Novelkeys Cream+ Switch Review

-ThereminGoat, 1/1/2023

Happy New Year everyone! Even though I've been up late throughout the night partying it all away by watching a movie with the girlfriend quietly in bed, I couldn't think of a better way to kick off another year with a brand new, way too long switch review. Don't worry, I heard all of your complaints throughout 2022 and have set a resolution to not pay attention to a single one of them along the lines of "put a TLDR at the top." Throughout the next calendar year of switch reviews I aim to ramp up the data, continue pumping out force curves, and increasing word counts steadily solely because of the Dr. Seuss fans out there complaining about my verbosity every time I even look at Reddit. While this is slightly less in jest than you might initially think it is, I do genuinely want to continue expanding my content and further working on picking apart every single piece of information about switches I can throughout 2023.

Figure 1: These should have died in 2009, and you still can't convince me otherwise.

Starting a secondary, much less spite-filled paragraph to kick this review off, I have to say that the expansion and growth of my content year over year has definitely not been self-driven in any regard. Sure, I recognize that I am the one up late collecting force curves and hurriedly piecing together reviews late Saturday nights, but the reason I do all of these things is because of the overwhelmingly positive response I've had from you all throughout 2022 and years prior. As more people have begun to make use of and express their interest in the Force Curve Repository and the Switch Measurement Sheet, specifically, I've further worked on plans to expand both of these that are currently in the works and should start showing up in reviews here within the next few months. That is, assuming that research and preparing for qualifying exams doesn't kill me first. Regardless, thank you all for the continued support. Without all of it, I wouldn't have opportunities like this one here today where Novelkeys hooked me up with a set of the new Cream+ switches so that I could review them at length.

Figure 2: Normally I would have a photo of my own here, but Novelkeys killed this advertising shot so I'm stealing it.

Switch Background

Being fully self aware, I know that I had referred to 2022 several times over as the ‘de facto year of MX switch innovation.’ Before all the vintage keyboard heads come baring pitch forks at the claim that MX switches actually have any innovation at all, I would like to remind everyone that design features seen in switches such as TTC Tigers, TKC Blackberries, and Zeal Clickiez simply were not available in the modern MX switch market. Stack these up alongside subtle design changes such as in the springs of Kailh’s Christmas Tree switches, the factory lubing of Gateron, or even the entire appearance of handfuls of new manufacturers, and I would gladly be pitchforked to death on the ‘de facto year of MX innovation’ hill. However, none of the switches I mentioned here are taking into account the releases, teased designs, and currently being produced switches that have all came from Novelkeys over the past year. And that is somewhat my fault.

As someone who obsesses over the tiniest of details in switches, it’s really easy to get sidetracked from subtleties when you’re being blasted with entirely new switches and manufacturers with dozens of details to consider. While I try and pay some due diligence in documenting storied switch families such as 43Studio’s Obsidian theme, Invokeys’ Aflion line, TKC’s Fruit family, as well as the Novelkeys Cream family of switches, I’ll be the first to admit that I’ve not quite given the latter the proper respect that they deserve. Due to some of these not panning out nearly as successfully as other notable switches of the previous year, it’s easy to overlook both the design changes made and the efforts that have been put in by Novelkeys to explore that territory since no other manufacturer or vendor seems to want to. And I think that this is a mistake. Regardless of how they pan out, we as a community really do need to incentivize manufacturers and vendors to be more exploratory with switches for all of our benefits. If you want the next best switch, you have to support everything innovative, even if it isn’t up to your personal tastes. So, with no tinting of bias from performance based issues I feel that may have been present in my various reviews of these switches, I think it’s worth dedicating this background section to the three subtle (and yet pretty damn big) switch innovations by Novelkeys in 2022.

Kailh Box Mute Jade

Figure 3: Kailh Box Mute Jade switches and their components.

First announced for release at the very start of 2022 on January 11th, these 82g. bottom out, grey-colored box stem switches were the first to cash in on the previously eternal switch meme of "silent clickies". Teased with a fair amount of mystery and intrigue, the design which brought these about were fairly simple all things considered. Rather than implementing some fancy stem design, crazy mechanistic contraption, or DIY nightmare, the design team rather plainly placed a rubber stopping pad above the Box Jade clickbar to prevent it from snapping back and producing it's famous high-pitched and sharp tone. With just that one little tweak in design, we were introduced to the first 'silent clicky' switch which still had some of the similarities in force of a traditional Box Jade switch without all of the noise to drive your coworkers, significant others, and/or pets insane.

Still available on Novelkeys' website at a price of $16.20 per pack of 36 switches, I further have to appreciate their willingness to stand by their designs even if they may not have been as successful as anticipated. Even though I did say I wouldn't tint this background with any review-like behavior, it's pretty evident that the Box Mute Jade switches didn't have quite the community adoption that they could have had. Even with simple design and execution by Novelkeys, the concept may have just struck people a bit too weirdly and I really did go mess around with my batch again to make sure that I hadn't missed something in my initial review. While I don't think there's anything that needed to be changed in that review, I do think I hit the nail pretty squarely on the head by pointing out that these have the possibility of being improved or adapted into something wildly successful in the years to come. Perhaps these may end up being that 'Johnny B. Goode' solo of switches in time…

Figure 4: "I guess you guys aren't ready for that yet. But your kids are gonna love it."

Novelkeys Cream Arc

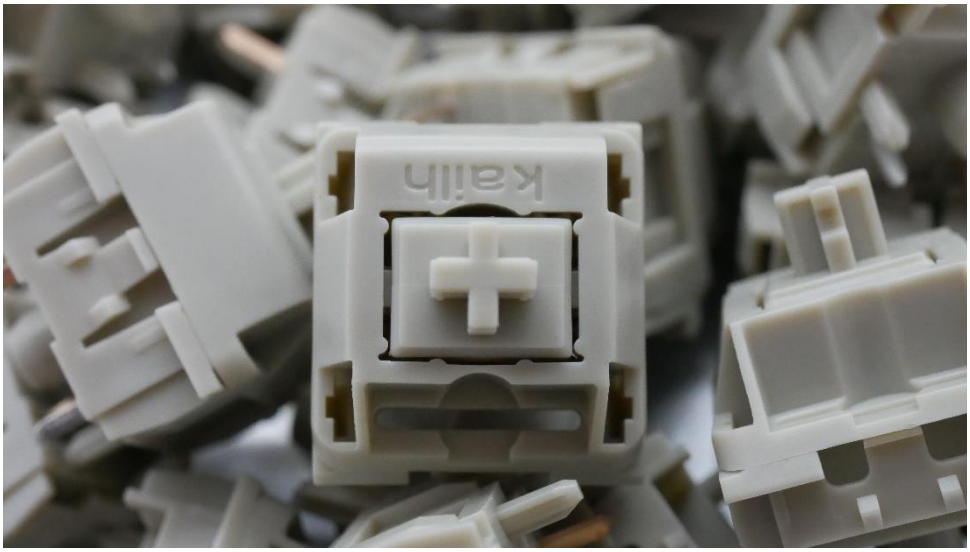


Figure 5: Novelkeys Cream Arc switches.

Even though this entry may not be truly as novel as the others, the Novelkeys Cream Arcs released around mid May of 2022 at a price of $0.65 per switch. Clad in an off-grey colorway to fit the monochromatic theme of the Novelkeys Cream family of switches, these were the heaviest Creams to date bottoming out at 120g. of force. While this, alone, would classify them as fairly rare modern switches with very few ever going beyond the 100g force barrier (e.g. Kailh Box China Ancient Greys and Tactile Zeal 75g Clickiez), what made these especially stand out were the use of conical progressive springs. Wider at the bottom than at the top, these springs produced one hell of a progressive increase in force throughout the stroke that makes them a lot more deserving of the name than some of the other springs to tout the “progressive” marketing tab in recent years.

Being technically some of the first switches to feature this conical progressive spring design, the aforementioned lack of novelty comes by way of technicality in that both Kailh and Durock/JWK had a few switches with these springs prior. However, while Quartz switches were fairly popular and Kailh Christmas Trees were in fact switches, the only of these switches to retain commercial relevance and attention for quite some time past their initial release are the Novelkeys Cream Arcs. Even without any improvements to the actual molds nor feeling of the Cream switches themselves, the continued stocking and sale of a new spring design as well as a niche heavier weight linear is definititely a decision that strays a bit from the norm for large vendors.

Novelkeys Dream Cream

Figure 4: Novelkeys Dream Cream switches.

Outwardly appearing as the most successful of Novelkeys' innovations throughout 2022, the 'Dream Cream' switches were released around mid to late August at a price of $0.85 per switch where they remain to date. Whereas the previous two entries in this list featured internal design changes, the Novelkeys Dream Creams were unique in that Kailh constructed a break-in machine explicitly for the purpose of actuating these switches 600,000 times before they ever shipped from the factory. While seemingly an out of the blue idea on paper, these switches answered the community's well documented aftermarket demand for broken-in Cream switches to remove that iconic POM on POM scratch that has become associated with the Cream family of switches.

Even though the Novelkeys Dream Cream switches were altogether completely void of innovation within the switch itself, it's hard to overlook the steps that were taken here as anything but innovative. Sure, manufacturers are more than on board with making changes to existing production processes such as molds, lubrication lines, etc, though the fact that they convinced Kailh to implement an entire extra step in their production process is, as far as I am aware, an absolute first for the community. What should even further drive home the importance of this step by Novelkeys and Kailh is that since this design improvement isn't intrinsic to the switch itself, it could easily be implemented for future switch releases in the same way that 'new and improved lubing' continues to sell switches even to this day.

I would imagine that after a year of switch releases as such, many vendors would likely take a break and chill on their amassed progres and designs. However, equally as impressive as the actual switch designs and changes themselves, Novelkeys is *still* continuing to innovate within the MX switch footprint with the release of their Cream+ switches. To make things even better, these are arguably the most advanced innovation that they've made to date. (We're not even going to talk about the Cream Clickies

which they've already begun to market as well.) Featuring an entirely new set of stem molds, the Cream+ switches are the first modern MX switch stem to feature designed modularity which could be used to change the bottom out feeling and location of a switch. Specifically, this is accomplished via the use of 'inserts' of differing materials which are placed into the bottom of the center pole of the stem.

Figure 5: I'm going to continue stealing from Novelkeys' advertising team because it just illustrates the point too well.

Officially released for sale on December 30th of 2022, I'm going to go ahead and count these as releases within 2023 because by the time anybody actually receives these switches they will be in the new year. Even if you're in West Virginia just a town over from Novelkeys' headquarters, I have little enough faith in the United States Postal Service that even under the most costly of shipping options that they would get to your doorstep by the end of New Years Eve. Priced at $23.40 per pack of 36 switches for their stock form, the Cream+ switches were listed for sale separately of their inserts at $0.65 per switch. Initial sets of inserts included packs of 120 in titanium, copper, and silicone, priced at $12, $10, and $8 per pack, respectively. Combining the inserts with the stock switches effectively set the per-switch price at $0.71, $0.73, or $0.75 per switch at the time of release. While no announcements were made regarding whether or not subsequent rounds of inserts would be released, conversations I've had with Novelkeys seem to imply that this may be an option they are considering for potential future runs. In case you're reading this Mike, I really hope that means there will be 24k gold inserts.

Figure 6: Something to go with my day-to-day Cuban link style, you know?

Cream+ Switch Performance

Note: Since these switches are modular and come in several varieties, I may not cover all of the details surrounding each one explicitly. While I will do my best to state directly which is being used, if you are unsure because of my poor English skills, assume that I am referring to the stock, non-insert form of the Cream+ switches.

Note 2: I received my Cream+ switches a week or two ago with silicone inserts that were stated as being from a prototyping round that had worse tolerances. Consider that any performance notes about these may be different than what you will receive from the stock releases due to the changes made by Novelkeys.

Appearance

At the highest level, the Cream+ switches further the monochromatic lineage of the Cream Family of switches coming decked out entirely in black. Coming in PCB-mount (5 pin) configuration only, these linear switches are marketed as having a 63.5g. bottoming out spring with a traditional full travel distance of 4.00 mm. While I am perhaps grasping at straws in order to fill out this overview paragraph, I subtly feel as if the texture across the entirety of the housings of the Cream+ switches is also different. Rather than coming in that slightly rough, almost matte like finish of most other Cream switches, these take on a slightly smoother feeling that appears ever so slightly shinier in the light.

Figure 7: Novelkeys Cream+ switches.

As with previous recent reviews I've done of switches from the Novelkeys Cream family, the molds of the Cream+ switches are more or less identical to what has been seen in switches such as the Dream Creams and the Cream Arcs. The top housings very much fit this trend with the one exception of the internal mold marking being located on upper left-hand side of the hole where the stem resides, rather than the right-hand side as previously seen in the other Cream switches. Otherwise, the larger 'kailh' nameplate, rectangular LED slot with center divot, and mold ejector circles internally all match other previous top housings to the letter and hashing this out any further would be excessive.

Figure 9: Novelkeys Cream+ top housing external design featuring inverted 'kailh' nameplate and long rectangular LED slot with centered circular indent.

Figure 8: Novelkeys Cream+ top housing internal design featuring mold ejection circles along the upper rim and single, capital letter mold marking in upper left-hand corner of switch stem hole.

Even with the new, innovative stem functionality in the Cream+ switches, the design is fairly similar to that of other recent Cream linear switches. Coming in at a total length without insert of 13.37 mm on average, these lengths are nearly identical to that of the Cream Tactiles, Launch Creams, and Cream Arcs and only slightly longer than that of the Dream Creams which are at 13.28 mm. Like those stems, as well, the Cream+ switches feature mold ejector circles that are small on the front plate, tapered slider rails, a south side keycap stem mount cut, and a squared off backplate. The only feature of note here is that of the center pole, which is long, non-tapered, and features a hole in it where the insert can be placed. With an average inner diameter around 1.00 mm in size and outer diameter of 1.85 mm., this leaves the walls likely around 0.40 mm or so in thickness which doesn't visually appear to be all that thin nor in danger of breaking while handling.

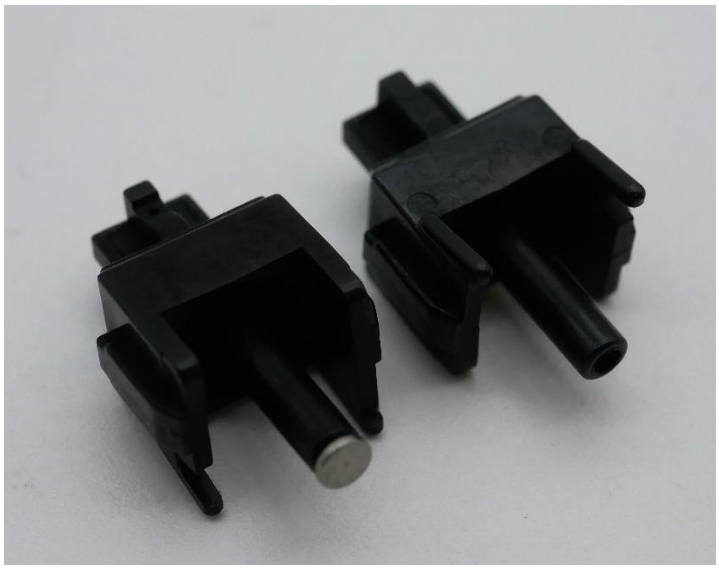


Figure 12: Novelkeys Cream+ stem front and back with titanium insert.

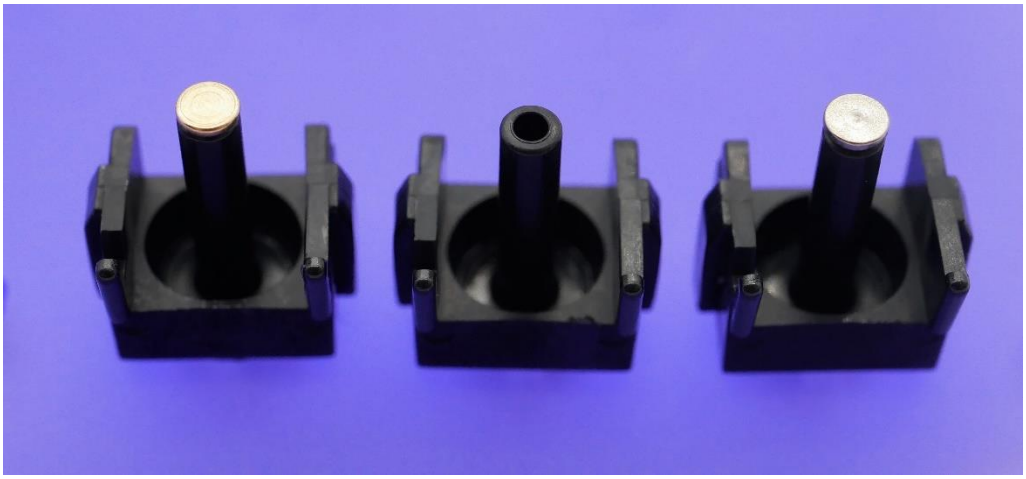


Figure 10: Novelkeys Cream+ stems with copper insert (Left) and titanium insert (Right).

In addition to the simplicity of the innovative stem design, the inserts themselves are also rather simplistic as well. Having already been compared to 'nails' in terms of appearance, the inserts do in fact look quite a bit like dulled nails with the skinnier part pressure fitting inside of the center pole of the stem. Physically inserting these into the stems is not all that difficult, though removing them poses a slight bit more of a challenge by hand and slightly lesser of a challenge with tweezers. In defiance as to what the measurement table for the inserts below may suggest, these all do seem to pressure fit snugly into the

stems and even the outlier inserts in that table (#1 for titanium and #4 for copper) for diameter seem to fit well within that noted 1.00 mm inner diameter for the stem. My best guess is that the stem hole narrows slightly from it's starting 1.00 mm inner diameter the further that one goes in, though I am unable to actually probe that space with my calipers.

Figure 11: Zoomed in photo of Novelkeys Cream+ copper inserts.

Novelkeys Cream+ Insert Measurements												
		1	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*	Average
Titanium	*Diameter (mm)*	0.93	0.97	0.97	0.96	0.94	0.95	0.96	0.95	0.95	1.00	0.96
	Length (mm)	5.26	5.38	5.32	5.35	5.25	5.39	5.38	5.29	5.27	5.39	5.33
Copper	*Diameter (mm)*	0.95	0.95	0.95	0.94	0.96	0.95	0.96	0.95	0.96	0.95	0.95
	Length (mm)	5.62	5.60	5.70	5.71	5.34	5.40	5.43	5.65	5.24	5.32	5.50

Finally arriving to the bottom housings, these too share many similar features with the Dream Creams and Cream Arcs before them. Internally they feature a wide-open LED slot, a slight lip around the central hole base, and small mold ejector circles around the upper rim. Externally, they feature identical pairings of sideways mold markings just above the LED slot as well as PCB mounting pins. While I can not immediately recall if this was present in the other Cream switches, the only potential difference here is that there is a very subtle amount of lube in the base of the bottom housing interior, around the center pole as if it was aimed at lubricating the very bottom of the springs. The springs, themselves, did not appear to have appreciable lube amounts on them ala some other recent switches which feature 'donut dipped' style springs.

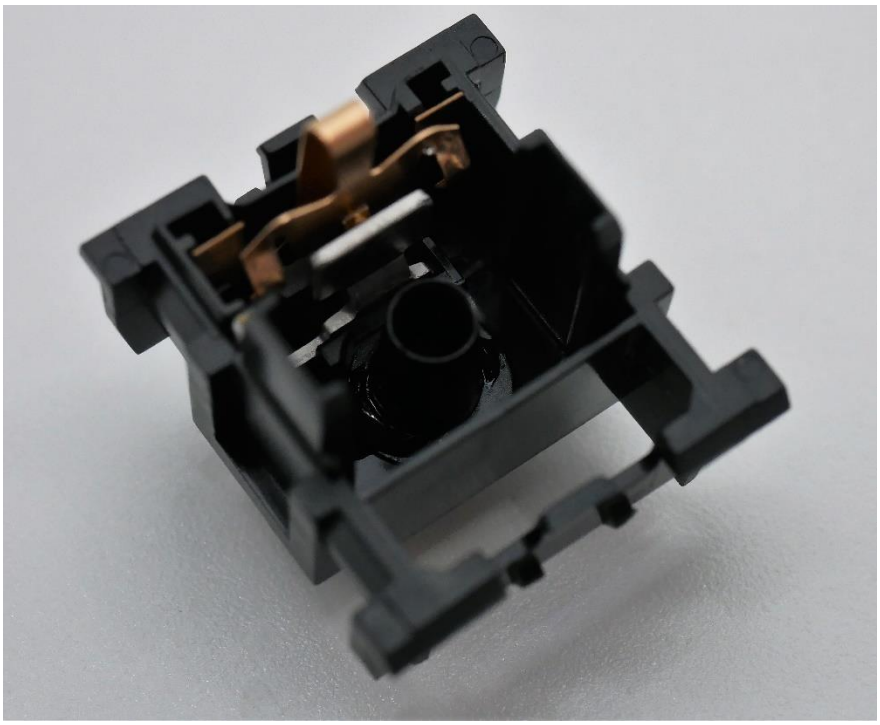


Figure 13: Novelkeys Cream+ bottom housing internal design showing small mold ejector marks around upper lip, wide open LED slot, and subtle lubrication at bae of center pole.

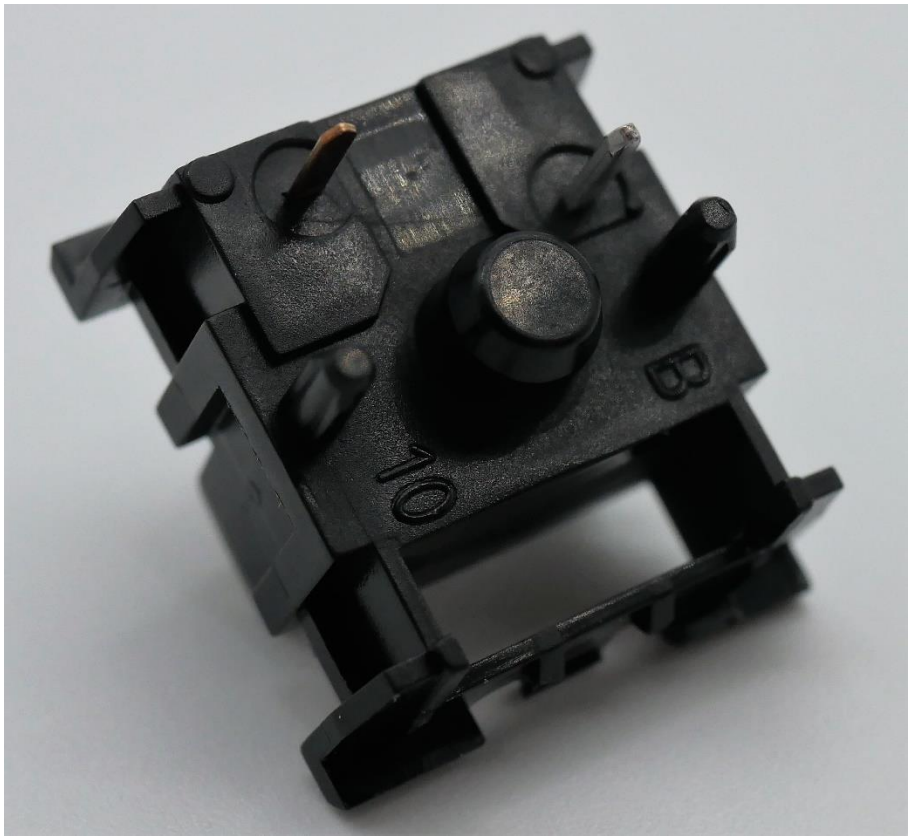


Figure 12: Novelkeys Cream+ bottom housing external design showing wide open LED slot, PCB mounting pins, and sideways mold markings above LED slot.

Push Feel

In its stock, non-insert configuration, the Cream+ switches are altogether not bad nor good linear switches – they are fairly average by all standards. While they do carry some small grain, subtle scratchiness that is in line with expectations from recent Cream switch releases, it's definitely not enough that people should immediately turn away from the switches because of their POM-on-POM nature. In fact, decently sloppy aftermarket lubrication of the stems and slider rails in these switches likely would take care of the vast majority of such scratch. At either end of the stroke, the housing collisions are rather firm feeling and perhaps slightly more dense than I recall POM housings having been previously. That being said, there is still a slightly lighter, thinner feeling to the topping out that is assumed to be due to differences in the mechanical thickness between the top and bottom housings. All things considered – fairly par for course.

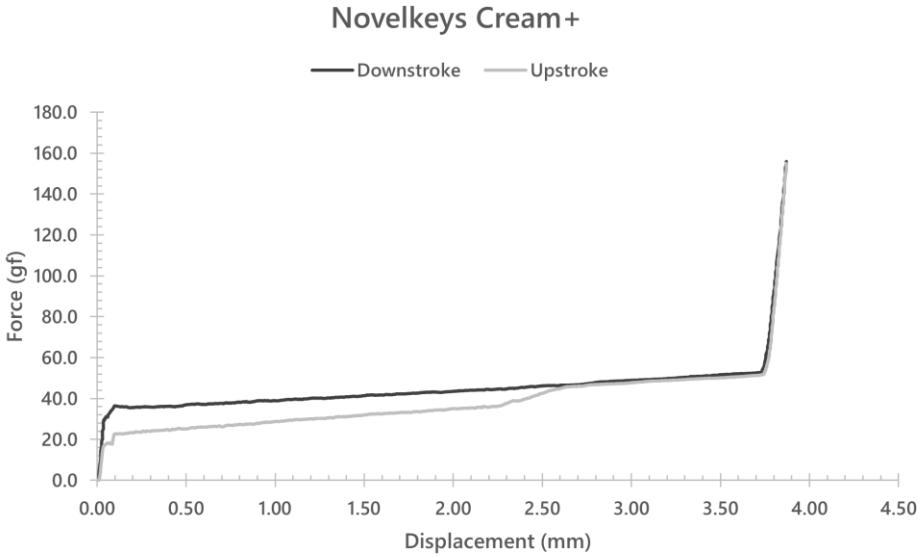


Figure 14: Stock, no-insert Novelkeys Cream+ force curve.

Upon the addition of inserts into the stems, however, the overall push feel of the switch changes pretty substantially. Do not get me wrong, I am not saying these become entirely different switches upon putting in the inserts, but they do produce enough of a physical difference in feeling that I can identify each from one another blindly. The first and probably least noticeable effect of the use of the inserts is that it radically drops the overall travel distance of the Cream+ switches, going from around 3.75 mm to 3.25 mm based on the force curves which can be seen below. While it may not seem like the inserts, alone, should make such a difference, its worth noting that the Cream+ stems with the titanium and copper inserts increase the Cream+ stem length from 13.37 mm to 13.81 and 13.85 mm, respectively, which moves the stems from general 'long stem' territory towards some of the longest stems that I've measured to date. This decrease in travel distance and more direct bottoming out onto the stem pole leads to more forceful, pointed bottoming outs for the metal inserts and a more compressive, squishy bottom out for the silicone insert.

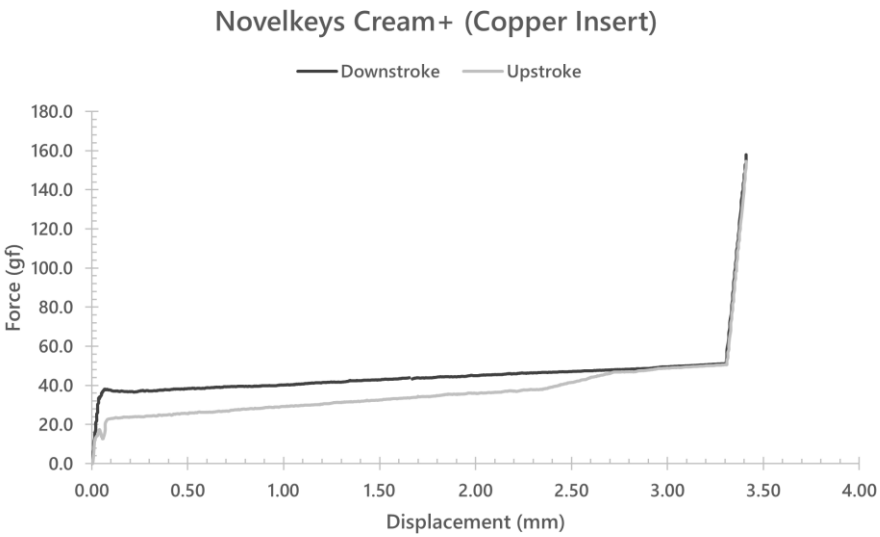


Figure 15: Force curve for Novelkeys Cream+ switch with copper insert.

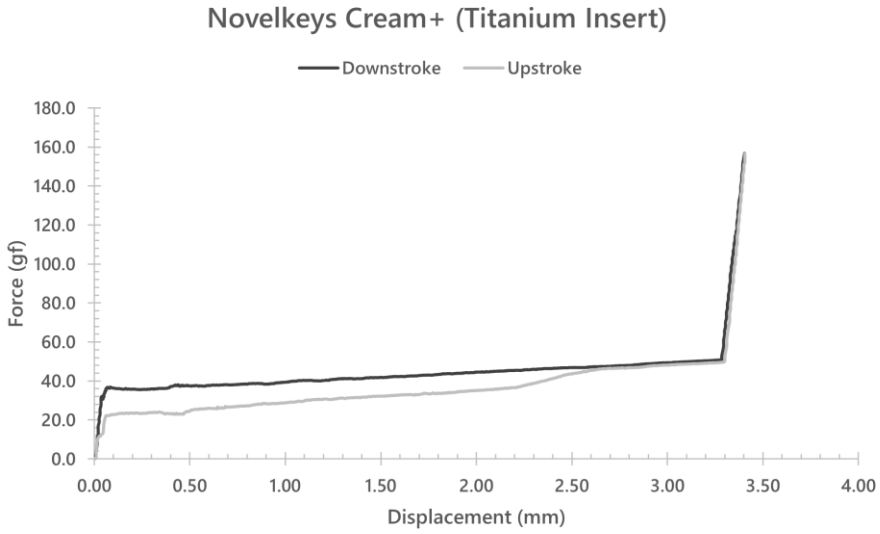


Figure 20: Force curve for Novelkeys Cream+ switch with titanium insert.

Both the titanium and copper inserts, as stated above, produce a more noticeable and abrupt bottoming out over that of the stock, non-insert Cream+ switch. While I often refer to bottoming out onto center poles as ‘sharper’ than other switches, and in fact do so below in the Switch Comparison section, I think that that perhaps would be a bit of a poor descriptor for the metal inserts. Even though it wouldn’t be wrong to say that these cause the bottom outs to become more pronounced, they don’t point into the bottoming out so much as they flatly contact or ‘clap’ it. Whether or not this is a function of the fact that the center pole in the Cream+ switches are not tapered is beyond me, though I would be curious to see if this is the case in other long pole switches in the future. Comparing the copper and titanium inserts side by side, however, the differences become rather interesting with respect to push feel. The titanium insert Cream+ switches bottom out with a slightly stronger, more firm feeling than that of the comparatively softer, more pliable copper inserts. The titanium inserts noticeably feel as if there is a piece of metal in the stem pole contacting the bottom housing at the bottom of the stroke. While there is still that metallic feeling in the copper inserts, its much less first thing that comes to mind, and is overall more muted.

The silicone inserts, on the other hand, are on the complete opposite end of the spectrum as the titanium and copper inserts. Rather than forming an abrupt, metallic bottoming out feeling, the Cream+ switches with silicone inserts have a slightly more compressive, jello-like feeling than their bottom out. While this is far from quantifiable by any stretch, the compression of the silicone inserts here feels lesser than that of traditional silencing pads in silent switches and thus produces a firmer bottoming out without that sort of awkward gumminess that silencing pads can cause. As well, its worth noting that the overall effect of the silicone inserts is much less drastic than that of the metal inserts, in that you could be more readily convinced that the silicone insert Cream+ is just a normal linear switch with some fancy new bottom housing material than you could with either metal insert.

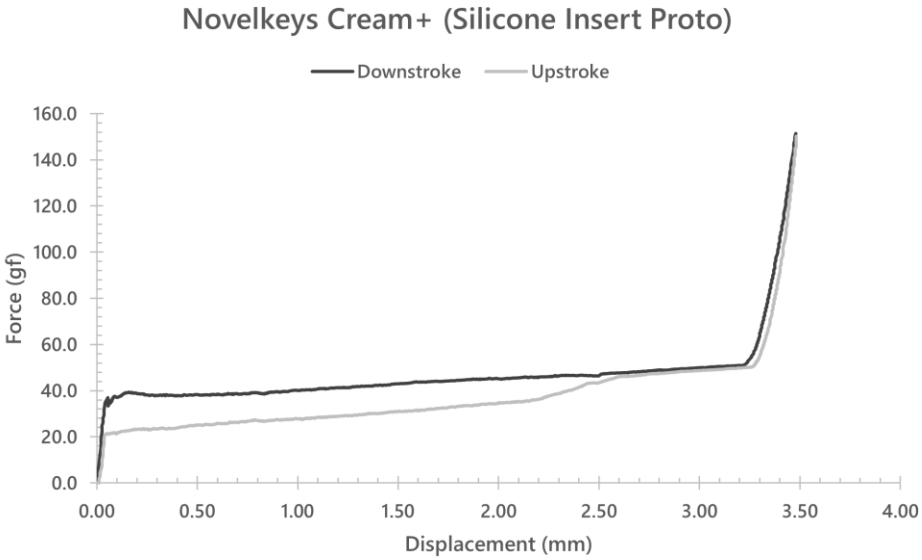


Figure 16: Force curve for Novelkeys Cream+ switch with prototype silicone insert.

Sound

On the whole, the sound of these switches pretty closely matches that of the Push Feel notes made above with some minor exceptions when it comes to the titanium and copper inserts for the Cream+ switches. In their stock form, the Cream+ switches are of medium level volume with a deeper bottoming out than topping out and the most subtle undertones of scratch. There doesn't appear to be any spring ping that is present nor any substantial variation across the batch that I received on this front either. The silicone inserts don't much change this stock profile too, perhaps just deepening the sound of the bottoming out to a point where it sounds more like a nylon switch than a POM one, in my opinion.

Unlike the stock and silicone insert configurations, though, the titanium and copper inserts produce a bottoming out sound that I can't quite say I've heard in switches before. First of all, it's perfectly reasonable to describe these bottoming outs as 'metallic'. Not metallic in the sense of hitting a piece of steel with a hammer, but more so metallic in how tapping your finger on a metal table will produce a subtly different sound than tapping on a wooden one. The titanium inserts, as a whole, embody this metallic character more – the sound they produce is slightly louder, as well as a lot more crisp and clear than the copper inserts. Comparing the other way, the copper inserts provide a subtle metallic undertone that is a bit more muddied and softer than that of the titanium inserts. It is very much as if the titanium inserts were chosen to be the center of the sound profile for the Cream+ switches they are inserted in, whereas the copper inserts complement the existing firmness and depth to the sound of the

Cream+ switches while providing metallic undertones that are still as unique in execution as the titanium inserts.

Wobble

In line with previous Novelkeys Cream family switches as of late, the stem wobble in the Cream+ switches is good, but not great. With a slight amount of N/S and E/W direction stem wobble, it's not likely this will bother many if any users except those perhaps rather sensitive to stem wobble if they are using tall keycaps in a build. Additionally, there's pretty much no substantial variation swing in stem wobble across the batch of switches which I received, which does speak decently well to the mold improvements made in recent times. Note, as well, that the inclusion of any of the inserts does not affect the stem wobble of the Cream+ switches in any capacity.

Measurements

Novelkeys Cream+ Switch Measurements			
Component		**Denotation**	**mm.**
Stem	Front/Back Plate Length	A	7.10
	Stem Width	B	5.51
	Stem Length with Rails	C	8.43
	Rail Width	D	1.91
	Center Pole Width	E	1.85
	Rail Height	F	5.12
	Total Stem Height (Stock)	G	13.37
	Titanium Insert	G	13.81
	Copper Insert	G	13.85
Bottom Housing	Diagonal Between Rails	L	9.92
	Interior Length Across	M	9.70
	Rail Width	N	2.72
	Center Hole Diameter	O	2.35
Top Housing	Horizontal Stem Gap	X	7.81
	Vertical Stem Gap	Y	6.19
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.

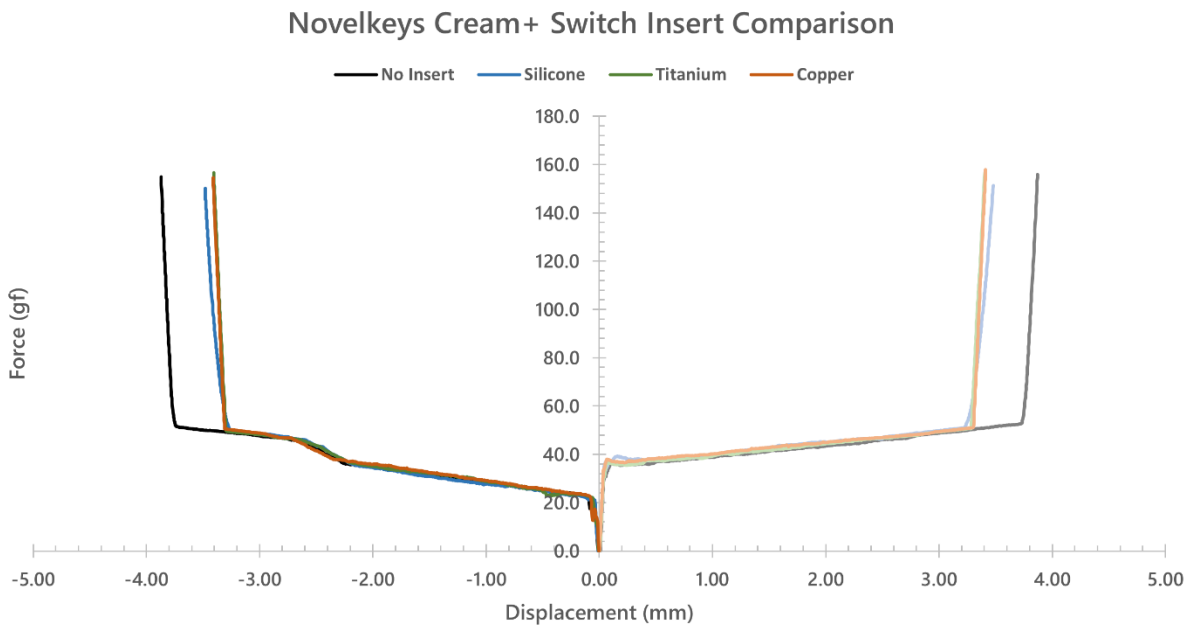


Figure 23: Switch force curve comparison for the various inserts of the Novelkeys Cream+ switches.

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.

Break In

Novelkeys Cream+ 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	+	++	+++
Deterioriation	-	--	---
Null Change			

Break In Notes:

17,000 Actuations

- The biggest change for the non-insert Novelkeys Cream+ switches at 17,000 actuations is a slight shifting in the topping out sound to one that is a bit less scratchy and more forceful sounding as compared to the more subdued stock topping out.
- There is the most subtle increase in stem wobble in both N/S and E/W directions which could easily be a function of batch wide variability in the samples which I broke in, or could actually be something seen in Cream+ switches broken in thus far.

34,000 Actuations

- At 34,000 actuations, the non-insert Novelkeys Cream+ switches do appear to become a noticeable bit smoother. While there is no real change in the size of the grain of scratch, it simply just seems to disappear altogether at this point in breaking in.
- While the wobble point mentioned at 17,000 actuations also holds true here as a negative point, the 34,000 actuation Cream+ switches also appear to pick up a noticeable amount of spring ping. I would imagine that this could and likely should be controlled for via aftermarket lubrication that could easily be applied when placing inserts into the Cream+ switches.

- Silicone Inserts: While the same points can be made about the wobble and general push feel of the Cream+ switches with silicone inserts at 34,000 actuations, they surprisingly seem to reduce the presence of that spring ping that was beginning to creep in at this point.

- Titanium Inserts: About as subtly as the increase in spring ping noted at 34,000 actuations, the titanium insert Cream+ switches begin to pack in just a little bit more overall volume to their showy bottom outs.

51,000 Actuations

- To be entirely honest, the changes with respect to scratch between 34,000 and 51,000 actuations are both strange and outside of my ability to explain. While there is still that same noticeable improvement with respect to smoothness in push feel that was previously noted, the switches *sound* distinctively more scratchy at 51,000 actuations.
- In addition to the point about sounding more scratchy, the Cream+ switches at 51,000 actuations sound as if they may be slightly more pingy than their 34,000 actuation counterparts, but it's hard to draw a definitive line.

- Silicone Inserts: In similar fashion as the 34,000-actuation set, the silicone insert Cream+ switches broken into 51,000 actuations do appear to have noticeably lesser spring ping to them than their non-insert counterparts broken in for the same length of time.

- Titanium Inserts: Beyond 34,000 actuations, the noted increase in overall volume of the titanium insert Cream+ switch bottoming out only grows. At 51,000 actuations this is to such an extent that they are distinctly different sounding than the stock Cream+ switches with freshly installed titanium inserts.

- Copper Inserts: I'm not entirely certain as to how this only showed up at 51,000 actuations, but the Cream+ switches with copper inserts almost appear to have a more amplified scratch and

spring ping sound than either of the other inserts. I'm almost suspecting that this may be a batch-specific issue as the copper inserts didn't have really any other points of note about them at other break-in times.

Note: Regarding the inserts that were put through break in testing, I had less than 10% of my metal inserts (all titanium) fall out of the stem upon reopening and inspecting the switches. I suspect the reason that this wasn't noticeable with a rattly sound prior to opening the switch is that because of the length of the inserts around 5.00 mm, they can effectively come loose without entirely dislodging from the stem and getting stuck in the central hole and bottom housing. This was however *not* the case for my poorly prototype silicone inserts with poor tolerances, which not only came loose from the stems but were lodged into the bottom housings due to their squishy nature.

Other

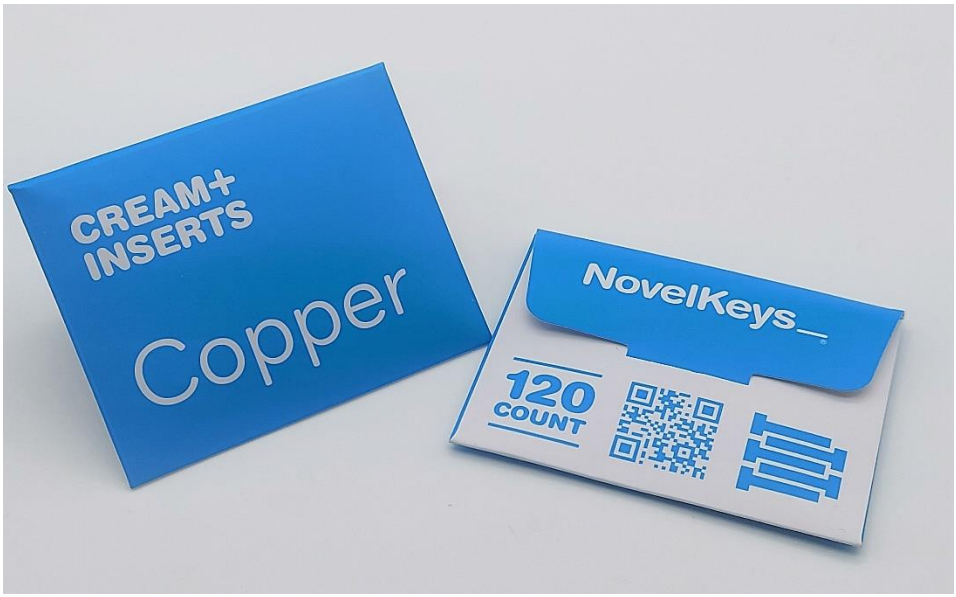


Figure 17: Novelkeys Cream+ insert packaging envelopes.

While Novelkeys is seemingly approaching the singularity with respect to their 36-count blue switch box design, the cute little packaging for the Cream+ inserts is not something I think I could have gone the length of this review without mentioning. Coming in almost tiny little envelopes, the 120 packs of inserts come in sticky-sealed bags that do a half decent job or attracting the inserts when you're trying to pick them up again and prevents them from being thrown everywhere upon opening. As well, the material feels as if it is of the same biodegradable material as other Novelkeys switch bags, which brings me joy that they are continuing on this eco-friendly packaging trend they started some time ago.

Comparison Notes to Other Notable Linear 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 New Nixies switches side by side. As well, while some comparisons have been made to Cream+ switches using various inserts, all comparison force curves are using the stock, insert-less force curve.

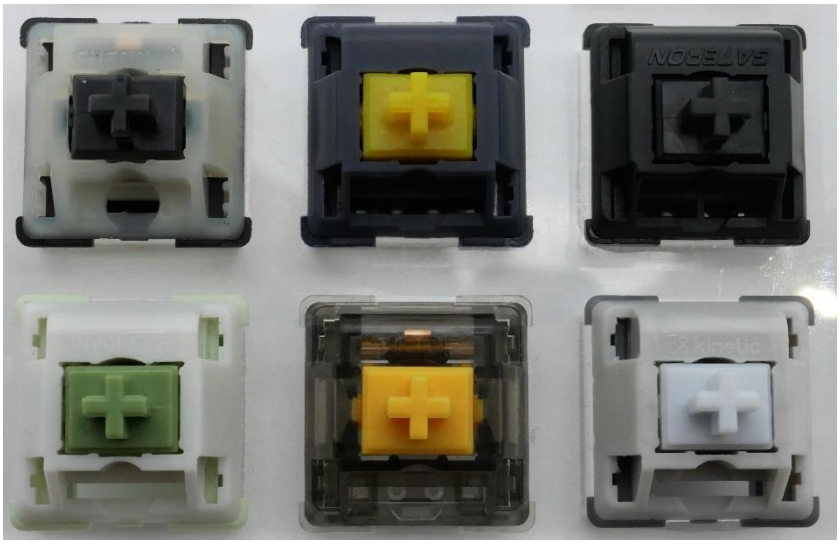
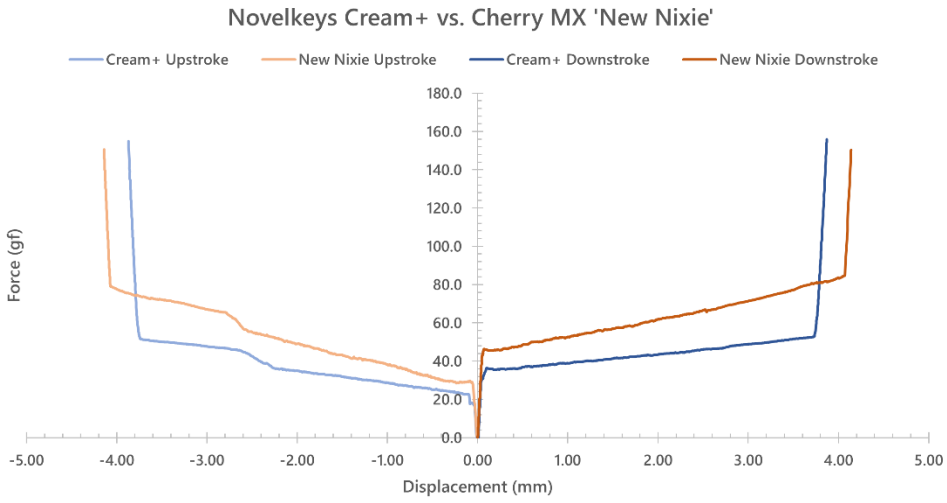


Figure 26: Switches for comparison. (L-R, Top-Bot: Cherry MX 'New Nixie', Designer Studio Graphite Gold, Gateron Oil King, Invokeys Matcha Latte, MODE Reflex, and Husky.)

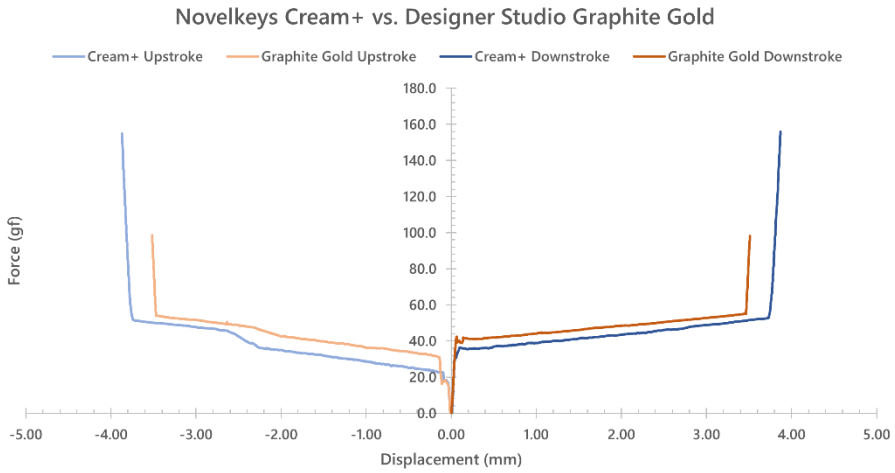
<u>Cherry MX ‘New Nixie’</u>

- While both the New Nixies and Cream+ switches both have some level of scratch to them, the Cream+ switches have a much more subtle, small grain scratch than that of Cherry’s trademark large grain, rough scratchiness.
- Comparing the bottoming out of all three inserts against the Cherry MX ‘New Nixie’, the bottoming out of the silicone Cream+ switch is the most similar, as the titanium and copper inserts produce much sharper feelings.
- Even with the historical improvements to the Cream molds over the last few years of innovation, the New Nixies still edge out the Cream+ switches in terms of stem wobble in both direction.



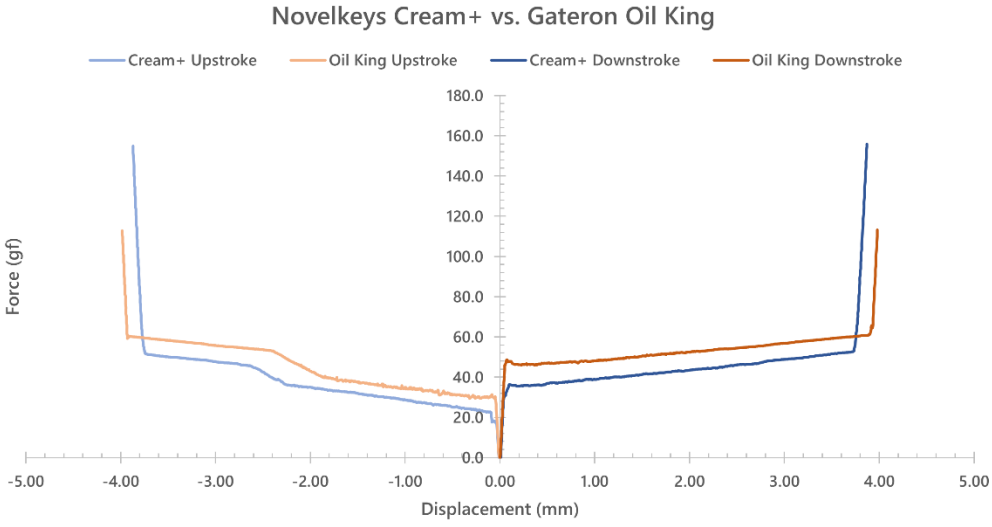
Designer Studio Graphite Gold

- While not nearly as aggressive as the New Nixie switches, the same comparison between the scratch of the Graphite Golds and the Cream+ switches also holds true here as it did above.
- Interestingly, the titanium inserts in the Cream+ switches best mimicked the bottoming out of the Designer Studio Graphite Gold switches, although they were a bit more sharp and focused.
- Unlike the Cherry switches above, the Novelkeys Cream+ switches do manage to surpass the Graphite Gold switches in terms of E/W and especially N/S direction stem wobble.



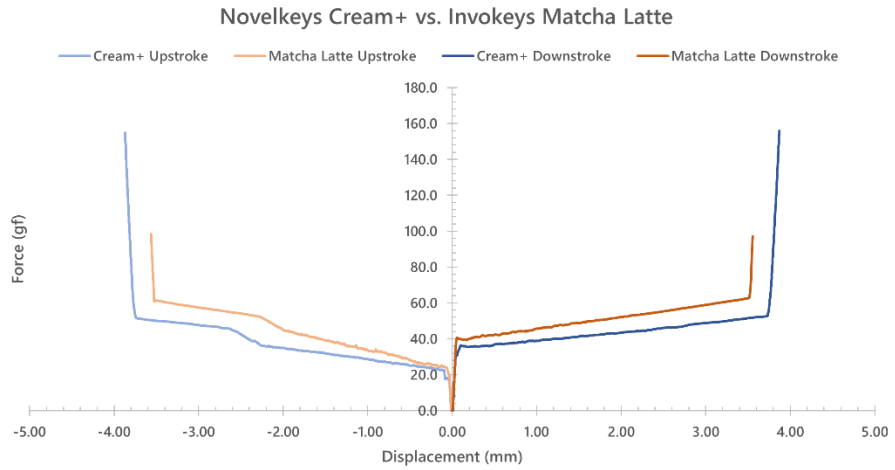
Gateron Oil King

- Of all of the configurations of the Cream+ switches, the bottoming out of the Gateron Oil Kings is most similar to that of the stock, no-insert Cream+ switch, though it isn't quite as close as you would think. While the Oil Kings bottom out with a little more force akin to that of the titanium or copper inserts, it's not nearly as sharp or as pointed as those.
- To the surprise of nobody who has tried Gateron Oil Kings before, the improved factory lubing introduced by Gateron in 2022 makes for vastly smoother experience than that of the Cream+ switches.
- Compared to the sound of all of the configurations of Novelkeys Cream+ switches, the Gateron Oil Kings are overall a bit more quiet and subtle with a more bass-heavy tone.



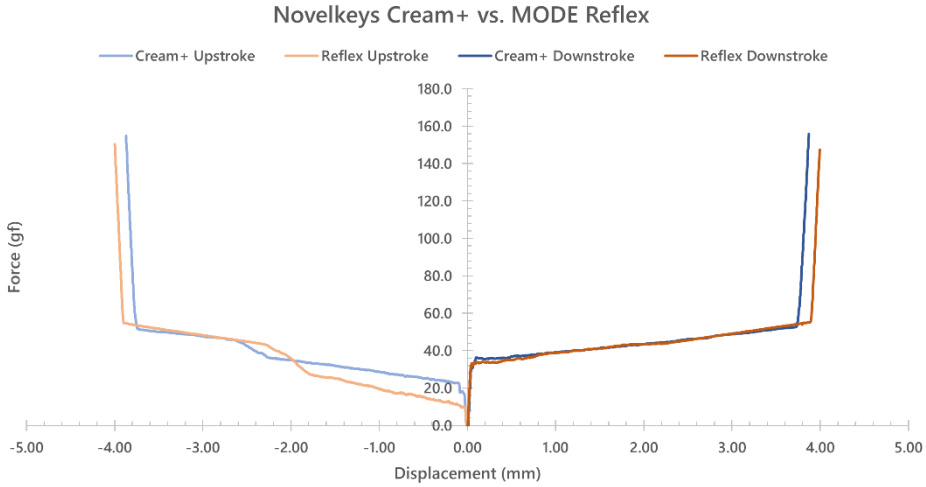
Invokeys Macha Latte

- Drawing yet another cross-comparison comparison into the mix purely to put the word ‘comparison’ into a sentence three separate times, the Matcha Lattes are as expected significantly smoother than that of the Cream+ switches much like that of the Gateron Oil King switches.
- In terms of bottoming out sound, the Matcha Lattes carry a fairly dampened overall sound which mostly matches that of the silicone inserts of the Novelkeys Cream+ switches.
- With respect to overall volume, the Invokeys Match Lattes are significantly more quiet than any of the configurations of Cream+ switches at all typing speeds.



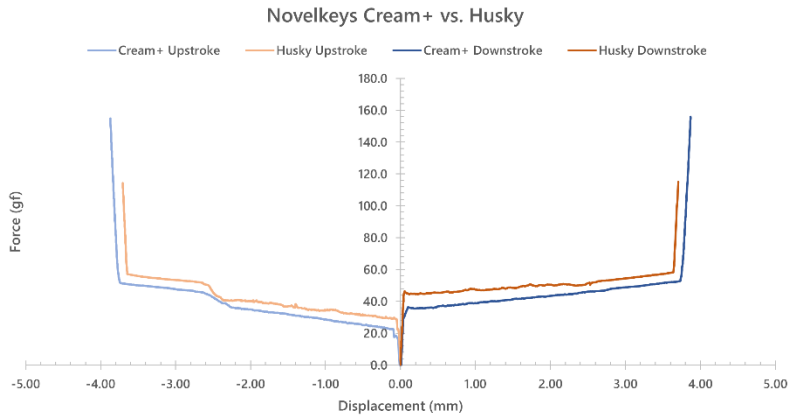
MODE Reflex

- While a tiny bit smoother throughout the stroke, the MODE Reflex switches (which were some of the earliest vendor customized Durock/JWK switches) are actually fairly similar feeling to that of the stock Cream+ switches in terms of smoothness as well as housing collisions.
- The Novelkeys Cream+ switches are slightly better than the MODE Reflex switches with respect to both their N/S and E/W direction stem wobble.
- With respect to their overall sound, the MODE switches are a bit more quiet sounding than that of all of the configurations of Cream+ switches as well as carry a snappier sort of bottoming out that isn’t matched well by any of the inserts that I’ve had here.



Husky

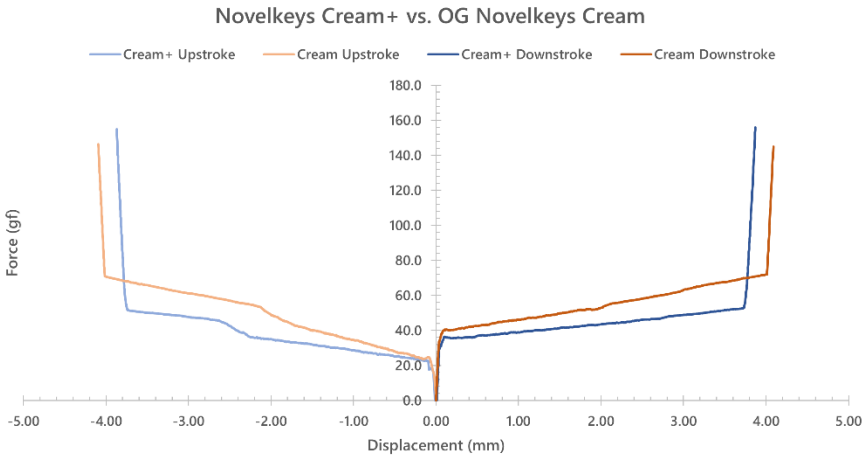
- Of all of the switches in this initial comparison set, the Kinetic Labs Huskies and the Novelkeys Cream+ switches share the most similar scratch in terms of both grain size and overall appearance throughout the stroke.
- Even though it is noticeably more scratchy and dampened, the overall impact of the Huskies at bottoming out is most similar to that of the Cream+ switches with the titanium inserts.
- The Novelkeys Cream+ switches are a tad bit better than the Husky switches with respect to stem wobble in both the N/S and E/W directions.



Bonus Round
It's a Novelkeys Cream switch. How could I *not* compare it to other Novelkeys Cream switches?

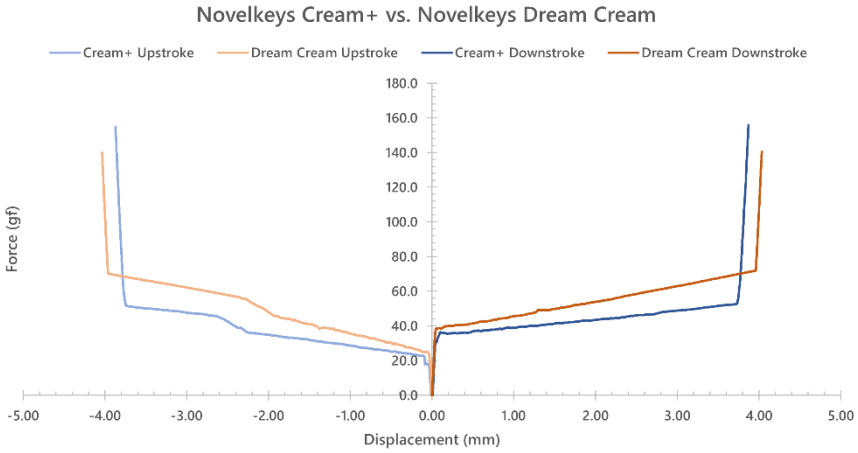
Novelkeys Cream

- Compared to the absolute original, first run of Novelkeys Creams which have long ago lost their fishy smell out of the bag, the Cream+ switches are noticeably more smooth and with less of sandpaper-y like scratch to them.
- As well, the overall stem wobble in both N/S and E/W directions has noticeably improved. While this also appears to have been somewhat improved in more recent Novelkeys Cream batches, it's still worth noting how far we've come in the past handful of years.
- Surprisingly, the bottoming out of the Novelkeys Cream+ switches without any inserts is pretty different from that of the standard Creams. Specifically, it punches with a more solid, singular feeling on the stem pole that almost makes the bottoming out feel ever so slightly more firm.



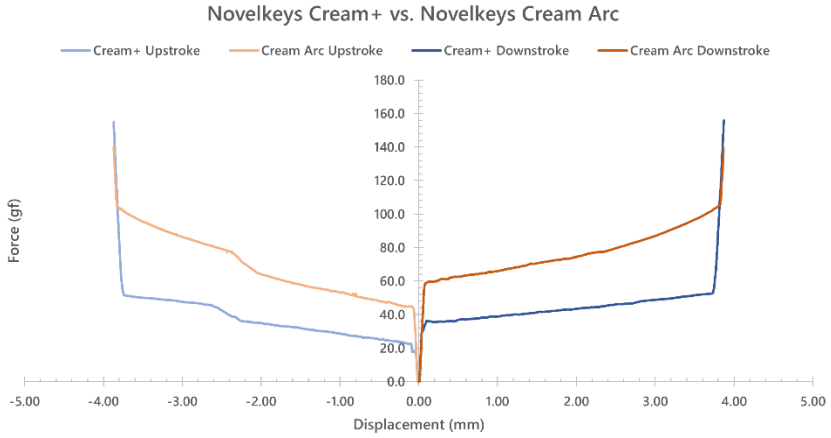
Novelkeys Dream Cream

- Who could have possibly guessed? It turns out that switches broken in by an industrial grade machine 600,000 times are actually smoother than switches that are assumedly using nearly identical molds!
- The bottoming out of the Novelkeys Dream Cream switches interestingly sounds the most similar to that of the Cream+ switches with the silicone inserts while also feeling much more like that of the non-insert, stock form Cream+ switches.
- What is the plural of Cream+? Cream+s?? Cream++? Do you know how many damn times I had to rewrite sentences in this article to get around that issue?
- In terms of stem wobble in both directions, the Novelkeys Dream Cream and Cream+ switches are more or less identical in the handful of each that I tested.



Novelkeys Cream Arc

- Due to the heavy, progressive springs of the Cream Arc switches, they bottom out with a similar forcefulness as that of the titanium and copper inserted Cream+ switches while maintaining a dampened nature beyond that of the silicone insert Cream+ switches.
- Given the similar nature of the molds between the Cream+ switches and the Cream Arc switches, as well as their proximity between initial releases, they obviously have nearly identical stem wobble in both directions.
- As well, since the only effective difference between the Cream+ switches and the Cream Arc switches come down to the stems and springs, they are also nearly identical in terms of scratchiness.



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.

Novelkeys Cream+ (No Insert)

Novelkeys Cream+	
Switch Type: Linear	*Kailh*
Total Stem Travel	3.735 mm
Peak Force	53.1 gf
Bottom Out Force	53.1 gf
# of Upstroke Points	1221
# of Downstroke Points	1351

Push Feel

In terms of straight up push feel, the no-insert Novelkeys Cream+ switches are about as average as one could expect. They have a very slight amount of small grain scratch, a decently well muted bottom out feeling, and a topping out that is slightly thinner due to mechanical differences. Just picture the most average linear switch you can and there you have it.

Wobble

Using the newer Cream family molds which were shown extensively in 2022, the Cream+ switches have a minor amount of N/S and E/W stem wobble that likely won't bother the vast majority of users and is comparable to wobble from other well-known manufacturers.

Sound

Even without the insert, the stock, as delivered sound of the Cream+ switches was probably the hardest score for me to place here. While there is some imbalance between the housing collisions, as well as subtle undertones of scratch, the switch as a whole sounds a little more firm and solid than some of the worse Cream family entries and is rather comparable to the out of box sound of siblings such as the Dream Creams.

Context

For a $0.65 switch, these are okay but not altogether a great value nor bargain. What makes these well worth that price point, however, is the radical stem design with the ability to easily modify the bottom out feeling and sound. The fact that these can, in theory, open the door for further frankenswitching capabilities and could even be further pushed with more inserts in time makes these one of the most uniquely interesting linear switches in some time.

Other

While the inserts are a bit more steeply priced than I would have anticipated and slightly limiting out of the gate, what Novelkeys has done here is undeniably exciting and I can anticipate that I will see at least a few boards filled with these at future meetups to come.

Statistics

Average Score			Cream+ (No Insert)		
26.4	/35	Push Feel	26	/35	Push Feel
17.0	/25	Wobble	18	/25	Wobble
5.6	/10	Sound	6	/10	Sound
12.7	/20	Context	15	/20	Context
6.1	/10	Other	8	/10	Other
67.8	/100	**Total**	73	/100	**Total**
Cream+ Overall Rank			T-#64/214 (73/100)		
Cream+ 'Hard' Rank			T-#96/214 (50/70)		
Cream+ 'Soft' Rank			T-#16/214 (23/30)		

Novelkeys Cream+ (Titanium Insert)

Novelkeys Cream+ (Titanium)		
Switch Type: Linear		*Kailh*
27	/35	Push Feel
18	/25	Wobble
6	/10	Sound
15	/20	Context
8	/10	Other
74	/100	**Total**

Push Feel

Disregarding the insert, the Novelkeys Cream+ switches are about as average as they come: fairly smooth with some small grain scratch issues and overall firm and slightly unbalanced housing collisions. The titanium insert, however, provides a strong, flat, metallic clap at the end of the downstroke that makes itself the center of attention of the switch while not detracting from the other performance characteristics.

Wobble

Keeping with the same Cream family molds used extensively in releases throughout 2022, the Cream+ switches have a minor amount of stem wobble in both directions that is consistent across the batch and not large enough to bother the vast majority of users.

Sound

With the titanium inserts, the sounds of the Cream+ switches almost entirely becomes the bottoming out. A clear and crisp bottoming out is one thing, but the metallic tone is unlike anything you've heard in a switch before, even if it is a bit overpowering. While unique, and definitely something many users will enjoy, it is still fundamentally a bit lopsided in execution.

Context

Even though the context of these Cream+ switches is primarily driven by their modifiability, availability, and potential frankenswitch impact, there's no arguing the $0.75 per switch price tag with the titanium inserts is a bit steep. Regardless of this, though, they do provide a unique experience that is otherwise unseen in the MX footprint and does somewhat motivate the price of these switches.

Other

The ability to so singularly distill a metallic sound of a linear switch intentionally is not something I would have guessed would have been possible before. It's evident that the innovation the Cream+ switches bring and their future potential is hard to ignore.

Statistics

Average Score			Cream+ (Titanium Insert)		
26.4	/35	Push Feel	27	/35	Push Feel
17.0	/25	Wobble	18	/25	Wobble
5.6	/10	Sound	6	/10	Sound
12.7	/20	Context	15	/20	Context
6.1	/10	Other	8	/10	Other
67.8	/100	**Total**	74	/100	**Total**
Cream+ Ti Overall Rank			T-#36/214 (74/100)		
Cream+ Ti 'Hard' Rank			T-#57/214 (51/70)		
Cream+ Ti 'Soft' Rank			T-#16/214 (23/30)		

Novelkeys Cream+ (Copper Insert)

Novelkeys Cream+ (Copper)		
Switch Type: Linear		*Kailh*
28	/35	Push Feel
18	/25	Wobble
7	/10	Sound
15	/20	Context
8	/10	Other
76	/100	**Total**

Push Feel

Without the copper insert, the Novelkeys Cream+ switches are par for course in terms of modern linear switches – minor small grain scratch but overall smoothness and relatively firm housing collisions that are minorly unbalanced. However, the copper insert produces a firmer bottoming that is closer to nylon than POM while maintaining subtle metallic undertones that emphasize the unique nature of the bottoming out here.

Wobble

Seemingly born from nearly identical molds as the Cream family releases from 2022, these Cream+ switches have a minor amount of N/S and E/W stem wobble that is cross batch consistent and likely to bother very few, though still with much room to improve.

Sound

The copper inserts shine best out of any of the initial Cream+ insert offerings. While they do raise the bottoming out sound a noticeable bit, they provide a more mellowed, subdued metal undertone to the bottoming out without overpowering the other sounds featured in the switch such as its topping out. It is the best insert that complements the Cream+'s stock strengths.

Context

While still price a bit high for expectations, the copper inserts for the Cream+ switches provide the best overall bang for buck of an already exciting and innovative switch design from Novelkeys. The frankenswitch-ability potential for this stem and insert combination, in particular, is hard to ignore and will provide quite the experience for users looking to change their linear game.

Other

Suffering ever so slightly from the same steep price point as the other inserts for the Cream+ switches, the copper more than make up for as one of Novelkeys' best switch innovations to date and suggests an exciting future with this design implementation seen in more switches.

Statistics

Average Score			Cream+ (Copper Insert)		
26.4	/35	Push Feel	28	/35	Push Feel
17.0	/25	Wobble	18	/25	Wobble
5.6	/10	Sound	7	/10	Sound
12.7	/20	Context	15	/20	Context
6.1	/10	Other	8	/10	Other
67.8	/100	**Total**	76	/100	**Total**
Cream+ Cu Overall Rank			T-#36/214 (76/100)		
Cream+ Cu 'Hard' Rank			T-#50/214 (53/70)		
Cream+ Cu 'Soft' Rank			T-#16/214 (23/30)		

If you are looking at this statistics section for the first time and wondering where the hell are the other 211 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

I feel comfortable in saying that this is, to date, the best switch innovation that Novelkeys has made among their numerous attempts discussed at the opening of this article. While there will surely be plenty of people crying about how this requires them to open and modify their switches, I think these people need to be reminded that these are products for a *niche hobby*, and not necessarily everything needs to be spoon fed to you. Believe it or not, there were times in the mechanical keyboard community where extensive modifications and hands on work were needed to bring your keyboards to life. Even though these switches come in fancy packaging from a vendor that ended up larger and more prolific than anybody would have guessed out of the gate, these do invoke a sort of throwback to those earlier days of pre-Zealios switches in which people had to get down and dirty to modify their switches from the traditional Kailh/Gateron/Cherry options. In the same way that simple changes to spring weights and switch stickers radically changed the feeling of switches to those users then, it's pretty incredible how something as simple as boring out the center pole of a stem and placing metal inserts into them can produce a uniquely metallic feeling linear switch in the modern MX footprint. It's so simplistic, I'd argue, that it perfectly well fits into that same headspace that certain types of minimalistic modern art does in that people will look at this and go "well I could have done that".

Furthering on the modern art analogy a bit, I do think it is a reasonable criticism to point to the pricing of these switches with inserts being a bit steep. With the stock switches still having notable rooms for improvement in smoothness as well as stem wobble, adding in new and unique feelings with the inserts doesn't altogether remove those issues from the start. What these inserts do provide, though, is a unique feeling and sounding bottoming out that I think many people fascinated with long pole switches will come to love in time. Even if you think that the price of these are steep out of the gate, I really would encourage you to try these, as I have in many of the more prolific reviews on my website, because of the uniqueness and innovation that they offer. The Novelkeys Cream+ switches are far from perfect on all of their technical points, yet they continue to showcase incremental improvements both in performance and

creativity by Novelkeys in the same way that each of their previous switch releases have. For that reason, Novelkeys has more than earned my carte blanche financial support because I know that whatever switch I am buying now will continue to push more innovations in switches in the future.

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!

MKUltra Corporation

- We may have stolen a few government secrets to get this one together. MKUltra is a US vendor that truly fills all the gaps other vendors simply don't offer and is continuing to expand their switch and switch related peripherals by the day. **Use code 'GOAT' for 5% off your order when you check them out!**

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!**

Dangkeebs

- A longtime supporter of the website and the collection, Dangkeebs 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

Novelkeys Cream+ Switch Sales Page
Link: https://novelkeys.com/collections/top-dogs/products/cream-plus-switches
Wayback: https://web.archive.org/web/20221231073704/https://novelkeys.com/collections/top-dogs/products/cream-plus-switches

Novelkeys Cream+ Insert Switch Sales Page
Link: https://novelkeys.com/collections/top-dogs/products/cream-plus-inserts
Wayback: https://web.archive.org/web/20221231073742/https://novelkeys.com/collections/top-dogs/products/cream-plus-inserts

Novelkeys Cream+ Twitter Announcement
Link: https://twitter.com/NovelKeys/status/1608840903732649985
Wayback: https://web.archive.org/web/20221231180714/https://twitter.com/NovelKeys/status/1608840903732649985

Novelkeys Cream+ Instagram Announcement
Link: https://www.instagram.com/p/Cmy9NjRBDUJ/?hl=en
Wayback: https://web.archive.org/web/20221231180746/https://www.instagram.com/p/Cmy9NjRBDUJ/?hl=en