

# Rush | 3D Printed VUK Protector/Enhancer (TPU)

## Installation Guide

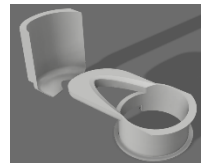
First, thank you for buying our mod. It is cool to know that we are able to help people keep their machines in great condition!

### Information:

The protector you have ordered is printed from TPU with a very high durability rating. It is designed to protect both the 'throat' of the VUK (where the ball drops in), the edges around it, and the area behind the VUK. Due to its unique shape, we have taken to calling this the Duck Billed Vukypus, or DBV. Yeah, we're weird, don't judge. :P

You can optionally also install the backstop, which is designed to absorb enough of the incoming pinball's velocity to allow it to drop into the VUK without bouncing back out the other side. In our testing, this has virtually eliminated the annoying VUK rejections that were previously happening about 20% of the time on our game. But if you think the VUK shot is already too easy, then feel free to leave the backstop out. The DBV will still do 100% of its job protecting your VUK and we promise we won't think any less of you!

Pro tip: if you're going to install the backstop, test fit it against the DBV in your hands before you install anything so that you can get a sense for how it goes together. This image shows you how they align. Also feel out the shape of the area behind the VUK to understand its contours and try to imagine how the DBV and backstop fit into it. This will help you later when it is time to install the backstop.



Tools you'll need include: A 1/4" nut driver or socket wrench, and if you're going to install the backstop, you'll also need an 11/32" socket wrench with a several inch long extension and a small slotted screwdriver.

### Installation:

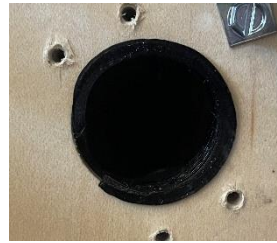
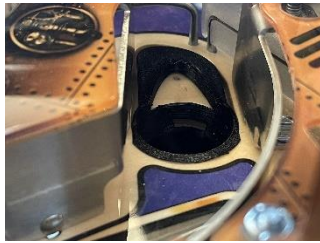
Step 1:

Eject the balls, then lift up the playfield and lean it against the backbox. Remove the five screws shown in red circles and remove the VUK from the playfield. You can let it dangle while you work, or you can unplug the wires going to it and set it aside, your call.



### Step 2:

Insert the DBV through the VUK hole from the bottom of the playfield. Bend and flex the TPU as necessary to get it to pop through. Situate the DBV so that the “bill” portion sits centered in the area behind the VUK and the little tab rests cleanly on the front lip of the VUK opening. The lower ring of the DBV should be sitting flush against the bottom side of the playfield (VUK wireform removed for clarity).



### Step 3:

Reattach the VUK mech. Hold it steady against the DBV ring. Make sure the switch isn't caught on the DBV or the playfield. Begin reinstalling the screws. At first, leave the screws loose, then work roughly diagonally from screw to screw slowly tightening the mech down until it is fully secured against the playfield and the DBV is held firmly in place. Now lower the playfield and inspect your work.

Make sure the switch is clearing the opening in the DBV and will operate cleanly. If not, you can remove the mech and DBV, then trim the opening in the DBV with sharp scissors, flush cutters, or nail clippers, then reinstall.

If you don't want to install the backstop, then you're done! Otherwise, continue to step 4.

### Step 4:

So you want to install the backstop, great! If you have small nimble fingers you may be able to simply slide it into position under the back tip of the DBV and be good to go. But for the rest of the world, you'll probably have to remove the VUK wireform to get this installed. To remove the wireform, remove the four 11/32" nuts shown (sort of, you'll figure it out) in red circles. You'll need that extension to get to some of them. Remove the washers under the nuts. Gently lift up on the wireform to remove it. You're ready to proceed.



### Step 5:

Using the slotted screw driver, gently slide it under the bill of the DBV as shown to lift it up in the back. Now just slide the backstop under it. The backstop will be held in place by a combination of the lip that slides under the bill, the contour of the ledge behind the bottom of the backstop that it wedges against, and the metal rail behind the back of it. If you're really struggling to position the backstop, remove the nut (5/16") shown in a red circle, along with the washers and spacers in yellow (already removed) and gently bend/lift the plastic up to give yourself more access.

To the touch, the backstop will feel loose, but that's okay, it will stay in place just fine. In fact, when the ball impacts it, in addition to everything listed above, the ball itself will be pushing down on the bill of the DBV, further working to keep the backstop in place.



Step 6:

Reassemble the VUK wireform. You're finished! Enjoy hammering the VUK shot to your heart's content knowing that it is well protected and that your shots will almost never rattle back out again!

**Final tip:**

Literally EVERYTHING on this playfield is as sharp as a knife! During installation and removal be very careful not to slice yourself. Also, be very careful not to lose any of the washers, nuts, or spacers involved in this process. There are a lot of them and your playfield will be far too happy to eat them for you!

**Contact:**

If anything goes wrong feel free to reach out to [support@ninjacamp.com](mailto:support@ninjacamp.com) or @aniraf on Pinside. I will respond as quickly as possible.