

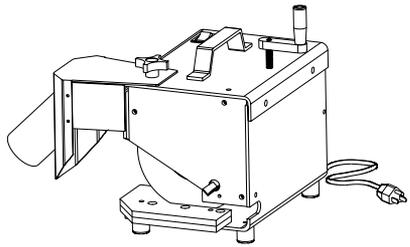
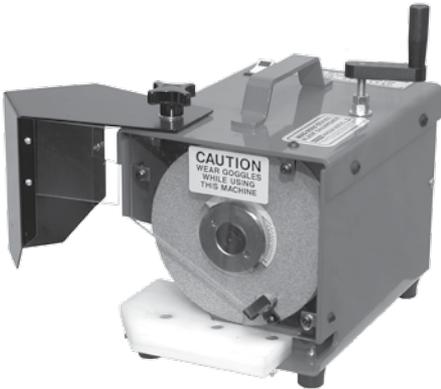
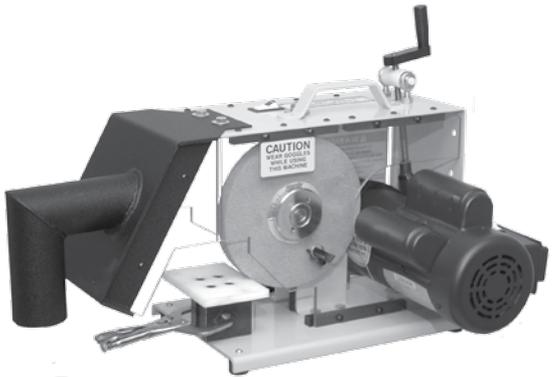
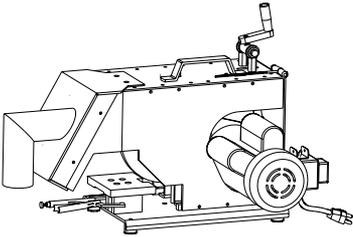
OPERATING INSTRUCTIONS

For Magna-Matic Sharpeners

Covering Models:

MAG-8000 Universal Lawn Mower Blade Sharpener

MAG-9000 Lawn Mower Blade Sharpener



Visit us at www.magna-matic.com for more photos of products & other helpful info.

Helping you get the most out of your shop for the last 40 years.

THE **SAFE WAY** IS THE **ONLY WAY** TO GRIND!



Instructions given with this symbol are for personal safety. Be sure you and your employees follow them. A careful operator is the best insurance against accidents.



Before handling any equipment read and understand the instructions.

WARNING

When using electric tools, basic safety precautions should always be followed to reduce the risk of fire, electric shock, and personal injury including the following.



1. Grounding Instructions - This tool must be grounded while in use to protect the operator from electric shock. The tool is equipped with an approved three conductor cord and three prong grounding type plug to fit the proper grounding type receptacle. The green (or green and yellow) wire is the grounding wire.



2. Extension Cords - Use only three wire extension cords which have three prong grounding type plugs and three pole receptacles which accepts the tool's plug. Replace or repair damaged cords.



3. Keep Work Area Clean - Cluttered areas and benches invite accidents.



4. Consider Working Environment - Don't use power tools in damp or wet locations. Keep work area well lit. Don't expose power tools to rain. Do not use tool in presence of flammable liquids or gases.



5. Keep Children Away - All visitors should be kept a safe distance from the work area. Do not let visitors have contact with the tool or the extension cord.



6. Store Idle Tools - When not in use, tools should be stored in dry, high or locked-up places out of reach of children.



7. Don't Force Tool - It will do the job better and safer at the rate for which it was designed.



8. Don't Over-Reach - Keep proper footing and balance at all times.



9. Wear Proper Apparel - Do not wear loose clothing or jewelry that can get caught in moving parts. Rubber gloves and non-skid foot wear are recommended when working outdoors. Wear protective hair covering to contain long hair.



10. Use Safety Glasses - Also face or dust mask-wrap around goggles, or other eye protection.



11. Don't Abuse Cord - Never carry tool by cord or yank it to disconnect from receptacle. Keep cord from heat, oil, and sharp edges.



12. Disconnect Tool - When not in use; before servicing; when changing grinding wheel.



13. Avoid Accidental Starting - Don't carry plugged in tool. Be sure switch is off when plugging in.



14. Grinding Wheels - Use only grinding wheels having a maximum operating speed of 5500 RPM. KEEP GUARDS IN PLACE.



15. Guard Against Electrical Shock - Prevent body contact with grounded surface. For example: pipes, radiators, etc.



16. Stay Alert - Watch what you are doing. Use common sense. Do not operate tool when you are tired, or under the influence of any drugs or alcohol.



17. Check Damaged Parts - Before further use of the tool, a guard or other part that is damaged should be carefully checked to determine that it will operate properly and perform its intended function. Check for alignment of moving parts, breakage of parts, mounting and any other condition that effect its operation. All parts should be properly repaired or replaced. Do not use this tool if the switch does not turn it on or off.



18. Never Leave Tool Unattended - Turn the power off. Don't leave the tool until it comes to a complete stop.

19. Replace Cracked Wheels Immediately.



20. Read - the enclosed A Primer on Grinding Wheel Safety (NORTON® Publication)

21. Never attach the provided spanner wrench ,arbor wrench, or any other object to the grinder.

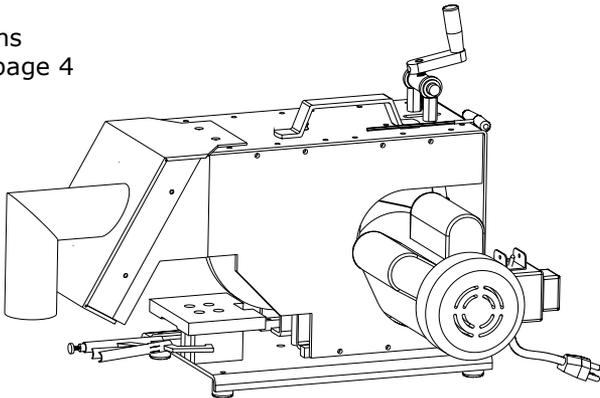
Model Descriptions

If you have further questions or do not understand any of the instructions please contact us! We are happy to give any needed extra explanation. **Thank you for your purchase of MAGNA-MATIC high-performance service tools.**

MAG-8000 Universal Lawn Mower Blade Sharpener

The MAG-8000 is the latest technology in rotary lawn mower blade sharpening. It holds 3 patents for its revolutionary design. Since its release in 1999 the MAG-8000 has quickly become the standard in the Outdoor Power Equipment Industry. The MAG-8000 is designed to sharpen almost all lawn mower blades, conventional blades (straight flat cutting edges) and mulching blades (curved cutting edges.)

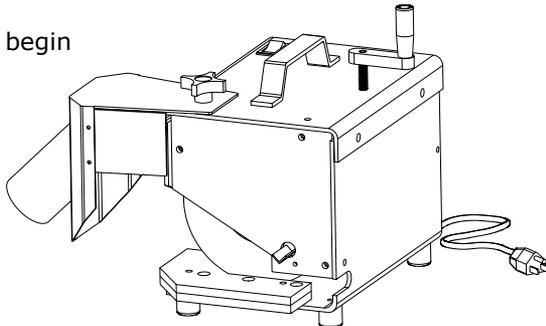
Instructions
begin on page 4



MAG-9000 Lawn Mower Blade Sharpener

The MAG-9000 is a solid low cost solution in rotary lawn mower blade sharpening. It provides you with 60 second per blade sharpening performance in a small package. Since its release in 1987 the MAG-9000 has become a best friend of lawn care professionals. The MAG-9000 is designed to be a compact sharpener for conventional blades (straight flat cutting edges).

Instructions begin
on page 16



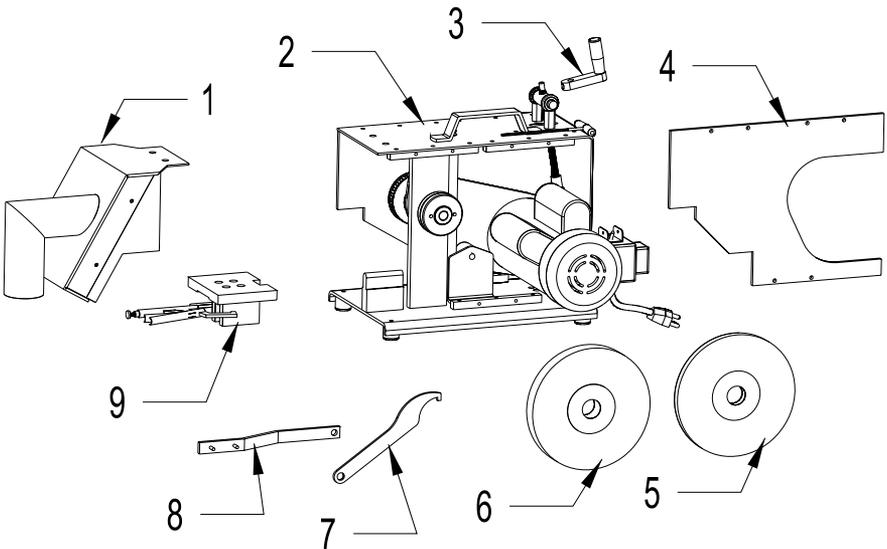
Begin The Assembly

Step 1: MAG-8000

Unpack the MAG-8000, please keep the box and packaging in case of shipping damage or any need for return. When unpacking the MAG-8000 take stock of all the items in the box.

Parts Inventory

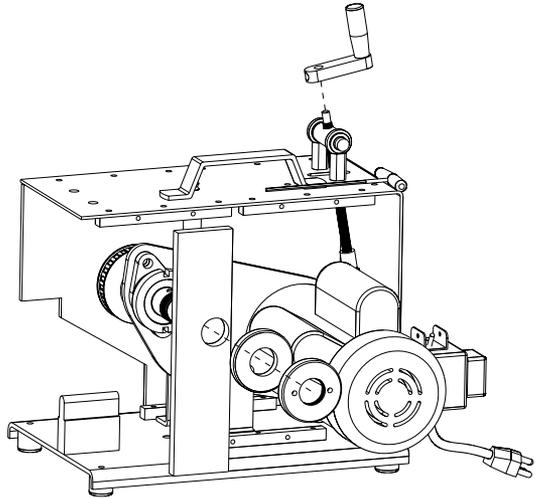
Qty	Description	Key #
1	Grit Guard	1
1	Sharpener Body	2
1	Crank Handle	3
1	Motor Side Lexan® Guard	4
1	Grinding Wheel (1/2" wide)	5
1	Grinding Wheels (1" wide)	6
1	Arbor Wrench	7
1	Spanner Wrench	8
1	Mobile Work Table	9



MAG-8000 Assembly

Step 2:

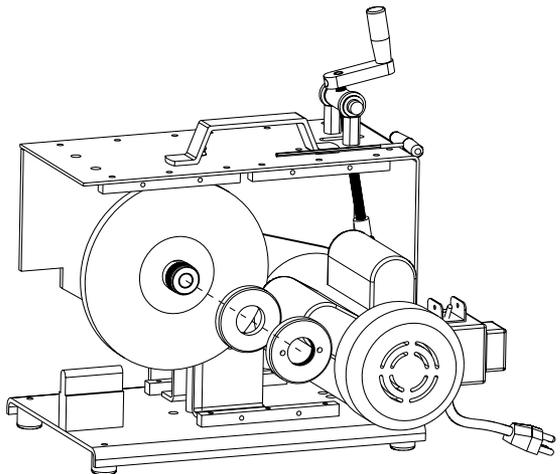
First remove the TRANSPORT BRACKET from the MAG-8000 arbor, keep the transport bracket for any future shipping needs. You will need to remove the black bolting bar to allow clearance for the transport bracket to be removed. Use the spanner wrench if needed to remove the arbor nut. Assemble the crank handle, align the set screw to the milled flat on the threaded adjustment rod, and use the Bondhus 1/8" wrench to tighten the set screw.



Step 3:

Mount a grinding wheel to the MAG-8000 arbor. One inch wide wheels are best used with conventional lawn mower blades, and the half-inch wide wheels are required for mulching blades.

NOTE: when mounting the half-inch grinding wheel the ARBOR SPACER is required. The ARBOR SPACER is NOT required for 1 inch wide wheels. See above diagram.

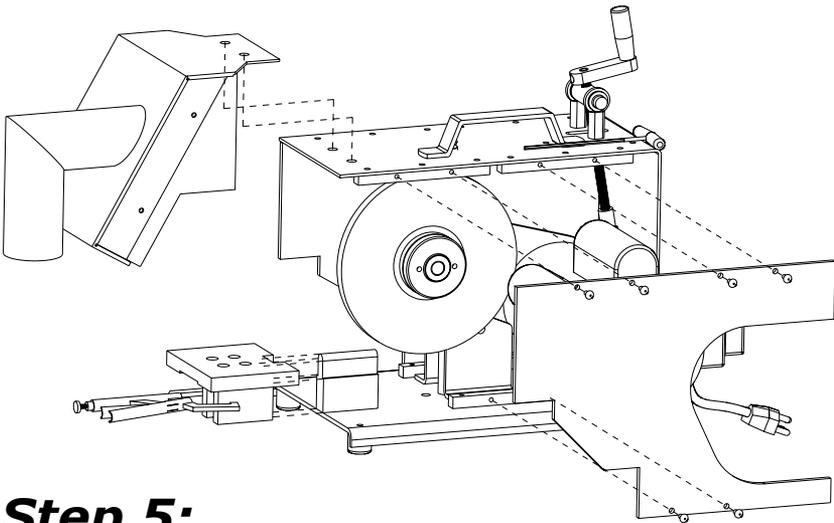


MAG-8000 Assembly Con't

Step 4:

Assemble the grit guard to the MAG-8000 using the bolts found on the grit guard. Do not tighten the Lexan® windows on the grit guard (they will be tightened in a later step).

Assemble Motor Side Lexan® Guard to the MAG-8000. The motor side Lexan® guard will slide behind the grit guard Lexan® window - slide it forward to clear the motor capacitors - then align the holes and fasten the guard to the bolting bars. Raising or lowering the motor with the angle adjustment crank will provide more clearance. Use the hardware in the holes and the Bondhus T-handle wrench. Be sure to tighten 3 bolts under the MAG-8000, and the 6 along the top to secure the bolting bars holding the Lexan® guard. Lastly tighten the grit guard's Lexan® windows.



Step 5:

Testing the unit, be sure the grinding wheel moves freely. Ensure the MAG-8000 ON/OFF switch is in the OFF POSITION, plug the MAG-8000 into a 20 amp, 110 volt outlet. Switch the ON/OFF switch to the ON POSITION to test the motor. The motor should achieve FULL speed in 1-2 seconds. If it does not, see page 13, or contact MAGNA-MATIC (800-328-1110).

MAG-8000 Use

Step 6: Mulching Blades

Be sure to wear protective clothing before handling and sharpening lawn mower blades. Wear safety glasses and protective gloves.

Blade & Sharpener Preparation

1. Clean the blade to its base material, using the MAG-12000 blade cleaner, or alternate cleaning process.
2. Check the straightness with the gauge rod of the MAG-1000 blade balancer. (Never straighten bent blades!)
3. Obtain a balance reading from the MAG-1000 to indicate the light end of the lawn mower blade. Once the light end is sharpened, it is complete. The heavy end is used to remove material for balance. SEE MAG-1000 Instruction Manual for more info on blade balancing.
4. The MAG-8000 will require the 1/2" inch wide grinding wheel to sharpen a mulching blade. Mount the 1/2" wide grinding wheel on the MAG-8000. (Arbor spacer req.)
5. The fixed 1/2" wide curved metal work table will be needed to sharpen a mulching blade, remove the clamp-able mobile work table.
6. Lower the grinding wheel with the adjustment crank, stop just before you grind the corner of the work table. When the grinding wheel is almost touching the corner of the work table (curved or mobile work tables) you will produce a 30 degree angle on the lawn mower blade. (see page 8)

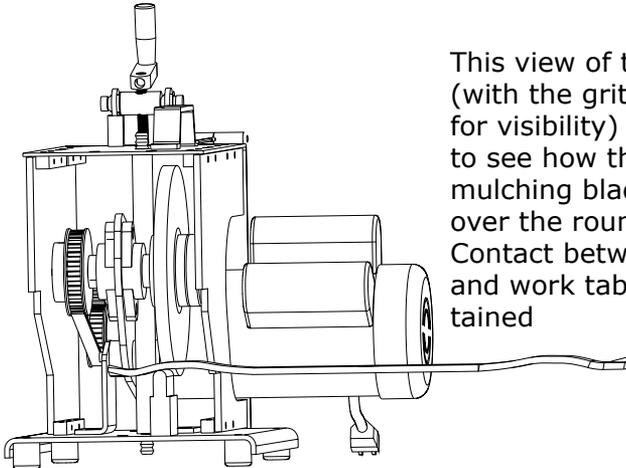
Mulching Blade Sharpening

7. Switch the ON/OFF switch to the ON position.
8. Place the mulching blade in the MAG-8000 starting at the inside of the edge (closest to the mounting hole), and pull the blade across the grinding wheel (perpendicular to the rotation of the grinding wheel, see page 10.) Keep firm pressure downward on the blade to maintain contact with the rounded surface of the work table. Allow the work table to follow the contours of the mulching blade. Take one pass at a time. Use even pressure into the grinding wheel to achieve an even stream of sparks.

MAG-8000 Use Con't

Step 6: Con't

9. When using the MAG-8000 for mulching blades keep the blade level, and perpendicular to the rotation of the grinding wheel. Pay close attention to the TIP of the blade, see page 25.



This view of the MAG-8000 (with the grit guard removed for visibility) you are able to see how the curved edge mulching blade should follow over the rounded work table. Contact between the blade and work table must be maintained

Adjusting the Edge Angle

Applies to both MAG-8000 and MAG-9000

30 Degree Reference Point - When the grinding wheel is lowered to the work table (almost cutting the work table corner) you will produce a 30 degree angle on the lawn mower blade. As the grinding wheel wears and reduces in diameter, continue to lower the grinding wheel to almost touch the work table to maintain a consistent 30 degree edge angle on a blade.

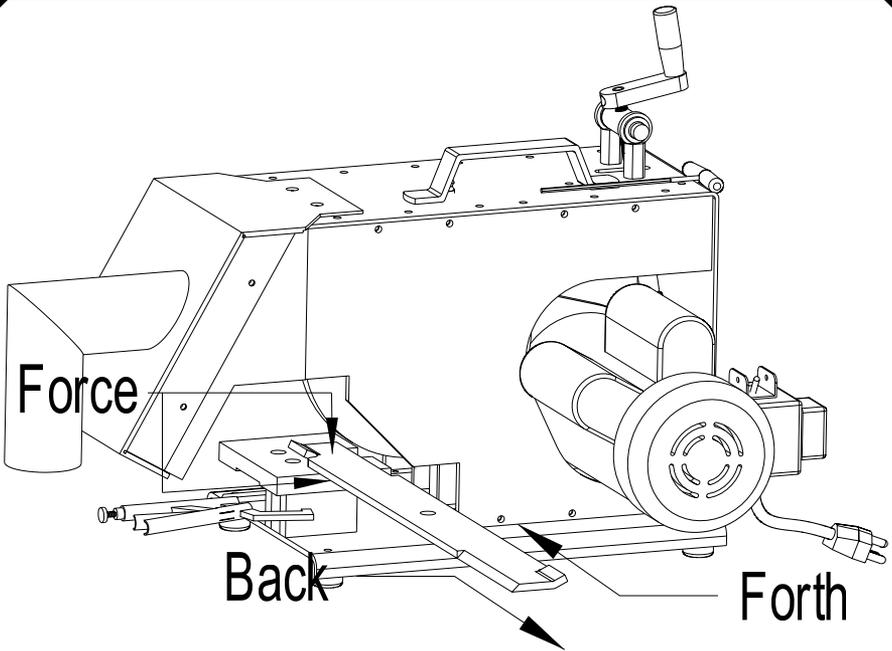
The edge angle can be varied plus or minus the 30 degree reference point via the adjusting crank. Lowering the grinding wheel into the work table (grinding into the work table) will result in a greater than 30 degree angle (a steeper angle.) Note, you will be creating a new angle reference point Raising the grinding wheel will result in a lesser than 30 degree angle (a more shallow angle.)

MAG-8000 Use Con't

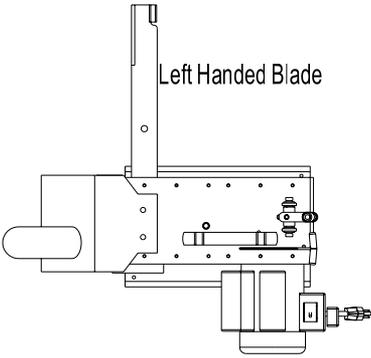
Step 7: Conventional Blades

Blade & Sharpener Preparation

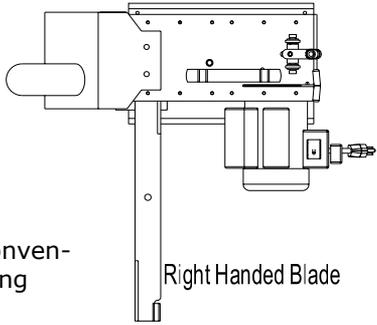
1. Clean the blade to its base material, using the MAG-12000 blade cleaner, or alternate cleaning process.
2. Check the straightness with the gauge rod of the MAG-1000 blade balancer. (Never straighten bent blades!)
3. Obtain a balance reading from the MAG-1000 to indicate the light end of the lawn mower blade. Once the light end is sharpened, it is complete. The heavy end is used to remove material for balance. SEE MAG-1000 Instruction Manual for more info on blade balancing.
4. The MAG-8000 will require the 1" inch wide grinding wheel to sharpen a conventional blade. Mount the 1" wide grinding wheel on the MAG-8000. (1/2" wide grinding wheel may be used for conventional blades)
5. The mobile work table will be needed to sharpen a conventional blade, slide the mobile work table over the curved 1/2" wide work table, and clamp it tight with the attached vice grip.
6. Lower the grinding wheel with the adjustment crank, stop just before you grind the corner of the work table. When the grinding wheel is almost touching the corner of the work table (curved or mobile work tables) you will produce a 30 degree angle on the lawn mower blade. (see page 8)
7. Place the conventional blade on the flat work table and pull and push the blade across the grinding wheel (perpendicular to the rotation of the grinding wheel, see page 10.) Keep firm pressure downward on the blade to maintain contact with the surface of the work table. The force into the grinding wheel should be substantial, resulting in a continuous stream of sparks from the grinding wheel. The grinding process should be continuous without interruption until finished. Pay close attention to the TIP of the blade, see page 25.



The above diagram shows the application of movement and force to the blade during sharpening a conventional blade. Note, for curved edge mulching blades, it is the same except for the "forth" or inward fed motion. You will maintain much more control if you only "pull" mulching blades through the MAG-8000. It is critical with both blade types that the operator keeps downward pressure "force" on the blade, this will prevent chattering and keep the grinding wheel "true" or round.



Left Handed Blade



Right Handed Blade

Overhead view of blade approach - applies to both conventional and curved edge mulching blades.

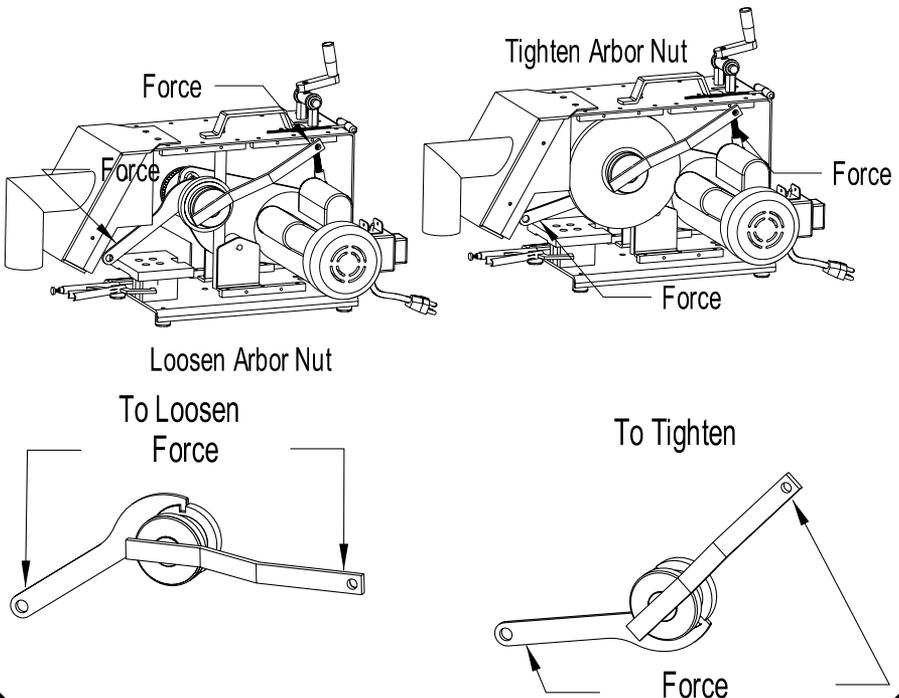
MAG-8000 Wheel Replacement

Be sure the MAG-8000 is unplugged. Using a 1/8" Allen wrench (supplied with MAG-8000) remove the (6) screws of the front Lexan® guard. Locate your spanner wrench and arbor wrench (both supplied by Magna-Matic.) The arbor wrench fits into a square notch in the arbor, behind the grinding wheel, and the spanner wrench fits into the two holes in the arbor nut. See diagrams below.

Always inspect grinding wheels for possible damage - never mount a cracked grinding wheel.

For optimum performance use only grinding wheels specified by Magna-Matic. All NORTON® brand grinding wheels sold by Magna-Matic are speed tested for 5500 RPM

**NOTE: Arbor has LEFT HANDED THREADS.
MAG-8000 OEM WHEEL = 9000-35RP &
8000-30RP**



MAG-8000 Care & Service

General Care:

Keep the MAG-8000 clean, use compressed air to blow the machine off periodically. Use mild soapy water to clean powder coated surfaces and Lexan® guards.

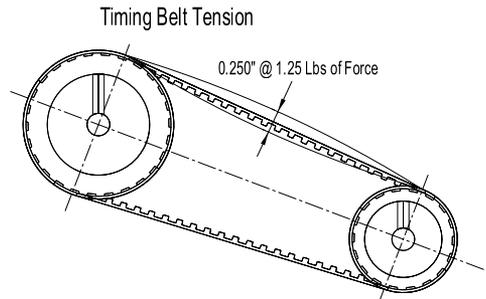
Greasing of Bearing Blocks:

Care should be taken when re-greasing bearings to avoid overfilling. Overfilling can lead to excessive heat and or unseating of the seals. Grease should be introduced in small increments and under light pressure. The use of pneumatic greasing is not recommended unless low pressure is assured. Whenever possible, the shaft should be rotated during re-lubrication to insure proper grease distribution throughout the raceways.

3-6 Months OR 500-1000 Machine Hours - Fill with 2 grams.

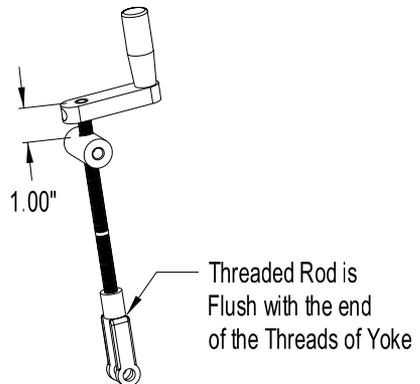
Timing Belt Replacement

See the diagram to the right for proper belt tension. Tension can be applied either at the bolts of the motor or bearing blocks. There is slight play in the holes to apply or relieve belt tension.



Angle Adjustment Timing

When replacing the adjustment trunnion allow one inch of space from the top of the threaded rod to the top of the trunnion. When replacing the yoke, the threaded rod should be flush with the end of the threads of the yoke before connecting to the pivot plate.



MAG-8000 Trouble-Shooting

The MAG-8000 will not start.

Double check that the MAG-8000 is plugged in a 20 amp (minimum) circuit. Due to the "instant starting" of the MAG-8000 it has a tremendous starting draw, therefore a minimum 20 amp circuit is required.

Check all building fuses or circuit breakers.

To diagnose a ON/OFF switch problem, (unplug from power source.) Open the square access panel below the switch, and disconnect the (2) wires from the switch (label the wires before disconnecting.) Directly connect and insulate the (2) wires. Plug the MAG-8000 into a power source, this should start the motor without the switch.

If the MAG-9000 still does not start after this test, the solid state switch, capacitors, or the motor is no longer functioning and must be replaced. Call 800-328-1110 for replacement parts or a warranty issue.

The MAG-8000 is vibrating.

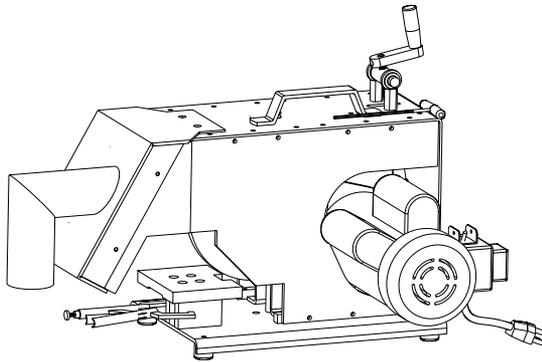
This is caused by a grinding wheel that is "out-of-round" or "out-of-balance" - this will happen when the user does not apply downward pressure on the blade when sliding it back and forth in the MAG-8000. Also, on occasion, grinding wheels can have a "hard spot" which will also cause this.

To repair the wheel you can dress it with a grinding wheel dressing tool, or you can use an old lawn mower blade. When using the old lawn mower blade find a portion of the blade that is square stock (near the mounting hole - not on an edge) and grind it with the MAG-8000, but do not go back and forth - simply keep pressure down on the work table and into the wheel evenly. This will re-shape the wheel back into a circle.

The MAG-8000 belt is not tight (or making excessive noise.)

See page 12 on how to re-tension the belt. Also note having the blade extremely tight will create a high pitched noise, and significantly reduce the life of the belt.

MAG-8000 Specifications



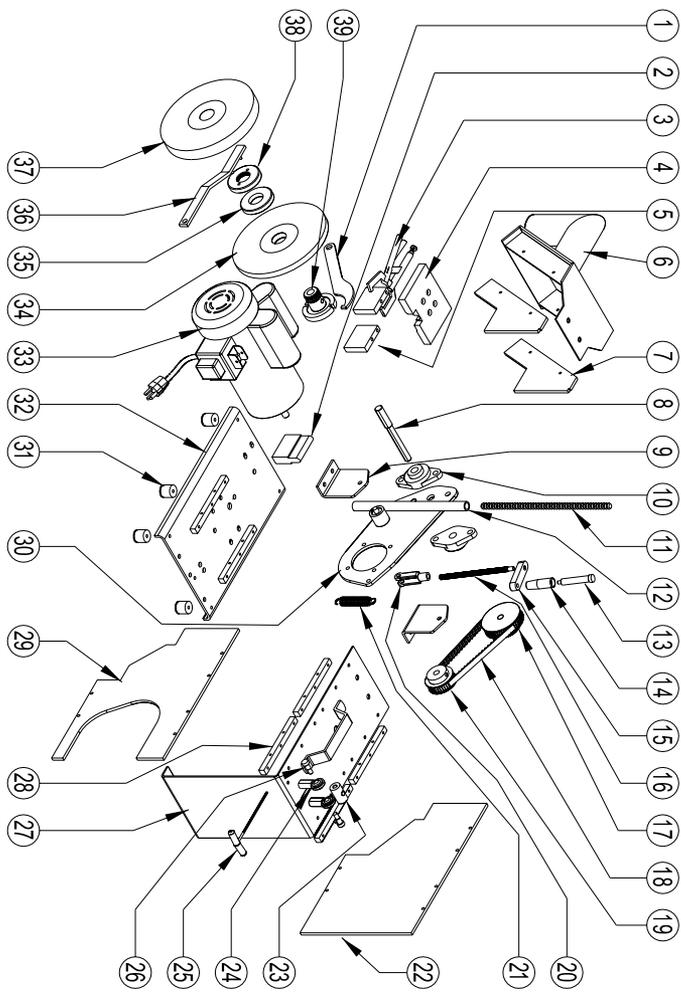
	MAG-8000	MAG-8000 (Euro)
Length	24 inches	60.9 cm
Width	12 inches	30.5 cm
Height	17 inches	43.1 cm
Weight	80 LBS	36 kg
Ship Weight 1 box	85 LBS	38 kg
Motor Specs	BALDOR® ELECTRIC	BALDOR® ELECTRIC
Horse Power	1	1
RPM	3450	2850
Duty Cycle	Continuous	Continuous
Hertz	60	50
Volts	115	220
Phase	Single	Single
Capacitors	Dual (2)	Dual (2)
Solid State Switch	Yes	Yes
Motor Type	Industrial - Totally Enclosed	Industrial - Totally Enclosed
Insulation	Class F	Class F
Direction	Single Direction	Single Direction
Fan Cooled	Yes	Yes
Transmission	Timing belt/pulley	Timing belt/pulley
Grinding Wheels	NORTON® Abrasives	NORTON® Abrasives
Wheel Dimensions	7" dia x 1" thick x 1-1/4" dia arbor 7" dia x 1/2" thick x 1-1/4" dia arbor	17.7 cm dia x 2.5 cm thick x 3.18 cm dia arbor 17.7 cm dia x 1.27 cm thick x 3.18 cm dia arbor

Parts Drawing for the MAG-8000 Series Universal Lawn Mower Blade Sharpener

Phone: 1-800-328-1110

www.magna-matic.com

Key	Part #s	Description
1	9000-53	Arbor Wrench
2	8000-1	Curved Work Table
3	8000-2	Work Table Leg w/ Vice
4	8000-3	Work Table
5	8000-4	Work Table Leg w/o Vice
6	8000-5	Grit Guard
7	8000-6	Grit Guard Window (2)
8	8000-7	Drive Shaft 5.75" Lg
9	8000-8	Pivot Angle (2)
10	8000-9	Flange Bearing (2)
11	8000-10	Threaded Rod 1/2"
12	8000-11	Spacer Tube
13	9000-15	Shoulder Bolt 3" Lg
14	9000-14	Crank Handle
15	9000-13	Crank Base
16	8000-12	Adjusting Rod
17	8000-15	Pulley 24 Tooth
18	8000-14	Timing Belt
19	8000-13	Pulley 20 Tooth
20	8000-16	Threaded Adjusting Yoke
21	9000-25	Spring
22	8000-17	Rear Lexan Window
23	8000-18	Tunnion Adjuster
24	8000-19	Tunnion Pivot Bearing
25	8000-28	Hex-Wrench 1/8" 6"Lg
26	8000-29	Shoulder Bolt 1/2" Lg
27	8000-20	Top Body Plate
28	8000-21	Boiling Bar (6)
29	8000-22	Front Lexan Window
30	8000-23	Pivot Plate
31	9000-11	Rubber Feet (4)
32	8000-24	Bottom Body Plate
33	8000-25	Motor (1Hp 3450RPM)
34	8000-30	Grinding Wheel 1/2"Wide
35	8000-27	Arbor Spacer
36	9000-21	Spanner Wrench



37	9000-35	Grinding Wheel 1"Wide	W4599 Cly Rd 1W	Waldo WI 53093 USA	Phone: (920) 564-2366	Rev: Oct 5 2005
38	9000-19	Arbor Nut				
39	9000-20	Arbor				

Drawn by: Erik F. Bauer

Date: Jan 7 2001

Rev: Oct 5 2005



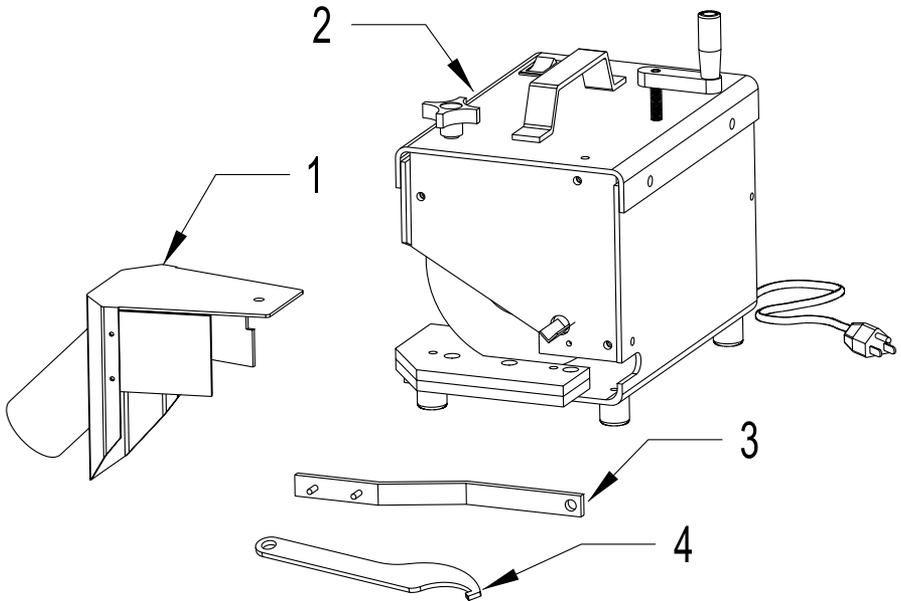
Begin The Assembly

Step 1: MAG-9000

Unpack the MAG-9000, please keep the box and packaging incase of shipping damage or any need for return. When unpacking the MAG-9000 take stock of all the items in the box.

Parts Inventory

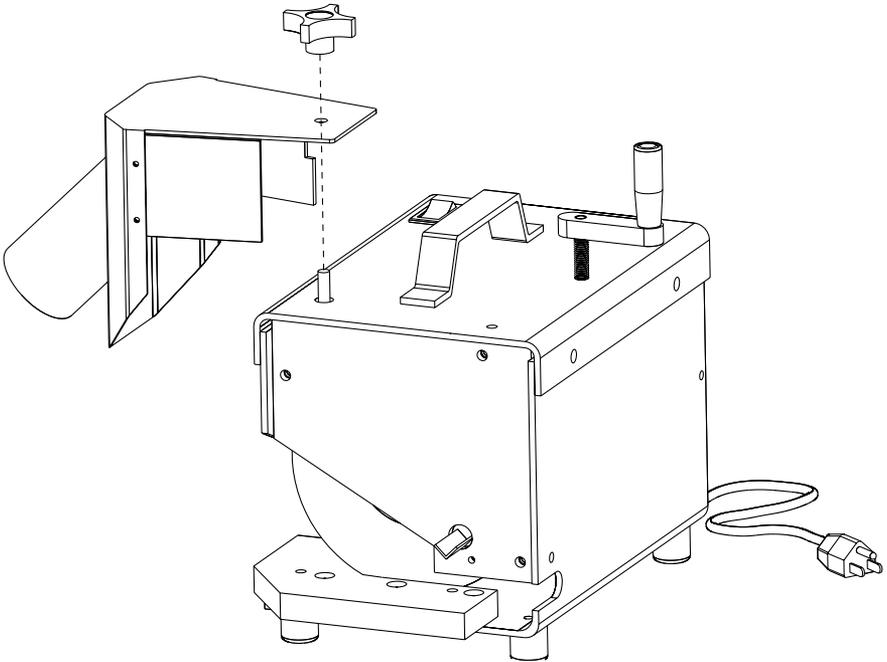
Qty	Description	Key #
1	Grit Guard	1
1	Sharpener Body	2
1	Spanner Wrench	3
1	Arbor Wrench	4



MAG-9000 Assembly

Step 2:

First assemble the grit guard to the MAG-9000 body using the plastic knob located on the top of the MAG-9000.



Step 3:

Be sure the MAG-9000 is unplugged, and adjust the angle adjustment crank to make sure the grinding wheel freely rotates. SEE PAGE 8 for information on EDGE ANGLE ADJUSTMENT

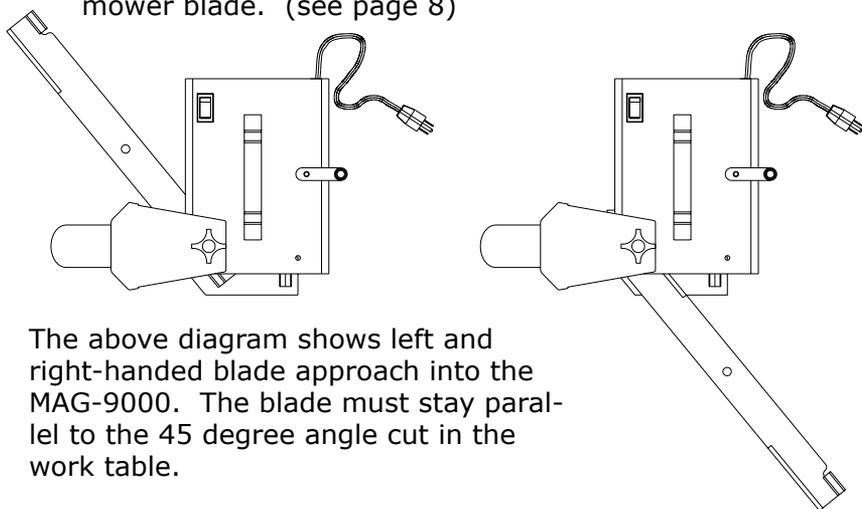
MAG-9000 Use

Step 4: Conventional Blades

Be sure to wear protective clothing before handling and sharpening lawn mower blades. Wear safety glasses and protective gloves.

Blade & Sharpener Preparation

1. Clean the blade to its base material, using the MAG-12000 blade cleaner, or alternate cleaning process.
2. Check the straightness with the gauge rod of the MAG-1000 blade balancer. (Never straighten bent blades!)
3. Obtain a balance reading from the MAG-1000 to indicate the light end of the lawn mower blade. Once the light end is sharpened, it is complete. The heavy end is used to remove material for balance. SEE MAG-1000 Instruction Manual for more info on blade balancing.
4. Lower the grinding wheel with the adjustment crank, stop just before you grind the corner of the work table. When the grinding wheel is almost touching the corner of the work table you will produce a 30 degree angle on the lawn mower blade. (see page 8)



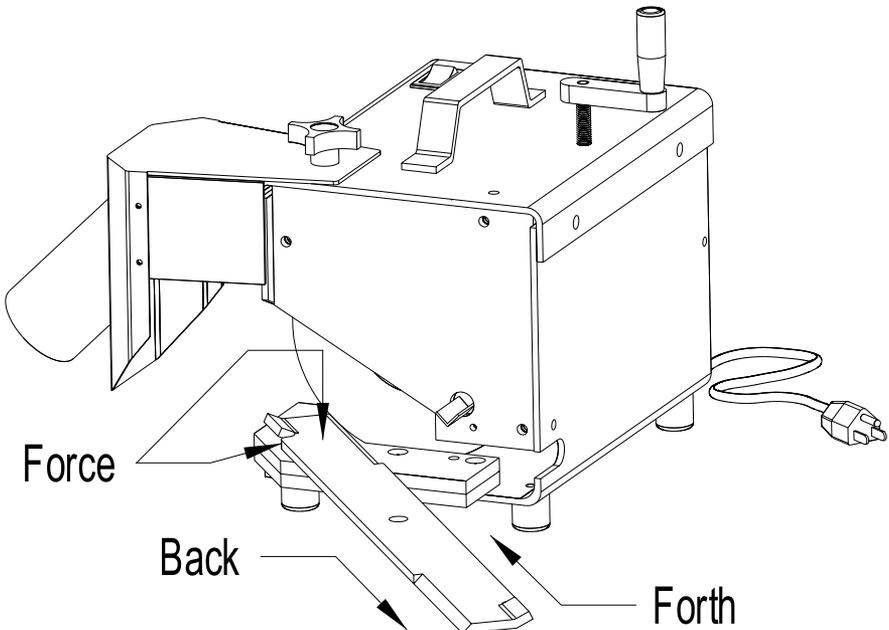
The above diagram shows left and right-handed blade approach into the MAG-9000. The blade must stay parallel to the 45 degree angle cut in the work table.

MAG-9000 Use

Step 4: Conventional Blades

Conventional Blade Sharpening

7. Switch the ON/OFF switch to the ON position.
8. Place the conventional blade on the flat work table and pull and push the blade across the grinding wheel. Keep firm pressure downward on the blade to maintain contact with the surface of the work table. The force into the grinding wheel should be substantial, resulting in a continuous stream of sparks from the grinding wheel. The grinding process should be continuous without interruption, until finished. Take extra care when near the TIP of the blade, it is critical that the TIP does not become rounded. SEE PAGE 25 TIP GEOMETRY. Note: the grinding wheel will dress to a 45 degree angle - this is normal and intended.



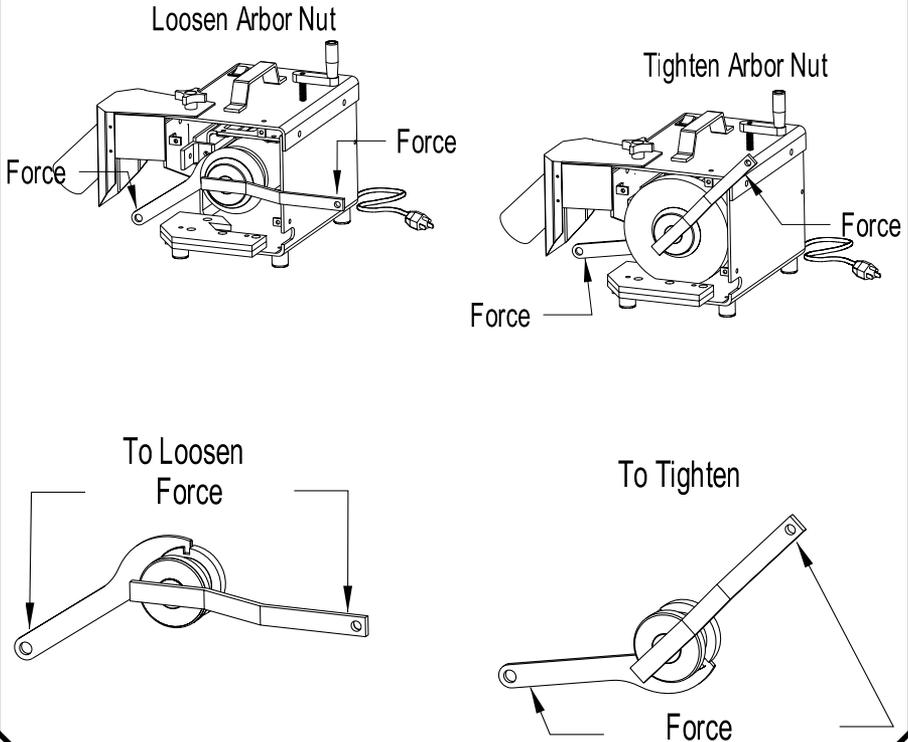
MAG-9000 Wheel Replacement

Be sure the MAG-9000 is unplugged. Using a 5/32" Allen wrench remove the (3) screws of the front Lexan® guard. Locate your spanner wrench and arbor wrench (both supplied by Magna-Matic.) The arbor wrench fits into a square notch in the arbor, behind the grinding wheel, and the spanner wrench fits into the two holes in the arbor nut. See diagrams below.

Always inspect grinding wheels for possible damage - never mount a cracked grinding wheel.

For optimum performance use only grinding wheels specified by Magna-Matic. All NORTON® brand grinding wheels sold by Magna-Matic are speed tested for 5500 RPM

**NOTE: Arbor has LEFT HANDED THREADS.
MAG-9000 OEM WHEEL = 9000-23RP**



MAG-9000 Trouble-Shooting

The MAG-9000 will not start.

Double check that the MAG-9000 is plugged in a 15 amp (minimum) circuit.

Check all building fuses or circuit breakers.

First determine what type of switch your MAG-9000 has.

(1987 - 1996 metal toggle switch)

(1997 - 2005 plastic lit rocker switch)

(2006 - present metal toggle switch)

To diagnose a ON/OFF switch problem, (unplug from power source) remove the back screen cover. Disconnect the (2) black wires, one from the motor and one from the cord set. Directly connect and insulate the (2) black wires. Plug the MAG-9000 into a power source, this should start the motor without the switch. The third "red or blue" wire is only for the switch's light [MAG-9000 sharpeners with the metal toggle switch do not have this wire because there is no light.]

If the MAG-9000 still does not start after this test, the capacitor or the motor is no longer functioning and must be replaced. (SEE WIRING DIAGRAM PAGE 22)

Call 800-328-1110 for replacement parts or a warranty issue.

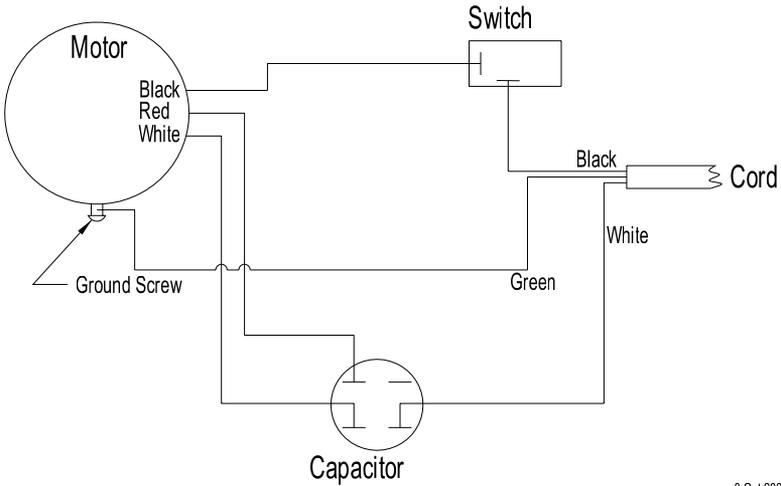
The MAG-9000 is vibrating.

This is caused by a grinding wheel that is "out-of-round" or "out-of-balance" - this will happen when the operator does not apply downward pressure on the blade when sliding it back and forth in the MAG-9000. Also, on occasion, grinding wheels can have a "hard spot" which will also cause this.

To repair the wheel you can dress it with a grinding wheel dressing tool, or you can use an old lawn mower blade. When using the old lawn mower blade find a portion of the blade that is square stock (near the mounting hole - not on an edge) and grind it with the MAG-9000, but do not go back and forth - simply keep pressure down on the work table and into the wheel evenly. This re-shape the wheel back into a circle

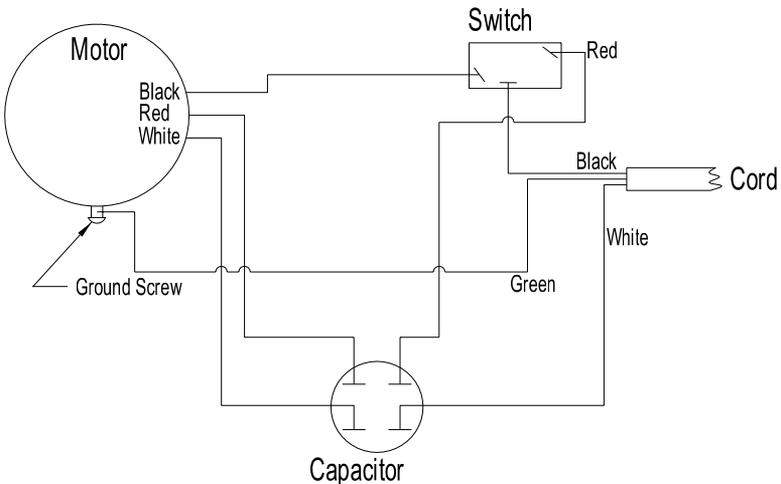
MAG-9000 Trouble Shooting

Mag-9000 Wiring Diagram For Metal Toggle Switch



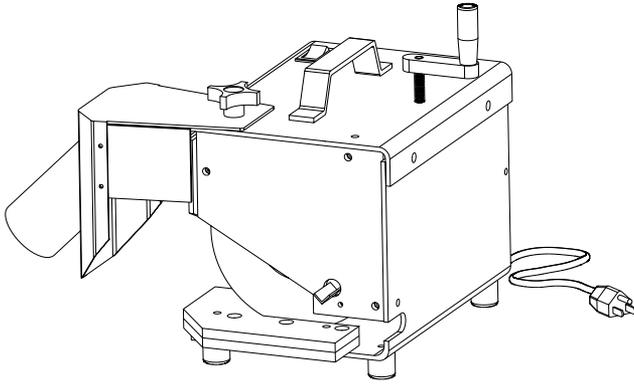
8 Oct 2005

Mag-9000 Wiring Diagram For Lit Rocker Switch



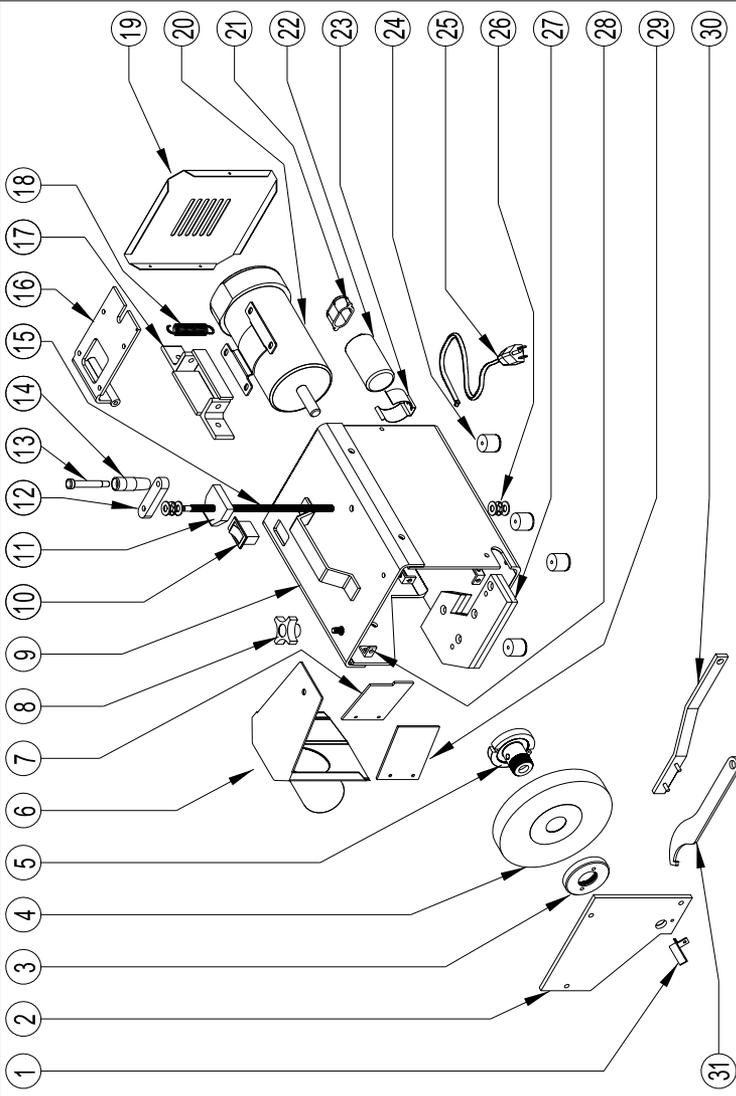
8 Oct 2005

MAG-9000 Specifications



	MAG-9000	MAG-9000 (Euro)
Length	12 inches	30.5 cm
Width	8 inches	20.3 cm
Height	8 inches	20.3 cm
Weight	45 LBS	20 kg
Ship Weight 1 box	48 LBS	22 kg
Motor Specs	LEESON® ELECTRIC	LEESON® ELECTRIC
Horse Power	1/2	1/2
RPM	3450	2850
Duty Cycle	Std / Intermittent	Std / Intermittent
Hertz	60	50
Volts	115	220
Phase	Single	Single
Capacitors	Single (1)	Single (1)
Solid State Switch	No	No
Thermal Protection	Yes	Yes
Motor Type	Industrial - Totally Enclosed	Industrial - Totally Enclosed
Insulation	Class F	Class F
Direction	Single Direction	Single Direction
Fan Cooled	Yes	Yes
Transmission	Direct Drive	Direct Drive
Grinding Wheels	NORTON® Abrasives	NORTON® Abrasives
Wheel Dimensions	7" dia x 1" thick x 1-1/4" dia arbor	17.7 cm dia x 2.5 cm thick x 3.18 cm

Parts Drawing for the MAG-9000 Series LawnMower Blade Sharpener



Key	Part #'s	Description
1	9000-29	Valve Stem Grinding Guide
2	9000-8	Front Lexan Plate
3	9000-19	Arbor Nut
4	9000-23	Grinding Wheel
5	9000-20	Arbor
6	9000-50	Vacuum Grit Guard
7	9000-7	Rear Lexan Grit Guard Window
8	9000-9	Knob
9	9000-17	Body
10	9000-10	Li-ON-OFF Switch
11	9000-18	Nylon Adjusting Nut
12	9000-13	Crank Base
13	9000-15	Shoulder Bolt
14	9000-14	Crank Handle
15	9000-16	Threaded Adjusting Rod
16	9000-2	Motor Pivot Bracket
17	9000-1	Body Pivot Bracket
18	9000-25	Spring For Motor Bracket
19	9000-3	Back Cover
20	9000-24	Motor (electric) 115V 60Hz 1/2Hp
21	9000-32	Rubber Boot
22	9000-31	Capacitor
23	9000-33	Capacitor Clamp
24	9000-11	Rubber Feet (4) Required
25	9000-12	Cord Set
26	9000-37	Thrust Bearing (2) Required
27	9000-22	Work Table (2) Required
28	9000-26	Angle Nut (3) Required
29	9000-6	Front Lexan Grit Guard Window
30	9000-21	Spanner Wrench
31	9000-53	Arbor Wrench

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 Drawn By: Erik F. Bauer
 Date: Jan 3 2001

Rotary Mower Blade Tip Geometry

Consider the following if you sharpen rotary lawn mower blades.

The tip of the blade does the majority of the cutting. To produce a tip, three reliefs are necessary.

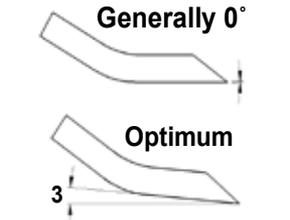
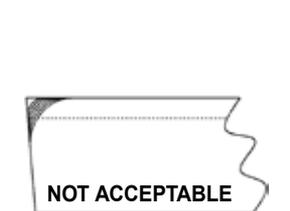
Think of a lawn mower blade as a circular saw with only "TWO TEETH" and remember the tip does the majority of the cutting work.

Repetitive observation of worn cutting edges shows that the first one inch does the majority of the cutting work.

IMPORTANT NOTES:

Attempting to straighten a lawn mower blade may cause fractures in the hardened steel of the blade and shall be avoided.

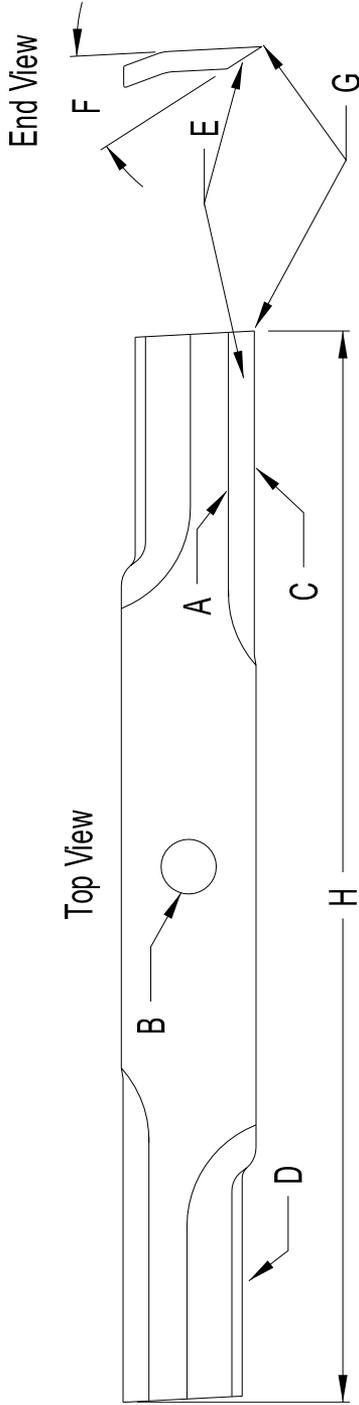
Anytime you alter the steel of the blade due to re-sharpening, wear or build-up, you change the balance.

Description	Diagram
<p>Relief 1: Top View - built into the blade. (generally 2-5 degrees)</p>	
<p>Relief 2: End View - To be re-sharpened. (generally 60 degrees)</p>	
<p>Relief 3: End View - built into the blade.</p>	<p>Generally 0°</p>  <p>Optimum</p>
<p>Top View: Worn Blade Edge</p> <p>Worn away bottom surface at tip, as shown, is a sign of poor blade maintenance. The blade will tear the grass, resulting in a poor looking lawn.</p>	 <p>NOT ACCEPTABLE</p>

Anatomy of a Lawn Mower Blade

Use this diagram when asking questions to Magna-Matic representatives, or as it is referenced in this manual.

Key	Description
A	Trailing edge of the cutting edge face
B	Mounting hole
C	Leading edge of the cutting edge face
D	Lift
E	Cutting edge face
F	Cutting edge angle (30° shown)
G	Blade cutting tip (or tooth)
H	Overall cutting diameter



WARRANTY

This warranty is extended only to MAGNA-MATIC's commercial customers. To protect the quality of this tool, every step in its manufacture has been carefully controlled. It is constructed of only the finest materials by skilled craftsmen who take pride in their work. MAGNA-MATIC CORP. warrants the tools manufactured and/or repaired to be free of defects in material and workmanship for a period of 365 days after purchase. Any tool or part proved to MAGNA-MATIC's satisfaction to be defective during that period will be repaired or replaced at MAGNA-MATIC's option if returned prepaid. MAGNA-MATIC's sole obligation and your exclusive remedy under this warranty shall be limited to such repair or replacement. In no event shall MAGNA-MATIC be liable for any consequential or incidental damages. This warranty does not apply to parts (motor & grinding wheel) not manufactured by MAGNA-MATIC or failing due to ordinary wear, subjected to abuse, accidental damage, improper operations, maintenance or repair, or to other damage by circumstances beyond MAGNA-MATIC's control.

This warranty is exclusive and in lieu of all other expressed or implied warranties including without limitation, the implied warranties of merchantability and fitness for a particular purpose.



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