

# Lighting and Marking Self-Propelled Equipment Meeting Kit



Everyone plays a vital role in helping to prevent roadway collisions by ensuring that equipment is as visible as possible to other motorists.

## DANGERS

Studies of collisions between slow moving vehicles and motor vehicles conclude that nearly 90 percent occur on dry roads during daylight hours and two thirds are rear-end collisions.

Tractors, with or without trailed equipment, and self-propelled implements are large enough to be clearly visible on the highway, especially during daylight hours. But there are many accidents involving farm vehicles.

## SAFE MOVEMENT PROTECTION/PREVENTION

### Lighting

Extremity lighting and reflective material marking combined can be a very effective guard against roadway collisions. Used together, other motorists can quickly and accurately identify that a large, slow moving piece of equipment is on the road.

#### Recommendations for lighting:

- Lighting is required from 30 minutes before sunset to 30 minutes after sunrise.
- There should be two white lamps set as wide apart as possible on the front of the vehicle, visible from at least 1000 feet to the front of the vehicle.
- There should be two red lamps set as wide apart as possible on the rear of the vehicle, visible from at least 1000 feet to the rear of the vehicle.
- There should be at least one flashing amber signal lamp on the front and rear of the vehicle, mounted as high as possible and visible from at least 500 feet.

## SLOW MOVING VEHICLE (SMV)

A Slow-Moving Vehicle (SMV) emblem is required at all times.

This emblem is not only a practical safety feature, it is also a requirement for moving “implements of husbandry” on public roadways.

A practical feature of the SMV is to warn approaching vehicles to slow down. If a car is traveling at 55 mph when 400 hundred feet behind a tractor traveling at 15 mph, it

only takes 7 seconds to reach the tractor. A collision at such high speeds can be dangerous.

It is critical that SMV's be clean and visible. If wagons or implements being towed obscure the SMV on the tractor, then the rearmost wagon or implement needs to have an SMV in place.

The SMV emblem, because of its reflective nature and shape, can be found in many inappropriate places such as roadway entrances, lane markers and on mailbox posts. This use decreases the value of the SMV as a warning device to caution approaching vehicles with the SMV mounted on them.

## REFLECTIVE MATERIALS

**Fluorescent material** which is visible in both daytime and low-light conditions. The fluorescent orange material in the center of the new ASAE standard SMV emblems is visible at twice the distance as the former material. Fluorescent color materials are comprised of fluorescent dyes which are bright, but unfortunately decompose and lose their brilliance (fading) over time.

**Retroreflective material** is designed to redirect light directly back towards its' source. In the case of an SMV sign, the triangular border is made of red retroreflective tape that reflects the light of motorists' headlights directly back, creating a visible warning effect. The retroreflective border of the new SMV signs is over 10 times brighter than the design of the older SMV signs.

## LAMPS/SIGNALS

**Tail Lamps.** Tractors and other self-propelled equipment should have two red tail lamps visible from the rear of the machine, mounted symmetrically no more than 1.5 m (5 ft.) to the left and right of the machine centre and between 1 and 3 m (3.3 and 12 ft.) high.

**Amber Flashing Warning Lamps.** Tractors and self-propelled equipment must have at least two flashing amber warning lamps, visible from both the front and rear of the machine, and located at least 1 m (39 in.) high. On machines more than 3.7 m (12 ft.) wide, warning lamps must be mounted within 400 mm (16 in.) of the outside edges of the machine, including dual wheels, wide axles and headers.

**Turn Signals.** When driving on public roads, always use turn signals. Proper turn signals have a two-part action. First, the amber flashing warning lamp opposite the direction of the turn becomes steady burning and then the rear-facing red tail lamp flashes in the direction of the turn.

## RESPONSIBILITY RECAP

- Inspect machinery for proper lights and reflective materials.
- Retrofit older equipment with new retroreflective tape, extremity lighting, and new SMV signs.
- Be certain that every slow moving vehicle and piece of trailed equipment has a properly placed slow moving vehicle emblem that is clean and not faded.
- Do not use SMV emblems for stationary markers, such as for a driveway or mailbox; it is illegal and can cause confusion and collisions. Extended misuse can cause the symbols to lose their effectiveness as a warning device.
- Anticipate problems that motorists might have because of their limited experience with slow moving vehicles.

## FINAL WORD

Whether you are doing field work, transporting farm machinery, operating any machinery, the key to safety is to “see and be seen”. Every light and reflector on a tractor, self-propelled, or implement has a specific purpose.