

SAFETY PRECAUTIONS - ELECTRICAL

- 1 **Please note: Most modern ignition systems operate at a very high voltage and these can damage transistorized components such as wristwatches if electrical contact is made. People who wear heart pacemakers should not at any time carry out work involving these systems.**
- 2 Before starting any electrical repairs always disconnect the negative battery cable.
- 3 Always ensure the battery is properly connected and terminals are clean before starting the engine.
- 4 Ensure the positive terminal cover is in place.
- 5 Ensure that when fuses are replaced that they are replaced with the correct amperage fuses.
- 6 Do not exceed or use a lower amperage fuse at any time.
- 7 Do not try to start engine using any source of 12 Volts, such as a fast charger (16 Volts) or by connecting 2 batteries (24 Volts).
- 8 Always disconnect the battery before charging.
- 9 Do not connect battery while the engine is running.
- 10 Do not connect or disconnect the 'ECU' or any other fuel injection or ignition system while ignition is switched 'ON'.
- 11 Do not allow the temperature of the car or surrounding area to exceed 80 degrees 'C' for example in a spray printing oven, without removing 'ECU'.
- 12 Do not reverse polarity of fuel pump.
- 13 Always make sure that all electrical connections are in good condition, and all making good contact especially the 'ECU'.
- 14 When carrying out compression test always disconnect ignition coil, 'ECU', fuel pump relay/fuse before starting test.
- 15 Do not run an aerial lead or any electrical harness alongside or close to the 'ECU' as this could bring interference to the 'ECU' or the receiver.
- 16 Do not flash any wire or circuit to earth to check if continuity exists.
- 17 Ensure careful handling of any electrical components, if they are dropped on a hard floor examine carefully and replace if required.
- 18 When pulling apart electrical connectors pull on the connector and not on the wire itself.
- 19 Under no circumstances use an impact wrench to remove or reinstall temp switches or sensors.

SAFETY PRECAUTIONS MECHANICAL

- 1 Always disconnect the distributor before carrying out a fuel pump pressure or delivery check.
- 2 Avoid risk of fire: Always disconnect coil supply and earth out the coil HT lead so that no HT spark can be emitted, before checking the fuel injectors, or any other component of the fuel injection system likely to cause fuel to leak into the engine bay.
- 3 Always release fuel pressure before disconnecting any of the fuel pipes.
- 4 Never smoke or allow naked flame to be exposed anywhere around the fuel system.
- 5 Always have a fire extinguisher at hand when carrying out any work on the fuel system.
- 6 Always ensure that you replace cotter pins, gaskets, oils seals, and o rings with new ones when they are removed.
- 7 Always ensure bolts and nuts are tightened to the correct factory torque settings, also if required that they are coated with factory sealant as done from the franchise factory.
- 8 When jacking up or towing vehicles always refer to owners handbook for correct towing or jacking points to use.
- 9 When jacking up vehicle on before undertaking repair, also block wheels at the opposite end to help with safety factors.
- 10 When dismantling vacuum hose system, tag hoses so that they can be replaced in the correct position.
- 11 Refer to vacuum hose diagram and system diagram for the correct fitment position of these hoses.

SAFETY PRECAUTIONS CONCERNING AIR BAGS

- 1 Dismantling or reassembling the components of the air bag system can render inoperative, which could result in serious injury or death in the event of an accident happening.
- 2 Do not dismantle any air bag system components reusing an air bag system that has no damage or deformation to the outer components without further examination for any other damage to the inner components could be very dangerous. The system may be rendered inoperative which may result in serious injury or death in event of an accident.
- 3 Ensure that the entire system is thoroughly before making a decision as to whether it can be reused.
- 4 The air bag system may be rendered inoperative if oil, grease, water or any other fluids leak into the system, which may result in serious injury or death in the event of an accident happening. Do not allow any fluids leak into the system.

AIR BAG MOULE INSPECTION

- 1 Inspecting the air bag module with an ohmmeter can deploy the air bag, which can cause serious injury. Do not use an ohmmeter to inspect the air bag module.

AIR BAG MODULE HANDLING

- 2 A live (Not deployed) air bag may accidentally deploy when it is handled and cause serious injury. When carrying a live air bag module, point the trim cover away from your body to cut down the chance of injury if the bag is deployed.
- 3 A live air bag placed face down on a surface is dangerous. If the bag deploys, the motion of the module can cause serious injury. Always face the trim cover up to reduce the motion of the module in case of accidental deployment.
- 4 **Please note: It is utmost importance to take note of all precautions when you are servicing or repairing a vehicle with an SRS system so that you will be better prepared to handle the system in the correct manner. SRS systems will vary from vehicle to vehicle so please ensure that you have all the correct information and specifications to carry out repairs on that specific vehicle. If there are any doubts it is important to contact the franchise concerned to confirm that the information and specifications that you have available are correct.**

VEHICLE EQUIPED WITH A CATALYTIC CONVERTER

Please note: If large amounts of unburned fuel flows into converter, it might overheat and create a fire hazard. The following precautions stop this from happening. Explain these precautions to your customers.

- 1 Ensure to use only unleaded petrol.
- 2 Avoid prolonged idling (Avoid running the engine at idle for more than 30 seconds).
- 3 Avoid spark jump test (Only perform this test when absolutely needed and carry out this test as quickly as possible).
- 4 Do not run engine on a near empty tank (This can cause the engine to misfire and create extra load on the catalytic converter).
- 5 Avoid coasting with the ignition 'OFF' and prolonged braking.
- 6 Do not dispose of used converter along with other parts containing petrol or oil.

FOR VEHICLE FITTED WITH MOBILE COMMUNICATION SYSTEM

- 1 Install the antenna as far away as possible from resistors and 'ECU'.
- 2 Do not wrap the antenna feeder around any other wiring. As much as possible avoid running antenna feeder parallel to any other harnesses.
- 3 Ensure antenna and feeder are correctly adjusted.
- 4 Try to avoid installing a very powerful mobile communications system.

PREPARATION CONDITIONS

1. Ensure that the engine, air cleaner and the ignition system are in good operating condition, before attempting any checks on fuel injection system.
2. Always make sure that the filter is in good condition before checking the fuel pump output, pressure or delivery.
3. Allow the engine to reach correct operating temperature before checking C/O levels or engine idle speed.
4. Always momentarily increase engine speed then allow it to stabilize before measuring idle speed or C/O levels.
5. Always ensure that the battery voltage is 11.5 - 13.5 Volts before starting tests.
6. Always ensure that the multi plug connectors are clean and secure.