FOUNDATIONAL BASE (ALL LEVELS) TASKS

Each of these tasks are required to be included at all levels of accreditation.

Shop and Personal Safety

1. Identify general lab/shop safety rules and procedures.

2. Utilize safe procedures for handling of tools and equipment.

3. Identify and use proper placement of floor jacks and jack stands.

4. Identify and use proper procedures for safe lift operation, ensuring the configuration and weight rating of the lift is appropriate for the vehicle being lifted, including xEVs.

5. Utilize proper ventilation procedures for working within the lab/shop area.

6. Identify marked safety areas.

7. Identify the location and the types of fire extinguishers and other fire safety equipment; demonstrate knowledge of the procedures for using fire extinguishers and other fire safety equipment.

8. Identify the location and use of eye wash stations.

9. Identify the location of the posted evacuation routes.

10. Comply with the required use of safety glasses, ear protection, gloves, and shoes during lab/shop activities.

11. Identify and wear appropriate clothing for lab/shop activities.

12. Secure hair and jewelry for lab/shop activities.

13. Identify vehicle systems which pose a safety hazard during service such as: supplemental restraint systems (SRS), electronic brake control systems, stop/start systems, and remote start systems.

14. Identify vehicle systems which pose a safety hazard during service due to high voltage such as: xEV drivetrains, lighting systems, ignition systems, A/C systems, injection systems, etc.

15. Locate and demonstrate knowledge of safety data sheets (SDS).

16. Demonstrate knowledge of personal protective equipment (PPE) required for use in high voltage/electric vehicle circuits.

Tools and Equipment

1. Identify tools and their usage in automotive applications.

2. Identify standard and metric designation.

3. Demonstrate safe handling and use of appropriate tools.

4. Demonstrate proper cleaning, storage, and maintenance of tools and equipment.

5. Demonstrate proper use of precision measuring tools (e.g., micrometer, dial-indicator, dial-caliper).

6. Perform common fastener and thread repair, including removing broken bolts, restoring internal and external threads, and repairing internal threads with a thread insert

Preparing for Vehicle Service

1. Identify information needed and the service requested on a repair order.

2. Identify purpose and demonstrate proper use of vehicle protection such as: fender covers, mats, seat, and steering wheel covers.

3. Perform a vehicle walk-around inspection; identify and document existing vehicle conditions such as body damage, paint damage, windshield damage, etc.

4. Perform a vehicle multi-point inspection and complete a vehicle inspection report (written and/or electronic).

5. Demonstrate use of the three C’s (concern, cause, and correction).

6. Create a plan of action for each specific service or diagnostic situation, including placing vehicle in service mode as required.

7. Complete work order to include customer information, vehicle identifying information, customer concern, related service history, cause, and correction.

Preparing Vehicle for Customer

1. Ensure vehicle is prepared to return to customer per school/company policy (floor mats, steering wheel cover, etc.).

xEV Vehicle Safety

1. Demonstrate knowledge of hazards related to high voltage systems/electric vehicles, including electrocution, fire, explosion, arc flash, gases and fumes, hazardous chemicals, and EMF, and how to properly respond to emergency situations.

2. Demonstrate knowledge of high voltage system and component coloring, warning labels, lights, signage, and lock-out/tag-out procedures.

3. Demonstrate ability to identify which components and circuits contain high voltage.

4. Demonstrate knowledge of steps needed to assess possible hazards prior to servicing a high voltage/electric vehicle, including awareness of automatic systems that may operate while the key switch/ignition is off.

5. Understand limitations on which systems, components, and circuits of a high voltage/electric vehicle a technician is capable of safely servicing based on their level of training and qualification.

6. Demonstrate knowledge of high voltage/electric vehicle intake process, inspection, handling, and in-process monitoring for all vehicles including damaged/compromised vehicles