Metal 3D Printer

# Test Plan: Automatic Welder Control

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| **Revision History** |  |  |
| Cameron Tribe | Mar 31th 2015 | V1.0 |

# Test Objective:

This test is to confirm the operation of the relay switch circuitry and that the G-Code that will be able to control the welder switch.

# Test Procedure:

Set up Welder and CNC Machine as seen in TP2.

Load Modified .HAL File into Linux CNC

Open the enclosure of the welder, making sure that power is disconnected, and insert wires in parallel with the welder switch. Refer to fig1.

Connect the relay circuit to an Arduino as shown in fig2.

Execute Arduino code “WelderSwitchTest”

Execute G-Code

# Testing Outcomes and Notes:

This test was a success, showing that the Arduino is capable of activating the solenoid using G0 and G1 as a command. Below is an image of the result of this test. The two welds on the right are attempts to stack welds on to of each other. However the settings of the welder were not adjusted and the second weld melted the previous weld.

