



Government of
Canada

Gouvernement du
Canada

Self-Help Advice

WINTER DRIVING

*You, your car
and winter storms*



Canada

**Why not keep this
booklet in your glove
compartment?**



This publication was produced by the **Office of Critical Infrastructure Protection and Emergency Preparedness** in co-operation with:



the Canadian Automobile Association

Cette publication est aussi disponible en français.

Elle s'intitule : La conduite en hiver, comment se préparer



Registered trade-mark of the
Canadian Automobile Association

®

An electronic version is available on the Internet.

This publication is also available in alternate formats (audio cassette, large print, computer diskette and braille) through InfoTouch by calling toll-free 1-800-788-8282. Use the same number for teletypewriter (TTY).

ISBN

Catalogue No.

© Minister of Public Works and Government Services, 2001



WINTER TRAVEL BY AUTOMOBILE CAN BE SERIOUS BUSINESS. BE PREPARED. MEMBERSHIP IN THE CANADIAN AUTOMOBILE ASSOCIATION IS RECOMMENDED. IF YOU DO A LOT OF WINTER DRIVING IN ISOLATED REGIONS, YOU MIGHT CONSIDER HAVING A CITIZEN'S BAND RADIO. *911 IS A FREE CALL TO POLICE AND AMBULANCE ON YOUR CELLULAR PHONE, AND *CAA IS A FREE CALL FOR CAA EMERGENCY ROAD SERVICE (FOR CAA MEMBERS).



HEED THE WARNINGS

Local weather offices of Environment Canada issue warnings of impending blizzards, heavy snow, freezing rain or drizzle, cold waves and winds.

KNOW THE HAZARDS

Blizzard

The most perilous of winter storms combining falling, blowing, drifting snow, winds of 40 km/hour or more, visibility less than 1 km, temperatures less than -10°C; duration: six hours or more.

Heavy snow

Ten centimetres or more in 12 hours, or 15 cm or more in 24 hours. Even less in temperate climates.

Freezing rain or drizzle

An ice storm coating roads, trees, overhead wires, etc. with ice.

Cold wave

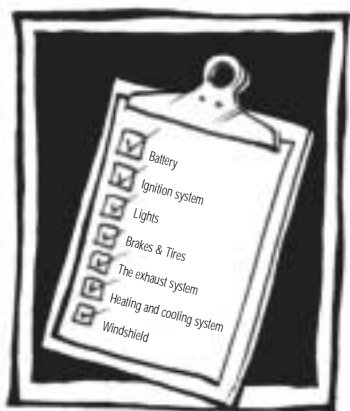
A rapid fall in temperature in a short period, requiring greater than normal protective measures.

Winds

The cause of blizzard conditions, drifting, reduced visibility and wind-chill effects.

TUNE UP *your* CAR

WINTER WEATHER
PRESENTS THE
GREATEST CHALLENGE
TO YOUR CAR AND ITS
ENGINE. PREPARE FOR
WINTER BY GETTING
A COMPLETE CHECK-
UP IN THE FALL.



The following systems should be checked:

Battery:

Cold weather starts require a battery that is fully charged. Recharge or replace weak batteries. Have your charging system checked, too.

Ignition system:

Damaged ignition wires or a cracked distributor cap may cause a sudden breakdown.

Lights:

Regularly check that all lights are functioning properly and that headlights are properly aimed.

Brakes:

Brakes should be checked and, if needed, serviced to ensure even braking.

Tires:

The traction between the tires and the road surface determines how well your vehicle starts, turns and stops. Make certain your snow tires or all-season radials are properly inflated and in good condition. Ensure all four tires have the same tread pattern for even traction.

The exhaust system:

Have the exhaust system fully checked for leaks that could send carbon monoxide into your vehicle.

Heating and cooling system:

Check your radiator and hoses for cracks and leaks. Make sure the radiator cap, water pump and thermostat work properly. Test the strength of the anti-freeze, and test the functioning of the heater and defroster.

Windshield:

Make sure wipers are in good condition and fill up on winter washer fluid.

One way to find a good repair facility to tune-up your vehicle is to look for the CAA Approved Auto Repair Services sign at garages. Check the Yellow Pages or contact your local CAA office. These garages must meet CAA's special standards for fairness and reliability.



PREPARE THE DRIVER

If you must drive in bad weather, plan ahead and make sure you have enough fuel.

See and be seen; clear all snow from the hood, roof, windows and lights. Clear all windows of fog. If visibility becomes poor, find a place to safely pull off the road as soon as possible.

Try to keep to main roads.

Wear warm clothes that do not restrict movement.

Drive with caution. Measure your speed to conditions.

Don't press on. If the going gets tough, turn back or seek refuge.

Avoid overtaking another vehicle if possible, when weather conditions and roads are bad.

Keep your radio tuned to a local station for weather advice.

Buckle up at all times. Properly secure small children in child restraints.

Don't drive after drinking alcohol and don't drive if you're feeling drowsy.

In bad weather, let someone know your route and intended arrival time, so you can be searched for, if you don't turn up after a reasonable delay.

WINTER CAR *survival* KIT

THE CANADIAN AUTOMOBILE ASSOCIATION

RECOMMENDS THE FOLLOWING ITEMS BE KEPT IN THE
TRUNK OF YOUR CAR.

- Shovel
- Sand, salt or kitty litter
- Traction mats
- Tow chain
- Compass
- Cloth or roll of paper towels
- Warning light or road flares
- Extra clothing and footwear
- Emergency food pack
- Axe or hatchet
- Booster cables
- Ice scraper and brush
- Matches and a 'survival' candle in a deep can (to warm hands, heat a drink or use as an emergency light)
- Fire extinguisher
- Methyl hydrate (for fuel line and windshield de-icing)



The following items should be kept in the *cab* of your car:

- Road maps
- Flashlight
- First-aid kit
- Blanket (special 'survival' blankets are best)

If you get trapped in a storm or snow bank

Don't panic.

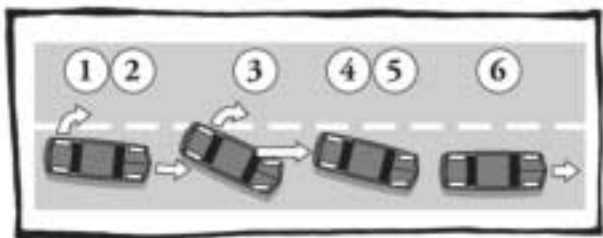
Avoid over-exertion and exposure. Shovelling and bitter cold can kill. Stay in your car. You won't get lost and you'll have shelter. Keep fresh air in your car. Open a window on the side sheltered from the wind. Run your motor sparingly. Beware of exhaust fumes and the possibility of carbon monoxide. Ensure the tailpipe is not blocked by snow. Use the candle for heat instead of the car's heater, if possible. Set out a warning light or flares. Put on the dome light. Overuse of headlights may run your battery down. Exercise your limbs vigorously. Keep moving and don't fall asleep. Keep watch for traffic or searchers. Wear a hat as you can lose up to 60% of your body heat through your head.

KEEP *control of* YOUR VEHICLE *to* AVOID COLLISIONS

WINTER COLLISIONS CAN OCCUR WHEN YOUR VEHICLE SKIDS. A SKID OCCURS WHEN YOU APPLY THE BRAKES SO HARD THAT ONE OR MORE WHEELS LOCK, OR IF YOU PRESS HARD ON THE ACCELERATOR AND SPIN THE DRIVE WHEELS.

Skids also occur when you are travelling too fast on a curve and encounter a slippery surface. Skids can best be avoided by anticipating lane changes, turns and curves; slowing down in advance; and by making smooth, precise movements of the steering wheel. Regardless of the type of skid you encounter, to regain control of your vehicle, DO NOT PANIC.

REAR-WHEEL SKIDS



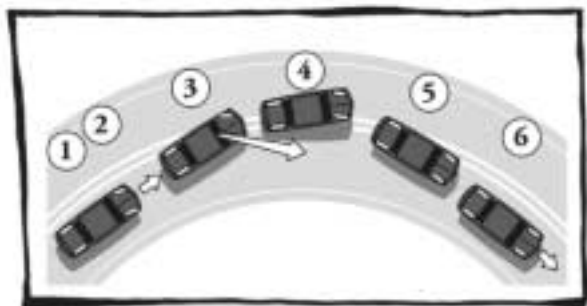
The most effective way to get your vehicle back under control during a skid is as follows:

1. Take your foot off the brake and accelerator.
2. De-clutch on a car with a manual transmission, or shift to neutral on a car with automatic transmission.
3. Steer into the skid by turning the wheels in the direction toward which the rear began to skid, while looking in the direction you want to go.
4. Following this manoeuvre, it is possible that the car will start to skid again but in the opposite direction. To avoid

sliding from one side to another, straighten the front wheels just before the rear wheels reach their normal position. You can avoid this type of skid by a combination of gentle but swift movement of the steering wheel.

5. Once the vehicle is straight, release the clutch or shift to drive, apply gentle accelerator pressure so that the engine speed matches the road speed, and accelerate smoothly to a safe speed.

FRONT-WHEEL SKIDS

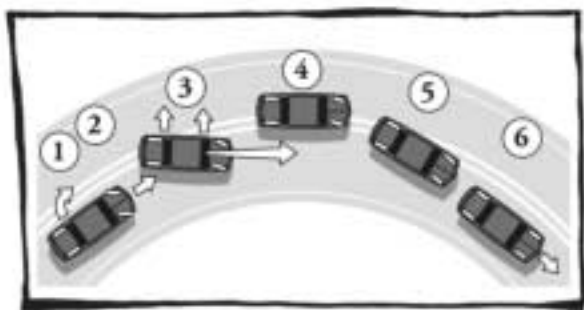


Front-wheel skids are caused by hard braking or acceleration, or by entering a curve at too high a speed. When the front wheels lose traction, you will not be able to steer the vehicle. Regardless of whether the vehicle has front-, rear- or four-wheel drive, the best way to regain control if the front wheels skid is:

1. Take your foot off the brake or accelerator.
2. De-clutch on a car with manual transmission, or shift to neutral on a car with automatic transmission.
3. If the front wheels have been turned prior to the loss of traction, don't move the steering wheel. Since the wheels are skidding sideways, a certain amount of braking force will be exerted. (Unwinding the steering wheel will result in regaining steering sooner; however, the vehicle will be travelling faster because there is little sideways braking force. This technique should only be attempted in situations where limited space and sharp curves exist — however, in this case do not reduce pressure on the brakes, because the vehicle will shoot off in the direction the wheels are facing.)
4. Wait for the front wheels to grip the road again. As soon as traction returns, the vehicle will start to steer again.
5. When the front wheels have regained their grip, steer the wheels gently in the desired direction of travel.
6. Release the clutch or shift to drive and apply gentle accelerator pressure so that the engine speed matches the road speed, and accelerate smoothly to a safe speed.

There is no risk at all of the car skidding in the opposite direction.

FOUR-WHEEL SKIDS



Sometimes all four wheels lose traction. This generally occurs when the vehicle is driven at a speed too fast for conditions. The most effective way to get your vehicle back under control when all four wheels skid is:

1. Ease foot off the accelerator or take your foot off the brake.
2. De-clutch on a car with manual transmission or shift to neutral on a car with an automatic transmission, if you can do so quickly.
3. Look and steer in the direction you want the front of the car to go.
4. Wait for the wheels to grip the road again. As soon as traction returns, the vehicle will travel in the desired direction.
5. Release the clutch or shift to drive and maintain a safe speed.

NOTE: Avoid using overdrive on slippery surfaces.

BRAKING

TO SURVIVE ON
THE ROAD IN WINTER,
PROPER BRAKING IS
ESSENTIAL.



Stopping on slippery surfaces means motorists must increase sight lines, following and stopping distances.

Beware of shaded spots, bridges, overpasses and intersections. These are areas where ice is likely to form first or be the most slippery.

Braking if you don't have anti-lock brakes

If you don't have anti-lock brakes, the most efficient technique for braking under these conditions is to use threshold braking together with de-clutching (manual shift) or shifting to neutral (automatic transmission). The best way to threshold brake (to make a controlled stop) is to keep the heel of your foot on the floor and use your toes to apply firm, steady pressure on the brake pedal just short of lockup to the point at which the wheels stop turning.

Under the stress of trying to stop quickly, drivers almost inevitably overreact and lock the wheels. If this happens, release brake pressure one or two degrees, then immediately reapply it with slightly less pressure.

Braking with anti-lock brakes

If you have an anti-lock brake system (ABS), keep the heel of your foot on the floor and use your toes to apply firm, steady pressure on the brake pedal and do not remove your foot from the brake. When you put on the brakes hard enough to make the wheels lock momentarily, you will typically feel the brake pedal pulse back against your foot. Don't let up!

Novice ABS users can try hard braking in a vacant snow-covered parking lot.

How ABS works

A sensor located at each wheel detects when the wheel stops turning and starts to skid. As soon as the skid is detected, the anti-lock system relieves the pressure just enough to allow the wheel to turn again. This allows you to steer while you continue to bring the vehicle to a stop.

For additional information on winter driving and traffic safety, please contact your local CAA office, or visit www.caa.ca on the Internet.

For more self-help advice on emergency preparedness, contact:

**OFFICE OF CRITICAL
INFRASTRUCTURE PROTECTION
AND EMERGENCY PREPAREDNESS**

Communications

122 Bank St., 2nd Floor

Ottawa, ON K1A 0W6

Phone: (613) 991-7035 1-800-830-3118

Fax: (613) 998-9589

E-mail: communications@ocipep-bpiepc.gc.ca

Internet: <http://www.ocipep-bpiepc.gc.ca>

**PROVINCIAL/TERRITORIAL
EMERGENCY MEASURES
ORGANIZATIONS**

British Columbia

Provincial Emergency Program (PEP)

Phone: (250) 952-4913

Fax: (250) 952-4888

Yukon

Emergency Measures Organization

Phone: (867) 667-5220

Fax: (867) 393-6266

Alberta

Disaster Services Branch

Phone: (780) 422-9000

Fax: (780) 422-1549

Toll free in Alberta, dial 310-0000-780-427-9000

Northwest Territories

Emergency Measures Organization

Phone: (867) 920-6133

Fax: (867) 873-8193

Saskatchewan

Saskatchewan Municipal Affairs and Housing
Protection and Emergency Services

Phone: (306) 787-9563

Fax: (306) 787-1694

Manitoba

Manitoba Emergency Management
Organization (MEMO)

Phone: (204) 945-4772

Fax: (204) 945-4620

Ontario

Emergency Measures Ontario

Phone: (416) 314-3723

Fax: (416) 314-3758

Quebec

Territorial Directorate

Phone: (418) 646-7950

Fax: (418) 646-5427

Or one of the regional directorates:

Montréal (514) 873-1300

Montréal et Estrie (514) 873-1324

Laval, Lanaudière et

Laurentides (514) 873-1300

Outaouais, Abitibi – Témiscamingue et

Nord du Québec (819) 772-3737

Bas-Saint-Laurent, Gaspésie et

Îles-de-la-Madeleine (418) 727-3589

Saguenay – Lac-Saint-Jean et

Côte-Nord (418) 695-7872

Capitale-Nationale, Chaudière-Appalaches et

Nunavik (418) 643-3244

Mauricie et Centre-du-

Québec (819) 371-6703

Or one of the regional offices:

Sherbrooke (819) 820-3631

Saint-Jérôme (450) 569-7565

Joliette (450) 757-7996

Rouyn-Noranda (819) 763-3636

Gaspé (418) 360-8097

Baie-Comeau (418) 295-4903

Baie-Saint-Paul (418) 435-2530

New Brunswick

New Brunswick Emergency Measures
Organization

Phone: (506) 453-2133

Fax: (506) 453-5513

Nova Scotia

Nova Scotia Emergency Measures Organization

Phone: (902) 424-5620

Fax: (902) 424-5376

Prince Edward Island

Emergency Measures Organization

Phone: (902) 888-8050

Fax: (902) 888-8054

24/7 Inquiry Line: (902) 892-9365

Newfoundland and Labrador

Emergency Measures Division

Phone: (709) 729-3703

Fax: (709) 729-3857

Nunavut

Nunavut Emergency Management

Phone: (867) 979-6262

Fax: (867) 979-4221

For more information on emergency preparedness, please contact your provincial/territorial emergency measures organization.



SAFE GUARD is a national information program based on partnerships and aimed at increasing public awareness of emergency preparedness in Canada.

The **SAFE GUARD** program brings together government, private organizations and voluntary agencies that are part of the emergency preparedness, response, recovery and mitigation community.

The triangle depicted in the program logo is the international symbol of emergency preparedness. The jagged line evokes the maple leaf, Canada's internationally recognized symbol. The amber yellow colour is a sign of caution and warning.

SAFE GUARD is an Office of Critical Infrastructure Protection and Emergency Preparedness program.