# Cherry MX2A RGB Black Switch Review

-ThereminGoat, 08/27/2023

*Note:* In the interest of full transparency, I feel it would be appropriate to note at the top of this article that I did receive the switches used in this review, as well as a full set of all other MX2A RGB switches, from Cherry directly prior to the announcement of their release on August 24th, 2023. These switches were manufactured in the weeks and months leading up to the announcement of the new MX2A design and have appropriate packaging and labels on them to verify they were not hand chosen specifically for me and instead came directly from the production line. Furthermore, I did not pay for them nor agree to receive payment or switches in exchange for this review. Cherry has not and will not receive an advanced copy of this review nor do they have any editorial privileges with respect to such. All opinions, as long winded and overly vague as they may be, are mine and mine alone.

Hey everyone, it's good to be back. Knowing full well that this review is likely to attract more than the usual crowd of readers, I figured it would be good to introduce myself and provide some context as to the novel-length review you're about to read here. My name is ThereminGoat and I've been a switch collector and reviewer for well over four years now, publishing long form, detailed written reviews on any and all switches that I can. In addition to the writing and associated repositories I have of measurements, force curves, shortened reviews, and photos, I've collected over 2,200 unique different mechanical keyboard switches and have several hundred in my backlog that I need to get around to adding when I finally find some free time. You will find me often posting full length articles and shortened articles here on my website every two weeks as well as mailday photos and updates via my Instagram and Twitter linked underneath the 'About' tab of my website. No, I'm not going to call it X and I will be the last to die on that hill too. As for the fact that I have Cherry MX2A switches as early as I do, I've been around quite a long time and have been lucky to make many connections to individuals and companies all throughout the keyboard hobby. One of these connections, in particular, is that of Cherry. Having spoken with executives and a few employees within the company several times over the past year or so, I was delighted that they were willing to send me an advanced set of these switches for review and couldn't help but take the opportunity to inform the community so early on in their lifespan. If you enjoy this slightly longer than normal stay here, I hope you'll come back around for a few more reviews in the future. There will always be more exciting switches in the future!

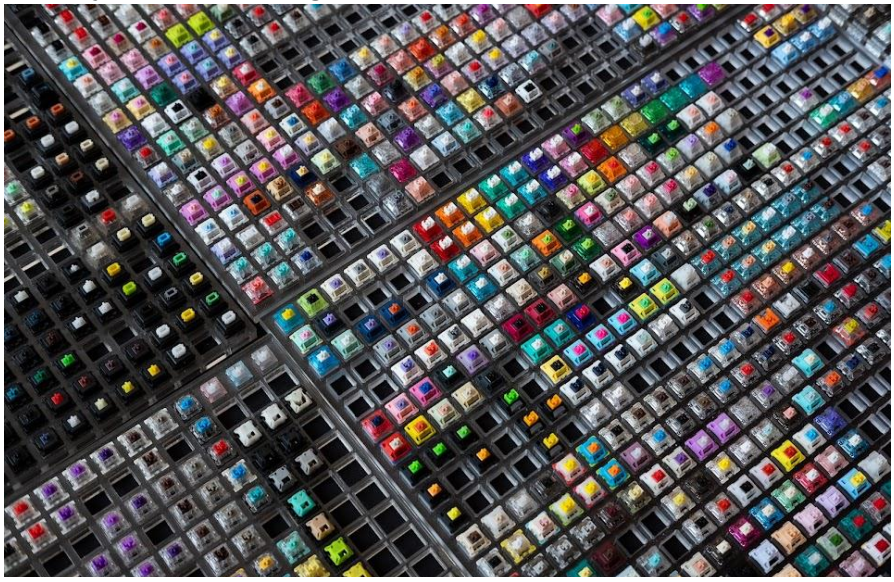


**Figure 1:** Just a small snapshot of the switch collection from the 2023 The Keyboard Meetup.

As for those of you who have been here many a time before, I'm glad to have said that I've made my way back from Novelkeys' The Keyboard Meetup and am now even more excited and amped up for the Cannonkeys meetup here in a few weeks' time. Getting to bring out the switch collection to a whole new crowd of readers and fans is something I never truly appreciate until I'm in the middle of it, and the venue and people I met at The Keyboard Meetup made it truly one of my favorite meetups to date. (It was also super interesting to get to finally meet all of the faces of the employees behind Novelkeys that make it tick day to day and I appreciate all of the conversations we had both at the meetup and after as well.) In addition to bringing out most of my full collection as you can see from the photo by marcusant above, I also brought out some special switch oddities including prototype housings, test pressings, and factory errors that were extra fun to share in person, some of which I've not even posted about on this website! In the event that you happen to be at the Cannonkeys meetup with me here in a few weeks, you should definitely swing by my table to try out some of the switches and ask me about my special secret switch stuff too… As is tradition for the reviews following meetups, I'll end out the introductory section with some of my favorite boards and keycaps I saw throughout the day, though fully bumming off of marcusant's photography skills some more since I'm not nearly that capable:


**Figure 2:** Chippy's Shrek Last Supper or otherwise known as a crime against humanity in keyboard form.


**Figure 3:** A concrete keyboard with ***1500g switches*** under each key.

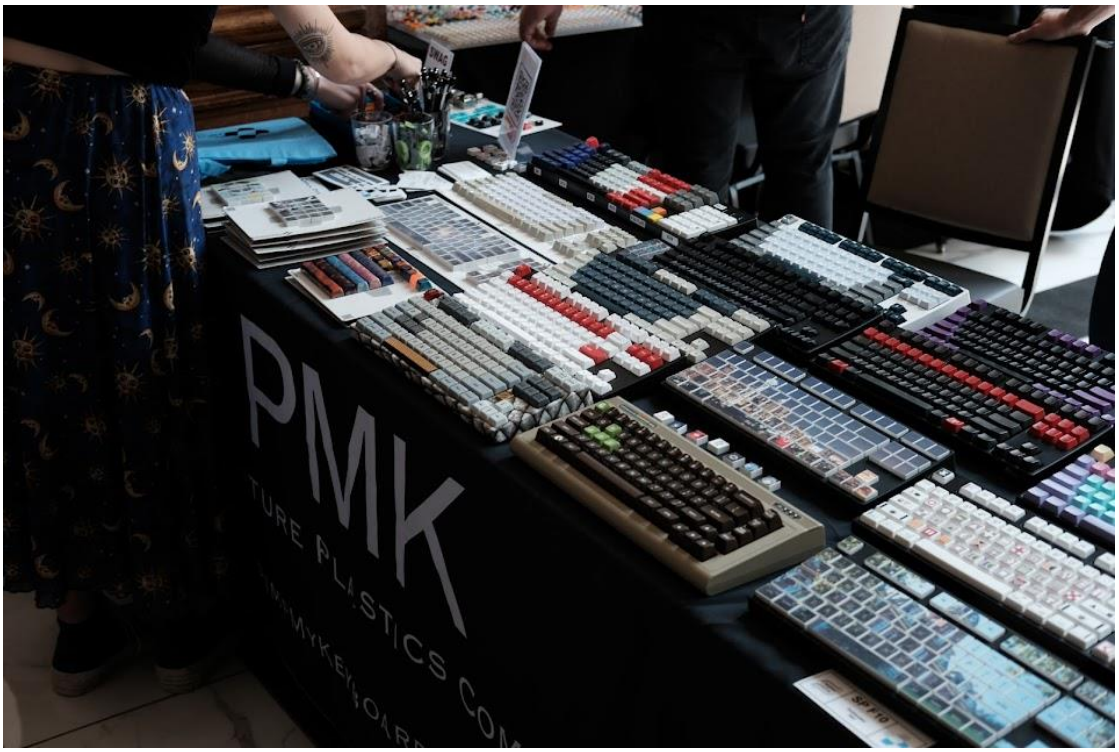



**Figure 4:** Signature Plastics/Pimp My Keyboard with a whole library of famous keycaps from over the years.

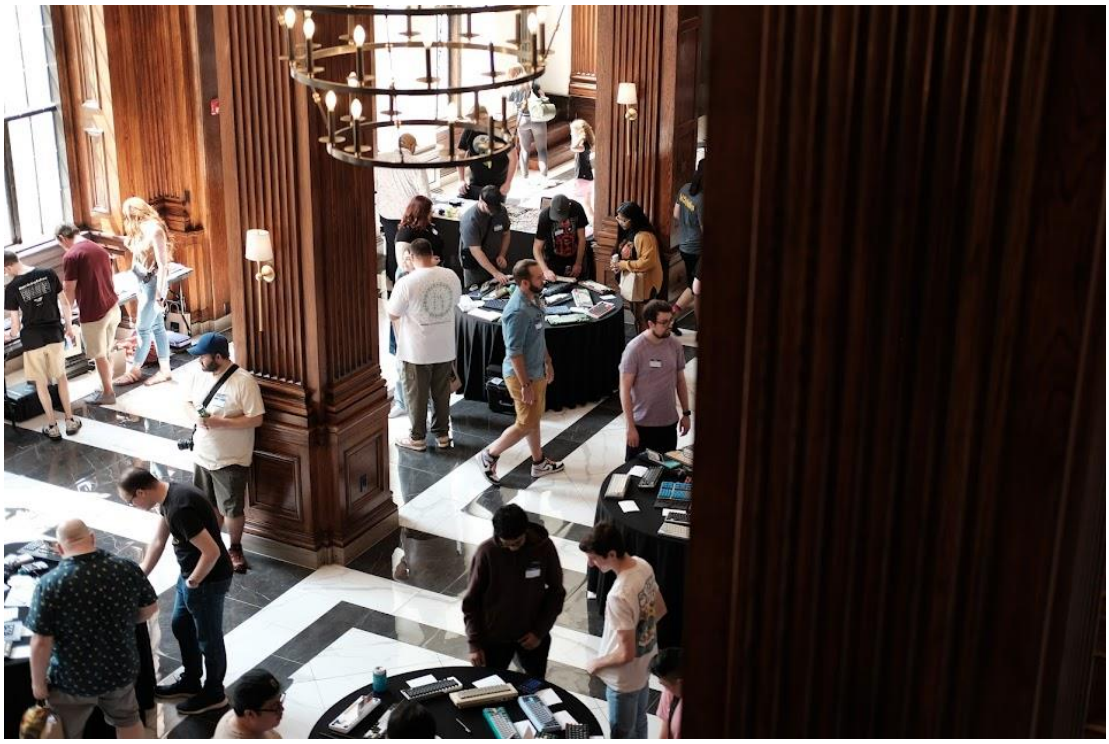


**Figure 3:** And perhaps one of my favorite photos of the people and venue that marcusant took from the balcony.

## Switch Background

Admittedly, it's a bit hard to provide historical background to a switch as new as Cherry MX2A RGB Blacks which were only announced on August 24th, 2023 – a meager handful of days before the posting of this review. Even attempting to corner a short and sweet look back on their ancestors would be a daunting enough task to require its own article which could probably double as a full-length novel. To provide some brief mile markers to make you realize that I'm not just trying to weasel my way out of extra writing, the very first full-black Cherry MX Blacks were released in 1984, making them not only among the very first mechanical keyboard switches of their style but also *39 years old* this year. Even the RGB variants of the original MX Blacks are pushing nearly a decade old, having been released in 2014 as part of a collaboration with Corsair to provide more RGB LED-friendly switches to go with their shine through style OEM keycaps. Most recently, variants of MX Blacks in the form of Cherry MX 'Hyperglides' and 'Black Clear Tops', otherwise known as 'New Nixies', have sprouted up, arriving in November of 2020 and November of 2022, respectively. And as for all of Cherry's tweaks and revisions to MX Blacks in between all of these years spanning from 1984 to August of 2023? *There's literally no telling how many there have been.*

**Figure 4:** Cherry MX Black variation family including a 'New Nixie', OG Nixie, MX Black, and MX2A RGB Black.

See, if you've been around the mechanical keyboard hobby for any length of time, you're bound to have heard several designations thrown arounds for various types of MX Black switches. In addition to the 'RGB', 'All-Black', and 'Hyperglide' variants denoted more discreetly above, you've probably also encountered 'Vintage', 'NOS', and 'Pre-tool'/'Re-tool' classifications of Cherry MX Blacks as well. While the former set of adjectives plainly describe physical attributes and constructions of the switches were are mostly easy enough to denote by eye, the latter refer to specific molds, production conditions, and design tweaks that have occurred throughout the history of Cherry without any explicit statement from the company at large. While you may feel like the phrases 'Vintage', 'NOS', and 'Pre-tool' mean explicit, set in stone things for you and your MX Blacks, I hate to break it to you that that's more or less entirely in your head. Cherry has made countless revisions, tweaks, and minor production adjustments to its MX Black switches over the years that are so small and so poorly documented that the true range of variability out there among Cherry's switches is both unknown and almost certainly utterly unknowable. That is, at least until now. The singular contextually and historically important point to be made about the release of the Cherry MX2A lineup of switches is that Cherry is, for the very first time, being explicit and direct in explaining to everyone what their minor changes are in their switches. Instead of finding out years down the road that Cherry had started referring to their improved switches as 'MX2A' some vague time at the end of 2023, we have an explicit line in the sand drawn that will allow for differentiation of MX and MX2A switches. So let's take advantage of this and make the distinctions clear.

Marketed as the "new hallmark of mechanical switch performance" on Cherry's announcement page, the MX2A designation refers to a sweeping set of changes to the design and constructions of the housings, stems, springs, and factory lubrication of Cherry's core lineup of switches. This core lineup includes Cherry Red, Black, Brown, Blue, Speed Silver, and Silent Red switches in both full-black and RGB style housings as well as 3-pin and 5-pin bottom housings. (That is a total of 4 variations of each color of switch with the changes to the designs occurring equally across all variations. See table below the list of noted changes with each variant's associated part code.) Structural changes stated in Cherry's announcement for the MX2A switch designs include the following:

-New guidance ribs in the top housings and bottom housings to minimize friction and help straighten stem travel vertically during the keystroke.

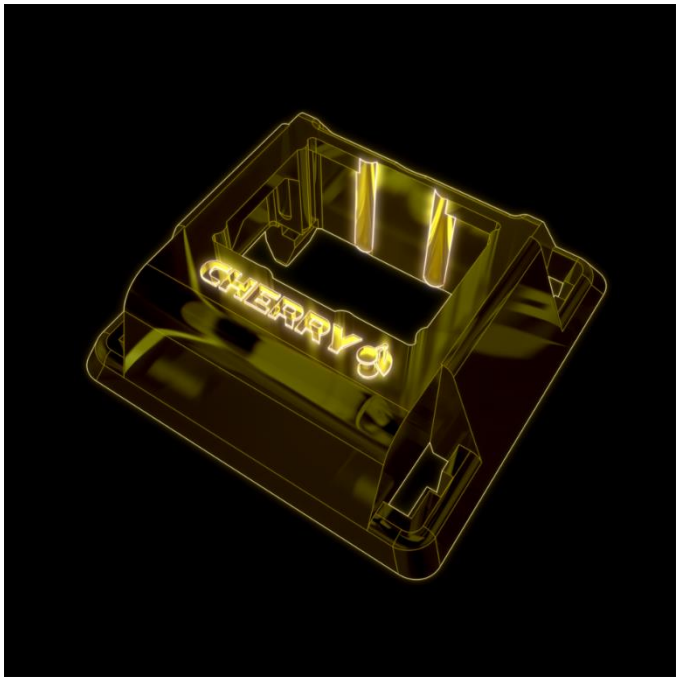



**Figure 7:** Top housing changes to the nameplate orientation and guider rails as highlighted in Cherry's MX2A announcement page.

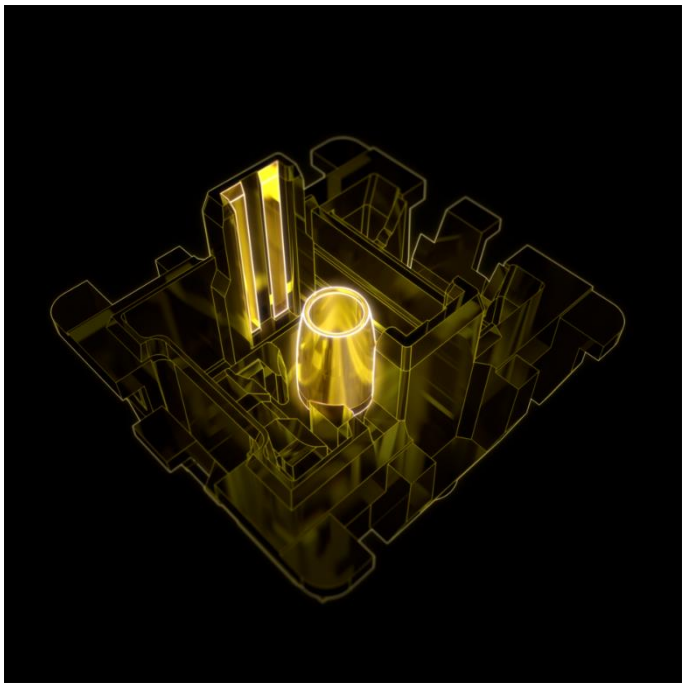


**Figure 8:** Bottom housing changes to the 'socket dome' and the slider rails as highlighted in Cherry's MX2A announcement page.

-Changes in the radius and factory lubrication of the “socket dome” referred to previously in reviews here as the ‘center pole hole’ of the bottom housing.

-Change in shape of springs from perfectly cylindrical to ‘barrel’ shaped, with a slightly larger radius for the center of the springs than the edges to help prevent buckling during pressing.

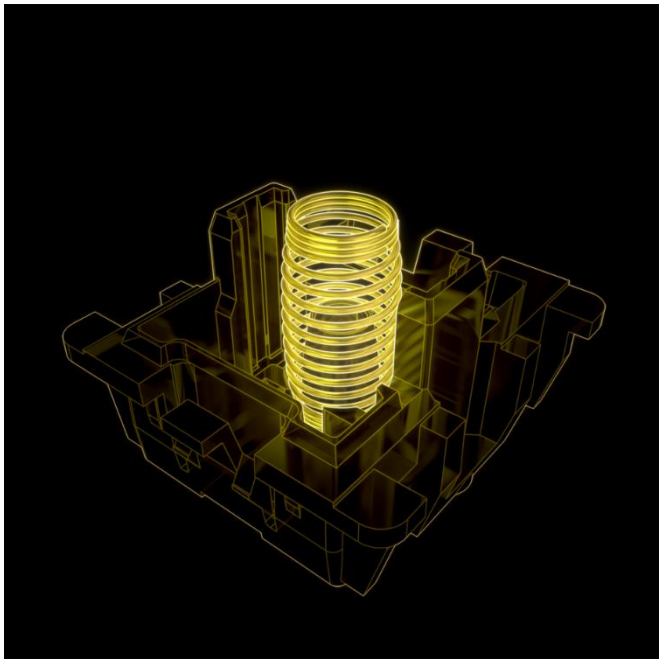


**Figure 5:** Introduction of 'barrel' shaped spring design as highlighted in Cherry's MX2A announcement page.

-Introduction of ‘stem crowns’ on the interior rim of the MX2A stems which interface with the spring and ‘reduce wobble’.

**Figure 6:** Introduction of stem 'crowns' in the interior of the MX2A stems as highlighted in Cherry's MX2A announcement page.

-Flipping of the ‘Cherry’ stylized logo nameplate to an ‘upside down’ configuration as can be seen in Figure 7, above.

-Each Cherry MX2A switch variation will receive new part code designations similar to, yet different from existing product code lines. These have been gleaned from already publicly available data sheets and are as follows:

| Cherry MX2A Part Codes | Housing | | Pin # | | Part Number |
|---|---|---|---|---|---|
| | Black | RGB | 3 Pin | 5 Pin | |
| Red | x | | x | | MX2A-L1NN |
| | x | | | x | MX2A-L1NW |
| | | x | x | | MX2A-L1NA |
| | | x | | x | MX2A-L1NB |
| Black | x | | x | | MX2A-11NN |
| | x | | | x | MX2A-11NW |
| | | x | x | | MX2A-11NA |
| | | x | | x | MX2A-11NB |
| Brown | x | | x | | MX2A-G1NN |
| | x | | | x | MX2A-G1NW |
| | | x | x | | MX2A-G1NA |
| | | x | | x | MX2A-G1NB |
| Blue | x | | x | | MX2A-E1NN |
| | x | | | x | MX2A-E1NW |
| | | x | x | | MX2A-E1NA |
| | | x | | x | MX2A-E1NB |
| Speed Silver | x | | x | | MX2A-51NN |
| | x | | | x | MX2A-51NW |
| | | x | x | | MX2A-51NA |
| | | x | | x | MX2A-51NB |
| Silent Red | x | | x | | MX2A-71NN |
| | x | | | x | MX2A-71NW |
| | | x | x | | MX2A-71NA |
| | | x | | x | MX2A-71NB |

**Figure 7:** Part codes for initially released MX2A switches at the point of launch date in August of 2023.

In addition to the changes to the structural design of the MX-style of switches which are noted by Cherry, shipping and production shifts have also been suggested with a larger emphasis on across-the-board switch improvement as well as more ‘eco-friendly’ shipping. Rather than shipping in the large, four-compartment plastic containers commonly associated with bulk orders of Cherry switches, releases of MX2A switches will come in large polyethylene bags which are said to save nearly 17.5 tons of plastic per 100,000,000 switches produce and to increase packing efficiency on pallets by nearly 35%. However, what remains uncertain in the days following the announcement of the MX2A switches is if the changes to switch design as well as the packaging initiatives will entirely replace the original MX design or simply supplement the already ubiquitous line of switches. While several large media outlets who have teams of writers, editors, and significantly more cash flow than me have reported that the Global VP of Sales for Cherry, Jim Foster, has stated that the MX2A line of switches will supplement existing MX lines of switches for a slightly higher price point, Cherry’s marketing team on various social media platforms have vaguely insinuated that “This [MX2A] will replace the current portfolio.” As of the time of publishing this review, the roll out of these switches by consumer-accessible vendors, their associated price point, and whether or not the MX2A line will entirely supersede MX line of switches is still currently unknown.*

*Editorial Note: I can at least say with confidence that production of all lines of MX2A switches have already been occurring for at least months prior to their announcement on August 24th, 2023. As can be seen below, batches I received of MX2A switches include date of production stamps for July 4th and June 22nd of 2023.


**Figure 8:** Examples of production stickers featuring two different dates from bags of MX2A switches I received from Cherry.

## MX2A RGB Black Switch Performance

*Another Note:* Throughout this review I will be making direct comparisons between MX and MX2A design features by way of photographs. To help make these distinctions clear, MX style housing and stem designs are being represented by an MX RGB Red switch whereas the MX2A designs will be represented by MX2A RGB Black switches. The only functional difference between MX RGB Red and MX RGB Black switches are their spring weights and thus these comparisons do not imply any differences that need to be considered by you when viewing.

Appearance

At the highest level, the Cherry MX2A RGB Black switches look… well exactly like any other Cherry MX RGB switch. Coming in a clear over milky-yellow bottom housing configuration, the MX2A RGB Blacks are designed in such a fashion as to allow increased RGB light transmittance through the switch-plate layer of the keyboard build as compared to something like Cherry's original opaque black housing construction. Externally, the most notable feature that will help in differentiating the MX2A from MX housings moving forward is that of the flipped or upside-down nameplates present in Cherry's MX2A switches. A better depiction of this flipped nameplate construction relative to the original MX style design, as well as many other subtle mold features, may be found below in the following paragraphs.

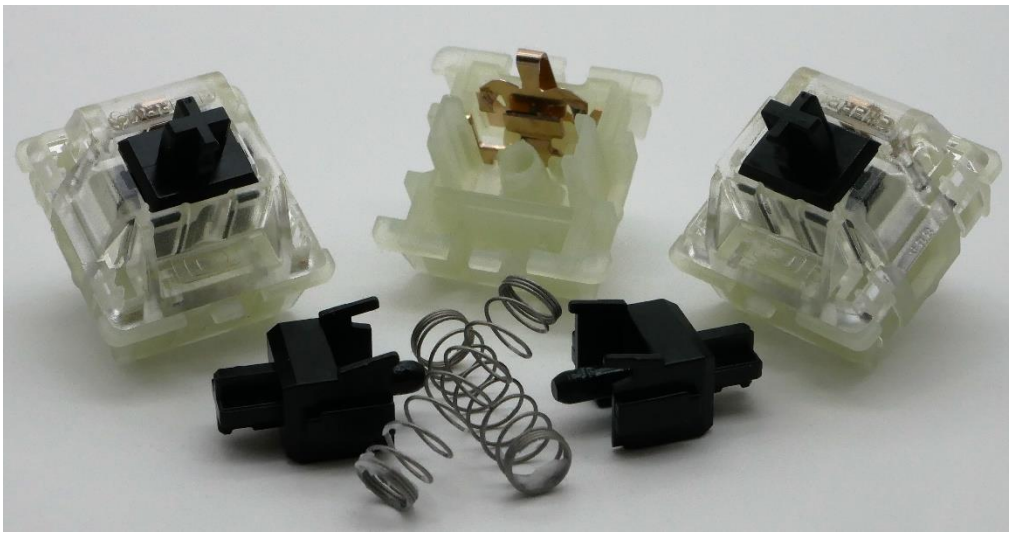


**Figure 10:** Cherry MX2A RGB Black switches and their components.

First looking at the top housings of the MX2A RGB Black switches, its evident right off the bat that these are in fact structurally different than the original MX designs. All of the features noted above in the background section, as well as a few other surprises not documented there, are able to be seen when directly comparing the MX to MX2A housings. First and foremost of note is that of the flipped nameplates of the MX2A housings, which have a slightly larger font size and boldness to them than the original MX RGB top housings. Externally, as well, it's worth noting that the top housing attachment pins appear to have extra pairs of rails on the interior of them in MX2A top housings that are significantly smaller, if not altogether missing, in the MX style top housings. In the comparison photo of the exteriors of the MX and MX2A top housings below, it's also worth noting the differences in sharpness to certain subtle design features such as the small rectangular circles above the LED slot as well as the edge around the logo. The MX style top housing shown here would have likely came from some arbitrary point in the production history of Cherry's MX RGB switches rather than some of the very first batches like these MX2A RGB switches, showing a clear and definitive example of the subtle effects of mold wear from repeated production runs that has yet to be captured as cleanly in any other switch documentation that I'm aware of.

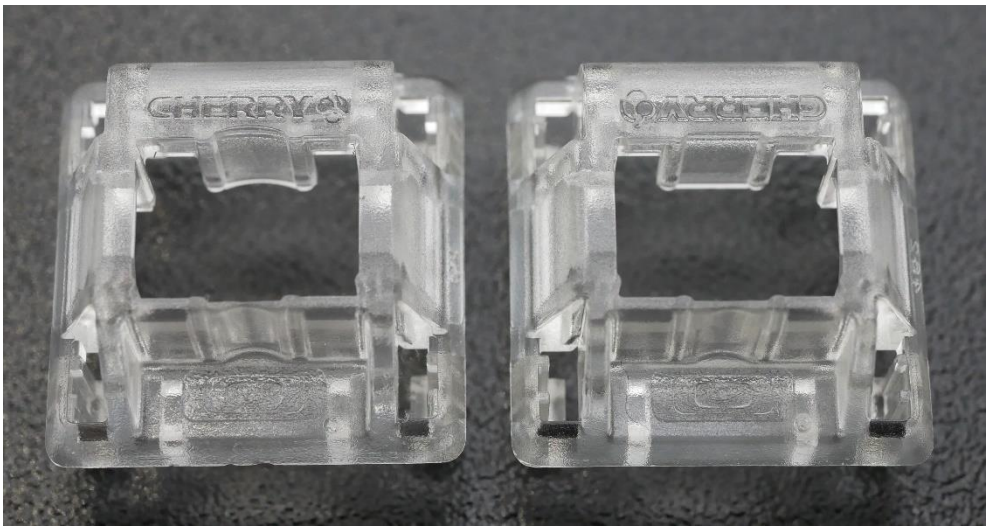


**Figure 9:** Top housing external design for MX (Left) and MX2A (Right) RGB switches showing differences in nameplate orientation, nameplate design, and guider rail configuration.

As for the interiors of the top housings, the noted changes to the top side guider rails is incredibly evident with the MX2A top housings having a more flat guider section with more pronounced rounded rails on either edge. By comparison, the MX RGB north side guider rail looks more like a half pipe with flattened bricks for rails on either side. Additionally, these differences in width and general shape of the guider rails is also apparent in the south side guiders as well. The only other point worth mentioning for the top housings is that of the mold marking being in an identical location albeit slightly larger and with finer lineage in the MX2A housings than the MX housings.

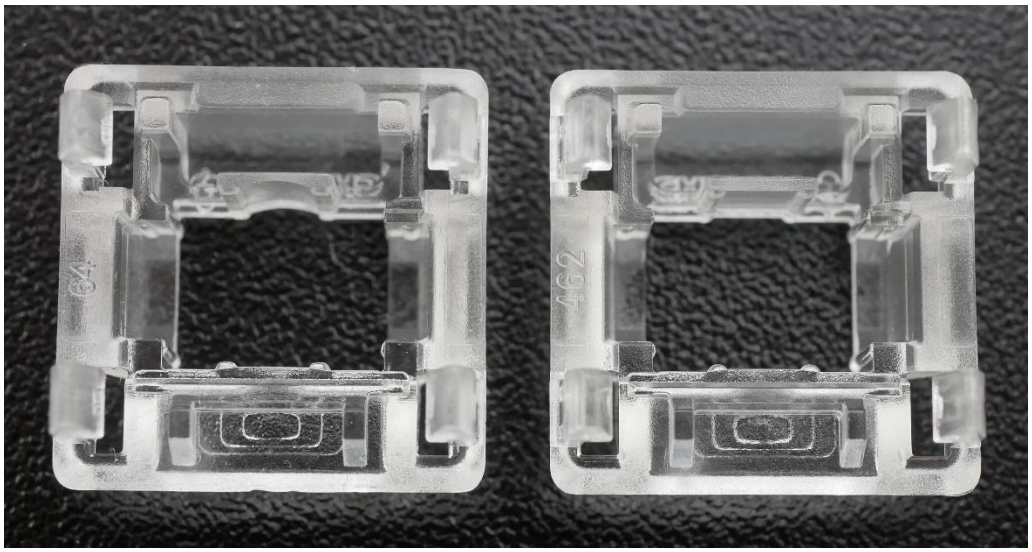


**Figure 11:** Top housing internal design for MX (Left) and MX2A (Right) RGB switches showing differences in guider rail configuration and mold marking size.

Moving next to the stems of the MX2A RGB Blacks, they are largely identical to that of the original MX style stem design as was heavily implied in Cherry's marketing. Comparing both the MX RGB Red and MX2A RGB Black stems next to each other reveals effectively no real changes to mold ejector circle or injection sprue markings, no differences in tapering of slider rails or center pole, nor any drastic changes to the squared off backplates commonly seen in most recent Cherry switch designs. The only features that immediately jump out as obvious is that of the increased presence of factory lube on the edges of the slider rails and the center pole in the MX2A Black stems as a result of the fairly heavy-handed factory lubing of the 'socket dome' in the bottom housing. As for the 'crowns' added to the very most inner parts of the stem where the center pole and rest of the construction meet, these too are very much present in the MX2A Black stems. That being said, however, they are *extremely* subtle and more than a pain in the ass to photograph. Thus, I was only able to successfully get a photo of a singular one as can be seen below in Figure 18.

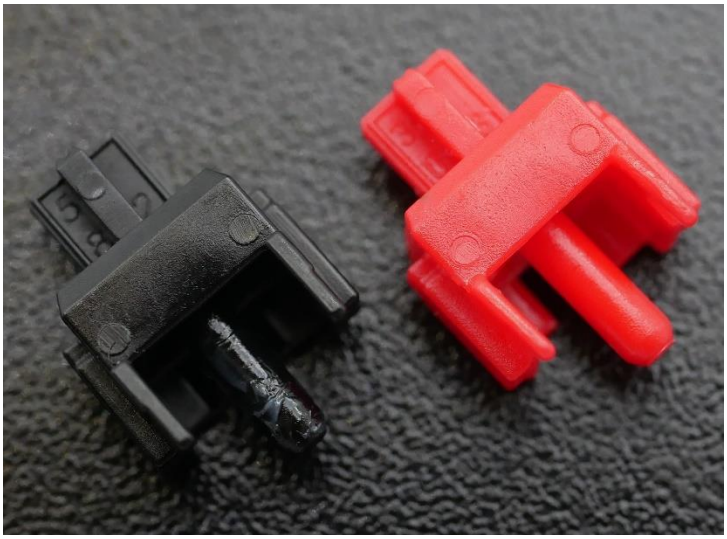


**Figure 12:** Front side of Cherry MX2A RGB Black and MX RGB Red stems showing no notable differences in structure or functionality save for excess lube on MX2A stem center pole.

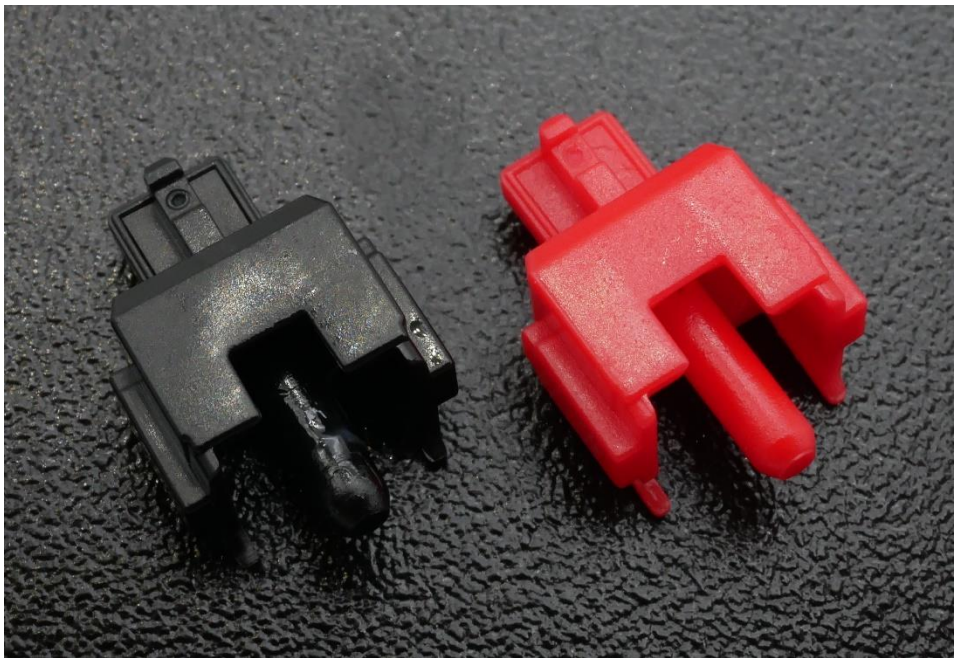


**Figure 14:** Back plate of Cherry MX2A RGB Black and MX RGB Red stems showing no significant differences in structure or functionality save for excess lube on MX2A stem center pole.

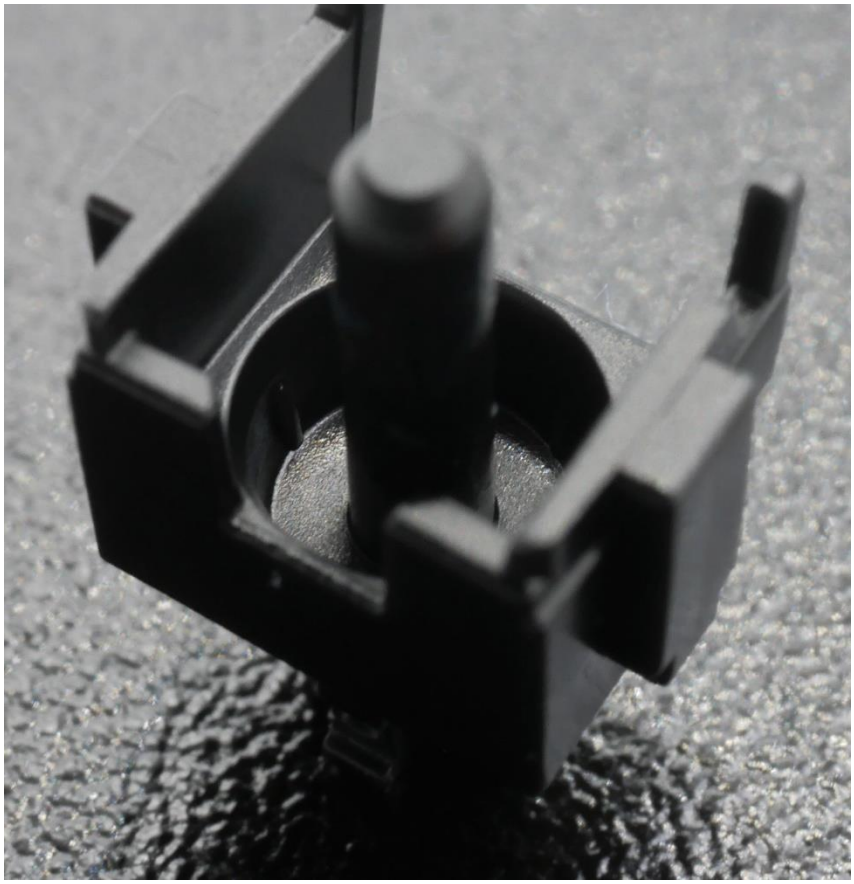


**Figure 13:** Photo demonstrating the location and extremely small size of Cherry MX2A stem 'crown' points.

Stopping next at the new ‘barrel style’ springs of the MX2A RGB Black switches, I’ll be the first to admit that the difference is noticeable but beyond subtle. In fact, I’d be willing to wager that had Cherry not explicitly mentioned this detail in their marketing advertisements that it would have passed by the vast majority of users altogether. While it is slightly easier to see the center rotations of the spring bow out beyond the edges of either end of the spring when compressing them in hand, I had a hell of a time photographing his feature without it seeming like the spring was being pressed non-uniformly. Instead, I opted to photograph the Cherry MX RGB Red spring (gold) next to that of the Cherry MX2A RGB Black spring (silver, appearing freshly picked from a snowbank) and then lined them up with a yellow line that was flush with the compacted ends of the spring. While it will certainly be impossible for you mobile readers out there to catch this, the die-hard readers on desktop will be able to zoom in to the lined Figure 20 to see that the coils of the silver, barrel style spring break that straight line between spring ends that is not broken in the MX, normal style springs and thus indicate that they have a slightly larger radius than either end.

**Figure 19:** Unmarked comparison of Cherry MX RGB Red (Gold, Left) spring and Cherry MX2A RGB Black (Silver, Right) spring.

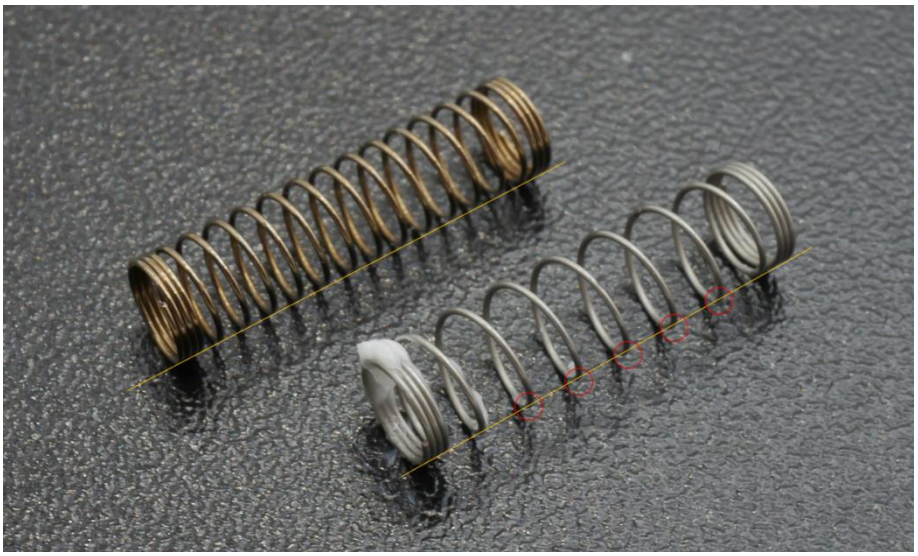


**Figure 20:** Marked comparison of Cherry MX RGB Red (Gold, Left) spring and Cherry MX2A RGB Black (Silver, Right) spring showing the extremely subtle bowing of the center coils in the MX2A design.

Finally arriving at the bottom housings of the MX2A RGB Black switches, we find Cherry's marketing claims of differences begin to become a bit more strained. While I understand that many of you would already claim the aforementioned differences in this section to be hardly noticeable or noteworthy at all, when even I'm struggling to pick out the differences you know that it's got to be subtle. What certainly isn't debatable, though, is Cherry's usage of factory lube around the 'socket dome' in the bottom housings. As can be seen below in Figure 21, they absolutely dumped it on and even after handling the open switch components for quite some time before taking photographs, the lube remains largely intact and not wiped off. However, changes to the slider rail structure in the bottom housings seem… almost nonexistent? I can swear that I see a slight curve in the shape of the slider rail centers in the MX2A housings that is otherwise flat in the MX slider rails, but looking at it from a side profile does not make this feature all that noticeable. As well, I have no real ability to ascertain differences in 'socket dome' geometry even with all of the lube cleaned off, leaving me guess as to what explicit differences were actually made. As for the exteriors of the bottom housings, they too are largely similar with the only exception being the new lack of capital letter mold markings in the bottom right-hand corner of the MX2A switches. The same vertical, three-digit bottom housing mold marking common to all other Cherry switches is still present though.

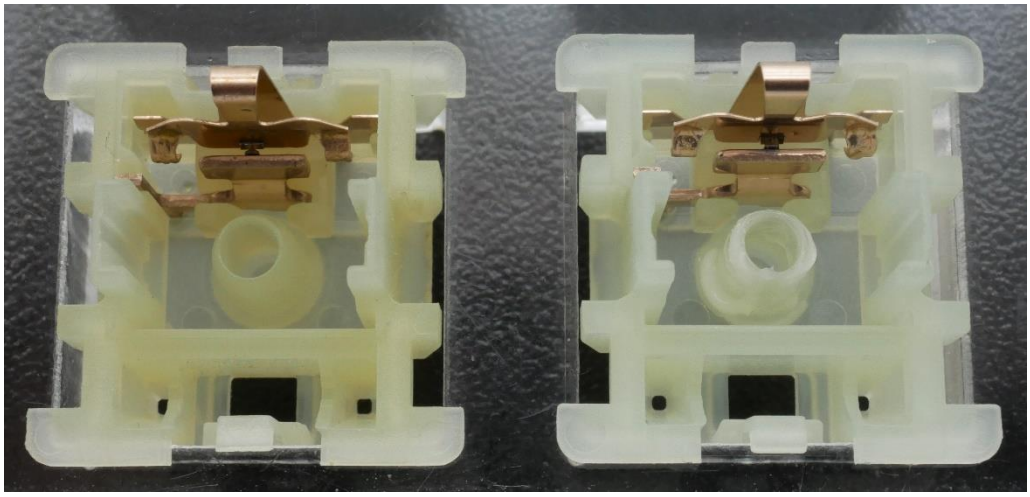


**Figure 16:** Bottom housing internal design for MX (Left) and MX2A (Right) RGB switches showing subtle differences in color, factory lube application, and slider rail structure.

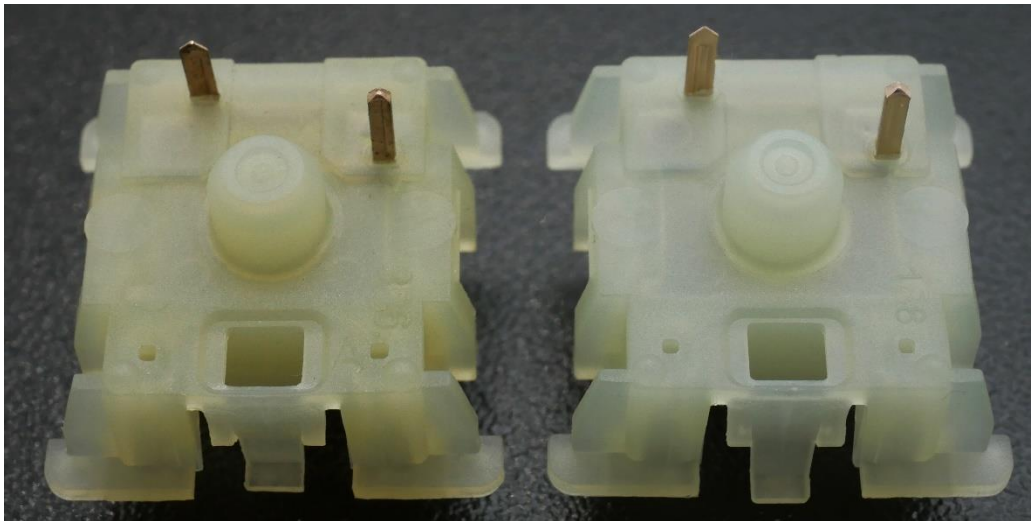


**Figure 15:** Bottom housing external design for MX (Left) and MX2A (Right) RGB switches showing subtle differences in color and mold markings in bottom right-hand corner.

A final note worth making about the bottom housings that many readers likely picked up on is the subtle differences in color between the MX and MX2A housings as seen above. Without MX2A switches having existed for long stretches of time, I am uncertain if this difference noted is an out-the-door production difference or yellowing as a result of simple aging. Noting that other milky style housings used in switches like Gateron Tangerine V1s have also slightly yellowed over time, I'm going to assume the differences are due to my MX RGB switches being anywhere from 2-10 years older than my MX2A RGB switches.

Push Feel

Being among the strongest of Cherry's common switch offerings, the MX2A RGB Black switches are fairly heavy at a roughly 85 gf bottoming out weight at a full 4.00 mm of stem travel distance. And while this could easily be claimed to have just been read directly off of Cherry's spec sheets for these switches, its more than born out in their force curve below in Figure 23. While there are some extremely subtle differences on this bottoming out force and total travel distance as a result of manufacturing tolerances and the nature of injection molded plastic parts, the entire batch of MX2A RGB Blacks that I received are incredibly consistent on a switch-to-switch basis. In fact, I'll go as far as to say that all notes made in both this section, as well as the Sound section below it, can be considered to be more or less uniform across the lot of MX2A switches that you would pick up.

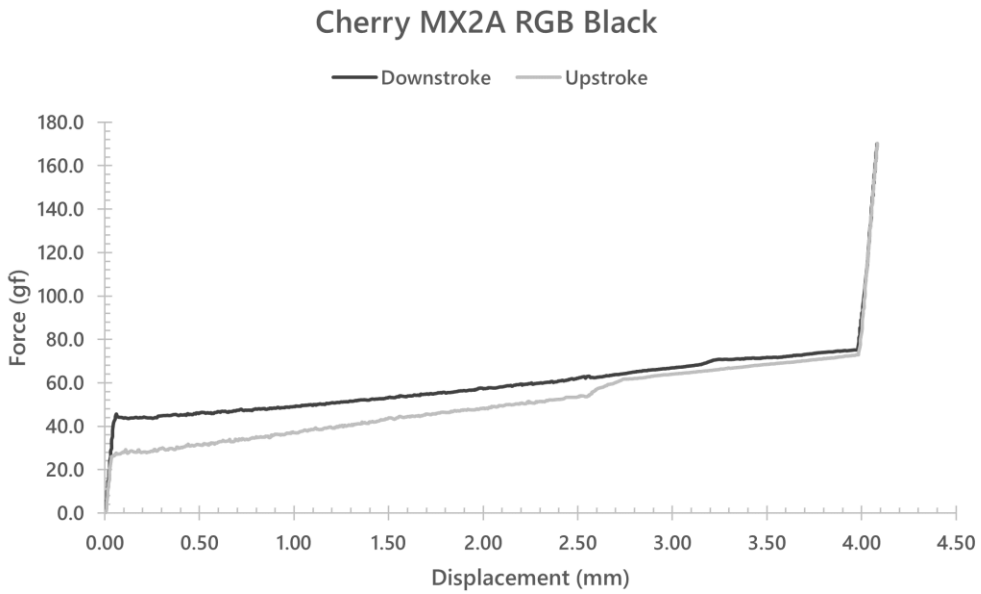



**Figure 17:** Force curve diagram for stock Cherry MX2A RGB Black switches.

Knowing that Cherry was accurate in their portrayal of the measurable performance characteristics of the MX2A switches, many people would likely go ahead and jump to the assumption that their marketing surrounding the more subjective performance notes to be true as well. If you were one of those readers that made that assumption, I'm glad/hate to inform you that it's kind of true. True in the most technically true of ways, as if that makes it any better. The smoothness of the MX2A RGB Black switches is somewhat improved by the 'ring lubrication around on the socket dome' as shown above in the Appearance section of the review, that much is true. However, the visually heavy-handed amount of factory lube really only does decrease the scratch in the bottom half of the stroke without altogether eliminating it. Much like the original Cherry MX  switches before these, there's scratch. There is a noticeable amount of medium grain, sandpaper like quality that is present throughout the stroke that simply isn't there in more polished, premium offerings from other switch manufacturers. Even though it

is certainly lesser than what many people may recall from their first incredibly scratchy Cherry switches they tried a handful of years ago, it's not *drastically* improved to any degree here and the ramped-up factory lube only seems to dampen it on the tail end of the stroke directly out of the box. While it does appear that this heavy lube does migrate over time with more broken in MX2A RGB Black switches, as can be seen in the Break-In testing below, I'm not sure users would be happy with being told that they've got smooth* switches, with the asterisk referring to the fact that they have to use them for months on end first before they become more uniformly smooth.

As for the housing collisions of the MX2A RGB Blacks, they are fairly muted and firm on the full spectrum of all modern switches that have ever been made while still being far from Cherry's best designs they've ran. Due largely in part due to the two-tone RGB style construction of the housings, the clear upper portion of the housing is a bit more thin and has a bit more of a biting kick to it on upstroke collision than the downstroke one. While I normally don't think this subtle degree of difference would matter as much to me, it does become a lot more noticeable at faster typing speeds and makes for a sort of different feeling bottom out depending on how fast you get going with your copypasta. Do I think that this is an issue in the all-black, opaque housings of the traditional Cherry variety? No. While I have no MX2A all-black switches try here for the sake of comparison, this sort of slightly thinner than desirable, two-part housing collision nitpick is something I fully believe to be a function of the RGB housing design and *not* the MX2A design.

Sound

While the Push Feel section above does well to really set the stage for the types of sounds that you can expect out of the MX2A RGB Black switches, I don't think it quite does justice to the extent to which those sounds are present. By comparison, the *sound* of the scratch and of the housing collisions is much more jarring and noticeable during use than their respective appearance in the actual push feeling of the switch. The largest portion of the sound of the MX2A RGB Black switches comes by way of scratch, which audibly presents as a bit more light and airy than the original medium-fine sandpaper analogy that I used in the previous section. Much like with the push feeling, this scratch sound is also dampened towards the downstroke, becoming a bit more muted and blending in with the almost muted bottom housing collision. On the return though, the scratch sound picks up as you approach the topping out which has just a touch more of a sharpened, higher pitch to it than the bottom out. All of these features as well – the slightly separated housing collisions, the scratch sound, and the variation in scratch tone – also become more apparent and aggressive at higher actuation speeds. While most of these features do drop off quite significantly with any degree of aftermarket lubrication, out of the box it is hard to escape the scratch that is present in the sound of these switches.

To give some credit where credit is due, Cherry's marketing surrounding the reduced ping as a result of the stem crown points and the barrel-shaped spring design do somewhat seem to hold true in the batch that I received. While there is some errant leaf noise that provides a metallic tone to keystrokes at higher actuation speeds, I don't seem to be able to get that sort of ring-y, metallic tinny tone that is associated with spring ping to show up in the switches I'm testing by ear. Comparatively, though, I at least didn't get all that much in my original MX RGB Black switches either. This could indicate that the MX2A marketing is perhaps doubling down on something already present in most MX switches, or perhaps that the heavier spring weight of the MX and MX2A Blacks make the springs less likely to jump around and ping than say lighter springs like that of MX and MX2A Reds.

Wobble

In a surprisingly similar fashion to the Cherry MX 'New Nixie' switches, the MX2A RGB Blacks have more stem wobble in the E/W direction than the N/S direction. Unlike the New Nixies, however, the MX2A RGB Blacks have a bit more of an average amount of stem wobble – not likely enough to bother most users but could potentially bother you if you're more perceptive of stem wobble and/or building a board that accentuates that a bit. The other surprising feature of the MX2A RGB Black switches is that they have an ever so slight budge in the top housings in both the N/S and E/W directions. While this almost certainly would not matter when placed into a plate and used as intended, this isn't exactly the norm among most switches nowadays. On the bright side, though, this may allow more dedicated switch modification enthusiasts to shoehorn films into yet another switch.

Measurements

| ***Cherry MX2A RGB Black Switch Measurements*** | | | |
|---|---|---|---|
| **Component** | | **Denotation** | **mm.** |
| Stem | Front/Back Plate Length | A | 7.04 |
| | Stem Width | B | 5.52 |
| | Stem Length with Rails | C | 8.56 |
| | Rail Width | D | 2.16 |
| | Center Pole Width | E | 1.88 |
| | Rail Height | F | 5.07 |
| | Total Stem Height | G | 12.41 |
| | | | |
| Bottom Housing | Diagonal Between Rails | L | 9.46 |
| | Interior Length Across | M | 9.58 |
| | Rail Width | N | 2.66 |
| | Center Hole Diameter | O | 2.31 |
| | | | |
| Top Housing | Horizontal Stem Gap | X | 7.77 |
| | 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.

| Cherry MX2A RGB Black | |
|---|---|
| *Switch Type: Linear* | *Cherry* |
| Total Stem Travel | 3.995 mm |
| Peak Force | 85.3 gf |
| Bottom Out Force | 85.3 gf |
| # of Upstroke Points | 1035 |
| # of Downstroke Points | 1279 |

**Figure 18:** Numerical details regarding the stock Cherry MX2A RGB Black 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

| ***Cherry MX2A RGB Black Break In Testing*** | | | |
|---|---|---|---|
| **Metric** | **Activations** | | |
| | **17,000** | **34,000** | **51,000** |
| Push Feel (Overall) | + | + | ++ |
| Smoothness | + | + | ++ |
| Ping (Spring/Leaf) | | | |
| Wobble (Overall) | | - | - |
| Stem Wobble | | - | - |
| Top Housing Wobble | | | |
| Sound (Overall) | | | + |
| Scratchiness | + | + | ++ |
| Ping (Spring/Leaf) | - | - | - |

| **Color Scale** | | | |
|---|---|---|---|
| Improvement | + | ++ | +++ |
| Deterioriation | - | -- | --- |
| Null Change | | | |

**Break In Notes:**

17,000 Actuations

- At even just 17,000 actuations, the Cherry MX2A RGB Black switches seem to improve quite noticeably with respect to their scratch in terms of both sound and push feeling. As mentioned above in the Push Feel section, it is very much as if the lube that is present more so at the base of the bottom housing and bottom edges of the slider rails begins to migrate up with usage and disperse more evenly, and thus more smoothly, along the slider rails.
- Interestingly, while there is a bit of a downtick in the sound presence of scratch, the metallic leaf noise that was noted in the sound of the stock switches begins to pick up a bit more. That being said, though, it has yet to pick up the high pitched, sharp, tinny noises commonly associated with the worst cases of spring and/or leaf ping.

34,000 Actuations

- At 34,000 actuations, the slight increase in stem wobble commonly seen in switches running through by break in testing shows up. Rather than increasingly uniformly across the board, it seems as if the N/S direction wobble increases a touch more to nearly match that of the E/W direction stem wobble in the stock switches.
- While the general push feeling and sound of the MX2A RGB Black switches broken out to 34,000 actuations doesn't really change much from their stock form, the overall consistency and uniformity of their feelings and sound do begin to waver a bit at this point.

51,000 Actuations

- At 51,000 actuations, the lube inside of the Chery MX2A RGB Blacks feels as if it has dispersed to such a degree that they may as well have been aftermarket lubed by hand. Hell, I'm willing to put it out there that I've definitely lubed switches worse myself than how these switches broke in over time. While I've never generally been much of an advocate for an arduous break in period for switches going into a daily driver keyboard, this is the shining example of a switch that I will point back to that genuinely wholly benefits from a break in period.

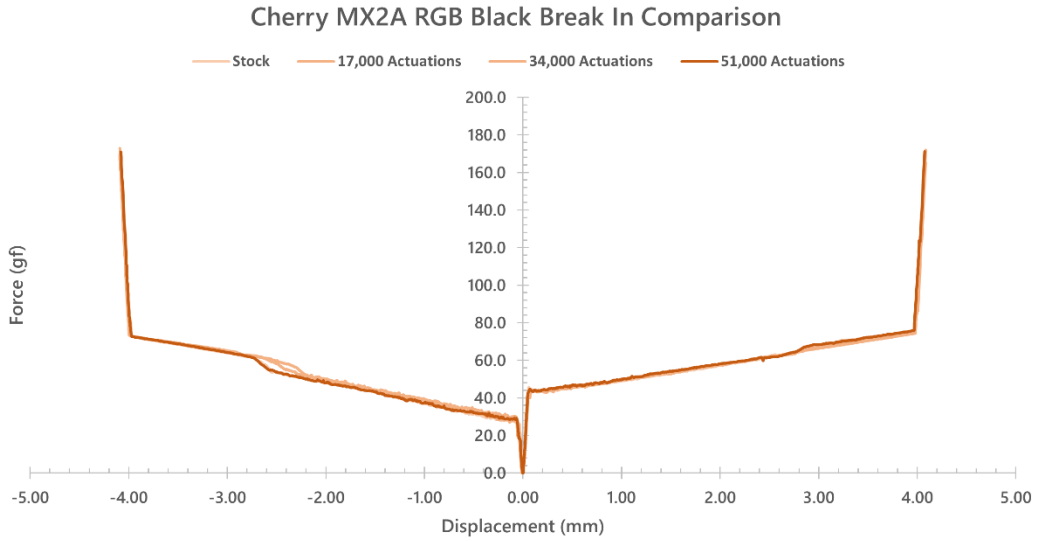



**Figure 19:** Comparative force curve diagram showing no distinctive trend in change of the Cherry MX2A RGB Black force curve diagrams throughout the break in process.

## 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 MX2A RGB Blacks side by side.

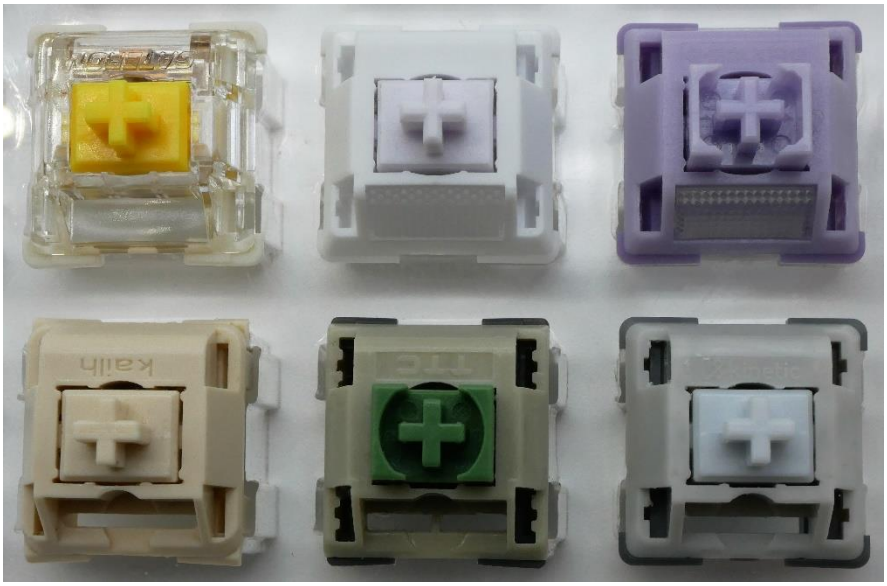
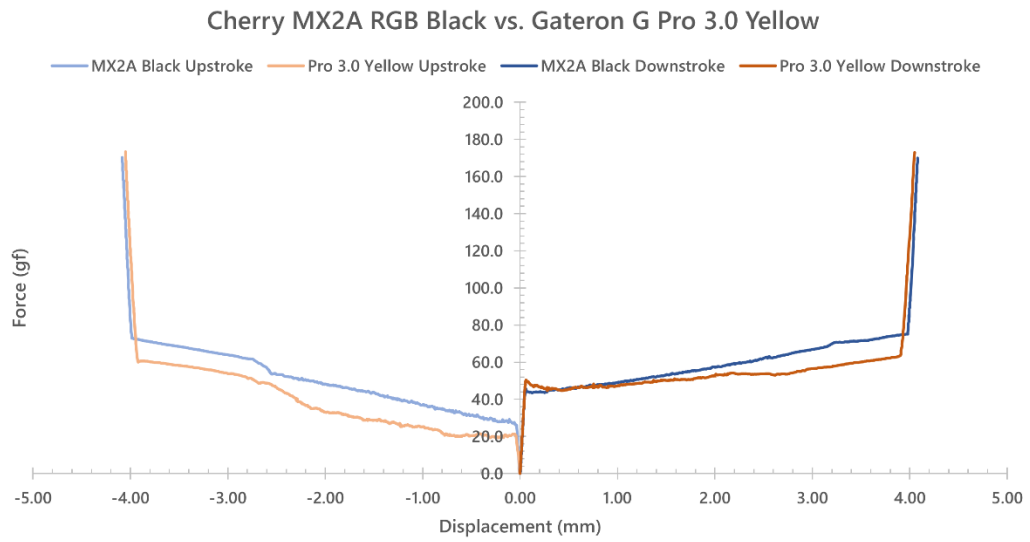


**Figure 20:** Switches for comparison. (L-R, Top-Bot: Gateron G Pro 3.0 Yellow, Wuque Studio Morandi, EMT V2, Novelkeys Cream, TTC Wild (42g), and Husky)

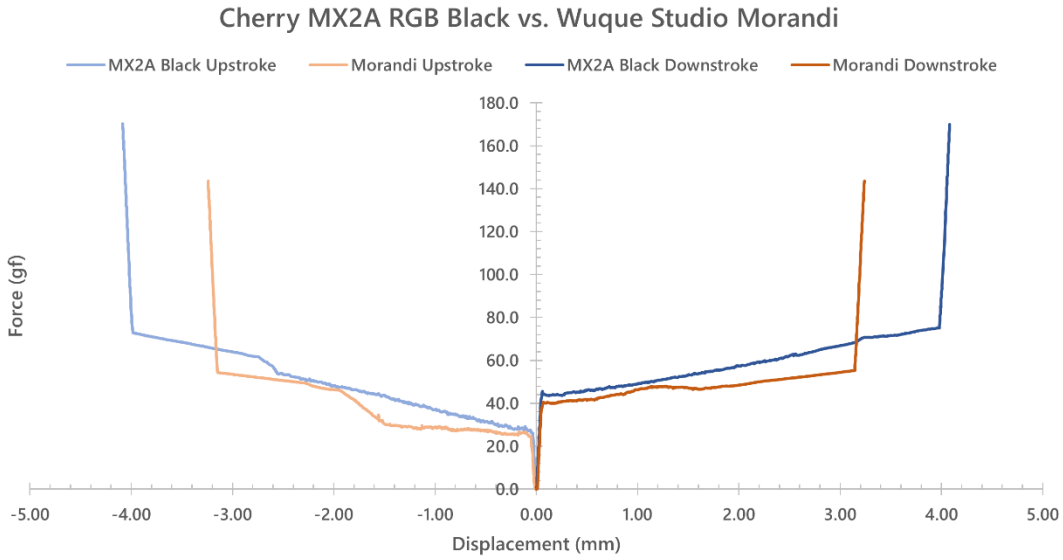
<u>Gateron G Pro 3.0 Yellow</u>

- Unsurprisingly, Gateron's latest and greatest when it comes to factory lubing still cleanly beats out Cherry's latest in the MX2A RGB Black switches. That's not to say that I think Cherry necessarily *can't* do better, but Gateron has been more or less untouchable on this point for the past year or so.
- There is less stem wobble in the Gateron G Pro 3.0 Yellows than in the MX2A RGB Blacks in both the N/S and E/W directions.
- Even though these switches may initially appear like they might sound similar, they actually are fairly different in a couple of ways. The first and most obvious is that of the metallic leaf-based noise that is more noticeable in the MX2A RGB Black switches that isn't present in the G Pro 3.0 Yellows. The second is that of the housing collisions in the Yellows which come about with a slightly louder, more well-rounded, and less muted noise than the housing collisions in the Blacks.



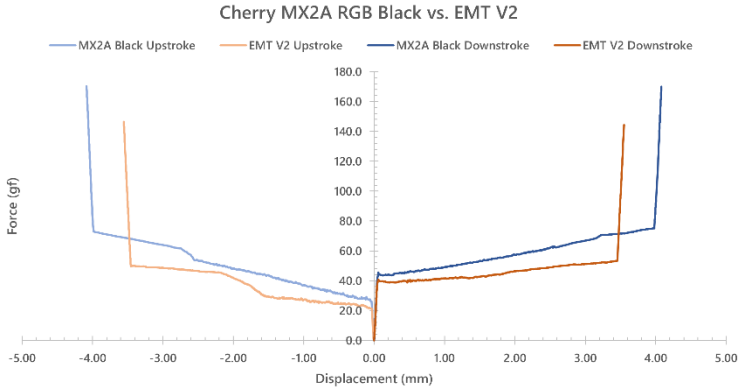

Wuque Studio Morandi

- In terms of bottoming out, the slightly longer pole on the Wuque Studio Morandis makes their bottoming outs both a bit more pointed and noticeable than that of the MX2A RGB Blacks.
- The factory lubrication on the Wuque Studio Morandi switches is drastically better than even the broken Cherry MX2A RGB Blacks making them significantly smoother throughout all phases of their stroke.
- While these two switches are fairly similar in terms of their N/S direction stem wobble, the MX2A RGB Blacks have quite a bit more E/W direction stem wobble than the Wuque Studio Morandi switches.



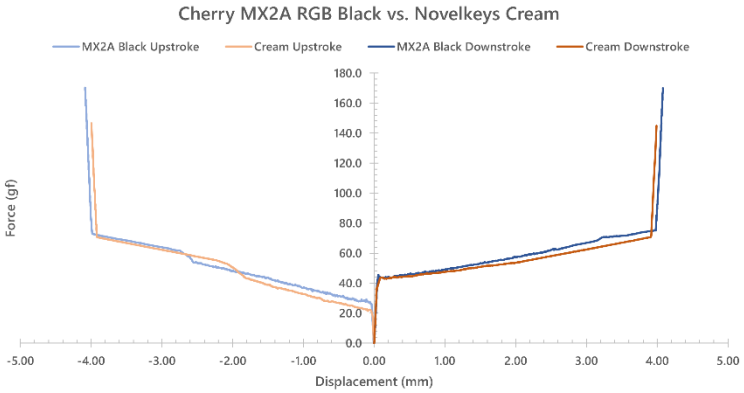
EMT V2

- Of all of the switches in this initial comparison list, the bottoming out of the EMT V2s is the furthest away from that of the Cherry MX2A RGB Blacks. The extended pole in the EMT V2s really does drive a comparatively sharpened, pointed charge into bottoming out that makes what little bottom out feeling that does exist in the Cherry switches seem almost altogether absent.
- While the Cherry MX2A RGB Blacks have more E/W direction stem wobble than the EMT V2s, the EMT V2s have more N/S direction stem wobble. Interestingly, the margin of differences in these two instances seem to be fairly close to each other as well.
- In terms of stock, out of the box smoothness the EMT V2s definitely do beat out the Cherry MX2A RGB Blacks. That being said, though, the gap in performance between the two on this smoothness metric is significantly narrowed when the MX2A RGB Blacks go through around 50,000 cycles of actuation on a break in machine.



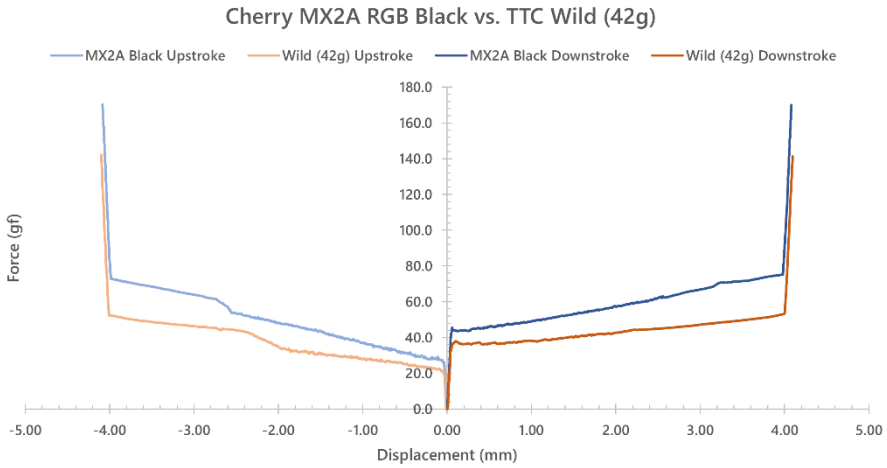

Novelkeys Cream

- Novelkeys Creams are another golden example of a switch that is not necessarily as good out of the box as compared to what it could become with just a touch bit of care and aftermarket love. All things considered, both of these switches do break in incredibly well and the Creams could probably be lubed fairly well to mimic the MX2A RGB Black switches after being broken into the point of good lube distribution.
- In terms of stem wobble, the original stock Novelkeys Creams are slightly worse in both N/S and E/W directions as compared to the Cherry MX2A RGB Blacks. In fact, some of the earliest batches of Creams also suffered from the same top housing budge noted above in the MX2A RGB Black review.
- In terms of housing collisions, the thin POM housings on the Creams not only feel much more thin and flimsy, but punch with a more whiny, higher pitched tone than the MX2A RGB Blacks.



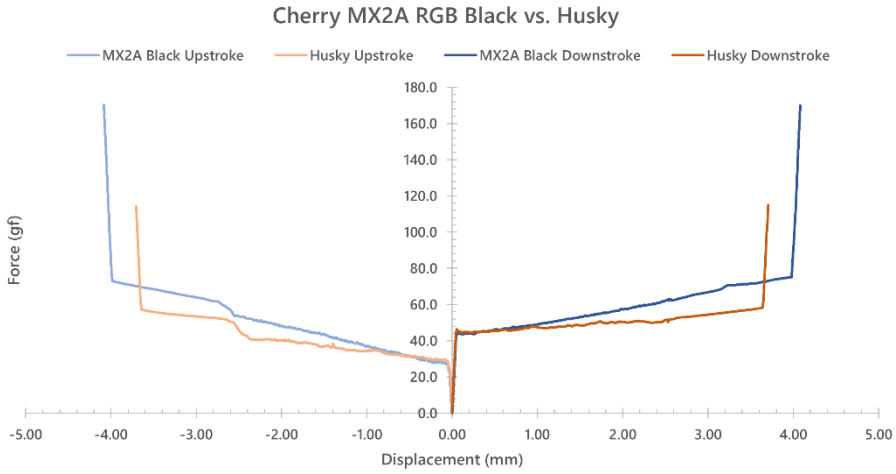
TTC Wild (42g.)

- Of all of the switches on this initial list, and even keeping in mind the spring weight difference, the TTC Wilds are the most similar to the MX2A RGB Blacks in terms of bottoming out. That being said, though, the bottoming out of the Wilds is *much* more softer and gentler as compared the more black hole like depth of the Cherry switches.
- The TTC Wilds have a bit less N/S stem wobble and a *lot* less E/W direction stem wobble than the Cherry MX2A RGB Blacks.
- In terms of smoothness, the TTC Wild switches clearly take the cake for their out of the box performance. In fact, most modern TTC switches generally would be smoother than most modern Cherry switches – MX or MX2A.




Husky

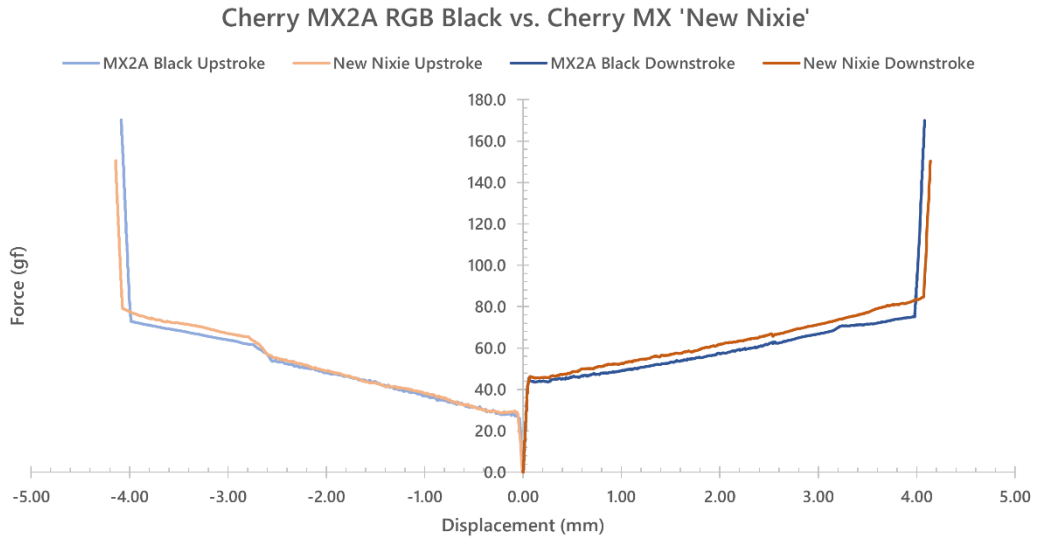
- While the Husky switches are not exactly the smoothest of linears on their own, they are still free from the medium-grain scratch that plagues the stock Cherry MX2A RGB Black switches.
- Both the bottoming out and topping out of the Husky switches is much more punchy and singular than the comparatively muted and 'spread out' housing collisions of the MX2A RGB Blacks.
- At 50,000 actuations, the Cherry MX2A RGB Blacks begin to feel fairly similar to the stock Husky switches in terms of smoothness, though the differences in housing collisions and leaf ping noticeable in the Cherry switches still makes them feel quite different from each other in spite of that similarity.



**Bonus Round**
It's a big review, why the hell not?

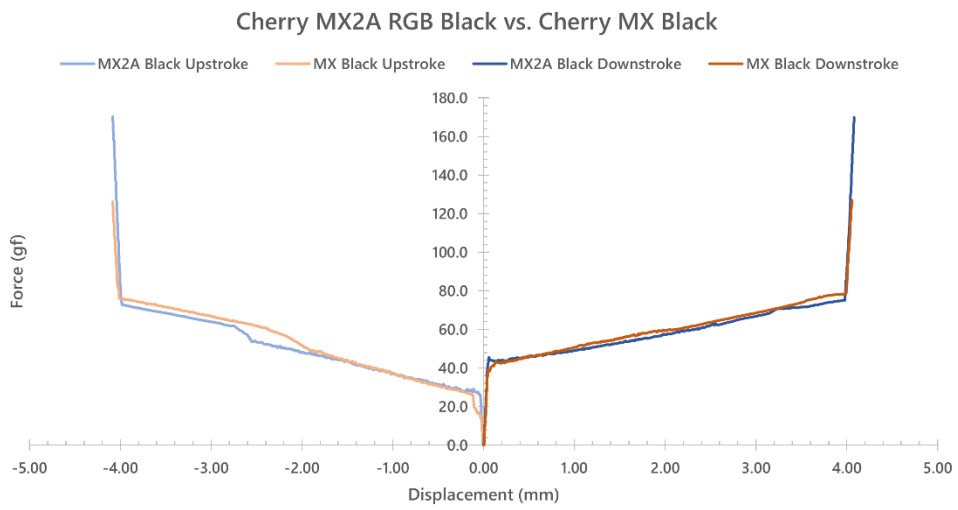
Cherry MX 'New Nixie'

- While there is still some scratch present in the push feeling of the Cherry MX 'New Nixie' switches, they do feel notably smoother and as if they have a finer grain scratch than the MX2A RGB Black switches. This is not entirely all that surprising to me given that the 'New Nixies' appear to be more deliberately aimed at being a premium product whereas the MX2As are switches which are much closer to, if not altogether replacing the existing main line Cherry switches.
- As for the housing collisions, the milky top housing and opaque black bottom housings of the New Nixies cause their bottoming and topping outs to feel much more dampened and muted than that of the MX2A RGB Blacks.
- Even though it is extremely subtle, it is clear to me that the New Nixie and MX2A switches come from new molds due to the fact that the MX2A RGB Blacks have a touch more stem wobble in both N/S and E/W directions than the Cherry MX New Nixies.



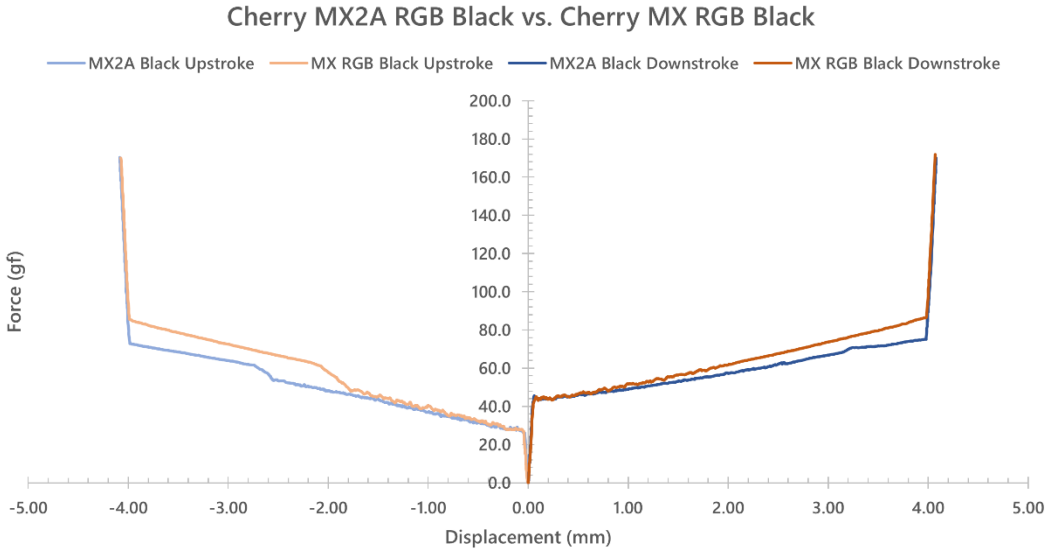

Cherry MX Black

- As was discussed at the top of the full-length review proceeding this comparison section, Cherry MX Blacks have come in such a wide variety of designs and qualities over the years that it's really hard to make a direct comparison between a singular one and the MX2As being reviewed here today. While the personal singular MX Black on my testers is smoother than the MX2As, I have dozens of ones in my extras boxes which are notably more scratchy *and* smoother than the MX2As.
- At the extreme least, I can say with decent confidence that the MX2A RGB Blacks do appear to uniformly have lesser E/W and a lot less N/S direction stem wobble than the Cherry MX Blacks I have for testing.




Cherry MX RGB Black

- When directly comparing the MX2A RGB Blacks to their original MX counterparts, the subtle changes with respect to bottom housing construction and the socket dome lubrication *really* stand out as noteworthy. Even though scratchy on their own, the MX2As are noticeably more smooth than that of their MX predecessors.
- Additionally, even though it is rather subtle, there is a tiny amount of spring ping which shoes up in some of the original MX RGB Black switches which is absent across the batch of MX2A RGB Black switches which I received.
- While the comparison force curve below may make these switches seem as if they are distinctive from each other in terms of their raw performance, I want to make it noted that this is almost certainly due to expected variance in spring weights and part tolerances as a result of the general manufacturing process. The force curve comparison of the broken in MX2A RGB Black switches above should help really sell this point if you don't believe me.



**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.

| Cherry MX2A RGB Black | | |
|---|---|---|
| *Switch Type: Linear* | | *Cherry* |
| 26 | /35 | Push Feel |
| 17 | /25 | Wobble |
| 5 | /10 | Sound |
| 16 | /20 | Context |
| 6 | /10 | Other |
| 70 | /100 | **Total** |

Push Feel

Boasting new factory lubrication in the bottom housings as well as internal tweaks to reduce friction, the stock Cherry MX2A RGB Black switches are slightly smoother than their MX predecessors while still having a decent amount of medium-grain scratch. Concentrated at the upper portions of the stroke due the factory lubrication in the base of the bottom housings, the stroke is subtly two-toned in feeling which is only further accentuated by a slightly firmer bottoming out than topping out housing collision. The noted disparities here both do improve with breaking in and aftermarket modification as well as get worse at higher actuation speeds.

Wobble

Clearly made from different molds than the Cherry MX 'New Nixies', the MX2A RGB Blacks have a greater E/W direction stem wobble than N/S direction which likely won't bother the majority of keyboard enthusiasts. As well, there is the tiniest of top housing budges in both directions which is unlikely to affect their general day-to-day usage but is still worth noting.

Sound

The sound is perhaps the worst aspect of the Cherry MX2A RGB Black switches, as the two-tone stroke and scratch sounds are incredibly apparent in stock form and become increasingly more aggressive at higher actuation speeds. That being said, though, the housing collisions are at least fairly muted and the switches seem free from high-pitched, metallic ping across any batch.

Context

With some uncertainty as to their explicit price point, there is some question as to how prevalent these will be within the custom community. What is not up for debate, though, is the longevity and implied company backing. Even if small, Cherry has clearly dedicated themselves to the MX2A changes and should be applauded for the transparency with such.

Other

While the MX2A changes are subtle in magnitude, they speak volumes for the large changes Cherry is willing to make to improve their otherwise untouched golden product line.

Statistics

| Average Score | | | Cherry MX2A RGB Black | | |
|---|---|---|---|---|---|
| 26.5 | /35 | Push Feel | 26 | /35 | Push Feel |
| 17.1 | /25 | Wobble | 17 | /25 | Wobble |
| 5.6 | /10 | Sound | 5 | /10 | Sound |
| 12.8 | /20 | Context | 16 | /20 | Context |
| 6.1 | /10 | Other | 6 | /10 | Other |
| 68.1 | /100 | **Total** | 70 | /100 | **Total** |
| | | | | | |
| MX2A Black Overall Rank | | | T-#109/251 (/100) | | |
| MX2A Black 'Hard' Rank | | | T-#147/251 (/70) | | |
| MX2A Black 'Soft' Rank | | | T-#45/251 (/30) | | |

If you are looking at this statistics section for the first time and wondering where the hell are the other 250 switches that I've ranked are, or what 'hard' versus 'soft' ranks refer to specifically, I'd encourage you to head on over to my GitHub linked in the table above or at the links in the top right hand of this website to check out my database of scorecards as well as the 'Composite Score Sheet' which has a full listing of the rankings for each and every switch I've ranked thus far.

## Final Conclusions

I have a sneaking suspicion that many people within the more involved parts of the mechanical keyboard community will not be all that thrilled by the changes that Cherry has taken up with their MX2A switches. If you want my honest take in response to that, a large portion of that dissatisfaction is not Cherry's fault, but rather will be directly due to those enthusiasts being willfully ignorant of the context that the MX2As have arrived in. I've been around long enough to see how the community responds to switches which have had large, dedicated marketing campaigns – Glorious Pandas, Zeal 3-in-1 Clickiez, Drop HPX, Cherry MX 'New Nixies' – and they are almost *never* fully happy with the resulting switch at the other end of it. Any degree of marketing, and especially some which touts across-the-board better performance like Cherry's "The Gold Standard" phrasing is almost immediately priming

a sort of contrarian response in enthusiasts' minds. The minute that people saw the list of seemingly minor changes invoked in the MX2A design, they were already comparing Cherry – the largest, longest running keyboard switch manufacturer in the world – to that of smaller, more light on their feet manufacturers in China who hardly have a name much less a brand to risk by throwing any random design or technique at the wall and seeing what sticks. *Any* changes invoked by Cherry will necessarily take longer, be less drastic, and are almost certainly not going to be at the cutting edge of switch design because of their size and OEM business. Whether or not you're willing to internalize it, the custom keyboard community is such a small percentage of Cherry's overall market share that they don't really have to consider it with the same weight in making their decisions as companies like Durock/JWK, Tecsee, Haimu, etc. that live and will die at the cutting edge of switches. That does not make their seemingly "minor" adjustments to switches any less important, and in fact I'd argue it makes it more impressive that they are willing to take that risk to larger business sectors to try and keep up with the rapidly shifting opinions on keyboard switches.

With this perspective of the weight of Cherry's decision making in mind, it is evident to at least me that the Cherry MX2A switches are improvements upon the existing MX style design which has inspired all the switch madness we've come to embrace as a community. Even though the resulting changes may not uniformly impact all parts of the switches, this deep dive into the MX2A RGB Blacks has shown me that the factory lubing of the 'socket dome', the barrel shaped springs, and the changes to the guider rails in both top and bottom housings have all slightly improved the smoothness, ping, and stem wobble as Cherry had set out to achieve. While these changes may not be read as all that significant to many people not as deeply entrenched in switches as myself, remember that it takes a long time and a lot of effort to turn a battleship. Cherry has effectively immediately set out on a path of improving the smoothness, sound, and other nitpicky performance metrics of the keyboard community across their flagship product line and they have done so *successfully*. That being said, however, the changes still do leave a lot of room for improvement. The fact that the lubrication of the Cherry MX2A RGB Black switches largely doesn't kick in as impactful until *after* 50,000 keystrokes needs improvement. The overall tonal consistency and firmness of the housing collisions in the RGB style housing constructions needs improvement. Hell, even the mold tolerances between stem and top housings can still be improved to further narrow down on stem wobble. *However,* a lot worse could have been said about Cherry's MX lineup of switches only a few weeks ago. The Cherry MX2A RGB Blacks are not going to be the next stellar, blockbuster star of mechanical keyboard switches, nor do I think any of the MX2A variants will for that matter. It is very likely that they will remain steadfast in the same spot of their MX predecessors as solid introductory options that will fill out countless OEM boards that adorn offices and start the journey for so many future keyboard enthusiasts. Feel however you would like about their average-ish performance - it is undeniable that these small changes in MX2As are massive in their implication. Cherry's MX2A switches are slowly, but surely, raising the bar for the average mechanical keyboard switch – the same switches that all of us would have started with when picking our first keyboard off the shelves.

## Sponsors/Affiliates

Mechbox.co.uk

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

KeebCats UK

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

Proto[Typist] Keyboards

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

Divinikey

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

ZealPC

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

MechMods UK

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

Dangkeebs

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

SwitchOddities

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

Cannonkeys

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

Kinetic Labs

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

Keebhut

- Want to try out some switch brands that fly under most vendor's radars? Keebhut is always seeking out that next latest and greatest and has been super helpful in hooking me up with new brands over the past year. **They are all about sharing that love as well, and want to give you 5% off your next order with them when you use code 'GOAT' at checkout!**

## Further Reading

Cherry's MX2A 'The New Gold Standard' Announcement Page
Link: https://www.cherrymx.de/en/mx2a.html
Wayback: https://web.archive.org/web/20230826045746/https://www.cherrymx.de/en/mx2a.html

TheVerge's Cherry MX2A Announcement Article
Link: https://www.theverge.com/2023/8/24/23844298/cherry-mx2a-mechanical-keyboard-switch-announced-factory-lubed-redesigned-spring
Wayback:
https://web.archive.org/web/20230826045918/https://www.theverge.com/2023/8/24/23844298/cherry-mx2a-mechanical-keyboard-switch-announced-factory-lubed-redesigned-spring

Tom's Hardware Cherry MX2A Switch Intro
Link: https://www.tomshardware.com/news/cherry-intros-mx2a-mechanical-switches-rated-for-100-million-actuations
Wayback: https://web.archive.org/web/20230826050151/https://www.tomshardware.com/news/cherry-intros-mx2a-mechanical-switches-rated-for-100-million-actuations

Forbes' Cherry MX2A Intro Article
Link: https://www.forbes.com/sites/marksparrow/2023/08/24/cherry-reveals-its-best-ever-mx-switches-and-announces-a-new-keyboard-to-match/?sh=4f25481b2747
Wayback:
https://web.archive.org/web/20230825014209/https://gum.criteo.com/syncframe?origin=publishertag&topUrl=www.forbes.com

Cherry's MX2A Switch Intro Video
Link: https://www.youtube.com/watch?v=9Qbjz1CbWV8&ab_channel=CHERRYMX