

Sun AMP-45 Ammeter Replacement Shunt Installation Guide

Rev. 1.1

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Thank you for purchasing the Accutach Co. AMP-45 Ammeter Replacement Shunt. It is designed to allow you to use a vintage Sun Green Line or Blue Line Model AMP-45 or AMP-45B ammeter if you have lost the original Sun shunt. This product is only the shunt and wires. The ammeter is not included. Prior to buying and installing this product, please make sure that you have the correct Sun ammeter and that it is still functional.

Here are some photos of the Sun AMP-45 ammeters to help you make sure that you have the ammeter that uses this shunt:

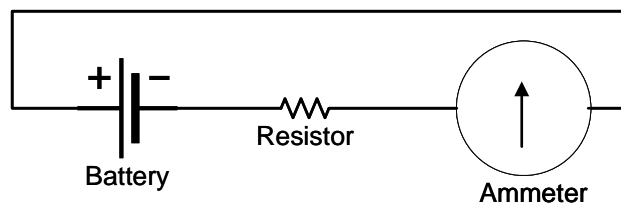


Here are photos of the Sun AMP-45B ammeters:



These ammeters require a shunt to work. Other ammeters have an internal shunt, so all of the vehicle's current will flow through the ammeter. If someone assumes the Sun SMP-45(B) ammeter has an internal shunt and wires it that way, the ammeter will get immediately burned out. You can use an ohmmeter to test your ammeter. If your ammeter shows a large resistance or an open circuit, then the ammeter is burned out. If the resistance is about 0.176 ohms, then the ammeter should be good. Your ohmmeter may see that resistance as 0 ohms.

A 9V or 1.5V battery and a resistor in series with the ammeter is another good way to test your ammeter. A 5 ohm resistor will set the needle to about 45A and a 17 ohm resistor will set it to about 15A when used with a 1.5V battery. A 100 ohm resistor will set the needle to about 15A and a 33 ohm resistor will set the needle to about 45A when used with a 9V battery. A resistor between those values will move the needle somewhere in between. A potentiometer set to one of those resistances will also work



WARNINGS and DISCLAIMERS:

You use this product at your own risk. Accutach Company is not responsible for personal injury or property damage through the use of this product.

Make sure you disconnect the battery before doing any electrical work described in this installation guide. This shunt is designed to carry large amounts of current. Do not allow the shunt to touch the chassis, engine or any ground or there will likely be a fire.

The resistance of the wires is what calibrates the ammeter. Do not shorten or lengthen the wires between the shunt and the ammeter or the ammeter calibration will be off.

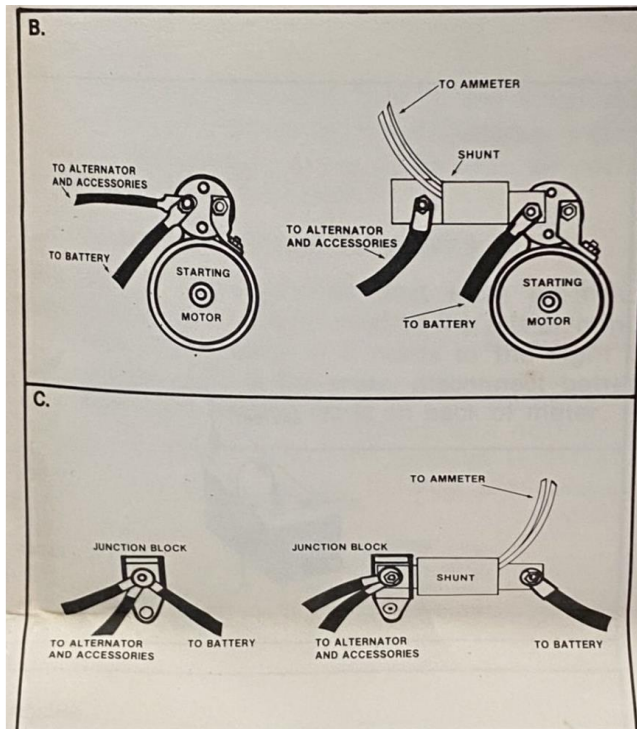
Connecting the Shunt

Here is a photo of the Replacement Shunt on the left next to the original Sun Shunt on the right:



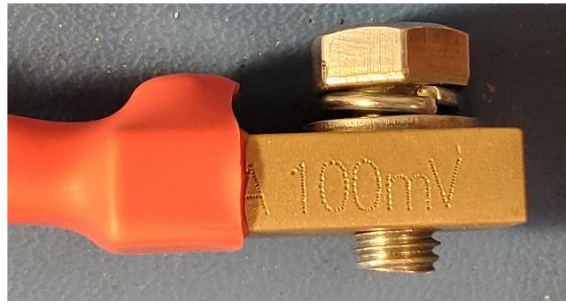
The large metal terminals on the shunt carry the current from the alternator to the battery. The two wires carry the current that drives the ammeter gauge.

You will need to decide where to install the shunt. Here are two of the shunt installation diagrams from the Sun ammeter installation instructions:



The side of the shunt that the wires come out of should go to the alternator side of the circuit.

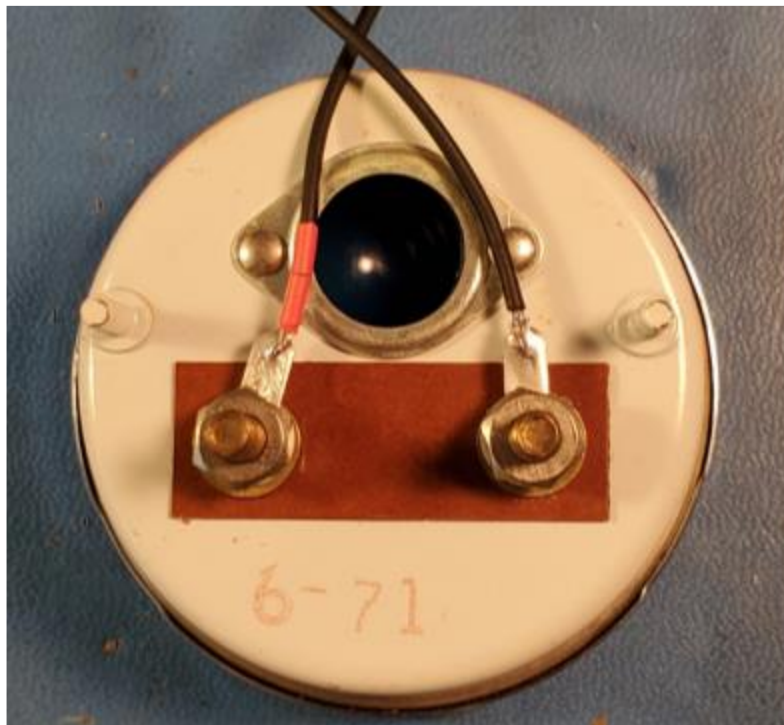
The shunt bolts are M8-1.75, and use a use a 13mm socket. A ¼" SAE bolt will go through the M8 hole if you prefer to attach it per the Sun installation instructions. Due to fire risk, do not let the shunt or the shunt bolts touch any ground including the chassis, engine or any other wiring.



Wiring the Ammeter Gauge

Run the two wires through the firewall, routing them away from hot areas such as near the exhaust system. Run them to behind the location of the ammeter gauge. Do not shorten or lengthen the wires or the ammeter calibration will be off.

Connect the lug with the red market to the left terminal of the ammeter when viewed from the rear of the gauge and connect the other wire to the other terminal:



Reversing either the shunt or the wires on the gauge will cause the ammeter to read backwards.

Wind up and zip tie the excess wire behind the ammeter to keep it out of the way.

Enjoy your Sun Ammeter.