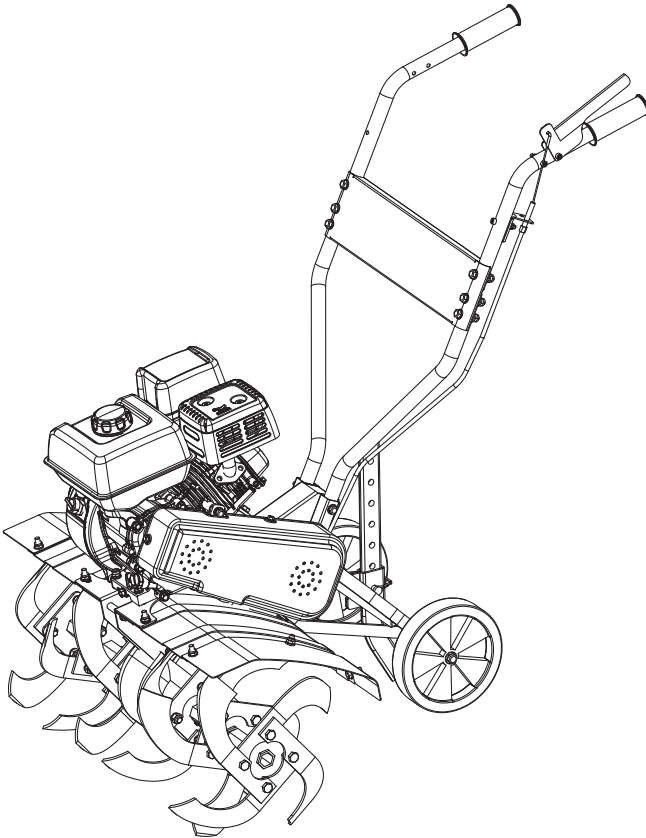




209CC Engine Tiller Operator's Manual



WARNING:

Read carefully and understand all **INSTRUCTIONS** before operating. Failure to follow the safety rules and other basic safety precautions may result in serious personal injury. Save these instructions in a safe place and on hand so that they can be read when required. Keep these instructions to assist in future servicing.



INDEX

1. WARNING	1~3
2. TECHNICAL SPECIFICATIONS	4
3. MAIN COMPONENTS	4~5
4. ASSEMBLY	5~11
5. KNOW YOUR MACHINE	11~13
6. OPERATION	13~15
7. MAINTENANCE AND STORAGE	15~18
8. WARRANTY	18
9. TROUBLE SHOOTING	19
10. EXPLODED AND PARTS LIST	20~21

1. WARNING

Understanding Your Machine

1. Be sure to read and understand the operator's manual and labels affixed to the machine. Learn its proper usage and capabilities as well as the specific potential hazards unique to this product.
2. Be familiar with the controls and their proper operation. Know how to stop the machine and disengage the controls quickly before you start to operate the product.
3. Be sure to read and understand all the instructions and safety precautions as outlined in the Engine Manual. This manual is included with your unit. Do not attempt to operate the machine until you fully understand how to properly operate and maintain the Engine and how to avoid accidental injuries and/or property damage.

Work Area

1. Never start or run the engine inside a closed area. Exhaust fumes produced by gasoline engines can be hazardous. Containing carbon monoxide, an odorless and deadly gas. Operate this unit only in a well ventilated outdoor area.
2. Never operate the machine without good visibility and lighting.

Personal Safety

1. Do not operate the machine while under the influence of drugs, alcohol, or any medication that could impair your motor coordination and ability to use it properly.
2. Dress appropriately. Wear sturdy long pants, boots and gloves. Do not wear loose fitting clothing, short pants, or jewelry of any kind. Secure long hair so it is out of the way and preferably above shoulder level. Keep your hair, clothing and gloves away from moving parts. Loose clothes, jewelry or long hair can be caught in moving parts resulting in severe injury.
3. Check your machine before starting it. Keep guards in place and in working order. Make sure all nuts, bolts, etc. are securely tightened.
4. Never operate the machine when it is in need of repair or is in poor mechanical condition.
5. Replace damaged, missing or failed parts before use. Check for fuel leaks. Always maintain the machine in good working order.
6. Do not use the machine if the engine's switch does not turn it on or off properly. Any gasoline powered machine that cannot be controlled with the engine switch is dangerous and should not be operated until it have been repaired.
7. Check to see that keys and adjusting wrenches that were used on the machine are removed before starting it. A wrench or a key that is left attached to a rotating part of the machine may result in personal injury.
8. Stay alert, watch what you are doing and use common sense when operating the machine.
9. Do not overreach. Do not operate the machine while barefoot or when wearing sandals or similar lightweight footwear. Wear protective footwear that will protect your feet and improve your footing on slippery surfaces. Maintain proper footing and balance at all times. This enables better control of the machine in unexpected situations.
10. Avoid accidental starting. Be sure the engine's switch is in the off position before transporting the machine or performing any maintenance or service on the unit. Transporting or performing maintenance or service on a machine with its switch in the ON position invites accidents.

Fuel Safety

1. Fuel is highly flammable, and its vapors can explode if ignited. Take precautions when using to reduce the chance of serious personal injury.
2. When refilling or draining the fuel tank, use an approved fuel storage container while in a clean, well-ventilated outdoor area. Do not smoke, or allow sparks, open flames or other sources of ignition near the area while adding fuel or operating the unit. Never fill fuel tank indoors.

3. Keep grounded conductive objects, such as tools, away from exposed, live electrical parts and connections to avoid sparking or arcing. These events could ignite fumes or vapors.
4. Always stop the engine and allow it to cool before filling the fuel tank. Never remove the cap of the fuel tank or add fuel while the engine is running or when the engine is hot. Do not operate the machine with known leaks in the fuel system.
5. Loosen the fuel tank cap slowly to relieve any pressure in the tank.
6. Never overfill fuel tank (there should be no fuel above the upper limit mark).
7. Replace all fuel tank and container caps securely and wipe up spilled fuel. Never operate the unit without the fuel cap securely in place.
8. Avoid creating a source of ignition for spilled fuel. If fuel is spilled, do not attempt to start the engine but move the machine away from the area of spillage and avoid creating any source of ignition until fuel vapors have dissipated.
9. Store fuel in containers specifically designed and approved for this purpose.
10. Store fuel in a cool, well-ventilated area, safely away from sparks, open flames or other sources of ignition.
11. Never store fuel or machine with fuel in the tank inside a building where fumes may reach a spark, open flame, or any other source of ignition, such as a water heater, furnace, clothes dryer and the like. Allow the engine to cool before storing in any enclosure.

Machine Use and Care

1. Never pick up or carry a machine while the engine is running.
2. Do not force the machine. Use the correct machine for your application. The correct machine will perform the task better and more safely at the rate for which it was designed.
3. Do not change the engine governor settings or over-speed the engine. The governor controls the maximum safe operating speed of the engine.
4. Do not run the engine at a high speed on areas that you are not intending to till.
5. Do not put hands or feet near rotating parts and tilling blades.
6. Avoid contact with hot fuel, oil, exhaust fumes and hot surfaces. Do not touch the engine or muffler. These parts get extremely hot during operation. They remain hot for a period of time after you turn off the unit. Allow the engine to cool before performing maintenance or making adjustments.
7. If the machine should start to make an unusual noises or vibrations, immediately shut off the engine, disconnect the spark plug wire, and check for the cause. Unusual noise or vibration is generally warning of trouble.
8. Use only attachments and accessories approved by the manufacturer. Failure to do so can result in personal injury and void the warranty for the product.
9. Maintain the machine. Check for misalignment or binding of moving parts, breakage of parts and any other condition that may affect the machine's proper operation. If damaged, have the machine repaired before use. Many accidents are result of poorly maintained equipment.
10. Keep the engine and muffler clear, clean and free of grass, leaves, excessive grease or carbon build up to reduce the chance of a fire hazard.
11. Never douse or spray the unit with water or any other liquid while in use. Keep handles dry, clean and free from debris. Clean after each use.
12. Observe proper disposal laws and regulations for gas, oil, etc. to protect the environment.
13. Store machine while not in use out of the reach of children and do not allow persons unfamiliar with the machine or these instructions to operate it.

Service

1. Before cleaning, repairing, inspecting, or adjusting the machine, shut off the engine and make certain all moving parts have stopped. Always make sure the engine's switch is in its "OFF" position. Disconnect the spark plug wire, and keep the wire away from the plug to prevent accidental starting.
2. Have your machine serviced by a qualified repair personnel using only approved replacement parts. This will ensure that the safety of the machine is maintained.

Specific Safety Rules

1. To avoid injury, keep your hands and feet away from tiller tines. Hold the tiller handle firmly with both hands when operating.
2. This product is only suitable for soil rototilling. It should not be used on soil with large stones, roots or other hard impurities.
3. If the device encounters a foreign object or a foreign object becomes entangled in the rotary tiller tines, stop the engine, disconnect the clutch device completely. Remove foreign object and check the machine for any damage, and then restart and operate the machine.
4. Do not start or operate the tiller on hard surfaces (e.g. concrete or pavement) or hard surfaces to avoid damage to the tiller and tines.
5. Never leave the tiller unattended while the engine is running.
6. Start or operate the tiller away from the edge of ditches or other steep embankments. Avoid tipping of the tiller.
7. Always carefully climb along straight and reverse slopes to prevent the tiller from tipping over onto the operator.
8. Always park the unit on a solid, level surface and turn it off before leaving the tiller.

Safety Symbols

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

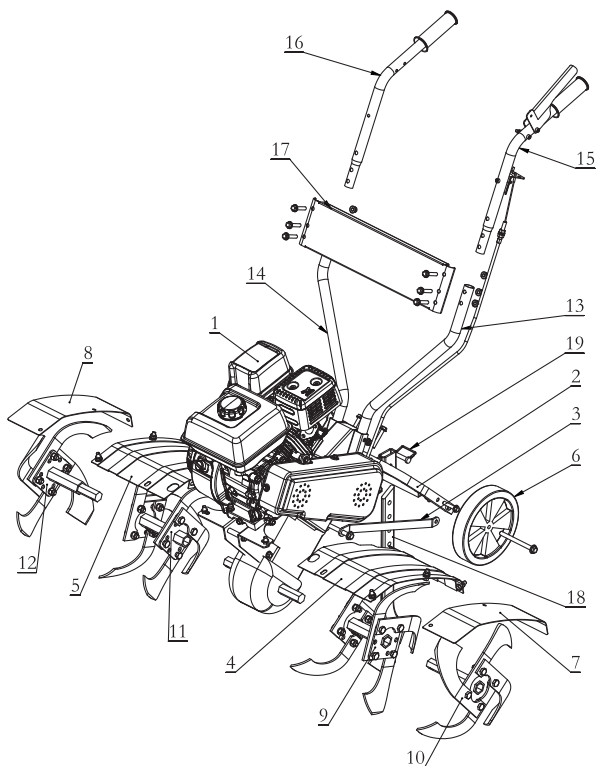
	Read these instructions carefully.		No smoking, sparks, or flames.
	Wear eye protection. Wear hearing protection.		Do not touch parts that are hot from operation. Serious burns may result.
	Wear protective gloves.		Keep your feet clear from all rotating parts.
	Wear safety footwear.		Be aware, objects may be thrown while in use.
	Do not remove or tamper with the protection and safety devices.		Keep children and bystanders off and away.

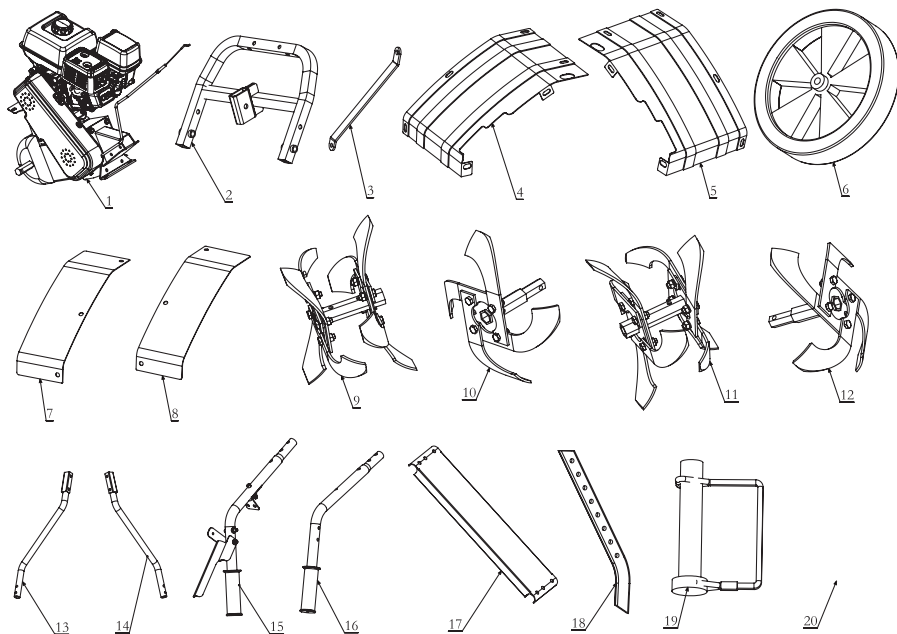
Use extreme caution when storing, handling and using fuels, as they are highly volatile and explosive in vapor state.

2. TECHNICAL SPECIFICATIONS

Model Number	GUO093
Engine	RATO
Displacement	209CC
Torque (ft-lbs, gross)	3.33
Start Type	Recoil
Transmission	Sprocket Feed Gear+Belt
Speeds	1 Forward
Tire Size	8"
Tines	14"x6
Tine Direction	Forward Rotation
Tine Diameter	14"
Depth Adjustments	5 Positions
Tine RPM	100 RPM
Tilling Width	21" – 27"
Tilling Depth	7" – 14"
Dimensions (L × W × H)	28.7" × 24" × 18.1"
Product Weight	130lbs

3. MAIN COMPONENTS





Contents Included

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

1. Engine & Frame kit	11. Left main tines kit
2. Wheel bracket	12. Left auxiliary tines kit
3. Connecting plate	13. Left connecting pipe
4. Left fender	14. Right connecting pipe
5. Right fender	15. Left upper handle
6. Wheel	16. Right upper handle
7. Right outer fender	17. Handle fixing plate
8. Left outer fender	18. Depth rod
9. Right main tines kit	19. Locking pin
10. Right auxiliary tines kit	20. Operator's Manual

4. ASSEMBLY

READ THROUGH COMPLETELY FIRST BEFORE STARTING YOUR ASSEMBLY

Step 1 Assembly of the wheel bracket (See Figure 1)

- Assemble the wheel bracket (B) with the engine & frame kit (A) by 2 M8x50 bolts (C), do not tighten the bolts completely;
- From the other direction, assemble the wheel bracket (B) with the engine & frame kit (A) by 2 M8x45 bolts (D) and 2 M8 nuts (E), do not tighten the bolts completely;
- Do not tighten nuts and bolts completely We will lock them completely once we have completed step 3.

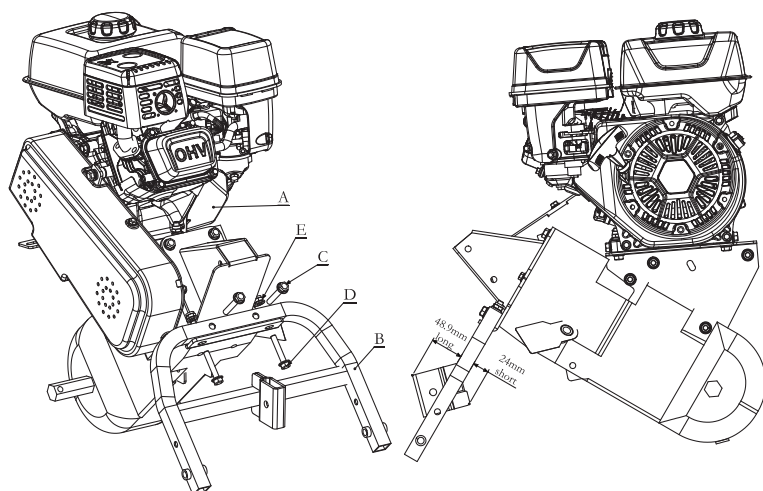


Fig. 1

Step 2 Assembly of the connecting plate (See Figure 2)

- Mount the short end of the connecting plate (B) on the inside of the wheel bracket (A) using 2p M8x40 bolts (C) and 2 M8 nuts (D);
- Do not tighten nuts and bolts completely, we will lock them completely once we have finished step 3..

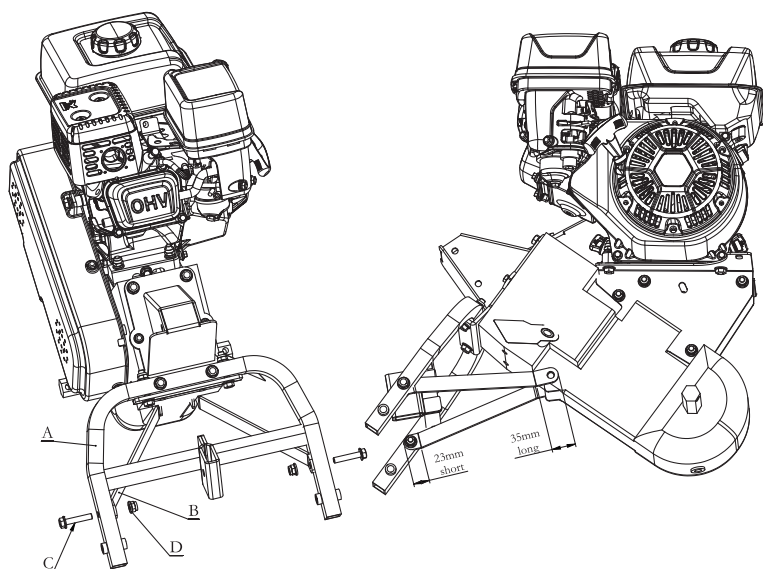


Fig. 2

Step 3 Assembly of the left/right fender (See Figure 3)

- Assemble the right fender (B) to the frame kit, at front side, screw using M8x16 bolt (E) and 1 M8 nut (F), the fender is underneath, do not tighten nut completely.
- At rear side, put the connecting plate of wheel bracket in the middle between right fender and frame kit, screw using 1 M10x100 bolt (C) and 1 M10 nut (D), do not tighten nut completely.
- perform the same operation to install the left fender.
- In the middle position of frame, use 1 M8x70 bolt (G) and 1 M8 nut (F) to connect the left and right fenders.
- Completely tighten all the nuts and bolts from Step 1, Step 2 and Step 3.

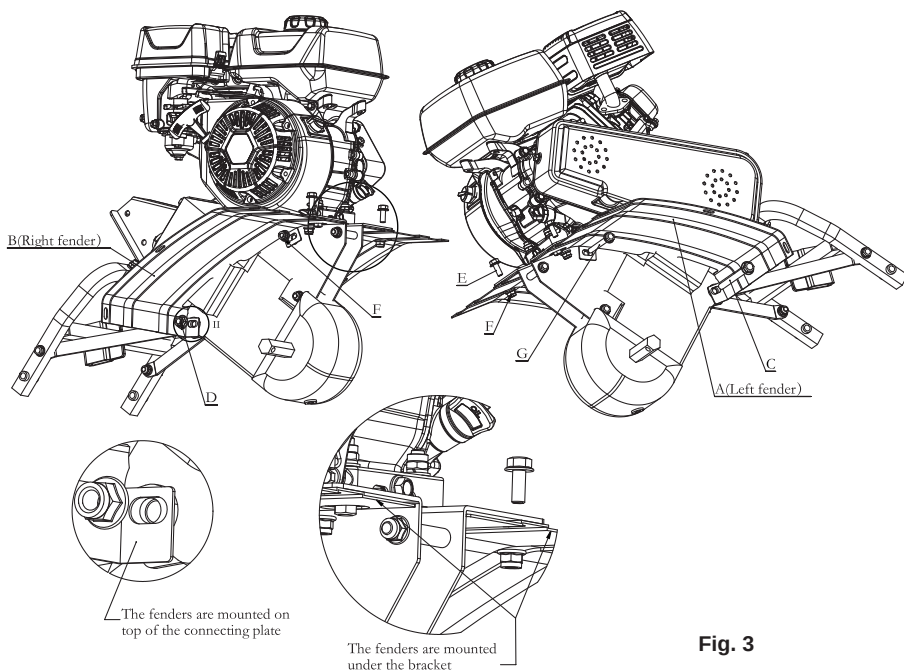


Fig. 3

Step 4 Assembly of the wheel (See Figure 4)

Assemble 2 wheels (A) to the wheel bracket, and secure them with 2 M10x95 bolts (B), 2 ϕ 10 flat washers (C), and 2 M10 nuts (D). Parts position is shown as figure.

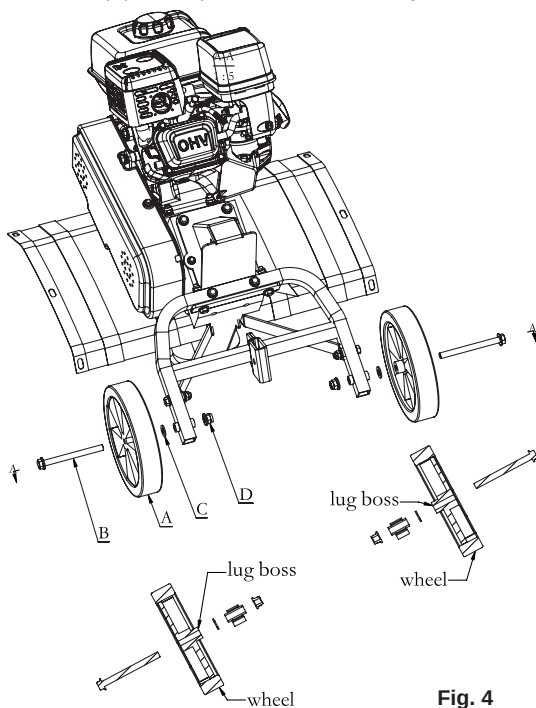


Fig. 4

Step 5 Assembly of the left/right outer fender (See Figure 5)

- Assemble left outer fender to the left fender. The outer fender is underneath. Secure with 3 M8x16 bolts (C) and 3 M8 nuts (D).
- Perform the same operation to install the right outer fender.

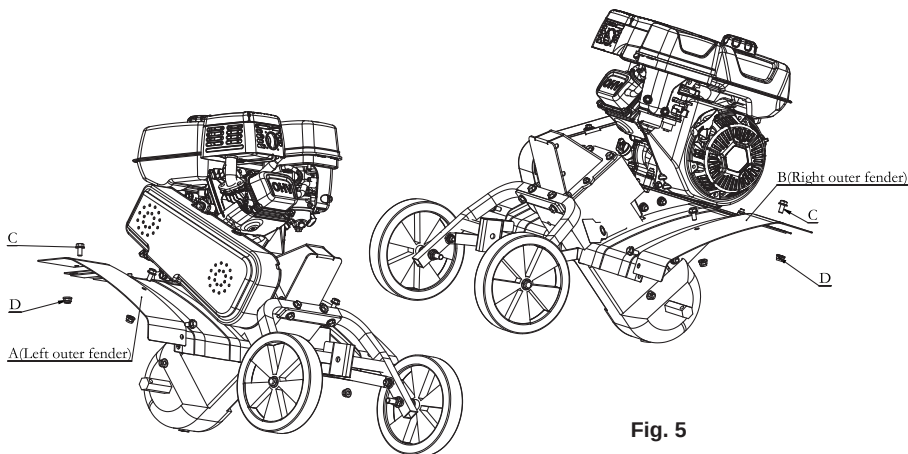


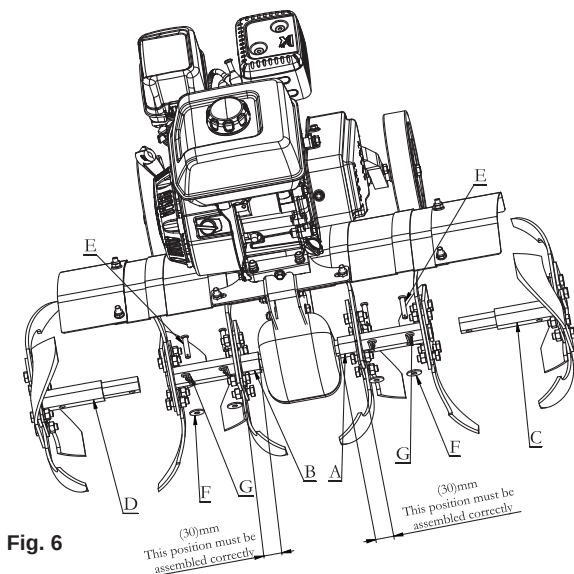
Fig. 5

Step 6 Assemble of the tines (See Figure 6)

a. Assemble the right main tines kit (A) and to the gearbox output shaft, and then insert the right auxiliary tines kit (C), connect using 2 $\phi 8 \times 40$ pins (E), 2 $\phi 8$ large flat pads (F), and 2 2.5x40 B pins (G).

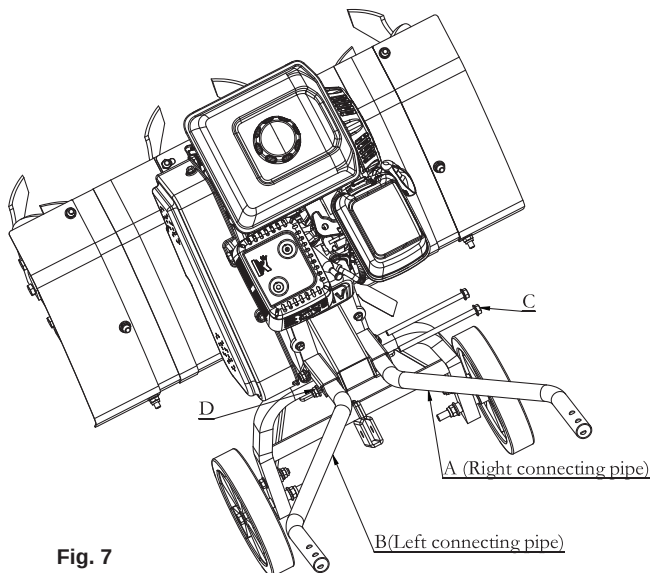
b. Perform the same operation to assemble the left tines.

Note: The cutting (sharp) edge of tines must enter the soil first when tiller goes forward.



Step 7 Assembly of the connecting pipe (See Figure 7)

Assemble the right connecting pipe (A) and left connecting pipe (B) according to the figure, and fix them with 2 M8x130 bolts (C) and 2 M8 nuts. Tighten nuts securely



Step 8 Assembly of the handle and fixing plate (See Figure 8)

Assemble the right handle (A) and left handle (B) to the connecting pipes, and assemble handle fixing plate (C) at front, fix them with 6 M8x40 bolts (D) and 6 M8 nuts (E).

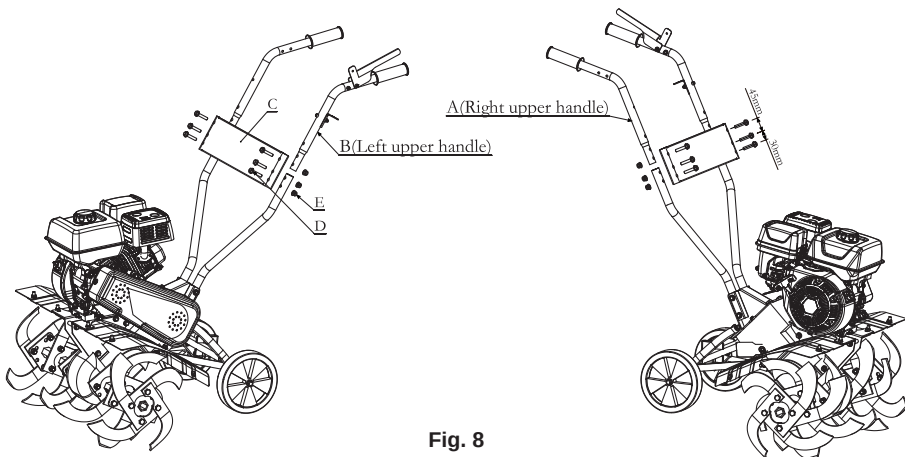


Fig. 8

Step 9 Assembly of the clutch cable (See Figure 9)

- Remove 1 M8 nut (C) and 1 $\phi 8$ flat washer (B) from the clutch cable (A). Leave another M8 nut (C) and flat washer (B) in place at cable, also slightly move nut downward for more space.
- Pass the clutch cable (A) through the outer hole of the fixing plate (D), remount the M8 nut (C) and $\phi 8$ flat washer (B).
- Insert the Z-end of cable (F) to the clutch handle (E).
- Adjust positions of the 2 M8 nut (C) to get a proper tensioning force for clutch cable.
- Use two fitting ties (G) to attach the clutch cable to the handle bar.

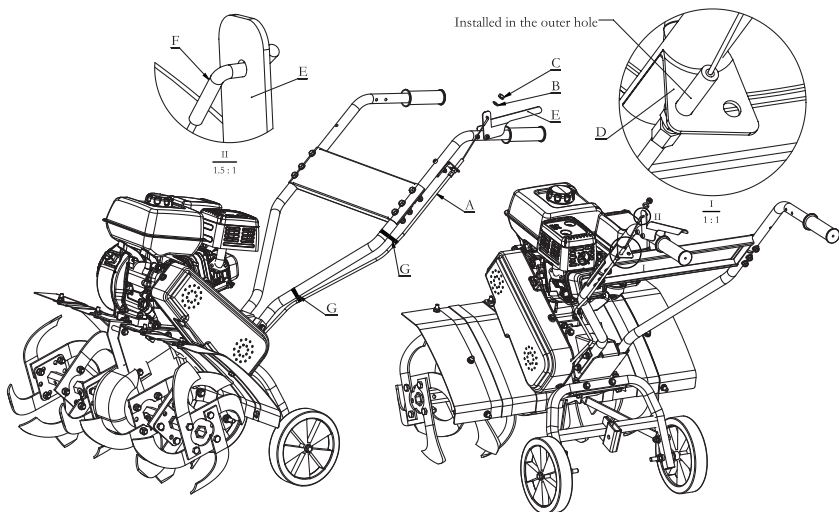


Fig. 9

Step 10 Assembly of the depth rod (See Figure 10)

a. Insert the depth rod (A) into the wheel bracket from the bottom end, the rod inserts to the assembly as follows.

b. Lock the depth rod (A) to the wheel bracket with the locking pin (B).

Note: When not in use, raise the position of the depth rod to prevent contact with the ground.

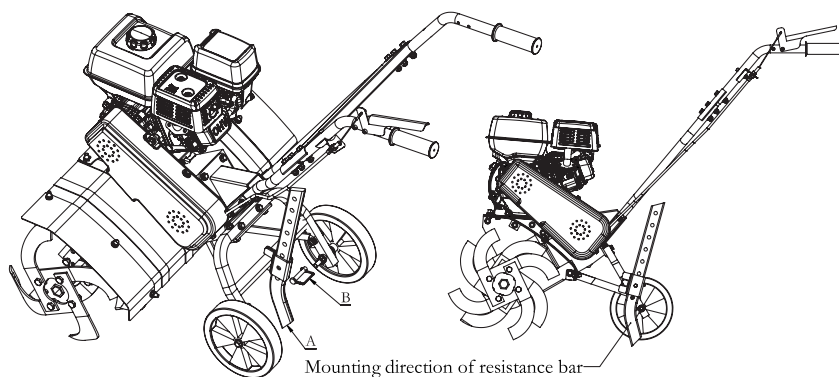
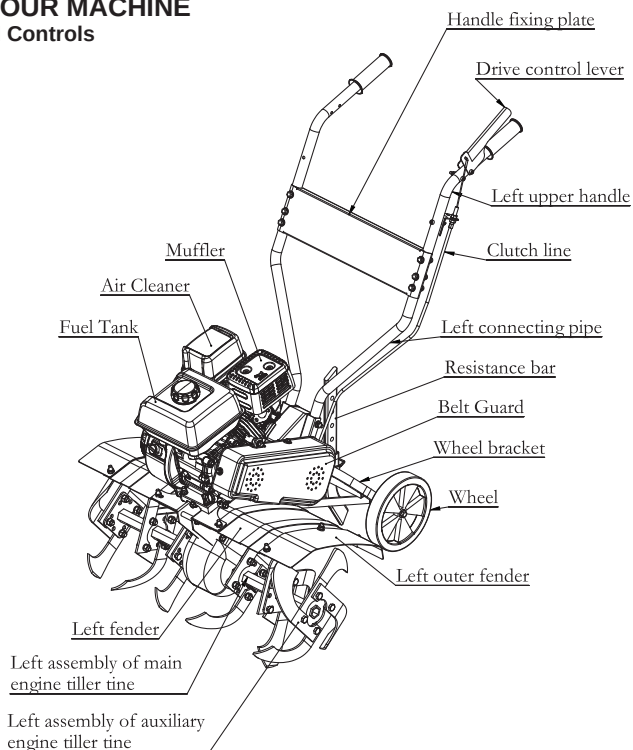
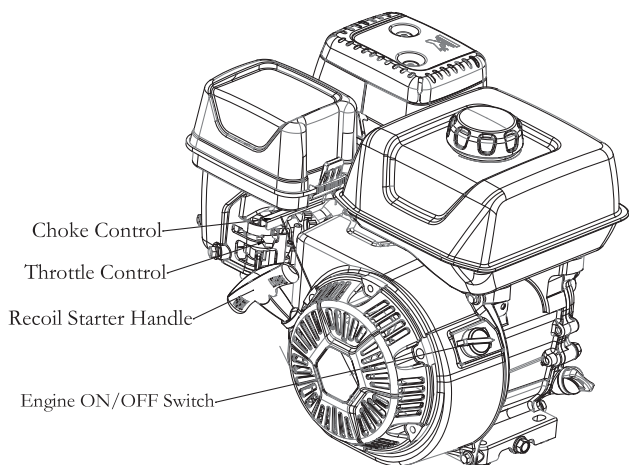


Fig. 10

5.KNOW YOUR MACHINE

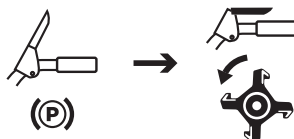
Features and Controls





Drive Control Lever

Squeeze the lever against the hand grip to engage the tines. Release to disengage tines.



Resistance Bar

The resistance bar (see Figure 11) can be raised or lowered to allow you more versatile tilling and cultivating, or raised for easier transport your tiller.

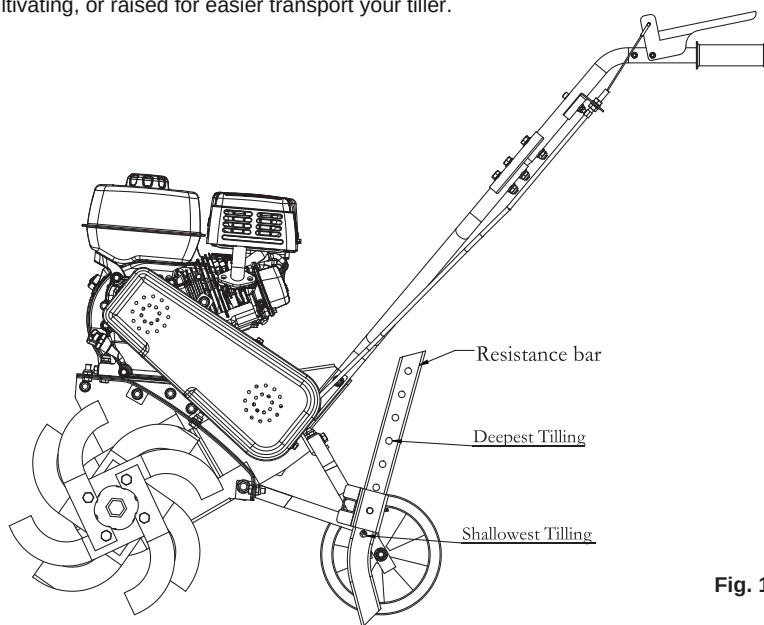


Fig. 11

Recoil Starter Handle

The Recoil Starter Handle is used to start the engine.

Throttle Control

The throttle control regulates the speed of the engine, and moves between FAST  SLOW , and STOP positions.

When the throttle control is moved to the STOP position, the engine will STOP.

Choke Control

The choke control is used to choke the carburetor and assist in starting the engine.

The choke control slides between the CHOKE CLOSED and CHOKE OPEN positions.



Never use choke to stop engine.

6. OPERATION

Adding Engine Oil



OIL HAS BEEN DRAINED BEFORE SHIPPING.

Failure to fill engine sump with oil before starting engine will result in permanent damage and void engine warranty.

Add oil according to Engine Manual.

Adding Gearbox Oil



OIL HAS BEEN DRAINED FOR SHIPPING.

Failure to fill gearbox case with oil before starting engine will result in permanent damage and void gearbox warranty.

See the warning elevator position of the gearbox case for the position of the filler. Must add 0.2gal. gear oil before starting.

Adding Fuel

1. Fill the fuel tank as instructed in the separate Engine Manual.
2. More detailed description of the engine operation and all related precautions and procedures can be found in the Engine Manual.

Starting Engine

1. Move the fuel valve lever to the ON position.
2. To start a cold engine, move the choke to the CLOSE position. To restart a warm engine, leave the choke lever in the OPEN position.
3. Move the throttle lever away from the SLOW position, about 1/3 of the way toward the FAST position.
4. Turn the engine switch to the ON position.
5. Operate the starter.

Operating Tiller



Operating Speed

For normal tilling, set the throttle control lever to “FAST” for best tiller action. The throttle should be set to control forward motion to a slow walking speed for cultivating.

Besides depth stake setting, variation of pressure on the handles also helps further control of tilling depth and travel speed. Downward applied pressure on the handles will reduce the tilling depth and increase the forward speed. And upward, released pressure on the handles will increase the working depth and reduce the forward speed.

Tilling

Tilling is the process of digging into, turning over and breaking up garden soil and or mixing in additional soil, fertilizer or compost to prepare a seedbed for planting. Best tilling depth is 7" (178mm) to 14" (355mm). A tiller will also clear the soil of unwanted vegetation. The decomposition of this vegetation matter enriches the soil.

Avoid tilling soil that is too dry as it will pulverize and produce dust that will not hold water. Water a few days before tilling. Also, tilling soil that is too wet will produce unsatisfactory clods or mud. Wait a day or two after heavy rain for the soil to dry before tilling.

Better growth will be obtained if an area is tilled properly and used soon after tilling to preserve the moisture content of the soil.

The type of soil and working conditions will determine the actual setting of the tilling depth. In some soils, the desired depth is reached first pass over garden area.

In other soils, the desired depth is obtained by going over the garden area two or three times. In latter case, the depth regulator rod should be lowered before each succeeding pass over the garden. Passes should be made across the length and width of the garden alternately. Do not try to dig too deeply in the first pass.

If the machine jumps or bucks, allow the unit to move forward at a lightly faster rate. If the tiller stops forward motion and tries to dig in one spot, rock the handles from side to side to start it moving forward again.

Rocks which are turned up should be removed from the garden area.

Cultivating

Cultivating is loosening or digging around growing plants to disrupt weeds and aerate soil. Less than 2" (50mm) depth is always desirable.

Idle Speed

Set the throttle control lever to the SLOW position to reduce stress on the engine when work is not being performed. Lowering the engine speed will help extend the life of the engine, and will help conserve fuel and reduce noise level.

Stopping Engine

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

1. Move the throttle lever to the SLOW position.
2. Let engine idle for one or two minutes.
3. Turn the engine switch to the OFF position.
4. Turn the fuel valve lever to the OFF position.



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

Idle Speed

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

7.MAINTENANCE

Maintaining your front engine tiller will ensure long life to the machine and its components.

PREVENTIVE MAINTENANCE

1. Turn off the engine and disengage all command levers. The engine must be cool.
2. Keep the engine's throttle lever in its SLOW position and remove the spark plug wire from the spark plug and secure.
3. Inspect the general condition of the front tine tiller. Check for loose screws, misalignment or binding of moving parts, cracked or broken parts, and any other condition that may affect its safe operation.
4. Use a soft brush, vacuum or compressed air to remove all contaminants from the machine. Then use high quality light oil to lubricate all moving parts.
5. Replace the spark plug wire.

WARNING

Never use a "pressure washer" to clean your unit. Water can penetrate sealed areas of the machine and its transmission case and cause damage to spindles, gears, bearings, or the engine.

The use of pressure washer to clean your will result in shortened life and reduce serviceability of your product.

Checking the V-Belt

To ensure optimum power transfer from the engine to the gearbox, the V-belt must be in good condition and operate under proper tension.

1. Turn off engine. Engine must be cool.
2. Remove the 3 M6 bolts (A), and remove the belt guard (B), and then access the V-belt (See Figure 12).
3. Check the condition of the V-belt. If any V-belt is cracked, frayed, or glazed, it should be replaced as soon as convenient and before use.
4. Press the clutch handle (C) to the lowest position (See Figure 12), Check the V-belt tension by squeezing them in the center. The normal deflection on each side should be 9mm (3/8") to 13mm (1/2") with moderate pressure from your thumb or finger.
5. On new machines or after installing a new belt, check belt tension after first 20 hours of operation. Check and adjust belt every 50 hours thereafter.

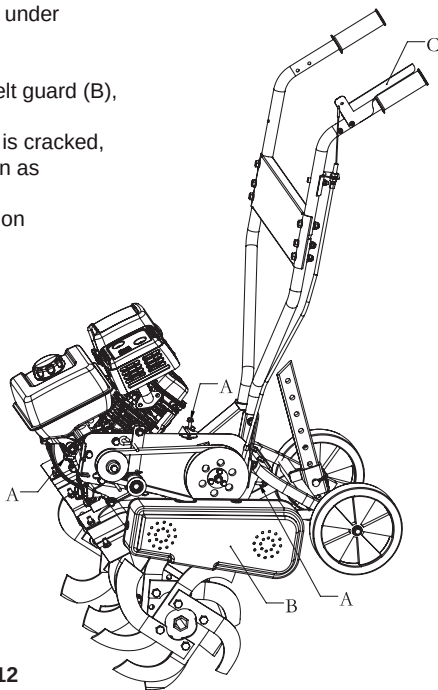


Fig. 12

Replacing the V-Belt

1. Remove the 3p M6 bolts (A), and remove the belt guard (B), and then access the V-belt (See Figure 12).
2. Release the clutch handle (C) to the initial position (See Figure 13).
3. Remove the M8 bolt (A) that fixes the gearbox pulley (D), then loosen the hexagonal head bolts that fix the belt fixing parts (B) and (C) (do not remove them).
4. Remove the gearbox pulley (D) and belt (E) together, and replace the new belt, remount the pulley (D).
5. Tighten the bolts (B) and (C), remount the belt guard (B).

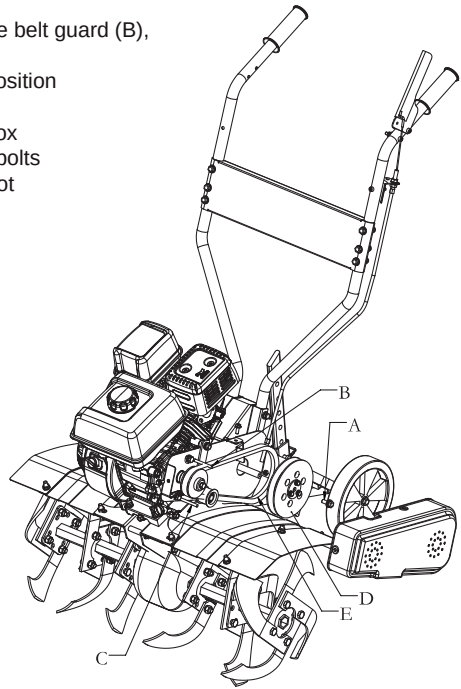


Fig. 13

ADJUSTING THE CABLE

To increase belt tension do as follows:

1. Loosen the jam nut A and jam nut B by turning them with two 13mm wrenches at the same time. (See Figure 14, Illustration 1)
2. Loosen jam nut A enough so the jam nut B can be rotated. Then, screw the jam nut B up until desired cable tightness is reached. (See Figure 14, Illustration 2)
3. Screw the jam nut A down to lock jam nut B. (See Figure 14, Illustration 3)

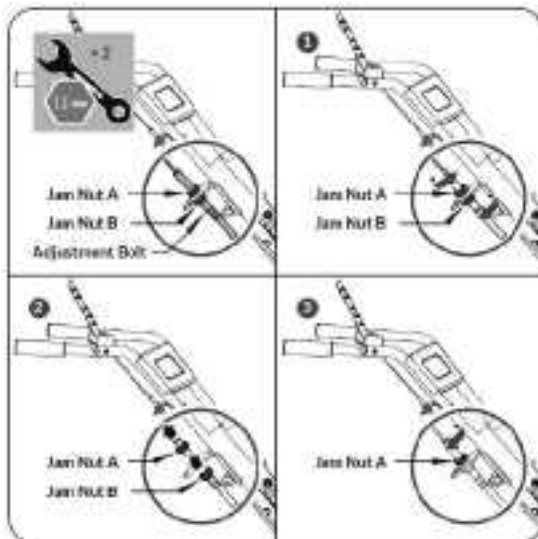


Fig. 14

Gearbox Maintenance

The gearbox must be properly maintained to ensure its operation be safe, economy and trouble-free, as well as eco-friendly.

In order to keep your gearbox in good working condition, it must be periodically serviced.

The following maintenance schedule and routine inspection procedures must be carefully followed.

Frequency Items		Each time	First 1 month or first 90 hrs of operation	Thereafter, every 3 months or every 50hrs of operation	Every year or every 300 hrs of operation
Gearbox gear oil	Check-Refill	√			
	Replace		√		√

Drain gear oil

1. Put a container for waste oil at the bottom of the gearbox drainage hole.
2. Remove the oil cover (A) by counterclockwise at the top of the gearbox and the warning card (B) (See Figure 15).
3. Remove the bolt (C) and the sealing gasket (D) at the bottom of the gearbox, drain the oil until it is clean.
4. Mount the sealing gasket (D) and the bolt (C) back.

Refill gear oil

Use the oil filling funnel or oil filling container to fill 0.2 gal. gear oil into oil inlet hole, and fasten well the warning card (B) and oil cover (A).

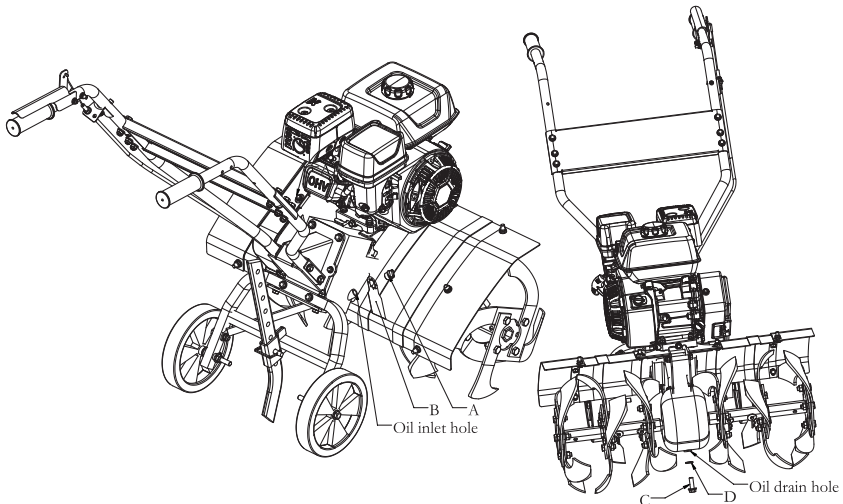


Fig. 15

Engine maintenance

Refer to the Engine Manual included in your engine tiller for the information on engine maintenance.

Your engine manual provides detailed information for performing the tasks.

STORAGE

If the front engine tiller will not be used for a period longer than 30 days, follow the steps below to prepare your unit for storage.

1. Drain the fuel tank completely. Stored fuel containing ethanol or MTBE can start to go stale in 30 days. Stale fuel has high gum content and can clog the carburetor and restrict fuel flow.
2. Start the engine and run until it stops. This helps prevent gum deposits from forming inside the carburetor and possible engine damage.
3. While the engine is still warm, drain the oil from the engine. Refill with fresh oil of the grade recommended in the Engine Manual.
4. Use clean clothes to clean off the outside of the machine and to keep the air vents free of obstructions.

WARNING

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

5. Inspect for any loose or damaged parts. Repair or replace damaged parts and tighten loose screws, nuts or bolts.
6. Store your unit on flat ground in a clean, dry building that has good ventilation.

WARNING

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

Transporting

See technical data for the weight of the machine. To avoid burns or fire hazards, let engine cool before transporting machine or storing indoors. The unit must be transported in the upright position to prevent fuel from spilling.

Do not lay machine on its side or top. Secure or tie down unit using the lifting handle to prevent machine from sliding or tipping over.

WARNING

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

8.Warranty

Warranty covers twelve (12) months for workmanship of the product, except for wearing parts. Warranty period starts from the product purchase date.

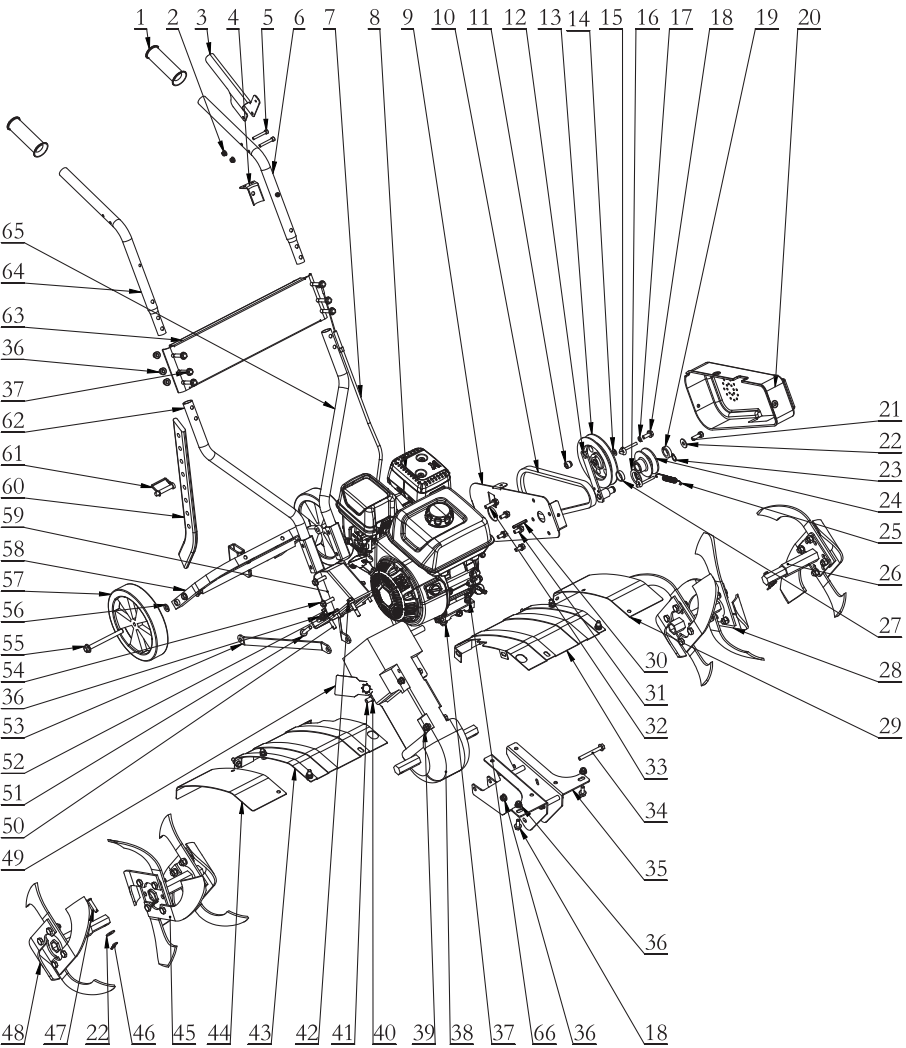
Warranty covers material quality and workmanship only. Warranty does not cover product for issues caused by improper usage or any operation not in accordance with the specifications of this manual.

Any modification or tampering with the product in any way voids the warranty.

9. Trouble Shooting

Problem(s)	Possible Cause	Corrective Action
Engine fails to start	1. Spark plug wire is disconnected 2. Out of fuel or stale fuel 3. Engine and/or Fuel valve is not in ON position 4. Choke lever is not in CLOSE position 5. Blocked fuel line 6. Fouled spark plug 7. Engine Flooding 8. Belt tension lever is engaged	1. Attach spark plug wire securely to spark plug 2. Fill with clean, fresh gasoline 3. Engine and Fuel valve must be in ON position 4. Choke level must be in CLOSE position for a cold start 5. Clean fuel line 6. Clean, adjust gap, or replace 7. Wait a few minutes to restart, but do not prime 8. Disengage the belt tension lever
Engine runs erratically	1. Spark plug wire is loose 2. Unit running with Choke lever in CLOSE position 3. Blocked fuel line or stale fuel 4. Vent plugged 5. Water or dirt in fuel system 6. Dirty air cleaner 7. Improper carburetor adjustment	1. Connect and tighten spark plug wire 2. Move choke lever to OPEN position 3. Clean fuel line. Fill tank with clean, fresh gasoline 4. Clear vent 5. Drain fuel tank. Refill with fresh fuel. 6. Clean or replace air cleaner 7. Refer to engine manual
Engine overheats	1. Engine oil level low 2. Dirty air cleaner 3. Air flow restricted 4. Carburetor not adjusted properly	1. Fill crankcase with proper oil 2. Clean air cleaner 3. Remove housing and clean 4. Refer to engine manual
Engine will not stop when throttle control is positioned at stop, or engine speed does not increase properly when throttle control is adjusted.	1. Debris interfering with throttle linkage. 2. Improper throttle linkage adjustment	1. Clean dirt and debris. 2. Refer to Engine Manual to check and adjust throttle linkage.
Tiller moves forward during starting.	Tine clutch control not in neutral position.	Tine clutch control lever must be released to neutral to start the engine.
Tiller is difficult to control when tilling (machine jumps or lurches forward).	1. Improper tilling depth setting. 2. Too high engine speed on hard ground.	1. Raise the tines for shallower tilling by raising the depth regulator rod. 2. Set the throttle lever at lower speed.
Tines do not engage.	1. Foreign object lodged in tines. 2. Tine clevis pin(s) missing. 3. Belt worn and/or stretched. 4. Pulley and idler not in correct adjustment.	1. Stop tiller completely, check and discard foreign object. 2. Replace tine clevis pin(s). 3. Replace belt. 4. Contact dealer.

10.EXPLODED AND PARTS LIST



Part No.	Description	Q'ty	Part No.	Description	Q'ty
1	Rubber sleeve	2	34	M8x70 hex flange bolts	1
2	M6 Type 2 Non-metallic insert hex flange lock nut	3	35	Engine mount	1
3	Clutch handle	1	36	M8 Non-metallic insert hex flange lock nut	23
4	Stay wire fastener	1	37	M8x40 hex flange bolts	12
5	M6x40 Hexagon socket head cap screw	3	38	Gearbox	1
6	Upper left handle connecting pipe	1	39	M8x65 hex flange bolts	2
7	Clutch cable	1	40	M10 Non-metallic insert hex flange lock nut	3
8	Engine	1	41	M10x100 hex flange bolts	1
9	Belt cover fixing plate	1	42	M8x25 hex flange bolts	2
10	17x760Li(820) Belt	1	43	Right fender	1
11	Axle sleeve	1	44	Right outer fender	1
12	Tension wheel support	1	45	Right assembly of main engine tiller tine	1
13	Gearbox pulley	1	46	Φ2.5x40 Type B pin	4
14	8 Flat washer	10	47	Φ8x40 Pin shaft	4
15	Pulley fixings	2	48	Right assembly of auxiliary engine tiller tine	1
16	Tension wheel	1	49	Transmission case warning card	1
17	8 Elastic washer	11	50	M8x50 Hex flange bolts	2
18	M8x20 hex flange bolts	9	51	M8x45 Hex flange bolts	2
19	Engine pulley washer	1	52	M6x16 Hex flange bolts	5
20	Pulley guard	1	53	Connecting plate	2
21	5_16-24UNFx1 American hexagon head bolt	1	54	M8x130 Hex flange bolts	2
22	8 Large washer	5	55	M10x95 Hex flange bolts	2
23	15 Circlip for shaft-a type	1	56	10 Flat washer	2
24	Engine pulley	1	57	wheel	2
25	Spring	1	58	Wheel bracket	1
26	Left assembly of auxiliary engine tiller tine	1	59	Handle fixing assembly	1
27	Pulley washer	1	60	Resistance bar	1
28	Left assembly of main engine tiller tine	1	61	9.5*52 Square pin	1
29	Left outer fender	1	62	Lower right handle connecting pipe	1
30	4.7x4.7x44 Flat key	1	63	Handle fixing plate	1
31	5_16-24UNFx0.75 American hexagon head bolt	4	64	Upper right handle connecting pipe	1
32	M8x30 hex flange bolts	1	65	Lower left handle connecting pipe	1
33	Left fender	1	66	M8 Type 1 Non-metallic insert hex lock nut	4



Great Circle USA
Support Line: 1-866-493-0524
help@greatcircleus.com
www.greatcircleus.com