

SERVICING YOUR VEHICLE SAFELY

Introduction

It is virtually impossible to anticipate all of the hazards involved with automotive maintenance and service but care and common sense will prevent most accidents.

The rules of safety for mechanics range from "don't smoke around gasoline," to "use the proper tool for the job." The trick to avoiding injuries is to develop safe work habits and take every possible precaution.

Do's

- **Do keep a fire extinguisher and first aid kit within easy reach.**
- **Do wear safety glasses or goggles when cutting, drilling, grinding or prying. If you wear glasses for the sake of vision, wear safety goggles over your regular glasses.**
- **Do shield your eyes whenever you work around the battery. Batteries contain sulfuric acid. In case of contact with the eyes or skin, flush the area with water or a mixture of water and baking soda, and get medical attention immediately.**
- **Do use safety stands for any under car service. Jacks are for raising vehicles; safety stands are for making sure the vehicle stays raised until you want it to come down. Whenever the vehicle is raised, block the wheels remaining on the ground and set the parking brake.**
- **Do use adequate ventilation when working with any chemicals or hazardous materials. Like carbon monoxide, the asbestos dust resulting from brake lining wear can be poisonous in sufficient quantities.**
- **Do disconnect the negative battery cable when working on the electrical system. The secondary ignition system can contain up to 40,000 volts.**
- **Do follow manufacturer's directions whenever working with potentially hazardous materials. Both brake fluid and antifreeze are poisonous if taken internally.**
- **Do properly maintain your tools. Loose hammerheads, mushroomed punches and chisels, frayed or poorly grounded electrical cords, excessively worn screwdrivers, spread wrenches (open end), and cracked sockets can cause accidents.**
- **Do use the proper size and type of tool for the job being done.**
- **Do, when possible, pull on a wrench handle rather than push on it, and adjust your stance to prevent a fall.**
- **Do be sure that adjustable wrenches are tightly adjusted on the nut or bolt and pulled so that the fastener's face is on the side of the fixed jaw.**
- **Do select a wrench or socket that fits the nut or bolt. The wrench or socket should sit straight, not cocked.**
- **Do strike squarely with a hammer to avoid glancing blows.**
- **Do set the parking brake and block the drive wheels if the work requires that the engine is running.**

Don'ts

- **Don't run an engine in a garage or anywhere else without proper ventilation-EVER!** Carbon monoxide is poisonous. It is absorbed by the body 400 times faster than oxygen. It takes a long time to leave the human body and you can build up a deadly supply of it in your system by simply breathing in a little every day. You may not realize you are slowly poisoning yourself. Always use power vents, windows, fans or open the garage doors.
- **Don't work around moving parts while wearing a necktie or other loose clothing.** Short sleeves are much safer than long, loose sleeves. Hard-toed shoes with neoprene soles protect your toes and give a better grip on slippery surfaces. Jewelry such as watches, fancy belt buckles, beads or body adornment of any kind is not safe working around a car. Long hair should be hidden under a hat or cap.
- **Don't use pockets for tool boxes.** A fall or bump can drive a screwdriver deep into your body. Even a wiping cloth hanging from your back pocket can wrap around a spinning shaft or fan.
- **Don't smoke when working around gasoline, cleaning solvent or other flammable material.**
- **Don't smoke when working around the battery.** When the battery is being charged, it gives off explosive hydrogen gas.
- **Don't use gasoline to wash your hands.** There are excellent soaps available. Gasoline removes all the natural oils from the skin so that bone dry hands will suck up oil and grease.
- **Don't service the air conditioning system unless you are equipped with the necessary tools and training.** The refrigerant, R-12 or 134a, extremely cold when compressed, and when released into the air will instantly freeze any surface it contacts, including your eyes. Although the refrigerant is normally nontoxic, R-12 becomes a deadly poisonous gas in the presence of an open flame. One good whiff of the vapors from burning refrigerant can be fatal.
- **Don't release refrigerant into the atmosphere.** In most states it is now illegal to discharge refrigerant into the atmosphere due to harmful effects Freon® (R-12) has on the ozone layer. Check with local authorities about the laws in your state.
- **Don't use screwdrivers for anything other than driving screws!** A screwdriver used as a prying tool can snap when you least expect it, causing injuries. At the very least, you'll ruin a good screwdriver.
- **Don't use a bumper jack (that little ratchet, scissors, or pantograph jack supplied with the car) for anything other than changing a flat!** These jacks are only intended for emergency use out on the road; they are NOT designed as a maintenance tool. If you are serious about maintaining your car yourself, invest in a hydraulic floor jack of at least 1½ ton capacity, and at least two sturdy jackstands.