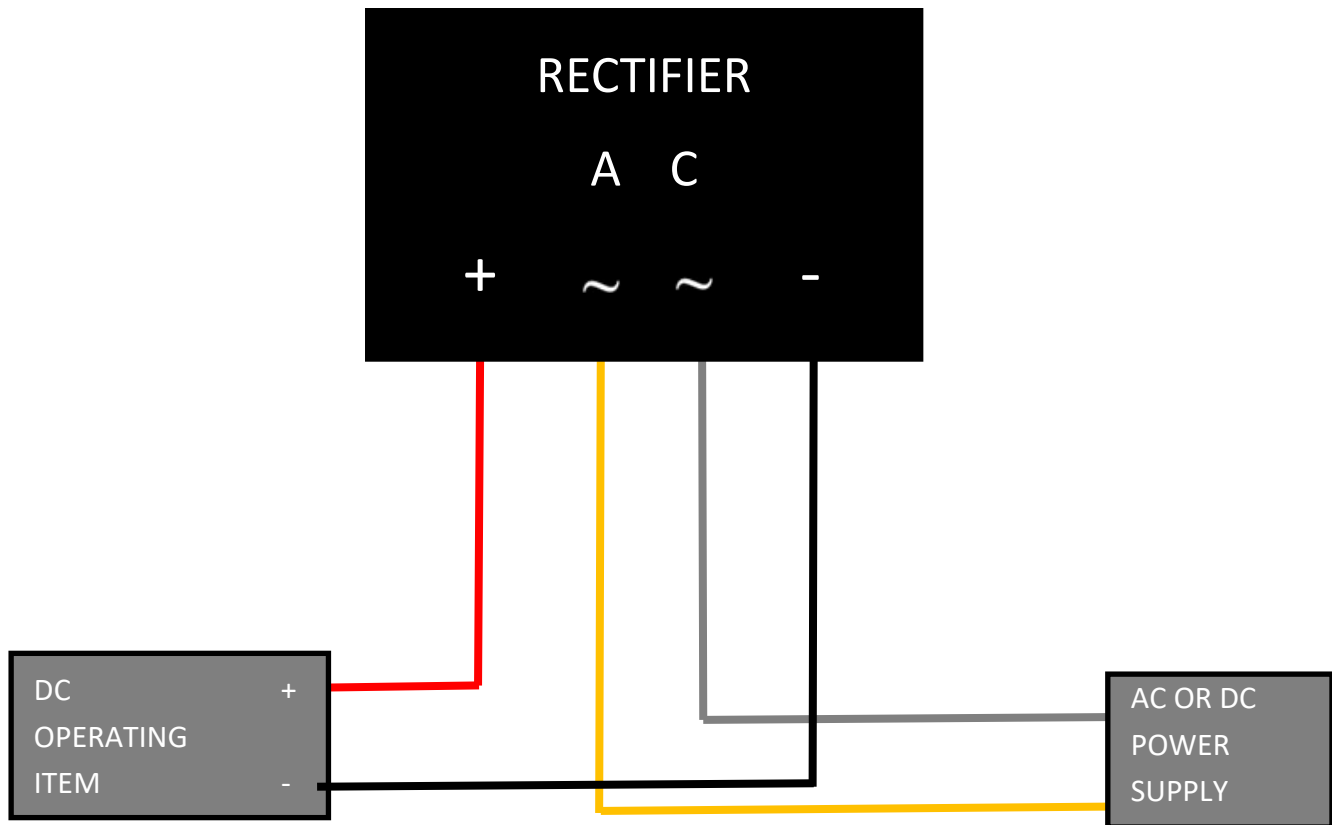


Simple Bridge Rectifier

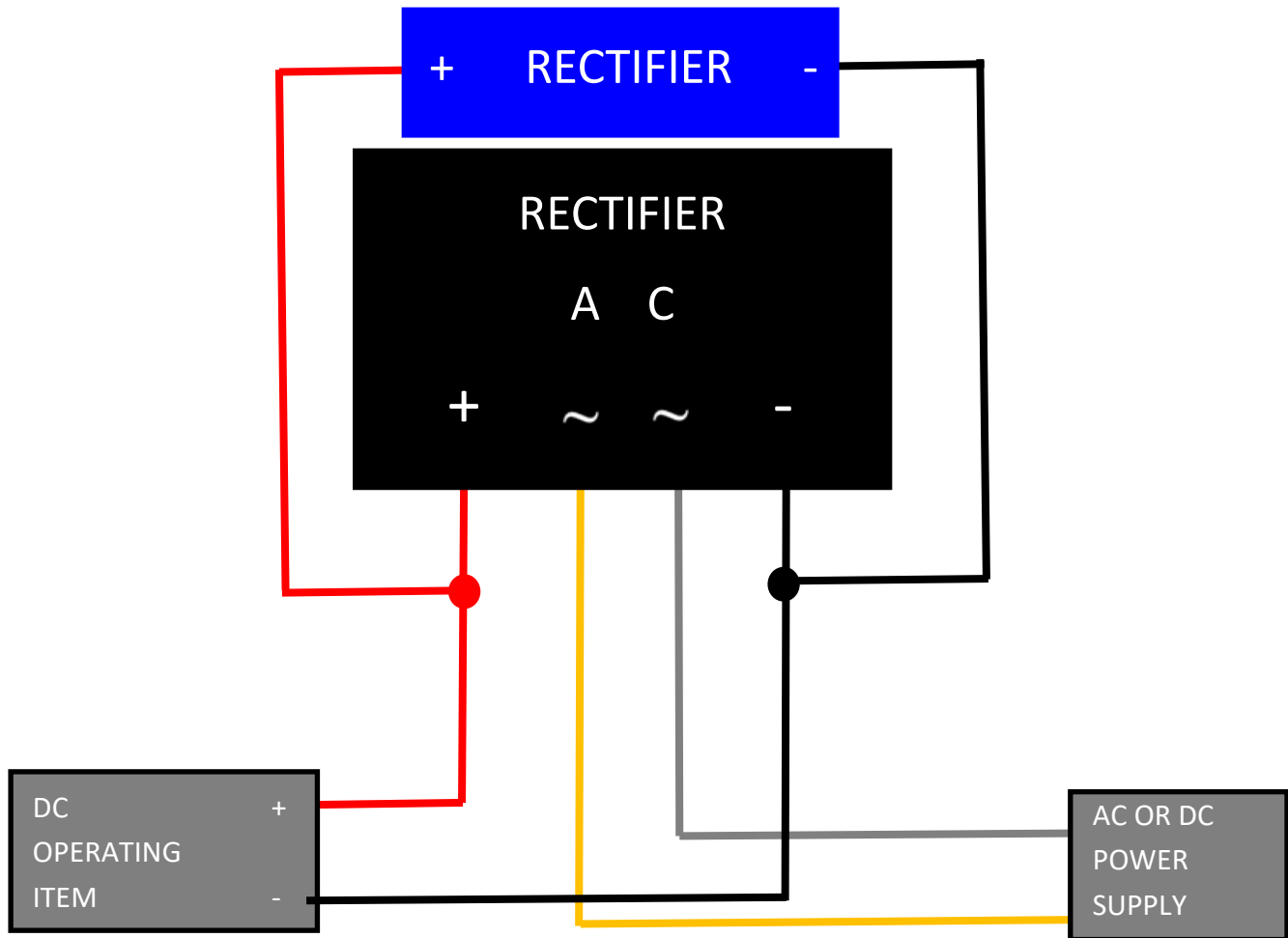


Take AC or DC power wires from the supply and attachm the lead to the redtifer center AC Leads. ~

I like using White for common AC and Orange for 12 Volt AC. I also like to use Black for the Negative DC and Red for 12 Volt DC.

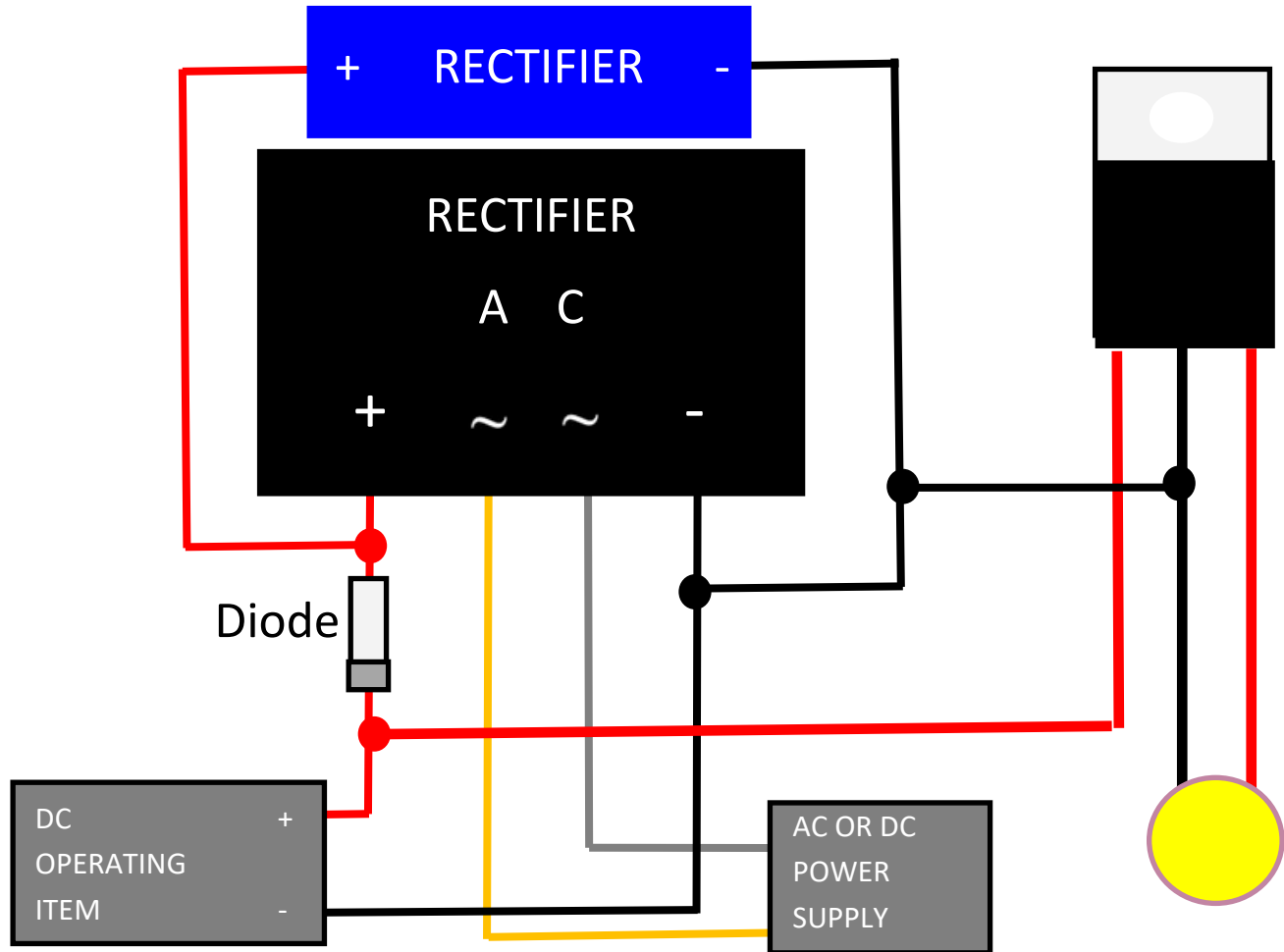
If you attach a Capacitor then attach the Positive lead to the Positive Lead of the Rectifier and the Negative Lead of the Capacitor to the Negitive lead of the Rectifier.

Simple Bridge Rectifier with a Capacitor



Attaching a Capacitor you need to attach the Positive lead to the Positive Lead of the Rectifier and the Negative Lead of the Capacitor to the Negative lead of the Rectifier.

Simple Bridge Rectifier with a Capacitor and Power Regulator



Attaching a 3 leg power regulator.

In this drawing the power regulator is putting out 12 V DC.

Silver back is to the back of the regulator. The Left Leg is attached to the positive side of the power supply.

The middle leg is attached the negative side of the power supply.

The left leg of the power regulator is attached to the Positive side of the item you want to work such as a LED bulb. The negative middle leg is going to be also attached to the negative side of the item such as the LED bulb.

Note that All Negative wires are attached together.

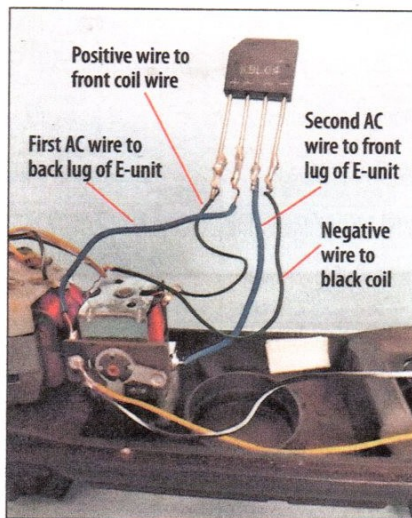
With AC power as the source the Diode in line may help in causing the DC to smooth out.

TIPS • TOOLS • TECHNIQUES

FROM THE CTT READERS AND STAFF



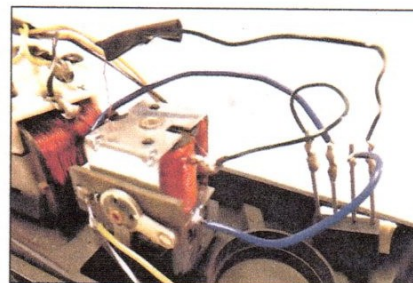
I used a 400V single-phase bridge rectifier for this project.



Colored wire will help make sense of the connections to the reverse unit.



Lionel's O gauge diesel models from the early modern era tend to have more space for the installation of a rectifier than did its steam locomotives.



Take time to perform a functional check of the reverse unit and the rectifier before you attach it to the frame.

Installing a rectifier – close up

REDUCE REVERSE UNIT NOISE

In the September 2009 Tips column, we ran a piece from Bob Del Castillo installing a rectifier in an electronic reverse unit to reduce noise. This has proved to be the most frequently referenced reader tip we've run. We asked Tips contributor Paul Ullrich, who used Bob's suggestions to equip several of his O gauge locomotives with rectifiers, to take another look at the process. Thanks to Bob and Paul. – Editor

To accomplish this project, I used a 400V single-phase bridge rectifier, which I ordered from an electronics parts store. They cost \$2.49 but I ordered so many that I got a discount!

I wrapped wires about 4 inches in length onto each end of the rectifier's mounting rods and soldered them. You can use either solid-core wire or braided wire, depending on your preference. I find solid-core wire easier to solder, but braided wire is more flexible and easier to work in tight places.

I heard, and there was a lot of empty space inside the shell.

First, I disconnected the coil wires attached to the lug on each side of the E-unit. I soldered the positive (+) wire to the back lug and the negative wire (-) to the front lug, but it really doesn't matter which one goes where.

Next came the second and more challenging part. I had to disconnect the coil wires attached to the lugs on each side of the E-unit. Those wires were extremely short, and if I broke one off, well, good luck trying to find it!

on the inside of the rectifier (the ones marked with the two squiggly lines).

I carefully turned the rectifier upside down and attached it to the frame using the model railroader's secret weapon – Scotch brand double-sided foam-backed picture-mounting tape. I insulated the bare wires with either short pieces of electrician's tape or heat-shrink tubing.

I recommend applying this project to models of diesel locomotives only. All Lionel postwar and early modern diesels have enough space to hold the rectifier and the mess of wires used to connect it to the E-unit. The steam locomotives have notoriously tight spaces, and you'll risk breaking off one of the delicate wires if you try to stuff the rectifier into a place where it doesn't want to go. – Paul Ullrich

HAVE A TIP OR TECHNIQUE TO SHARE? Write "Tips"