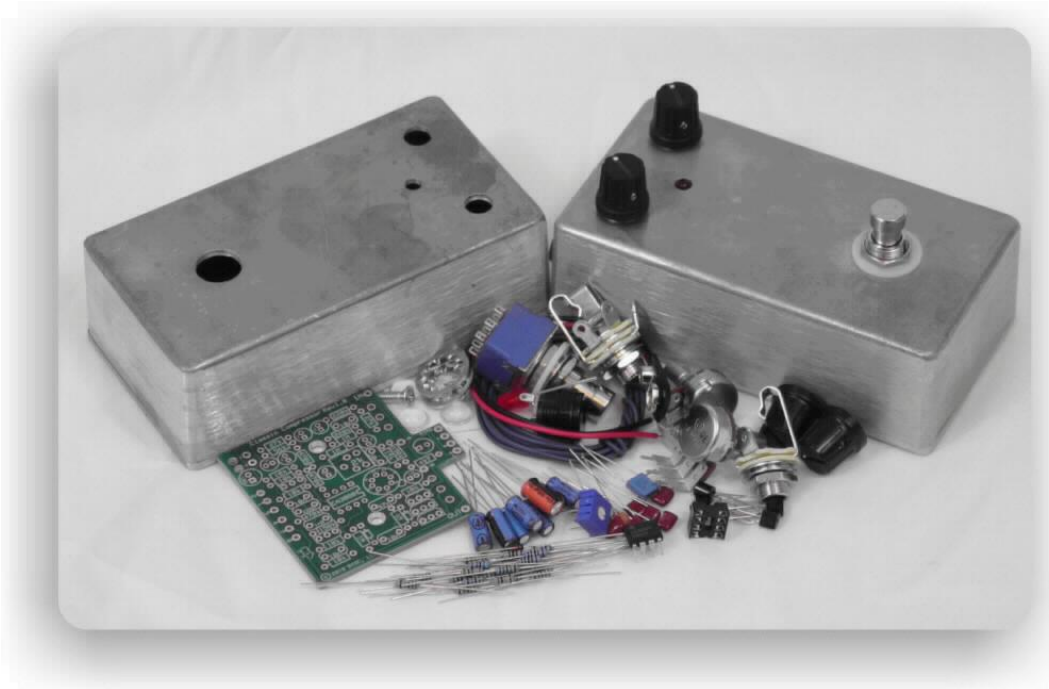


# Build Your Own Clone Classic Compressor Kit Instructions



## **Warranty:**

BYOC, LLC guarantees that your kit will be complete and that all parts and components will arrive as described, functioning and free of defect. Soldering, clipping, cutting, stripping, or using any of the components in any way voids this guarantee. BYOC, LLC guarantees that the instructions for your kit will be free of any major errors that would cause you to permanently damage any components in your kit, but does not guarantee that the instructions will be free of typos or minor errors. BYOC, LLC does not warranty the completed pedal as a whole functioning unit nor do we warranty any of the individual parts once they have been used. If you have a component that is used, but feel it was defective prior to you using it, we reserve the right to determine whether or not the component was faulty upon arrival. Please direct all warranty issues to: [sales@buildyourownclone.com](mailto:sales@buildyourownclone.com) This would include any missing parts issues.

## **Return:**

BYOC, LLC accepts returns and exchanges on all products for any reason, as long as they are unused. We do not accept partial kit returns. Returns and exchanges are for the full purchase price less the cost of shipping and/or any promotional pricing. Return shipping is the customer's responsibility. This responsibility not only includes the cost of

shipping, but accountability of deliver as well. Please contact sales@buildyourownclone.com to receive a return authorization before mailing.

## **Tech Support:**

BYOC, LLC makes no promises or guarantees that you will successfully complete your kit in a satisfactory manner. Nor does BYOC, LLC promise or guarantee that you will receive any technical support. Purchasing a product from BYOC, LLC does not entitle you to any amount of technical support. BYOC, LLC does not promise or guarantee that any technical support you may receive will be able to resolve any or all issues you may be experiencing.

That being said, we will do our best to help you as much as we can. Our philosophy at BYOC is that we will help you only as much as you are willing to help yourself. We have a wonderful and friendly DIY discussion forum with an entire section devoted to the technical support and modifications of BYOC kits.

[www.buildyourownclone.com/board](http://www.buildyourownclone.com/board)

When posting a tech support thread on the BYOC forum, please post it in the correct lounge, and please title your thread appropriately. If everyone titles their threads "HELP!", then it makes it impossible for the people who are helping you to keep track of your progress. A very brief description of your specific problem will do. It will also make it easier to see if someone else is having or has had the same problem as you. The question you are about to ask may already be answered. Here are a list of things that you should include in the body of your tech support thread:

1. A detailed explanation of what the problem is. (not just, "It doesn't work, help")
2. Pic of the top side of your PCB.
3. Pic of the underside of your PCB.
4. Pic that clearly shows your footswitch/jack wiring and the wires going to the PCB
5. A pic that clearly shows your wiring going from the PCB to the pots and any other switches(only if your kit has non-PC mounted pots and switches)
6. Is bypass working?
7. Does the LED come on?
8. If you answer yes to 6 and 7, what does the pedal do when it is "on"?
9. Battery or adapter.(if battery, is it good? If adapter, what type?)

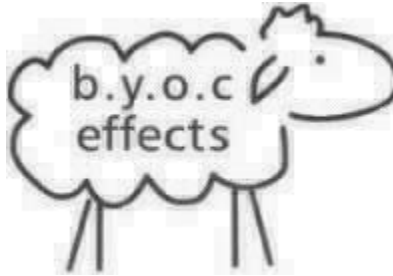
Also, please only post pics that are in focus. You're only wasting both parties' time if you post out of focus, low res pics from your cell phone.

## **Revision Notes:**

Rev 1.0 There are no known errors.

## **Copyrights:**

All material in this document is copyrighted 2011 by BYOC, LLC



## **CLASSIC COMPRESSOR KIT INSTRUCTION INDEX**

<b>Parts Checklist.....</b>	<b>page 4 - 5</b>
<b>Populating the Circuit Board.....</b>	<b>page 6 - 16</b>
<b>Main PCB Assembly.....</b>	<b>page 17 - 19</b>
<b>Wiring.....</b>	<b>page 20 - 23</b>
<b>Installing the IC and Finishing Up.....</b>	<b>page 24</b>
<b>Operation Overview.....</b>	<b>page 25</b>
<b>Schematic.....</b>	<b>page 26 - 27</b>

## Parts Checklist for BYOC Classic Compressor Kit

### Resistors:

- 1 - 4k7 (yellow/purple/black/brown/brown)
- 6 - 10k (brown/black/black/red/brown)
- 1 - 15k (brown/green/black/red/brown)
- 2 - 27k (red/purple/black/red/brown)
- 1 - 56k (green/blue/black/red/brown)
- 2 - 150k (brown/green/black/orange/brown)
- 2 - 220k (red/red/black/orange/brown)
- 3 - 470k (yellow/purple/black/orange/brown)
- 4 - 1M (brown/black/black/yellow/brown)

### Capacitors:

- 1 - 220pf (221) ceramic disc (small round orange)
- 1 - 1n0 or .001 $\mu$  (102 or 1nj100, 1nj63, ect.)
- 5 - 10n or .01 $\mu$  film (103)
- 1 - 47n or .047 $\mu$  film (473)
- 6 - 1 $\mu$  aluminum electrolytic
- 1 - 10 $\mu$ f aluminum electrolytic
- 1 - 100 $\mu$ f aluminum electrolytic

### Diodes:

- 2 - 1N4148 (small orange glass with black stripe)

### Transistors:

- 5 - 2N5088, 2N3904, or 2N2222

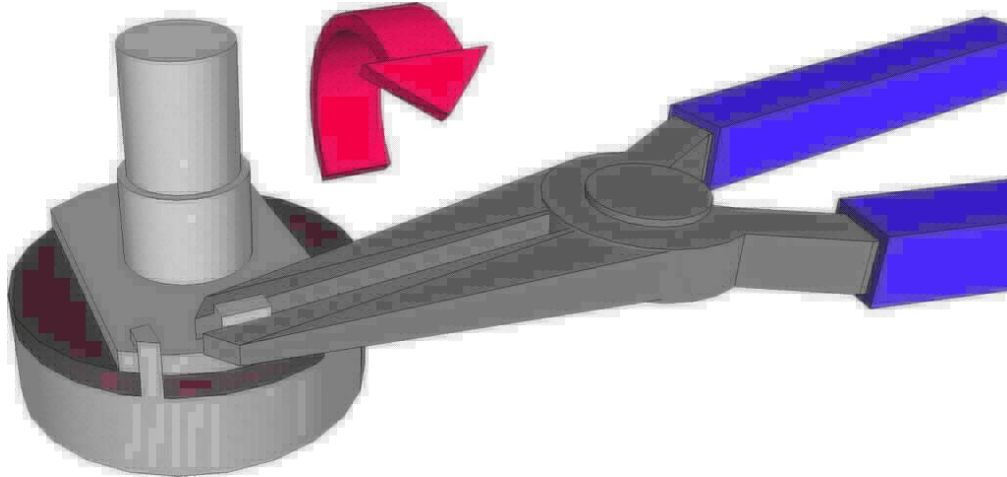
### IC's:

- 1 - CA3080E
- 1 - 8 pin socket

### VINTAGE UPGRADE PACK (sold separately):

- 1 - CA3080A (TO-100 metal can IC)
- 1 - TO-100 8 pin socket
- 5 - 2SC1849 transistors

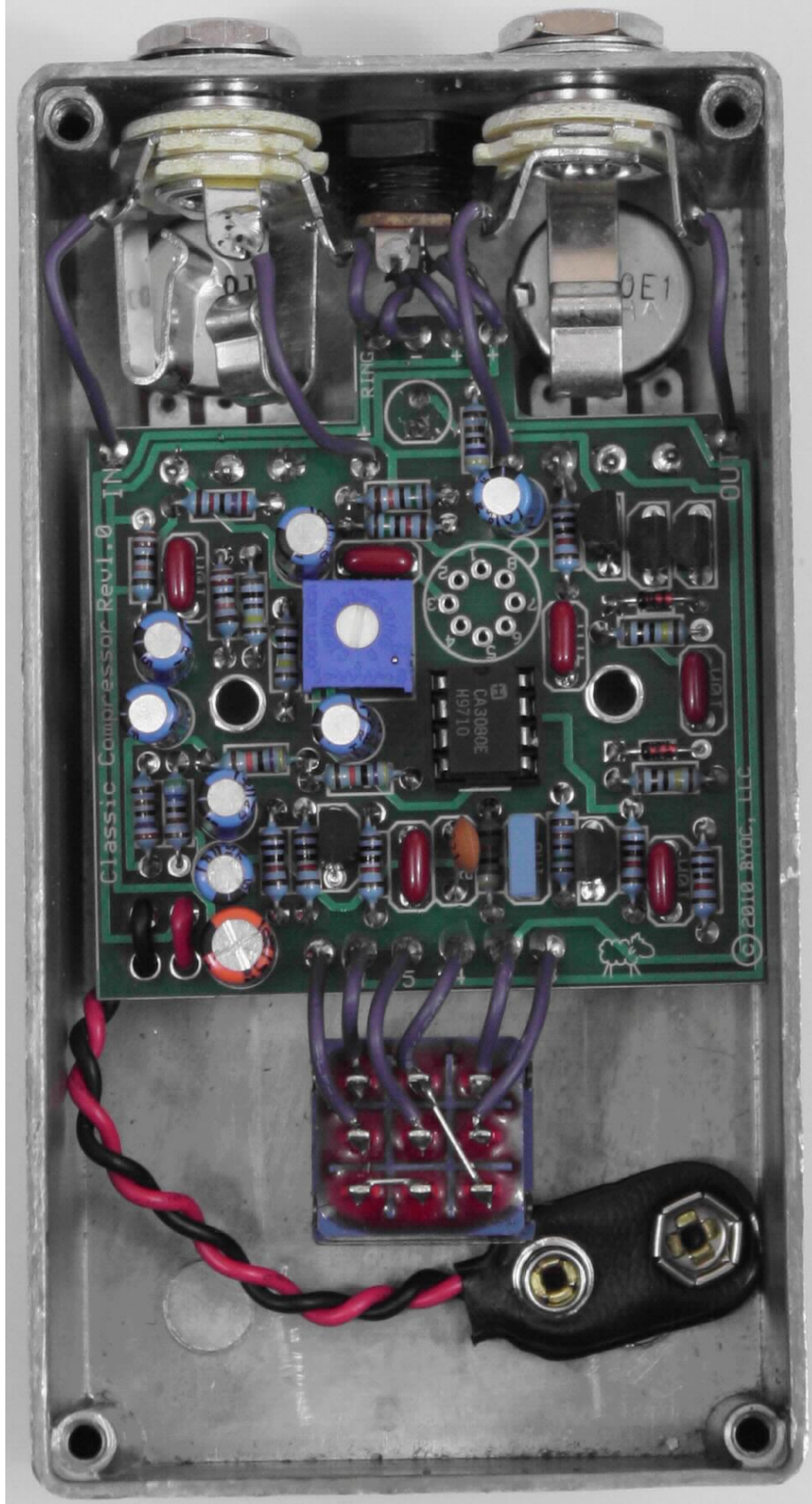
**Potentiometers:** Be sure to snap off the small tab on the side of each panel mounted pot.



- 1 - A100k linear (LEVEL)
- 1 - B500k audio (SENSITIVITY)
- 1 - 2k trimpot

**Hardware:**

- 1 - drilled enclosure w/ 4 screws
- 1 - byoc classic compressor PCB
- 1 - 3PDT footswitch
- 2 - knobs
- 1 - AC adaptor jack
- 1 - 1/4" mono jack
- 1 - 1/4" stereo jack
- 1 - red LED
- 1 - battery snap
- 4 - bumpers
- hook-up wire



Classic Compressor Rev1.0

© 2010 BXOC, LLC

CA31080E  
H9710

OE1

IRING

IN

OU

5

2

3

4

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

26

27

28

29

30

31

32

33

34

35

36

37

38

39

40

41

42

43

44

45

46

47

48

49

50

51

52

53

54

55

56

57

58

59

60

61

62

63

64

65

66

67

68

69

70

71

72

73

74

75

76

77

78

79

80

81

82

83

84

85

86

87

88

89

90

91

92

93

94

95

96

97

98

99

100

101

102

103

104

105

106

107

108

109

110

111

112

113

114

115

116

117

118

119

120

121

122

123

124

125

126

127

128

129

130

131

132

133

134

135

136

137

138

139

140

141

142

143

144

145

146

147

148

149

150

151

152

153

154

155

156

157

158

159

160

161

162

163

164

165

166

167

168

169

170

171

172

173

174

175

176

177

178

179

180

181

182

183

184

185

186

187

188

189

190

191

192

193

194

195

196

197

198

199

200

201

202

203

204

205

206

207

208

209

210

211

212

213

214

215

216

217

218

219

220

221

222

223

224

225

226

227

228

229

230

231

232

233

234

235

236

237

238

239

240

241

242

243

244

245

246

247

248

249

250

251

252

253

254

255

256

257

258

259

260

261

262

263

264

265

266

267

268

269

270

271

272

273

274

275

276

277

278

279

280

281

282

283

284

285

286

287

288

289

290

291

292

293

294

295

296

297

298

299

300

301

302

303

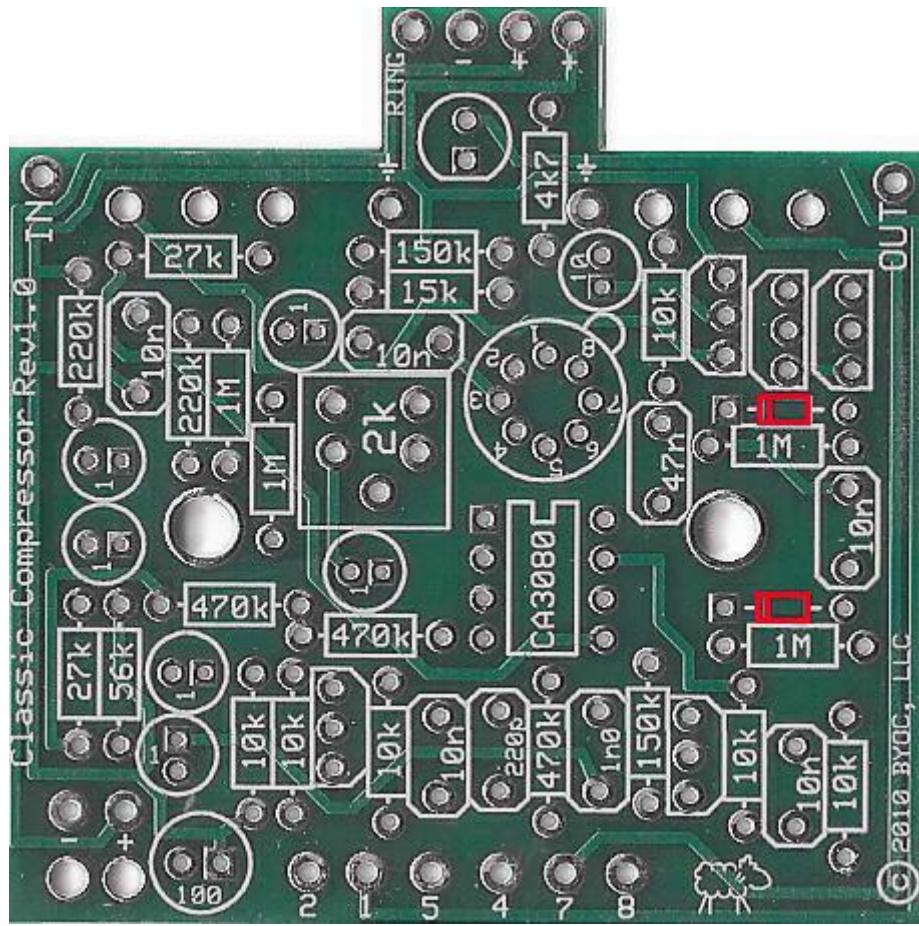
304

305

306



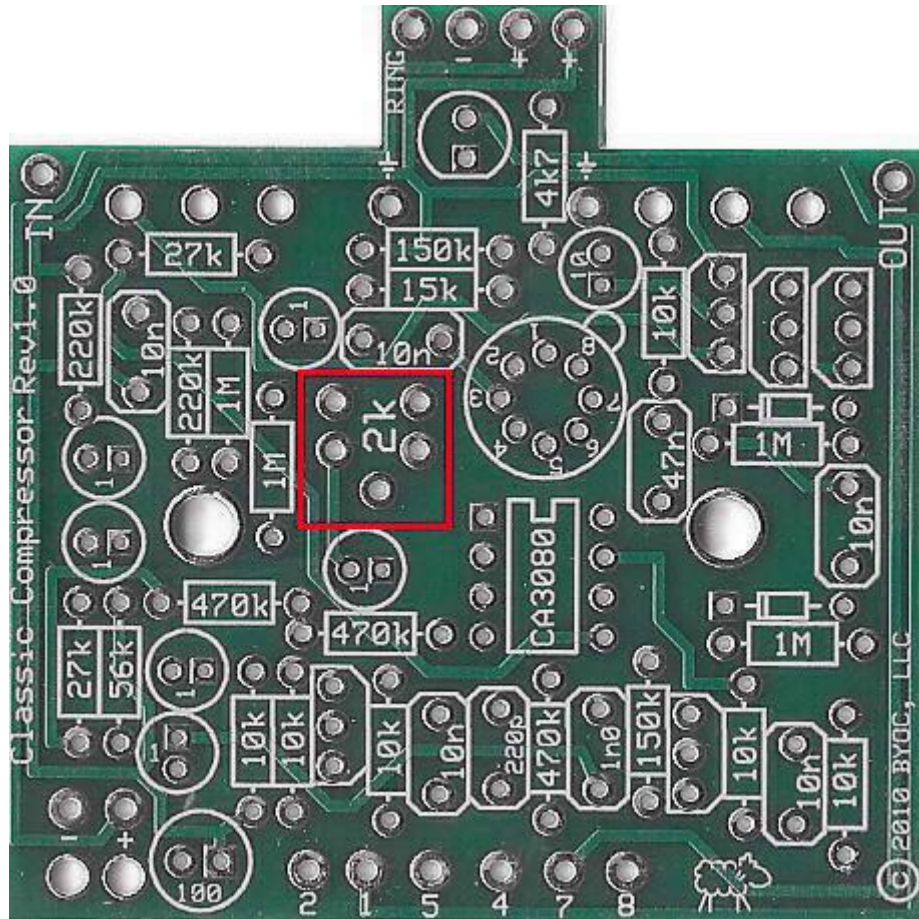
## Populating the Circuit Board



STEP 1: Add the diodes. Be sure to match the end of the diode with the stripe to the layout on the PCB. The stripped end should go in the square solder pad.





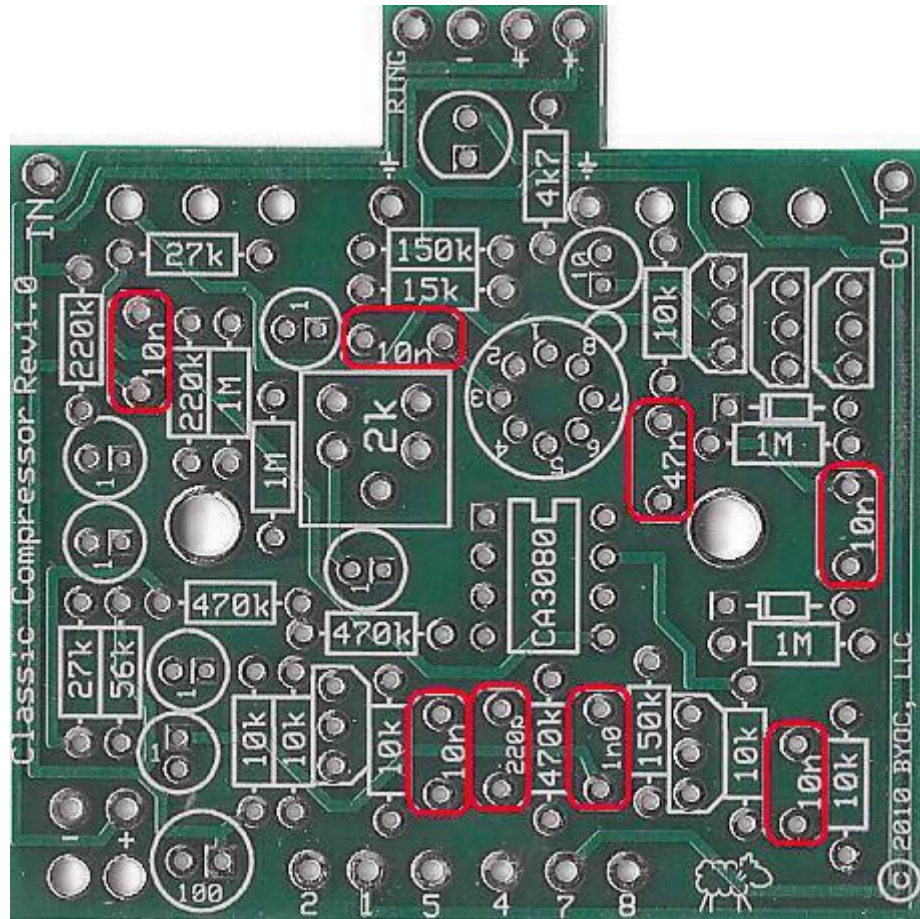


Step 3: Add the trim pot. The space on the PCB has 5 holes, but the trim pot will only have 3 leads. This is so that the PCB can accept a variety of different brands and styles of trim pot. There should only be 1 way that your trim pot will fit into the PCB without having to bend the leads.









Step 6: Add the film and ceramic disc capacitors. These are not polarized and can be inserted into the PCB either way.



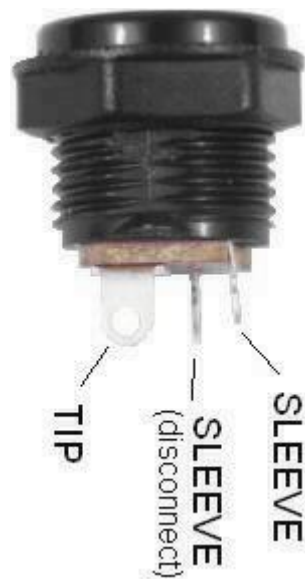








# Main PCB Assembly

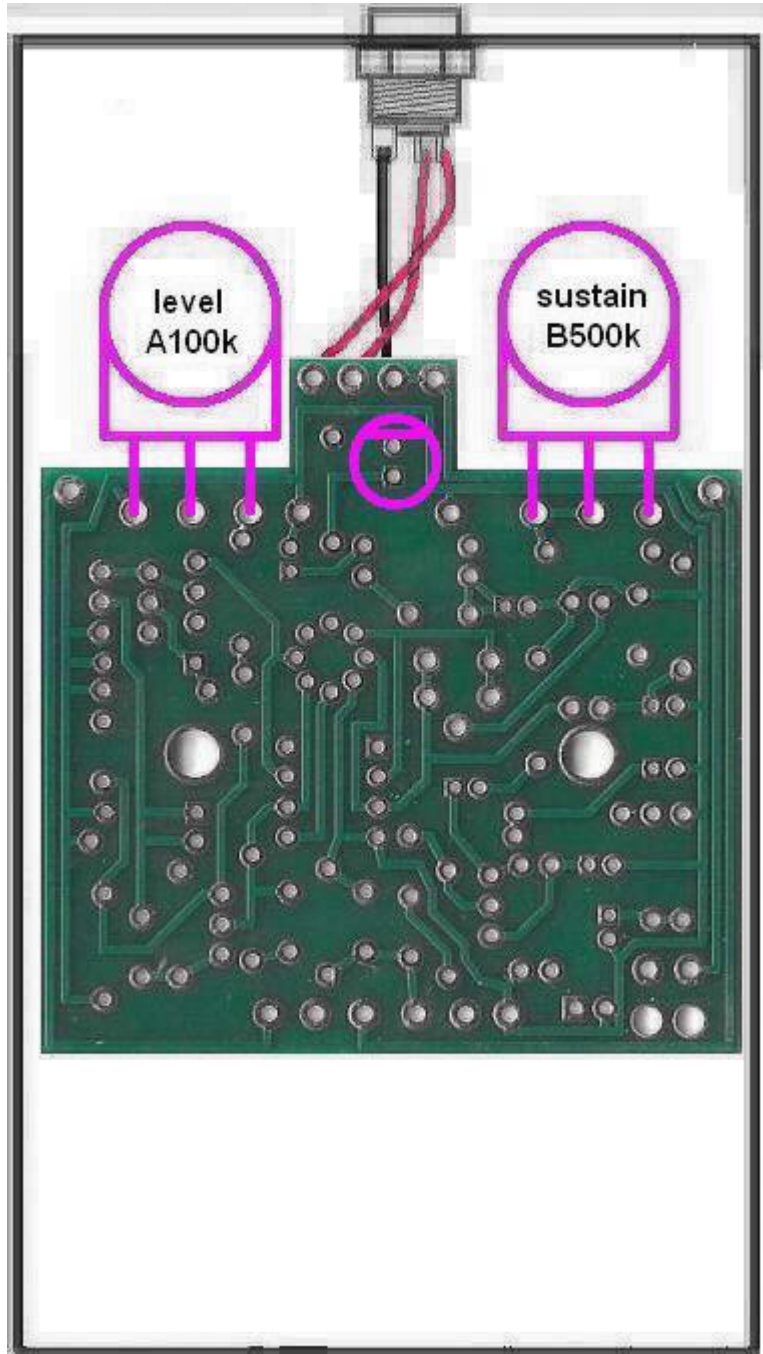


Step 1: Mount the DC adapter jack to the enclosure.

The sleeve disconnect terminal of the DC adapter jack connects directly to the positive terminal of the battery via the PCB. The sleeve disconnect terminal is connected to the sleeve terminal when there is no DC adapter plugged into the jack. When a DC adapter jack is plugged into the DC adapter jack, the connection between the sleeve disconnect terminal and the sleeve terminal is broken, thus disconnecting the battery from the circuit when a DC power supply is in use. This allows you to safely keep a battery in your pedal and still use a DC power supply.

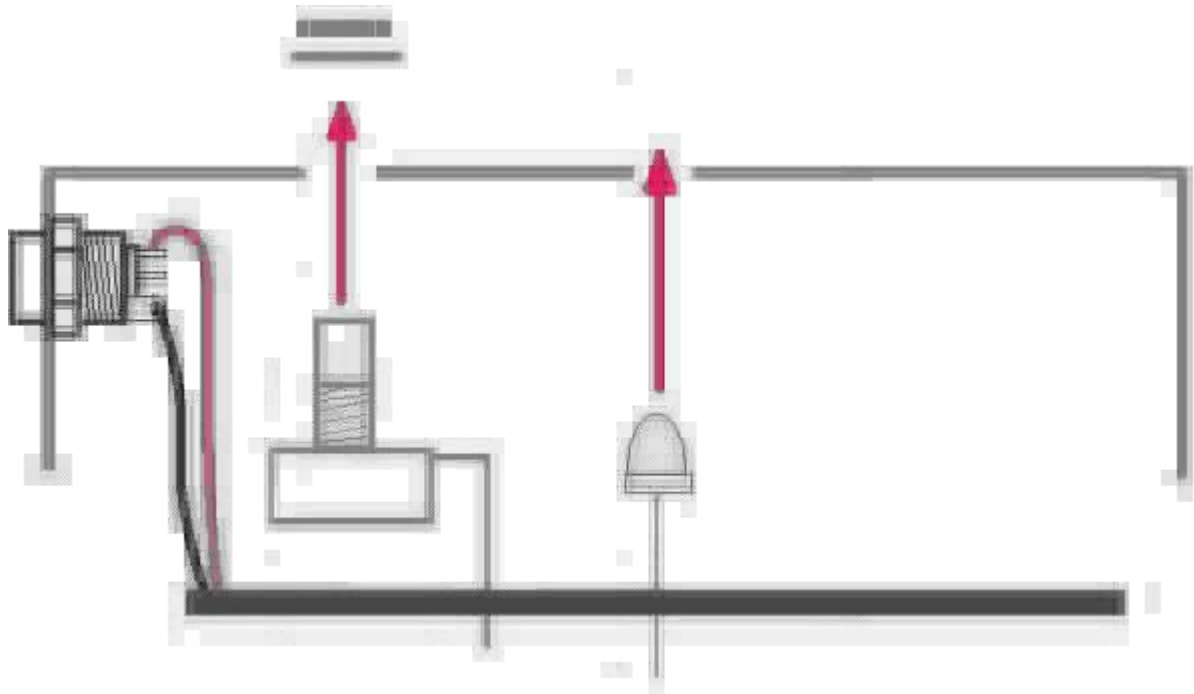






Step 3: Flip the PCB over so that the bottom or solder side is up. Insert the A100k(LEVEL), B500k(SUSTAIN) potentiometers, and the LED into the bottom side of the PCB. **DO NOT SOLDER ANYTHING YET!!!** The LED will have one lead that is longer than the other. The longer lead goes in the hole with the square solder pad.





Step 4: Hold the PCB in one hand so that the component side of the PCB is in the palm of your hand and the bottom side with the pots, toggle switch and LED is facing up. Now use your other hand to guide the predrilled enclosure onto the PCB assembly so that the pots and LED all go into their respective holes. Once the PCB assembly is in place, secure it by screwing on the washers and nuts for the pots and toggle switch. Only tighten them with your fingers. You do not want them very tight yet. Be sure to keep your hand on the PCB so that it does not fall off the PC mounting posts of the pots and toggle switch.

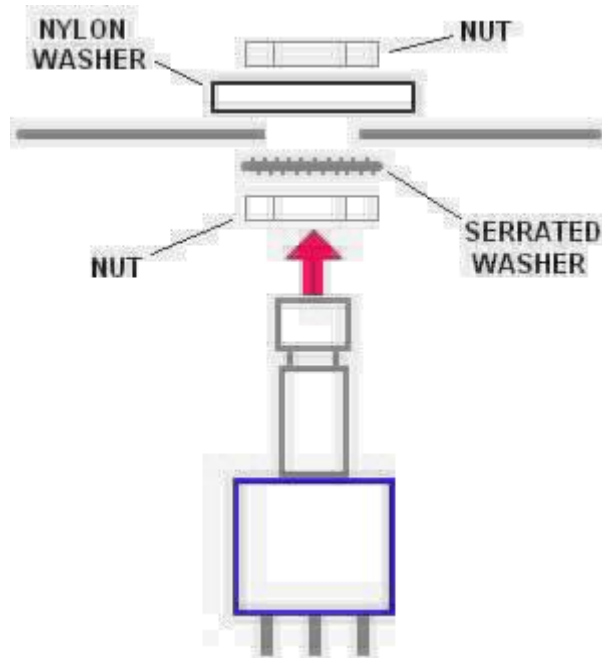
Step 5: Turn the entire pedal over so that the component side of the PCB is facing up. Lift the PCB up off the pots and toggle switch about 2mm just to make sure that the back of the PCB does not short out against that pots. Make sure the PCB is level and symmetrically seated inside the enclosure.

Step 6: Solder the pots and LEDs. You will solder these parts on the component side of the PCB. After you have soldered them in place, be sure to tighten up their nuts.

# Wiring

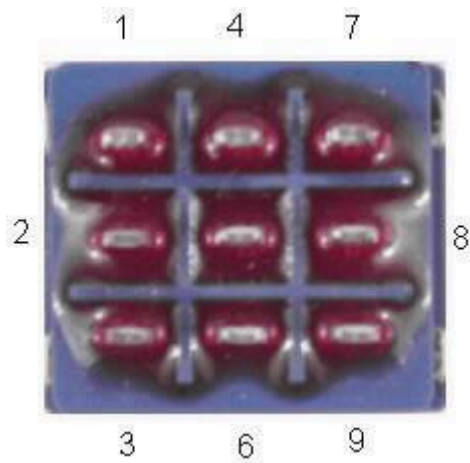
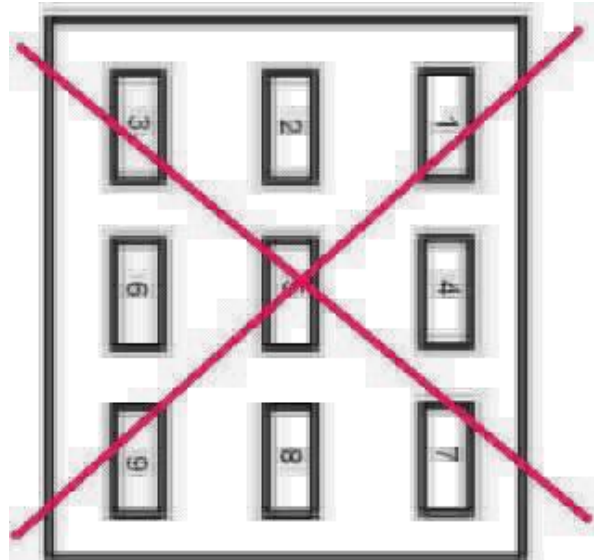
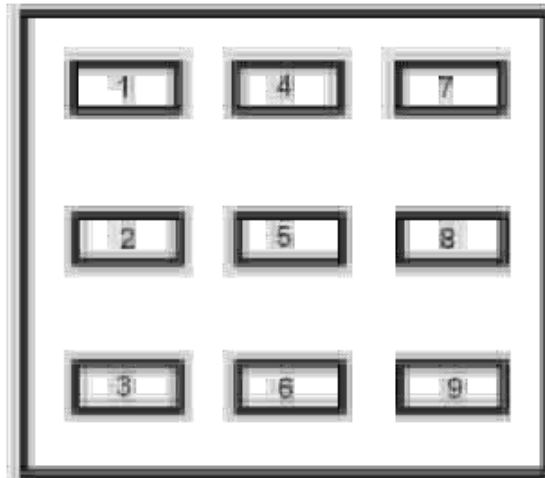


Step 1: Install the 1/4" jacks to the enclosure.



Step 2: Install the footswitch. Orient the footswitch so that the flat sides of the solder lugs are like the diagram below. NOTE: There are no actual number markings on the footswitch. There are two correct ways you can orient the footswitch. They are both 180 degrees of each other. Either way is fine. It does not matter as long as the flat sides of the solder lugs are running horizontal, not vertical.

### Footswitch Solder Lug Designations





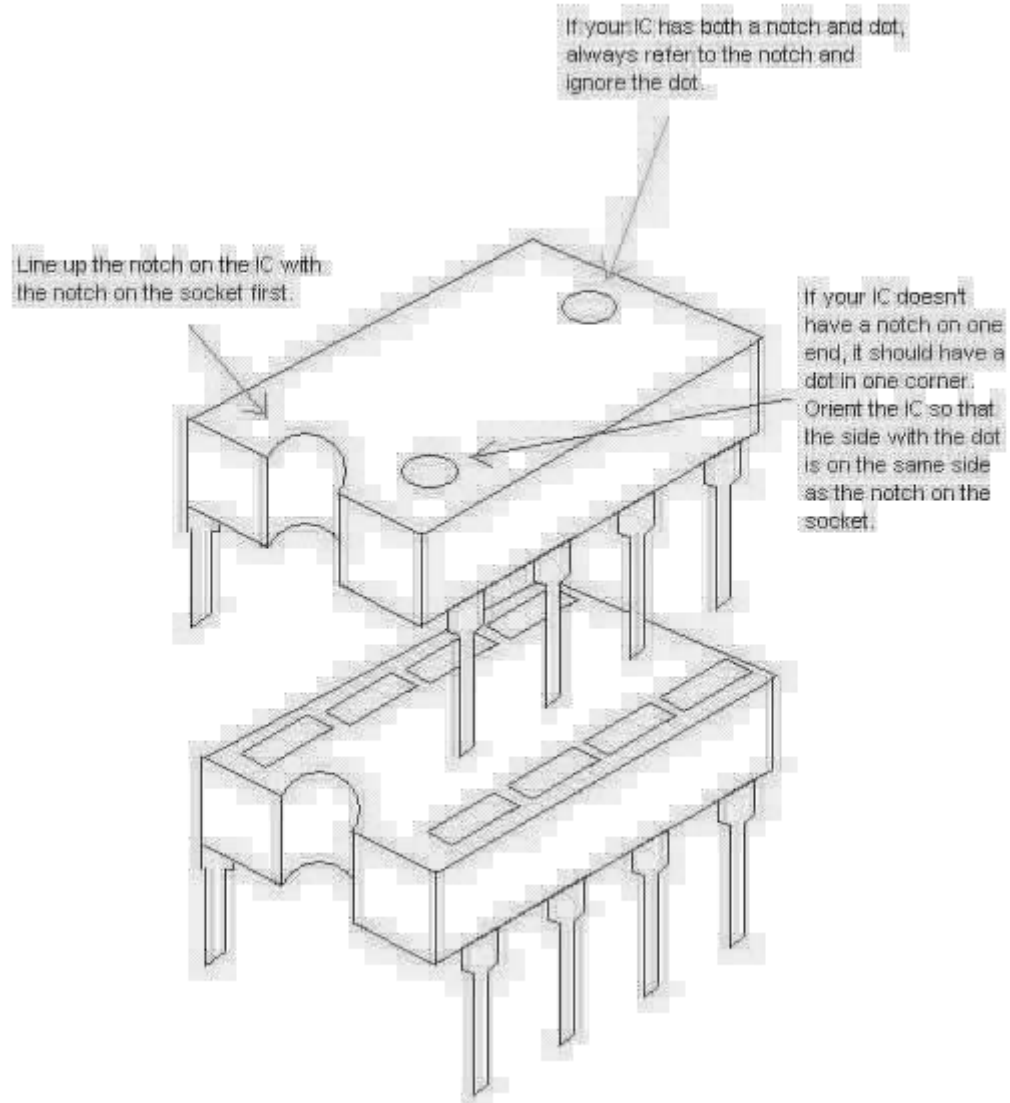
- Cut 3 x 2" pieces of wire. Strip 1/4" off each end. These will be used to connect the tip and sleeve of the IN jack and the tip of the OUT jack to the PCB.
- Cut 1 x 1.5" peice of wire. Strip 1/4" off each end. This will be used to connect the ring of the IN jack to the ring eyelet on the PCB.

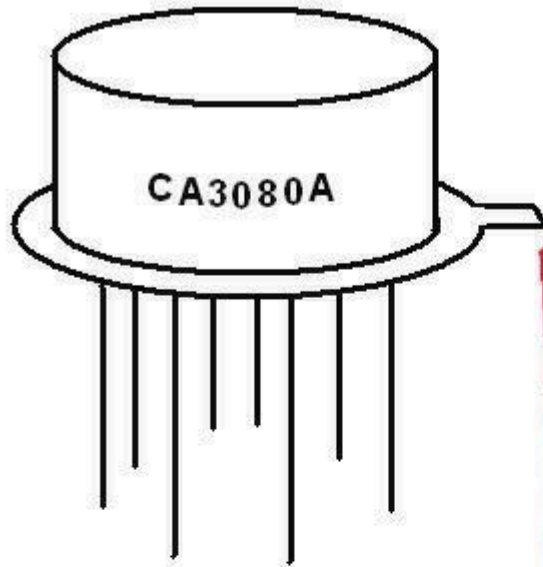
Step 5: Solder one end of the pre-cut and pre-stripped wires to the footswitch.

Step 6: Insert the other remaining ends of the pre-cut and pre-stripped wires into the topside of the PCB and solder. You can can solder these on the topside as well. It is easier this way, but you may burn a small amount of the PVC coating on the wires. This is purely asthetic and won't damage the wires in anyway. But you can avoid this by removing the PCB assembly and footswitch from the enclosure entirely (the PCB assembly will still be attached to the enclosure via the DC jack wiring) so that you have access to solder the underside of the PCB.



## Installing the IC and Finishing Up



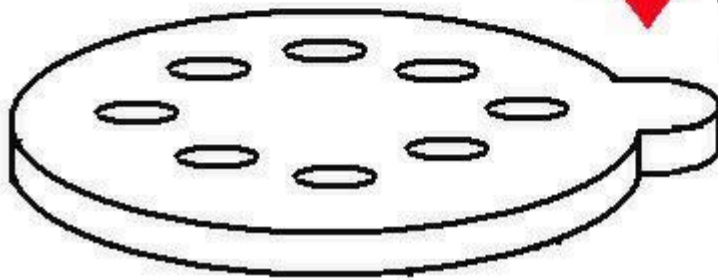


When inserting the CA3080A into its socket, orient it so that the tabs line up.

Insert the chip and test the pedal before clipping the leads. Once you've tested the pedal and it works, clip the



leads so that they are about 1/3 their original length.

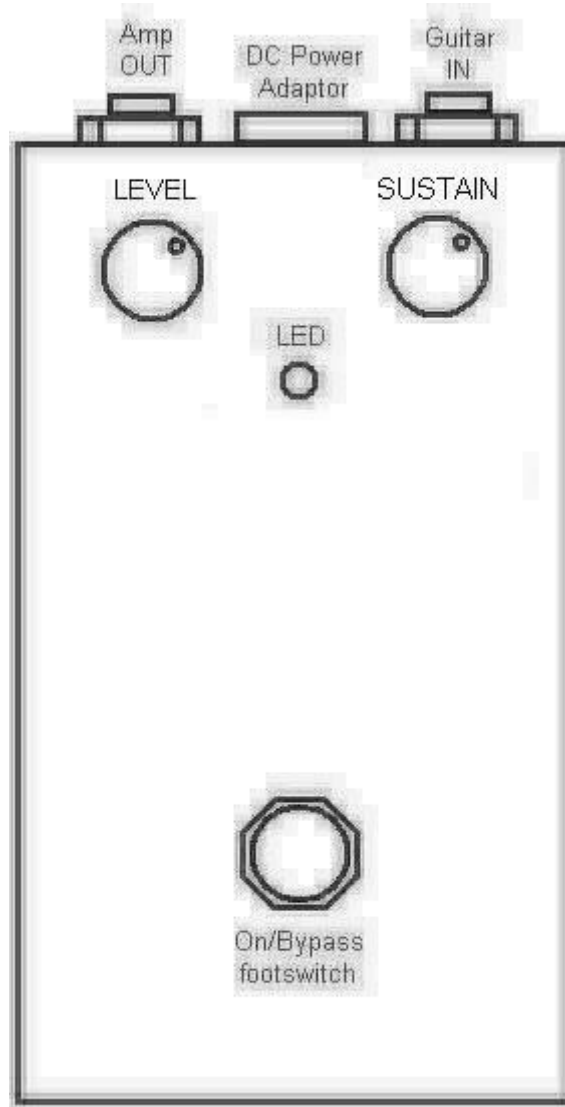


Once you've install the IC, it's time to test the pedal. If you don't get any sound at first, don't worry. You will need probably need to adjust the trimpot. If your trimpot isn't already set at the middle of its rotation, do so. This may or may not be the optimal setting for the trimpot, but it should definitely produce sound and be a good starting point for fine tuning.

You should adjust the trimpot to the position where you get the least amount of distortion when playing your guitar and where you get the longest smoothest decay. This may take a few minutes and several adjustments. You should still get a very small amount of pleasing distortion. It's just the nature of the circuit. It is not perfectly clean, but the distortion does give it some warmth and is part of the pedals character. If you have an 18v adapter, we recommend using it while adjusting your trimpot. It makes the trimpot much more sensitive and easier to dial in. 18v will also increase headroom and reduce distortion.

Don't forget to put the cover on the enclosure and apply the bumpers to the cover if you'd like to use them.

# Operating Overview



LEVEL & SUSTAIN: Do you really need an explanation of what these knobs do?

DC power supply - Use a 2.5mm negative tip (this is your standard guitar fx style adapter) 9, 12, 15, or 18VDC adapter. The higher voltage will give you more headroom and output. If using battery power, only use a single 9V battery.

Current Draw - 5mA

Input Impedance - 470k ohms



Output Impedance - 100k ohms



Please visit  
<http://buildyourownclone.com/board>  
for any technical support

copyright 2010  
B.Y.O.C., LLC