

BENCHMARK™

HH0409



MANUAL



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](http://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 HH0409!

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:



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



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1. SAFETY

⚠ DANGER	
Using a generator indoors CAN KILL YOU IN MINUTES . Generator exhaust contains carbon monoxide. This is a poison you cannot see or smell.	
 NEVER use inside a home or garage, EVEN IF doors and windows are open.	 Only use OUTSIDE and far away from windows, doors, and vents.
Avoid other generator hazards. READ MANUAL BEFORE USE.	

⚠ 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 unless both wheels are in the locked position. This acts as a brake for the tiller.
- 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

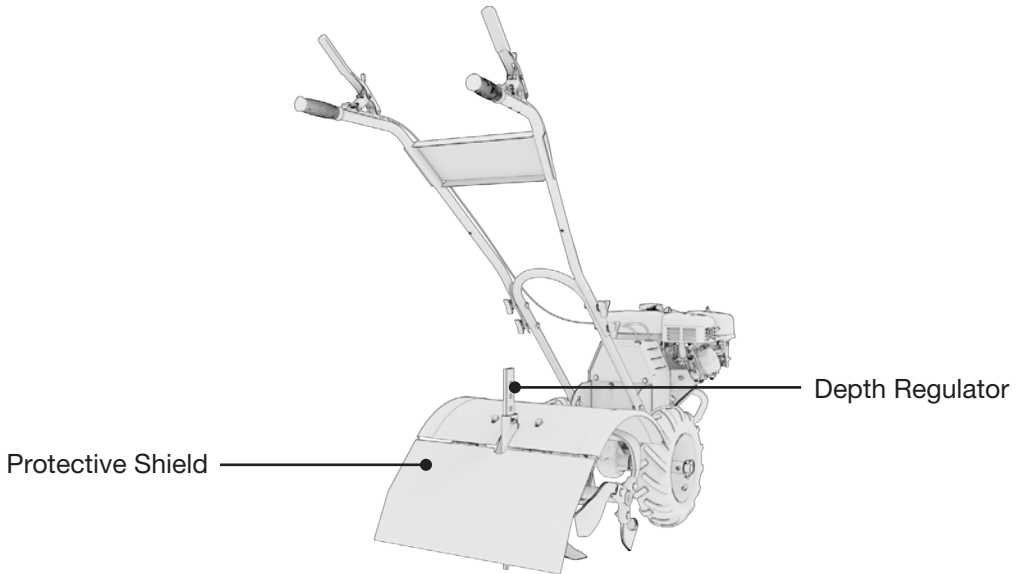
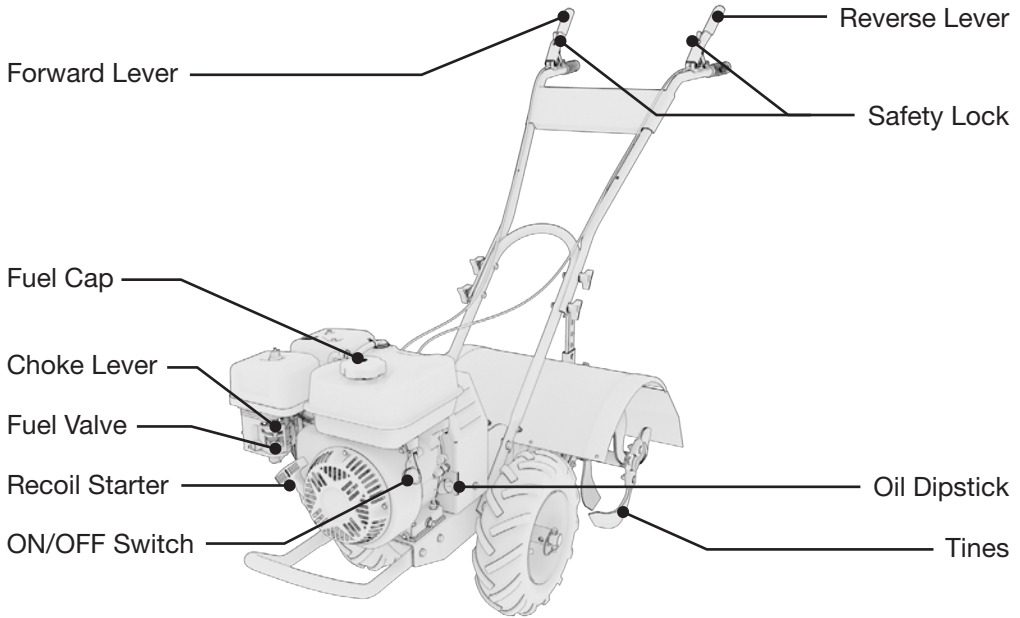
⚠ WARNING!

- 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

Choke Lever

- A carburetor choke lever engages or disengages the choke, subsequently adjusting the amount of air that is enabled to flow through the intake of the carburetor.

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.

Forward/Reverse/Safety Lock Levers

- The forward/reverse lever located on the upper handle controls the tiller's direction. The safety lock ensures that when using the tiller the operator does not accidentally start the forward or reverse action until they are ready to operate the tiller.

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.

2.3 MAKE SURE YOU HAVE EVERYTHING

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

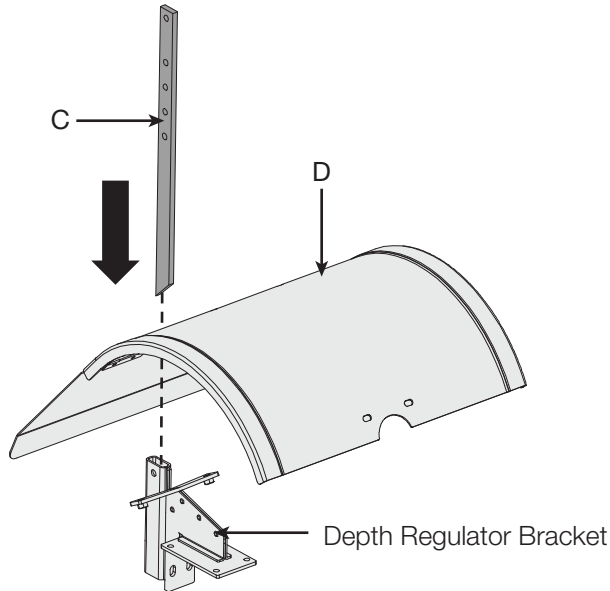
Part Name	Quantity
Tiller	1
User Guide	1
Oil Bottle (600mL)	1
Spark Plug Wrench	1

3. GETTING STARTED

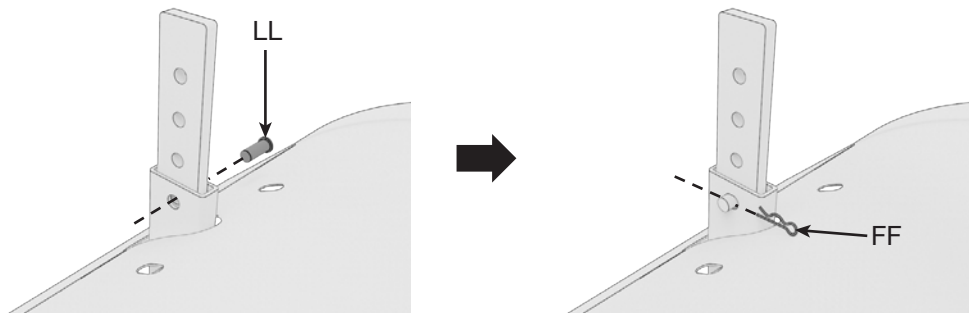
Setup of your tiller is designed to get you up and running as quickly as possible. Cut the four corners of the carton from top to bottom instead of attempting to lift it out of the box.

3.1 ASSEMBLING THE DEPTH REGULATOR AND PROTECTIVE SHIELD

1. Insert the depth regulator (C) through the opening in the protective shield (D) and into the top of the depth regulator bracket. The angled edge of the depth regulator should be facing toward the engine.

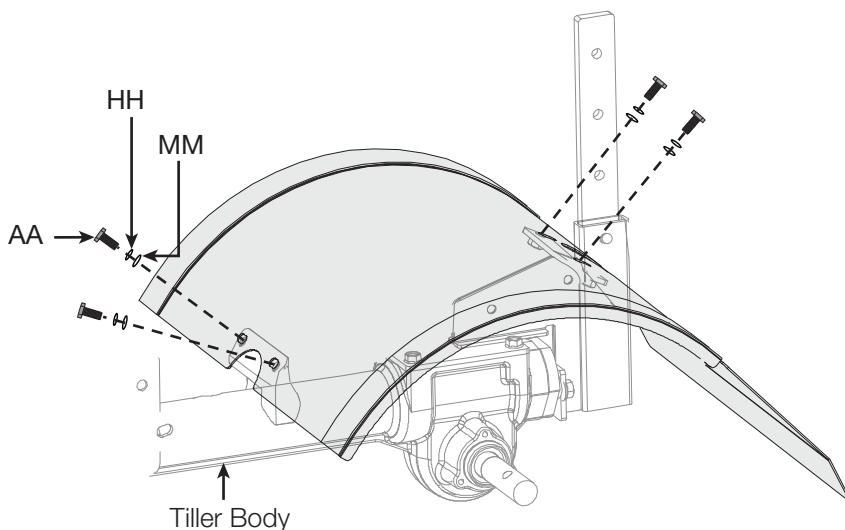


2. Insert the clevis pin (LL) through the depth regulator bracket and depth regulator. Use the cotter pin (FF) to secure the clevis pin. The top hole of the depth regulator tines should clear the ground.



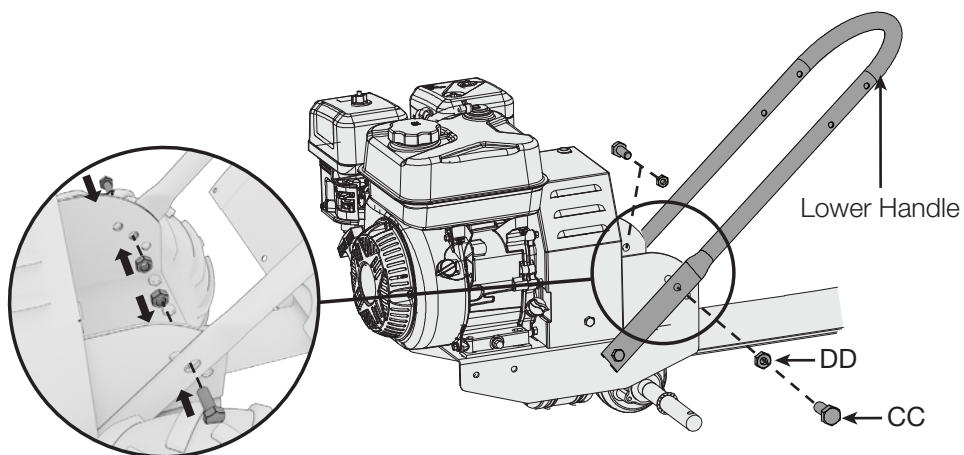
3. Align the holes in the protective shield (D) to the holes on the mounting

plates. Insert M8x20 bolts (AA) with spring washers (HH) and regular washers (MM) and tighten with a wrench.

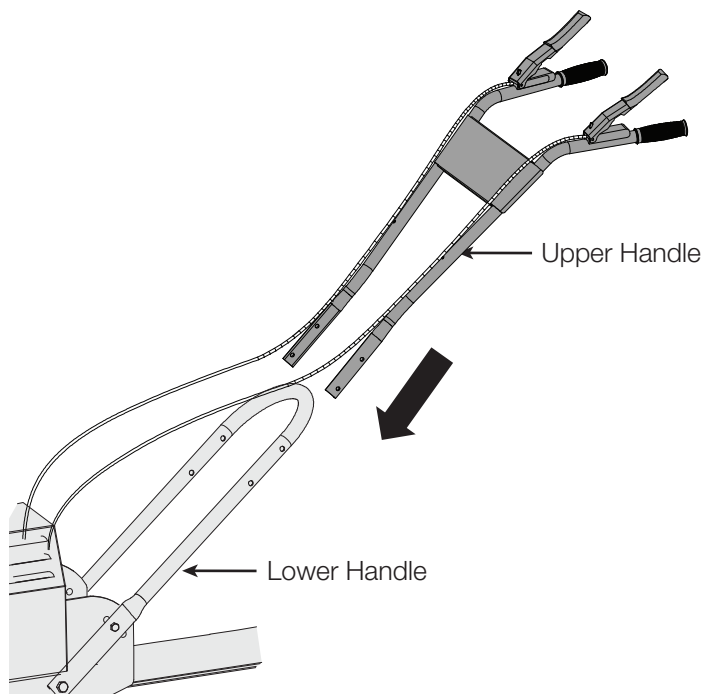


3.2 ASSEMBLING THE HANDLES

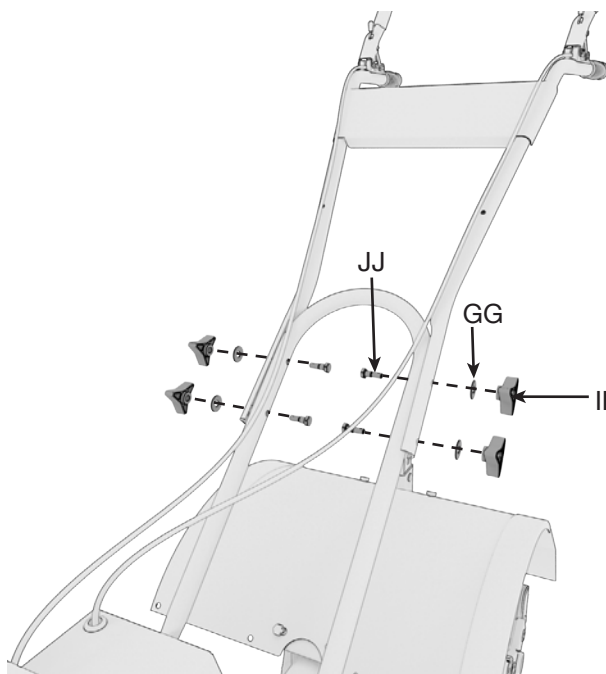
1. The lower handle arrives pre-attached. With the M10x25 bolts (CC) and M10 Nuts (DD), secure the lower handle at the desired angle using one of the 3 holes on both sides.



2. Align the mounting holes in the upper handle and the lower handle.

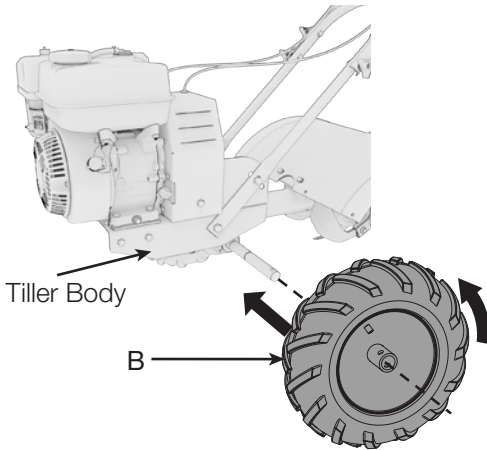


3. Insert M8x50 bolts (JJ) through the inside of the handle. Insert washers (GG) and hand tighten with star knob.

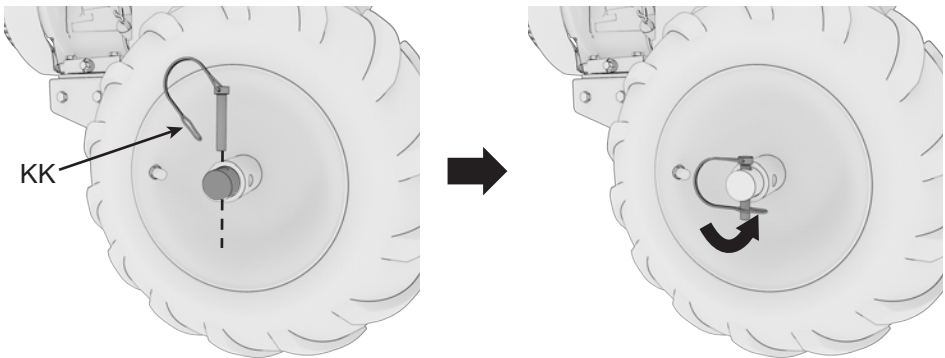


3.3 ASSEMBLING THE WHEELS

1. With assistance, insert the wheel (B) through the tiller axle shaft on the tiller body. Ensure the wheel is facing the correct direction.



2. Align the hole on the wheel hub and the tiller axle shaft and insert the wheel pin (KK) to secure the wheel in place in the WHEEL DRIVE position. The angled tread should be pointing forward.



3.4 WHEEL DRIVE

⚠ WARNING!

Always ensure the engine is OFF, the spark plug wire is disconnected, and that the engine is cooled when switching the wheels positions.

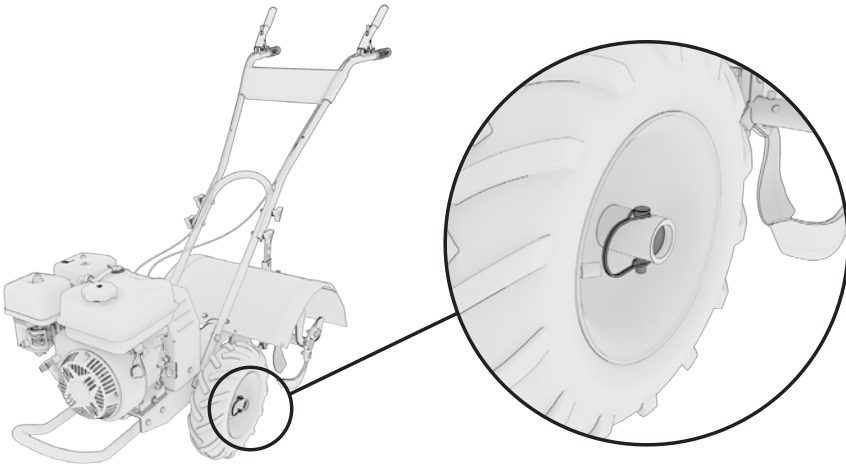
Always put both wheels in the WHEEL DRIVE position before starting the engine. Never allow either of the wheels to be in the FREE-WHEEL position when the engine is running.

Engaging the Forward Lever when the wheels are not in WHEEL DRIVE could allow the tines to propel the tiller forward or backward suddenly and rapidly.

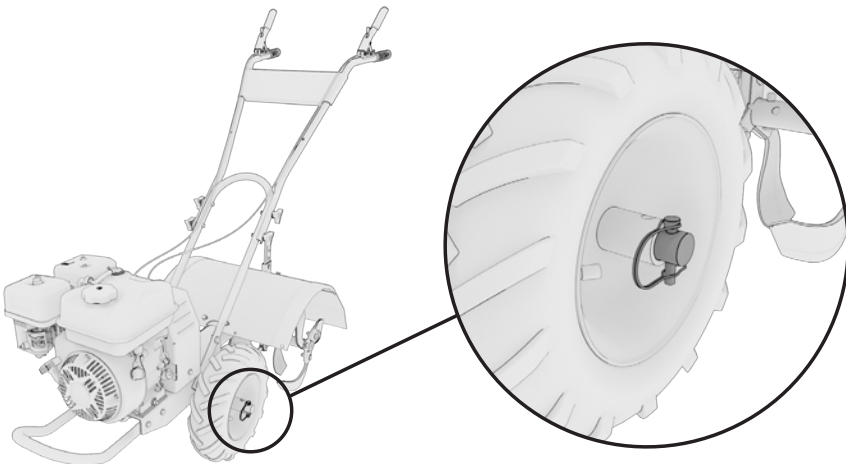
DO NOT place tiller on its side when changing wheel positions as gasoline could leak from the fuel tank. This could result in personal injury or property damage.

The wheels can be used in either a WHEEL DRIVE or a FREE-WHEEL position.

- To put both wheels in the WHEEL DRIVE position, insert the wheel pins through both the wheel hubs and axle shaft. This will lock the wheels to the axle shaft, causing the wheels to turn when either the forward or reverse lever is engaged.

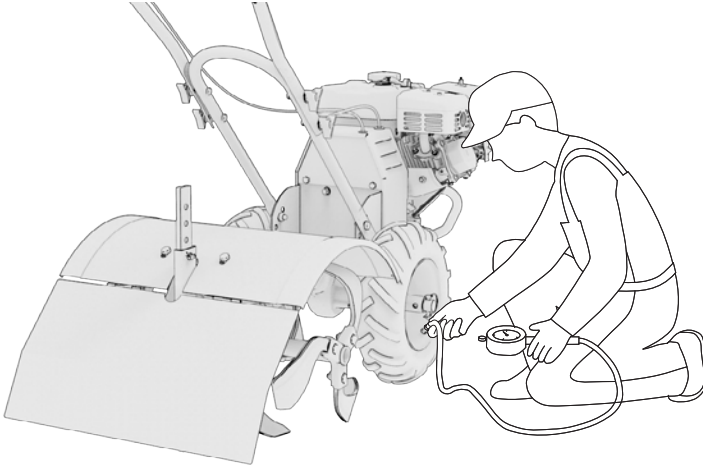


- To put both wheels in the FREE-WHEEL position, insert the wheel pins only through the holes in the wheel shaft (not the wheel hubs). This allows the wheels to turn freely when you manually move the tiller.



3.5 CHECK TIRE PRESSURE

Check the air pressure in both tires before each use. The air pressure should be between 20 PSI and 25 PSI (pounds per square inch).

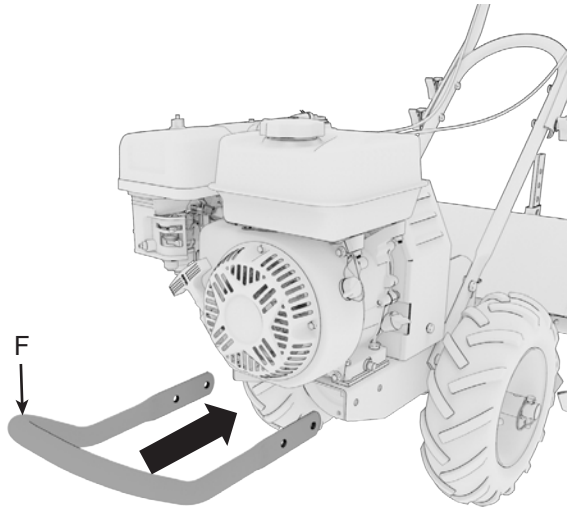


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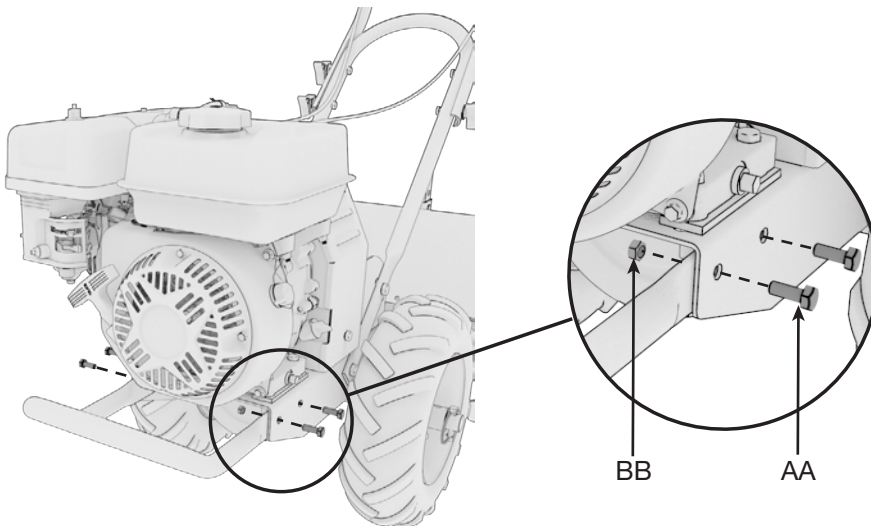
- If the air pressure is lower than 20 PSI, inflate the tires with air pump.
- If the air pressure is higher than 25 PSI, deflate the tires slowly until it is back to the desired air pressure.
- Keep both tires equally inflated to help prevent the tiller from pulling to one side.

3.6 ASSEMBLING THE BUMPER

1. Position the bumper (F) onto the front end of the tiller body located just below the engine.

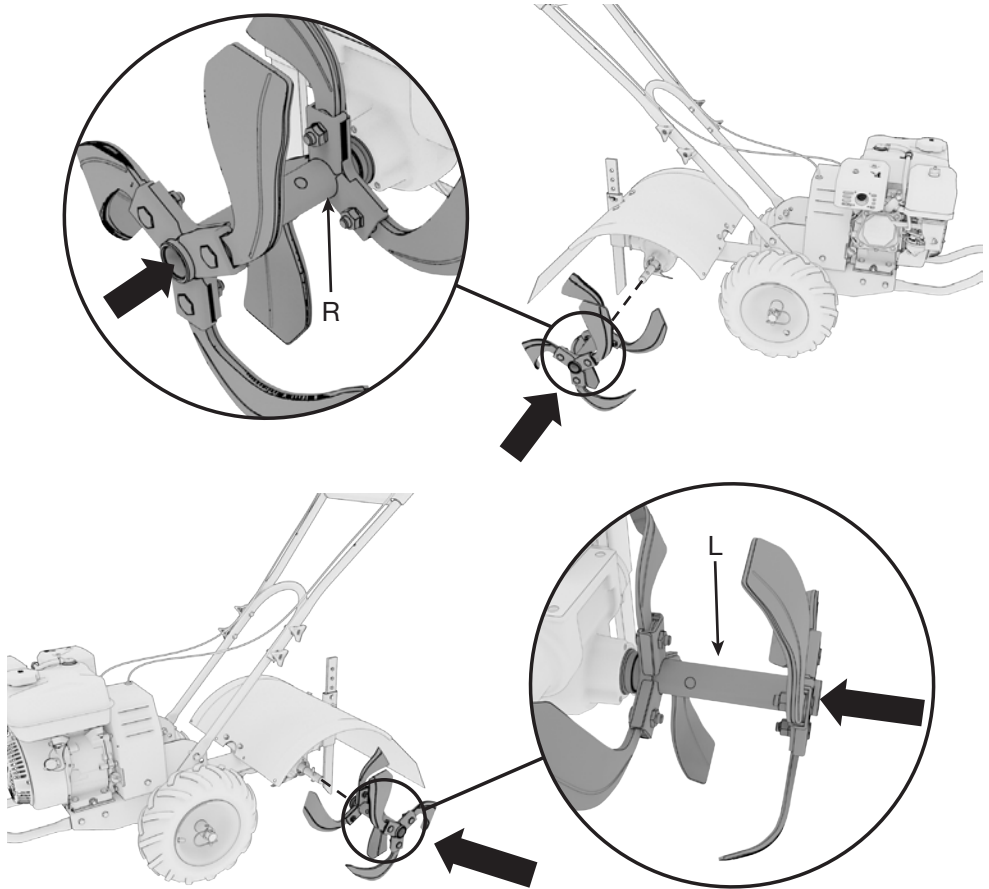


2. Align the holes and secure in place with M8x20 bolts (AA) and M8 nuts (BB).

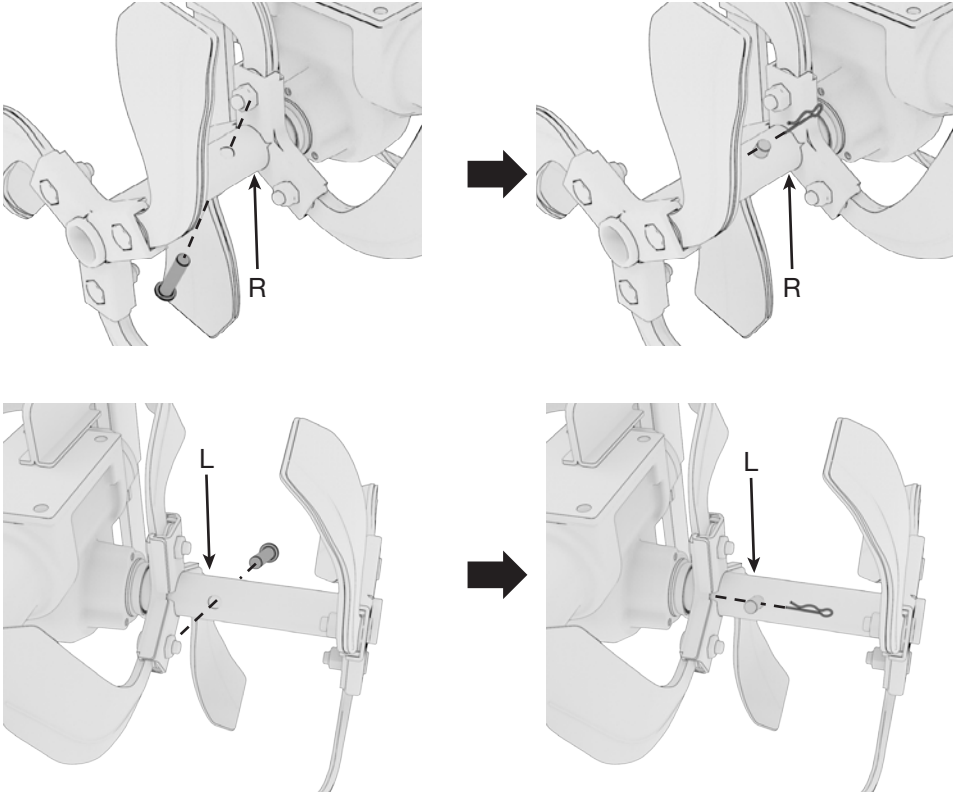


3.7 ASSEMBLING THE TINES

1. Check the orientation of the tine blades. The sharp cutting edge should be facing the direction of tine rotation for your tiller.



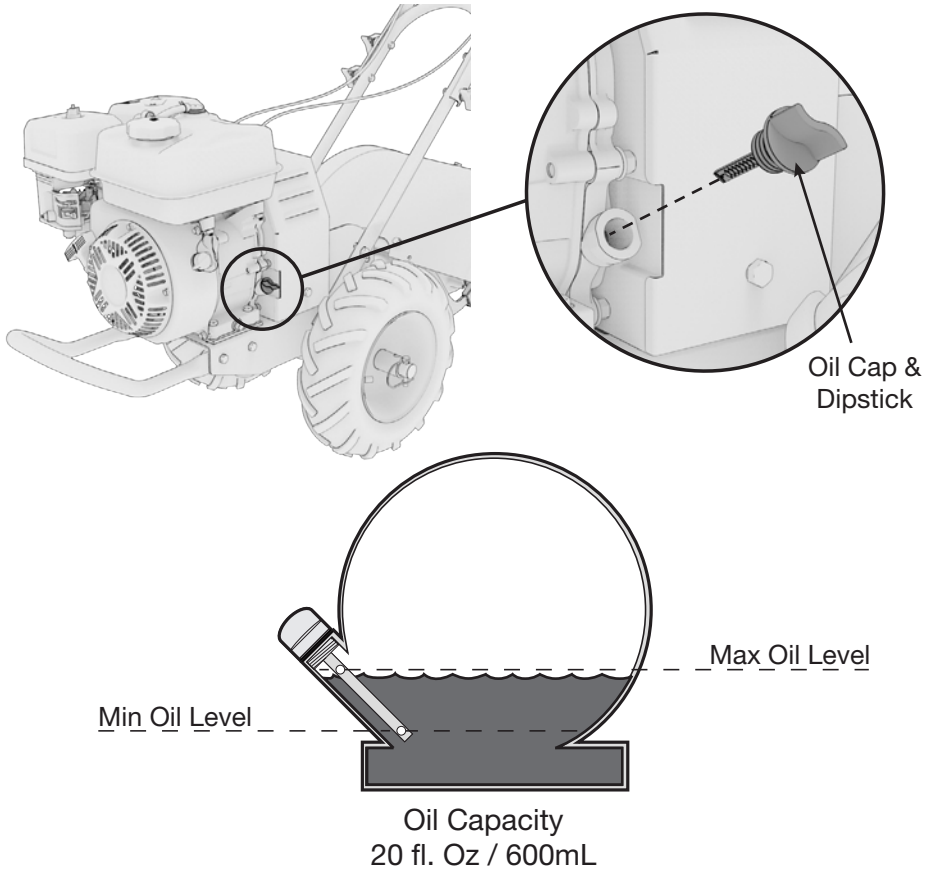
2. Insert tines (E) on each side through the tine axle located on the rear of the tiller. Align holes on the tine shafts and tine axle. Insert clevis pin (EE) then the cotter pin (FF) to secure in place.



3.8 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.



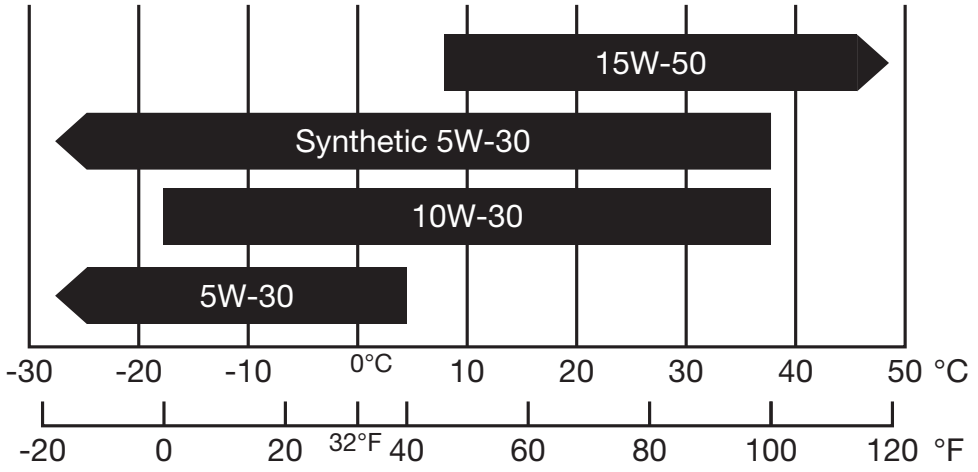
1. Place the tiller on a level surface.
2. Remove the filler cap.
3. Place the funnel securely and add oil. DO NOT top off.
4. Check dipstick to confirm adequate amount of oil.
5. Secure the oil cap and wipe off any excess oil.

NOTE

- Max oil capacity: 20 fl. oz / 600mL
- 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

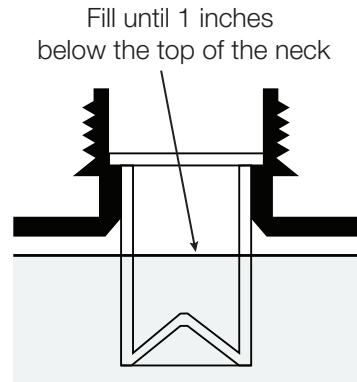
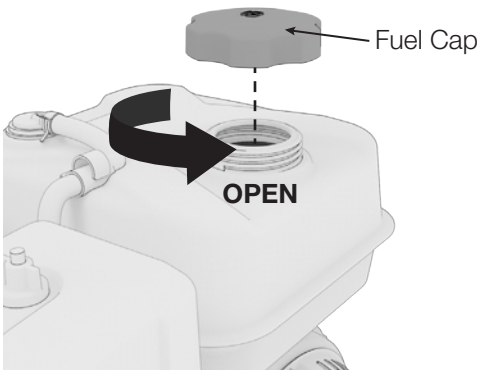


3.9 ADD FUEL

⚠ 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: 0.9 Gal / 3.6 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: 0.9 Gal / 3.6L
- 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

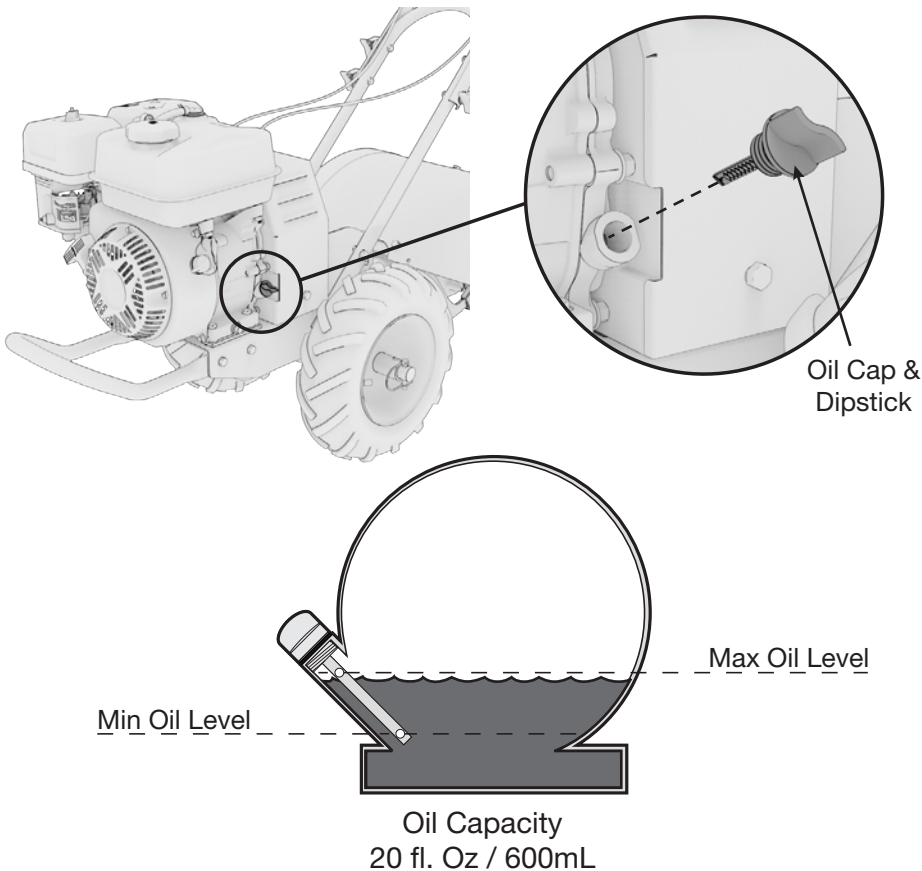
⚠ WARNING!

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. Ensure the tiller is on a level surface.
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

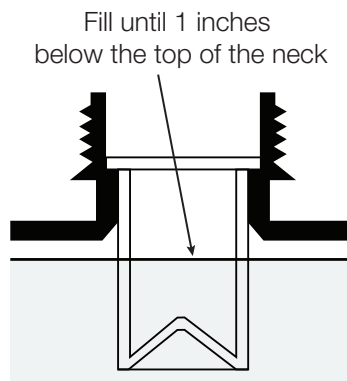
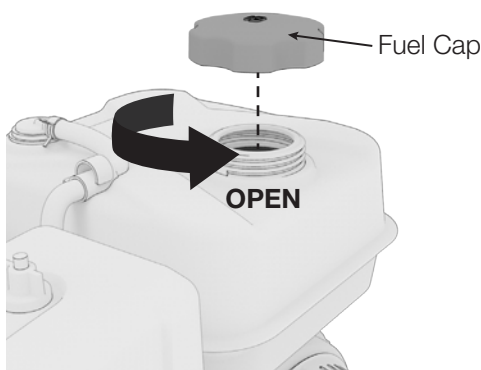
- Max oil capacity: 20 fl. oz / 600mL
- SAE 10W-30 oil is recommended for general use.
- DO NOT OVERFILL.

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: 0.9 Gal / 3.6 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.

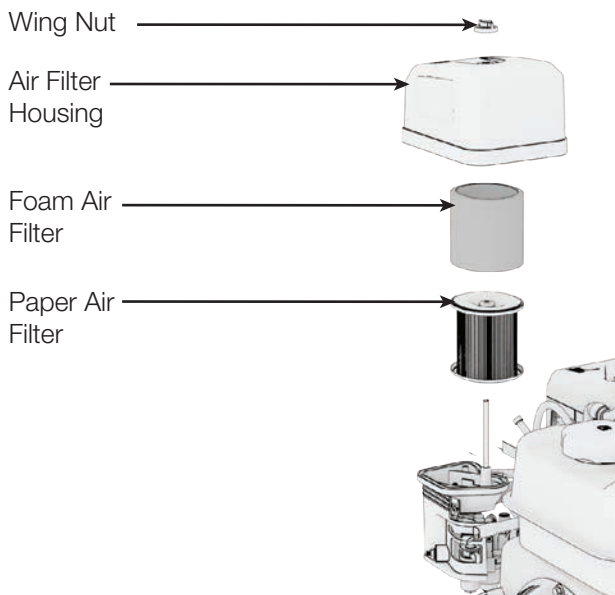
NOTE

- Max fuel capacity: 0.9 Gal / 3.6L
- 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

Check the air filter before your first use. Check the maintenance schedule for a complete cleaning guide.

Loosen the knob and remove the air filter cover. Remove the air filter element and inspect for cleanliness.



1. Loosen the nut and remove the air filter cover. Remove the air filter housing and elements and inspect for cleanliness.
2. Gently shake the paper filter or blow with air to remove the dust and debris.
3. Clean the *foam* air filter with soap and water or solvent and let dry.
4. Soak the *foam* filter in clean engine oil.
5. Gently squeeze and then pat out all excess oil and reinstall. If excess oil

remains in the *foam* filter it can seep through to the paper filter and damage it.

6. Replace either filter if it is damaged.



NOTE

- Running the engine without the air filter will quickly degrade the engine
- Always inspect air filter before using the pressure washer. Check and clean the air filter according to the maintenance schedule.

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, trees, or other objects that may obscure vision.

5. STARTING THE ENGINE

⚠ DANGER	
Using an engine indoors CAN KILL YOU IN MINUTES . Engine exhaust contains carbon monoxide. This is a poison you cannot see or smell.	
	
NEVER use inside a home or garage, EVEN IF doors and windows are open.	Only use OUTSIDE and far away from windows, doors, and vents.
Avoid other engine hazards. READ MANUAL BEFORE USE.	

⚠ 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.

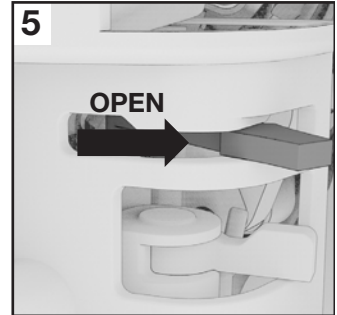
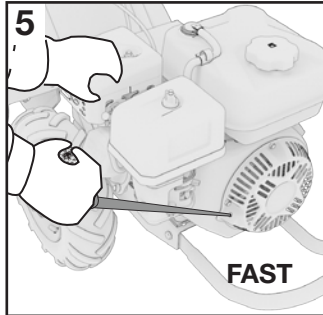
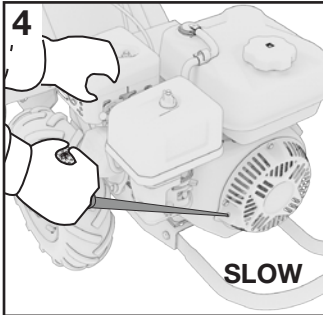
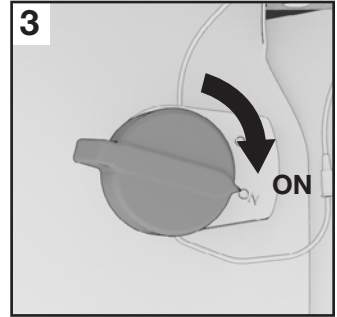
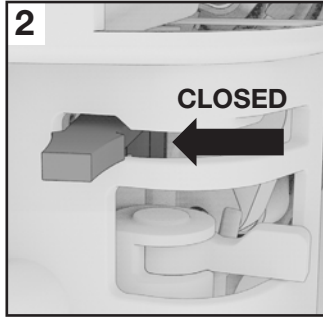
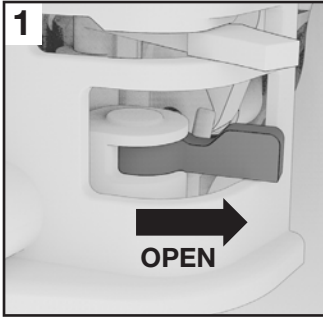
ONLY use an engine outdoors and far away from open windows, doors, and vents. These openings can pull in engine exhaust. Even when you use an engine correctly, **CO** may leak into the home. **ALWAYS** use a **CO** alarm in your home.

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.

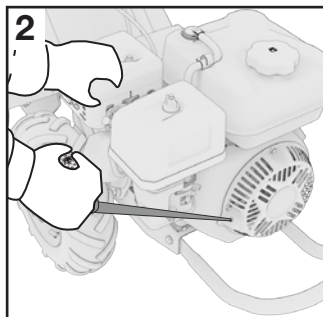
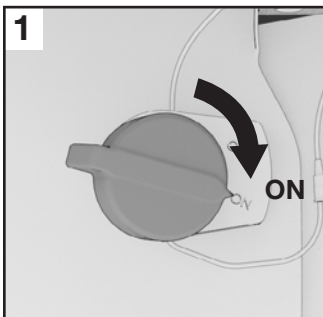
5.1 MANUAL RECOIL START



1. Move the fuel lever to the OPEN position.
2. Move the choke lever to the CLOSED position.
3. Move the ON/OFF switch to the ON position.
4. Pull recoil handle out slowly one time and allow to return slowly.
5. Pull recoil handle out rapidly, to start the engine.
6. When the engine starts, gradually move choke lever to the OPEN position and increase throttle speed.

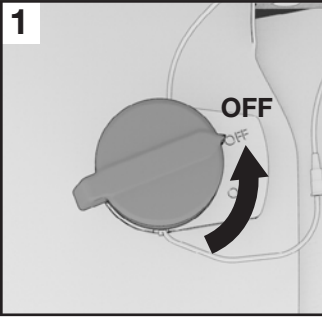
NOTE

- 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

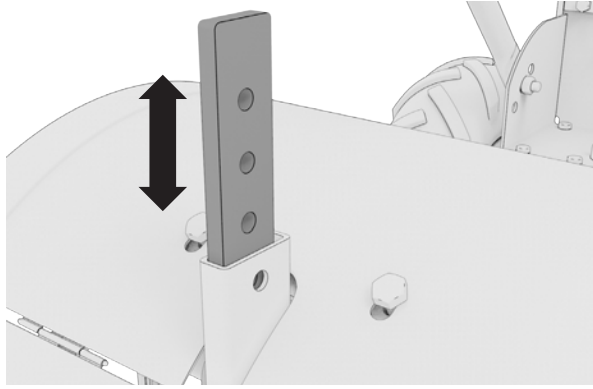
7.1 ADJUSTING THE DEPTH REGULATOR

⚠ WARNING!

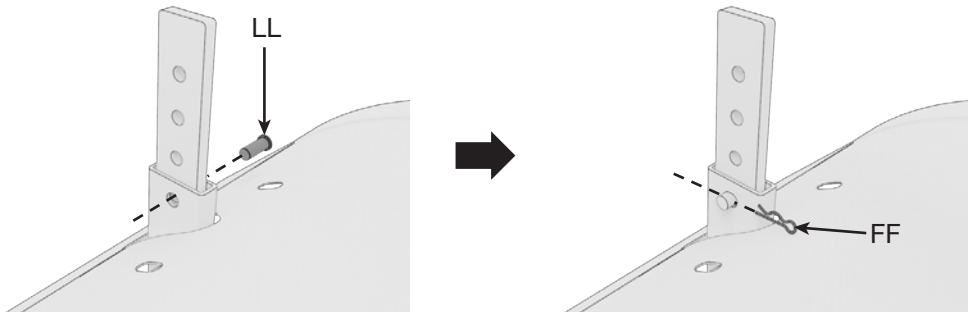
Always release the control levers back to the neutral position and stop the engine before adjusting the depth regulator.

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

1. Adjust the depth regulator lever to desired tilling depth.

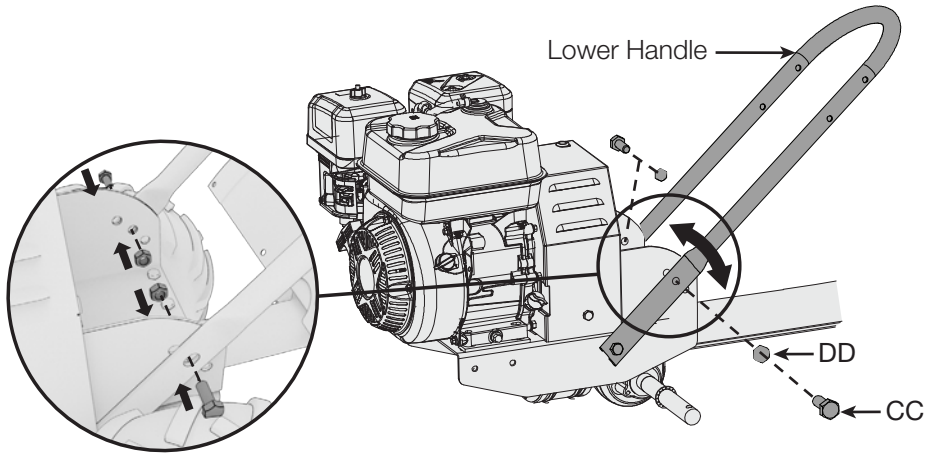


2. Insert the clevis (EE) and cotter pin (FF) to secure depth regulator to desired depth.



7.2 ADJUSTING THE HANDLE HEIGHT

The ideal height of the handlebar varies with operator height and the depth of tilling.

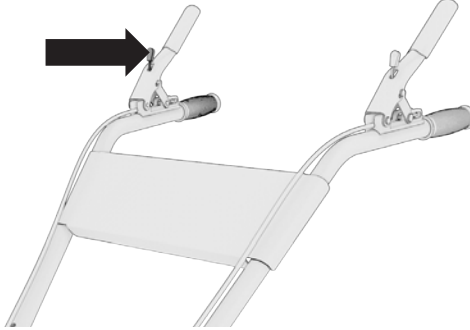


1. Unscrew nuts (DD) and remove top and bottom bolts (CC) on each side of the lower handle.
2. Align lower handle to desired height holes.
3. Reinstall bolts (CC) and nuts (DD).

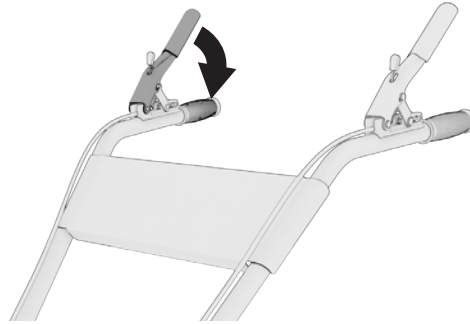
7.3 ENGAGING THE TINES AND WHEELS

Moving Tiller Forward

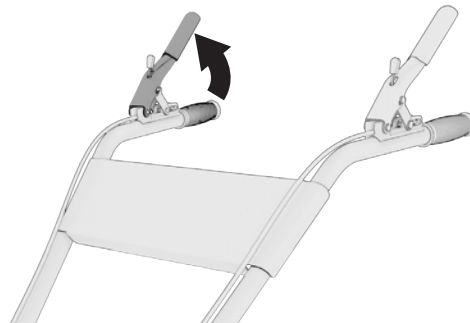
1. Disengage the safety lock by pressing it down completely.



2. While still holding down the safety lock, push down the FORWARD control lever (Right-Side Lever) toward the handlebar to engage the wheels and tines forward.

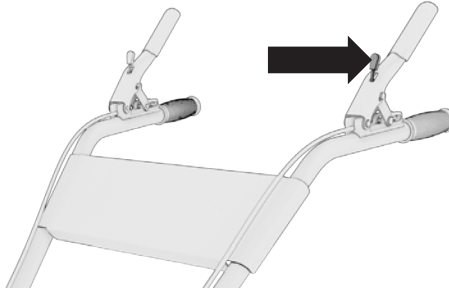


3. Release the lever to stop the wheels and tines and brings the tiller to a complete stop.

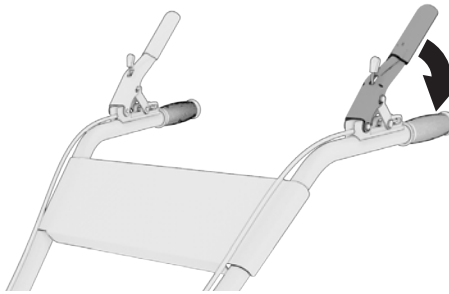


Moving Tiller in Reverse

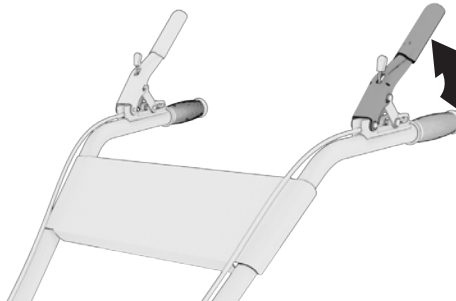
1. Disengage the safety lock by pressing it down completely.



2. While still holding down the safety lock, push down the REVERSE control lever (Left-Side Lever) toward the handlebar to engage the wheels and tines in reverse.



3. Release the lever to stop the wheels and tines and brings the tiller to a complete stop.



NOTE

- Always keep distance between yourself and the tiller. Any contact with the rotating tines can result in serious injury.
- DO NOT operate both “FORWARD” and “REVERSE” control levers at the same time. Wait until the tines and wheels stop moving before engaging opposite control levers.
- The tiller’s forward advance can be slowed by putting slight downward pressure on the handlebars. Stop the tiller completely by releasing the control levers back to the neutral position.

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.
- If weeds, tall grasses, vines, or other materials clog or jam the tines, reverse the tiller to unwind vegetation.
- 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 detent 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 drive belt tension Check/change engine oil level Inspect air filter Check tire pressure Clean tine shaft
First 20 Hours or First Month
Change engine oil
First 50 Hours or 3 Months
Clean air filter ¹ Check tiller transmission gear oil Lubricate wheel axle shaft
Every 100 Hours or 6 Months
Change engine oil ² 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.

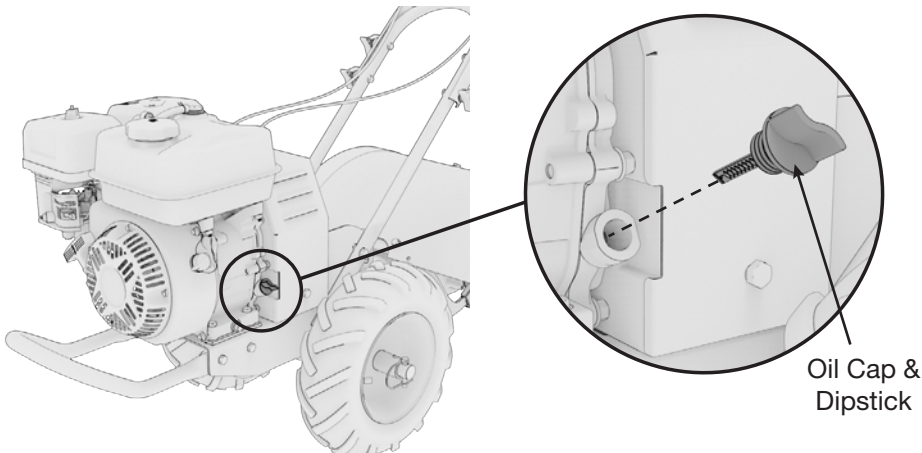
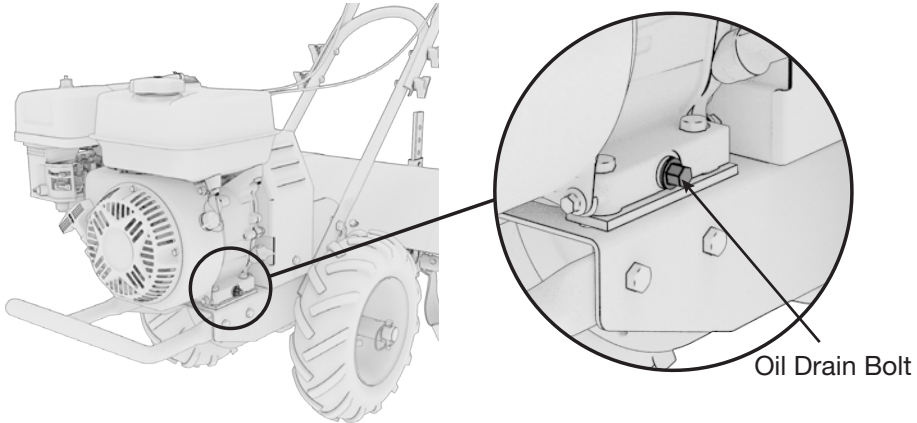
9.2 CHANGING THE OIL

⚠ 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.

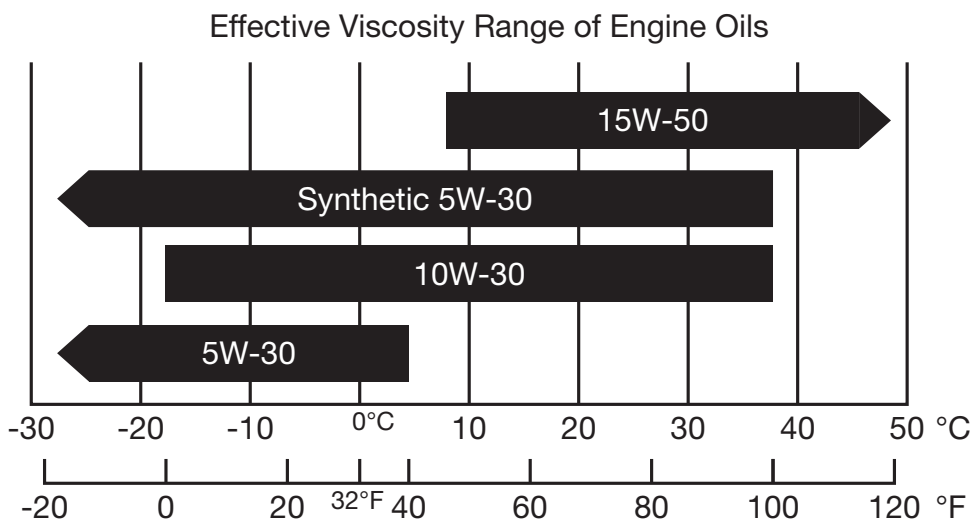


1. Remove the oil drain bolt and tilt the tiller slightly to drain the oil into an appropriate container.
2. After the oil has drained, reinstall and tighten the oil drain bolt.
3. Clean any moisture or debris from the oil fill area.
4. Remove oil dipstick and wipe with a clean cloth, set aside.
5. Pour 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: 20 fl. oz / 600mL
- SAE 10W-30 is recommended for general use.
- DO NOT OVERFILL.



- 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

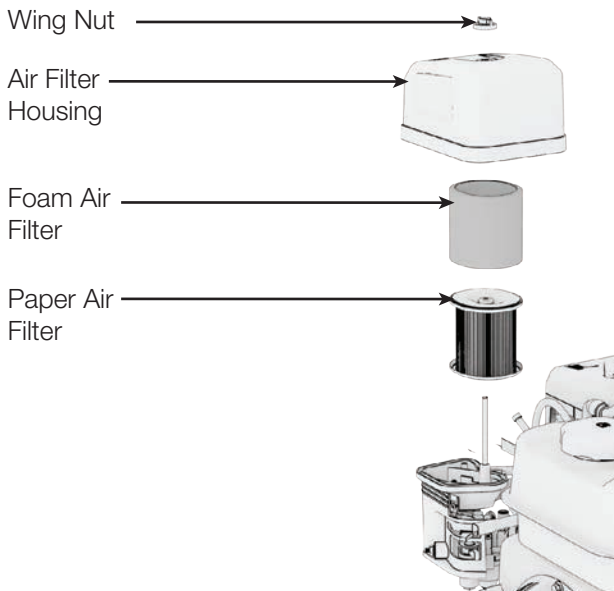
⚠ WARNING!

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

A dirty air filter will restrict air flow into the carburetor. Clean and maintain the air filter regularly, especially in dusty areas.

NOTE

- Never run the tiller without an air filter, doing so will quickly degrade the engine.



1. Loosen the nut and remove the air filter cover. Remove the air filter housing and elements and inspect for cleanliness.
2. Gently shake the paper filter or blow with air to remove the dust and debris.
3. Clean the *foam* air filter with soap and water or solvent and let dry.
4. Soak the *foam* filter in clean engine oil.
5. Gently squeeze and then pat out all excess oil and reinstall. If excess oil remains in the *foam* filter it can seep through to the paper filter and damage it.
6. Replace either filter if it is damaged.

9.4 SPARK PLUG SERVICE

NOTE

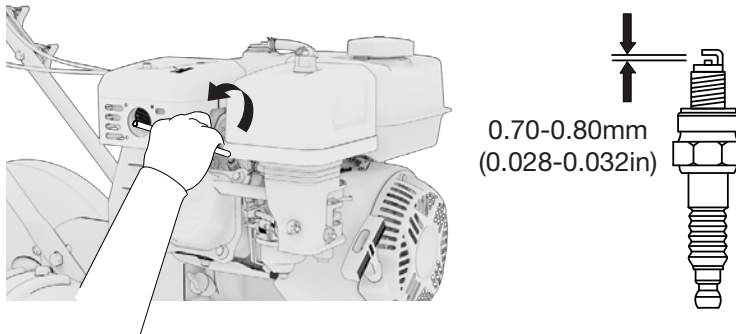
- Do NOT rinse spark plug in water. Follow guidelines and be careful not to overtighten the spark plug.

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.



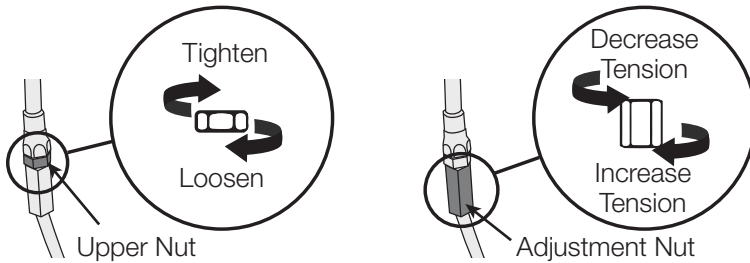
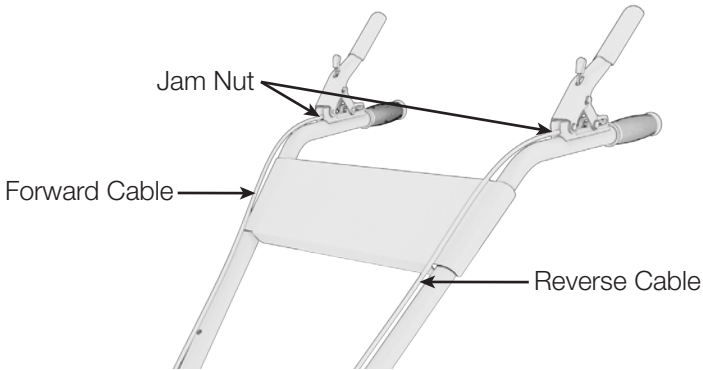
1. Remove the air filter access panel.
2. Remove the spark plug cap.
3. Remove the spark plug with the spark plug wrench.
4. Visually inspect the spark plug. Replace with a new one if the insulation is cracked or chipped. Clean with a wire brush if the spark plug is reused.
5. Measure the spark plug 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 WIRE TENSION ADJUSTMENT

Proper wire tension is critical to good performance. Check cable tensions after every 2 hours of operation.



1. Loosen upper jam nut.
2. Turn the adjusting nut counterclockwise in 1/8" increments.
3. Tighten upper jam nut.
4. Check adjustment.

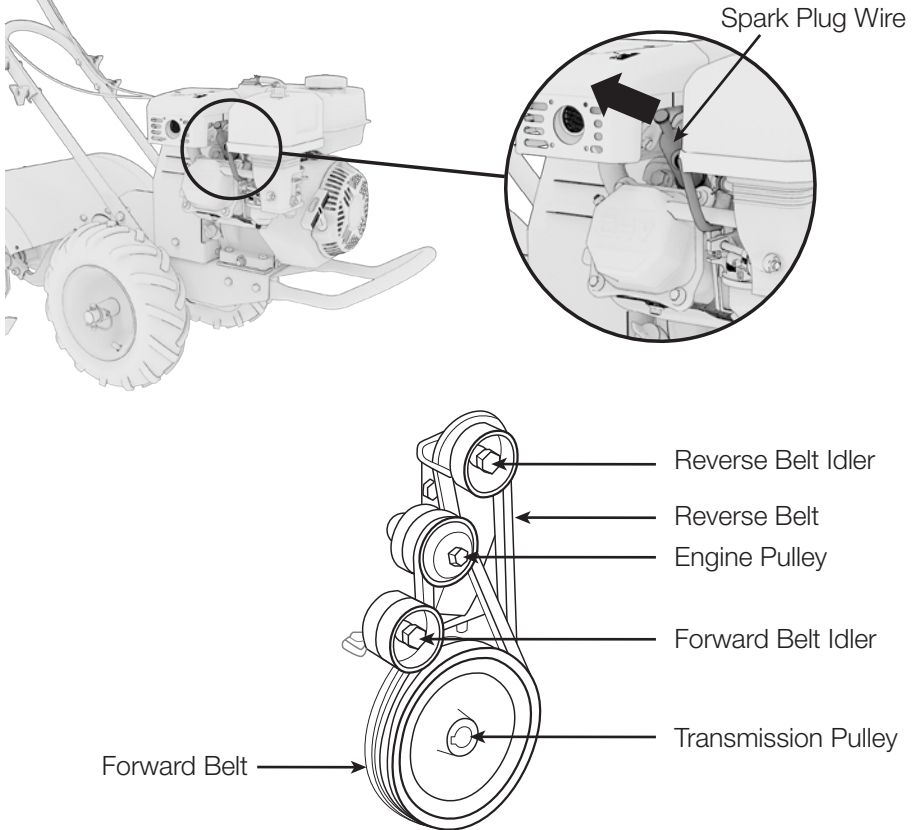
NOTE

- This procedure can be repeated until conduit adjustment bolts are fully adjusted. If no more adjustments can be made, the wire may have to be replaced.

9.6 CHANGING THE FORWARD/REVERSE 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.

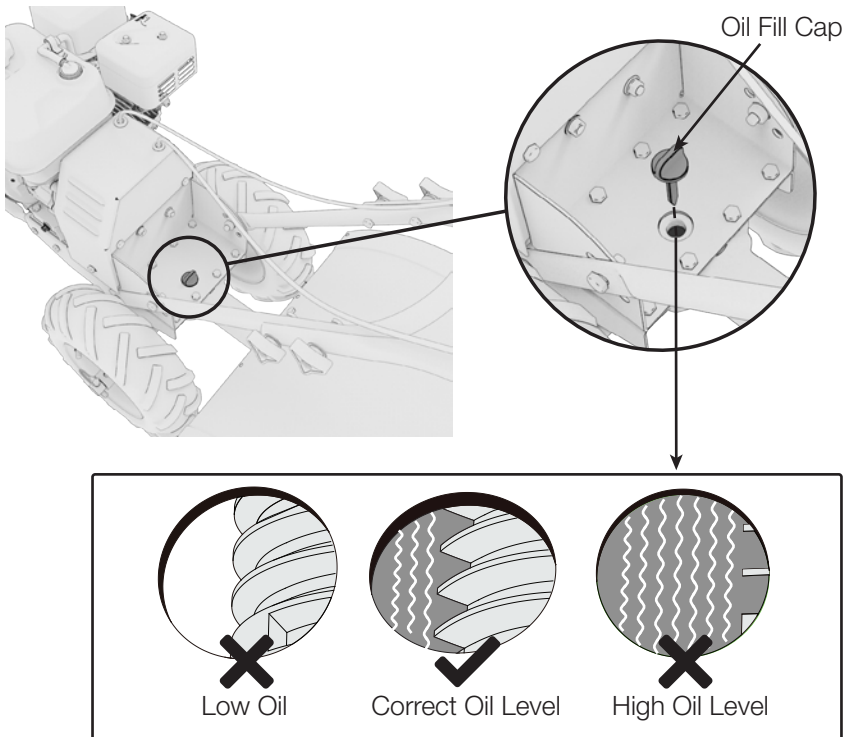


1. Turn off engine and allow it to cool.
2. Remove spark plug wire and secure it away from the spark plug.
3. Remove belt guard.
4. Remove the forward belt from the forward engine pulley. Gently pull the engine recoil rope to rotate the pulley.
5. With the pulley turning, force the forward belt out of the V-groove and slide the belt free of the engine pulley.
6. Pull the forward belt down and out of the way.
7. Remove the reverse belt from the reverse engine pulley and gently pull the engine recoil rope to rotate the pulley.
8. With the pulley turning, force the reverse belt out of the V-groove and slide the belt free from the engine pulleys and reverse belt guides.

9. Pull belt down and away from the transmission pulley and install new reverse belt.
10. Thread the belt up from bottom and place belt around transmission pulley in the groove.
11. Place belt under reverse belt guides and gently pull the engine recoil rope while forcing the belt over the edge of the engine pulley into the V-groove.
12. Install new forward belt.
13. Place forward belt in the transmission pulley groove and gently pull the engine recoil rope to rotate the pulley while forcing the forward belt into the V-groove.
14. Replace belt guard.
15. Attach spark plug wire.

9.7 CHECKING GEAR OIL

Check the gear oil level after every 50 hours of operation or whenever you notice any oil leak. Operating the tiller when the transmission oil is low can result in severe damage.



1. Check the gear oil level when the transmission is cool.
2. Place the tiller on level ground. Pull the Depth Regulator Lever all the way up.
3. Remove the oil fill cap from the transmission housing and look inside the oil

fill hole. Locate the main drive shaft situated below the hole.

4. If the transmission gear oil is low, add gear oil (SAE 85W-140 or 85W-90). The tiller transmission holds 24 ounces. Do not overfill.
5. Securely replace the oil fill cap.

NOTE

- Transmission oil max. Capacity: 24 ounces
- The tiller ships from the factory with transmission gear oil installed.
- Gear oil will expand in warm operating temperatures. This expansion will provide an incorrect oil level reading.
- Operating the tiller when the transmission is low oil can result in severe damage to the transmission components.

9.8 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.

9.9 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.

9.10 CHECK TIRE PRESSURE

Check the air pressure in both tires. The air pressure should be between 20 PSI and 25 PSI.

- If the air pressure is lower than 20 PSI, inflate the tires air pressure with air pump.
- If the air pressure is higher than 25 PSI, deflate the tires slowly until it is back to the desired air pressure.
- Keep both tires equally inflated to help prevent the tiller from pulling to one side.

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

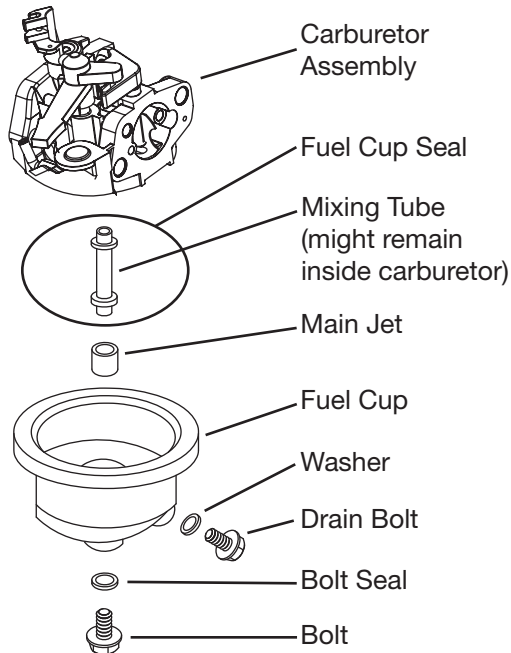
NOTE

- 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.

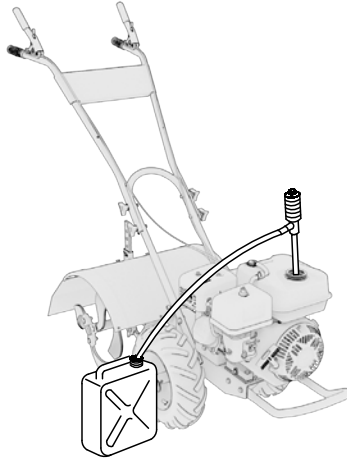
- Carburetor bowl may have gas in it which will leak upon removing the bolt.
- The mixing tube is held in place by the main jet and might fall out when it is removed. If it falls out, replace it in the same orientation before replacing the main jet.
- The fuel cup seal and bolt seal may be damaged during 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	<ul style="list-style-type: none">■ No storage preparation required, simply store as is.
1 Month to 1 Year	<ul style="list-style-type: none">■ 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	<ul style="list-style-type: none">■ 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
<p>The engine is difficult to start.</p>	<ul style="list-style-type: none"> ■ Out of fuel. ■ The engine switch is OFF. ■ The engine is not primed. ■ The spark plug wire is disconnected. ■ The spark plug is fouled. ■ The carburetor is dirty. ■ The air filter is clogged. ■ The fuel is contaminated. 	<ul style="list-style-type: none"> ■ Add fresh fuel. ■ Turn the engine switch on. ■ Move the choke lever to the ON position. ■ Attach spark plug wire to the spark plug. ■ Remove spark plug and inspect. Replace if necessary. ■ Take the tiller to an authorized service center to clean the carburetor. ■ Remove and clean the air filter ■ Drain and clean the fuel tank. Fill with fresh fuel.
<p>Engine Problems. The engine smokes excessively, runs very “rough,” runs erratically, or cannot maintain full speed.</p>	<ul style="list-style-type: none"> ■ No Engine Oil. ■ Engine oil is not at proper level. ■ The spark plug is fouled. ■ The air filter is clogged. ■ The fuel is contaminated. ■ The carburetor is out of adjustment. 	<ul style="list-style-type: none"> ■ Add engine oil. ■ Check engine oil, add or drain engine oil if necessary. ■ Remove spark plug, inspect, or replace if necessary. ■ Remove and clean air filter. ■ Drain and clean the fuel tank. Fill with fresh fuel. ■ Take the tiller to an authorized service center to clean the carburetor.

Excessive vibration and noise.	<ul style="list-style-type: none"> ■ Loose parts. ■ Engine problems (above). ■ Abnormal noise or squeal coming from belt drive. 	<ul style="list-style-type: none"> ■ Tighten all fasteners. ■ Refer to engine solutions (above). ■ Normally due to belt/pulley break in period. Refer to “Wire Tension Adjustment” section.
Tines will not rotate.	<ul style="list-style-type: none"> ■ Debris interfering with the tines. ■ Tines are loose. ■ Improper drive cable adjustment. ■ Damaged drive belts. 	<ul style="list-style-type: none"> ■ Remove debris from around tines. ■ Replace tine bolts and nuts. ■ Refer to “Wire Tension Adjustment” section to decrease belt tension. ■ Replace drive belts.
Tines continue to rotate when drive lever is not engaged.	<ul style="list-style-type: none"> ■ Improper drive cable adjustment. ■ Damaged drive belts. 	<ul style="list-style-type: none"> ■ Refer to “Wire Tension Adjustment” Section to decrease belt tension. ■ Replace drive belts.
Engine will not stop.	<ul style="list-style-type: none"> ■ Check the switch. 	<ul style="list-style-type: none"> ■ Replace the switch.
Tines will not cut properly.	<ul style="list-style-type: none"> ■ The tines assembled incorrectly. 	<ul style="list-style-type: none"> ■ Refer to “Assembling the Tines” Section.
Frequent engine stalling.	<ul style="list-style-type: none"> ■ Excessive tilling speed / depth. ■ Engine problems (above). 	<ul style="list-style-type: none"> ■ Till at a moderate pace. Make multiple passes. ■ Refer to engine solutions (above).

12. TECHNICAL SPECIFICATIONS

	SPECIFICATIONS	PARAMETERS
ENGINE	Type	Horizontal
	Engine Displacement	212cc
	Engine Speed	No-load 3000 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	0.9 Gal / 3.6L
	Oil Capacity	20 fl. oz. / 600mL
	Oil Type	SAE 10W-30
TILLER	Model Name	HH0409
	Clearing Width	20 in (50.8 cm)
	Tilling Depth	6.5 in (16.5 cm)
	Tine diameter	13 in (33 cm)
	Number of Tines (sets)	4
	Front or Rear Tines	Rear
	Tine Material	Steel
OTHER	Working Ambient Temperature	5°F to 104°F (-15°C to 40°C)
	Dimensions (L*W*H)	65 x 19.9 x 46.1 in
	Net Weight	158.4 lbs / 72 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.





Customer Service

Online: www.benchmark.midlandpowerinc.com

E-mail: support@midlandpowerinc.com

Toll Free: 1-877-528-3772



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