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.

MAGNA-MATIC® Corp.

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

http://www.magna-matic.com
sales@magna-matic.com

Phone: (920) 564-2366
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Toll Free USA & Canada
1-800-328-1110

MAGNA-MATIC® Corp.

OPERATING INSTRUCTIONS

For Magna-Matic
Precision Balancing Instruments

Covering Models:

MAG-1000 Original
MAG-1000G Gold Edition
MAG-1000GC Gold Edition
MAG-1060 SUPER
MAG-5000 Series

Made In USA

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.

MAGNA-MATIC® Corp.

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.

MAG-1000 Lawn Mower Blade Balancer

The industry **original** since 1958
Blade Hole Diameter Range of 5/16" to 1-1/2"
Can be used to balance objects that have a concentric center hole, and is made of a magnetic material. The MAG-1000 uses a sliding magnetic chuck to hold the blade.

MAG-1000G Gold Edition
MAG-1000GC Gold Edition *(carbide support shaft)*

(Signified by the gold base bracket)
A special edition version of the standard MAG-1000. Made to perfection, and with ultra-accurate 8 ball - ball bearings.
Celebrating over 40 years of MAGNA-MATIC.

MAG-1050 SUPER

The MAG-1050 is a large application blade balancer. For use with flywheels, circular saws, impellers, fan blades, etc.. It has a interchangeable spring loaded cone insert for extra versatility.

MAG-1060 SUPER

The MAG-1060 is a large application blade balancer. For use with flywheels, circular saws, impellers, fan blades, etc. Functioning like the MAG-1000

MAG-5000

The MAG-5000 is a large center hole diameter blade balancer. (2-1/2" - 3") Can also be used with large fan blades and impellers.

MAG-7000 SERIES

The MAG-7000 Series balancers are designed for balancing hub type products, specifically ATV and Snowmobile primary and secondary variable clutches.

MAGNA-MATIC® GUARANTEE

The MAG-1000, MAG-8000, & MAG-9000 Series Products come with a *30 day 100% satisfaction guarantee. In the event you are not satisfied with any of the above products we will provide you with a return authorization and a UPS call tag for pick-up. You will be provided with 100% credit less the shipping cost (to & from) your facility and one grinding wheel. The returned product must be in good order, or further charges will apply.

*30 days from invoice date

Magna-Matic Free Start-Up Service & LIFETIME Toll Free Phone Support

Once you have any of our products ready to operate CALL US AT **800.328.1110** and we will instruct you of the proper operating procedure. We want you to be the most profitable with any of our high-performance tools. Also, you get LIFETIME PHONE SUPPORT with all of our products. Call our toll free number to talk to a real live person, and get personalized help. Or visit our web site - **www.magna-matic.com** - and read support info or ask a question via E-mail.

10 Balancer Calibration TEST

This will guide you through how can test the calibration of your balancer.

1 - Balancer must be mounted to test this.
2 - Make a mark on the face or magnet ring of the balancer (use a felt marker).
3 - Rotate the mark to every position of the clock face (1 o'clock - 2 o'clock - etc.) then let go of the balancer at every position very carefully - to see if it will rotate on its own. Your mark should not move at any position, this shows that the balancer itself is in balance.
4 - Be sure your hand or the mounted surface is not moving, the balancer will pick up the slightest vibration or motion. Air flow/wind will also affect this reading, be sure you are indoors and not near a fan or open window/door. Also make sure the magnet does not have any metal chips in it to throw off the reading.

If the unit does not meet any of these requirements return the unit to us for evaluation.

RECONDITIONING SERVICE
MAGNA-MATIC can recondition your balancer if it has become damaged. Send the balancer to us for a reconditioning evaluation and quote. Or call us 800.328.1110 or 920.564.2366

Balancer Reconditioning
Magna-Matic Corp.
W4599 County Road IW
Waldo WI 53093
USA

!BEGIN HERE!

This instruction booklet will get you "up-and-running" with the most basic usage of your MAGNA-MATIC balancer.

For more complete information on how to service a lawn mower blade refer to the publication "Magna-Matic Guide to Proper Lawn mower Blade Service."

1 Unpack the Balancer

Be sure all items listed here were included with your balancer.

1 - Blade Balancer
2 - Instruction Booklet (this booklet)

2 Mounting the Balancer

You can mount the balancer on a wall, the MAG-10200 Service Center Stand (with your Magna-Matic Lawn mower Blade Sharpener), or the MAG-103 Balancer Test Stand/Mounting Bracket. (see these various ways below)

Mounting Conditions:

A - Wall must be vertical ± 5º
B - Make sure there is enough clearance around the balancer to allow the blade to freely rotate without interference.
C - Balancer mounting location should not be subjected to air flow (fans, wind, etc.). Balancer reading accuracy can be compromised by wind/air movement.
D - Use (2) bolts 5/16 inch to mount the balancer in its (2) mounting holes.
E - See MAG-10200 or MAG-103 Instructions for stand mounting instructions.

Wall Mounting

MAG-10200 Service Center Stand Mounting

MAG-103 Test Stand/ Mounting Bracket shown mounted on a work bench

9 Balancer CARE

This will guide you through the proper care of your MAGNA-MATIC balancer.

CARE of your MAGNA-MATIC BALANCER

All MAGNA-MATIC balancers are precision, highly accurate measuring instruments to measure the balance condition of rotary blades, hub products, impellers, and the flatness/ straightness between the cutting edges of lawn mower blades. Note: run-out gauges can be attached to the guage rod to get run-out readings.

!DO NOT DROP OR MISUSE!

FOR ALL BALACNERS WITH magnetic sliding chucks

BE SURE to always push the magnet (chuck) to the base bracket after you are finished using it. IF DIRT and DUST collect on the slide surface it will damage the slide. This will significantly reduce the usability of the balancer. If possible cover the balancer with a plastic bag when not in use.

DO NOT attempt to clean the greased slide surface. It is greased with an engineered grease that will last the life of the balancer. Using any other grease with damage/reduce the usability of the balancer.

FOR ALL BALANCERS

DO NOT hit - hammer - drop or cause any other impact to the balancer, it will definitely damage the balancer.

DO NOT attempt to replace the bearings.

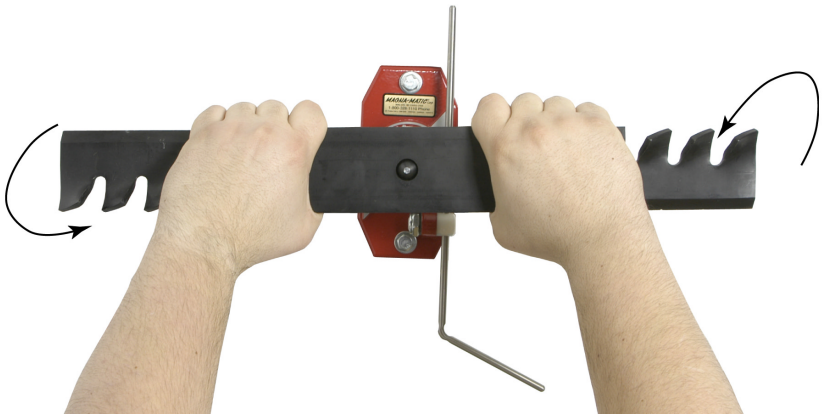
MAGNA-MATIC balancers - if cared for properly will last a lifetime under normal use.

8 Blade Removal

This will guide you how to remove a blade from your MAGNA-MATIC balancer.

After you have checked the straightness and the balance of the blade you will need to remove the blade from the balancer.

The best way to remove a blade from the balancer without damaging the balancer is to twist the blade. This will release the blade from the magnetic pull with the least amount of force, preventing injury to the operator or damage to the balancer. See BELOW showing the twisting motion. Use the blade as a lever to remove it from the balancer's magnet.



NOTE: Always wear protective gloves when handling lawn mower blades - gloves were not worn in photos to show maximum detail of hand positions.

3 Inspecting the Balancer

Inspect the balancer for proper function. The balancer must be first mounted **before** inspection can be done.

A - The Magnet sleeve should slide smoothly over the cone. Manual (hand) force is necessary to move the magnet. With use, the sliding force will decrease - warmer room temperatures will also make the slide move more easily. SEE BELOW IMAGES

B - Rotate the balancer - one revolution to assure the bearings are free to rotate. Only a 1/2 of a revolution is necessary to check the balance of a blade.

DO NOT SPIN THE BALANCER

Test the Magnet Slide

Test the Magnet Slide

Test Balancer Rotation

NOTE: Always wear protective gloves when handling lawn mower blades - gloves were not worn in photos to show maximum detail of hand positions.

4 Safety FIRST

Read the following safety notes
for your protection!

Lawn mower blade knives have sharp, cutting edges. Wear protective clothing recommended by the blade manufacturer.

DO NOT BE INJURED
By The Cutting Edges

!DO NOT BE INJURED! - !SAFETY FIRST!

MAGNA-MATIC magnets have a magnetic pull in excess of 120 LBS (using a test place 3.5" x .25" x 3.5".) Magnetic PULL is DRASTICALLY reduced by surface dirt, rust, paint, thin metal, and irregular shapes.

DO NOT BE INJURED
By a FALLING BLADE

!DO NOT BE INJURED! - !SAFETY FIRST!

ADDITIONAL SAFETY NOTES - READ

MAGNA-MATIC balancers use a magnet to hold the lawn mower blade. Blades made of non-magnetic materials will not be held by the magnet.

Blades that do not have a CLEAN FLAT STEEL SURFACE and at least 3" in diameter around the center hole; shall not be mounted on the balancer.

These blades may not be held by the magnet and may fall.

7 Check Blade Balance (cont)

This will guide you through the process to gauge a blade's out-of-balance condition.

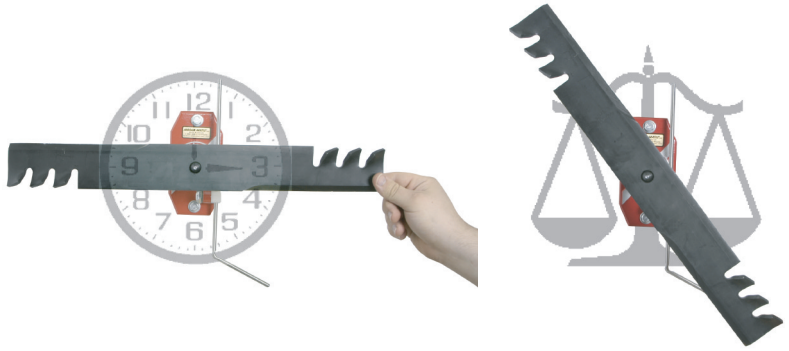
RE-EXPLAINED - (clock face example)

Think of a "scale," "balance," or "see-saw." As with any of these, when there is an IMBALANCE of weight on one end it will rotate toward the ground, because of gravity. This is the same way MAGNA-MATIC Precision Static Balancers work. After you have the blade mounted on the balancer, look at the blade on the balancer and think of a CLOCK FACE.

With your hand rotate the blade so that it is horizontal, with one end pointing at 3 o'clock and the other end pointing at 9 o'clock. Now let go of the blade, so that it will freely rotate or remain stationary.

When a blade is "out-of-balance" the "heavy end" will rotate to 6 o'clock. Take note of which end of the blade falls to 6 o'clock AND how fast it falls. These two factors will indicate which end of the blade is the "heavy end," and how "out-of-balance" the blade is.

With experience you will be able to quickly determine how much steel you will need to grind off, by recognizing the speed at which the "heavy end" rotates downward.



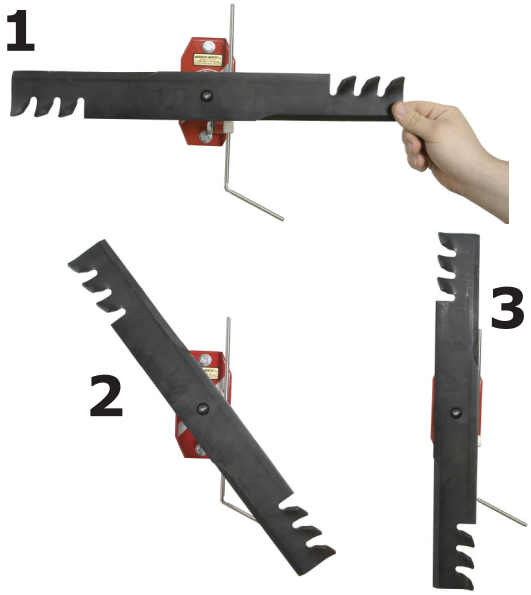
NOTE: Always wear protective gloves when handling lawn mower blades - gloves were not worn in photos to show maximum detail of hand positions.

7 Check Blade Balance

This will guide you through the process to gauge a blade's out-of-balance condition.

1 - Have the blade mounted on the balancer.
2 - Rotate the blade to a horizontal attitude. SEE BELOW. Then remove your hands and allow the blade to freely rotate.
3 - If the blade remains HORIZONTAL the blade is "HORIZONTALLY IN-BALANCE."
4 - If one end of the blade rotates to the 6 o'clock position of the clock face - THIS IS THE HEAVY END. Material will need to be removed from this end to bring the blade "IN-BALANCE." Remove material from the cutting edge during sharpening - USE a MAGNA-MATIC [MAG-8000 or MAG-9000] to properly sharpen a lawn mower blade.

NOTE: The blade will still be "IN-BALANCE-TOLARANCE" if it moves slightly from the horizontal position. ALL MAGNA-MATIC Balancers are delicate instruments that are to be operated with manual force only. Do not misuse the balancer.



NOTE: Always wear protective gloves when handling lawn mower blades - gloves were not worn in photos to show maximum detail of hand positions.

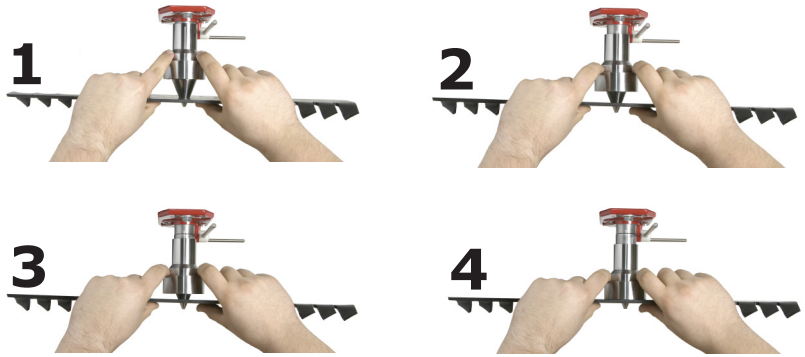
5 Mounting the Blade

This will guide you through the process to properly mount a blade on the balancer.

1 - Clean the blade of all dirt and vegetable material. Make sure that the blade is clean down to the steel at the mounting hole, where the magnet will contact the blade. This will greatly improve the magnetic "holding force" of the balancer, and the accuracy of the reading.
Use a hand wire brush or the MAG-12000 lawn mower blade cleaning machine to clean a lawn mower blade.

2- Hold the blade with two hands, and locate the center hole of the lawn mower blade on the cone.
Now with your index fingers, pull the sliding magnetic chuck towards the blade. The result should be that the blade is now securely located on the cone, and held there by the magnet. SEE BELOW the overhead view of the balancer and blade

3 - Slowly remove your hands and check that the blade is held firmly before completely removing your hands.



NOTE: Always wear protective gloves when handling lawn mower blades - gloves were not worn in photos to show maximum detail of hand positions.

6 Check Blade Straightness

This will guide you through the process to see if a blade has become bent from use damage.

1 - While the blade is mounted on the balancer. Turn the blade on the balancer so that it is vertical on the balancer (have one cutting edge pointing to the sky, and one to the ground.

2 - Now position the gauge rod to almost touch the back-side of the blade SEE IMAGES TO THE RIGHT

3 - Rotate the blade to compare the distances of one end of the blade to the other. If they are the same - the blade is "flat" or "straight."

4 - See your blade manufactures tolerance requirements to determine if the blade should be discarded.

NOTE about BLADE STRAIGHTNESS
The longer the blade, the greater the deviation that can be allowed between the two blade ends. Conversely, the shorter the blade, the lesser the deviation that can be allowed between the two blade ends.

WARNING

Do Not attempt to straighten a hardened blade. You may create fractures not visible to the eye.

REPLACE ALL BENT BLADES

6 Check Blade Straightness

General Guide:
18" - 24" long blades can allow up to 3/8" deviation
24" - 28" long blades can allow up to 1/2" deviation
28" - and larger blade can allow up to 5/8" deviation

WARNING

Do Not attempt to straighten a hardened blade. You may create fractures not visible to the eye.

REPLACE ALL BENT BLADES