TESLA

Independent Repair Program



CURRICULUM OVERVIEW

FOUNDATION

- Tesla Basic Repairs and Maintenance

INTERMEDIATE

- Tesla High Voltage and Electrical Systems
- Tesla Infotainment and Driver Assist Systems
- Tesla Body Controls, Thermal and Chassis systems
- Tesla Closures and Glazing

ADVANCED

- Tesla High Voltage, Electrical Systems and NVH Diagnosis
- Tesla Infotainment and Driver Assist Systems Diagnosis
- Tesla Body Controls, Thermal and Chassis Systems Diagnosis
- Tesla Model 3 Battery Repairs

Prior online training required

ONLINE TRAINING REQUIRED

Required online training before joining on-site Foundation, Intermediate or Advanced training.

FOUNDATION

Tesla Basic Repairs and Maintenance

- IR_HV Isolation Procedure Model 3
- IR_HV Isolation Procedure Model S
- IR_HV Isolation Procedure Model X
- IR_Mechanical Electrical Trim Model 3

INTERMEDIATE

Tesla High Voltage and Electrical Systems

- IR_Electrical Fundamentals

Tesla Infotainment and Driver Assist Systems

- IR_Driver Assist System Toolbox 2
- IR_Driver Assist System Toolbox 3

Tesla Body Controls, Thermal and Chassis Systems

- IR_Chassis - Four wheel alignment
- IR_Safety Restraint System Toolbox 2
- IR_Safety Restraint System Toolbox 3
- IR_Thermal Toolbox 2
- IR_Thermal Toolbox 3

Tesla Closures and Glazing

- Instructed person on E-Vehicle

ADVANCED

Tesla High Voltage, Electrical Systems and NVH diagnosis

Tesla Infotainment and Driver Assist System Diagnosis

Tesla Body Controls, Thermal and Chassis Systems Diagnosis

Tesla Model 3 Battery Repairs

- IR_Pyrotechnic Battery Disconnect Model 3

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ON-SITE TRAINING INFORMATION

Please note the following information before joining Independent Repair Program on-site training:



SAFETY SHOES

LUNCH IS INCLUDED

PARKING AVAILABLE AT THE GATE

Bring safety shoes type S1P or S3 following these norms:

- EN-ISO 20345
- EN 13287: SRC
- S1P or S3
- ESD
- Anti-static
- Metal Free

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Tesla Basic Repairs and Maintenance | 5 DAYS

PREREQUISITES

- F-gas certification.

LEARNING OBJECTIVES

- Understand how to manage the risks of electricity and the High Voltage system.
- Safely perform the Vehicle Electrical Isolation Procedure according to Tesla standards.
- Learn the basics of Toolbox, Tesla's diagnostic software.
- Learn how to access and utilize Tesla's key systems and resources, such as the Service Manual, Parts Catalog, wiring diagrams, and more.
- Learn how to perform basic service procedures on the High Voltage system.
- Understand the fundamentals of the Tesla chassis system, including brakes, steering, tire pressure monitoring, air suspension components, and operation.
- Be able to perform various calibration and learning routines.
- Understand the fundamentals of the Tesla thermal system, including components, operation, and how to perform the drain & refill procedure.
- Understand the fundamentals of the Tesla body controls components and operation.
- Learn how to perform basic service procedures on body controls, such as pairing a new key.
- Understand the Tesla service and maintenance intervals and which repairs are required at each interval.
- Learn how to do a firmware update and a firmware redeploy.

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Tesla High Voltage and Electrical Systems | 3 DAYS

PREREQUISITES

- Tesla Basic Repairs and Maintenance.

LEARNING OBJECTIVES

- Understand the function and operation of the different high voltage architectures and high voltage battery types and configurations.
- Understand the function and operation of Tesla's charging equipment and configurations.
- Learn how to interpret battery vitals and recognize a compromised battery.
- Learn how to interpret most common battery alerts and perform basic diagnosis.
- Understand the purpose, operation, and diagnosis of High Voltage Interlock Loop systems.
- Understand the purpose and operation of the pilot and proximity circuits.
- Interpret Universal Mobile Charger blink codes and diagnose common charging issues.
- Be able to confirm isolation from a vehicle vitals and isolation measurements.
- Understand the procedure of removing and reinstalling a battery.
- Understand the procedure of performing a drive unit replacement.
- Learn to correctly select and read the circuit diagram for a vehicle.
- Understand E-Fuse function and operation.
- Learn how to complete a double splice repair according to Tesla standards.
- Understand the electrical network in a Tesla and its basic operation.

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Tesla Infotainment and Driver Assist Systems | 2 DAYS

PREREQUISITES

- Tesla Basic Repairs and Maintenance.

LEARNING OBJECTIVES

- Understand Tesla's Infotainment system and components, such as USB, connectivity, Bluetooth, Wi-Fi, maps, and navigation.
- Understand how to diagnose issues related to common infotainment concerns.
- Be able to perform system resets and maps updates via USB or Toolbox.
- Understand how to set up a USB for Sentry Mode and Dashcam.
- Understand the basic function and operation of the Driver Assist System (safety and convenience features).
- Understand how to identify Autopilot features available on a vehicle and the difference between Driver Assist System "behavioral" and "feature" customer concerns.
- Learn how to perform an inspection to identify the component locations and Driver Assist System hardware versions HW1 to HW 3.
- Understand how to perform the most common Driver Assist System hardware repairs.
- Understand how to perform camera checks and calibrations.

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Tesla Body Controls, Thermal and Chassis Systems | 3 DAYS

PREREQUISITES

- Tesla Basic Repairs and Maintenance.

LEARNING OBJECTIVES

- Understand Tesla's body controls system components and operation, such as body controllers, keys, doors, liftgate, burglary alarm, and the safety restraint system.
- Understand the basics of component replacement processes.
- Understand the procedure to replace body control units.
- Understand how to perform basic diagnostics on common body controls issues.
- Be able to perform calibration after component replacement.
- Be able to perform falcon door calibration on Model X.
- Understand basic operation of the cabin heating & cooling and thermal system components.
- Be able to perform thermal testing and service procedures.
- Be able to perform a cooling system flow test.
- Understand general brake system inspection techniques and required tooling.
- Understand how to perform basic diagnostics on brakes, steering, suspension, Tire Pressure Monitoring System, and wheels & tires.
- Be able to perform a four wheel alignment to Tesla's standards.
- Understand Toolbox panels and actions for servicing body controls, thermal, and chassis systems.

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Tesla Closures and Glazing | 2 DAYS

PREREQUISITES

- Tesla Instructed person on E-Vehicle.

LEARNING OBJECTIVES

- Understand components, function, and operation of the panoroof.
- Be able to perform common repairs and calibrations of the panoroof.
- Understand best practices regarding seals and door glass adjustments and replacement.
- Understand how to perform complete leakage or wind noise diagnostics, gap-flush measurements, and glass replacement.

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Tesla High Voltage, Electrical system and NVH (Noise Vibration and Harness) Diagnosis | 3 DAYS

PREREQUISITES

- Tesla Intermediate High Voltage and Electrical Systems.

LEARNING OBJECTIVES

- Understand how to perform advanced diagnosis of Tesla's High Voltage and charging systems.
- Understand how to diagnose general Low Voltage system issues.
- Be able to perform CAN (Controller Area Network) / LIN (Local Interconnect Network) system diagnosis using wiring diagrams and picoscope.
- Be able to run Noise Vibration Harshness diagnostics.

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TESLA ADVANCED

Tesla Infotainment and Driver Assist Systems Diagnosis | 3 DAYS

PREREQUISITES

- Tesla Intermediate Infotainment and Driver Assist Systems.

LEARNING OBJECTIVES

- Understand how to interpret Syslogs and perform general diagnostics.
- Understand Linux file structure, the Infotainment security, the Media Control Unit, and the different infotainment versions and processors.
- Understand how to review and diagnose failure of firmware, USB, Homelink, connectivity, Bluetooth, Wi-Fi, maps, and navigation issues.
- Be able to analyze customer concerns related to Driver Assist System behaviors.
- Understand how to perform camera, radar, and Electronic Control Unit diagnosis.

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TESLA ADVANCED

Tesla Body Controls, Thermal and Chassis Systems Diagnosis | 2 DAYS

PREREQUISITES

- Tesla Intermediate Body Controls, Thermal and Chassis Systems.

LEARNING OBJECTIVES

- Understand how to perform Model S, Model X, and Model 3 front and falcon door diagnostics.
- Understand how to perform advanced diagnostics on body controls, such as seats, steering, lifgate, wipers Safety Restraint System, and keys.
- Understand how to perform diagnosis of battery or powertrain heating & cooling and cabin heating & cooling systems.
- Understand driving modes, torque management, and regenerative braking.
- Understand how to perform acceleration / deceleration diagnosis.

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TESLA ADVANCED

Tesla Model 3 Battery Repairs | 2 DAYS

PREREQUISITES

- Tesla Advanced High Voltage and Electrical Systems.

LEARNING OBJECTIVES

- Be able to safely remove the Penthouse.
- Be able to perform replacement of the Power Conversion System, Pyrofuse, and High Voltage Controller.
- Be able to perform a coolant drain and fill procedure.

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