

Auto Technology Competency Profile



SUSPENSION AND STEERING

- Diagnosis and repair of steering systems
- Diagnosis and repair of front suspensions
- Diagnosis and repair of rear suspensions
- Remove, inspect, and service or replace front and rear wheel bearings
- Perform wheel alignments
- Diagnosis and repair of wheels and tires
- Troubleshoot and service tire and rim components
- Inspect and service vehicle steering systems
- Inspect and repair vehicle suspension

BRAKES

- Inspect, test, and service anti-lock brake system (ABS) hydraulic, electrical, and mechanical components
- Diagnose anti-lock brake system (ABS) electronic control(s) and components using self-diagnosis and/or recommended test equipment; determine needed repairs
- Bleed the anti-lock brake systems (ABS) front and rear hydraulic circuits following manufacturer's procedures
- Service, test, and adjust anti-lock brake system (ABS) speed sensors following manufacturer's recommended procedures
- Diagnose anti-lock brake system (ABS) braking problems caused by vehicle modifications (tire size, curb height, final drive ratio, etc.)
- Service front brakes
- Service rear brakes
- Inspect and repair hydraulic brakes systems

ELECTRICAL/ELECTRONIC SYSTEMS

- Diagnose general electrical systems
- Diagnose and service batteries
- Service and replace batteries
- Diagnose and repair starting systems
- Diagnose and repair charging systems
- Diagnose and repair lighting systems
- Diagnose incorrect operation of motor-driven accessory circuits; repair as needed
- Diagnose incorrect electric door and hatch/trunk lock operation; repair as needed

- Check electrical circuits
- Troubleshoot and repair electrical wiring

ENGINE PERFORMANCE

- Diagnose general engine mechanical components
- Diagnose and repair computerized engine controls
- Diagnose and repair ignition system
- Diagnose and repair fuel, air induction, and exhaust systems
- Diagnose and repair positive crankcase ventilation in emissions control systems
- Diagnose and repair exhaust gas recirculation in emissions control systems
- Diagnose and repair exhaust gas treatment in emissions control system
- Diagnose and repair intake air temperature controls in emissions control systems
- Diagnose and repair early fuel evaporation (intake manifold temperature) controls in emissions control system
- Perform cooling system pressure tests; check coolant condition; inspect and test radiator, pressure cap, coolant recovery tank, and hoses; service or replace as needed
- Inspect and test mechanical/electrical fans, fan clutch, fan shroud/ducting, air dams, and fan control devices; service or replace as needed
- Service and tune-up a gasoline engine
- Service a gasoline engine
- Service engine cooling system

PREVENTIVE MAINTENANCE

- Review vehicle maintenance schedules
- Perform planned vehicle maintenance
- Inspect vehicle components and systems
- Service and repair drive lines
- Inspecting & adjusting engine drive belts

SHOP PERFORMANCE

- Perform basic mechanical shop skills and tool usage
- Effectively demonstrate and practice shop and tool safety