Gaggia Step by Step v1.0

Written by glenn

A Beginner's Introduction.

1. Getting Started - What's in the box?

Unpacking the box. Be careful. Remove the portafilter (the handle) from the top of the foam packaging. Do not remove the machine from the box by grabbing the steam knob and pulling up. The steam knob is delicate. You might break it. Find another way.

In case you are looking for the missing accessories, they are hidden in the water reservoir. There should be a electrical cord, a plastic coffee measuring spoon, two stainless steel baskets, and a black plastic tamper. Somewhere you will find the manual. Do read all of the necessary precautions about electrical appliances. Despite what the manual says, there will not be a crema enhancing disk or any tool to unclog the steam tip.

You do not want or need the crema enhancing device and are better off without it!

Your machine may have the chromed steel bypass tube pre-installed, so you won't be able to remove the water reservoir until you remove it. The bypass tube is held in place by friction alone. You do not any tools to remove it. Just pull straight down on the tube and it will come out. Make a note to yourself that there is a special hole in the stainless drip tray for the bypass tube to "hang" through.

The water reservoir consists of a smoked plastic container that just pulls straight out. There are no latches or catches to worry about, so it can be merely slid straight out. Before pulling it out, note that there is a rubber tube that is hanging down into the reservoir. This is the water intake tube. Be careful not to damage the tube when you remove the reservoir. The edges of this plastic tank are very sharp so you may want to delicately hold the tube out of harms way while you are sliding out the reservoir.

IMPORTANT!

After you have removed the accessories from the tank, slide back the reservoir making very certain that the intake tube is hanging directly into the reservoir. The pump can't pump if the tube is not sitting in water!

2. Assembly

Your new machine consists of a water tank, a electrical pump, a boiler tank and a shower screen to force very hot, but not boiling water at high pressure though a compressed puck of coffee grounds. An electrical element heats the water in the boiler tank and a pump

forces the hot water through the tight packed grounds. Additionally, the Gaggia Classic is equipped with a solenoid valve which releases and diverts the high pressure in the portafilter back through the valve through the external steel tube and into the drip tray as soon as you shut off the brew/pump switch.

The warming tray on top and the drip tray (the one with all of the round holes) is covered with a clingy blue transparent plastic film. Peel it off and discard.

Plug the detachable electrical cord into the machine and find an outlet to plug it in. Make sure all three rocker switches are OFF before plugging it in. Refer to factory manual for on/off positions if you are not sure. Put back the bypass tube. It hangs down suspended from the rear left corner. Do not re-insert it too far. The bottom of the tube should be below the surface of the drip tray. It may or may not be centred in the drip tray hole. Do not worry about it.

Fill the reservoir. Remove the rectangular black plastic lid and fill to the "max" mark indicated on the side of the container. Put the lid back on to prevent stuff from falling in.

2(a) Water Treatment*

If you use chlorinated tap water, let the water stand for a few hours in order to dissipate. Chlorine and coffee do not mix. Good tasting, clean and slightly hard water is the best water to use. Distilled water and reverse osmosis water are reported to not make very good tasting coffee. Reverse osmosis water can be slightly acidic but will work if you add a pinch of baking soda to every litre of water or so in order to add non-scaling hardness and help protect against corrosion of the aluminium part of the Gaggia's boiler. Better yet, you can mix a small amount of hard spring water to reverse osmosis or distilled water to get an ideal amount of overall hardness.

* special thanks to Jim Schulman for the water treatment tips

3(a) Priming*

Before you use the machine for the very first time, you have to fill the empty boiler tank with water.

IMPORTANT! DO NOT FOLLOW the priming instructions in the manual.

It makes no sense to heat up an EMPTY boiler red hot and shock it with cold water.

Do the following instead:

- Place a cup or your frothing pitcher under the wand. Notice that the wand can be swiveled out from the machine.

- OPEN up the steam valve all the way anti-clockwise. That's the black knob on the right hand side of the machine. Be very gentle with the valve. Do not overturn or over tighten.

- Turn ON the power/boiler heater switch. That's the electrical switch on the far left.

- Turn ON the steam switch - the middle large switch

- Turn ON the brew/pump switch - the one on the far right. That loud buzzing sound is the pump. You should now get a stream of water coming out of the wand. It might take several seconds for the boiler to fill before you get water. Fill a cup of water or so. Remember, the water might be hot and there's likely to be a fair bit of splashing. You might want to use your frothing pitcher instead of a cup in order to minimize the splashing.

- Turn OFF the pump/brew switch - the one on the far right.

- Turn OFF the steam switch - the middle switch

- CLOSE the steam valve. Be gentle - fingertip tight only.

- Place a cup on the drip tray - that's the stainless steel plate with all of the round holes.

Next, we are going to run water through your "group".

- Turn ON the pump/brew switch. Water should come out of the shower head in a few seconds or so. Feel free to fill a cup of water or so.

- Turn OFF the pump/brew switch.

Congratulations! Your pump has now been primed.

CAUTION: if you run the pump without any water for too long, you will likely ruin the pump.

TIP: Hot water operation. All three switches have to be ON if you want hot water from the steam wand. If you want hot water, it is important that you crack open the steam valve BEFORE you turn on the pump/brew switch.

TIP: I would also recommend to run quite a bit of water through your group and steam wand the first time in order to flush out any industrial residues left over from the manufacturing or assembly process. A reservoir's worth is good.

* Thanks to espressotec.com for this tip!

3(b) Proofing the machine

How do you know that your brand new machine is not a dud or a factory lemon?

If you have primed the machine successfully (see previous section) the pump is probably OK.

Checking for initial leaks is a good idea too.

Most importantly, you want to check the performance of your thermostats.

The Gaggia Classic has two thermostats - a brewing thermostat and a steam thermostat.

You want to test two things:

1. brewing water temperature and recovery
2. steaming capability

The most well known and simplest brewing temperature test is the "styrofoam cup test"

Turn on your machine and wait at least 15 -20 minutes so that it is thoroughly warmed up.
Get a small styrofoam cup of the take-out variety and mark a line measuring the 2 ounce level, and another mark measuring the 3 ounce level. In metric terms that's roughly 60 ml and 90 ml respectively. Next, you will need to find a good quality dial type frothing thermometer and insert it horizontally through the cup. The point of the thermometer should not puncture the other side and the thermometer should be inserted low enough in the cup that the stem is covered by water. Place the cup along with the thermometer underneath your group and turn ON the brew switch and draw at least two ounces of water. Turn OFF the brew switch when you have enough water in the cup. Measure the maximum temperature achieved.

Repeat this test several times in a row using the 2 ounce mark. Do the test again using the 3 ounce mark.

If you are not attaining at least 192F (89C) in all tests, then your thermostat is running too cool. I would be tempted to either return the machine or replace the thermostat.

The next test measures the steaming capabilities of your new machine.

Measure out exactly 10 ounces of water in your frothing pitcher. Insert your frothing thermometer. Remove any frothing assist devices as you will need to use the bare wand. Click on the steam switch and wait for the red "ready light" to come on.

Start steaming by opening up the black steam knob. You will notice the red light will go off after a short time indicating that the boiler heating elements are on and are actively heating the water. Keep steaming until the temperature light comes back on. Record the temperature. If it is not at least 140F (60C), your steam thermostat is running too cool and should be replaced. The steam thermostat is very easy to replace and if you can wield a screwdriver, you can replace it yourself in a couple of minutes [keeping the usual precautions about working on electrical equipment in mind]. If you are replacing a thermostat, always remember to hand tighten only. Never use a wrench to tighten a thermostat on this machine. If you do not feel comfortable doing repairs yourself, return it or send it in for a warranty repair.

4. Brewing espresso

IMPORTANT!

Allow your machine adequate time to heat up. Your portafilter along with the filter basket should be in the group and heating for at least 15 - 20 minutes before brewing.

If you haven't done so already, insert the larger filter basket - the bigger one (called the "double" basket) into the portafilter. It will snap into place. You are going to need freshly ground coffee to fill that new basket. I am going to assume that you already have a high quality burr grinder and that you have ground some coffee that is either not too fine or not too coarse. On the safe side, it is better to grind a little too coarse the very first time you use your machine. This is a little difficult to describe. You want something finer than granulated sugar, but not too fine that you get powder.

Do not bother with the coffee measuring spoon you got with the machine. Instead, fill the basket overflowing with grounds and level it off with a finger before tamping.

Tamp down with the included black plastic tamper (which is too small) so that you form a nice level compressed puck of ground coffee. Make a note to yourself to order a proper Reg Barber 58mm stainless steel tamper.

You will notice that there are cast "ears" on the portafilter and that you have to insert it into the cut-outs in the group head. You will lock it into place by turning the handle so it is just about pointing straight at you. If you can't figure this one out, refer to the factory manual.

Check the electrical switches, the power/boiler switch should be ON, the steam switch (middle switch) should be OFF and the steam valve (the black knob on the side) should be CLOSED.

Proceed to section 5(below) for instructions on calibrating your first double.

TIP: unlike some other espresso machines, the red indicator light (located on the pump/brew switch) on the Gaggia Classic is a "temperature ready" light. When the light is on, the boiler heating element is OFF. When the light is off, the boiler element is ON and is actively heating water.

5. Brewing the Shot (calibrating your first double)*

Place preheated shot glasses under the spout of the portafilter and turn on the brew/pump switch (the switch on the far right). Your goal is to get a total of about 2 ounces(60ml) of espresso in about 25 - 30 seconds.

Turn ON the brew/pump switch (the one on the far right). If you are striving for a 25 second shot, turn OFF the brew/pump switch when 25 seconds have elapsed. Measure how much espresso you've got.*

If you've got more than 2 ounces in 25 seconds, your grounds are too coarse - grind finer and/or tamp harder. If you got less than 2 ounces in 25 seconds, your grounds are too fine - grind coarser and/or tamp lighter. You may have to do this several times before your grind is "dialed" in.

If you take your espresso straight, feel free to sample your shots. There should be plenty of crema (brown foam). If you don't have crema, you don't have espresso!

Transfer the espresso shot(s) to a cup if you are making a milk based drink.

*****Note: double?, single? The terms might be confusing at first. Just remember that a double shot is made using the larger basket and a single shot is made using the smaller basket.

TIP: After you get the hang of "pulling a double", you will want to pull your shot directly into a pre-heated (with boiling water) cup or demitasse. Why? Your espresso will remain hot and you won't lose any of that precious crema that will cling to the side of your shot glass.

***** there is no hard and fast rule about WHAT or HOW to measure the shot . The current consensus is to measure the liquid part (not the crema) about 30 seconds after pulling the shot.

6. Steaming/frothing milk.

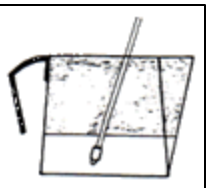

figure1

figure2

figure3

- if you take your espresso with milk you are having either a cappuccino or a latte. A traditional cappuccino is a 2 ounce (60ml) of espresso with 2 oz of steamed milk and 2 ounces of foam. A latte has more milk than a cappuccino, has much less froth and is usually 1 part espresso to 5 parts or more of steamed milk/froth. The steamed milk/froth emulsion is referred to as microfoam. A latte is strictly a North American invention so you might see various interpretations as to what a proper latte is, how much foam there should be(if any) or what size cup it should be served in.

- you can steam just about any type of milk, however, I would recommend you start with 2%. This milk has an ideal combination of milk fats and proteins to make either a cappuccino or latte type of foam.

- it is recommended you purchase a proper 20 ounce and a 10 or 12 ounce stainless steel frothing pitcher and an accurate frothing thermometer. For the 20 oz size pitcher, I would recommend that you steam at least 10 ounces of milk at a time. The smaller pitcher will be needed if you want to froth smaller amounts of milk.

Turn the steam switch ON(the middle button). The steam valve should be CLOSED. When the indicator light is ON you can start steaming. You should blast out any water droplets left in the steam wand by quickly opening and closing the steam valve (the black round knob). You want DRY steam not WET steam. You may have to do this a few times.

After you have purged the steam wand you can start steaming the milk, CLOSE the steam knob. Insert the end of the steam wand into the milk as far as it will go. Turn OPEN the steam knob about one full turn or so. You may hear a loud high pitched squealing sound. This means that the steam tip is too deep in the milk. Bring the steam tip back up so that it is just grazing the surface. You will hear the chh...chh sounds. You are now STRETCHING the milk (introducing air) and you want to do this until the milk is anywhere between 80F to 100F(depending on the type of drink you are preparing). Once you have stretched far enough, move the wand tip to the side of the pitcher because you now want to SPIN the milk in the container. Ideally, you will create a standing wave. [You'll recognize it when you see it]. Keep the tip deep until your frothing thermometer reads about 155F. Quickly, CLOSE the steam knob. The temperature of the milk should not exceed 160F. The milk will look like shiny table cream. Swirl the milk in the pitcher to smooth things out further.

Pour the microfoam onto the espresso in your cup and start practising your latte art!

TIP: The above instructions assume that you have taken off any turbofrother devices.

Although your machine comes equipped with a turbofrother or foam assist device, we would strongly suggest that you remove it and try your hand at barewanding right from day one.

Here are some additional tips on extracting the best steaming performance from your Gaggia:

1. Is your steam thermostat working correctly? Some thermostats, even new ones, are defective and run way too cool. If your "ready" light switches on and off a few times before your milk gets to 160F, your thermostat is clearly defective. Get rid of it and get a new steam thermostat - a two minute repair job.

2. Ease up on the purging. If you bleed your steam wand too much in order to get "dry" steam, there might not be enough steam left over to do the job.

3. You can try one of the following methods to see which one works best for you:

a) Do your bleeding/purging while the boiler comes up to steam temperature. When the "ready" light comes on, start steaming. Yes, the steam will start to diminish fairly rapidly, however the light should go out indicating that the powerful boiler heating elements have kicked in. You should have plenty of steam power to carry you to at least 140F before the "ready" light comes on and steam starts to diminish once again. You should be able to coast to your end point of 155F - 160F. If you can't reach 140F(with 10 oz of milk) before the light comes on, you need a new thermostat!

b) This last method is a bit trickier to do, however it should give you the best quality steam if you can time it correctly. Do your initial purging first. Here's the tricky part. Start steaming just before the red "ready" light comes on. You want to keep the boiler elements going full tilt for as long as possible. If you catch it just right, the boiler elements will stay on and you can just about spin 10 oz of milk right out of your frothing pitcher!

You should be able to reach at least 140F before the ready light comes on.

7. Best Practices

Always pre-heat your machine thoroughly at least 15 to 20 minutes. Even though the "ready" light may be on before then, the machine's temperature has not stabilized yet.

Anything that touches your espresso must be hot. The portafilter and basket should always be inserted into the machine (loosely) while it is coming up to temperature. Cups should always be pre-heated with boiling water.

It is best to flush your group with fresh water before brewing your shot. Draw at least 4

ounces of water or more. This practise draws in fresh water into the boiler and flushes out the old grounds that may be stuck above the shower screen. You may use the flush water to pre-heat your cup if you are in a hurry. Wait for the temperature ready light to come back on before brewing your shot.

Before filling the basket with ground coffee, ensure that the basket is dry. Use a hand towel or similar to dry it out if necessary.

ALWAYS clean your machine after your shot has been brewed. Wipe down the shower screen as there will be some coffee grounds stuck to it. It is very important to ALWAYS clean the groove in the group. Remember to clean out the drip tray because your solenoid equipped espresso machine has pressure released about an ounce or so of coffee water as soon as you switched off the brew switch.

After steaming milk, remove the turbofrother attachment(if you are using it) and clean it thoroughly inside and out of any milk residues. A round toothpick or pin can be used to clear the small hole [depending on the type of frother you have] on the side of the turbofrother. Don't forget to clean the bare wand as well.

Make sure that you turn OFF the steam switch immediately after steaming so that you do not blow the internal thermal fuse. The fuse is designed to protect against an overheated boiler. This type of fuse is a one-time use fuse and has to be replaced if blown.

Again, you should flush your group and wand with 4 ounces (120ml) of water or more after brewing your shot. This will help clean the shower screen and clean out the milk residues from the steam wand. More importantly, it will refill and cool down the boiler. Turn off the machine immediately after doing so. Hot water sitting in a boiler for long periods of time can get acidic and can cause the aluminum part of the Gaggia boiler to corrode. Therefore, I do not recommend that you leave this machine on all day or for extended periods of time.

8. Cleaning & Maintenance

- About once a week it is highly advisable to clean the shower screen. It can be easily removed by removing the small phillips head screw with a short screwdriver. Clean the screen and the group head area underneath the screen. If you are using a light detergent solution make sure you rinse very well. Reinstall the shower screen.

- Once a week: remove and wash the reservoir. Wipe down the intake tube.

CAUTION: DO NOT use a straight pin or needle to unblock holes in the shower screen that are blocked by the odd coffee grain. You will do more damage than good. The steel is very soft and you will damage the screen by enlarging the holes.

8(a) Preventative descaling:

- one of the prime reasons for equipment failure is due to calcium and mineral deposits caused by the use of hard water. A loose chunk of scale can easily plug up a steam wand, solenoid or other passages and cause all sorts of grief. The key is to prevent and reverse small amounts of scale build up.

- you can definitely use those proprietary citric acid based descalers that the espresso machine manufacturers recommend, however the cheapest descaler to buy is citric acid. Citric acid is a naturally occurring fruit acid found in citrus fruits like lemons, grapefruit and oranges. Food grade citric acid can be purchased at health food stores or at winemaking supply stores. The idea of descaling is to use an acidic solution to dissolve and then flush away the mineral deposits.

CAUTION: In order to flush the steam wand with the descaling solution, you have to turn on the steam switch. In steam mode, the Gaggia heats up extremely fast. Be very careful not to flash steam a boiler full of citric acid!

CAUTION: A Gaggia mechanic tells me that a very strong solution of citric acid is hard on "O" rings and gaskets. Use LESS rather than MORE.

Descale procedure:

- in order to make a food safe descaling solution, dissolve about 1 teaspoon (5ml)* of citric acid to every litre (about a quart) of water. While you are waiting for the citric acid powder to dissolve you should remove and clean the shower screen. Stirring will help dissolve the powder. Place your frothing pitcher underneath the steam wand. Do the following steps in quick succession:

- turn the steaming knob OPEN
- turn the power switch ON
- turn ON the steam switch
- turn ON the brew/pump switch.
- run about 8 oz or 250ml of the citric acid solution through the steam wand.
- turn OFF the brew switch
- turn OFF the steam switch
- turn OFF the power switch

Wait 20 minutes, repeat procedure until the solution is used up. DO NOT let the pump run dry!
Optional - you may want to run a few ounces of cleaning solution through your group. Empty the remaining solution, rinse and refill the reservoir with clean, fresh water. Run at least a litre (quart) of water though the machine in order to flush out the cleaning solution.
Don't forget to put back your newly cleaned shower screen.

Optional - brew a shot to season the machine and discard.

*****I used to recommend making up a far stronger solution of citric acid, however, the stronger solution seemed very hard on the steam valve. The valve would get quite difficult to turn.

8(b) Backflushing

CAUTION: The Gaggia Classic has a solenoid valve. DO NOT BACKFLUSH any espresso machine that does NOT come equipped with a solenoid valve.

NOTE: Most manufacturers do not recommend backflushing non-E61 group home machines although the consensus among the pros is that it is worthwhile to do so anyway. Here's how to do it properly.

You can use either a special backflush filterbasket (a filterbasket with no holes) or a rubber backflush disk that you insert in your double filterbasket to stop the flow of water.

I prefer to use the rubber backflush disk as it is more "forgiving". Plus, if you want to clean your group between multiple shots, you can just plop it in your filterbasket and do the "portafilter jiggle" without doing the hot potato routine with a very hot basket.

Backflush instructions:

1. Get a cleaning agent. There are special backflushing compounds that will do the job.
2 .Remove the drip tray cover so you can see what's going on. Use eye protection and guard yourself against splashes. Note! It will splash!
3. Heat your machine so at least it's warm.
4. Insert the rubber plug in your double basket.
5. Put the cleaning solution, slurry, paste (depending on the product you are using) in the basket.
6. Insert the portafilter into the group.
7. Turn on the brew switch for about 3 to 4 seconds or so.
8. Turn off the brew switch
9. Observe the satisfying "kerr-sploosh"
10. Repeat three times and backflush with clear water a few times more.

Because the rubber disk is not completely watertight, you will have time to gradually ramp up the pressure. You will hear the pump start to work at little harder. Don't push it too far. It will be most definitely less than 5 seconds. You will soon be able to judge the optimum time to turn off the switch. Do not get carried away. Do not be tempted to backflush several dozen times in quick succession.

Some of these cleaning powders are difficult to dissolve. Remove the shower screen

again. Clean again. Flush lots of clear water through the group. Use clean cloths. Do the portafilter jiggle to thoroughly clean the group gasket area. Re-assemble. Prepare an espresso shot to season your machine. Discard.

You will be rewarded with a much cleaner machine and better tasting espresso!

8(c) Parts replacement

Heat and pressure from the portafilter will eventually cause the group gasket to become hard, inflexible and neglected long enough - brittle. It will start to leak. You can expect to replace the group gasket every year or two (depending on usage). If it is not leaking and your group gasket has a nice tight seal, don't replace it! Keep a spare handy.

DO NOT drill or insert screws into a rubber group gasket in order to remove it. You will likely do damage to the soft brass group head. Instead, remove the showerscreen, undo the two allen screws, and remove the water spreader. Use a blunt awl to pry out the gasket. Do NOT use sharp objects. If you run into trouble, STOP and bring your machine to a professional for repair.

Thermostats do go bad occasionally so you can expect to replace the brewing and/or steam thermostats at one time or another. Your toolkit should include a spare group gasket, fuse, brewing thermostat, steam thermostat and a variety of metric allen keys or screw bits. If you are not competent with electrical or mechanical repairs, have your machine serviced professionally.

WARRANTY/SERVICE:

With a bit of care and maintenance, your Gaggia Classic espresso machine should last many years. Replacement parts are widely available for this machine.

It is very important to buy your machine from a reputable dealer who will help you with maintenance, service and repair issues both during and after warranty coverage periods.

Keep your original bill of sale and do fill in that warranty registration card.