

ZippyLucha/Cycloid LC Change log
[13 May 2026] Reworked Spacer Lock Mechanism

- Complete rework of spacer lock mechanism to enable faster and easier changing of weight configuration. New spacer mechanism features internal handle groove with central pivot-point and a terminal detent.
- Blade Logo changed to terraced positive “Z” from a negative “Z” for aesthetics.
- Internal grooves added to race washer bore interfaces in the Nylon blade and handles to improve ease of assembly.

ZippyLucha/Cycloid LC Change log
[24 Sep 2025] Handle/spacer interface tolerances modified

- Internal geometry at handle ends modified slightly to improve ease of installing and removing spacers. This change makes experimenting with different balance/weight configurations faster and easier.
- Spacers also modified to make installation and removal from handles easier.

ZippyLucha/Cycloid LC Change log
[9 July 2025] Blade pivots and spacer weight system modified

- Spacers redesigned to no longer accommodate tungsten cubes. This change provides a slightly more even weight distribution and simplifies tungsten inventory management.
- New spacers now accept up to 11 tungsten spheres instead of 3x cubes and 3x spheres.
- Spacers are identical externally to the original design and only differ in regards to how the weight system works.
- Trainer blade counterbore depth increased by thickening sidewall. This change improves tolerances and improves ease of assembly/disassembly.

Cycloid LC Change log
[18 March 2025] Cycloid LC replaces the discontinued Cycloid HD, Cycloid v2.1, and ZippyLucha v2.

- Kershaw Lucha Blade Compatibility has been added: The Cycloid LC (Lucha Compatible) handles are designed to function with either the stock Cycloid LC blade, or the Kershaw Lucha live blade. These handles replace the old ZippyLucha v2 handles.
- Bearing size has been increased to improve axial stability and enable the use of thicker lubricants, which are in more common use. This also standardizes the bearing size between Cycloid LC, ZippyLucha, and Parallax.
- Spacer-handle interface redesigned to improve aesthetics and enable a new locking mechanism.

Cycloid Changelog

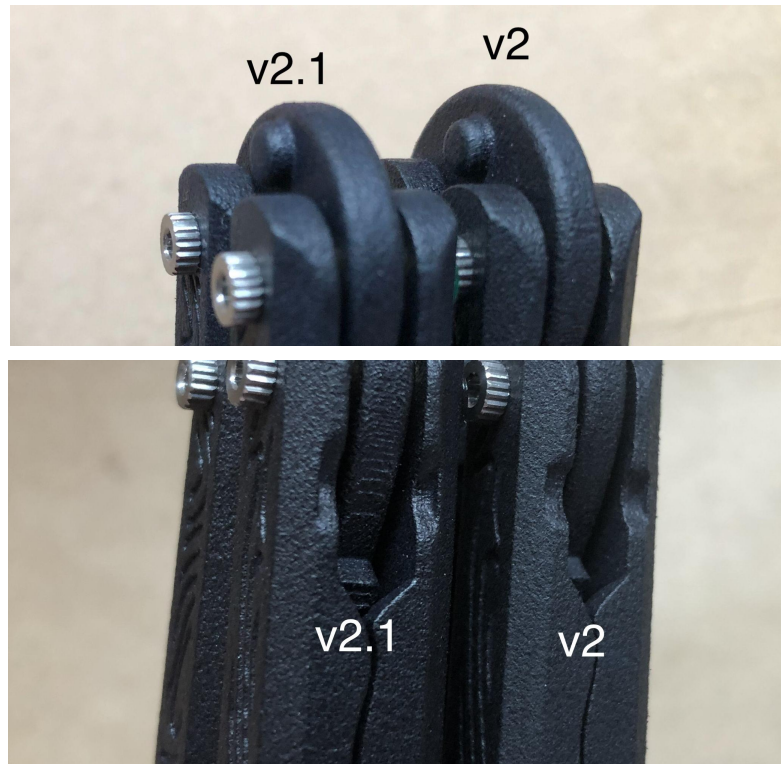
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- Spacer design and locking mechanism completely redesigned. New locking mechanism requires inserting the spacer at an angle, and is more secure than the old version. Tools are still not required to add or remove the spacers, although having a tool onhand does make it faster/easier to remove.
- Spacer disc weights have been replaced with cube weights for easier adjustment of balance and weight distribution.
- Spacer weight distribution is elongated to mitigate concentration of mass in such a small area.
- Needle-pathway added to the pivots for a lubricant needle-tip applicator, enabling mess-free lubrication directly to the bearings when the balisong is in the open position.
- Handle rounding has been implemented instead of the chamfering used by the Cycloid HD/v2 and ZippyLucha v2.
- In order to better-produce ergo of traditional balisongs, the overall handle length has been shortened from 5.8" to 5.7", and the rounded handles are thinner and less boxy.
- Horizontal and vertical tapering have been increased.
- Interior vertical taper has been added to channel-cut.
- Side-rail thickness increased for more comfortable twirls.
- Grid texture has been added below the pivots to improve grip.
- Cycloidal/wave pattern speed channel seam (a vestigial organ/homage from the Cycloid v1 and v2 chanwich design) has been shorted to reduce handle flex.
- Pivot hardware is now flush with the handles.
- Pivot ramp (similar to the Parallax) has been added, which improves retention and control on some rollover-based tricks.
- Pivot hardware has been changed to the larger hardware of the ZippyLucha. Polyurethane nut hardness increased to improve thread durability and reduce flexure.
- Blade-flex contact-patch on spacer has been thickened and hollowed to reduce sound volume during flipping.
- Zippy Logo added to handle interior.
- Blade-bite indicator teeth have been reduced from 4 to 3.
- Blade spine has been redesigned to improve chaplin stability.
- Blade insert has been redesigned to improve aesthetic fit to tanto blade.

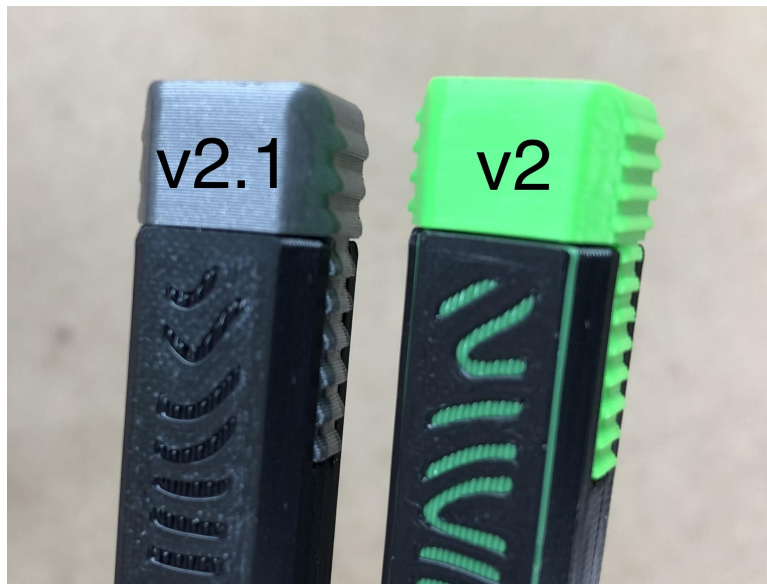
HD & V2.1 Changelog

[25 July 2023] Changes are live for Cycloid v2 and HD

- **Stealth Mode:** Handle and spacer design has been modified to substantially reduce sound volume. Cycloid v2.1 "hard closing" volume is now 44% quieter compared to v1 (reduced from ~78 dB to ~73 dB).
- **Rounder, Better, Stronger, Faster:** Tang cup rounding increased by 233% to mitigate pinching. Tang length and pin height decreased to mitigate pinching.



- **Jimping** design changed to sawtooth jimping improve comfort and grip.



- **Cross compatibility:** The traditional Cycloid v2 Nylon blades have been phased out and replaced with the Glass-filled Nylon blades used by the Cycloid HD. I've decided to make Cycloid blades cross-compatible with the Cycloid HD to streamline manufacturing and assembly, as well as improve the user experience. Base Cycloid is now more rigid and slightly heavier (2.464 oz from 2.434 oz) due to the addition of the denser blade. The resulting balance has slightly shifted so that more spacer weights will be preferred, and

additional handle bias will be achieved through removing blade weights as originally designed.

V2 Changelog
[24 February, 2023]

Family, friends, felons, flippers,

It's probably time for a Cycloid v2 update. Buckle up folks, because this is a long one. Cycloid v1.6's and Zipper v2's have been discontinued for months now, and I appreciate ya'lls patience as I work through the design of the Cv2, which has been the most monumental task I have yet faced while designing balisong trainers and mods in my capacity as "Zippy". The Cycloids and Zippers of ye olden times were based on a platform that is now 1.5 years old, and I have learned quite a bit in the interim, which motivated a full rebuild of the Cv2. The new Cycloid design implements lessons learned in the past year from making aftermarket modifications for other balisongs and studying how my previous designs/materials reacted to concrete/tile drops over an extended period of time. No less important: the new Cv2 platform reflects my updated design philosophy and flipping preferences.

Despite the Cycloid v1 being released originally as my entry-level Zippy flipper, the Cycloid v2 is designed to fill the role of both the Cycloid and the Zipper*, and is superior to both. Although it weighs in at a humble 2.434 oz and is constructed from Nylon PA12 and Acrylonitrile styrene acrylate (ASA)** rather than titanium or aluminum, I think you'll find that the new Cv2 goes toe to toe with any balisong trainer in the sub \$130 range from a performance and durability perspective, and exceeds most in the areas of tolerances and threadlocking. So what's new? Read on so you can decide if the Cycloid v2 belongs in your pocket***. Best regards, David

*A note about the Zipper v3: The beta testers and I have been playing around with a handful of Zipper v3 proto's since pre-Thanksgiving. Although the fundamentals of the design make for a fun flipper, the Zv3 is extremely challenging to make. I have not pushed forward with this project due to my concern that I will be unable to manufacture them at a price that is both reasonable for customers and myself. Consequently, I may scrap the design and take the Zipper in a different direction. For now, the project is on the backburner while my subconscious works on tackling this obstacle.

**Full nylon Cv2 variants are also in development, but will not be available in the first drop.

***Cycloid v2's will be available in small quantities before the end of February, and a handful of developmental prototypes are available now on the website at a discounted rate commensurate with their performance and fit/finish.

Changelog:

- "Double-Nylock Threadlocking": I have developed a new nylock system wherein the nylon locknut sits inside a polyurethane hexnut pocket, rather than contacting the ASA handles. This semi-flexible hexnut pocket dissipates impact shock from the pivots during hard drops, thereby enhancing durability. Critically, the hexnut pockets add an additional

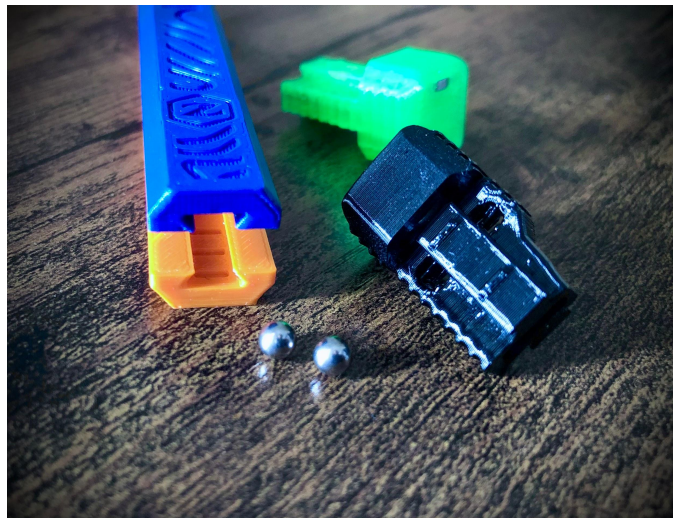
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layer of polymer threadlock to the nylon locknut mechanism. This enables the tune to last even longer than the original version, with no additional liquid/tape threadlocker required.



- “Dovetail-Detent Spacers”: I have developed a new mechanism that introduces hot-swappable polyurethane extension spacers which secure the handles together without hardware. The spacers can be removed by hand and, when installed, serve to lock the handles in place. The spacers also house up to 5x removable tungsten weights each, which can be added/removed without unscrewing any hardware. Notably, the elimination of hardware at the base of the handles increases durability by removing stress-risers, and enables the new shatter-proof polyurethane spacers to dissipate shock associated with impacts.



- All tungsten weights were removed from rigid plastic parts to increase durability and balance customization. The blade weights were changed from internal print-in-place weights, and are now secured inside a polyurethane insert, much like my trainer insert mods. Similarly, the handle weights have been changed from press-fit into the ASA handles, and are now secured inside the polyurethane extension spacers. Eliminating all tungsten weights from rigid plastic parts eliminates stress risers and thereby enhances durability, since the rubbery polyurethane accommodates flex and dissipates impact shock.

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- Before, balance customization was achieved by adding/removing weights in the handles. In the new design, weights can be popped in/out of the blade insert as well as the spacers to increase balance customization resolution.
- Weight increased from 2.1 oz to 2.434 oz. While previous versions of the Cycloid/Zipper offered adjustable balance, their weight proved too low to truly take advantage of this feature, because removing any weights to reduce the handle bias made it uncomfortably light to flip. The 16% weight increase of the Cycloid v2 (and 22% increased tungsten concentration in the blade) enables a wider range of balance configurations from blade biased, neutral, and handle biased, without making the balisong uncomfortably light.
- Blade weight distribution has been shifted from the just tip, and is now concentrated along the spine and along the length of the blade to better mimic the balance of real, live-blade balisongs.
- Blade material changed from polycarbonate to Nylon PA12 for enhanced durability. The use of Nylon PA12 also dramatically increases layer adhesion, enabling the implementation of tang pins.
- The zen block system has been replaced with tang pins. After extensive testing, the combination of tang pins and Nylon ended up proving to be the most durable blade stop mechanism available for plastic balisongs (when tested against zen pins and pinsless), being essentially impervious to concrete drops and handle gap degradation due to a combination of geometry and material properties. Additionally, tang pins provided a more responsive sound in testing compared with zen pins, zen block, or pinsless mechanisms.
- Pivot counterbores are now on both sides of the blade (instead of just 1 side), improving pivot tolerances.
- Blade thickness increased from 3.4mm to 4.2mm for balance, durability, and to accommodate the tungsten ball dimensions.
- Blade profile has been changed from a stylized spearpoint to either a drop-point or a tanto. Like the (now-discontinued) Zipper v2, this enables users to select different blade profiles which vary from “looks like a knife” to “more public-friendly.”
- Handle length increased from 5.68” to 5.8”
- Closed handle gap slightly increased.
- Handle chamfer deepened for a less blocky ergo.
- Handle thickness increased from 0.49” to 0.53” to accommodate a wider channel with reduced blade rub.
- Horizontal and vertical taper added to handles. Note that the tapers prevent the use of Zippy bite markers or handle caps. The protective function of handle caps, and bite indication function of markers is replaced entirely with the extension spacer mechanism, which protect the ASA handles and can be customized to mark the bite handle with different colors.
- Traditional negative jimping removed from handles, and replaced with positive jimping on the spacers for additional grip on ladders.
- Male-female “snap” mechanism introduced in the chanwich to lock the handles together in the XY axes, which minimizes Z-axis flexing. This improves tolerances and rigidity, and eases tuning and assembly.

Cycloid Changelog
Zippy Balisong

- “Wave” chanwich pattern decreased in height to increase handle stiffness.
- “Wave” chanwich pattern seam thickness decreased so chanwich seam is thinner.

End Changelog
[24 February, 2023]