

Stalled But Safe

Winter Travel Survival Supplies

NORTH DAKOTA STATE UNIVERSITY
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STALLED BUT SAFE

Enjoying the four seasons is a privilege we North Dakotans have. During the winter season, severe weather emergencies strike areas of North Dakota every year. The Weather Bureau indicates -35 degree temperatures are not uncommon, but travel isn't restricted during these temperatures.

Traveling without planning and being prepared for these conditions can be hazardous. If car trouble develops or an emergency is encountered, people are not able to survive an extended length of time without being properly dressed and having additional equipment to cope with the emergency.

The wind chill chart indicates an effective temperature of -31 degrees on the exposed flesh at -10 degrees F if the wind is 10 mph.

WIND CHILL FACTOR COMPARISONS

Temperature	Wind Velocity			
	Calm	15 m.p.h.	30 m.p.h.	40 m.p.h.*
30	30	11	-2	-4
20	20	-6	-18	-22
10	10	-18	-33	-36
0	0	-33	-49	-54
-10	-10	-45	-63	-69
-20	-20	-60	-78	-87
-30	-30	-70	-94	-101
-40	-40	-85	-109	-116

*Winds speeds greater than 40 m.p.h. have little additional chilling effect.

BLIZZARD WARNINGS are issued when winds with speeds of at least 35 mph are accompanied by considerable falling or blowing snow and temperatures of 20 degrees F or lower are expected to prevail for an extended period of time.

SEVERE BLIZZARD WARNINGS are issued when blizzards of extreme proportions are expected and

indicate wind with speeds of at least 45 mph plus a great density of falling or blowing snow and a temperature of 10 degrees F or lower.

Prepare For Winter

YOUR AUTOMOBILE CAN BE YOUR BEST FRIEND-OR WORST ENEMY - DURING WINTER STORMS, depending on your preparations. Get your car winterized before the storm season begins. Everything on the checklist shown below should be taken care of before winter storms strike your area.

- | | |
|--|--|
| <input type="checkbox"/> ignition system | <input type="checkbox"/> heater |
| <input type="checkbox"/> battery | <input type="checkbox"/> brakes perfectly adjusted |
| <input type="checkbox"/> lights | <input type="checkbox"/> wiper blades |
| <input type="checkbox"/> tire tread | <input type="checkbox"/> defroster |
| <input type="checkbox"/> cooling system | <input type="checkbox"/> snow tires installed |
| <input type="checkbox"/> fuel system | <input type="checkbox"/> chains |
| <input type="checkbox"/> lubrication | <input type="checkbox"/> antifreeze |
| <input type="checkbox"/> exhaust system | <input type="checkbox"/> winter-grade oil |
| <input type="checkbox"/> tightened | |

Keep water out of your fuel by maintaining a FULL tank of gasoline.

Pre-plan Trip

Obtain weather reports: 10 a.m. - 4 p.m. - 10 p.m. and 4 a.m. from the sheriff's office.

Tell people your plans.

Dress according to the weather conditions.

Fill gas tank and check your car.

Carry this circular in your car's glove compartment.

Take Supplies

Note the illustrations in this bulletin and choose those supplies needed: Car equipment, heater, clothing and bedding, food, medicines, and entertainment.

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CAR EQUIPMENT

EQUIPMENT to be carried in the trunk:

- Good spare tire • Tire chains and tire tools
- Shovel and supply of sand • Tow rope or chain
- Extra can of gas • Booster cables. See figure 1.

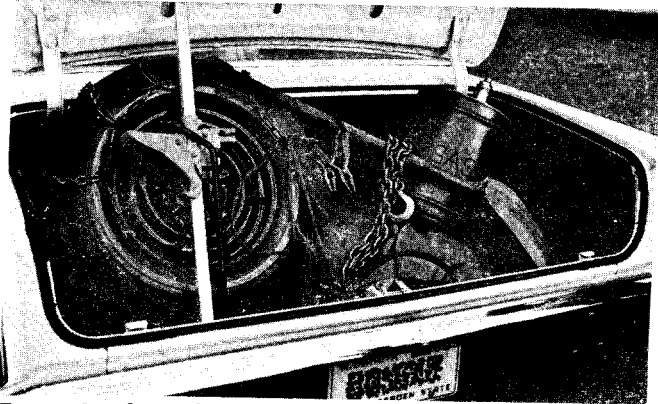


Figure 1. Several pieces of equipment in the trunk are essential for winter driving in North Dakota.

Also needed are: Flares, flashers, flashlight and batteries, deicers for gasoline and windshield, windshield scraper and sunglasses. See figure 2.



Figure 2. Here's a handy assortment of items for safer winter driving.

HEATING

Regardless of the type of heating you have in the car you will need to have the window cracked for ventilation and removal of excess moisture. This is especially true when you are idling the engine. You cannot smell carbon monoxide.

There are a variety of emergency heating devices you may use, from a simple candle to a radiant heater. See figure 3. A lighted candle will add to your comfort inside the car providing you wear sufficient clothing. If you forgot the matches you can light the candle with the cigarette lighter.

An effective North Dakota product is a multiwick candle which is said to keep the car interior comfortable for 24 hours when all of the wicks are lit at the same time. By lighting fewer wicks at once you can

extend survival time considerably. Note illustration for this and the next type of heater.

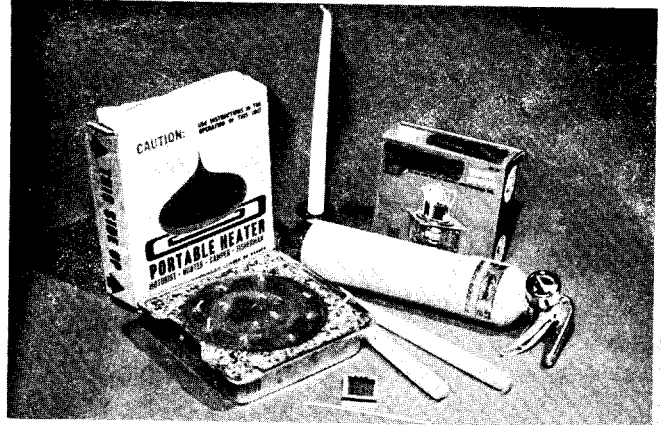


Figure 3. Don't go on the road in the wintertime without a safe, dependable source of heat in case you get stalled.

Small stoves using canned heat may be purchased. Extra cans should be purchased as one lasts one hour with continuous use. By having lid partially covering can, burning time can be extended.

A third heater is a propane gas cylinder heater which is said to provide 1200 btu's of heat per hour for 24 hours with its 2 fuel cylinders. Spare cylinders would be a wise investment.

Check catalogs and stores for other heating suggestions.

Carry along a small fire extinguisher for emergencies.

When Heat Runs Out

Add layers of clothing as needed. Wrap in blanket or sleeping bag.

Assume a rolled up position for short periods rather than be stretched out to conserve heat. If there are two or more persons, huddle together for warmth.

CLOTHING FOR COMFORT

Several layers of thin clothing will keep you warmer than one heavy layer as dead air trapped between the layers and among the fibers acts as excellent insulation. A vapor barrier in the form of a raincoat or other water repellant fabric should be the outer layer of clothing if you are out in the snow or sleet much of the time. Wet clothes are not warm clothes!

Inside the car, don't wear the water repellant layer if it makes you perspire. Or, if necessary, wear the garment and provide for ventilation of moisture from your body by keeping clothing open at the neck.

To keep warmest, cover head, neck, hands and feet as well as the body. The more skin surface is exposed, the faster the heat drains from the body.

Hands and feet often cool the quickest and need special care. Keep hands warm by placing under armpits, between thighs or at waist. Mittens are warmer than gloves. If feet perspire, change socks periodically, if possible, letting the spare pair dry out. This will keep feet warmer.

CLOTHING AND BEDDING

You might consider having a kit for each person in your family to be stored in a closet. Then when others besides the usual driver are to be out in doubtful weather, their kits might be taken along too. Children may have special needs such as diapers in addition to the list below.

Much of the following you will have on hand, so buying the rest very likely won't be out of your reach. Consider: Thermal or knit underwear, wool slacks or sweat pants, sweater or sweat shirt, hunting pants and parka or coverall, hood or cap with earflaps, scarf, mittens, heavy socks and boots, sunglasses and a face mask, blankets and a sleeping bag. See figure 4.



Figure 4. Good insurance to carry in the trunk of your car: Warm winter clothing and sleeping bag.

As long as there is heat in the car you will not need a lot of clothing, but when the gasoline is gone and you receive but a small amount of heat from the other means listed, you will welcome the use of this winter attire. Why have it sitting at home in the drawer when it can be insurance in a suitcase in the trunk of your car?

Many items can be bought at greatly reduced prices at the end of the season. Then you'll be ready when the first severe storm of the next winter season hits unexpectedly.

In selecting the coverall, separates and sleeping bags read labels carefully to see what you are getting. Many items, especially sleeping bags, list minimum temperatures recommended for use.

Fillers for the clothing and the sleeping bags vary greatly. Dacron 88,* a polyester fiberfill, is one of the

popular fillings. The 5 oz. filling is warmer than the 3 oz. The polyester fiber fill is warmer than the mixtures of polyester clippings, nylon and cotton, for instance. The price is often an indication of quality with the heavier polyesters costing more than the light weight polyesters or blends.

Check construction for well-made seams and tightly woven outer fabric. Try on garments and sleeping bags for size. Check for even distribution of filling. Read labels and look for non-allergenic, odorless, water repellance, mat resistance and resilience properties.

Avoid the boy-camper type of sleeping bag which will not protect you from the cold. This type of bag is designed for summer comfort only.

Boots may range from rubber galoshes to the Army Arctic bunny boots which insulate with airspaces surrounding the foot. The warmer you have your feet the better.

Two layer mittens are preferred. Wool lining and an outer layer of leather or water repellent fabric are best. Buckskin chopper mitts with wool liners are an example.

Sources for outdoor clothing are, among others: sports shops, catalog companies, discount stores and Army-Navy surplus stores.

There are some interesting novelty clothing items that would be useful. "Hot Sox" and "Hot Seat" cushions reflect the heat back to the body. Battery sox and mittens are wired for warmth. Snap-on ear muffs fit over ears.

FOOD SUPPLIES

Plan meals according to your food supply. Don't eat all of your food on the first day! Schedule yourself for regular eating times; for instance, 7 a.m., noon, 6 p.m., and an 11 p.m. snack.

Eat energy-producing food to keep warm. See figure 5. Stock up on canned goods that you can eat cold. Select crackers and candy bars. Fill a gallon jug with water. You'll need a can opener, plate, eating utensils and napkins. Take along a vacuum bottle of hot coffee if the weather seems doubtful.

Figure 5. You'll need a supply of food and water in your car in case you get stalled in a blizzard.



Don't consume alcoholic beverages. Besides accelerating body heat loss, alcohol might impair your judgement. Smoking also hastens body heat loss.

MEDICINAL SUPPLIES

Along with your first aid kit take medicines you use, sanitary supplies and a covered bucket for toilet use. See figure 6.

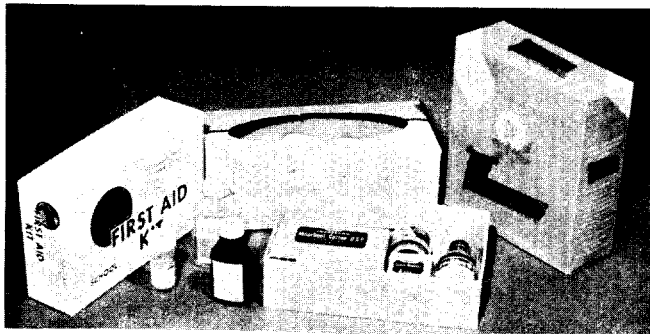


Figure 6. First aid and sanitary supplies belong in your car when you travel in the wintertime.

ENTERTAINMENT SUPPLIES

Carry your favorite type of reading, a deck of cards and a pocket game. Stationery, pens and a transistor radio will help to while away the time. Add a travel clock. See figure 7.



Figure 7. Wait out a blizzard in your car with radio, reading material, stationery games.

WHAT TO DO IF CAUGHT IN A STORM

- Expect to spend three days in the car! Therefore, plan to use your resources up gradually. Be organized in what you do. Take time to consider each step carefully. Don't panic. **STAY WITH THE CAR.** Your chances are much, much better if you do.

- Position the car so it faces into the wind, if possible. The car is designed to be warmest when headed in this direction. Be sure the exhaust is free of snow.

- Remove all of your supplies from the trunk if not already in the car. Put on warm clothing if needed. Loosen tight clothing so you will be more comfortable.

- Check your supplies against the list to see what may be missing or not usable. Arrange supplies in the car interior for easy use.

- Calculate gasoline usage. Idle the car for 15 minutes every half hour for greatest amount of warmth to be obtained from each gallon of gas. Open the downwind window slightly for ventilation.

- Listen to weather reports on the radio. Prepare to send up flares, or flash car lights when reports of planes or road crews are in your vicinity.

- Now relax and read your favorite book. Just think, it's been quite a while since you've had such a leisurely time!

IF A BLIZZARD TRAPS YOU:

AVOID OVEREXERTION AND EXPOSURE. Overexertion from attempting to push your car, shoveling heavy drifts, and performing other difficult chores during the strong winds, blinding snow, and bitter cold of a blizzard may cause a heart attack — even for persons in apparently good physical condition.

STAY IN YOUR VEHICLE. Do not attempt to walk out of a blizzard. Disorientation comes quickly in blowing and drifting snow. Being lost in open country during a blizzard is almost certain death. You are more likely to be found, and you are sheltered, in your car. **DON'T PANIC.**

KEEP FRESH AIR IN YOUR CAR. Freezing wet snow and wind-driven snow can completely seal the passenger compartment, cutting off your supply of oxygen. **BEWARE OF THE GENTLE KILLERS: CARBON MONOXIDE AND OXYGEN STARVATION.**

EXERCISE and relieve tension by clapping hands and moving arms and legs vigorously from time to time. Do not stay in one position for very long.

TURN ON DOME LIGHT AT NIGHT to make the vehicle visible to work crews.

KEEP WATCH. Do not permit all occupants of car to sleep at once.

WINTERIZE the family car before the winter season.

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