

WINTER DRIVING TIPS

ATTITUDE - Attitude is the single most important factor to safe driving. Drivers with a good attitude have fewer accidents, regardless of their driving skills, because they do not place themselves or allow themselves to get caught in high risk situations. No matter how good you are at controlling the vehicle, if you place yourself in a high risk situation enough times, you will have an accident. The best way to minimize accidents is to avoid unnecessary risks. Foremost, a good attitude means avoiding unnecessary risks or putting safety first and focusing your attention on your driving. Someone with a good attitude also knows that no one, including themselves, is perfect and is constantly trying to improve their driving. We should all be doing the following.

CHECK THE WEATHER AND STAY HOME - When the weather or road conditions are bad or bad weather is predicted postpone your trip until the situation improves. You can also call the Highway Patrol for a road condition report.

ITINERARY - Let someone know where you are going and when you expect to arrive.

TIME - Avoid being rushed. Give yourself ample time to prepare the vehicle and get to your destination. You can save time by doing the under the hood check the night before.

VEHICLE PREPARATION - For safe winter travel the vehicle must be in good mechanical condition, have clean motor oil of the proper viscosity (check your owner's manual), a cooling system with 50 to 70% antifreeze, and properly inflated tires with at least 50% tread. Drivers of assigned vehicles are responsible for monthly preventive maintenance safety checks and ensuring maintenance and annual inspections are done. Fleet management assumes the responsibility for preventive maintenance and periodic safety inspections of pool vehicles. However, all drivers are required to do a pretrip safety inspection, covered on page 9 of the Driver Operator Guide, EM-7130. Turn on the headlights and emergency flasher and walk around the vehicle. Make sure all the lights work and are clean, visually check the tires, check for body damage, cargo is secure, and dirty, frosted, or broken glass. Under the hood check fluid levels, belts, and scan for leaks. Make sure you have a fire extinguisher, first aid and body fluids barrier kits (usually inside the larger first aid kits), safety flares or triangles, tire chains, a credit card, decent wiper blades, windshield washer antifreeze, and an ice scraper. Other useful items are a shovel, 2-way radio, and traction material such as sand. Travelers need to be prepared with warm clothes, blankets, and/or sleeping bags in case they become stranded. Several survival kits are available for the RO pool vehicles. Some Forest locations also have kits available. Secure or remove loose items from the passenger compartment, adjust the mirrors, and familiarize yourself with the controls. With the engine running apply hard constant pressure to the brake pedal for 5 seconds. The pedal should stop about half way to the floor and not settle. Set the emergency brake and gently try to move the vehicle. While driving monitor the performance of the vehicle.

VISIBILITY - Make sure you can see and are seen. Make sure all windows, mirrors, and lights are free of frost and working. Headlights must be on when visibility is limited or when traveling Forest Service roads, but they are recommended at all times. Windows on vehicles that have been parked outside overnight often frost up again when the vehicle is moved and your breath can fog up the inside of the windows. Make sure the vehicle has warmed up enough for the defrosters to keep this from happening.

LOOK AHEAD & DRIVE DEFENSIVELY - Watch out for other drivers and compensate for their mistakes. Many drivers encountered may have never driven on snow before or have not adjusted their driving for winter. Regardless of the conditions, scan up to 15 seconds or more ahead of the vehicle. Look both ways before going through intersections - even when you have the right of way. Recognizing hazards sooner gives more time to slow down and deal with them.

SLOW DOWN & INCREASE YOUR FOLLOWING DISTANCE - Adjust your speed for road conditions and visibility. With less than ideal conditions you must drive, corner, decelerate, and accelerate slower. Increase your following distance as road conditions and

visibility get worse. For example, with compact snow and ice your following distance should be 8 to 10 seconds.

HANDLING CHARACTERISTICS - As long as you do not try to turn or brake, the tires that usually lose traction first on slick winter roads are the driven tires, the tires connected to the engine by the drive train. This is due to the torque exerted by the engine when accelerating or decelerating. A decelerating car that has lost traction to its driven wheels will usually pivot around the tires that still have traction, the tires that are not driven. This concept explains much of the handling characteristics of front, rear, and four wheel drive vehicles when skidding on slick winter roads. The following deals only with skids that occur when decelerating with very poor traction such as compact snow and ice.

FRONT WHEEL DRIVE - Even though front wheel drive vehicles usually have more weight on the front than the rear tires, the front tires often lose traction first when traction is poor. Because you have little or no directional control when the front tires lose traction, a skidding front wheel drive vehicle can be unpredictable and difficult to control. Most of the time it will plow forward in a straight line, but sometimes the front of the car will move left or right and pivot around the rear wheels. If the front of the car moves left or right, the rear tires will push the car the direction it is pointing until they too lose traction. Simply put, the car will try to go where it is pointing. This is usually not desirable, because you have little control over which way the car points when the front tires lose traction.

FOUR WHEEL DRIVE - Four wheel drive is the least likely vehicle to skid, because the engine's torque is divided among four wheels instead of two. The disadvantage to four wheel drive is that once a four wheel drive vehicle does skid, it is the most unpredictable and difficult to control, because all four tires usually lose traction.

REAR WHEEL DRIVE - The rear tires usually lose traction first on a rear wheel drive vehicle. Since you steer with the front tires and they are more likely to retain traction on a rear wheel drive vehicle than with the other types, a rear wheel drive vehicle is usually the easiest to control and recover from a skid. As long as the skid is not too severe and the driver keeps the front tires pointing the direction of travel, a skidding rear wheel drive vehicle will tend to pivot around the front tires and skid in a straight line. This tendency to skid in a straight line is usually more desirable than the less predictable behavior of front or four wheel drive. A disadvantage of rear wheel drive is the driven wheels usually have poorer traction than the driven wheels of either front or four wheel drive. This means rear wheel drive is the most likely configuration to have the driven wheels lose traction or skid when accelerating or decelerating.

SKID RECOVERY - Basic skid recovery procedures for all vehicle types are: 1. Never panic or give up. 2. Turn the steering wheel the direction you want the front of the car to go. 3. Do not brake or accelerate. Advanced skid recovery techniques get the driven wheels rotating at road speed. This allows them to regain traction sooner. If you have a manual transmission, the easiest way to get the driven wheels rotating at road speed is to put the clutch in. This will allow the driven wheels to rotate freely and match the vehicle's speed. Some people apply power to match the driven wheel's speed to the vehicle's. This technique can be effective if you are not in a situation where you need to control your speed or slow down such as going down a hill. Even when the situation permits it is recommended only for experienced drivers with a cool head, because it is difficult to judge and apply the proper amount of throttle. Some recommend putting automatic transmissions in neutral, but we do not. To put an automatic transmission in neutral you must take one hand off the steering wheel. When skidding, steering is your primary concern so you should keep both hands on the steering wheel, automatics generate less compression braking than manuals so there is less benefit, and there is the possibility of putting the transmission in reverse. This could make the vehicle uncontrollable and damage the drive train.

PART TIME 4X4 - Page 15 of The Driver-Operator Guide, EM-7130-2, states that all wheel drive vehicles are designed to provide extra power and traction for traveling at slow speed. With part time four wheel drive we recommend not engaging four wheel

drive unless you are going slow. You will be more aware of road conditions, less likely to drive too fast for conditions, and if a skid does occur, the vehicle will be easier to control.

DOWN HILL & FRONT WHEEL DRIVE - Do not use low gears or downshift the transmission when decelerating or going down a hill with poor traction and front wheel drive, because the front tires will be more likely to lose traction with increased engine braking. This would cause a loss of steering and skids that occur with front wheel drive in this configuration can happen suddenly and are often difficult to control.

TEST AVAILABLE TRACTION - It is a good idea when the roads are or might be slick to occasionally test the available traction. Gradually increase brake pressure until a tire locks, the antilock brake system activates, or you know the road is not slick. Do this only when no cars are following or approaching and you have plenty of room to maneuver. Once you know how slick the road is, adjust your speed accordingly. It is especially important to be aware of road conditions and your speed when driving a front or all wheel drive vehicle. The driven wheels of these vehicles have better traction than with rear wheel drive. This makes it easier to drive faster, but they do not stop any better.

TURNING - Slow down prior to turning and do not accelerate until you have completely exited the turn. When turning use just enough brakes to control your speed when going downhill or just enough throttle to maintain your speed going uphill. Not trying to turn and decelerate or turn and accelerate will provide maximum available traction and minimize the possibility of a skid.

LONG AND LOW - The longer and lower the vehicle, the safer and easier it will be to control on a slick road. Vehicles with a high center of gravity are more likely to tip over if traction improves or they hit a rut when skidding. The shorter the wheel base, the distance between the front and rear tires, the more severe the skid and the more difficult it will be to recover from a skid.

TIRE CHAINS - Page 18 of The Driver-Operator Guide states: "Never use tire chains on the front wheels alone." The rear wheels lock easily when braking with chains only on the front. This can cause a loss of control. Chains on the rear wheels stabilize the vehicle when braking. They act like feathers on an arrow so the vehicle will stop in a straight line. Many people are aware of this when chaining up a four wheel drive, but few people think about it when chaining up a front wheel drive vehicle. Chains are not going to help you go with front wheel drive unless you put them on the front. We seldom have an extra set of chains for the rear, so it is important to drive slow with chains only on the front.

CRUISE CONTROL - Do not use cruise control when the roads might be slick. Cruise control can apply power suddenly or at the wrong time and cause a skid or make a small skid uncontrollable. If you have the cruise control on and realize the road might be slick, use the hand operated controls to turn it off. Tapping the brakes can initiate a skid if the roads are slick.

STRANDED - Do not panic. Remember, because you have informed someone of your itinerary, they will come looking for you. If stranded, stay with the vehicle. Tie a handkerchief or flagging to your antenna and turn on your emergency flashers. Keep a downwind window partially open when running the engine for warmth and make sure the tail pipe remains clear.

SKILL - Basic skills are required for all driving. Winter driving requires additional skills such as skid control and being smooth and gentle when turning, braking, and accelerating. However, the best drivers are not always highly skilled or expert at handling emergency situations, but they always have a good attitude. Reread the first paragraph, ATTITUDE.

These tips are not all inclusive. What can you think of?