Spankulator Assembly Instructions

The Spankulator uses components on both sides of the board. Pre-populated boards have most of the top side components installed. The order of assembly is designed to add components like the push buttons near the end of the process so they will not risk being damaged by the hot iron. However, pre-populated boards may have the buttons or other vulnerable components installed. In this case, extra caution is required.

These instructions work for bare boards and also for pre-populated boards from JLCPCB. In the latter case, you only will need to install components that haven’t already been installed. The list of these components can be found in the file: Spankulator-Hardware\bom\Digi-Key\ spankulator\_split.csv

Because of the density of the circuitry, a conical .8mm tip soldering iron is suggested. It is **strongly** recommended that you read the Test Instructions before attempting assembly.

Difficulty: beginner. Not recommended for first two builds.

1. Load the Spankulator program onto the Arduino via micro-USB cable using the updater batch file. The latest updater package is found on the Spankulator page of the website. Other versions can be found in the Git repository.
2. Install 4 12mm stand-offs to the front panel using screws. Set this aside for later.
3. Install U7
4. Install all resistors, capacitors, diodes, transistors, test points, and sockets to the top side of the board.
5. Install ICs into sockets (not Arduino)
6. Install J9 display header to top side.
7. Install 2 10mm display stand-offs with nuts.
8. Solder header to Display board. Set this aside for later.
   1. Trim pins on top of display to insure proper fit onto the front panel.
   2. Note: the display is very fragile. Avoid unnecessary handling.
9. Install back side components. (Connectors, Arduino sockets, and trimpots)
10. Install display. Use wooden, round toothpicks to align display on standoffs. Insert toothpick from top and trim flush with display surface.
11. Loosely place the rest of the components (these should all be the ones that go through holes in the front panel) and attach front panel with the 4 nuts.
12. This should properly align all the front-panel components. Solder them in place.
13. Install Arduino on the back side of the board.
14. Attach knobs
15. That’s all! You’re ready to test.