

Here's why the iPhone Duo's hinge could be cracking the screen

Within hours of the iPhone Duo launch last Friday, people reported that the inner screen on some brand new foldable phones was already broken. The issue was similar across many photos shared on social media: some kind of issue or crack would appear in the middle of the screen above the hinge, with lines appearing on the right side of the display. On Monday, Apple acknowledged an "issue" and said it's replacing damaged units, without going into much detail about how many broken phones have been reported so far.

So what's actually going on?

Shahram Mokhtari, the lead teardown technician at iFixit, has actually taken apart the iPhone Duo and has a pretty good idea about the potential cause, telling *The Verge* that it's due to an issue along the hinge, where a series of gears, springs, and joints work together to let the device close flat, while also trying to avoid creating a deeper crease by giving that screen space to bend more gently inside while it's closed.

At the troublesome spot, it appears that the flexible inner screen is pushing up against a part of the hinge. That inner screen is already "extremely sensitive," he says – if you took a pick or a sharp tool and poked at the edges of the screen, "you're going to break that screen." If you look at the pictures of damaged Duos on social media, there's often a black spot where the damage is focused on the display, and that's where the metal is hitting the screen, Mokhtari says.

You can see a visual representation of what Mokhtari is talking about in iFixit's written and video Duo teardowns, which reveal where the hinge transitions, as the center hinge support makes space for a crossing flex cable, creating several edges that could ultimately be the culprit. The damage iFixit has been seeing is at a point where the center support bar might not always drop down far enough while the screen folds, possibly creating a stress "hot spot" between the flat bar and the bent screen inside a closed iPhone Duo.

Apple says the issue affects a "small number" of Duo units, and Mokhtari says that "In terms of numbers, we don't know. Apple definitely has all the data here. And I suspect they know more than they're telling us as well." But he notes that because foldable screens are so delicate, a "certain number" of them will fail, as will a number of the hinges because they're also "extremely complicated and delicate." And while Apple isn't recalling the Duos, "If three months from now, we're still seeing the same kind of failure, then it's a more widespread problem, and that might lead to a recall," Mokhtari says.

Mokhtari points out that since this is the first generation of the iPhone Duo, it's the first time Apple's engineers are getting data on the hinge, and he says that "I guarantee you" Apple will redesign what's at fault here for its next-generation foldable. He also notes that, generally speaking, "the phones do seem to be in people's hands and people are using them, and they're not running into any issues whatsoever."

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