

PROGRAM COMPETENCIES

Safety

- OSHA Training
- Basic shop safety and maintenance
- Proper usage of hand and power tools
- Writing repair orders

Basic Electrical

- Fundamentals of electrical circuits
- Basic circuit testing
- Proper application and usage of test lights and Digital Multi-Meters
- Testing batteries, starters, and charging systems using electronic test equipment
- Testing and repairing basic electrical problems: (lights, wire repairs, components, relays and fuses etc.).

Engine Mechanical

- Fundamentals of internal combustion engines
- Diagnosis of engine mechanical problems (vacuum testing, compression testing, and identifying unusual engine noises)
- Engine disassemble, inspection, gauging, and identifying worn components
- Engine reassembling, sealing, and adjusting

Braking Systems

- Basic principles of friction in relation to automotive braking systems
- Identification of braking system components
- Hydraulic principles including master cylinder, calipers, wheel cylinders, hoses, lines, DOT approved repairs, flaring, line replacement, and bleeding of the system (manual, gravity, and vacuum)
- Front and rear disc brakes, caliper repair and replacement, resurfacing of brake rotors and wheel bearing service
- Rear drum brake service, replacement of brake shoes, repair or replacement of hardware, replacement of wheel cylinders, and resurfacing of brake drums

Anti-Lock Brakes

- Mechanical diagnosis of anti-lock brake problems
- Electrical diagnosis on anti-lock problems using a DMM
- Use of scan tool to retrieve anti-lock codes and read data stream
- Replacement of wheel speed sensors and or hub assemblies

PROGRAM COMPETENCIES

Safety

Review

Basic shop safety and maintenance

Proper usage of hand and power tools

Maintenance of tools and equipment

Writing repair orders

Housekeeping

Advanced Electrical

Circuit diagnosing and repair

Component repair and replacement

Diagnosing and repairing power accessories (windows, power locks, heated glass, wipers, and blower circuits)

Steering and Suspension

Theory and operation of steering and suspension systems

Removal and installation of shocks, strut cartridges, and struts

Removal and replacement of springs

Removal and replacement of suspension components (ball joints, tie rod ends, stabilizer links, steering linkage, and steering racks)

Wheel bearing service and replacement (integral and non-integral)

Power steering service

Tire repair and replacement

Alignment both two and four-wheel

Engine Performance

Identifying and locating engine and emission control devices

Using scan tools to aid in engine and emission-related problems

Servicing vehicles displaying diagnostic trouble codes

Diagnosing hard and no-start conditions

Diagnosing fuel-related problems (electrical and pressure)

Testing input devices (TPS, IAC, EGR, IAT, and ECT etc.)

Diagnosing exhaust efficiency (4 and 5 gas analyzer)

Testing emission components using a digital multi-meter or scope

Replacing emission-related components