

## **PARTS LIST**

### **G25 or G27 OEM pedals**

#### **Pneumatic Cylinder either 1 1/16 inch bore or for a firmer pedal 1 1/4 bore**

[http://www.automationdirect.com/adc/Shopping/Catal...ith\\_Magnetic\\_Piston/A20020DD-M](http://www.automationdirect.com/adc/Shopping/Catal...ith_Magnetic_Piston/A20020DD-M)

#### **Mounting Parts for cylinder**

[http://www.automationdirect.com/adc/Shopping/Catal...\\_A-Series\)\\_Accessories/APBP-4](http://www.automationdirect.com/adc/Shopping/Catal..._A-Series)_Accessories/APBP-4) (two of these)

[http://www.automationdirect.com/adc/Shopping/Catal...Series\)\\_Accessories/ARC-716-20](http://www.automationdirect.com/adc/Shopping/Catal...Series)_Accessories/ARC-716-20)

#### **Derek Speare Designs or Leo Bodnar Controller board**

<http://www.leobodnar.com/products/BU0836A/>

<http://www.derekspearedesigns.com/Circuits---Load-Cell-Amps.html>

#### **Pressure sensor/transducer (also known as sam sensor)**

[http://www.ebay.com/itm/Pressure-transducer-sender...sh=item3a64d155b6#ht\\_630wt\\_814](http://www.ebay.com/itm/Pressure-transducer-sender...sh=item3a64d155b6#ht_630wt_814)

#### **breather vent for the cylinder**

<http://www.mcmaster.com/#9833K21>

#### **One fender washer**

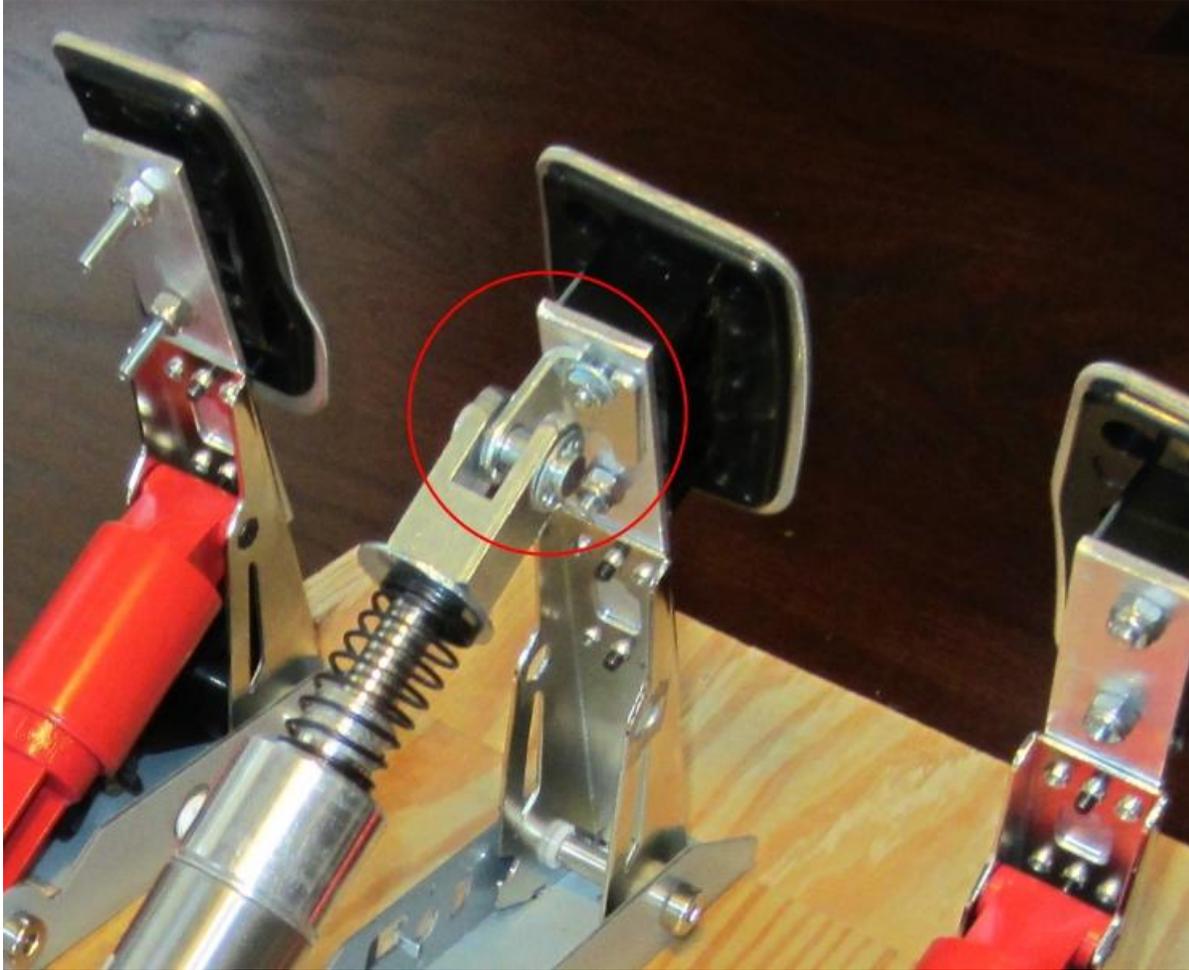
#### **Radio Shack project box**

#### **Aluminum stock and assorted hardware (nuts and bolts)**

## **Build Instructions**

- First take your brake pedal and remove the entire assembly, remove the spring (set aside) remove the potentiometer, the red plastic enclosure everything.
- Take your clutch pedal and replace the spring with the brake spring.
- Take your throttle pedal and replace the spring with the clutch spring.
- Fully extend the rod in the cylinder then retract a tiny amount so the cylinder is not bottoming out.
- Using teflon tape screw in the pressure transducer into the bottom of the cylinder.
- Take the G25 throttle spring and place over the cylinder rod.
- Slip the fender washer on to hold the spring in place.
- Screw the rod clevis down until tight.
- Cut the aluminum to length to extend the pedals to the correct height for your feet.
- Drill and attach with small bolts to the pedal bases.
- Take the extra set of cylinder mounts and drill out the hole to 3/8 inch. Clean the hole till smooth.

- Now the tricky part. Thread your mounting bolt through the brake pedal and slide the cylinder mounting bracket (with the hole you just enlarged) up behind the bolt. Now use a washer and nut to hold in place. Push the clevis pin through the clevis->bracket->clevis and secure. Like so:



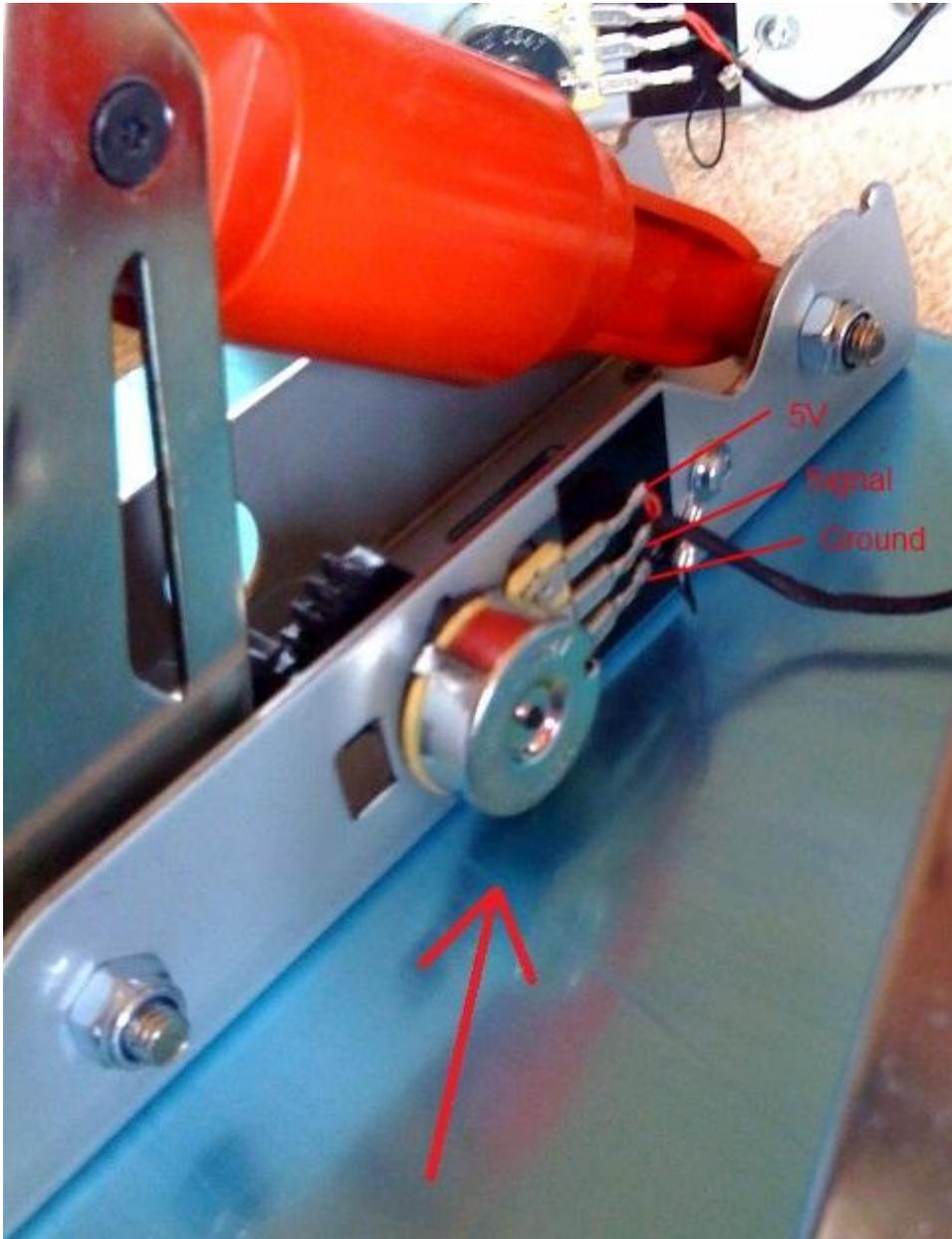
Now you can mount the pedals to whatever surface you like. When mounting the cylinder, make sure there is a little compression on the cylinder for a nice firm pedal at rest.

The wiring is a bit more complex to explain but basically you need to follow the directions that came with the board.

Three wires from each pot directly to the analog pot inputs on the board.

Three wires from the transducer directly to the analog pot inputs on the board. wiring colors change so refer to the instructions.

#### **G25 pot wiring:**



You basically take 5V, Signal, GND on the G25 pots and the transducer and run them straight to the board. You can solder, crimp or whatever you feel most comfortable with.