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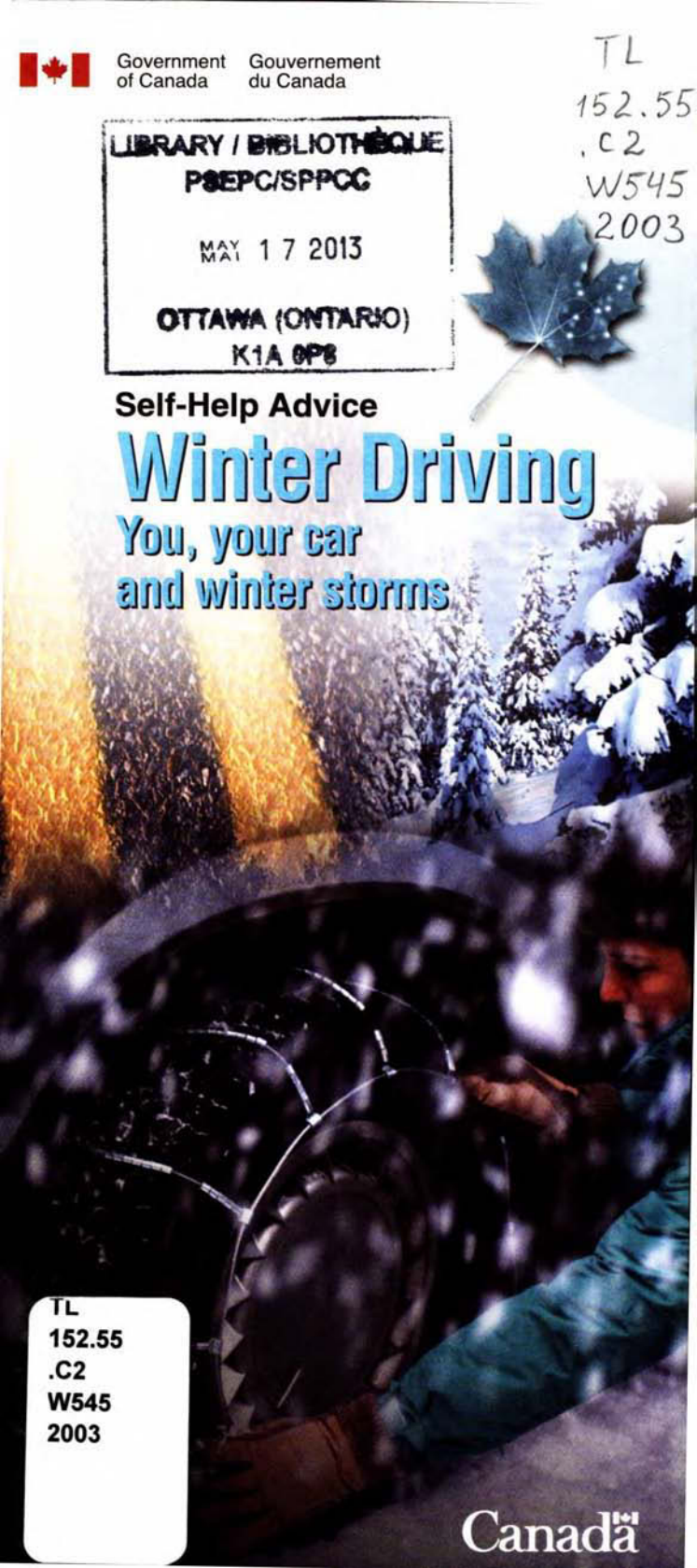
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Self-Help Advice

Winter Driving

You, your car and winter storms



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Canada

Why not keep this booklet in your glove compartment?

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ACKNOWLEDGEMENTS

This publication was produced by the Government of Canada's **Office of Critical Infrastructure Protection and Emergency Preparedness** in cooperation with the **Canadian Automobile Association**.

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An electronic version of this brochure is available via **www.ocipep.gc.ca** on the Internet.

This publication can be obtained in alternative formats (audio-cassette, large print, computer diskette and Braille) through InfoTouch. Call 1-800-788-8282 on a touch-tone phone or through teletypewriter (TTY).

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Winter driving

WINTER TRAVEL BY AUTOMOBILE CAN BE SERIOUS BUSINESS. BE PREPARED. IF YOU DO A LOT OF WINTER DRIVING IN ISOLATED REGIONS, YOU MIGHT CONSIDER HAVING A CITIZENS' BAND RADIO. *9-1-1 IS A FREE CALL TO POLICE AND AMBULANCE ON YOUR CELLULAR PHONE.

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 kilometres per hour or more, visibility less than 1 kilometre, temperatures less than -10°C; duration: six hours or more.

Heavy snow

Ten centimetres or more in 12 hours, or 15 centimetres 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.

Black ice

Where the road ahead looks like black and shiny asphalt. Shaded areas of the road, bridges and overpasses freeze sooner in cold weather, long after the sun has come out.



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.

Check the following systems:

Mechanical system

Your tune-up should include battery, belts, hoses, radiator, coolant/antifreeze, oil, lights, brakes, exhaust system, heater/defroster, wipers and ignition system.

Battery

Cold-weather starts require a fully charged battery. Recharge or replace weak batteries. Check fluid levels, battery posts, voltage regulator, and alternator or generator.

Ignition system

Damaged ignition wires, a cracked distributor cap or worn spark plugs can make starting difficult or may cause a sudden breakdown.

Lights

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

Brakes

To ensure even braking, brakes should be checked and, if needed, serviced. Pulling, a taut pedal, or unusual squealing or grinding may indicate a need for repair.



Tires



Traction is the key to good movement, turning and stopping on wet surfaces. Check the tires and tire pressure at least once a month when the tires are cold. Remember that tire air pressure decreases in colder weather. Tires should be properly inflated to the maximum pressure amount shown in the owner's manual or on the door frame. Do not exceed pressure shown on the tire sidewall. Check your spare tire regularly.

Identical tires on all four wheels will improve vehicle handling. Mixing tires with different tread patterns, internal construction, and size degrades the stability of the vehicle and should be avoided. Tires marked with the pictograph of a peaked mountain with a snowflake meet specific snow-traction performance requirements, and have been designed specifically for use in severe snow conditions.

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 wipers and washer

Make sure wipers are in good condition, and fill up on winter washer fluid. Blades that streak should be replaced. Make sure there is enough windshield washer fluid in the reservoir and that it is rated in the -40°C temperature range. Carry an extra jug in the vehicle.

PREPARE THE DRIVER



If you must drive in bad weather, think caution, plan ahead and make sure you have enough fuel. Try to keep the fuel tank at least half-full.

Be alert, well-rested and sober behind the wheel. Check mirrors and environment controls before you start. Don't forget to wear your seat belt and to ensure all children are correctly positioned in appropriate child car seats and booster seats. Children aged 12 and under should ride properly buckled up in the back seat.

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. It's best to stop at a rest area or exit the roadway and go to a protected area.

If the roadside is your only option, pull off the road as far as you can. Other drivers frequently strike vehicles parked at the side of the road. In reduced visibility, you should make sure your emergency flashers are on to alert other drivers.

Check weather and travel conditions before heading out. Give yourself extra time for travel and, if weather is bad, wait for conditions to improve. Plan your route and let someone know which way you'll be travelling, your destination and expected arrival time, especially when driving long distances. If you don't turn up after a reasonable delay, people will know where to search for you. If the going gets tough, turn back or seek refuge.



Try to keep to the main roads and drive with caution, measuring your speed to road and weather conditions.

Avoid passing another vehicle, if possible, when weather and road conditions are bad.

Wear warm clothes that do not restrict movement.

It's a good idea to take a cellphone with you. It can be very valuable, especially in an emergency or if you need help. But don't talk and drive. Drivers should not use a cellphone while the vehicle is in motion. Let a passenger call for you or pull over to a safe spot to place a call for assistance.

Winter car survival kit

THE CANADIAN AUTOMOBILE ASSOCIATION RECOMMENDS THE FOLLOWING ITEMS BE KEPT IN THE ***TRUNK*** OF YOUR CAR.



- ❑ shovel
- ❑ sand 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
- ❑ 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
- ❑ extra windshield washer fluid
- ❑ fuel line antifreeze

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

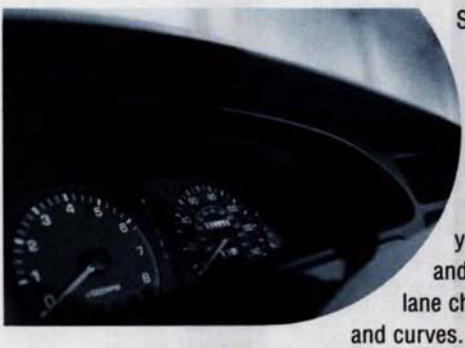
- ❑ road maps
- ❑ flashlight
- ❑ first aid kit
- ❑ blanket (special "survival" blankets are best)

If you get trapped in a storm or snow-bank, don't panic!

Avoid overexertion 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 percent of your body heat through your head.

Keep control of your vehicle to avoid collisions

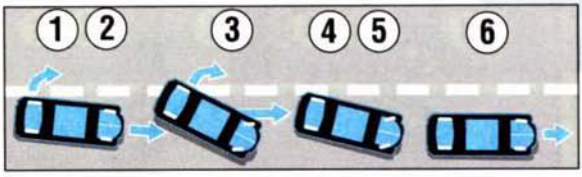
WINTER COLLISIONS CAN OCCUR WHEN YOUR VEHICLE SKIDS. REMEMBER THAT NOT ALL VEHICLES RESPOND IN THE SAME WAY TO ICY, SLIPPERY ROADS. YOU MUST KNOW HOW TO HANDLE YOUR VEHICLE AND HOW IT RESPONDS IN VARIOUS WEATHER CONDITIONS. CONSULT YOUR OWNER'S MANUAL AND FAMILIARIZE YOURSELF WITH YOUR VEHICLE'S BRAKING SYSTEM AND TIRE TRACTION. YOU MAY WANT TO CONSIDER TAKING A DRIVER EDUCATION COURSE THAT TEACHES EMERGENCY DRIVING TECHNIQUES.



Skids can best be avoided by driving for conditions, slowing down, allowing extra time to get to your destination, and anticipating lane changes, turns and curves. Also recommended would be slowing down in advance, making smooth, precise movements of the steering wheel, and being sensitive to how your vehicle is steering.

Even careful and experienced drivers experience skids. Don't panic! Learn to handle skids and remember that sometimes, the vehicle will skid a second and even third time after the initial skid.

REAR-WHEEL SKIDS

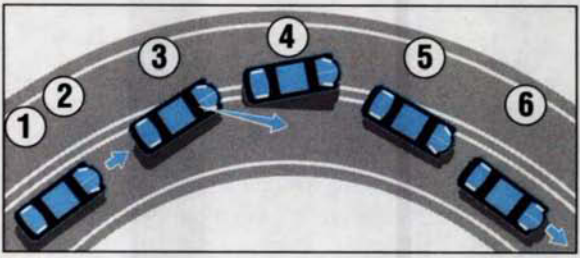


If the rear wheels lose traction, use these steps to regain control after a skid:

1. Take your foot off the brake if the rear wheels skid due to hard or panic braking.
2. Ease off the gas pedal if the rear wheels lose traction due to hard acceleration (rear-wheel drive).
3. Shift to neutral.
4. Look down the road in the direction you want the front of the car to go, and be sensitive to the feel of the car and how it is responding to your steering.
5. To regain control of the vehicle, steer gently in the direction of the skid of the rear of the vehicle. Just before the skid ends, bring the front wheels straight. Sometimes the vehicle will skid in the opposite direction, so you may have to repeat the movement until the vehicle stabilizes.
6. Once the vehicle is straight, return to a driving gear and accelerate gently so that engine speed matches road speed.



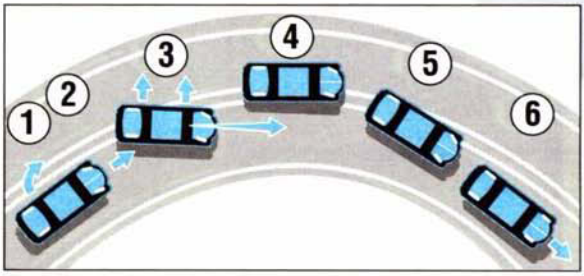
FRONT-WHEEL SKIDS



Front-wheel skids are caused by hard braking or acceleration and by entering a curve too fast. When the front wheels lose traction, you lose steering ability. To regain control if the front wheels skid:

1. Release the brake if the front wheels skid from hard braking. If the wheels spin from loss of traction due to acceleration, ease off on the accelerator (front-wheel drive).
2. Shift to neutral.
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 extended.
4. Wait for the front wheels to grip the road again. When traction returns, you'll regain steering control.
5. Return to a driving gear and gently steer in the direction you want to travel. Gently accelerate until engine speed matches road speed.

FOUR-WHEEL SKIDS



Sometimes all four wheels lose traction – generally at high speeds under adverse conditions. The most effective way to get your vehicle back under control when all four wheels skid is:

1. Remove your foot from the brake or accelerator.
2. Shift into neutral.
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 the wheels regain traction, you will travel in the direction you want to go.
5. Return to a driving gear and maintain a safe speed. NOTE: Avoid using overdrive on slippery surfaces.

Braking

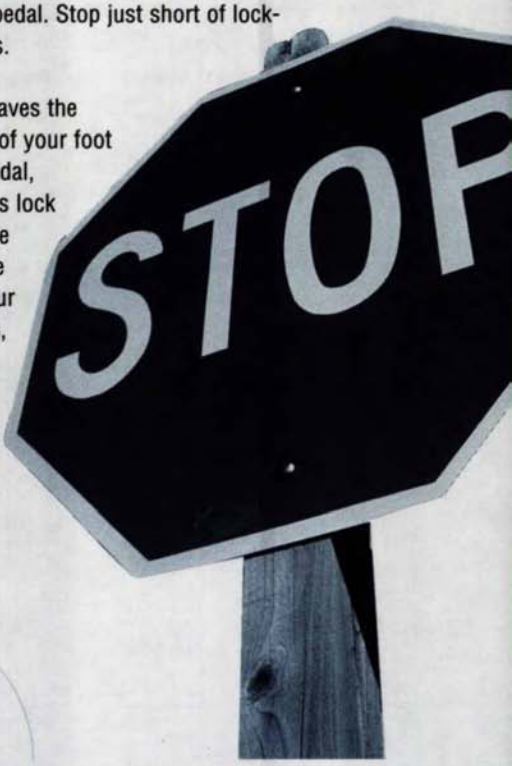
TO SURVIVE ON THE ROAD IN WINTER, PROPER BRAKING IS ESSENTIAL.



Stopping on a slippery surface requires more distance, so increase your following distance. Focus your attention as far ahead as possible.

The best way to stop on a slippery surface is to use threshold or controlled braking and shift to neutral. If you don't have anti-lock brakes, the best way to use threshold or controlled braking is to keep the heel of your foot on the floor and use your toes to apply firm, steady pressure on the brake pedal. Stop just short of locking the wheels.

If your heel leaves the floor, the ball of your foot pushes the pedal, and the wheels lock because you're controlling the brake with your thigh muscles, which are incapable of finer control.



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.

Anti-lock brakes are designed to prevent wheels from locking and allow continued steering control during panic braking. Sensors located at wheels detect lock-up. The anti-lock system relieves enough pressure to allow the wheel to turn, maintaining steering control.



Do not remove your foot from the brake or pump the pedal. If you apply too much brake pressure and the wheels lock momentarily, you might feel the brake pedal pulse back against your foot. Pumping the pedal works against the system by providing false information.

Additional information

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

For general information or to order our self-help brochures, please contact:

The Office of Critical Infrastructure Protection and Emergency Preparedness

Public Affairs Division
122 Bank Street, 2nd Floor, Ottawa, Canada K1A 0W6
Telephone: (613) 944-4875
Toll-free: 1-800-830-3118
Fax: (613) 998-9589
E-mail: communications@ocipep.gc.ca
Internet: www.ocipep.gc.ca

Please contact your provincial/territorial emergency management organization (EMO) for regional or local information on emergency preparedness.

Newfoundland and Labrador
Emergency Measures Organization
Telephone: (709) 729-3703
Fax: (709) 729-3857

Prince Edward Island
Emergency Measures Organization
Telephone: (902) 888-8050
Fax: (902) 888-8054

Nova Scotia

Emergency Measures Organization
Telephone: (902) 424-5620
Fax: (902) 424-5376

New Brunswick

Emergency Measures Organization
Telephone: (506) 453-2133
Toll-free: (800) 561-4034
Fax: (506) 453-5513

Quebec

Direction générale de la sécurité civile et
de la sécurité incendie
Telephone: (418) 646-7950
Fax: (418) 646-5427
Toll-free Emergency Number: 1-866-776-8345
Emergency Number: (418) 643-3256

Or one of these regional offices:

- Bas-Saint-Laurent – Gaspésie – Îles-de-la-Madeleine: (418) 727-3589
- Saguenay – Lac-St-Jean – Côte-Nord: (418) 695-7872
- Capitale Nationale – Chaudière – Appalaches – Nunavik: (418) 643-3244
- Mauricie – Centre-du-Québec: (819) 371-6703
- Montréal – Laval – Laurentides – Lanaudière: (514) 873-1300
- Montérégie – Estrie: (514) 873-1324
- Outaouais – Abitibi – Témiscamingue – Nord-du-Québec: (819) 772-3737

Ontario
Emergency Management Ontario
Telephone: (416) 212-3468
Fax: (416) 212-3498

Manitoba
Emergency Measures Organization
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Toll-free: 1-888-826-8298
Fax: (204) 945-4620

Saskatchewan
Saskatchewan Emergency Planning
Telephone: (306) 787-9563
Fax: (306) 787-1694

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Emergency Management Alberta
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Toll-free in Alberta, dial 310-0000-780-422-9000
Fax: (780) 422-1549

British Columbia
Provincial Emergency Program (PEP)
Telephone: (250) 952-4913
Fax: (250) 952-4888

Northwest Territories
Emergency Measures Organization
Telephone: (867) 873-7785
Fax: (867) 873-8193

Yukon
Emergency Measures Organization
Telephone: (867) 667-5220
Fax: (867) 393-6266

Nunavut
Nunavut Emergency Management
Telephone: (867) 975-5300
Fax: (867) 979-4221

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Towards a safer, more secure Canada

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Through its programs and information products, OCIPEP enhances the capacity of individuals, communities, businesses and governments to manage risks to their physical and cyber environments.

www.ocipep.gc.ca

SAFEGUARD

Safeguard is a national partnership that helps increase the public awareness of emergency preparedness in Canada.

Other topics in this self-help series include:

- B
- F
- P
- P
- P
- S
- S
- W

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