
Fender Bassman Magic!

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Introduction

Do you have a **tolex Bassman Head (TBH)**? These are common utilities used as amps by guitar players. However, they are not the best out-of-the-box. **Vintage Guitar** has a better solution for you.

Solution

The **tolex Bassman Head** amp is not a high-quality product by default. Any owner of this amp will say the same. However, with this modified circuit the amp can be utilized to create beautiful music. The quality of this modified amp is comparable to a Brown Tolex Twin, a Tweed Guitar amp, or a 4 x 10" Bassman. This trick is foolproof and so easy anyone can figure it out!

Before Starting

This should only be done with amps working properly. This **SHOULD NOT** be done on a busted amp. You **SHOULD NOT** attempt this unless you know what you are doing. This process is potentially dangerous and should be done with extreme caution. Follow these steps before modifying the circuit.

1. Test the amp to ensure it works right.
2. Place good tubes in the amp, especially the driver tube.
 - See the back issue of **Vintage Guitar** for assistance with this.
3. Take out the 33k feedback resistor and any capacitor next to it. Replace these with a 1 meg resistor.
 - You can change to 470k after getting the circuit to work again.
 - This will give you a cleaner sound.
4. View the "Fender Bassman Driver" diagram on the second page.
5. Check that your circuit matches the left.
 - If not, **STOP!** You have a different circuit.
6. Check that the amp is unplugged.
7. Discharge the filter capacitors.
 - If you do not know how to do this, let me know and I will share how.
8. Solder neatly and minimally.
9. Be careful and have fun!

Rebuilding the Fender Bassman Driver Circuit

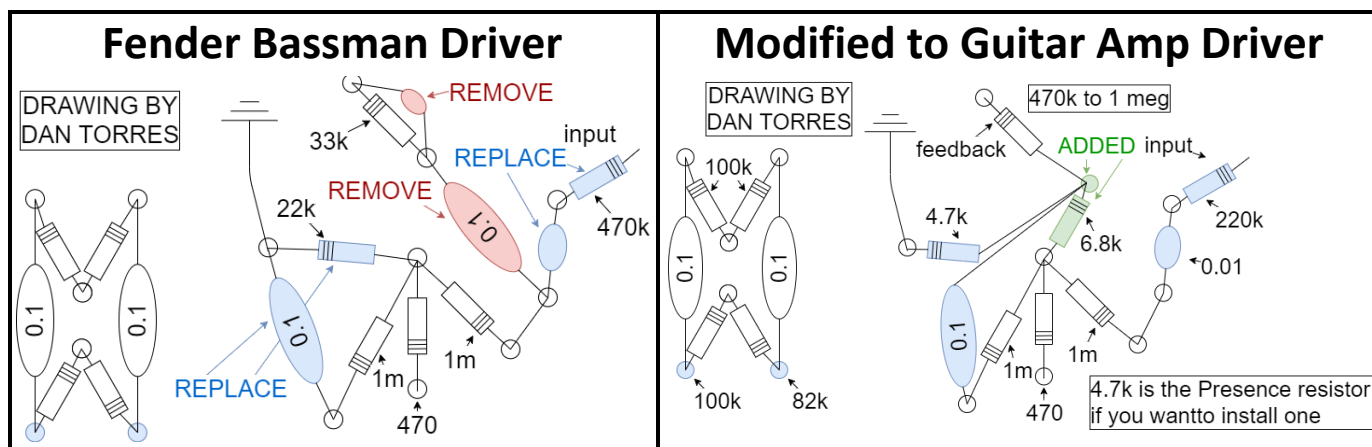


DIAGRAM KEY: Red = Remove, Blue = Changed / Replaced, Green = Added

This modification will put the feedback into the driver tube's cathode circuit. Located here, the feedback will sound better. This modification will also rebuild the cathode circuit. This will make the circuit stronger and more musically sensitive. **Follow the steps below to rebuild the circuit.**

- 1. Remove the large 0.1 mfd caps.**
- 2. Remove the 22k resistor.**
 - This is usually a large, 1 watt resistor.
 - The left side is grounded.
 - The wire may be hidden under the circuit board.
 - Some silver face amps have yellow wire on top.
- 3. Locate the three resistors that come together near the center.**
- 4. Determine whether the left and right (not middle) resistors are 1 meg resistors.**
- 5. If not, replace these two resistors with 1 meg resistors.**
 - These should be matched, metal film resistors for best performance.
- 6. Locate the circuit change.**
- 7. Remove the 22k resistor.**
 - The one going off to the left side.
- 8. Add a new 6.8k resistor place of the removed resistor.**
 - Position this new resistor to go up and join the feedback resistor.
- 9. Install a new 0.1 mfd metalized polyester 600 volt cap up to the same junction point.**
 - This should come from the bottom left hand 1 meg resistor to (from the group of three).
- 10. Check that the junction point connects the following:**
 - 6.8k resistor
 - 4.7k resistor
 - 1 meg feedback resistor
- 11. Replace the input 0.1 mfd with a metalized 600 volt cap.**
 - Alternatively, you can use a 0.02 mfd cap with lowered quality.
 - I personally use a 0.005 mfd cap on stock bassmans.
- 12. IF there is a 470k resistor in front of the input cap, change it to a 220k resistor.**
- 13. Locate the resistors on the left side of the circuit.**
- 14. If the bottom two resistors are 47k, change the left to a 100k and the right to 82k.**

Final Notes

Bassmen can vary greatly in layout, parts, circuit, wiring, etc. This modification has the more common Bassmen in mind. **If your amp does not match the drawings close enough, DO NOT DO THIS.** This method is more effective than anything else, other than building a new circuit.

Once finished, plug in and you will hear a guitar amp now. The quality of the sound will be brilliant. You will notice it has lots of drive and tone. You will find these circuit changes are simple. This can be easily reversed if you do not like it.

If you have questions or need assistance, please reach out to dtorres@torresengineering.com. Good luck and have fun!

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Glossary

Amp: Used to amplify the sound being produced.

Brown Tolex Twin: Dark brown, textured vinyl amp covering.

Circuit Change: Refers to part of the circuit itself or the process of changing the circuit.

Driver Tube: Refers to the phase splitter tube.

Driver Tube's Cathode Circuit: Refers to the circuitry connecting components together.

Fender 4 x 10" Bassman: Larger, more expensive Fender Bassman.

Fender Bassman Driver: A bass amplifier series introduced by Fender during 1952.

Filter Capacitors: A capacitor which filters out a certain frequency or range of frequencies from a circuit.

Tweed Guitar Amp: Original "woodie" Fender amp covering with weave pattern.

References

- 1963 Fender Bassman Head Blonde Tolex: Great Music Gear: Reverb. (n.d.). Retrieved November 16, 2020, from <https://reverb.com/item/32683438-1963-fender-bassman-head-blonde-tolex>
- Driver Tubes : What do they really do? (n.d.). Retrieved November 16, 2020, from <https://www.talkbass.com/threads/driver-tubes-what-do-they-really-do.489088/>
- Explained. (n.d.). Retrieved November 16, 2020, from <http://www.learningaboutelectronics.com/Articles/Filter-capacitor.php>
- Fender Bassman. (2020, November 05). Retrieved November 16, 2020, from https://en.wikipedia.org/wiki/Fender_Bassman
- Fender & Vintage Reissue '59 Bassman LTD 4X10 Guitar Combo. (n.d.). Retrieved November 16, 2020, from <https://www.musiciansfriend.com/amplifiers-effects/fender-vintage-reissue-59-bassman-ltd-4x10-guitar-combo>
- How to drive a Nixie Tubes. (n.d.). Retrieved November 16, 2020, from <https://gra-afch.com/how-it-works/how-to-drive-a-nixie-tubes/>
- Hunter, D. (2019, October 09). History of the Fender Bassman. Retrieved November 16, 2020, from <https://www.vintageguitar.com/34259/history-of-the-fender-bassman/>
- Tweed, Tolex, Two-Tone: A Guide to Amp Coverings. (n.d.). Retrieved November 16, 2020, from <https://www.fender.com/articles/tech-talk/tweed-tolex-two-tone-a-guide-to-amp-coverings>
- Tweed, Tolex, Two-Tone: A Guide to Amp Coverings. (n.d.). Retrieved November 16, 2020, from <https://www.fender.com/articles/tech-talk/tweed-tolex-two-tone-a-guide-to-amp-coverings>
- Watt Is An Amp? (n.d.). Retrieved November 16, 2020, from <http://www.theatrefx.com/funfacts111.html>