

ALBERTA
FARM SAFETY
PROGRAM

Safe Transportation of Farm Equipment in Alberta

Growing Forward 2 

A federal-provincial-territorial initiative

Alberta  Government

Canada 





Safe Transportation of Farm Equipment in Alberta

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Alberta Agriculture and Forestry

Publications Office

7000 113 Street

Edmonton, AB T6H 5T6

Toll free order line: 1-800-292-5697

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Safe Transport of Farm Equipment on Public Roads

According to the Canadian Agricultural Injury Surveillance program, 13 per cent of farm-related fatalities across Canada are traffic related, and most of these involve tractors. As a farmer, you often travel long distances between fields, and this requires you to travel on public roads throughout Alberta. Farm equipment is oversized and slow compared to other vehicles using the roads, which can result in collisions and other accidents.

To help avoid traffic collisions between your farm equipment and motorists, you need to ensure your equipment is clearly visible and follow all regulated requirements for lighting and signage.



Motorists must do their part by being vigilant and watching for farm equipment on the roads, especially during peak farming seasons in the spring and fall.

COMMON TYPES OF COLLISIONS INVOLVING FARM EQUIPMENT

Before you look at the material in the shaded box on the next page, test your knowledge of common types of collisions involving farm equipment.

1. What is the most frequent type of single-vehicle collision?
 - a. A rollover as a result of turning the corner too fast
 - b. A rollover due to loss of control from towing a heavy load too fast
 - c. A rollover into the ditch from the tractor being driven too close to the shoulder of the road
2. What is the most frequent type of multi-vehicle collision?
 - a. Farm machinery being hit as it is turning onto a public road
 - b. Collision as a motorist attempts to pass farm machinery on the road
 - c. Rear-end collision due to motorists miscalculating the rate at which they are approaching farm machinery and consequently running into the rear of it
3. In what three-month period do almost half of all collisions occur?
 - a. March, April and May
 - b. July, August and September
 - c. December, January and February



There are many situations that can result in collisions on roads.

ACCIDENTS INVOLVING FARM EQUIPMENT

- The most frequent type of single-vehicle collision is a farm tractor being driven too close to the shoulder of the road and rolling into the ditch.
- The most common type of multiple-vehicle collision is a farm machine being hit as it is turning onto a public road from a farm road or another public road.
- There is a high number of rear-end collisions, usually occurring at intersections and caused by motorists underestimating the size and speed of the farm equipment.
- A large number of collisions occur while the farm equipment is making a left-hand turn where operators fail to signal or the signal is not visible to other traffic.
- Almost half of all collisions occur in the period July to September, the peak harvest time.

Hazards on Rural Roads

You face many hazards when you move farm equipment on public roads:

- Narrow roads and bridges don't accommodate large equipment.
- Soft shoulders increase the chance of a rollover when you try to make room for other vehicles to pass.
- Poor road conditions such as potholes, blind corners, and washouts increase hazards for large machinery.
- Dust-covered machinery causes poor visibility for you, the operator, who may not see oncoming traffic.
- Dust-covered signage and lighting makes farm machinery less visible to motorists.
- Differences in speed between farm machinery and other traffic can result in rear-end collisions. Motorists often miscalculate the rate at which they are approaching farm equipment and consequently run into the rear of it.



The driver of the car may catch up to the farm equipment sooner than expected.

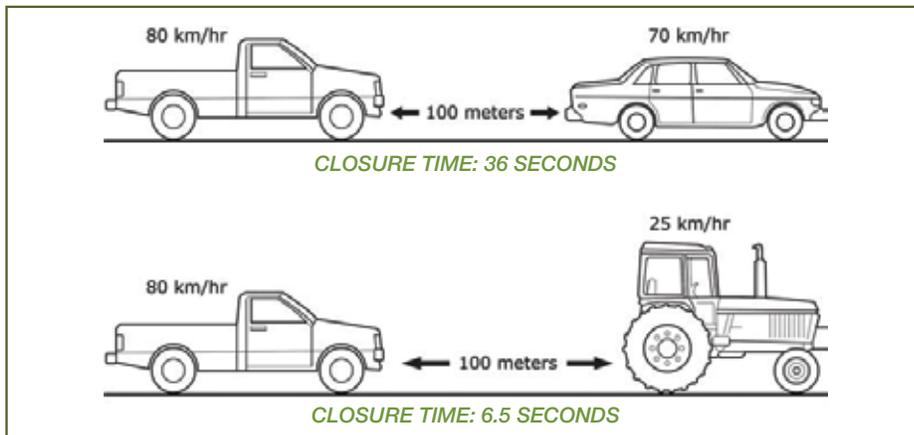


Section

1

REACTION TIMES

The diagram shows the difference in reaction times for approaching another motor vehicle and approaching slow-moving farm equipment. With slow-moving equipment, the reaction time is so small that quick decisions must be made to avoid a rear-end collision.



If the vehicle ahead of you is driving slightly slower than you, you have time to react.

If the vehicle in front is driving much slower than you, you may only have a few seconds to react.

- If equipment is too wide to fit safely into one lane, approaching traffic can clip the machinery or hit it head-on.
- Inadequate lighting can result in poor visibility at dawn and dusk. Although most new equipment is fitted with adequate lighting and reflective tape, many older pieces of equipment do not meet the standards for lighting and visibility under the *Traffic Safety Act*.
- Inexperienced operators can make mistakes when they are not used to the limitations of equipment in speed and maneuverability.
- Loads not tied down properly can shift or be dumped on the road.
- Towing a heavy load too fast can lead to swaying and loss of control, resulting in a jack-knifed vehicle or an overturn.
- Poor maintenance of equipment such as brakes or tires can lead to loss of control of the vehicle.
- Extra riders on farm equipment are a distraction to the operator and are at risk of falling off the machinery and being run over.



*See Section 2 for standards for lighting and visibility under the *Traffic Safety Act*.*



This piece of equipment poses a hazard to approaching traffic due to its dimensions.

Types of Road Collisions that can Result in Injury or Death

The following describes some of the more common accidents involving farm equipment.

SINGLE-VEHICLE COLLISION

A single-vehicle collision with farm equipment usually involves a farm tractor or a tractor towing some form of equipment. The operator loses control of the vehicle and leaves the road, often resulting in a rollover in the ditch or hitting a stationary object such as a tree. Most commonly, one wheel catches on the loose gravel and the driver loses control. In other situations, loads too heavy to tow cause loss of control when the operator is negotiating steep hills or going around sharp curves.



The driver could lose control if a wheel catches some loose gravel or comes too close to a soft shoulder.



MULTIPLE-VEHICLE COLLISION

A common type of multiple-vehicle collision typically involves another vehicle and happens when the operator makes a left turn into a farm lane or field. Motorists often pull out to pass farm equipment as it slows down for the turn but fail to see the left signal due to a lack of signal or a dust-covered signal light. Once the equipment enters the opposite lane, a collision can occur.

REAR-END AND OTHER COLLISIONS

A rear-end collision can occur when poor visibility and speed are factors.

Collisions can also occur when one or more vehicles try to pass some equipment that is extremely wide or long. Misjudgement can result in the motorist hitting the equipment or oncoming traffic.



If you are driving at dusk, you may be less visible to passing motorists.



Prevention of Farm Equipment Accidents on Public Roads

You can prevent farm equipment accidents on public roads by focusing on three main areas:

- make your equipment safe and visible,
- follow safe driving tips, and
- drive defensively.

MAKE IT SAFE, MAKE IT VISIBLE

Ensure your farm equipment is as visible as possible so approaching traffic has more lead time to react to a slow-moving vehicle.

- Follow all regulated requirements for lighting and signage including the use of a slow-moving vehicle (SMV) sign.
- Make sure that the SMV sign is clean, not faded, and properly mounted. It must be on the rear of the tractor or towed implement and clearly visible. SMV signs must be used on equipment travelling less than 40 km/hr.



See Section 2 for lighting and signage requirements under the Traffic Safety Act.



This tractor displays a properly mounted slow-moving vehicle sign and follows the regulations for lighting.

- The use of reflective tape and reflectors for large equipment travelling at night or in dim lighting conditions are recommended. In Canada, reflective material should be red and white strips on the rear of the equipment, and yellow reflective material on the front.
- Complete a safety check of tractor and trailed equipment before travel.
- Use safety-type hitch pins, making sure they are securely fastened. Hitch trailed equipment to the drawbar.

- Check all tires for air pressure, cuts, bumps, and tread wear.



Properly inflated tires are a safety requirement.



- Always lock brake pedals together for highway travel. Sudden braking on only one wheel at high speed could put the tractor into a dangerous skid.
- Match the load to the towing vehicle. Loads that exceed the braking capacity of the towing vehicle can lead to dangerous situations should you have to stop suddenly.



This tractor is equipped with rearview mirrors on both sides of the tractor.



- Equip your tractor with rearview mirrors, advance warning triangles, and fire extinguishers.
- Confirm that all lights are operating properly and are free of dust and dirt.



This tractor is well equipped with lights and reflectors.



Section

1

SAFE DRIVING TIPS

As a farm machinery operator, you can make road travel safer for yourself and others by taking precautions. Use the following checklist to assess your precautions.

- I avoid busy roads whenever possible, even if travel time will be longer.
- I use trained and licensed drivers when moving equipment.
- Some rural railway crossings have poor visibility. I always stop and make sure the way is clear before crossing.



- All of my tractors are equipped with rollover protective structures (ROPS). I wear a seatbelt, knowing the ROPS are ineffective in a rollover without a seatbelt.



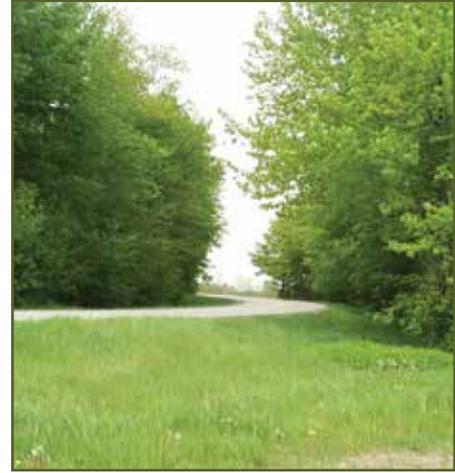
- I travel at a speed that will allow me to maintain full control at all times.
- I slow down when making turns or rounding curves. Side rollovers or entering a ditch are among the main causes of death with equipment on the road.



Alberta's Operator Licensing and Vehicle Control Regulation prohibits a person who is less than 14 years old from operating an implement of husbandry on a roadway.



You must wear a seatbelt for the ROPS to be effective.



- I observe road travel precautions listed in my operator manuals. Some tractors freewheel in higher gears. This can be very dangerous when coming down a hill. I use lower gear ranges when climbing or descending hills.



Gear down when climbing or descending hills.



- I stay alert for hazards such as soft shoulders, narrow bridges, loose gravel, bumps, potholes, and deep ruts.



Pull over on a shoulder, if it is unobstructed, to let traffic pass.



Section

1

- When cars are lined up behind me, and a suitable shoulder is available, I pull over to let traffic pass. I make sure that the shoulder is of **sufficient width and solid enough** to handle my equipment. If there are obstructions, such as deep ruts or mailboxes in the way, I avoid shoulders.
- If possible, I move equipment in daylight during periods of light traffic.
- I travel after dark only if absolutely necessary and use proper lighting for night driving.
- I do not pull onto a road in front of moving traffic. I enter and exit roads very cautiously. I assume that other vehicles are travelling at the speed limit and adjust accordingly when pulling out.
- I always signal my intention to make a turn.
- I slow down when leaving the road, including when I pull onto a shoulder or turn into a lane.



See Section 2 for standards for lighting and visibility under the Traffic Safety Act.



Rollovers can occur on the highway because an operator tries to slow down too fast or make a sharp turn.

- I obey traffic laws and signs.
- Oversized equipment requires careful planning when transporting. I check out the route in advance for obstacles such as narrow bridges or roads with no shoulders.



Credit: Rick Taillieu



Extra riders are a distraction and there isn't always a proper seat and seatbelt to protect them.

- I use a pilot vehicle as a guide for large machinery and to warn motorists of oncoming large equipment.
- I never take extra riders on equipment.
- I avoid other distractions while driving including eating food, smoking, using a mobile device, etc.



Focus on the task at hand with your undivided attention.

Your farm tractor and other self-propelled implements are vehicles and subject to Criminal Code driving prohibitions. It is illegal to operate any vehicle while you are under the influence of alcohol or drugs that can impair you.

Defensive Driving Tips for You As a Rural Motorist

When you are the motorist:

- Be alert. Watch for your slow-moving farm equipment on the road and adjust your driving accordingly. Give them the courtesy that you would expect if you were on the equipment.
- When you encounter slow-moving equipment slow down, keep your distance, and assess the situation. Watch for farm or agribusiness lanes into which the equipment might be turning.
- Do not pass until you are certain the way is clear. Make sure the operator is aware of your intentions.



Take extra caution when passing farm equipment.



- Be patient. Before you pass, check your rearview mirror for other approaching vehicles. Remember you have already slowed down and don't want to be hit by other traffic.

The *Traffic Safety Act*

This section provides general information and clarification of the laws that apply to farm vehicles and equipment in Alberta. It contains details on sections of the *Traffic Safety Act* that relate to farm vehicles and equipment.

This section does not describe all the laws that apply. For complete details, refer to the appropriate sections of the *Traffic Safety Act* and regulations and any other applicable acts and regulations.

Responsibility for Meeting Regulated Requirements

As an equipment operator and owner, you are responsible for ensuring that your equipment meets regulated requirements. You are also responsible for maintaining lighting and marking equipment on your implements to ensure they continue to meet the requirements.

Equipment transported on roads during the day or night must be marked and lit according to the requirements and regulations of the *Traffic Safety Act*.

Daytime Travel

Daytime is defined in the *Use of Highway and Rules of the Road Regulation* as “the period that starts one hour before sunrise and ends one hour after sunset.” However, when atmospheric conditions such as snow, rain, fog or smoke do not allow enough light to clearly see a person at a distance of 150 metres (490 feet), then equipment must meet the requirements for nighttime conditions (see page 15 “Nighttime Travel”).

The following section outlines daytime travel requirements for:

- tractors and self-propelled implements, and
- towed farm implements.



The Traffic Safety Act and regulations may change from year to year. It is your responsibility to keep up-to-date.



See Appendix 1, “Regulations,” for details on how to purchase a copy of the Traffic Safety Act and for a list of related Alberta regulations.



Information on equipment requirements for farm equipment can be attained by calling the Alberta Transportation Vehicle Safety section at 780-427-8901.

TRACTORS AND SELF-PROPELLED IMPLEMENTS

When travelling on public roads, self-propelled farm equipment must have serviceable brakes. Your vehicle is equipped with brake lamps, keep them in good working condition.

Rearview Mirror

Each tractor or self-propelled implement must have a rearview mirror that gives the driver a clear view of the road behind the implement of husbandry and a clear view of other vehicles approaching from behind.

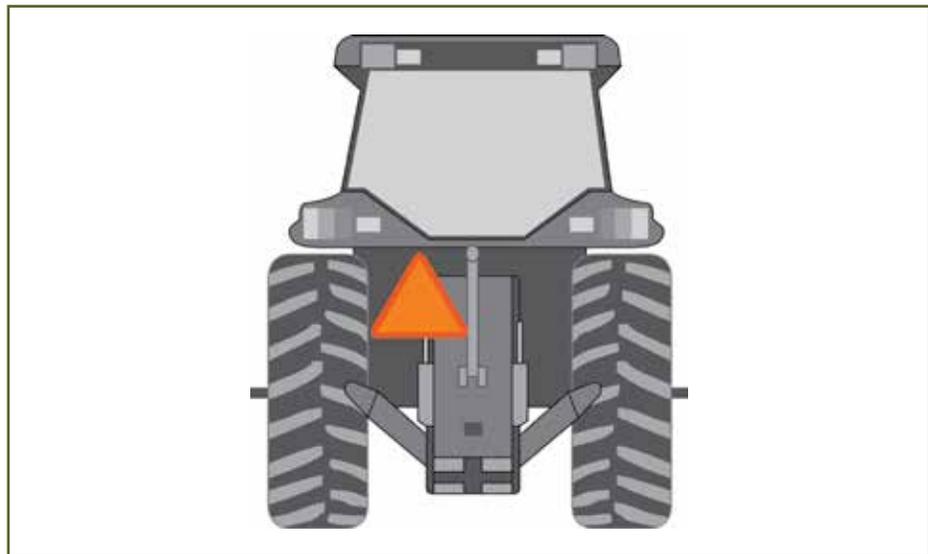
Slow-Moving Vehicle Sign

Operators must display a slow-moving vehicle (SMV) sign that is attached to the rear end of the machine and is clearly visible to all traffic at the rear of the machine (see Figure 1). You must mount the SMV sign with the broad base down, perpendicular to the direction of travel and visible from the rear. SMV signs are required on equipment travelling less than 40 km/hr. Locate the sign at or as close to the centre line of the vehicle or equipment as practical, at a height between 0.9 to 1.5 metres (3 to 5 feet) above the road.

Figure 1: Slow-Moving Vehicle Sign on Tractor



Mount the SMV sign close to the centre line of the vehicle and visible from the rear.

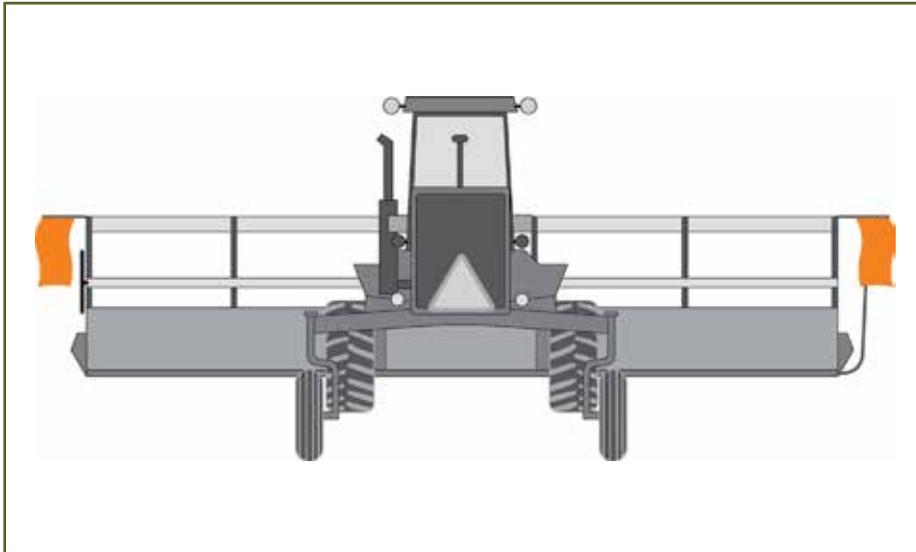


Reflective material used on the sign must meet the durability requirements specified in the American National Standards Institute / American Society of Agricultural Engineers (ANSI/ASAE) Standard S276 (Slow-Moving Vehicle Identification Emblem).

Warning Flags

Although not mandatory, you should use warning flags to mark the widest part of the vehicle. The flags should be at least 40 centimetres x 40 centimetres (16 inches x 16 inches) and should be displayed such that their full area is visible to the driver of another vehicle approaching from the front or rear (see Figure 2).

Figure 2: Warning Flags



Mandatory Warning Lights or Flags

A rubber-tired farm tractor equipped with a dozer blade can travel on a road if, conspicuously displayed on each side of the widest part of the farm tractor, or displayed at the extremities of the blade, there are:

- warning flags when the farm tractor is used during daylight, and
- warning lights or warning flags (made of fluorescent material that is adequately illuminated by the farm tractor's working lights) when the farm tractor is used during darkness.

PILOT VEHICLE AND WIDE LOAD SIGNAGE

While pilot vehicles are not mandatory in Alberta to operate farm equipment on public roads, the use of them is recommended if the width of the equipment exceeds 3.85 meters.

Although wide load or dimensional signs are not a legislative requirement in Alberta to operate farm equipment on public roads, they are recommended if the width of the equipment exceeds 3.05 metres.

When using a pilot vehicle, follow guidelines provided online at transportation.alberta.ca. Search for "Escort Drivers' Handbook Alberta Transportation" on your browser.



Load securement legislation pertains to farmers when utilizing public roads, e.g. hauling hay bales.



When hauling hay or grain bins that exceed 4.15 metres in height and 2.6 metres in width, an over-dimensional permit is required. Contact your Transport Engineering Branch at 404-340-5189.



Ensure that warning flags are visible to drivers approaching from the front or rear.



You can find additional information on weights, dimensions and permit requirements for farm equipment and farm products by calling the Alberta Transportation Transport Engineering Branch at 1-800-662-7138.



A towed implement must have its own slow-moving vehicle sign.



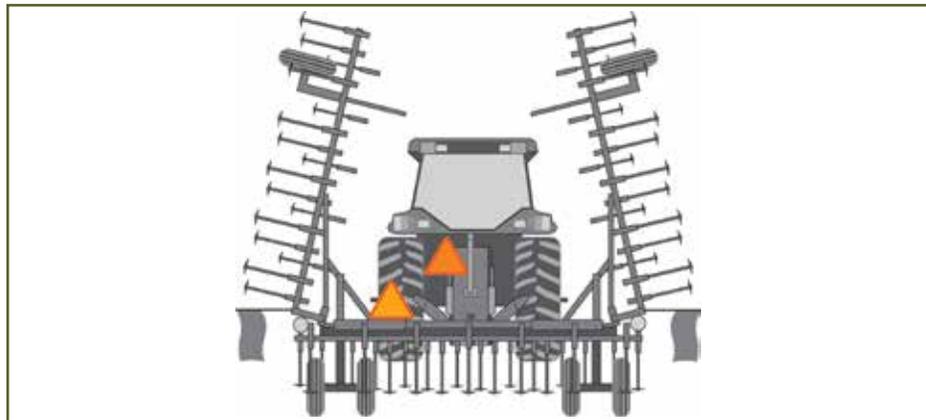
Use flags to mark the extremities of the vehicle.

TOWED FARM IMPLEMENTS

Slow-Moving Vehicle Sign

A towed implement must have its own slow-moving vehicle (SMV) sign which is clearly visible to the driver travelling less than 40 km/hr of a vehicle approaching from the rear (see Figure 3). Mount the SMV sign with the broad base down, perpendicular to the direction of travel and visible from the rear. Locate the sign at or as close to the centre line of the vehicle or equipment as practical, at a height between 0.9 to 1.5 metres (3 to 5 feet) above the road.

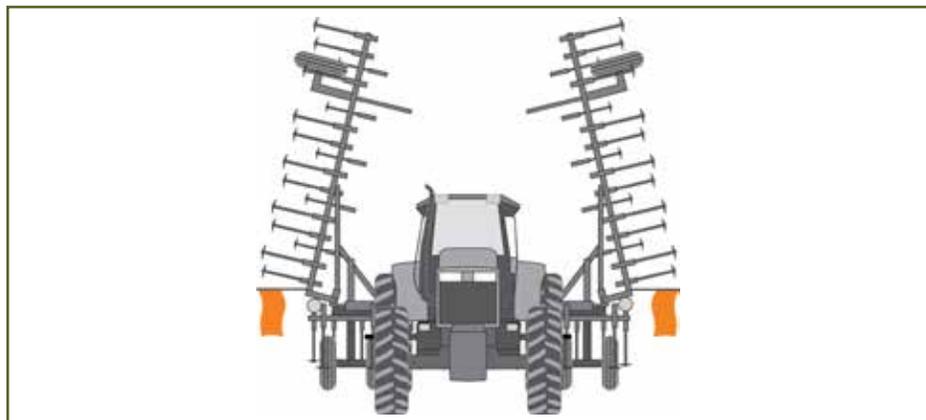
Figure 3: Slow-Moving Vehicle Sign on Towed Implement



Warning Flags

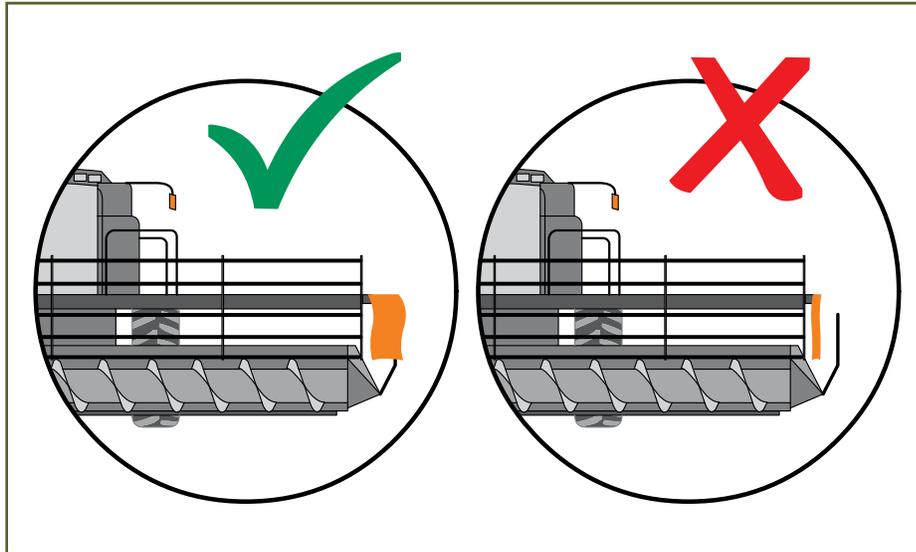
Although not mandatory, warning flags should be used to mark the widest part of the vehicle. Use flags measuring at least 40 centimetres x 40 centimetres (16 inches x 16 inches). Display the flags so that the full area is visible to the driver of another vehicle approaching from the front or rear (see Figures 4 and 5).

Figure 4: Flags for Daytime Travel



For daytime travel, flags are sufficient to mark the extremities of the implement.

Figure 5: Proper Display of Flags



Flags should be displayed so that their full area is visible from the front and rear. Support the width of the flag from a rigid support such as a stiff wire.

Nighttime Travel

Nighttime or darkness is defined by the *Use of Highway and Rules of the Road Regulation* as “the period commencing one hour after sunset and ending one hour before the following sunrise, or when atmospheric conditions (such as snow, rain, fog, smoke) do not allow enough light to clearly see a person at a distance of 150 metres.”

The following section outlines nighttime travel requirements for:

- tractors and self-propelled implements, and
- towed farm implements.

LIGHTING OF TRACTORS AND SELF-PROPELLED IMPLEMENTS

Head Lamps

Tractors and other self-propelled equipment must have at least two, but not more than four, head lamps visible from the front. Mount all head lamps at the same height (see Figure 6).



Remember that flags are not allowed in place of warning lights when you move equipment at night.

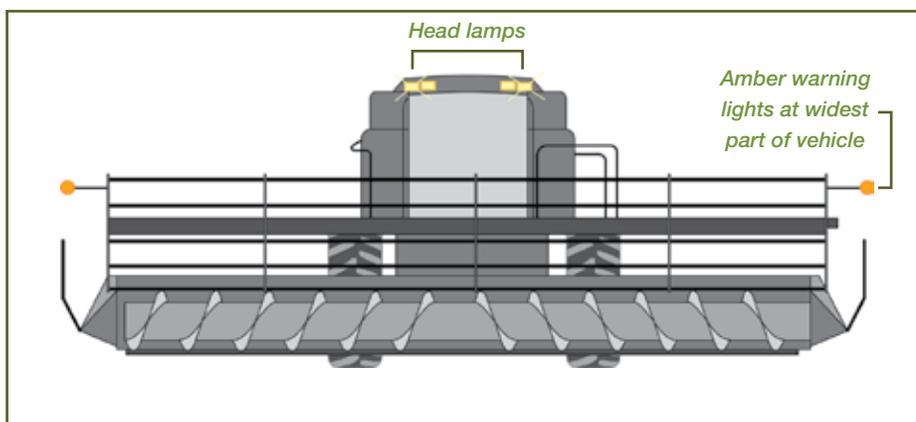
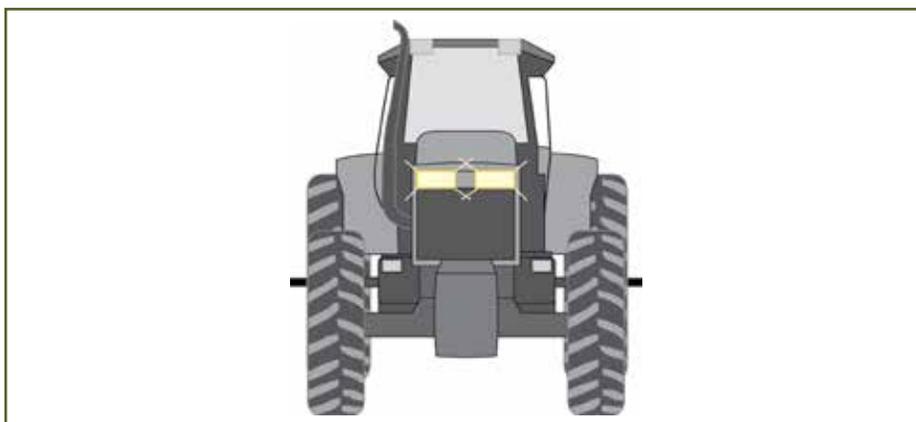


Tractors and self-propelled equipment require at least two head lamps. If the machine is more than 2.6 metres (8.5 feet) wide, warning lights must mark the widest part of the implement.



For detailed specifications on aiming and aligning head lamps, see Appendix 2 "A Guide for Aiming Head Lamps."

Figure 6: Head Lamps for Tractors and Self-Propelled Implements



Warning Lights

If a tractor or self-propelled implement is wider than 2.6 metres (8.5 feet), you must display warning lights at the widest part of the vehicle. The warning lights are to be continuously lit, showing amber to the front and red to the rear, and must be visible at a distance of 150 metres (490 feet) in normal darkness (see Figure 6).

Slow-Moving Vehicle Sign

A farm tractor or self-propelled implement must have a slow-moving vehicle sign which is clearly visible to the driver of a vehicle approaching from the rear. See page 12.

Tail Lamps

Tractors and other self-propelled equipment must have at least two red tail lamps.

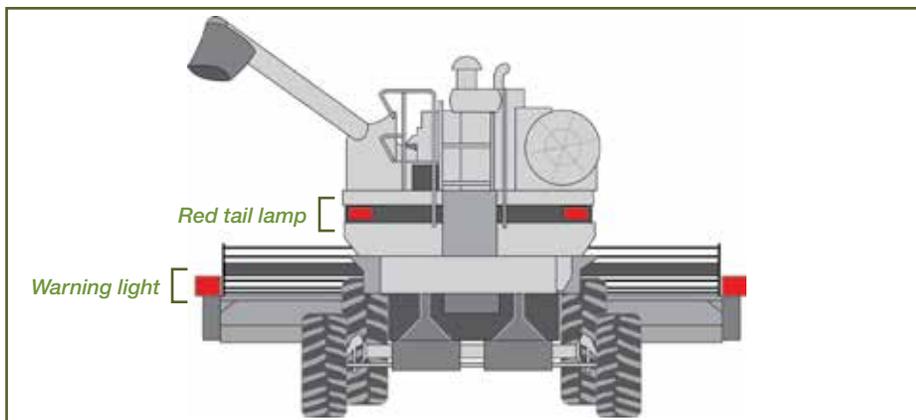
When lit, a tail lamp must be capable of emitting a red light plainly visible at a distance of not less than 150 metres (490 feet) to the rear of the vehicle.

Space the tail lamps as wide laterally as practical, and locate them at a height of not more than 2 metres (6 feet, 6 inches) nor less than 380 millimetres (15 inches) above the ground (see Figure 7).

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Figure 7: Placement of Tail Lamps



Tractors and self-propelled equipment must have at least two red tail lamps. If the machine is more than 2.6 metres (8.5 feet) wide, warning lights must mark the widest part of the implement.

Turn Signals

Turn signals are not required; however, if your vehicle does have them, keep them in good working condition.

LIGHTING OF TOWED FARM IMPLEMENTS

Slow-Moving Vehicle Sign

A towed implement must have its own slow-moving vehicle sign which is clearly visible to the driver of a vehicle approaching from the rear. See the page 12.

Warning Lights

If a towed implement is wider than 2.6 metres (8.5 feet), you must display warning lights at the widest part of the vehicle. The warning lights are to be continuously lit, showing amber to the front and red to the rear, and must be visible at a distance of 150 metres (490 feet) in normal darkness.



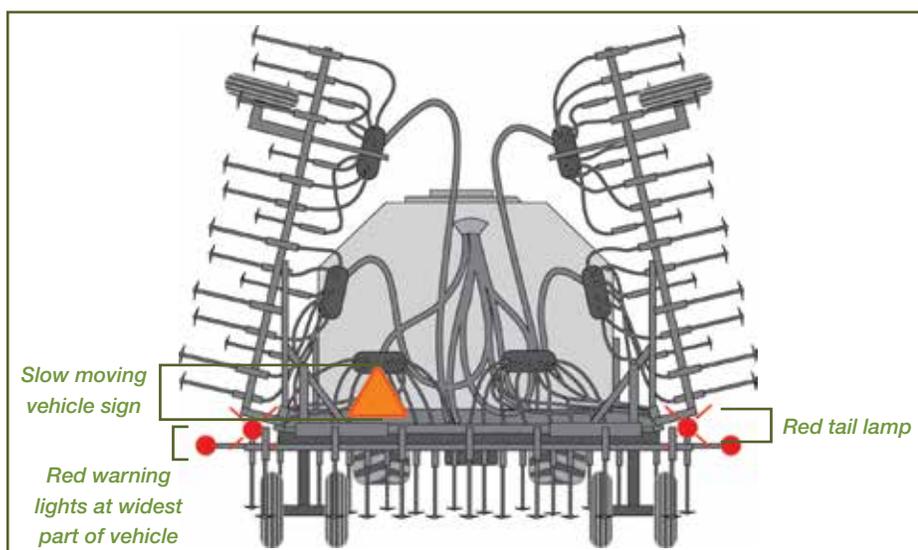
Remember that flags are not allowed in place of warning lights when moving equipment at night.

Tail Lamps

Towed implements must have at least two red tail lamps (see Figure 8). When lit, a tail lamp must be capable of emitting a red light plainly visible at a distance of not less than 150 metres (490 feet) to the rear of the vehicle.

Space the tail lamps as wide laterally as practical, and locate them at a height of not more than 2 metres (6 feet, 6 inches) nor less than 380 millimetres (15 inches) above the ground (see Figure 7).

Figure 8: Lighting of Towed Farm Implements



Towed implements must have at least two red tail lamps. If the implement is more than 2.6 metres (8.5 feet) wide, warning lights must mark the widest part of the implement.

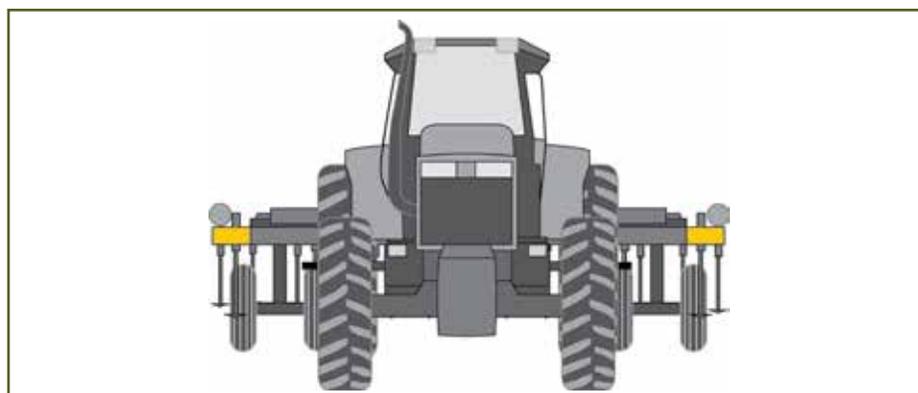


Warning lights must show amber to the front and red to rear.

Reflectors

Although not mandatory, you should use reflectors to provide better visibility when you move farm machinery on roads at night. Use amber reflectors to mark the front of towed implements that protrude beyond the width of the towing farm tractor (see Figure 9).

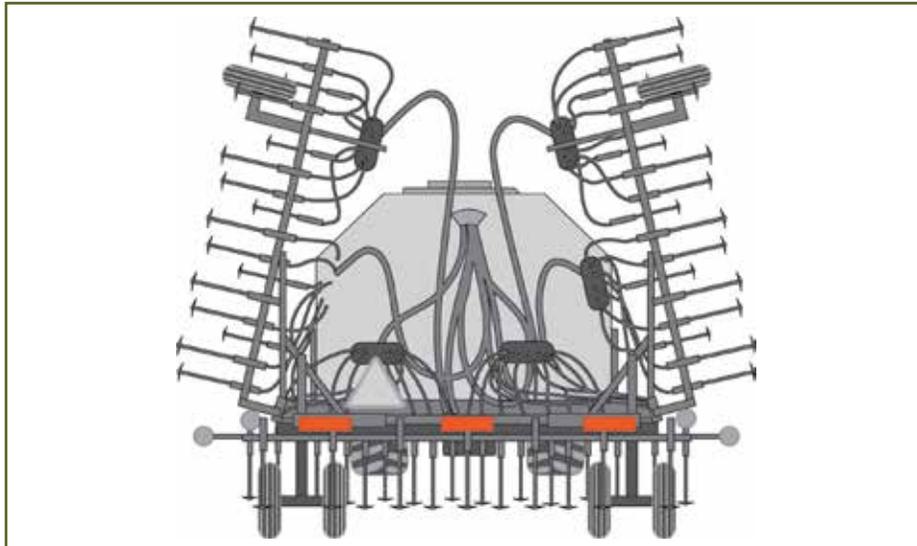
Figure 9: Amber Reflectors on Front of Implement



For maximum visibility, clean your reflectors and lamps before travelling on public roads.

Use at least two red reflectors, visible from the rear, to mark the rear of the implement (see Figure 10).

Figure 10: Red Reflectors on Rear of Implement



Reflective material should be visible at night from a distance of 150 metres (490 feet) in normal darkness when directly exposed to the high beam of headlamps. Reflectors should comply with the requirements of Society of Automotive Engineers (SAE) Standard J594 (see Figure 10).

Impaired and Distracted Driving

Legislation governing impaired and distracted driving pertains to the drivers of farm equipment that is being operated on public roads. For more information, visit www.saferoads.com.

SUMMARY

- Use your headlamps and tail lamps whenever you are on the road.
- Motorists unaccustomed to large and slow-moving farm and industrial equipment need to be alerted to your position on the road and your slow travel speed.
- When you purchase lighting and marking equipment, make sure it meets the appropriate Canadian Standards Association (CSA), American National Standards Institute / American Society of Agricultural Engineers (ANSI/ASAE), or Society of Automotive Engineers (SAE) standards.



Superior grade reflective tapes offer better visibility, are more durable and are less susceptible to damage than reflective lenses in lamp fixtures. Such reflective tapes are also known as retroreflective tapes or conspicuity tapes.



See Appendix 3, “Standards for Lighting and Marking,” for information on lighting and marking equipment to the appropriate standard.

Questions and Answers

The following are common questions about legislative requirements.

When must I use my lights?

When you move equipment at night or during reduced visibility conditions, all mandated lights must be operational and illuminated.

Can I use flood lamps or general service lamps on public roads?

No, flood lamps and general service lamps are designed to illuminate the machine or field work. Front-facing flood lamps must be aimed downward and to the right to avoid blinding oncoming traffic. Rear-facing service or flood lamps must be off when travelling on public roads. Exception: a work lamp may be used to light the extremities of a dozer blade. Lamps must be aimed at the extremities of the blade.

What are the requirements for transporting dangerous goods?

Transport Canada's *Transportation of Dangerous Goods Regulations* promotes safety in the handling and transporting of dangerous goods. There are many exemptions in the regulations to ease the movement of essential dangerous goods used in the agricultural industry. These exemptions remove all or some of the requirements of the legislation depending upon the circumstances. For example:

- Quantities of dangerous goods for agricultural purposes up to 1,500 kilograms are exempt from the regulations within 100 kilometres (60 miles) of the farm in farm-registered vehicles.
- Gasoline and diesel in tidy tanks up to 2,000 litres (440 gallons) that are secured to the vehicle are exempt from documentation and training if they have the correct safety marks visible.

A technical bulletin is available to all in the agricultural industry detailing both the requirements and the exemptions that are specific to the industry. The bulletin "Dangerous Goods and the Agricultural Industry" is available by calling toll free 1-800-272-9600 within the province or 780-422-9600.

I want to hard-wire my own lights. What are the standardized wiring connections?

The wiring diagram in Figure 11 details the industry standardized wiring connections used on manufactured agricultural machinery. At minimum, terminals 1, 3, 5 and 6 should be wired. Also, the receptacle is installed on the towing vehicle, while the plug is installed on the towed implement.

Figure 11: Industry Standard Wiring Connections for Seven-pin Agricultural Connectors



Note: For more information on wiring, contact your equipment dealer.

Power Line Safety

If you're moving large equipment near power lines, stay safe with these tips:

- Check the height of your equipment. If you're buying it new, confirm the height, update your GPS with any changes, and consider your route to ensure you can cross safely under power lines. Exercise caution if equipment is higher than 4.1 metres.
- Stay seven metres away from power lines. Keep this in mind when operating grain augers or air seeders, or when lifting truck boxes or back hoes.
- Stack and store wisely. Whether it's a grain bin or bale storage, stack and store it at least seven metres away from power lines.
- Plan ahead. Map your route and locate any overhead power lines. If you don't know whether it's safe to cross under or work near a power line, call your electric utility service provider for help.
- Click before you dig. Before digging or driving posts into the ground, visit AlbertaOneCall.com to request an underground locate. Utilities are closer to the surface of the ground than you think.



See Alberta's Occupational Health and Safety Code and Alberta's Electrical Utility Code for regulations.



Assume downed power lines are energized. Stay at least 10 metres away and warn others of the danger. Call 911 and your electric utility.

Responding Safely to Power Line Contacts

Contact with power lines is 100 per cent preventable when you plan ahead, know the size of your equipment, and watch for lines.

If you do happen to contact a power line with your equipment, avoid injury or death with these steps:

1. Break the contact. Do what you can to break the electrical circuit. When possible, move the arm of your sprayer or auger, or whatever is touching the line, away from the line.
2. Stay put and keep others away. If you can't break the contact stay in your vehicle, keep others away, and call for help.
3. Call for help. Call 911 and your electric utility service provider so crews can isolate and ground the line to make it safe to work around.

If you must exit your vehicle, follow these steps to stay safe:

1. Call for help. Call 911 and your electric utility service provider.
2. Open the door to your vehicle. Be sure to open it as wide as possible.
3. Jump from your vehicle, landing with both feet together. When jumping, make sure you don't touch the vehicle and ground at the same time.
4. **Shuffle or hop; don't step. After you jump, shuffle or hop at least 10 metres away. Make sure the heel of one foot never passes the toe of the other.** Don't touch anything (vehicle, passengers) until you're clear, and don't return to your vehicle until help arrives and tells you it's safe.

High Load Moves

PUT SAFETY FIRST

Contacting an energized power line could lead to serious injury or fatality. Please put your safety first.

You're responsible for following these safety regulations for high load moves.

- If you need to move a load that is 5.3 metres (17.5 feet) or taller on a road or highway, you're required to contact your electric utility company for an escort.
- For moves in municipalities, clearances for lower voltage lines and communication cables are less than 5.3 metres, subject to requirements of all overhead utilities, including telephone and cable.
- For moves in rural areas involving secondary roads, agricultural land, and field approaches, clearances are less than 5.3 metres and you're required to notify your electric utility company.

If the load can be moved with a minimum of one metre clearance from the power lines, you may receive permission to move the load unescorted. Always ask your electric utility first.

Depending on your destination, it may be necessary to involve other utilities, including cable, telephone or other electric utilities. It's your responsibility to contact all affected utilities to ensure the load is escorted safely.

Electric utility companies have employees who coordinate high load moves. They require at least one week's notice before your planned move to coordinate the height, route and dates for the move. Cost is dependent on the specifics of the move.

Following is contact information for the two largest electricity distribution utility service providers* in Alberta:

ATCO Electric's 24-hour Emergency Line: 1-800-668-5506

ATCO Electric High Load Moves: 1-855-277-1670

FortisAlberta:

Call 310-WIRE (9473) 24 hours per day for general inquiries, high load requests and emergencies.

**There are also electric distribution facilities owned and operated by municipalities and rural electrification associations.*

Appendix

Appendix 1: Regulations

You can purchase copies of the *Traffic Safety Act* and regulations from:

Queen's Printer Bookstore

Park Plaza Building
10611 98 Avenue
Edmonton, AB T5K 2P7
Phone: 780-427-4952
Toll free in Alberta: 310-0000

These laws are also available online at:

www.qp.gov.ab.ca/catalogue/index.cfm

Dial 310-0000 for toll free connection from anywhere in Alberta.

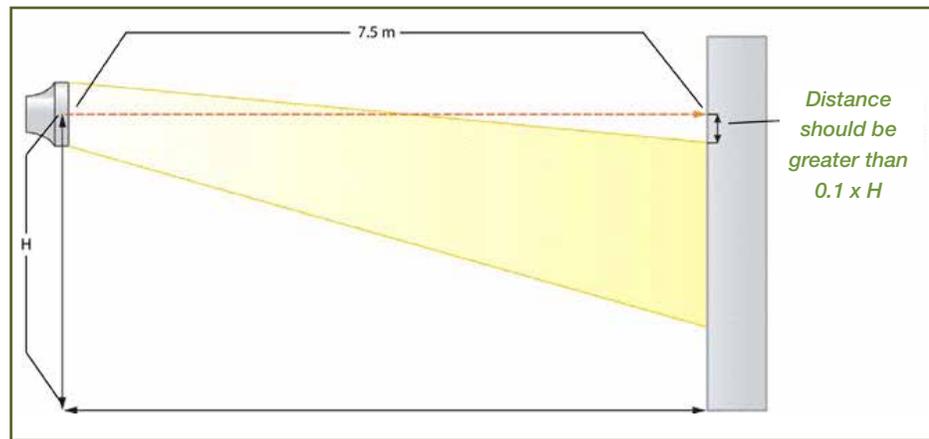
RELATED ALBERTA REGULATIONS

- *Vehicle Equipment Regulation*
- *Commercial Vehicle Dimension and Weight Regulation*
- *Use of Highway and Rules of the Road Regulation*
- *Operator Licensing and Vehicle Control Regulation*
- *Commercial Vehicle Safety Regulation*

Appendix 2: A Guide for Aiming Head Lamps

Proper aiming and alignment of head lamps on tractors and other self-propelled equipment reduces the risk of blinding oncoming traffic when travelling at night. Adjust your head lamps according to the following procedure to help reduce this risk of blinding oncoming traffic. Aim flood lamps or lights used for field work downward and to the right to provide illumination close to the ground, and ensure they do not shine rearward when you travel on roads.

Figure 12: Setup for Aiming Head Lamps



Perform the aiming procedure in the dark. Mount head lamps so they are centred laterally. Refer to Figure 12 as you work through the four steps:

1. Park your unit on a flat surface so that its head lamps are 7.5 metres (25 feet) away from a vertical wall that is perpendicular to the ground.
2. Measure the distance between the centre of your head lamps and the ground. Use this measurement (distance "H") to mark a horizontal line (up from ground level) along the wall.
3. Turn on your head lamps (or low beams, if your unit is so equipped) and observe where the light beams fall on the wall. Beyond the outer edge of the lighted area is a less bright zone where the intensity of the light drops to 10 percent or less of the peak intensity (brightest area).
4. Adjust your head lamps so that the distance between the upper edge of the lighted area is at least one-tenth of distance "H" below the horizontal line on the wall indicating the centre of your head lamps ($0.1 \times H$).

Example: If distance "H" is 1,200 millimetres (48 inches), then the distance between the upper edge of the **lighted area** and the line on the wall indicating the centre of your headlamp [$0.1 \times 1,200$ (48) = 120 millimetres (4.8 inches)] should be not less than 120 millimetres (4.8 inches).

Appendix

Appendix 3: Standards for Lighting and Marking

Lighting and reflector requirements must meet on-highway designed requirements of Alberta's *Traffic Safety Act* and regulations. For more information you can view the legislation at this web link:

www.transportation.alberta.ca/525.htm

Lighting and Marking of Agricultural Equipment on Highways, CSA M669

Slow-Moving Vehicle Identification Emblem, ANSI/SAE Standard S276

Standards can be ordered from:

Canadian Standards Association (CSA)

1707 94 Street NW
Edmonton, AB T6N 1E6
Phone: 1-800-463-6727 or 780-490-2007
Email: westernsales@csa.ca

CSA Group Standard M669 weblink:

shop.csa.ca/en/canada/agricultural-equipment/m669-17/inv/27021152017

American Society of Agricultural and Biological Engineers (ASABE)

2950 Niles Road
St. Joseph, MI 49085-9659
Phone: 269-429-0300
Fax: 269-429-3852
Email: hq@asabe.org

ASABE Standard ANSI/SAE S276 weblink:

elibrary.asabe.org/azdez.asp?JID=2&AID=46638&CID=s2000&T=2

Note: In 2005 ASAE became American Society of Agricultural and Biological Engineers (ASABE).

Appendix 4: Glossary of Terms

ANSI American National Standards Institute

ASABE American Society of Agricultural and Biological Engineers

ASAE (Obsolete) American Society of Agricultural Engineers

CSA Canadian Standards Association

Daytime The period that starts one hour before sunrise and ends one hour after sunset.

Extremities An extremity is the extreme projection of the equipment in question. For example, the extremity of a tractor may be the protruding axle stubs. On a cultivator it may be the protruding shovels when folded into transport position.

Hard-wiring Permanently installed wiring on a self-propelled machine that connects with and works in concert with permanently installed wiring and lighting on attached implements.

Head lamps A non-interruptible (as opposed to flashing) white light source used to illuminate the path of travel of equipment for operators, and to identify moving equipment for oncoming traffic on public roads. Head lamps must conform to on-highway design lamps for agricultural equipment.

Impair To dim or conceal (wholly or partly) a lamp or marking with some external interfering object.

Implement of husbandry Means a vehicle designed and adapted primarily for agricultural, horticultural or livestock raising operations.

Lateral Surfaces spanning a horizontal distance.

Left side The left-hand side of a vehicle as determined from the rear of the vehicle facing in the direction that it moves.

Lensing Covers on lamps that diffuse and color the light emitted from a source.

Lighting Lamps used to illuminate and identify various parts of a machine to mark its size and position on a public road.

Marking Signs and reflectors or reflective materials used to identify various parts of a machine and mark its size and position on a public road.

Nighttime The period commencing one hour after sunset and ending one hour before the following sunrise, or when atmospheric conditions (such as snow, rain, fog, smoke) do not allow enough light to clearly see a person at a distance of 150 metres (490 feet).

Reflective materials These are materials other than reflectors which are part of lensing in lamps. Reflective material must meet the reflective requirements of SAE Standard J1967, *Retroreflective Materials for Vehicle Conspicuity*.

Reflectors Can be part of lensing in lamps provided the lensing meets the reflective requirements of SAE Standard J594, *Reflex Reflectors*.

Right side The right-hand side of a vehicle as determined from the rear of the vehicle facing in the direction that it moves.

Self-propelled equipment Equipment that is conveyed by its own power source.

Slow-moving vehicle (SMV) sign A special reflective emblem, triangular in shape and fixed at the rear of a vehicle, indicating that the vehicle may be travelling at speeds less than 40 km/h. ANSI/SAE Standard S276, *Slow-Moving Vehicle Identification Emblem*.

Society of Automotive Engineers (SAE) standard A standard approved by the Society of Automotive Engineers.

Tail lamps A non-interruptible (as opposed to flashing) red light source used to identify the rear of machinery on public roads for approaching traffic. Tail lamps must conform to SAE Standard J585.

Towing vehicle A tractor, self-propelled implement of husbandry or motor vehicle.

Warning lights A light showing amber to the front and red to the rear and visible at a distance of 150 metres (490 feet) in normal darkness.

Appendix

Appendix 5: For More Information

For more information on vehicle weights and dimensions contact:

Alberta Transportation

Transport Engineering Branch

4th Floor Provincial Building

4920 51 Street

Red Deer, AB T4N 6K8

Telephone: 403-340-5189

For more information on vehicle lights, reflectors and signs contact:

Alberta Transportation

Vehicle Safety Section

Main Floor Twin Atria

4999 98 Avenue Edmonton, AB T6B 2X3

Telephone: 780-427-8901

Toll free in Alberta: 310-0000

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