Automotive Maintenance and Light Repair

Evaluation Form

2025 Curricular Materials Review

# Publisher information

* Publisher Name:
* Title:
* ISBN #:
* Author:
* Copyright:
* Most Recently Published Edition and Website:
* Materials provided for evaluation:
* Intended Teacher Audience(s):
* Intended Student Audience(s):
* Is this curriculum in a digital format, print format, or both?

# Instruction

## Publishing Company

* Complete the curriculum evaluation form below. Please provide written justification as to how the material meets the criterion along with location references. If a justification requires additional space, please submit a response on an additional document.

## Review Team Member:

* Please use information and attachments to complete the curriculum evaluation form.
* Explain any discrepancies between your findings and the provided information.
* Findings, explanations, and comments should directly reflect the rubric.

Scoring for Alignment to Program Standards:

To evaluate each course’s materials for alignment to [**Automotive Maintenance and Light Repair**](https://cte.idaho.gov/wp-content/uploads/automotive-maintenance-and-light-repair-standards-2024-1.pdf), analyze the materials against the relevant criteria in the tables below. Instructional materials must meet most criteria and metrics to align with program standards.

| 0 Points  No Alignment | 1 Point  Partial Alignment | 2 Points  High Alignment | NA  Not Applicable |
| --- | --- | --- | --- |
| Standard for Automotive Maintenance and Light Repair is not evident. | There is some evidence of the Standard for Automotive Maintenance and Light Repair. | Materials explicitly align to and support the Standard for Automotive Maintenance and Light Repair through regular and authentic engagement opportunities for students. |  |

# CONTENT STANDARD CTE AMLR.1.0: Professional Organizations and Leadership

### Performance Standard CTE AMLR.1.1 Student Leadership in Career Technical Student Organizations (CTSO) and Professional Associations

| Student Competencies by Performance Standard | Meets Criteria | Justification: Provide examples from materials as evidence to support each response for this section. Provide descriptions in addition to page numbers. |
| --- | --- | --- |
| 1. CTE AMLR.1.1.1 Explore the role of professional organizations and/or associations in the automotive repair industry. | 0 1 2 N/A |  |
| 1. CTE AMLR.1.1.2 Define the value, role, and opportunities provided through career technical student organizations. | 0 1 2 N/A |  |
| 1. CTE AMLR.1.1.3 Engage in career exploration and leadership development. | 0 1 2 N/A |  |

# CONTENT STANDARD CTE AMLR.2.0: SAFETY PROCEDURES FOR LAB AND TOOLS

### Performance Standard CTE AMLR.2.1 General Lab Safety Rules and Procedures

| Student Competencies by Performance Standard | Meets Criteria | Justification: Provide examples from materials as evidence to support each response for this section. Provide descriptions in addition to page numbers. |
| --- | --- | --- |
| 1. CTE AMLR.2.1.1 Identify and use proper placement of floor jacks and jack stands. | 0 1 2 N/A |  |
| 1. CTE AMLR.2.1.2 Identify and use proper procedures for safe vehicle lift operation. | 0 1 2 N/A |  |
| 1. CTE AMLR.2.1.3 Identify proper ventilation requirements for working within the lab/shop area. | 0 1 2 N/A |  |
| 1. CTE AMLR.2.1.4 Identify marked safety areas. | 0 1 2 N/A |  |
| 1. CTE AMLR.2.1.5 Identify the location and the types of fire extinguishers and other fire safety equipment. | 0 1 2 N/A |  |
| 1. CTE AMLR.2.1.6 Identify the location of eye wash station(s) and the procedure for proper use. | 0 1 2 N/A |  |
| 1. CTE AMLR.2.1.7 Identify the location of the posted evacuation routes. | 0 1 2 N/A |  |
| 1. CTE AMLR.2.1.8 Comply with the required personal protective equipment (PPE) requirements (e.g., safety glasses, ear protection, gloves, shoes). | 0 1 2 N/A |  |
| 1. CTE AMLR.2.1.9 Secure hair and jewelry for lab/shop activities. | 0 1 2 N/A |  |
| 1. CTE AMLR.2.1.10 Identify safety aspects of supplemental restraint systems (SRS), electronic brake control systems, and hybrid vehicle high voltage circuits (e.g., high-intensity discharge (HID) lamps, ignition systems, injection systems). | 0 1 2 N/A |  |
| 1. CTE AMLR.2.1.11 Locate and interpret safety data sheets (SDS). | 0 1 2 N/A |  |
| 1. CTE AMLR.2.1.12 Handle, store, and dispose of hazardous waste and materials (e.g., batteries, oil, diesel, gasoline, antifreeze). | 0 1 2 N/A |  |

### Performance Standard CTE AMLR.2.2 Tool and Equipment Identification and Use

| Student Competencies by Performance Standard | Meets Criteria | Justification or Comments |
| --- | --- | --- |
| 1. CTE AMLR.2.2.1 Identify tools and equipment and their appropriate uses in automotive maintenance and repair. | 0 1 2 N/A |  |
| 1. CTE AMLR.2.2.2 Identify standard and metric fasteners. | 0 1 2 N/A |  |
| 1. CTE AMLR.2.2.3 Describe thread repair; identify the required tools needed to perform the repair. | 0 1 2 N/A |  |
| 1. CTE AMLR.2.2.4 Demonstrate the safe handling and appropriate use of tools and equipment. | 0 1 2 N/A |  |
| 1. CTE AMLR.2.2.5 Describe the use of, read, and interpret precision measuring tools (e.g., micrometer, dial-indicator, digital/dial-caliper). | 0 1 2 N/A |  |
| 1. CTE AMLR.2.2.6 Demonstrate cleaning, storage, and maintenance of tools and equipment. | 0 1 2 N/A |  |

# CONTENT STANDARD CTE AMLR.3.0: BASIC VEHICLE SERVICE

### Performance Standard CTE AMLR.3.1 Vehicle Service Information

| Student Competencies by Performance Standard | Meets Criteria | Justification: Provide examples from materials as evidence to support each response for this section. Provide descriptions in addition to page numbers. |
| --- | --- | --- |
| 1. CTE AMLR.3.1.1 Reference vehicle service information, such as fluid type, vehicle service history when available, service precautions, technical service bulletins, and recalls, including for vehicles equipped with advanced driver assistance systems (ADAS). | 0 1 2 N/A |  |
| 1. CTE AMLR.3.1.2 Retrieve and record diagnostic trouble codes (DTC), onboard diagnostics (OBD) monitor status, freeze frame data, and clear codes and data when directed. | 0 1 2 N/A |  |
| 1. CTE AMLR.3.1.3 Locate the vehicle identification number (VIN) and production data code. | 0 1 2 N/A |  |
| 1. CTE AMLR.3.1.4 Interpret VIN information. | 0 1 2 N/A |  |
| 1. CTE AMLR.3.1.5 Identify additional vehicle information labels (e.g., tires, emissions). | 0 1 2 N/A |  |
| 1. CTE AMLR.3.1.6 Reset maintenance notifications/reminders after services are completed. | 0 1 2 N/A |  |
| 1. CTE AMLR.3.1.7 Verify and interpret vehicle warning indicators (e.g., messages, lights). | 0 1 2 N/A |  |
| 1. CTE AMLR.3.1.8 Identify policy requirements for the return of a vehicle to a customer (e.g., floor mats, steering wheel cover). | 0 1 2 N/A |  |

# CONTENT STANDARD CTE AMLR.4.0: engine repair

### Performance Standard CTE AMLR.4.1 General Engine Service

| Student Competencies by Performance Standard | Meets Criteria | Justification: Provide examples from materials as evidence to support each response for this section. Provide descriptions in addition to page numbers. |
| --- | --- | --- |
| 1. CTE AMLR.4.1.1 Inspect engine assembly for fuel, oil, coolant, and other leaks. | 0 1 2 N/A |  |
| 1. CTE AMLR.4.1.2 Install engine covers, using vehicle-specific gaskets, seals, and sealers as required. | 0 1 2 N/A |  |
| 1. CTE AMLR.4.1.3 Describe the function of the timing belt/chain. | 0 1 2 N/A |  |
| 1. CTE AMLR.4.1.4 Inspect, replace, and adjust drive belts (e.g., alternator, power steering pump, air conditioning, stretch-fit serpentine belts), tensioners, and pulleys, checking pulley and belt alignment. | 0 1 2 N/A |  |
| 1. CTE AMLR.4.1.5 Inspect engine mounts. | 0 1 2 N/A |  |
| 1. CTE AMLR.4.1.6 Identify service precautions related to service of the internal combustion engine of a hybrid vehicle. | 0 1 2 N/A |  |
| 1. CTE AMLR.4.1.7 Identify engine block assembly components and configurations. | 0 1 2 N/A |  |
| 1. CTE AMLR.4.1.8 Identify the cylinder head and valve train components and configurations. | 0 1 2 N/A |  |
| 1. CTE AMLR.4.1.9 Describe the operation of engines equipped with variable valve timing (VVT) systems. | 0 1 2 N/A |  |

### Performance Standard CTE AMLR.4.2 Lubrication and Cooling Systems

| Student Competencies by Performance Standard | Meets Criteria | Justification or Comments |
| --- | --- | --- |
| 1. CTE AMLR.4.2.1 Identify lubrication and cooling system components and configurations. | 0 1 2 N/A |  |
| 1. CTE AMLR.4.2.2 Perform cooling system pressure check (e.g., inspect and test radiator, coolant recovery tank, heater core, and galley plug) to identify leaks. | 0 1 2 N/A |  |
| 1. CTE AMLR.4.2.3 Verify the operation of the cooling system (e.g., leak, fans, heater) after service or repair. | 0 1 2 N/A |  |
| 1. CTE AMLR.4.2.4 Inspect and test the pressure cap. | 0 1 2 N/A |  |
| 1. CTE AMLR.4.2.5 Determine necessary action to remedy issues related to the radiator, pressure cap, coolant recovery tank, heater core, and galley plug. | 0 1 2 N/A |  |
| 1. CTE AMLR.4.2.6 Identify causes of engine overheating. | 0 1 2 N/A |  |
| 1. CTE AMLR.4.2.7 Identify types of water pumps (e.g., gear-driven, belt-driven, chain-driven, electric). | 0 1 2 N/A |  |
| 1. CTE AMLR.4.2.8 Remove, inspect, and replace the thermostat and gasket/seal. | 0 1 2 N/A |  |
| 1. CTE AMLR.4.2.9 Inspect and test coolant. | 0 1 2 N/A |  |
| 1. CTE AMLR.4.2.10 Drain and recover coolant. | 0 1 2 N/A |  |
| 1. CTE AMLR.4.2.11 Describe procedures for flushing and refilling the cooling system with recommended coolant, using a radiator vacuum tool or bleed air, as required. | 0 1 2 N/A |  |
| 1. CTE AMLR.4.2.12 Perform oil and filter changes. | 0 1 2 N/A |  |

# CONTENT STANDARD CTE AMLR.5.0: AUTOMATIC TRANSMISSION/TRANSAXLE

### Performance Standard CTE AMLR.5.1 General Transmission/Transaxle

| Student Competencies by Performance Standard | Meets Criteria | Justification: Provide examples from materials as evidence to support each response for this section. Provide descriptions in addition to page numbers. |
| --- | --- | --- |
| 1. CTE AMLR.5.1.1 Identify drive train and axle components and configurations. | 0 1 2 N/A |  |
| 1. CTE AMLR.5.1.2 Describe transmission/transaxle fluids, the importance of fluid quality, and differences in electric vehicle (EV)/hybrid transmissions. | 0 1 2 N/A |  |
| 1. CTE AMLR.5.1.3 Check transmission fluid condition. | 0 1 2 N/A |  |
| 1. CTE AMLR.5.1.4 Check fluid level in a transmission or transaxle equipped with and without a dipstick; verify the procedure with a scan tool. | 0 1 2 N/A |  |
| 1. CTE AMLR.5.1.5 Check for transmission fluid leaks. | 0 1 2 N/A |  |
| 1. CTE AMLR.5.1.6 Describe hydraulic principles (i.e., Pascal’s law) at work in a transmission/transaxle. | 0 1 2 N/A |  |

### Performance Standard CTE AMLR.5.2 In-Vehicle Transmission/Transaxle

| Student Competencies by Performance Standard | Meets Criteria | Justification or Comments |
| --- | --- | --- |
| 1. CTE AMLR.5.2.1 Inspect, adjust, and replace external manual valve shift linkage, transmission range sensor/switch, and park/neutral position switch. | 0 1 2 N/A |  |
| 1. CTE AMLR.5.2.2 Describe relearn procedures. | 0 1 2 N/A |  |
| 1. CTE AMLR.5.2.3 Drain and replace fluid and filter(s). | 0 1 2 N/A |  |

### Performance Standard CTE AMLR.5.3 Off-Vehicle Transmission/Transaxle

| Student Competencies by Performance Standard | Meets Criteria | Justification or Comments |
| --- | --- | --- |
| 1. CTE AMLR.5.3.1 Describe the basic operational characteristics of a continuously variable transmission (CVT). | 0 1 2 N/A |  |
| 1. CTE AMLR.5.3.2 Describe the basic operational characteristics of hybrid and electric vehicle (EV) drive trains. | 0 1 2 N/A |  |

# CONTENT STANDARD CTE AMLR.6.0: MANUAL DRIVE TRAIN AND AXLES

### Performance Standard CTE AMLR.6.1 General Drive Train

| Student Competencies by Performance Standard | Meets Criteria | Justification: Provide examples from materials as evidence to support each response for this section. Provide descriptions in addition to page numbers. |
| --- | --- | --- |
| 1. CTE AMLR.6.1.1 Check fluid condition and for leaks. | 0 1 2 N/A |  |
| 1. CTE AMLR.6.1.2 Drain and refill manual transmission/transaxle and final drive unit. | 0 1 2 N/A |  |

### Performance Standard CTE AMLR.6.2 Clutch Systems

| Student Competencies by Performance Standard | Meets Criteria | Justification: Provide examples from materials as evidence to support each response for this section. Provide descriptions in addition to page numbers. |
| --- | --- | --- |
| 1. CTE AMLR.6.2.1 Check and adjust the clutch master cylinder fluid level. | 0 1 2 N/A |  |
| 1. CTE AMLR.6.2.2 Check for hydraulic system leaks. | 0 1 2 N/A |  |

### Performance Standard CTE AMLR.6.3 Drive Shaft and Half Shaft, Universal and Constant Velocity (CV) Joint

| Student Competencies by Performance Standard | Meets Criteria | Justification: Provide examples from materials as evidence to support each response for this section. Provide descriptions in addition to page numbers. |
| --- | --- | --- |
| 1. CTE AMLR.6.3.1 Inspect front and rear wheel bearings. | 0 1 2 N/A |  |
| 1. CTE AMLR.6.3.2 Diagnose, inspect, service, and replace shafts, yokes, boots, and universal/CV joints. | 0 1 2 N/A |  |
| 1. CTE AMLR.6.3.3 Check for leaks at drive assembly and transfer case seals; check vents; check fluid level. | 0 1 2 N/A |  |

### Performance Standard CTE AMLR.6.4 Differential Case Assembly

| Student Competencies by Performance Standard | Meets Criteria | Justification: Provide examples from materials as evidence to support each response for this section. Provide descriptions in addition to page numbers. |
| --- | --- | --- |
| 1. CTE AMLR.6.4.1 Inspect differential housing, check for leaks, and inspect the housing vent. | 0 1 2 N/A |  |
| 1. CTE AMLR.6.4.2 Check and adjust differential housing fluid level. | 0 1 2 N/A |  |
| 1. CTE AMLR.6.4.3 Drain and fill differential housing, per manufacturer specification. | 0 1 2 N/A |  |

### Performance Standard CTE AMLR.6.5 Drive Axle

| Student Competencies by Performance Standard | Meets Criteria | Justification: Provide examples from materials as evidence to support each response for this section. Provide descriptions in addition to page numbers. |
| --- | --- | --- |
| 1. CTE AMLR.6.5.1 Inspect and replace drive axle wheel studs. | 0 1 2 N/A |  |
| 1. CTE AMLR.6.5.2 Describe the function of wheel bearings. | 0 1 2 N/A |  |

### Performance Standard CTE AMLR.6.6 Four-Wheel Drive/All-Wheel Drive

| Student Competencies by Performance Standard | Meets Criteria | Justification: Provide examples from materials as evidence to support each response for this section. Provide descriptions in addition to page numbers. |
| --- | --- | --- |
| 1. CTE AMLR.6.6.1 Identify concerns related to variations in tire circumference and/or final drive ratios. | 0 1 2 N/A |  |
| 1. CTE AMLR.6.6.2 Check transfer case/four-wheel drive fluid levels. | 0 1 2 N/A |  |

# CONTENT STANDARD CTE AMLR.7.0: SUSPENSION AND STEERING SERVICE AND REPAIR

### Performance Standard CTE AMLR.7.1 General Suspension and Steering Systems

| Student Competencies by Performance Standard | Meets Criteria | Justification or Comments |
| --- | --- | --- |
| 1. CTE AMLR.7.1.1 Identify and inspect suspension and steering system components and configurations. | 0 1 2 N/A |  |
| 1. CTE AMLR.7.1.2 Disable and enable supplemental restraint system (SRS) and verify indicator lamp operation. | 0 1 2 N/A |  |
| 1. CTE AMLR.7.1.3 Compare electric and hydraulic power steering. | 0 1 2 N/A |  |

### Performance Standard CTE AMLR.7.2 Wheel Alignment Conditions

| Student Competencies by Performance Standard | Meets Criteria | Justification or Comments |
| --- | --- | --- |
| 1. CTE AMLR.7.2.1 Describe four-wheel alignment angles (e.g., camber, caster, toe) and effects on vehicle handling/tire wear. | 0 1 2 N/A |  |
| 1. CTE AMLR.7.2.2 Perform pre-alignment inspection and measure vehicle ride height, suggesting appropriate service. | 0 1 2 N/A |  |

### Performance Standard CTE AMLR.7.3 Wheel and Tire

| Student Competencies by Performance Standard | Meets Criteria | Justification or Comments |
| --- | --- | --- |
| 1. CTE AMLR.7.3.1 Describe the tire sidewall markings in detail, including the P-metric size, treadwear, temperature, traction rating, and tire production date. | 0 1 2 N/A |  |
| 1. CTE AMLR.7.3.2 Measure tread depth, using a tread-depth tool. | 0 1 2 N/A |  |
| 1. CTE AMLR.7.3.3 Determine necessary action to remedy issues related to tire condition. | 0 1 2 N/A |  |
| 1. CTE AMLR.7.3.4 Rotate tires, including using a tire pressure monitoring system (TPMS) relearn procedure, according to the manufacturer’s recommendations. | 0 1 2 N/A |  |
| 1. CTE AMLR.7.3.5 Dismount, inspect, and remount tire on the wheel, including for those using TPMS. | 0 1 2 N/A |  |
| 1. CTE AMLR.7.3.6 Balance wheel and tire assembly. | 0 1 2 N/A |  |
| 1. CTE AMLR.7.3.7 Inspect tire and wheel assembly for air loss. | 0 1 2 N/A |  |
| 1. CTE AMLR.7.3.8 Determine necessary action to remedy tire air loss. | 0 1 2 N/A |  |
| 1. CTE AMLR.7.3.9 Describe the procedure for repairing a tire according to the tire manufacturer. | 0 1 2 N/A |  |

### Performance Standard CTE AMLR.7.4 Related Suspension and Steering

| Student Competencies by Performance Standard | Meets Criteria | Justification or Comments |
| --- | --- | --- |
| 1. CTE AMLR.7.4.1 Inspect rack and pinion steering gear inner tie rod ends (i.e., sockets) and bellows boots. | 0 1 2 N/A |  |
| 1. CTE AMLR.7.4.2 Inspect power steering fluid level and condition. | 0 1 2 N/A |  |
| 1. CTE AMLR.7.4.3 Flush, fill, and bleed power steering system. | 0 1 2 N/A |  |
| 1. CTE AMLR.7.4.4 Identify proper fluid type according to the manufacturer's specifications. | 0 1 2 N/A |  |
| 1. CTE AMLR.7.4.5 Inspect for power steering and electric steering fluid leakage. | 0 1 2 N/A |  |
| 1. CTE AMLR.7.4.6 Inspect and replace power steering hoses and fittings. | 0 1 2 N/A |  |
| 1. CTE AMLR.7.4.7 Inspect pitman arm, relay (center link/intermediate) rod, idler arm, mountings, and steering linkage damper. | 0 1 2 N/A |  |
| 1. CTE AMLR.7.4.8 Inspect tie rod ends (i.e., sockets), tie rod sleeves, and clamps. | 0 1 2 N/A |  |
| 1. CTE AMLR.7.4.9 Inspect upper and lower control arms, bushings, and shafts. | 0 1 2 N/A |  |
| 1. CTE AMLR.7.4.10 Inspect and replace rebound bumpers. | 0 1 2 N/A |  |
| 1. CTE AMLR.7.4.11 Inspect track bar, strut rods/radius arms, and related mounts and bushings. | 0 1 2 N/A |  |
| 1. CTE AMLR.7.4.12 Inspect upper and lower ball joints (with or without wear indicators). | 0 1 2 N/A |  |
| 1. CTE AMLR.7.4.13 Inspect suspension system coil springs and spring insulators (silencers). | 0 1 2 N/A |  |
| 1. CTE AMLR.7.4.14 Inspect suspension system torsion bars and mounts. | 0 1 2 N/A |  |
| 1. CTE AMLR.7.4.15 Inspect and/or replace front/rear stabilizer bar (sway bar) bushings, brackets, and links. | 0 1 2 N/A |  |
| 1. CTE AMLR.7.4.16 Inspect, remove, and/or replace strut cartridge or assembly, inspecting mounts and bushings. | 0 1 2 N/A |  |
| 1. CTE AMLR.7.4.17 Inspect front strut bearing and mount. | 0 1 2 N/A |  |
| 1. CTE AMLR.7.4.18 Inspect components of suspension systems (e.g., coil, leaf, torsion). | 0 1 2 N/A |  |
| 1. CTE AMLR.7.4.19 Describe the function of electronically controlled suspension and steering systems and components (e.g., active suspension, stability control). | 0 1 2 N/A |  |
| 1. CTE AMLR.7.4.20 Inspect, remove, and/or replace shock absorbers, inspecting mounts and bushings. | 0 1 2 N/A |  |

# CONTENT STANDARD CTE AMLR.8.0: brake systems

### Performance Standard CTE AMLR.8.1 General Brake Systems

| Student Competencies by Performance Standard | Meets Criteria | Justification: Provide examples from materials as evidence to support each response for this section. Provide descriptions in addition to page numbers. |
| --- | --- | --- |
| 1. CTE AMLR.8.1.1 Identify brake system components and configuration. | 0 1 2 N/A |  |
| 1. CTE AMLR.8.1.2 Describe procedure for performing a road test to check brake system operation, including the anti-lock brake system (ABS). | 0 1 2 N/A |  |
| 1. CTE AMLR.8.1.3 Describe basic hydraulic principles at work in brake systems. | 0 1 2 N/A |  |
| 1. CTE AMLR.8.1.4 Install wheel and torque lug nuts. | 0 1 2 N/A |  |

### Performance Standard CTE AMLR.8.2 Hydraulic System

| Student Competencies by Performance Standard | Meets Criteria | Justification: Provide examples from materials as evidence to support each response for this section. Provide descriptions in addition to page numbers. |
| --- | --- | --- |
| 1. CTE AMLR.8.2.1 Describe brake pedal height, travel, and feel. | 0 1 2 N/A |  |
| 1. CTE AMLR.8.2.2 Check master cylinder for internal/external leaks and proper operation. | 0 1 2 N/A |  |
| 1. CTE AMLR.8.2.3 Inspect brake lines, flexible hoses, and fittings for leaks, dents, kinks, rust, cracks bulging, wear, loose fittings, and support. | 0 1 2 N/A |  |
| 1. CTE AMLR.8.2.4 Select, handle, store, and fill brake fluids to proper level. | 0 1 2 N/A |  |
| 1. CTE AMLR.8.2.5 Identify components of hydraulic brake warning light system. | 0 1 2 N/A |  |
| 1. CTE AMLR.8.2.6 Bleed and/or flush brake system. | 0 1 2 N/A |  |
| 1. CTE AMLR.8.2.7 Test brake fluid for contaminants, water, and boiling point, using a refractometer. | 0 1 2 N/A |  |

### Performance Standard CTE AMLR.8.3 Drum Brakes

| Student Competencies by Performance Standard | Meets Criteria | Justification: Provide examples from materials as evidence to support each response for this section. Provide descriptions in addition to page numbers. |
| --- | --- | --- |
| 1. CTE AMLR.8.3.1 Remove, clean, inspect, and measure brake drum diameter and determine serviceability. | 0 1 2 N/A |  |
| 1. CTE AMLR.8.3.2 Refinish brake drum and measure final drum diameter, comparing with specifications. | 0 1 2 N/A |  |
| 1. CTE AMLR.8.3.3 Remove, clean, inspect, and replace brake shoes, springs, pins, clips, levers, adjusters/self-adjusters, other related brake hardware, and backing support plates. | 0 1 2 N/A |  |
| 1. CTE AMLR.8.3.4 Inspect wheel cylinders for leaks and proper operation; remove and replace as needed. | 0 1 2 N/A |  |
| 1. CTE AMLR.8.3.5 Pre-adjust brake shoes and parking brake, installing brake drums or drum/hub assemblies and wheel bearings and make final checks and adjustments. | 0 1 2 N/A |  |

### Performance Standard CTE AMLR.8.4 Disc Brakes

| Student Competencies by Performance Standard | Meets Criteria | Justification: Provide examples from materials as evidence to support each response for this section. Provide descriptions in addition to page numbers. |
| --- | --- | --- |
| 1. CTE AMLR.8.4.1 Remove and clean caliper assembly, inspecting for leaks and damage/wear to caliper housing. | 0 1 2 N/A |  |
| 1. CTE AMLR.8.4.2 Inspect caliper mounting. | 0 1 2 N/A |  |
| 1. CTE AMLR.8.4.3 Remove, inspect, and replace brake pads and retaining hardware, cleaning and lubricating caliper slides, cleaning rotor mounting surface, removing and replacing rotor. | 0 1 2 N/A |  |
| 1. CTE AMLR.8.4.4 Describe the procedure for burnishing brake pads against the rotor. | 0 1 2 N/A |  |
| 1. CTE AMLR.8.4.5 Refinish the rotor on and off vehicle, measuring final rotor thickness and comparing with specifications. | 0 1 2 N/A |  |
| 1. CTE AMLR.8.4.6 Retract and readjust caliper piston on an integral/electric parking brake system. | 0 1 2 N/A |  |

### Performance Standard CTE AMLR.8.5 Power Assist Units

| Student Competencies by Performance Standard | Meets Criteria | Justification: Provide examples from materials as evidence to support each response for this section. Provide descriptions in addition to page numbers. |
| --- | --- | --- |
| 1. CTE AMLR.8.5.1 Identify components of the brake power-assist system (vacuum and hydraulic) and the electronic power brake assist system. | 0 1 2 N/A |  |
| 1. CTE AMLR.8.5.2 Check brake pedal free-travel with and without engine running to verify proper power booster operation. | 0 1 2 N/A |  |
| 1. CTE AMLR.8.5.3 Check vacuum supply, with a manifold or auxiliary pump, to a vacuum-type power booster. | 0 1 2 N/A |  |

### Performance Standard CTE AMLR.8.6 Miscellaneous Brakes Systems

| Student Competencies by Performance Standard | Meets Criteria | Justification: Provide examples from materials as evidence to support each response for this section. Provide descriptions in addition to page numbers. |
| --- | --- | --- |
| 1. CTE AMLR.8.6.1 Identify electronic brake control system components and describe their functions (i.e., ABS [anti-lock braking system], TCS [traction control system], ESC [electronic stability control]). | 0 1 2 N/A |  |
| 1. CTE AMLR.8.6.2 Describe the function of serviceable and non-serviceable wheel bearings. | 0 1 2 N/A |  |
| 1. CTE AMLR.8.6.3 Check parking brake operation, cables, indicator lamp, and components for wear, binding, and corrosion, cleaning, lubricating, adjusting or replacing, as needed. | 0 1 2 N/A |  |
| 1. CTE AMLR.8.6.4 Check operation of the external brake light system. | 0 1 2 N/A |  |
| 1. CTE AMLR.8.6.5 Describe the operation of a regenerative braking system. | 0 1 2 N/A |  |

### CONTENT STANDARD CTE AMLR.9.0: ELECTRICAL/ELECTRONIC SYSTEM

### Performance Standard CTE AMLR.9.1 General Electronic Systems Service

| Student Competencies by Performance Standard | Meets Criteria | Justification or Comments |
| --- | --- | --- |
| 1. CTE AMLR.9.1.1 Identify electrical/electronic system components (e.g., alternator, fuse, diode) and configurations. | 0 1 2 N/A |  |
| 1. CTE AMLR.9.1.2 Demonstrate knowledge of electrical/electronic series, parallel, and series-parallel circuits using principles of electricity (Ohm's law). | 0 1 2 N/A |  |
| 1. CTE AMLR.9.1.3 Interpret wiring diagrams to trace electrical/electronic circuits. | 0 1 2 N/A |  |
| 1. CTE AMLR.9.1.4 Demonstrate proper use of digital multi-meter (DMM) when measuring source voltage, voltage drop (including grounds), current flow, and resistance. | 0 1 2 N/A |  |
| 1. CTE AMLR.9.1.5 Describe shorts, grounds, opens, and resistance problems and causes. | 0 1 2 N/A |  |
| 1. CTE AMLR.9.1.6 Describe the function of electrical testing equipment (e.g., test light, oscilloscope, short finder, logic probe). | 0 1 2 N/A |  |
| 1. CTE AMLR.9.1.7 Check basic operations of electrical circuits, using appropriate testing equipment. | 0 1 2 N/A |  |
| 1. CTE AMLR.9.1.8 Describe the procedure for measuring key-off battery drain (i.e., parasitic draw). | 0 1 2 N/A |  |
| 1. CTE AMLR.9.1.9 Inspect and test fusible links, circuit breakers, and fuses. | 0 1 2 N/A |  |
| 1. CTE AMLR.9.1.10 Repair wire, using solder and heat shrink. | 0 1 2 N/A |  |

### Performance Standard CTE AMLR.9.2 Battery Service

| Student Competencies by Performance Standard | Meets Criteria | Justification or Comments |
| --- | --- | --- |
| 1. CTE AMLR.9.2.1 Perform battery state-of-charge test. | 0 1 2 N/A |  |
| 1. CTE AMLR.9.2.2 Perform battery capacity and load test, verifying proper battery capacity for vehicle application. | 0 1 2 N/A |  |
| 1. CTE AMLR.9.2.3 Maintain or restore electronic memory. | 0 1 2 N/A |  |
| 1. CTE AMLR.9.2.4 Inspect and clean batteries, fill battery cells, and check battery cables, connectors, clamps, and hold-downs. | 0 1 2 N/A |  |
| 1. CTE AMLR.9.2.5 Perform slow/fast battery charge, according to battery manufacturer recommendations. | 0 1 2 N/A |  |
| 1. CTE AMLR.9.2.6 Jump-start a vehicle, using jumper cables and a booster battery or an auxiliary power supply. | 0 1 2 N/A |  |
| 1. CTE AMLR.9.2.7 Identify electronic modules, security systems, radios, and other accessories that require re-initialization or code entry after reconnecting the vehicle battery. | 0 1 2 N/A |  |

### Performance Standard CTE AMLR.9.3 Starting System

| Student Competencies by Performance Standard | Meets Criteria | Justification or Comments |
| --- | --- | --- |
| 1. CTE AMLR.9.3.1 Perform starter current draw test. | 0 1 2 N/A |  |
| 1. CTE AMLR.9.3.2 Perform starter circuit-voltage drop tests. | 0 1 2 N/A |  |
| 1. CTE AMLR.9.3.3 Describe procedures for the removal and installation of a starter in a vehicle. | 0 1 2 N/A |  |
| 1. CTE AMLR.9.3.4 Inspect and test switches, connectors, and wires of starter control circuits (e.g., relays, solenoid). | 0 1 2 N/A |  |
| 1. CTE AMLR.9.3.5 Describe the operation of an automatic idle-start/stop-stop system. | 0 1 2 N/A |  |

### Performance Standard CTE AMLR.9.4 Charging System

| Student Competencies by Performance Standard | Meets Criteria | Justification or Comments |
| --- | --- | --- |
| 1. CTE AMLR.9.4.1 Perform charging system output test. | 0 1 2 N/A |  |
| 1. CTE AMLR.9.4.2 Describe procedures for inspection and function of the charging system. | 0 1 2 N/A |  |
| 1. CTE AMLR.9.4.3 Perform charging circuit voltage drop tests. | 0 1 2 N/A |  |

### Performance Standard CTE AMLR.9.5 Lighting Systems

| Student Competencies by Performance Standard | Meets Criteria | Justification or Comments |
| --- | --- | --- |
| 1. CTE AMLR.9.5.1 Inspect interior and exterior lamps and sockets, including headlights and auxiliary lights (fog lights/driving lights), replacing as needed. | 0 1 2 N/A |  |
| 1. CTE AMLR.9.5.2 Describe system type (i.e., closed or open) and proper operation. | 0 1 2 N/A |  |

### Performance Standard CTE AMLR.9.6 Accessories

| Student Competencies by Performance Standard | Meets Criteria | Justification or Comments |
| --- | --- | --- |
| 1. CTE AMLR.9.6.1 Describe vehicle comfort, convenience, access, safety, and related systems operation. | 0 1 2 N/A |  |
| 1. CTE AMLR.9.6.2 Describe the removal and reinstallation of the interior panel. | 0 1 2 N/A |  |
| 1. CTE AMLR.9.6.3 Identify tools and fasteners associated with panel removal and reinstallation. | 0 1 2 N/A |  |
| 1. CTE AMLR.9.6.4 Describe the operation of keyless entry/remote-start systems. | 0 1 2 N/A |  |
| 1. CTE AMLR.9.6.5 Verify windshield wiper and washer operation, replacing wiper blades. | 0 1 2 N/A |  |

### CONTENT STANDARD CTE AMLR.10.0: HEATING AND AIR CONDITIONING SYSTEMS

### Performance Standard CTE AMLR.10.1 A/C Systems

| Student Competencies by Performance Standard | Meets Criteria | Justification or Comments |
| --- | --- | --- |
| 1. CTE AMLR.10.1.1 Identify heating, ventilation, and air conditioning (HVAC) refrigerant types, components, and configurations. | 0 1 2 N/A |  |
| 1. CTE AMLR.10.1.2 Identify steps for an A/C performance test and the operation of air conditioning refrigerant recovery machines. | 0 1 2 N/A |  |
| 1. CTE AMLR.10.1.3 Inspect A/C heater ducts, doors, hoses, cabin filters, and outlets and determine necessary remedy. | 0 1 2 N/A |  |

### Performance Standard CTE AMLR.10.2 Refrigeration System Components

| Student Competencies by Performance Standard | Meets Criteria | Justification or Comments |
| --- | --- | --- |
| 1. CTE AMLR.10.2.1 Inspect the A/C condenser for airflow restrictions and describe remedies. | 0 1 2 N/A |  |
| 1. CTE AMLR.10.2.2 Inspect the operation of the evaporator housing condensation drain. | 0 1 2 N/A |  |

### CONTENT STANDARD CTE AMLR.11.0: ENGINE PERFORMANCE

### Performance Standard CTE AMLR.11.1 Ignition System

| Student Competencies by Performance Standard | Meets Criteria | Justification or Comments |
| --- | --- | --- |
| 1. CTE AMLR.11.1.1 Identify ignition system components and configurations. | 0 1 2 N/A |  |
| 1. CTE AMLR.11.1.2 Remove and replace spark plugs, inspecting secondary ignition components for wear and damage. | 0 1 2 N/A |  |

### Performance Standard CTE AMLR.11.2 Computerized Controls

| Student Competencies by Performance Standard | Meets Criteria | Justification or Comments |
| --- | --- | --- |
| 1. CTE AMLR.11.2.1 Identify computerized control system components and configurations. | 0 1 2 N/A |  |
| 1. CTE AMLR.11.2.2 Scan for diagnostic trouble codes, on-board diagnostic (OBD) monitor status, and freezeframe data, clearing codes when applicable. | 0 1 2 N/A |  |
| 1. CTE AMLR.11.2.3 Describe the importance of operating all OBD monitors (e.g., drive cycles) for repair verification. | 0 1 2 N/A |  |

### Performance Standard CTE AMLR.11.3 Fuel, Air Induction, and Exhaust Systems

| Student Competencies by Performance Standard | Meets Criteria | Justification or Comments |
| --- | --- | --- |
| 1. CTE AMLR.11.3.1 Identify fuel, air induction, and exhaust system components and configurations. | 0 1 2 N/A |  |
| 1. CTE AMLR.11.3.2 Replace fuel filter(s) when needed. | 0 1 2 N/A |  |
| 1. CTE AMLR.11.3.3 Inspect, service, or replace air filters, filter housing, and intake duct work. | 0 1 2 N/A |  |
| 1. CTE AMLR.11.3.4 Inspect the integrity of the exhaust manifold, exhaust pipes muffler, catalytic converter, resonator, tailpipe, system hangers, brackets, clamps, and heat shields, repairing or replacing as needed. | 0 1 2 N/A |  |

### Performance Standard CTE AMLR.11.4 Emissions Control Systems

| Student Competencies by Performance Standard | Meets Criteria | Justification or Comments |
| --- | --- | --- |
| 1. CTE AMLR.11.4.1 Identify emission control system components and configurations. | 0 1 2 N/A |  |
| 1. CTE AMLR.11.4.2 Inspect, test, and service positive crankcase ventilation (PCV) filter/breather, valve, tubes, orifices, and hoses, performing necessary action. | 0 1 2 N/A |  |
| 1. CTE AMLR.11.4.3 Describe the process for checking and filling diesel exhaust fluid (DEF). | 0 1 2 N/A |  |

Scoring for Best Practices and Assessment

| 0 Points  No Alignment | 1 Point  Partial Alignment | 2 Points  High Alignment | NA  Not Applicable |
| --- | --- | --- | --- |
| There is no evidence of the teaching practice. | The teaching practice is embedded in some lessons. | Materials regularly embed supports for teachers to implement best practices and assessment. |  |

Scoring for Alignment to Best Practices and Assessment:

| Best Practices and Assessments | Meets Criteria | Justification or Comments |
| --- | --- | --- |
| 1. Materials contain clear statements and explanations of purpose, goals, and learning outcomes. | 0 1 2 N/A |  |
| 1. Materials are systematic and sequential – prerequisite skills taught first and vertically aligned appropriately. | 0 1 2 N/A |  |
| 1. Materials include formative and summative assessments and/or test data banks that allow the instructor to edit materials when appropriate. | 0 1 2 N/A |  |
| 1. Digital materials and assessments are easy to edit and revise and access to distribute and/or print. | 0 1 2 N/A |  |

Scoring for Additional Indicators of Quality Materials

| 0 Points  No Alignment | 1 Point  Partial Alignment | 2 Points  High Alignment | NA  Not Applicable |
| --- | --- | --- | --- |
| There is no evidence of differentiation elements or engaging tools. | There is some evidence of differentiation elements or engaging tools. | Materials include differentiation elements as well as engaging tools. |  |

Scoring for Alignment to Additional Indicators of Quality Materials:

| Indicators of Quality Materials | Meets Criteria | Justification or Comments |
| --- | --- | --- |
| 1. Materials provide instructional strategies to accommodate the learning differences of all students. | 0 1 2 N/A |  |
| 1. Materials are available in language(s) other than English. | 0 1 2 N/A |  |
| 1. The material has an aesthetically appealing appearance. | 0 1 2 N/A |  |
| 1. Digital and print materials are consistently formatted, visually focused, and uncluttered for efficient use. | 0 1 2 N/A |  |
| 1. The illustrations clearly cross-reference the text, are directly relevant to the content (not simply decorative), and promote thinking, discussion, and problem solving. | 0 1 2 N/A |  |

Scoring for Best Practices in the Use of Technology

| 0 Points  No Alignment | 1 Point  Partial Alignment | 2 Points  High Alignment | NA  Not Applicable |
| --- | --- | --- | --- |
| There is no evidence of best practices in using technology. | There is some evidence of best practices in using technology. | Materials include best practices in using technology. |  |

Use of Technology

| **Use of Technology** | **Justification: Provide examples from materials as evidence to support each response for this section. Provide descriptions, not just page numbers.** |
| --- | --- |
| 1. Technology and digital media support, extend, and enhance learning experiences. |  |
| 1. The material has “platform neutral” technology (i.e., cloud based) and availability for networking. |  |
| 1. The material has a user-friendly and interactive interface allowing the user to control (shift among activities). |  |

For Questions Contact

Content & Curriculum – Curricular Materials

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