

Gateron Root Beer Float Switch Review

-ThereminGoat, 04/16/23

In full transparency, PuNkShoO – the designer of the Gateron Root Beer Floats – was kind enough to send some of these switches, as well as his other previous designs of his, my way for the collection on the condition that I would get some force curves together for them. As you can tell, I chose to do this for the Gateron Root Beer Floats, but then proceeded to write a full-length review rather than fulfilling that promise early on. Sorry about that one, PuNkShoO, I'll get around to getting the rest of those done sometime soon. Fittingly, however, the mention of force curves at the start of this review sets the stage for a great chance to remind my readers about some of the other content shenanigans I get caught up in on a week-to-week basis. After all, I did *just* pass 600 unique switch force curves uploaded onto my GitHub repository...

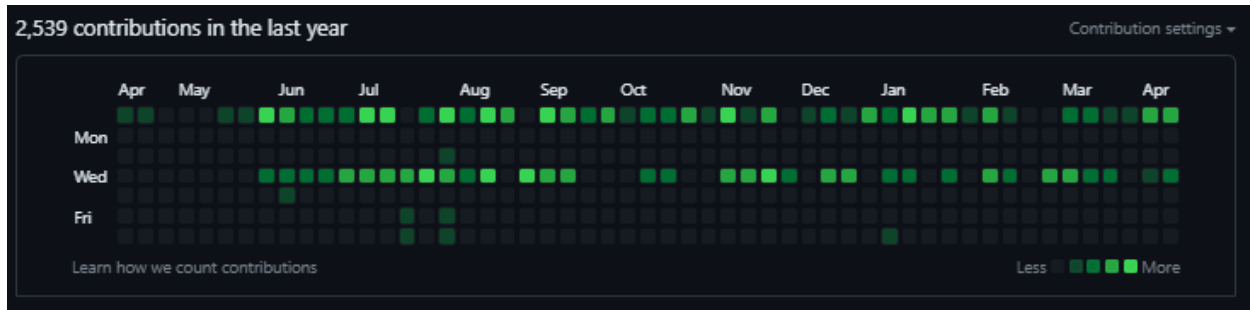


Figure 1: Trying to make my Git commits look like a Christmas tree by the end of the year.

For those of you who are not aware yet, I also have separate repositories for my scorecards, force curves, and caliper-based switch measurements – all of which are staple components of each and every full-length review. While they can all be found either on GitHub or linked through the ‘Archive’ tab of my website in the upper right-hand corner, there are also usually links to each one of these components when you encounter the scorecard, force curve, or measurement in a full-length review. As of today, I’ve got over 225 scorecards, nearly 300 measurements, and over 600 different force curves all collected directly from my collection and simultaneously growing pile of extras as well. While I have been spending most of my time and energy thus far filling out these completely free repositories with my vast number of MX-style switches, in time I plan to get around to adding vintage switches as well as alternative content comparing trends in things like force curves or measurements that highlight some unique and subtle details that are glossed over by the community at large. So, if you’ve not gotten a chance to check those out yet, I would highly encourage you to go over to those resources after this review and check them out as they each contain details and thoughts about switches I’ve not even remotely had the chance to cover at length on this website.

Switch Background

Given that I simultaneously spend the Switch Background section of every review attempting to document all of the details around switches *and* pick up brand new switches with little to no history, these opening paragraphs usually devolve into long winded tangentials regarding the context surrounding a switch rather than a switch itself. See what I did right there? Run on sentence just to sell the long-winded and circuitous nature of my writing. Meta commentary aside, however, this will definitely *not* be one of those background sections as both the Root Beer Floats and their designer, PuNkShoO, have quite a bit of switch history surrounding them that I’ve managed to escape covering at length thus far. Wanting to be thorough in documenting all of his switch releases to date, though, let’s start all the way from the top.

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New Members / Hello There!

« on: Sun, 10 July 2022, 12:20:07 »

Hello! I am PuNkShoO. I'm a seasoned YouTuber that was on hiatus for a few years and started on my new venture with keeb content recently. I'm a technology and retro gaming enthusiast by night and IT consultant by day. When things are going great I can often be found doing custom PC and keyboard commissioned builds in my off hours. I currently own a plethora of keeb and keeb components while adding more every day. My most recent pickups are the Momoka Zoo65, Aflion Tropical Waters, and PBTFans Basic Adriatic. My favorite layout is 75% exploded knobbed and I have 9 of those from various manufacturers. Somehow I managed to start building a 65% collection as well just with interesting mid-tier budget boards. I'm looking forward to hanging out in this community, discussing keeb, and presenting my design ideas for switches, keeb, and keycaps. Thanks for having me!




 Reply  Quote  Notify

Figure 2: And so it began...

Seemingly ‘new’ to the hobby as a whole, PuNkShoO is a switch designer who joined Geekhack on June 23rd of 2022 dropping their first interest check for ‘Gateron Cream Soda’ switches on July 9th of 2022 followed shortly thereafter by an introductory post. While it is very likely that PuNkShoO joined the hobby a bit earlier than June of 2022 based on the introductory post of his alluding to a few prior keyboard builds, the scattered nature of community platforms at the time of writing this review in 2023 makes pinning an exact date down a bit harder. Regardless, though, all posts both interest checking as well as announcing sales of switches by PuNkShoO have been carried out on Geekhack thus far, serving as an unofficial and well appreciated log of progress throughout designing over his short few years in the hobby. It is worth mentioning, as well, that while this is entirely uncommon behavior for designers of any keyboard related components in 2023, it is greatly appreciated by people like myself who like to compulsively document keyboard history from having to dig through hours of google searches or video b-rolls trying to find small tidbits of information.

As previously stated, PuNkShoO kicked off his switch designing career rather soon after joining Geekhack, with the interest check for the first of his switches, Gateron Cream Sodas, first being posted on July 9th of 2022. In a series of questions I sent his way, he explained his initial interest in making these switches as well as all the other ones as he’s created thus far as simply “wanting to make something I would want to use, based on parameters within existing molds.” He further went on to liken this to frankenswitching, of sorts, stating “I know I am going to catch some flak for it, but I think it’s nonsense that people are having to spend \$2+ on frankenswitches which consist purely of parts from a single manufacturer.” With this idea of combining his favorite components from Gateron into a single switch in mind, the Cream Sodas were marketed as having a unique combination of existing components such as milky top housings, ink thermoplastic bottom housings, and long pole stems. With many people clearly feeling similarly with regards to some of these design features, there was quite a bit of subsequent excitement in the community following review units soon thereafter sent to streamers. Following streams and videos from quite a few content creators such as Georen, KSJ KeeB, ScuffedBoards, Tofu_Types, Starfirepenguin, ItsFireWire, and more, a noticeable amount of community excitement grew around these switches leading up to their groupbuy from September 22nd to October 16th of 2022. Priced at \$0.75 per switch, an equally large vendor response followed the community interest with proxies in the US, CA, EU, UK, CN, VN, SG, JP, KR, *and* AUS all wanting part in the Cream Soda switch groupbuy. Needless to say, the sale went incredibly well by all switch sale standards.



Figure 3: Gateron Cream Soda promotional image from Geekhack groupbuy page.

In addition to the production run of Gateron Cream Soda switches which were released, there was also a much more subtle variant of Cream Sodas which may have crept their way into some of the content creators' hands when making their first impression videos. While the exact specific details are a bit cloudy to me still, an early set of factory samples of Gateron Cream Sodas were received by PuNkShoO with an incorrect spring of unknown weight instead of the 63g. bottom out, gold plated long spring marketed in the interest check. Samples of these switches do exist out in the wild, though to my knowledge they were only actively sold and/or given to some collectors and content creators as they would not make the final production cut. It's also worth noting here, as well, that the willingness to both talk about factory errors in the switch design process as well as actually share them with the larger community is a trait that PuNkShoO seems to have championed as part of his brand. While some vendors such as Invokeys and Zepsody have also stocked less than perfect variations of their own switches on their storefronts over the years, the sheer amount of public knowledge of PuNkShoO's factory errors is unlike anything I've seen to date. When asked about this, PuNkShoO responded quite positively overall, and not wanting to lose any bit of the passion behind this response, the following was his take on openly sharing factory errors and prototypes:

“I think its fun. To be frank, we all fuck up. I've enjoyed watching projects go from nothing to something and I always appreciated transparency. Not only that, it creates a sense of trust between the designer and consumer while also holding the manufacturers accountable for their mistakes. Finally, it takes the manufacturers off the pedestal and brings the concept of their existence back down to earth. These aren't mythical creatures, they're simply mechanical key switches in a hobby with tight tolerances. When a manufacturer makes a mistake and fixes the issue a good bit of loyalty and faith is garnered from such an event. I want to share this with the public and help build that loyalty.”

Not content to only have one switch project running at one time, in between the interest check and sales period for the Gateron Cream Soda switches, PuNkShoO then announced an interest check for Aflion 'Synthetic Melody' switches. Espousing love for switch such as Invokeys' Matcha Lattes and Blueberry Chiffons, PuNkShoO sought to develop a long pole, light tactility switch made by Aflion in the “classic” polycarbonate over nylon housing design. Or at least, that's what the sales thread explicitly states. When asked about this seeming flip-flop in interest between Aflion and Gateron, PuNkShoO shared that his original intentions were much more broad, wanting to “work with Aflion to create an

“artisan” line of switches which would run for limited, small batches. However, after working with them it quickly became clear that this was an unrealistic expectation because MOQs don't go as low as I would like for that project. So I just sent it.” Rather than simply seeing this singular switch through straight to a sales date like the Gateron Cream Sodas, though, a series of factory production errors led to not one but *two* different switches coming out of this one interest check... as well as quite a few odd prototypes.



Figure 4: Literal mailday POV of exciting opening switches in my car after getting them from my mailbox.

As is stated in the follow up interest check to the Synthetic Melody switches which was posted on November 18th of 2022, in some of the initial prototyping tests by Aflion, a different leaf was utilized in production than PuNkShoO had asked for, causing the switches to feel *much* heavier than anticipated. Rather than scraping these altogether, though, PuNkShoO chose to move the “Bad Leaf Melody” design into a brand new switch called ‘Runners’. Following this split in design and shortening of ‘Synthetic Melody’ to ‘Melody’, as well, there were also another series of prototypes of both Runners and Melodies prior to their eventual releases in mid December of 2022. The Melodies were marketed as “Ultra Light Tactile” switches with a polycarbonate top housing, nylon bottom housing, and 60g bottom out, dual-stage spring. The Runners, on the other hand, were marketed as normal tactile switches with nylon housings, a long-pole POM stem, and slightly heavier 70g bottom out, dual-stage spring. Priced between \$0.60 and \$0.65 per switch depending on the vendor, both Melodies and Runners saw a decent amount of community excitement and content creator engagement, though to the best of my knowledge nothing to the same degree as the Gateron Cream Soda switches.



Figure 5: Every time I see ‘Runner’ this is what I think of. Also likely the most niche reference I’ve managed to shoehorn into any review to date.

Building off both the success and suggestions levied in his first three rounds of switch releases, PuNkShoO finally announced his latest project of the Gateron Root Beer Float tactile switches on March 24th of 2023. Wanting to develop a “tactile version of the Cream Sodas”, the Root Beer Floats boast the same milky top housing over ink thermoplastic bottom housing design with a similarly weighted bottoming out at 58g using a long gold spring. Unlike the Cream Sodas, however, these tactiles would be the first tactile switches from Gateron (and the second switch ever following Gateron North Poles) in which the stems would be made out of the ‘ink thermoplastic’ material rather than traditional POM. Dropping the factory lubrication that was present in the Gateron Cream Sodas at the behest of so many consumers wanting “dry” Cream Sodas, these \$0.70-\$0.75 per switch tactiles have been making the rounds via numerous content creators as of the time of writing this review and have been gaining a seemingly good reputation thus far. While an official sales date has yet to be explicitly stated, the Geekhack interest check implies that the Root Beer Floats will be for pre-purchase in April of 2023 with expected fulfillment sometime within Q2 of 2023.



Figure 6: Gateron Root Beer Float promotional image from Geekhack Groupbuy page.

Much like the other switch releases by PuNkShoO leading up to the Gateron Root Beer Floats, it's also worth mentioning that there is yet another variant of these switches as well. While I am under the assumption that this ‘new pin variant’ will be the production standard moving forward, there effectively exists two variants of the Gateron Root Beer Floats with slightly different leaf pins at the bottom of the switch. Improved by Gateron in order to ‘reduce pin bending during transit’, the new pin design in Root Beer Floats sees a double layered metal PCB mounting pin whereas the old pin design looks like the standard two-ply metal pin. As will be shown below, in the performance section of this review, there is functionally zero difference between the new and old pin versions of the Gateron Root Beer Floats, and they will forever stand as merely a pedantic point for switch collectors like myself to care about.

Root Beer Float Switch Performance

Note: This review features the *old* pin variants of the Gateron Root Beer Floats. While there is functionally zero difference between new and old pin variants as demonstrated below in the Measurements section, someone would still throw a fit if I didn't make this disclaimer.

Appearance

At the highest level, the Gateron Root Beer Float switches come in a milky over translucent brown color scheme with cream-colored stem similar to that of their namesake drink as well as the Gateron Cream Sodas before them. While each of the components, individually, do align fairly closely with colors and designs used in other switches such as Gateron KS-3-X1s, Phantom Browns, and X V2s, the combination of such is unique relative to all other modern switches that I've come across to date. Aside from the color, though, very little distinguishes these switches from other Gateron releases as they lack custom nameplates, mold markings, etc.



Figure 7: Color comparison between Gateron Root Beer Float (Back) and Gateron Milky Yellow (Left), Gateron X V2 (Middle), and Keychron Phantom Brown (Right).

Looking first to the top housings of the Gateron Root Beer Float switches, they are a fairly standard milky Gateron top housings for all intents and purposes. Thinking way too hard about it, though, I feel like the milky housings on both the Root Beer Floats and Cream Sodas are both naturally more yellow than what I recall traditional KS-3-X1 housings being, though this very well may just be a trick that my eyes are playing on me. Featuring a normal-facing 'GATERON' nameplate, these milky, yellowish housings also have a very restricted LED slot with only the center circle having a slit accessible for through-switch LEDs. Internally, the mold markings for the top housings are located in the common spots in the upper corners underneath the nameplate void. The Root Beer Floats feature a pair of sideways, single capital letter mold markings, with one situated in each of the corners.

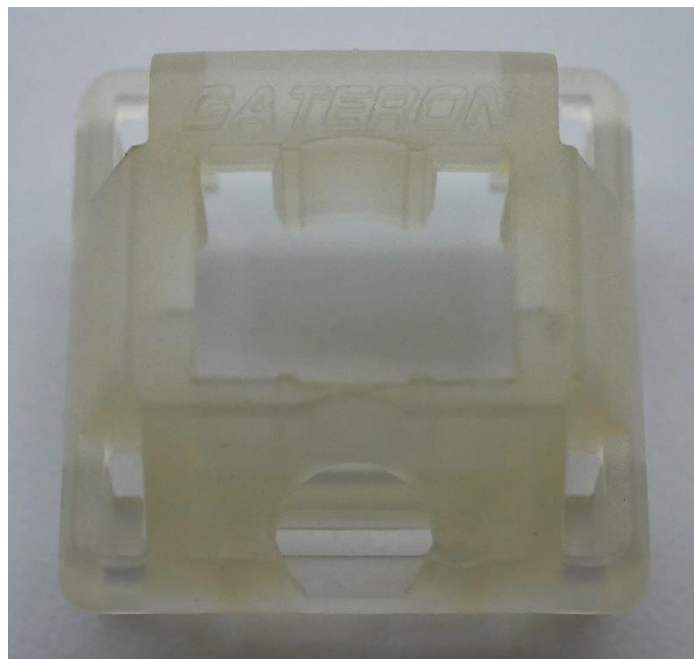


Figure 8: Gateron Root Beer Float top housing external design showing restricted LED slot and milky-yellow coloring.

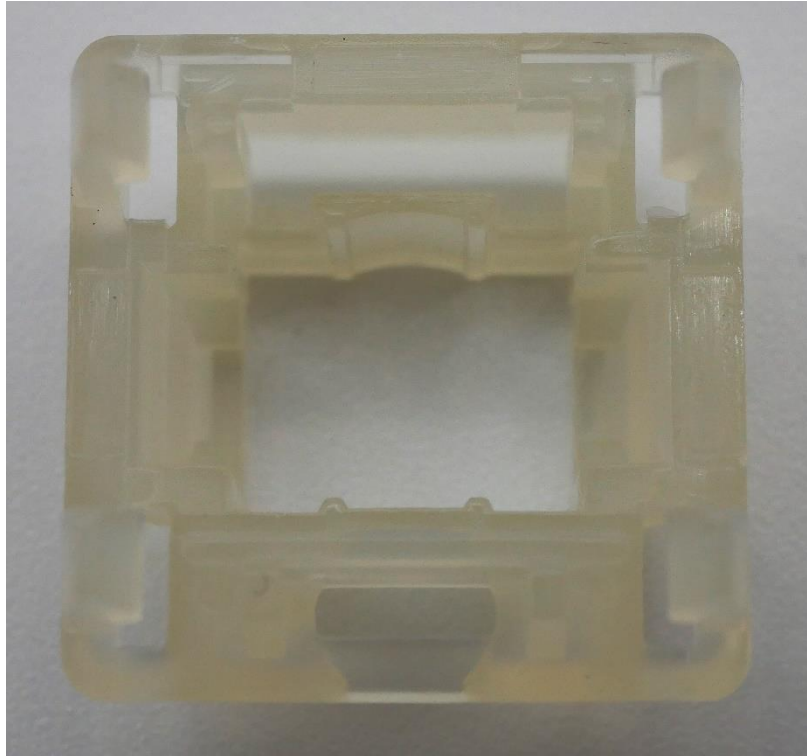


Figure 9: Gateron Root Beer Float top housing internal design showing mold markings in upper left- and right- hand corners.

Moving next to the unlubed stems of the Gateron Root Beer Floats, these too feature a slew of commonplace details and have fairly little that is unique or explicitly interesting about them on their own. Commonly seen elsewhere features include slightly tapered slider rails, a tiered center pole, and a pair of small mold ejector circles located just above the stem legs on the front plate of the stem. Less common among all modern switches, though, is the pair of angled capes on the bottom edges of the backplate of the stem. It is worth noting that while this is uncommon broadly speaking, I feel as if I have been seeing this design feature crop up more frequently in stems over the past handful of months of reviewing switches. Much like the 'more yellow' tint in the top housings, though, I may just be officially losing my mind.

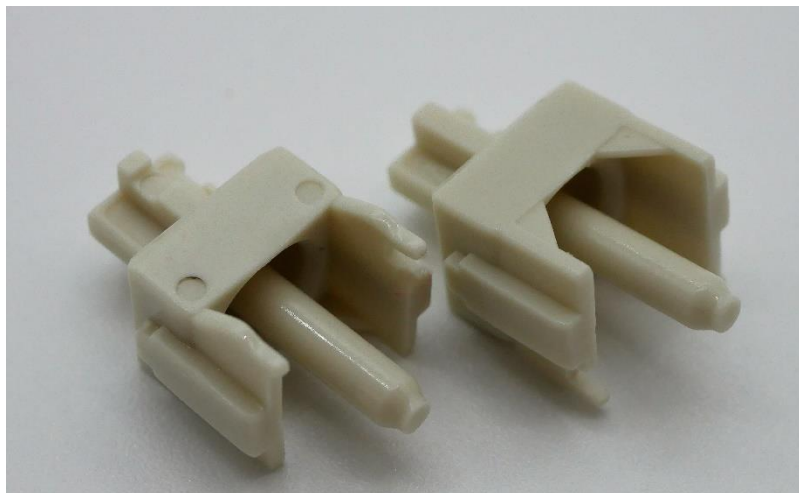


Figure 10: Gateron Root Beer Float stems showing slightly tapered slider rails, tiered center pole, and front plate mold ejector circles.

Finally arriving at the ink-material, five-pin bottom housings of the Root Beer Float switches, we are greeted with a bit more variety and interesting points of note than the other previous components. Internally, the bottom housings are fairly barren all things considered, featuring only a set of small, centered bumps at the bottom of the slider rails to help dampen the bottoming out of the stem. As well, there are a series of four mold ejector circles in the base of the switch, but much like those that are also present on the corners of the upper rim of the switch, these are fairly commonplace in most switches nowadays. Externally, however, the Root Beer Floats feature a sideways ‘GATERON’ anticounterfeit stamp between the metal PCB-mounting pins as well as not one, but two capital letter mold markings located between the LED/diode pin slots in the bottom housing. Interestingly, I had always tacitly assumed the anticounterfeit stamp to be something that came alongside only pure Ink family switches *or* as something present in fully mold-updated switches which also feature an inverted nameplate on the top housings. The presence of just the anticounterfeit stamp and not the inverted nameplate in both the Cream Sodas and Root Beer Floats implicates these housings as being made using explicit Ink-bottom housing molds.

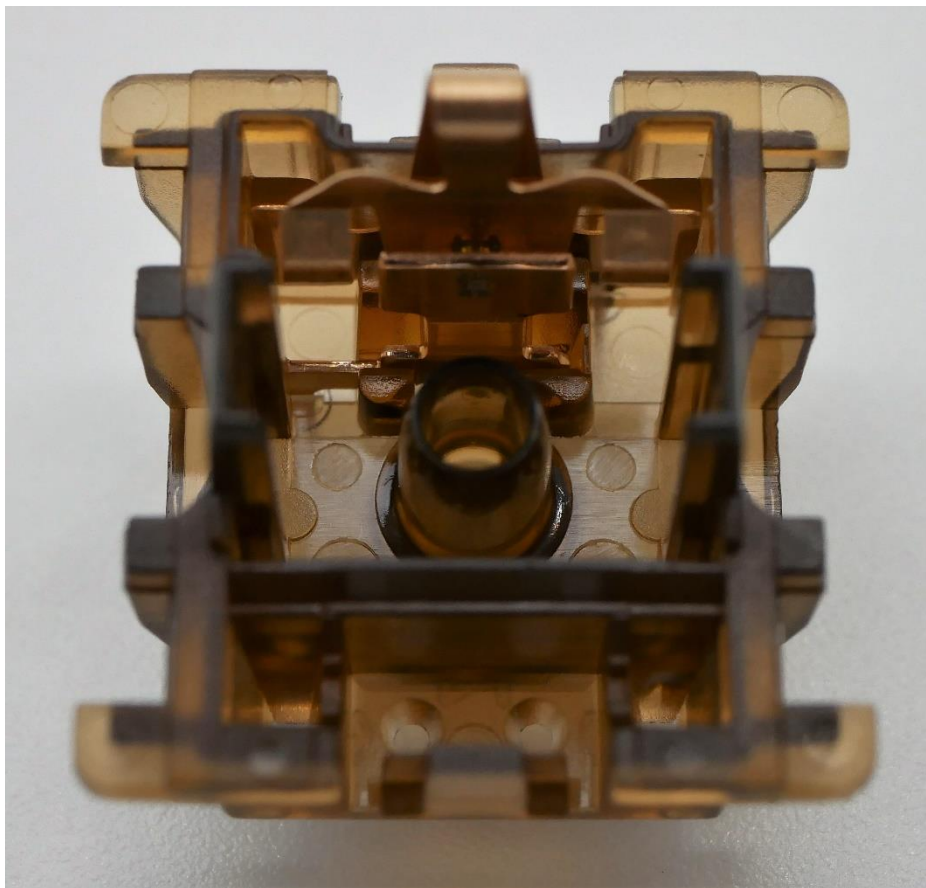


Figure 9: Gateron Root Beer Float bottom housing internal design showing mold ejector circles and centered bump at the bottom of the slider rails for dampening bottom out.

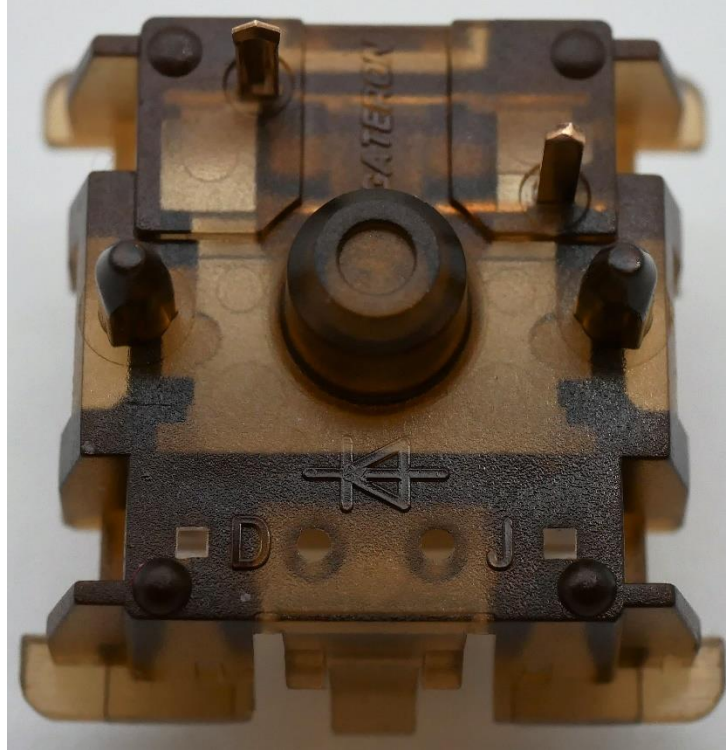


Figure 11: Gateron Root Beer Float bottom housing external design showing 'GATERON' anticounterfeit stamp and pair of capital letter mold markings.

As was mentioned at the start of the performance section of this review, as well, I want to highlight here the physically apparent differences in 'new' versus 'old' pin Root Beer Float switches. 'Old' pin Root Beer Floats have a large leaf pin that looks like a small piece of copper hitched a ride on the back of a larger and thinner piece of copper on the underside of the switch. This is, for the most part, how the vast majority of large leaf pins appear in MX-style switches. 'New' pin Root Beer Floats, however, have a much visually thicker pin that has a thin vertical split running down the entire length of the pin as can be seen below. Not only do these not functionally affect the switch's performance, they do not affect the ability of the Root Beer Floats to fit into normal PCB hole slots. Their effect on usability of Root Beer Floats in hotswap sockets, however, is not something that I know and/nor was able to test.

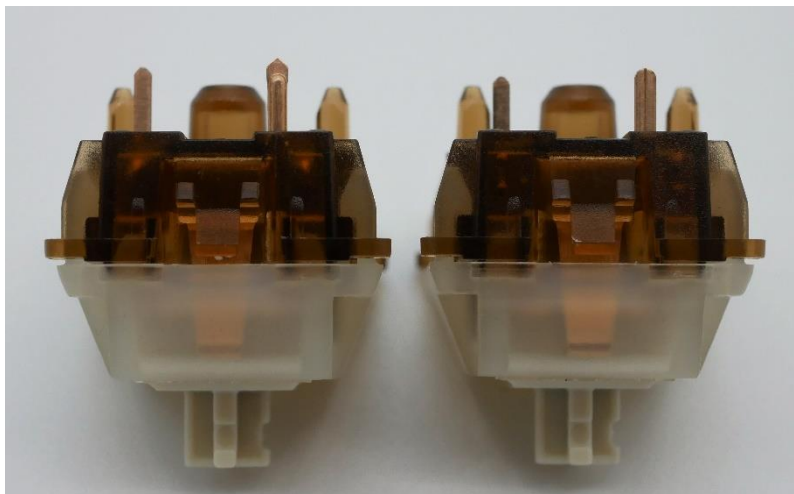


Figure 10: Old (Left) and New (Right) pin comparison in Gateron Root Beer Float switches. Note that the pin being discussed is the right-most PCB pin on each switch in this photo.

Push Feel

The Gateron Root Beer Float switches are medium-heavy tactile switches with a fairly wide tactile bump that starts at the very beginning of the downstroke in the switch. Having absolutely no linear pre-travel whatsoever, the switch peaks in tactile force within the first 20-25% of the switch and then falls off in force until the abrupt, long-pole bottom out around 3.2 mm in total travel distance. Given the shortened total stem travel distance as a result of the 13.58 mm-long stems, the tiny post-bump linear region is extremely small and almost unnoticeable at normal typing speeds. That is, the Gateron Root Beer Floats more or less feel entirely tactile across their typing experience when used in any sort of normal application. Without any explicit comparison, these very much remind me of Zyko-based frankenswitches which aim to push a high degree of tactility as well as shortened travel distance to provide distinctive feedback from both the tactile bump as well as bottoming out. With hindsight as to why PuNkShoO got into switch designing in the first place, it's not entirely surprising that this comparison comes to mind.

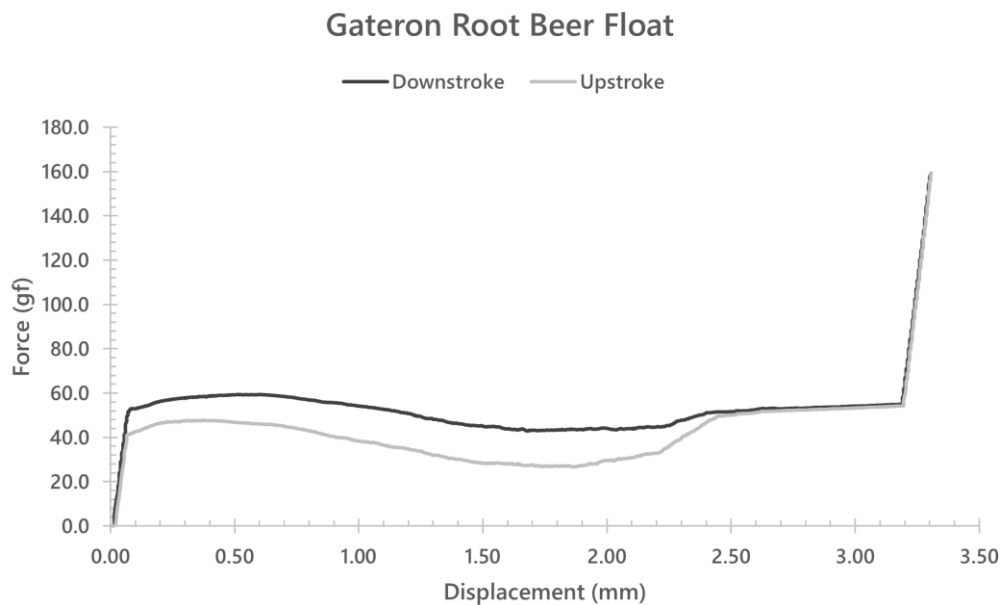


Figure 12: Force curve diagram for Gateron Root Beer Float switch.

As for some of the less numerically based performance characteristics, the Root Beer Floats are *okay* for the most part, mixing some good, bad, and strange characteristics together. On the good end of things, the strength of the tactile bump and pointed bottoming out of these switches are fairly well matched, with both having a firm and sharp feedback that lets you know exactly where you are in the switch. Mixing a bit of good and bad together, the switches are a bit scratchy as a result of a lack of factory lubrication, though not necessarily the most scratchy stock switches I've come across. That being said, though, many 'dry' tactiles from the factory still often come with a slight amount of grease between the stem legs and the leaves to cut down on the leathery friction between these two components – grease which is altogether absent from the Root Beer Floats. While this, in and of itself, is tad strange, the most unique feature I've come across is about 5% of my batch having a noticeable crunching metallic feeling when pressing them firmly into bottoming out. Upon opening the switch this disappeared, and I was ultimately unable to figure out the root cause of this issue, though its presence in stock form is still... strange.

Sound

While it is fairly easy to imagine how a switch will improve in its physical feeling with lubrication when it comes a bit scratchy out of the box, it is a bit harder to develop a sense of how a switch is supposed to sound when scratch is such a large driver in the profile. The subtly mentioned lack of stem/leaf lubrication in the Gateron Root Beer Floats is much more readily noticeable in the sound of the switch, which also accentuates a ping that is also present in the stem and/or leaves of the Root Beer Floats. Working around this scratch and present ping noise, though, these switches are a bit on the louder side, with a medium-high pitched set of housing collisions that pretty much constitute the entirety of the sound and override that of the tactile bump. Slightly deeper in the bottoming out than the topping out, the sound overall is quite complex and carries some deeper tones that simply aren't present in single material housings such as nylon or polycarbonate.

Wobble

For being a custom Gateron switch made in 2023, I am both not entirely surprised and yet simultaneously disappointed at their just barely better than average stem wobble. Present but not likely problematic in both the N/S and E/W direction, this is very much in line with what Gateron *was* capable of in previous years. Recent releases of switches such as the Gateron Oil Kings, Pro 2.0s, etc. have made it more than abundantly clear that Gateron is capable of cranking down the tolerances of the top housings and reducing stem wobble significantly, and yet it doesn't appear that this courtesy was extended to custom-ordered offerings.

Measurements

<i>Gateron Root Beer Float Switch Measurements</i>			
	Component	Denotation	mm.
Stem	Front/Back Plate Length	A	7.18
	Stem Width	B	5.52
	Stem Length with Rails	C	8.57
	Rail Width	D	2.21
	Center Pole Width	E	1.88
	Rail Height	F	5.56
	Total Stem Height	G	13.58
Bottom Housing	Diagonal Between Rails	L	9.57
	Interior Length Across	M	9.59
	Rail Width	N	2.67
	Center Hole Diameter	O	2.35
Top Housing	Horizontal Stem Gap	X	7.80
	Vertical Stem Gap	Y	6.18
Methods	Number of Switches Used		3
	Replication Per Measurement		3

If you're into this level of detail about your switches, you should know that I have a switch measurement sheet that logs all of this data, as well as many other cool features which can be found under the 'Archive' tab at the top of this page or by clicking on the card above. Known as the 'Measurement Sheet', this sheet typically gets updated weekly and aims to take physical measurements of various switch components to compare mold designs on a brand-by-brand basis as well as provide a rough frankenswitching estimation sheet for combining various stems and top housings.

Gateron Root Beer Float		
Switch Type: Tactile		Gateron
28	/35	Push Feel
18	/25	Wobble
5	/10	Sound
14	/20	Context
6	/10	Other
71	/100	Total

Figure 14: Numerical details regarding the stock Gateron Root Beer Float switch force curve diagram.

The latest in the content-adjacent work that I've picked up, the new 'Force Curve Repository' is now hosted on GitHub alongside the Scorecard Repository and contains all force curves that I make both within and outside of reviews. In addition to having these graphs above, I have various other versions of the graphs, raw data, and my processed data all available for each switch to use as you please. Check it out via the 'Archive' tab at the top of this page or by clicking any of the force curve cards above.

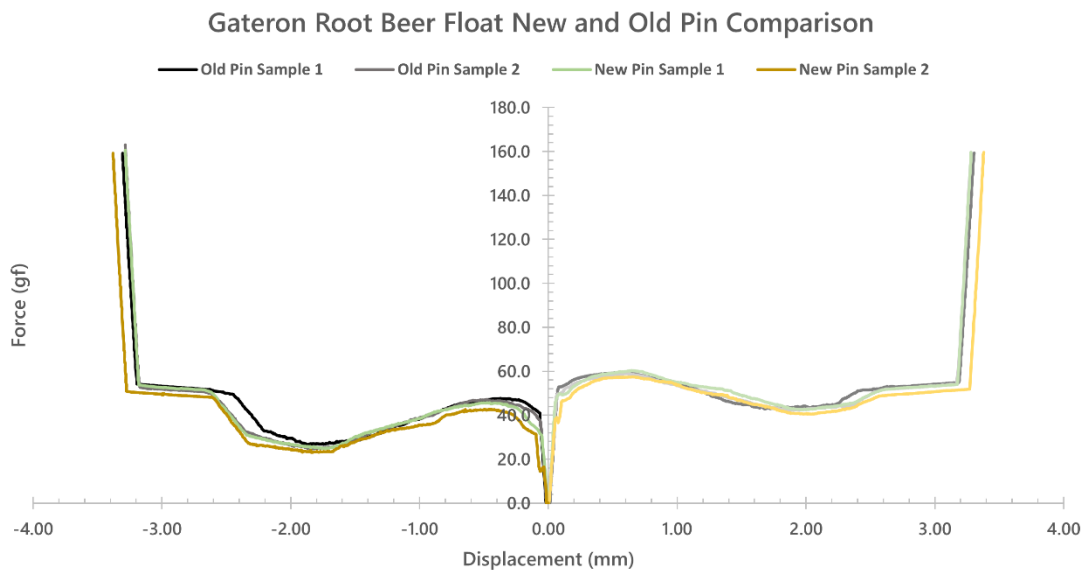


Figure 13: Force curve comparisons of New and Old Pin Gateron Root Beer Float switches.

Not wanting to leave anything out of this review at all, I took several sets of force curves for both the 'new' and 'old' pin Root Beer Float switches and overlaid them above in FIGURE XXX. As you can clearly see, these switches have absolutely no differences in their performance whatsoever as a result of the new, thicker pin design. Any variability seen between the curves here is within the natural bounds of variability in any manufactured product and can also be seen in previous single-switch, multiple-trial force curve comparisons I've made previously.

Break In

Gateron Root Beer Float Break In Testing			
Metric	Activations		
	17,000	34,000	51,000
Push Feel (Overall)	+	+	+
Smoothness	+	+	+
Ping (Spring/Leaf)			
Wobble (Overall)		-	-
Stem Wobble		-	-
Top Housing Wobble			
Sound (Overall)	-	-	--
Scratchiness			
Ping (Spring/Leaf)	-	-	--

Color Scale			
Improvement	+	++	+++
Deterioration	-	--	---
Null Change			

Break In Notes:

17,000 Actuations

- At 17,000 actuations, the Root Beer Float switches surprisingly smooth out quite a bit with respect to the stem/housing interaction point. While the stem/leaf interaction is a touch smoother compared to its stock form, it did not quite improve to the same degree.
- The Gateron Root Beer Float switches not only get louder at 17,000 actuations but also increase a slight bit in spring ping as well. Note that this is not necessarily uniform, either, as some switches did not seem to increase their ping quite to the same degree as others.

34,000 Actuations

- Very little changed with respect to scratch and overall sound of the Gateron Root Beer Floats between 17,000 and 34,000 actuations. All notes in the previous section comparing against stock switches also holds true here as well.
- The only significant change that did really occur with these switches was a tiny increase in both N/S and E/W direction stem wobble. While certainly not enough to be problematic, it is still noticeable when blindly comparing against a set of stock switches.

51,000 Actuations

- At 51,000 actuations, without any aftermarket modifications the spring ping especially begins to pick up steam and override some of the general sound of the Gateron Root Beer Floats. As well, the switches, broadly, sound much louder than their stock counterparts.
- The stem wobble, surprisingly, did not appear to change much between 34,000 and 51,000 actuations relative to stock switches making the Root Beer Floats fairly resilient to stem wobble changes as compared to other switches which I've reviewed on this site thus far.

Comparison Notes to Other Notable Tactile Switches

Note – These are not aimed at being comprehensive comparisons between all factors of these switches as this would simply be too long for this writeup. These are little notes of interest I generated when comparing these switches to the Root Beer Float switches side by side.

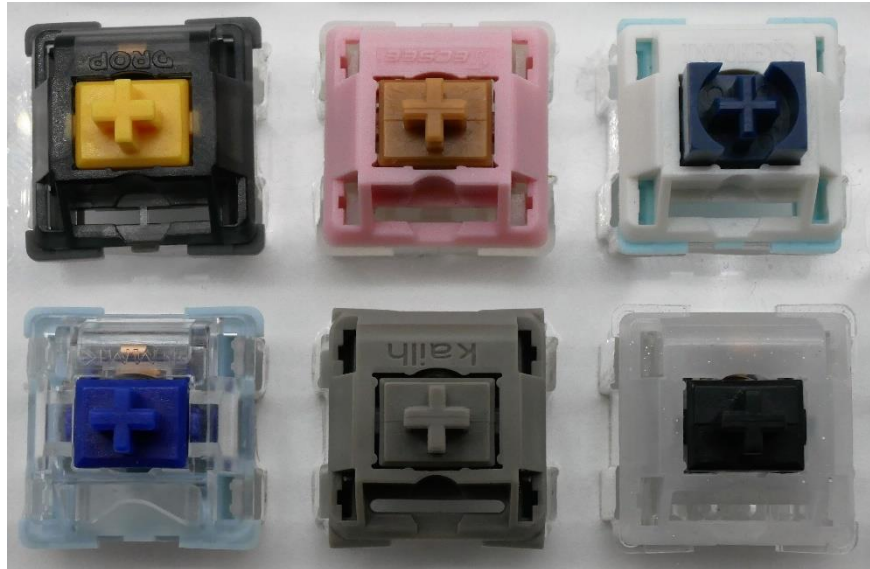
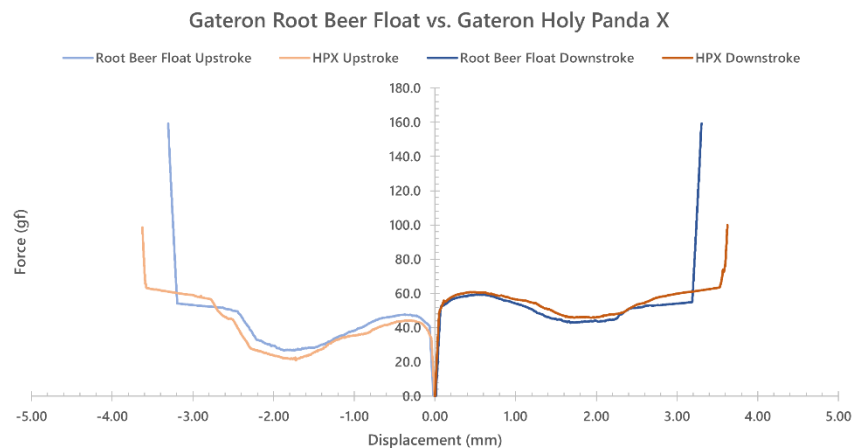


Figure 19: Switches for comparison. (L-R, Top-Bot: Gateron Holy Panda X, Neapolitan Ice Cream, Lubed Invokeys Blueberry Chiffon, Momoka Shark, Novelkeys Cream Tactile, and Musetsu)

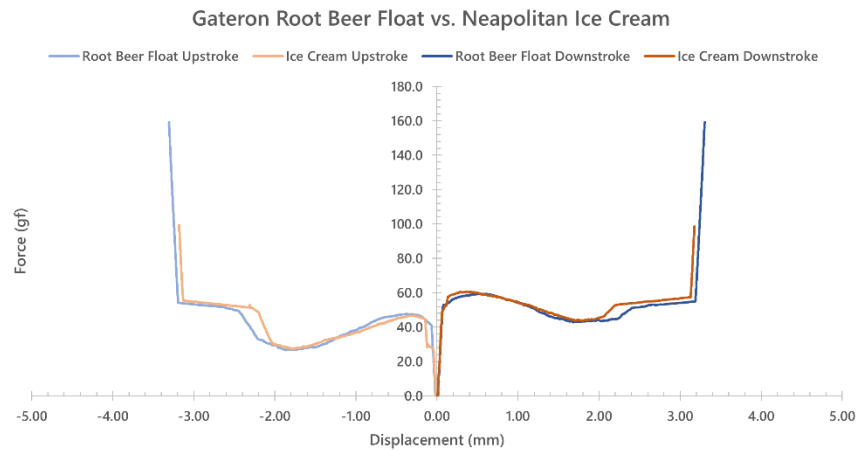
Gateron Holy Panda X

- Fresh out of the box, the Gateron Holy Panda X switches are quite a bit smoother than the Gateron Root Beer Float switches. This applies to both the linear portions of their stem travel as well as the stem/leaf interaction point as well.
- Even though these two switches have fairly similar force curve profiles, all things considered, the Root Beer Float switches feel just a touch bit more punchy and pointed in their tactile bump than the Holy Panda X switches.
- Comparing the sound of the Root Beer Float and Holy Panda X switches, the Root Beer Floats have a slightly more rounded, complex sound as compared to the fairly plasticky collisions of the HPX. It's not as if there is much of a different tone or pitch in the Root Beer Floats, rather that their sound is just more complex on the whole.



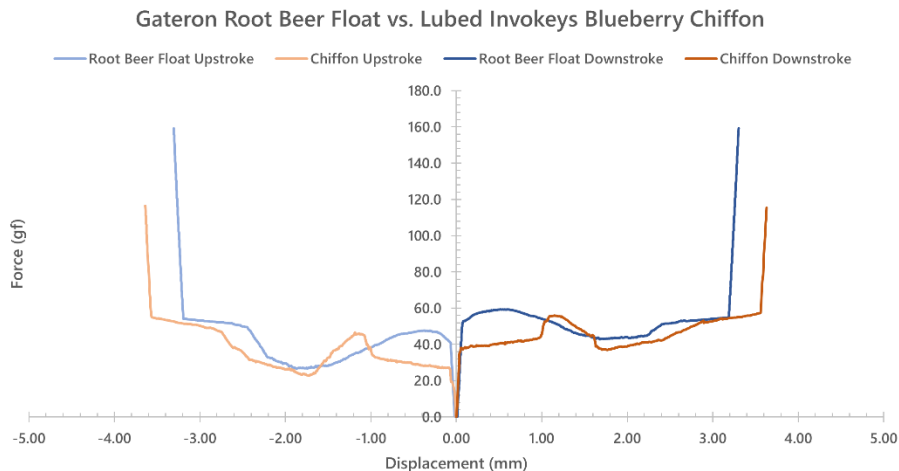
Neapolitan Ice Cream

- While the force curve comparison alone belays this point rather well, the Neapolitan Ice Creams and Root Beer Floats feel the most similar to each in terms of both tactile bump strength and size of any of the comparisons made on this list. (I guess that is somewhat fitting given that they both have ice cream related names)
- The Root Beer Float switches are noticeably better than the Neapolitan Ice Cream switches when it comes to both N/S and E/W direction stem wobble.
- Directly comparing the sound of these two switches, the Root Beer Floats sound both a bit more scratchy as well as have a subtle spring ping in their stock form that simply isn't present in the majority of Neapolitan Ice Cream switches.



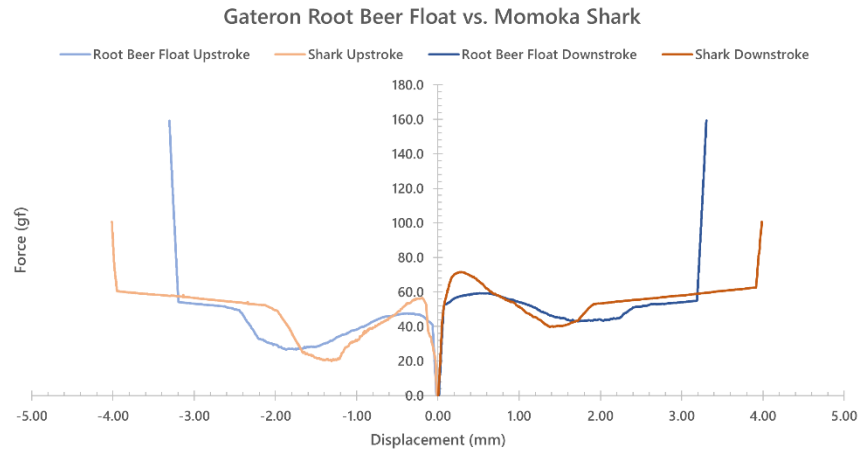
Lubed Invokeys Blueberry Chiffon

- In terms of tactility, the Blueberry Chiffons and Root Beer Floats are on opposite ends of the spectrum. Whereas Blueberry Chiffons have a short tactile bump that is very light in peak tactile force, the Root Beer Floats feel as if they have a much larger and snappier tactile bump.
- As well, the overall sound profile of these two switches puts them on opposite sides of the spectrum. The Blueberry Chiffons are much more bass-heavy and deeply muted in their housing collisions and tactile bump as opposed to the comparatively louder and higher pitched Root Beer Floats.
- There is a decent bit more stem wobble in both the N/S and E/W direction in the Root Beer Float switches that isn't present in the Lubed Invokeys Blueberry Chiffons.



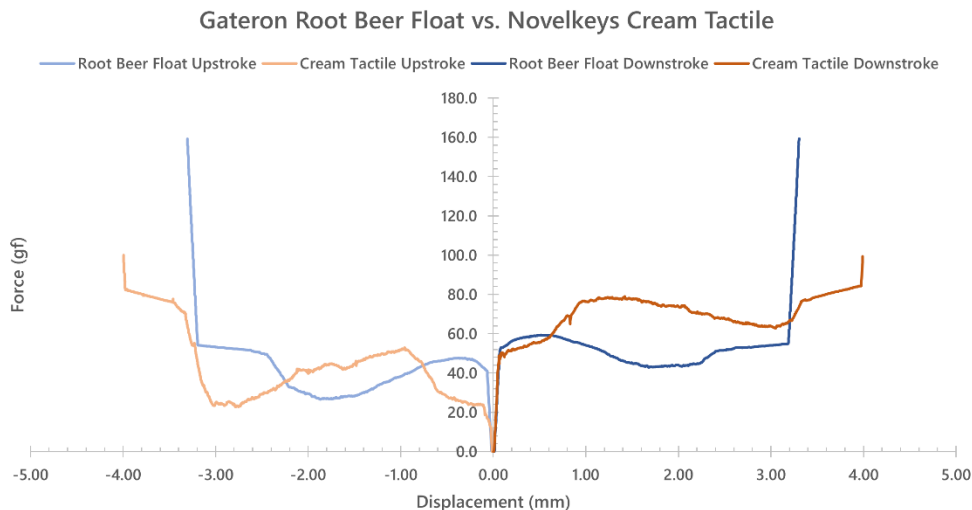
Momoka Shark

- While the tactile bump of the Momoka Sharks is demonstrably stronger than that of the Root Beer Floats, the fact that it occupies such a small portion of the total travel distance of the stem causes the bump to feel much smaller than the Root Beer Float's tactile bump.
- Much like the comparison with the force curves, the Root Beer Floats also have a much more 'wide' sound to them with multiple layers (not including spring ping) whereas the Momoka Sharks are fairly singular in their sound.
- Of all of the switches on this list, the Momoka Sharks and Gateron Root Beer Floats are the most comparable in terms of N/S and E/W direction stem wobble.



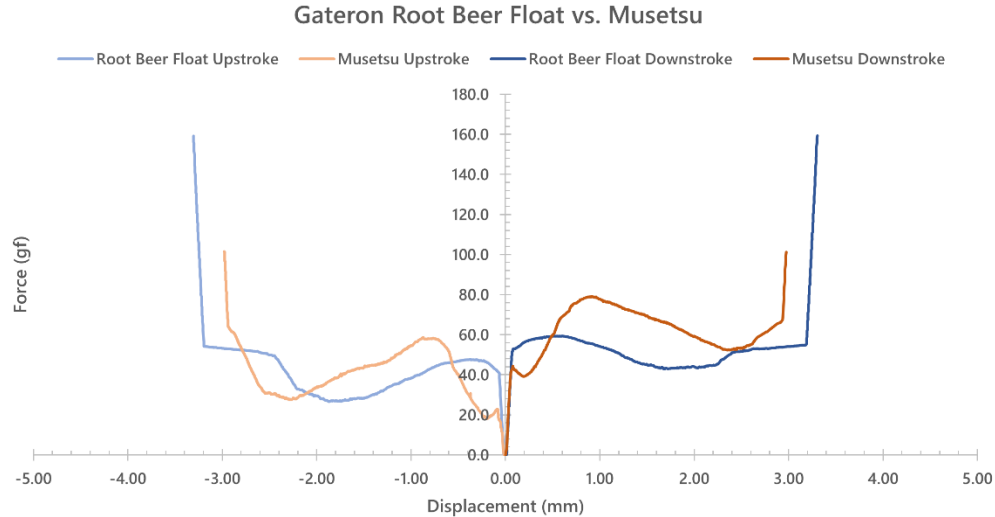
Novelkeys Cream Tactile

- In terms of overall volume, the Novelkeys Cream Tactiles and Gateron Root Beer Floats are the most similar to each other at all typing speeds of the switches on this comparison list.
- The tactile bump of the Novelkeys Cream Tactiles feels noticeably "sunken" compared to the Root Beer Floats in that it both takes place quite a bit later in the overall stroke of the switch and doesn't seem to punch with quite the same amount of force.
- With respect to out of the box smoothness, the Novelkeys Cream Tactiles are just a hair smoother. That being said, though, the Gateron Root Beer Floats appear to improve quite a bit more with aftermarket lubrication and care than the Cream Tactiles do.



Musetsu

- Much like the comparison made above for the Novelkeys Cream Tactile switches, the bump in the Musetsus feels noticeably later in the downstroke of the switch, though it punches with a bit more force than the Root Beer Floats rather than not quite enough.
- The Root Beer Float switches are noticeably louder than the Musetsus across the board and with respect to both positive and negative traits, as well.
- The bottoming out of the Musetsus is noticeably more sharp and pointed than that of the already fairly pointy bottoming out of the Gateron Root Beer Floats.



Scores and Statistics

Note – These scores are not necessarily completely indicative of the nuanced review above. If you’ve skipped straight to this section, I can only recommend that you at least glance at the other sections above in order to get a stronger idea of my opinion about these switches.

Gateron Root Beer Float		
<i>Switch Type: Tactile</i>		<i>Gateron</i>
28	/35	Push Feel
18	/25	Wobble
5	/10	Sound
14	/20	Context
6	/10	Other
71	/100	Total

Push Feel

Packing in quite a bit of a tactile punch into such a small space, these medium-high strength tactile switches punch with both a decently strong bump and a wide one which occupies the large majority of their roughly 3.2 mm total travel distance. While the bump, itself, is balanced quite well with a firm, pointed bottoming out, a lack of any lubrication in the switch lends to both a scratchy feeling stem

and leathery stem/leaf interface which detracts from the magic of the tactile bump a bit. These need lubrication out of the box.

Wobble

Frustratingly par for what Gateron has been capable of in previous years, there is a somewhat noticeable and equivalent amount of N/S and E/W stem wobble that is unlikely to bother most people but also not quite up to par with recent premium Gateron releases.

Sound

While scratchiness does more than its fair share to impact the out of the box push feeling of the Root Beer Floats, in comes to another level here, adding spring ping and some poppy bottoming out into the mix that pulls from an otherwise balanced bottom out and tactile bump pairing.

Context

The fourth release by switch designer PuNkShoO, these switches are pretty solid in their contextual points, boasting some pretty sizeable community excitement and decent worldwide availability moving forward. That being said, though, the performance is simply lacking at their premium price point, with comparable or better switches on many performance points from a Gateron perspective, a tactility perspective, and even a PuNkShoO perspective being available.

Other

PuNkShoO has garnered quite a bit of a reputation for his switch releases in the short time that he has been designing them. While I perhaps think the Root Beer Floats fall a bit short on that built up hype, the potential for improvements and innovation moving forward is sky high.

Statistics

Average Score			Gateron Root Beer Float		
26.5	/35	Push Feel	28	/35	Push Feel
17.0	/25	Wobble	18	/25	Wobble
5.6	/10	Sound	5	/10	Sound
12.7	/20	Context	14	/20	Context
6.1	/10	Other	6	/10	Other
67.9	/100	Total	71	/100	Total
Root Beer Float Overall Rank			T-#88/228 (71/100)		
Root Beer Float 'Hard' Rank			T-#80/228 (51/70)		
Root Beer Float 'Soft' Rank			T-#81/228 (20/30)		

If you are looking at this statistics section for the first time and wondering where the hell are the other 227 switches that I've ranked are, or what 'hard' versus 'soft' ranks refer to specifically, I'd encourage you to head on over to my GitHub linked in the table above or at the links in the top right hand

of this website to check out my database of scorecards as well as the 'Composite Score Sheet' which has a full listing of the rankings for each and every switch I've ranked thus far.

Final Conclusions

To put it about as bluntly as I can, without the contextual notes behind the design of the Gateorn Root Beer Floats, I am altogether not that impressed with how they turned out in their stock form. Was I able to get them a bit more presentable and board-worthy with some aftermarket lubrication? Yes. Do I think that I should *need* to do that for a switch that carries a premium price point of \$0.70-0.75 per switch? No. My answer only further doubles down to "Absolutely Not" when I consider that Gateron has demonstrated that they are capable of stopping more or less all of the unsavory aspects of the Root Beer Floats on their production line and at a lower price point in existing top-tier premium offerings. I by no means think that PuNkShoO was lazy nor ill-intentioned in his design of these switches, and in fact I blame a large amount of the issues that these have in their stock form on their lack of factory lubrication that was 'demanded' by some of the people interested in his switches. On PuNkShoO's end, he sought out to combine components from existing Gateron switches he liked into a tactile, frankenswitch-replacement at a lower price point and he succeeded. The casual comparisons to Zykos and similarity in force curve to the Neapolitan Ice Cream switches cannot be ignored here, as both are in a similar design vein and at equivalent or greater pricing per switch. While I am definitely not against switches that are designed with the explicit intent of being modified upon receipt, something which makes sense if they were inspired by frankenswitches from the start, either the price point needs to be reflective of that or the stock switches should have the fullest capabilities of that factory behind them at the price they are at.

Much to PuNkShoO's credit, I am rather impressed with how he has managed to capture such a wide swathe of interest from the community with his switch designs in such a short amount of time. While I do imagine it is perhaps easier nowadays than it was in years past, the designs he has released have been talked about by more people than I remember quite a lot of switches being discussed in previous years. The trajectory in his inventiveness with designs will hopefully see the release of radically unique switch designs and/or mold-requiring parts here in the coming years, though ultimately only time will tell as to the direction he wants to take his switch designing career. When asked about his plans for this, he very realistically pointed to the fact that "I absolutely do not have the funds for R&D and production for custom mold money even though I have ideas I'd like to try which no molds exist for." Not wanting to discount the possibility of this, though, he followed this statement up saying "Maybe in the future once I've saturated the market truly and built a better relationship with a single manufacturer to make those kinds of waves." While I, personally, do not think that the Gateron Root Beer Floats turned out as solid as they could have been, I am but one switch reviewer. PuNkShoO's interest in finding switches he would want to use and his growing fanbase within the community will ultimately decide how this switch, as well as all his other future creations perform. In PuNkShoO's own words:

"As long as everyone keeps loving these switch concepts and there are enough funds to keep the projects coming then you can bet your ass I'll still be tinkering."

Sponsors/Affiliates

Mechbox.co.uk

- A wonderful UK based operation which sells singles to switches that I've used above in my comparisons for collectors and the curious alike. Matt has gone out of his way to help me build out big parts of my collection, and buying something using this link supports him as well as my content!

KeebCats UK

- A switch peripheral company based out of the UK which sells everything switch adjacent you could ask for, they've been a huge help recently with my film and lube supply for personal builds, and they want to extend that help to you too. **Use code 'GOAT' for 10% off your order when you check them out!**

Proto[Typist] Keyboards

- An all-things keyboard vendor based out of the UK, proto[Typist] is a regular stocker of everything from switches to the latest keyboard and keycap groupbuys. While I've bought things from the many times in the past, they also are a sponsor of my work and allow me to get some of the great switches I write about!

Divinikey

- Not only do they stock just about everything related to keyboards and switches, but they're super friendly and ship out pretty quick too. Divinikey has been a huge help to me and my builds over the last year or two of doing reviews and they'll definitely hook you up. **Use code 'GOAT' for 5% off your order when you check them out!**

ZealPC

- Do they really need any introduction? Zeal and crew kicked off the custom switch scene many years ago with their iconic Zealios switches and the story of switches today couldn't be told without them. **Use code 'GOAT' (or click the link above) for 5% off your order when you check them out!**

MechMods UK

- A rising vendor based in the UK, Ryan and crew have been a pleasure to work with and have nearly everything you'd need to build your first or fourteenth keyboard. **Go build your latest or greatest one right now with them by using code 'GOAT' at checkout for a 5% discount!**

Dangkeeps

- A longtime supporter of the website and the collection, Dangkeeps has quite possibly the widest variety of switches of any vendor out there. Not only is their switch selection large, but it rotates and is constantly adding new stuff too. **You're going to need 5% off your order with my affiliate to save off the cost of all those switches!**

SwitchOddities

- The brainchild of one my most adventurous proxies, SwitchOddities is a place where you can try out all the fancy, strange, and eastern-exclusive switches that I flex on my maildays with. **Follow my affiliate code and use code 'GOAT' at checkout to save 5% on some of the most interesting switches you'll ever try!**

Cannonkeys

- Does anybody not know of Cannonkeys at this point? One of the largest vendors in North America with keyboards, switches, keycaps, and literally everything you could ever want for a keyboard always in stock and with an incredibly dedicated and loving crew. **Follow my affiliate link above in their name to support both them and I when you buy yourself some switches!**

Kinetic Labs

- One of the most well-rounded keyboard vendors out there, Christian and crew have been supporters of all my switch and switch-adjacent needs for some years now. **I'm honored to have them as an affiliate and think you should check them out using my affiliate link above to support both them and I when you check out their awesome products!**

Further Reading

Gateron Root Beer Float Interest Check

Link: <https://geekhack.org/index.php?topic=119891.msg3158995#msg3158995>

Wayback:

<https://web.archive.org/web/20230415003750/https://geekhack.org/index.php?topic=119891.msg3158995>

Starfirepenguins' Tomo75 Root Beer Float Typing Test

Link: <https://www.twitch.tv/starfirepenguin/clip/IronicTalentedRabbitDatSheffy-PJCsswCpF-CkeFQw?filter=clips&range=24hr&sort=time>

itsFirewire's Glare TKL Root Beer Float Typing Test

Link: <https://www.twitch.tv/itsfirewire/clip/BombasticMuddyCatVoHiYo-pNKzpyBF6LdzTMQ-?filter=clips&range=7d&sort=time>

Gokving's QK65 Root Beer Float Typing Test

Link: https://www.youtube.com/watch?v=AjaLGHvYMP0&ab_channel=Gokving

RandyOcean's HB60 Root Beer Float Typing Test

Link: <https://clips.twitch.tv/OptimisticNurturingGerbilChefFrank-56v32k3CwHVO609F>

Gateron Cream Soda Switch Interest Check

Link: <https://geekhack.org/index.php?topic=117736.msg3141050#msg3141050>

Wayback:

<https://web.archive.org/web/20230415143016/https://geekhack.org/index.php?topic=117736.msg3141050>

Gateron Cream Soda Switch Group Buy Page

Link: <https://geekhack.org/index.php?topic=118388.msg3149629#msg3149629>

Wayback:

<https://web.archive.org/web/20230415004020/https://geekhack.org/index.php?topic=118388.msg3149629>

Aflion Synthetic Melody Switch Interest Check

Link: <https://geekhack.org/index.php?topic=118083.msg3136637#msg3136637>

Wayback:

<https://web.archive.org/web/20230415143403/https://geekhack.org/index.php?topic=118083.msg3136637>

Aflion Melody and Runner Switch Interest Check

Link: <https://geekhack.org/index.php?topic=118898.msg3149845#msg3149845>

Wayback:

<https://web.archive.org/web/20230415004545/https://geekhack.org/index.php?topic=118898.msg3149845>

Aflion Melody and Runner Switch Preorder Page

Link: <https://geekhack.org/index.php?topic=119123.msg3149621#msg3149621>

Wayback:

<https://web.archive.org/web/20230415143904/https://geekhack.org/index.php?topic=119123.msg3149621>