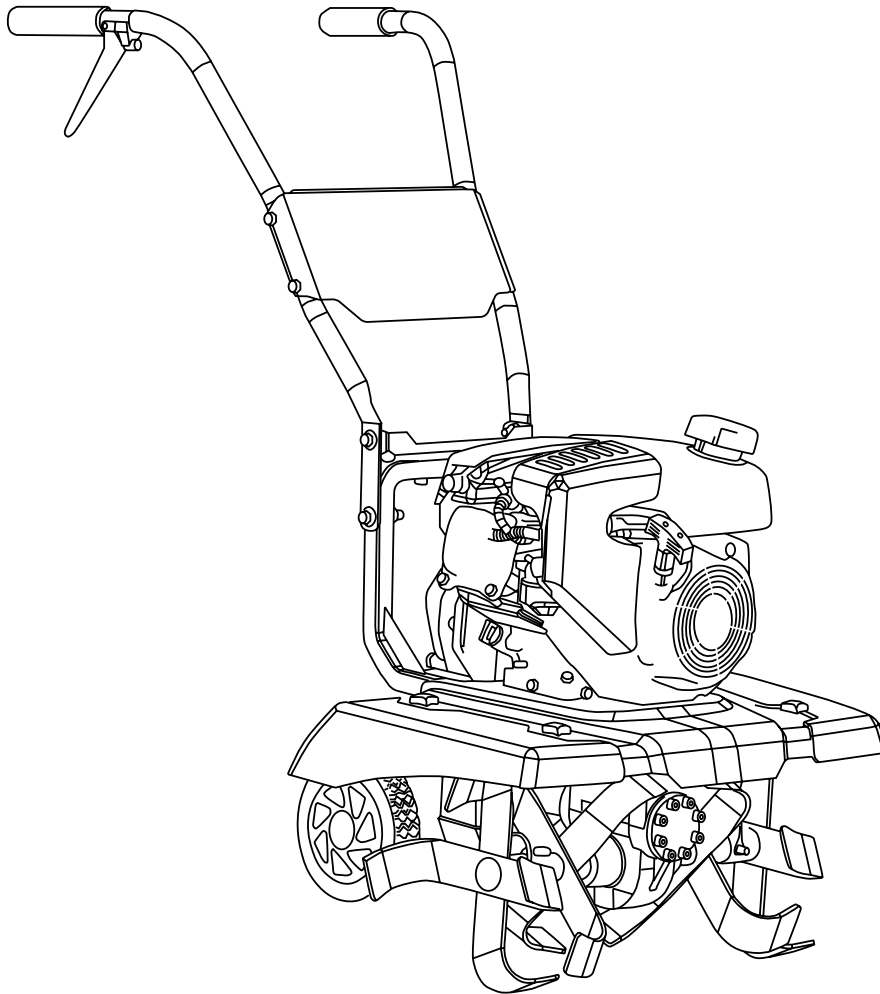




**DIRTY HAND
TOOLS**

14"-22" ADJUSTABLE FRONT TINE TILLER



MODEL # 107555

Operation Manual



This safety alert symbol identifies important safety messages in this manual. Failure to follow this important safety information may result in serious injury or death.

Part 108749 Rev B

Designed & Engineered in Colorado, USA



Assembled with Foreign & Domestic Components

For Service or Questions

Call 1-877-487-8275

720-287-5182

www.dirtyhandtools.com

Dirty Hand Tools® is a brand of



FrictionlessWorld

1100 W 120th Ave, Suite 600
Westminster, CO 80234 • 720-287-5182

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Important Safety Information



WARNING

WARNING: Read and thoroughly understand all instructions and safety information before assembling or operating this tiller. Failure to do so may cause serious injury or death. Do not allow anyone to operate this tiller who has not read this manual. As with all power equipment, a tiller can be dangerous if assembled or used improperly. Do not operate this tiller if you have doubts or questions concerning safe operation.

Call our customer service department at **720-287-5182**, **1-877-487-8275**, or visit www.dirtyhandtools.com if you have any questions or concerns about the safe operation of this equipment.



DANGER

Intended Use

Do Not Use the tiller for any purpose other than tilling garden soil for which it was designed. Any other use is unauthorized and may result in serious injury or death.

Personal Protective Equipment

When operating this tiller it is essential that you wear safety gear including goggles or safety glasses, steel toed shoes and tight fitting gloves (no loose cuffs or draw strings). Always wear ear plugs or sound deafening headphones to protect against hearing loss when operating this tiller. Always wear sturdy footwear. Never wear sandals, sneakers or open shoes, and never operate the tiller with bare feet. Do not wear loose clothing that might get caught in moving parts.



CAUTION

YOUR TILLER IS EQUIPPED WITH A CLUTCH LEVER THAT AUTOMATICALLY STOP THE TINES WHEN RELEASED

Learn how the clutch levers operate and how to control the tiller at all times.

Read the entire Operation Manual before using this equipment!



DIRTY HAND
TOOLS

Important Safety Information

General Safety

Failure to follow warnings, cautions, assembly and operation instructions in the Operation Manual may result in serious injury or death.



DANGER

READ THE OPERATION MANUAL BEFORE OPERATION.

- **Do not** permit children to operate this equipment at any time.
- **Do not** permit others that have not read and understood the complete Operation Manual to operate this equipment.
- Keep all people and pets a minimum of 10 feet away from the work area when operating this tiller.
- **Do not** operate the tiller when under the influence of alcohol, drugs or medication.
- **Do not** allow a person who is tired or otherwise impaired or not completely alert to operate the tiller.



DANGER

CAREFULLY INSPECT THE AREA TO BE TILLED AND REMOVE ALL FOREIGN OBJECTS.


Do not till above underground water lines, gas lines, electric cables, or pipes. Do not operate the tiller in soil with large rocks and foreign objects which can damage the equipment.

- Leave clutch lever undepressed (neutral) position before starting the engine.
- Handle fuel with care; it is highly flammable. Use an approved fuel container. **Never add fuel to a running engine or hot engine.**
- Fill fuel tank outdoors with extreme care. **Never fill fuel tank indoors.**
- Replace gasoline cap securely and clean up spilled fuel before restarting.
- Never attempt to make any adjustments while the engine is running.

Important Safety Information

Safety Decals


Safety labels on the tiller are to remind you of important information while you are operating the unit. Make sure all safety warning decals are attached and in readable condition. Replace missing or defaced decals. Contact Dirty Hand Tools at **1-877-487-8275** for replacement decals.



WARNING

This product can expose you to chemicals including CARBON MONOXIDE, which is known to the State of California to cause cancer. For more information go to www.P65Warnings.ca.gov.


108275



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.

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WARNING

DO NOT START ENGINE UNLESS THE BELT COVER IS ATTACHED TO THE TILLER.

KEEP HANDS, FEET AND CLOTHING AWAY FROM MOVING BELTS AND PULLEYS. FAILURE TO COMPLY COULD RESULT IN SERIOUS INJURY.

SEE OWNER'S MANUAL FOR COMPLETE OPERATING AND SAFETY INSTRUCTIONS.

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DANGER

AVOID INJURY FROM ROTATING TINES!



Keep hands, feet and clothing away!

- Tines rotate when the safety latch is flipped up and the drive control lever is depressed towards the handle bar.
- To stop tines from rotating release the drive control lever. The safety latch automatically snaps into locked position.
- Stop the engine, wait for tines to stop rotating and **disconnect spark plug** before removing debris or maintenance.



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WARNING

AVOID INJURY



Read the Operator's Manual Before Operating



Wear Safety Goggles or Eyewear



Wear Boots or Protective Footwear



Wear Protective Noise Reduction Gear



Wear Gloves and Protective Clothing

- Know the function and location of all controls.
- Never allow children to operate the tiller.
- Check area to be tilled and remove rocks or obstacles.
- Check for underground utilities before using.

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- READ OPERATOR'S MANUAL
- WEAR PROTECTIVE EQUIPMENT
- KEEP AWAY FROM MOVING PARTS



- REMOVE OBSTACLES IN PATH
- DO NOT OPERATE NEAR PEOPLE
- USE CAUTION ON SLOPES

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Unpacking and Assembly

Your tiller will require some assembly. The following instructions will help you unpack your tiller, assemble and adjust the depth regulator lever, cable tension and handlebar height. You will need a wrench, small adjustable crescent wrench and a starbit driver to complete the assembly.

Unpacking

Open top of carton and remove the tiller components.

Tiller Components

- Upper Handlebar Left
- Upper Handlebar Right
- Handlebar Support Bracket
- Handlebar Bridge
- Depth Regulator
- Safety Shields
- Tine Blades (4)
- Hardware Kit



CAUTION

DO NOT ADD ENGINE OIL TO THE TRANSMISSION GEAR CASE

The tiller transmission is filled at the factory.

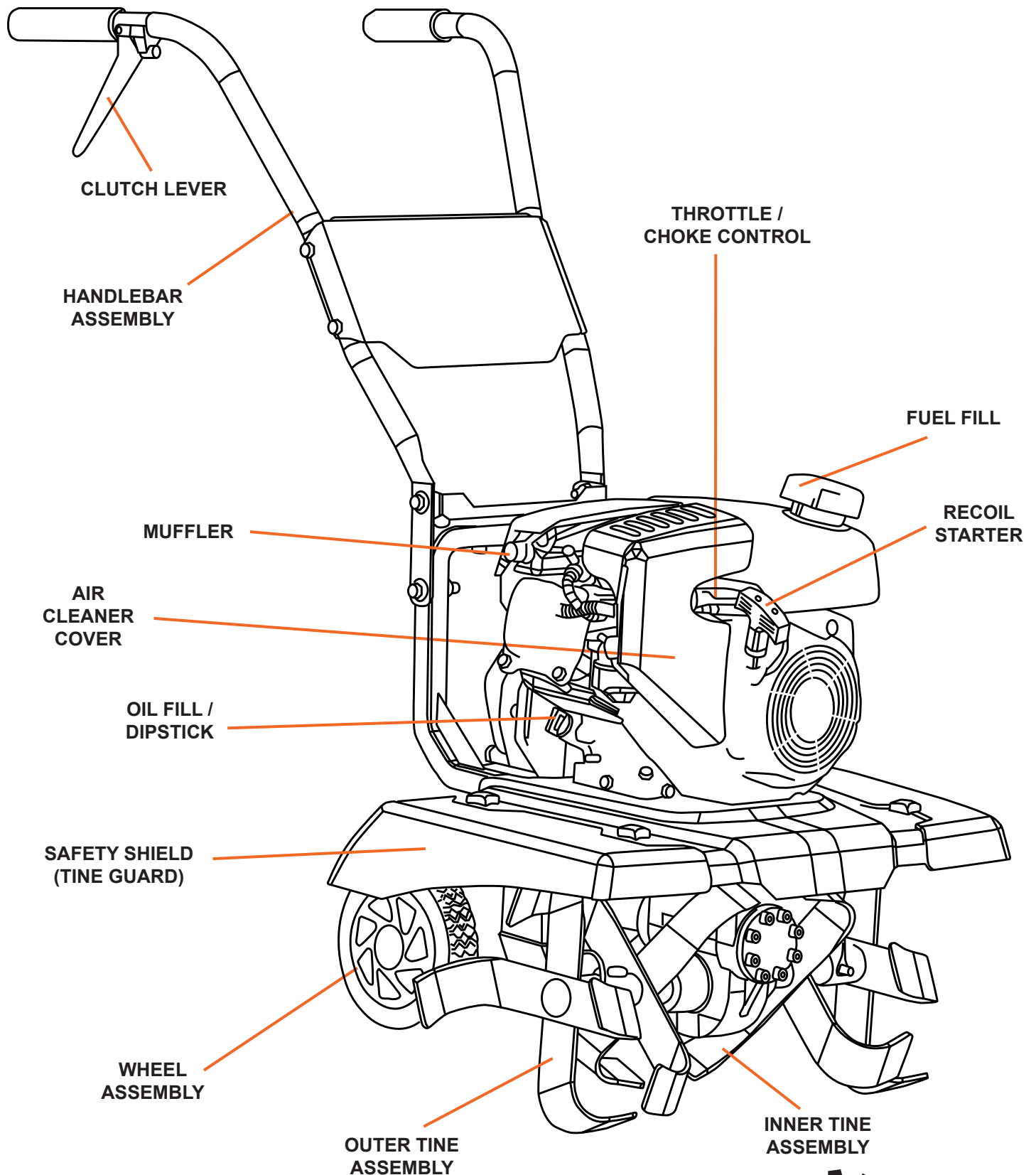


CAUTION

DO NOT ATTEMPT TO START ENGINE BEFORE ADDING OIL TO ENGINE

The engine is shipped from the factory without oil. You must add engine oil before starting the engine. Use only the recommended weight of oil for a 4-cycle engine (See Engine Operation Manual).

Overview of Components



Tine Assembly

Mounting the Tine Blades

1. Mount the 4 tines assemblies. Note that all 4 blades are different. The sharp edge of the blade should face forward, in the operational direction. Make sure the clevis pin is securely fastened with a lynch pin. Slide the tines onto the tiller's axle. Align the connection holes in the axle to the tine assemblies then secure with lynch pin (see Figure 1).

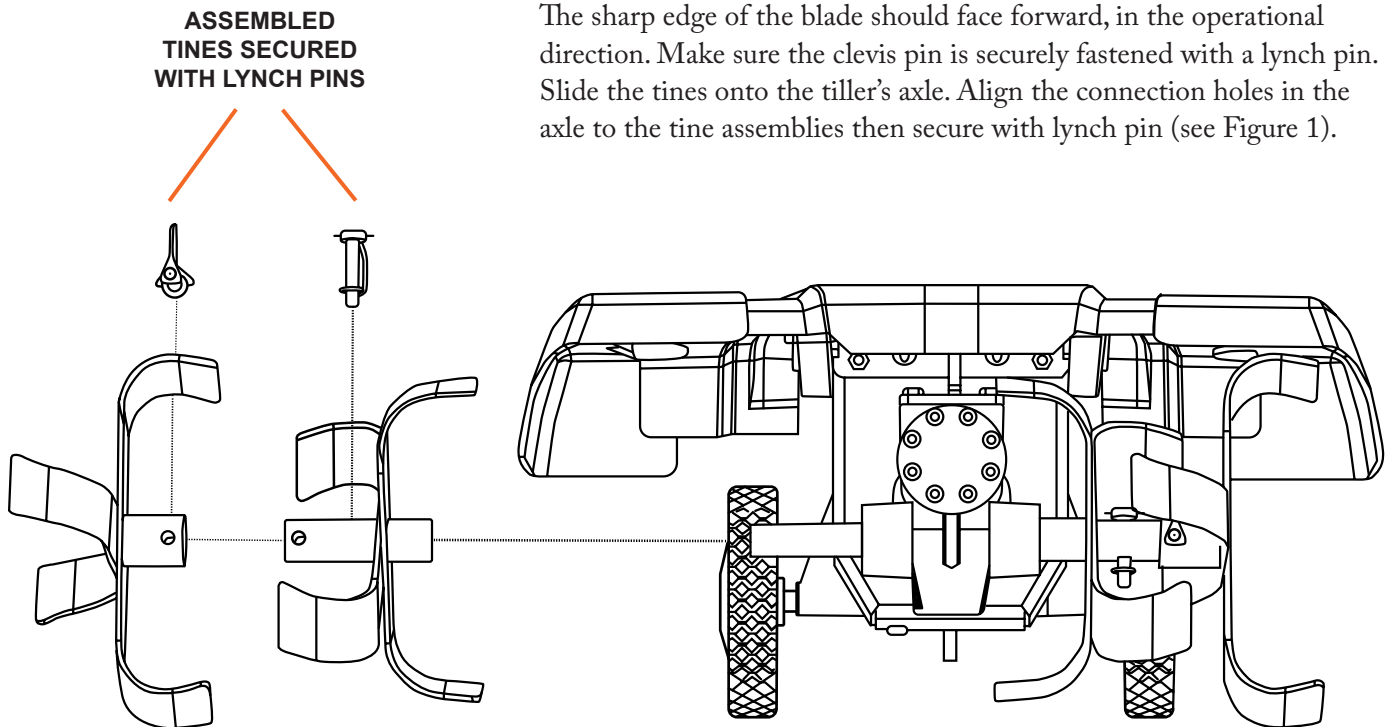
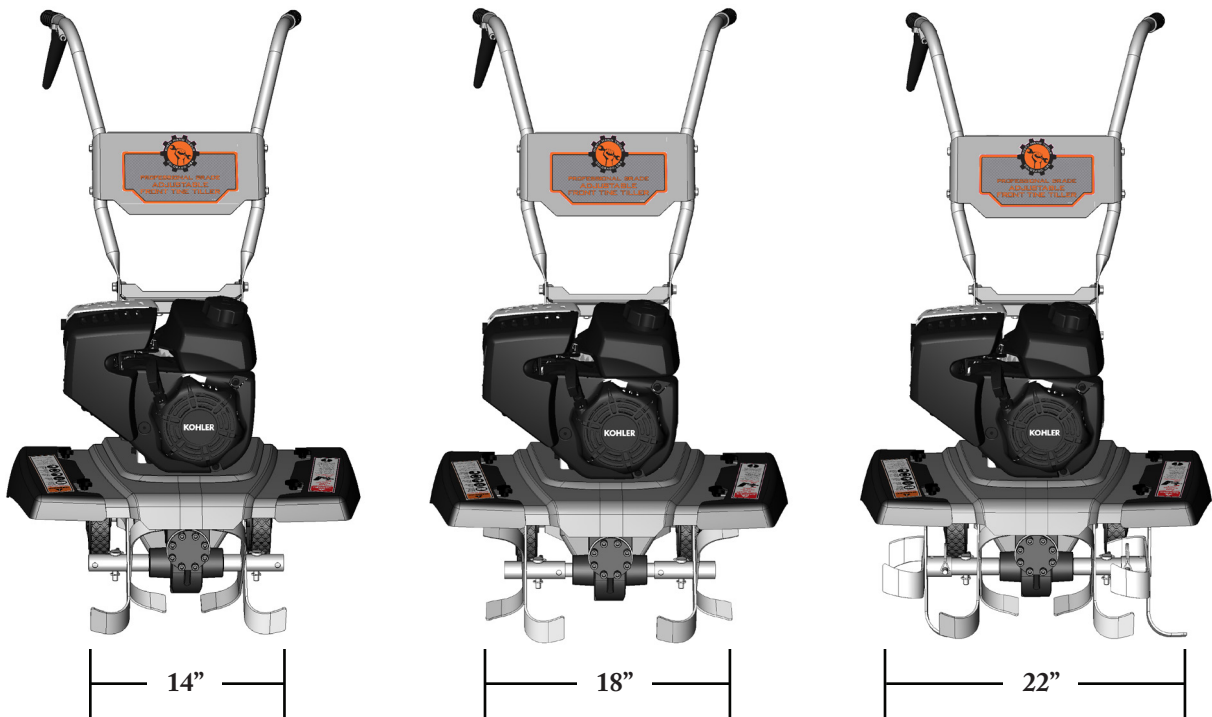


Figure 1



Handlebar Assembly

Mounting the Handlebars

NOTE: The left and right handlebars are different. Each has two holes drilled in the bottom of the handlebar tube and two more drilled in the middle.

1. Install the upper handlebar bracket to the square tubing of the frame using two M8x40mm bolts and nyloc nuts and two 13mm wrenches in the configuration shown in Figure 2.
2. Position the right and left handlebars with the grips facing outwards. Align the two lower holes in the frame and upper handlebar bracket. Install the M10x25mm and M10x50mm bolts as shown in Figure 2 and hand tighten.
3. Mount the handlebar bridge using four M8x40mm bolts and nyloc nuts to the middle holes in the handlebars using two 13mm wrenches.
4. Finish tightening the lower M10 bolts and nyloc nuts using two 17mm wrenches.
5. Use the supplied zip ties to secure the cable from the clutch handle to the handlebars and tiller frame.

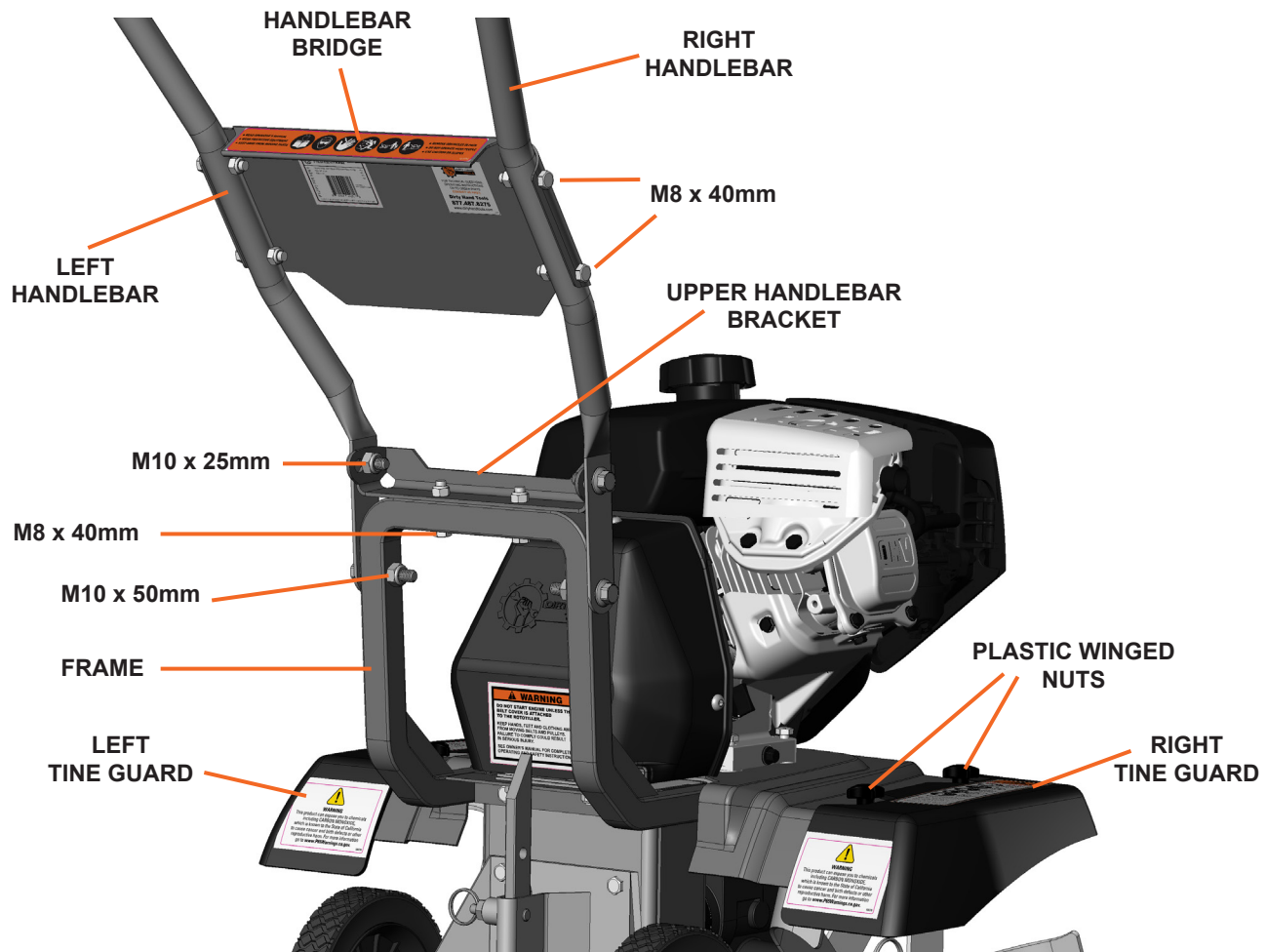


Figure 2

Installing the Wheels

1. Locate the wheels and remove the hub caps.
2. Place the wheels on the axles, making sure that the hub cap side is facing outwards.
3. Install the wheels using the provided hardware noted in Figure 3.
4. Replace hubcaps.

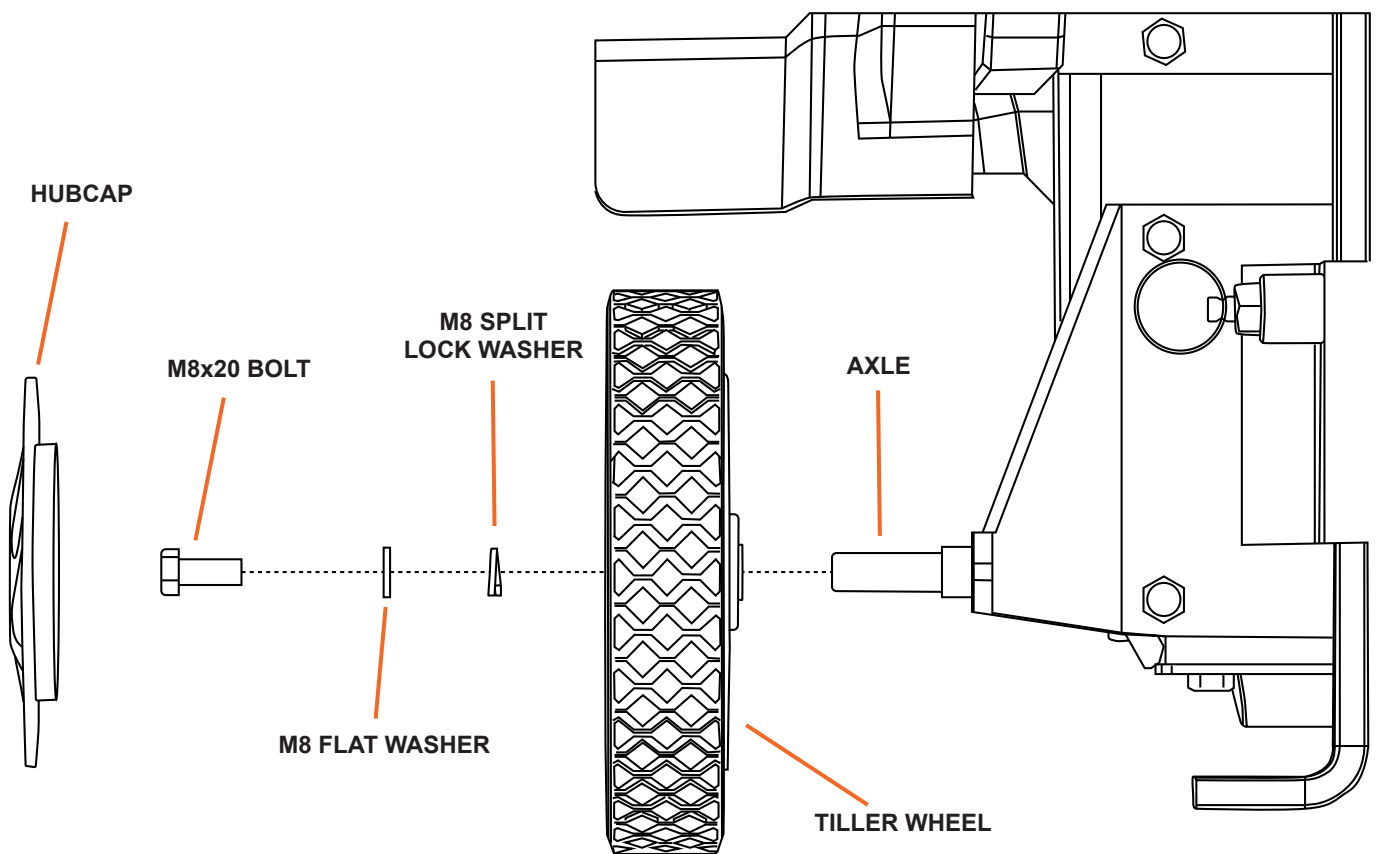


Figure 3

Safety Shield Assembly

NOTE: Tine guards must be in place for tilling in the 18" and 22" tilling width.

1. Locate the plastic winged nuts and guards.
2. Install the guards on their respective sides, using the plastic winged nuts (see Figure 4), ensuring that they are safely and securely fastened to the machine.
3. If you run into difficulty, or there is an issue with the fitment of the guards, call us at 1-877-487-8275 so that we may help ensure safe and proper function of your tiller.

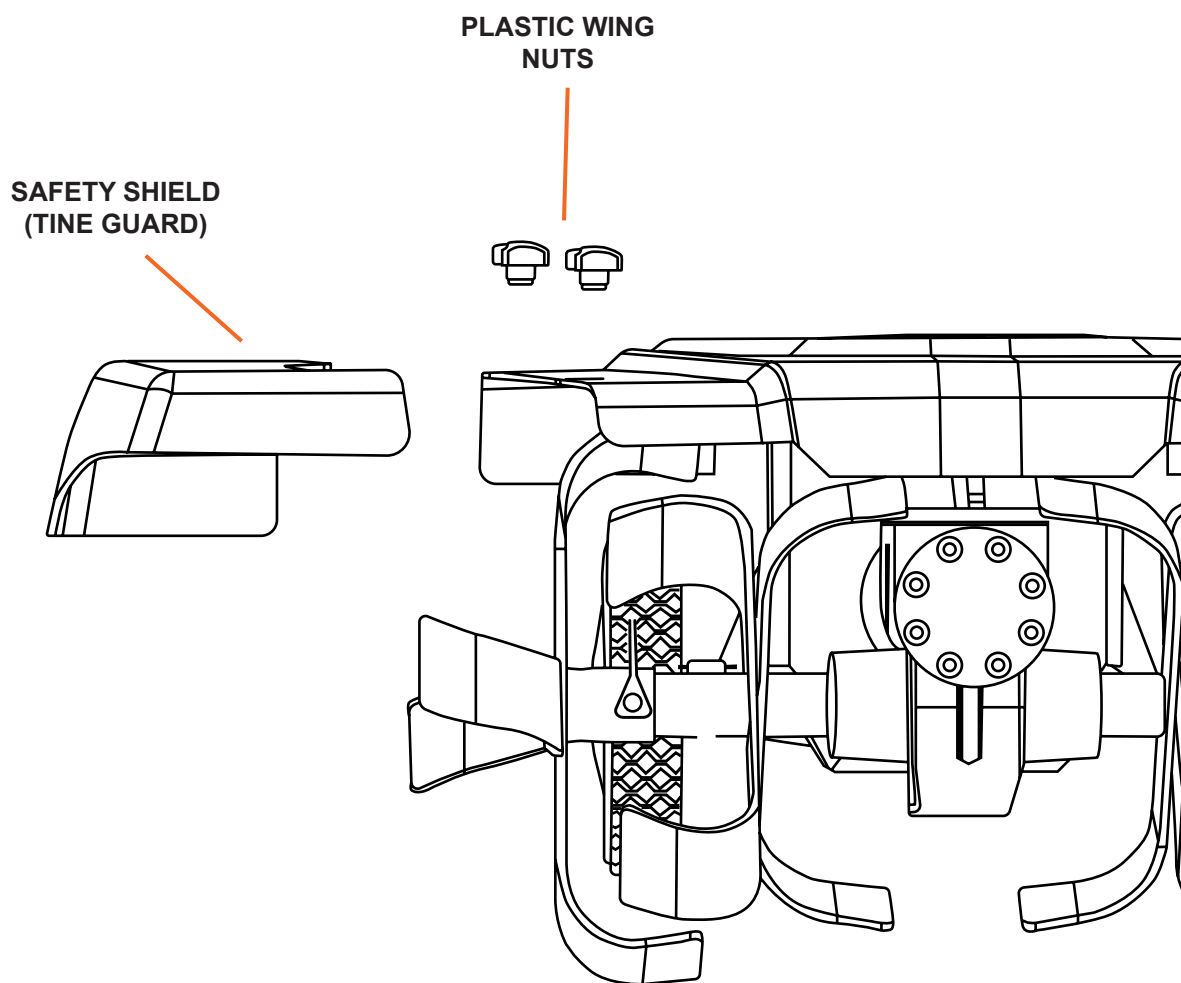


Figure 4

Operating Precautions



CAUTION

READ, UNDERSTAND AND FOLLOW ALL OF THE PRECAUTIONS BELOW.

Always perform the pre-start checklist before starting the engine.

- **Never** operate the tiller without safety shields in place.
- **Keep hands, feet, and clothing away from rotating parts. Keep clear of tiller tines at all times.**
- Tines rotate when the engine is running and clutch lever is depressed (pulled towards the handlebars). *Releasing the clutch lever stops the tines.*
- **Use extreme caution** when operating on or crossing gravel drives, walks, or roads. Stay alert for hidden hazards or traffic.
- After striking an obstacle, **stop the engine**, remove the wire from the spark plug, inspect the tiller for damage and repair before restarting.
- If tines become clogged, **stop the engine** and **disconnect the spark plug wire** before removing any obstruction.
- **Engine muffler will be hot** from operation. Do not touch it with bare skin or a severe burn may result.
- If the unit vibrates abnormally, stop the engine and check immediately for the cause. *Vibration is an indication of a potential problem.*
- **Do not** run the engine indoors; exhaust fumes are deadly.
- **Do not** overload the tiller by trying to till too deep or too fast.
- **Never** operate the machine at high transport speeds on slippery surfaces. Look behind and use care when backing.
- Use only attachments and accessories approved by the manufacturer.
- **Never** operate the tiller without good visibility or adequate light.
- Be careful when tilling in hard ground. The tines may catch in the ground and propel the tiller. *If this occurs, let go of the handlebars and do not restrain the machine.*
- **Take precautions when leaving the machine unattended.** Disengage all control levers, stop the engine, wait for all moving parts to stop, and make certain guards and shields are in place.
- **Shut off the engine when leaving the operating position** for any reason. Wait for all moving parts to stop.



WARNING

OPERATION OF ANY TILLER CAN RESULT IN FOREIGN OBJECTS BEING THROWN. ALWAYS WEAR SAFETY GLASSES DURING OPERATION.

Operating Instructions

Preparation for Operation



THIS UNIT WAS SHIPPED WITHOUT OIL IN THE ENGINE. Check the oil level before each operation.

Fill Engine with Oil

1. Add oil according to engine manual. Do not overfill. Use SAE30 engine oil. **Do not mix oil with gasoline.** Oil level must be full. Check the oil level by removing oil fill plug (see Figure 5). Oil level should be up to the bottom of the fill plug opening.

Pre-Start Inspection

1. Make sure safety shields are in place and nuts & bolts are secure.
2. Check oil level.
3. Inspect air cleaner. Clean or replace it as needed.
4. Check fuel supply. Fill the fuel tank no closer than 1 inch from top of tank to provide space for expansion.
5. Be sure spark plug wire is attached and is tightened securely.
6. Examine underneath and around engine for oil or fuel leaks.
7. Inspect fuel hoses for tightness and fuel seepage.
8. Look for signs of engine damage.
9. Remove excessive debris from muffler area and recoil starter.

Adjusting the Depth Regulator

NOTE: The depth regulator is shipped upside down.

The depth regulator determines the depth of the cultivating blades. Adjust according to the desired working depth. Soil types that are very hard may require using the cultivator in several passes, going in different directions with the depth regulator set at deepest position to ensure the soil has been properly worked through. (Figure 6)

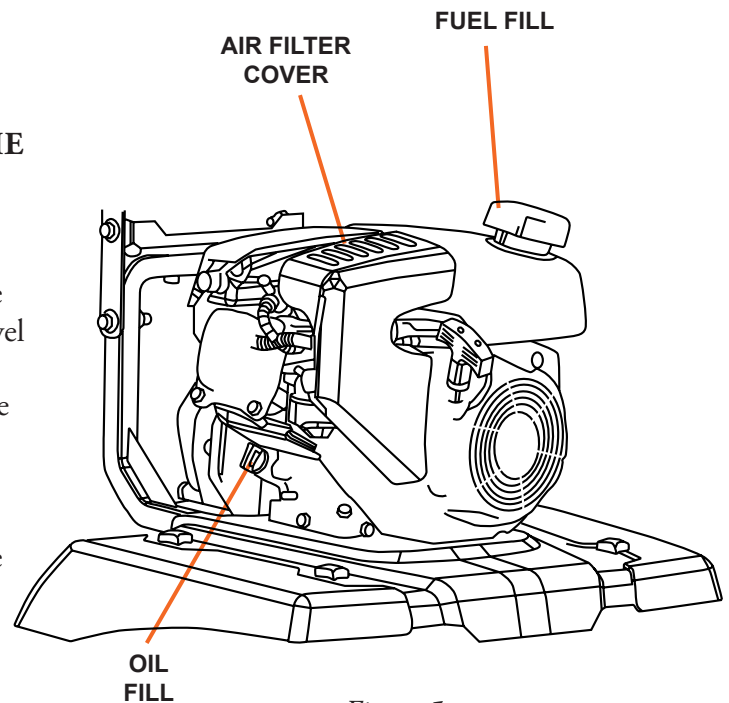


Figure 5

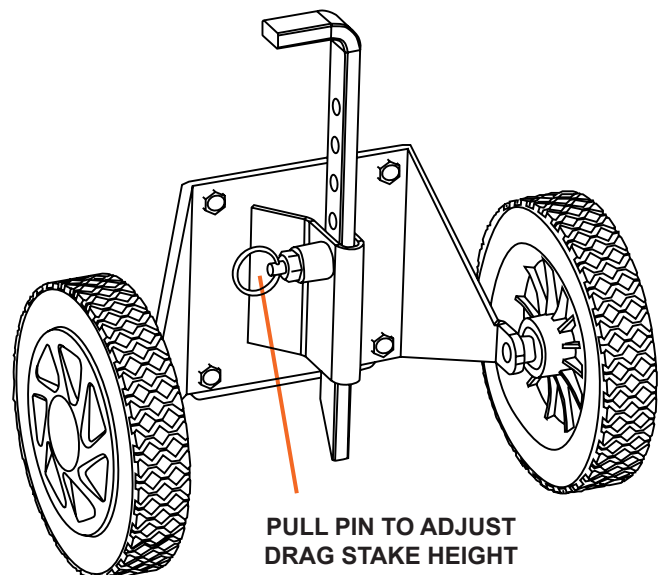


Figure 6

Operating Instructions



NEVER FILL THE FUEL TANK ON A HOT ENGINE

Start-Up

1. Turn the Engine ON/OFF switch to ON (see Figure 7).
2. Slide the fuel shutoff lever to the right (open) position (Figure 8).

Cold Starts

1. Move choke lever all the way to the left (full choke) position.
2. Move throttle lever on handlebar downward to “start”.



3. Pull recoil handle out slowly one time and allow to return.
4. Pull recoil handle out rapidly, and allow rope to return normally.
5. When engine starts, gradually move choke lever to the right (no choke) position and increase throttle speed.

Restarting A Warm Engine

Restarting an engine that is already warm from previous running does not normally require use of the choke.

1. Move throttle lever to “start” position.
2. Pull recoil handle out rapidly until engine starts. Allow recoil rope to return normally. Repeat until engine starts.
3. Adjust throttle speed to “full” for best tiller action.

Idle Speed

Use the “low” position on the throttle lever to reduce stress on the engine when tilling is not being performed. Lowering the engine speed to “idle” will help extend the life of the motor, as well as conserve fuel and reduce the noise level of the equipment.

Operating Speed

For normal tilling, set the throttle lever to full throttle (fast).

Shutting Down

To stop the engine at any time, move throttle control to the STOP position. To stop tines at any time, release the clutch lever. To completely shutdown, move the engine ON/OFF switch to OFF and slide the fuel shutoff lever to the closed position.

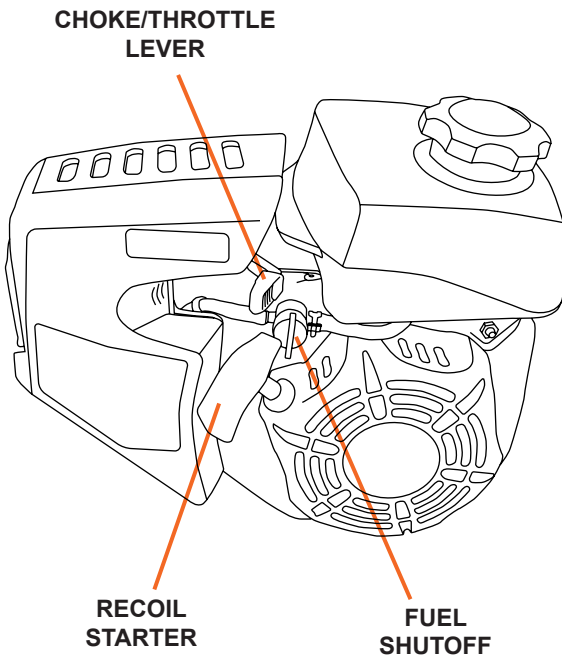


Figure 7

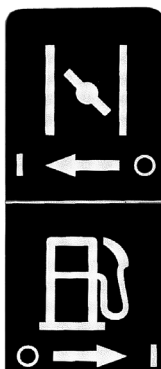


Figure 8

Operating Instructions



WARNING

Read Operation Manual before using this equipment!
Practice operating the controls and using the tiller with tines out of ground before beginning to till.

Tilling

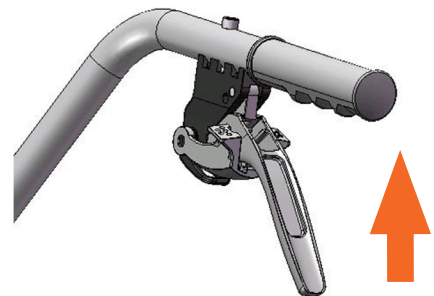
1. Start the engine.
2. Move the throttle control to fast.
3. Place the tiller in forward by pulling up on the forward clutch lever - this will engage the tines.

Note: You can slow the tiller's forward advance at any time by putting slight downward pressure on the handlebars. Stop the tiller by releasing the clutch lever and then stopping the engine.

Clutch Lever

Pulling the clutch lever toward the handlebar engages the tines.

Releasing the clutch lever stops the tines (see Figure 9).



Pulling the clutch lever towards the handlebar engages the tines.

Figure 9

Tilling Tips

The key to successful tilling is to begin with a shallow cut on the first pass, and then work an inch or two deeper on each successive pass.

- Tilling depth will vary with ground conditions.
- When beginning to till in unbroken ground or in extremely hard soil perform shallow tilling first then do a second pass going deeper into the soil.
- Hold on firmly to the handlebars to control sudden lurches.

Immediately release the clutch lever if the tines jam or you strike a foreign object. With the clutch lever released, push the throttle control to stop position to stop the engine. When tines have stopped, disengage the spark plug wire, then remove foreign objects.

Maintenance

- Keep tiller, safety shields and covers, attachments, and accessories in safe working condition.
- Check clevis pins, engine mounting bolts, and other bolts at frequent intervals for proper tightness to be sure the equipment is in safe working condition.
- To prevent accidental starting, always disconnect and secure the spark plug wire from the spark plug before maintenance.
- Never run the engine indoors. Exhaust fumes are toxic.
- Always allow muffler to cool before filling fuel tank.

Lubrication

Proper lubrication of moving mechanical parts is critical for proper care and maintenance. Oil the cables and other moving parts at 10 hour intervals using a SAE30 engine oil.

Transmission Grease

The transmission is filled at the factory with 300g of HP-R grease. Once a year 100g of HP-R grease can be added to the gear box access with a grease gun.

Cleaning the Tine Axle Shaft

1. Turn off engine. Engine must be cool.
2. Remove spark plug wire and secure from spark plug.
3. Tip the tiller backward. Block the tiller in position so that 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.



WARNING

**TURN OFF ENGINE AND DETACH SPARK PLUG WIRE.
ENGINE MUST BE COOL.**

Engine Maintenance

Refer to the engine manual included in your parts packet for information on engine maintenance. Your engine manual provides detailed information and a schedule for performing the following:

1. Check oil level before each use and after 8 hours of operation.
2. Change oil after first 5-8 hours of operation. Change oil while engine is warm. Refill with new oil of recommended grade.
4. Check spark plug yearly or every 100 hours of operation.
5. Service air cleaner.
6. Keep engine and parts clean.
7. Check engine and equipment often for loose nuts and bolts.



WARNING

DO NOT STORE THE TILLER IN UNVENTILATED AREA

where fuel fumes may reach flame, sparks, pilot lights or other ignition source.

Drain fuel outdoors away from any ignition sources.

Use only approved fuel containers.

Never store equipment with gasoline in the tank inside of a closed building where fumes may reach an open flame or spark. Allow the engine to cool before storing in any building.

Add a fuel stabilizer to gas tank and run for 10-15 minutes to prevent fuel from gumming up during an extended storage period.

Prepare for Storage

Follow the steps below to prepare your tiller for storage. Read your engine manual for detailed instructions on preparing the engine for storage.

1. Protect wheels and axles from rust: Remove lock pin and slide wheel off hub. Coat the axles lightly with axle grease. Slide wheel back on hub and insert lock pin.
2. Drain fuel system completely following engine manufacturer's instructions or add fuel stabilizer to prevent fuel from gumming up during extended storage period.
3. While engine is still warm, drain the oil from the engine. Refill with fresh oil of the recommended grade.
4. Clean external surfaces, engine and cooling fan.
5. Remove spark plug, pour one ounce of SAE 30 oil into spark plug hole.
6. Plug hole and pull starter cord slowly to distribute oil evenly in cylinder head area.
7. Reinstall spark plug.
8. Transport unit to a suitable storage location. If you have chosen to use a fuel stabilizer and have not drained the fuel system, follow all safety instructions storage precautions in this manual to prevent the possibility of fire from the ignition of gasoline fumes. Remember, gasoline fumes can travel to distant sources of ignition and ignite, causing risk of explosion and fire.
9. If there is any possibility of unauthorized use or tampering, remove the spark plug and store it in a safe place before storing the tiller unit. Be sure to plug the spark plug hole to prevent foreign material from entering.

Troubleshooting

PROBLEM	SOLUTION
Engine will not start	<ul style="list-style-type: none"> • Add gas to gas tank. • Connect spark plug wire to spark plug • Throttle must be positioned at choke for a cold start
Engine runs rough, floods during operation	<ul style="list-style-type: none"> • Clean or replace air cleaner
Engine is hard to start	<ul style="list-style-type: none"> • Drain old fuel and replace with fresh. Use gas stabilizer at end of season • Make sure spark plug wire is securely attached to spark plug • Drive safety control levers must be released to neutral position to start the engine • Throttle is not in proper start position
Engine misses or lacks power	<ul style="list-style-type: none"> • Raise the tines for shallow tilling by lowering the depth regulator lever • Remove and clean fuel tank • Clean or replace air cleaner • Improper carburetor adjustment, take to authorized engine service center • Replace spark plug and adjust gap • Drain and refill gas tank and carburetor
Engine will not stop when throttle control is positioned at stop	<ul style="list-style-type: none"> • See engine manual to check and adjust the throttle linkage
Tiller moves forward during starting	<ul style="list-style-type: none"> • Clutch lever must be released to start the engine
Tiller is difficult to control when tilling (machine jumps or lurches forward)	<ul style="list-style-type: none"> • Push downward on the handlebars raising the tines • Keep the tines raised slightly for shallower tilling on hard soils, then do a second pass going deeper • Raise the tiller depth regulator
Tines do not rotate with clutch lever depressed	<ul style="list-style-type: none"> • Clutch cable is damaged or incorrectly adjusted • Drive belt is damaged
Tines continue to rotate after the clutch lever is released	<ul style="list-style-type: none"> • Clutch cable is damaged or incorrectly adjusted
Excessive heat build up in tine area during tilling	<ul style="list-style-type: none"> • Clean the tine axle shaft • Check transmission fluid and fill if low

Warranty & Specifications

IMPORTANT NOTICE

We, the manufacturer, reserve the right to change the product and/or specifications in this manual without notification. The manual is for information usage only and the pictures and drawings depicted herein are for reference only.

Warranty Repair and Service

Do not return this product to the store for warranty issues or repair. Call our customer service department at **720-287-5182, 1-877-487-8275**, or visit www.dirtyhandtools.com for the location of the nearest service center.

Record the information below for future reference.

Model No. _____

Serial No. _____

Date of Purchase _____

Place of Purchase _____

Specifications

SKU/Part No.	107555
Description	14 - 22 Inch Front Tine Tiller
Engine	10.7 ft/lbs Gross Torque (6.5HP 196cc) Kohler Engine*, EPA/CARB Approved
Engine Oil Capacity**	0.6 quarts
Operating Speed	3600 RPM
Tilling Width	14" - 22", Adjustable
Tilling Depth	10"
Tires	7" diameter
Transmission	Neutral (disengaged), and Forward (engaged)
Dimensions	42"L x 26.25"W x 42.25"H (including handlebar)
Shipping Weight	110 Lbs.
Warranty	2 Year / 2 Year Limited Warranty

*As rated by engine manufacturer

** Not included, shipped without engine oil

Dirty Hand Tools® is a brand of
 **FrictionlessWorld**
1100 W 120th Ave., Suite 600
Westminster, CO 80234 • 720-287-5182

For Service or Questions
Call 1-877-487-8275
720-287-5182
www.dirtyhandtools.com