

## DID YOU KNOW???

### WINTER DRIVING A MATTER OF PHYSICS

Like it or not, winter driving is about to hit us (or maybe already has), and so are the usual increases in traffic crashes, as we all but refuse to drive more slowly and carefully, or leave in time to get there without driving faster than we should. The laws of physics applies to all driving, but is even more important during winter driving.

The law of physics that is most applicable to winter driving is Newton's first law of motion, which states in part: "***An object in motion continues in motion with the same speed and in the same direction unless acted upon by an unbalanced force***". This law is often called "**the law of inertia**". Essentially this means that when you are driving your vehicle on any road and you wish to slow down, speed up, or change direction such as traveling around a curve or corner, your vehicle **MUST** be acted upon by an unbalanced force such as results from turning the steering wheel or applying the brakes. But these actions only apply to the vehicle – the vehicle still must interact with the pavement, and this is where the problems of winter driving are magnified.

When roads are bare and dry, the friction of the wheels upon the road allow for the intended changes in speed and direction. But, when roads are covered with snow and/or ice during winter, the coefficient of friction is substantially reduced, and the end result is the inability for the driver to retain the control of the vehicle that he/she needs.

Every year we read about or see safe driving tips in the media and yet we still have the same problems. And, it's not just the new, inexperienced drivers, but drivers of all ages, even experienced ones. Safe winter driving must be learned – you cannot read just how fast is too fast for each and every driving condition. These skills are learned through experience. Most every driver I know, including myself, has at some time been going too fast for conditions and ended up in a skid, or worse yet, a crash.

The safety tips normally given are the ones we have heard hundreds of times, including "drive more slowly, clean off your windshield, rear window, lights, mirrors, allow a greater distance from the vehicle in front of you, use your lights in daytime so you can be seen better" – you know the routine. The problem is, we all know what we **SHOULD** do, but we don't do these things for any number of reasons. But, each year there is always hope, and here's hoping that the following winter driving tips, which aren't the usual ones you always hear about, are helpful.

1) The immediate areas where vehicles stop and start, such as just before a stop sign or a traffic signal, are usually more slippery than the rest of the road. This is because of the action of vehicles stopping or starting, especially when tires skid when stopping or spin when starting up again. Therefore, always expect these areas to be more slippery.

2) In some cases, consider shifting into neutral. Case in point! You are entering the Village of Malone on Route 11B, and just before the traffic signal at Finney Blvd., there is a hill. When this section is slippery, it can be advisable to shift into neutral.

3) On slippery roads, **NEVER** use your cruise control. Cruise is trying to keep your speed at the pre-set value. With cruise engaged on slippery roads, it will make it more difficult to keep your vehicle under control.

4) The action of tires on snowy roads often causes the usual tire tracks to become more slippery than other parts of the road. Often the immediate shoulder and the middle of the driving lane will have more traction than the part of the road where most drivers drive. Under these conditions, consider driving slightly to the right of the center of the driving lane for better traction.

5) Lastly, winter driving requires drivers to pay more attention to their driving than usual. Entering a curve too fast can be fatal. As you approach a curve, you had better know how sharp it really is, and thus how slow you must proceed to safely negotiate it. Slippery conditions make it much more important to observe the warning sign (black lettering on a yellow background) which normally has an “advisory” speed limit under DRY conditions, meaning your vehicle should be well below this speed.

Just remember winter driving requires an increased awareness of driving conditions and the necessity to adjust accordingly. Drive safely – winter or anytime.