



FIRST OFF, WE'D LIKE TO THANK everyone for all the kind words and encouragement about “High Maintenance”—the letters and emails of appreciation and interest that have been arriving in *Barista Mag's* mailbox have been encouraging and exciting. We're so happy that you like the column, and we're having a blast with all the great questions you've been sending in—keep 'em coming!

We're really enjoying this “Car Talk” vibe we have going on, but we wanted to bring a little “Savage Love” into the mix, so we asked our editor if we could invite some guests to help answer questions on topics where we need more in-depth wisdom. We sent out a few requests to some really smart coffee people, and we look forward to including some of their insights in our column in the April + May 2017 issue of *Barista Magazine*—so stay tuned. And of course, please continue to send in your questions and suggestions and we'll do our best to keep the party going.

It seems like everyone gets a little stir crazy during these seasonal transitions. As we write this, it's dead-on winter, but spring will be close by the time you read this column; it's time to dig deep and get creative. This time of year is great for knocking out some deep cleaning of your shop's equipment, and take care of those bigger maintenance issues you might have put off during the holidays. With that stuff out of the way, maybe you can even start thinking about adding that

new pourover station you've always wanted, or figure out how to get your cold brew out of pitchers and into kegs. We can help you with those projects, too.

In fact, there are countless ways to help keep your staff and customers engaged and excited about what's going on at the shop during these seasonal slumps. Then again, maybe we all just need to recharge by spending a week or two on the beaches of Costa Rica.

On to your questions...

I'm noticing that my flow rate from my group heads is wildly inconsistent. How do I fix that? I'm talking over 100g difference between each group in 30 seconds when I run it without a portafilter inserted.

This is likely related to the little flow restrictors in each group known variously as group jets, or giclours. When pulling shots, the water runs through one or more of these jets on the way to the coffee in your portafilter, which have a very small orifice—anywhere from 3mm down to 0.6mm, or about 1/32-of-an-inch. That's smaller than the average paper clip in diameter, so it's a pretty tiny hole for that water to pass through. Depending on the manufacturer, they can be made of lots of different materials, each with their pluses and minuses. These jets can have issues with getting clogged, or they can sometimes get removed or misplaced during a routine maintenance.

In either case, it's best to inspect and replace them on a regular schedule. The rest of the hydraulic circuit should be inspected, as well, as some machines have gicleurs in more than one location, and scale can form anywhere in the path of the water. One major source of clogs is mineral buildup (aka limescale), in which case you should have your water tested and make sure you have the proper filtration setup, and that the filters are getting changed regularly. —Alex

Is there a way to do enough routine maintenance on my espresso machine that it'll never break down in an emergency?

As much as I would love to say yes, the truth is no. There are so many things that are out of our control—for exam-

strongly believe that having a trained technician come out quarterly to not only change your gaskets, baskets, and screens, but also look for things like failing contactors, relays, valves, and pumps will significantly reduce the amount of emergency service calls you have. Talk to your technician about getting some of those items changed out preventively, and make sure they are good about keeping track of your service records. —Dblj

Why does my hot water splatter out so much from the dispenser? Is there anything I can do to make it a more steady stream? I've seen some other machines where it comes out without splattering hot water everywhere.

This all depends on the model of machine you have.

Lots of cafés do a midday, water-only backflush, and I think that's a great practice, since coffee oils can build up fast inside those brew valves, and a quick (water only) backflush after the morning rush will help a ton.

ple, if the power goes out and surges back on, you are at risk of blowing a contactor, relay, or control board. We see water filters clog early due to nearby construction taking place, or if sediment in the water gets past the filters, it can clog up valves inside your equipment.

There's also the human-error factor: Maybe someone gets a brush stuck in the grinder chute. Or maybe the closer was excited to go see The Melvins after work and accidentally left the backflush running all night, blowing a water supply line and flooding the café. These types of things happen all the time, and no shop is completely immune to them. However, I also

The hot water dispenser on an espresso machine is typically pulling water from the steam boiler, which can run as high as 260°F. The water is under pressure when it's contained in the boiler, but when you let it out of the spout, it instantly begins to boil at atmospheric pressure, thus the crazy steamy spraying you've noted. Some machines mitigate this effect by adding a cold water mix valve to the system, so that when you dispense water, you get some super hot water from the steam boiler as well as some cold water directly from the inlet, so that the water coming out is somewhere below the boiling point.

Some machines even let you adjust this setting to whatever temperature you'd like!

While technically possible, it would be a lot of work and cost to add this feature after the fact, unfortunately, and there's no guarantee it would work as intended, either. Definitely look into this as a desired feature when you start shopping for your next espresso machine. There are several brands that do the mix valve, and most baristas I know that have worked with both really appreciate not getting their fingers splattered every time they rinse a shot glass. —Alex

Can you backflush too often?

I was excited to see this question because it's one I get regularly out in the field. This makes for a good opportunity to talk about the mechanics of how backflushing works and some general guidelines for how to properly clean your espresso machine.

Rule number one: Always backflush with the screens in the machine. We have seen a few different cleaners stick and build up inside the brew valves when backflushing without screens. You only need to add a teaspoon of cleaner to the blank filter, then follow the rule of on for 10 seconds/off for

20 seconds. Repeat this 10 times, and then do the whole cycle again on the same group with clean water.

If you leave the backflush running for too long, it can put extra stress on the pump, motor, water lines, and brew valves. When you insert a blank filter basket into the grouphead and hit the brew button, you're building pressure between the brew valve and portafilter. When you turn the group off, it creates a vacuum and pulls the liquid from the blank filter back through the machine, into the brew valve, and out the exhaust. So if you think about it, most of the cleaning is being accomplished when the group is in the off position, because that's when the cleaning solution is in contact with the internal group tube and brew valve.

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Now to finally answer the question: You can backflush as many times a day as you want as long as you follow the rule of on for 10 seconds/off for 20 seconds, and only use detergent at the end of the day. It's probably best practice to adopt a midday backflush schedule, or just have your baristas backflush before they hand the bar over to someone else. —Dbbj **b**

