

Fender® Capacitor Kit Installation Guide Pro Reverb AA165; Super Reverb AB763; Vibroverb AB763

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Please review these guidelines thoroughly prior to beginning installation. Becoming familiar with the complete procedure in advance ensures a safe, successful recapping process.

Safety Warning

Tube amplifiers contain high voltage stored within the filter capacitors, even after the unit is turned off and unplugged.

- Always disconnect the amplifier from commercial AC power before commencing work.
- Discharge all filter capacitors fully before touching internal circuitry.
- If you are unfamiliar with safe capacitor discharge techniques, leave your amplifier in the care of a professional service technician.

Capacitor Sizes & Values

- **Physical Size:** Modern manufacturing advancements allow replacement capacitors to be 50%–75% smaller than original vintage components.
- **Standard Value Adjustments:** Updated industry standards mean original values have modern equivalent replacements:
 - **Bias Filter Capacitors:** Supplied as **100 μ F/100V** (or **25 μ F/70V** for early 1960s circuits).
 - **Preamp & Main Capacitors:** 20 μ F and 25 μ F units are replaced by **22 μ F**; 70 μ F by **80 μ F**; 5 μ F by **4.7 μ F**; and 8 μ F by **10 μ F**.

Polarity & Orientation

Electrolytic capacitors are polarized. Installing them backward will damage the components and the amplifier.

- **Identifying Terminals:** Originals feature positive (+) and negative (-) indicators. Replacement components (such as Tube Amp Doctor capacitors) use an arrow pointing toward the negative terminal.
- **Mark the Chassis:** After safely discharging the old capacitors, clearly mark their polarity orientation inside the amplifier using a marker, masking tape, or reference photos before removing anything.
- **Opposing Orientations:** Capacitors inside the "dog house" housing do not always face the same direction (e.g., dual main filter capacitors are often installed in opposite directions).
- **Bias Circuits:** The positive (+) lead always connects to ground, and the negative (-) lead connects to the active circuit.

Installation Procedure

1. **Work One at a Time:** Replace components strictly one at a time to prevent layout and polarity errors.
2. **Desoldering:** Snip original leads close to the eyelet, then clear the hole using solder wick or a solder sucker (leave any lead wire under the board intact).
3. **Clean Workmanship:** Trim new leads to leave roughly ½ inch of excess length for proper insertion. Never twist new leads around old cut leads—splicing reduces reliability, safety, and resale value.
4. **Complete Replacement:** Replace every capacitor included in the kit before powering up the amplifier.

Mechanical Mounting Because modern capacitors are smaller and lighter, secure large filter capacitors in the "dog house" with a bead of silicone caulk (RTV) or non-conductive hot melt adhesive underneath them. Relying solely on lead wires allows speaker vibrations to eventually crack the leads. Small preamp capacitors do not require adhesive.

Resistor Replacement If your kit includes balancing or dropping resistors for the main capacitor housing:

- Replace them one at a time, matching color codes with existing components.
- Ignore the gold or silver tolerance stripe on new replacement resistors when matching.
- Due to production variances across different manufacturing runs, some kits include extra resistors. Not all supplied resistors will be needed—replace only like-for-like resistors in your specific amplifier circuit.

Model-Specific Circuit Notes

- **Later Fender® Silverface Amps (Post-1970):** Locate the vibrato cathode bypass capacitor (changed from 25μF to 5μF / 4.7μF). Replace this unit first to prevent mix-ups. It spans a 100kΩ resistor, with one side wired to Pin 8 of the 5th 12AX7 tube. Note that on select Silverface models, some cathode bypass capacitors ground directly to the rear panel RCA jacks rather than the main board.
- **Early Fender® Blackface Amps:** Preamp sections using original 3-leg dual 25μF capacitors (one common ground, two positive leads) should be replaced using two individual 22μF or 25μF capacitors. Solder both negative leads into the original single ground eyelet, and route each positive lead to its respective circuit eyelet as was done with the old dual capacitor.

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