

Original Instructions

MAG-8200 SERIES



**PROFESSIONAL LAWN MOWER BLADE SHARPENERS
AND ALL OPTIONS SETS**



THANK YOU,

We sincerely appreciate your decision to make Magna-Matic your lawn mower blade sharpener. We understand there are other choices in the marketplace, and we are extremely confident that after the first few blades you sharpen, it will be evident you've chosen the best machine for the job. Rest assured that if you have a question or problem you will have complete customer support for all of our products.

800-328-1110 (USA & CANADA) or 920-564-2366
<https://www.magna-matic.com>

Please be sure all the items are in the box and inspect for shipping damage, or for missing parts. Contact Magna-Matic right away to remedy any problems due to shipping. 800-328-1110

BOX INVENTORY

MAG-8200 (1/2 HP or 1 HP fixed table)

- **MAG-8200 Sharpener**
- **(1) Grit Guard top**
- **(2) Grit Guard Sides**
- **(1) Grit Guard Bottom (can be ported or not)**
- **(1) Crank handle**
- **(1) Spanner Wrench**
- **(1) Arbor Wrench**

Modular Worktable Option

- **(1) Modular worktable assembly**
- **(1) Flat table insert**
- **(1) Rounded table insert (mulching blades)**
- **(1) T-Handle wrench**
- **(1) Arbor Spacer**
- **(1) 1/2" wide grinding wheel**

Belt Grinder Option

- **(1) T-Handle wrench**
- **(1) Eyelet pull tool**
- **(1) Contact wheel and idler wheel assembly**
- **(1) 8200-215 abrasive belt**

Water-Cooled Option

- (1) Water tray
- (1) Splash guards for grit guard (left and right)
- (4) Rubber feet for water tray, hardware, and corner supports
- (1) Coolant tank with pump installed inside
- (1) Coolant filter sock
- (1) 30" length of clear tubing
- (1) Gallon jug of coolant
- (1) Refractometer
- (1) Tube of silicon
- (1) Stand shelf for tank (if purchased with stand)

QUICK START VIDEOS



QUICK START VIDEOS SCAN QR CODE

We recommend using the videos, it makes set-up and understanding the machine much easier.



Fixed worktable and non-ported grit guard bottom shown in this image.

THE SAFE WAY IS THE ONLY WAY TO GRIND!



WARNING

WHEN USING ELECTRIC TOOLS, BASIC SAFETY PRECAUTIONS SHOULD ALWAYS BE FOLLOWED TO REDUCE THE RISK OF FIRE, ELECTRIC SHOCK, AND PERSONAL INJURY.



CAUTION




LAWN MOWER BLADES HAVE SHARP EDGES - ALWAYS WEAR PROTECTIVE GLOVES AND SAFETY GLASSES!












Before handling any equipment read and understand the instructions.

- **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.
- **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.
- **Keep Work Area Clean** - Clean benches and floors to prevent slip, trip, or falls.
- **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.
- **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.
- **Store Idle Tools** - When not in use, tools should be stored in dry, high or locked-up places out of reach of children.
- **Do Not Force Tool** - It will do the job better and safer at the rate for which it was designed.
- **Do Not Over-Reach** - Keep proper footing and balance at all times
- **Use Safety Glasses** - Also face or dust mask-wrap around goggles, or other eye protection.
- **Wear Proper Apparel** - Do not wear loose clothing or jewelry that can get caught in moving parts. Gloves and non-skid footwear are required when working. Wear protective hair covering to contain long hair.
- **Do Not Abuse Cord** - Never carry tool by cord or pull it to disconnect from receptacle.
- **Keep cord away** from heat, oil, and sharp edges.
- **Disconnect Tool** - When not in use; before servicing; when changing grinding wheels.
- **Avoid Accidental Starting** - Don't carry plugged in tool. Be sure switch is off when plugging in.
- **Grinding Wheels** - Use only grinding wheels having a maximum operating speed of 5500 RPM.
- **KEEP GUARDS IN PLACE.**
- **Guard Against Electrical Shock** - Prevent body contact with grounded surface. For example: pipes, radiators, etc.
- **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.
- **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.
- **Never Leave Tool Unattended** - Turn the power off. Don't leave the tool until it comes to a complete stop.
- **Read "A Primer on Grinding Wheel Safety"** <https://www.magna-matic.com>

SAFETY LABELS

SAFETY COLOR	DEFINITION
 DANGER	Interaction with the hazard will cause severe injury or death.
 WARNING	Interaction with the hazard could cause severe injury or death.
 CAUTION	Interaction with the hazard could cause minor or moderate injury.

SAFETY ICON	DEFINITION
	
	Read all included manuals and bulletins included with this equipment.
	Always wear protective gloves when operating this equipment. Gloves are required.
	Always wear protective eye wear when operating this equipment. Eye protection required.
	Always wear protective hearing protection when operating this equipment. Hearing protection required.
	Always wear respiratory protection when operating this equipment. Respiratory protection required.

SAFETY ICON	DEFINITION
	Keep clear of the grinding wheel. Contact will cause severe cuts or abrasions. Always keep safety guards in place.
	Disconnect power before servicing machine Always keep safety panels in place.
	Keep clear of pulleys and belts. Contact will cause severe injury. Always keep safety guards in place.

QUICK START VIDEOS



ASSEMBLY & TESTING



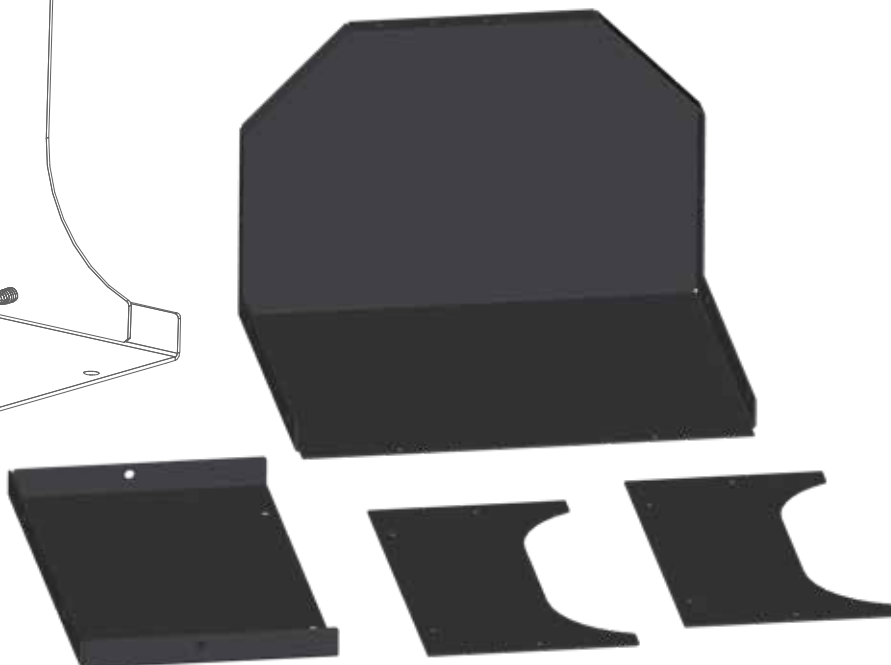
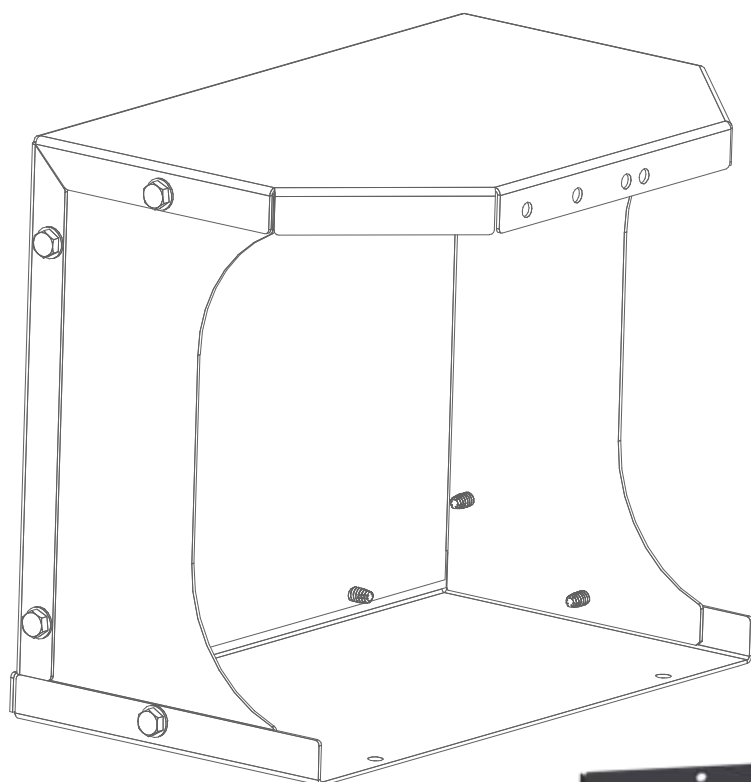
CAUTION

TURN OFF
AND UNPLUG
BEFORE SERVICING!

GRIT GUARD ASSEMBLY

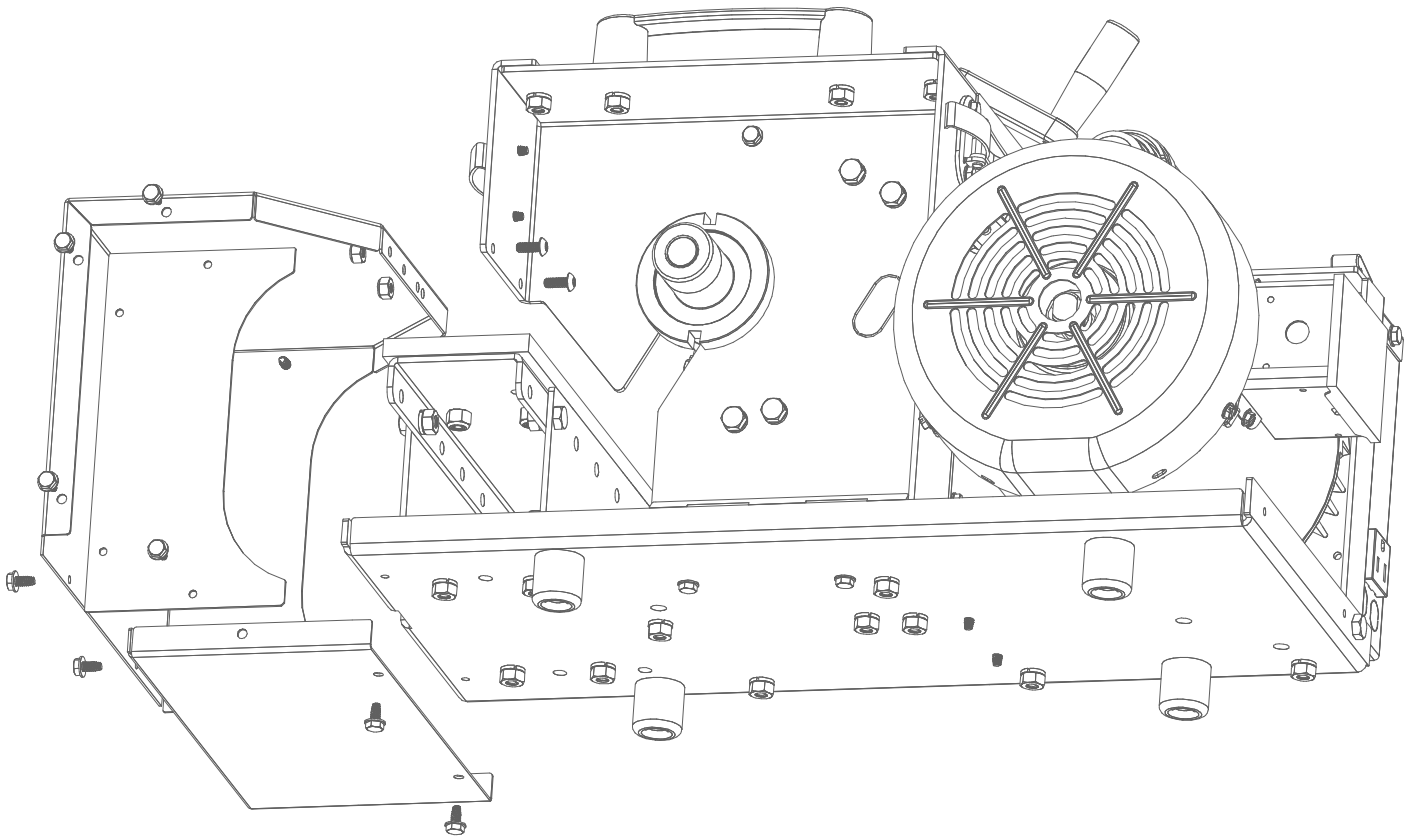
1. Use #10 self-tapping screws to assemble the grit guard.
2. Start with the sides, they only fit one possible way, check that the holes line up.
3. The grit guard sides fit on the inside of the lips.
4. Assemble the grit guard bottom to the top and sides plates
5. The grit guard bottom three lips fit on the outside of the grit guard box.
6. Watch the quick start videos for step by step videos.

QUICK START VIDEOS



GRIT GUARD TO SHARPENER ASSEMBLY

1. Remove grinding wheel (see page 8-9)
2. Align the bottom of the grit guard to the yellow base of the sharpener. The bottom of the grit guard should cradle the yellow base.
3. Use two #10 self-tapping screws to connect the grit guard bottom to the sharpener
4. By doing this step first it will be easier to see which holes line up with the top of the grit guard and the yellow grinding wheel compartment.
5. Use two button head screws from the inside of the grinding wheel compartment, use the two nylon nuts to connect the top of the grit guard to the grinding wheel compartment.



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TESTING THE MAG-8200

Before turning the unit on, test the unit by checking if the grinding wheel moves freely. Ensure the MAG-8200 ON/OFF switch is in the OFF POSITION, plug the MAG-8200 into a 15 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 *****) or contact MAGNA-MATIC (800-328-1110).

ASSEMBLY

MOUNTING AND CHANGING GRINDING WHEELS

1. Be sure the MAG-8200 power cord is unplugged.
2. Use the two catch clamps to remove the black front cover.
3. Locate your spanner wrench and arbor wrench (both supplied by Magna-Matic.)
4. The arbor wrench fits into a square notch in the arbor behind the grinding wheel
5. The spanner wrench fits into the two holes in the arbor nut.
- 6. ARBOR HAS LEFT-HANDED THREADS.**

Always inspect grinding wheels for possible damage - never mount a cracked grinding wheel.
DO NOT OVER-TIGHTEN ARBOR NUT - ONLY LIGHT PRESSURE TO TIGHTEN.
The motor will tighten the arbor nut every time the sharpener is turned on.

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.

Scan Here to buy
abrasives



MAG-8200 OEM 1" WHEEL = 9000-35

MAG-8200M OEM 1/2" WHEEL = 8000-30

MAG-8200B OEM 2" ABRASIVE BELT = 8200-215

Purchase replacement grinding wheels & belts at:

<https://www.magna-matic-direct.com/grinding-wheels/>

HOW TO CHOOSE THE CORRECT GRINDING WHEEL FOR THE BLADE

The 1" wide grinding wheel or 2" wide abrasive belt is used for conventional lawn mower blades with straight flat cutting edges. When you mount the 1" wheel use only the arbor nut. Do not use the arbor spacer with the 1" wide wheel.

This 1/2" wide grinding wheel is required to sharpen curved/wavy cutting edge mulching blade. The arbor spacer (8000-27) is necessary to mount a 1/2" wide grinding wheel.



**STRAIGHT FLAT
CUTTING EDGES**

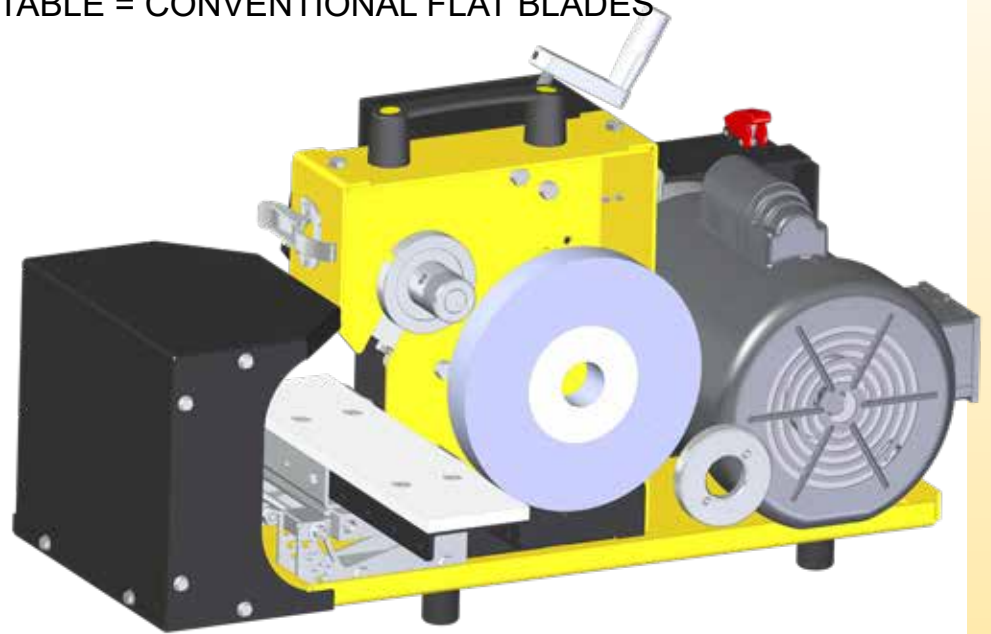
**CURVED / WAVY
CUTTING EDGES**

IMPORTANT - PLEASE READ!

MOUNTING 1" WIDE GRINDING WHEEL = ONLY ARBOR NUT

1" WIDE WHEEL + FLAT WHITE TABLE = CONVENTIONAL FLAT BLADES

**QUICK START
VIDEOS**



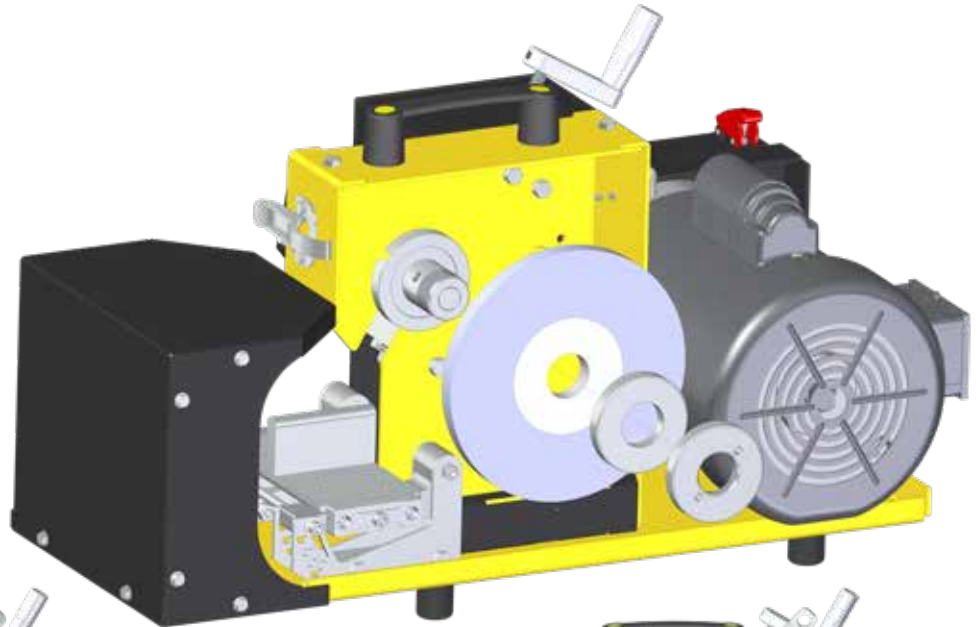
IMPORTANT - PLEASE READ!

MOUNTING 1/2" WIDE GRINDING WHEEL = SPACER + ARBOR NUT

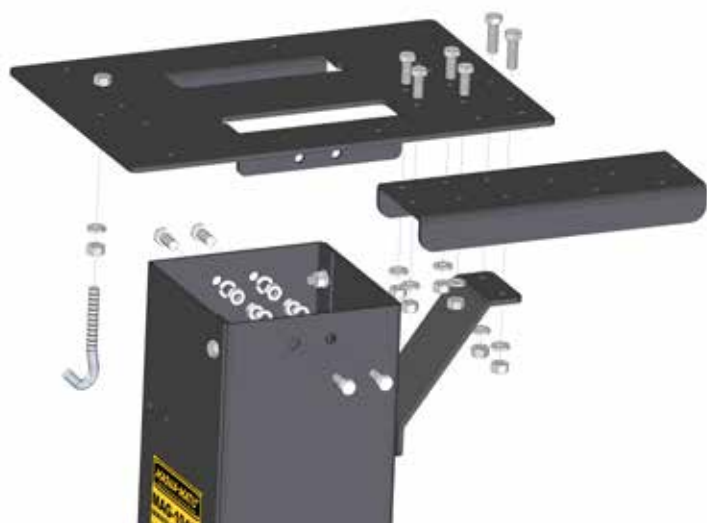
1/2" WIDE WHEEL + ROUNDED METAL TABLE = CURVED MULCHING BLADES

MOUNTING ORDER

1. WHEEL
2. SPACER
3. ARBOR NUT



The table top orientation for the MAG-10400 stand for all MAG-8000, MAG-8100, and MAG-8200 Sharpeners. This is covered in Step 7 of the stand instruction sheet.



Use two 1/4-20 x 2" long hex bolts with 1/4 nuts to directly mount the MAG-8100 or MAG-8200 directly to the stand table top.

For mounting water-cooled units, follow the water-cooled mounting instructions.

QUICK START VIDEOS



IMPORTANT STAND NOTE:

The MAG-8200 Series mounts in the same orientation as the MAG-8000. So when you follow your MAG-10400 Stand instructions "STEP 7".

The yellow base of the MAG-8200 is not threaded so the mounting to the stand is with a through bolt 1/4".

The 10400-04 balancer arm base is a little longer now for the new MAG-8200 series.

IMPORTANT DUST COLLECTOR NOTE:

The MAG-8200 Series mounts needs the MAG-200 Dust Collector mounted under the grit guard.

It is mounted on the opposite side that it was for the MAG-8000.

For the MAG-8200 we have moved up to a 4" diameter grit guard inlet and 4" diameter yellow spiral hose. This increases the air flow up 400 CFM from 250 CFM.



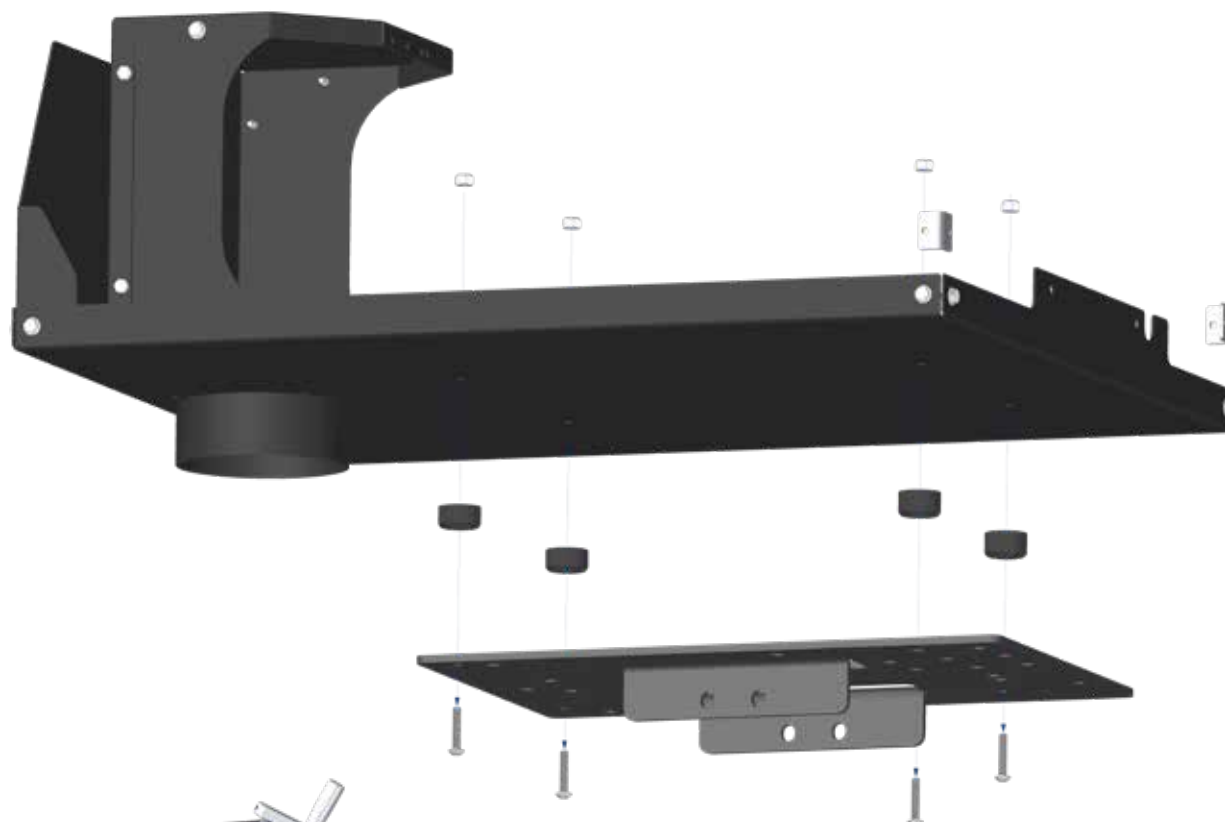
Call with any questions!

800-328-1110

MAG-8200 LAWNMOWER BLADE SHARPENER

WATER-COOLED ASSEMBLY

QUICK START
VIDEOS

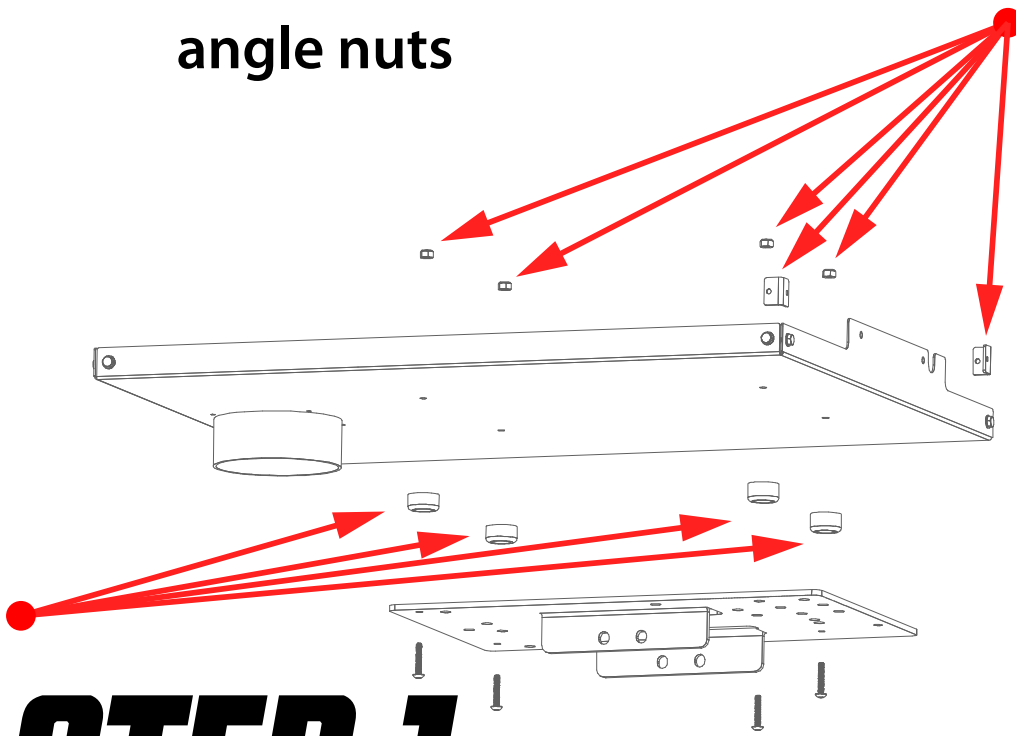


**QUICK START
VIDEOS**



Caulk around each foot's nut and in corners with angle nuts

STEP 2



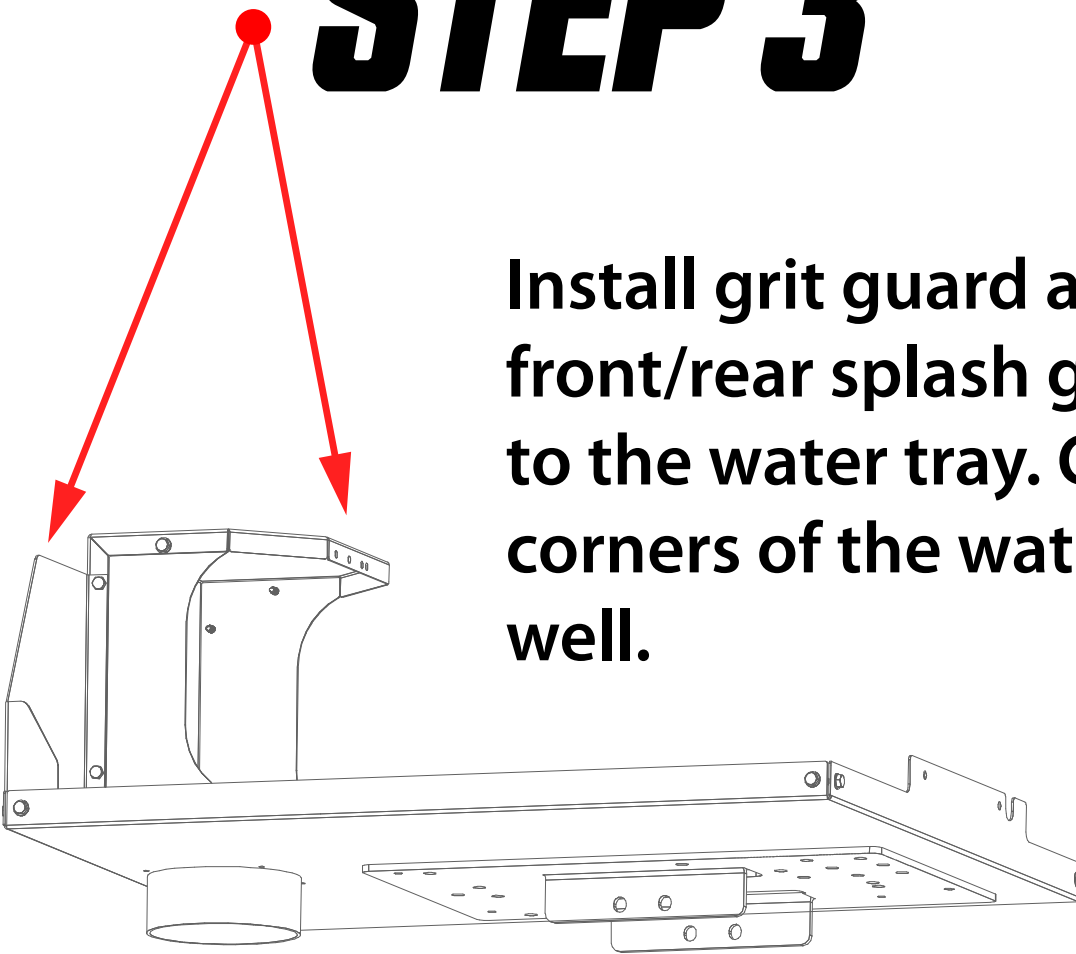
STEP 1

Caulk top of each rubber foot. Button head screws must go through table top, rubber foot, and water tray, then put the nut on and tighten

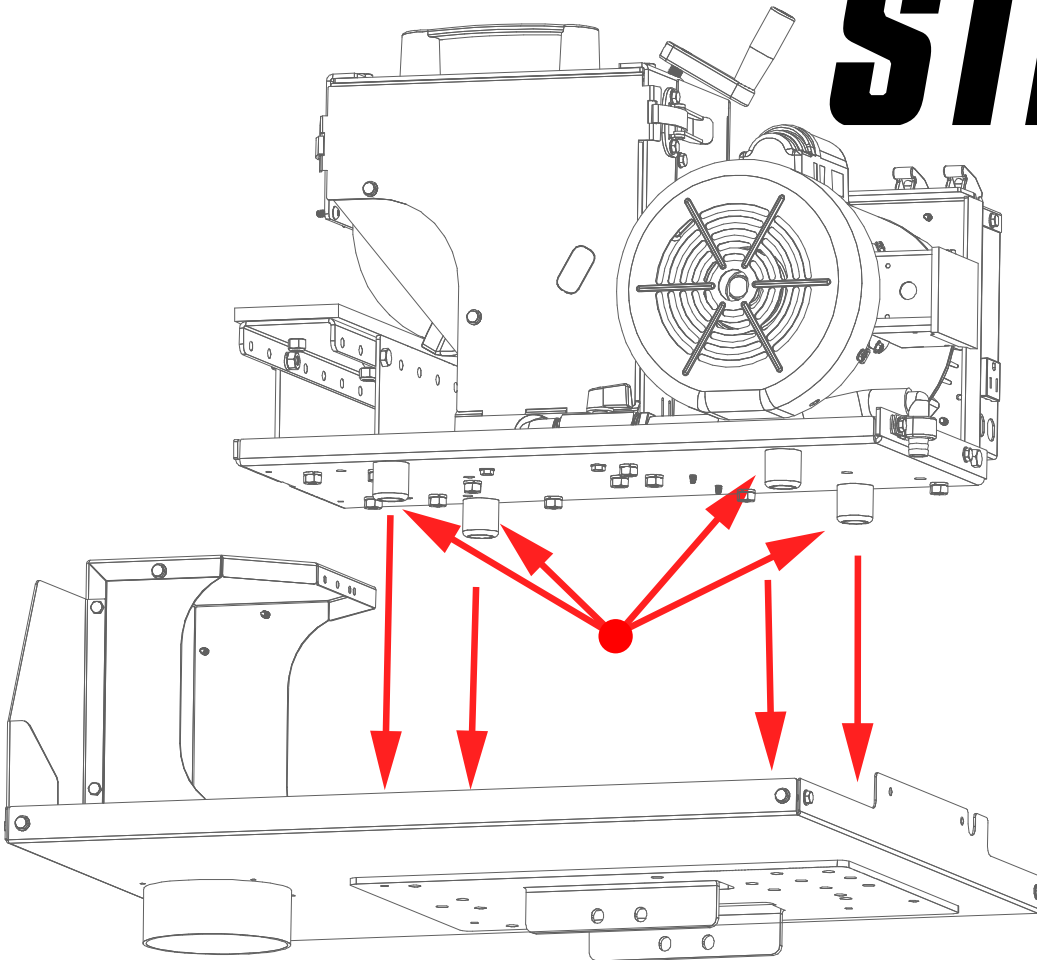


STEP 3

Install grit guard and front/rear splash guards on to the water tray. Caulk the corners of the water tray well.



STEP 4

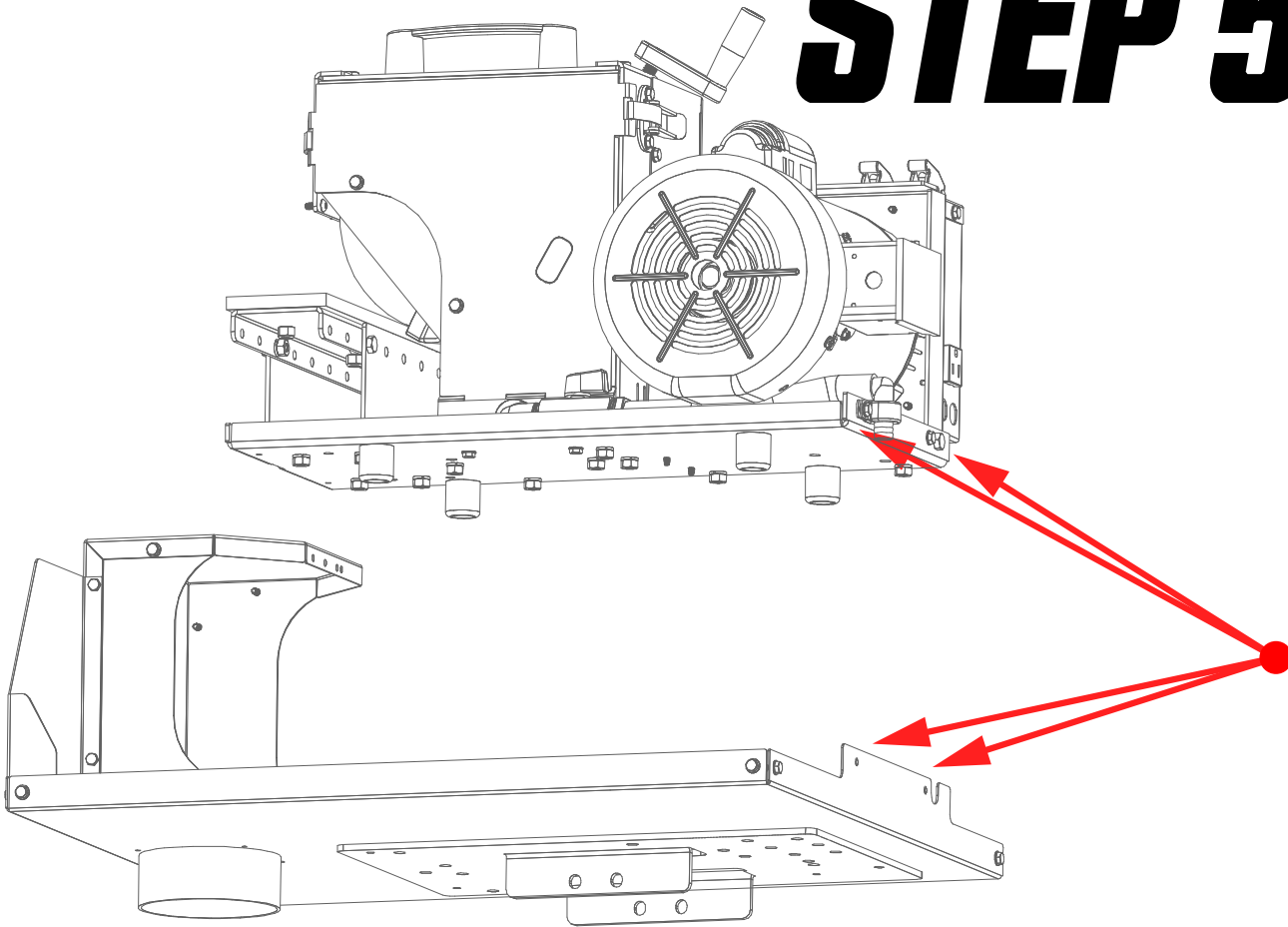


Set MAG-8200 into water tray.

The sharpener's rubber feet should sit on and cover the nylon nuts of the water tray's rubber feet.

Use #10 button screws and nylon nuts to connect top of grit guard to sharpener.

STEP 5



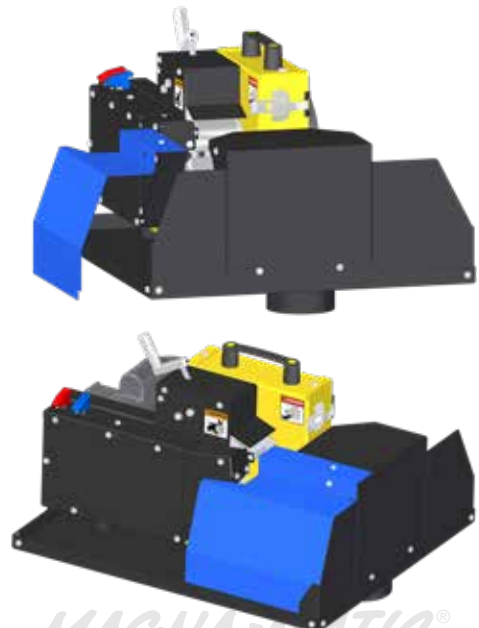
Two #10 Screws connect the rear of MAG-8200 to rear of water tray and use the loop to retain the clear vinyl hose

Installation of 8200-130 Magnetic Splash Guard

This newly designed guard (shown in blue here to make it easier to see, the part is actually black) helps prevent splashing of the coolant out the back side of the sharpener. The guard has a magnet to make it easy to remove when you have a left-handed blade to sharpen.

We have provided this magnetic splash guard at no cost to improve the customer experience with water-cooling.

1. The bottom corner fits inside the fixed splash guard so liquid can run down the inside.
2. Pivot the magnetic splash guard downward towards the top of the grit guard.
3. The magnet will connect to the top of the grit guard, the hole will line up with the one screw head.



MAGNA-MATIC®

TANK PREPARATION

LOOK
INSIDE THE TANK

1. **REMOVE** tank cap and keep it for winter storage
2. **REMOVE** filter sock from tank
3. **REMOVE** refractometer and hardware
4. **REMOVE** packaging from tank
5. **CHECK** to see if pump is still connected to the vinyl tubing.

Installing the tank

1. When building the stand bolt the tank shelf on the bottom set of (3) holes on the column below the sharpener.
2. Set tank on shelf, use (4) 5/16 bolts and washers to secure tank to shelf.

Connecting to sharpener

1. The clear vinyl tubing from the tank connects to the hose barb behind the sharpener's electric motor, secure with loop connector.
2. The power cord for the pump plugs into the outlet on the electric panel of the sharpener. This outlet is switched by the blue switch.
3. There is a red valve on the front of the sharpener to regulate how much coolant is delivered to the wheel.
4. Always turn off the grinding wheel when adjusting coolant nozzle.
5. Make sure to adjust the nozzle of the coolant before running the grinding wheel. It may have shifted during shipment. Adjust the coolant nozzle to deliver coolant to the grinding wheel. The coolant nozzle can be placed along the side of the grinding wheel or under the grinding wheel depending on your preference.

Preparing the Coolant

1. Double check the vinyl hose is connected to the pump.
2. Measure a 1/2 gallon of coolant, and pour into tank.
3. Fill tank with 5 gallons of tap water.
4. Put the filter sock into the tank, the metal ring will stop it from falling in.
5. Push the yellow spiral hose into the filter sock, a few yellow ribs should be inside the neck of the tank.
6. Slip the top of the yellow spiral hose onto the water tray metal inlet.
7. Turn pump on, open valve slightly to test coolant system, check for leaks.

Scan Here to buy
water-cooling supplies



**QUICK START
VIDEOS**



Tips & Questions about the Coolant

What is the best way to test the newly assembled water-cooling system?

Fill the tank with just 2 gallons of water - then run the pump and check for leaks before you add coolant.

Do I need that much liquid in the tank?

If you are not a heavy user, you can fill your tank with 3 gallons of water then slowly add a little coolant and then check with the refractometer to hit 3 BRIX.

The amount of liquid in the tank is your cooling “battery” as you sharpen the liquid will get warmer from taking away the heat from the blades you are sharpening. If you are not sharpening constantly for hours you can use less total liquid in your tank, and therefore use less coolant if you like.

Why is the BRIX concentration value important?

If you drop below 1 BRIX you will lose the rust prevention benefit of the coolant, this will result in all the metal you are cutting from the blades to rust. The sharpener will have rust metal shavings all over it, and the coolant will turn orange. This may lead to early pump failure and seizing of other moving parts.

How to Measure Concentration of your Coolant

1. See instructions in the refractometer case for calibration of the refractometer.
2. Cycle the pump and let the coolant circulate through the system and cycle for 30 seconds
3. Use the pipette to draw some coolant from the orange nozzle.
4. Open the slide cover of the refractometer and put one drop of coolant on the blue surface.
5. Close the slide cover.
6. Look through the eye glass of the refractometer.
7. You can use the focus ring of the refractometer to see the scale more clearly.
8. Read the BRIX side of the scale.
9. The desired concentration is 3.3 BRIX (+/- 0.2 BRIX)

**QUICK START
VIDEOS**



Balancing Coolant Concentration

If less than 3.3 BRIX add coolant (TRIM C270CG fluid)

If greater than 3.3 BRIX add water

Repeat above steps to test until you are within range.



MAGNA-MATIC®

ANGLE ADJUSTMENT



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CAUTION

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AND UNPLUG
BEFORE SERVICING!**

30 DEGREE ANGLE

MOST BASIC ANGLE - READ FOLLOWING INFO!

30 degrees is the industry average angle on most blades. If you are looking for the most simple way to consistently sharpen your lawn mower blades, use 30 degrees according to following instructions.

FIXED WORKTABLE

Turn the machine off. Lower the grinding wheel with the crank handle on the top of the MAG-8200, lower the wheel as close as possible to the plastic surface without touching it (approx 1/32"), so you can see a small gap. The thickness of a business card is a good gage as well.

MODULAR WORKTABLE

Turn the machine off. Lower the grinding wheel with the crank handle on the top of the MAG-8200, lower the wheel as close as possible to the rounded worktable without touching it (approx 1/32"), so you can see a small gap. The thickness of a business card is a good gage as well.

If you do this adjustment with the machine on you risk grinding into your worktables. This will alter the angle that the sharpener will grind on the blade. If you accidentally grind into either table, turn the insert around so you have a fresh surface again. Or visit magna-matic.com and purchase new worktables.

Adjust wheel downward to adjust for wear or to change angles.

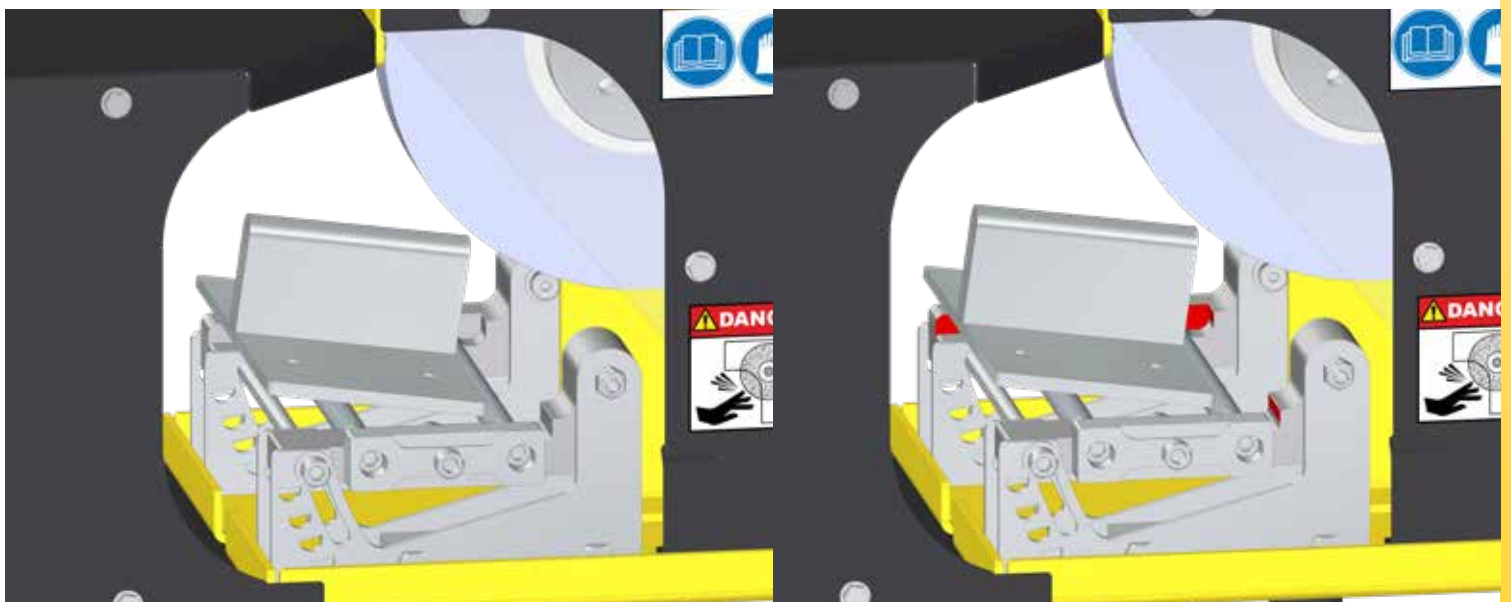


The grinding wheel must ALWAYS be lowered to the worktable for ALL ANGLES.

CHANGING TABLE INSERTS

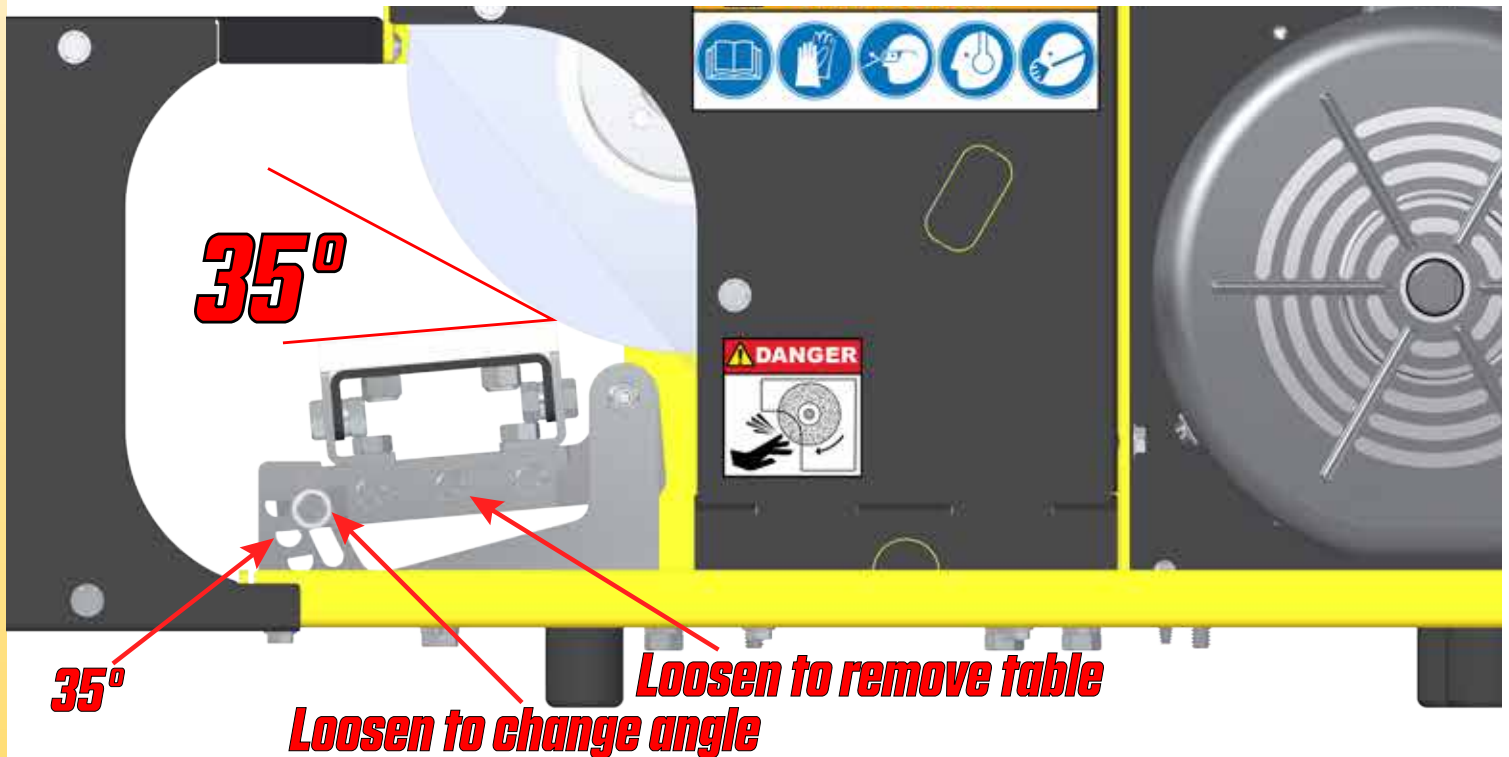
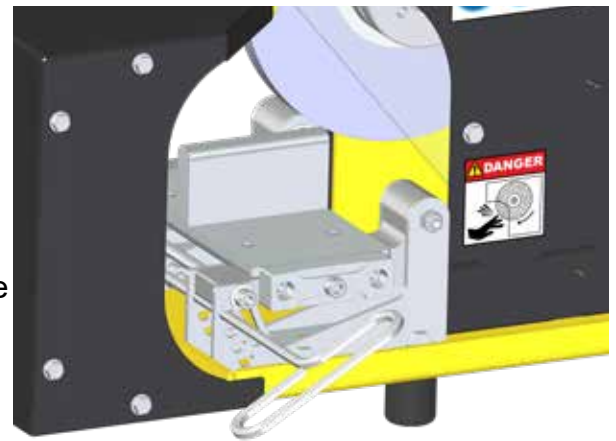
IMPORTANT: You will only need about a 1/4 turn to loosen or tighten.

1. Use the supplied 3/16" hex T-handle wrench to loosen the vise.
2. Remove the current table seated in the framework.
3. Notice how the steel insert plate fits into the framework of the two aluminum arms of the modular worktable.
4. Place the table into the framework.
5. Push the table towards the grinding wheel so you are squarely seated in the stops in the framework (see red highlighted area)
6. Tighten vise jaw with the T-handle wrench.



How to Set the four possible angle settings.

- 30° bring table to top setting, level with first half-circle.
- 35° lower table to second half-circle
- 40° lower table to third half-circle
- 45° push table so it bottoms out as low as it will go.
- Lastly lower the grinding wheel via the crank handle on top of the sharpener. Leave approx. 1/32" of space between the wheel and table. Do not grind into the table.



CHANGING ANGLES

IMPORTANT: You will only need about a 1/4 turn to loosen or tighten.

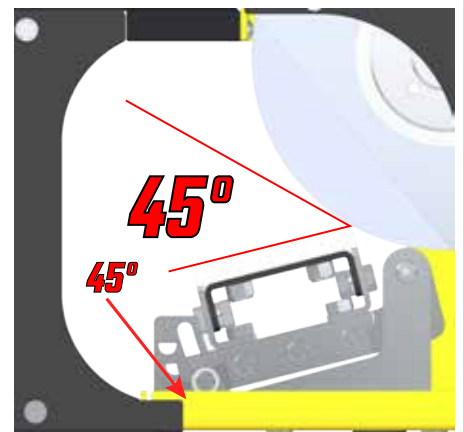
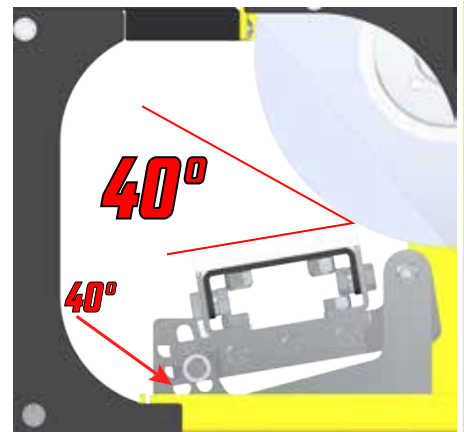
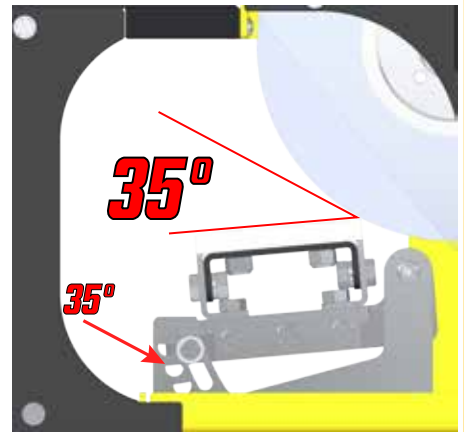
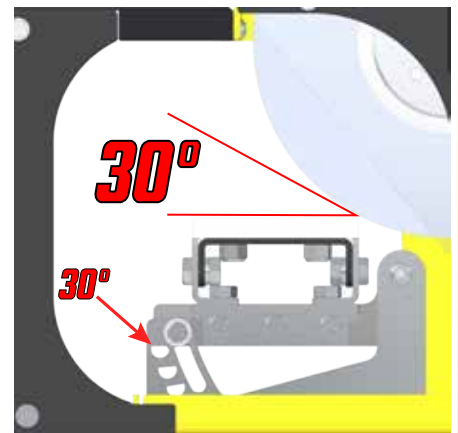
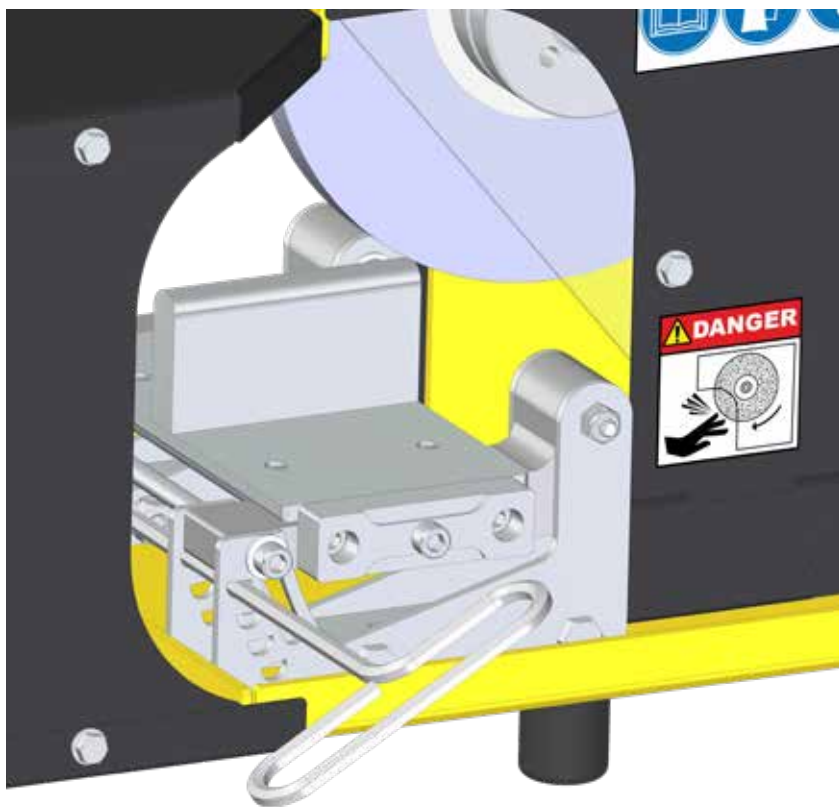
The modular worktable system can be set to 4 angle settings.
30 / 35 / 40 / 45 degree cutting edge angles

As an example these instructions will set the sharpener for 35 degrees:

1. Use the T-handle wrench to loosen the angle adjustment bolt, but leave light tension on the bolt, so the arms stay in-place but still move.
2. Insert the T-handle wrench into the (second from the top) half-circle shape, this provides a stop.
3. Push down on the worktable arms until they hit the t-handle.
4. Pull the T-handle out and tighten the adjustment bolt.
5. Lower the grinding wheel via the crank handle on top of the sharpener.
6. Bring the wheel down within approx. 1/32" of the table.
7. The sharpener is ready to grind 35 degrees.



You can set the angle by looking into the half-circle sights or you can insert the t-handle as a stop to set the angle.



CONVENTIONAL BLADES



CAUTION

LAWN MOWER BLADES HAVE SHARP EDGES - ALWAYS WEAR PROTECTIVE GLOVES AND SAFETY GLASSES!

SHARPENING A LAWN MOWER BLADE (1" wide WHEEL or 2" wide BELT)

Be sure to wear protective clothing while handling and sharpening lawn mower blades. Wear safety glasses and protective gloves. Always deburr the underside of the blade, prior to sharpening the blade.

BLADE & SHARPENER PREPARATION

1. Clean the blade to its base material, using the MAG-12008 blade cleaner, or alternate cleaning process. Inspect the blade for fractures. (**never weld mower blades**)
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, that end is complete. The heavy end is used to remove material for balance. See MAG-1000 instructions for more details on blade balancing. (**never weld mower blades**)
4. Adjust the cutting edge angle to 30 degrees.

CONVENTIONAL BLADE SHARPENING

1. Switch the ON/OFF switch to ON position
2. Place the conventional blade on the worktable, you should push and pull the blade across the grinding wheel. Notice approach the grinding wheel as shown.
3. Stay perpendicular to the rotation of the wheel.
4. Keep firm downward pressure on the top of the blade so that contact is maintained with the worktable. This is important because the angle is referenced off the worktable and underside of the blade.
5. The force into the grinding wheel should be substantial resulting in a continuous stream of sparks and a deep smooth grinding sound.
6. The grinding process should be continuous without interruption until finished.

IT IS TAKING A LOT OF GRINDING TO GET A SHARP BLADE?

Are the grinding marks on the "trailing edge" (top edge) of the mower blade cutting edge?

That means your blades were at a steeper angle than you are grinding now. If your blades were previously sharpened with some other method it is very likely your cutting edge angles are near 45 degrees. It is very common for blades sharpened on other machines or with an angle grinder to be way up at 45 degrees or steeper. This often happens when people "free-hand" grind.

The MAG-8200 is going to make a consistent 30 degree angle - so your first grinding may take much longer and use more of the grinding wheel because you are re-machining your blades. This correction requires a lot of steel be removed to go from 45 down to 30 degrees.

Don't worry, once fix all your blades and make them 30 degrees, every sharpening after that will be very fast because you will grind a consistent angle every-time from now on with your MAG-8200.

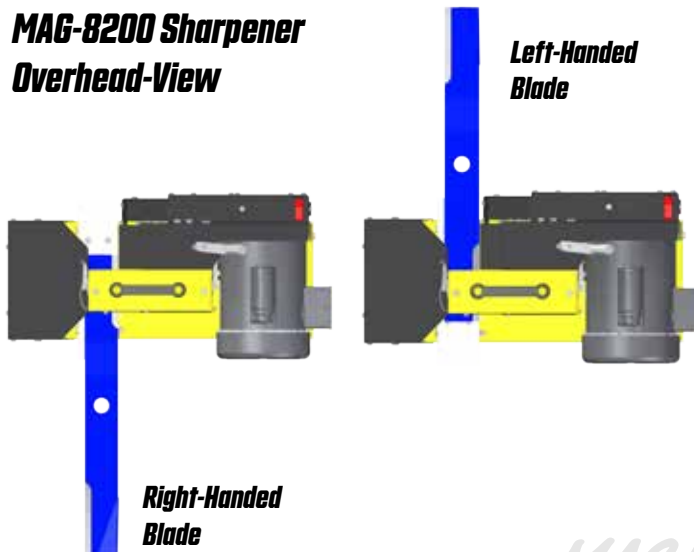
**Keep constant pressure downward
maintain flat contact with blade underside and worktable**



**Apply pressure into the
grinding wheel**

**Slide the blade back
and forth across the grinding wheel**

**MAG-8200 Sharpener
Overhead-View**



**Left-Handed
Blade**

**Right-Handed
Blade**

MULCHING BLADES



WARNING

WHEN USING ELECTRIC TOOLS, BASIC SAFETY PRECAUTIONS SHOULD ALWAYS BE FOLLOWED TO REDUCE THE RISK OF FIRE, ELECTRIC SHOCK, AND PERSONAL INJURY.



CAUTION

LAWN MOWER BLADES HAVE SHARP EDGES - ALWAYS WEAR PROTECTIVE GLOVES AND SAFETY GLASSES!

SHARPENING A CURVED MULCHING LAWN MOWER BLADE

Be sure to wear protective clothing while handling and sharpening lawn mower blades. Wear safety glasses and protective gloves. Always deburr the underside of the blade, prior to sharpening the blade.

MULCHING BLADES REQUIRE 1/2" GRINDING WHEEL & ROUNDED WORKTABLE

BLADE & SHARPENER PREPARATION

1. Clean the blade to its base material, using the MAG-12008 blade cleaner, or alternate cleaning process. Inspect the blade for fractures.
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, that end is complete. The heavy end is used to remove material for balance. See MAG-1000 instructions for more details on blade balancing.
4. The MAG-8200M will require the 1/2" wide grinding wheel to sharpen a mulching blade. Mount the 1/2" wide wheel on the MAG-8200M.
5. Place the rounded worktable insert into the worktable vice. Position it at the desired angle. Tighten the vice bolt with the t-handle wrench.
6. Review page 3 to adjust the MAG-8200M to the desired angle.

MULCHING BLADE SHARPENING

1. Switch the ON/OFF switch to ON position
2. When sharpening a mulching blade, you will start with the inside of the cutting edge and pull the blade out towards you, taking one pass at a time.
3. Pull the blade over the worktable, it is very important that you put more downward pressure on the blade, the underside of the blade **MUST** ride the curved worktable, this will follow its curves. Lessen the inward pressure so that the blade may move to and from the grinding wheel as the blade rides up and down the curved worktable. Do not use extreme pressure into the grinding wheel, let it ride over the curves.
4. Use even pressure to achieve an even stream of sparks.
5. When using the MAG-8200M 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, to create a pointed TIP.
6. **HINT:** You may prefer to use the flat worktable for doing the TIPS (first 1"-2" of the edge), as this part of the blade is generally flat, it may be easier for you to stay flat on this portion of the blade with the flat table.

MULCHING BLADES

In these images the safety guards have been removed to provide a better view of blade position in the MAG-8000.

NEVER OPERATE WITHOUT GUARDS IN PLACE

Always maintain contact between the blade and rounded worktable.

Do not lift the blade off the table

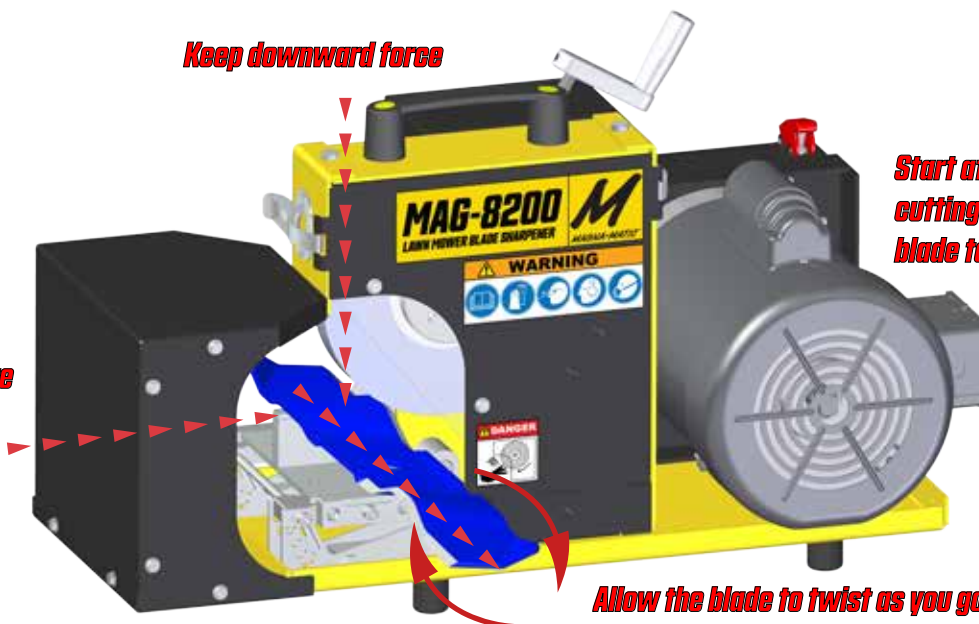
You will have more control if you only “pull” mulching blades across the grinding wheel. It is critical with both blade types that the operator keeps downward pressure on the blade, this will prevent chattering and keep the grinding wheel “true” or round.



Keep downward force

Start at the inside of the cutting edge and draw blade towards you.

Light pressure into grinding wheel



Allow the blade to twist as you go over curves, but maintain contact with the rounded table

MAGNA-MATIC®

GRINDING WHEEL REPLACEMENT



CAUTION

**TURN OFF
AND UNPLUG
BEFORE SERVICING!**

Be sure the MAG-8200 power cord is unplugged. Remove the front steel grinding wheel cover by releasing the two catch clamps on each side of the grinding wheel cavity. 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, or scan the QR code to watch a video.

Always inspect grinding wheels for possible damage - never mount a cracked grinding wheel. **DO NOT OVER-TIGHTEN ARBOR NUT - ONLY LIGHT PRESSURE TO TIGHTEN.** The motor will tighten the arbor nut every time the sharpener is turned on.

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

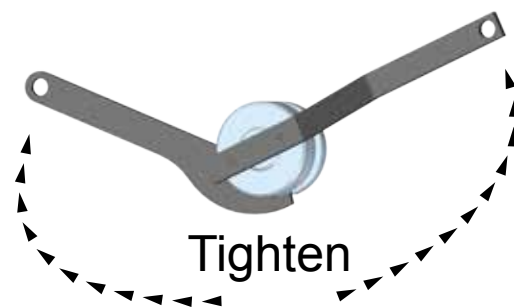
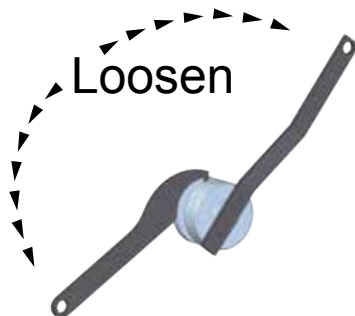
NOTE: ARBOR HAS LEFT-HANDED THREADS.

OEM WHEEL 1" WIDE = 9000-35

OEM WHEEL 1/2" WIDE = 8000-30

OEM ABRASIVE BELT 2" wide = 8200-215

**QUICK START
VIDEOS**



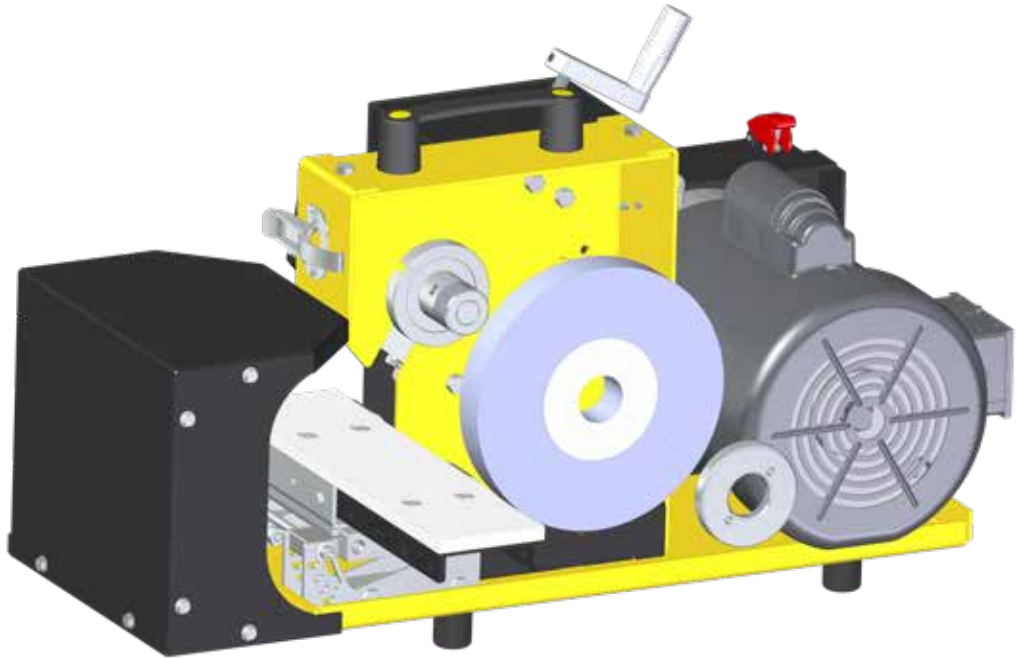
IMPORTANT - PLEASE READ!

MOUNTING 1" WIDE GRINDING WHEEL = ONLY ARBOR NUT

1" WIDE WHEEL + FLAT WHITE TABLE = CONVENTIONAL FLAT BLADES

MOUNTING ORDER

1. WHEEL
2. ARBOR NUT



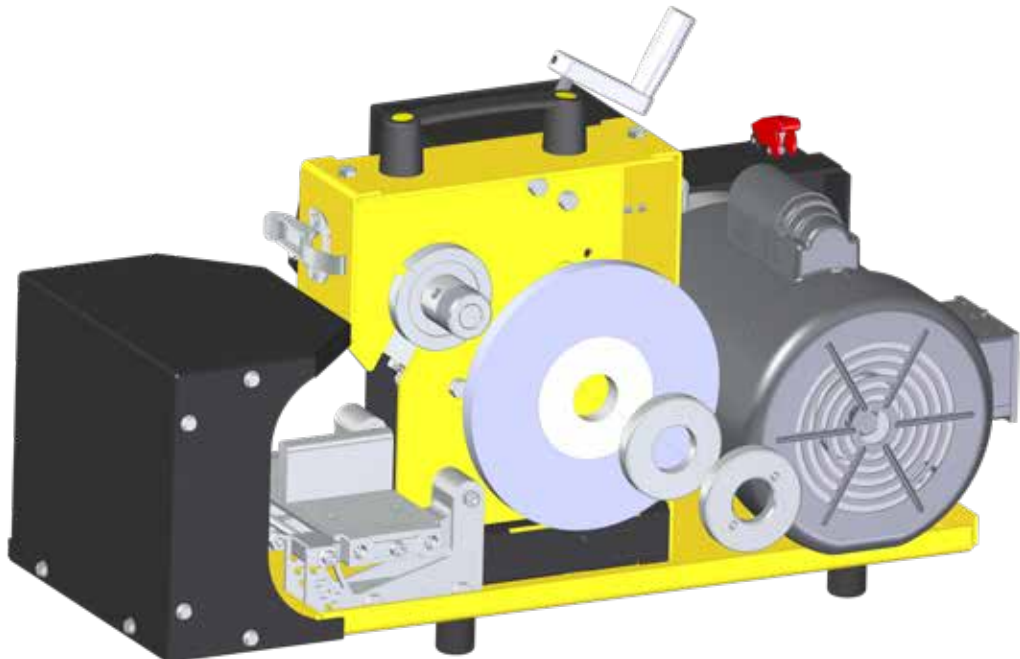
IMPORTANT - PLEASE READ!

MOUNTING 1/2" WIDE GRINDING WHEEL = SPACER + ARBOR NUT

1/2" WIDE WHEEL + ROUNDED METAL TABLE = CURVED MULCHING BLADES

MOUNTING ORDER

1. WHEEL
2. SPACER
3. ARBOR NUT



ABRASIVE BELT REPLACEMENT



CAUTION

**TURN OFF
AND UNPLUG
BEFORE SERVICING!**

Be sure the MAG-8200 power cord is unplugged. Remove the front steel grinding wheel cover by releasing the two catch clamps on each side of the grinding cavity. Use the crank handle to raise up the contact wheel. The idler pulley will get closer to the contact wheel as you turn the crank handle. This will take the tension off the abrasive belt and allow it to slide off easily.

Always inspect abrasive belt for possible damage - never mount a torn belt or one with a compromised seam.

Before turning on the sharpener check the belt tracking by hand. Do this by rotating the contact wheel clockwise by hand. Scan the QR code to see the video.

Tracking adjustment - adjust tracking with supplied T-handle wrench.

- Clockwise rotation will track the belt away from you.
- Counter-clockwise rotation will track the belt towards you.

MAKE VERY SMALL ADJUSTMENTS TO TRACKING - IT IS VERY SENSITIVE.

A SMALL ROTATION WILL MOVE THE BELT QUITE A BIT.

WATCH THE VIDEO FOR GUIDANCE, IF YOU ARE UNFAMILIAR WITH BELT GRINDERS. Scan the QR code for videos.

OEM ABRASIVE BELT 2" wide = 8200-215



**QUICK START
VIDEOS**



CHANGING FROM A BELT TO A GRINDING WHEEL



CAUTION

TURN OFF
AND UNPLUG
BEFORE SERVICING!

Be sure the MAG-8200 power cord is unplugged. Remove the front steel grinding wheel cover by releasing the two catch clamps on each side of the grinding cavity. Use the crank handle to raise up the contact wheel. The idler pulley will get closer to the contact wheel as you turn the crank handle. This will take the tension off the abrasive belt and allow it to slide off easily.

Scan the QR code to watch a how-to-video.

1. Remove the abrasive belt.
2. Remove the contact wheel in the same manner you remove a grinding wheel.
3. Lower the crank handle to take all the tension off of the two springs below the idler pulley.
4. Unhook the two springs from the idler pulley assembly.
5. Thread the eyelet tool into the hole above the idler pulley.
6. Pull the idler pulley assembly out.
7. Install the grinding wheel.

**QUICK START
VIDEOS**



MAGNA-MATIC

UPGRADING TO THE BELT GRINDER OPTION



CAUTION

TURN OFF
AND UNPLUG
BEFORE SERVICING!

This will guide you through the steps to upgrade your 8200 into the 2" wide belt grinder. Do this conversion on a work bench or larger table so you have room to work. The motor is tethered to the body, so you need a place to set the motor next to the body. Watch the step by step video for an easy install, scan quick start QR code.

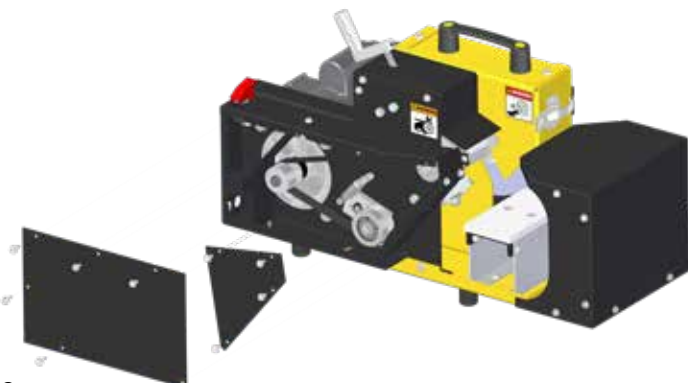
QUICK START
VIDEOS



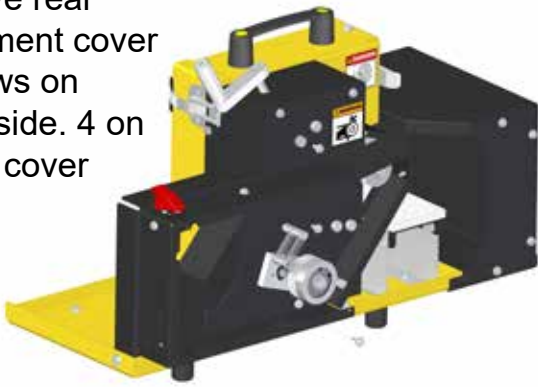
1. Unplug the MAG-8200
2. Remove the front cover
3. Remove the grinding wheel
4. Remove both pulley covers.
5. Remove the motor.
6. Remove the rear adjustment cover.
7. Bolt the bearing pivot block to the back of the adjustment truck with 4 cap screws.
8. Install the 1/4-20x1/2" socket screw and nut in the hole above the knockout.
9. Replace the rear adjustment cover.
10. Install the motor
11. Install the drive belt
12. Replace the pulley covers starting with the triangular one first
13. Knock out the oval steel knock out from the grinding cavity.
14. Hook the two springs into the yellow body
15. Guide the tapered rod of the idler pulley assembly into the bearing block. It will take a little force to push the rod into the bearing block.
16. Place the other end of the springs to the shoulder bolt of the idler pulley assembly.
17. Install the 6" contact wheel using the arbor nut.
18. Raise the crank handle up until the contact wheel and idler pulley are almost touching.
19. Slide the abrasive belt over contact wheel and idler pulley.
20. Lower the contact wheel down to the 30 degree position.
21. Rotate the contact wheel by hand to check belt tracking. (see page 28 to adjust tracking)

Remove the motor

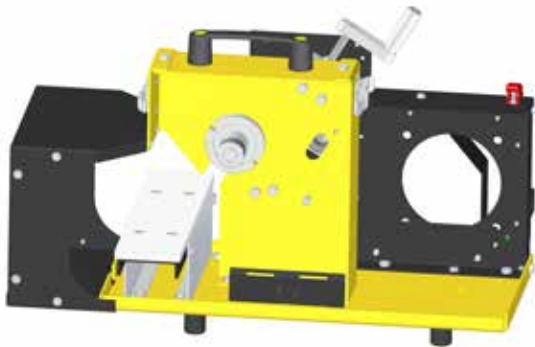
Remove pulley guards.



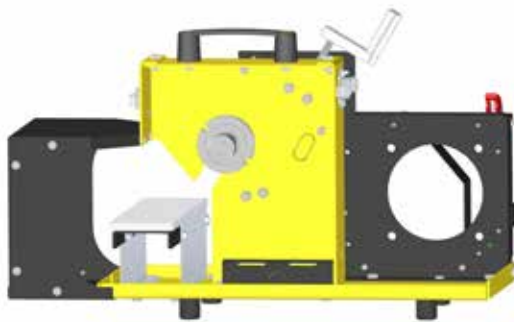
Remove rear
adjustment cover
3 screws on
pulley side. 4 on
rear of cover



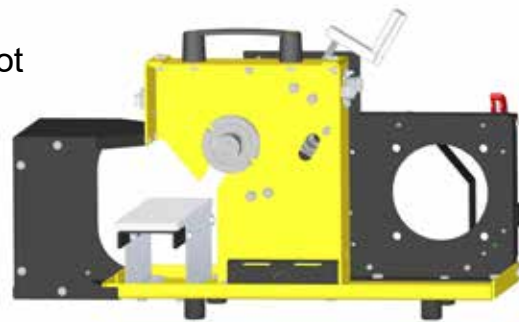
4 Socket screws
connect pivot
bearing block to
adjustment truck.



Install 1/2" long
socket screw with
1/4" nut in yellow
body.



Knockout the
oval blank to
expose the pivot
bearing block.

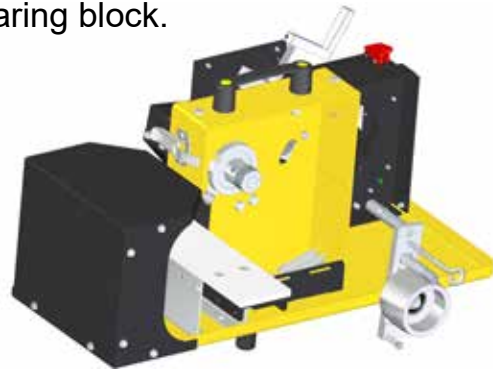


Connect the two springs to the yellow body

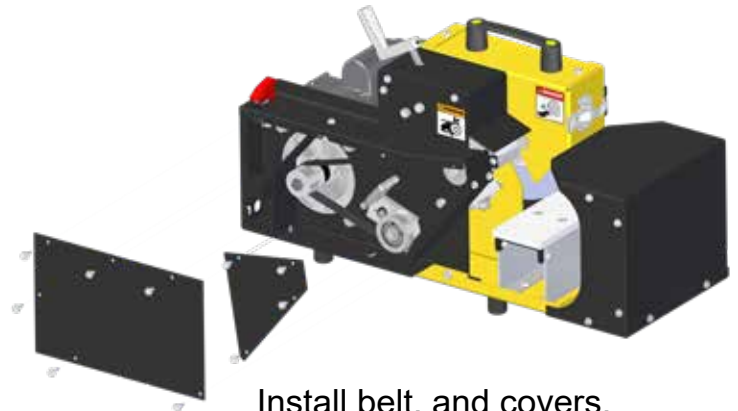


Replace rear adjustment cover

Insert the idler pulley assembly into the pivot bearing block.



Reinstall the motor



Install belt, and covers.



Insert the idler pulley assembly into the pivot bearing block, and slip springs on to shoulder bolt.



Mount the contact wheel in the same manner you would install a grinding wheel.



Raise the crank handle until the contact wheel and idler pulley get very close together, this will give you the clearance to slip the belt over both pulleys.



Replace front cover guard.

MAG-8200 DRIVE BELT REPLACEMENT



CAUTION

TURN OFF
AND UNPLUG
BEFORE SERVICING!

GENERAL CARE:

Keep the MAG-8200 clean, use compressed air to blow the machine off periodically. Use mild soapy water to clean powder coated surfaces and Lexan® guards. Remove large build-ups of grit in the grit guard, and inside the MAG-8200 body.

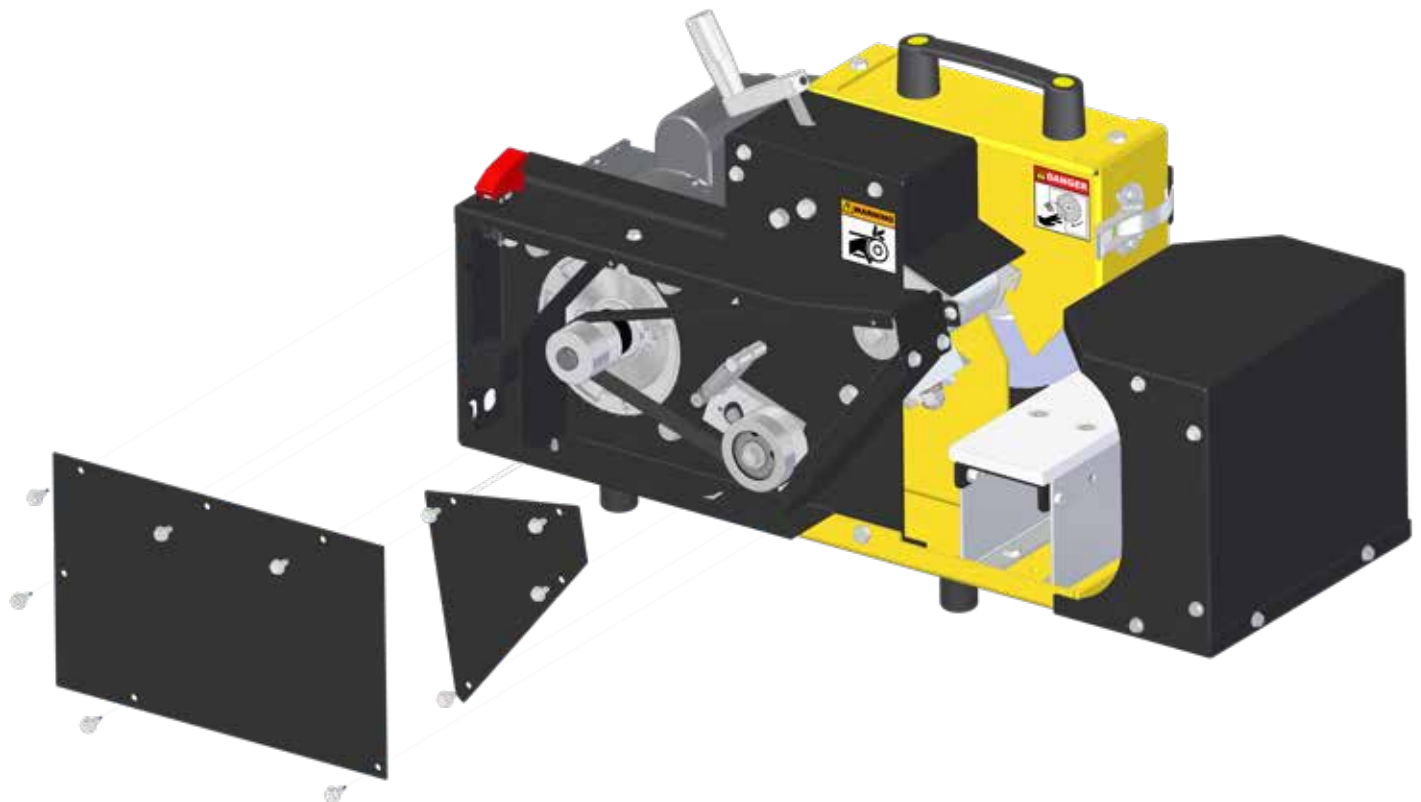
Scan the quick start QR code to watch a video how to change the belt.

POLY-V BELT REPLACEMENT

Belt replacement is fast and easy with our spring loaded active idler pulley.

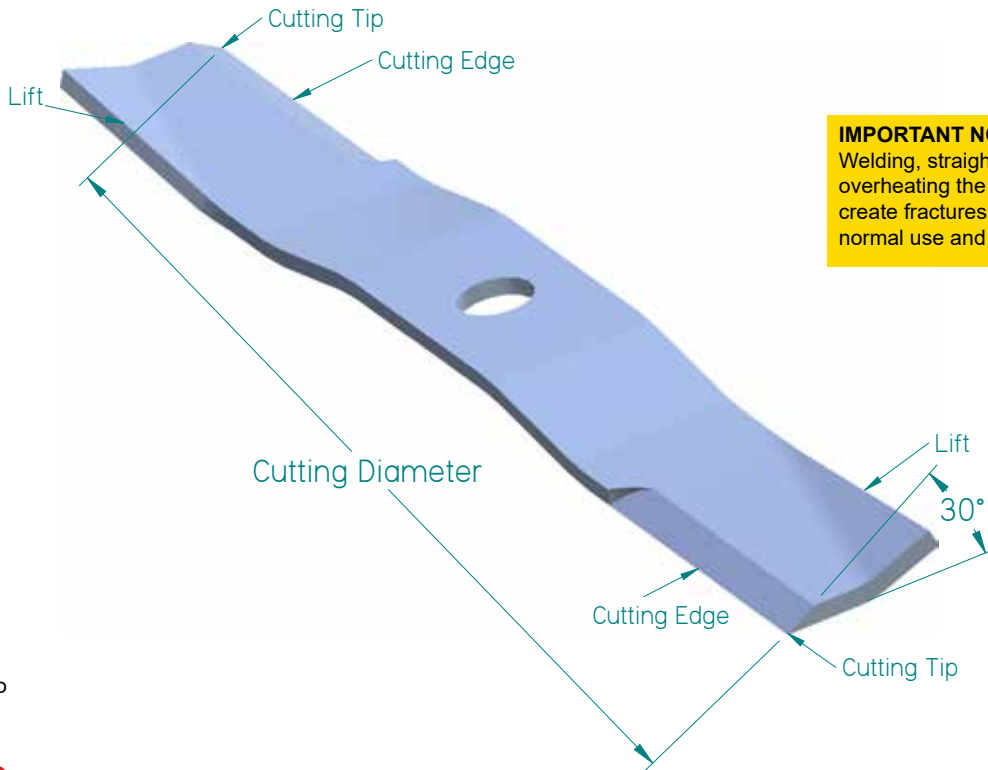
1. Remove the two pulley covers.
2. Start the new belt over the drive pulley, then under the idler pulley.
3. Pull the belt over the motor pulley on the smooth surface.
4. Rotate the pulleys to walk the belt ribs into seating into all three pulleys.

**QUICK START
VIDEOS**



MAGNA-MATIC®

Understanding the Rotary Lawn Mower Blade



IMPORTANT NOTES:
Welding, straightening, sharp corners, and overheating the lawn mower blade may create fractures that break the blade under normal use and may cause injury.

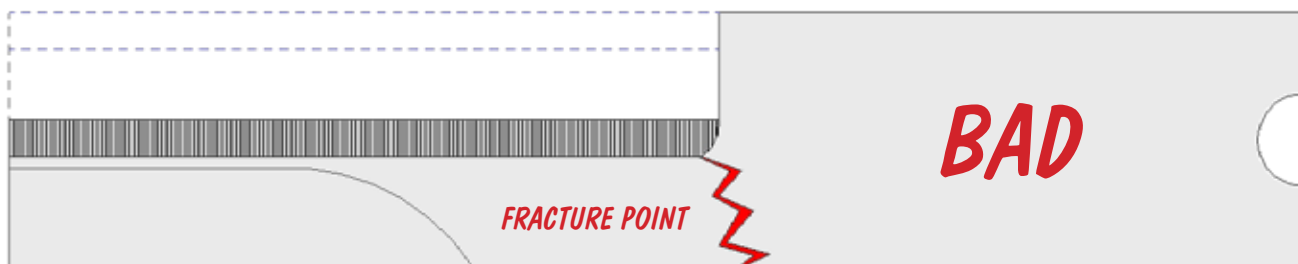
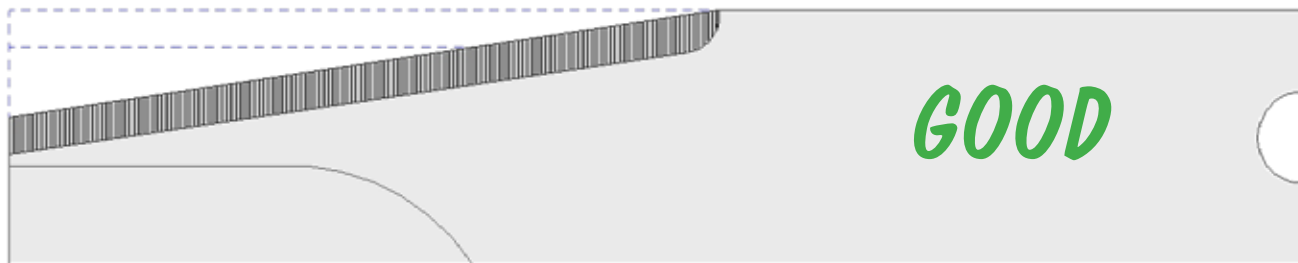


Training Video

SAFETY

The first 1-2 inches of any lawn mower blade do the majority of the cutting work and take the most wear. This is where the most grinding is required to reproduce a cutting tip again.

Often people think that the full cutting edge must be ground back parallel to the rest of the blade. This is not necessary and can create a dangerous fracture point if done (see image #2). Image #1 shows the over-head view of the blade that, over the life of the blade will become “tapered looking” from wear and re-sharpening. This follows the natural wear pattern of a rotary lawn mower blade’s use. We recommend this method because less steel is removed. Leaving more steel there will help prevent a fracture that could discharge a part of the blade from the deck.



Blade Tip Geometry.

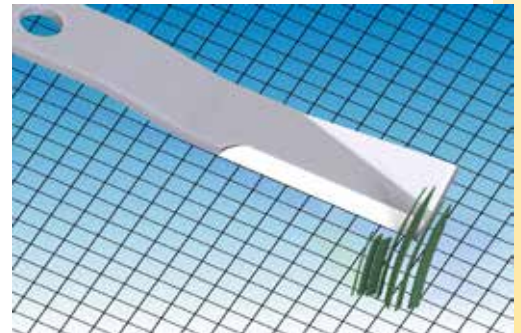
What part of a rotary lawn mower blade cuts the grass?



Training Video

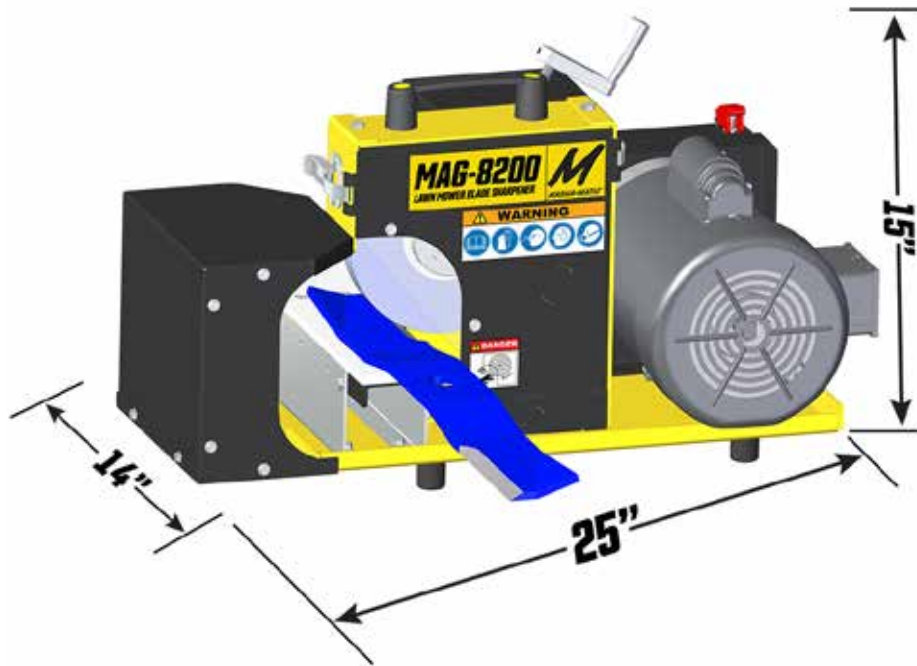
It is a common misconception that lawn mower blades cut like a knife. It actually has more in common with the way circular saw teeth cut. The confusion comes from the two shapes; a lawn mower blade looks like a rectangle, and the circular saw is a circle. Keep in mind that when the lawn mower blade is in motion it is also a circle. The primary difference is that a circular saw is for wood or metal. Because these materials are much more dense, more cutting teeth are required. Turf is considerably less dense than wood or steel so only two teeth are required.

The tips of the blade do the majority of the cutting work; they are the cutting teeth of the blade. Repeated observation of worn cutting edges show that the first 1-2 inches do the majority of the cutting. To produce a cutting tip, three relief angles are necessary.



Description	Diagram
<p>Relief Angle One:</p> <p>Top view - built into the blade (generally 2-5 degrees)</p>	
<p>Relief Angle Two:</p> <p>End view - To be re-sharpened (industry average is 30°)</p>	
<p>Relief Angle Three:</p> <p>End view - built into the blade</p>	
<p>Top View of Blade Land-side: 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>	

MAG-8200 SPECIFICATIONS



	MAG-8000 (North America)
LxWxH	25" x 14" x 15"
Weight	90 lbs
Ship Weight	95 lbs
Motor Specs	US MOTORS®
Horse Power	1
Motor RPM	3450
Duty Cycle	Continuous
Hertz	60
Volts	115
Phase	Single
Amps (run)	11
Capacitors	Dual
Motor Type	Industrial - Totally Enclosed
Insulation	Class F
Direction	Single Direction
Fan Cooled	Yes
Transmission	Poly-V belt/pulley
Grinding Wheels	NORTON® Abrasives
Wheel / Belt Dimensions	7" dia x 1" thick x 1-1/4" dia arbor 7" dia x 1/2" thick x 1-1/4" dia arbor 2" wide x 24" long



WARNING: Cancer
and Reproductive Harm-
www.P65Warnings.ca.gov

TROUBLESHOOTING

PROBLEM	CAUSE	SOLUTION
Motor fails to start	Fan guard bent/damaged and contacting fan.	Replace fan guard
Motor has been running, then fails to start	Fuse or circuit breaker tripped.	Replace fuse or reset the breaker.
Motor has been running, then fails to start	Motor overloaded or load jammed.	Inspect to see that the load is free. Verify amp draw of motor versus nameplate rating.
Motor has been running, then fails to start	Capacitor may have failed.	First discharge capacitor. To check capacitor, set volt-ohm meter to RX100 scale and touch its probes to capacitor terminals. If capacitor is OK, needle will jump to zero ohms, and drift back to high. Steady zero ohms indicates a short circuit; steady high ohms indicates an open circuit.
Motor has been running, then fails to start	Starting switch has failed.	See wiring diagram and connect the black wire from the motor and the black wire from the cord to bypass the switch.
Motor runs but dies down	Voltage drop	If voltage is less than 10% of the motor's rating contact power company or check if some other equipment is taking power away from the motor. If motor is run using an extension cord, verify that this extension cord is properly sized for motor's current draw.
Motor takes too long to accelerate	Defective capacitor	Test capacitor per previous instructions.
Motor takes too long to accelerate	Bad bearings	Noisy or rough feeling bearings should be replaced.
Motor takes too long to accelerate	Voltage too low.	Make sure that the voltage is within 10% of the motor's nameplate rating. If not, contact power company or check if some other equipment is taking power away from the motor.
Motor overload protector continually trips	Ambient temperature too high.	Verify that the motor is getting enough air for proper cooling. Most motors are designed to run in an ambient temperature of less than 40°C. (Note: A properly operating motor may be hot to the touch.)
Start capacitors continuously fail.	Voltage to motor is too low.	Verify that voltage to the motor is within 10% of the nameplate value. If the motor is rated 110-125 V, the deviation must be calculated from 125 V.
MAG-8200 is vibrating	Grinding wheel is out-of-round	Dress the wheel and old lawn mower blade. Use a perfectly flat area, like around the mounting hole. Place it in the sharpener like you would normally, and slowly apply pressure into the wheel. Do not go back and forth, just apply even pressure, and let the wheel true itself.
MAG-8200 is vibrating	Bad motor bearings	Remove the grinding wheel, and run the MAG-8000. Inspect the motor shaft and bearings.
MAG-8200 is vibrating	Loose pulleys or bearing collars	Tighten set screws, locking agent should be used.
MAG-8200 is vibrating	Poor belt tension	Check idler pulley springs
MAG-8200 is vibrating	Bad drive shaft bearings	Check and replace the two flange bearings
MAG-8200 crank will not adjust the wheel up or down	Adjustment block jammed	Inspect the guide rods for debris, or check if you are jammed at the top or bottom of the adjustment.
Unable to remove grinding wheel	Turning wrong direction	The arbor nut has left-handed threads. Turn clockwise to loosen. Use both the arbor and spanner wrench.
Difficult to remove grinding wheel	Extremely tight, wheel has not been changed in a long time.	Using both the spanner and arbor wrenches, Allow the arbor wrench to stop against the yellow body, Use a plastic hammer and tap the end of the spanner wrench, imparting vibration will shock the nut loose. In extreme situations you can apply heat, only to the arbor nut. Last resort, you can break the wheel off the arbor.

WARRANTY

MAGNA-MATIC CORPORATION (the "Manufacturer") warrants Manufacturer's products (the "Products") will be free from defects in manufacture by Manufacturer (the "Warranty"). The Warranty will be effective and valid for a period of one (1) or two (2) years, as indicated on the Warranty certificate or Manufacturer's website (<http://www.magna-matic.com>), beginning on the date in which Manufacturer ships the Product (the "Warranty Period") from manufacturer's facility directly to Manufacturer's distributor or customer/end user (the "Customer"). The Warranty shall obligate Manufacturer to repair or replace (in Manufacturer's discretion) defective Products as provided below. Manufacturer shall maintain records, including Manufacturing Process Instructions, for all Products for a period equal to the Warranty Period. Upon the expiration of the Warranty Period, Manufacturer will have no further obligation to Customer with respect to a Product that is non-conforming and/or defective for any other reason.

To take advantage of the Warranty, Customer must take the following three steps: (1) Customer must promptly notify Manufacturer after Customer becomes aware that it has a defective Product, which in all events must be within thirty (30) days of Customer's discovery of the defect and within the Warranty Period; and (2) Customer must provide detailed digital pictures and/or must return the defective Product to Manufacturer immediately thereafter and/or make the Product available to Manufacturer for inspection (at Manufacturer's request/discretion), and in no event more than thirty (30) days after any notification provided in (1) above; and (3) Customer must insure the defective Product until Manufacturer receives and accepts it. After Customer has taken the above steps, Manufacturer will evaluate the Product to determine if Customer's warranty claim is valid and to determine what, if any, remedy is available to Customer. Customer must return or make available all defective Products with complete documentation associated with the defective Product.

The Warranty shall be invalidated if: (1) damage to the Product is the result of misuse or abuse by Customer or any end user of the Product; or (2) if the Product has been modified by Customer or any end user of the Product; or (3) if any defects in the Products are caused as a result of Manufacturer following Customer's specifications in manufacture that contain any problems, faults, errors, miscalculations, or discrepancies in the specifications. If Manufacturer decides to repair or replace the defective Product, Manufacturer will ship the repaired or replaced Product (both, a "Repaired Product") F.O.B. the shipping point and all of the provisions in this Warranty pertaining to the Products will apply to the Repaired Product, including but not limited to, the risk of loss provisions set forth above. Notwithstanding the prior sentence, the Warranty Period for a Repaired Product will not be restarted, but instead will expire at the same time as though the Repaired Product was never a defective Product but rather the Product at all times.

THE WARRANTY PROVIDED HEREUNDER IS THE ONLY WARRANTY MANUFACTURER PROVIDES TO CUSTOMER, AND SHALL BE IN THE PLACE OF ANY OTHER EXPRESS OR IMPLIED WARRANTIES, INCLUDING ANY IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, TITLE OR NONINFRINGEMENT, OR ANY OTHER OBLIGATION ON MANUFACTURER'S PART. NO ORAL OR WRITTEN STATEMENTS MADE BY MANUFACTURER, EXCEPT THOSE MADE IN THIS WARRANTY SHALL BE CONSIDERED A WARRANTY OR CONSIDERED TO HAVE ANY LEGAL EFFECT. ADDITIONALLY, NO SAMPLES, MODELS, OR PROTOTYPES MANUFACTURER PROVIDES TO CUSTOMER SHALL BE CONSIDERED A WARRANTY OR CONSIDERED TO HAVE ANY LEGAL EFFECT.

CUSTOMER'S EXCLUSIVE REMEDIES FOR MANUFACTURER'S BREACH OF WARRANTY SHALL BE ONE OF THE FOLLOWING: (A) THE REPAIR OR REPLACEMENT OF THE DEFECTIVE PRODUCT; OR (B) THE REFUND OF THE PRICE CUSTOMER PAID FOR THE DEFECTIVE PRODUCT. THE REMEDIES SET FORTH ABOVE SHALL BE DETERMINED IN MANUFACTURER'S SOLE DISCRETION. ANY SHIPPING COSTS ASSOCIATED WITH VALID WARRANTY PRODUCTS THAT MANUFACTURER AND CUSTOMER HAVE MUTUALLY AGREED UPON SHALL BE PAID BY MANUFACTURER.

UNDER NO CIRCUMSTANCES WILL MANUFACTURER BE LIABLE FOR ANY INDIRECT, SPECIAL, PUNITIVE, INCIDENTAL, OR CONSEQUENTIAL DAMAGES RESULTING FROM THE SALE, MANUFACTURE, OR USE OF THE PRODUCT, WHETHER BASED UPON BREACH OF WARRANTY, BREACH OF CONTRACT, NEGLIGENCE, STRICT LIABILITY, OTHER TORT, OR ANY OTHER LEGAL THEORY. MANUFACTURER'S LIABILITY IN CONNECTION WITH THE SALE OR USE OF THE PRODUCT WILL NOT EXCEED THE PRICE OF THE PRODUCT UNDER ANY CIRCUMSTANCES. BY WAY OF EXAMPLE, IF A SINGLE PRODUCT CAUSES ANY DAMAGES, MANUFACTURER'S LIABILITY WILL NOT EXCEED THE PRICE OF THAT SINGLE PRODUCT. DAMAGES REFERRED TO IN THIS PROVISION INCLUDE, BUT ARE NOT LIMITED TO, LOSS OF PROFITS, REVENUE, OR USE OF THE PRODUCT; THE COST OF CAPITAL, SUBSTITUTE PRODUCTS, REPLACEMENT PRODUCTS, OR DOWN TIME; ANY CLAIMS OF THIRD PARTIES, INCLUDING, BUT NOT LIMITED TO, CUSTOMER'S CUSTOMERS OR OTHER USERS; DEATH; PERSONAL INJURY; AND INJURY TO PROPERTY.

CE DECLARATION OF CONFORMITY

Manufacturer Declaration

According to EC Machinery Directive 2006/42/EC, Annex II A

We, MAGNA-MATIC W4599 County Road IW Waldo, WI 53093, herewith declare, that the following machine complies with the appropriate basic safety and health requirements of the EC Directive based on its design and type, as brought into circulation by us. In case of alteration of the machine, not agreed upon by us, this declaration will lose its validity.

Machine: MAG 12008, MAG 8000, MAG 9000, MAG-8100, MAG-8200

Applicable EC Directives: EC Machinery Directive 2006/42/EC
EC Low - Voltage Directive 2006/95/EC

Applicable Harmonized Standards: BSENISO 12100:2010
BSEN 61029-1:2009+A11:2010
BSEN 61029-2-4:2011

Printed Name: Gerd F. Bauer II
Title: Vice President
Date: 1 January 2015

Authorized Signature:



Magna-Matic Corporation
W4599 County Road IW
Waldo WI 53093 USA

Phone: (920) 564-2366 - FAX: (920) 564-2368
Toll Free USA & Canada **1-800-328-1110**
<http://www.magna-matic.com>
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