

# VEHICLE PREPARATION & CHECK LIST

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The following preparations and checks should be done well in advance of any outing into the SNOW (freezing temperatures), leaving yourself adequate time for you or your mechanic to make any necessary repairs. These checks need to be done to ALL the vehicles participating in the outing (even the "back-up" transportation).

## I. Battery

**A. Battery Connections:** Inspect and verify that the battery connections are:

1. Clean
2. Free of Corrosion
3. Tight

**B. Water Level:** Check/verify that the water (it is really acid) in the battery is up. Distilled water is recommended when adding water to a low battery. The water level in Maintenance Free (sealed) batteries can not be checked.

**C. Power Condition:** Have your mechanic check the power condition of the battery. Winter starting requires more power as the engine is harder to turn over and usually requires more cranking.

## II. Brakes

**A. Fluid Level:** Check for full.

**B. Shoe/Pad Condition:** Inspect the overall condition of the brake shoes and/or pads.

## III. Hoses

**A. Radiator Hoses:** Inspect the upper and lower radiator hoses visually and by squeezing and tweaking them to check for weak spots and/or cracks.

**B. Heater Hoses:** Inspect the heater and bypass hoses using the same squeeze and tweak technique.

## IV. Radiator

**A. Leaks:** Check for any signs of leaking. Your mechanic has the ability to pressure test the system for leaks.

**B. Anti-Freeze:**

**1. Fluid level:** Check the level of the anti-freeze in the radiator. See your vehicle operator's manual for proper level.

**2. Freeze Protection:** Check the "freeze protection" level of the anti-freeze. It is

recommended that the freeze protection level be maintained at least to 0°F. See your vehicle operator's manual for the recommended frequency of coolant system flush and new anti-freeze. A good time to flush and replace the anti-freeze is at the beginning of the winter season.

## V. Belts

**A. Fan Belts:** Inspect the fan belts visually and by twisting the belt so you can inspect the inside surface for signs of cracking. When belts get very cold, they can disintegrate when you are starting the engine.

## VI. Windshield Wipers

**A. Condition:** Check the condition of the wiper blades.

## VII. Window Washer

**A. Fluid Level:** Check for full.

**B. Prevent Icing:** Add commercially available, alcohol based, solvent to the reservoir to prevent washer fluid icing.

## VIII. Fuel

**A. Full Tank:** Keep your fuel tank full. It may be necessary to change routes or turn back during a bad storm or you may be caught in a traffic delay.

## IX. Engine Oil

**A. Oil Level:** Check for full. Also, inspect for any signs of water or condensation in the oil. The best rule is to change the oil and filter just before going on the trip.

**B. Viscosity:** A multi-viscosity engine oil should be used for vehicles operated in the freezing conditions of the Sierra Nevada Mt. and in the warm Sacramento Valley, i.e., 10W-30 or 10W-40. See your vehicle operator's manual for the recommended viscosity.

## X. Transmission Fluid

**A. Oil Level:** Check for full. If the fluid is low, see your operator's manual for the proper type of fluid to use (there is more than one type of fluid).

Remember: Automatic Transmission fluid should be checked with the engine and transmission at normal operating temperature, the engine running, the transmission in Park, and the vehicle on level ground.

## XI. Power Steering Fluid

**A. Oil Level:** Check for full.

## **XII. Exhaust System**

- A. Condition:** Check the exhaust system to be without any leaks. If you become stopped in traffic in a snow storm, a hole in the exhaust system could allow carbon monoxide to enter the vehicle.

## **XIII. Tires**

- A. Condition:** Inspect the condition of all the tires including the spare.
- 1. Tire Inflation:** Check for proper tire pressure
  - 2. Tread:** If the tread is worn down to the "warning Bars", the tires should be replaced.
  - 3. Sun Cracking:** Tire chains put added strain on tires. Sun cracked or badly worn tires can fail under the added strain of snow chains.

## **XIV. Tire Chains**

### **A. Don't Go Without Them!!!**

### **B. Condition:**

- 1. Rusty?** Rust does not make the chains in-operative, however it does mean that a close inspection is necessary to verify that the chains are in satisfactory condition.
- 2. Worn out?** Inspect the chains for wear, damage, and/or missing links. Repair or replace as necessary.
- 3. Chain tensioners?** Make sure your chains include their tensioning device and that they are in good condition.

### **C. Proper Size Chains:** Make sure the chains are the right size for the tires you plan to use them on.

- 1. Try them:** Have the driver of the vehicle put the chains on at home before you leave.

This checks for proper size and fit, and it will check the driver's ability to install them!

- 2. Borrowed Chains:** Don't borrow chains and assume they will fit.

### **D. Be Prepared To Use The Chains:**

- 1. Tarp:** Take something to kneel on or lay on, i.e., a plastic tarp.
- 2. Gloves:** Take leather work gloves ... if you have to use your chains, the conditions

will be cold and dirty. An old towel is useful too.

**3. Foul Weather Gear:** Take special foul weather gear for installing and removing the chains. Bring a plastic bag to put any wet gear in.

**4. Chain Repair Kit:** It is a good practice to have a "tire chain repair kit":

- a. Extra links
- b. A "chain tool" for installing extra links
- c. An extra chain tensioning device (extra rubber band or extra springs)
- d. Several pieces of #14 electrical copper wire, 12" long. This is good to secure loose chain ends to prevent them from slapping the vehicle fender.
- e.
- f.

**D. Speed Limit:** The speed limit when chains are required is 25 or 30 miles an hour and will be posted along the highway.

## **XV. Emergency Provisions (Included In Each Vehicle)**

**A. Blankets:** Sleeping bags work; make sure that the gear is in the vehicle with the need.

**B. Emergency Water and Food:** At least enough for one to two days for each person. This should be each persons responsibility, but the trek leader or vehicle driver should double check to verify they each have enough.

**C. Backpacking Stove:** To provide warm food and drinks should you become stranded. A must if you will need to convert snow into drinking water.

**D. Road Flares:**

1. Know how to light and use them.
2. Carry a minimum of 6, 20 minute flares.
3. Make sure that the flares from last year are still in good condition.

**E. Flash Light** ... with spare bulb(s) and batteries (of the proper size).

**F. First Aid Kit**

**G. Tool Kit**

**H. Shovel** ... to free your vehicle if it is "snowed in".

**I. Ice scraper** ... to scrape ice off the windshield. Use a plastic credit card when a commercially available scraper is not available.

- J. **Snow Brush** ... to brush small amounts of snow off the windshield and/or vehicle.
  
- K. **Broom** ... to unload your vehicle when there is more than a small amount of snow on it.
  
- L. **Deicer**: Windshield deicers are commercially available.

## **XVI. Special Equipment**

### **A. Equipment Rack, e.g., car top carrier:**

1. Ensure a proper fit on your vehicle.
  
2. Don't overload.
  
3. If installing a permanent type rack on the roof of a pickup camper shell, check with the manufacture. Some shells are not designed to support a load.