



## MINI CULTIVATOR & DETHATCHER INSTRUCTIONS

**Y2007**



THANK YOU FOR PURCHASING YOUR GARDEN TRAX GARDEN TOOL! IT IS  
IMPORTANT THAT YOU READ ALL ASSEMBLY, USAGE AND SAFETY INSTRUCTIONS!  
PLEASE TAKE TIME TO READ THIS MANUAL AND FOLLOW ALL INSTRUCTIONS TO  
ENHANCE YOUR GARDENING EXPERIENCE! THEN PLEASE REGISTER YOUR  
PURCHASE AT [WWW.THUNDERBAYPRODUCTS.COM](http://WWW.THUNDERBAYPRODUCTS.COM) OR BY FILLING OUT AND  
MAILING IN YOUR WARRANTY CARD.



## CONGRATULATIONS...

on purchasing your new **GARDEN TRAX MINI CULTIVATOR & DETHATCHER** and welcome to the world of GARDEN TRAX Gardening. We know that you are anxious to get right to work and start working in your garden, but before you do, it is important that you take a few moments and familiarize yourself with your new unit and its assembly and operating instructions. Please read your owner's manual and take time to save time. We have worked hard to ensure that your new unit will be one of the most trouble-free and satisfying pieces of equipment you have ever owned. With proper care and maintenance, your new equipment will provide many years of service. Please take the time to read this manual carefully to learn how to correctly assemble, use and maintain your unit.

Unlike big tillers, the GARDEN TRAX Mini Cultivator and Dethatcher weighs only 30.5 lbs. It lifts easily, handles smoothly and accurately weeds and tills. Unlike other small tillers, it features serpentine blades that chum the soil up to four inches deep to create a soft, smooth seed bed even in the most problematic soil. Once you know how to correctly use your new unit, we guarantee you will love it!

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## REGISTRATION

RECORD YOUR MODEL INFORMATION IN THE SPACE BELOW FOR EASY REFERENCE AND BE SURE AND  
FILL OUT AND MAIL IN YOUR REGISTRATION CARD FOUND IN YOUR PARTS PACKAGE

MODEL NUMBER	
SERIAL NUMBER	
ENGINE SERIAL NUMBER	
DATE OF PURCHASE	
PLACE OF PURCHASE	

## OWNER' SRESPONSIBILITY AND MODEL SPECIFIACIONS

CORRECT, ACCURATE ASSEMBLY AND SAFE USE OF THIS UNIT IS YOUR RESPONSIBILITY!!!!

- READ AND FOLLOW ALL SAFETY INSTRUCTIONS
- PAY CLOSE ATTENTION AND FULLY UNDERSTAND ALL SAFETY PRACTICES
- CAREFULLY FOLLOW ALL ASSEMBLY INSTRUCTIONS
- MAINTAIN THE UNIT ACCORDING TO DIRECTIONS AND SCHEDULE IN YOUR MANUAL
- ENSURE THAT ANYONE WHO USES THIS UNIT IS FAMILIAR WITH ALL THE CONTROLS, PARTS AND SAFETY PRECAUTIONS

ENGINE DISPLACEMENT	42.7cc
FUEL TANK CAPACITY	36 oz
OIL/GAS RATIO	40:1 - 2.6 oz per gallon
OIL TYPE	2 Cycle Engine Oil
GAS TYPE	Unleaded Reg Gas
SPARK PLUG	L8RTC
SPARK PLUG GAP	0.028
TRANSMISSION	Gear Drive
GEAR RATIO	32:1
TILLING WIDTH	6" Min to 12" Max
TILLING DEPTH	4" Max
TINE SPEED	250 rpm
WHEEL SIZE	1.375 x 7.0" Diam
UNIT WEIGHT	30.5 lbs
UNIT SIXE (L x W x H) INCHES	23" x 20" x 20"
RATED POWER	1.1 kw
VIBRATION	(Left Handle: 3.34 m's <sup>2</sup> )(Right Handle 3.47 m's <sup>2</sup> ) k-1.5 m's <sup>2</sup>
LpA AT OPERATOR'S POSITION	82.4 dB(A) Kpa - 2.5 dB(A)
LWA	93 dB(A)
KWA	2.5 dB(A)

**IMPORTANT!**

AVOID DAMAGE! THIS TEXT IS USED TO TELL THE OPERATOR OF ACTIONS OR CONDITIONS THAT MIGHT RESULT IN DAMAGE TO THE UNIT!

**CAUTION!**

AVOID INJURY! THIS SYMBOL AND TEXT HIGHLIGHT POTENTIAL HAZARDS OR SITUATIONS THAT COULD CAUSE DEATH TO THE OPERATOR OR BYSTANDERS THAT COULD OCCUR IF THE HAZARDS OR SAFETY PROCEDURES ARE IGNORED!

**GENERAL SAFETY RULES****SPECIAL MESSAGES**

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

**\*NOTE** During the course of this manual, both general and specific information is given that may help the operator in the use, service and maintenance of this unit

**IMPORTANT SAFETY PRECAUTIONS**

Please read and follow the following section with diligence and care. Always operate the unit according to all the safety instructions and recommendations outlined throughout this manual. Anyone who may use the unit must read and study the instructions so that they are familiar with the unit, its controls and safety features.

This symbol is designed to draw your attention to important safety instructions. If these are not followed, personal safety could be endangered! Read and follow all the safety instructions in this manual before ever attempting to operate this equipment!

- Do not carry or transport the unit from one place to another with the engine running
- When the engine is idling, the tines should not be turning. If they do rotate, contact customer service for support
- Dress appropriately when operating this unit. Never wear sandals, sneakers, open shoes or other light footwear. Always wear sturdy boots. Never, ever operate this unit with bare feet! Always be conscious of loose fitting clothing that could get caught in moving parts. Always wear safety goggles or glasses when operating unit
- Always keep hands, hair, feet and any loose clothing away from moving parts of unit
- When operating always wear a protective hearing device
- Never allow children to operate this unit. Never allow adults who are not familiar with this unit and have not read the instructions to operate the unit
- Never operate this unit when under the influence of alcohol or drugs
- Make sure all nuts, bolts and screws are always tight. Use only original equipment parts
- Before making repairs or adjustments, turn off the unit and allow to cool down. Remove the spark plug wire also
- The muffler and nearby areas can exceed 150° F (65° C) in temperature. Avoid these areas and allow unit to cool
- This engine produces carbon monoxide (an odorless, deadly gas). Never run this unit indoors or in enclosed area
- Before using this unit, carefully inspect area to be tilled. Remove all foreign objects. Never use above underground utilities, including water, gas and electric lines or pipes
- Do not operate this unit in ground with large rocks or obstacles that could damage the unit
- If an object becomes lodged in unit, turn unit off and remove spark plug wire. Allow unit to cool before dislodging

**WARNING**

California Proposition 65 Warning states that exhaust from this unit contains chemicals known to the state of California to cause cancer, birth defects, or other reproductive harm



## ENGINE SAFETY PRECAUTIONS

### CARBON MONOXIDE POISING WARNING

All engines have carbon monoxide contained in their exhaust fumes. It is a deadly, colorless, odorless, tasteless gas which could be present even though you see or smell no engine exhaust. In an enclosed area with no ventilation, this gas can linger for days. If inhaled at any level, this gas can cause drowsiness, headaches, nausea, dizziness, confusion and even death. If you experience any of these symptoms, immediately seek fresh air and medical attention.

### SAFETY GUIDELINES FOR PREVENTING POISING

- Never run the unit's engine indoors
- Carbon Monoxide can reach dangerous levels quickly, so never try and ventilate indoors
- Never use the unit, when exhaust fumes can be pulled into an indoor facility
- Never use the unit in a poorly ventilated outdoor area where exhaust fumes cannot be easily vented (examples include hilly terrain that enclose an area or a large hole)
- Never use the unit in an enclosed or partially enclosed area such as tents, carports, basements or structures with one or more side enclosures
- Always run the unit with the exhaust and muffler pointed away from the operator
- Make sure anyone with you is well away from the unit and never point the exhaust toward a person

### GASOLINE FIRES AND FUEL SAFETY

Never use fuel in any place where a spark or flame might be present. Both fuel and its vapors are dangerous and highly flammable and could ignite. Never use fuel around clothes dryers, hot water or space heaters, electric motors, etc. Fuel fires spread quickly and are highly explosive. Keep flames and sparks away from engine and fuel.

### PREVENTION OF GASOLINE FIRES

- Never fill your fuel tank indoors. Always fill it outside in a ventilated area
- Never fill with the engine running. Always allow unit to cool before filling unit
- Never drain fuel from the unit in enclosed area
- Always wipe any excess fuel from engine and area before starting unit
- Allow any spilled fuel to dry after wiping and before starting unit
- Always allow time for any vapors to vent before starting unit
- Always test to make sure fuel cap is secure before starting unit
- Never run the unit without the fuel cap securely installed
- Never smoke while using this unit
- To prevent fire or explosion by static discharge, use only non-metal, portable fuel containers approved by UL or the ASTM
- Never pour fuel from the units fuel tank
- An adult should always fill the fuel tank
- Never allow anyone under the influence of alcohol or drugs to fill the fuel tank or operate this device
- Never allow children to fill the fuel tank or operate this device
- During break-in period clutch slippage may occur. After about two hours of normal operation the clutch will transfer maximum power to the tines. Always keep clutch free of oil and other moisture



## BURNS AND FIRES

Certain parts of this unit such as the muffler, muffler guard and engine parts become extremely hot during the operation of this unit. These parts will remain extremely hot even after the unit has been turned off and stopped running

### Prevention of Burns and Fires

- Never remove the muffler guard from the engine
- Never touch the muffler guard. It is extremely hot and will cause burns
- Never touch engine parts that have become hot during operation
- Always keep flammable debris away from muffler guard and other hot parts of the engine

The engine of this unit is designed to be operated using a catalytic converter which complies with EPA requirements.

### Steps for Working on the Unit's Engine

- Turn off the unit's engine switch
- Disconnect the Spark Plug wire from the Spark Plug
- Always place the disconnected Spark Plug wire away from the Spark Plug to prevent arching from the Spark Plug and metal parts
- Now you may replace parts or repair the unit
- When complete check to make sure all parts that have been removed are tightly secured
- Replace Spark Plug Wire



### CAUTION!

HOT GASES ARE A NORMAL BY PRODUCT OF A PROPER FUNCTIONING CATALYTIC CONVERTER. PLEASE FOLLOW ALL SAFETY INSTRUCTIONS TO PREVENT BURNS AND FIRES!

NEVER ALTER OR MODIFY THE UNIT'S ENGINE

NEVER ALTER OR MODIFY THIS UNIT'S FACTORY ENGINE. IF YOU DO SO, SERIOUS INJURY OR DEATH COULD RESULT!

WHEN WORKING ON UNIT OR REPLACING PARTS, YOU MUST ALWAYS DISCONNECT THE SPARK PLUG WIRE FROM THE SPARK PLUG AND KEEP THE WIRE SEPERATED FROM THE PLUG

**Need Help?  
PLEASE CALL**



## SAFETY DECAL

Garden Trax is a leading manufacturer of outdoor power equipment. This unit had been designed and manufactured with your safety in mind. It has been manufactured with all the reliability you expect from an industry leader.

Please read this manual in order to gain the necessary knowledge to operate this unit safely and effectively. You will find a safety decal that has been placed on the unit itself to remind you to always use safety first when operating the unit.

The safety decal is shown below in order to familiarize you with its content. Please review the decal now and if you have any questions regarding its meaning, please reread these instructions or contact our service representative.

If the decal on the unit should become faded, worn or damaged in any way during the use of your unit, please refer to the part number and order a new decal from our authorized service center. The decals are easily applied and will act as a constant visual reminder to and others to always follow safety instructions for the safe and satisfying operation of this unit.



**READ THIS INSTRUCTION MANUEL CAREFULLY AND THROUGHLY ! KEEP IT IN A SAFE PLACE FOR FUTURE REFERENCE.**



**WARNING! THIS UNIT USES BOTH GASOLINE AND OIL... ALWAYS TAKE EXTRA PRECAUTIONS WHEN OPERATING OR MOVING THIS UNIT.**



**WARNING! ALWAYS TURN OFF THIS UNIT AND DISCONNECT THE SPARK PLUG WIRE BEFORE CLEANING, TRANSPORTING OR MAKING ANY ADJUSTMENTS. NEVER LEAVE UNIT RUNNING UNATTENDED.**



**WARNING! NEVER PLACE FEET OR HANDS UNDER THE TILLER DECK WHILE THIS UNIT IS IN OPERATION. KEEP LOOSE CLOTHING AWAY FROM MOVING PARTS.**



**WARNING! ALWAYS CLEAN THE AREA THAT YOU INTEND TO CULTIVATE. THERE IS A RISK THAT STONES OR OTHER OBJECTS COULD BE THROWN OUT BY THE TILLER. ALWAYS KEEP BYSTANDERS AND PETS AT A SAFE DISTANCE.**



## MODEL Y2007 MINI CULTIVATOR AND DETHATCHER

### UNPACKING & ASSEMBLY

Unpack your unit by carefully lifting it out of its container. Remove any packing material and cut any plastic ties holding the handlebar pieces to the rest of the assembly.

### ASSEMBLY

1. Stand the unit upright with the tines and wheels on a level surface. Do not elevate the unit to a high surface where it could fall and damage property or cause injury
2. Using two tee handle nuts, two bolts and two curved washers, assemble the "U" shaped middle handlebar section to the lower handlebar section already attached to the main assembly (See Figure 1). The middle handlebar section can be installed in either a low or high position

#### DO NOT OVERTIGHTEN TEE HANDLE NUTS

3. Attach the upper right and left portions of the handlebars to the "U" shaped middle section using the two remaining tee handle nuts, bolts and curved washers (See Figure 1).

#### DO NOT OVERTIGHTEN TEE HANDLE NUTS

4. The drag stake is shipped on the unit with the point facing upwards. Before using, you will need to remove the detent pin turn the it around so that the point is facing down.
5. Reinsert detent pin (See Figure 2).

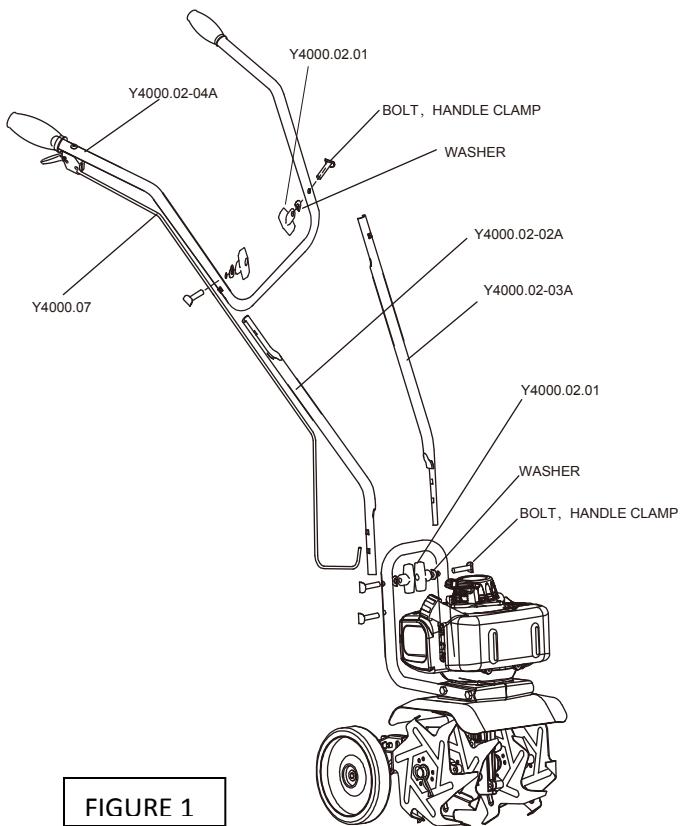


FIGURE 1

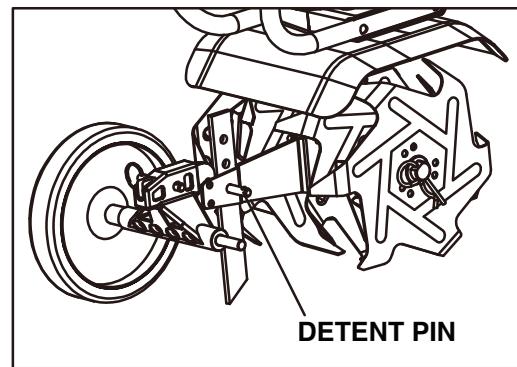


FIGURE 2



## OPERATING YOUR NEW UNIT

### PREPARING THE ENGINE FOR STARTING

#### GAS AND OIL

We recommend the use of a good quality 2-cycle oil when operating the engine to that the engine operates smoothly throughout its life. Use only unleaded regular gasoline.

#### MIXTURE

Run engine with a 40:1 ratio

GAS	OIL	RATIO
1 Gallon	3.2 Ounces	40:1
2 Gallons	6.4 Ounces	40:1
5 Gallons	17 Ounces	40:1



#### CAUTION!

UNIT ENGINE RUNS ON A GAS/OIL MIXTURE. NEVER RUN ENGINE ON STRAIGHT GAS ONLY. IT WILL CAUSE SEVERE ENGINE DAMAGE!

### MIXING FUEL AND FILLING GAS TANK

#### Mixing Fuel

1. Only mix fuel outside in a well ventilated area
2. Add 1/4 of the total amount of unleaded gasoline to an approved gasoline container.
3. Add the recommended amount of 2-cycle oil
4. Securely tighten container cap
5. Shake container to mix fuel and oil
6. Slowly vent the container, and then add the remaining 3/4 of the total amount of fuel to the container
7. Clean up any spilled fuel and allow container and area to evaporate fumes before moving

#### Filling Unit Fuel Tank

1. If engine has been running, shut off and allow engine to completely cool
2. Move to a well ventilated area away from open flame or sparks
3. Make sure area around fuel cap is clean
4. Loosen fuel cap slowly and place in a dry area
5. Carefully fill unit tank being careful not to spill
6. Do not fill tank completely, allow space for air to expand
7. Replace fuel cap and secure. Clean any spillage around cap and tank area before starting



#### IMPORTANT!

FUEL AND FUEL VAPORS ARE HAZARDOUS AND HIGHLY FLAMMABLE. NEVER STORE UNIT INDOORS WITH THE FUEL STILL IN TANK FOR SAFETY REASONS!

ALWAYS USE A SEPERATE CERTIFIED GAS CONTAINER TO MIX FUEL AND OIL. NEVER MIX GAS AND OIL DIRECTLY IN UNIT FUEL TANK. USE ONLY CONTAINERS APPROVED BY UNDERWRITERS LABORATORY (UL) OR THE AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM).

WHEN FILLING THE UNIT WITH FUEL, IT SHOULD ALWAYS BE DONE BY AN ADULT.

ALWAYS HANDLE FUEL OUTSIDE IN A WELL VENTALATED AREA AWAY FROM FLAME OR SPARKS.

DO NOT START ENGINE IF THERE IS FUEL SPILLAGE. ALWAYS CLEAN SPILLAGE FROM UNIT. WIPE CLEAN AND ALLOW TO DRY BEFORE STARTING UNIT.

**NO SMOKING, AND NO OPEN FLAMES WHEN FUELING!**



## NORMAL OPERATION

1. The clutch transfer maximum power to the unit tines after approximately 2 hours of normal operation. During this break-in period clutch slippage may occur. The unit's clutch should be kept free of oil and other moisture to ensure efficient operation
2. When cultivating, do not place excessive body weight on the unit. The unit will operate most efficiently with the use of its own weight
3. Exhaust fumes can be deadly. Never run unit indoors or in an unventilated area

## STARTING AND STOPPING THE ENGINE

1. To prevent carbon monoxide poisoning, always move unit outdoors to a well ventilated area before starting
2. Always be aware of gas vapors. Before starting, make sure unit is in a well ventilated area away from open flames or sparks
3. Make sure all air filter holes as well as fuel tank area are free of all debris

## COLD ENGINE STARTING

Starting the engine for the first time or after running out of fuel or if engine has cooled off

1. Move choke lever to the RUN position

**NOTE: Choke must be in the RUN position when engaging the primer bulb**

2. Use the primer bulb to prime unit until primer hose is full of gas mixture

**NOTE: When using the primer bulb, allow the primer bulb to completely return to its original position after each pump.**



### WARNING!

ALWAYS MAKE SURE THE UNIT IS IN A STABLE POSITION BEFORE PULLING THE STARTER HANDLE

ONCE THE UNIT STARTS TO ENGAGE, MOMENTARILY RELEASE THE THROTTLE CONTROL WITH YOUR RIGHT HAND. MOVE BOTH HANDS TO THE HANDLEBAR POSITION AND USE TO MAINTAIN CONTROL AND STABILITY OF THE UNIT



### CAUTION!

WHEN STARTING THE UNIT, THE STARTER ROPE CAN SOMETIMES CAUSE AN UNANTICIPATED JERT BACK TOWARDS THE ENGINE. FOLLOW THE INSTRUCTIONS TO HELP AVOID ANY INJURIES

ALWAYS TURN OFF THE ENGINE AFTER EVERY USE. NEVER LEAVE A RUNNING UNIT UNATTENDED FOR ANY AMOUT OF TIME

NEVER CARRY THE UNIT FROM ONE LOCATION TO ANOTHER WHILE THE UNIT IS RUNNING

ALWAYS HANDLE THE FUELING OF THE UNIT IN A WELL VENTILATED AREA FREE FROM OPEN FLAME AND SPARKS

WHILE OPERATING THIS UNIT ALWAYS WEAR A PROTECTIVE HEARING DEVICE

DO NOT ATTEMPT TO START UNIT IF THERE IS FUEL SPILLAGE PRESENT. ALWAYS CLEAN UNIT



MODEL Y2007  
MINI CULTIVATOR AND DETHATCHER

## COLD ENGINE STARTING CONTINUED

3. Move choke lever to choke position

**NOTE: In the choke position, always move the lever to the Farthest choke position possible**

4. Push rocker switch to the ON position

5. Squeeze the throttle control with the right hand. Grasp the starter rope handle and pull out slowly until the tension becomes slightly harder. Without letting the rope retract, pull the starter rope with a rapid, forearm stroke. Allow rope to return to its original position. Repeat step until unit engages and allow rope to return to original position each time it is engaged

**NOTE: If the engine fails to engage after trying for 5 to 6 pulls, press the primer bulb 1 time and repeat process**

6. Once the engine is engaged and has started running, move the choke lever to the half-choke position until engine runs smoothly

**NOTE: Half-Choke position is defined as being half way between Choke and Run**

7. Once unit is running smoothly, move lever to the RUN position and engage throttle to the desired speed

**NOTE: Do not let the unit idle for extended periods of time. Always run at FULL throttle speed when possible**

8. In order to stop unit, move rocker switch to the OFF position

## WARM ENGINE STARTING

1. Move the Choke Lever to the Choke position

**NOTE: Choke position is defined as moving the lever to the farthest Choke position possible**

2. Continue by repeating Cold Engine Starting beginning with Step 4

## HOT ENGINE STARTING

1. Begin with Step 4 of Cold Engine Starting

2. If engine does not start, refer to Step 1 of Warm Engine Starting

**Need Help?  
PLEASE CALL**





## MAINTENANCE

### STEPS FOR WORKING ON EQUIPMENT

1. Make sure engine switch is in the off position
2. Disconnect the Spark Plug wire from the Spark Plug
3. Secure the Spark Plug wire away from the Spark Plug itself and other metal parts. Make sure this is done to prevent wire from arcing with Plug
4. Replace or repair parts on your unit
5. Once complete, make sure all parts are secure and fit correctly

**NOTE: All parts must come from the factory or our authorized Service Center. Never use parts that are not designed specifically for the unit**

6. Once complete, reattach the Spark Plug wire

### MINI CULTIVATOR MAINTENANCE

1. The unit Transmission Case comes with grease that has been packed at the factory. It is recommended by the factory that the grease level be checked by a qualified service professional to ensure that the grease level is accurate. If grease is needed, add only molylithium type grease only if the level is below the top of the gears. **DO NOT OVERFILL!**
2. Make sure all screws, nuts and bolts are secure and tight
3. Store the unit in a safe cool environment for cold weather operation. Transferring the unit from cold to warm environments can cause condensation build up

### ENGINE MAINTENANCE

- Cooling Fins, Air Vents and linkages must always be kept free of dirt and debris. Always make sure they are clean before each time you use the unit
- Never Run this unit without the engine Air Filter properly installed. Engine failure and additional wear may occur if air cleaner is not installed properly
- Service the Air Filter every 90 days or after 20 or more hours of operation. Clean Air filter on a daily basis in dry, dusty, or other extreme conditions. If dust is visible in the air while the machine is in operation, the air filter should be cleaned.



### CAUTION!

**PRACTICE SAFETY AT ALL TIMES!!!! ENGINE MUST BE TURNED OFF AND ALLOWED TO COOL AND SPARK PLUG WIRE MUST BE DISCONNECTED WHENEVER WORKING ON UNIT FOR MAINTENANCE OR REPAIR**

**TO PREVENT ACCIDENTAL STARTING:**

**ENGINE MUST BE TURNED OFF AND ALLOWED TO COOL AND SPARK PLUG WIRE MUST BE DISCONNECTED BEFORE CHECKING OR ADJUSTING ENGINE**

**MUFFLER AND NEARBY AREA TEMPERATURES MAY EXCEED 150° F (65° C). AVOID THESE AREAS**

**ALWAYS CHECK UNIT FOR LOOSE SCREWS AND BOLTS. KEEP CONNECTIONS SECURE**

**NEVER STORE UNIT INDOORS WITH FUEL IN THE TANK. FUEL VAPORS MAY BE PRESENT**

**ONLY ADULTS SHOULD BE ALLOWED TO USE UNIT OR PERFORM MAINTENANCE ON IT**

**ENGINE MUST BE TURNED OFF AND SPARK PLUG WIRE DISCONNECTED BEFORE ANY REPAIRS OR MAINTENANCE IS PERFORMED ON UNIT**



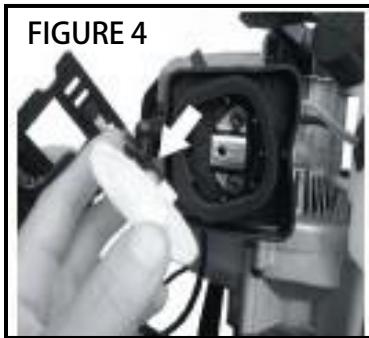
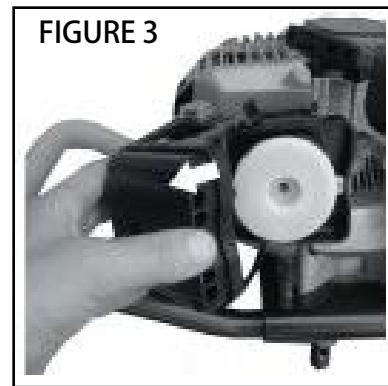
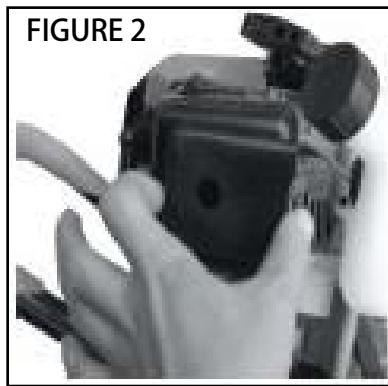
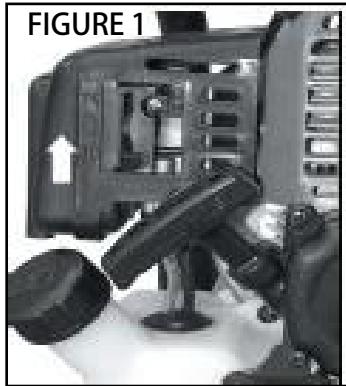
## KEEPING THE AIR FILTER CLEAN

### STEPS FOR CLEANING RING STYLE FOAM AIR FILTER (SEE PARTS DRAWING ON PAGE 13)

1. Wash in warm water with liquid detergent until dirt and debris are removed. Press or squeeze filter when cleaning...  
DO NOT TWIST
2. Rinse filter until detergent and dirt are removed
3. Dry filter by wrapping in dry cloth and pressing until water is removed
4. Apply lightweight motor oil or thin based machine oil to entire filter
5. Remove excess oil
6. Reattach filter and cover to unit

### STEPS FOR CLEANING BLOCK STYLE FOAM AIR FILTER (SEE PARTS DRAWING ON PAGE 22)

1. Before removing the Air Filter Cover, move the Choke Lever to the Choke Position (See Fig 1)
2. Squeeze the latch tabs on both sides of the Air Filter Cover to remove the cover (See Fig 2)
3. Once you have released the cover, rotate the cover away from the engine (See Fig 3)
4. Remove the Foam Air Filter (See Fig 4 & 5)
5. Replace Filter with new oiled Filter or clean the original Filter by following the same steps as cleaning the Ring style filter above
6. Reinstall the Filter by pressing it into position. Make sure the foam seals the air intake valve (See Fig 6)
7. Snap Air Filter Cover back in place. Check to ensure cover is securely in place. To check, pull on cover. If cover does not move, then it is secure





## SPARK PLUG

THE RECOMMENDED SPARK PLUG FOR THIS UNIT IS L8RTC (NGK SPARK PLUG TYPE IS RCJ6Y)

1. Always check the Spark Plug at the beginning of each season
2. Disconnect Spark Plug Cap and clean any debris or dirt from around the Spark Plug area
3. Examine the Spark Plug and replace if any of the following have occurred:
  - a. Pitted Electrodes
  - b. Burned Electrodes
  - c. Cracked Porcelain
  - d. Or Deposits around Spark Plug
4. After cleaning or replacing, reseat Spark Plug and tighten securely.... reattach Spark Plug wire
5. When reinstalling original Spark Plug, tighten an additional 1/2 turn
6. When replacing Spark Plug, adjust Spark Plug Gap to .028" and tighten an additional 1/8 to 1/4 turn

**NOTE: A loose Spark Plug can overheat and damage your engine. Over tightening too much could damage the threads in the cylinder head**

## CARBURETOR

NEVER TAMPER WITH THE FACTORY SETTING OF THE CARBURETOR

## TINE REMOVAL AND INSTALLATION

### REMOVING TINES

1. Remove the cotter pins from each end of the tine shaft
2. Slide each of the four tines off the shaft

### INSTALLING TINES

1. First slide the inside tines onto both ends of the tine shaft. Inside tines are stamped with either a letter "B" or "C"
2. Slide the outside tines onto the tine shaft. The outside tines are stamped with either the letter "A" or "D"
3. The tines should be installed so that they are aligned in a sequence of "A,B,C,D" and should be positioned in that order from left to right when viewed from the user's position of the mini cultivator
4. Make sure the hub collars on both the right and left pair of tines face each other so that there is adequate spacing between the tine blades (See Fig 3)
5. Reinsert the cotter pins back on each side of the tine shaft to lock the tines into place

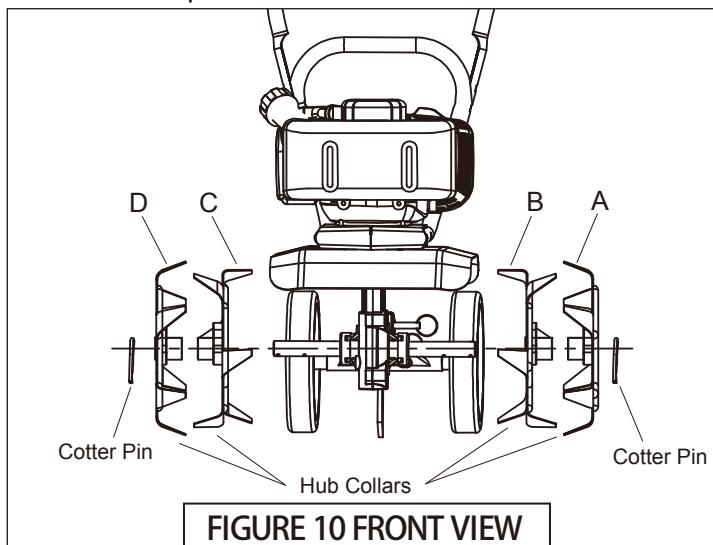


FIGURE 3

## ADJUSTING WHEELS & DRAG STAKE

The wheels on the mini cultivator can be adjusted into two height positions (See Figure 4)

1. To adjust the wheels, pull the detent pin out of the rear mounted plastic parts mount hole
2. Turn the rear mounted plastic parts 180 degrees and then put the rear mounted plastic parts into the rear hanging board and then replace the detent pin

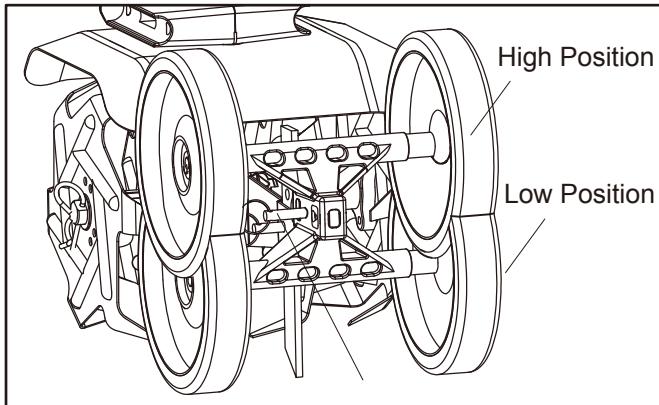


FIGURE 4

The Drag Stake is used to regulate the depth of cultivation and also to help maintain direction and keep the mini cultivator from leaping forward during operation. Resistance to the forward motion is achieved when the Drag Stake is set to its lowest position allowing deeper cultivation (See Figure 5)

1. Pull the pin out of the Drag Stake mount hole
2. Position the Drag Stake so that the pointed end of the stake is directed downward
3. Once desired depth is reached, reinsert the Drag Stake pin back into the hole

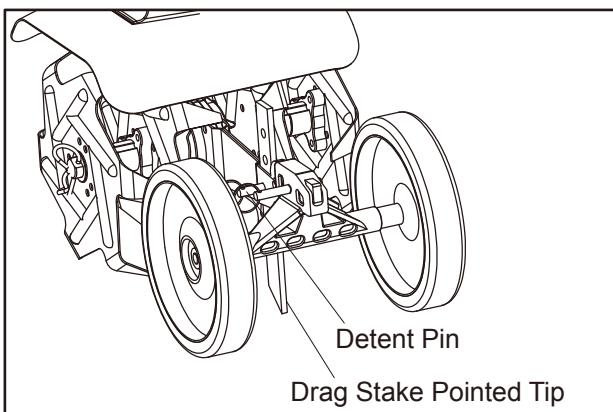


FIGURE 5

Always make sure the engine is off whenever maintenance or cleaning is being done on the unit. Make sure the unit is off when using tools and moving the unit from one location to the other by any means other than its own power

Never work on excessively steep slopes

Always inspect the area to be cultivated and make sure it is free of any objects that could be thrown out by the unit

This device should only be operated by suitably trained adult individuals who have read the entire instruction manual

Always wear quality safety shoes when operating this device



MODEL Y2007  
MINI CULTIVATOR AND DETHATCHER

## TRANSPORTING YOUR UNIT

1. After using your mini cultivator, always allow the unit to cool off before transporting. Never transport the unit in an enclosed space within a vehicle as fumes and vapors may build up. They could ignite and cause serious injury or death
2. If fuel is present in fuel tank, always transport in an open vehicle in an upright position
3. If an enclosed vehicle must be used, be sure that the fuel tank is empty and any unused gas mixture is secured in a UL or ASTM approved container
4. Never siphon out gas mixture by mouth
5. Run engine in order to use up any small amount of remaining fuel in carburetor and fuel tank
6. Always run engine in a well ventilated area
7. Clean up any spillage around fuel tank and allow to dry
8. Make sure the unit's gas cap is secured tightly before transport

## LONG TERM STORAGE

1. If you will not be using your mini cultivator for more than 30 days, you need to prepare it for long term storage
2. Make sure all fuel is removed from gas tank. Run engine to ensure any remaining fuel in carburetor and tank are used
3. Store unit in a stable, upright and level position
4. Before storing, wash down unit to remove all dirt and debris from the body of the unit



### CAUTION!

TO AVOID SICKNESS OR EVEN DEATH, NEVER  
SIPHON FUEL BY MOUTH

NEVER STORE MINI CULTIVATOR WITH FUEL  
STILL IN THE TANK IN AN ENCLOSED,  
UNVENTILATED AREA

PRACTICE SAFETY AT ALL TIMES

ALWAYS TURN OFF ENGINE AND ALLOW  
UNIT TO COOL

ALWAYS DISCONNECT SPARK PLUG WIRE  
BEFORE ATTEMPTING REPAIR OR  
MAINTENANCE ON UNIT

**Need Help?  
PLEASE CALL**



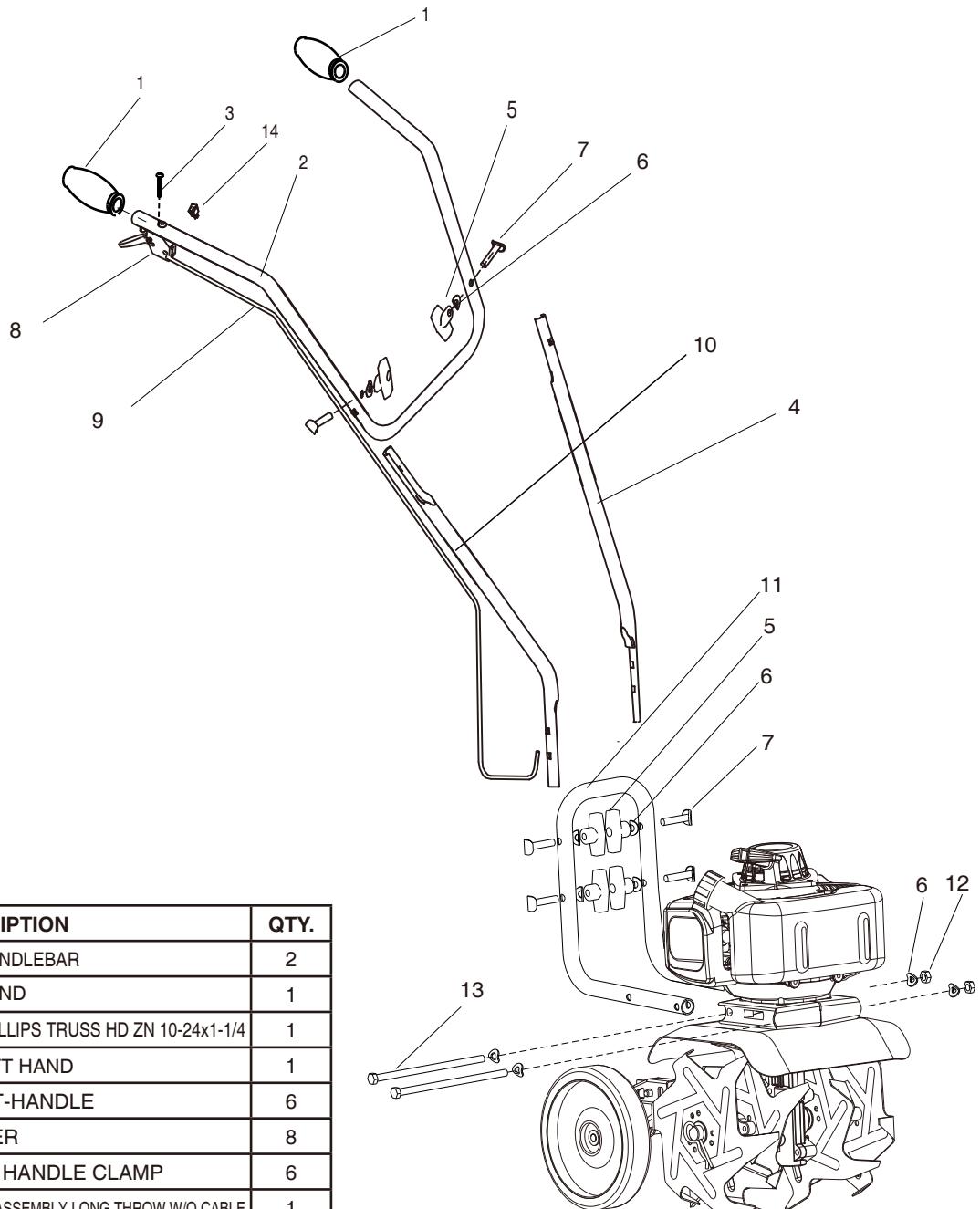
## TROUBLESHOOTING

PROBLEM	POSSIBLE CAUSE	REMEDY/ACTION
Engine will not start	1. Power switch off 2. Spark plug wire disconnected 3. Out of fuel 4. Spark plug wet, faulty or improperly gapped 5. Throttle control not held open 6. Fuel line hose not positioned in bottom of gas tank	1. Flip switch to ON position 2. Connect spark plug wire to spark plug 3. Refuel 4. Clean, replace or gap spark plug 5. Hold throttle control open when pulling recoil handle 6. Push fuel line down into fuel in gas tank
Engine runs rough, floods during operation	1. Dirty air filter 2. Choke partially engaged 3. Carburetor out of adjustment	1. Clean or replace air filter 2. Turn off choke 3. Call factory
Engine is hard to start	1. Stale fuel 2. Spark plug wire loose 3. Dirty carburetor 4. Throttle control not held open	1. Drain old fuel and replace with fresh. 2. Make sure spark wire is securely attached to spark plug 3. Clean carburetor, use gas stabilizer, Refuel with fresh gasoline. 4. Prime unit 3 more times, then hold throttle open when pulling recoil handle
Engine misses or lacks power	1. Clogged gas tank 2. Clogged air filter 3. Carburetor out of adjustment or bad 4. Spark plug wet, faulty or improperly gapped	1. Remove and clean gas tank 2. Clean or replace air filter 3. Call factory 4. Clean, replace or gap spark plug
Engine runs, then quits	1. Plugged fuel filter 2. Carburetor out of adjustment or bad	1. Clean or replace fuel filter 2. Call factory
Engine revs too high	1. Carburetor out of adjustment	1. Call factory
Tines turn at idle	1. Idle speed too high 2. Broken clutch spring	1. Adjust idle speed lower 2. Replace spring



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## HANDLE BAR PARTS DRAWING AND LIST

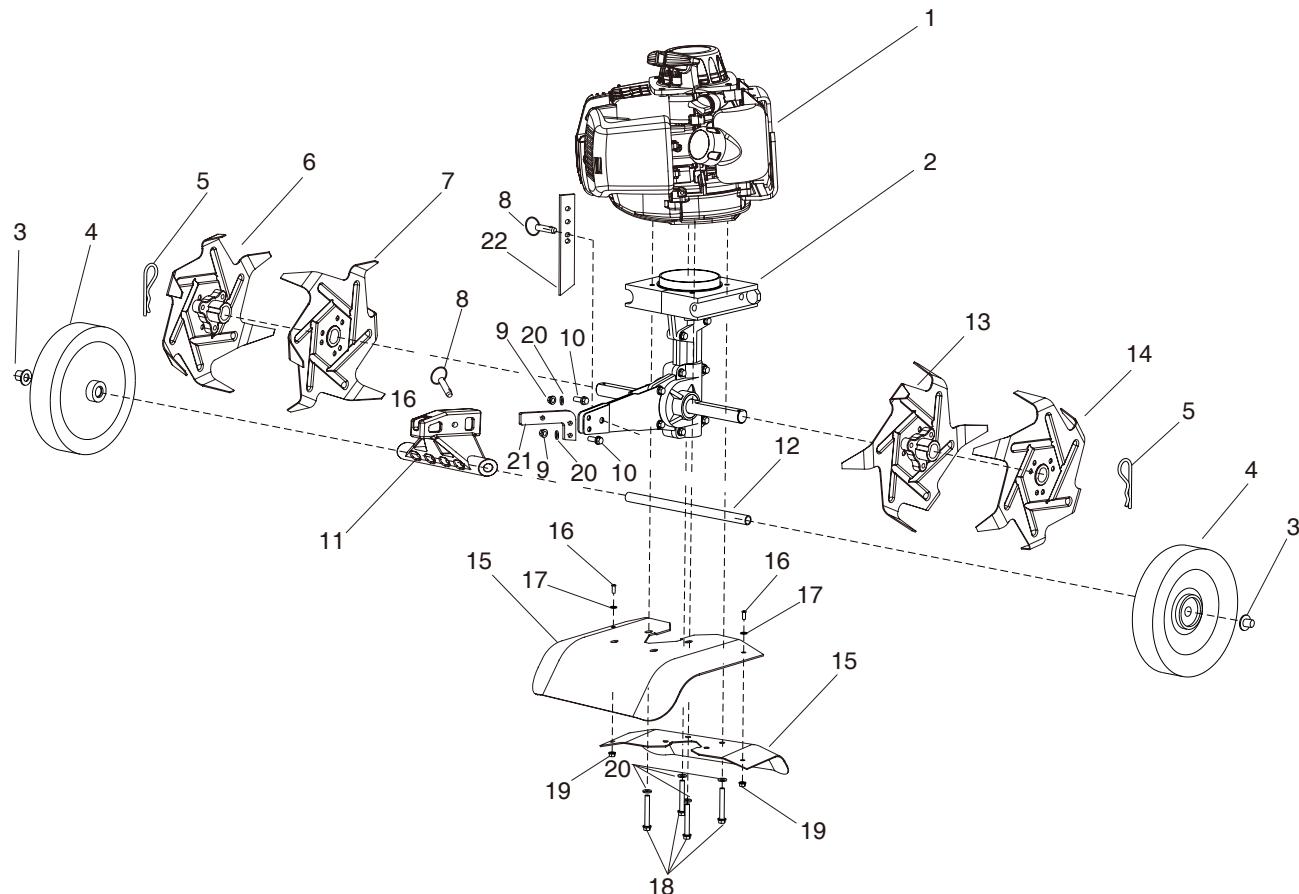


KEY	PART #	DESCRIPTION	QTY.
1	Y4000.02-05	GRIP,HANDLEBAR	2
2	Y4000.02-04A	HIS HAND	1
3		BOLT,PHILLIPS TRUSS HD ZN 10-24x1-1/4	1
4	Y4000.02-03A	HIS LEFT HAND	1
5	Y4000.02.01	NUT, T-HANDLE	6
6		WASHER	8
7		BOLT, HANDLE CLAMP	6
8	Y43.03A	TRIGGER ASSEMBLY, LONG THROW W/O CABLE	1
9	Y4000.07	THROTTLE CABLE	1
10	Y4000.02-02A	HIS RIGHT HAND	1
11	Y4000.02-01	HANDLEBAR, LOWER	1
12	GB6187	NUT, HEX HD M8	2
13	GB5787	BOLT HEX HD M8X155	2
14		SWITCH, ROCKER	1



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## HOOD AND TINES PARTS LIST AND DRAWING



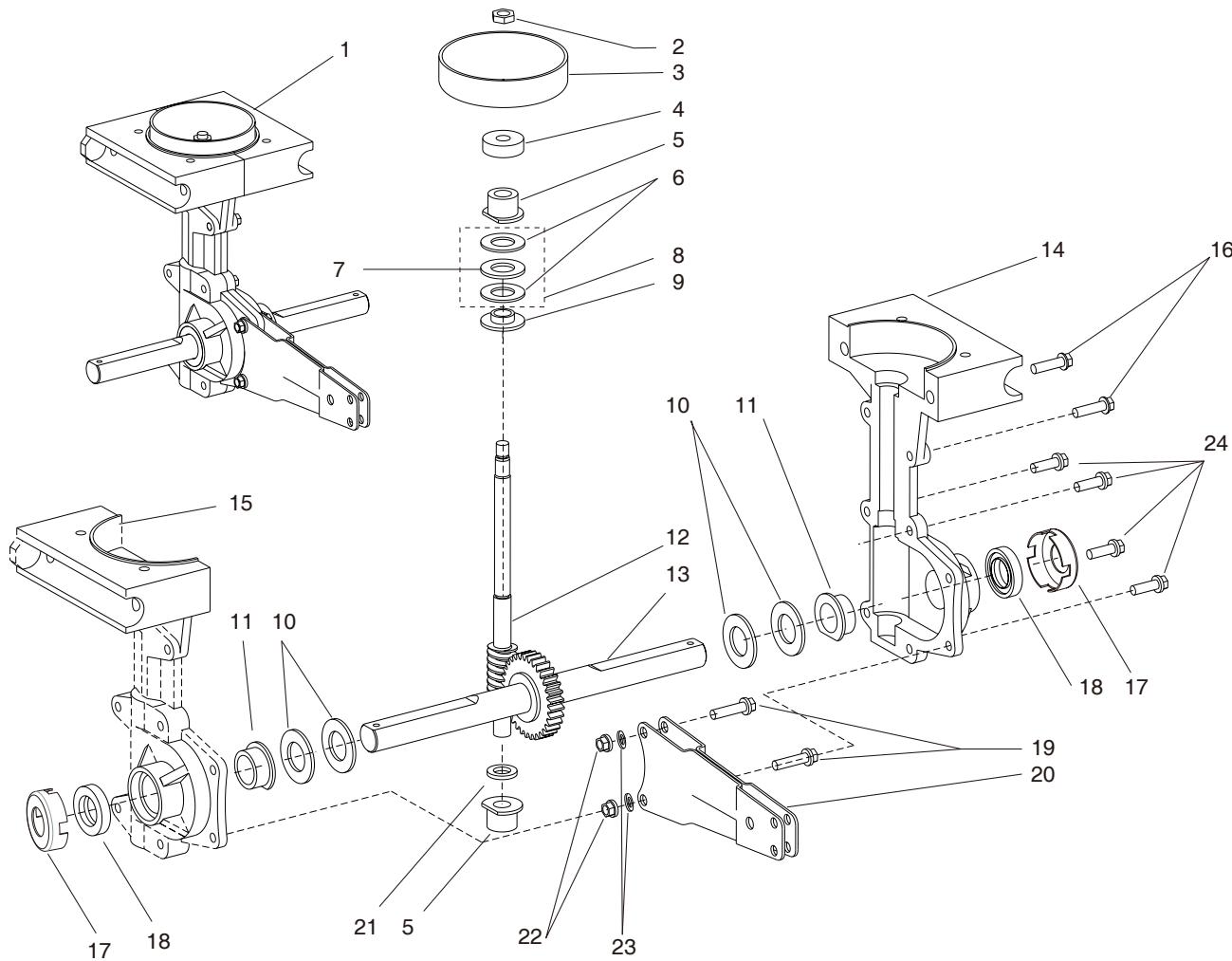
KEY	PART #	DESCRIPTION	QTY.
1	Y2000.01	1E40F-2E ENGINE	1
2	Y4000.03	TRANSMISSION ASSEMBLY	1
3	Y4000.05-04	PUSH NUT , $\phi$ 10mm	2
4	Y4000.05-05	WHEEL	2
5	Y4000.04-01	HAIR PIN, 5/8-3/4 COTTER	2
6	Y4000.04.04	TINE "A" RIGHT OUTSIDE	1
7	Y4000.04.03	TINE "B" RIGHT INSIDE	1
8	Y4000.05.02	DETENT PIN 5/16 X 1-1/2"	2
9	GB/T889.1	NUT M6 FLANGED HEX HD	2
10	Y4000.05-07	BOLT M6 X 22mm FLANGED HEX HD	2
11	Y4000.05-02	REAR MOUNTED PLASTIC PARTS	1
12	Y4000.05-03	REAR AXLE	1
13	Y4000.04.02	TINE "C" LEFT INSIDE	1
14	Y4000.04.01	TINE "D" LEFT OUTSIDE	1

KEY	PART #	DESCRIPTION	QTY.
15	Y4000.06-01	TINE SHIELD	2
16	GB5787	BOLT M5 X 10mm FLANGED HEX HD	2
17	GB97.1	WASHER 5	2
18	GB5787	BOLT M6 X 45mm FLANGED HEX HD	4
19	GB/T889.1	NUT M5	2
20	GB97.1	WASHER 6	6
21	Y4000.05-06	REAR HANGING BOARD	1
22	Y4000.05-01	DEPTH CONTROL BOARD	1



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## TRANSMISSION PARTS DRAWING AND PARTS LIST



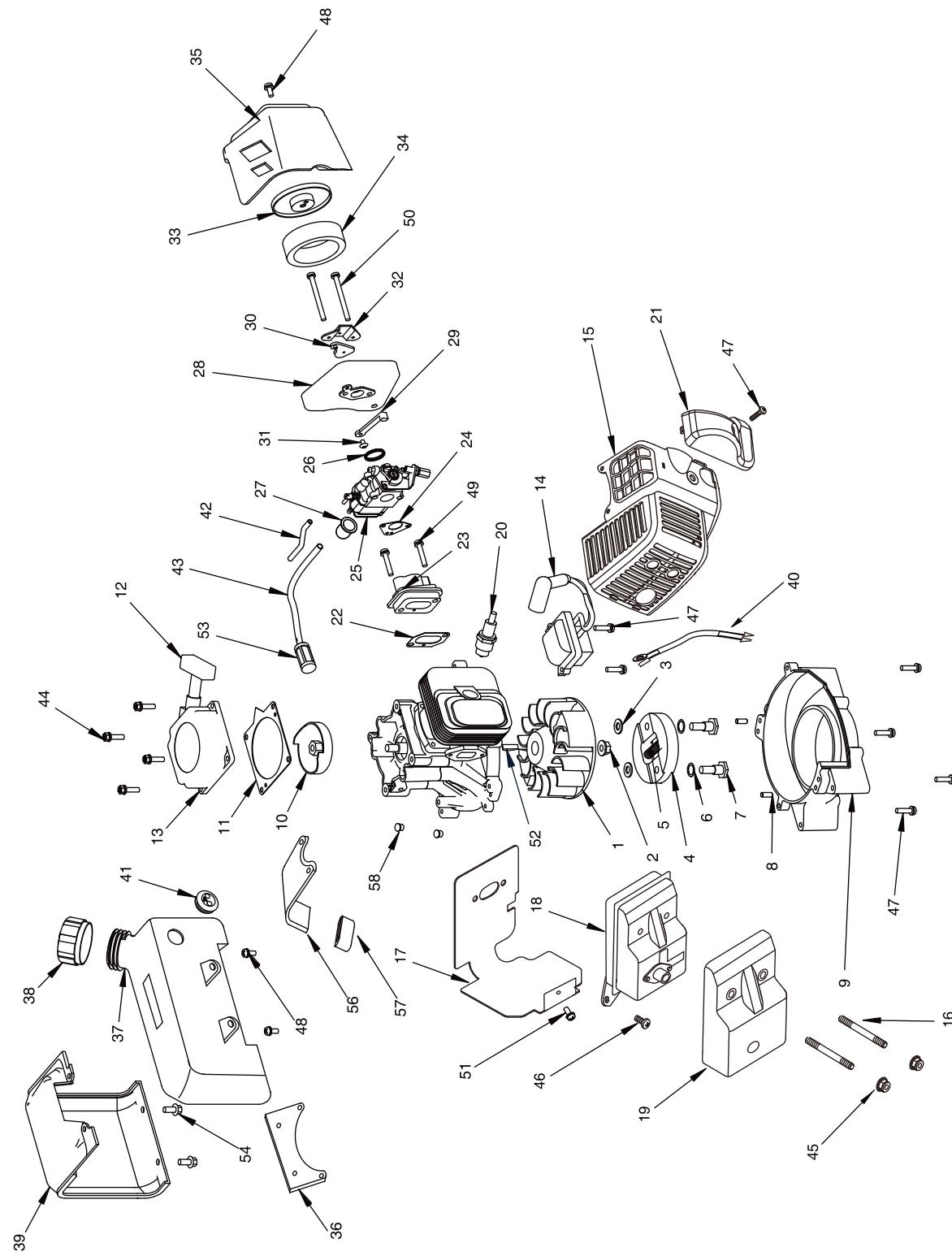
KEY	PART #	DESCRIPTION	QTY.
1	Y4000.03	TRANSMISSION ASSEMBLY	1
2	GB/T6174	NUT, JAM M8	1
3	Y4000.03.01	CLUTCH DRUM	1
4		BALL BEARING, 629	1
5	Y4000.03-04	BUSHIN, GDRIVE SHAFT	2
6		WASHER, THRUST	2
7		THRUST BEARING CAGE WASHER	1
8		THRUST BEARING ASSEMBLY	1
9	Y4000.03-05	REDUCER, THRUST BEARING	1
10	Y4000.03-08	SHIM, TINE SHAFT	4
11	Y4000.03-09	BUSHING, TINE SHAFT	2
12	Y4000.03-03	WORM SPUD	1
13	Y4000.03.02	TINE GEAR & SHAFT ASSEMBLY	1

KEY	PART #	DESCRIPTION	QTY.
14	Y4000.03-02	TRANSMISSION CASTING, RIGHT	1
15	Y4000.03-01	TRANSMISSION CASTING, LEFT	1
16	GB5787	BOLT, FLG HEX HD M6X22	2
17	Y4000.03-06	DUST COVER	2
18		SEAL, TINE SHAFT	2
19	GB5787	BOLT, FLG HEX HD M6X25	2
20	Y4000.05.01	ARM WHEEL/DRAG STAKE MOUNT	1
21	Y4000.03-07	SPACER, BUSHING	1
22	GB/T 889.1	NUT, FLANGED HEX HD M6	2
23	GB97.1	WASHER	2
24	GB5787	BOLT, FLG HEX HD M6X18	4



## MODEL Y2007 MINI CULTIVATOR AND DETHATCHER

## ENGINE PARTS DRAWING





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ENGINE PARTS LIST

KEY NO.	PART NO.	DESCRIPTION	QTY.
1	430001	FLYWHEEL, MAGNETO	1
2	430002	NUT, FLANGE M8	1
3	430003	WASHER, ROTOR	2
4	430004	CLUTCH ROTOR ASSEMBLY	1
5	430005	SPRING, CLUTCH	1
6	430006	WASHER, SPRING	2
7	430007	BOLT, SHOULDER	2
8	430008	PIN, LOCATING	2
9	430009	MOUNT RING & SHROUD	1
10	430010	RECOIL CLUTCH	1
11	430011	PLATE, RECOIL	1
12	430012	HANDLE, RECOIL (STANDARD)	1
13	430013	RECOIL ASSEMBLY WITH STANDARD HANDLE	1
14	430014	IGNITION COIL	1
15	430015	SHROUD, ENGINE	1
16	430016	BOLT, STUD M6 X 62MM	2
17	430017	GASKET, MUFFLER	1
18	430018	MUFFLER	1
19	430019	COVER, MUFFLER	1
20	430020	SPARK PLUG	1
21	430021	COVER, ENGINE SHROUD	1
22	430022	GASKET, INTAKE	1
23	430023	WINDPIPE, INTAKE 43CC/51CC	1
24	430024	GASKET, CARBURETOR	1
25	430025	CARBURETOR	1
26	430026	O-RING, CARBURETOR	1
27	430027	PRIMER BULB	1
28	430028	BASE, INTAKE	1
29	430029	CHOKE LEVER, SIDE MOUNT	1
30	430030	CHOKE COVER	1
31	430031	SCREW, THROTTLE LEVER	1
32	430032	PLATE, INTAKE COVER ADAPTER	1
33	430033	COVER, AIR FILTER	1
34	430034	AIR FILTER	1
35	430035	COVER, INTAKE	1
36	Y43.01.02	GAS TANK SUPPORT PLATE	1

KEY NO.	PART NO.	DESCRIPTION	QTY.
37	430036	GAS TANK	1
38	430037	GAS CAP, MANUAL VENTING	1
39	Y43.01-01	SHROUD, GAS TANK	1
40	430038	ENGINE WIRE	1
41	430039	GROMMET, 2-HOLE GAS TANK	1
42	430040	HOSE, PRIMER LINE	1
43	430041	HOSE, FUEL LINE	1
44	430042	BOLT W/WASHER PHILLIPS HH	4
45	430043	NUT, FLANGE M6	2
46	430044	BOLT W/WASHER M5 X 12MM	2
47	430045	BOLT W/WASHER PH M5 X 18MM	7
48	430046	BOLT HH M5 X 20MM	3
49	430047	BOLT W/WASHER M5 X 25MM	2
50	430048	BOLT M5 X 50MM	2
51	430049	BOLT M4X 10MM	1
52	430050	KEY, FLYWHEEL	1
53	430051	FILTER, FUEL	1
54	GB5787	BOLT M5X12	2
55			
56	430053	GAS TANK BOARD	1
57	430054	RUBBER BUSHING	1
58	430055	GAS TANK RUBBER PLATE	2



MODEL Y2007  
MINI CULTIVATOR AND DETHATCHER

PLEASE TAKE THE NEXT STEP TO REGISTER YOUR PURCHASE BY COMPLETING THE ENCLOSED WARRANTY CARD AND MAILING THE CARD TO THE FOLLOWING ADDRESS:

PO BOX 145, 115 N. Prentice Street,  
Clayton WI 54004

OR



BY GOING TO [WWW.THUNDERBAYPRODUCTS.COM](http://WWW.THUNDERBAYPRODUCTS.COM) WEBSITE AND FINDING THE WARRANTY ICON.  
CLICK ON THE WARRANTY ICON TO REGISTER YOUR PURCHASE.

#### EC DECLARATION OF CONFORMITY

MANUFACTURERS BUSINESS NAME: SOURCE ONE INTERNATIONAL LIMITED

MANUFACTURERS ADDRESS: NO. 298 YONG DING XI ROAD  
ECONOMIC DEVELOPMENT ZONE  
TAIZHOU, JIANGSU PROVINCE  
225300, P.R. CHINA

US ADDRESS: AS ABOVE

WE DECLARE THE FOLLOWING ABOUT THIS PRODUCT:

PRODUCT NAME: MOTOR HOE

COMMERCIAL NAME: SAME

FUNCTION: SOIL TILLING

MODEL NUMBER: Y2007

TYPE: GAS/OIL MIXTURE POWERED

FULLFILLS ALL THE RELEVANT PROVISIONS OF DIRECTIVES 2006/42/RC

PLACE AND DATE OF DECLARATION: TAIZHOU, P. R. CHINA