Jim's Tech Tips

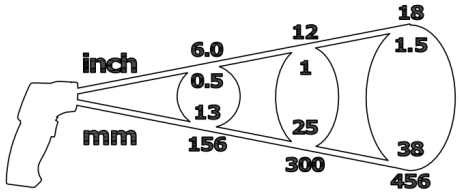
"Infrared (IR) Thermometer Guns"

These little IR thermometer guns are amazing. I use mine to check coolant temperature at the outlet of the engine, look for cool spots on radiators, check tire sidewall temperatures, and to see if all of my brake drums are at about the same temperature after a hard brake (to confirm even braking action at each wheel).

If you are going to get a reliable, consistent, and reproducible reading with these guns, you need to understand a bit about how they work. When you aim the gun at something and press the button to read the temperature, the gun reports to you the average temperature of everything within its "Field of View".

Field of View

The meter's field of view is 12:1, meaning that if the meter is 12 inches from the target, the diameter of the object under test must be at least 1 inch. Other distances are shown in the diagram below. Make sure that the target is larger than the unit's spot size. The smaller the target, the closer you should be to it. When accuracy is critical, make sure the target is at least twice as large as the spot size.



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If you want to read the temperature with a spot circle diameter of ½" (a very handy size), you must hold the gun 6" from the object. I have seen some guys hold the gun several feet from a radiator hose and not understand why the reading is so low; their 3" diameter spot circle includes a lot of cool air on either side of the radiator hose. Get in the habit of holding the gun up close to the object for the best readings.

Some guns have a laser pointer built in that helps you see where the temperature readings are being taken. The laser does not read the temperature, it just helps you see where the reading is from. You have to visualize the spot circle size, depending on how far the gun is from the object.

I hope this helps you get more out of your IR thermometer. If you don't have one, they are handy to have around the shop and on the road. You can pick one up for about $23.80 or so. (Email me if you get that reference!)

Until next time, *Have a Model A Day!*
Jim