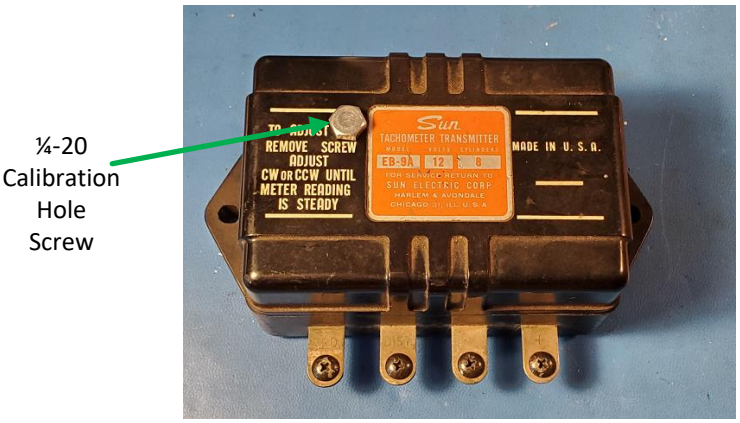
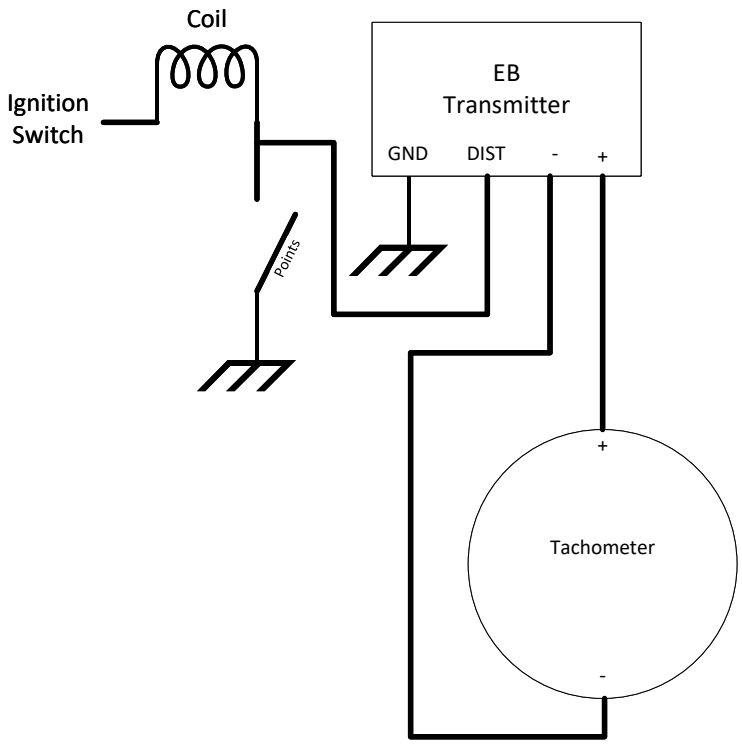
Embedding a TachMatch™ Gauge Converter into a
Sun EB Series Tachometer Transmitter Case
Rev. 2.1

The Sun EB Series transmitter creates a signal that is read by certain vintage Sun tachometers. It consists of a relay, 4 capacitors and two batteries. After all of these years, the batteries are no longer available and the relays and capacitors have probably failed. For people who want to use their vintage Sun tachometers in their vintage vehicles, the TachMatch Gauge Converter is a good solution since it will work with both vintage and modern engine ignition systems. For people who want to retain the look and feel of the original installation, it is easy to embed a TachMatch Gauge Converter into a gutted Sun EB-series transmitter case.

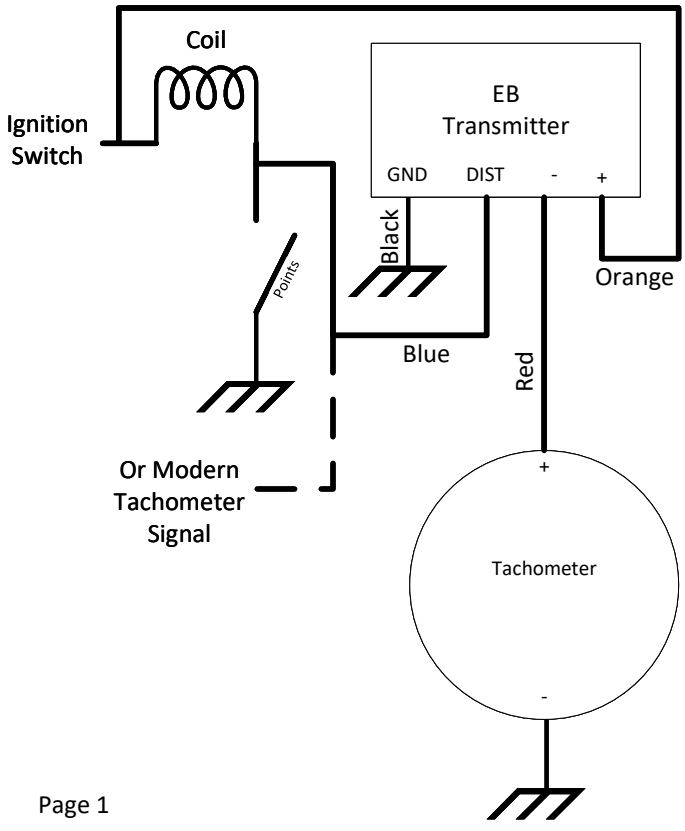


There are 4 electrical terminals in the case and the TachMatch Gauge Converter also uses 4 terminals to drive your vintage tachometer. However they are wired in a slightly different way. The stock EB transmitter was wired with the GND terminal grounded and the DIST terminal connected to the coil primary points connection. This will not change with the embedded TachMatch Converter. The stock EB transmitter also has terminals marked "+" and "-". The transmitter "+" terminal was wired to the tachometer's "+" terminal. The transmitter's "-" terminal was connected to the tachometer's "-" terminal. After embedding the TachMatch Converter, the transmitter's "+" terminal will be connected to switched battery voltage to supply power to the TachMatch unit. The transmitter's "-" terminal will be connected to the tachometer's "+" terminal. The tachometer's "-" terminal will be grounded. Wire colors used are just for example.

Original wiring diagram:



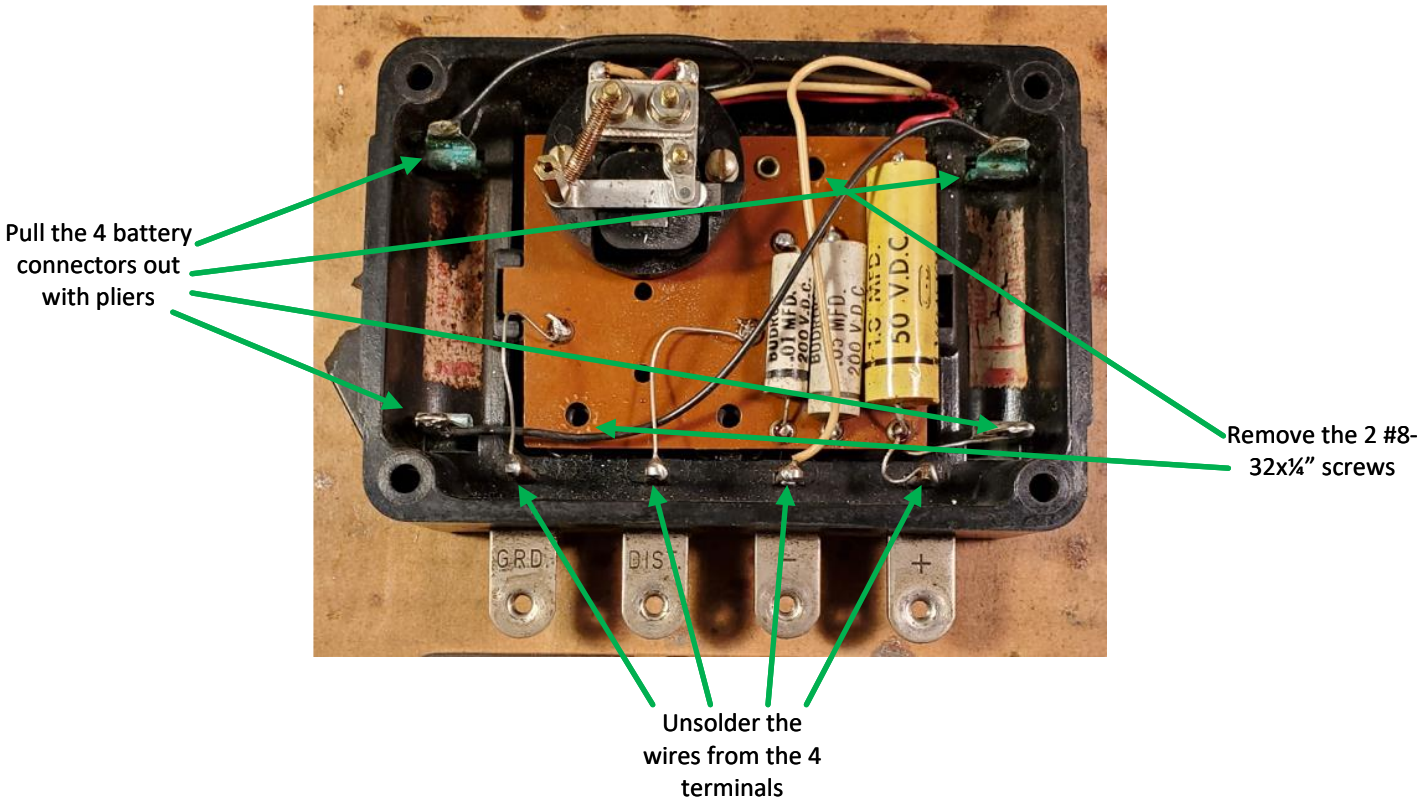
New TachMatch Converter wiring diagram:



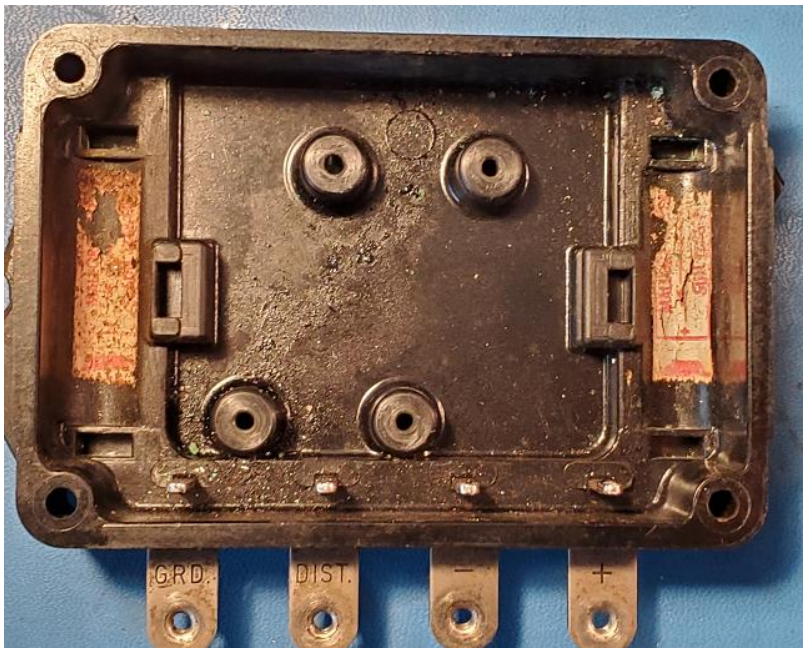
Before you begin modifying your EB case, you should follow the TachMatch Converter instructions and temporarily wire it up so you can validate your setup and calibrate the system with your tachometer. Then it will be ready to be installed in your EB transmitter case.

Gutting the Sun EB Case

To open the EB transmitter case, remove the 4 screws from the bottom of the case to remove the top of the case. That will expose the innards of the transmitter: (For reference, #10-32x1" screws will work)



At this point the guts can be removed from the EB transmitter case:



The case is now ready for mounting the TachMatch Converter.

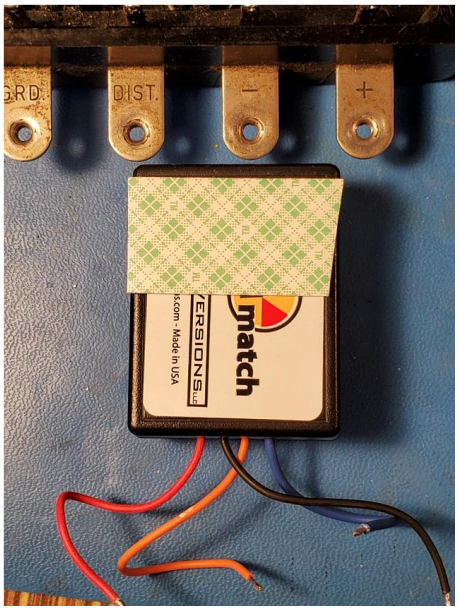
Getting the TachMatch Converter Ready for Intallation.

Cut 4 bits of wire about 2-½" long and strip a bit off of each end of each wire. This example used red wire for the power, black wire for ground, blue wire for the tachometer signal and orange wire for driving the tachometer. The wire doesn't need to carry much current so the gauge of the wire is not too important. Install all 4 wires into the TachMatch Converter per the instructions and put the PCB back into the case.

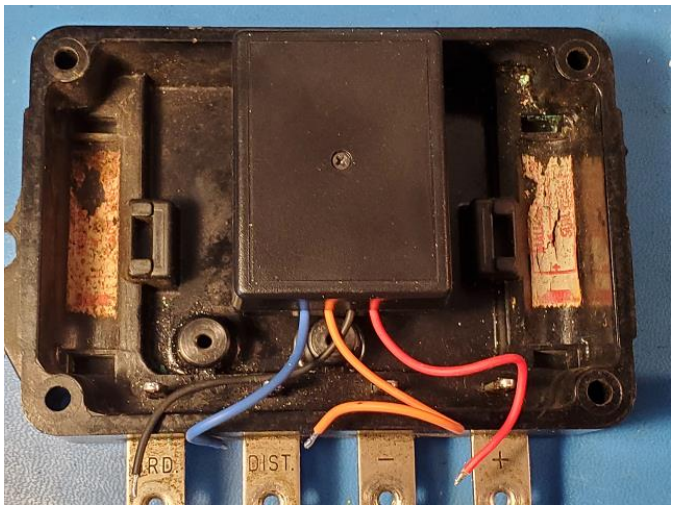
Mounting the TachMatch Converter in the Bottom of the Case

You will need to acquire a bit of double-sided mounting tape to fasten the small TachMatch Converter case into the larger EB case. 3M Heavy Duty Double-sided Mounting Tape is recommended although the inexpensive light duty white tape was used for these photographs as an example.

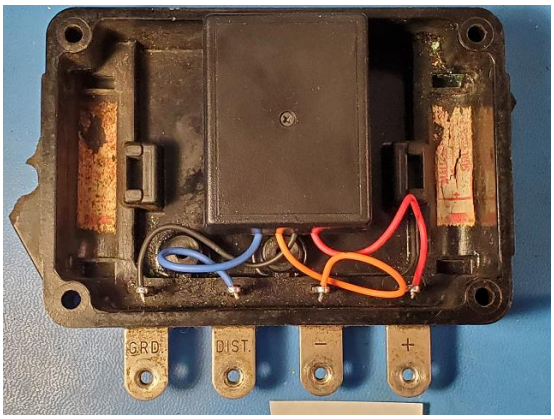
Cut a bit of the mounting tape about the width of the TachMatch Converter's case. Attach the mounting tape to the end of the non-screw side of the case at the end opposite where the wires come out. You will need to have access to the screw to open the case after you have installed the TachMatch Converter case to the bottom of the EB case. Here is where to place the mounting tape:



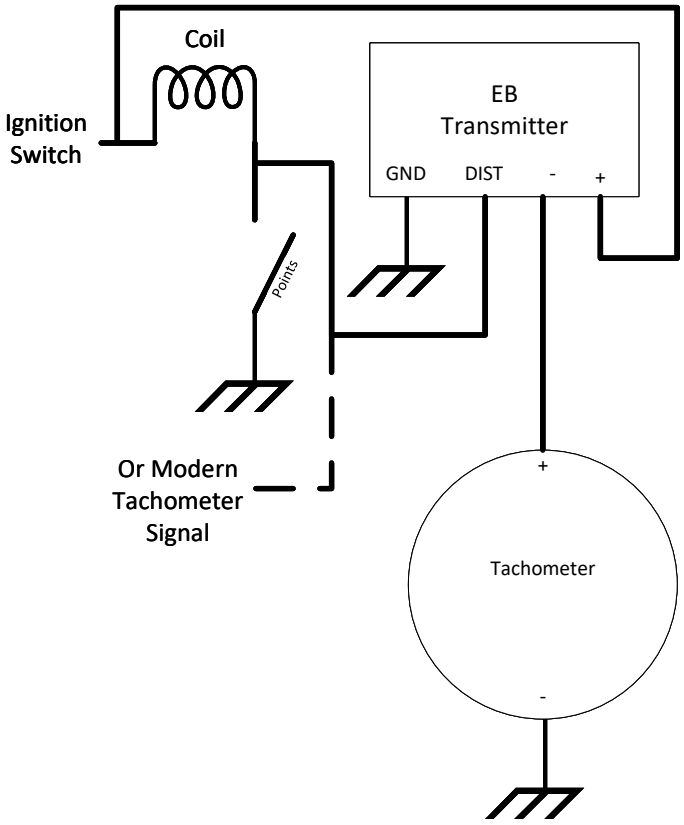
Mount the TachMatch Converter case to the rear two mounting bosses inside of the bottom of the EB case:



Solder the Black wire to the “GND” terminal, the Blue wire to the “DIST” terminal, the Orange wire to the “-“ terminal and the Red wire to the “+” terminal:



Replace the top of the EB transmitter case and mount the EB transmitter case where you want it in your car. Wire the EB transmitter per the wiring diagram on page 1:



Be sure to put a short ¼-20 screw in the calibration hole to seal it from the elements. Enjoy your Sun Tachometer.