

**Wheels:** *Louis C. writes: "My brother and I attended many of your classes and we learned a lot. I have a few questions.*

1. *Why is the filler neck on some vehicles on the (wrong) right side?*
2. *Why are so many headlights blinding and they are not white but blue. For many years the front had white lights and the rear had red lights. What happened to our laws?*
3. *Why do some vehicles use 19 inch tires?"*

**Halderman:** Thanks for writing and I remember you and your brother. I will try to address your questions one at time.

1. The location of the fuel filler cap has been a concern for many years. They have been hidden behind the tail lights (1956 Chevrolet and some old Cadillacs) as well as behind the license plate. There is no Federal law that standardizes the location of the fuel fill cap. While most are located on the driver's side (left side as viewed from the driver's seat), some are on the right side. You are right that the various locations can cause confusion. When traveling, I rent a variety of vehicles and it is often a guessing game as to which side of the gas pump, I should drive. Many vehicles have a small arrow next to the gas filler icon on the dash which points to the side of the vehicle where the filler door is located. This is handy and I appreciate that this is a feature that I hope is copied by all vehicle manufacturers.



2. Many vehicles, especially premium vehicles, are equipped with high-intensity discharge (HID) headlights. HID headlights produce a white light giving the lamp a blue-white color. The color of light is expressed in temperature using the Kelvin scale. Kelvin (K) temperature is the Celsius temperature plus 273 degrees. Typical color temperatures include:

- Daylight: 5,400 degree K
- HID: 4,100 degree K
- Halogen: 3,200 degree K (look “normal” which is a yellow color and is used on most vehicles)
- Incandescent (tungsten): 2,800degree K (Older vehicles that used a sealed beam-type headlight appear to be dim and yellow).

Even HID headlights can vary as those found on German vehicles (Mercedes and BMW for example) use a higher temperature HID bulb and this creates a more bluish tint. Some HID bulbs and their colors include:

- 4,300 degree K appear to be white
  - 6,000 degree K appear to be white/blue
  - 8,000 degree K appear to be blue
  - 10,000 degree K appear to be blue/purple
3. Large wheels and tires are used to allow for larger brakes and are used to improve the looks of the vehicle. The new standard wheel size has grown over the years with some wheels are large as 22 inch or larger.