



## INTRODUCTION

### THANK YOU . . .

For purchasing a FRONT TINE ROTOTILLER.

We have worked to ensure that this FRONT TINE ROTOTILLER meets high standards for usability and durability. With proper care, your rototiller will provide many years of service.

Please take the time to read this manual carefully to learn how to properly operate and maintain your rototiller. This manual should be considered a permanent part of your rototiller. Due to continuous efforts to perfect our product, certain procedures and specifications are subject to change without notice. Congratulations on your investment in quality.

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## REGISTRATION

Record your model number and serial number in the space provided for easy reference.

Model Number \_\_\_\_\_

Serial Number \_\_\_\_\_

Engine Serial Number \_\_\_\_\_

Date of Purchase \_\_\_\_\_

Place of Purchase \_\_\_\_\_

### *California Proposition 65*

 **WARNING**  
**CANCER AND REPRODUCTIVE HARM - [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)**

## SAFETY

### OWNER'S RESPONSIBILITY

Accurate assembly and safe and effective use of the rototiller is the owner's responsibility.

- Read and follow all safety instructions.
- Carefully follow all assembly instructions.
- Ensure that anyone who uses the tiller is familiar with all controls and safety precautions.

### SPECIAL MESSAGES

Your manual contains special messages to bring attention to potential safety concerns, machine damage as well as helpful operating and servicing information. Please read all the information carefully to avoid injury and machine damage.

**NOTE:** General information is given throughout the manual that may help the operator in the operation or service of the machine.

### IMPORTANT SAFETY PRECAUTIONS

**Please read this section carefully.** Operate the tiller according to the safety instructions and recommendations outlined here and inserted throughout the text. Anyone who uses this tiller must read the instructions and be familiar with the controls. Your tiller is equipped with a safety device that enables you to stop the wheels and tines quickly in an emergency. Learn how the drive safety control lever operates and how to control the tiller at all times.



**This symbol points out important safety instructions which if not followed could endanger your personal safety. Read and follow all instructions in this manual before attempting to operate this equipment.**

- Do not allow children to operate this rototiller. Keep small children away from the area being tilled. Do not allow adults to operate the tiller without proper instruction.

### PREPARATION

- Dress appropriately when operating the 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.
- 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.
- Disengage all clutches and leave all control levers in the neutral position before starting the engine.
- Handle fuel with care; it is highly flammable.
  - a. Use an approved fuel container.
  - b. Never add fuel to a running engine or hot engine.

### DANGER

DANGER INDICATES A SERIOUS INJURY OR FATALITY WILL RESULT IF THE SAFETY INSTRUCTIONS THAT FOLLOW THIS SIGNAL WORD ARE NOT OBEYED.

### WARNING

WARNING INDICATES A SERIOUS INJURY OR FATALITY COULD RESULT IF THE SAFETY INSTRUCTIONS THAT FOLLOW THIS SIGNAL WORD ARE NOT OBEYED.

### CAUTION

CAUTION INDICATES YOU CAN OR YOUR EQUIPMENT CAN BE HURT IF THE SAFETY INSTRUCTIONS THAT FOLLOW THIS SIGNAL WORD ARE NOT OBEYED.

### IMPORTANT

IMPORTANT INDICATES HELPFUL INFORMATION FOR PROPER ASSEMBLY, OPERATION, OR MAINTENANCE OF YOUR EQUIPMENT.

### WARNING

YOU MUST READ, UNDERSTAND AND COMPLY WITH ALL SAFETY AND OPERATING INSTRUCTIONS IN THIS MANUAL BEFORE ATTEMPTING TO SET UP AND OPERATE YOUR ROTOTILLER.

FAILURE TO COMPLY WITH ALL SAFETY AND OPERATING INSTRUCTIONS CAN RESULT IN LOSS OF MACHINE CONTROL, SERIOUS PERSONAL INJURY TO YOU AND/OR BYSTANDERS, AND RISK OF EQUIPMENT AND PROPERTY DAMAGE. THE TRIANGLE IN THE TEXT SIGNIFIES IMPORTANT CAUTIONS OR WARNINGS WHICH MUST BE FOLLOWED.

**CALIFORNIA PROPOSITION 65 WARNING**  
ENGINE EXHAUST FROM THIS PRODUCT CONTAINS CHEMICALS KNOWN TO THE STATE OF CALIFORNIA TO CAUSE CANCER, BIRTH DEFECTS, OR OTHER REPRODUCTIVE HARM.

**THIS PRODUCT CONTAINS OR EMITS CHEMICALS KNOWN TO THE STATE OF CALIFORNIA TO CAUSE CANCER, BIRTH DEFECTS, AND OTHER REPRODUCTIVE HARM.**

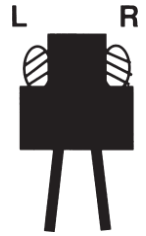
- c. Fill fuel tank outdoors with extreme care. Never fill fuel Tank indoors.
- d. Replace gasoline cap securely and clean up spilled fuel before restarting.
- Never attempt to make any adjustments while the engine is running.

## OPERATION

- Do not operate the tiller under the influence of alcohol or drugs.
- Never operate the tiller without guards, covers, and hoods in place.
- Keep hands, feet, and clothing away from rotating parts. Keep clear of tiller tines at all times.
- Tines rotate when tiller is engaged; tines rotate when the drive safety control lever is pulled down. Releasing the drive safety control lever to **neutral** 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 a foreign object, stop the engine, remove the wire from the spark plug, thoroughly inspect the tiller for any damage, and repair the damage before restarting and operating the tiller.
- **IF VEGETATION CLOGS THE TINES, STOP THE ENGINE AND DISCONNECT THE SPARK PLUG WIRE** before removing vegetation by hand.
- Engine muffler will be hot from operation. Do not touch it with bare skin or a severe burn may result.
- If the unit should start to vibrate abnormally, stop the engine and check immediately for the cause. Vibration is generally a warning of trouble.
- Do not run the engine indoors; exhaust fumes are deadly.
- Do not overload the machine capacity by attempting to till too deep at too fast of a rate.
- Never allow bystanders near the unit.
- Never operate the tiller without good visibility or light.
- Be careful when tilling in hard ground. The tines may catch in the ground and propel the tiller forward. If this occurs, let go of the handlebars and do not restrain the machine.
- Take all possible 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.
- When leaving the operating position for any reason:
  - shut off the engine.
  - wait for all moving parts to stop.

## IMPORTANT

THE RIGHT AND LEFT SIDES OF YOUR ROTOTILLER ARE DETERMINED FROM THE OPERATING POSITION AS YOU FACE THE DIRECTION OF FORWARD TRAVEL.



ENGINE IS SHIPPED FROM FACTORY WITHOUT OIL. YOU MUST ADD ENGINE OIL BEFORE STARTING ENGINE.

## MAINTENANCE AND STORAGE

- Keep machine, attachments and accessories in safe working condition.
- Check shear bolts, 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 performing tiller maintenance.
- Never run the engine indoors. Exhaust fumes are deadly.
- Always allow muffler to cool before filling the fuel tank.
- Never store equipment with gasoline in the tank inside a closed building where fumes may reach an open flame or spark. Allow the engine to cool before storing in any building.
- Always refer to the operator's guide instructions for important details if the tiller is to be stored for an extended period.

## ADDITIONAL SAFETY INFORMATION (CE UNITS ONLY)

This rototiller unit has been tested and verified to be within the acceptable level of noise range for CE compliance at 80dB Lpa.

This rototiller unit has been tested and verified to be within the acceptable level of vibration for CE compliance at 6.2 m/s<sup>2</sup>.

For the health and safety of the consumer it is recommended that this product be used for no more than 2 consecutive hours in any given 12-hour period.

## SAFETY DECALS

This rototiller unit has been designed and manufactured to provide you with the safety and reliability you would expect from an industry leader in outdoor power equipment manufacturing.

Although reading this manual and the safety instructions it contains will provide you with the necessary basic knowledge to operate this equipment safely and effectively, we have placed several safety labels on the tiller to remind you of this important information while you are operating the unit.

These important safety labels are illustrated below and are shown here to help familiarize you with the location and content of the safety messages you will see as you perform normal tilling operations. Please review these labels now. If you have any questions regarding their meaning or how to comply with these instructions, reread the complete safety instruction text on the preceding pages, or contact your local dealer.

Should any of the safety labels become unreadable because of being worn, faded, or otherwise damaged during the use of your tiller, please use the part number information provided to order a replacement label from your local authorized dealer.

The safety labels are easily applied and will act as a constant visual reminder to you and others who may use the equipment. Follow the safety instructions necessary for safe, effective operation of your rototiller.

**DANGER**

**AVOID INJURY FROM ROTATING TINES!**  
Keep hands, feet and clothing away.

- Tines rotate when tiller is engaged.
- Tines rotate when drive control lever is pulled back.
- Releasing the drive control lever to neutral stops the tines.

**OPERATION**

**REFER TO OPERATOR'S MANUAL  
FOR DETAILED OPERATING  
INSTRUCTIONS**

**TO START:**

1. Release drive control lever to neutral position.
2. Pull transport wheels back to unfold machine.
3. Position the Engine Switch to ON.
4. Pull starter rope.

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**WARNING**

**AVOID SERIOUS INJURY OR DEATH**

- Read operator's manual(s).
- Know the location and function of all controls.
- Keep all shields and guards in place and working while running.
- Never operate tiller when children are around.
- Dress appropriately --- wear sturdy footwear.
- Carefully inspect area to be tilled --- remove large rocks and other foreign objects.
- Do NOT till above underground electric, water, gas, or other utility lines and pipes.
- STOP THE ENGINE AND DISCONNECT THE SPARK PLUG WIRE before removing debris or servicing unit.
- When leaving the operating position for any reason:
  - shut off the engine.
  - wait for all moving parts to stop.

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## UNPACKING AND ASSEMBLY

### ▲ CAUTION

**DO NOT TRY TO LIFT THE ROTOTILLER FROM THE CARTON.**

1. Open top of carton and remove handlebar assembly.
2. Find parts packet.

- 4- 5/16-18 x 1" Bolts
- 4- 5/16-18 x 1-3/4" Bolts
- 4- 5/16" Spring Lockwashers
- 8- 5/16-18 Locknuts
- 2- M20 Flat Washer
- 2- Cotter Pins
- 1- Detent Pin

3. Cut open end of carton and remove machine:

Slide the Wheel Axle through the brackets on the Frame and Install the wheels onto each end of axle. Install the washers on the outsides of the wheels and secure with the Cotter Pins.

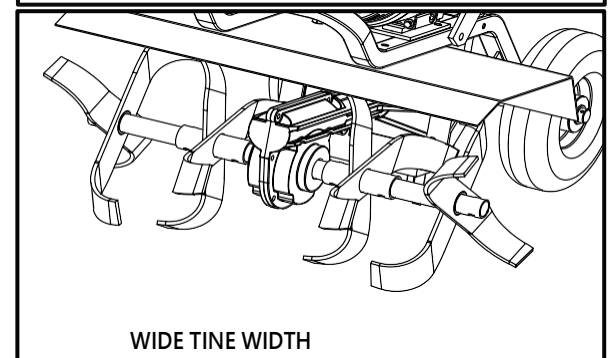
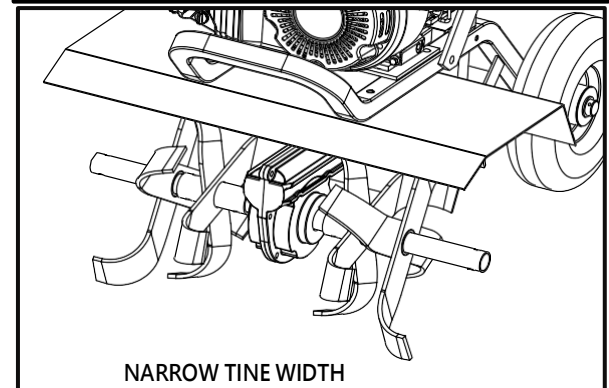
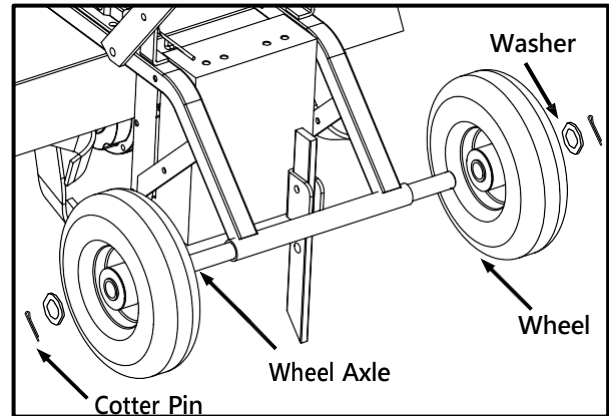
Assemble tines to unit. Use the Longer Bolts, Lockwashers, and Locknuts to secure the inside tines to the transmission shaft. Ensure that the sharp edge of tine will be away from operator at top or face down at front of machine.

The outside tines have two positions- wide 21" and narrow 16". or narrow width, assemble with the short side of the tine shaft towards the center of the machine. For wide width, assemble with the long side of the tine shaft towards the center of the machine. Ensure that the sharp edge of tine will be away from operator at top or face down at front of machine.

Secure the upper handlebar to the lower handlebar using four shorter Bolts, and Locknuts.

Check upper and lower jam nuts for tightness. See page 8, Belt Tension Adjustment.

Add and check engine oil.



### INSTALL DEPTH REGULATOR LEVER

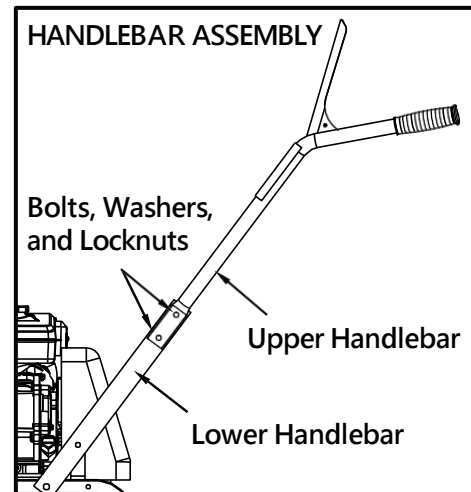
1. Install the depth regulator lever through hole in bracket from the bottom up with curve to rear of unit and secure with detent pin.

### FILL ENGINE CRANKCASE

1. Add oil according to engine manual. Do not overfill. Use a clean, high quality detergent oil. Container must be marked A.P.I. Service SF - SJ. Use no special additives with recommended oils. Do not mix oil with gasoline. Oil level must be full. Check the oil level by removing oil fill plug. Oil level should be up to the bottom of the fill plug opening.
2. Always check oil level before starting engine. Refer to engine manual for capacity and type of oil to use.

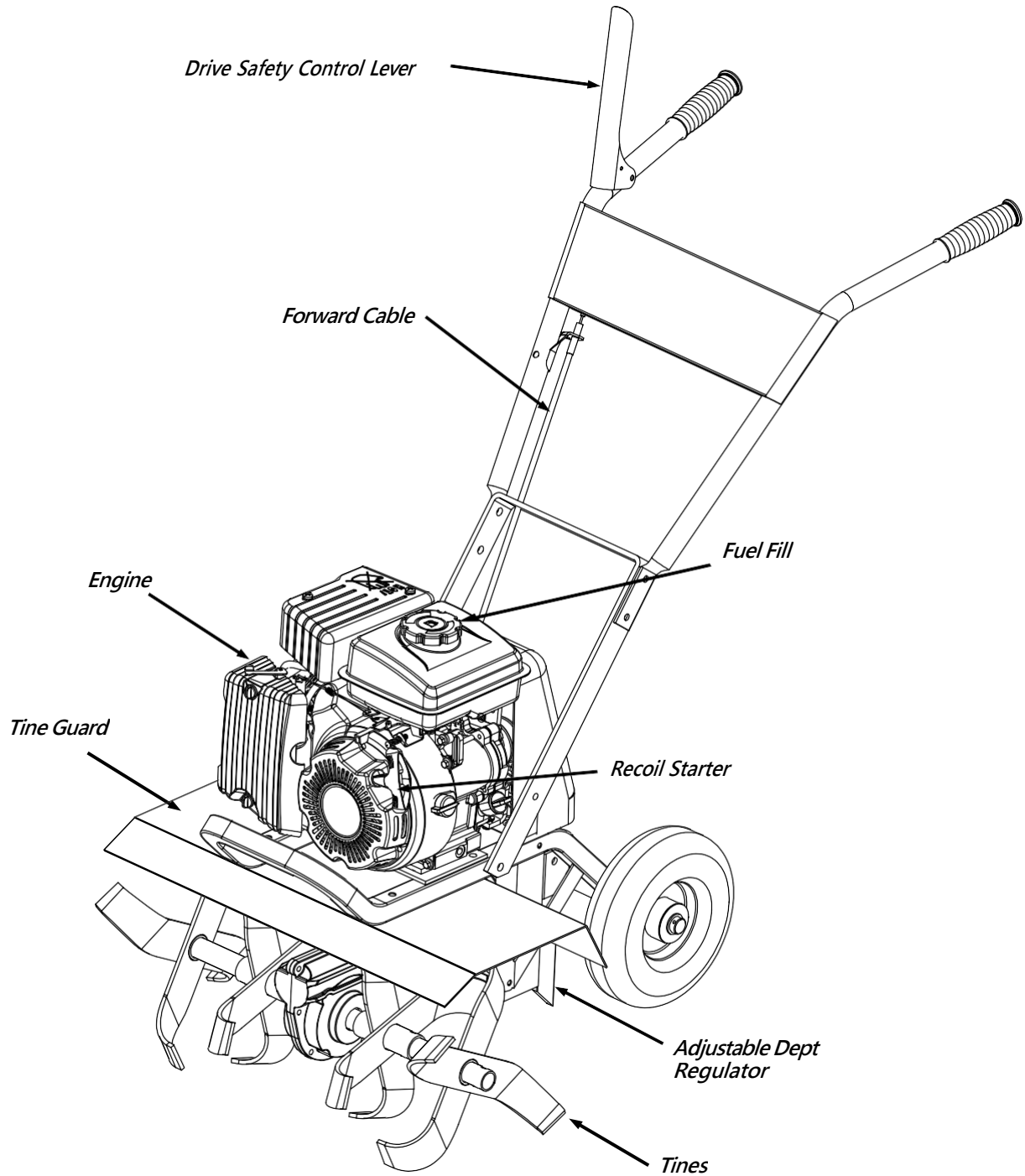
### IMPORTANT

**ENGINE IS SHIPPED FROM FACTORY WITHOUT OIL. YOU MUST ADD ENGINE OIL BEFORE STARTING ENGINE.**



**FEATURES**

Use solid rubber tires, never leaking, durable.



## CONTROLS

### DRIVE SAFETY CONTROL LEVER

*Engages tines forward; releasing returns machine to neutral.*

Pulling down on the drive safety control lever engages the tines. Releasing the drive safety control lever disengages the tines to a neutral position.

### BELT TENSION ADJUSTMENT

Proper belt tension is critical to good performance. After 30 minutes of operation, all cables may have to be adjusted due to initial stretch. Thereafter, check tension after every two hours of operation.

#### To check belt tension:

1. With drive safety control lever disengaged, measure the length of the spring when in its relaxed state.
2. Pull down on drive safety control lever and measure length of spring when compressed. Ideal length would be 1/4" shorter.

#### To increase belt tension:

1. Loosen upper jam nut. Turn nut up cable in 1/8" increments.
2. Tighten lower jam nut.
3. Check adjustment.

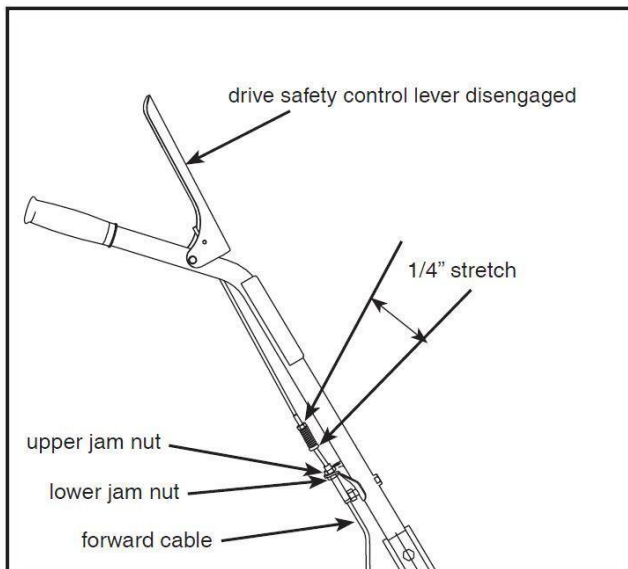
This procedure can be repeated until conduit adjustment bolts have no more adjustment left. If no more adjustment can be made, belt may have to be replaced.

### DEPTH REGULATOR LEVER

*Tilling depth is controlled by the height of the depth regulator lever.*

#### To adjust tilling depth:

1. Remove detent pin.
2. Raise the depth regulator lever to position tines at chosen tilling depth.
3. Align hole in depth regulator lever with hole in depth regulator bracket and replace detent pin.



### ⚠ CAUTION

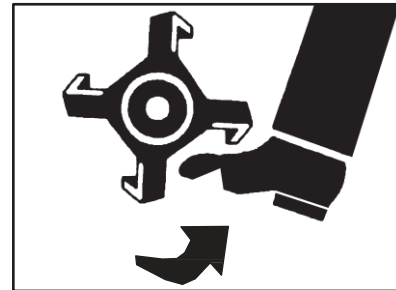
THIS INFORMATION IS PROVIDED HERE ONLY TO INTRODUCE THE CONTROLS. DO NOT START THE ENGINE AT THIS TIME. STARTING AND OPERATING INSTRUCTIONS ARE GIVEN ON PAGE 10. PLEASE READ THIS SECTION AND ALL OPERATING AND SAFETY INSTRUCTIONS BEFORE STARTING YOUR TILLER.

- AS A SAFETY PRECAUTION, THE DRIVE SAFETY CONTROL LEVER WILL NOT LOCK IN THE FORWARD POSITION.
- TO STOP THE WHEELS AND TINES AT ANY TIME, RELEASE THE DRIVE SAFETY CONTROL LEVER.

### ⚠ WARNING

ENGINE SHOULD BE OFF BEFORE ADJUSTING ANY CONTROLS.

DO NOT ADJUST TILLING DEPTH UNLESS DRIVE SAFETY CONTROL LEVER IS RELEASED TO THE NEUTRAL POSITION.



### IMPORTANT

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ENGINE IS SHIPPED FROM FACTORY WITHOUT OIL. YOU MUST ADD ENGINE OIL BEFORE STARTING ENGINE.



## OPERATION

### PRE-START INSPECTION

1. Make sure all safety guards are in place and all nuts and bolts are secure.
2. Check oil level in engine crankcase. See your engine manual for procedure and specifications.
3. Inspect air cleaner for cleanliness. See your engine manual for procedure.
4. Check the fuel supply. Fill the fuel tank no closer than one inch from top of tank to provide space for expansion. See your engine manual for fuel recommendations.
5. Be sure spark plug wire is attached and spark plug is tightened securely.
6. Check position of wheels.
7. Check depth regulator lever position.
8. Examine underneath and around engine for signs of oil or fuel leaks.
9. Inspect fuel hoses for tightness and fuel.
10. Look for signs of engine damage.
11. Remove excessive debris from muffler area and recoil starter.
12. Turn fuel shutoff valve to the ON position if engine is equipped with one. It's located between tank and carburetor.

### START-UP

The controls required to start and run the rototiller are located on the engine.

A more detailed description of engine operation and all related precautions and procedures can be found in the engine manufacturer's manual that accompanies each tiller.

1. Move the Engine Switch to the ON position.
2. Pull starting rope out slowly one time and allow to return normally.
3. Pull starting rope out rapidly and allow rope to return normally.

### SHUTTING DOWN

To stop the engine at any time, move the Engine Switch to the OFF position. To stop wheels and tines at any time, release the drive safety control to the NEUTRAL position.

### TILLING

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

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

2. Place the tiller in motion by pushing down on the drive safety control lever; this will engage the tines.

### IMPORTANT

ENGINE IS SHIPPED FROM FACTORY WITHOUT OIL. YOU MUST ADD ENGINE OIL BEFORE STARTING ENGINE.

PRACTICE OPERATING THE CONTROLS AND TILLER WITH TINES OUT OF GROUND BEFORE BEGINNING TO TILL. IT IS IMPORTANT THAT YOU KNOW HOW TO USE THE TILLER PROPERLY, KEEP CONTROL AT ALL TIMES, STOP THE TINES AND WHEELS FROM TURNING, AND STOP THE ENGINE READ THE CONTROLS AND SAFETY SECTIONS BEFORE PROCEEDING.

### CAUTION

PLEASE DO NOT START YOUR TILLER UNTIL YOU HAVE READ THE MANUAL THAT CAME WITH YOUR ENGINE AND THE SECTIONS IN THIS MANUAL TITLED "CONTROLS AND SAFETY." ONCE YOU HAVE READ THESE, FOLLOW THE APPROPRIATE STEPS TO START YOUR TILLER. ALWAYS PERFORM THIS PRE-START CHECKLIST BEFORE STARTING THE ENGINE.

### WARNING

GASOLINE IS HIGHLY FLAMMABLE AND MUST BE HANDLED WITH CARE. NEVER FILL THE TANK WHEN THE ENGINE IS HOT OR RUNNING. ALWAYS MOVE OUTDOORS TO FILL THE TANK.

TEMPERATURE OF MUFFLER AND NEARBY AREAS MAY EXCEED 150 °F. AVOID THESE AREAS.

TO STOP THE ENGINE AT ANY TIME, MOVE THE ENGINE SWITCH TO THE OFF POSITION. TO STOP TINES AT ANY TIME, RELEASE DRIVE SAFETY CONTROL LEVER TO THE NEUTRAL POSITION.

ALWAYS RELEASE DRIVE SAFETY CONTROL LEVER TO THE NEUTRAL POSITION BEFORE ADJUSTING THE DEPTH OF THE REGULATOR LEVER.

### WARNING

EXTREME CAUTION MUST BE TAKEN IN SELECTING TILLING DEPTH. IF YOU ATTEMPT TO TILL TOO DEEPLY FOR SOIL CONDITIONS—THAT IS, WITH THE DRAG STAKE IN TOO HIGH OF A POSITION—LOSS OF CONTROL COULD RESULT.

IF REMOVING MATERIAL FROM THE TINES BY HAND, STOP THE ENGINE AND REMOVE SPARK PLUG WIRE FIRST.

### DANGER

ENGINE AND SURROUNDING PARTS BECOME EXTREMELY HOT DURING NORMAL USE AND WILL CAUSE SERIOUS BURN INJURIES IF TOUCHED BEFORE THE ENGINE HAS COOLED.

ALLOW ENGINE TO COOL COMPLETELY BEFORE TOUCHING THESE HOT SURFACES.

ALWAYS KEEP HANDS AND FEET CLEAR OF ROTATING MACHINE PARTS.

## MAINTENANCE AND STORAGE

### MAINTENANCE SCHEDULE

Your rototiller has been designed and produced by the industry's leading manufacturer of outdoor power equipment to provide you with years of reliable operation.

Keeping your tiller in top running condition will prolong its life, and help you obtain optimum performance.

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

Maintenance Operation	Page	Before Each Use	50 hours or Every Season
Check belt tension	11	X	
Change forward belt	11		X
Engine maintenance	12	X	X
Check oil level/change oil	12	X	1
Clean tine axle shaft	12	X	
Lubrication	12		X

**EM** = See engine manual

1 Change oil after the first five to eight hours of use, then after every 50 hours or every season. Change oil every 25 hours when operating under heavy load or in high temperatures.

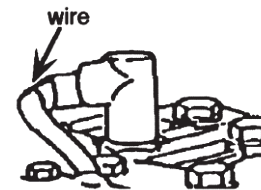
### SERVICING THE ROTOTILLER

The following information will help you make the necessary checks and perform the procedures required to follow the normal care recommendations made for your rototiller unit.

If you prefer, your local authorized dealer can make these checks and perform the required procedures for you.

#### **WARNING**

To prevent accidental starting:



Engine must be turned off and cool, and spark plug wire must be removed and secured from spark plug before checking and adjusting engine or equipment.

## CHECK BELT TENSION

Belt tension may decrease over time. It must be adjusted within the first half hour of operation and checked after every two hours of operation. Proper adjustment will assure long belt life. Too much or too little belt tension will cause premature belt failure. To check and adjust the forward belt tension:

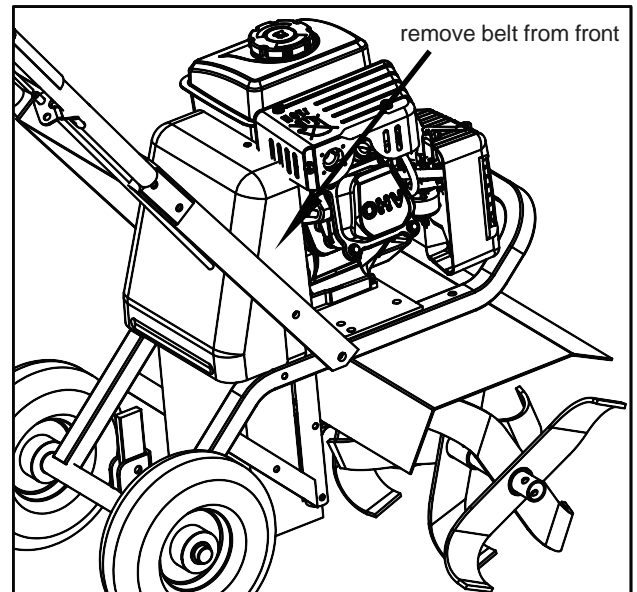
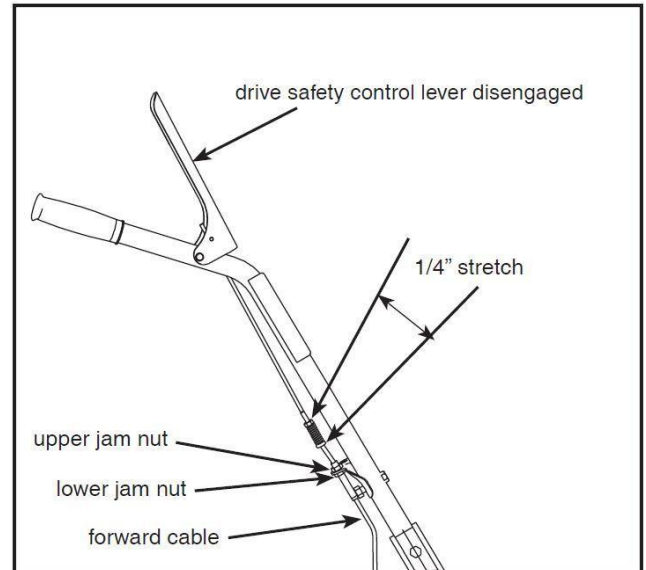
1. Turn off engine. Engine must be cool.
2. Remove spark plug wire from spark plug and secure.
3. With drive safety control lever in the NEUTRAL position, measure length of spring when in its relaxed state.
4. Pull down on drive safety control lever and measure length of spring when compressed. Ideal length would be 1/4" shorter.

## CHANGE FORWARD BELT

1. Turn off engine. Engine must be cool.
2. Remove spark plug wire from spark plug and secure.
3. Remove front belt cover.
  - Remove the belt from the engine pulley:
    - Gently pull the engine recoil rope to rotate the pulley.
    - With the pulley turning, force the belt out of the V-groove.
    - Slide the belt free of the engine pulley.
    - Pull the belt down and out of the way.
    - Push the belt forward and out front of machine.
  - Install new belt:
    - Place belt in transmission pulley groove.
    - Gently pull the engine recoil rope to rotate the pulley while forcing the belt into the V-groove.
4. Replace front belt cover.
5. Attach spark plug wire.

### WARNING

**CHECK FORWARD BELT TENSION REGULARLY. TOO MUCH OR TOO LITTLE TENSION WILL CAUSE PREMATURE BELT FAILURE.**



## 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 maintenance schedule for performing the following tasks:

1. Check oil level before each use or after every eight hours of operation.
2. Change oil after first five to eight 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; keep these items tightened.

## CHECK OR FILL ENGINE CRANKCASE

1. Add oil according to engine manual. **Do not** overfill. Use a clean, high-quality detergent oil. Container must be marked A.P.I. Service SF - SJ. Use no special additives with recommended oils. **Do not mix oil with gasoline.** Oil level must be full. Check the oil level by removing oil fill plug. Oil level should be up to the bottom of the fill plug opening on most engines.
2. Always check oil level before starting engine. Refer to engine manual for capacity and type of oil to use.

## CLEAN TINE AXLE SHAFT

1. Turn off engine. Engine must be cool.
2. Remove spark plug wire and secure from spark plug.
3. 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.
4. Replace spark plug wire.

## LUBRICATION

Proper lubrication of moving mechanical parts is critical for proper care and maintenance. Oil the moving parts using a 30-weight oil.

## IMPORTANT

**ENGINE IS SHIPPED FROM FACTORY WITHOUT OIL. YOU MUST ADD ENGINE OIL BEFORE STARTING ENGINE.**

**ENGINE CAN OVERHEAT AND BECOME DAMAGED IF DEBRIS BLOCKS THE COOLING SYSTEM OR ROTATING SCREEN.**

**NEVER RUN ENGINE WITHOUT COMPLETE AIR CLEANER INSTALLED ON ENGINE.**

## CAUTION

**DO NOT OPERATE TILLER BEFORE READING THE ENGINE MANUAL PROVIDED IN THE PARTS PACKET.**

## WARNING

**TEMPERATURE OF MUFFLER AND NEARBY AREAS MAY EXCEED 150° F. AVOID THESE AREAS.**

## STORAGE

### 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:
  - Coat the axles lightly with axle grease.
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 rototiller unit. Be sure to plug the spark plug hole to prevent foreign material from entering.

### WARNING

**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.**

## TROUBLESHOOTING AND REPAIR

### TROUBLESHOOTING GUIDE

While normal care and routine maintenance will extend the life of your rototiller, prolonged or constant use may eventually require that service be performed to allow it to continue operating properly. The troubleshooting guide below lists the most common problems, causes and remedies.

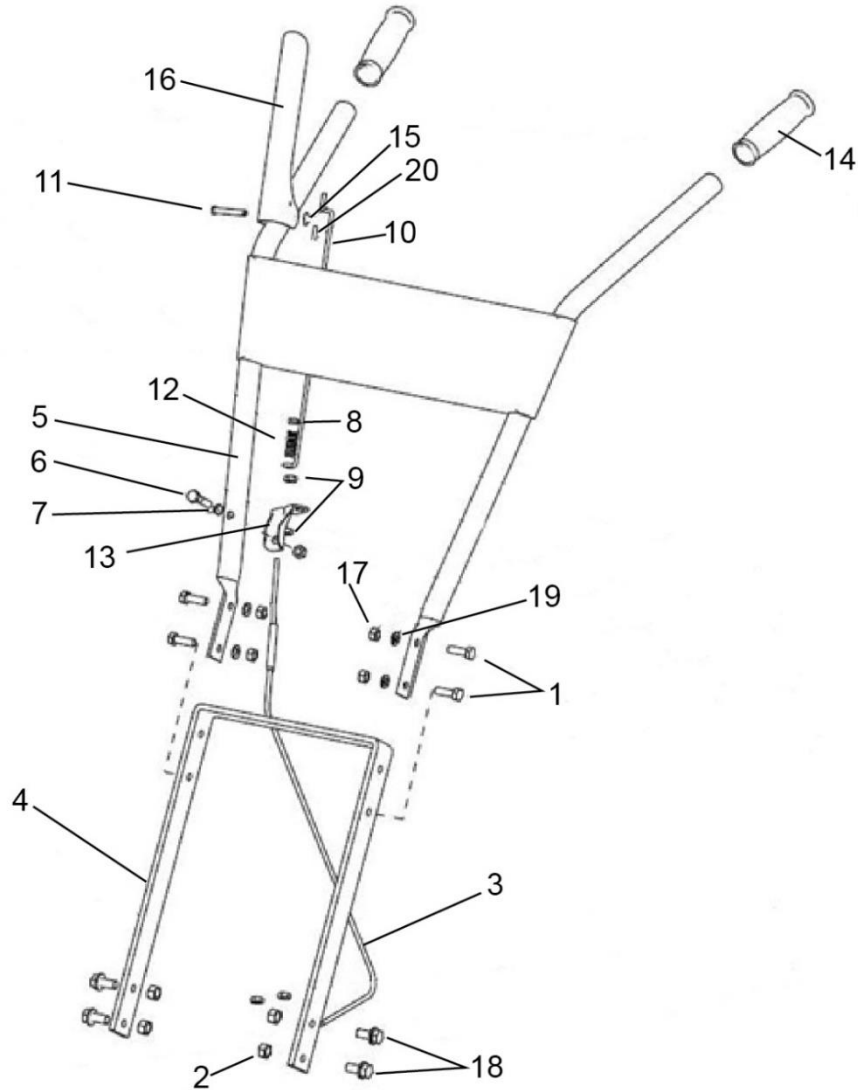
### WARNING

**PRACTICE SAFETY AT ALL TIMES. ENGINE MUST BE TURNED OFF AND ALLOWED TO COOL, AND SPARK PLUG WIRE MUST BE DISCONNECTED AND SECURED BEFORE ATTEMPTING ANY MAINTENANCE OR REPAIR.**

**FAILURE TO COMPLY WITH THIS SAFETY REQUIREMENT CAN RESULT IN SERIOUS PERSONAL INJURY TO YOU OR BYSTANDERS.**

PROBLEM	REMEDY/ACTION
Engine will not start	<ul style="list-style-type: none"> <li>• Add gas to gas tank.</li> <li>• Connect spark plug wire to spark plug.</li> <li>• Move engine switch to ON.</li> </ul>
Engine runs rough during operation	<ul style="list-style-type: none"> <li>• Clean or replace air cleaner.</li> </ul>
Engine is hard to start	<ul style="list-style-type: none"> <li>• Drain old fuel and replace with fresh. Use gas stabilizer at end of season.</li> <li>• Make sure spark plug wire is securely attached to spark plug.</li> <li>• Drive safety control lever must be released to neutral to start the engine.</li> </ul>
Engine misses or lacks power	<ul style="list-style-type: none"> <li>• Raise the tines for shallow tilling by raising the depth regulator lever.</li> <li>• Clean or replace air cleaner.</li> <li>• Improper carburetor adjustment, take to authorized engine service center.</li> <li>• Replace spark plug and adjust gap.</li> <li>• Drain and refill gas tank and carburetor.</li> </ul>
Tiller moves forward during starting	<ul style="list-style-type: none"> <li>• Drive safety control lever must be released to neutral to start the engine.</li> <li>• Belt Tension is too tight. Check Tension.</li> </ul>
Tiller is difficult to control when tilling (machine jumps or lurches forward)	<ul style="list-style-type: none"> <li>• Raise the tines for shallower tilling by lowering the depth regulator lever.</li> </ul>
Belts squeal in neutral	<ul style="list-style-type: none"> <li>• Adjust forward belt guide:               <ul style="list-style-type: none"> <li>- turn engine off and allow muffler to cool</li> <li>- disconnect spark plug wire and secure from spark plug</li> <li>- pull down on drive safety control lever</li> <li>- manually bend forward belt guide so there is 1/16 inch or less clearance between belt guide and belt</li> <li>- replace spark plug wire</li> </ul> </li> </ul>
Belts squeal in forward operation	<ul style="list-style-type: none"> <li>• Turn engine off and allow muffler to cool.</li> <li>• Disconnect spark plug wire and secure from spark plug.</li> <li>• Release drive safety control lever to neutral.</li> <li>• Adjust engage cable.</li> <li>• Replace spark plug wire.</li> </ul>
Excessive heat build up in transmission/tine area during tilling	<ul style="list-style-type: none"> <li>• Remove vegetation.</li> <li>• Check transmission fluid and fill if needed.</li> </ul>

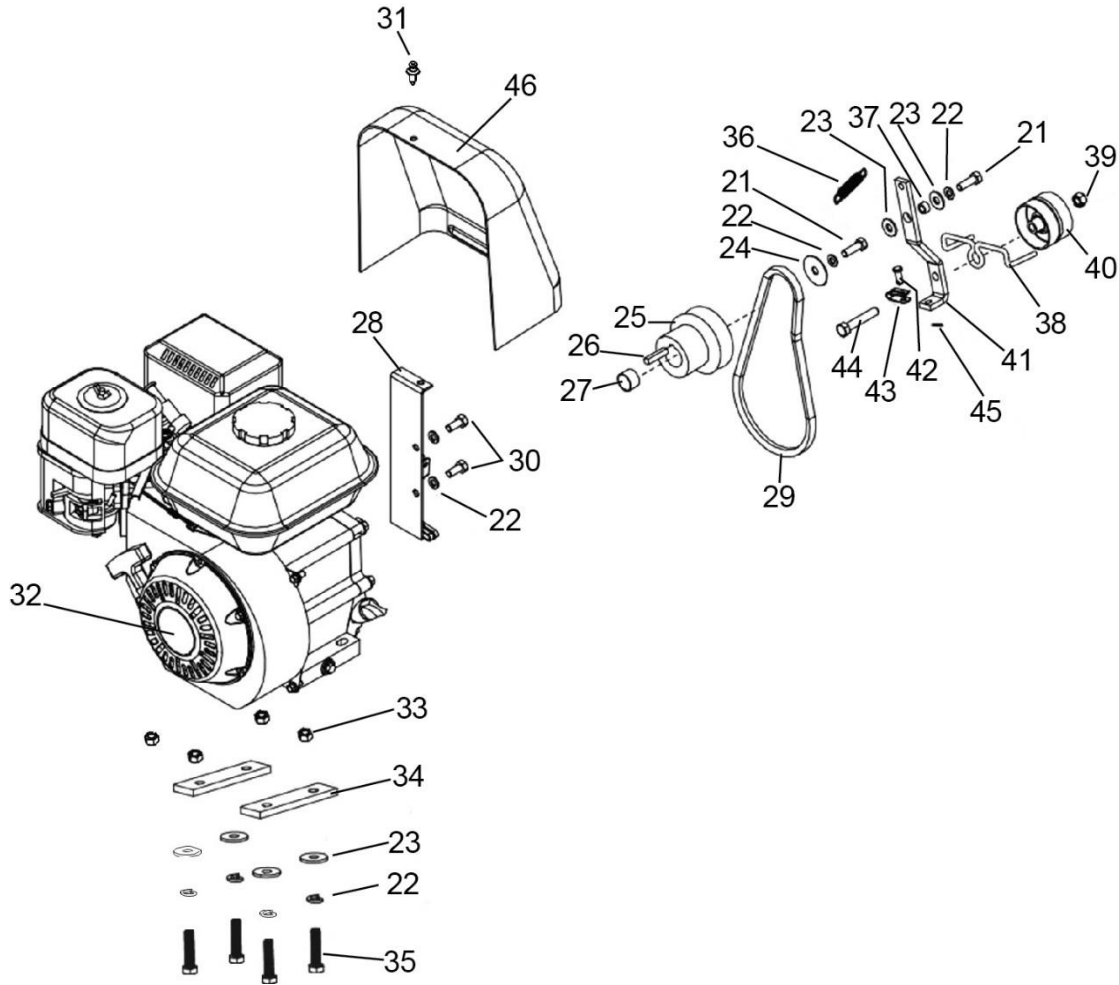
## HANDLEBAR PARTS



Ref #	PART #	DESCRIPTION	QTY
1	GPR111610	Socket Head Flange Bolt 5/16-18 x 1	4
2	GPR111611	2-Way locknut 3/8-16	4
3	GPR111612	Cable assembly, Tine Engagement	1
4	GPR111613	Handlebar Mount Bracket	1
5	GPR111614	Handlebar Assembly	1
6	GPR111615	Hex Head Bolt, 5/16-18 x 1-1/2	1
7	GPR111616	Split Lockwasher, 5/16"	1
8	GPR111617	Nylon Locknut, 10-24	1
9	GPR111618	Jam Nut, 5/16-24	4
10	GPR111619	Tine Engagement Link	1
11	GPR111620	Clevis Pin, 1/4 x 1-1/2"	1

Ref #	PART #	DESCRIPTION	QTY
12	GPR111621	Tine engagement Cable Spring	1
13	GPR111622	Cable Mout Bracket	1
14	GPR111623	Handlebar Grip	2
15	GPR111624	#6 flatwasher	1
16	GPR111625	Tine Engagement Lever	1
17	GPR111626	2-Way Locknut, 5/16-18	5
18	GPR111627	Serrated Flange Bolt, 3/8-16 x 3/4"	4
19	GPR111628	5/16 Flatwasher	4
20	GPR111629	Cotter Pin 3/64 x 5/8"	1
	GPR111630	Decal sheet - Not Shown	1

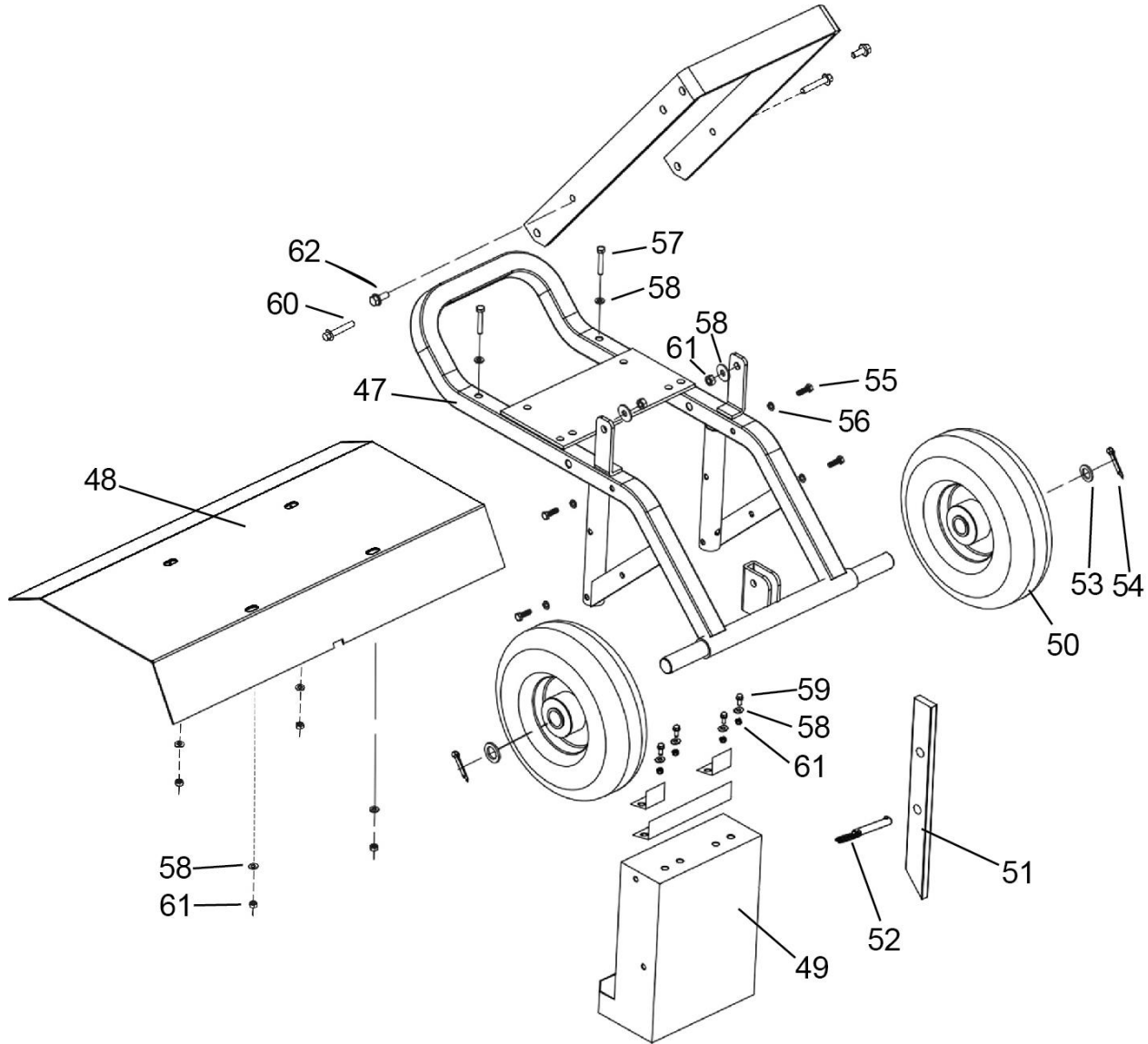
## MOTOR MOUNT & HOOD PARTS



Ref #	PART NO	DESCRIPTION	QTY.
21	GPR111632	Hex Head Bolt, 5/16-24 x 1"	2
22	GPR111616	Split Lockwasher, 5/16"	5
23	GPR111628	Flatwasher, 5/16"	6
24	GPR111635	Fender Washer, 5/16 x 1-1/2"	1
25	GPR111636	Drive Pulley	1
26	GPR111637	Key	1
27	GPR111638	Drive Pulley Spacer	1
28	GPR111639	Cable Pull Mount Bracket	1
29	GPR111640	Drive Belt	1
30	GPR111641	Hex Head Bolt, 5/16-24 x 3/4"	2
31	GPR111642	Push rivet	1
32	GPR111643	Engine	1
33	GPR111644	Nylon Locknut, 5/16-18	4

Ref #	PART NO	DESCRIPTION	QTY.
34	GPR111645	Engine Mount Spacer	2
35	GPR111615	Hex Head Bolt 5/16-18 x 1-1/2"	4
36	GPR111647	Belt Engagement Arm Spring	1
37	GPR111648	Belt Engagement Arm Bushing	1
38	GPR111649	Belt Guide	1
39	GPR111611	2-Way Locknut, 3/8-16	1
40	GPR111651	Idler Pulley	1
41	GPR111652	Belt Engagement Arm	1
42	GPR111653	Clevis Pin	1
43	GPR111654	Yoke	1
44	GPR111655	Hex Head Bolt, 3/8-16 x 2	1
45	GPR111656	Cotter Pin, 5/64 x 12"	1
46	GPR111657	Belt Guard	1

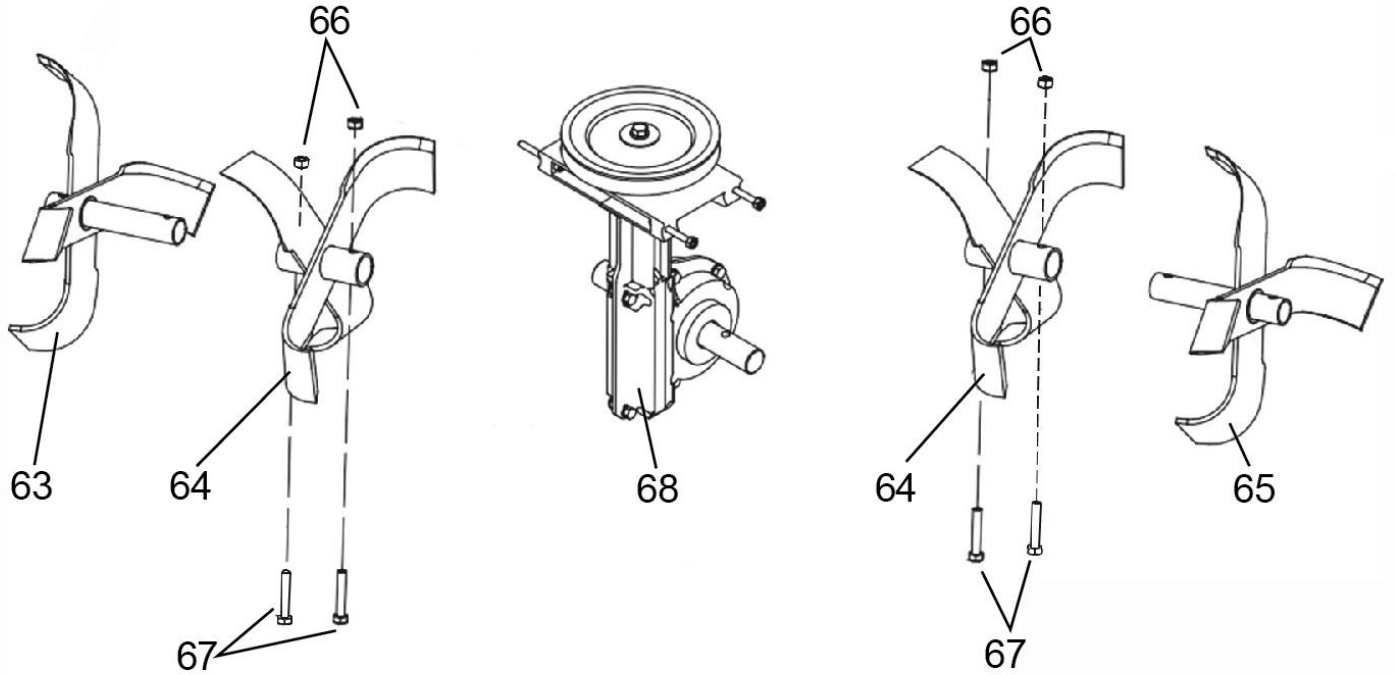
## CHASSIS ASSEMBLY PARTS EXPLOSION AND PARTS LIST



Ref #	PART NO	DESCRIPTION	QTY.
47	GPR111658	Frame Weldmant	1
48	GPR111659	Tine Shield	1
49	GPR111660	Pulley Guard	1
50	GPR111661	Wheel	2
51	GPR111662	Drag Stake	1
52	GPR111663	Ball Detent Pin, 5/16 x 2"	1
53	GPR111664	Wheel Washer, 3/4"	2
54	GPR111665	Cotter Pin, 5/32 x 1-1/2"	2

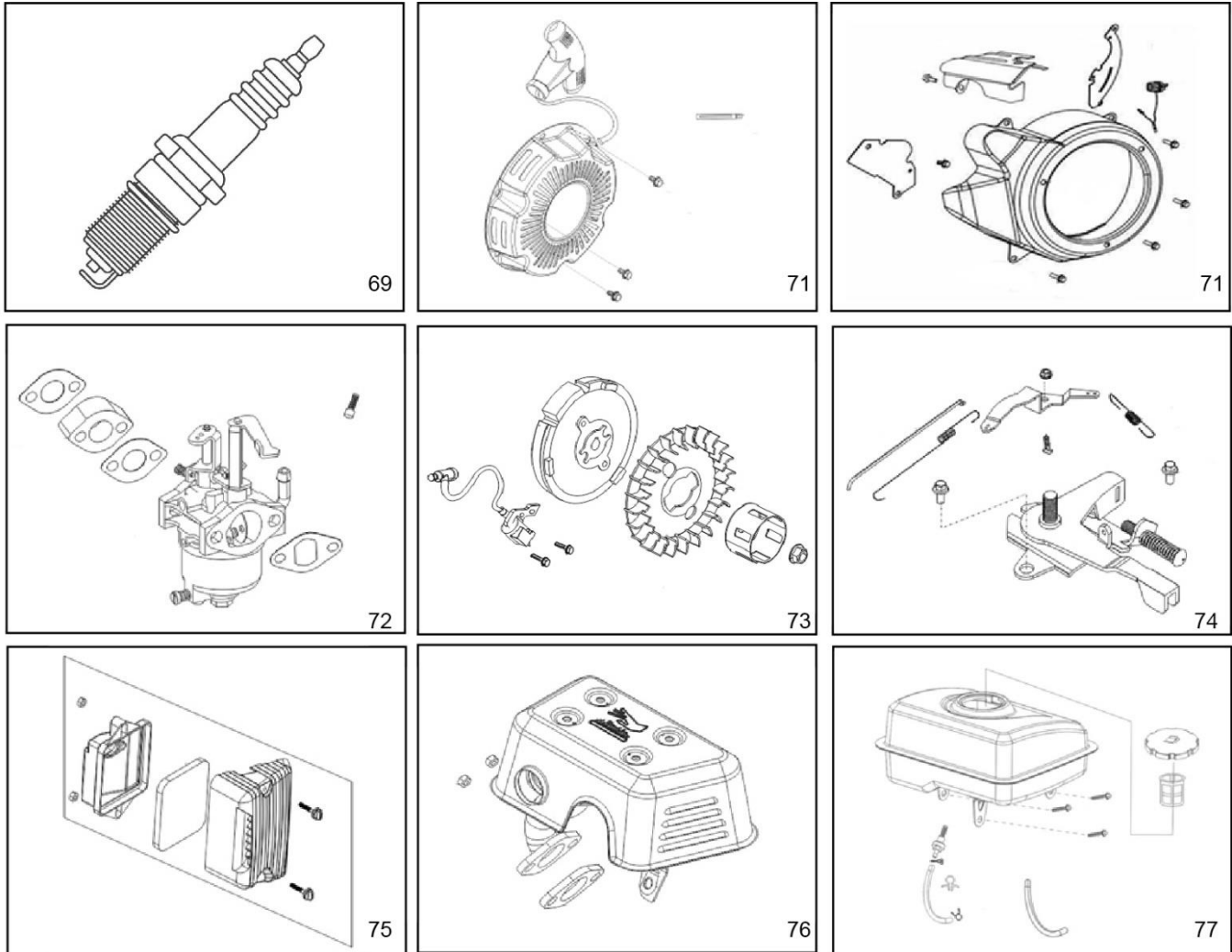
Ref #	PART NO	DESCRIPTION	QTY.
55	GPR111666	Hex Head Bolt, 1/4-20 x 1-1/2"	4
56	GPR111667	Nylon Locknut, 1/4-20	4
57	GPR111615	Hex Head Bolt, 5/16-18 1-1/2"	4
58	GPR111628	Flatwasher, 5/16"	10
59	GPR111670	Hex Head Bolt, 5/16-18 x 3/4"	4
60	GPR111671	Hex Head Bolt, 5/16-18 x 1-3/4"	2
61	GPR111626	2-way Locknut, 5/16-18	10
62	GPR111673	Hex Head Bolt, 5/16-18 x 1"	2

## TINES & TRANSMISSION



Ref #	PART NO	DESCRIPTION	QTY.
63	GPR111674	Tine set, Outside Right	1
64	GPR111675	Tine Set, Inner	2
65	GPR111676	Tine set, Outside Left	1
66	GPR111626	2-Way Locknut, 5/16-18	4
67	GPR111671	Hex Head Bolt, 5/16-18 x 1-3/4"	4
68	GPR111679	transmission Assembly	1

## Engine Parts



Ref #	PART NO	DESCRIPTION	QTY.
69	GPR111650	Spark Plug	1
70	GPR111646	Starter Recoil	1
71	GPR111668	Starter Rewind Shroud	1
72	GPR111678	Carburetor	1
73	GPR111633	Ignition Coil/Flywheel	1
74	GPR111672	Throttle Control Assy	1
75	GPR111677	Air Cleaner	1
76	GPR111634	Muffler	1
77	GPR111669	Fuel Tank	1



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Dear Valued Customer:

The Maxim Product you just purchased is built with the finest material and craftsmanship. Use this product properly and enjoy the benefits from its high performance. By purchasing a Maxim Product, you show a desire for quality and durability. Like all mechanical equipment this unit requires a due amount of care. Treat this unit like the high-quality piece of machinery it is. Neglect and improper handling may impair its performance and is not covered by this limited warranty.

Thoroughly read the instructions and understand the operation before using your product. Always contact Maxim Product Support at 1-800-621-2789 prior to having any service or warranty work performed, as some services performed by parties other than Maxim approved service centers may void this warranty. This limited warranty is in lieu of any other warranty expressed or implied, written or oral and Maxim assumes no other responsibility or liability outside that expressed within this limited warranty.

Limited Warranty for Maxim Product:

	Consumer Warranty Period	Commercial Warranty Period
<b>Weldments</b>		
	2 years from date of purchase by user	90 Days from date of purchase by user
<b>Gear Case</b>		
	2 years from date of purchase by user	90 Days from date of purchase by user
<b>Wear Parts</b>	In addition to the normal warranty, Maxim shall warrant some normal wear items from defects in material or workmanship for a period of 30 days from the date of purchase by user. Normal wear items covered under this warranty are limited to: High impact wear related components such as standard retention hardware for wear items, tines and tine assemblies, seals, seal shields, bearings, bushings, gaskets, belts, roller chain, tires and wheel assemblies, throttle or choke control and cable assemblies, mower and edger blades, mower deck pans. Routine maintenance items such as lubricants, belt adjustments, tune ups, and damage from operation with loose hardware are not covered under limited warranty.	
<b>Engines</b>	The engine warranty is covered under the terms and conditions as outlined by the engine manufactures warranty contained herein and is the sole responsibility of the engine manufacturer. Normal engine maintenance such as spark plugs, oil changes, air filters, adjustments, fuel system cleaning and obstruction due to build up is not covered by this Maxim limited warranty.	

“Consumer use” means personal residential household use by a consumer. “Commercial use” means all other uses, including, but not limited to, use for commercial, income producing or rental purposes or when purchased by a business.

This limited warranty applies to the original purchaser of the equipment (verification of purchase, in the form of a receipt, is the responsibility of the buyer), is non-transferable, and covers parts and labor. Parts will be replaced or repaired at no charge, except when the equipment has failed due to lack of proper maintenance. If a part is no longer available, the part may be replaced with a similar part of equal function. Any misuse, abuse, alteration or improper installation or operations will void warranty. Determining whether a part is to be replaced or repaired is the sole decision of Maxim. Maxim will not provide for the replacement of complete products due to defective parts. Any costs incurred due to replacement or repair of items outside of a Maxim approved facility is the responsibility of the buyer and not covered under warranty. Transportation costs to and from service center and/or service calls are the responsibility of the customer.

This limited warranty specifically excludes the following: failure of parts due to damage caused by accident, fire, flood, windstorm, acts of God, applications not approved by Maxim in writing, corrosion caused by chemicals, use of replacement parts which do not conform to manufacturer’s specifications, damage related to rodent and/or insect infestation and damage caused by vandalism. Additional exclusions: loss of running time, inconvenience, loss of income, or loss of use, including any implied warranty of merchantability of fitness for a specific use. Also, outdoor power equipment needs periodic parts and service to perform well, and this limited warranty does not cover instances when normal use has exhausted the life of a component or the engine.

This limited warranty does not cover any personal injury or damage to surrounding property caused by failure of any part, misuse or inability to use the product. Alteration of the product, including safety features, shall void this limited warranty.