

Boss MT-2 Stormchaser MOSFET mod vs

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Acknowledgement goes to all the folks on www.Bossarea.com/forum (now www.StompBoxZone.com/forum) who provided ideas and information. Particular thanks go to Moonwatcher for his MOSFET thoughts.

1	<i>Remove C35 and C25 (unsolder and remove completely, do not jumper) – this removes the Q10 and Q8 active filters from the circuit and cleans up the mid frequencies</i>
2	<i>Change C34 to 0.047µF metalized polyester (note: this doesn't have a huge effect once step #1 above is completed – it can be skipped if desired)</i>
3	<i>Change C42 to 0.1µF metalized polyester – opens up the input into the pedal.</i>
4	<p><i>Change:</i></p> <ul style="list-style-type: none"> • <i>D3 to 2N7000 with G & D tied</i> • <i>D4 to 2N7000 with G & D tied</i> <div style="display: flex; align-items: center;"> <div style="margin-right: 10px;">  <p style="font-size: small;">REAR OF PEDAL FRONT OF PEDAL</p> </div> <div> <p style="font-size: small;">(looking down at the top of the FETs)</p> <p style="font-size: small;">The G and D legs will fit straight into the one hole.</p> </div> </div> <div style="display: flex; justify-content: space-around; margin-top: 10px;">   </div>
5	<i>Change C36 to 0.056µF metalized polyester – gives way more variation from the mid EQ (but not over-the-top)</i>
6	<p><i>Change C3, C4, C11, C21, C37, and C39 to 1µF metalized polyester – opens the tone path by changing out the electrolytic caps.</i></p> <p><i><u>Note:</u> C3 must be small form-factor and care must be taken installing it or it will foul against the ribbon cable and the board will not sit properly. The fat orange capacitor to the left of the MOSFETs in the pics above is about the right size.</i></p>



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7	<p><i>High frequency distortion component shaping:</i></p> <ul style="list-style-type: none">a) <i>Change C18, and C22 to 220 pF mono cap</i>b) <i>Change C28 to 150 pF ceramic cap</i>c) <i>Change C10 and C26 to 47pF ceramic cap</i> <i>(the 47pF capacitors removed when swapping C28 and C22 can be used here)</i>
8	<p>OPTIONAL: <i>Replace the LED with a bright white 3mm - take care with orientation! (the "flat" on the new LED goes the same way around as the "flat" on the old LED).</i></p> <p><i>If desired, replace R10 (the LED resistor) to adjust the brightness and current consumption of the LED - we usually use 2k2.</i></p>

ADDITIONAL STEP IF DESIRED:

The step on the next page is to manage the "bite" and really cutting high end of the MOSFETs. Adding this step tames the pedal and makes it more "classic rock". If bite and cutting high-end are what you want (more of a metal/grunge sound), then please skip this entire step.

We suggest finishing the mod without this step – if the pedal is too cutting, then add this step.

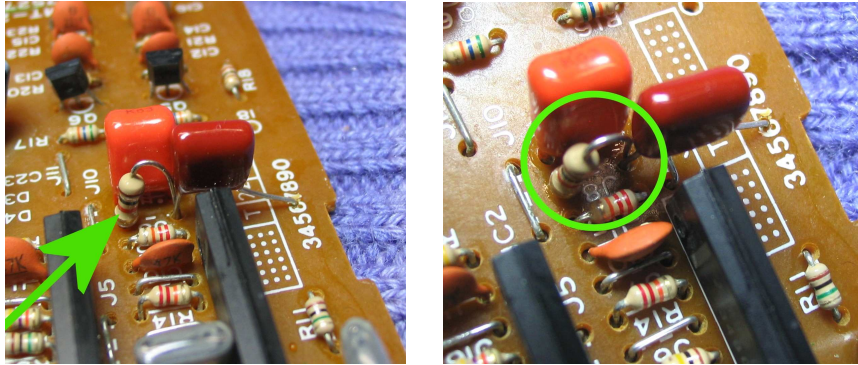
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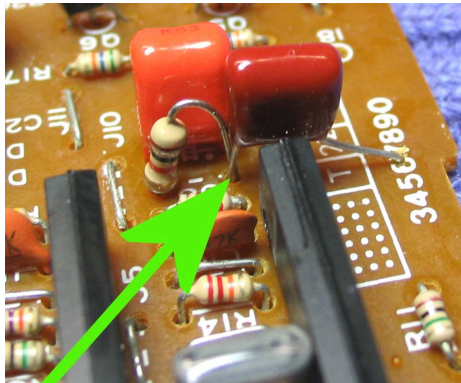
ADDITIONAL STEP

Build an "RC" network to further shape the distortion:

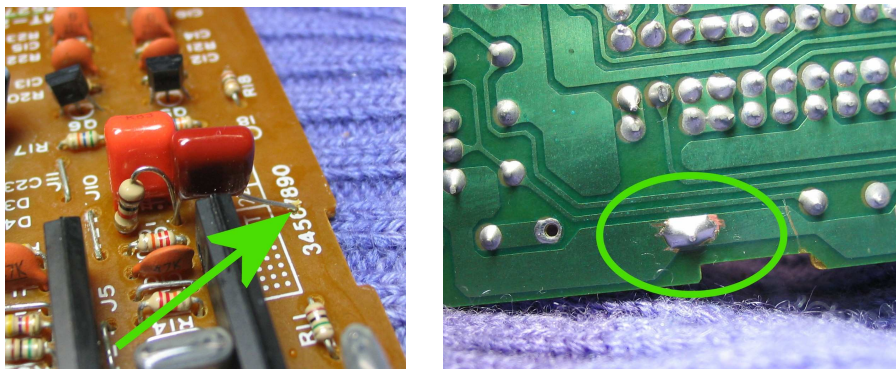
a) Replace J8 with a 1k resistor (let's call this "R-Jump") – but don't solder it in yet!



b) Enlarge the hole for R-jump furthest from IC2 and put one leg of R-jump and one leg of a 0.056 μ F polyester cap into the hole (two leads into one hole – with care!).



c) Solder the other leg of the 0.056 μ F polyester cap to ground – this can be achieved by drilling a hole near the edge of the board – through the ground track on the track side of the board (it is the track closest to the edge of the board at that point). Clean the protective coating from the track and solder the cap leg.



Parts list:



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All capacitors are 16V or higher - the original mod used 50V mono and ceramic, and 63V polyester types.

Qty	Part	Comment
1	0.047 μ F metalized polyester capacitor	May be skipped if desired – see step #2
1	0.1 μ F metalized polyester capacitor	
2	2N7000 transistors	Should not be substituted - substitution will result in different tone
2	0.056 μ F metalized polyester capacitor	
6	1 μ F metalized polyester capacitor	At least one of these must be small form-factor
2	220pF mono	ceramic will also work for this cap
1	150pF ceramic	
2	47pF ceramic	The 47pF capacitors removed when swapping C28 and C22 can be used here
1	1k resistor, ¼ watt	
1	Bright white 3mm LED	
1	LED resistor - something between: <ul style="list-style-type: none">• 2k2 (brighter)• 6k8 (less bright)	If in doubt, use a 2k2, ¼ watt resistor.

General comments:

Use of a high quality solder wick and a temperature controlled soldering iron is the best way to de-solder the components.

Flux can be removed from the board after soldering using high quality flux remover solvent.