

How to: Gearbox 2.0 Upgrade/Installation

Maestro*, Maestro Plus, Virtuoso, Preciso,

Time: 30 min

Difficulty: Medium

Tools/supplies: Flat head driver. Phillips driver. 3mm hex key. 4mm hex key. 11/32" or 9mm box wrench (adjustable may work). Pliers. Vise grips or bench vise.

Parts: Gearbox 2.0 Upgrade Kit (SKU 6395)

Additional Resources: Case Removal (PDF/video)

*Some Maestro and Maestro Plus units may require GB2.1. See below for detail

***** Unplug the grinder from power supply *****

Some notes before beginning:

- The Encore has always been built with GB2.0. If replacing a main drive gear for the Encore, refer to the Main Drive Gear replacement guide.
- Washer arrangement guidance is available at the end of this guide.
- Not all Maestro units are compatible with this kit. Check your motor before continuing.

Pictured here are the three separate motors which have been used in Baratza grinders. GB2.0 is compatible ONLY with the Johnson DC971 and Powertek motors. If you have the Johnson DC771, you must purchase GB2.1 Reach out to support@baratza.com for assistance.



The end of this guide contains troubleshooting for washer arrangement and placement in the gearbox.



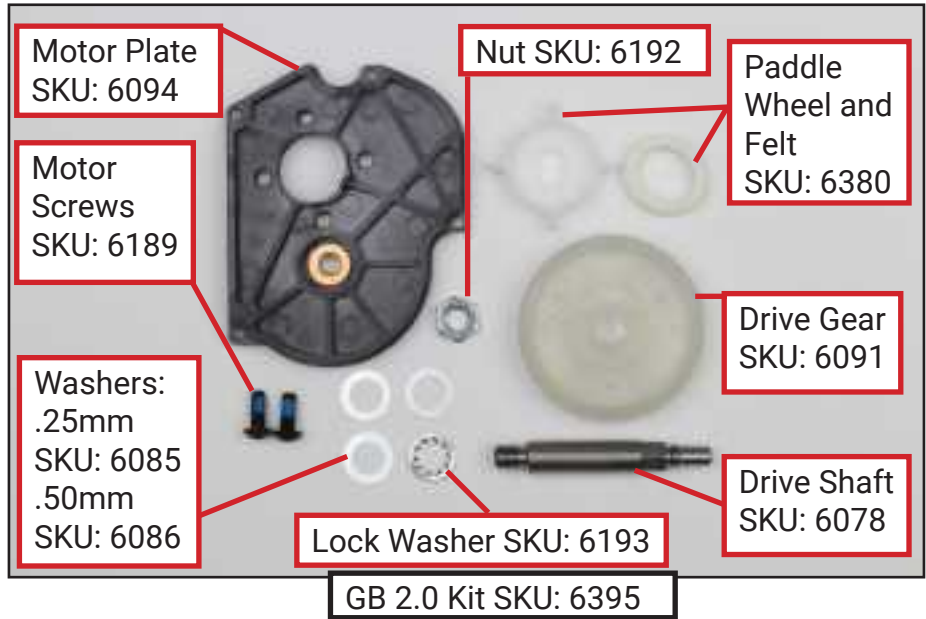
GB2.0 contains:
Paddle Wheel and Felt
Motor Plate, screws,
drive gear, drive shaft,
nut, lock washer,
assorted washers.

The assorted washers
may or may not be
necessary during this
process.

Remove the case using
our Case Removal Guide

Lift the safety interlock
switch up and off of its
posts. Let it hang to the
side.

Remove the three screws
securing the gearbox/
motor assembly.





Lift the gearbox/motor assembly out of the chassis. Unplug the motor cable from the board.

If your motor cable is soldered onto the board, mark the motor sides with the wire color for the terminal on that side, then disconnect the cables at the motor itself

Remove the four screws securing the motor plate to the gearbox

Remove the 10mm gear nut by rotating it clockwise- it is a reverse thread. Discard the 10mm nut and washer.





Holding the gearbox in your hand, with the cone burr facing down into your palm, hammer the driveshaft with a rubber, plastic, or wooden tool until the cone burr and drive shaft fall out of the gearbox.



OPTIONAL

Remove drive shaft using punch method

OPTIONAL

Remove the adjustment ring using the Adjustment Ring Replacement guide.

Put a cloth into the grounds bin to prevent scratching.

Rest the gearbox upside down on the grounds bin.

Use a hammer and punch (Phillips screwdriver works well) to push the drive shaft out of the gear.

The cone burr/paddle wheel/washers/drive shaft will fall into the grounds bin.



OPTIONAL

OPTIONAL



There will be one or more washers between the drive gear and gearbox housing. Place these in a safe place. Discard the drive gear.

There will be several washers on the drive shaft with the paddle wheel and felt. Remove the washers and paddle wheel. Keep them in a safe place separate from the drive gear/gearbox housing washers to avoid confusion.

note that there may be washers stuck to the bushing inside the grind chamber



Wrap the cone burr with a rag or use wooden/ rubber jaws and grip it firmly with vise grips or a bench vise.





Using a 11/32" or 9mm box wrench, rotate clockwise to remove the reverse-thread driveshaft.

An adjustable wrench can be used as well, but if the parts are very tight a box wrench may be necessary



Thread the burr on to the new driveshaft by hand. Do not tighten with wrenches – the burr will self-tighten with use. Install the paddle wheel and index the two pegs into the bottom of the cone burr.



Install the paddle wheel felt and associated washers. These are the washers for the cone burr and NOT the drive gear/gearbox housing washer(s).



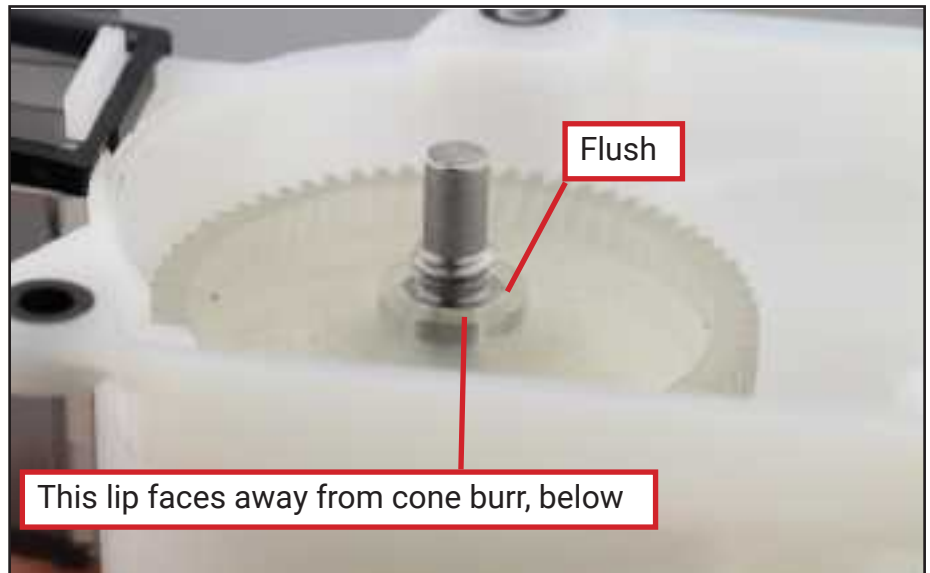


Slide the cone burr/
driveshaft/paddlewheel/
washers assembly
through the gearbox.

Install the washer(s)
between the drive gear
and gearbox housing.
There must be at least
one washer between the
drive gear and gearbox
housing.



Press the drive gear into
place until flush. (gear
side with lip faces away
from burr)



*If having difficulty
getting flush, make sure
paddle wheel pegs are
still indexed into cone
burr. You can use a
socket as a stand for the
cone burr in order to use
both hands on the gear.



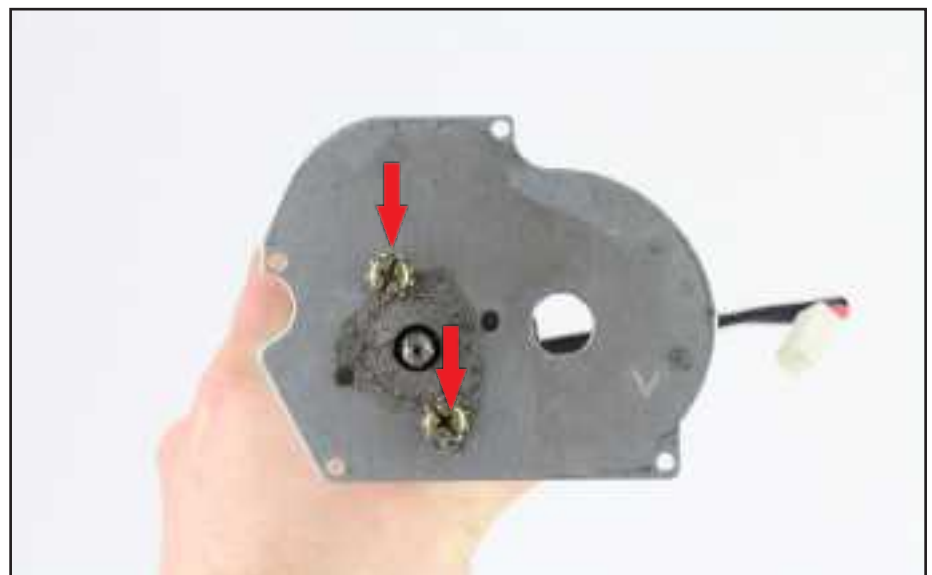


Install the washer and nut with pliers or 13mm wrench/socket



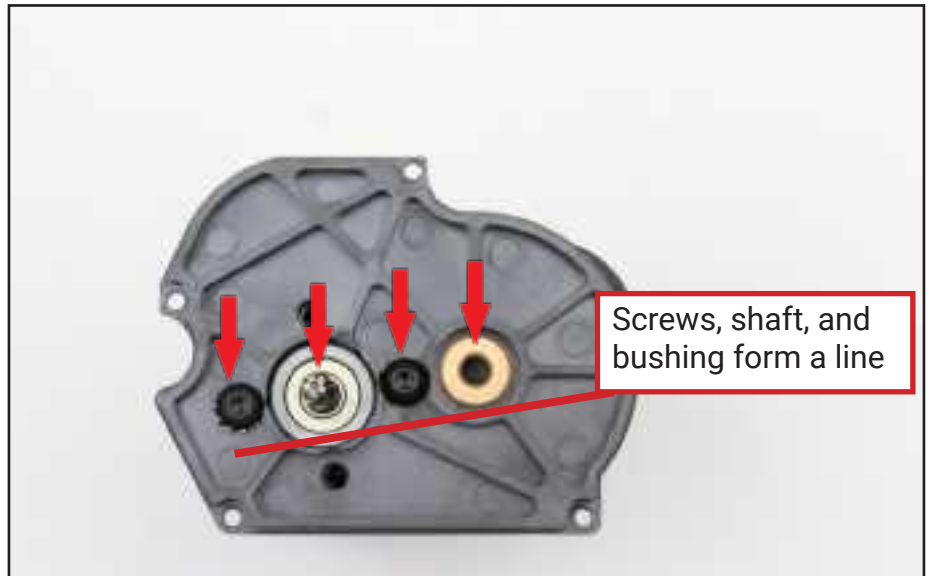
Rotate the gear by hand to check for binding/resistance. It should not free spin but should not be difficult to rotate. See video for further clarification. If there is binding or the gear cannot be pushed flush, reduce washer thickness by removing or exchanging washers between the drive gear and gearbox housing. There must be at least 1 washer between the drive gear and housing. Do not use a metal driver to push the new driveshaft as it will take damage. A plastic or wooden tool must be used. See the end of this guide if washer arrangement assistance is needed.

Remove the two screws securing the metal plate to the motor. Discard the metal plate, 2 screws, and black spacer.

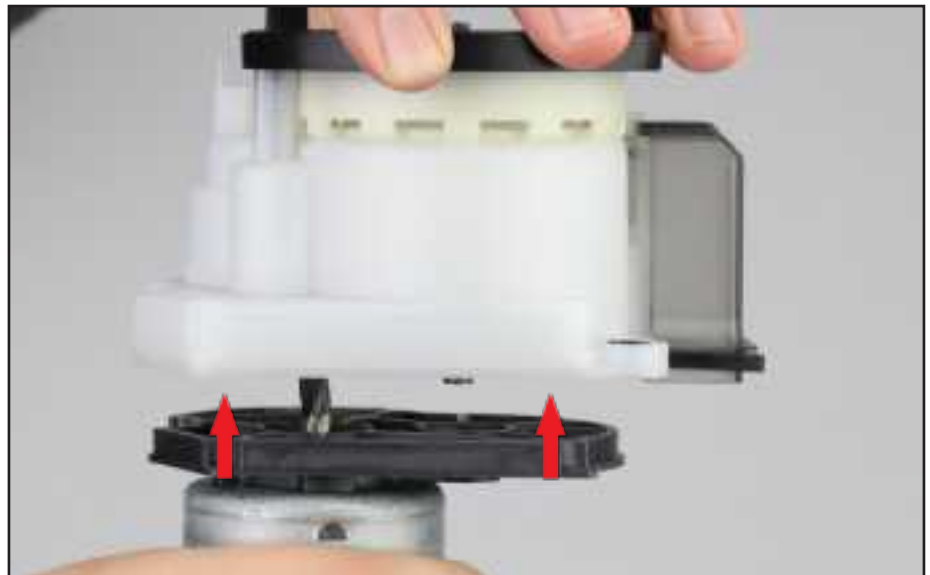




Install the motor into the new motor plate. Use the screw holes that form a line with the motor shaft, the bushing, and the drive shaft.

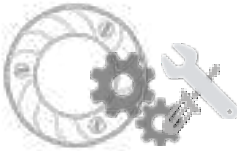


Attach the motor/motor plate to the gearbox.



Tighten 4 screws in an X-pattern.





Install the gearbox/motor assembly back into the chassis and connect the motor cable.



Route the right safety interlock wire to the inside of the right side chassis screw.

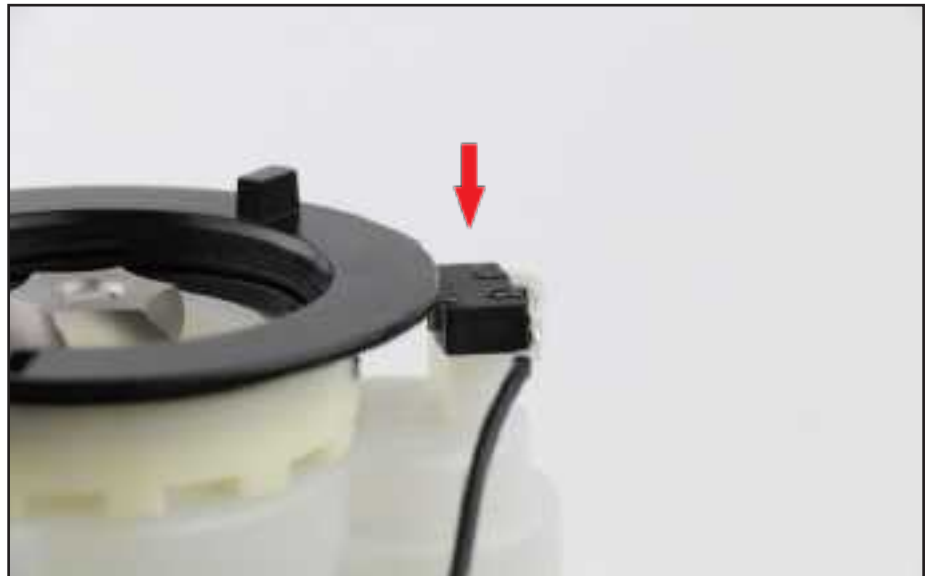


Secure the 3 mounting screws. Do not overtighten.





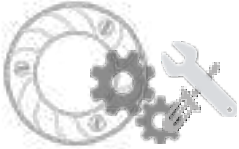
Set the safety interlock switch onto its posts, ensuring that the button itself faces in toward the adjustment ring.



Reinstall the case, reassemble and return the unit to operation.

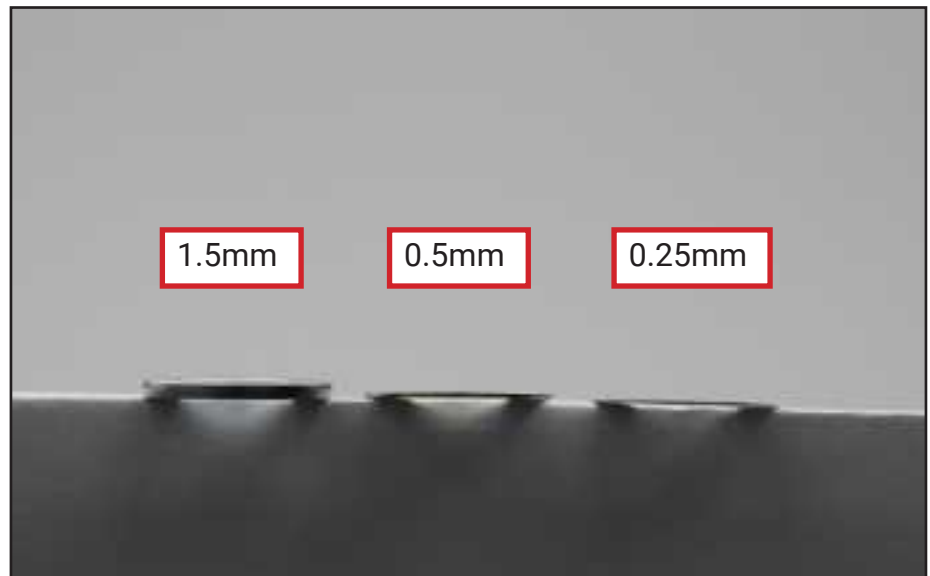


If the hopper does not install properly, see our Case Removal instructions for alignment troubleshooting



WASHER ARRANGEMENT

Calipers are not needed to identify the different washers. The 1.5mm washer is visibly larger than the others. The .5mm washer cannot be bent by hand. The .25mm washer can be bent by hand. The GB2.0 kit contains several spare washers, but you may not need to use all or any of them.



The washers under the cone burr/paddle wheel set the burr gap and the grind range. Changing the total thickness of washers under the cone burr/paddle wheel will adjust the grind range. For example, removing a washer will reduce the total thickness of the washers underneath the cone burr/paddle wheel and will shift the grind range coarser. Adding a washer will increase the total thickness of the washers underneath the cone burr/paddle wheel and will shift the grind range finer. Recommendations for the total thickness of washers under the cone burr/paddle wheel are below:

Maestro/ Maestro Plus 1.75mm
Virtuoso 2.75mm
Preciso 3.00mm

The washers between the drive gear and gearbox housing remove excess vertical play in the cone burr/driveshaft/gear assembly. At least one 0.25mm washer must be used between the drive gear and gearbox housing. Recommendations for the total thickness of washers between the drive gear and gearbox housing are below:

Barista/Maestro/Maestro Plus 1.5mm
Virtuoso 0.50mm
Preciso 0.25mm

Assemble with the recommended washers. After tightening the 13mm gear nut, check that the drive gear can be rotated by hand. If the gear is stiff and binding, verify shimming and assembly for issues, as the recommended washers will not result in binding.

Check for vertical play in the assembly by holding the gearbox housing and shifting the driveshaft up and down. Vertical play should be less than 0.25mm. Add washers between the drive gear and gearbox housing to reduce vertical play

If you have any questions, or encounter issues with this guide, contact support@baratza.com