

Welcome to the world of

Mantis Gardening



Here's your new Mantis Tiller/Cultivator...the lightweight wonder that "Changes Gardening Forever". Unlike big tillers, your

Mantis Tiller weighs just 20 lbs. (9 kilos) so it lifts easily, handles smoothly, tills and weeds precisely. Unlike other small tillers, it features serpentine tines that churn soil to ten inches (25 cm) deep. It creates a soft seed bed, even in problem soil. Once you know how to use your tiller correctly, we guarantee you'll depend on it.

So first, please read this manual. It shows, step by step, how to use your tiller safely. If you have questions about any topic in this Manual, or if you wish to order Mantis attachments, contact us at Mantis.

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Safety rules & warnings

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You will notice throughout this owners manual safety rules and important notes. Please, make sure you understand and obey these warnings for your own protection.

Special Safety Information



Warning • Danger



Attention: This symbol points out our important safety Instructions.
When you see this symbol, heed it's warning!! Stay alert!!



Warning • Danger



To reduce the potnetial for accidents, comply with the safety Instructions in this Manual. Failure to comply may result in serious personal injury, and/or equipment and property damage.

Safety & Warnings



Warning • Danger



Improper use or care of this Tiller/Cultivator or failure to wear proper protection can result in serious injury.
Read and understand the rules for safe operation and all instructions in this manual. Wear hearing and eye protection.

Safety Decal Information



Warning • Danger



If the Tiller is used improperly or safety precautions are not followed the users risk serious injury to themselves and others. Read and understand this manual before attempting to operate this Tiller.

An important part of the safety system incorporated into this tiller are the warning and information decals found on various parts of the tiller. These decals must be replaced in time due to abrasion, etc. It is your responsibility to replace these decals when they become hard to read. The location and part numbers (P/N) of these decals are illustrated on Page 18.



P/N 488M



P/N 4043

Don't fuel, refuel, or check fuel while smoking, or near an open flame or other ignition source.



Mix unleaded petrol with 2 stroke oil, 50:1 ratio.



Incorrect assembly.



Caution: when assembling the handles, make sure fuel tank faces operator. This is the rear of the tiller, refer to assembly instruction on page 30.



Cutting hazard: keep feet and hands away from rotating tines.



Wear ear and eye protection.



Read owners manual before using tiller, or performing any repair or maintenance. Keep owners manual in a safe place.



Do not carry the tiller in this position.



Warnings – Don'ts

Read and understand the owner's manual. Pay particular attention to all sections regarding safety.

1. Always keep a firm grip on both handles while the tines are moving and/or the engine is running. Be aware!! The tines may coast after throttle trigger is released. Make sure tines have come to a complete stop and engine is off before letting go of the tiller.
2. Always maintain a firm footing and good balance. Do not overreach while operating the tiller. Before you start to use the tiller check the work area for obstacles that might cause you to lose your footing, balance or control of the machine.
3. Thoroughly inspect the area where equipment is to be used and remove all objects, which can be thrown by the machine.
4. Always keep area clear of children, pets, and bystanders.
5. Always stay alert. Watch what you are doing and use common sense. Do not operate unit when fatigued.
6. Always dress properly. Do not wear loose clothing or jewellery as they might get caught in moving parts. Use sturdy gloves. Gloves reduce the transmission of vibration to your hands. Prolonged exposure to vibration can cause numbness and other ailments. Wear non-skid foot wear to ensure secure and proper footing.
7. While working, always wear substantial footwear and long trousers. Do not operate the equipment when barefoot or wearing open sandals.
8. Always wear ear and eye protection. Eye protection must meet applicable CE requirements. To avoid hearing damage, we recommend hearing protection be worn whenever using the equipment.
9. To reduce fire hazard, keep the engine, and petrol/gas storage area free of vegetative material and excessive grease.
10. Start the engine carefully, according to the manufacturer's instructions and with feet well away from tool(s).
11. Keep all nuts, bolts and screws tight to be sure the equipment is in safe working condition.
12. Use extreme caution when reversing or pulling the machine towards you.
13. Work only in daylight or good artificial light.
14. Always be sure of your footing on slopes
15. Exercise extreme caution when changing direction on slopes.
16. Always keep a safe distance between two or more people when working together.
17. Always inspect your unit before each use and ensure that all handles, guards and fasteners are secure, operating, and in place.
18. Always maintain and examine your Tiller with care. Follow maintenance instructions given in manual.
19. Always store tiller in a sheltered area (a dry place), not accessible to children. The tiller as well as fuel should not be stored in a house.

Warnings – Don'ts

1. Don't use tiller with one hand. Keep both hands on handles with fingers and thumbs encircling the handles, while tines are moving, and engine is running.
2. Don't overreach. Keep a good footing at all times.
3. Don't run with the machine, walk.
4. Don't work on excessively steep slopes.
5. Don't attempt to clear tines while they are moving. Never try to remove jammed material before switching the engine off and making sure the tines have stopped completely.
6. Don't allow children or incapable people to operate this tiller.
7. Don't operate while under the influence of alcohol or drugs.
8. Don't attempt to repair this tiller. Have repairs made by a qualified repairman or Mantis. See that only original Mantis parts are used.

Engine/Fuel Warnings – Do’s

1. Always use fresh petrol in the fuel mixture. Stale petrol can cause damage.
2. Always store fuel in containers specifically designed for this purpose.
3. Always pull the starter cord slowly until resistance is felt. Then pull cord rapidly to avoid kickback and to prevent arm or hand injury.
4. Always operate the engine with spark arrestor installed and operating properly. The use of spark arrestor mufflers is required by law.
5. Stop the engine whenever you leave the machine.
6. Allow the engine to cool before storing in any enclosure.
7. If the fuel tank needs to be drained, this should be done outdoors.

Engine/Fuel Warnings - Don’ts

1. Don’t fuel, refuel or check fuel while smoking, or near an open flame or other ignition source. Stop engine and be sure it is cool before refueling.
2. Don’t leave the engine running while the tiller is unattended. Stop engine before putting the tiller down or while transporting from one place to another.
3. Don’t refuel, start or run this tiller indoors or in an improperly ventilated area.
4. Don’t run the engine when electrical system causes a spark outside the cylinder. During periodical checks of the spark plug, keep plug a safe distance from cylinder to avoid burning of evaporated fuel from cylinder.
5. Don’t check for spark with spark plug or plug wire removed. Use an approved tester.
6. Don’t crank the engine with the spark plug removed unless the spark plug wire is disconnected. Sparks can ignite fumes.
7. Don’t run the engine when the odour of petrol is present or other explosive conditions exist.
8. Don’t operate the unit if petrol is spilled. Clean up the spill completely before starting engine.
9. Don’t operate your tiller if there is an accumulation of debris around the muffler, and cooling fins.
10. Don’t touch hot mufflers, cylinders or cooling fins as contact may cause serious burns.
11. Don’t change the engine governor setting or over speed the engine.

Assembly

Your Mantis Tiller comes partially assembled

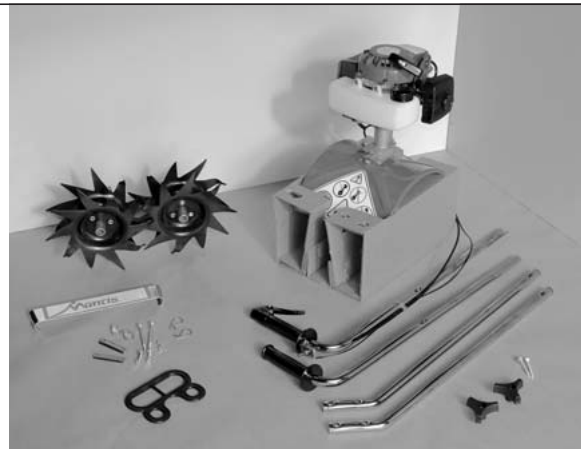
You must install only the handlebars, the carrying handle, and the tines. This will take just a few minutes if you follow the directions. First, take all items out of the carton but do not remove the cardboard from around the Tiller’s base.

The list at the right, shows the parts that come with your tiller. Check to make sure you have them all.

The bag of hardware is packed in the box containing the tines.

To assemble your Mantis Tiller, you’ll need two 11 mm spanners or wrenches or two adjustable spanners. We suggest that you install all nuts and bolts only “finger tight” – that is, one-half to one full turn – until you’ve completed assembly. The nuts are self locking, but you must use a spanner or wrench to tighten them completely.

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Key-No.	Description	Qty	Article-No
4A	Upper Handle Assembly	1	400236
5A	Upper Handle Throttle Side Assembly	1	400235
6	Lower Handles	2	400224
39/40	Pair Tiller/Cultivator Tines	1	438LA / 438RA
20, 21, 55	Engine Assembly (includes Fender Guard & Worm-Gear Transmission)	1	400903/465/ 400010
8	Handle Brace	1	148
42	Plastic Carrying Handle	1	400218
Bag of Hardware Containing:			
47	Cap Screws	2	410
48	Lock Nuts	4	972
49	Bolts (3" long)	2	470
41	Tine Retaining Pins	2	418-1
51	Handle Clamps	2	377
13	Throttle Clip	1	478
52	Bolts	2	400509
53	Knobs	2	400510

Warning • Danger

Handle fuel with care, it is highly flammable. Fueling a hot engine or near an ignition source can cause a fire and result in serious personal injury and/or property damage.

Warning • Danger

Improper assembly of this Tiller can result in serious injury. Make sure to follow all instructions carefully. If you have any questions contact us at Mantis.



How to assemble lower handles

1. Use the protective cardboard sleeve to stabilize your tiller. Stand the engine assembly (#21) up.
2. Lay the handle parts within easy reach. You'll need one of the handle clamps (#51) and one of the lower handles (#6). Note that the lower handles have a short leg on one end (Picture 1).
3. Fit the handle clamp along the outside of the short leg. Line up the holes on the clamp and the leg.
4. Choose one of the two 3-inch bolts (Nr. 49). Slide it through the first set of holes – near the elbow where the lower handle curves (Picture 2).
5. Now slide the other lower handle onto the 3-inch bolt (Picture 3). Fit the other clamp onto this other handle's short leg. Add a self-threading nut and tighten finger tight.
6. Locate the worm-gear housing. It starts just above and extends down through the tiller's red fender guard. You'll notice that there's a recessed channel on either side of the housing's top (Picture 4).
7. Take the lower handles that you've just put together. Slide them into the two recessed channels. Make sure you insert them from the rear of the tiller (petrol tank faces the operator) ...so that the bolt fits along the back of the housing (Picture 5).
8. Slide the second 3-inch bolt through the second set of holes in the short legs. Add a nut and tighten finger tight.

How to assemble upper handles and plastic carrying handle

1. Lightly squeeze the lower handles (#6) toward one another so that they line up with the two smaller holes on the carrying handle (#42). Then slide the carrying handle over and down the lower handles. It will rest about four to six inches above the engine (Picture 6).
2. Gently pull the lower handles out to their original position.
3. Attach the upper handle assembly (#5A) - the handle with the throttle cable and ground wire - onto either lower handle, and secure with the handle knob (#53). You can attach this upper handle to whichever lower handle you prefer, depending on which hand you'd rather use to squeeze the throttle (Picture 7).

(Note: If throttle handle is mounted on the left, it will not fold down as completely as when mounted on the right).

Be sure you have proper throttle movements and that the throttle cable is not wrapped or twisted around the handle bar. Squeeze trigger and let go. The triangle must click in both directions. If there is any doubt, remove air filter and visually check that the throttle triangle hits both the idle screw and the full open stop.

THIS MUST BE DONE BEFORE STARTING THE ENGINE.

4. Follow the same steps to install the other upper handle onto the other lower handle (Picture 7).
5. Use the clip (#13) to secure the throttle cable and wire in place on the lower handle (Picture 8).
6. Now install the Handle Brace. Line it up with the holes on the upper handles. Then insert a Cap Screw and a Lock Nut on either side (Picture 9).
7. Use a spanner or wrench to tighten Cap Screws and Lock Nuts.
8. Now use spanner or wrench to tighten **ALL** nuts and bolts firmly and securely.

Important Note: Make sure you have installed the handles properly. When you stand behind your tiller, holding the handles, you should face the petrol tank.

Assembling the Tines for Tilling

1. Remove the cardboard from around your Tiller's base.
2. Slide the tines onto the axle shafts. The "D" hole goes on the outside.
3. Make sure you've installed the tines properly for tilling. Liken the tines to your fingers. When your palm faces the ground, your fingers curl down. Stand behind the Tiller and hold your hand next to the tines. Do the tine blades curl down, as your fingers do? If so, they are in the tilling/cultivating position. (To switch to the weeding position, see page 34.)
4. To secure each tine to the axle, insert a tine retaining pin (Picture 10).

Important Note: Before you use your Mantis Tiller, read the Safety Rules & Warnings on pages 27 to 28.

Mixing Fuel

Your Mantis Tiller is powered by a commercial two stroke, air cooled engine which requires a fuel mixture of unleaded petrol and lubricating oil.

Use a mixture of 50 parts unleaded regular petrol and 1 part two-stroke Mantis oil (50:1).

How to mix the oil and petrol

1. Pour 1/2 of the petrol into a safe container. Do not mix the fuel and oil in the engine fuel tank.
2. Add the two-stroke engine oil to the petrol and mix. Then add the rest of the petrol.
3. Screw the cap onto the petrol can. Then swirl the can to blend the oil and petrol.
4. Carefully pour the fuel mix into the tiller's fuel tank. After putting the fuel tank's cap back on, wipe up any spilled fuel from tank and petrol can.

Important Note: Two stroke fuel separates and ages. Do not mix more than you will use in a month. Using old fuel can cause difficult starting or engine damage. Shake fuel container to thoroughly mix fuel before each use. Do not attempt to run your engine on petrol only - use proper fuel mixture.

Should you need pre-measured engine oil, please, contact Mantis.

Fuel Mixture Guide

Use 2% oil Mix (50:1 Ratio)

Unleaded Petrol	2-Stroke Oil	
black Mantis Oil bottles:	5 Liter Petrol	100 ml Öl
white Mantis Oil bottles:	4 Liter Petrol	80 ml Öl

Important Note: Do not use old or stale oil/petrol mixture and always use the proper oil/petrol mixture. If you do not, your engine will suffer rapid, permanent damage and you will void the engine warranty. Never run your tiller on petrol alone; it will ruin the engine and void all warranties.



Warning • Danger

Fuel is extremely flammable. Handle it with care.
Keep away from ignition sources.
Do not smoke while fueling your equipment.

Warning • Danger

Avoid accidental blade engagement. Do not squeeze the throttle trigger when starting. Maintain proper idle speed adjustment (2500–3100 RPM).

Starting

To Start Your Tiller for the First Time

1. Fill the fuel tank with the proper oil/unleaded petrol mixture. (See previous section.)
 2. Hand tighten the petrol cap just until it's snug.
 3. Place the start/stop switch into the "start" position (Picture 1).
 4. Pull out the choke button to close the engine choke (Picture 2).
 5. Locate the purge bulb on the upper right of the engine, in front of the fuel tank (Picture 3). It sends fuel into the carburettor, for easy starting. Press the purge bulb until you see fuel flow through the clear fuel return line. Since you're starting "cold," you may need to press six to eight times. As soon as fuel starts flowing through the clear fuel line, stop pressing!
 6. Don't press the throttle lever during the starting of the engine.
 7. Pull the starter cord (Picture 4) slowly until resistance is felt. Then give the recoil starter cord a few short, brisk pulls until the engine fires. During cold starting, you may need to pull at least three or four times before the engine fires.
- Important Note:** When the choke is closed, never pull the cord more than four or five times. Overpulling may cause flooding. Also, bear in mind that, when the engine fires, it only coughs or sputters, and will not run on choke.
8. Push in the choke button to open the choke (Picture 5).
 9. Then pull the starter cord again using short sharp pulls. The engine should start and run. Let the engine warm up two to three minutes before using.

Follow these steps whenever you are starting the engine "cold", or when the engine has run dry and you have just added fuel. Remember, always use short, brisk pulls. Don't give the cord a long, forceful yank. And, do not let the cord snap back into the starter housing.

Warning • Danger

Never use starting fluids as they will cause permanent engine damage. Using them will void the warranty. Before you use the tiller, read the Safety & Warning rules on pages 27–28.

Starting a Warm Engine

1. Slide the ignition switch to START position.
2. Push the choke button into the RUN (open) position.
3. If there is no fuel in the clear return line, push the primer bulb 3–4 times or until fuel is visible in the line.
4. Pull the starter rope using short pulls, 1/2 to 2/3 of the rope length.
5. If the engine fails to start in 4 pulls, use "First Time" starting procedure.
6. With the engine running, and both hands on the handles, squeeze throttle trigger gradually to increase the engine speed and engage the tines.



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Additional information

How to Stop the Engine

Simply push the start/stop switch to “stop” (Picture 1). This will stop the engine instantly. If it should ever fail to do so, just pull out the choke button. The engine will stop at once.

About the Choke

The choke controls the amount of air drawn into the engine. Your tiller will run only if the choke is open – that is, if the choke is pushed in.

A Special Feature (with the idle set properly and the engine running)

Even when the engine is running, the tines won't turn unless you press the throttle lever on the handlebars. And, when you release the throttle lever, the tines will stop.

A Tip for Extending Your Engine's Life

After you start the engine, let your tiller warm up for two to three minutes before you use it. Then, before you put your tiller away, let it idle for a minute to give the engine a chance to cool down.

What to do just in case the engine will not start

If you follow the normal starting procedure, you should have no problem starting your tiller. But, just in case you do have problems, here's what to do.

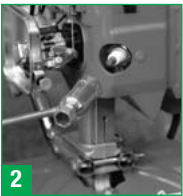
Make sure the start/stop switch is on “start.” You'd be surprised how many people forget to push the switch into the “start” position. If the switch was on “stop” when you pulled the cord, you may have flooded the engine.

– First, examine the spark plug. Use a 3/4 inch (19 mm) spark plug wrench (Picture 2).

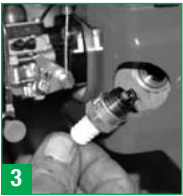
– Remove the cap over the spark plug.

⚠ Important Note: To avoid possible damage to the threads, do not try to remove the plug from a hot aluminum cylinder head.

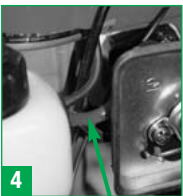
– Unscrew the spark plug (Picture 3).



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Starting a Flooded Engine

1. If the end of the spark plug is wet, the engine may be flooded. Make sure the switch is in the stop position, disconnect the spark plug wire and remove the plug. Use a paper towel or a clean rag to dry the spark plug, then, with the spark plug out of the engine, pull the starter cord several times. Shake the fuel out of the inside of the plug and air dry. Next, replace the spark plug. Use the spanner or wrench to tighten it and replace the cap. Next, put the switch in the start position and pull the choke button out. Pull the starter cord three or four times until the engine coughs or sputters. Open the choke (push the choke button in) and pull the cord a few times. The engine should start and run.
2. If the end of the spark plug is dry, check to see if the fuel line is blocked. The fuel line runs from the fuel tank to the carburettor. Pull it off at the carburettor end. Fuel should drip slowly from the line. Wipe off any excess or spilled fuel. If fuel does not drip from the line, check the line for any bends or pinches. (Picture 4). Kinks in the line restrict the flow of fuel to the engine. Just straighten out the line. Reconnect, then follow the normal starting procedure. If fuel drips too freely, the line may be disconnected from the fuel filter. You'll find the fuel filter inside the fuel tank. Just reattach the line to the filter, and put the filter back in the tank. Then follow the normal starting procedure.

Here's Another Way to Start your Mantis Tiller

If you follow the steps above and your engine still won't start, try this:

1. Push the switch to “start”.
2. Push in the choke button to open the choke.
3. Press the plastic bubble a few times.
4. Give the starter cord a few short, quick pulls. The engine should start and run.
5. If the engine does not start, then pull out the choke button to close the choke. Pull the starter cord four to five times. The engine should sputter or cough.
6. After the engine sputters, push the choke button in. Then pull the starter cord. The engine should start and run.
7. If the engine still does not start, repeat steps 2 to 6.
8. If the engine still does not start, contact our Service Department at Mantis.

⚠ Important Note: Never use starting fluids. Starting fluids will cause permanent engine damage. Using them will void the warranty.

⚠ Important Note: Before you use your Mantis Tiller, read the Safety Rules & Warnings on pages 27–28.



Warning • Danger



If Engine does not stop when switch is put in the stop position, release the throttle, allow engine to idle. Put the Tiller down, and pull the chocke button out to cold start (closed) position. Check and return ignition switch to on position before starting eninge again.

Getting your tiller to your garden

Walk it

Once your tiller is running, you can “walk” it to your garden. Just press the throttle lever gently and let the tiller “tip-toe” slowly across your yard on its tines. It won’t hurt your lawn or driveway (Picture 1).

Carry it

Make sure the engine is off. Then use one hand to grasp the convenient carrying handle, and use the other hand to hold the handlebars (Picture 2). Then lift your tiller and carry it to your garden. Since it weighs only 20 lb./9 kg, it won’t strain your muscles or tire you out!

Take It for a Ride

You can easily transport your Mantis Tiller to a friend’s or relative’s house. Just empty the fuel tank (this is crucial), then stow your Tiller in the boot of your car or truck. You can put it in and take it out without straining your back.

Tilling

Now You’re Ready to Use Your Mantis Tiller

If you’ve seen other tillers, your Mantis Tiller may surprise you. It tills best when you pull it backward! You see, when you pull your Mantis Tiller backward, you give extra resistance to the tines, so they dig deeper (Picture 4).

What’s more, when you go backward you erase your footprints so your soil stays light and fluffy. With other tillers, by contrast, you walk right over the soil you’ve just tilled, packing it down so it’s less plantable.

Run Your Mantis Tiller like a Vacuum Cleaner

Place your Tiller at the head of the row or area you want to till. Start it up. Then use an easy rocking motion. First, pull your Tiller backward. Then using an easy rocking motion, pull your Tiller backward. Then, let it move forward just a little bit, and pull it backward again. This will help you to till deeper.

Keep repeating these steps until you’ve tilled an entire row. Start again on the next row, it’s much like running a vacuum cleaner (Picture 5)! You can even control depth.

For Deeper Tilling/Cultivating

Move your Tiller slowly back and forth, as you would a vacuum cleaner. Work the same area over and over until you’ve dug to your desired depth.

For Shallow Tilling

Switch the tines to the weeding position. (See page 34 to learn how.) Then move your Tiller quickly over your soil surface.

For Big Weeds or Tough Roots

Let your Tiller rock back and forth over the tough spot, until the tines slice through the weed or root (Picture 5).

Your Mantis Tiller Handles Special Tilling Projects

Should you want to turn part of your lawn into a colourful flower border your Mantis Tiller makes it easy! Just run your Tiller back and forth until the ground begins to break up. Then continue tilling. Your Tiller will chop the clumps of soil finely and work them into the soil. Soon you’ll have a soft, fresh planting bed.



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Warning • Danger



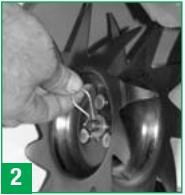
Never carry your Tiller as the person in Picture 3 does. If you do the tines engage and you could suffer serious injury.



Warning • Danger



The operator of this Tiller is responsible for accidents or hazards occurring to himself, other people or their property.



Weeding

Now your Mantis Tiller's sharp "tine teeth" will slice up those annoying weeds, burying them as you go along. Since the tines in this position won't dig too deeply, they won't hurt your plants' precious root systems. The result? Your Tiller will cut your weeding time in half, and turn a tiresome chore into a pleasure.

How to Switch From the Tilling/Cultivating to the Weeding Position

1. Make sure your Tiller/ Cultivator is turned off.
2. Remove the retaining pins from the tines.
3. Remove the tines from the axle.
4. Place the right-side tine onto the left-side axle. Place the left side tine onto the right-side axle. The "D" hole should be to the outside.
5. To ensure you've installed the tines properly, stand behind the Tiller and hold your hand, palm up, next to the tines. Do the tine points curl up, as your fingers do? If so, they are in the correct weeding position.
6. Reinsert the retaining pins.

Weeding

Now You're Ready to Weed.

Guide your Tiller where you want to weed and start it up. Pull your Tiller backward slowly, then let it move forward a bit, in a gentle rocking motion. Watch it slice, shred, and bury weeds!

If you have tough weeds lighten your pressure on the throttle to slow your Tiller down. Then work back and forth until your Tiller chops up the weeds. It's easy and effective!

Remember, any tiller will tangle in tall grass, stringy vines, or tall weeds. If you have a "backyard jungle," first use a knife, pruner, or brush cutter to chop up the overgrowth. If the tines become tangled anyway, turn the engine off completely before trying to clear them.

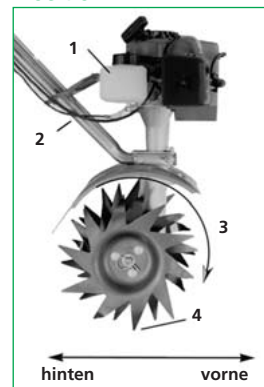
Tilling/Cultivating Position

Tine teeth point in the same direction as the rotation of the tine; or toward the front of the Tiller, away from the operator.

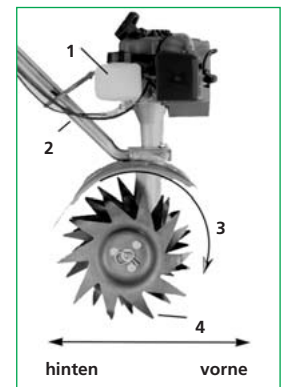
Weeding Position

Tine teeth point in the opposite direction as the rotation of the tine. Tines point toward the back of the tiller, or toward the operator.

Tilling/Cultivating Position



Weeding Position



- 1 Benzintank
- 2 Steuerholme
- 3 Drehung der Hackelemente
- 4 Zähne der Hackelemente



Warning • Danger



If your Tines get jammed or entangled, shut off the engine at once. Remove the obstruction while the Engine is off. Never try to remove an obstruction while the Engine is running. Serious injury can result.

Maintenance

Check the Air Filter Often

A wet or dirty air filter can affect the way your engine starts, performs, and wears so it's a good idea to check your air filter once a month. If you work in dusty soil, or if you want to be on the safe side – check your filter more often (for instance, before each use). But be sure to replace it at least once a year, in the spring or autumn.

How to Check, Clean and Change the Air Filter

1. Loosen the thumb screw on the side of the air-cleaner cover (see Picture 1, or look up Key #1 in Air Cleaner Parts Assembly on page 41).
2. Take off the cover. (Picture 2).
3. The air filter is the white pad on the inside of the air-cleaner cover. Check whether it is soiled or moist.
4. If the air filter needs cleaning or no longer fits properly, remove it. Just lift an edge carefully and “peel” it off (Picture 3).
5. Use a brush to remove debris from the pad.
6. If the air filter is so dirty that it won't come clean, you must replace it or severe engine damage will occur.
7. Insert your clean filter inside the air-cleaner cover. **Note:** Make sure filter is “seated” properly in the housing. The filter must fit snugly inside the rim of the air cleaner case. Installing the filter incorrectly will cause engine damage and void the warranty. Fit the cover back over the air cleaner.

Important Note: Please check the lip on the Air Cleaner Cover. If the lip is chipped or cracked, it should be replaced. This will prevent dirt from being ingested through the carburettor into the inside of the engine.

8. Tighten the thumb screw to secure the cover.



Warning • Danger



Remove tines before starting engine and making adjustments.

How to Check the Grease Level Inside the Worm-Gear Housing

When we built your Mantis Tiller, we lubricated the worm-gear housing thoroughly. It is imperative that you inspect the grease level at least once a year. Simply remove the cover plate on the worm-gear housing (Picture 4). Then check to make sure the grease comes almost to the top of the housing. If it doesn't, add lithium grease. This is the only way to add grease to the worm-gear housing (Picture 5). To purchase Mantis grease, please, contact us at Mantis. Please do not overfill, too much grease can create pressure, which could cause seals to fail or the clutch to slip.

Clear Blockages From the Fuel Line & Filter

After you've used your Tiller for a few seasons, check for blockages in the fuel tank and fuel filter. Such blockages can keep your Tiller from starting. Clear any blockages you see in the tank, fuel filter, or fuel line. Remember: The fuel filter is located inside the tank (Picture 6). Then use the normal starting procedure to start your Tiller.

What to Do if Your Engine Idles Too High

What if your engine runs too fast... or if the tines turn the instant you start the Tiller? You may need to adjust the idle screw (#29 under Carburettor on page 41) by itself right below the H and L screws. Gently turn it counter-clockwise. You'll know you've adjusted it correctly when the axles do not turn at low idle. If you continue to have idle problems, you may need to adjust the throttle cable.

First, locate the metal triangle at the end of the throttle cable. The idle screw must touch this triangle. But, if the throttle cable's too tight you'll see a gap between the idle screw and the triangle. To fix this, loosen the top nut that holds the throttle cable in place (use an 11 mm spanner/ wrench or an adjustable wrench). Then slide the cable down until you close the gap between the triangle and the idle screw (Picture 7). Now, tighten the bottom nut that holds the throttle cable.

Locate the metal “button” on the triangle. This is the swivel. The large end of the throttle cable must be inside the slot in this swivel.



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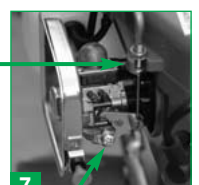
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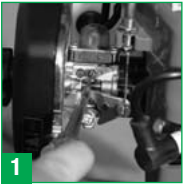


6



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What to Do if Your Engine Runs “Rough”

When we built your Mantis Tiller, we adjusted the carburettor for top performance. But from time to time, it may need readjusting. If your engine runs “rough” or stalls, the carburettor may be the cause.

1. Make sure the engine is shut off.
2. To identify the carburettor, look up Parts Assembly on page 41. Then find the identical part on your Tiller.
3. If you remove the air-cleaner cover, you’ll see two letters stamped on the carburettor body: “H” (on the left) and “L” (on the right). They stand for “High-Speed Needle Valve” and “Low-Speed Needle Valve,” respectively (# 23 & 22 under Carburettor on page 41). Lightly turn each screw clockwise until it’s completely closed (Picture 2).
4. Then, turn each screw counterclockwise very slowly — one full turn plus one-quarter turn, more or less.

Every season, you may need to readjust the H and L screws to ensure smooth running. You don’t need to take off the air-cleaner cover. Just remove the tines and start the engine. While the engine is at low idle, slowly turn the L screw counterclockwise, until the engine sputters. Then slowly turn it clockwise until the engine sounds smooth. Next, repeat the procedure for the H screw. But this time, squeeze the throttle and run the engine at high speed. This will make your Tiller run smoothly.

How to Reseat the Flange (Clutch Case)

At some point, you may find that the tines won’t turn when you press the throttle. This may mean the engine isn’t sitting all the way down on the worm-gear housing.

Perhaps you’ve been using your Tiller for several years, or you’ve removed the engine for use with our hedge trimmer attachment, then replaced it. In either case, the flange bolt (#35, page 42) may have come loose and lifted the engine up.

If this happens you’ll notice a gap between the bottom of the engine flange (clutch case) (#36, page 42) and the top of the worm-gear housing (Picture 3).

To fix this, loosen the flange bolt. Take the engine off the worm-gear housing. Notice the hex head on top of the drive shaft. Inside the flange housing, you will find the clutch drum (#30). Make sure the hex head lines up with the clutch drum inside the flange housing. Put the engine back on the worm-gear housing. Make sure the plastic carrying handle is not under the fuel tank.

If you’ve followed these steps properly, there will be no gap between the engine flange and the worm-gear housing (Picture 4). Make sure you tighten the flange bolt!



3



4

Cleaning the Muffler Remove

Removing cylinder cover

1. Remove spark plug cap and spark plug.
2. Remove 2 screws (key# 33) and 1 bolt (key# 34).
3. Remove cylinder cover (key# 32).

Remove exhaust muffler

1. Remove 2 bolts (key# 24) and exhaust muffler (key# 21).
2. Cover exhaust port with piston to keep debris from entering the engine.

Check inlet and tail pipe of exhaust muffler

1. Inspect exhaust muffler inlet, remove carbon deposits with wooden or plastic stick.
2. Inspect tail pipe of exhaust muffler, remove carbon deposits with small nylon brush.

Important Note: This maintenance is recommended once a month or every 90 hours of use. Reinstall exhaust assembly and cylinder cover.

Storage

Each autumn – or before you store your Mantis Tiller for any long period – be sure to take these measures:

1. Do not store your Tiller with fuel still in it. Even under ideal conditions, stored fuel containing ethanol or MTBE can start to go stale in 30 days. Since stale fuel has a high gum content, it can clog the carburettor. This, in turn, will restrict fuel flow. When you're ready to store your Tiller, or will not be using it for more than 2 weeks, drain the fuel tank completely (Picture 1).
2. Next, restart the engine to make sure no fuel is left in the carburettor. Run the engine until it stops. This will prevent gum deposits forming inside of the carburettor and possible engine damage.
3. Disconnect the spark plug cap and remove the spark plug. Use a 3/4 inch (19 mm) spark plug wrench. Pour about a teaspoon of clean, two-stroke oil through the spark plug hole into the combustion chamber (Picture 2). Slowly pull the starter cord two or three times to coat the inside of the cylinder wall.
4. Inspect the spark plug and, if necessary, clean it. If you need to replace it buy a NGK BPMR 7A or purchase one from Mantis.
5. Install the spark plug, but leave the spark plug cap disconnected (Picture 3).
6. Clean the air filter as described on Page 10.
7. Clean dirt, grass, and other materials from the entire machine.
8. Wipe the tines with oil or spray them with WD-40, to prevent rusting.
9. Oil the throttle cable and all visible moving parts (do not remove the engine cover).
10. Check the grease level in the worm-gear housing, as described on page 35.
11. Order new parts to replace any that are badly worn or broken, just contact us at Mantis. But do it early, so you'll have the parts well before the next gardening season starts.
12. Store you Tiller – in an upright position – in a clean, dry place. You can store with the handles in an extended position or folded down (Picture 4).
13. To fold the handles, follow these easy steps: Loosen the handle knobs (#53), fold the handles forward. Tighten knobs securely. Your handles are now folded and ready to store in a smaller area (Picture 5).
14. Do you have fuel left over from last season? Dispose of it properly. Buy fresh oil and unleaded petrol next season.

How to Prepare Your Mantis Tiller for Restarting

Unfold the handles into an upright or extended position. Tighten the two handle knobs (#53).

In the Spring, when you take your Tiller out of storage, remove the spark plug. Pull the starter cord three or four times to clean oil from the combustion chamber (Picture 4). Wipe oil from the spark plug. Place the spark plug back into the cylinder. Re-connect the spark plug wire onto the spark plug. Then follow the steps on page 31 to refuel and restart your Tiller.

Again, Check the Carburettor

If your Tiller won't restart in the Spring – or if it lacks its usual power – the carburettor may need attention. Follow the steps on page 36 for adjusting the "H" and "L" screws (Picture 1 + 2).

Check the Spark Plug Too

If your Tiller won't restart, or if it lacks full power, the spark plug may be at fault. Check to see if the plug is fouled with oily black deposits. Clean or replace it if it is (Picture 3).

Also, check whether the center electrode is rounded at the end, or if the ground electrode is worn. If either is the case, you should replace it with a NGK BPMR 7A spark plug or purchase one from Mantis. Use a 19 mm or a 3/4" spark plug spanner to install it. Adjust the plug gap .024 - .028 in (0.6 to 0.7 mm).

Caution: Do not over tighten the plug.

Important Note: To avoid possible damage to the threads, do not try to remove the spark plug from a hot aluminum cylinder head.



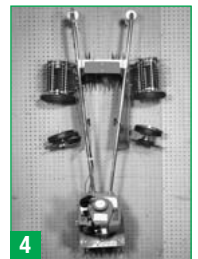
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Warning • Danger



Do not store in an area where fuel fumes may accumulate and reach a flame or spark.



Warning • Danger



Always make sure the handle knobs are secure before starting your Mantis tiller.

Engine specifications	Dry Weight	2.8 kg – 6 lbs., 3 ounces
	Type of Engine	Air Cooled, Two-stroke, Single-Cylinder, Petrol Engine
	Rotation	Clockwise, viewed from Top
	Bore	32.2 mm (1.268 in.)
	Stroke	26.0 mm (1.04 in.)
	Spark Plug	NGK - BPMR 7A
	Fuel	Premixed two-stroke fuel
	Fuel Oil Ratio	50:1 ratio with Mantis oil (2% oil)
	Petrol	Unleaded (see page 66)
	Displacement	21.2 cc (1.294 cu. in.)
	Exhaust System	Spark arrester muffler
	Carburettor	ZAMA diaphragm model C1U type
	Ignition System	Flywheel magneto, capacitor discharge ignition type
	Starter	Automatic rewind type
	Oil	Designated, two-stroke, air-cooled engine oil
Fuel Tank Capacity	.5 litre (17.0 oz.)	

Service maintenance guide	Area	Maintenance	Page	Frequency
	Air Filter	Clean / Replace	35	Before Use
	Fuel Filter	Inspect / Replace	35	Monthly
	Spark Plug	Inspect / Clean / Adjust / Replace	32	Monthly
	Carburettor	Adjust	36	Yearly
	Cooling System	Inspect / Clean	–	Before Use
	Muffler (Spark Arrestor)	Inspect / Clean	36	Monthly
	Gear Housing	Check Grease	35	Yearly
	Blades	Inspect / Clean / Lubricate	37	After Use
	Fuel Leaks	Inspect / Repair	31	Before Use
	Fasteners	Inspect / Tighten / Replace	30	Before Use
	Labels	Inspect / Replace	28 + 40	Before Use
	Handles	Inspect / Replace	40	Before Use
	Guards / Safety Devices	Inspect / Replace	28	Before Use
	Fuel Line	Inspect / Replace	32	Monthly
	Starter Rope	Inspect / Replace	–	Monthly
	Important:	Time Intervals shown are maximum. Actual use and your experience will determine the frequency of required maintenance.		

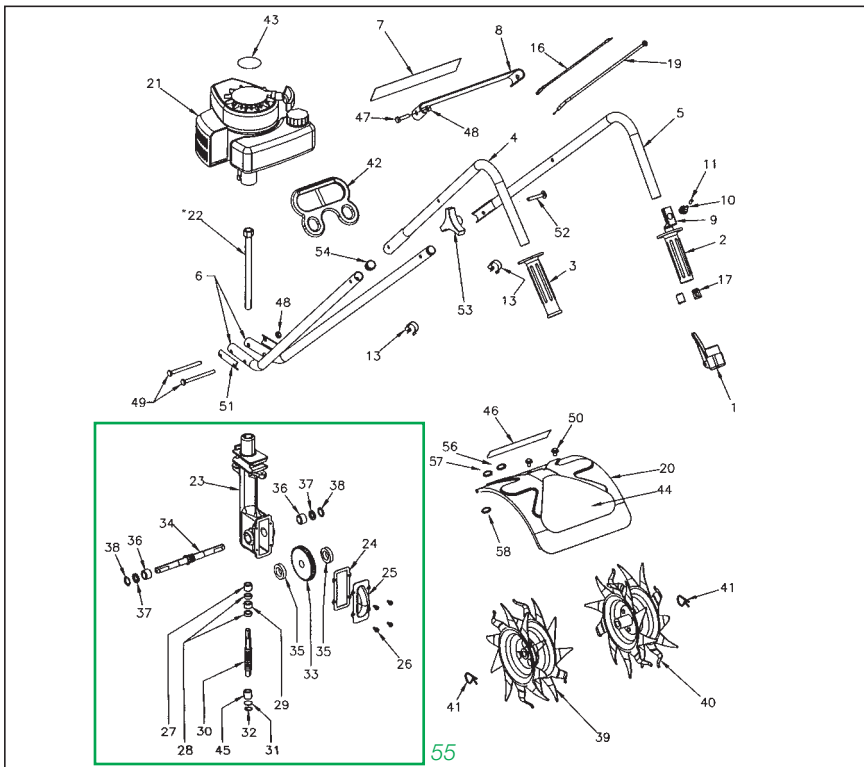
Trouble Shooting

Problem	Cause	Remedy	Page
1. Tines don't turn when throttle is depressed	<ul style="list-style-type: none"> – Engine is not seated properly on the gear housing. 	<ul style="list-style-type: none"> – Re-install engine following the instructions 	36
2. Engine fails to start	<ul style="list-style-type: none"> – Start/Stop switch is in Stop position. – No fuel in tank. – Fuel filter clogged. – Fuel line clogged. – Spark plug shorted or fouled. – Spark plug is broken (cracked porcelain or electrodes broken) – Ignition lead wire shorted, broken or disconnected from spark plug. – Ignition inoperative – Diaphragm clogged 	<ul style="list-style-type: none"> – Move switch to start. – Fill Tank. – Replace filter. – Clean fuel line. – Install new spark plug. – Replace spark plug. – Replace lead wire or attach to spark plug. – Contact your Mantis Service Department. – Replace diaphragm 	31 35 32 32
3. Engine hard to start	<ul style="list-style-type: none"> – Water in petrol or stale fuel mixture. – Too much oil in fuel mixture. – Engine under or over choked. – Engine under or over choked. instructions in operation section. If under choked, move choke lever to closed position and crank two or three times. – Carburettor out of adjustment. – Gasket leaks (carburettor or cylinder base gasket). – Weak spark at spark plug. 	<ul style="list-style-type: none"> – Drain entire system and refill with fresh fuel mixture. – Drain and refill with correct mixture. – If flooded by over choking, proceed according to instructions in operation section. – See "Carburettor Adjustment" – Replace gaskets. – Contact your Mantis Service Department. 	36
4. Engine misses	<ul style="list-style-type: none"> – Dirt in fuel line or carburettor. – Carburettor improperly adjusted. – Spark plug fouled, broken or incorrect gap setting. – Weak or intermittent spark at spark plug. 	<ul style="list-style-type: none"> – Remove and clean. – See "Carburettor Adjustment". – Clean or replace spark plug – set gap to (.024-.028 in.) 0.6-0.7 mm – Contact your Mantis Service Dept. 	32 36 37
5. Engine lacks power	<ul style="list-style-type: none"> – Air filter clogged. – Carburettor out of adjustment. – Muffler clogged. – Clogged exhaust ports. is at top of cylinder. With a wooden scraper or blunt tool, remove all carbon from exhaust ports. Be careful not to scratch or damage piston or cylinder walls. Blow out all loose carbon with compressed air. Install muffler and gasket. – Spark Arrestor Clogged. – Poor compression. 	<ul style="list-style-type: none"> – Clean or replace air filter. – See "Carburettor Adjustment". – Clean carbon from muffler. – Remove muffler, rotate engine until the piston is at top of cylinder. With a wooden scraper or blunt tool, remove all carbon from exhaust ports. Be careful not to scratch or damage piston or cylinder walls. Blow out all loose carbon with compressed air. Install muffler and gasket. – Clean Spark Arrestor – Contact your Mantis Service Department. 	35 36 36 36
6. Engine overheats	<ul style="list-style-type: none"> – Insufficient oil in fuel mixture – Air flow obstructed 	<ul style="list-style-type: none"> – Mix fuel as described in starting instructions. – Clean flywheel cylinder fins and screen. 	31
7. Engine noisy or knocking	<ul style="list-style-type: none"> – Spark plug in incorrect heat range. – Bearings, piston ring or cylinder walls are worn. 	<ul style="list-style-type: none"> – Replace with plugs specified for engine. – Contact your Mantis Service Department. 	32
8. Engine stalls under load	<ul style="list-style-type: none"> – Carburettor adjustment too "lean". – Engine overheats. 	<ul style="list-style-type: none"> – See "Carburettor Adjustment". – Remove dust and dirt from between fins 	36

Mantis tiller assembly

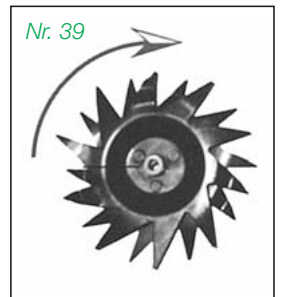
No	Key	Quantity	Description	No	Key	Quantity	Description
1	400215	1	Throttle Lever	34	431	1	Tine Shaft
2	400220	1	Grip-Thru	35	430	2	Worm-Gear, Thrust Washer
3	400214	1	Grip	36	432	2	Worm-Gear Bearing
4	400226	1	Upper Handle - Tube Left	37	434	2	Bearing Seal
4A	400236	1	Upper Handle Assembly Includes Key #s 3 & 4.	38	435	2	Bearing Seal Retainer
5	400225	1	Upper Handle - Tube Right	39	438LA	1	Tine Assembly (LT)
5A	400235	1	Upper Handle Throttle Side Assembly. Includes Key #s 1,2,5,9,10,11,13,16,17,18,19.	40	438RA	1	Tine Assembly (RT)
6	400224	2	Lower Handle - Fold Down	41	418-1	2	Tine Retaining Hair Pin
7	488M	1	Label	42	400218	1	Carrying Handle
8	148	1	Handle Brace	43	487MA	1	Engine Label
9	464	1	Switch Bracket	44	4043	1	Tine Label
10	479	1	Switch	45	458	1	Roller Bearing
11	1612-70A	1	Switch Cover	46	4058	1	Mantis Label
13	478	2	Throttle Clip	47	410	2	Cap Screw 1/4-20 x 1" lg.
16	4075	1	Connector Wire	48	972	4	Lock Nut 1/4-20
17	400229	2	Cable Retainer	49	470	2	1/4-20 x 3" Bolt
19	467-2	1	Throttle Cable Assy.	50	400516	2	Bolt 1/4-20 x 1/2" w/patch
20	465	1	Fender Guard	51	377	2	Handle Clamp
21	400903	1	Engine Assembly	52	400509	2	Bolt
22*	468	1	Drive Shaft	53	400510	2	Knob
23	466	1	Worm-Gear Housing	54	400230	2	Plug
24	436	1	Gasket	55	400010	1	Transmission Assembly
25	437A	1	Housing Cover	56	400515	2	Washer 1/4 x 41/64
26	651	4	Rd. Hd. Self Tapping Screw	57	400136	2	Rubber Washer .12 Thick
27	423	1	Roller Bearing	58	400137	2	Rubber Washer .04 Thick
28	425	2	Worm Bearing Race				
29	424	1	Worm Thrust Bearing				
30	422	1	Worm Shaft				
31	426	1	Worm Disk				
32	428	1	Retaining Ring				
33	429	1	Worm-Gear				

*Also in Key #55



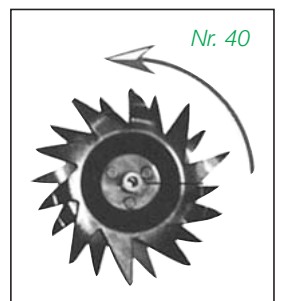
No 39

When you look at a Tine with the raised hub facing you and the teeth are pointed in a Clockwise Rotation you have a Left Hand Tine.



No 40

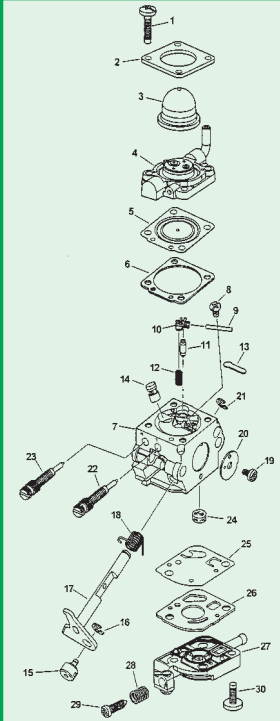
When you look at a Tine with the raised hub facing you and the teeth are pointed in a Counter Clockwise Rotation you have a Right Hand Tine.



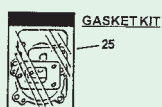
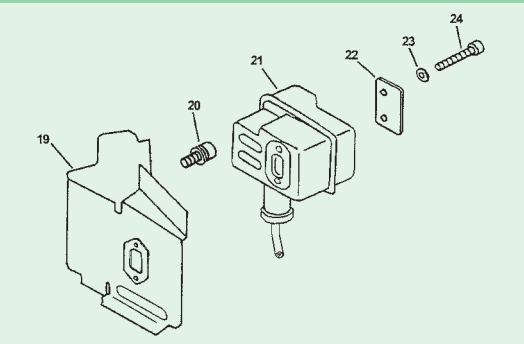
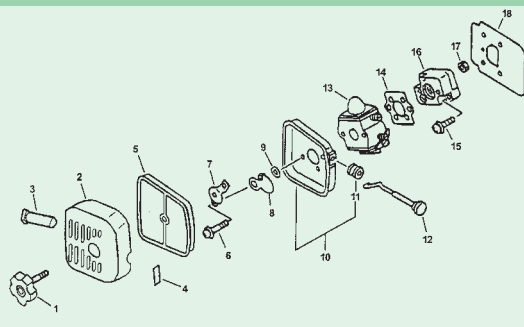
Key	P/N	Quantity	Description	Key	P/N	Quantity	Description
	125200-13124	1	Carburetor -- C1U-K54A Includes Items 1-30	17	125317-13310	1	Shaft, Throttle
1	125310-05360	4	Screw, Purge Pump Retainer	18	125313-42030	1	Spring, Throttle Return
2	125363-08560	1	Retainer, Purge Pump	19	125314-13930	1	Screw, Throttle Valve
3	125381-08660	1	Pump, Purge	20	125316-49030	1	Valve, Throttle
4	P00500-0975	1	Base, Purge	21	125327-15130	1	Clip, Throttle Shaft
5	A B	1	Diaphragm, Metering	22	125318-13120	1	Needle, Low Speed
6	A B	1	Gasket, Metering Diaphragm	23	125320-13310	1	Needle, High Speed
7	-----	1	Body, Carburetor Not Available Separately	24	A	1	Strainer
8	125339-42030	1	Screw, Metering Lever Pin	25	A B	1	Diaphragm, Fuel Pump
9	A	1	Pin, Metering Lever	26	A B	1	Gasket, Fuel Pump
10	A	1	Lever, Metering	27	125307-12820	1	Cover, Pump
11	A	1	Valve, Inlet Needle	28	125313-08560	1	Spring, Idle Adjust Screw
12	A	1	Spring, Metering Lever	29	125334-13930	1	Screw, Idle Adjust
13	A	1	Plug, Welch	30	125310-12820	2	Screw, Pump Cover
14	125376-49030	1	Nozzle, Main Check Valve	A	125300-13120	1	Repair Kit
15	125372-42030	1	Swivel, Throttle Shaft	B	125303-13120	1	Gasket/Diaphragm Kit
16	125327-13930	1	Clip, Throttle Shaft Swivel				

SV-6 engine parts

Carburettor



UK



Key	P/N	Quantity	Description
1	130406-52131	1	Thumb Screw
2	A23200-0041	1	Lid, Air Cleaner
3	V14100-0010	1	Plug
4	X50600-0020	1	Label, Choke
5	130310-51830	1	Filter, Air
6	900242-05057	2	Screw 5x57
7	129011-52130	1	Plate, Prevent
8	178515-04560	1	Shutter, Choke
9	178516-00830	1	Spacer
10	130301-51730	1	Case, Air Cleaner
11	178810-05230	1	Grommet
12	178510-51730	1	Rod, Choke
13	125200-13124	1	Carburetor -- CIU-K54A
14	V10300-0111	1	Gasket, Intake*
15	900238-05020	2	Screw 5x20
16	130017-42031	1	Insulator, Intake
17	900500-00005	2	Nut 5
18	130010-42032	1	Shield, Cylinder*
19	V10400-0410	1	Gasket, Exhaust*
20	911070-4008	1	Flange Bolt
21	A30000-0410	1	Muffler
22	V15000-0371	1	Plate, Eye
23	900600-00005	2	Washer 5
24	900105-05070	2	Bolt 5x70
25	P02100-6190	1	Gasket Kit

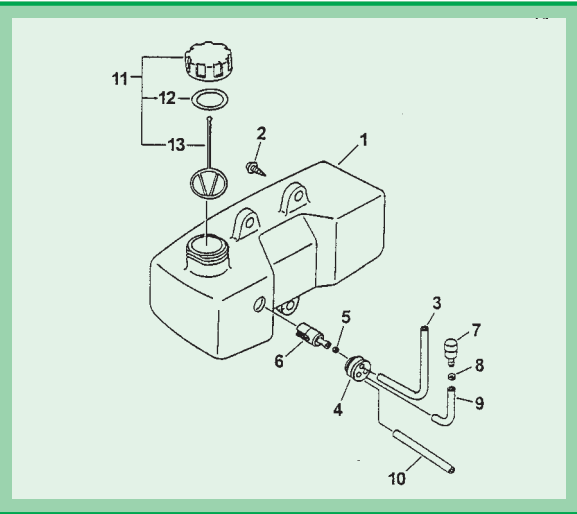
*Also Included in Gasket Kit

SV-6 engine parts

Air Cleaner, Muffler, and Throttle

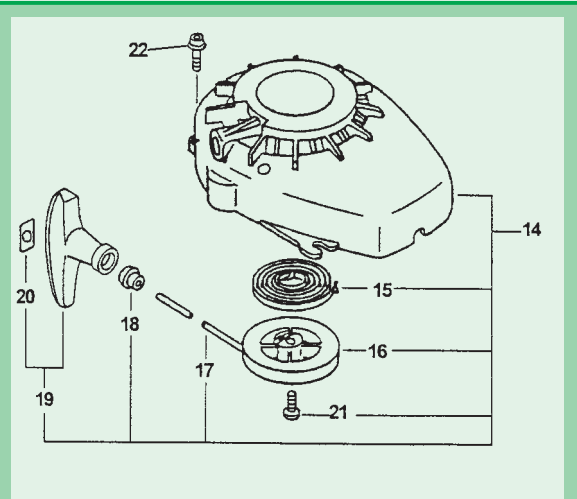
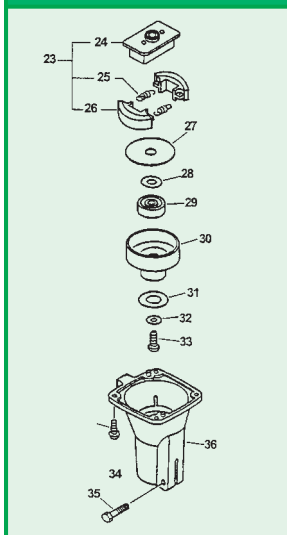
SV-6 engine parts
Fuel Tank

Key	P/N	Quantity	Description
1	A35000-0300	1	Tank, Fuel
2	900250-05016	3	Screw 5x15
3	V47100-1230	1	Pipe, Fuel - 3x5x210mm Bulk Option: 90014
4	V13700-0030	1	Grommet
5	13201309820	1	Clip
6	131205-07320	1	Filter, Fuel
7	A35600-0030	1	Valve, Check
8	130111-00530	1	Clip, Pipe
9	131312-39130	1	Pipe, Vent - 3x5x70mm Bulk Option: 90014
10	132010-49030	1	Pipe, Return - 3x6x50mm Bulk Option: 90017
11	131004-09060	1	Fuel Tank Cap Assy Includes Items 12-13
12	131016-55830	1	Gasket, Fuel Tank Cap
13	131051-56030	1	Connector, Fuel Tank Cap



SV-6 engine parts
Starter, Pawl Catcher & Clutch

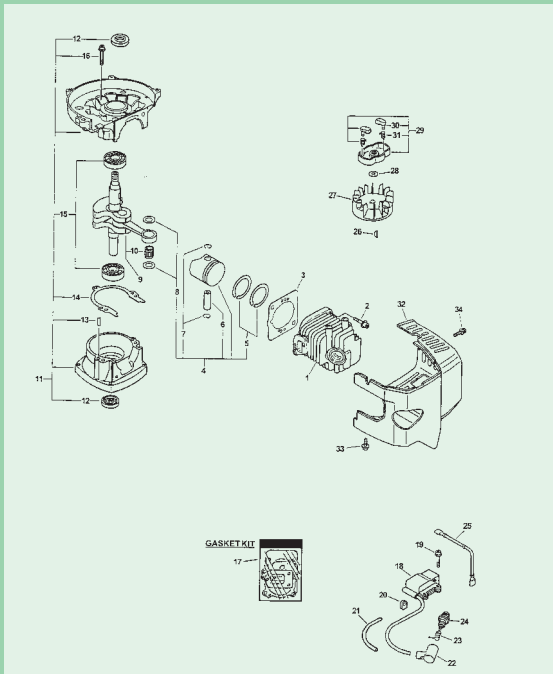
Key	P/N	Quantity	Description
14	177200-12820	1	Starter Assy Includes Items 15-20
15	177234-12220	1	Spring, Rewind
16	177215-44430	1	Drum, Starter
17	177226-05530	1	Rope, Starter 3mm(1/8")x1000mm(39-1/2") Bulk Option: 99944444000
18	177227-42030	1	Guide, Rope
19	177228-11120	1	Starter Grip Kit
20	177246-11120	1	Clip, Starter Rope
21	177236-44330	1	Screw
22	900238-04016	4	Screw 4x16
23	175000-07531	1	Clutch Assy Includes Items 24-26
24	175016-05020	1	Hub, Clutch
25	175018-05130	2	Spring, Clutch
26	175009-05131	2	Shoe, Clutch
27	175019-04630	1	Plate, Clutch
28	900600-00010	1	Washer 10
29	900808-36000	1	Bearing, Ball
30	175010-04633	1	Drum, Clutch
31	175044-04630	1	Washer, Clutch
32	175014-11520	1	Washer, Clutch
33	900238-06012	1	Screw 6x12
34	900238-04014	4	Screw 4x14
35	130416-11520	1	Bolt 5x25
36	610223-11520	1	Case, Clutch



SV-6 engine parts
Block

Key	P/N	Quantity	Description	Key	P/N	Quantity	Description
1	A13000-051	1	Cylinder	7	100015-04630	2	Circlip, Piston Pin
2	900162-05022	2	Bolt 5x22	8	100014-11520	2	Spacer, Piston Pin
3	V10000-0080	1	Gasket, Cylinder*	9	A01100-0270	1	Crankshaft Asy Includes Item 10
4	P02100-1101	1	Piston, Kit Includes Items 5-8	10	100012-51230	1	Bearing, Needle
5	A10100-0000	2	Ring, Piston	11	100204-11520	1	Crankcase Kit Includes Items 12-16
6	100013-11520	1	Pin, Piston	12	100212-42031	2	Oil Seal
				13	100215-03930	2	Dowel Pin
				14	100242-42030	1	Gasket, Crankcase*
				15	900810-36201	2	Bearing, Ball
				16	900162-05028	3	Bolt 5x28
				17	P02100-6190	1	Gasket Kit
				18	A41100-0170	1	Coil, Ignition
				19	900162-04020	2	Bolt 4x20
				20	156110-04920	1	Bushing
				21	V47500-2200	1	Tube
				22	159012-01620	1	Cap, Spark Plug
				23	159011-03432	1	Terminal, Spark Plug
				24	9053	1	Spark Plug -- BPMR-7A
				25	V48500-0450	1	Lead, Ignition
				26	610325-02730	1	Woodruff Key
				27	A40900-0150	1	Flywheel
				28	900605-00008	1	Spring Washer 8
				29	177202-12220	1	Starter Pawl Asy Includes Items 30-31
				30	177218-44330	2	Pawl, Starter
				31	177234-12220	2	Springl, Pawl Return
				32	P02100-6160	1	Cover, Cylinder
				33	900238-04018	2	Screw 4x18
				34	911070-4008	1	Screw 4x8

* Also Included in Gasket Kit



UK

The Mantis promise



Try any product you buy from Mantis with NO-RISK! If you're not completely satisfied, send it back to us within 100 days for a complete, no-hassle refund. All you have to pay is the return insured postage.

Tines Guaranteed

Our tines not only work better than the rest: they're also guaranteed for life against breakage. If any tine breaks in normal use, send the broken tine back to us and we'll send you a replacement tine under warranty.

Two-year Warranty

All components of the Mantis Tiller/Cultivator are warranted for a period of two full years from the date of purchase. If any part fails to work because of defects in materials or workmanship, we will repair or replace the part under warranty to you.

Lifetime Service

If you ever need Mantis parts, we'll get them right out to you. If a major repair is ever required, we'll do it quickly and reasonable.

Please have this information when you call:

1. **Date of purchase**
2. **Date machine was first used**
3. **Serial Number, located on top of engine**
4. **Customer number, if available**

Please Call us First!

If you are having any trouble with any Mantis product, please call us. Ask for the Customer Service Dept. Usually, we can solve most problems over the phone.

If you need to return a product – call first

Very few customers ever need to return a Mantis product, but just in case you have to ... here are some simple instructions that will help us serve you quicker and better.

Please clean the product if it has been used. (Drain the tank and remove dirt from machine).

Give us as much information as possible, so that we can help you as quickly as possible.

Please provide information requested on form and send the completed form with your product (p. 45).

Limited warranty information for Mantis tiller

Mantis extends only to the original consumer purchaser a limited warranty against defects in material and workmanship for a period of two years from date of purchase. This warranty covers all portions of the Mantis Tiller.

Mantis will repair or, at its option, replace any defective part or parts of the product free of charge. In the event of a defect or malfunction, the purchaser must return the product to Mantis.

Mantis assumes no responsibility in the event that the product was assembled or used in contravention of any

assembly, care, safety, or operating instructions contained in the Owner's Manual; was not used with reasonable care; or was used for other than normal and intended purposes.

Mantis makes no express warranties or representation except those contained herein. The duration of any implied warranty, including merchantability and fitness for a particular purpose, is limited to the duration of the express warranty. Mantis disclaims all liability for indirect and/or consequential damages.

For repair or refunds!

Address: _____ City, Postcode: _____

Phone (day): _____ Phone (evening): _____

Customer No: _____

(not necessary but helpful)

UK

Product(s) being returned:

For Repair Repair quotation Refund Other

Refund:

If you are requesting a refund, please tell us why:

- Product is different than I expected
- Not satisfied with performance
- Not satisfied with quality
- Other

Please, provide the following information if you return a product for repair or if you request a refund.

Name:

Repair:

If you return a product or part for repair or for a cost estimate, please indicate what could be damaged.

Disassemble the machine or part, empty the petrol and wrap it in a sturdy box; send it back to us. Thank you.