

# DR® Front Tine Tiller

## SAFETY & OPERATING INSTRUCTIONS



Serial No. \_\_\_\_\_  
Order No. \_\_\_\_\_

**Original Language**

DR® Power Equipment  
Toll-free phone: 1-800-DR-OWNER (376-9637)  
Fax: 1-802-877-1213  
Web site: [www.DRpower.com](http://www.DRpower.com)

### **WARNING**

Read and understand this manual and all instructions before operating this DR Front Tine Tiller.

# INTRODUCTION

## THANK YOU . . .

for purchasing a front tine rototiller from DR Power.  
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.

## CONTENTS

Warranty Registration .....3  
Safety.....4  
Unpacking and Assembly .....7  
Features.....8  
Controls .....9  
Operation .....10  
Maintenance & Storage .....12  
Troubleshooting & Repair .....16  
Parts Explosions .....17

## 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 \_\_\_\_\_

## 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.

- 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.

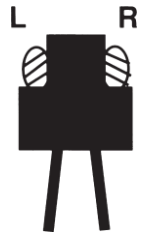
## OPERATION

- 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

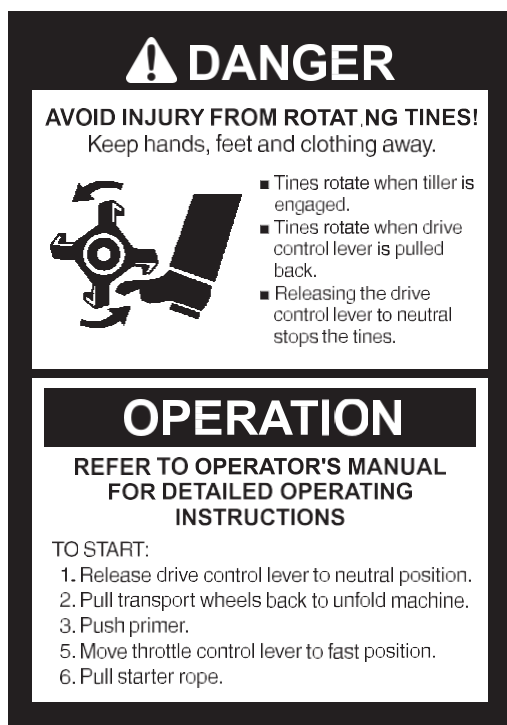
This rototiller unit has been designed and manufactured to provide you with the safety and reliability you would expect from an industry leader in outdoor power equipment manufacturing.

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.



406611



406621



406641



406711



406681



406791

## UNPACKING AND ASSEMBLY

### UNPACK TILLER & ASSEMBLE

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- M12 Flat Washer
  - 2- Cotter Pins
  - 1- Detent Pin
3. Cut open end of carton and remove machine:
  - a. 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.
  - b. 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.
  - c. The outside tines have two positions- wide 21" and narrow 16". For 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.
  - d. Secure the upper handlebar to the lower handlebar using four shorter Bolts, and Locknuts.
  - e. Check upper and lower jam nuts for tightness. See page 8, Belt Tension Adjustment.
  - f. 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

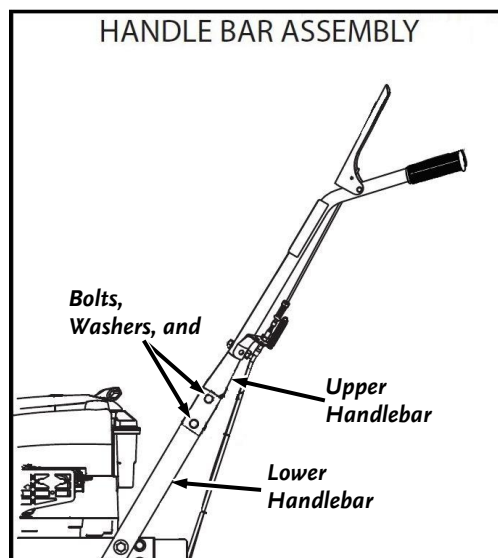
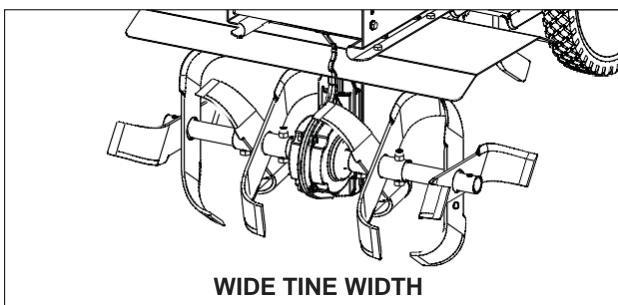
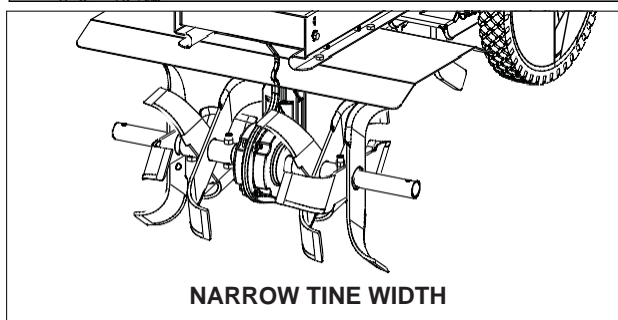
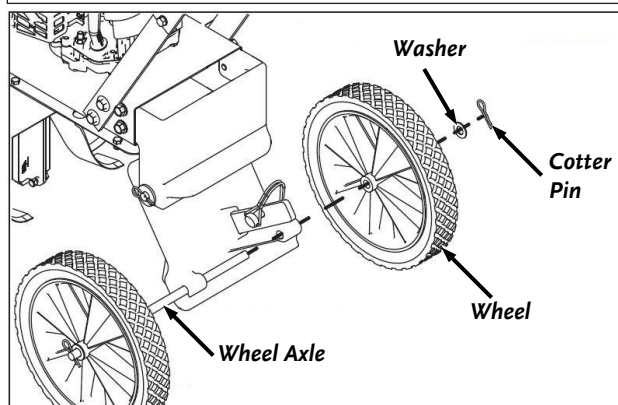
1. Add oil according to engine manual. **Do not overfill.** Use a clean, high quality detergent oil. Container must be marked A.P.I. Service SF - SJ. Use no special additives with recommended oils. **Do not mix oil with gasoline.** Oil level must be full. Check the oil level by removing oil fill plug. 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.

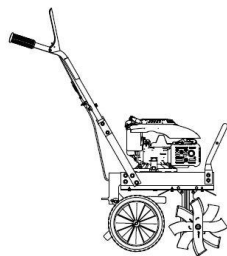
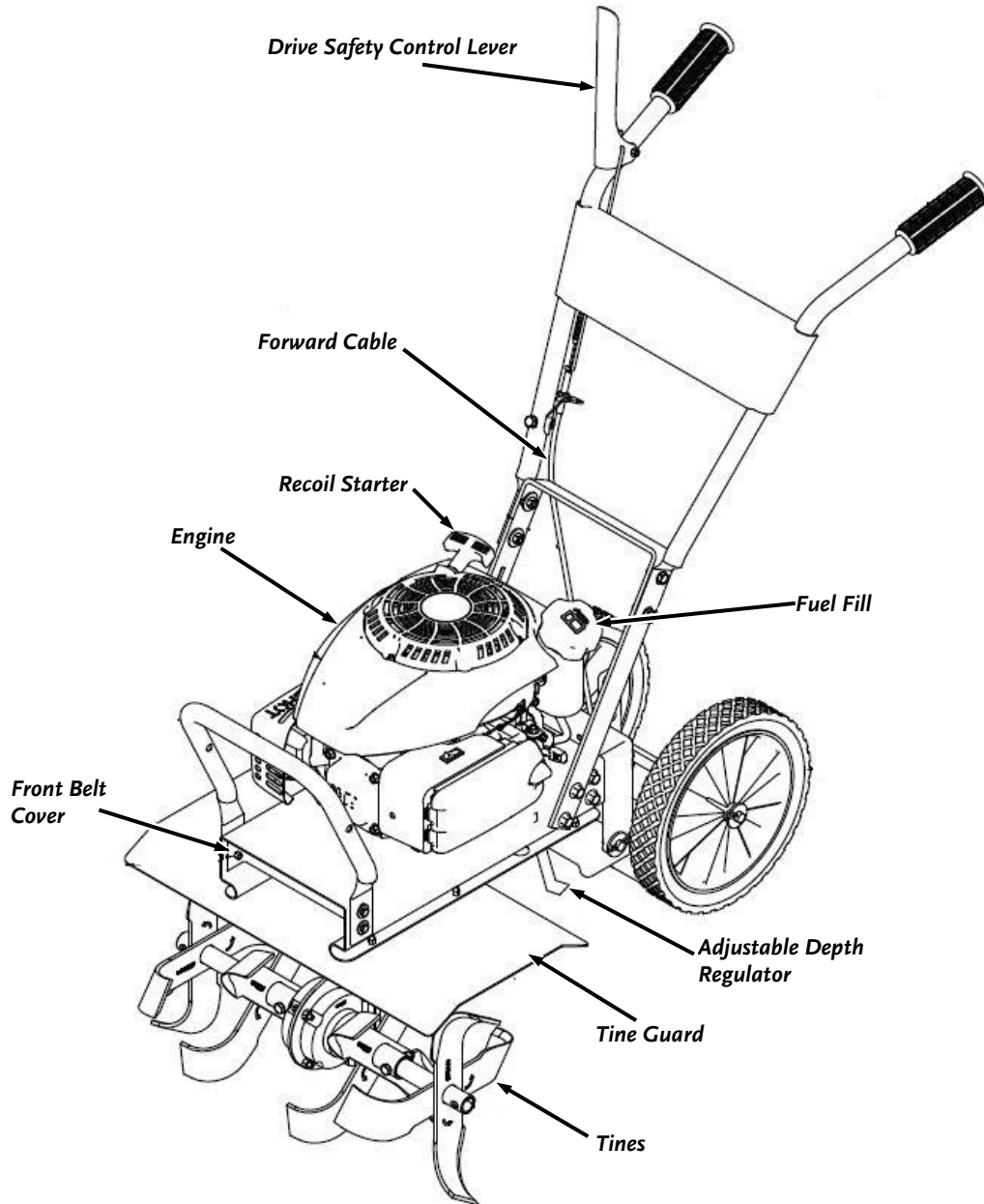
### ▲ CAUTION

DO NOT TRY TO LIFT THE ROTOTILLER FROM THE CARTON.

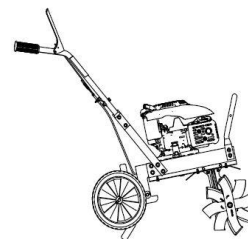


## FEATURES

The advantage of the front tine tillers is the exclusive unfolding and flexible drag bar. For easy transport, fold the wheels under the engine. During operation, the wheels unfold back and the drag bar folds down. The long length between the tines and the drag bar make this the most comfortable front tine tiller on the market.



TRANSPORT POSITION



OPERATING POSITION

## CONTROLS

### DRIVE SAFETY CONTROL LEVER

*Engages tines into 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.

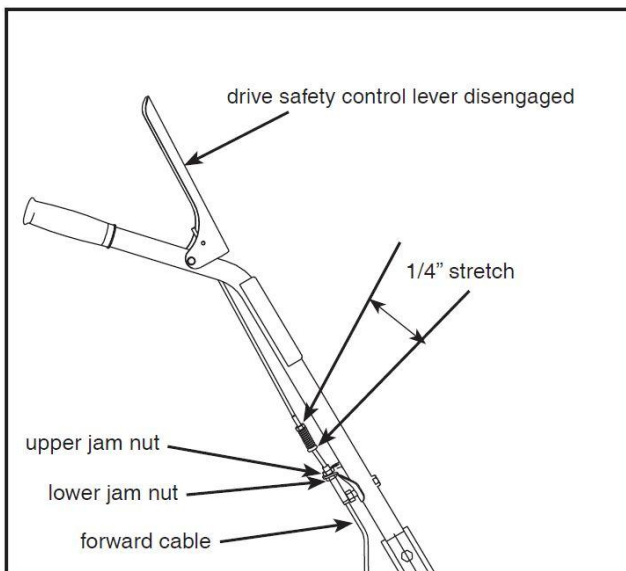
This procedure can be repeated until conduit adjustment bolts have no more adjustment left. If no more adjustment can be made, belt may have to be replaced.

### 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.

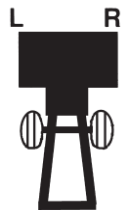
DO NOT ADJUST TILLING DEPTH UNLESS DRIVE SAFETY CONTROL LEVER IS RELEASED TO THE NEUTRAL POSITION.



### IMPORTANT

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.



## 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.

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	13	X	
Change forward belt	13		X
Engine maintenance	14	X	X
Check oil level/change oil	14	X	1
Clean tine axle shaft	14	X	
Lubrication	14		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.

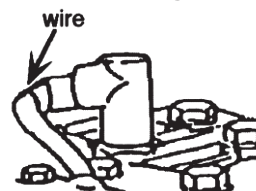
### SERVICING THE ROTOTILLER

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:

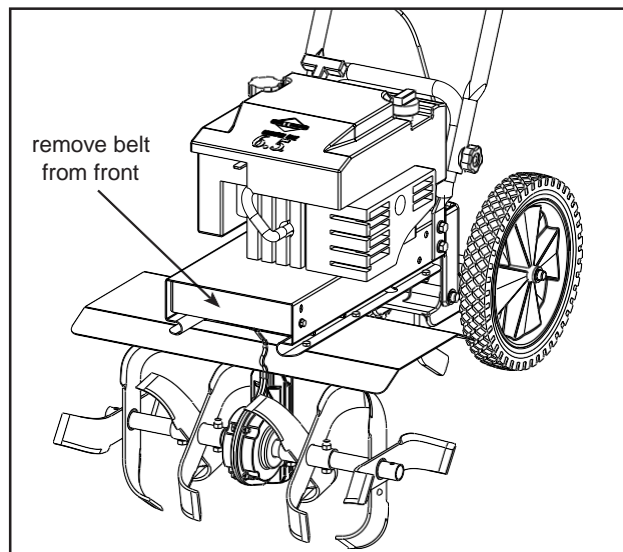
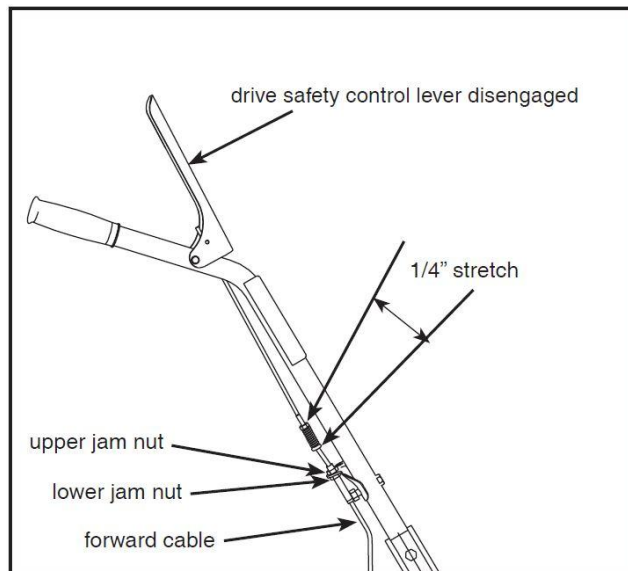
1. Turn off engine. Engine must be cool.
2. Remove spark plug wire from spark plug and secure.
3. With drive safety control lever in the NEUTRAL position, measure length of spring when in its relaxed state.
4. Pull down on drive safety control lever and measure length of spring when compressed. Ideal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

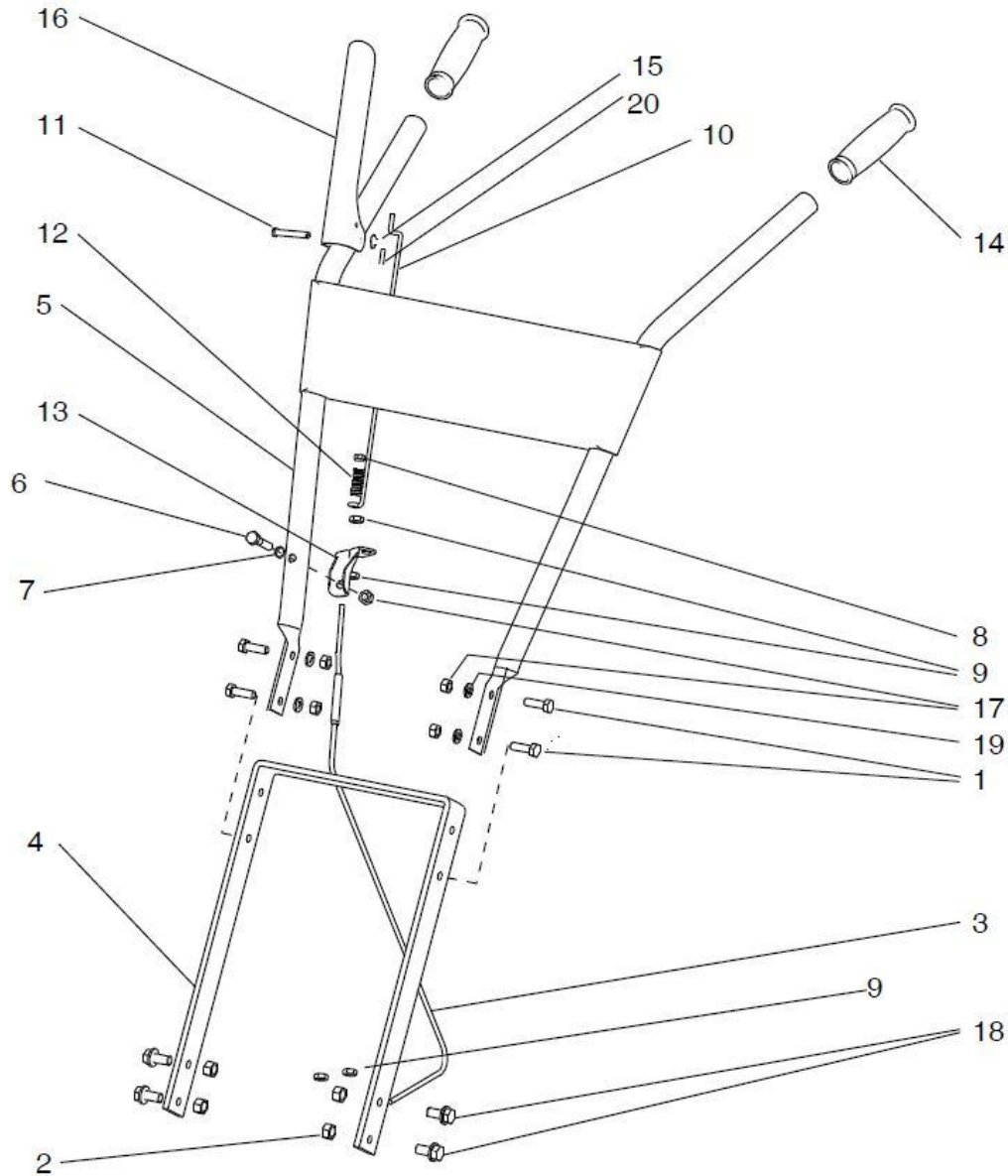
### WARNING

**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, floods 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>

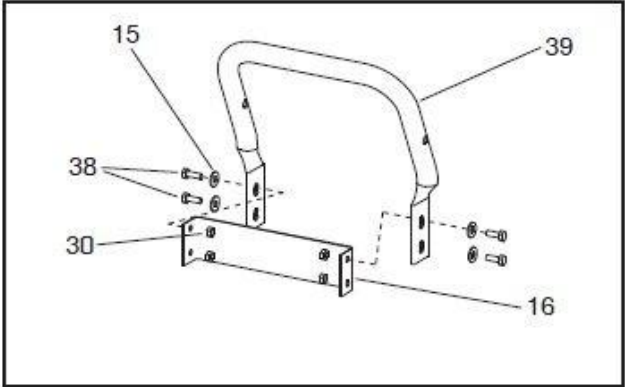
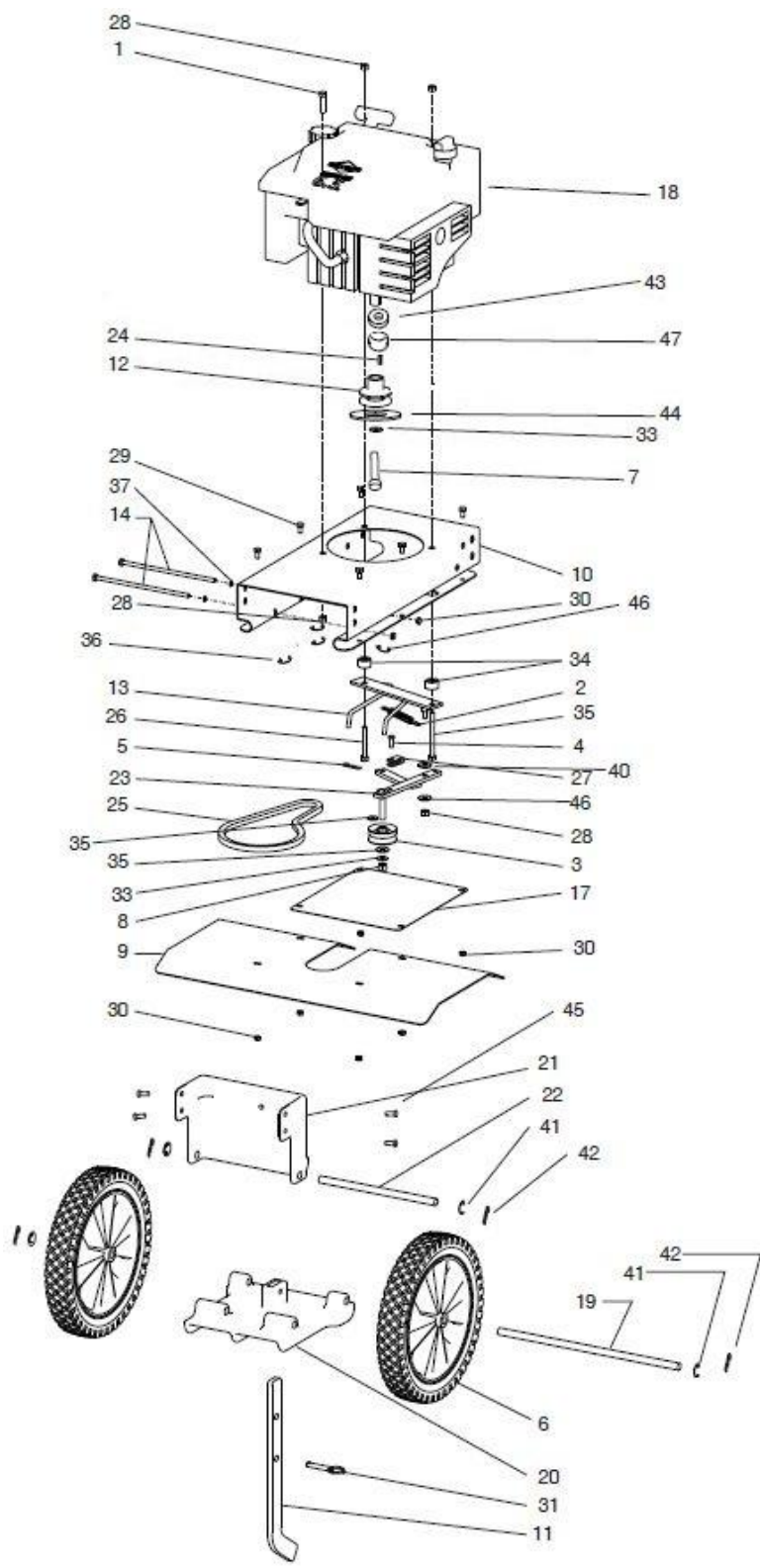
HANDLEBAR PARTS



REF. NO.	PART #	DESCRIPTION	QTY.
1	37837	BOLT, SOC FLG HEX HD 5/16-18 X 1" GR5	4
2	11075	NUT, BI-WAY HEX LOCK 3/8-16	4
3	40683	CABLE ASSEMBLY W/FERREL	1
4	40684	MOUNT, HANDLEBAR	1
5	40685	HANDLEBAR WELDMENT	1
6	13443	BOLT, HH 5/16-18 X 1-1/2"	1
7	11243	LOCKWASHER, SPRING 5/16"	1
8	11873	NUT, HEX NYLOC 10-24	1
9	37838	NUT, HEX JAM 5/16-24	4

REF. NO.	PART #	DESCRIPTION	QTY.
10	37839	LINK 11-5/8" LONG	1
11	37842	PIN, CLEVIS 1/4 X 1-1/2"	1
12	40686	SPRING, COMPRESSION	1
13	40687	BRACKET, CABLE MOUNT	1
14	40688	GRIP, HANDLEBAR 1" ID FLANGELESS	2
15	37843	Ø6 plain washer	1
16	40689	LEVER, CONTROL	1
17	11076	NUT, BI-WAY LOCK 5/16-18	5
18	34512	BOLT, SFHH 3/8-16 X 3/4"	4
19	11241	WASHER, FLAT 5/16"	4
20	37844	COTTER 1.2 X 16	1

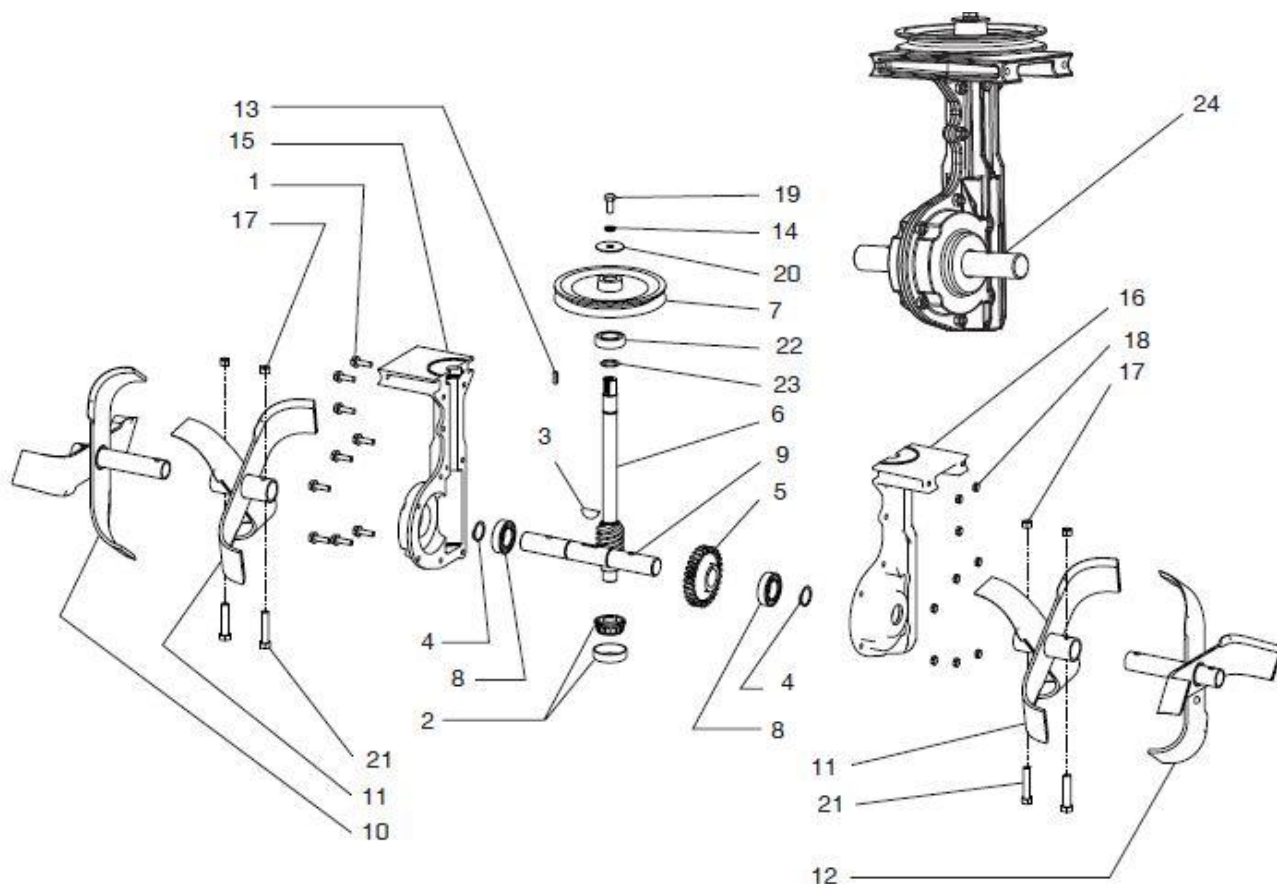
MOTOR MOUNT & HOOD PARTS



MOTOR MOUNT & HOOD PARTS

REF. NO.	PART #	DESCRIPTION	QTY.	REF. NO.	PART #	DESCRIPTION	QTY.
1	13234	BOLT, HHCS 5/16-18 X 2 " GR5	1	22	40702	SHAFT, TAIL MOUNT HINGE 1/2"	1
2	40690	SPRING, FORWARD ARM	1	23	40703	IDLER ARM, FORWARD	1
3	40691	PULLEY, FORWARD IDLER	1	24	37850	KEY, SQUARE 3/16" X 5/8"	1
4	37845	PIN, LINK	1	25	40704	BELT, FORWARD	1
5	37846	PIN, COTTER	1	26	11159	BOLT, HHCS 5/16-18 X 2-1/2" GR5	2
6	40692	WHEEL & TIRE ASSY 11.0 X 1.75	2	27	40705	YOKE, CABLE	1
7	37847	BOLT , 3/8-24 X 1	1	28	11076	NUT, BI-WAY LOCK 5/16-18	4
8	11075	NUT, NON-LOCKING HEX 3/8-16	1	29	11983	BOLT, HHCS 1/4-20 X 3/4"	6
9	40693	SHIELD, TINE	1	30	11073	NUT, HEX NYLOC 1/4-20	12
10	40694	FRAME, ENGINE MOUNT	1	31	37851	PIN, DETENT 5/16" X 2"	1
11	40695	LEVER, DEPTH REGULATOR	1				
12	40696	PULLEY, ENGINE, SINGLEGROOVE 3/4" ID	1	33	18081	WASHER, SPRING LOCK 3/8"	2
13	40697	BELT GUIDE & MOUNT	1	34	40706	SPACER, BELT GUIDE	2
14	37848	BOLT, HHCS 1/4-20 X 7-1/2" GR5	2	35	11239	3/8 PLAIN WASHER	2
15	11238	WASHER, FLAT 1/4"	10	36	11271	WASHER, FLAT 5/16"	1
16	37849	COVER, FRONT 4-HOLE	1	37	10181	WASHER, SPRING LOCK 1/4"	2
17	40698	SHIELD, DIRT	1	38	37852	BOLT, SOC FLANGE HEX HD, 1/4-20 X 7/8"	4
18	37836	ENGINE	1	39	40707	ARM LOWER HANDLEBAR	1
19	40699	SHAFT, WHEEL 1/2"	1	40	39028	M8 BIG PLAIN WASHER	1
20	40700	TAIL MOUNT, LOWER	1	41	30252	M12 PLAIN WASHER	4
21	40701	TAILMOUNT, UPPER	1	42	39027	COTTER 3 X 40	4
				43	40708	SMALL BELT SHEAVE OF BEARING SLEEVE	1
				44	39026	5/16 BIG PLAIN WASHER	1
				45	34512	BOLT,SFHH 3/8-16 X 3/4"	4
				46	11243	LOCKWASHER , SPRING 5/16"	4
				47	390461	Sleeve 3.5mm	1

## TINES & TRANSMISSION PARTS



REF. NO.	PART #	DESCRIPTION	QTY.
1	39029	BOLT, SFHH 1/4-20 X 7/8"	9
2	40709	BEARING, TAPERED (includes cone & race)	1
3	39030	KEY, HALF MOON 1/4 X 1"	1
4	39031	SNAP RING, EXTERNAL	2
5	39032	GEAR, BRASS 1" ID	1
6	40710	SHAFT, DRIVE	1
7	40711	PULLEY, SINGLE GROOVE	1
8	40712	BEARING, SEALED 1" ID (replaces 3205 bearing & 747 spacer)	2
9	40713	SHAFT, TINE 1"	1
10	40714	TINE SET, OUTSIDE RIGHT	1
11	40715	TINE SET, INSIDE	2
12	40716	TINE SET, OUTSIDE LEFT	1

REF. NO.	PART #	DESCRIPTION	QTY.
13	39033	KEY 3/16 X 1/2"	1
14	11243	LOCKWASHER, SPRING 5/16"	1
15	40717	CASTING, RIGHT SIDE	1
16	40718	CASTING, LEFT SIDE	1
17	11076	NUT, BI-WAY LOCK 5/16-18	4
18	11073	NUT, NYLOC 1/4"	9
19	17882	SCREW, HEX HD 5/16-24 X 1"	1
20	39026	WASHER 5/16" ID X 1-5/8" OD	1
21	39034	BOLT, HEX HD 5/16-18 X 1-3/4"	4
22	40719	BEARING, BALL R12	1
23	39035	SNAP RING, EXTERNAL 3/4"	1
24	40720	TRANSMISSION, COMPLETE	1

# DR<sup>®</sup> FRONT TINE TILLER



## 2-Year Limited Warranty

### Terms and Conditions

The DR<sup>®</sup> FRONT TINE TILLER is warranted for two (2) years against defects in materials or workmanship when put to ordinary and normal consumer use; ninety (90) days for any other use. The Engine Manufacturer warrants the Engine separately.

For the purposes of all the above warranties, "ordinary and normal consumer use" refers to non-commercial residential use and does not include misuse, accidents, or damage due to inadequate maintenance.

DR<sup>®</sup> Power Equipment certifies that the DR<sup>®</sup> FRONT TINE TILLER is fit for ordinary purposes for which a product of this type is used. DR<sup>®</sup> Power Equipment however, limits the implied warranties of merchantability and fitness in duration to a period of two (2) years in consumer use, ninety (90) days for any other use.

The 2-Year Limited Warranty on the DR<sup>®</sup> FRONT TINE TILLER starts on the date the machine ships from our factory. The 2-Year Limited Warranty is applicable only to the original owner.

The warranty holder is responsible for the performance of the required maintenance as defined by the manufacturer's owner manuals. The warranty holder is responsible for replacement of normally wearing parts such as the Drive Belt, Tines, Tires, Shear Pins, Spark Plug and Air Filter. Attachments and accessories to the machine are not covered by this warranty.

During the warranty period, the warranty holder is responsible for the machine transportation charges, if required. During the warranty period, warranty parts will ship by standard method at no charge to the warranty holder. Expedited shipping of warranty parts is the responsibility of the warranty holder.

SOME STATES DO NOT ALLOW LIMITATIONS ON THE LENGTH OF IMPLIED WARRANTIES, SO THE ABOVE LIMITATIONS MAY NOT APPLY TO YOU.

DR<sup>®</sup> Power Equipment shall not be liable under any circumstances for any **incidental or consequential damages or expenses** of any kind, including, but not limited to, cost of equipment rentals, loss of profit, or cost of hiring services to perform tasks normally performed by the DR<sup>®</sup> FRONT TINE TILLER.

SOME STATES DO NOT ALLOW THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THE ABOVE LIMITATIONS MAY NOT APPLY TO YOU.

THIS WARRANTY GIVES YOU SPECIFIC LEGAL RIGHTS, AND YOU HAVE OTHER RIGHTS, WHICH VARY FROM STATE TO STATE.

## Daily Checklist for the DR Front Tine Tiller

### WARNING

When performing any maintenance, you must first shut off the Engine; wait five (5) minutes to allow parts to cool and disconnect the Spark Plug Wire, keeping it away from the Spark Plug.

To help maintain your DR Front Tine Tiller for optimum performance, we recommend you follow this checklist each time you use your machine.

- [ ] OIL: With the machine on a level surface, remove the Oil Fill Cap and check the Oil level. Fill the reservoir until the Oil reaches just below the threads with SAE 30 HD motor oil. See page 9.
- [ ] GAS: Fill the Gas Tank with fresh, unleaded gasoline. See page 9.
- [ ] ENGINE: It is very important to keep the Engine clean. Remove dirt and other debris from the Engine Cooling Fins. A dirty Engine retains heat and can cause damage to internal Engine components.
- [ ] HARDWARE: Check all nuts and bolts to be sure that the components are secure.
- [ ] FRAME: Check all welds to be sure that the Frame is intact and secure.
- [ ] TINES: Make sure that the Tine Assemblies and Debris Shield are free of accumulated debris.

### End of Season and Storage

### WARNING

When performing any maintenance, you must first shut off the Engine; wait five (5) minutes to allow parts to cool and disconnect the Spark Plug Wire, keeping it away from the Spark Plug.

**NOTE:** Please refer to the Engine Owner's Manual for Engine-specific procedures.

- Change the Engine oil.
- If your DR Front Tine Tiller will be idle for more than 30 days, we recommend using a gas stabilizer. This will prevent sediment from gumming up the Carburetor. If there is dirt or moisture in the Gas or Tank, remove it by draining the Tank. Completely fill the Tank with fresh, unleaded Gas and add the appropriate amount of stabilizer or gasoline additive. Run the Engine for a short time to allow the additive to circulate.
- Remove the Spark Plug and pour about 1 ounce of motor oil into the cylinder hole. Replace the Plug and pull the Recoil Starter Rope until you feel strong resistance. This will coat the Piston and seat the Valves to prevent moisture buildup.
- Clean or replace the Engine Air Filter. Reference the Engine Owner's Manual.
- Clean dirt and debris from the Engine Cylinder Head Cooling Fins, Debris Screen, and Muffler.
- Clean out residual debris from the under the Debris Shield and Tine Assemblies.
- Lubricate the Tine Assemblies and Wheels. See page 16-17.
- TouchNotesup all rusted or chipped painted surfaces. Sand them lightly before painting.
- Be sure all Nuts, Bolts, and Screws are securely fastened.
- Inspect moving parts and the Tine Drive Belt for damage and wear; replace if necessary.
- If possible, store your DR Front Tine Tiller inside, but not near an open flame or spark such as found in a water heater.
- After the DR Front Tine Tiller has cooled, cover the machine with a suitable protective cover that does not retain moisture. Do not use plastic, as this material cannot breathe; it also allows condensation to form, which will cause your machine to rust.



75 Meigs Road, P.O. Box 25, Vergennes, Vermont 05491