

**Wheels:** Bob of Centerville says the air-conditioning system in his 1999 Honda Accord seems to be under capacity because it takes a long time to cool the inside of the vehicle. A dealership technician tested the outlet temperature and determined that it was proper. Do you have any ideas?

**Halderman:** The performance of automotive air-conditioning systems does vary depending on many factors including:

- outside temperature
- humidity
- sun load
- color of vehicle

Yes, I did say color of vehicle. I own a black vehicle and it does take a longer time to cool the interior than a lighter color of vehicle. My interior is also black and absorbs heat more than a lighter color interior. In Bob's letter, he did not state the color of the car but I think this could be a major factor.

**Wheels:** What can Bob do if he does have a dark color vehicle?

**Halderman:** Try parking in shade or in the garage whenever possible and invest in a cardboard or Mylar sun shield to help keep the direct rays of the sun from heating the interior. Also keep the windows down slightly, if possible, to allow the heat to escape.

**Wheels:** What is your assessment regarding the capacity of the air-conditioning system and what can Bob do about it?

**Halderman:** A new refrigerant called R-134a has been used in all new vehicles since the mid 1990s and it does have less cooling capacity than the older R-12 (Freon) refrigerant. However, vehicle manufacturers have increased the airflow to help compensate for this slightly reduced capacity. The airflow may be partially restricted by a clogged interior air filter that is used on many newer vehicles including your 1999 Honda Accord. If this filter is restricted with dirt or debris, the airflow would be restricted resulting in a lack of cooling. The filter is either accessible from inside the vehicle or from underneath the hood. The information as to the location should be in your owner's manual or in the appropriate service manual for your vehicle. These replaceable filters can cost \$30 or more. Most vehicle manufacturers suggest replacing the air filter every 2 years or every 30,000 miles or more often if the vehicle is being driven in dusty conditions.

**Wheels:** Besides keeping the windows opened slightly and using a windshield cover, do you have any other ideas to help Bob get the most from his air conditioning?

**Halderman:** When entering a hot vehicle, start the engine and place the air conditioning controls in the normal position and open the windows. This procedure allows the hot air inside the car and the ducts to be expelled and the air conditioning will be bringing air from the outside. Even if it is 95° this outside air will be "cooler" than the superheated air inside the vehicle. As soon as cool air is felt coming from the air-conditioning discharge vents, close the windows and place the controls on recirculate (sometimes labeled "max"). In this position, the air inside the vehicle is being cooled repeatedly with only 10% to 20% outside air being added. Keep the blower speed on high until the interior starts to cool, then reduce the fan speed. The lower fan speed allows more time for the air to be cooled by the evaporator and often results in lower discharge temperatures.

