

# What is a butterfly keyboard? Why did Apple stop using it on MacBooks?

What is the butterfly keyboard and why did Apple stop using it on MacBooks? This article helps understand the mechanism, advantages, disadvantages, and reasons why Apple discontinued this design.

What is the butterfly keyboard and why did Apple decide not to continue using this design on MacBooks? Let's explore the details of the butterfly keyboard, the problems encountered, and the reasons why Apple "killed off" this design on its laptop lines.

## What is a butterfly keyboard?

The Butterfly keyboard is a proprietary mechanism introduced by Apple on the 12-inch MacBook (2015) and maintained until 2019. Instead of the traditional X-shaped structure, this system uses V-shaped plastic hinges, mimicking the opening and closing movement of a butterfly's wings.



This groundbreaking design allows Apple to create laptops with exceptional thinness and lightness. In addition, the large key area and stable structure provide a precise typing experience, minimizing key wobble.

To optimize your typing experience, you can choose MacBook models with integrated Magic Keyboard such as the Air M1, M2, or M3, which are currently available at great prices at:

## How butterfly keyboards work

The butterfly keyboard on the MacBook operates on the same principle as a traditional scissor-switch keyboard, but is optimized to be thinner and more stable:



The butterfly keyboard hinge structure of the MacBook.

1. When you press a key, the force causes the two "butterfly wings" to fold into a V-shape (contracting in the middle), pushing the keycap down steadily.
2. The keycap touches the rubber/metal dome underneath, compressing the dome to generate an electrical signal, registering the key press.
3. When you release your finger, the elastic rubber dome pushes back up, the two wings open, and the keycap returns to its original position with a slight bounce.

## Pros and cons of butterfly keyboards

The butterfly mechanism offers significant advantages but also has some potential disadvantages, specifically as follows:

### Advantage:

1. **Optimized for slimness:** The butterfly mechanism keyboard minimizes thickness compared to the old mechanism, allowing Apple to craft MacBooks that are thinner and lighter than ever before.
2. **High stability:** The butterfly mechanism prevents key vibrations, ensuring firmness and accuracy regardless of where the user types on the key surface.
3. **Large contact area:** The keys are designed to be larger, providing a better typing experience and reducing the likelihood of accidental keystrokes.



The butterfly keyboard helps optimize the slimness of the MacBook.

### **Disadvantages:**

1. **Prone to dirt and grime:** The narrow gaps under the keys easily accumulate food crumbs and dust, causing annoying problems such as stuck keys, typing one letter as two, or complete key failure.

## **Common MacBook butterfly keyboard issues**

Despite their compact size, butterfly keyboards often frustrate users with technical problems that arise after a period of use:

1. **Key duplication phenomenon:** This error causes the text to display a string of duplicate characters even though the user only applies a single key press (for example, typing "a" but the screen displays "aaa").
2. **Key malfunction or slow response:** Characters do not appear when typed lightly, resulting in missing characters or requiring the user to press down firmly for the key to register.
3. **Sticky and unresponsive keys:** The keys on a butterfly-style keyboard lack bounce, giving a "sticky" feeling when typing.
4. **Inconsistent key response:** The keys show signs of flickering, failing to provide a consistent response with every press, and the pressure applied to the keys is uneven.

## **How to fix butterfly keyboard errors**

Although the Butterfly keyboard has potential hardware risks, users can proactively address them with several at-home technical solutions:

1. **For stuck or repeating keys:** Hold your MacBook at a 75-degree angle, then use a can of compressed air to blow in a zig-zag motion into the key gaps to dislodge dust and debris.
2. **For intermittent key issues:** Try resetting the SMC (System Management Controller) or PRAM/NVRAM to refresh the control system of your MacBook's butterfly keyboard.
3. **For completely unresponsive keys:** Use an external keyboard or the Keyboard Viewer feature on macOS to temporarily input data using the mouse .

## **Which MacBooks have a butterfly keyboard?**

The Butterfly keyboard was introduced by Apple in 2015 and used until 2019 on some MacBook models, as follows:

1. **MacBook (Retina 12-inch):** All versions released from 2015 to 2019.
2. **MacBook Pro (13 & 15-inch):** All models from 2016 to 2019 (except the 2019 16-inch Pro model, which switched to the Magic Keyboard).
3. **MacBook Air (Retina 13-inch):** This only includes models manufactured in 2018 and 2019.

## How did Apple handle the butterfly keyboard issue?

Following negative user feedback, Apple launched a widespread, completely free maintenance campaign. However, these solutions are only temporary and cannot completely fix the problems that arise during long-term use.

Ultimately, Apple decided to discontinue the butterfly keyboard and switch to the Magic Keyboard with its traditional scissor mechanism. The main reason was that the Magic Keyboard offered greater durability, a more stable typing feel, and a better user experience, meeting user expectations.

## Should you buy a MacBook with a butterfly keyboard?

The decision of whether or not to buy a MacBook with a butterfly keyboard will depend on your intended use of the machine and the level of risk you are willing to accept. Because of past experiences with issues like stuck and unresponsive keys, purchasing these models may carry the risk of an unstable user experience and higher repair costs.

However, if you can find a well-tested used machine with a clear warranty and an attractive price, a MacBook with a butterfly keyboard can still be a cost-effective option for basic tasks. For users who want greater durability and a better typing experience, models with the Magic Keyboard are preferable to those with the butterfly keyboard.

This article has helped you understand what the butterfly keyboard is and why Apple decided to discontinue this design on its laptops. Thanks to this, you can make a smarter purchasing decision to own a device with stable and reliable typing performance.

Hopefully, these **MacBook tips** will help you feel more confident while using your MacBook and avoid unwanted risks.

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