

Course Description

AER0606 | Tesla Maintenance Technician | 13.25 Credits

This course prepares the student to apply technical knowledge and skills to repair, service, and maintain Tesla vehicles. The student will learn about Tesla's products and diagnostic tools, as well as safety equipment and procedures. At the end of the course, the student will be able to diagnose malfunctions in and repair HVAC, brake, and chassis systems and components. Co-Req: AER 0605.

Course Competencies:

Competency 1: The student will explain and apply required shop and personal safety tasks relating to Tesla by:

1. Identifying tesla safety rules and procedures
2. Utilizing safe procedures for handling tools and equipment
3. Identifying and using proper procedures for safe lift operation
4. Identifying marked safety areas
5. Naming hazardous materials found in the typical automotive workplace
6. Discussing methods of safeguarding the individual's health by using protective measures
7. Identifying and complying with high voltage safety
8. Demonstrating the safe and correct procedure to isolate tesla vehicles

Competency 2: The student will demonstrate proficiency in preparing vehicle for routine pre/post maintenance and customer services by:

1. Identifying tesla models S, X and 3
2. Conducting an appropriate pre-service evaluation and report or note any concerns not already on the repair order
3. Identifying and using computer-based tools and applications, including diagnostic tools, wiring diagrams, service manuals, repair order documentation, and parts catalogs
4. Identifying and practicing the concept of service motion; including roles and responsibilities
5. Applying front-of-house soft skills
6. Demonstrating ability to use a "logic tree" and flow chart type diagnostic guide

Competency 3: The student will explain and apply proficiently the diagnosis, service and repair of HVAC, brake, and chassis systems and components by:

1. Identifying and maintaining product specific heating, ventilation and A/C systems and components
2. Recovering and recharging the air conditioning system, in accordance with appropriate regulations
3. Diagnosing HVAC faults using toolbox, log data and live signals
4. Examining and servicing the vehicles thermal systems and thermal components
5. Performing the coolant drain and fill procedure on all vehicle models and systems
6. Diagnosing and analyzing thermal management system faults using diagnostic resources
7. Identifying and classifying the chassis components and chassis systems
8. Interpreting and analyzing the air ride suspension, TPMS, EPB, EPAS, ABS and brake system components
9. Performing service procedures related to all the chassis' systems; including brakes, steering alignments, and suspension
10. Diagnosing and examining chassis related electrical faults
11. Diagnosing and servicing the panoramic roof system; including operation, fault testing, wind noise and water leak analysis and electrical diagnosis
12. Practicing removal and installation of multiple glass and cosmetic panels; including windshields

Learning Outcomes:

- Communicate effectively using listening, speaking, reading, and writing skills
- Solve problems using critical and creative thinking and scientific reasoning
- Use computer and emerging technologies effectively