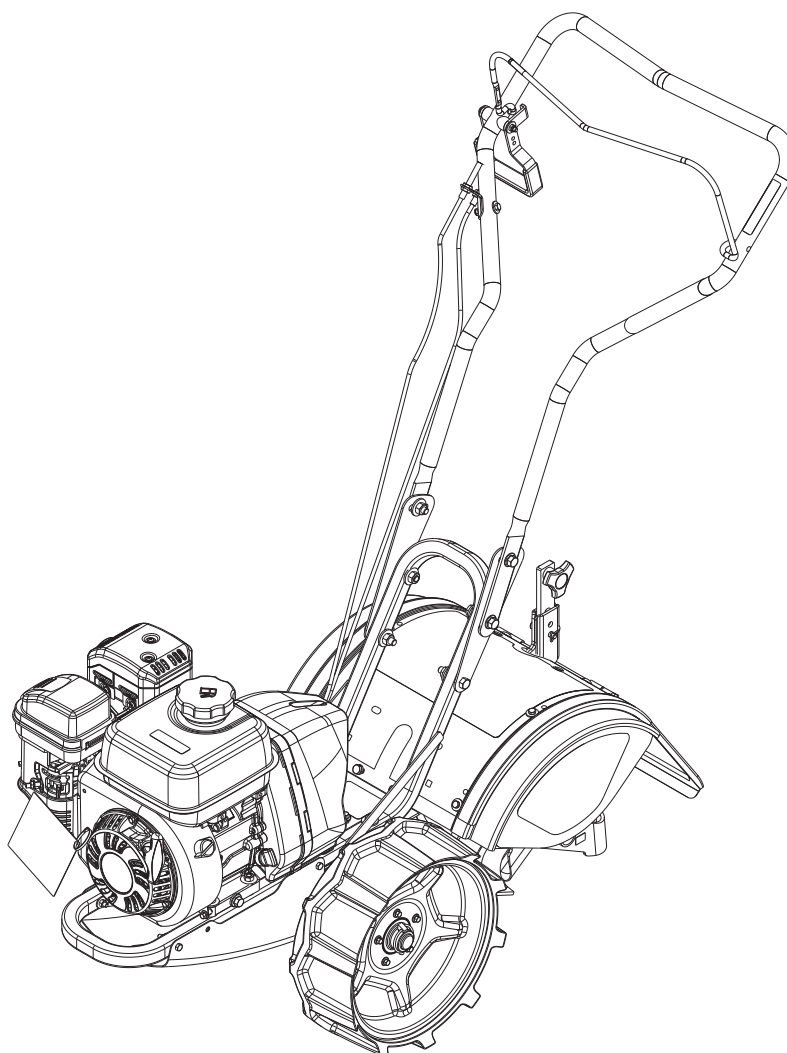




Operator's Manual

# Rototiller Victory

SN



**PRODUCT #: 29409**

**R210 EPA III VIPER ENGINE**

Email for more information  
***info@ardisam.com***



PN: 28378  
ECN: 11763  
REV1: 09/12/2017  
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## INTRODUCTION

Thank you for purchasing the Victory Tiller from Earthquake®. We have worked to ensure that this tiller meets the highest standards for usability and durability. With proper care, your tiller will provide many years of service.

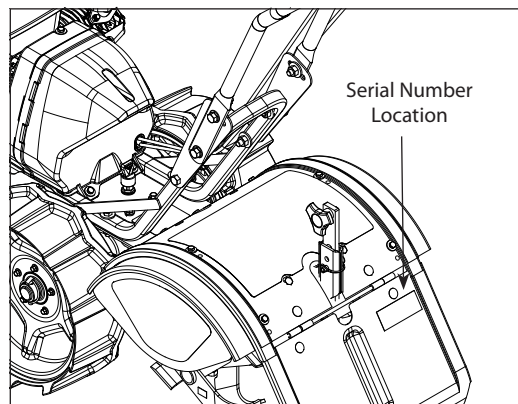
**Please read this entire manual before installation and use. Ardisam reserves the right to change, alter or improve the product and this document at any time without prior notice.**

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## Registration and Service

Record the product model number and serial number in the space provided for easy reference when ordering parts or requesting technical support. Excluding emissions-related warranty items, the warranty is valid only if the completed registration is received by Ardisam within 30 days of purchase. **(SEE WARRANTY SECTION FOR MORE INFORMATION)** You can register your warranty online by visiting [www.getearthquake.com](http://www.getearthquake.com), or by mailing it to: Ardisam, 1160 8Th Avenue, Cumberland, WI 54829. You may also call our customer service department at (800) 345-6007 Mondays through Fridays from 8 a.m. to 5 p.m. CST.



OWNERSHIP RECORDS		
Owner's Name:		
Owner's Address:		
City:	State/Province:	Zip Code/Postal Code:
Model Number:	Serial Number:	
Date of Purchase:		
Notes:		

Read and keep this manual for future reference. This manual contains important information on **SAFETY, ASSEMBLY, OPERATION, AND MAINTENANCE**. The owner must be certain that all the product information is included with the unit. This information includes the **MANUAL**, the **REPLACEMENT PARTS** and the **WARRANTIES**. This information must be included to make sure state laws and other laws are followed. All persons to whom rent/loan this unit must have access to and understand this information. This manual should remain with the product even if it is resold.

## WARNINGS AND SAFETY PRECAUTIONS

### 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.
- Maintain the tiller according to directions and schedule included in this Earthquake® operator's manual.
- 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.

### Intended Use / Foreseeable Misuse

**IMPORTANT:** *This is a motorized rotary tiller that works the soil by means of rotating tines. It is pedestrian-controlled, but not self-propelled, with a gasoline-fueled internal combustion engine to power the tines. It shall not be used for any other purpose.*



### WARNING

**WARNING INDICATES A HAZARD WHICH, IF NOT AVOIDED, COULD RESULT IN DEATH OR SERIOUS INJURY AND/OR PROPERTY DAMAGE.**



### CAUTION

**CAUTION INDICATES YOUR EQUIPMENT CAN BE DAMAGED IF THE SAFETY INSTRUCTIONS THAT FOLLOW THIS SIGNAL WORD ARE NOT OBEYED.**



### IMPORTANT

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



### WARNING

#### 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.**



### WARNING

**YOU MUST READ, UNDERSTAND AND COMPLY WITH ALL SAFETY AND OPERATING INSTRUCTIONS IN THIS MANUAL BEFORE ATTEMPTING TO SETUP AND OPERATE YOUR MACHINE.**

**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.**



## GENERAL SAFETY RULES

- Read, understand, and follow all instructions on the machine and in the manual(s). Be thoroughly familiar with the controls and the proper use of the machine before starting.
- Use this equipment for its intended purpose only.
- Familiarize yourself with all of the safety and operating decals on this equipment and on any of its attachments or accessories.
- Do not put hands or feet near or under rotating parts.
- Only allow responsible individuals who are familiar with the instructions to operate the machine. Do not allow children to operate this machine. Do not allow adults to operate the machine without proper instruction.
- Thoroughly inspect the area where the machine is to be used and remove all foreign objects. Your equipment can propel small objects at high speed causing personal injury or property damage. Stay away from breakable objects, such as house windows, automobiles, greenhouses, etc.
- Wear appropriate clothing such as a long-sleeved shirt or jacket. Also wear long trousers or slacks. Do not wear shorts. Never wear sandals, sneakers or open shoes, and never operate the machine with bare feet.
- Do not wear loose clothing or jewelry. They can get caught in moving parts. Always keep hands, feet, hair and loose clothing away from any moving parts on engine and machine.
- Always wear safety goggles or safety glasses with side shields when operating the machine to protect your eyes from foreign objects which can be thrown from the unit. Always wear a protective hearing device.
- Always wear work gloves and sturdy footwear. Wear footwear that will improve footing on slippery surfaces. Leather work shoes or short boots work well for most people. These will protect the operator's ankles and shins from small sticks, splinters, and other debris.
- It is advisable to wear protective headgear to prevent the possibility of being struck by small flying particles, or being struck by low hanging branches, twigs, or other objects which may be unnoticed by the operator.
- Do not operate the machine without proper guards or other safety protective devices in place.
- See manufacturer's instructions for proper operation and installation of accessories. Only use accessories approved by the manufacturer.
- Operate only in daylight or good artificial light.
- Do not operate product when fatigued or under the influence of alcohol, drugs or other medication which can cause drowsiness or affect your ability to operate this machine safely.
- Never operate machine in wet grass. Always be sure of your footing; keep a firm hold on the handle and walk; never run.
- Watch for traffic when operating machine near, or when crossing roads.
- If the equipment should start to vibrate abnormally, stop the engine (motor), flip the ON/OFF switch to the **OFF** position. Check immediately for cause. Vibration is generally a warning of trouble. If the noise or vibrations of the machine increase, stop immediately and perform an inspection.
- Never leave the machine unattended when the engine is running. Flip the ON/OFF switch to the **OFF** position.
- Regularly inspect the machine. Make sure parts are not bent, damaged or loose.
- Temperature of muffler and nearby areas may exceed 150° F (65° C). Allow muffler and engine areas to cool before touching. Never pick up or carry the machine while the engine is running.
- Prolonged exposure to noise and vibration from gasoline engine-powered equipment should be avoided. Take intermittent breaks and/or wear ear protection from engine noise as well as heavy work gloves to reduce vibration in the hands.
- Keep all screws, nuts and bolts tight.
- Do not transport the machine from one place to another with the engine running.
- When moving the packaged machine, always do so with a partner.
- Check local regulations for age restrictions on use of this machine.

### Product-specific safety rules:

- Do not till above underground utilities, including water lines, gas lines, electric cables, or pipes. Do not operate the machine on terrain/soil with large rocks and foreign objects which can damage the equipment.
- After striking a foreign object, stop the engine. Flip the ON/OFF switch to the OFF position. Inspect the machine for damage. If damaged, repair before starting and operating the machine.
- The tines of the tiller should not rotate when the drive control lever is released into the neutral position. If it does rotate when in neutral, contact Earthquake® Customer Service for instruction.
- If an object becomes lodged in the tines, flip the ON/OFF switch to the OFF position, allow to cool before attempting to remove the foreign object.
- Pulleys and belts should be kept free of oil or other moisture for efficient operation.
- Disengage all clutches and leave control lever in the neutral position before starting the engine.

## **WARNING**

ENGINES GIVE OFF CARBON MONOXIDE, AN ODORLESS, COLORLESS, POISONOUS GAS. CARBON MONOXIDE MAY BE PRESENT EVEN IF YOU DO NOT SMELL OR SEE ANY ENGINE EXHAUST. BREATHING CARBON MONOXIDE CAN CAUSE NAUSEA, FAINTING OR DEATH, IN ADDITION TO DROWSINESS, DIZZINESS AND CONFUSION.

IF YOU EXPERIENCE ANY OF THESE SYMPTOMS, SEEK FRESH AIR AND MEDICAL ATTENTION IMMEDIATELY.

## **CAUTION**

**HOT GASES ARE A NORMAL BY-PRODUCT OF A FUNCTIONING INTERNAL COMBUSTION ENGINE. FOLLOW ALL SAFETY INSTRUCTIONS TO PREVENT BURNS AND FIRES.**

**DO NOT ALTER/MODIFY ENGINE:**

**NEVER ALTER OR MODIFY THE ENGINE FROM THE FACTORY. SERIOUS INJURY OR DEATH MAY OCCUR IF ENGINE IS MODIFIED OR ALTERED.**

**WHEN WORKING ON OR REPLACING PARTS FOR THE ENGINE OR PRODUCT, YOU MUST ALWAYS FLIP THE ON/OFF SWITCH TO THE OFF POSITION.**

### Engine Safety Precautions

**If your product comes with a separate engine manual, be sure to read and follow all safety and warning precautions outlined there, in addition to any in this manual.**

#### Preventing carbon monoxide poisoning:

- Always start and run engine outdoors. Do not start or run engine in an enclosed area, even if doors or windows are open.
- Never try to ventilate engine exhaust indoors. Carbon monoxide can reach dangerous levels very quickly.
- Never run engine outdoors where exhaust fumes may be pulled into a building.
- Never run engine outdoors in a poorly ventilated area where the exhaust fumes may be trapped and not easily taken away. (Examples include: in a large hole or areas where hills surround your working area.)
- Never run engine in an enclosed or partially enclosed area. (Examples include: buildings that are enclosed on one or more sides, under tents, car ports or basements.)
- Always run the engine with the exhaust and muffler pointed in the direction away from the operator.
- Never point the exhaust muffler towards anyone. People should always be many feet away from the operation of the engine and its attachments.
- Do not change the engine governor settings or over-speed the engine.

#### Gasoline fires and handling fuel safely:

Use extra care in handling gasoline and other fuels. They are flammable and vapors are explosive.

- When storing extra fuel be sure that it is in an appropriate container and away from any fire hazards.
- Prevent fire and explosion caused by static electric discharge. Use only nonmetal, portable fuel containers approved by the Underwriter's Laboratory (U.L.) or the American Society for Testing & Materials (ASTM).
- Never remove the fuel cap or add fuel with the engine running. Stop engine and allow to cool before filling.
- Do not smoke.

- Never drain fuel from engine in an enclosed area.
- Always fill fuel tank outside in a well ventilated area. Never fill your fuel tank with fuel indoors. (Examples include: basement, garage, barn, shed, house, porch, etc.) Never fill tank near appliances with pilot lights, heaters, or other ignition sources. If the fuel has to be drained, this should be done outdoors. The drained fuel should be stored in a container specifically designed for fuel storage or it should be disposed of carefully.
- Always wipe up excess (spilled) fuel from engine before starting. Clean up spilled fuel immediately. If fuel is spilled, do not start the engine but move product and fuel container from area. Clean up spilled fuel and allow to evaporate and dry after wiping and before starting.
- Allow fuel fumes/vapors to escape from the area before starting engine.
- Test the fuel cap for proper installation before starting and using engine.
- Always run the engine with fuel cap properly installed on the engine.
- Never smoke while refilling engine fuel tank.
- Do not store engine with fuel in fuel tank indoors. Fuel and fuel vapors are highly explosive.

#### Preparation:

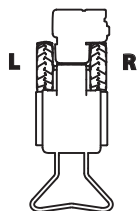
Dress appropriately when operating the tiller. Always wear sturdy footwear. Never wear sandals, sneakers or open shoes, and never operate the tiller with bare feet. Do not wear loose clothing that might get caught in moving parts.

- 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 control lever in the neutral position before starting the engine.



## **WARNING**

**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.**

**NEVER START THE ENGINE OR OPERATE THE TILLER WITH THE WHEELS IN THE FREE-WHEEL POSITION. MAKE SURE THE WHEEL LOCK PINS ARE ENGAGED THROUGH THE WHEEL HUBS AND WHEEL AXLE. THE WHEELS ACT AS A BRAKE TO KEEP THE TILLER AT A CONTROLLED SPEED. DISENGAGE WHEEL LOCK PINS TO PERMIT FREE-WHEELING ONLY WHEN ENGINE IS STOPPED.**

**THIS IS A MOTORIZED ROTARY TILLER THAT WORKS THE SOIL BY MEANS OF ROTATING TINES. IT IS PEDESTRIAN CONTROLLED, BUT NOT SELF-PROPELLED, WITH A GASOLINE-FUELED INTERNAL COMBUSTION ENGINE TO POWER THE TINES. IT SHALL NOT BE USED FOR ANY OTHER PURPOSE.**

## **CAUTION**

**HOT GASES ARE A NORMAL BY-PRODUCT OF A FUNCTIONING INTERNAL COMBUSTION ENGINE. FOLLOW ALL SAFETY INSTRUCTIONS TO PREVENT BURNS AND FIRES.**

**DO NOT ALTER/MODIFY ENGINE:**

**NEVER ALTER OR MODIFY THE ENGINE FROM THE FACTORY. SERIOUS INJURY OR DEATH MAY OCCUR IF ENGINE IS MODIFIED OR ALTERED.**

**WHEN WORKING ON OR REPLACING PARTS FOR THE ENGINE OR PRODUCT, YOU MUST ALWAYS FLIP THE ON/OFF SWITCH TO THE OFF POSITION.**

- 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.
  - 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.

## **OPERATION**

- Do not operate tiller under the influence of alcohol or drugs.
- Never operate 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.
- 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 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 handle bars and do not restrain the machine.
- Take all possible precautions when leaving the machine unattended. Disengage control lever, 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.

## **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.

## 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 decals now, and if you have any questions regarding its meaning or how to comply with these instructions, reread the complete safety instruction text in this manual. For additional questions call Earthquake Customer Service.



**Part No. 17052**  
**MOVING PARTS WARNING**  
**Frame Near Belt Decal**



**Part No. 17918**  
**DECAL PLACE FREE HAND HERE**

## HAZARD SYMBOLS AND MEANINGS



A: Warning!

B: Avoid Injury From Rotating Tines.

C: Read Owner's Manual Before Operating Machine.

D: Remove Objects that Could Be Thrown By This Machine.

E: Dangerous Moving Parts.

F: Be Aware of Moving and Rotating Parts.

G: Wear Ear and Eye Protection At All Times.

H: Do Not Service or Adjust Moving Parts Unless Engine is Stopped and Spark Plug Wire is Disconnected.

I: Dress Appropriately And Wear Sturdy Footwear.

J: Toxic Fumes—Do Not Operate in Unventilated Areas.

K: Hot Surfaces.

L: Fire Hazards.

M. Do Not Use In Thunderstorms--For severe weather, stop operation of this machine and seek shelter.

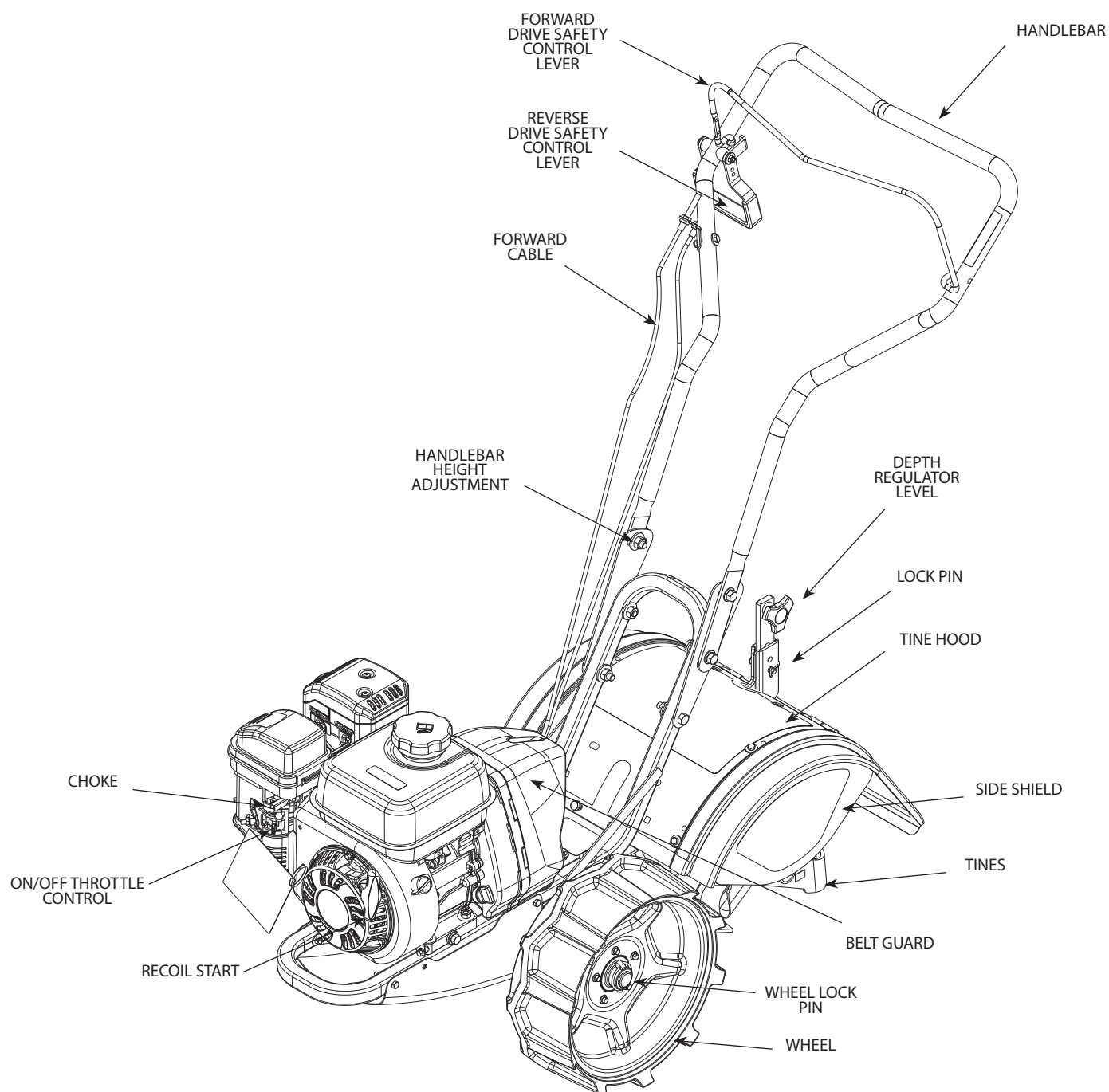
N. Team Lift--For your safety, always have at least two people when lifting this machine.

O. Do Not Till Above Underground Utility Lines And Pipes.

P. Do Not Operate When Children Or Others Are Around.



## FEATURES



**FIGURE 1**



## WARNING

**DO NOT LIFT THE ROTOTILLER FROM THE CARTON. ROTOTILLER IS HEAVY AND CAN CAUSE INJURY. CUT BOX AWAY FROM ROTOTILLER AND REMOVE BOX.**

## UNPACKING AND ASSEMBLY

Your rototiller comes fully assembled except for a few parts. The following instructions will help you unpack your tiller and assemble and adjust your tiller's depth regulator lever, cable tension and handle bar height. You will need one 16 mm and one 17 mm wrench.

### Carton Contents:

- Rear Tine Rototiller w/Handle Bar
- 2 - Side Shields
- 2 - Wheels
- Depth Regulator
- Parts Bag

### Tools required for assembly:

16 mm & 17 mm wrenches

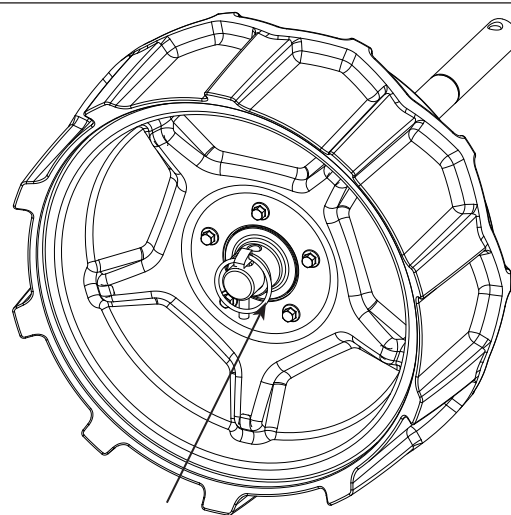
### Unpack Tiller and Assemble

1. Open top of carton and remove handle bar assembly.
2. Find parts packet. Parts packet contains:

- M10-1.5 x 45 mm hex head bolts
- M10-1.5 x 25 mm hex head bolts
- M10-15 mm nylock nuts
- M10 flat washers
- M6-1 x 12 mm hex head bolts
- M6-1 nylock nuts
- 1 - lock pin
- 12 - M6 flat washers
- 2 - Handle bar extensions
- 2 -linchpins

**NOTE: Parts packet also includes Engine Manual, Warranty Registration Card and this Operator's Manual.**

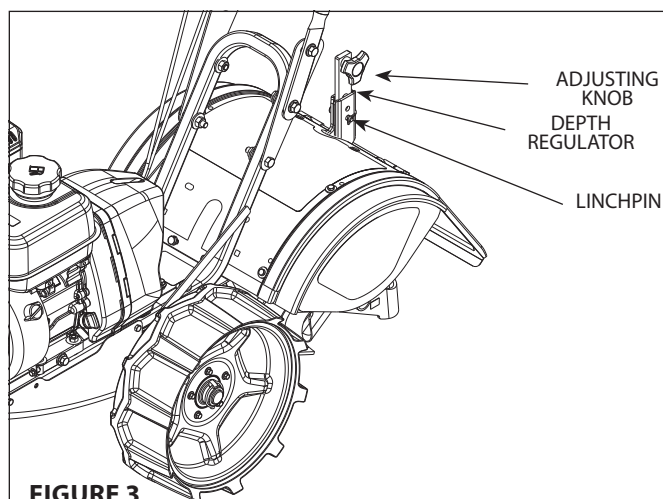
3. Cut open seems of carton, exposing all contents and remove machine by:
  - a. Attach loose wheels in box onto machine with wheel lock pins in free-wheel position. Slide wheel all the way onto the axle and insert linchpin through the axle hole only. **SEE FIGURE 2**
  - b. Roll tiller from carton.



**FIGURE 2** WHEEL LINCHPIN IN FREE-WHEEL POSITION (LINCHPIN IN AXLE HOLE ONLY)

### Install depth regulator:

1. Locate depth regulator and lock pin. **SEE FIGURE 3**
2. Unscrew adjusting knob from the top of the depth regulator and slide depth regulator up into vertical slot at the rear of the tine shield. **SEE FIGURE 3**
3. Reattach the adjusting knob to the top hole of the depth regulator.
4. Insert lock pin through the hole in the vertical slot and a hole in the depth regulator to hold it in place.



**FIGURE 3**

## Attach handle bar:

1. Locate handle bar extensions. **SEE FIGURE 4**
2. Place handle bar extensions on outside of lower handle bar mount. Line up the handle bar extension pieces with the lower handle bar mount as shown in the decal located on the lower handle bar mount next to the mounting location. **SEE FIGURE 4**
3. Insert one M10-1.5 x 45 bolt for each side in lower holes of the extension pieces. The bolts will pass through the lower hole of the lower handle bar mount. Put M10 flat washers onto bolts.

**NOTE: Always put washers on the tubing side of bolts.**

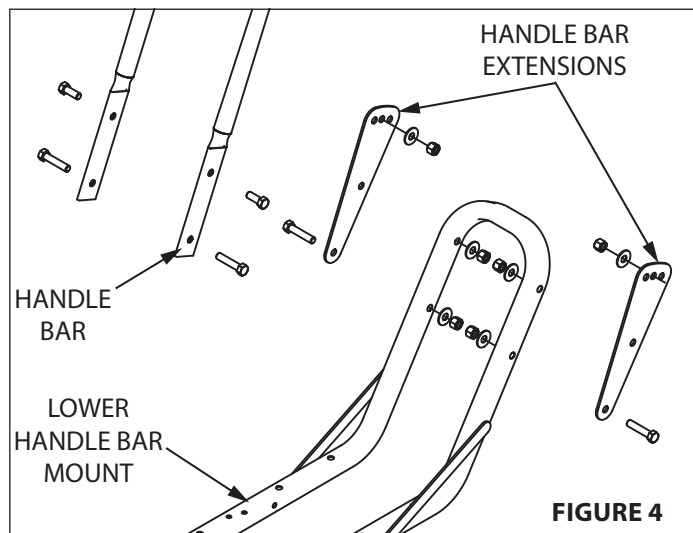
4. Hand tighten M10-1.5 nuts on each bolt.
5. Now assemble the handle bar to the handle bar extensions. Note: Handle bar goes to the outside of the handle bar extensions.
6. Insert one M1-1.5 x 45 bolt for each side in lower holes of the handle bar. Note: Bolts will be going through the upper holes of the lower handle bar mount along with the middle holes of the extensions. Put M10 flat washers onto bolts.
7. Hand tighten M10-1.5 nuts on each bolt.
8. Insert one M10-1.5 x 25 bolt for each side in upper holes of the handle bar. Bolts will pass through upper holes of the extensions. Put M10 flat washers onto bolts.
9. Hand tighten M10 nuts on each bolt.
10. Tighten M10-1.5 nuts on each of the 6 bolts connecting the handle bar, handle bar extensions and handle bar mount together.

## Attach tine side shields:

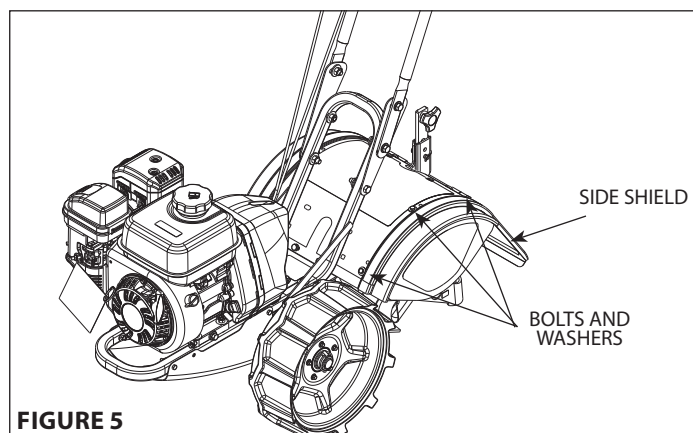
1. Locate side shields. **SEE FIGURE 5**
2. Take one side shield, raise it up against one side of the tine guard and hold in place.
3. Place a M6 flat washer onto three M6-1 x 12 bolts. Insert these three bolts in each of the three holes of the tine guard, making sure they also pass through the side shield. Put an additional M6 flat washers onto the underside of the bolts.

**NOTE: The side shield needs to be below the tine hood when they are attached together.**

4. Hand tighten M6-1 nuts on each bolt.
5. Tighten M6-1 nuts on each of the three bolts connecting the two side shields to the tine guard.
6. Repeat steps 2-4 for the second side shield.



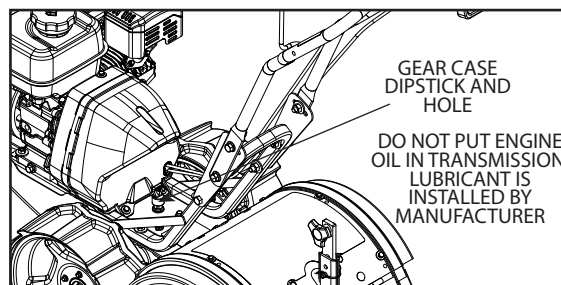
**FIGURE 4**



**FIGURE 5**



## **CAUTION**



## Engine preparation:

### **Fill Engine Crankcase with Oil:**

See the engine manufacturer's instructions for the type of gasoline and oil to use. Before you use the unit, read the information on safety, operation, maintenance, and storage.

1. Add oil according to engine manual. **Do not overfill.** Use a clean, high quality detergent oil. 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.

## **! WARNING**

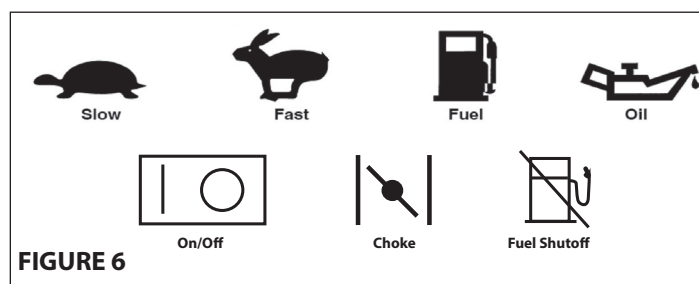
**GASOLINE IS HIGHLY FLAMMABLE AND MUST BE HANDLED WITH CARE. NEVER FILL THE TANK WHEN THE ENGINE IS HOT OR RUNNING. ALWAYS MOVE OUTDOORS TO FILL THE TANK.**

### **Fill fuel tank with gasoline:**

See the engine manual for instructions on the type of gasoline to use.

## **OPERATING SYMBOLS AND CONTROLS**

**FIGURE 6** shows common control and operating symbols that may be found on the unit or in this manual. Before you operate your unit, learn and understand the purpose for each symbol.



**FIGURE 6**

## **! WARNING**

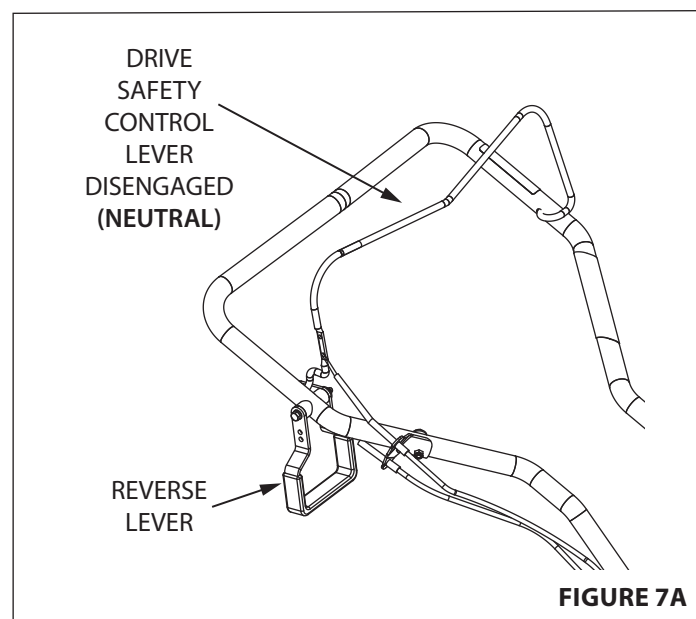
**THIS INFORMATION IS PROVIDED HERE ONLY TO INTRODUCE THE CONTROLS. DO NOT START THE ENGINE AT THIS TIME. STARTING AND OPERATING INSTRUCTIONS ARE GIVEN IN THIS MANUAL. PLEASE READ THIS SECTION AND ALL OPERATING AND SAFETY INSTRUCTIONS BEFORE STARTING YOUR TILLER.**

- **ENGINE SHOULD BE OFF BEFORE ADJUSTING ANY CONTROLS.**
- **DO NOT ADJUST TILLING DEPTH UNLESS DRIVE SAFETY CONTROL LEVER IS RELEASED TO THE NEUTRAL POSITION.**
- **DO NOT OPERATE BOTH "FORWARD" AND "REVERSE" DRIVE SAFETY CONTROL LEVERS AT THE SAME TIME.**
- **AS A SAFETY PRECAUTION, THE DRIVE SAFETY CONTROL LEVERS WILL NOT LOCK IN THE FORWARD OR REVERSE POSITION.**
- **TO STOP THE WHEELS AND TINES AT ANY TIME RELEASE THE DRIVE SAFETY CONTROL LEVERS OR RELEASE THE REVERSE HANDLE.**

## **CONTROLS**

### **Drive safety control lever:**

Pull the drive safety control lever toward the handle bar to the **FORWARD** position to engage the wheels and tines. Releasing the lever into the **NEUTRAL** position stops the wheels and tines and brings the tiller to a complete stop. **SEE FIGURE 7A**



**FIGURE 7A**

### **Belt Tension Adjustment:**

Proper belt tension is critical to good performance. After 1/2 hour of operation, all cables may have to be adjusted due to initial stretch. Thereafter, check tension after every 2 hours of operation. Proper tension is achieved when the spring compresses 6.4 mm (1/4") when drive lever is engaged.

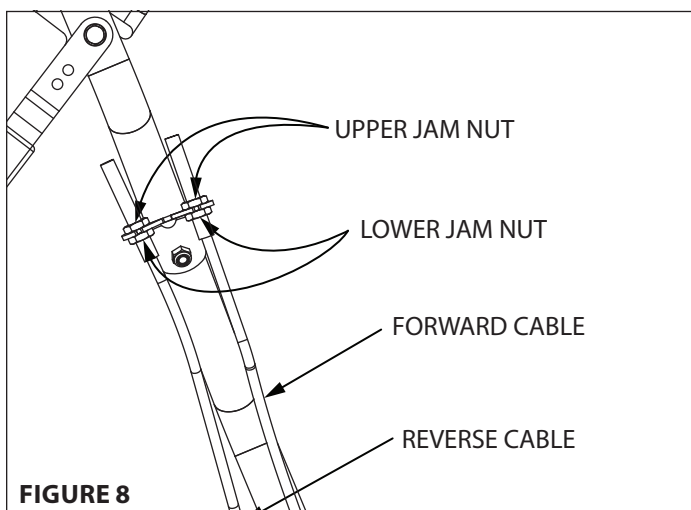
Tools Required for Assembly:

1/2" wrench

### **To Increase Belt Tension:**

1. Loosen upper jam nut. **SEE FIGURE 8**
2. Tighten the lower jam nut in 1/8" increments, making sure not to over adjust the tension.
3. When proper adjustment is achieved, tighten upper jam nut.

This procedure can be repeated until conduit adjustment bolts are fully adjusted. The Z-bend linkage can also be adjusted by inserting in the additional linkage holes on the drive control lever. If no more adjustment can be made, belt may need to be replaced.



**FIGURE 8**

## **WARNING**

**EXTREME CAUTION MUST BE TAKEN IN SELECTING TILLING DEPTH. IF YOU ATTEMPT TO TILL TOO DEEPLY FOR SOIL CONDITIONS, THAT IS, WITH THE DEPTH REGULATOR LEVER IN TOO HIGH A POSITION, LOSS OF CONTROL AND INJURY TO PERSONNEL CAN OCCUR.**

**ALWAYS SET THE DEPTH REGULATOR LEVER IN THE TRANSPORT POSITION BEFORE STARTING ENGINE. PLACE THE DETENT PIN IN THE HIGHEST HOLE OF THE DEPTH REGULATOR LEVER**

## **Depth Regulator Lever**

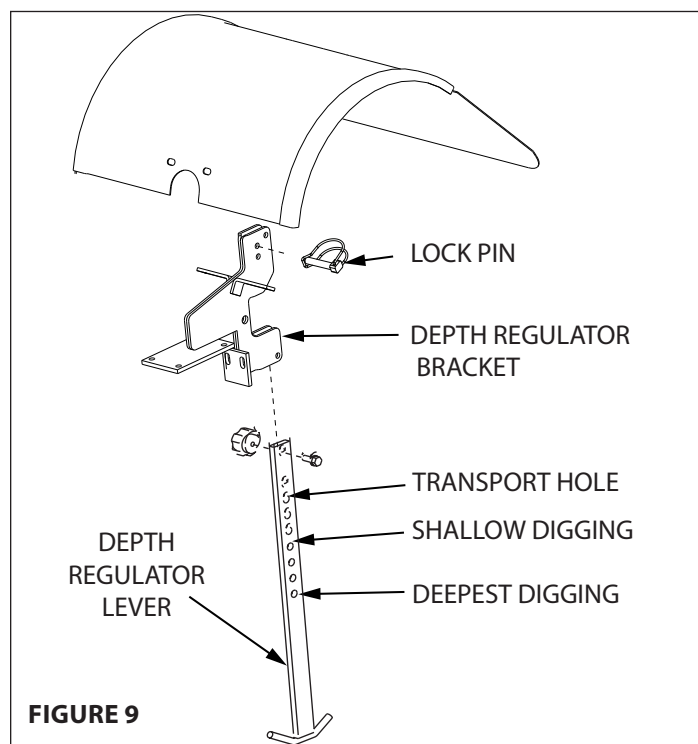
Tilling depth is controlled by the height of the depth regulator lever. **SEE FIGURE 9**

### **Adjust tilling depth as follows:**

1. Remove lock 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 insert lock pin.

**NOTE: Depth Regulator Lever Down = Shallower tilling. Place the lock pin in the top hole of the depth regulator lever for shallowest tilling.**

**Depth Regulator Lever Up = Deeper tilling. Place the lock pin in the bottom hole of the depth regulator lever for deepest tilling.**



**FIGURE 9**

## **Wheel Lock Pins**

### **To place wheels in free-wheel position do as follows:**

**NOTE: This allows wheels to turn freely on the axle for easy transportation.**

1. Remove lock pin. Slide wheel inward toward machine. **SEE FIGURE 10 (Next Page)**
2. Insert lock pin through the axle hole only, fold lock ring to secure pin to axle.
3. Repeat for other wheel.

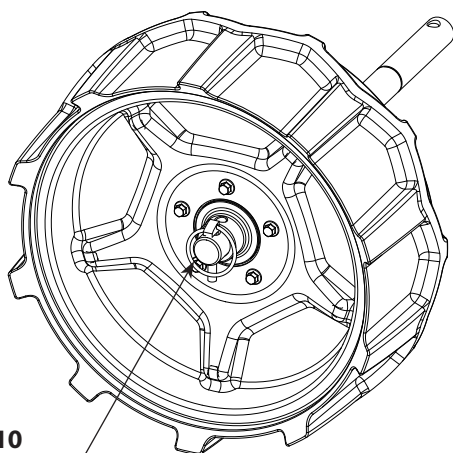
### **To place wheels in tilling position do as follows:**

**NOTE: This locks wheels to the axle so they are able to propel the machine forward while in use.**

1. Remove lock pin. Slide wheel slightly outward away from machine. Align hole in axle with hole in wheel hub. **SEE FIGURE 11 (Next Page)**
2. Insert lock pin through both holes, fold lock pin ring to secure pin to axle.
3. Repeat for other wheel.

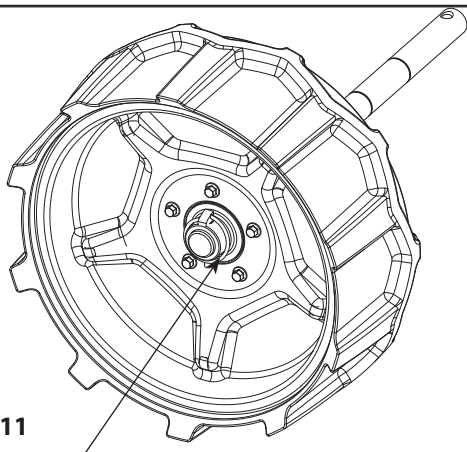
**NOTE: Always have both wheel lock pins in or out. Do not operate tiller with only one wheel locked.**





**FIGURE 10**

WHEEL LINCHPIN IN FREE-WHEEL POSITION



**FIGURE 11**

WHEEL LOCK PIN IN TILLING POSITION (LOCK PIN IN AXLE HOLE AND WHEEL HOLE)



## WARNING

**DO NOT START YOUR TILLER UNTIL YOU HAVE READ THE MANUAL THAT CAME WITH YOUR ENGINE, AND THE SECTIONS IN THIS MANUAL TITLED CONTROLS, ADJUSTMENTS AND SAFETY. IF YOU HAVE READ THESE, FOLLOW THE STEPS BELOW TO START YOUR TILLER. ALWAYS PERFORM THIS PRE-START INSPECTION BEFORE STARTING THE ENGINE. FAILURE TO FOLLOW WARNINGS CAN CAUSE INJURY OR DEATH.**

**NEVER START ENGINE OR OPERATE TILLER WITH WHEELS IN FREE-WHEEL POSITION. ALWAYS SET THE WHEELS IN TILLING POSITION BEFORE STARTING ENGINE. THE FREE-WHEEL POSITION IS FOR TRANSPORTING THE TILLER LONG DISTANCES OVER LEVEL GROUND. DO NOT ATTEMPT TO MOVE THE TILLER UP OR DOWN STEEP GRADES IN THE FREE-WHEEL POSITION.**

## 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 seepage.
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 and are the choke lever, throttle lever and On/Off switch. The choke lever is marked on one end with **CHOKE** and on the other with **RUN**. The throttle lever is marked on one end with a **SLOW** icon and on the other with a **FAST** icon. 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.

### Cold starts:

1. Turn ON/OFF switch to the **ON** position.
2. Move choke lever to **CHOKE** position.
3. Move throttle lever to half way between **SLOW** and **FAST**.
4. Pull starting rope out slowly one time and allow to return normally.
5. Pull starting rope out rapidly, and allow rope to return normally. Repeat until engine starts.
6. When engine starts, gradually move choke lever to **RUN** position and move throttle lever to **FAST** position for tilling.





## WARNING

ENGINE AND SURROUNDING PARTS BECOME EXTREMELY HOT DURING NORMAL USE. TEMPERATURE OF MUFFLER AND NEARBY AREAS MAY EXCEED 150° F. THESE AREAS WILL CAUSE SERIOUS BURN INJURIES IF TOUCHED BEFORE THE ENGINE HAS COOLED.

### 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 half way between **SLOW** and **FAST**.
2. Pull starting rope out rapidly, and allow rope to return normally. Repeat until engine starts.
3. Adjust throttle speed to **FAST** position for tilling.

### Idle speed:

Use the **SLOW** position or a position between **SLOW** and **FAST** 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 tilling, set the throttle lever to the **FAST** position.



## CAUTION

**DO NOT USE THE CHOKE TO STOP ENGINE. IF CHOKE LEVER IS PLACED IN CHOKE POSITION WHILE ENGINE IS RUNNING, BACKFIRE OR ENGINE DAMAGE MAY OCCUR.**

### Shutting Down:

To stop the engine at any time, move the On/Off switch to the **OFF** position. To stop wheels and tines at any time release drive safety control levers to **NEUTRAL** position. **SEE FIGURE 4**

## IMPORTANT

**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 IF NECESSARY. IF YOU DO NOT KNOW HOW TO DO THESE THINGS, READ THE CONTROLS, ADJUSTMENTS AND SAFETY SECTIONS BEFORE PROCEEDING.**



## WARNING

**ALWAYS MAINTAIN CONTROL OF YOUR TILLER. ONLY OPERATE TILLER IN SOIL CONDITIONS THAT ARE CONDUCIVE TO MAINTAINING CONTROL OF THE TILLER. DO NOT OPERATE TILLER IN CONDITIONS THAT CONTAIN ROCKS, FOREIGN OBJECTS, OR ANY OTHER MATERIAL THAT IS NOT SOIL. IF YOUR TILLER BUMPS, JERKS OR LURCHES, LET GO OF THE HANDLE BARS AND THE DRIVE CONTROL LEVERS IMMEDIATELY SO THAT THE TINES AND WHEELS STOP TURNING.**

**IMMEDIATELY RELEASE THE DRIVE CONTROL LEVER IF THE TINES JAM OR YOU STRIKE A FOREIGN OBJECT. WITH DRIVE CONTROL LEVER IN NEUTRAL POSITION, PUSH THROTTLE CONTROL TO STOP POSITION TO STOP THE ENGINE. DISENGAGE THE SPARK PLUG WIRE. WHEN TINES HAVE STOPPED, REMOVE FOREIGN OBJECTS AND CHECK FOR DAMAGE.**

### 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. Move the throttle control to **FAST** position.
3. Place the tiller in **FORWARD** by pulling the drive safety control

### 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, set the lock pin in the highest hole of the depth regulator lever (**SEE OPERATION SECTION**). This will allow for shallow tilling. With the depth regulator lever in this position, make several light passes over the area to be tilled. Reset for deeper depths with successive passes.
- If tiller jumps or skids uncontrollably, lower the depth regulator lever by placing the lock pin in a higher hole. This will allow for shallower tilling. Hold firmly to the handle bars to control sudden lurches.

### Cultivating tips:

If you plan to use your tiller for cultivating:

- Plant rows on 20" - 22" centers for ease of turning.
- Set the depth regulator lever with the lock pin in one of the higher holes. This will allow for shallow cultivation necessary to turn over weeds, and break up and aerate the soil.

## MAINTENANCE

### Maintenance Schedule

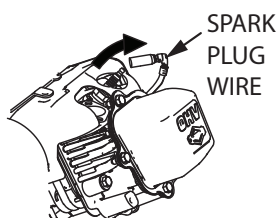
Your rototiller has been designed and produced by the industry's leading manufacturer of outdoor power equipment to provide you years of reliable operation.

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.

#### **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.**

#### **WARNING**

**ENGINE AND SURROUNDING PARTS BECOME EXTREMELY HOT DURING NORMAL USE. TEMPERATURE OF MUFFLER AND NEARBY AREAS MAY EXCEED 150° F. THESE AREAS WILL CAUSE SERIOUS BURN INJURIES IF TOUCHED BEFORE THE ENGINE HAS COOLED.**

Maintenance Operation	Page	Before Each Use	50 hours or Every Season
Change forward belt	17		X
Engine maintenance	18, EM	X	X
Check or fill engine crankcase	19, EM	X	X
Check tiller transmission grease	18		X
Check tire pressure	19	X	
Lubrication	19	X	
Clean tine axle shaft	19	X	
Lubricate wheel axle shaft	19		X

**EM** = See Engine Manual

## 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.

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

**Important: Use only approved Earthquake spare parts.**

**Change Forward/Reverse Belt: SEE FIGURES 12&13.**

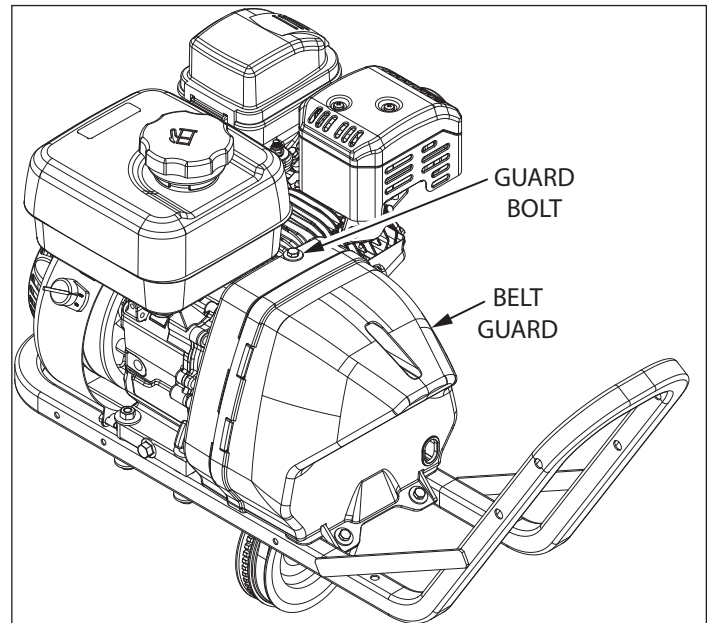
1. Turn off engine. Engine must be cool.
2. Remove spark plug wire and secure from spark plug.
3. Remove belt guard.
4. Remove the forward belt from the forward engine pulley:
  - a. Gently pull the engine recoil rope to rotate the pulley. With the pulley turning, force the forward belt out of the V-groove.
  - b. Slide the belt free of the engine pulley.
  - c. Pull the forward belt down and out of the way.
5. Remove the reverse belt from the reverse engine pulley:
  - a. Gently pull the engine recoil rope to rotate the pulley. With the pulley turning, force the reverse belt out of the V-groove.
  - b. Slide the belt free of engine pulleys and reverse belt guides.
  - c. Pull belt down and away from transmission pulley.
6. Install new reverse belt:

**NOTE: V side of belt should be up, away from pulley.**

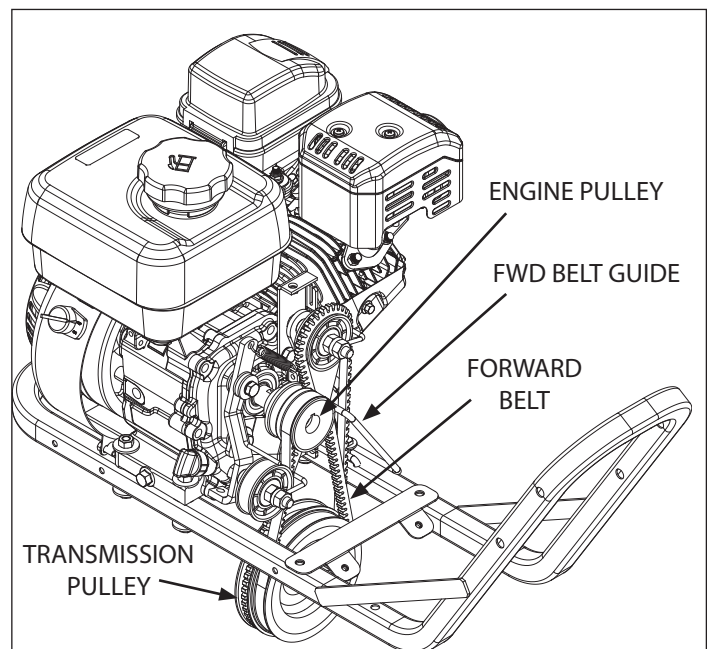
- a. Thread belt up from bottom.
  - b. Place belt around transmission pulley in groove.
  - c. Place belt under reverse belt guides.
  - d. Gently pull engine recoil rope while forcing the belt over the edge of the engine pulley into the V-groove.
7. Install new forward belt:
  - a. Place forward belt in transmission pulley groove.
  - b. Gently pull the engine recoil rope to rotate the pulley while forcing the forward belt into the V-groove.
8. Replace belt guard.
9. Attach spark plug wire.

**BELT REPLACEMENT PART #'S:**

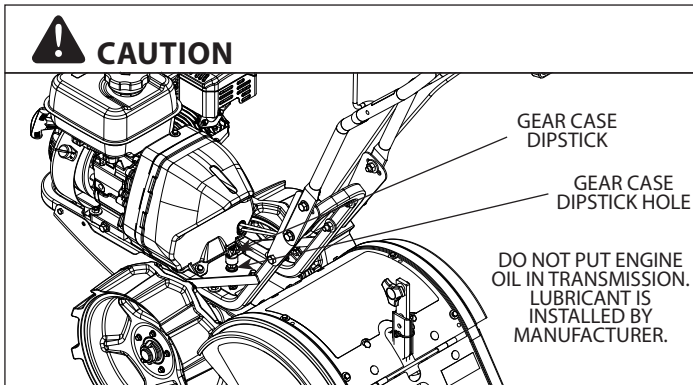
- 22773 (forward)
- 24995 (reverse)



**FIGURE 12**



**FIGURE 13**



### Check tiller transmission grease:

Check the grease level annually. To check the grease level:

1. Cut out one of the cardboard stencils on page 27 of this manual. Take that dipstick cut-out and glue/tape it to a piece of cardboard cut out to match the stencil.
2. Tiller must first be run for approximately 30 minutes to warm up grease for a proper measurement. Once warm let sit 5 minutes to allow grease to settle.
3. Move tiller to level ground, making sure the transmission cover plate is level.
4. Remove the gear case dipstick located between the handle bar mounts and the engine mount.

### SEE FIGURE 14

5. Insert the dipstick cut-out created in step 1 into the hole in the transmission cover plate so the top square is resting on the cover plate. **SEE FIGURE 15**
6. Remove the dipstick cut-out and check grease level. If level is in the bottom ADD area or not present, add grease in 200ml increments until grease level reaches a proper level reading (between 1" - 1 3/4" down from top of fill hole). **DO NOT OVERFILL.** The slashed, acceptable grease level area on the dipstick cut-out has a 200ml range.

**NOTE:** The front wheel transmission and rear tine transmission share a common reservoir. Recommended grease is Mystic 00, or equivalent, transmission grease. Oil must have an API - E.P (extreme pressure) rating of GL4 or lower. Higher E.P. rating (ie - GL5, GL6 etc) will cause the bronze components to soften. For partial fill-ups ( a few ozs or less) use SAE 140W or 85W gear oil or SAE 80W-90 weight gear oil with a API rating of GL4 or GL5. When replacing grease, the tiller transmission holds 18-22 ounces. **DO NOT OVERFILL.**

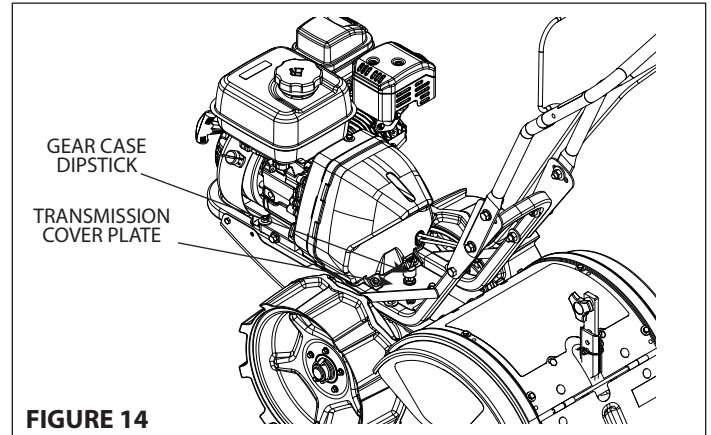


FIGURE 14

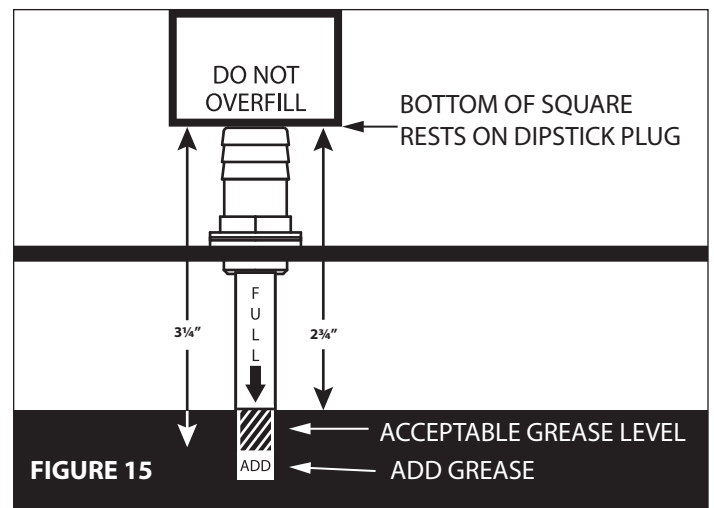


FIGURE 15

## Engine Maintenance

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

### Performing the following tasks:

1. Always check oil level before starting engine. Refer to engine manual for capacity and type of oil to use.
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 50 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 4-cycle engine oil. 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.

### Lubrication:

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

### Clean 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 forward. Block the tiller in position so that it rests on the engine mount and the tines are exposed.
4. Remove all vegetation, string, wire, and other material that may have accumulated on the axle between the inside set of tines and the seal on the transmission housing.
5. Tip the tiller back to a level position.
6. Replace spark plug wire.



## 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.**

## 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.

### **To prepare your tiller for storage do as follows:.**

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. Spark plug preparation:
  - Remove spark plug, pour one ounce of SAE 30 oil into spark plug hole.
  - Plug hole and pull starter cord slowly to distribute oil evenly in cylinder head area.
  - Reinstall spark plug.
6. 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.
7. 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.



## TROUBLESHOOTING

### 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.**

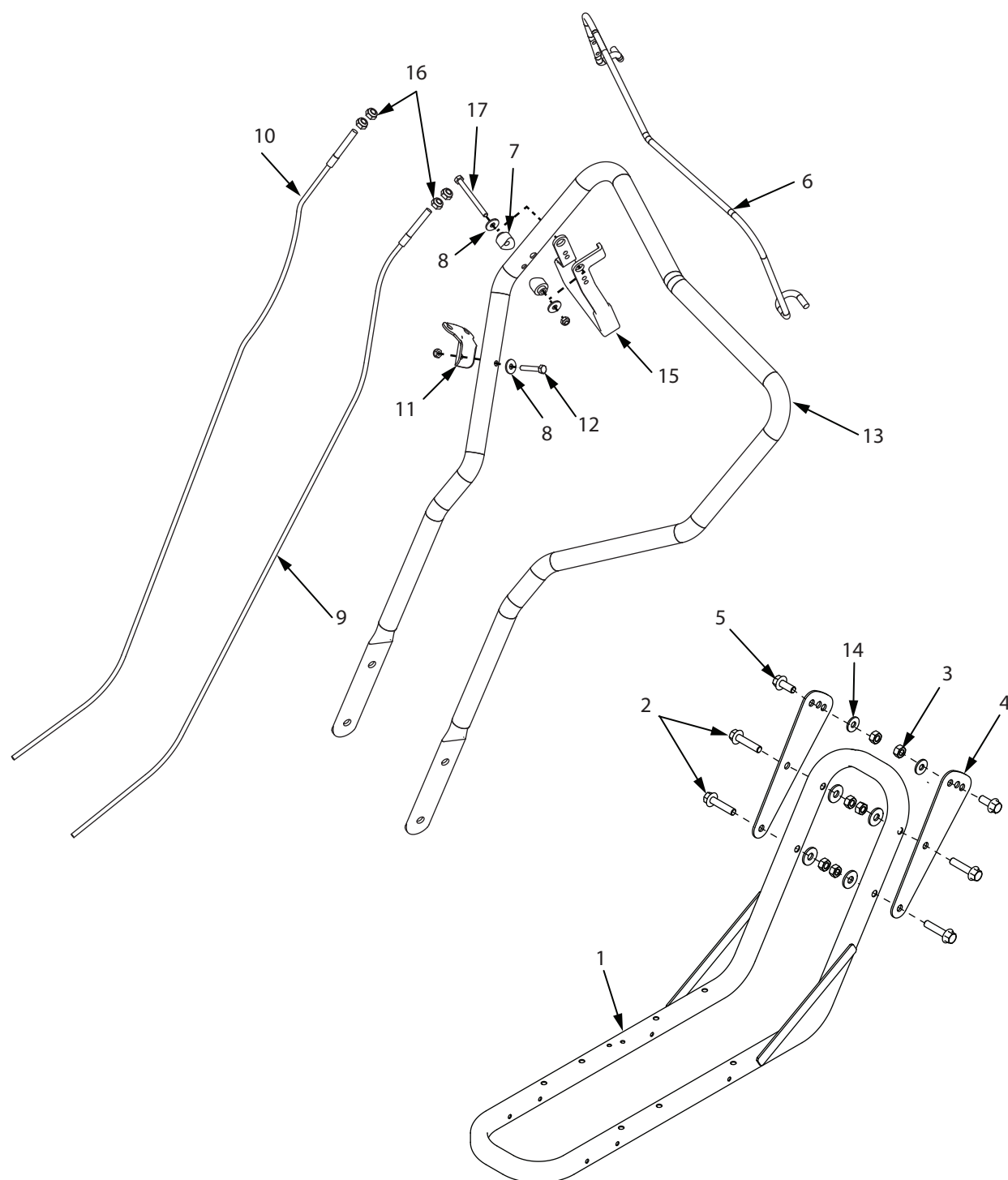
PROBLEM	REMEDY/ACTION
Engine will not start	Add gas to gas tank. Connect spark plug wire to spark plug Throttle must be positioned at choke for a cold start
Engine runs rough, floods during operation	Clean or replace air cleaner
Engine is hard to start	Drain old fuel and replace with fresh. Use gas stabilizer 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
Engine misses or lacks power	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	See engine manual to check and adjust throttle linkage
Tiller moves forward during starting	Drive safety control levers must be released to neutral position to start the engine
Tiller is difficult to control when tilling (machine jumps or lurches forward)	Lock wheels in tilling position Raise tines for shallower tilling by lowering the depth regulator lever
Tines turn, wheels do not turn	Lock wheels in tilling position Internal transmission failure, see your dealer
Tines turn, wheels turn, tiller does not move	Raise the tines for shallower tilling by lowering the depth regulator lever Lift slightly on handlebars to allow wheels to gain traction
Belts squeal in neutral	Adjust forward belt guide: - turn engine off and allow muffler to cool, - disconnect spark plug wire and secure from spark plug, - remove belt guard, - pull down on drive safety control lever, - manually bend forward belt guide so there is 1/16 inch or less clearance between belt guide and belt, - replace belt guard and spark plug wire.
Excessive heat build up in transmission/tine area during tilling	Remove vegetation by following instructions in Clean Tine Axle Shaft of Normal Care section. Check transmission fluid and fill if needed



PROBLEM	REMEDY/ACTION
Constant buzzing sound is heard while engagement lever is compressed	<ul style="list-style-type: none"> <li>Fully compress engagement lever</li> <li>Properly space wire guide against idler pulley</li> <li>Tighten throttle cable</li> </ul> <p><b>NOTE: If engagement lever is fully compressed, wire guide is properly adjusted, and cable has reach full adjustment and buzzing persists, the belt may be stretched and have to be replaced. *</b></p>

\* Please contact 800-345-6007 for service parts

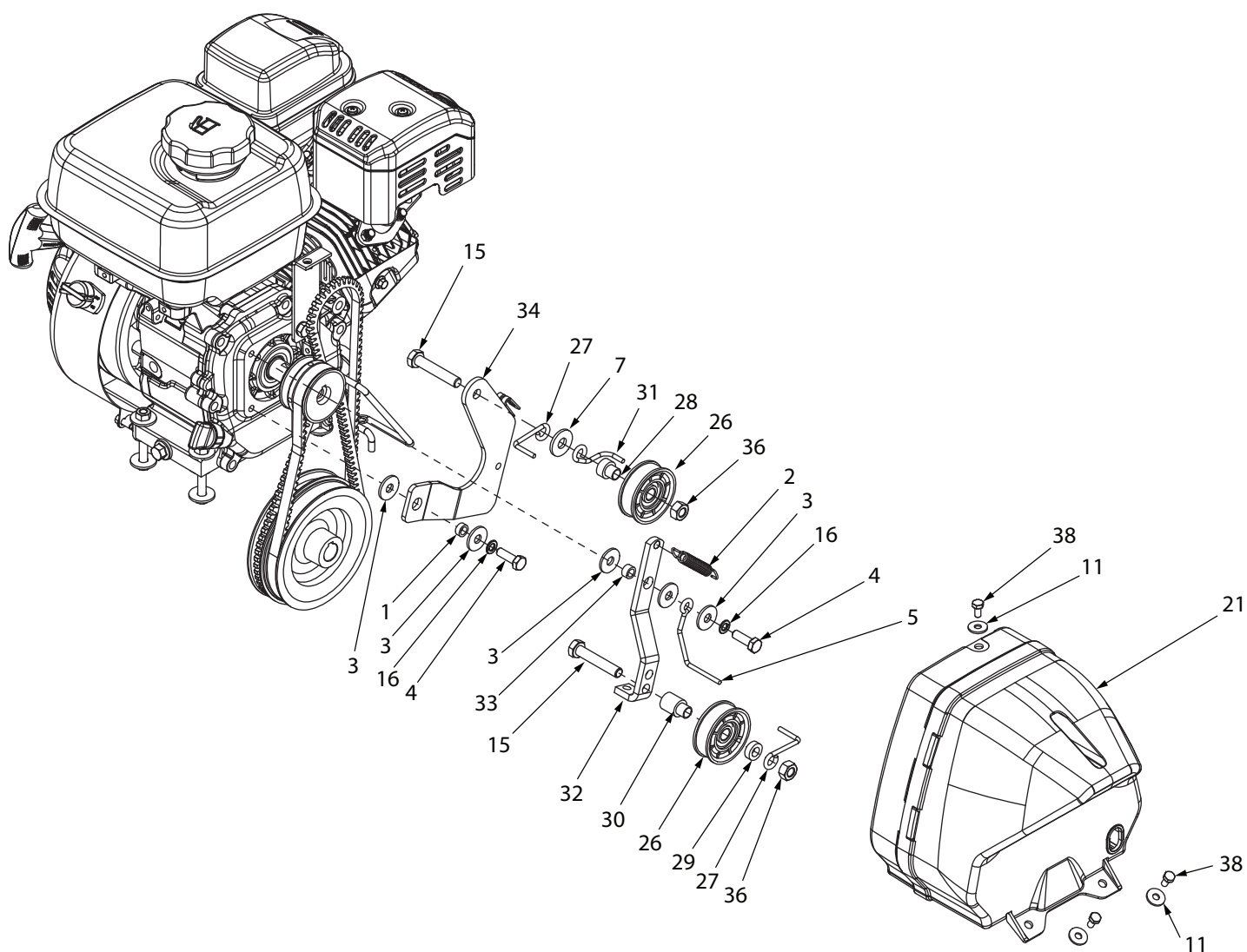
## ILLUSTRATED PARTS BREAKDOWN - Handlebar Assembly



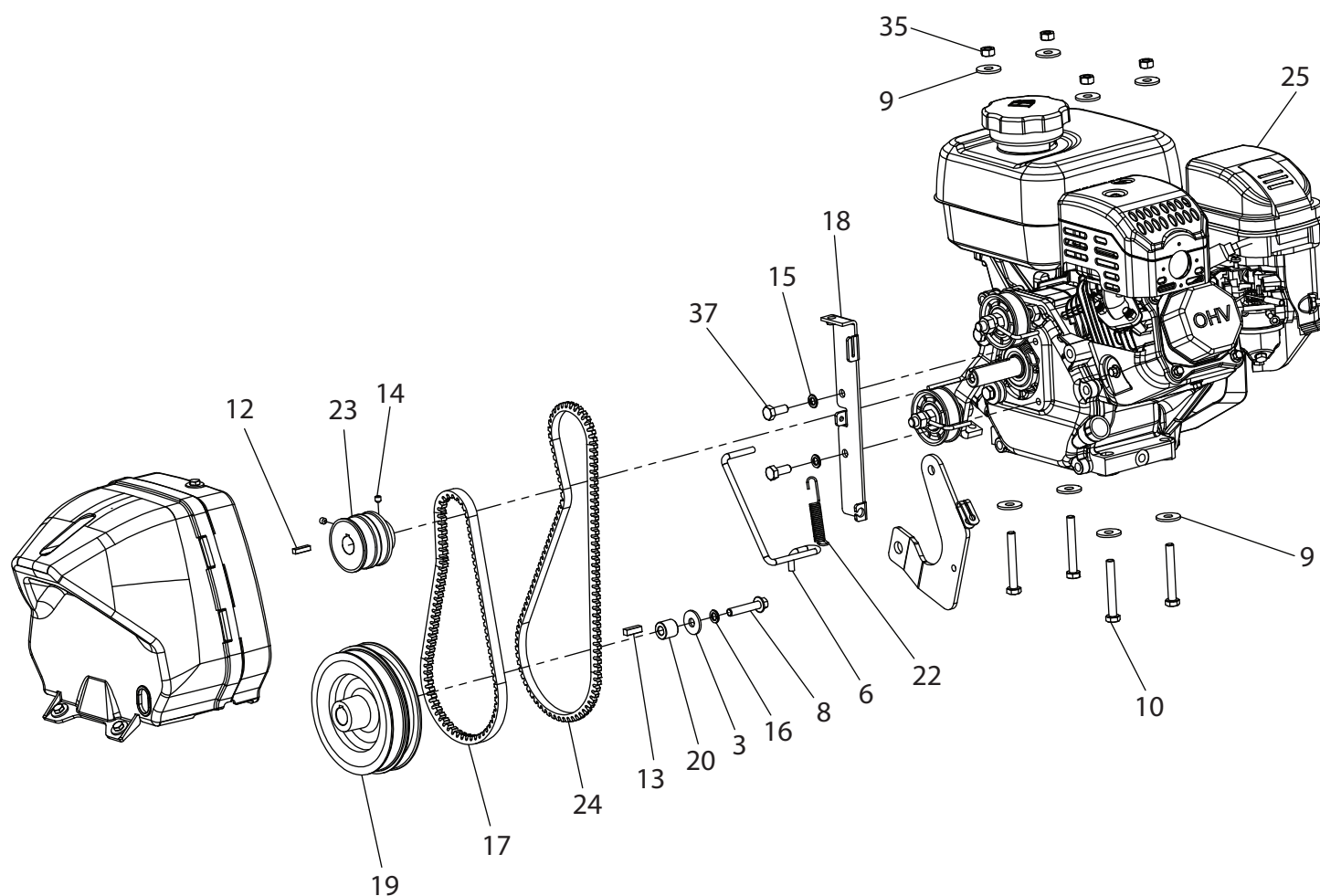
**ILLUSTRATED PARTS BREAKDOWN - Handlebar Assembly**

ITEM #	PART #	DESCRIPTION	QTY.
1	19867	ENGINE MOUNT	1
2	11509	BOLT M 10 X 45	4
3	W1265V0903	NUT M10	6
4	13285	HANDLEBAR ADJUSTMENT PLATE	2
5	19124	BOLT M10 X 25	2
6	24603	FORWARD DRIVE LEVER	1
7	24610	REVERSE HANDLE SPACER	2
8	20141	WASHER M6	3
9	24606	REVERSE CABLE	1
10	24605	FORWARD CABLE	1
11	25490	CABLE BRACKET	1
12	18104	BOLT M6 X 35	1
13	24602	HANDLEBAR	1
14	19905	WASHER M10	6
15	25744	REVERSE DRIVE LEVER	1
16	4620	NUT M8	4
17	25755	BOLT M6 X 70	1

## ILLUSTRATED PARTS BREAKDOWN - Engine and Mount 1



## ILLUSTRATED PARTS BREAKDOWN - Engine and Mount 2



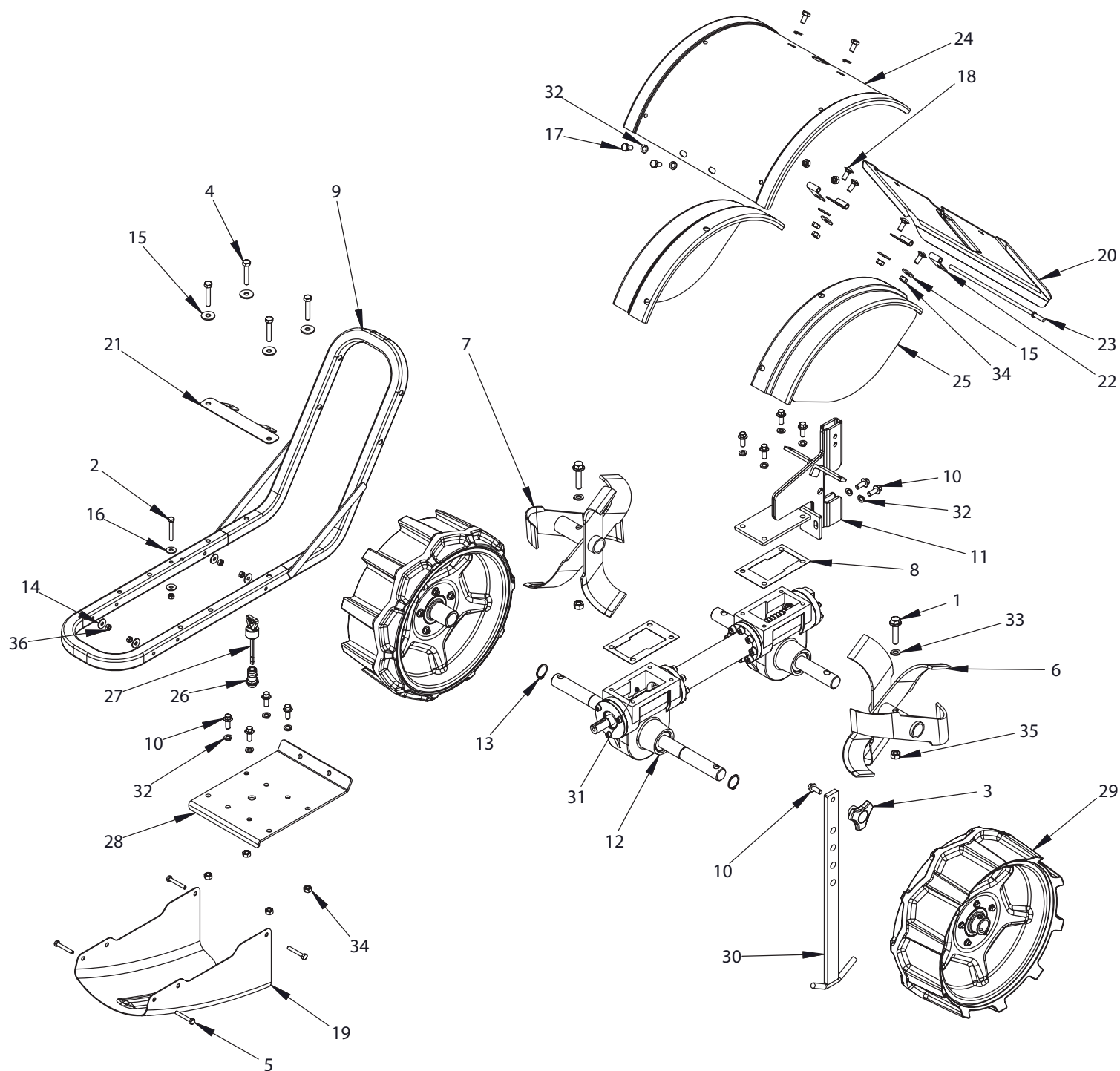
**ILLUSTRATED PARTS BREAKDOWN - Engine and Mount**

ITEM#	PART #	DESCRIPTION	QTY.
1	743	REVERSE ARM BUSHING	1
2	1407	FORWARD ARM SPRING	1
3	3245	WASHER M8	6
4	13826	BOLT M8 X 25	2
5	14030	BELT GUIDE	1
6	19895	BELT GUIDE	1
7	19905	WASHER M10	1
8	19922	BOLT M8 X 40	1
9	20143	WASHER M8	8
10	20144	BOLT M8 X 60	4
11	20148	WASHER M6	3
12	20176	ENGINE PULLEY KEY	1
13	20197	TRANSMISSION PULLEY KEY	1
14	20919	SET SCREW M6 X 8	2
15	21600	BOLT M10 X 55	2
16	21640	WASHER M8	5
17	22773	BELT 4LXA 12MM X 660MM	1
18	24614	CABLE MOUNT PLATE	1
19	24616	TRANSMISSION PULLEY	1
20	24617	DRIVE SHAFT SPACER	1
21	24771	BELT GUARD	1
22	24885	REVERSE ARM SPRING	1
23	24950	ENGINE PULLEY	1
24	24995	BELT 4LXA 10MM X 812MM	1
25	25145	ENGINE R210 212CC	1

ITEM#	PART #	DESCRIPTION	QTY.
26	25881	IDLER PULLEY	2
27	25885	BELT GUIDE	2
28	25888	REVERSE PULLEY SPACER LONG	1
29	25889	REVERSE PULLEY SPACER SHORT	1
30	25890	FORWARD PULLEY SPACER	1
31	26564	BELT GUIDE	1
32	53617	FORWARD ARM	1
33	53637	FORWARD ARM BUSHING	1
34	53682	REVERSE ARM	1
35	W1265V0900	NUT M8	4
36	W1265V0903	NUT M10	2
37	W1265V0904	BOLT M8 X 20	2
38	W1200115	BOLT M6 X 12	3



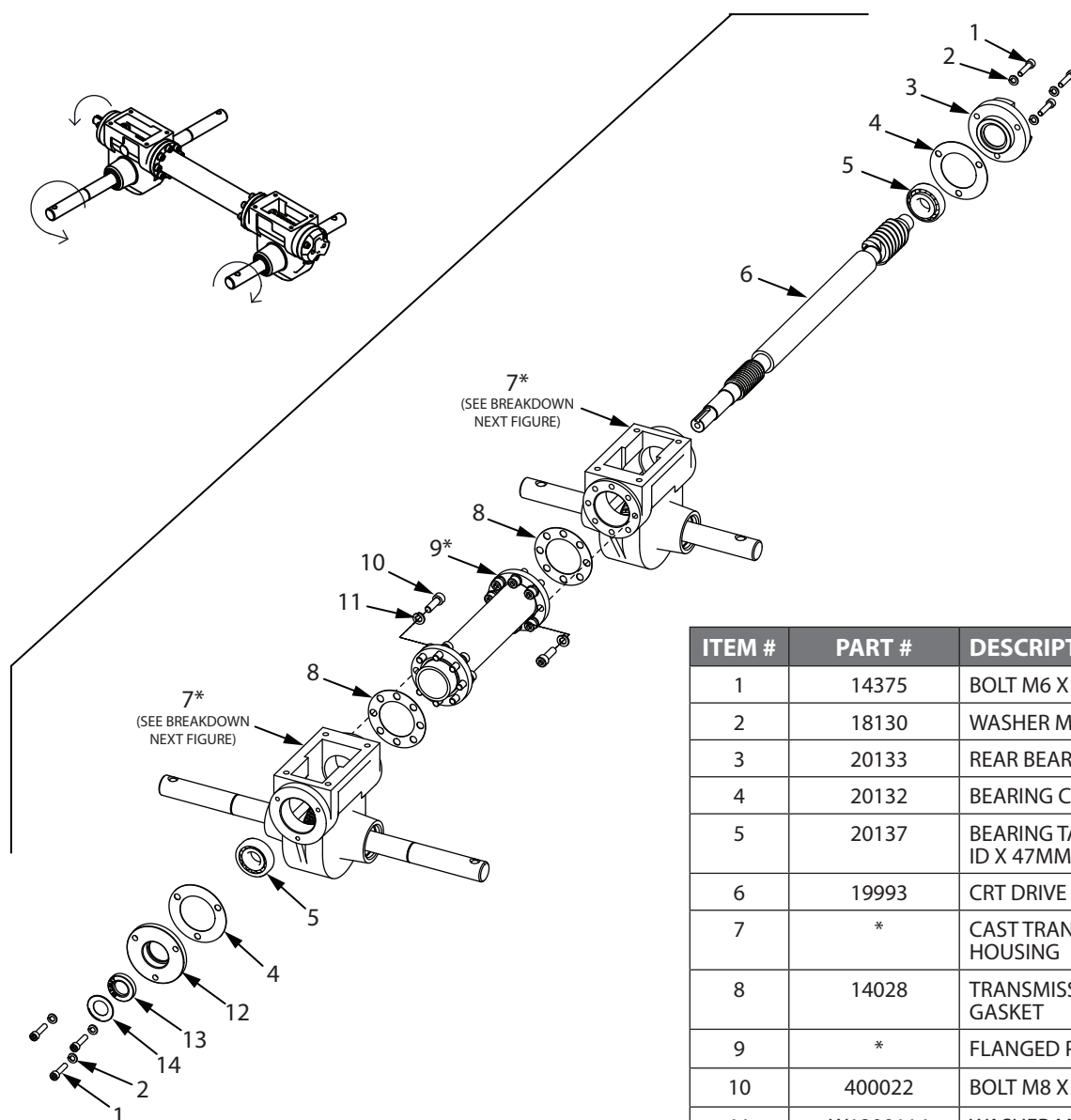
## ILLUSTRATED PARTS BREAKDOWN - Transmission, Tines, & Hood



**ILLUSTRATED PARTS BREAKDOWN - Transmission, Tines, & Hood**

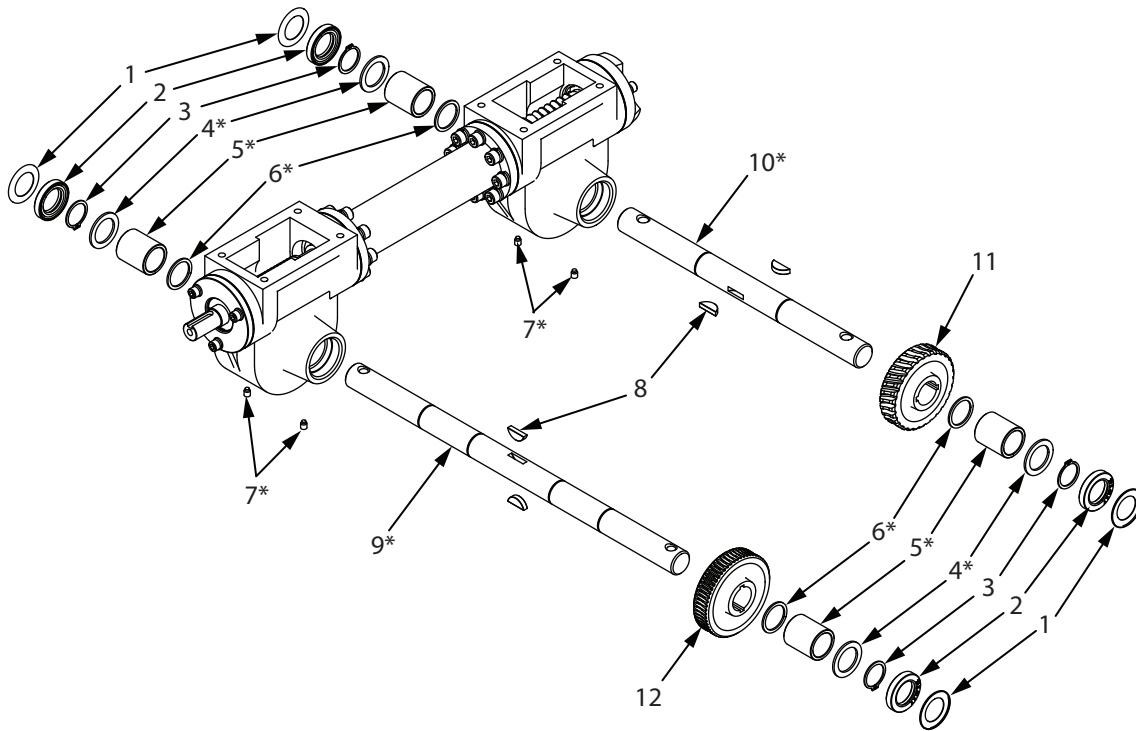
ITEM #	PART #	DESCRIPTION	QTY.
1	11509	BOLT M10 X 45	2
2	11946	BOLT M6 X 45	1
3	13601	KNOB M8	1
4	18098	BOLT M8 X 45	4
5	18103	BOLT M6 X 40	4
6	1900LCRT	LEFT TINE SET	1
7	1900RCRT	RIGHT TINE SET	1
8	19864	TRANSMISSION COVER GASKET	2
9	19867	ENGINE MOUNT	1
10	19945	BOLT M8 X 20	11
11	20003	TAIL MOUNT	1
12	20111	CRT TRANSMISSION	1
13	20138	SNAP RING 25MM	2
14	20141	WASHER M6	5
15	20143	WASHER M8	8
16	20148	WASHER M6	1
17	20150	BOLT M8 X 15	4
18	23205	BOLT M8 X 20	4
19	24764	LOWER PAN	1
20	24778	BEAVER TAIL	1
21	24782	BELT GUARD MOUNT	1
22	24868	HINGE BRACKET	4
23	24869	HINGE ROD	1
24	24870	TINE HOOD	1
25	24873	SIDE SHIELD	2
26	24877	TRANSMISSION VENT M16	1
27	24879	TRANSMISSION DIPSTICK	1
28	24880	TINE HOOD MOUNT	1
29	28365	TIRE	2
30	53655	CRT DRAG STAKE	1
31	"OIL00"	MYSTIC CL 00 GREASE (760 GRAMS)	1
32	W1200114	WASHER M8	14
33	W1200119	WASHER M10	2
34	W1265V0900	NUT M8	10
35	W1265V0903	NUT M10	2
36	W1265V0913	NUT M6	5

## ILLUSTRATED PARTS BREAKDOWN - Transmission Detailed Breakdown



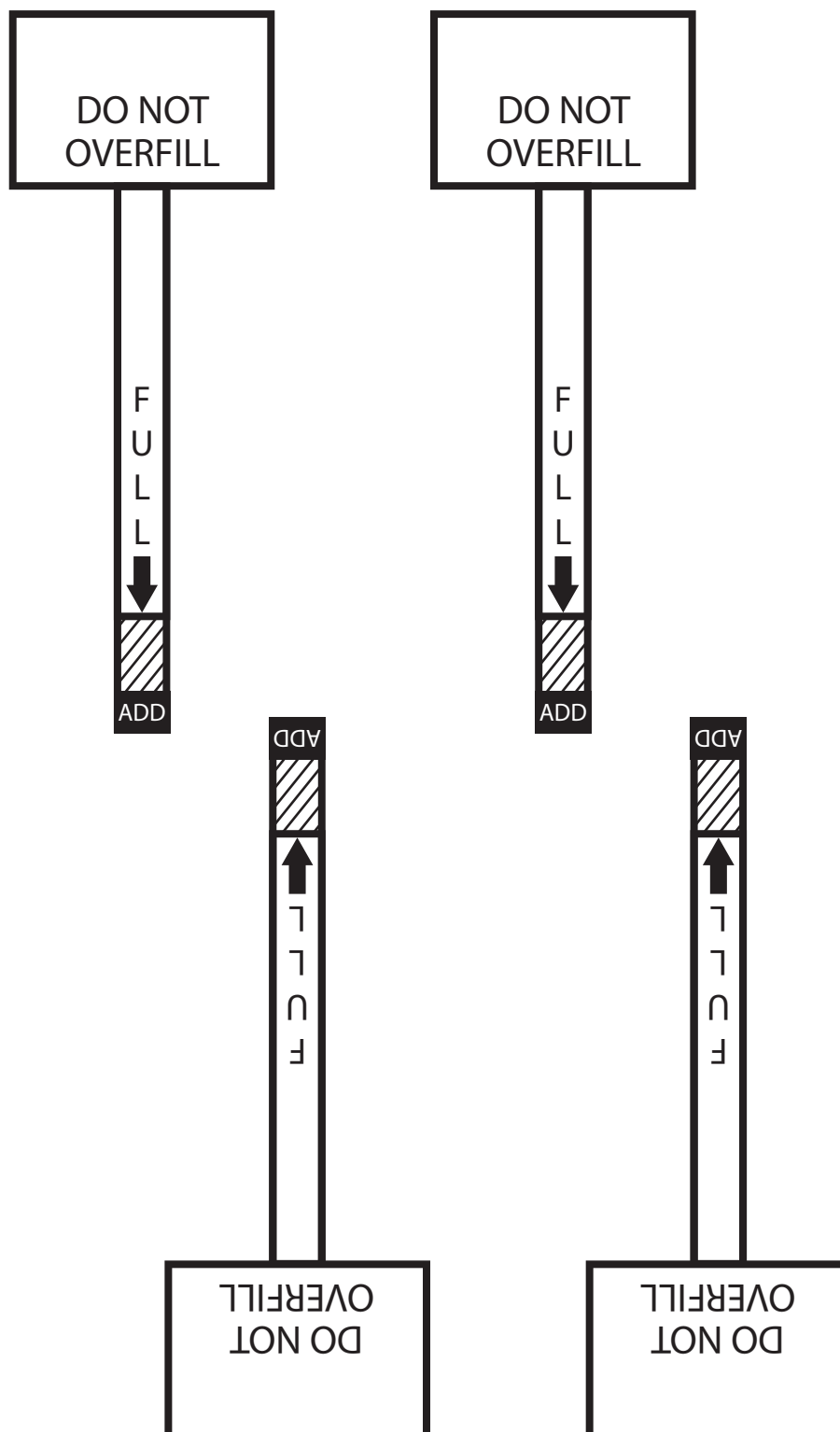
ITEM #	PART #	DESCRIPTION	QTY
1	14375	BOLT M6 X 25	6
2	18130	WASHER M6	6
3	20133	REAR BEARING CAP	1
4	20132	BEARING CAP GASKET	2
5	20137	BEARING TAPERED 20MM ID X 47MM OD	2
6	19993	CRT DRIVE SHAFT	1
7	*	CAST TRANSMISSION HOUSING	2
8	14028	TRANSMISSION HOUSING GASKET	2
9	*	FLANGED PIPE	1
10	400022	BOLT M8 X 25	16
11	W1200114	WASHER M8	16
12	20134	FRONT END CAP	1
13	20136	DRIVE SHAFT SEAL 20MM X 35MM	1
14	20131	DRIVE SHAFT SEAL COVER	1
* ORDER TRANSMISSION ASSEMBLY 20111			

## ILLUSTRATED PARTS BREAKDOWN - Transmission Detailed Breakdown



ITEM #	PART #	DESCRIPTION	QTY
1	20130	AXLE SHAFT SEAL COVER	4
2	20135	AXLE SHAFT SEAL 25MM X 40MM	4
3	20138	SNAP RING 25MM	4
4	*	SHIM 37 X 26 X 2 MM	4
5	*	BUSHING 25 X 32 X 36.5 MM	4
6	*	SHIM 26 X 32 X 1.5 MM	4
7	*	SETSCREW M6 X 8.5	4
8	1500P113	GEAR KEY	4
9	*	WHEEL AXLE	1
10	*	TINE AXLE	1
11	20128	TINE GEAR 30 TOOTH	1
12	19982	WHEEL GEAR 61 TOOTH	1
* ORDER TRANSMISSION ASSEMBLY 20111			

## CARDBOARD STENCILS FOR DIPSTICK CUT-OUT





## NOTES

This image shows a single sheet of white paper with horizontal blue or grey ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.





## NOTES

This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.



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All weights, specifications and features are approximate and are subject to change without notice. Due to continuous product improvements, product images may not be exact. Items used for props not included. Some assembly may be required.

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