. Remove gas cap.
2. Place funnel securely in place and add fuel. DO NOT top off. DO NOT overfill.
3. Secure the gas cap and wipe off any excess fuel.

NOTE

- Max fuel capacity: 0.3 Gal / 1.2L
- Only use unleaded gasoline (Pump Octane 87 or higher).
- NEVER use stale or contaminated gasoline, or an oil/gasoline mixture.
- Avoid getting dirt or water into the fuel tank.
- DO NOT use a mixture of gasoline containing methanol. This will cause serious damage to the engine.
- Use of gasoline with an ethanol content greater than 10% can damage the engine and fuel system and will void the manufacturer's warranty.

4. PRE-OPERATION CHECK

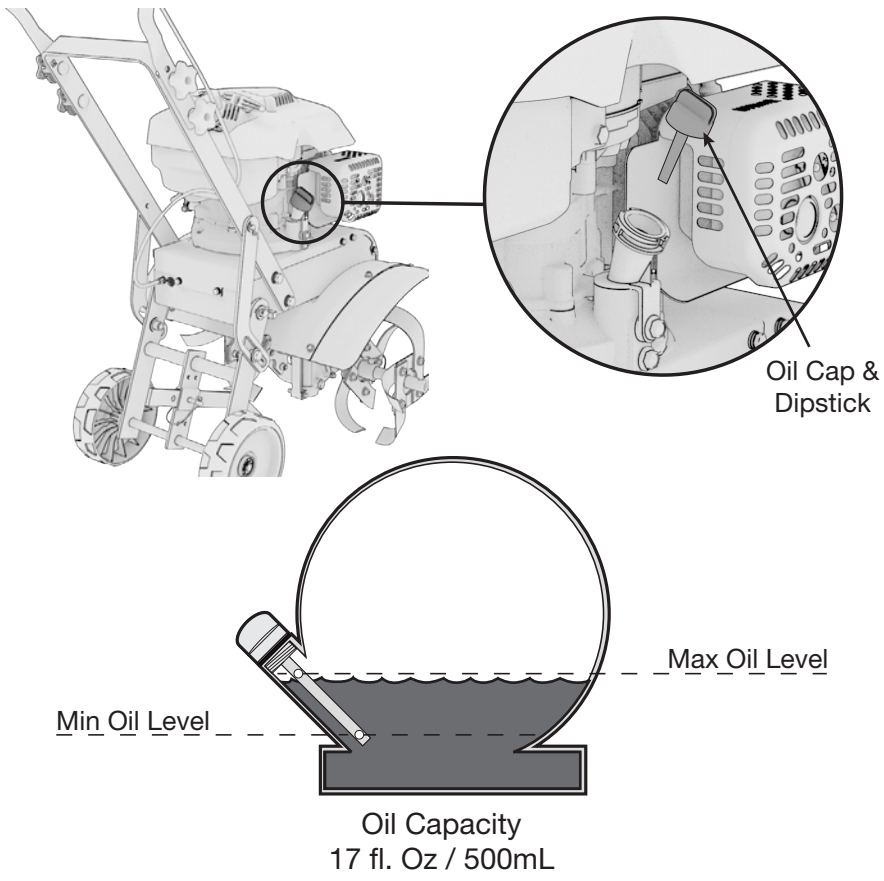
⚠ WARNING!

Exhaust gas contains poisonous carbon monoxide. NEVER run the tiller in an enclosed area. Be sure to provide adequate ventilation. Operate the tiller on a level surface. If the tiller is tilted, fuel spillage may result. Keep away from rotating parts while the tiller is running. The tiller is air-cooled and may be damaged if ventilation is inadequate.

These quick checks should be done each time the tiller is started to ensure you get the most out of your tiller.

Set the tiller on a level surface and the power to OFF.

4.1 CHECK OIL LEVEL



1. Place the tiller on a level surface and ensure the depth regulator is set so that the main frame of the tiller is level.

2. Unscrew one of the oil dipsticks and clean the dipstick.
3. Check the oil level by reinserting the oil dipstick without screwing it back in. Remove the dipstick and examine the oil level. If the level is at or below the minimum oil level marked on the dipstick, refill to the maximum oil level mark.
4. Reinsert the dipstick and tighten securely.

NOTE

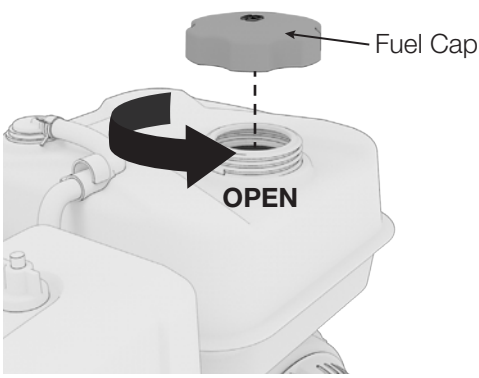
- Max oil capacity: 17 fl. oz / 500mL
- SAE 10W-30 oil is recommended for general use.
- DO NOT OVERFILL.

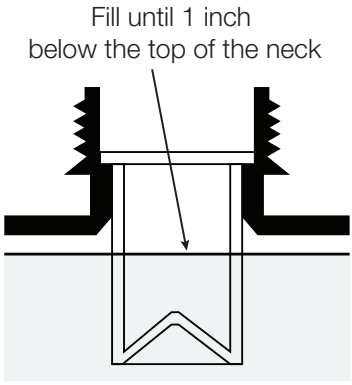
4.2 CHECK THE FUEL LEVEL

⚠ WARNING!

Gasoline is highly flammable and explosive under certain conditions. Refuel in a well-ventilated area with the engine stopped. DO NOT smoke or allow open flames or sparks in the area where the tiller is being refueled or where gasoline is stored. DO NOT overfill the tank. Be careful not to spill fuel when refueling. Wipe up any spilled gasoline and let the area dry before starting the engine.

Gasoline substitutes such as gasohol are not recommended. They may be harmful to the fuel system components.





Fuel Capacity: 0.3 Gal / 1.2 L

1. Check the fuel level by removing the fuel tank cap to visually check the level.
2. Add fuel carefully. DO NOT fill up to the base of the fuel neck. Fill the fuel tank no closer than 1 inch from top of tank to provide space for expansion.

3. Tighten the fuel cap securely after refilling.

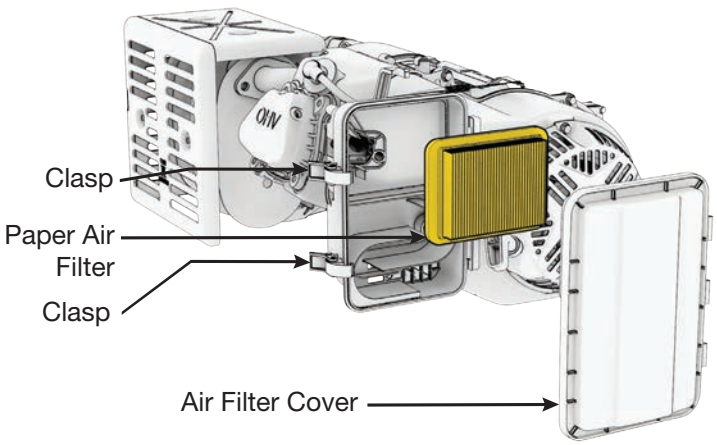
NOTE

- Max fuel capacity: 0.3 Gal / 1.2L
- Only use unleaded gasoline (Pump Octane 87 or higher).
- NEVER use stale or contaminated gasoline, or an oil/gasoline mixture.
- Avoid getting dirt or water into the fuel tank.
- DO NOT use a mixture of gasoline containing methanol. This will cause serious damage to the engine.
- Use of gasoline with an ethanol content greater than 10% can damage the engine and fuel system and will void the manufacturer's warranty.

4.3 PREPARE AIR FILTER

NOTE

- DO NOT soak paper air filter in oil.
- Running the engine without the air filter will quickly degrade the engine
- Always inspect air filter before using the generator. Check and clean the air filter according to the maintenance schedule.

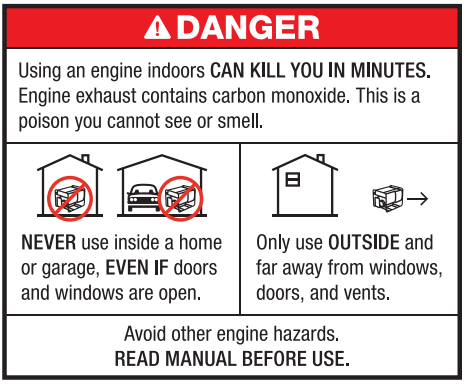


1. Loosen the clasp and remove the air filter cover. Remove the *paper* air filter element and inspect for cleanliness.
2. Replace the filter if it is damaged.

4.4 SURVEY YOUR AREA

- Familiarize yourself with the area in which you plan to operate the tiller. Mark off all boundaries of where you plan to till.
- Ensure the area to be tilled is free of debris or objects that could be picked up by the tines and thrown.
- Ensure the operating area is clear of bystanders, especially children and pets. Be alert and turn the unit off if bystanders enter the area. Use extra care when approaching blind corners, shrubs, tress, or other objects that may obscure vision.

5. STARTING THE ENGINE



⚠ DANGER! ⚠

Using a gas powered engine indoors WILL KILL YOU IN MINUTES. Engine exhaust contains high levels of carbon monoxide (CO), a poisonous gas you cannot see or smell. If you can smell the engine exhaust, you are breathing CO. Even if you cannot smell the exhaust, you could be breathing CO.

NEVER use an engine inside a home, garage, crawlspace, or other partly enclosed area, deadly levels of carbon monoxide can build up in these areas. Using a fan or opening windows and doors will NOT supply enough fresh air.

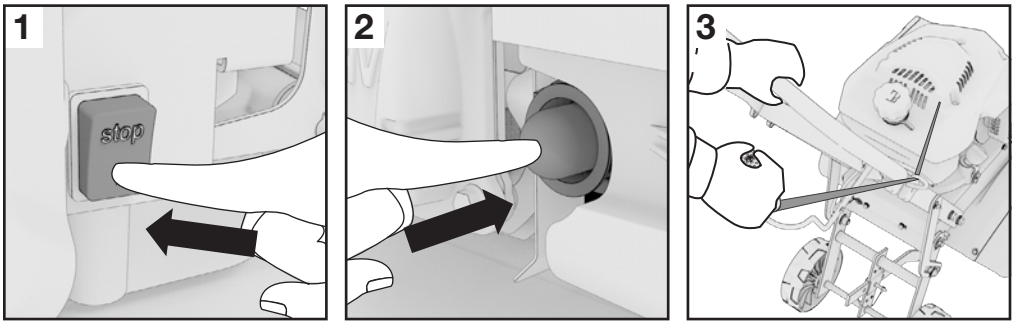
ONLY use an engine outdoors and far away from open windows, doors, and vents. These openings can pull in engine exhaust. Even when you use an engine correctly, CO may leak into the home. ALWAYS use a CO alarm in your home.

If you start to feel sick, dizzy, or weak after the engine has been running, move to fresh air RIGHT AWAY and seek medical attention. You could have carbon monoxide poisoning. Never run the engine in an enclosed space.

NOTE

- DO NOT crank the engine with the spark plug removed.

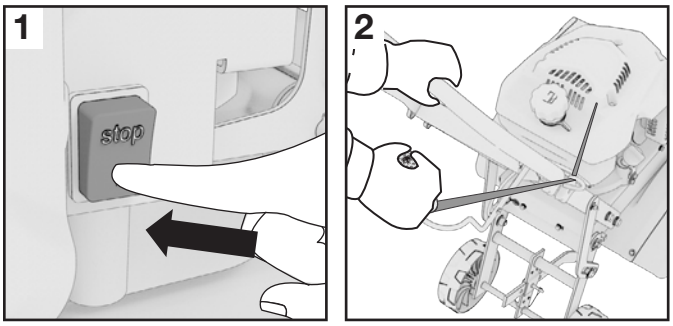
5.1 MANUAL RECOIL START



1. Move the ON/OFF switch to the ON position.
2. Push the primer bulb 3 times, waiting 2 seconds between each push.
3. Pull recoil handle out slowly. Once tension is felt on the rope, pull recoil handle out rapidly, to start the engine.

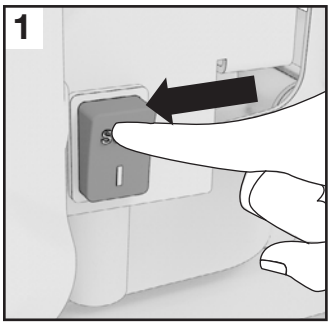
NOTE

- For restarting a warm engine:



1. Move the ON/OFF switch to the ON position
2. Pull the recoil handle slowly until resistance is felt, then pull rapidly until engine starts. Allow recoil handle to return. Repeat until engine starts.

6. STOPPING THE ENGINE



1. To stop the engine, turn engine ON/OFF switch to the OFF position.

NOTE

- Make sure the fuel valve is in the CLOSED position when stopping, transporting, and storing the engine.

7. USING THE TILLER

7.1 ADJUSTING THE DEPTH REGULATOR

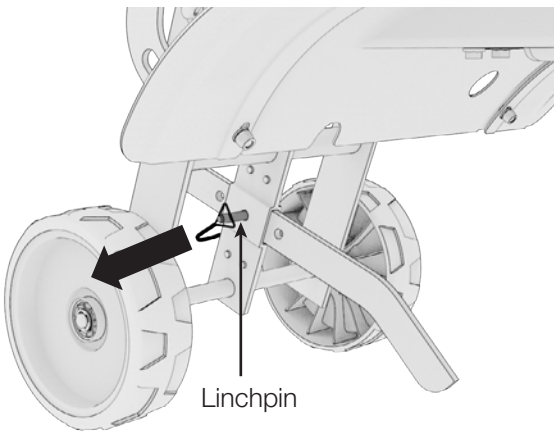
⚠ WARNING!

Always release the clutch lever back to the neutral position and stop the engine before adjusting the depth regulator.

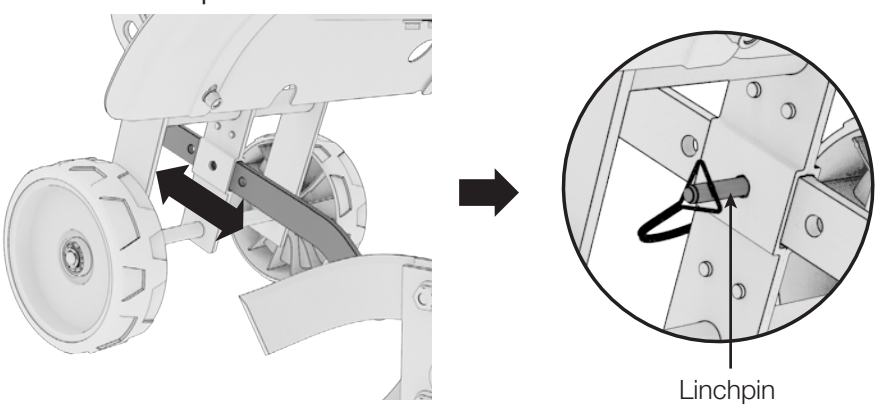
Adjust the depth regulator up one hole at a time, testing tiller operation after each change. Raising the depth regulator too drastically can result in losing control of the tiller.

Tilling height is controlled by the height of the depth regulator. The higher the depth regulator is set, the shallower the tilling.

1. Remove the linchpin.

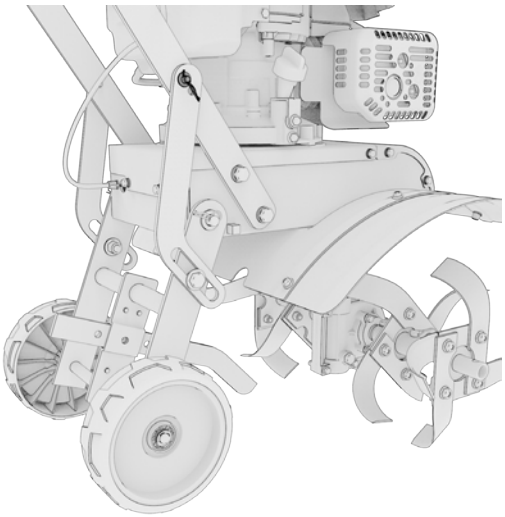


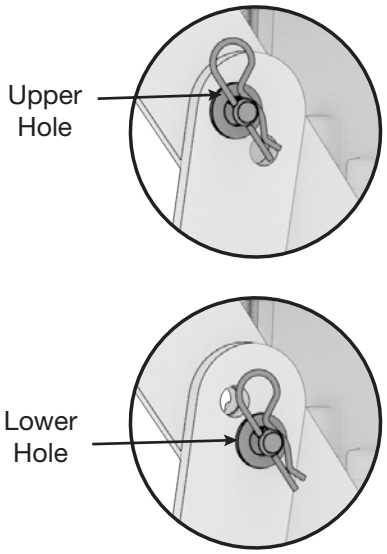
2. Raise or lower the depth regulator to the desired height. Secure in place with the linchpin.



7.2 ADJUSTING THE WHEEL LINKS

The ideal height of the handlebar varies with operator height and the depth of tilling.
Use the upper hole in the adjustable wheel links for shallow to medium tilling depths.
Use the lower hole in the adjustable wheel links for deep tilling.

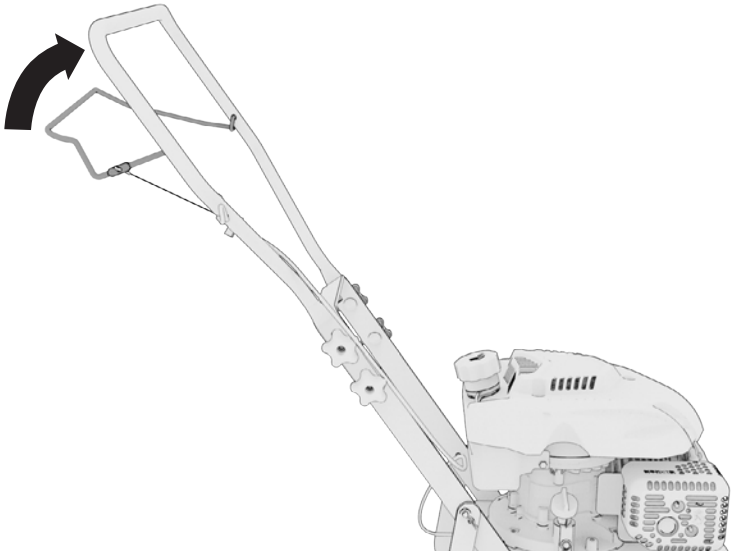




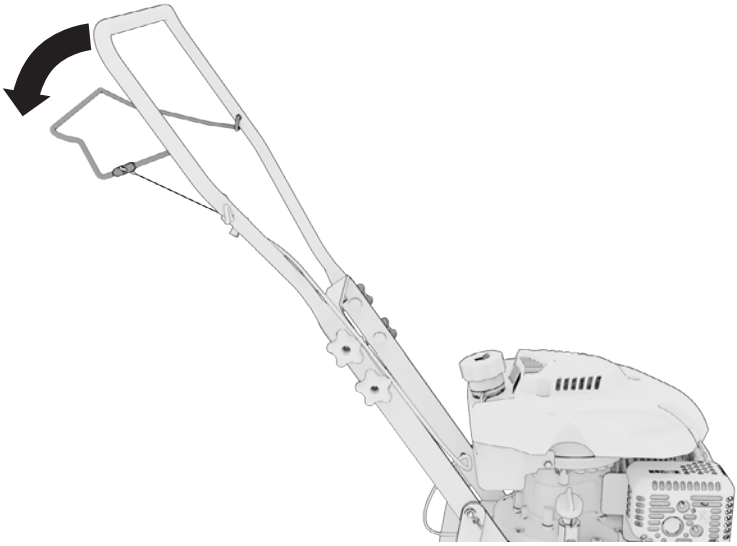
1. Remove the cotter pin and clevis pin.
2. Align lower handle to desired hole on the wheel link.
3. Reinstall the cotter pin and clevis pin.

7.3 ENGAGING THE TINES AND WHEELS

Engage the tines by bringing the clutch lever to the handle.



Releasing the lever stops the tines and brings the tiller to a stationary position.



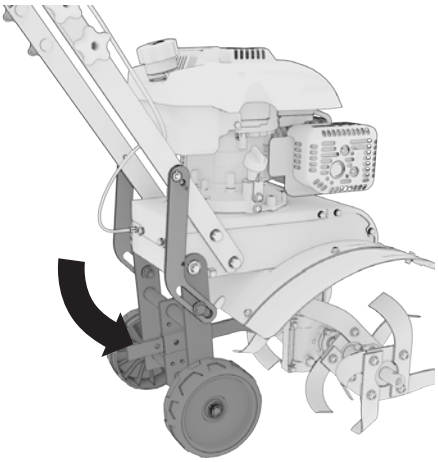
NOTE

- Always fully engage the clutch lever when tilling. Failure to do so may result in excessive drive belt wear and premature drive belt failure.
- Always keep distance between yourself and the tiller. Any contact with the rotating tines can result in serious injury.

7.4 TRANSPORT AND TILLING MODES

Transport Mode

To set the unit to transport mode, rotate the wheel assembly forward under the engine and move by pulling the unit. This will keep the transport wheels locked into position.

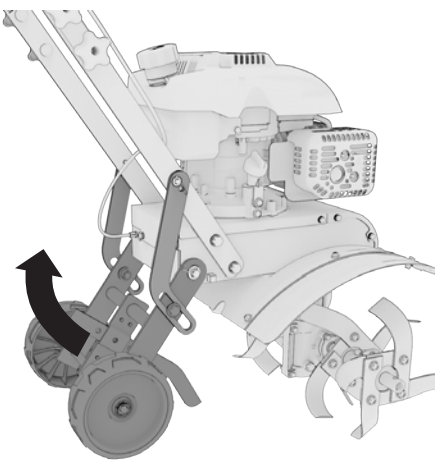


NOTE

- The depth regulator lever must be set in the middle or bottom hole for transporting.

Tilling Mode

To set the unit to tilling mode, rotate the wheel assembly back out from the engine.



8. TILLING TIPS

8.1 TILLING

- To allow for machine cultivating after the plants have grown, leave enough clearance room for the tiller between the seed rows.
- When tilling unbroken ground or extremely hard soil, till at a shallow height by setting the clevis pin in the highest hole of the depth regulator. Make several light passes over the area, then adjust the depth regulator for deeper depths with successive passes.
- If the tiller jumps or skids uncontrollably, set the depth regulator to a shallower height. Hold firmly to the handlebars to control sudden lurches.
- Immediately release the control levers if the tines jam or you strike a foreign object. With the control levers in the neutral position, turn off the engine and wait for the tines to stop. Disengage the spark plug wire. Remove foreign objects and check for damage.

NOTE

- Remove sod from the soil before tilling. It is not recommended to till sod into soil.
- Always begin with a shallow cut on the first pass, and then work an inch or two deeper on each successive pass.
- Avoid working with soggy or wet soil. Wet soil can cause slips and falls, and is more prone to sticking and jamming the working parts of the tiller. Wait a day or two after heavy rain for the ground to dry.

8.2 CULTIVATING

- Plant rows on 20” - 22” (51 - 56cm) centers for ease of turning.
- Set the depth regulator lever with the clevis pin in one of the higher holes. This will allow for shallow cultivation necessary to turn over weeds and break up and aerate the soil.

9. MAINTENANCE

⚠ WARNING!

Fuel and its vapors are extremely flammable, which could cause burns or fire resulting in death or serious injury. When performing maintenance that requires the unit to be tipped, the fuel tank must be empty, or fuel can leak out and result in a fire or explosion.

Proper maintenance keeps your tiller in the best operating condition by ensuring safe, economical and trouble-free operation. Only use genuine parts and recommended fluids to replace the worn components. Improper maintenance may cause the tiller to malfunction and can lead to serious injury. Contact customer support if you have any maintenance questions.

General Inspection Tips

- Look for fuel leaks around the fuel tank, fuel hose, and fuel valve. Close the fuel valve and repair leaks immediately.
- Look and listen for exhaust leaks while the engine is running. Have all the leaks repaired before continuing operation.
- Check for dirt and debris and clean as necessary .
- Check the engine oil level and add oil as necessary.

9.1 MAINTENANCE SCHEDULE

Regular maintenance will improve performance and extend the service life. Maintain the tiller according to the maintenance schedule below.

NOTE

- Service more frequently when used in dusty areas or adverse conditions.
- These items should be serviced by an authorized service center unless you have the proper tools and are mechanically proficient. Refer to user guide for service procedures.

Before Each Use
Check/change engine oil level
Clean debris from unit
First 10 Hours
Lubricate all pivot points
Check fasteners for tightness
Check/replace tines
Check/clean air filter
First 25 Hours or First Month
Check/replace drive belts
Check fuel line
Lubricate wheel axle
Check spark plug
First 50 Hours or 3 Months
Change engine oil[2]
Clean air filter[1]
Every 100 Hours or 6 Months
Replace spark plug
Clean air filter[1]
Every 300 Hours or 12 Months
Replace air filter

[1] Replace air filter if it cannot be adequately cleaned.

[2] Change oil after every 100 hours or yearly, whichever comes first. Service more frequently when operating under heavy load or in high temperatures.

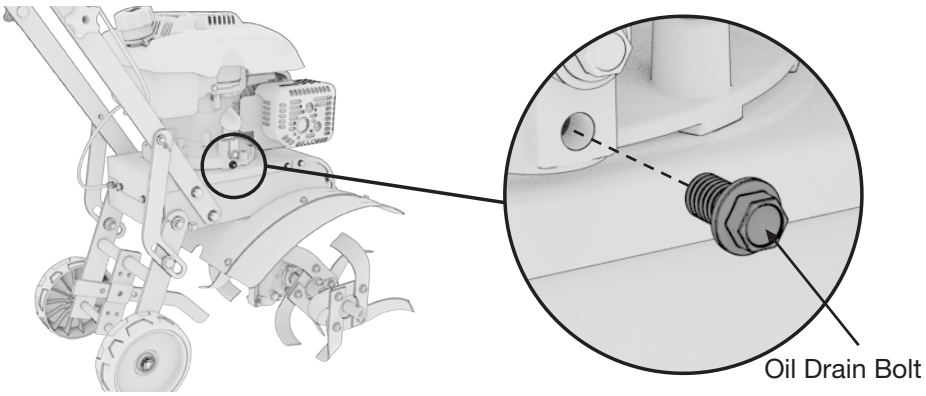
9.2 CHANGING THE OIL

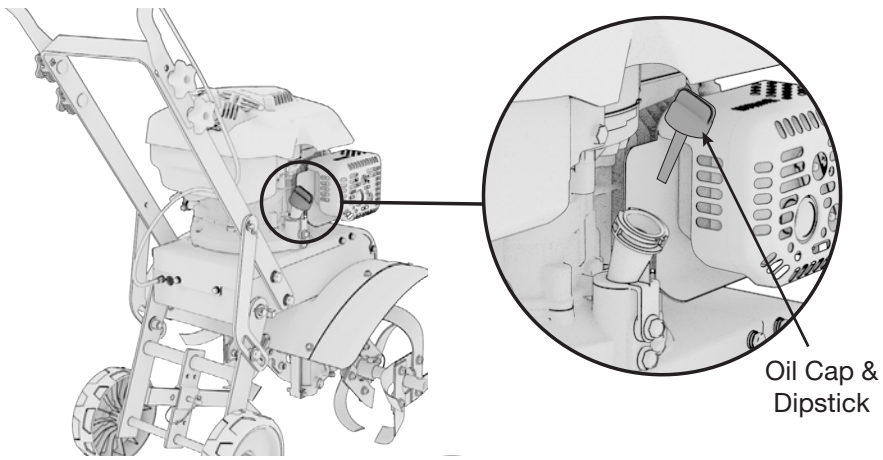
⚠ WARNING!

Used motor oil can cause skin irritations if left in long-term contact with skin. Thoroughly wash off used oil as soon as possible with soap and water.

Do not dispose of used oil in drains or on soil. Local service shops provide environmentally-friendly disposal methods.

Drain the oil rapidly and completely while the engine is still warm.





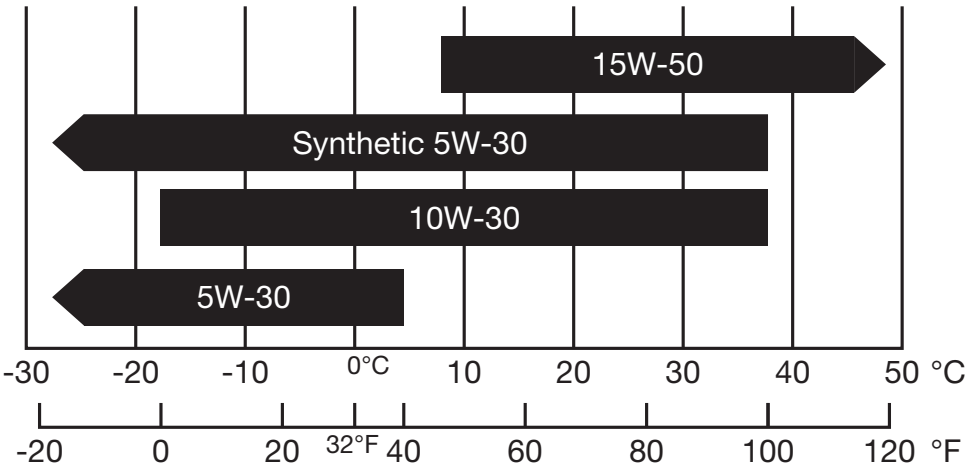
1. Remove the oil drain bolt and tilt the tiller slightly to drain the oil into an appropriate container.
2. After the oil has drained, reinstall and tighten the oil drain bolt.
3. Clean any moisture or debris from the oil fill area.
4. Remove oil dipstick and wipe with a clean cloth, set aside.
5. Pour engine oil slowly into the engine oil fill tube. Do not overfill.

6. Wait one minute, then insert and tighten the dipstick. Remove again to check the oil level, it should be at the top of the full indicator.
7. When the oil level is at the top of the full indicator, reinstall and tighten the dipstick securely.

NOTE

- Max oil capacity: 17 fl. oz / 500mL
- SAE 10W-30 is recommended for general use.
- DO NOT OVERFILL.

Effective Viscosity Range of Engine Oils



- Do not tilt when adding engine oil. This could result in overfilling and damage to the engine.
- Use high quality 4-stroke engine oil, certified to meet or exceed API standard SG, SF, SAE ratings with strong detergents. Using nondetergent or 2-stroke oil could shorten the engine's working life.
- Do not mix different engine oils.
- Handle and store the engine oil with care, avoid getting dirt or dust into the engine oil.
- To avoid damaging the engine, check the oil level as often as possible.

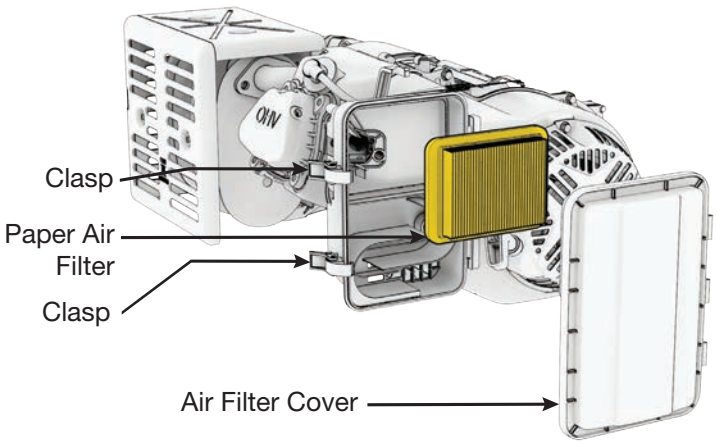
9.3 CLEANING THE AIR FILTER

⚠ WARNING!

Using gasoline or other flammable solvents can cause a fire or explosion. Do not operate this product without an air filter.

NOTE

- DO NOT soak paper air filter in oil.
- Running the engine without the air filter will quickly degrade the engine
- Always inspect air filter before using the generator. Check and clean the air filter according to the maintenance schedule.



1. Loosen the clasp and remove the air filter cover. Remove the *paper* air filter element and inspect for cleanliness.
2. Replace the filter if it is damaged.

9.4 SPARK PLUG SERVICE

NOTE

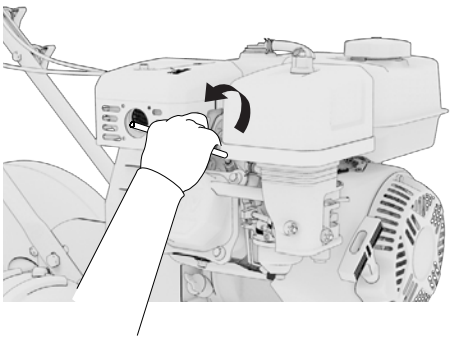
- Do NOT rinse spark plug in water. Follow guidelines and be careful not to overtighten the spark plug.

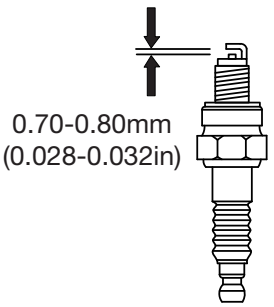
Recommended spark plug: **F7RTC**

Check the spark plug gap and clean the carbon deposits at the bottom of the spark plug.

Tighten 1/2 turn when installing a new spark plug.

Tighten 1/8 TO 1/4 turn when re-installing an old spark plug.





1. Remove the air filter access panel.
2. Remove the spark plug cap.
3. Remove the spark plug with the spark plug wrench.
4. Visually inspect the spark plug. Replace with a new one if the insulation is cracked or chipped. Clean with a wire brush if the spark plug is reused.
5. Measure the spark plug gap with a feeler gauge. The normal value is: 0.7-0.8mm (0.028- 0.032in). Adjust the gap by carefully bending the electrode.
6. Carefully reinstall the spark plug by hand, to avoid cross-threading. A new spark plug should be tightened 1/2 turn with a wrench. A used spark plug should be tightened 1/8 to 1/4 turn with wrench.
7. Reinstall the spark plug cap.
8. Reinstall the spark plug maintenance cover.

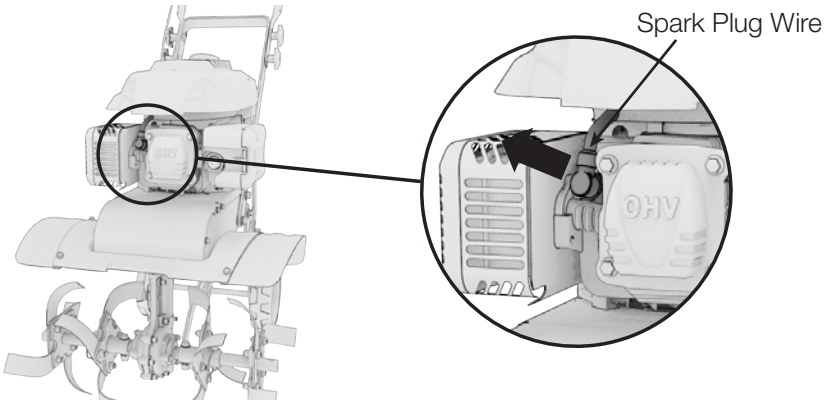
NOTE

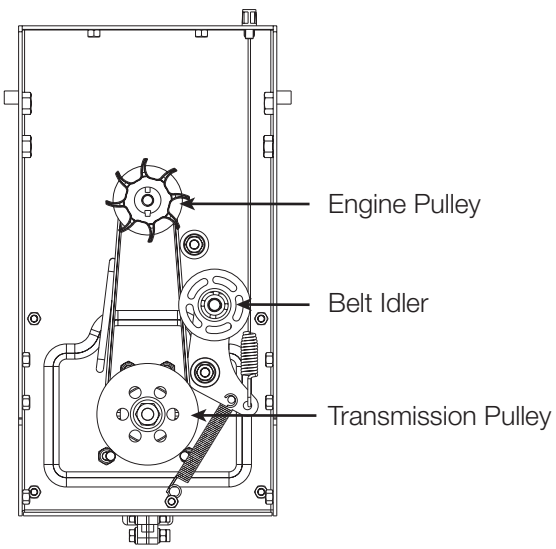
- The spark plug must be securely tightened or it could cause the spark plug to heat up enough to damage the engine.
- Never use a spark plug with an improper heat range.

9.5 CHANGING THE BELT

⚠ WARNING!

To prevent accidental starting. The engine must be turned off and cool. The spark plug wire must be removed and secured from spark plug before checking and adjusting engine or equipment.





1. Turn off engine and allow it to cool.
2. Remove spark plug wire and secure it away from the spark plug.
3. Remove the belt cover by using a wrench to loosen the 4 bolts.
4. Slide the belt free of the engine pulley.
5. Pull the belt down and away from the transmission pulley.
6. Install new belt:
   a. Place the belt around the transmission pulley in groove.

b. Place the belt onto the engine pulley in groove.

c. Place the backside of the belt around the idler pulley and belt guides.

7. Slowly pull engine rope and observe belt movement to verify correct routing of belt.
8. Re-install the belt cover and tighten the 4 bolts.
9. Attach the spark plug wire.

9.6 LUBRICATING THE TILLER

Proper lubrication of moving mechanical parts is critical for proper care and maintenance. Oil the wheel axle shaft at 10 hour intervals using a 30 weight oil.

9.7 CLEAN TINE AXLE SHAFT

1. Turn off engine and allow it to cool.
2. Remove spark plug wire and secure it away from the spark plug.
3. Tip the tiller forward. Position the tiller so that it rests on the engine mount and the tines are exposed.
4. Remove all vegetation, string, wire, and other material that may have accumulated on the axle between the inside set of tines and the seal on the transmission housing.
5. Slowly tip the tiller back to a level position.
6. Replace spark plug wire.

9.8 CARBURETOR MODIFICATION FOR HIGH ALTITUDE OPERATION (Above 2,000 feet)

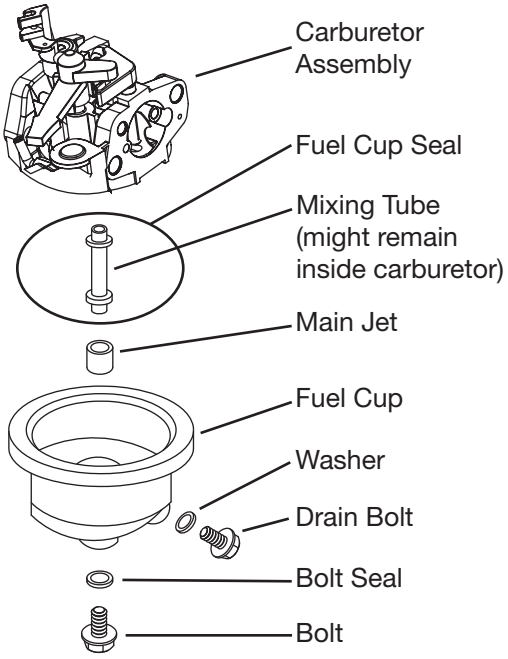
NOTE

- This engine is equipped to run at altitudes below 2,000-ft.
- A high-altitude main jet is recommended when operated at 2,000 to 7,000-ft above sea level.
- At elevations above 7,000-ft the engine may experience decreased performance even with a high-altitude main jet.

At high altitudes the carburetor's air/fuel mixture becomes too rich, resulting in higher fuel consumption, lower performance, and carbon build-up on the spark plug. On the other hand, if the carburetor has been modified for high altitude operation and is operated below 2000-ft, the air/fuel mixture will then be too lean for low altitude use. Always use the correct main jet for your altitude.

The engine's carburetor, governor (if so equipped), and any other parts that control the air/fuel ratio will need to be adjusted by a qualified mechanic to allow efficient high-altitude use, and to prevent damage to the engine and any other devices used with this product. The fuel system on this engine may be influenced by operation at higher altitudes.

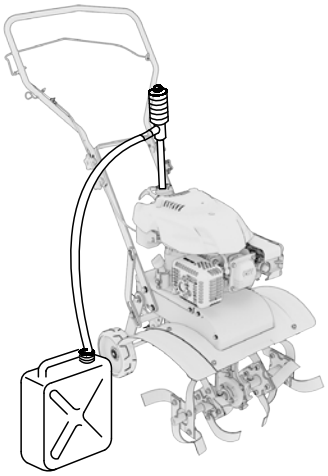
- Carburetor bowl may have gas in it which will leak upon removing the bolt.
- The mixing tube is held in place by the main jet and might fall out when it is removed. If it falls out, replace it in the same orientation before replacing the main jet.
- The fuel cup seal and bolt seal may be damaged during removal and should be replaced with the new ones.



1. Turn off the engine.
2. Close the fuel valve.
3. Place a bowl under the fuel cup to catch any spilled fuel.
4. Unthread the bolt holding the fuel cup.
5. Remove the bolt, bolt seal, fuel cup, fuel cup seal and main jet from the body of the carburetor assembly. A carburetor screwdriver (not included) is needed to remove and install the main jet.
6. Replace the main jet with the replacement main jet needed for your altitude range.
7. Replace the fuel cup seal, fuel cup, bolt seal, and bolt. Tighten in place. Do not cross thread bolt when tightening. Finger tighten first and then use a wrench to make sure the bolt is properly threaded.
8. Wipe up any spilled fuel and allow excess to evaporate before starting engine. To prevent FIRE, do not start the engine while the smell of fuel hangs in the air.

10. TRANSPORTATION & STORAGE

10.1 DRAINING THE FUEL TANK



Drain the old gas and completely fill the tank with fresh gas. Add a fuel stabilizer according to the manufacturer's directions to keep your fuel fresh over long periods, we recommend B3C fuel additives. Run the engine for 2 minutes to circulate the fuel stabilizer.

10.2 TRANSPORTING THE TILLER

- Do not overfill the fuel tank (No residual fuel on the neck of tank).
- Avoid exposing the tiller to prolonged direct sunlight while in an enclosed vehicle. The high temperature inside the vehicle could cause fuel to vaporize resulting in a possible explosion.
- Drain the tiller of fuel and oil before being transported on rough roads.

10.3 STORAGE

Gasoline can oxidize in as little as 30 days, causing gum and varnish to build up in fuel system components.

NOTE

- Ensure that the storage area is free of excess humidity and dust.
- DO NOT store tiller in an unventilated area where fuel fumes may reach flame, sparks, pilot lights or an ignited object.
- Drain fuel outdoors away from any ignition sources. Use only approved fuel containers.

Storage Duration	Preparation Required
Less than 1 Month	■ No storage preparation required, simply store as is.
1 Month to 1 Year	■ Drain the old gas and completely fill the tank with fresh gas before storage. Add fuel stabilizer according to the manufacturer's directions. Adding a quality fuel stabilizer can keep gas fresh for up to a year.
1 Year or More	■ Drain off the gasoline from the fuel tank, and store in a suitable container. This will help prevent deposits from forming in the fuel system. ■ Turn the fuel switch to OPEN and loosen the carburetor drain bolt. Take off the spark plug cap and revolve the engine 3 or 4 times, by pulling the recoil handle, to fully discharge the gasoline from the fuel lines. ■ Turn the fuel switch to CLOSED and tighten the drain bolt of the carburetor. ■ Change oil while engine is still warm from operation. ■ Remove the spark plug, and pour a tablespoon of clean engine oil (10~20ml) into the cylinder. Revolve the engine several times by pulling on the recoil start to distribute the oil. Reinstall the spark plug. Pull the starter grip slowly until you feel resistance. At this point, the piston is coming up on its compression stroke and both the intake and exhaust valves are closed. This position helps to protect the engine from internal corrosion. ■ Coat the wheel axles lightly with axle grease to protect from rusting.

11. TROUBLESHOOTING

Problem	Cause	Solution
Engine difficult to start.	■ Out of fuel. ■ Engine Switch OFF. ■ Engine is not primed. ■ Spark plug wire disconnected. ■ Fouled spark plug. ■ Dirty Carburetor. ■ Clogged air filter. ■ Contaminated Fuel.	■ Add fresh fuel. ■ Turn engine switch ON. ■ Press the primer bulb 3 times. ■ Attach spark plug wire to spark plug. ■ Remove spark plug. Inspect. Replace if necessary. ■ Take unit to an authorized service center for carburetor cleaning. ■ Remove and clean air filter. ■ Drain fuel tank. Clean fuel tank. Fill with fresh fuel.
Engine Problems. The engine smokes excessively, runs very “rough,” runs erratically, or cannot maintain full speed.	■ No Engine Oil. ■ Engine oil not at proper level. ■ Fouled spark plug. ■ Clogged air filter. ■ Contaminated Fuel. ■ Carburetor out of adjustment.	■ Add engine oil. ■ Check engine oil. Add or drain engine oil if necessary. ■ Remove spark plug. Inspect. Replace if necessary. ■ Remove and clean air filter. ■ Drain fuel tank. Clean fuel tank. Fill with fresh fuel. ■ Take unit to an authorized service center for carburetor adjustment.
Excessive vibration and noise.	■ Loose parts. ■ Engine problems (above).	■ Tighten all fasteners. ■ Refer to engine solutions (above).

Tines will not rotate.	■ Debris interfering with the tines. ■ Tines are loose. ■ Damaged drive belts.	■ Remove debris from around tines. ■ Replace tine bolts and nuts. ■ Replace drive belts.
Tines continue to rotate when drive lever is not engaged.	■ Damaged drive belts.	■ Replace drive belts.
Engine will not stop.	■ Check the switch.	■ Replace the switch.
Tines will not cut properly.	■ Damaged or worn tines. ■ The tines assembled incorrectly.	■ Replace drive belts. ■ Refer to “Assembling the Tines” Section.
Frequent engine stalling.	■ Excessive tilling speed / depth. ■ Engine problems (above).	■ Till at a moderate pace. Make multiple passes. ■ Refer to engine solutions (above).

12. TECHNICAL SPECIFICATIONS

	SPECIFICATIONS	PARAMETERS
ENGINE	Type	Vertical
	Engine Displacement	173cc
	Engine Speed	No-load 2800 rpm
	Spark Plug	F7TC
	Spark Plug Gap	0.028-0.031 in (0.7 - 0.8mm)
	Start System	Recoil Start
	Fuel Type	Gasoline
	Fuel Tank Volume	0.3 Gal / 1.2L
	Oil Capacity	17 fl. oz. / 500mL
	Oil Type	SAE 10W-30
TILLER	Model Name	HH0408
	Clearing Width	21 in (53.3 cm)
	Tilling Depth	7.8 in (19.8 cm)
	Tine diameter	11 in (27.9 cm)
	Number of Tines (sets)	4
	Front or Rear Tines	Front
	Tine Material	Steel
OTHER	Working Ambient Temperature	5°F to 104°F (-15°C to 40°C)
	Dimensions (L*W*H)	46.7 x 22.2 x 46.1 in
	Net Weight	77 lbs / 35 kg

13. LIMITED WARRANTY

This product is distributed by:
Midland Power Inc.
376 Magnetic Drive, Toronto, ON M3J 2C4, Canada

Warranty

Beginning at the time of retail purchase and for the duration of the warranty period Midland Power Inc. (Midland) warrants that Equipment manufactured by it is warranted to be free from defects in material and workmanship. Midland will, at its sole discretion, replace or repair any part(s) which, upon evaluation and testing by Midland or an authorized service center, show a defect in workmanship or material. Valid proof of purchase must be submitted online for registration with Midland, or presented to Midland at time of claim, for warranty to be valid. This warranty is not transferable from the original owner.

Limited Warranty Period:

Non-commercial use:

- Year 1, 2 and 3 - Parts and Labour
- Year 4 and 5 - Parts

Commercial use:

- First 6 Months - Parts and Labour

Replacement parts sold to a consumer or installed by an authorized service center are warranted for a period of 90 days from date of purchase. Labour must be performed by an authorized service center unless given Midland's prior written approval. Midland will not bear any transportation or shipping fees to or from an authorized service center. Service calls, travel charges, overtime, or weekend rates, are not covered.

This warranty does NOT cover:

a. Any repairs required as a result of any parts not supplied by Midland, and this part is responsible for the failure or malfunction;

b. Any Equipment modified, altered, disassembled or remodelled;

c. Any repairs required as a result of a failure to install, maintain, store, transport, or operate the Equipment in accordance with standard practices set out in the user guide;

d. Damage that occurred after receipt of equipment, not caused by defects in workmanship or material;

e. Normal maintenance services, as outlined in the user guide and intended for a consumer to perform;

f. Replacement of parts made in connection with normal maintenance services including oils, adhesives, additives, fuel, filters, brushes, belts, lubricants, spark plugs, gaskets, seals, fasteners, wires, tubes, pipes, fittings, wheels, batteries, and other expendables susceptible to natural wear;

g. Any accessory or attachment.

Any battery supplied with this Equipment is considered a consumable item and is excluded from this warranty. Batteries can be damaged by shock, shorting terminals, heat, acid spillage, neglect, and other factors. It is the customer's responsibility to take great care when handling a battery so no spillage of acid occurs which may cause corrosion.

Midland disclaims any responsibility for loss of time or use of the product, transportation, or towing costs or any other indirect, incidental, or consequential damage, inconvenience or commercial loss.

This warranty is the entire and only warranty given by Midland for Midland products or equipment. No agent or employee is authorized to extend or enlarge this warranty on behalf of Midland by any written or verbal statement or advertisement.

California

The California Air Resources Board and Midland Power Inc. are pleased to explain the emission control system warranty on your Midland Power Inc. engine. In California, new spark-ignited small off-road equipment engines must be designed, built, and equipped to meet the State's stringent anti-smog standards.

Other States, U.S. territories, and Canada

In other areas of the United States and in Canada, your engine must be designed, built, and equipped to meet the U.S. EPA and Environment Canada emission standards for spark-ignited engines at or below 19 kilowatts.

All of the United States and Canada

Midland Power Inc. must warrant the emission control system on your power equipment engine for the period of time listed below, provided there has been no abuse, neglect, or improper maintenance of your power equipment engine. Where a warrantable condition exists, Midland Power Inc. will repair your power equipment engine at no cost to you including diagnosis, parts, and labor.

Your emission control system may include such parts as the carburetor or fuel injection system, the ignition system, and catalytic converter. Also included may be hoses, connectors, and other emission-related assemblies.

Emission Control System Warranty Parts:

This list applies to parts supplied by Midland Power Inc. and does not cover parts supplied by the equipment manufacturer. Please see the original equipment manufacturer's emissions warranty for non-Midland Power Inc. parts.

Consumable parts are covered up to a maximum of 30 days.

SYSTEMS COVERED IN WARRANTY	PARTS DESCRIPTION
Fuel Metering	Carburetor assembly (includes starting enrichment system), Engine temperature sensor, Engine control module, Fuel regulator, Intake manifold
Evaporative	Fuel Tank, Fuel Cap, Fuel Hoses, Vapor Hoses, Carbon Canister, Canister Mounting Brackets, Fuel Strainer, Fuel cock, Fuel Pump, Fuel Hose Joint, Canister Purge Hose Joint
Exhaust	Catalyst, Exhaust Manifold
Air Induction	Air filter housing, Air filter element
Ignition	Flywheel magneto, Ignition pulse generator, Crankshaft position sensor, Power coil, Ignition coil assembly, Ignition control module, Spark plug cap, Spark plug
Crankcase Emission Control	Crankcase breather tube, Oil filler cap
Miscellaneous Parts	Tubing, fittings, seals, gaskets, and clamps associated with these listed systems

Enjoy!

Be sure to check www.benchmark.midlandpowerinc.com for updates regarding your product.

BENCHMARK | MIDLAND POWER

Customer Service

Online: www.benchmark.midlandpowerinc.com

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