

Inline Radiator Hose Temperature Sensor Adapter Install Guide

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Thanks very much for purchasing this Steiger Performance Inline Radiator Hose Temperature Sensor Adapter! If you run into a problem or have any questions or comments, feel free to contact me via e-mail at jon@steigerperformance.com or snail mail at Steiger Performance, 836 King Road, Forestville, NY 14062.

Note: This document is available in Adobe PDF format at <http://www.steigerperformance.com>

Tools required: Cutting tool, screwdriver or hex socket, wrench or socket to fit your temperature sensor, terminal crimper

There are two versions of this adapter – one has a 1/8 NPT threaded fitting, and the other has a 3/8 NPT threaded fitting. The 1/8 NPT version comes with a ring style electrical connector, the 3/8 NPT version does not. Both versions include stainless steel hose clamps. These instructions apply to both versions of the adapter. Installing the adapter is fairly simple, but it would still be a good idea to read completely through these instructions prior to starting the install.

Installing the Adapter

- 1) Choose the location on your radiator hose where you want to install the adapter. Hold the adapter up against the hose to make sure you will have enough room for it and for the sensor you plan to use. The adapter should be mounted in a straight section of the hose; this straight section should be at least 4 inches long.
- 2) Mark the location on your radiator hose where you wish to install the adapter. Keep in mind that inserting the adapter into your radiator hose will make it 1 inch longer. If you would like to keep your radiator hose at its stock length, the best method is to choose the location where you want the sensor to be, then make marks 1/2" to either side of that location. When you cut the hose, you will actually make two cuts, one on each mark you made earlier. This will cut a 1 inch section out of your radiator hose, so when the adapter is installed, the hose will remain at its stock length.
- 3) Make your cut(s) in the radiator hose. If you have enough clearance, you do not need to remove the radiator hose from the vehicle first, but be aware that if you do not, when you cut into it you will probably spill some coolant. As such, do not try this when the engine is warm, and please be sure to clean up any spilled coolant immediately – the sweet smell can attract wild animals, house pets, children, etc. and is lethal if swallowed.
- 4) Insert your sensor into the adapter. Note: The threads on the adapter are tapered to ensure a good seal. As such, the sensor will probably not screw all the way down into the adapter – this is normal. Just screw it in until it is tight; if you attempt to screw it all the way in, you will damage the adapter and/or the sensor. You may use thread sealant if you wish, but be aware that if your sensor obtains its ground through the body of the sensor, the sealant may prevent the sensor from grounding. If the sensor you are installing does not provide its own ground, you will need to provide a ground to it. (See the "Grounding the Sensor" section below.)
- 5) Slip a hose clamp over both sections of the radiator hose you just cut, insert the adapter, position the hose clamps, and tighten them down
- 6) Make the electrical connection to your sensor. If you are relocating a stock sensor to the radiator hose, it may be necessary to lengthen the stock connector by splicing in a section of wire (not included) in order for it to reach.

Grounding the Sensor

Most temperature sensors require a signal wire and a ground. Some sensors provide their own ground, in which case there will be two (or more) wires running to the sensor. However, the vast majority of temperature sensors expect to get their ground via the body of the sensor itself. (If you are not sure what type of sensor you have, consult your sensor documentation or factory service manual.) Most sensors of this type are screwed into the intake manifold, water pump or engine block, all of which are grounded. However, when you install a sensor in the radiator hose, it is isolated from the engine ground by the rubber radiator hose. In order for the sensor to function, you will need to provide it with a ground. How you can do this depends on the type of adapter you are using:

1/8 NPT: A ring style electrical connector was included with your adapter. Slip it onto the sensor prior to screwing it into the adapter. Run an 18-22 gauge wire from this terminal to a convenient spot on the engine or body which is grounded. (You will need a crimping tool to connect the wire to the terminal.) If you do not wish to use the ring style electrical connector, the method explained below for grounding the 3/8 NPT adapter will work for this adapter as well.

3/8 NPT: I have not yet been able to locate a ring style electrical connector large enough for a 3/8 NPT sensor, so none is included with this version of the adapter. To provide a ground for the sensor, you will need to ground the adapter itself. To do so, simply take a wire and strip an inch or so of insulation from it. Before inserting the adapter into the radiator hose, slip this wire in between the adapter and the hose such that the exposed strands of wire are sandwiched between the adapter and the radiator hose. Connect the other end of this wire to a convenient ground on the engine or body.

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