

ShiftySpec NC Gauge Installation Guide

Congratulations on purchasing the ShiftySpec digital gauge for the NC MX5 platform. Before installing, ensure you have all of the components and tools needed on hand. Please read through the instructions at least once before beginning to ensure you're familiar with the process!

WARNING!!!!!! The screen assembly is **VERY** fragile! Do not drop, pinch, or apply excessive pressure to it at ANY time during installation - it can crack and be permanently damaged!

Components:

- ShiftySpec Gauge with attached harness
- Breakout board
- Wiring harness
- Speakers (optional)
- Bezel trim ring
- Gauge mount
- Cluster trimming guide

Tools:

- Philips head screwdriver
- Low temp hot glue gun
- Dremel type tool with cutoff wheel
- Eye / ear protection

Before beginning, take a moment to power the gauge up via the USB-C port using any USB-C charger or computer. Ensure the screen is working correctly, and the gauge powers up all the way.

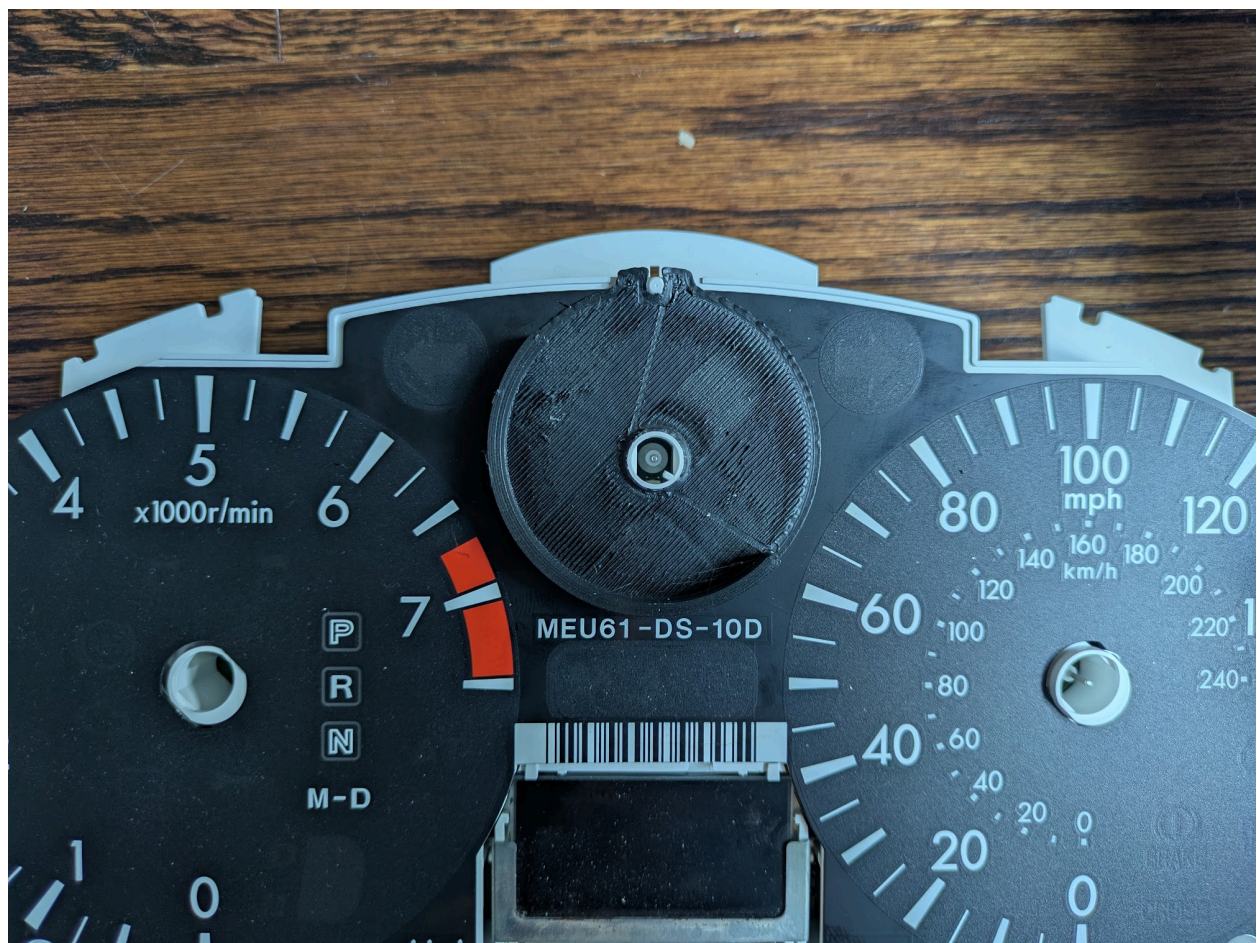
The first step in installation is to remove and disassemble the gauge cluster. For this, I'd recommend following the **excellent** guide from our friends over at [revlimiter.net](https://revlimiter.net/mods/nc_gauge_install.php) - https://revlimiter.net/mods/nc_gauge_install.php - also note that this is an outstanding opportunity to install a set of gauge faces since you'll be doing 95% of the work already!

Once you are able to remove the cluster from the car, I recommend you test the gauge before installing it in the cluster to verify the screen was not damaged in shipping, etc. Disconnect the 12 pin connector from the cluster, plug it into the supplied harness. Plug the new harness into the cluster and breakout board, and plug the gauge into the breakout board. Turn the ignition on, and verify the screen powers up and shows connection to the ECU properly. Turn the headlights on and off and verify the screen dims correctly. If these checks pass, you're ready to install!

During installation, it's highly recommended that you wear a pair of latex / powder-free gloves to avoid getting fingerprints / oils / smudges on either your gauge faces, bezel, bezel lenses, or the new gauge itself. Additionally, perform a test fit of everything before removing the protective film on the screen. Getting everything assembled, only to find a smudge on the screen the first time you power it on is extremely sad (I've done it many times!!)

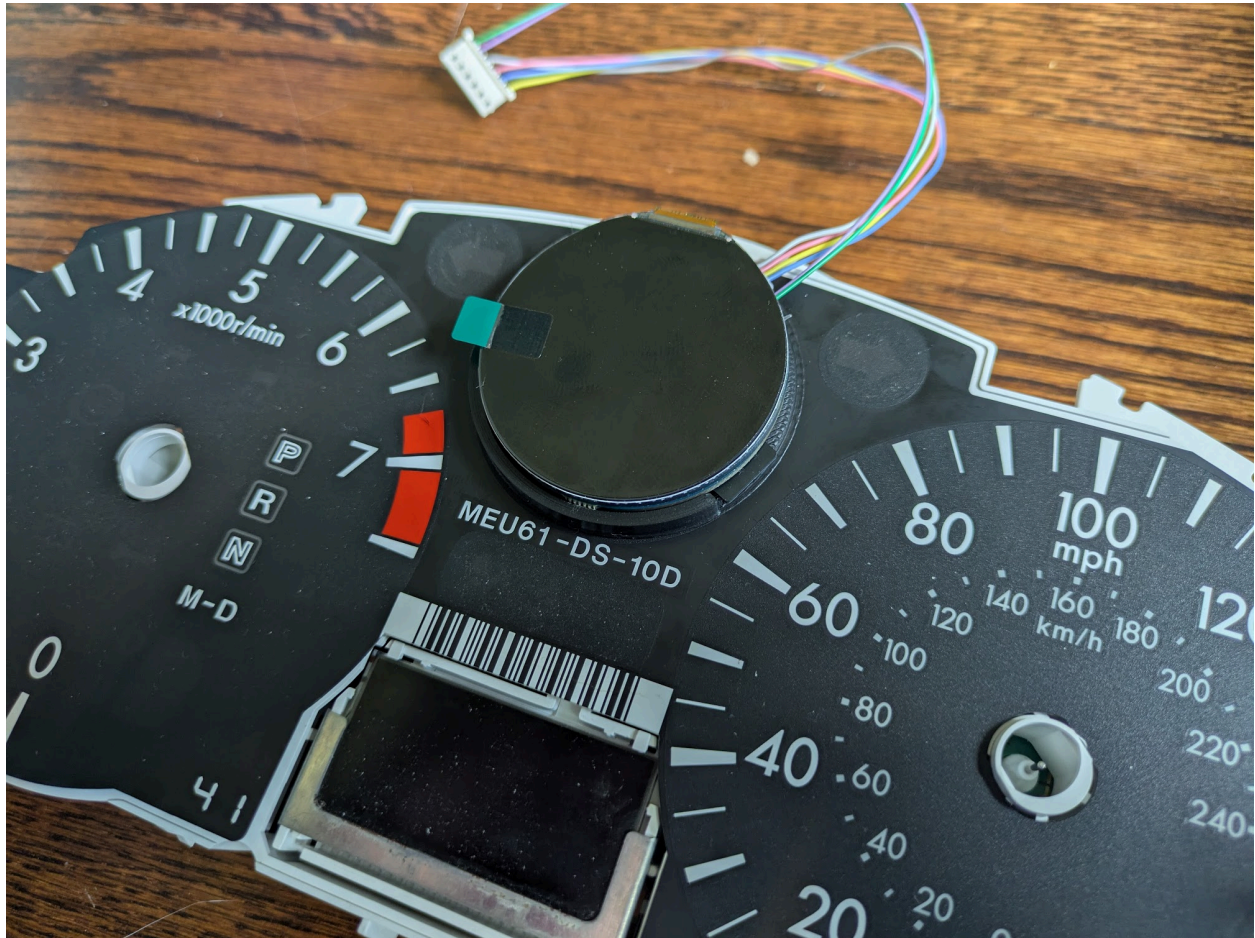
Once you have the gauge cluster disassembled, the first step is to remove the oil gauge needle. This process is also described in the RevLimiter instructions. Rotate the needle counter-clockwise repeatedly. Once it is spinning relatively freely, begin gently pulling on it as you turn it until it comes free.

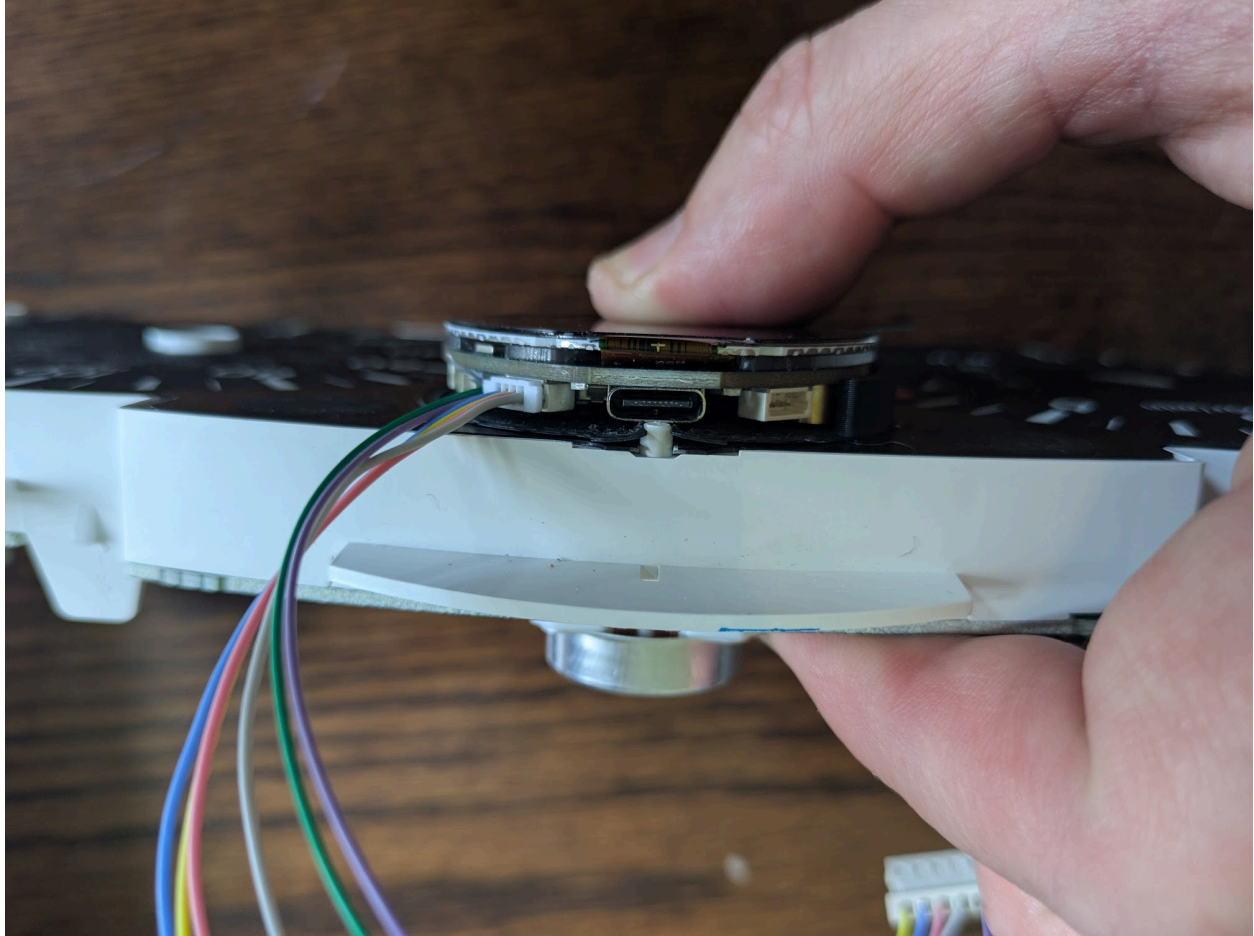
Once the needle is removed, the next step is to attach the gauge mount as shown. The center portion can be a bit tight, so press around the center until it snaps gently down on the white central hub. Use a dab of hot glue between the outer edge and the gauge face itself near the bottom to gently secure it. Using the photo below for reference, it should be placed directly above the text "MEU".



Next, attach the gauge assembly itself to the mount using a generous blob of hot glue underneath it. This is just to keep the gauge in place and properly aligned during assembly -

the gauge itself will be sandwiched between the bezel and the mount when you're through. Ensure the gauge is positioned completely against the mount - the three brass posts on the gauge should all be touching the gauge mount when you're done. If it's not flush, you run the risk of cracking the screen when you reassemble. Additionally, before the glue hardens, ensure that the USB port is vertical and oriented with the white nub / notch on the mount at the top. Nothing is worse than getting it reassembled and realizing that it's crooked!





Next, plug in the speakers (if desired). Pull the harness up to the top of the cluster, so that none of it interferes with the turn signals etc and affix it to the white plastic on the cluster similar to this:

Now that the gauge is attached, the next step is to trim the bezel and install the bezel trim ring. Slide the bezel trim tool down over the bezel as shown:



Next, using a dremel / rotary tool / cutoff wheel, trim the bezel. You'll be cutting right along the edge of the guide tool, as close as possible. **Be very careful not to cut through any other portions of the bezel!!** If you cut through any other wall, you'll have a hole in the bezel that is visible from the front! Not a great look. I'd recommend using the cutoff wheel to make a few marks around the perimeter while the guide tool is in place, then removing the guide tool so you can see what you're doing more clearly. Once the bezel is cut, go back with the cutoff wheel or other tool and smooth the cut, trying to get it as level and smooth as possible, removing any burrs or sharp spots. Be sure to clean out any remaining plastic debris and bits from the inside of the bezel! When you're done, you should have something resembling this:

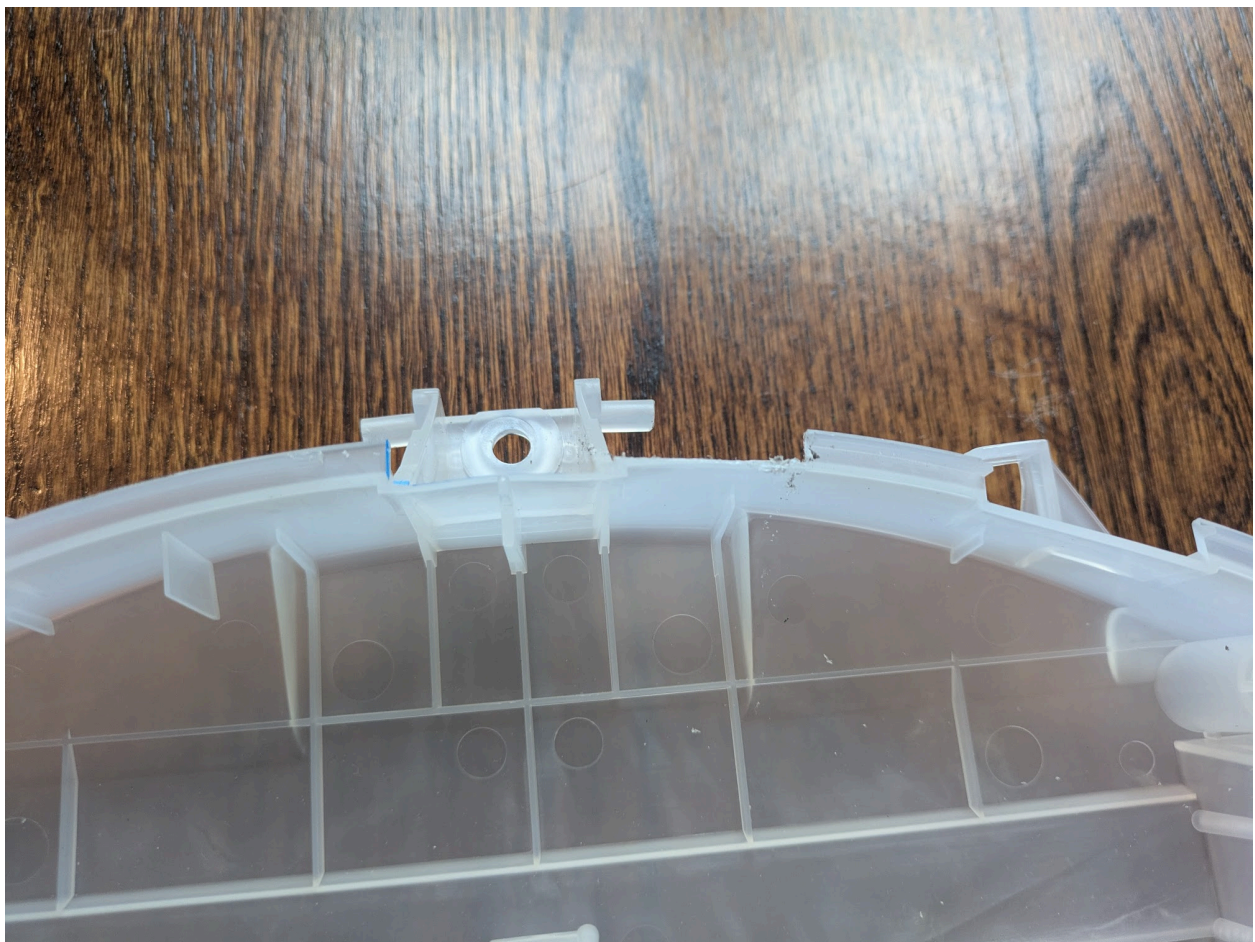


Next, install the bezel ring into the bezel. If you look at it from the side, you'll see that one portion is slightly thicker than the rest - that side faces the top of the cluster. I've found that friction will usually retain the trim ring well enough, but you can use a touch of hot glue to hold it in place if desired.



Carefully test fit the bezel back onto the gauge cluster. You should be able to snap the bezel down gently. There should be no gap, or a very small gap, between the trim ring and the gauge screen once reassembled. **DO NOT USE FORCE TO REASSEMBLE! FORCING THE BEZEL BACK TOGETHER WHEN THINGS ARE NOT ALIGNED PROPERLY WILL CRACK THE SCREEN!** If the bezel does not snap back in place easily, take it back off and double check the alignment and placement of everything. Ensure the bezel is fully trimmed, smooth, and flush before attempting reassembly. Once you are sure that the fitment is correct, take a moment to clean any dust or plastic bits off the lenses with a lint-free microfiber cloth, remove the screen protective film, and reattach the gauge bezel.

Next, we need to trim off a portion of the rear cluster plastic to route the wires and speakers out. Trim maybe an inch or less off the rear plastic as shown:



I'd also recommend using some kind of loom or tape to protect the harness where it passes over sharp edges to avoid damage. Once this is done, reassemble the rear plastic onto the gauge cluster, reinsert the screws, and attach the speakers to the rear plastic by removing the adhesive liners and sticking them onto the cluster as shown:

At this point, you're nearly there! Plug the harness into the circuit board, and plug the gauge into the circuit board as shown:

Next, plug the harness into the cluster, and the car side harness into the gauge harness as well. At this point, power up the car and make sure that everything is working correctly before you reinstall the cluster.

While reinstalling the cluster, take care with the harness to ensure it's not hanging down too low behind the cluster. You may have to adjust the harness multiple times to get the gauge cluster to sit in place correctly. You'll know it needs adjustment if you're unable to get the two lower screws back in.

Once you're completely installed, congratulations! The gauge is preconfigured with default settings that should work well enough for most, but since I'm sure you'll be wanting to customize it, head on over to the user guide for those instructions!