

Biosystems and Agricultural Engineering Update

Selecting the Right SMV Emblem and Reflective Materials



Anyone who operates tractors or other farm equipment on public roads should be very familiar with the triangular slow moving vehicle (SMV emblem) shown above. It is required by Kentucky state law for vehicles traveling at 25 mph or less, and if a wagon or other implement is being towed that obscures the SMV emblem on the tractor, the implement must also have an SMV emblem. The emblem is required to be clean and bright, which means replacing faded or damaged emblems. The law also says this emblem should not be used to mark other things like gates, mailboxes, and the like.

The American Society of Agricultural Engineers (ASAE), which is now called the American Society of Agricultural and Biological Engineers (ASABE), is the organization that developed the standard for the SMV emblem, ASAE S276. In 1997, the standard was revised for the fifth time,

signified by the last digit – ASAE S276.5 – and this revision had very significant changes. Primarily these were requirements for newer, more advanced retro-reflective and fluorescent materials. The reflective material is the red outer border, for visibility at night, and the fluorescent material is the bright orange center, for daylight visibility.

The term “retro-reflective” means reflecting light back toward the source, such as a motor vehicle coming up behind a tractor at night. This is not a new concept, but while old reflective material scattered most of the light and reflected just a small percentage back toward the source, the latest material reflects a much higher percentage of the light back toward the source. This not only makes the reflection much brighter, but also allows the SMV emblem to be seen from much farther away, which is a safety factor for you and a fast-approaching vehicle. You may have seen the red-and-white retro-reflective tape used on semi-trailers, and know how incredibly reflective this tape is. The new technology uses tiny cubes or prism-like shapes inside the material instead of tiny round balls, and this accounts for the greater retro-reflectivity.

When buying an SMV emblem or a set of replacement stickers to renew an older emblem, always be sure the material is marked with ASAE S276.5 or a later revision, such as S276.6 or S276.7. Typically the bottom red reflective border will carry the name of the manufacturer and the standard to which it complies (note the small marking at the bottom of the emblem above.) Note that the older SMV emblems are cheaper to make, since they have lower quality materials, and are still being manufactured and sold by some vendors. These older SMV emblems may either be unmarked, or marked with an earlier version of the standard, like S276.3. The newer SMV emblems always will have the standard marked S276.5 or newer.

Do not purchase the older version. The small difference in price is nothing compared to the safety margin gained by using the newer material, and if a collision were to occur, you would want to be able to show you were using the best material available.

You can also purchase fluorescent and retro-reflective pieces of tape to mark your equipment to make it more visible on the road. If you own or have seen newer farm equipment, you will note that such tape is used to mark the extremities of the equipment, so that approaching motorists will better see the full width of what is on the road. It is highly advisable to mark all your equipment this way, at least the equipment you take on the road. Some implements can be marked around the entire perimeter of the rear end, so that the motorist can see the shape of the implement, e.g., like a tall wagon. You will note that school buses frequently have retro-reflective yellow tape on the back end, outlining their shape, so that they will be more easily recognized at night. You should do the same thing with your farm equipment, using the fluorescent tape for daytime visibility and retro-reflective tape (red to the rear, amber or yellow facing forward) for nighttime visibility.

**Mark Purschwitz, Ph.D, Extension Professor and Agricultural Safety and Health Specialist
October 2012**