

Novelkeys Cream Arc Switch Review

-ThereminGoat, 05/29/22

With another set of weeks up and down, it appears we're back here again for yet another full-length switch review. However, I can promise you that this one will be just a tiny bit different than the rest. As many of you may have seen in the previous week of content, it's been rather a busy one for me and for the website. In addition to finally getting back around to updating scorecards and measurement sheets that have been neglected over the course of the past month, I've picked up *three* new sponsors for the website. Found either at the end of this review or over on the 'About' tab at the top of the page, I'm excited to welcome MechMods UK, SwitchOddities, and Dangkeeps to the family of already awesome affiliates and sponsors of this website. In addition to patrons on Patreon, these sponsors often contribute a rather large amount of the switches and/or funding I use to buy switches for these reviews as you are reading them right here. If it wasn't for these kind people, I have no doubt that I wouldn't have been able to pick up, review, and dive deep into as many switches as I have over the past few years and for that I am incredibly lucky. Thus, if you do enjoy literally any variety of my content, please go check out any of my sponsors using my affiliate links/discount codes in order to support both me and them at the same time. (As well, as a slight side bonus you'll also get switches for cheaper too which is towards the top of my list of the best things in the world!)

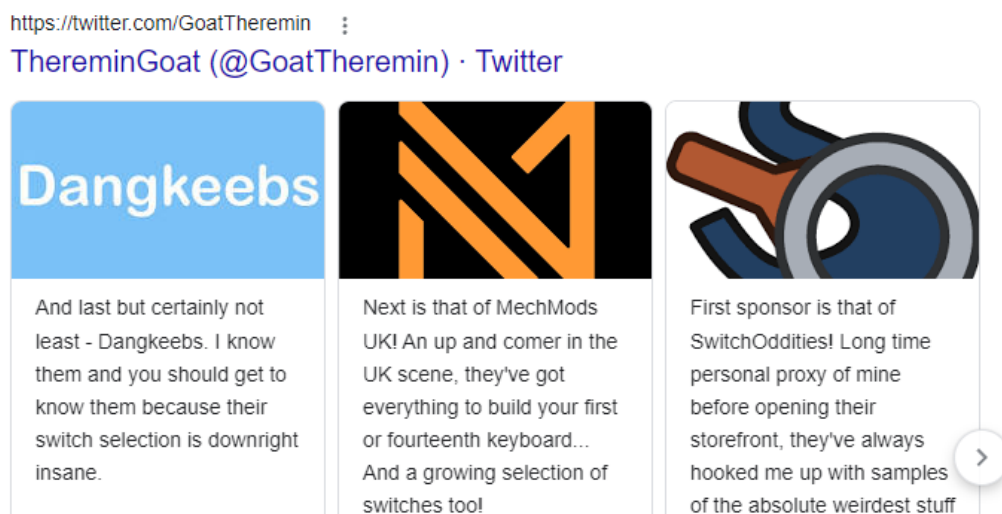


Figure 1: As low effort as it may be, the Google search Twitter wheel is the most cohesive collage I have of these new sponsors without firing up Photoshop.

I do want to share, though, that this is not the *only* exciting news that I have picked up over the course of the last busy week. In addition to the upgraded photography setup, digital calipers, and break-in machine which have all become regular staples of the content that I produce here both in long and short form, I am excited to announce that I have now acquired a professional, lab grade 'force curve' machine. With a kindness that I simply cannot be thankful enough for, Drop has graciously gifted an Imada FSA-MSL-0.4 Portable Force/Displacement Tester. Currently occupying a very active spot on my desk late into the night over the past week, I've been generating a handful of force curves which will now be located on GitHub in a Force Curve Repository adjacent to that of the Scorecard Repository! Capable of sampling out to tenths of a gram-force and thousandths of a millimeter in terms of resolution, this semi-automatic force curve machine will not only allow me to generate the highest-level resolution of force curves that I've seen in the hobby thus far, but it will allow me to explore a whole slew of hypotheses I plan to get to in the coming months. As can be expected, I will also be working closely with vendors,

manufacturers, and anyone who reaches out for force curves so that I can try and get the community at large even more data about the switches they are interested in before buying them.



Figure 2: Editor-in-Chief Ron posing next to the new force curve machine. Know that he has been hard at work collecting data for this review today.

Needless to say, this force curve machine is downright mind blowing as an instrument and well beyond my dreams of what I had imagined I would be able to pick up for the website one day. To the team over at Drop, I cannot possibly thank you enough for this opportunity and I can only hope that I will put this machine to better use than any of you could have anticipated. As well, to the broader scope of both vendors and audience here right now who read my reviews and have supported me thus far along, thank you from the bottom of my heart. The opportunity to continue improving my switch reviews after two years of doing this is something I wouldn't have thought would be possible. The widespread acceptance of my reviews and data I've generated thus far, as well, is only icing on the cake. In a very similar fashion to when I obtained the new camera setup or digital calipers for switch measurements, I can only hope that the content I can generate with this force curve machine will live up to the expectations people will have of it. And I hope, in turn, that this will continue to help the community at large with respect to navigating an ever complexifying world of switches.



Figure 3: While most of you already know of Drop, I still want to highly encourage you all to go pay them some love through the link in the photo above for their support of the reviews here!

Switch Background

The Novelkeys Cream Arc switches are the latest in a continually expanding line of offerings from Novelkeys under the 'Cream' family of switches, which is known primarily for their entirely POM-based housing designs. While I have previously covered the history of the Cream family of switches in both my Novelkeys Tactile Cream and Novelkeys Cream switch reviews, the Cream Arcs are notably different from these offerings by a rather distinctive feature and thus warrant a review here. The most prominent, and arguably under-advertised selling point of these switches is that of their highly weighted conical spring design. Clocking in at 120g. of bottoming out force, the Cream Arcs heavier than most other modern switch offerings with rare exception, and do so with a physically polar spring design that is only recently starting to pop up in the modern, MX-style footprint.

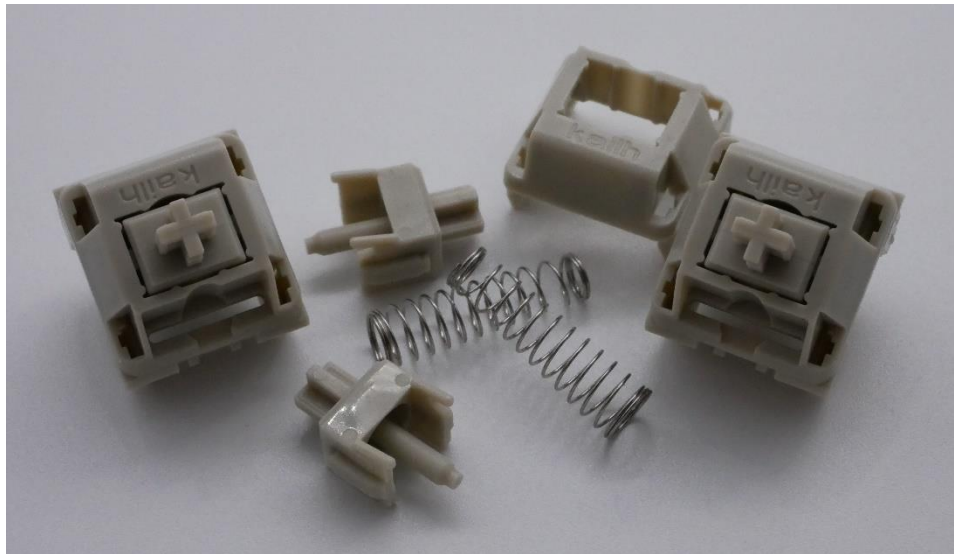


Figure 4: Novelkeys Cream Arcs and their various components. Note the conical spring design as can be seen front and center.

Over the course of the past half year of switch releases, conically shaped springs have begun to pick up traction through a couple of manufacturers and are seemingly poised to perhaps be the next 'thing' in switch releases. Much like the swathes of time in which 'hyper-tactile' or 'long-stemmed' switches dominated releases for months at a time, I have a suspicion that conical springs may take off in a similar fashion given that they offer a relatively unique design feature most modern hobbyists are not familiar with. Aside adding a sort of slow or complex feeling to the stock spring, in which the force of the switch increases at an increasingly non-linear rate the closer to bottom out one gets, the physical difference in gauge of the spring coils at either end of the spring makes for a 'polar' orientability of the spring. As a result of this physical polarity in the design, re-orientation of the springs in either the 'funnel' or 'pyramid' configurations actually provides two drastically different feelings to the switch with a simple flip of a spring. While this magical variability with stock components is perhaps slightly tampered by the recent release of the 3-in-1 design of Zeal's Clickiez switches, the ability to rather easily modify a stock switch into two markedly different feelings is something still rather new and exciting in keyboards. Additionally, this 'polarizability' in spring feeling depending on orientation is something that was promised and not really delivered on in the multi-stage springs popularized by Durock/JWK and Tecsee in 2020 and 2021.

That is not to say, however, that the recent rise in conical springs among modern, MX-style switches is the first time which conical springs have been present in mechanical keyboard design. In fact, Topre users will gladly be the first to comment on this review on its various locations where its posted

telling me all about how their plastic sheet boards use fancy conical springs and have used them for decades on end. Further verifying their claims and fueling that rubber dome laden fire, they'll be sure to share with all of us their 1997 Happy Hacking Keyboard which looks like its been yellowed by a pack-a-day smoker and has a weeb sticker slapped on the back to hide the hole they cut out of it with a jigsaw to put in a bluetooth battery. Oh look at that, I've burned nearly a paragraph of text dunking on the people who are mad at me for not reviewing Topre on this website yet. Let me hang it out there for just one more sentence. And I'll close this paragraph by pointing out, however, that conical spring designs have actually been seen here or there in various vintage designs, with the most personally interesting design being that of the 'Oki Tactile Gourd' switches.

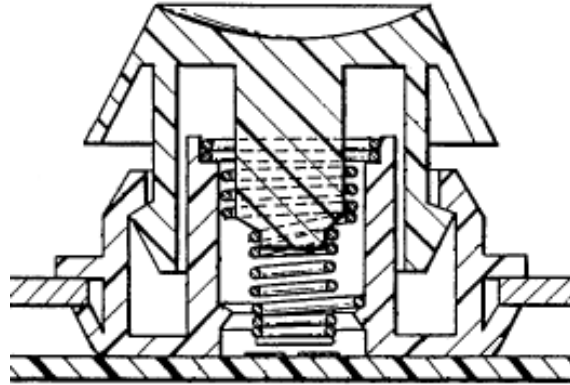


Figure 5: Oki Tactile Gourd switch cross-section as found on its respective Deskthority article.

Present in a few keyboards manufactured by Oki Electric in the mid to late 1980's, the Gourd 'switches' feature a funnel down style spring which when pressed would buckle in a similar fashion to IBM's famous buckling spring design. In addition to the strikingly conical nature of the springs, though, what makes the Oki Gourds further fascinating is that they have a relatively odd shape, bowing out noticeably toward the thinner end of the springs in what I can only assume people would refer to as a "gourd-like" shape. While I don't have any of the Oki Gourd springs nor Oki Electric boards in my collection, I couldn't help but point out the relatively old nature of the conical spring design with a slight ulterior motive in encouraging further spring shenanigans from modern manufacturers.



Figure 6: Deskthority image of Oki Gourd springs showing their unique, gourd-like shape.

Moving back to the more modern era of switches, however, its worth stressing that the Novelkeys Cream Arcs are most certainly *not* the first switches as of late to feature these conical springs. Currently, it appears as if two manufacturers – Kailh and Durock/JWK – are the only ones which offer the conical spring designs and have done so in a very narrow range of recently released switches. As previously covered in a previous full length review of mine, the Kailh Christmas Tree and Santa Hat switches were the first Kailh switches to feature the conical springs in their design and are the only other ones as such from Kailh to do so at the time of writing this review. For Durock/JWK, a string of recent releases designed by vendor QwertyQop have featured relatively unique design choices including that of the Quartz V2's conical springs. As will be shown a bit later on in the review, various design aspects of these springs radically differ from reach other and will likely continue to evolve in future releases from both companies.

Currently stocked solely on Novelkeys' storefront as of the time of writing this review, the Cream Arcs are available in a very similar fashion to all other non-Box Cream switches that they've previously released. Stocked in boxes of 36 at a price of \$23.40 per box, or \$0.65 per switch, they appear to be planned to be stocked for the foreseeable future. Sitting at 75g. of actuation force and 120g. of bottoming out force, they are by far the heaviest weighted of the Cream family of switches, followed by that of the Cream Tactile, standard Creams, Launch Creams, and then Box Creams in descending order of spring weightings. While the name of the Cream Arcs is slightly more abstract than that of the other aforementioned Cream switches still currently for sale, it has been posited by a user named Deadeye on the KeebTalk forums that the 'Arc' name is derived from the arc-like shape the that force curve has.

Novelkeys Cream Arc Switch Performance

Appearance

At the highest level, the Novelkeys Cream Arc switches appear monotonal in colorway with an off-grey color scheme similar in design to that of the more common, monotone-colored Cream family switches. Slightly darker than the original Cream switches yet significantly lighter than that of the darker gray Tactile Creams, another interesting differentiating factor between these and standard Cream switches is that of the 'Kailh' nameplate. In both the Cream Arcs as well as more recent variations on Creams such as the Launch Edition and Tactile Creams, there appears to have been a 'silent update' in which the Kailh nameplate on the top housings now appears in a larger font size than was used on the first batches of Novelkeys Creams. While there have been a small number of community reports that the 'newer', larger nameplate housings have noticeably different tolerances to certain stems with respect to frankenswitching than older Novelkeys Cream switches, I have yet to personally note this in my own testing.

Moving first to the top housings of the Novelkeys Cream Arc switches, they are relatively mundane and feature no interesting surprises relative to that of other Cream switches covered in prior reviews. Externally, the aforementioned larger font Kailh nameplate faces inward toward the central hole slot where the stem resides. The LED slot is long, thin, and rectangular in shape and features a centered circular cutout to better cradle through-hole LEDs. Internally, the Cream Arcs appear nearly identical in design to that noted in my Tactile

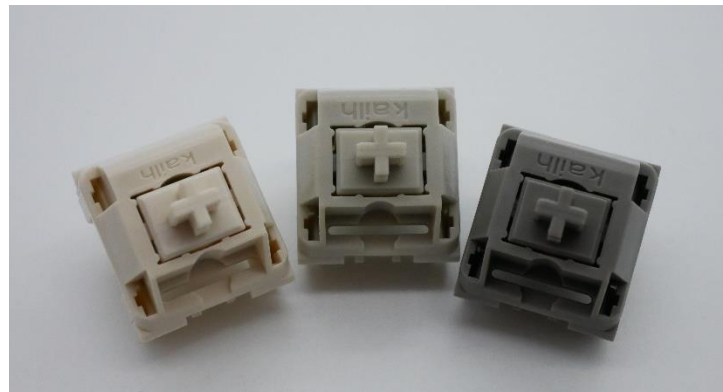


Figure 7: Monotonal Cream family switches including original Novelkeys Cream (Left), Cream Arc (Middle), and Tactile Cream (Right).

Cream switch review. Details noted in the previously photographs as well as below in Figures 8-10 include that of a wide, LED-slot adjacent raised bar, a relatively sunken in nameplate region with oddly blocked off corners, as well as an upper right-hand side mold marking near that of the housing attachment pin. Unlike that of the Tactile Cream switches, which featured a single number mold marking in a N-S orientation, the switch referenced below has a single capital letter mold marking which appears at an angle to the N/S axis. It is unknown if this difference in mold marking is indicative of molds specifically used for the Cream Arcs and Tactile Creams or for many Cream-family switches at large.

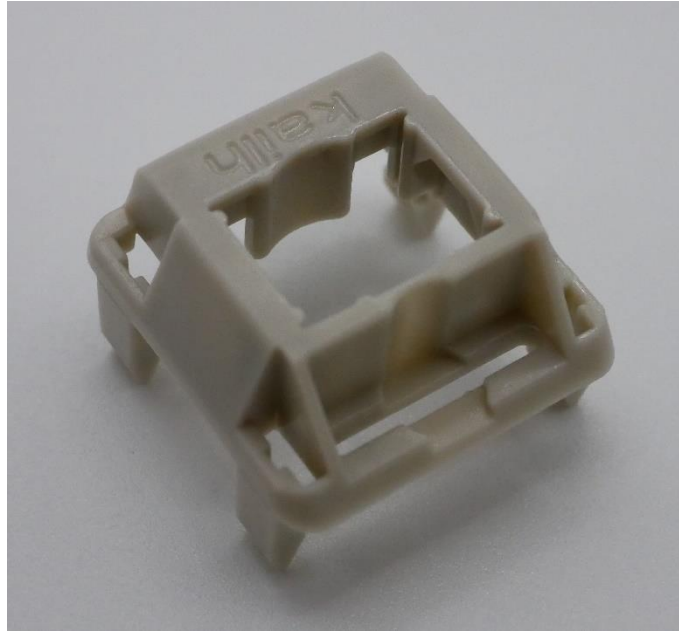


Figure 8: Novelkeys Cream Arc top housing external design showing large, inverted 'kailh' nameplate and large, rectangular LED slot.

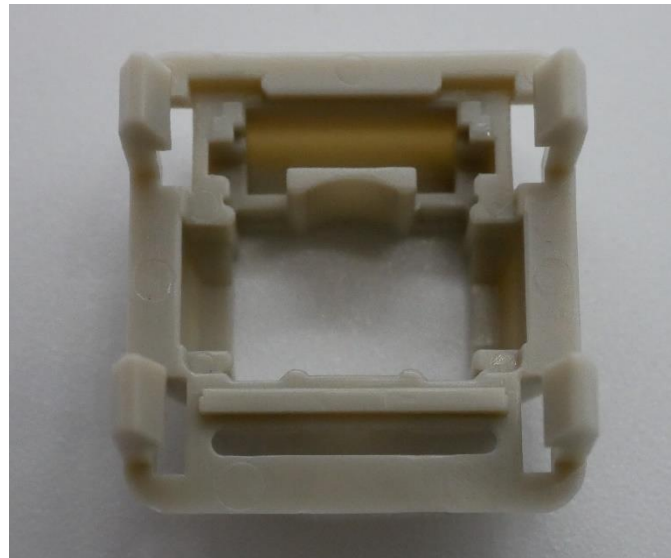


Figure 9: Novelkeys Cream Arc top housing internal design showing similarity in feature shape and location to that of the Novelkeys Tactile Cream switch top housings.

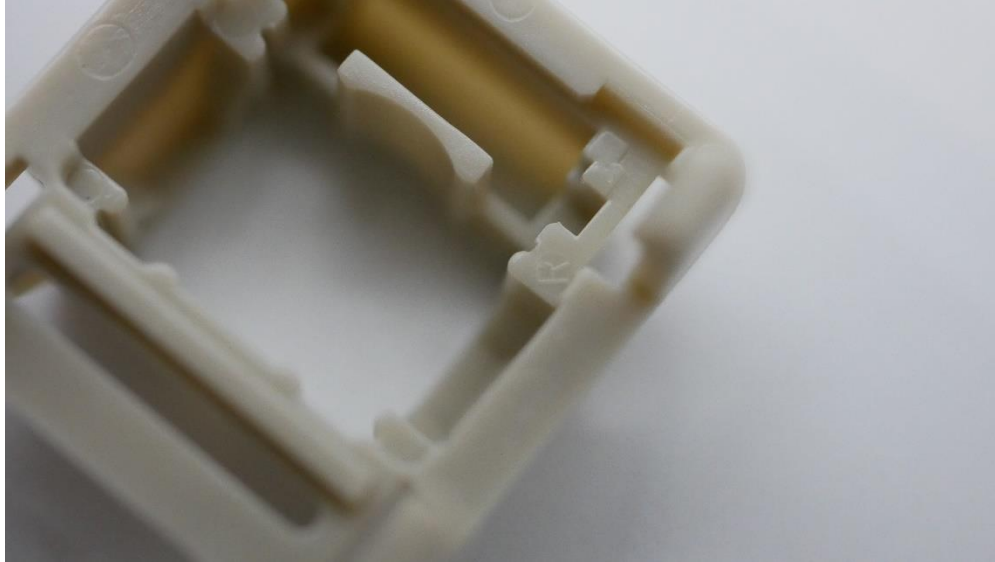


Figure 10: Novelkeys Cream Arc top housing single letter, angled mold marking next to the upper right hand bottom housing attachment pin.

Going next to the stems of the Cream Arc switches, they too are fairly mundane and similar in many design features to that of the Tactile Creams. The stems feature a pair of small, circular mold ejector marks directly above that of their linear legs, a pair of moderately tapered slider rails, and a rather pronounced stepped central pole. Additionally, while I could find no literature supporting these switches either coming or not coming with factory lubrication, I do suspect that they have the tiniest amount of factory lubrication on the slider rails which does not greatly impact its feeling once removed. While this is unable to be seen by the eye upon inspecting the switch, there is most certainly a feeling of thin lubrication that wears off onto the hands when touching the slider rails that I noticed.

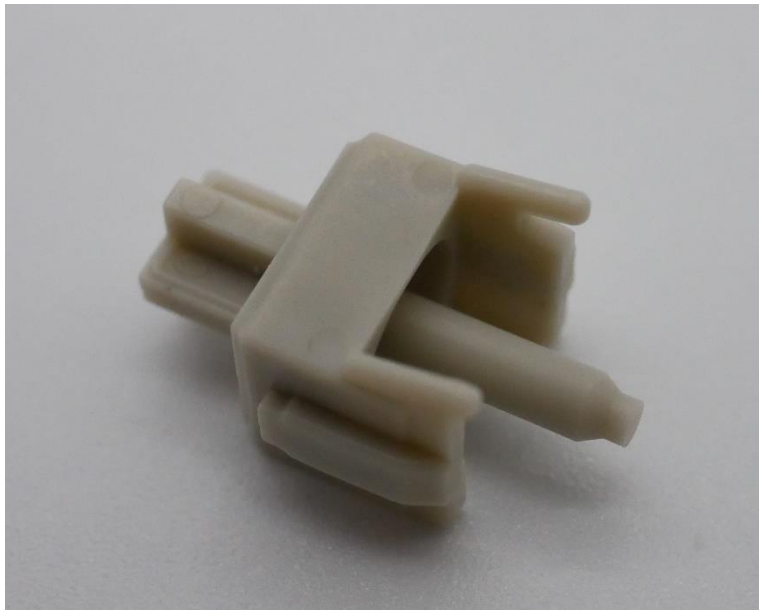


Figure 11: Front side of Novelkeys Cream Arc stems showing faint ejector circles, tapered slider rails, and tiered central pole.

Stopping by the main attraction of the design of these switches in their springs, it's well worth noting that these are rather notably different than the other few switches which boast a similar conical spring design. Coming in at a total length of around 16.5 mm, which isn't too long relative to that of other springs which have been used in modern, MX-style switches, these springs feature a rather noticeable polarity in the gauge of the spring coils at either end. In stock position, the silver-colored springs are present in the 'pyramid' configuration in which the smaller gauge end (~ 3.69 mm in diameter) is located above that of the larger gauge end (~ 4.47 mm in diameter). Comparatively, the Cream Arc springs are much more tightly coiled than both the Christmas Tree and Quartz V2 springs. While being similar in length and color to the Quartz V2 switches, the Cream Arcs are much more noticeably polar and similar in general shape to that of the Christmas Tree springs. A slight comparison of these features may be found below in Figure 13.

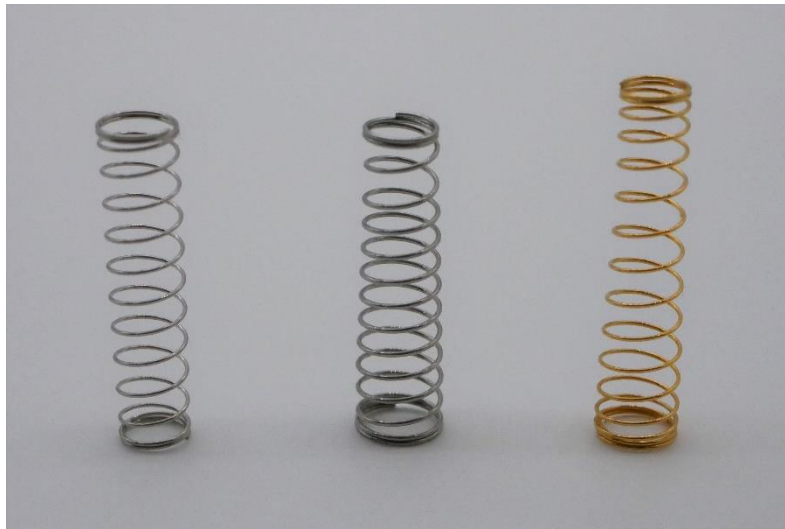


Figure 12: Visual conical spring comparison between the Quartz V2 (Left), Novelkeys Cream Arc (Middle), and Kaih Christmas Tree (Right).

<i>Polar Spring Comparison</i>		
	Component	mm.
Quartz V2	Total Length	17.23
	Small Gauge Diameter	3.60
	Large Gauge Diameter	4.01
	Appx. Number of Threads	11
Novelkeys Cream Arc	Total Length	16.50
	Small Gauge Diameter	3.69
	Large Gauge Diameter	4.47
	Appx. Number of Threads	11
Kaih Christmas Tree	Total Length	18.50
	Small Gauge Diameter	3.43
	Large Gauge Diameter	4.27
	Appx. Number of Threads	12

Figure 13: Chart demonstrating measurement-based differences between different conical springs.

Finally arriving to the bottom housings of the Novelkeys Cream Arc switches, these yet again appear nearly identical to that of the designs of the Tactile Cream bottom housings. Internally, there are still a few details worth noting, though. The first few are that of a relatively unadorned internal bottom to the bottom housing as well as slightly raised ridges along the central pole hole diameter and at the bottoming out of the slider rails. As well, there are slight ribbings inside that of the central pole hole, as has been noted in many recent switch releases manufactured by Kailh. Externally, the bottom housings are five-pin in design with a similar sideways mold marking located underneath the PCB mount pin and adjacent to the large LED receiving region. The sole differentiating factor here between these bottom housings and those of the Tactile Creams are that there only appears to be a single, capital letter mold marking underneath the right-hand side PCB mount pin in the Novelkeys Cream Arc switches. Contrastingly, the Tactile Cream switches featured the single, capital letter mold marking on the bottom right-hand side in addition to a single number mold marking on the bottom left-hand side.

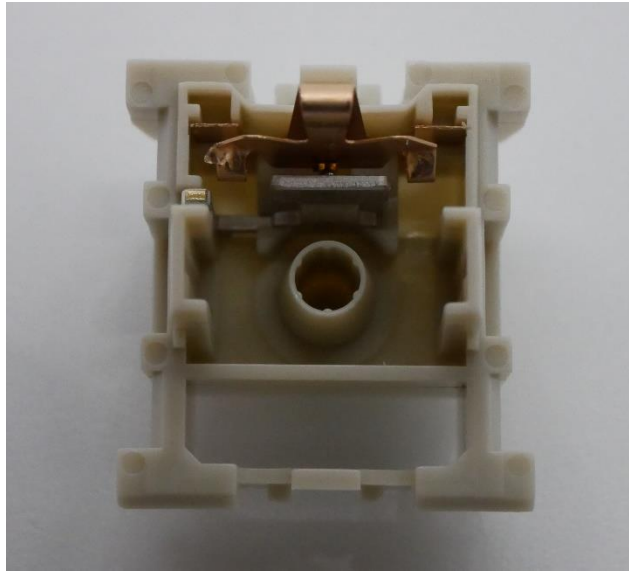


Figure 14: Novelkeys Cream Arc bottom housing internal design showing ribbed central pole region as well as the slight ridge around the central hole and slider rail bottoms.

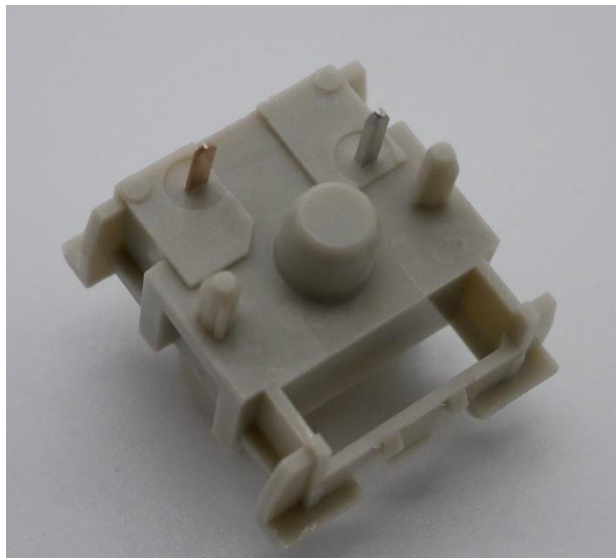


Figure 15: Novelkeys Cream Arc bottom housing external design showing PCB mount pins as well as single letter, bottom right-hand side mold marking.

Push Feel

Note – A not so small part of my rationale for wanting to review the Novelkeys Cream Arcs this week was *because* of the new force curve machine. All force curves collected will not necessarily be included in this section but may be found in the Measurement section, below.

Regarding the push feeling of the Novelkeys Cream Arcs, these heavily weighted linear switches are not all that far outside of the realm of expectations one might have for them coming from the Cream family of switches. Due most likely to the POM housings of the Cream Arcs, there's a small amount of scratch that is very minute in grain and even throughout the stroke of the switch. This scratchiness is also consistent across the entire batch of switches which I've received. Without making a formal comparison between any of the various Cream linears and the Cream Arcs, I would say that that these new Cream Arcs definitely feel less scratchy in stock form than the other variants, but not altogether perfectly smooth. The topping and bottoming out are also diametrically opposed from one another with the heavy bottoming out feeling completely muted and almost absent due to the heavy springs and the topping out being a bit thin and flat feeling.

With respect to the springs in the Novelkeys Cream Arcs, though, the complex nature of the springs is only particularly noticeable when approaching the very end of the bottoming out in the final few fractions of a millimeter of stem travel. While there is a rather consistent acceleration in force as one pushes down on the stems, it doesn't particularly stand out as drastically increasing or really all that different than other linear switches with non-polar complex springs. As one can see below in Figure 16, the force curve of the Cream Arcs shows a starting force of around 60 gf. that accelerates rather steadily up to approximately 122.5 gf at peak around 3.850 mm in travel distance, supporting my statements above regarding their push feeling.

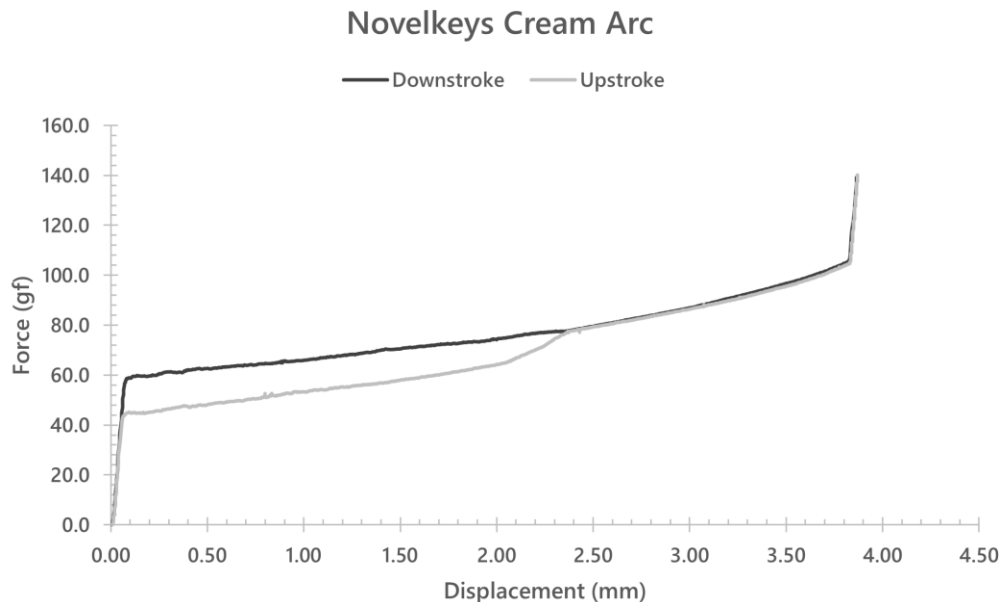


Figure 16: Complete Novelkeys Cream Arc force curve.

Upon inverting the springs of the Novelkeys Cream Arcs, the overall push feeling of the switch is rather drastically changed. While there is still the same scratch that is prevalent throughout the stroke, the overall switch weight feels as if it increases *drastically* to an ultra-heavy linear switch and especially out of the gate at the start of the downstroke. As one moves through the downstroke, the force acceleration is

similar to that as was felt in the normal configuration, though much more noticeable due to the switch feeling significantly heavier. Additionally, while the bottoming out remained more or less the same due to the immense force placed upon in both cases, the topping out of the inverted spring case (funnel configuration) definitely took on a slightly heavier, more sharpened feeling than the stock case. Support for all of these claims can especially be seen below in the 'butterfly style' force curve below in Figure 17.

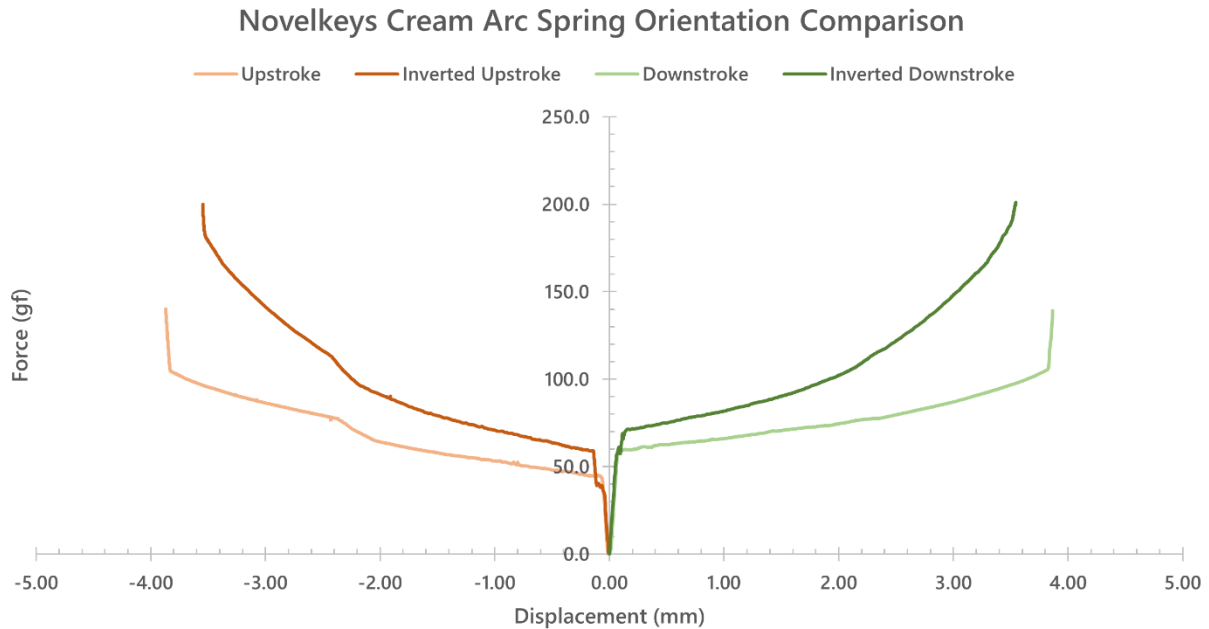


Figure 17: Novelkeys Cream Arc butterfly-style force curve diagram comparing normal and inverted spring orientations.

For those of you unfamiliar with what a 'butterfly style' force curve graph is, or what it looks like, I want to start by pointing out that this was first introduced rather recently in my Gateron Holy Panda X Switch Review. First introduced by Drop as an alternative way to compare two different switches together, I saw the particular value in this type of force curve as it spreads out the data and more readily allows people to compare magnitudes of force not only between multiple switches but also between upstrokes and downstrokes without them cramming together and overlapping in one space. Regarding this specific graph, note that the left-hand side in orange corresponds to the upstroke of the switch whereas the right-hand side in green corresponds to the downstrokes of the switches. The darker colors (top on both sides) correspond to the inverted spring/funnel orientation whereas the lighter colors (bottom on both sides) correspond to the stock Novelkeys Cream Arc switches. As can be clearly seen, there is a rather substantial increase in force at all points throughout the stroke when the spring is inverted into the funnel configuration providing a force that quite literally maxed out my instrument at 200.5 gf still 0.5 mm away from the end of the downstroke. Rather interestingly, this proves rather definitively that spring orientation in physically polar, conical springs in fact *does* have an impact on the push feel and weighting of the switch.

Sound

The stock sound of the Novelkeys Cream Arcs, as is tradition for reviews on this website, is pretty damn similar to that which was described above in the ‘Push Feel’ section. While the topping and bottoming out are almost spot on comparable between the two, its worth noting that the scratch sound is marginally more present in sound than it is in push feeling, something which is normally indicative of being easy to fix with aftermarket lubrication, in my experience. As well, in some of the switches there is a subtle spring ping which is present that overall increases in volume with activation speed but is not an overwhelming aspect with respect to the sound of the switch. It’s worth noting that in the inverted, funnel-like spring orientation the sound is fairly similar though the topping out is slightly louder in overall tone and takes on a slightly more full-bodied sound than that of the stock, pyramid-like orientation.

Wobble

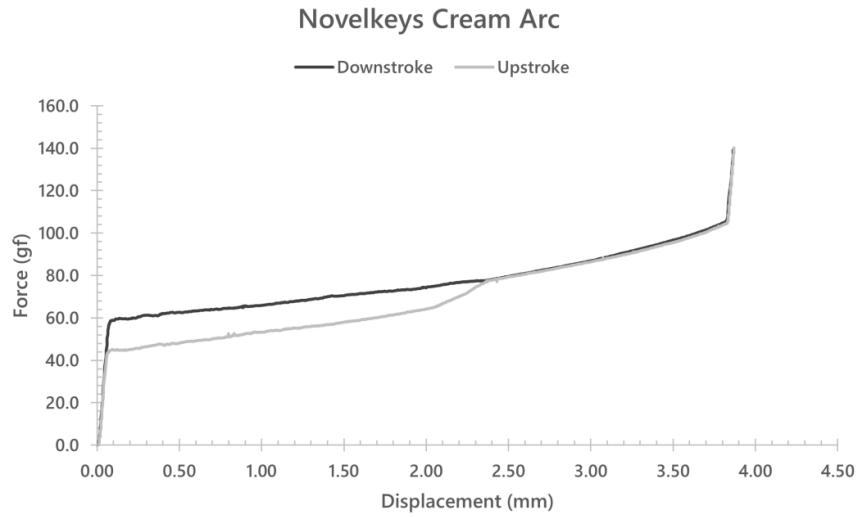
With respect to the stem wobble of the Novelkeys Cream Arc switches, I definitely think that Novelkeys and Kailh have substantially improved upon this metric as compared to previous Cream family releases. While there is still *some* N/S and E/W stem wobble, with the N/S being significantly more noticeable, its starting to get to a point where its nearly unproblematic. I’d venture to guess the majority of users of these switches likely won’t be bothered by it, with those who are bothered by such likely being more sensitive to stem wobble and/or compounding that issue with taller profile keycap builds. There was no top housing wobble among any of the switches that I received in my batch.

Measurements

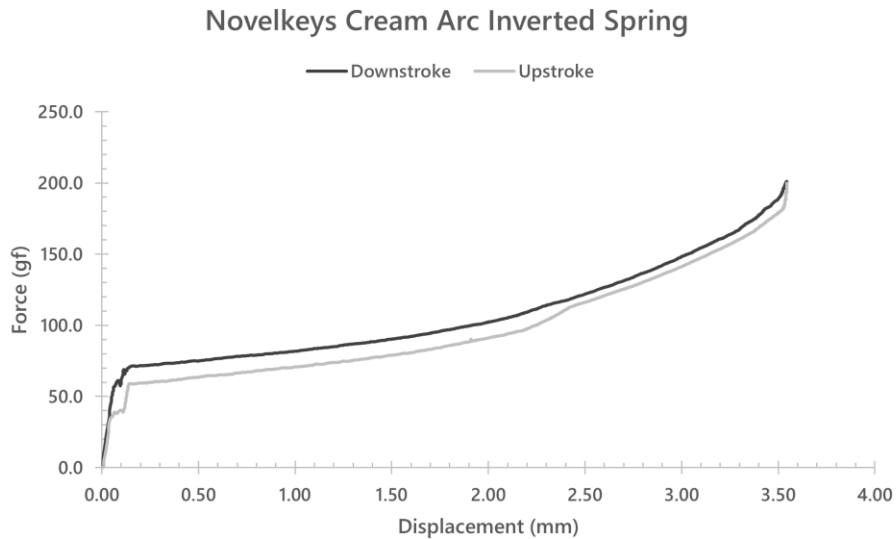
Novelkeys Cream Arc Measurements			
	Component	Denotation	mm.
Stem	Front/Back Plate Length	A	7.13
	Stem Width	B	5.54
	Stem Length with Rails	C	8.55
	Rail Width	D	1.94
	Center Pole Width	E	1.85
	Rail Height	F	5.16
	Total Stem Height	G	13.32
Bottom Housing	Diagonal Between Rails	L	9.44
	Interior Length Across	M	9.49
	Rail Width	N	2.60
	Center Hole Diameter	O	2.31
Top Housing	Horizontal Stem Gap	X	7.77
	Vertical Stem Gap	Y	6.11
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.



Novelkeys Cream Arc	
<i>Switch Type: Linear</i>	<i>Kailh</i>
Total Stem Travel	3.850 mm
Peak Force	122.5 gf
Bottom Out Force	122.5 gf
# of Upstroke Points	1003
# of Downstroke Points	1031



NK Cream Arc Inverted Spring	
<i>Switch Type: Linear</i>	<i>Kailh</i>
Total Stem Travel	3.545 mm
Peak Force	200.5 gf
Bottom Out Force	200.5 gf
# of Upstroke Points	984
# of Downstroke Points	1020

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 Arc - 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, I was honestly surprised with just how substantial the overall improvement to the stock smoothness in both push feeling and sound was. While the scratch was by no means eliminated altogether, this shows that even an hour of breaking in can make a decently noticeable difference in the performance of the Novelkeys Cream Arcs.
- In addition to improvements in the stock sound with respect to scratch, there was a reduction in the volume and sharpness of spring ping in the switches that were broken in compared to their stock form.

34,000 Actuations

- The notes with respect to reductions in scratch as well as spring ping volume hold for 34,000 actuations in the same fashion as the switches that were broken in for 17,000 switches. Comparing the two different break in periods against each other, there wasn't *that* much difference between them on these points, either.
- The one notable difference that becomes evident at 34,000 actuations is that the stem wobble begins to increase and especially so in the E/W direction. This is a trend which has been prior noted in many other reviews which I've utilized the break-in machine.

51,000 Actuations

- At 51,000 actuations, the sound of the Novelkeys Cream Arcs doesn't necessarily improve distinctly with any specific metric, but it overall sounds more firm, full bodied, and less plasticky. It's a rather subtle shift, and I think that the increase in depth at this many actuations may be really hard to notice in switches that are modified and then used in builds for long periods of time.
- In a similar fashion to the 34,000 actuation switches, there's a continual increase in stem wobble with the N/S and E/W directions becoming significantly more similar to each other and greater in magnitude relative to that of their stock form.

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 Novelkeys Cream Arcs side by side.

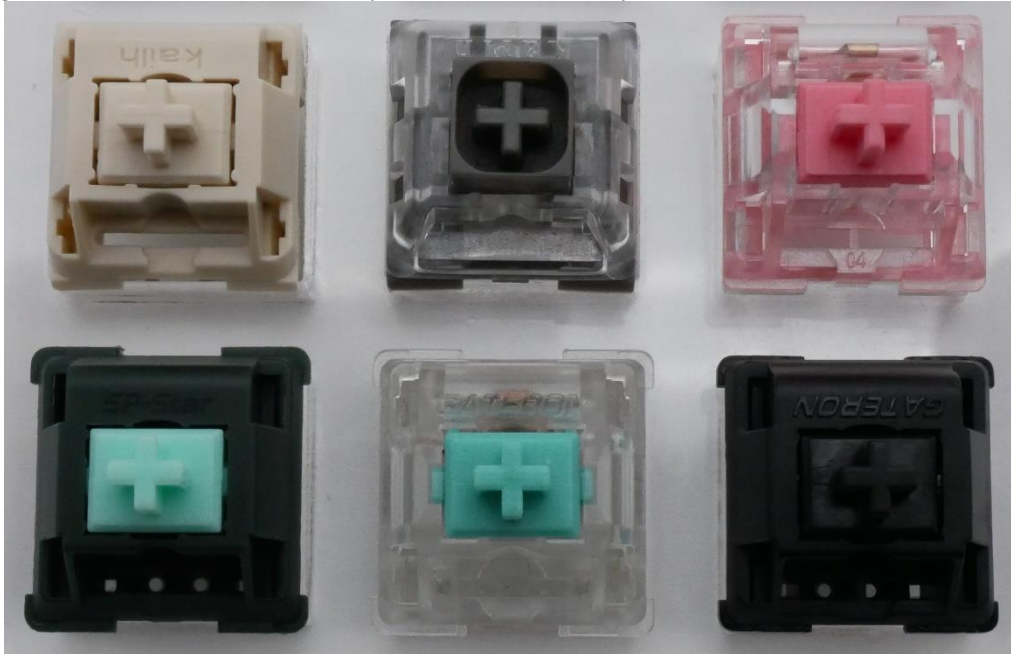


Figure 24: Switches for comparison. (L-R, Top-Bot: Novelkeys Cream, Kailh Box Ancient Grey, KTT Strawberry, SP Star Sacramento, Tealio V2, Gateron Oil King)

Novelkeys Cream

- While the weight difference between the Novelkeys Cream Arcs and the original Creams most certainly does make the Cream Arcs *feel* more substantial and less thin and plasticky, the Cream Arcs actually have substantially less scratch throughout the stroke as well.
- Similar in volume to each other, the topping out of the Cream Arcs is much more deep and closed to mid pitched than the comparatively thin, sharp topping out of the original Cream switches.
- Even though the Novelkeys Cream Arcs still have some stem wobble, there is noticeably less stem wobble in both N/S and E/W directions in the Cream Arcs when comparing them to the original Creams.

Kailh China Box Ancient Grey

- The Box Ancient Grey switches are overall quieter and slightly deeper sounding than that of the Cream Arc switches. That being said, though, there is a larger amount of that quieter sound that is occupied by scratch than in the Cream Arcs.
- Interestingly enough, the bottoming out of the Box Ancient Greys feels slightly heavier than that of the Cream Arcs, though I suspect this is more likely than not a function of the difference in internal design between the two switches.
- The Box Ancient Greys, like the rest of the Kailh China Box series, have a small amount of factory lubrication that rather substantially improves the smoothness as compared to the Cream Arcs.

KTT Strawberry

- Relatively similar in overall volume at moderate actuation speeds, the Cream Arcs are noticeably louder than the KTT Strawberries at both lower and higher actuation speeds. This is certainly an interesting testing notes and something that I don't recall having mentioned before in a prior review.
- Without much surprise to those who have tried them, the KTT Strawberries are significantly better than the Novelkeys Cream Arcs in terms of the stem wobble in both directions.
- With a skillful application of factory lubrication and some time breaking in, I sincerely believe that the Novelkeys Cream Arcs could become comparable to the KTT Strawberries in terms of the push feel and smoothness. That being said, though, that's a heavily modified Cream Arc versus that of a stock KTT Strawberry.

SP Star Sacramento

- In terms of overall sound, the SP Star Sacramentos are slightly higher pitched and more rattley sounding than that of the comparably deeper, scratch forward sound of the Novelkeys Cream Arcs.
- In terms of stem wobble in both directions, the Novelkeys Cream Arcs are fairly close, if not slightly better than the SP Star Sacramentos.
- Surprisingly, with the exception of the final few tenths of a millimeter in the downstroke and bottoming out of the Novelkeys Cream Arcs, these two switches feel relatively similarly weighted and scratchy. I suspect people a fan of the SP Star Sacramentos might like the Cream Arcs if they're willing to put in a minor amount of modification work.

Tealio V2

- Similar to the Novelkeys Cream Arcs in terms of overall volume, the Tealios occupy a completely different sound profile in all other respects. Whereas the Tealio V2s are thin, high pitched, and sharp sounding, the Novelkeys Cream Arcs are comparatively much deeper with a scratch forward sound and much more solid housing collisions.
- The Tealio V2s are slightly better than that of the Novelkeys Cream Arcs in terms of stem wobble, and especially with respect to the wobble in the N/S directions.
- The subtlety in the spring ping of the Tealio V2 switches, which gets more noticeable at higher activation speeds, is pretty similar to that of the Novelkeys Cream Arc switches.

Gateron Oil King

- The topping out feeling and sound of the Gateron Oil Kings is the most similar to the Novelkeys Cream Arcs out of any of the switches on this list.
- Without much surprise to those who have either tried the Gateron Oil Kings and/or have seen my review of them, the factory lubrication of the Oil Kings makes for a distinctively smoother, frictionless feeling when compared next to that of the Novelkeys Cream Arcs.
- The stem wobble on the Gateron Oil Kings, in both N/S and E/W directions is better than that of the Novelkeys Cream Arcs by a tiny yet not insignificant amount.

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 Arc		
<i>Switch Type: Linear</i>		<i>Kailh</i>
28	/35	Push Feel
18	/25	Wobble
5	/10	Sound
12	/20	Context
6	/10	Other
69	/100	Total

Push Feel

While by no means the smoothest linear switch out there to buy, the Novelkeys Cream Arcs are definitely one of the smoother Cream-family switches to have been released. Given a fairly heavy, complex, and conical spring, they have a rather consistent increasing force throughout the stroke that leads to a rather strongly padded feeling bottom out that is a nice feature relative to many linear switches currently on the market.

Wobble

Again, much like with noted in the 'Push Feel' section above, there is still some noticeable wobble in the N/S and E/W directions with emphasis more so on the N/S direction. That being said, it is still a marked improvement over that of previous Cream family switch releases.

Sound

The sound of the Novelkeys Cream Arcs is a pretty homogenously mixed bag of good and bad. On the good side, the switches are fairly full bodied and deep sounding, with a void-like bottom out to match it. Contrastingly though, the topping out is a bit thin by comparison and the switches still carry some scratch noise and spring ping that's present at high actuation speeds.

Context

Whereas I railed against the existence of further Cream family switches in releases prior to this, I think the Novelkeys Cream Arcs are a step in the right direction. These firmly cater to a more heavy typing experience while not detracting from what people desire in Creams. Priced decently reasonably and stocked by the largest keyboard vendor, their availability is assumed eternal until shown otherwise.

Other

The implementation of the conical springs in these switches is a subtle yet well appreciated point that benefits not only their stock feel but provides an even heavier typing experience for the daring among them. I am honestly surprised the Cream Arcs haven't caught on more yet.

Statistics

Average Score			Novelkeys Cream Arc		
26.5	/35	Push Feel	28	/35	Push Feel
16.8	/25	Wobble	18	/25	Wobble
5.6	/10	Sound	5	/10	Sound
12.7	/20	Context	12	/20	Context
6.0	/10	Other	6	/10	Other
67.6	/100	Total	69	/100	Total
Cream Arc Overall Rank			T-#74/168 (69/100)		
Cream Arc 'Hard' Rank			T-#56/168 (51/70)		
Cream Arc 'Soft' Rank			T-#91/168 (18/30)		

Final Conclusions

To put it about as bluntly as I think I have any 'Final Conclusions' section ever, I think that the Novelkeys Cream Arcs are painfully average in their delivery for the amount of improvements and interesting design choices that they boast. The Cream Arcs are markedly better on many mold-based design points than previous Cream family offerings with reduced stem wobble as well as a pretty noticeable reduction in stock scratchiness as well. Offering a relatively uncatered-to heavy bottoming out weight, Novelkeys even went as far as to use conical springs that are not only new but allow for easy variability by something as simple as a flip of the spring and no other modifications. For all intents and purposes, while the efforts took here in improving these switches are noted, I can't help but think that these could be *even better* somehow. Perhaps improvements that can be made by individuals after purchasing, such as lubrication, breaking in, etc. will make a substantial difference in their adoption and community recognition, as I've certainly seen the improvements these modifications can have. All in all, I think these switches are under-marketed for the uniqueness and improvements that they do offer and would encourage people to seek them out if they tend to prefer heavier spring weightings and don't mind putting in a tiny bit of elbow grease into getting their builds just that extra step there.

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!**

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!**

Further Reading

Novelkeys' Cream Arc Sales Page

Link: https://novelkeys.com/collections/switches/products/nk_-cream-series?variant=42190993326247

Wayback:

https://web.archive.org/web/20220528004231/https://novelkeys.com/collections/switches/products/nk_-cream-series?variant=42190993326247

Deadeye's Novelkeys Cream Variant Keebtalk Discussion

Link: <https://www.keebtalk.com/t/novelkeys-cream-variants/16956>

Wayback: <https://web.archive.org/web/20220528004302/https://www.keebtalk.com/t/novelkeys-cream-variants/16956>

Oki Tactile Gourd Spring Deskthority Article

Link: https://deskthority.net/wiki/Oki_Tactile_Gourd_Spring

Wayback:

https://web.archive.org/web/20220528004335/https://deskthority.net/wiki/Oki_Tactile_Gourd_Spring