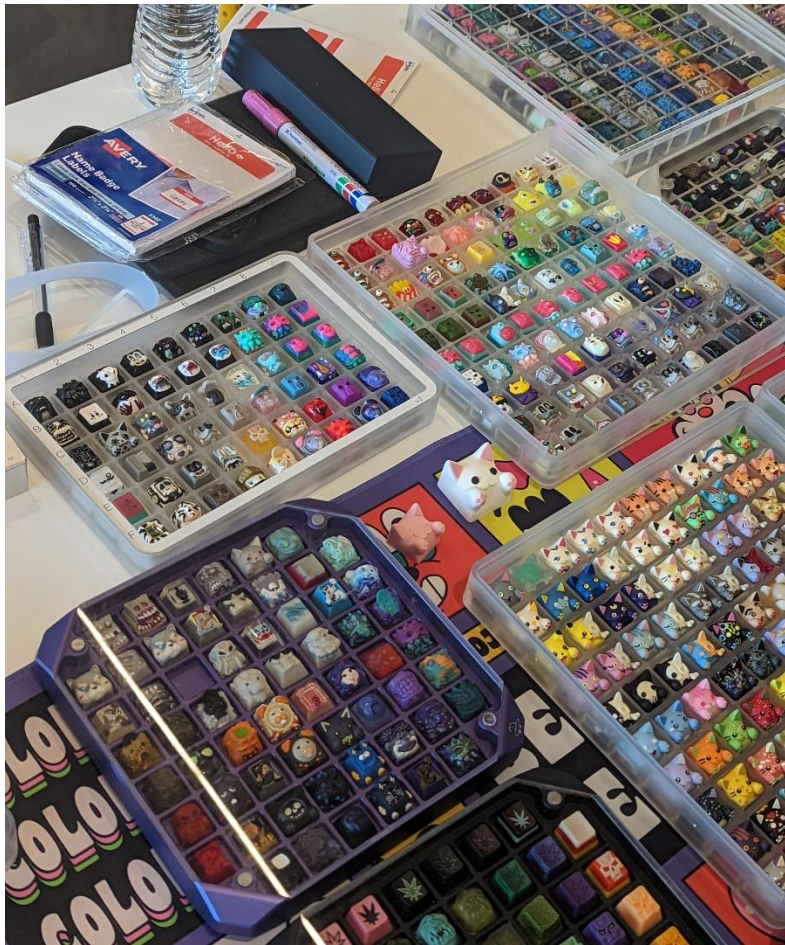


## TKC Blackberry Switch Review

-ThereminGoat, 09/07/2022

I know, I know – coming off of a weekend with no Scorecard Sunday followed by a delayed full-length review is no way to be a content creator. Please feel free to absolutely lambast me and remind me how awful of a reviewer I am for it. While the embargo on this review was a little bit outside of my control given that I am not personally releasing the TKC Blackberry switches, trust me I wouldn't have held off the review for these unless I thought that it was worth it. As well, in the previous few weeks since the last full-length review, I also made a trip to Nashville, Tennessee for the Nashville Mechanical Keyboard Meetup. Just like the meetup in Minnesota last month, it was an absolute blast to get to meet so many people I've only spoken to online and to get to watch so many people try out the switches in my collection. Unlike the Minnesota meetup, though, the concentration of high caliber artisan keycap collections was *significantly* greater. Even though most of you here reading my reviews aren't exactly artisan keycap people, I've gotten quite a bit into the history, lore, and discussions around these keycaps over the course of the past year, and finally coming face to face with some of that history was an incredible opportunity.



**Figure 1:** And trust me, there was a *lot* of history there...

Even though I haven't been the most on top of normal, review-based content over the span of the last two weeks, I'm actually rounding out the end of my summer having met a pretty large goal of my own regarding the Force Curve Repository. Having only picked up the force curve machine a little less than four months ago, I had initially set out with the break-neck pace of having somewhere between 200

and 300 force curves out before I started my semester's classes. Counting today's review into the fold, even though classes did technically start yesterday, I'll have pretty squarely passed over 250 different switches in the scorecard repository with absolute full data transparency and files available for all to view. While I can't promise to necessarily keep up *that* frantic of a pace as classes, my TA spot, and research pick up in the coming months, know that I am really excited about this project and really want to continue putting out as much for it as I can in my free time. For those of you unaware of the Force Curve Repository thus far, check out the link here or under the 'Archive' tab of my website in the upper right-hand corner. (Especially check this out if you love data about switches...)

## Switch Background

In order to start out this review in good faith, I want to make certain that all of you are aware that I was sent these switches by TKC prior to their release and without asking for them. Even though I have been critical of TKC for various things throughout the years, much like I have been with basically every switch-selling company out there, we have historically had a good working relationship and they've supported me many times over with requests for the collection. Needless to say, this review (like all of my other ones) was completed of my own accord with no payment, zero notice to TKC, and with absolutely zero editorial input from them whatsoever. In fact, hello to the TKC staff members who have just now reached this sentence in the review.



**Figure 2:** Sign here on the line that you understand the terms and conditions.

Given the relatively broad and winding history of the TKC Fruit family of switches, I don't think it would be in our best interest to go over the *entire* history of these switches here. In fact, this long and winding history dates back all the way to early 2020 and a lot of things have happened over those two years in keyboards. While I have covered bits and pieces of TKC's recent switch history in previous content such as SP Star Magic Girl and C3 Equalz Tangerine V2 Switch Reviews, I know that a lot of new people have joined the hobby lately and may not have dug through all of my reviews in order to read those specific ones quite yet. As such, I think it is worth it to at least broadly introduce each member of the family of switches and provide some brief historical notes regarding each one.



**Figure 3:** Current TKC Fruit family of switches as of publishing this review, including Tangerines, Kiwis, Dragonfruits, and Blackberries.

### C3 Equalz Tangerine V2



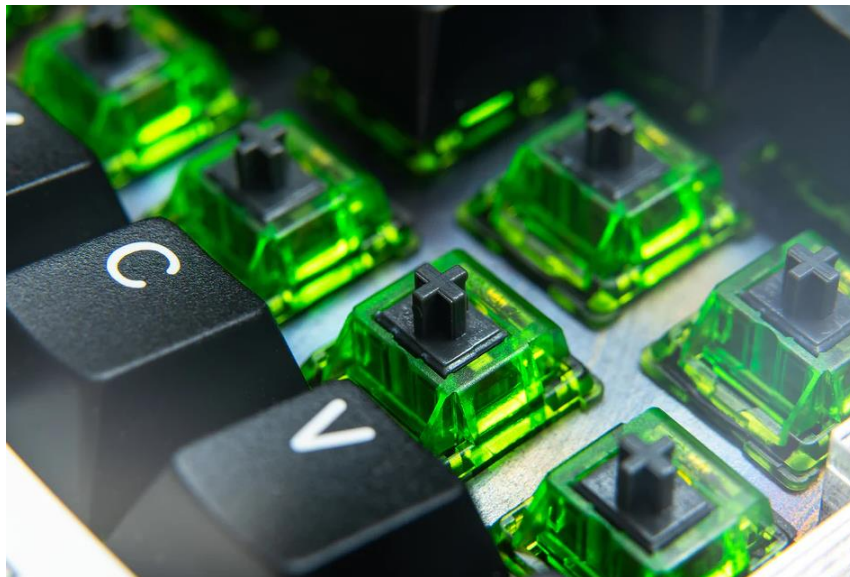
**Figure 4:** TKC marketing photo of the C3 Equalz Tangerine V2 switches in 62g (Light Green) and 67g (Dark Green) variants.

First released in January of 2020, these iconic, translucent orange switches were the brain child of a collaboration between TKC and C3 Equalz to resurrect the classic Gateron Tangerine line of switches. However, rather than continuing with Gateron, they chose to start production with the then relatively new and coming up manufacturer by the name of Durock/JWK. In fact, these switches share the distinction of being some of the earliest custom switches to have been ordered from Durock/JWK as they were being hinted at and discussed about when I originally wrote my Stealios Controversy Document many years ago, though perhaps under a rumored different name.



Coming in 62g and 67g variants with light green and dark green stems, respectively, these switches have arguably been the flagship switches of TKC since their release in 2020. Throughout this time, the community reception for them has been overwhelmingly positive, with many people not only enjoying them in stock form but using them as frankenswitching components in any of the various dozen recipes out there with odd names I can't recall. As well, they continue to constitute one of my most requested switches to 're-review' among other classics such as Gateron Yellows and Everglide Aqua King V3s. Beyond their acclaim and general community acceptance, the only other distinctive historical point worth mentioning is that of their brief, single batch quality control issue between February 16<sup>th</sup> and April 2<sup>nd</sup> of 2021 which prompted the inclusion of lot numbers in the SP Star Magic Girl switches released by TKC, which was previously covered in my SP Star Magic Girl switch review.

### C3 Equalz Kiwi



**Figure 3:** TKC marketing photo of the C3 Equalz Kiwi switches.

Released in late 2020, the second switch to be announced and released from the Fruit family of switches were those of the C3 Equalz Kiwis. Reported to have 67g springs and a 'T1 Stem', these switches were designed with the intent of directly replicating the medium-high tactility that was extremely popular among tactile switches released around this time. Riding the community high surrounding Durock/JWK and the chase for strong tactile feelings, the initial sales of the Kiwi switches went rather well, selling out in a matter of hours, if not minutes. Much like the C3 Equalz Tangerines mentioned above, these switches have remained rather steadfast as an in stock option with TKC with little to no issues save the February-April quality control issue.

Unlike the Tangerines, however, the Kiwis have definitely seen a community-wide decline in usage and fervor over the course of the past few years. While they continue to remain as overall rather popular options as of the time of writing this review, a general shift away from highly tactile switches in recent years to more moderate ones has seen a decrease in both the appeal and releases of switches with tactility like the Kiwis. Additionally, the release of the Dragonfruits in the Fruit family of switches have also somewhat stole the spotlight from Kiwis purely on a recency bias and little else.

### C3 Equalz Dragonfruits



**Figure 4:** TKC marketing photo of the C3 Equalz Dragonfruit switches.

Officially released for sale in January of 2021, the Dragonfruit switches were the third (and until now most recent) of the Fruit family of switches to hit the market. Unlike the first two releases in this family, though, the Dragonfruits carried a significantly greater amount of drama surrounding their pre-release marketing. First announced in July of 2020, the Dragonfruit switches were initially billed as being “Progressive Linears with 70g springs” with the clear intent of standing out amongst the normal linears in Tangerines, tactiles in Kiwis, and clickies marketed with the yet to be released Blackberry switches. Hoping to be released roughly around the same time as the Kiwi switches, delays regarding prototyping and manufacturing of both of the switches as a result of the COVID-19 pandemic saw the Dragonfruit release being pushed off into 2021 as of an announcement made by TKC on September 22<sup>nd</sup>, 2020. Interestingly, though, this was not the only change of plans for the Dragonfruit switches that was made in this announcement.

In addition to the delaying of the release of the Dragonfruit switches, the late September announcement noted a stark change in type of the Dragonfruits from progressive linear to the distinctly different tactile feeling. The publicly stated rationale by TKC for the change away from progressive linears was that “there is no way to ensure the [progressive] spring will be placed in the correct orientation.”, implying that incorrect orientation would lead to a different feeling than the correct one. While this has thus been accepted on face value by the community at large, it is worth noting that symmetric, cylindrical progressive springs do *not* change the force curves of switches as a function of their orientation of the switch. While conical springs do in fact change the force curve and feeling of a switch, as I first noted in my Novelkeys Cream Arc Switch Review, this assertion regarding normal progressive springs has yet to be thoroughly discussed to my knowledge.

Slight differences in intent and execution aside, the Dragonfruit switches have outwardly appeared to be a successful switch release though not to the same degree as Tangerines and Kiwis. This is surely due in some part to the fact that their time of release happened to coincide with some of the highest concentrations of new switch released on a monthly basis ever at that point in the hobby. However, their slightly lighter tactility than that of the Kiwis in a timeframe in which the community was shifting slowly

away from heavy tactility offerings certainly helped their broad appeal. As well, their rather striking reddish-pink translucent housings certainly made them a standout option on pure shelf appeal, alone.

### TKC Blackberries



**Figure 5:** TKC marketing photo of the TKC Blackberries made by Tecsee.

Unlike the previous Fruit family switches to be released since their initial announcement in 2020, the Blackberries have quite obviously seen a significantly longer marketing to production pipeline. While this was already somewhat assumed in their initial announcement due to the fact that the Aristotle-like click mechanism has only ever been reproduced in a modern setting once by Gazzew with his since shelved Phoenix stems, the release of the Blackberries over two years later took a lot of time. However, after having spoke with TKC regarding this delay in time, I can say that it certainly wasn't for the wrong reasons. Completely disregarding obvious issues with respect to the COVID pandemic that happened squarely within this development timeframe, TKC had originally wanted to “develop Blackberries with our partners at C3 Equalz and have them manufactured by JWK.” However, after some unstated length of time, the fact that the Blackberry slider mechanism wasn't a priority for C3 Equalz and/or JWK led to TKC reaching out to Tecsee to develop the mechanism for these switches. Much more subtly, this is the reason that the Blackberries are *not* referred to as C3 Equalz Blackberries like the other previous Fruit family releases.

In the shift to Tecsee as the manufacturer of the Blackberry switches, the already relatively prolonged release date of the Blackberry switches only further stretched into the future. The first reason for this, at the most basic level, was that Tecsee had never released a clicky switch at any point prior to TKC approaching them. Additionally, given that the Tangerines and Kiwis were produced by Durock/JWK and not Tecsee, significant time was put in by all parties involved to attempt to replicate the housing material blend used in the Kiwis and Tangerines. According to TKC, while they do not have publicly disclosable documentation regarding the housing formulations, “Tecsee was able to closely match the blend used in the Kiwis and Tangerines...”. A third and final point introducing further complexity into the design and release of these switches is that they also necessitated assembly line equipment that was different from those used in other Tecsee releases. This prompted further time and monetary investment by TKC which ultimately resulted in Blackberry switches in which TKC “...holds exclusive rights to the molds for both pieces of the clicky stem as well as the tooling that assembles it on the line...”

Finally released on September 7<sup>th</sup> of 2022, the TKC Blackberry switches were initially offered in packs of 10, 70, 90, and 110 at a price of approximately \$0.64 per switch. With the exception of the 10 switch ‘sample packs’, orders of 70, 90, and 110 came packaged in hard plastic switch containers with a pre-attached TKC Blackberry sticker in a notable upgrade from the softer plastic containers used previously in the Kiwi and Tangerine releases. Coming with a 68g bottoming out spring, the UHMWPE housing clicky switches were marketed as coming prelubed from the factory with an Aristotle-like click mechanism. While no explicit statements were made by TKC regarding the planned longevity of the Blackberry switches, it is assumed that they will eternally occupy an in-stock slot like all other previous Fruit family switches.



**Figure 6:** TKC Blackberry switch photo with packaging.

## **Blackberry Switch Performance**

*Note:* For comparisons made with the only other Aristotle-mechanism clone in the Gazzew Phoenix stems, photos utilized come from u/basecase01’s post on Reddit here. Aside the high-quality nature of these photos being excellent for demonstration already, I simply don’t have any spares of the Phoenix stems to adequately photograph with the Blackberries side by side.

### Appearance

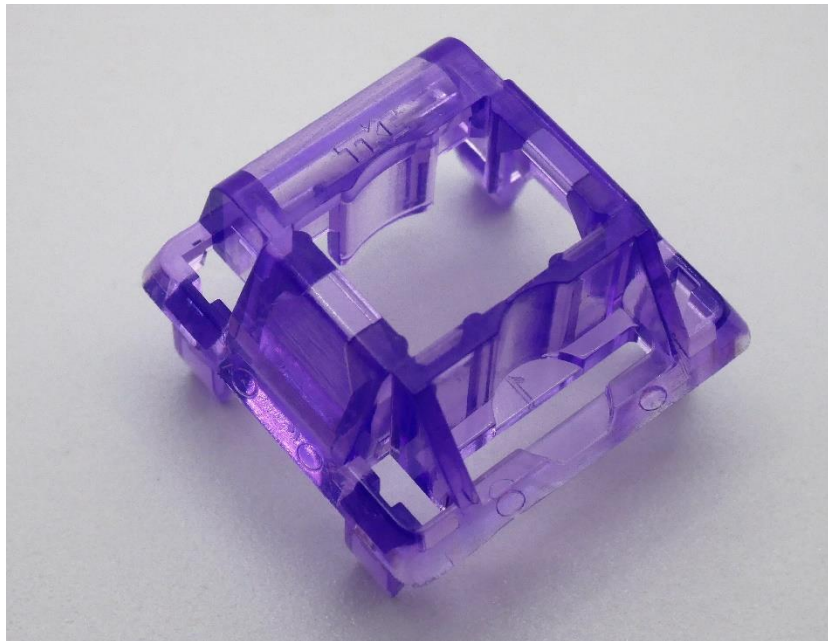
At the highest level, the TKC Blackberries come in a mono-purple colored scheme with translucent purple housings and an opaque purple stem. The top and bottom housings both carry a similar translucency to that of the other previous Fruit family switches as well as a color that is most similar to that of the Akko CS Lavender Purple switches. As can be seen below in Figure 9, this color of purple isn’t particularly the most common in switches, and much less in such a vibrant, full housing design choice. The switches come in PCB mount only options with standard sized, gold-colored springs and a brand new ‘TKC’ nameplate as will be discussed further below in the following paragraphs.





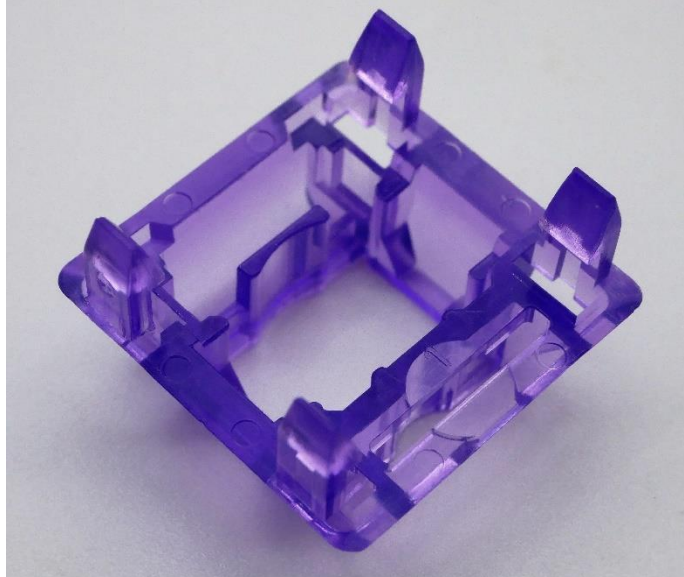
**Figure 9:** Purple switch color comparison. (L-R, Top-Bot: Rainbow Candy Ice Purple, Akko CS Lavender Purple, Ube Crinkle Cookies, TTC Chaotic Panda, TKC Blackberry, and SP Star Magic Girl Dark)

Looking first to the housings of these switches, the top housings are more or less identical to other previously released Tecsee switches. Chiefly pointing to the Geon switches which I reviewed only a short while ago, the top housings of the Blackberries appear to have identical internal structure and molding pattern to Geon's switches. These notable identical features include identical placements in mold ejector circles, similar internal structures around the nameplate region, and a placement of the top housing mold number centered on the interior edge of the LED slot. Externally, though, the top housings feature a new nameplate bearing 'TKC' in a small, stylized font choice. While perhaps seemingly a bit small compared to that of other branded nameplates out there, they are at least using stylized fonts as has become common practice in custom order switches with Tecsee.



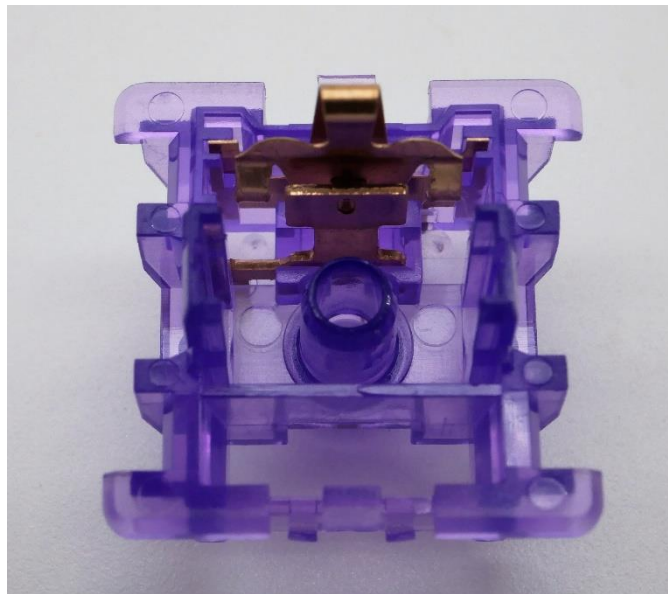
**Figure 10:** TKC Blackberry top housing external design showing identical mold marking locations to other Tecsee switches as well as a 'TKC' nameplate.



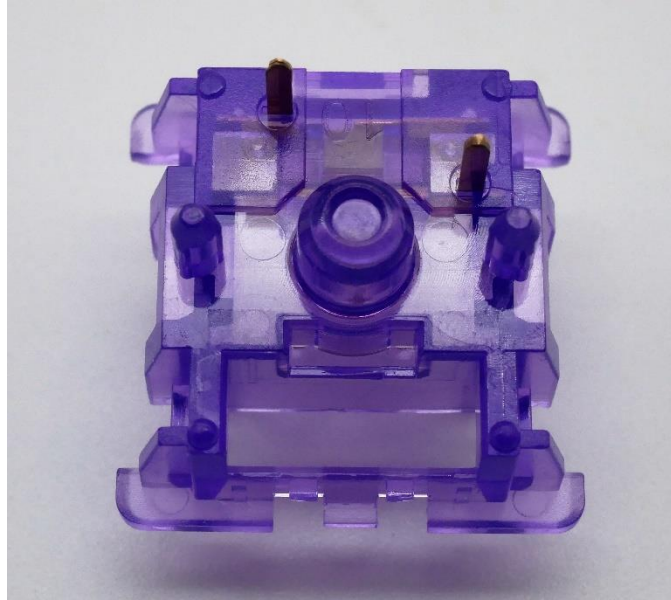


**Figure 8:** TKC Blackberry top housing internal design showing identical mold markings to those of previously released Tecsee switches.

As for the bottom housings of the Blackberry switches, they again appear nearly identical to those of other previous Tecsee releases like the aforementioned top housings. Internally, their structure is identical to those of the Geon switches including the mold ejector circles on the upper ring and internal bottom part of the switch as well as the bulky south side spring collar. While the mold ejector circles are certainly much more difficult to see in these switches due to their translucency, they are most definitely there and in identical size to those of previous Tecsee housings. On the exterior of the bottom housings, the placement of the mold identification numbers in an upside-down fashion between the leaf pins is nearly identical in placement to those of other Tecsee switches. Perhaps entirely contrived in my head, I feel like the mold marking numbers are ever so slightly somewhat different, perhaps with their font size or the raised height of the actual numbers, but I can't for the life of me discern what exactly looks different with them.

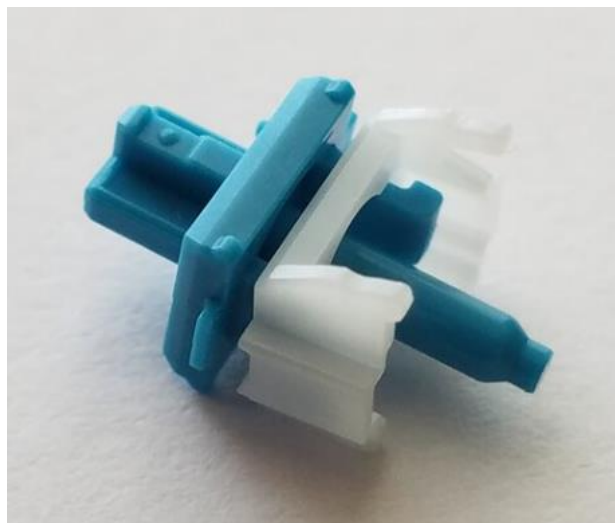


**Figure 7:** TKC Blackberry bottom housing internal design showing mold ejector circles both in the base and upper ring similar to those of previously released Tecsee switches.

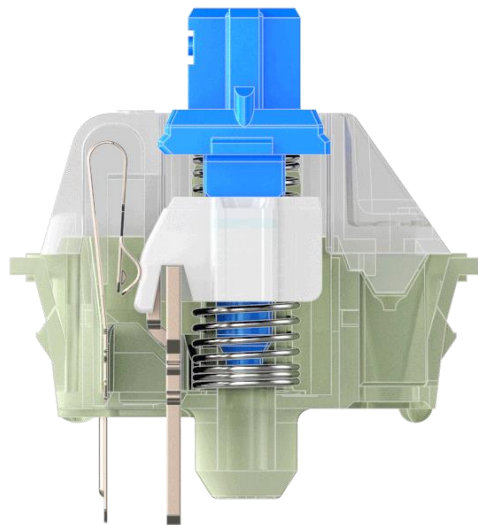


**Figure 10:** TKC Blackberry bottom housing external design showing PCB mount pins as well as upside down, numerical mold marking between the leaf pins.

Finally arriving at the shining piece of engineering in these switches, the stems are going to require quite a bit of thorough discussion as can be seen below. First and foremost, it will be worth discussing what the Aristotle mechanism is like for clicky switches and how this compares to other, vaguely similar switches. Unlike clickbars, which are commonly used in Kailh-made clickies and feature a sharp metal pin over which the stem is raked to produce a significantly sharper and more singular tone, the Aristotle mechanism relies on two-part stems which physically move around throughout the stroke to produce a click. The much more friendly, simple, and well recognized example of such a concept are those of the ‘click jackets’ seen in Cherry MX Blues. As can be seen below in Figure 14, the MX Blue stem has a traditionally normal part consisting of the keycap mount as well as the central pole, but an entirely moveable set of stem legs and slider rails which will physically jump around throughout the stroke to produce a clicking sound. An example of how this mechanism works in practice may be found in the gif below in Figure 15.



**Figure 9:** Cherry MX Blue stem design showing the click jacket mechanism in white.



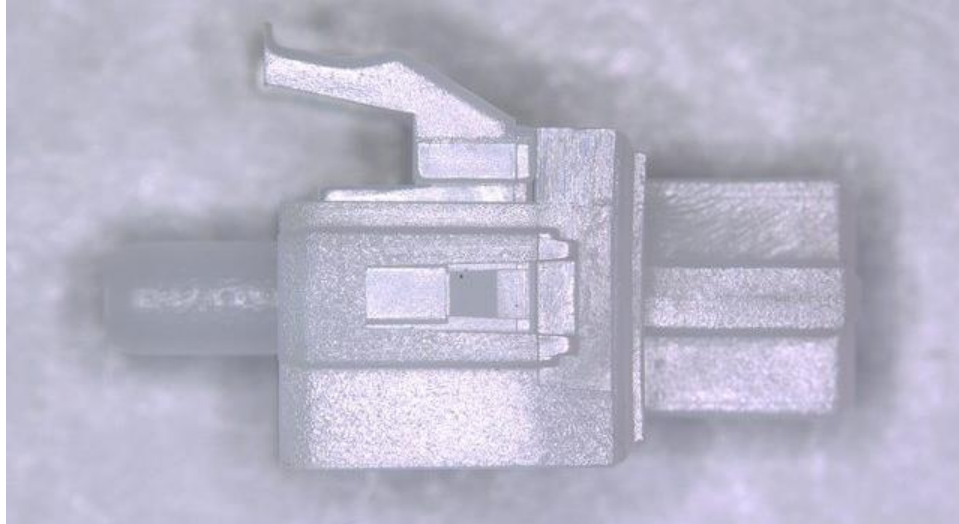
**Figure 12:** Cherry MX Blue animated mechanism showing how the click jacket mechanism moves during switch actuation

However, unlike click jacket mechanisms which have two entirely separable components, the Aristotle mechanism relies on a movable stem piece which is directly confined within a fixed one. As can be seen in the imaged sourced from Deskthority below, the original Aristotle stem has a fixed piece consisting of the keycap mount, slider rail, and central pole with a moving set of stem legs which are sharpened on the leaf-interacting side and clearly confined within the fixed part on the right hand, non-leaf side. By comparison, the only other Aristotle-like mechanism to have been produced in Gazzew's Phoenix stems are marginally different in design with the moving components being contained on the center portions of hollowed out slider rails rather than by fixed components on the backplate of the stem.



**Figure 11:** Profile shot of Aristotle White stem from Deskthority showing the original Aristotle click mechanism.



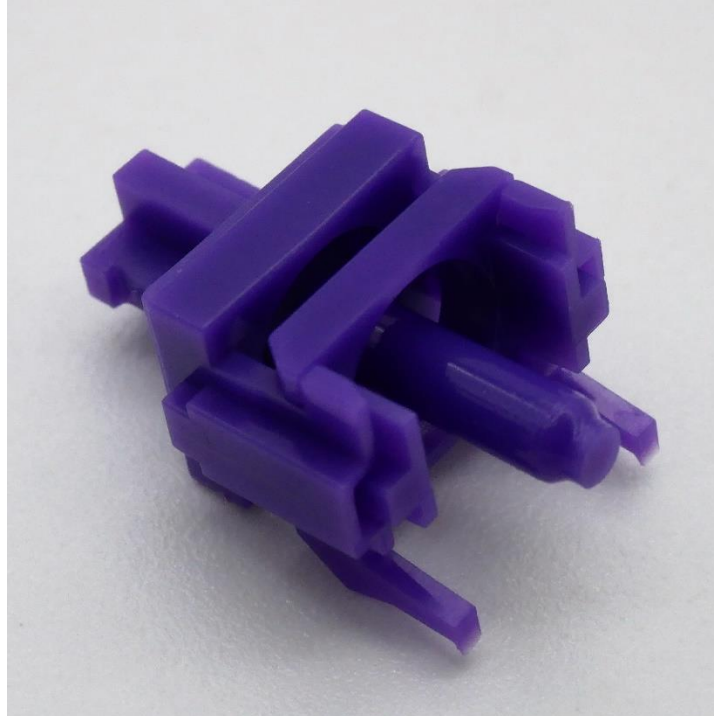


**Figure 13:** Profile shot of the Gazzew Phoenix stem prototypes from u/basecase01 on Reddit showing first modern Aristotle-inspired click mechanism.

Of these two Aristotle clicky mechanisms shown above, the Blackberries are surprisingly much more similar to those of the original Aristotles than those of Gazzew's Phoenix stems. Featuring backplate containment walls at the very bottom of the edge of the switch, the movable portion of the stem consists of only sharpened leaf-interacting legs and a wide, rectangular portion on the non-leaf side which keeps the movable component contained. Unlike the original Aristotle design, though, the slider rail on the side of the stems as well as the central pole adopt a much more modern design including a tiered bottom edge to the central pole. As well, there are mold ejector circles for the fixed stem component on the front plate in the form of two small, indented circles above the moving stem legs. The mold marking for the movable part of the stem is found on the underside of the stem piece near the left stem leg as can be seen in Figure 20, below. Regarding factory lube, the light factory lube which was present appeared to mostly be present on the stem legs, with extremely minor amounts on the slider rails only able to be detected by feel as opposed to sight.



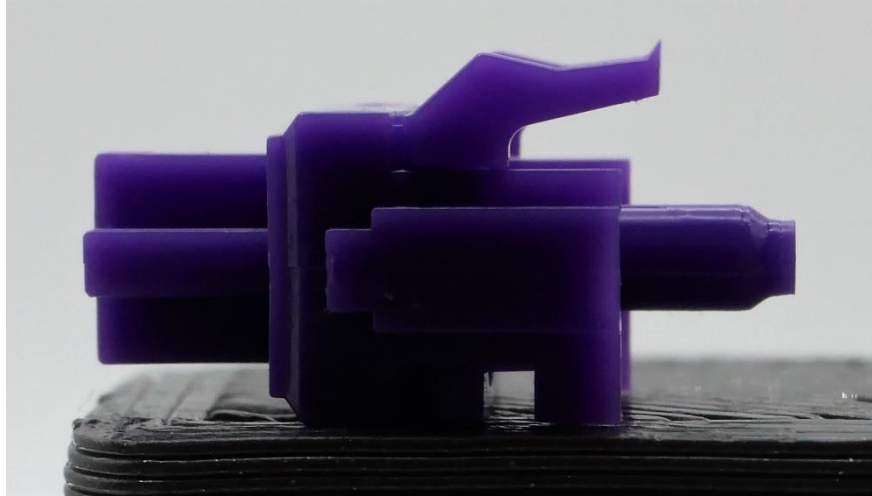
**Figure 14:** TKC Blackberry stem front plate showing mold ejector circles and movable stem legs of the clicky mechanism.



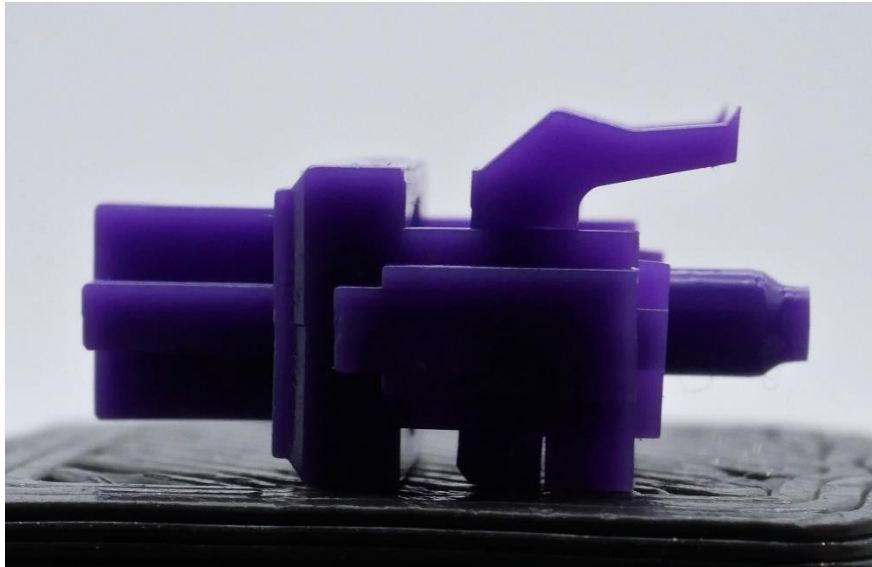
**Figure 19:** TKC Blackberry stem back plate and retaining portion of the clicky mechanism which keeps the movable portion of the stem affixed to the stationary part.



**Figure 20:** TKC Blackberry stem underside showing how the movable portion is situated within the inner cutout of the affixed portion of the stem with the keycap mount and center pole.



**Figure 16:** Profile shot of the TKC Blackberry stem with the movable clicky mechanism in contact with the fixed portion of the stem.



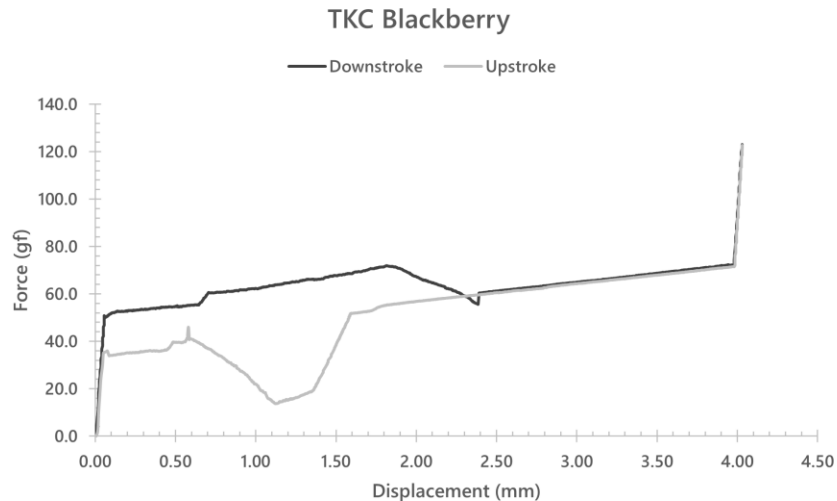
**Figure 15:** Profile shot of the TKC Blackberry stem with the movable clicky mechanism nearly fully extended from contact with the fixed portion of the stem.

### Push Feel

While push feeling is hardly the first thing that comes to people's mind when discussing clicky switches, these really do have an interesting feeling relative to that of other clicky mechanism out there such as clickbars and click jackets. Interestingly enough, this refined Aristotle mechanism seemingly straddles the line between both of these, not quite having the singular, sharp bump of clickbars nor the rattly, jumbled mess that is the vast majority of click jacket switches. Instead, while the Blackberries have a much more singular, mid-stroke clicking event, there is just enough of movable stem component to it which makes it ever so slightly jumbled. Perhaps a much more succinct way of describing it is that of a somewhat chunky singular point rather than a sharpened and refined singular point of contact or gravel-like mess.

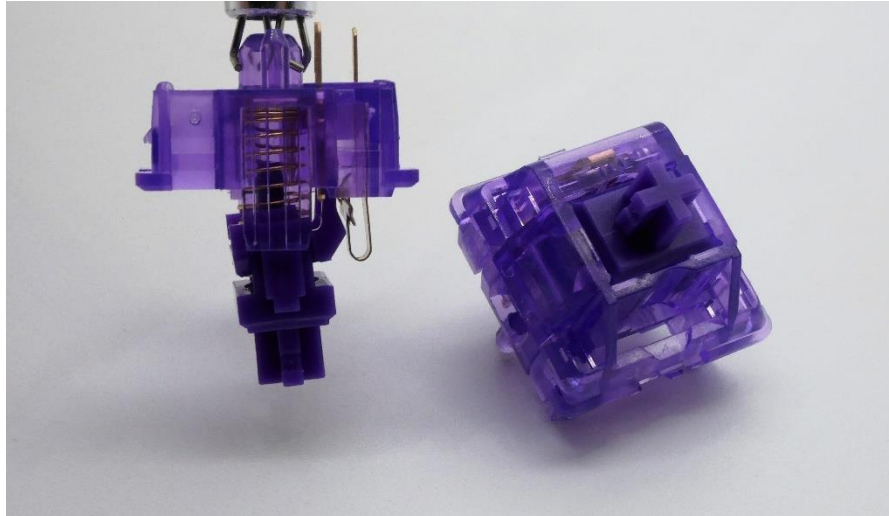


Regarding the rest of the actual push feeling of the switches with respect to normal performance notes, these switches very much perform as expected. The light factory lubing on the Blackberries produces a relatively smooth, but not overly smooth feeling in its linear regions that definitely does still leave character to the switch while allowing for aftermarket modification without cleaning, as was intended by TKC. The housing collisions, as well, are as expected and relatively in line with the firmness and slight muted-like qualities of the Kiwi and Tangerine housings before these. While I can't make any sort of definitive claims on the true, chemical-level composition of the Tecsee made housings as compared to the JWK made ones, on this metric alone they certainly seem comparable if not nearly identical.



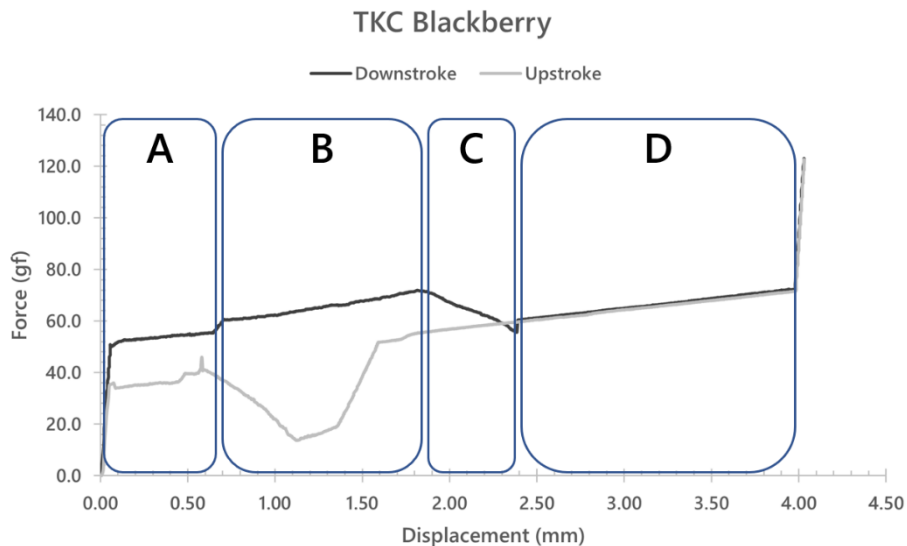
**Figure 17:** Force curve diagram for the TKC Blackberry switch.

Regarding the force curves of the TKC Blackberry switches, these certainly do require a rather significant amount of discussion as opposed more conventional switch options. First and foremost, these switches very much do live up to the marketing expectations and appear to have spring weights within bounds of manufacturing error of what were listed by TKC. However, unlike other traditional clicky switches there are a couple things of note about the force curves of the Blackberries. The most mundane of these features is that of the relatively more 'blocky' nature of the curves, especially with respect to changes in force such as around 0.600 mm and 1.900 mm in the downstroke force. Both click jacket and clickbar mechanisms tend to produce a much more rounded, tactile-bump like force curve that isn't as abrupt or sharp in the changes of force as shown here in the Aristotle-like mechanisms in the Blackberries. The second, and much more interesting feature is that of the overlap between downstroke and upstroke regions around 2.400 mm. As can be seen, there is effectively a region in which the force curves overlap, suggesting that the force at that point required to go down in the downstroke is somehow lesser than it is for the switch to continue upward and complete the upstroke. If your initial thought regarding this oddity was something along the lines of "Well, wouldn't that mean that the stem would get stuck at this point in the mechanism?", then boy do I have a surprise for you.



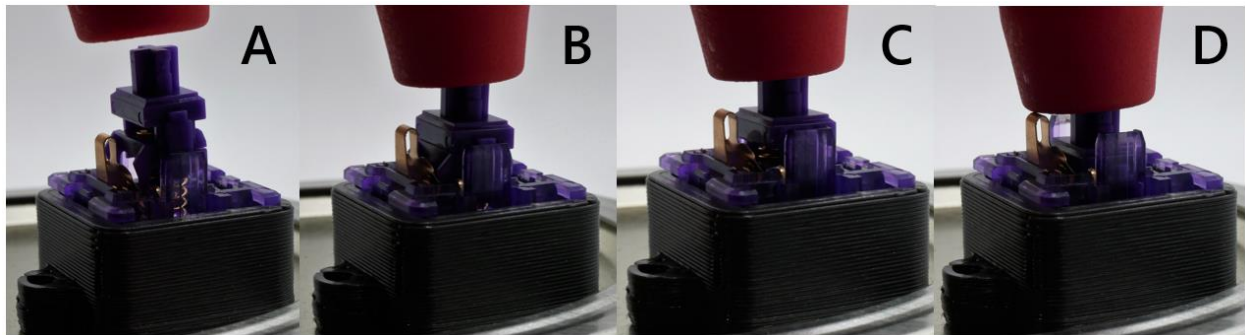
**Figure 19:** Dairy Queen Blizzards ain't got shit on this mechanism.

As can be seen with the top housing removed from the TKC Blackberry switch, when the movable portion of the stem is as separated from the fixed portion as the design will allow, it is possible to very delicately balance the feet of the stem on the edge leaf such that it will remain stuck there. However, the reason that this sticking *doesn't* occur in closed switches is because the top housing actually prevents the full distension of this mechanism and thus doesn't allow for the hooking to occur. In fact, literally any pushing of the stem in this finely balanced, top housing removed mechanism causes the stem to pass the leaf and rocket out of the bottom housing showing that even in this ideal state the stem can just *barely* catch on to the leaf. Interestingly, as well, it can be seen below in the 'Comparison' section that this force curve crossover in terms of upstroke versus downstroke weight appears to be a feature of only Aristotle-like mechanisms, showing up in the final revision of Gazzew's Phoenix stems as well as the original Aristotle Whites.



**Figure 18:** Force curve diagram for the TKC Blackberry switch divided into four regions denoting different points in the stem's shape due to the clicky mechanism.

As for how this Aristotle-like mechanism in the Blackberries actually produces this relatively unique force curve, I chose to separate the force curve downstroke into 4 regions, A-D, as can be seen above. In region A, the stem is at the top of the downstroke and the movable portion of the stem with the legs and feet are as separated from the fixed part of the stem with the keycap mount and central pole as possible. The transition from region A to B occurs when the depressing of the stem forces contact between the fixed and moving parts, which continues until which point the clicking mechanism really begins to engage with the leaf of the switch. In region C, the click mechanism is interacting the most with the leaves of the switch until the sudden breaking through of the feet which snag on the leaf and lead to the sharp decrease in force at around 2.400 mm. Region D, as can be implied, is the post-mechanism linear travel region. Images of the Blackberries with the top housing removed for each of these stages may be found below in Figure 26.



**Figure 20:** Physical progression photo of the TKC Blackberry clicky mechanism and how it corresponds to the above partitioning on the force curve diagram.

### Sound

Much like what I did in the ‘Push Feel’ section above, I’m really going to rely on the mid-ground comparison between two extremes for this section, though I’m going to further abstract it with metaphors because writing about sound is a hellish practice. Given the sharpened, singular nature of clickbar mechanisms, I tend to mentally imagine the sound of those switches as similar to pen springs – they produce a clear sound, marginal resistance, and it is pointed and distinct with tone. On the other hand, I think of click jacket mechanisms like shaking a box of paper clips – rattly, chaotic feeling, and hardly consistent. And yet again, the TKC Blackberry switches seemingly do straddle a mid-ground in between these two with a singular sound more akin to a stapler - one which has multiple moving components but sounds fluid and organized rather than chaotic like a box of staples or singular like a pen.

Much more concretely, the TKC Blackberries produce a surprisingly middle of the pack volume for clicky switches being louder than most cheap, budget clickies though distinctively quieter than the more aggressive sounds like Kailh Box Navies or Zeal’s 3-in-1 Clickiez switches in clicky mode. Coming squarely in the center of the downstroke, the sound produced is slightly on the higher pitched side with a sort of fuzzy, lower pitched tone surrounding it which provides a more rounded, less piercing sound than some clickies. In a way, they can only really be defined by comparing their sound to original Aristotle switches, in that the Blackberries have a more clear, refined, and almost ‘remastered’ quality to their sound versus original Aristotle Whites.

### Wobble

Honestly, for all the explicit and implicit engineering design which went into these switches, I am quite disappointed in just how much wobble is present in the stems of these switches. There is a pretty noticeable amount of stem wobble in both the N/S and E/W directions that likely would make many users

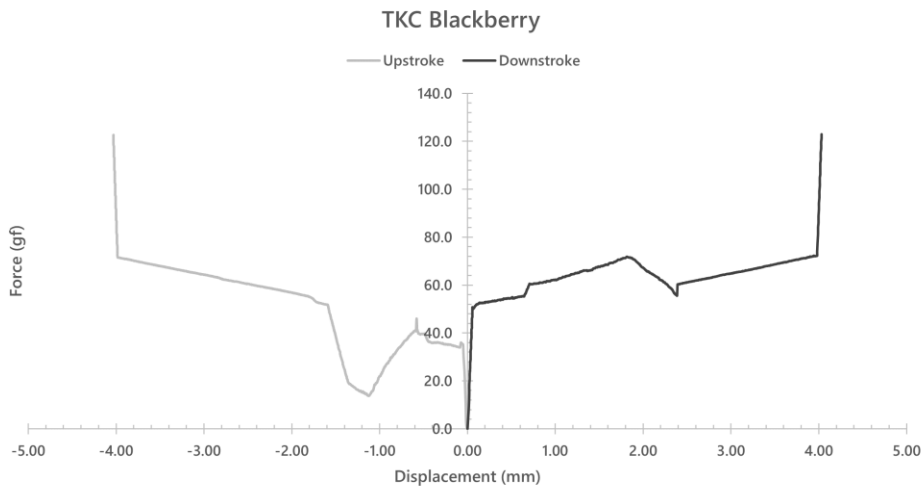


wary of using them in a build, and especially keyboards with tall keycap profiles that especially emphasize stem wobble. This is doubly worth noting if your first marketing-lead impression of the wobble of these switches was shaped around the fact that they were made by Tecsee, who is otherwise notably better than this with their releases.

Measurements

<b>TKC Blackberry Switch Measurements</b>			
	<b>Component</b>	<b>Denotation</b>	<b>mm.</b>
Stem	Front/Back Plate Length	A	7.07
	Stem Width	B	5.50
	Stem Length with Rails	C	8.42
	Rail Width	D	2.18
	Center Pole Width	E	1.88
	Rail Height	F	5.07
	Total Stem Height	G	12.94
Bottom Housing	Diagonal Between Rails	L	9.37
	Interior Length Across	M	9.59
	Rail Width	N	2.65
	Center Hole Diameter	O	2.18
Top Housing	Horizontal Stem Gap	X	7.61
	Vertical Stem Gap	Y	6.05
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 21:** TKC Blackberry switch 'butterfly style' force curve diagram.

TKC Blackberry	
<i>Switch Type: Clicky</i>	<i>Tecsee</i>
Total Stem Travel	3.980 mm
Peak Force	71.9 gf
Bottom Out Force	72.3 gf
# of Upstroke Points	1523
# of Downstroke Points	1466

**Figure 22:** Numerical details regarding the stock TKC Blueberry switch force curve diagram.

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

### Break In

<b>TKC Blackberry Break In Testing</b>			
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

- While the sound profile of the Blackberries at 17,000 actuations doesn't change with respect to scratchiness nor ping, it actually ever so slightly deepens in tone and has a more full, rounded sound to the click mechanism than those Blackberries in stock form. Do note, however, that this is not a drastic change but a rather subtle one at that.

- Even though push feel is hardly one of those metrics that people really care about in clicky switches, the TKC Blackberries broken in to 17,000 actuations definitely do have a slightly more scratchy feeling throughout their stroke than the stock versions.

### 34,000 Actuations

- Compared to stock switches, the Blackberries actuated out to 34,000 presses have effectively the same increase in stem wobble and scratch as previously noted above in the 17,000 actuation test. As well, compared to the previous round of testing and not the stock versions of the Blackberries, those that were tested out to 34,000 actuations were basically indistinguishable along those metrics.
- Interestingly, while the slight dip in tone continues out to 34,000 actuations and is more noticeable than at 17,000 actuations, there is also a much greater incidence of ‘rattling’ in the Aristotle-like click mechanism. This increase rattle is *especially* noticeable when comparing these to the stock Blackberry switches.

### 51,000 Actuations

- The same notes as previously discussed above for the 34,000 actuation switches with respect to their increase mechanism rattle still applies in equal magnitude here to the Blackberries that were tested out to 51,000 actuations.
- One thing worth noting that distinguishes the switches broken out this far is that they’ve picked up a rather noticeable increase in stem wobble after being broken in. While this wouldn’t be that big of an issue in most switches, the pretty noticeable amount of stock wobble that the Blackberries already have certainly isn’t helped here.

### Other



**Figure 31:** TKC Blackberry switches in provided hard shell packaging.

As stated above in the ‘Background’ section, orders of 70, 90, and 110 TKC Blackberry switches come in a hard shell, ‘airtight’ plastic casing for (assumedly) not extra charge to the consumers. In addition to coming packaged in newly designed white boxes with TKC logos and social media information, I was surprised when I opened the package to find a hard-shell box which is oddly

reminiscent of another currently available product on the market. Whether by coincidence or intentional design, the TKC Blackberry boxes are identical in design and size to those of the Kinetic Labs hard plastic switch containers. Unlike Kinetic Labs, though, whether or not TKC will offer these as stand-alone options is not known as of the time of writing this review.



**Figure 24:** White stylized box which the TKC Blackberry switches and hard-shell case were stored in for shipping.



**Figure 23:** Comparison between new hard-shell packaging of the TKC Blackberry switches and older, softer packaging of the C3 Equalz Kiwi switches.

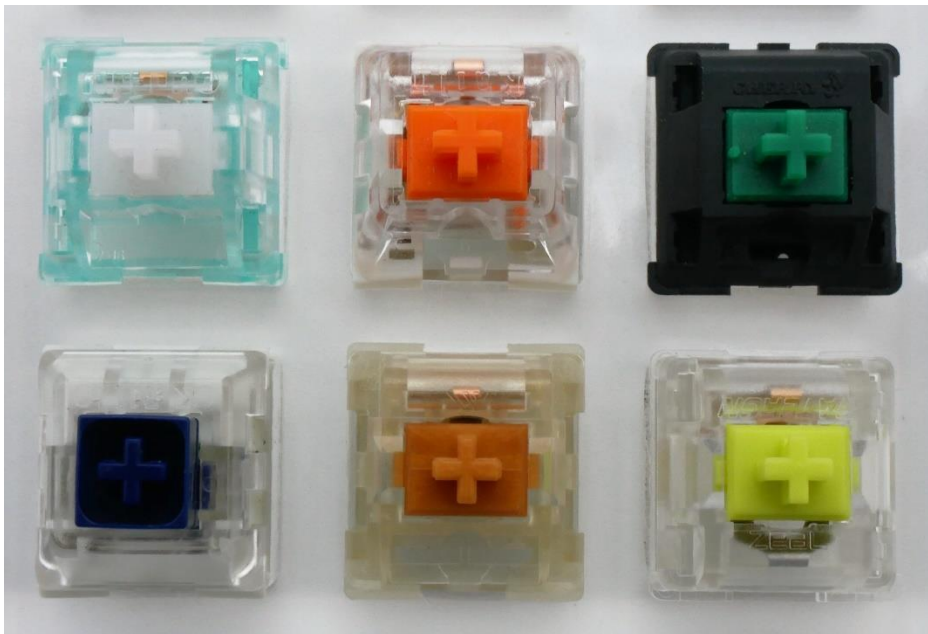




**Figure 34:** Side by side comparison of the new TKC Blackberry hard-shell cases and the Kinetic Labs hard-shell switch boxes.

### **Comparison Notes to Other Notable Clicky 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 Blackberries switches side by side.

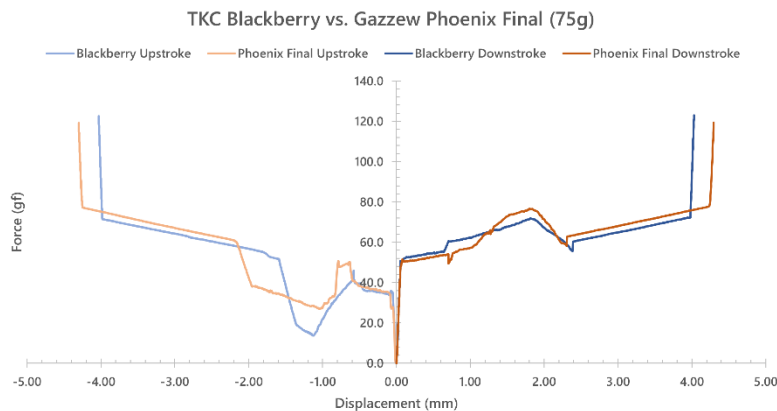


**Figure 25:** Switches for comparison. (L-R, Top-Bot: Gazzew Phoenix Final (75g), Novelkeys Sherbet, Cherry MX Green, Kailh Box Navy, KTT Gold, and Zeal 75g Clickiez)

## Gazzew Phoenix Final (75g)

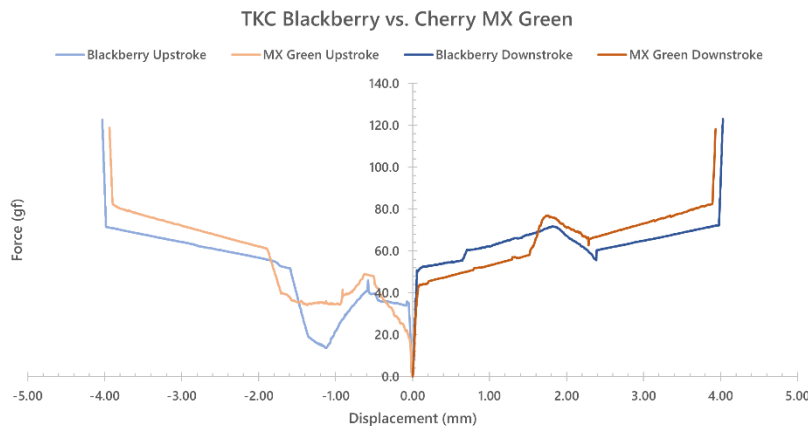
*Note:* The stem and spring for this switch were simply placed in clear over translucent blue, 4 pin attachment Outemu housings from the era in which they were produced without lubrication.

- The overall click sound of the final revision of Gazzew's Phoenix stems produce a much more loud and fuller sound than those of the Blackberries, which instead punch with a much more sharp and singular tone. As well, while perhaps a function of the spring noise more than anything, the Gazzew Phoenix Final switch as I've constructed it here feels much more 'noisy' and 'crunchy' than the TKC Blackberries.
- The stem wobble isn't particularly great on either of these switches, with pretty noticeable sway in both the N/S and E/W directions.
- In terms of housing collisions, the TKC Blackberries have an ever so slightly softer, more cushioned set of housing collisions



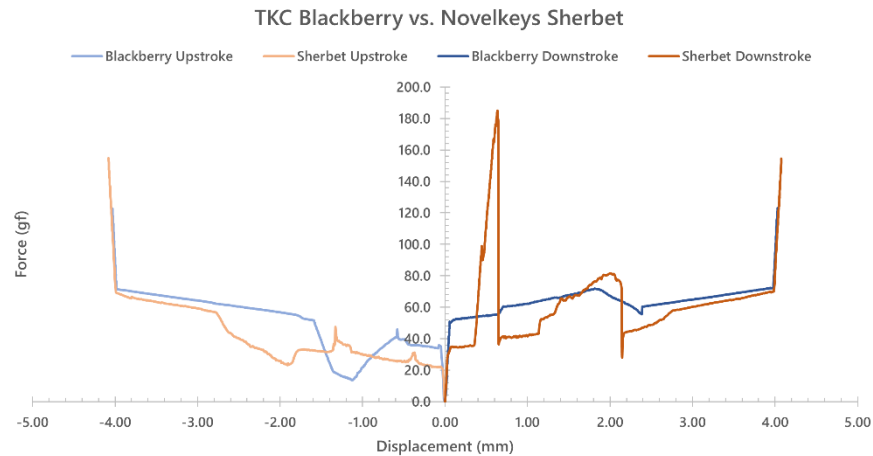
## Cherry MX Green

- Without much surprise to the vast majority of people reading this review, the Cherry MX Greens are both more scratchy and significantly more 'dense' in terms of their overall sound and feeling than that of the TKC Blackberries.
- While both switches have an amount of 'jumble' in their clicking mechanism, the click jacket mechanism in the MX Greens is significantly more rattly and plasticky sounding than the comparatively sharper Aristotle-like mechanism of the TKC Blackberries.
- Even though the Cherry MX Greens are quite wobbly of their own accord in both N/S and E/W stem directions, they aren't that much more wobbly than the TKC Blackberries, surprisingly.



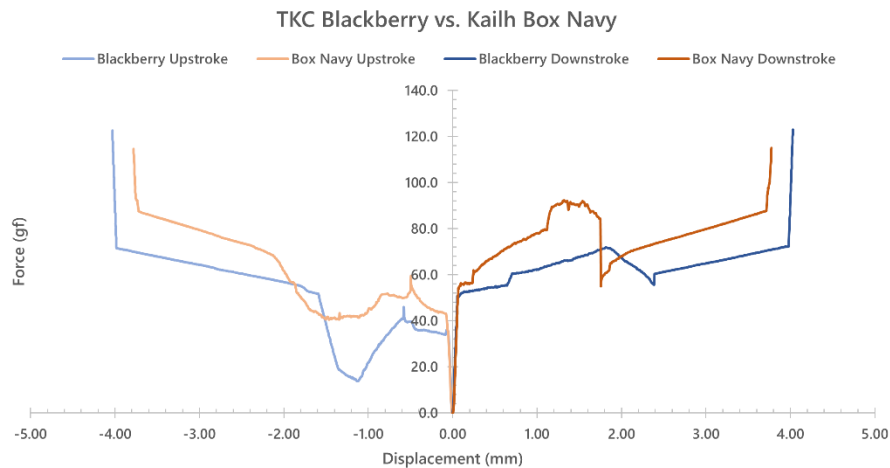
## Novelkeys Sherbet

- This is going to be a hard one to explain. While the Novelkeys Sherbet switches are overall much more loud than that of the TKC Blackberries, they have a surprisingly similar tone and pitch to each other. It is almost as if the Blackberries are a slightly more subtle and refined Sherbet in terms of overall sound.
- Given the difference in force between the clicky event of both of these switches, as well as the fact that click mechanism is situated *significantly* lower in the Sherbets than the Blackberries, the Blackberries feel much more like a conventional clicky switch when testing these side by side.
- While these two switches are comparable in terms of their E/W direction stem wobble, the N/S stem wobble in the Novelkeys Sherbets is surprisingly lesser than that of the Blackberries.



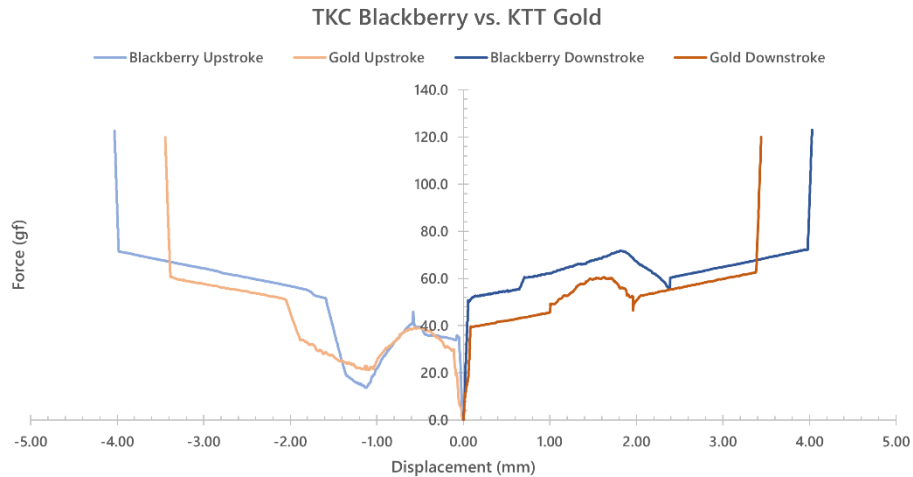
## Kailh Box Navy

- The Box Navies are not only drastically louder than that of the TKC Blackberries, but they are also much more ‘in your face’ and aggressive in terms of overall sound.
- By comparison, the actual click mechanism of the TKC Blackberries has a slightly more rounded, light tactile-like bump to it as compared to the much more instantaneous and pointed click mechanism of the clickbars in the Box Navies.
- The Kailh Box Navies are surprisingly just a tiny bit less wobbly in both stem directions than that of the TKC Blackberry switches.



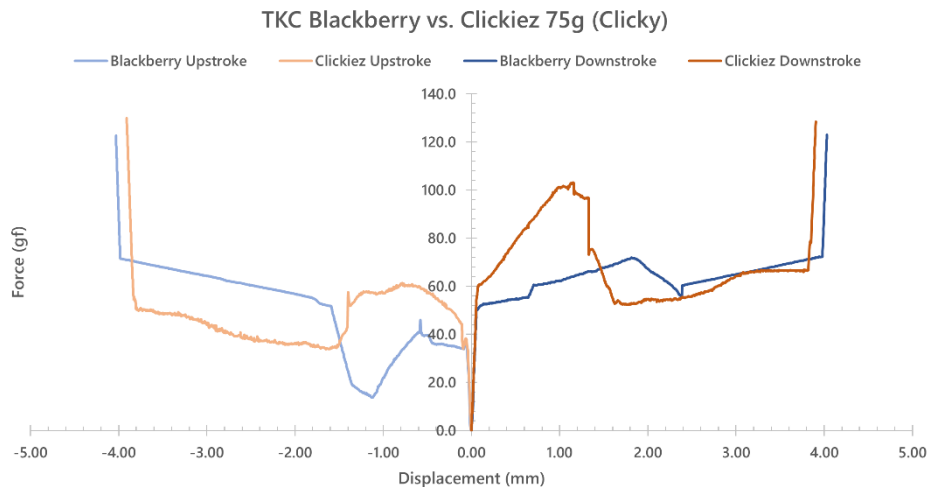
## KTT Gold

- In a similar fashion, but not to the same extent, as the Cherry MX Green comparison made above, the click jacket mechanism of the KTT Golds is much more rattly, incoherent, and jumbled in its sound than the mechanism of the TKC Blackberries.
- In terms of overall sound, the Blackberries are both distinctly louder and higher pitched in sound than that of the KTT Gold switches.
- Interestingly, in stock form the KTT Golds which I have have a subtle amount of spring ping that is particularly more noticeable at higher activation speeds as well when comparing them to the TKC Blackberries.



## Clickiez 75g (Clicky)

- While the Blackberries have just an ever so slightly sharper tinge to their sound, these two switches are the most similar in this initial list in terms of overall sound and volume.
- As noted in my Clickiez Switch Review, there is a subtle, rich undertone to the Clickiez that provides a much more full-bodied sound than that of the TKC Blackberries.
- With respect to the housing collisions, both the topping and bottoming out of the TKC Blackberries feels noticeably more soft and subtle that of either the topping or bottoming out of the Clickiez switches.





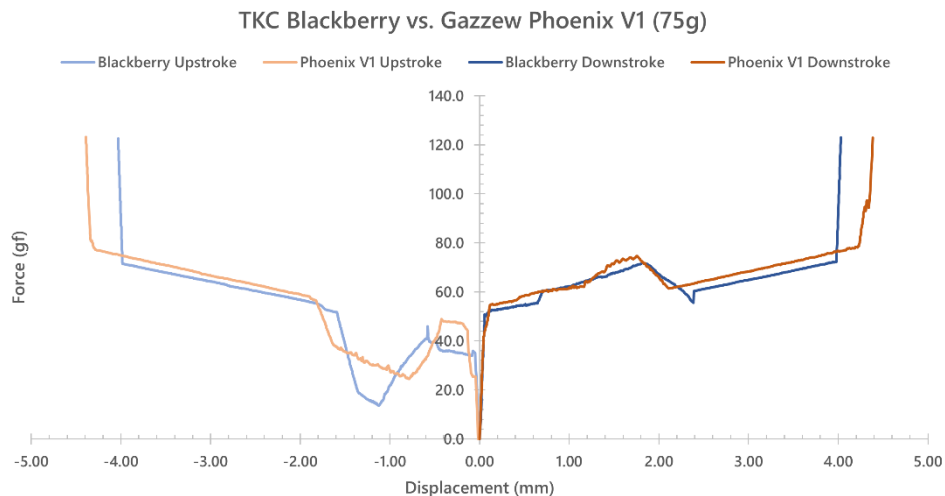
## Bonus Round

Look, I've already a blast writing the review out this far and getting to test these switches out. When I initially sat down to form my opinion, the first thing I wanted to do was compare these to other Aristotle-like switches in my collection. As a result, I feel like the comparison section wouldn't be complete without my thoughts on these comparisons as well.

### Gazzew Phoenix V1 (75g)

*Note:* The stem and spring for this switch were simply placed in clear over clear, 4 pin attachment Outemu housings from the era in which they were produced without lubrication.

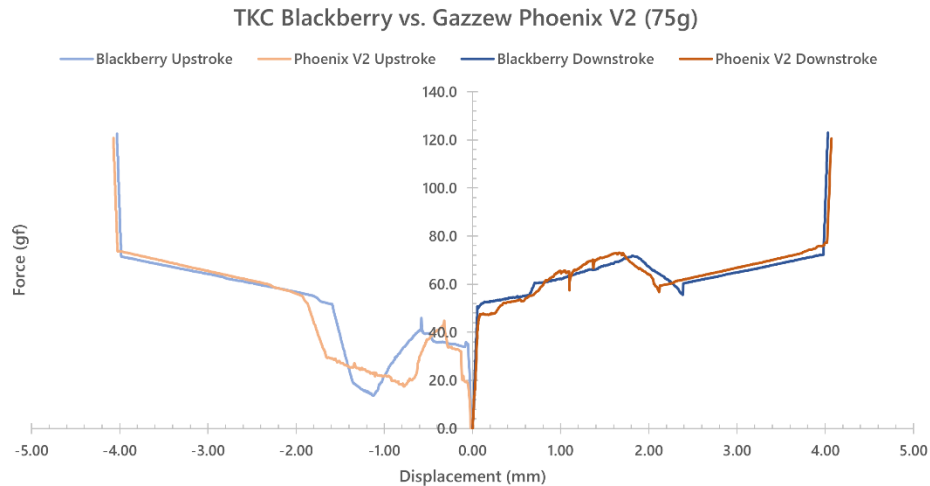
- Surprisingly, the Gazzew Phoenix V1s feel and sound more like a neutered tactile switch than they do an Aristotle-inspired clicky switch. Note, these were never released to the public and stood as first prototypes from Gazzew.
- Interestingly, looking to my *very* old Phoenix Stem Review, these stems surprisingly appear to share the most similar 'foot' shape to that of the Blackberry switches even though they feel nothing alike.
- As well, it is worth noting that even though these are Phoenix stems that were designed with the Aristotle mechanism in mind, they do not have the crossover of the upstroke and downstroke force curves as noted in their final revision and the TKC Blackberries.



### Gazzew Phoenix V2 (75g)

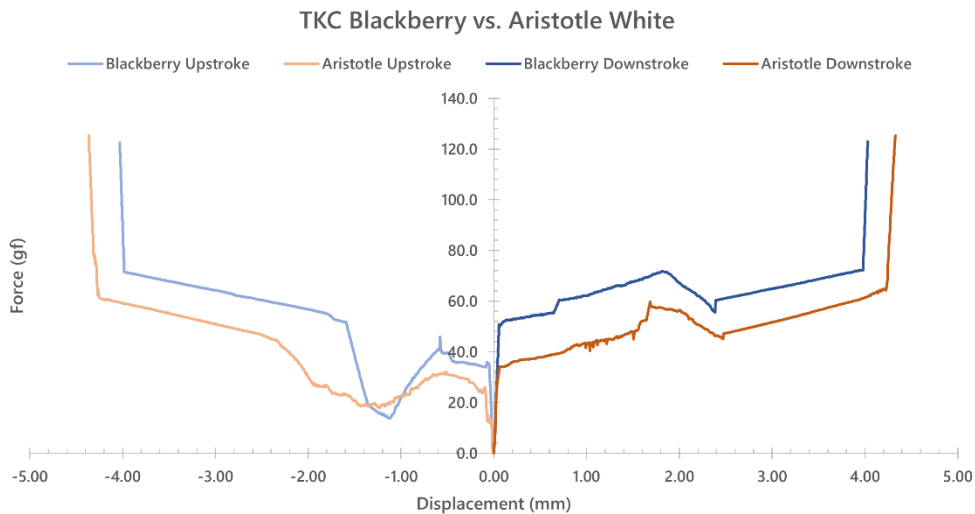
*Note:* The stem and spring for this switch were simply placed in clear over clear, 4 pin attachment Outemu housings from the era in which they were produced without lubrication.

- While these switches had a force curve more similar to that of the V1 Phoenix stems than that of the Blackberries or final release Phoenix stems, interestingly they certainly sound more like the Blackberries than any of the other versions of the Phoenix stems.
- In terms of overall volume, the Phoenix V2 stems are just a tiny bit louder and higher pitched than that of the TKC Blackberry switches.
- Even though the mechanism of action is slightly heavier in the Phoenix V2 stems than those of the Blackberry switches, both have a similar 'grain' to the feeling of the stems working inside of the housings.



### Aristotle White

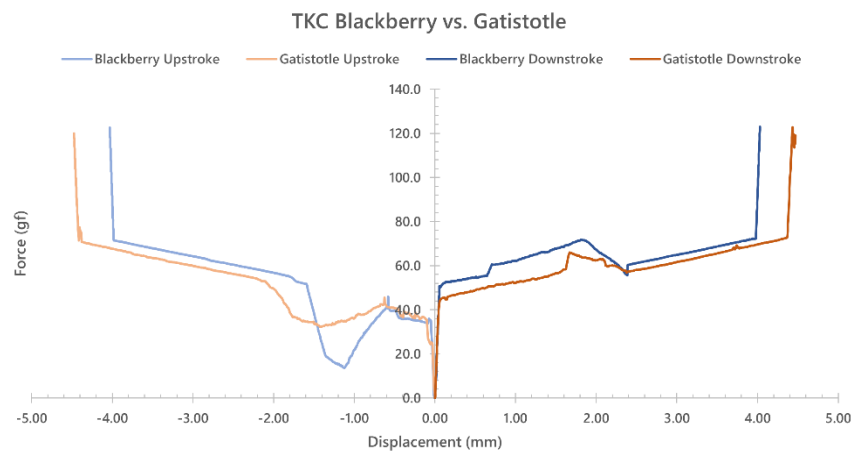
- Even though the original Aristotle White switches feel slightly more jumbly and plasticky, these two switches surprisingly feel quite similar to each other. While yes, the Blackberries were designed based on the Aristotle clicky mechanism, they are different enough in their respective switches that this similarity was at least initially surprising to me.
- Looking at the force curve comparisons, interestingly the overlapped upstroke and downstroke sections only appear to be a function of ‘modern’ Aristotle clones such as the Gazzew Phoenix stems and the Blackberries and not the original Aristotle White stems.
- The subtle factory lubing that is present in the Blackberries becomes particularly more noticeable in this comparison after the Aristotle Whites produced a much more scratchy and sandpaper-like consistency to their stroke.



## 'Gatistotle'

*Note:* Sometimes also called 'Zealistoltes' depending on the housings used, these are an old-school frankenswitch which were constructed from putting Aristotle White stems in Gateron housings. Note that I received this from a collector friend over three years ago and thus am uncertain if this is lubed or not.

- Interestingly, the clicking mechanism in the Gatistotle frankenswitches physically sounds lower in the overall sound of the switch than that of the much more highly placed, sharpened sound of the TKC Blackberries.
- Much like with the Aristotle White comparison made above, the original stems do still feel sandpaper-like in their actuation telling me this is more a function of the stems than it was the original Aristotle White housings.
- While neither are particularly great, the N/S and E/W stem wobble between the Gatistotles and the Blackberries are surprisingly comparable.



## 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.

TKC Blackberry		
Switch Type: Clicky		Tecsee
28	/35	Push Feel
16	/25	Wobble
7	/10	Sound
15	/20	Context
9	/10	Other
<b>75</b>	<b>/100</b>	<b>Total</b>

## Push Feel

Coming with the faintest amount of factory lubing, the linear regions of this clicky are decently smooth with a pair of UHMWPE-based housing collisions that are slightly soft but still firm enough. The Aristotle-inspired mechanism feels stapler-like with a singular location and slight bit of graininess around this point as the legs rake over the switch's leaf.

## Wobble

Unfortunately, for all the engineering that did go into these switches, the stem wobble is not great and even by Tecsee standards. There is a pretty noticeable, equal magnitude N/S and E/W direction stem wobble that will likely be problematic for quite a few people.

## Sound

In a very uncanny way, the TKC Blackberries straddle the line between click jacket and click bar mechanisms in a way that I wouldn't have initially imagined to be possible. While they do still have a very uniform, higher (but not too highly) pitched point to their sound, there is a sort of plasticky fuzz that envelops the sound giving it some depth while not detracting much for the overall experience. They are the refined and remastered sound of Aristotle White switches.

## Context

Long delays aside, the opportunity for the community to have a completed, in-stock Aristotle-inspired clicky switch at a price that is already clearly acceptable for other switches in the same family of releases, is simply one that we haven't had before. While these are far from perfect in a vacuum, they fill a unique void in the market and will certainly be interesting to see how the community at large accepts them.

## Other

The sheer amount of implicit and explicit engineering that went into producing the Blackberries is both admirable and well appreciated. This is the kind of innovation in the MX footprint of switches that 2022 will be remembered for – and that is alongside strong competition for this.

## Statistics

Average Score			TKC Blackberry		
26.6	/35	Push Feel	28	/35	Push Feel
17.0	/25	Wobble	16	/25	Wobble
5.6	/10	Sound	7	/10	Sound
12.7	/20	Context	15	/20	Context
6.1	/10	Other	9	/10	Other
68.0	/100	<b>Total</b>	75	/100	<b>Total</b>
Blackberry Overall Rank			T-#40/188 (75/100)		
Blackberry 'Hard' Rank			T-#67/188 (51/70)		
Blackberry 'Soft' Rank			T-#3/188 (24/30)		



## Final Conclusions

Throughout 2022 thus far, there has been quite the streak of innovative switches which have been produced by all sorts of manufacturers and vendors. Switches featuring conical springs, brand new housing material blends, as well as occasionally brand-new mechanisms within the MX footprint have all stood as personal highlights of mine throughout a rather impressive year of releases. Even amidst that backdrop of JWK Quartz, Kailh Christmas Trees, JWICK Half Silents, and even Zeal 3-in-1 Clickiez, the TKC Blackberries really do present as one of the more impressive technological accomplishments within the MX footprint this year. While Gazzew's Phoenix stems were hardly a failed experiment, they never quite delivered with the same polish and clarity that these switches seem to have from original prototyping to final production product. Do not get me wrong here, there are still quite a few things that do need to be seriously considered for improvement in these switches. Issues such as the stem wobble, general break in fatigue on the switches, as well as their implicit manufacturing difficulties all will require some forethought and planning moving forward into future releases of these switches. What they *are*, though, is the most coherent, cohesive, and well-rounded example of the Aristotle clicky mechanism that we have to date in MX style keyboard switches.

I'm going to go ahead and make a slight faux pas here in writing and directly stating that 'I have never personally been a fan of clicky switches in my builds.' (In fact, I know this is a faux pas as they directly asked me in this paper attached with my Blackberry switches to not say words to this effect in my review.) But what I have *always* been a fan of is trying switches that are unique, have character, or simply wouldn't otherwise be an available option to me in other capacity. To that degree, the TKC Blackberries are some of the first clicky switches that I've actually wanted to put into a build in some length of time. Even though these are far from polished and technically excellent on sheer performance standards alone, I don't want to build yet another ultra-perfect linear board with my exact spring weight, favorite lube, whatever films I had lying around, and some sort of foam that sounds like ever other build out there nowadays. These are probably the best opportunity we'll have for some time to get to enjoy a unique mechanism for clicky switches in its most refined state with infinitely less hiccups and more availability than their inspiration. Much like with many of the more 'out there' switches that I review on this site, the TKC Blackberries are worth a chance to try not because they are perfect on their performance metrics and marketable qualities, but because they are unique in their poise and execution.

## Sponsors/Affiliates

### [Mechbox.co.uk](http://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](http://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!**

### 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**

### TKC Blackberry Switch Sales Page

Link: <https://thekey.company/products/tkc-blackberry-switches-2022>

Wayback: <https://web.archive.org/web/20220904215103/https://thekey.company/products/tkc-blackberry-switches-2022>

### TKC's C3 Equalz Fruit Switch April 2020 Announcement

Link: <https://thekey.company/blogs/blog-updates/introducing-tkc-x-c-equalz-fruit-switches>

Wayback: <https://web.archive.org/web/20220904215134/https://thekey.company/blogs/blog-updates/introducing-tkc-x-c-equalz-fruit-switches>

### TKC's September 2020 Update on the Fruit Switches

Link: <https://thekey.company/blogs/blog-updates/fruit-switch-family-update>

Wayback: <https://web.archive.org/web/20220904215157/https://thekey.company/blogs/blog-updates/fruit-switch-family-update>

### Deskthority Aristotle Cherry MX Clone Article

Link: [https://deskthority.net/wiki/Aristotle\\_Cherry\\_MX\\_clone](https://deskthority.net/wiki/Aristotle_Cherry_MX_clone)

Wayback:

[https://web.archive.org/web/20220904215239/https://deskthority.net/wiki/Aristotle\\_Cherry\\_MX\\_clone](https://web.archive.org/web/20220904215239/https://deskthority.net/wiki/Aristotle_Cherry_MX_clone)

### u/basecase01's Phoenix Clicky Stem Documentation

Link: <https://imgur.com/a/wQhhnEW>

Wayback: <https://web.archive.org/web/20220904215320/https://imgur.com/a/wQhhnEW>