

## **Impedance Mismatch Effects on Tone...**

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Fender output transformers will safely tolerate a mismatch of 100% in either direction. i.e. a transformer expecting to see 8 ohms can safely run at 4 or 16 ohms.

Any mismatches higher than that and you'll run the risk of stressing out and eventually blowing your transformer, (especially if the amp is being played at stage volumes). Any mismatches lower than that and you'll stress your output tubes causing them to have a shorter lifespan.

Tone-wise, your amp achieves maximum output at the correct ohm value. Shifting the load higher creates a condition, which makes the amp run like it's been biased too cold. i.e. it will become a little more lifeless, but it will have more clean headroom.

Shifting the load lower creates a condition, which makes the amp run like it's been biased too hot. The amp will run hotter and the speakers will distort sooner, but not necessarily in a good way tone-wise.

**DISCLAIMER: ALL THESE DETAILS ONLY APPLY TO PRE-1980 FENDER AMPS.  
MISMATCHING IMPEDANCES ON OTHER BRANDS IS LIKELY TO CREATE BLUE FLAME AND SMOKE !!!**