



TILLER ATTACHMENTS

Operating Instructions and Parts Lists

All attachments listed (except wheel set) mount on the tine shafts and are held in place with retaining pins. Attachment maintenance is very simple. Just clean with your garden hose. When dry, spray with a light pressurized oil like WD-40.

Note:

In the instructions that follow, assume that you are standing behind the tiller as you would in tilling or cultivating.



Warning: The Engine Exhaust from this product contains chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.



WARNING • DANGER



IMPROPER USE OR CARE OF THESE ATTACHMENTS OR FAILURE TO WEAR PROPER PROTECTION, INCLUDING HEARING AND EYE PROTECTION, CAN RESULT IN SERIOUS INJURY.

READ AND UNDERSTAND THE RULES FOR SAFE OPERATION AND ALL INSTRUCTIONS IN THIS MANUAL.

Warnings - Do's

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 attachment is 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. **Always** keep area clear of children, pets and bystanders.

4. **Always** stay alert. Watch what you are doing and use common sense. Do not operate unit when fatigued.

5. **Always** dress properly. Do not wear loose clothing or jewelry, 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/ or other ailments. Wear non-skid foot wear to ensure secure and proper footing.

6. **Always** wear eye and ear protection. Eye protection must meet ANSI Z 87.1. To avoid hearing damage we recommend hearing protection be

worn whenever using the equipment.

7. **Always** keep a safe distance between two or more people when working together.

8. **Always** inspect your attachment before each use and ensure that all handles, guards and fasteners are secure, operating, and in place.

9. **Always** maintain and examine your Tiller and attachments with care. Follow maintenance instructions given in Tiller manual.

10. **Always** store attachments 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

Don't use the Tiller with one hand, keep both hands on handles with fingers and thumbs encircling the handles, while attachment is moving, and engine is running.

Don't overreach. Keep a good footing at all times.

Don't attempt to clear attachment while it is moving. Never try to remove jammed material before switching the engine off and making sure the attachment has stopped completely.

Don't allow children or incapable people to operate the Tiller.

Don't operate while under the influence of alcohol or drugs.

Don't attempt to repair the attachment. Have repairs made by a qualified dealer or repairman. See that only original Mantis parts are used.



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.

Engine/Fuel Warnings - Do's

Always use fresh gasoline in the fuel mixture. Stale gasoline can cause leakage.

Always pull starter cord slowly until resistance is felt. Then pull cord rapidly to avoid kickback and prevent arm or hand injury.

Always operate engine with spark arrestor installed and operating properly. The use of spark arrestor mufflers is required by law in the state of California (Section 4442 of the California Public Resources Code), as well as in

other states or municipalities. Federal laws apply on federal lands

Engine/Fuel Warnings - Don'ts

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.

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.

Don't refuel, start or run this Tiller indoors or in an improperly ventilated area.

Don't run engine when electrical system causes 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.

Don't check for spark with spark plug or plug wire removed. Use an approved tester.

Don't crank engine with spark plug removed, except when preparing to store Tiller for the off season.

Don't run engine when the odor of gasoline is present or other explosive conditions exist.

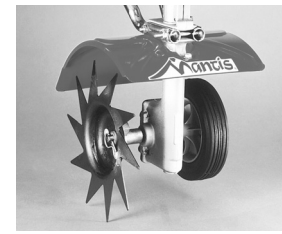
Don't operate the unit if gasoline is spilled. Clean up spill completely before starting engine.

Don't operate your Tiller if there is an accumulation of debris around the muffler, and cooling fins.

Don't touch hot mufflers, cylinders or cooling fins as contact may cause serious burns.

BORDER/EDGER

Nothing makes a yard look better than neat, clean-cut edges along paths and sidewalks, around flower beds, shrubs and trees, and along hedge rows. The Border/Edger does the job effortlessly.



Border/Edger

How to Mount

If you want to edge deeply (to 3 or 4 inches), place the idler wheel on the left axle. Place the edger blade on the right axle so the straight face of the blade impacts with the earth.

If you want to edge shallow (to 1 or 2 inches), place the idler wheel on the right axle and the edger blade on the left axle so that the angled face of the blade impacts with the earth.

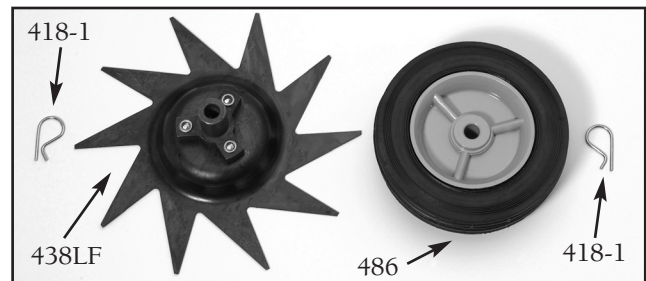
How to Use

Be certain retaining pins are inserted on both the left and right axles before edging. The depth of the edge is up to you, but generally, you'll want to edge deeply around walkways and garden beds where there are no roots. Lean the tiller to the side that has the blade to go deep. If you're apt to hit roots, use the shallow setting.

Other Uses

Use the edger blade on one axle and use a tilling tine on the other axle when you want to edge and cultivate at the same time. Don't be afraid to experiment with all the blades mixing and matching. You'll be amazed at all the different jobs you can do! The Border/Edger is invaluable in cutting sod strips.

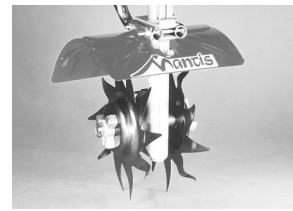
It will also cut slits for the submersion of thin electric and water lines.



BORDER/EDGER CAT. #3222

PLANTER/FURROWER

This wonderful attachment makes the best planting and hilling furrower you've ever seen. Does the work 5 times faster (and easier!) than hand-hoeing. Uniform depth, shallow or deep. You'll love it!



Planter/Furrower

How to Mount

If you want to trench or furrow, place the tines so the straight face of the blade impacts with the earth. If you want minimum tillage, place the tines so that the angled face of the blade impacts with the earth.

First, why waste time tilling up soil you're going to walk on all summer? Whenever you fertilize, plant, weed or spray for insects you walk between rows...Tilling this area is a waste of both your time and money.

Second, by tilling your seed beds only, you create a light fluffy seed bed which promotes rapid root growth. When your roots hit the compact soil on the sides and bottom of your seed bed trench, they will draw on nature's rich supply of stored nutrients and moisture which travels upward in compact soil by capillary action.

Minimum Tillage

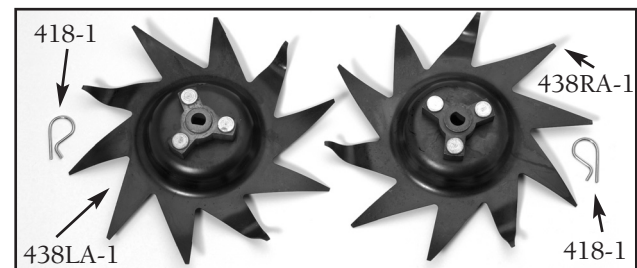
(Tines in Cultivating Position)

If you have not tried minimum tillage we suggest you experiment with your Planter/Furrower Tines for this purpose. Minimum tillage saves you topsoil, time and fertilizer. It also gives you better crop yields and helps your garden survive prolonged dry spells. When you practice minimum tillage, you spread fertilizer along your seed rows only. Next you till your seed bed only. You do not till the area between rows. You do weed it with your cultivator when necessary.

Certain crops are narrow rooted. Planter/ Furrower Tines are ideal for these crops. Use Planter/Furrower Tines for narrow rooted crops such as: onions, carrots, beets, rutabaga, parsnips, lettuce, radish, Jerusalem artichokes, beans (single row) and melon crops.

Trenching and Furrowing

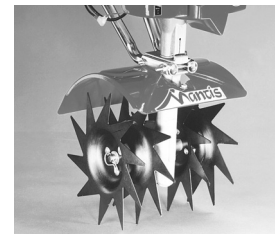
If you're planting potatoes, strawberries or asparagus ...go over your seed beds lightly with your normal tines. Next, put your Planter/Furrower tines on in the tilling position and till deeply by letting the machine run forward and then pulling back on it slowly. Do this down the entire row. If you want furrows for potatoes, strawberries or asparagus, simply walk backward along the row, pulling the Cultivator as if it were a hoe ... the hoeing motion clears soil from the trench ... If your soil is heavy, let the machine work at a slight angle to the bed. Pulling it back on an angle helps clear earth from the trench.



PLANTER/FURROWER CAT. #6222

LAWN AERATOR

Four gangs of tempered steel “knives”. These knives cut into the soil beneath your lawn to let water and nutrients penetrate easily, and to encourage deep drought-resistant root growth.



Lawn Aerator

How to Mount

Mount the aerator tines so the angled face of the blade impacts with the earth. This position gives you aeration 1 to 2 inches deep.

If you mount the tines so the straight face impacts with the earth, you'll work deeper. Roughly 2 1/2 to 3 1/2 inches deep. This is all right, but when learning how to use the aerator blades, it is best to work shallow, not deep, which is why we suggest to first use the angle face setting.

You will notice that if you let the machine run forward it will tear out dome sized patches of lawn and soil. While this does give you some aeration, you get the best results by walking backwards and pulling the machine as you go.

Operating Suggestions

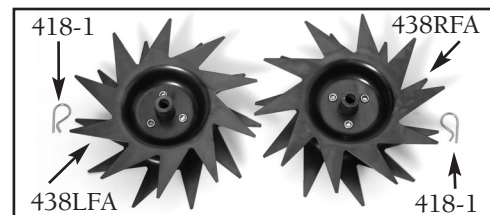
Before doing your lawn, a brief review of Basic Lawn Management is in order. You aerate to give your grass roots a chance to breathe ... You also aerate to allow irrigation to seep below the soil's hard crust so your roots get proper hydration ... Many people aerate without reseeding or fertilizing ... This is perfectly acceptable with a good healthy lawn; however, reseeding and fertilizing after aerating does give you healthy new growth which is essential to the maintenance of a good lawn.

Regardless of the method you use ... Please be aware that aerating with any machine will make your lawn somewhat unsightly for about 10 days ... The improvements that you'll realize in terms of lawn vigor and color make regular aeration more than

worth it. Remember, however, that aeration is a radical procedure and your lawn will look unattractive for a few days ... Most of the unsightly aspects of aeration can be eliminated immediately by raking off your loose surface earth and irrigating immediately after raking.

The aerator cuts 4 hairline slits roughly 2 1/2 inches apart and 1 1/2 inches deep. You will get some loose earth between the slits. If your lawn needs radical restoration, aerate north to south and then aerate east to west, giving you a checker board pattern of slits. Leave the earth where it is until you've sown fresh grass seeds and fertilizer along the slits then rake off the loose earth and you'll get fresh bands of healthy green grass which in 3 to 5 weeks will spread over your entire lawn, giving you a rich carpet of healthy green growth.

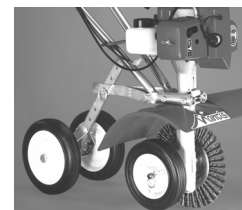
We recommend that you aerate three times a year, early spring, mid-summer and early fall only ... aeration should always follow a thorough program of dethatching. Used this way, you will have a lawn that will turn your neighbors green with envy.



LAWN AERATOR CAT. #4222

WHEEL SET

The Wheel Set will make your cultivator and all of the attachments more versatile. Allows you to park your tiller in a freestanding upright position for fueling and storage. The Wheel Set is extremely useful when using the Border Edger and Crevice Cleaner. Also, it gives you the option of rolling your tiller to the garden.



Wheel Set

How to Assemble and Mount

Gently lay tiller down on the front side - to stabilize it.

1. Using a pair of 7/16" wrenches, remove 2 nuts, bolts and brackets from lower handles of tiller. Set aside. The brackets will be replaced by the ends of the Wheel Set Bracket.
2. Slide Transmission Bracket (P/N 449) onto lower tiller handles above tiller hood. The fit will be tight. Note arrow (↑) pointing toward top on bracket.

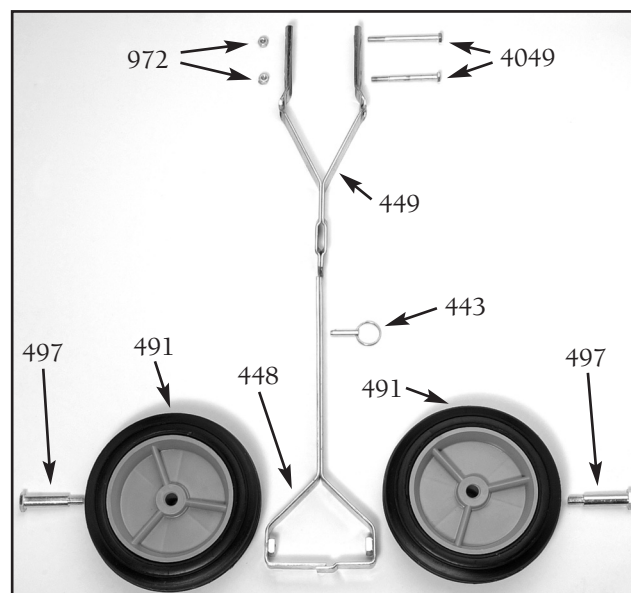
Note: Be sure the channel in the Wheel Set Bracket points down and away from the back of the tiller. This will insure that the wheels will not contact the tines (see Photo above).

3. Fasten Transmission Bracket (P/N 449) with nuts (P/N 972) and bolts (P/N 4049) provided in Wheel Kit.
4. Using shoulder bolts (P/N 497) provided, attach wheels (P/N 491) to wheel bracket. Place bolts into the wheels and tighten into weld nuts on the Wheel Bracket (P/N 448).
5. Insert Wheel Bracket into the channel of the Transmission Bracket. (The Wheel Bracket fits loosely in the channel to allow adjustment of height.)

6. Insert pin into proper hole for desired height.

Suggested Uses

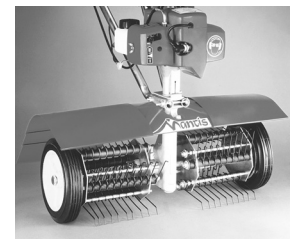
- *Park your tiller in a freestanding, upright position for fueling and storage.*
- *Roll your tiller to your garden for added ease.*
- *Use in concert with your other Tiller attachments for increased stability.*
- *Multiple settings to insure precise depth control.*



WHEEL SET CAT. #9222

LAWN DETHATCHER

Two gangs of 30 spring-steel picks cleanly dethatch a 15" wide swath as you walk along. One or two passes each year will totally eliminate harmful thatch build-up and develop a healthy green carpet.



Lawn Dethatcher

How to Mount

Mount the dethatching attachments over the tine axles. Observe the left and right hand labels stamped on wheels. The dethatcher combing springs must impact the lawn like curved-down fingers. Slip the retaining pins through the axle holes of your tiller.

Slip on the hood extenders by bending them in a semi-circle so the channels on the extenders slip over the front and back edge of the tiller hood. Push them in toward the center near the transmission.

The engine will turn the thatching assembly, not the wheels.

How to Use

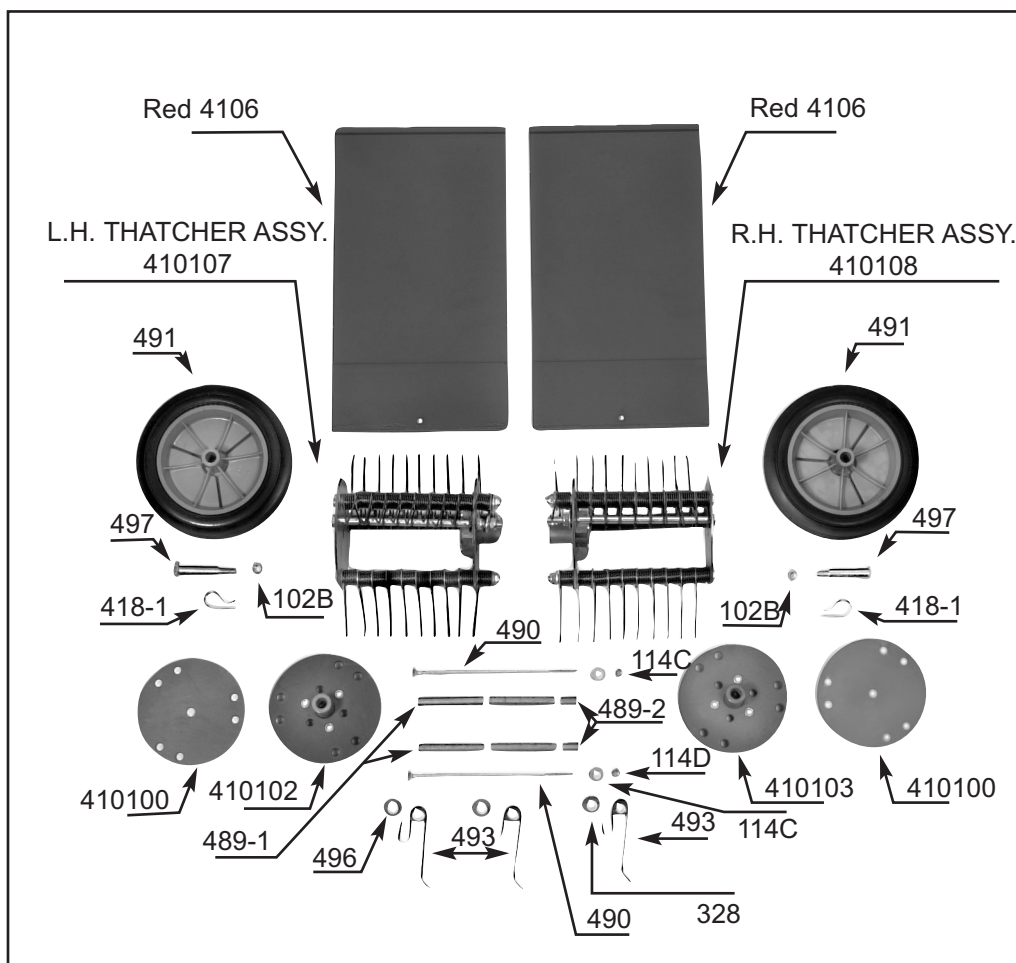
The best way to use the dethatcher is to pull the machine while walking backwards. If you prefer, you can let it run forward and then pull back as if you were tilling; however, this is slower than pulling the machine while walking backwards.

The Lawn Dethatcher will effortlessly do in minutes what would normally take hours of back-breaking work with an iron rake. Thatch

is a build-up of living and dead roots and dead grass (not mower clipping as is commonly believed). This thatch eventually forms a blanket below the green surface, effectively shutting out air and sunlight. It also keeps water and fertilizers from getting into the soil. This blanket of thatch can provide a home for all sorts of unwanted insects, some of whom will begin feasting on your lawn's root system. The Dethatcher has 60 spring-steel picks that pull out thatch in a 15" wide swath. All you do is rake away.

Dethatching should be done in the spring, late summer, or early fall.

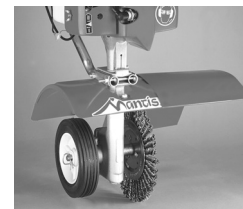
A complete dethatching in late summer, followed by aerating, overseeding and feeding will provide a showcase lawn for the following season.



LAWN DETHATCHER CAT #5222

CREVICE CLEANER

34 tough steel bristle brushes mounted solidly on a sturdy steel wheel gives our Crevice Cleaner the power to cut through weeds, dirt and debris in all those hard to reach places



Crevice Cleaner

How to Mount



First remove the existing tine attachment on your cultivator. Place the Crevice Cleaner on one side of the unit and the idler wheel on the other. Be certain that the retaining pins are inserted on both the left and right axles before using the Crevice Cleaner. Slip on the hood extender over the Crevice Cleaner brush by bending it in a semi-circle so the channels on the extender slip over front and back edges of tiller hood. Push it in towards the transmission.

How to Use

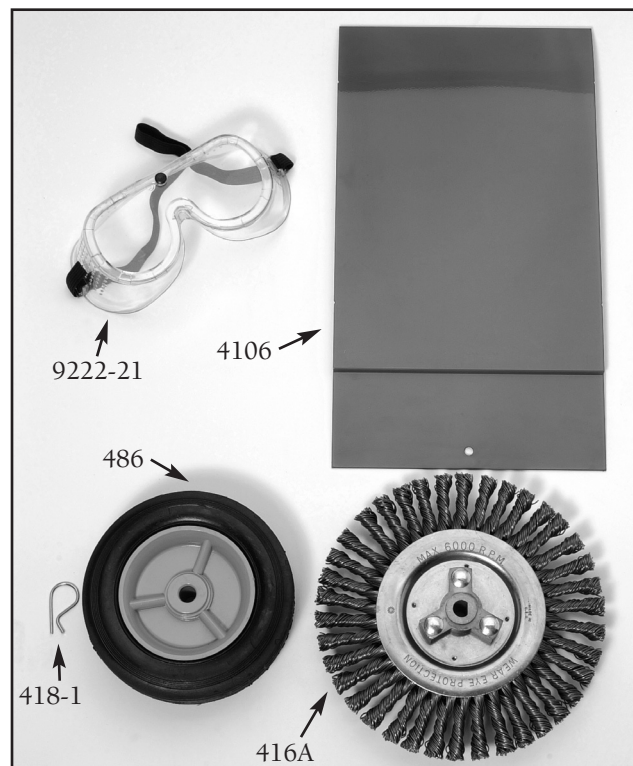
IMPORTANT: WEAR YOUR GOGGLES!

For hard surfaces such as concrete, pull the

tiller towards you with the Crevice Cleaner going into the area that you want to clean. For softer material such as blacktop, brick or slate, work the tiller backwards and forwards in a sweeping motion so that the Crevice Cleaner is perpendicular to the crevice. NOTE: Be sure to first test the proper cleaning method and rotation speed in an inconspicuous area for the type of material you are trying to clean.

**WARNING**

AFTER MOUNTING BRUSH TO A MACHINE, START MACHINE AND RUN AT OPERATING SPEED IN A PROTECTED ENCLOSURE FOR AT LEAST ONE MINUTE BEFORE USING, DURING WHICH NO ONE SHALL STAND IN FRONT OF, OR IN LINE WITH THE BRUSH. SAFETY GOGGLES OR FULL FACE SHIELDS WORN OVER SAFETY GLASSES WITH SIDE SHIELDS MUST BE WORN BY ALL OPERATORS AND OTHERS IN THE AREA OF POWER BRUSH OPERATIONS. COMPLY WITH THE REQUIREMENTS OF ANSI Z87.1. END BRUSH SHANKS MUST BE FULLY INSERTED INTO THE CHUCK OR COLLECT AND TIGHTENED SECURELY. REFER TO AND COMPLY WITH ANSI B 1651 FOR FURTHER SAFETY INSTRUCTIONS.



CREVICE CLEANER CAT. #921C8222

NOTES

GUARANTEES AND WARRANTIES

LIFETIME TINE GUARANTEE

Tines Guaranteed Never to Break!

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

ATTACHMENT LIMITED SERVICE & WARRANTY POLICY

The Mantis Tiller and its attachments are guaranteed against defects in material and workmanship for a period of TWO YEARS FROM DATE OF PURCHASE. All tines for the tiller are guaranteed for life against breakage. Any Mantis products or parts found to be defective within the warranty period are to be returned to our factory at Southampton, Pennsylvania.

Transportation charges on parts and units submitted for replacement under this warranty must be borne by the purchaser.

THIS WARRANTY shall not be effective if the product has been the subject of misuse, negligence or accident or if the product has been repaired or altered outside of our Southampton factory in any respect which affects its condition or operation.

Mantis shall not be liable for any special indirect or consequential damages arising from defective equipment. Any implied warranty, including merchantability or fitness for a particular purpose, shall not extend beyond the written warranty period.



Div. of Schiller-Pfeiffer, Inc.

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**For additional information on the care and use of any Mantis attachment,
contact your local authorized Mantis dealer.**

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