Use this troubleshooting supplement to help:

- Measure voltage test points to identify major discrepancies and locate problem areas.

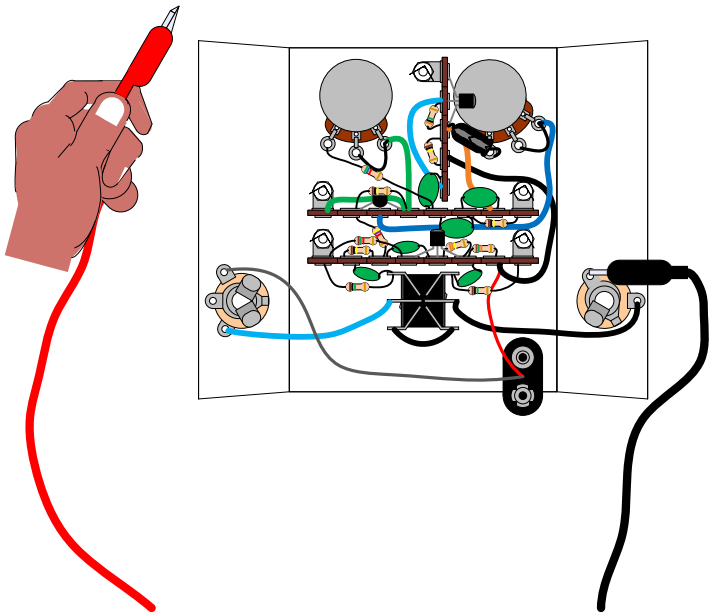
Using a volt meter, connect the ground side lead of the meter to any ground point on the pedal. One ground point would be the output jack's ground lug. The other volt meter lead will be used to measure voltage at the test points listed and shown in the drawings on the next pages.

(Keep in mind that the voltage measurements will vary slightly from kit to kit. The voltages you measure should be in the same ballpark, but do not expect to get the exact same value.)

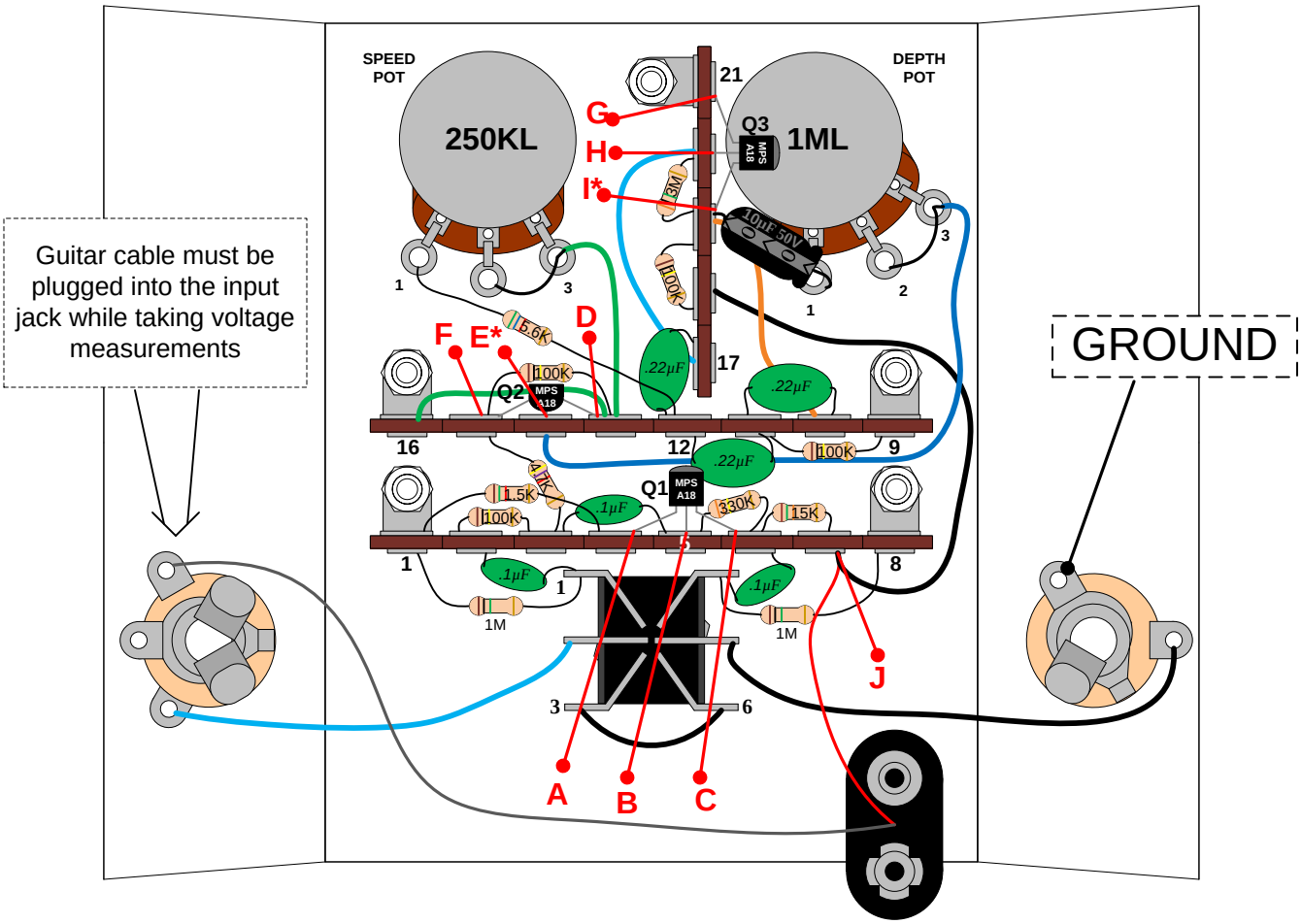
You must plug a guitar cable into the input jack when taking the voltage measurements because the input jack is set up to disconnect power from the circuit when unplugged.

***Oscillation causes the voltage measurement at test points 5 and 9 to be unstable, but they average the listed voltage with "speed" and "intensity" controls at their max (full clock-wise) settings.**

Test Point	Location Description	DC Voltage Measurement
A	Q1 Emitter	0.77 VDC
B	Q1 Base	1.37 VDC
C	Q1 Collector	1.58 VDC
D	Q2 Emitter	0.0 VDC
E*	Q2 Base	-0.25 VDC*
F	Q2 Collector	0.0 VDC
G	Q3 Emitter	0.0 VDC
H	Q3 Base	0.56 VDC
I*	Q3 Collector	1 VDC*
J	9 Volt Power Supply	9.25 VDC

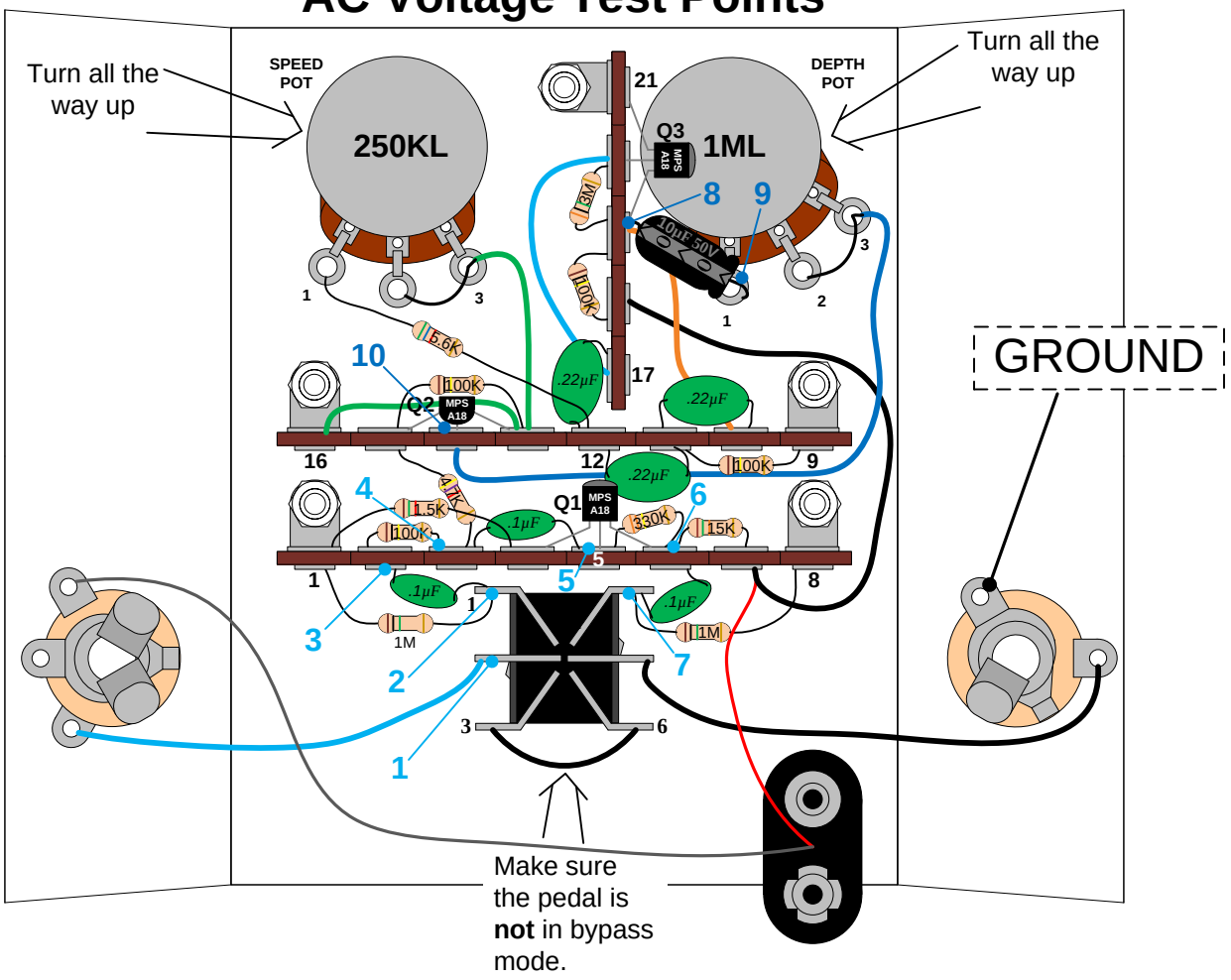


***Oscillation causes the voltage measurement to be unstable, but average the listed voltage with “speed” and “depth” controls at their max (full clock-wise) settings.**



DC Voltage Test Points

AC Voltage Test Points



AC Test Points 1 - 7 (Signal Path)

Connect your guitar to the input jack and take AC voltage measurements at each test point with both controls turned all the way up. At each test point the AC voltage should increase dramatically each time you strum the guitar. (No strum = 0.0 VAC, Hard strum = anywhere from 10 mV to 2 V).

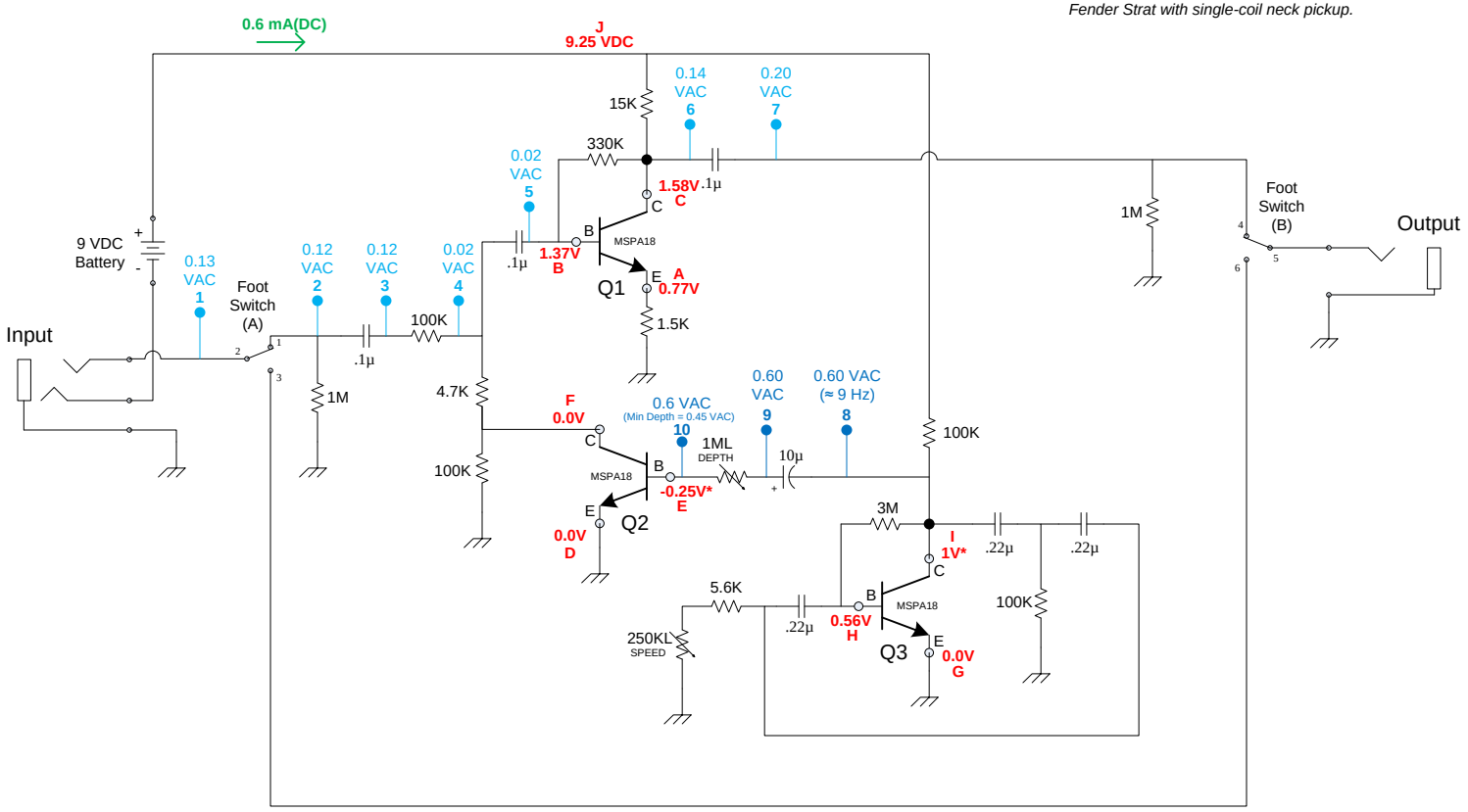
AC Test Points 8 - 10 (Oscillator Output)

These test points are isolated from the signal path and your guitar playing should not have an effect on the voltage readings here. At a maximum speed setting, you should have a constant waveform with a frequency of about 9.25 Hz.

All measurements taken with both speed and depth at their maximum settings

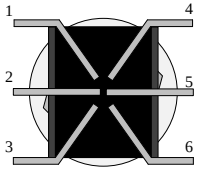
Letters (A - J) = DC Voltage measurements
Numbers (1 - 7) = AC Voltage measurements in the signal path
Numbers (8 - 10) = AC Voltage measurements from the oscillator

Numbers (1-7) VAC signal was produced by strumming an open E7 chord on a Fender Strat with single-coil neck pickup.



***Oscillation causes the voltage measurement to be unstable, but average the listed voltage with "speed" and "depth" controls at their max (full clock-wise) settings.**

DPDT Foot Switch



MPSA18
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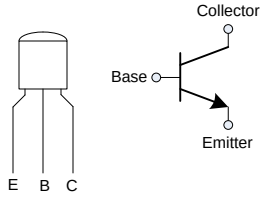

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