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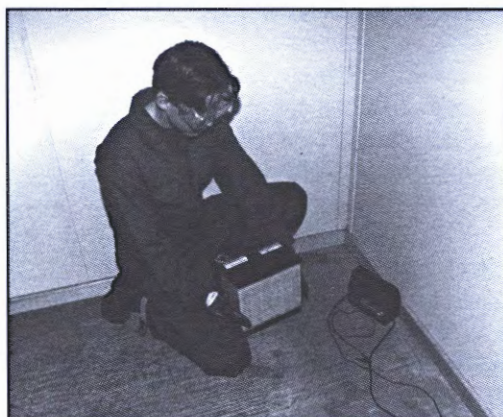


FACT FILE: 'LEFT AND 'RIGHT' SIDES OF THE CAR

- Throughout this manual, we refer to the 'left' and 'right' sides of the car. They refer to the sides of the car that you would see if you were sitting in the driver's seat, looking forwards.

CHAPTER 1 SAFETY FIRST!

You must always ensure that safety is the first consideration in any job you carry out. A slight lack of concentration, or a rush to finish the job quickly can easily result in an accident, as can failure to follow the precautions outlined in this manual.



Be sure to consult the suppliers of any materials and equipment you may use, and to obtain and read carefully any operating and health and safety instructions that may be available on packaging or from manufacturers and suppliers.

GENERAL

Raising the Car Safely

ALWAYS ensure that the vehicle is properly supported when raised off the ground. Don't work on, around, or underneath a raised vehicle unless axle stands are positioned under secure, load bearing underbody areas, or the vehicle is driven onto ramps, with the wheels remaining on the ground securely chocked to prevent movement.

NEVER work on a vehicle supported on a jack. Jacks are made for lifting the vehicle only, not for holding it off the ground while it is being worked on.

ALWAYS ensure that the safe working load rating of any jacks, hoists or lifting gear used is sufficient for the job, and that lifting gear is used only as recommended by the manufacturer.

NEVER attempt to loosen or tighten nuts that require a lot of force to turn (e.g. a tight oil drain plug) with the vehicle raised, unless it is safely supported. Take care not to pull the vehicle off its supports when applying force to a spanner. Wherever possible, initially slacken tight fastenings before raising the car off the ground.

ALWAYS wear eye protection when working under the vehicle and when using power tools.

Working On The Vehicle

ALWAYS seek specialist advice unless you are justifiably confident about carrying out each job. The safety of your vehicle affects you, your passengers and other road users.

DON'T lean over, or work on, a running engine unless it is strictly necessary, and keep long hair and loose clothing well out of the way of moving mechanical parts. Note that it is theoretically possible for fluorescent striplighting to make an engine fan appear to be stationary - double check whether it is spinning or not! This is the sort of error that happens when you're really tired and not thinking straight. So...

...DON'T work on your car when you're over tired.

ALWAYS work in a well ventilated area and don't inhale dust - it may contain asbestos or other harmful substances.

NEVER run the engine indoors, in a confined space or over a pit.

REMOVE your wrist watch, rings and all other jewellery before doing any work on the vehicle - and especially when working on the electrical system.

DON'T remove the radiator or expansion tank filler cap when the cooling system is hot, or you may get scalded by escaping coolant or steam. Let the system cool down first and even then, if the engine is not completely cold, cover the cap with a cloth and gradually release the pressure.

NEVER drain oil, coolant or automatic transmission fluid when the engine is hot. Allow time for it to cool sufficiently to avoid scalding you.

ALWAYS keep antifreeze, brake and clutch fluid away from vehicle paintwork. Wash off any spills immediately.

TAKE CARE to avoid touching any engine or exhaust system component unless it is cool enough not to burn you.

Running The Vehicle

NEVER start the engine unless the gearbox is in neutral (or 'Park' in the case of automatic transmission) and the hand brake is fully applied.

NEVER run catalytic converter equipped vehicles without the exhaust system heat shields in place.

TAKE CARE when parking vehicles fitted with catalytic converters. The 'cat' reaches extremely high temperatures and any combustible materials under the car, such as long dry grass, could be ignited.

Personal Safety

NEVER siphon fuel, antifreeze, brake fluid or other such toxic liquids by mouth, or allow contact with your skin. Use a suitable hand pump and wear gloves.

BEFORE undertaking dirty jobs, use a barrier cream on your hands as a protection against infection. Preferably, wear suitable gloves, available from DIY outlets.

WEAR IMPERVIOUS GLOVES for sure when there is a risk of used engine oil coming into contact with your skin. It can cause cancer.

WIPE UP any spilt oil, grease or water off the floor immediately.

MAKE SURE that spanners and all other tools are the right size for the job and are not likely to slip. Never try to 'double-up' spanners to gain more leverage.

SEEK HELP if you need to lift something heavy which may be beyond your capability. Don't forget that when lifting a heavy weight, you should keep your back straight and bend your knees to avoid injuring your back.

NEVER take risky short-cuts or rush to finish a job. Plan ahead and allow plenty of time.

BE METICULOUS and keep the work area tidy - you'll avoid frustration, work better and lose less.

KEEP children and animals right-away from the work area and from unattended vehicles.

ALWAYS tell someone what you're doing and have them regularly check that all is well, especially when working alone on, or under, the vehicle.

HAZARDS

Fire!

Petrol (gasoline) is a dangerous and highly flammable liquid requiring special precautions. When working on the fuel system, disconnect the vehicle battery earth (ground) terminal whenever possible and always work outside, or in a very well ventilated area. Any form of spark, such as that caused by an electrical fault, by two metal surfaces striking against each other, by a central heating boiler in the garage 'firing up', or

even by static electricity built up in your clothing can, in a confined space, ignite petrol vapour causing an explosion. Take great care not to spill petrol on to the engine or exhaust system, never allow any naked flame anywhere near the work area and, above all, don't smoke.



Invest in a workshop-sized fire extinguisher. Choose the carbon dioxide type or preferably, dry powder but NEVER a water type extinguisher for workshop use.

DON'T disconnect any fuel pipes on a fuel injected engine without following the advice in this manual. The fuel in the line is under very high pressure - sufficient to cause serious injury. Remember that many injection systems have residual pressure in the pipes for days after switching off. If necessary seek specialist advice.

Fumes

Petrol (gasoline) vapour and that given off by many solvents, thinners, and adhesives are highly toxic and under certain conditions can lead to unconsciousness or even death, if inhaled. The risks are increased if such fluids are used in a confined space so always ensure adequate ventilation. Always read the maker's instructions and follow them with care.

Never drain petrol (gasoline) or use solvents, thinners adhesives or other toxic substances in an inspection pit. It is also dangerous to park a vehicle for any length of time over an inspection pit. The fumes from even a slight fuel leak can cause an explosion when the engine is started.