

Student's Name/Initial:

/ Date:

Teacher's Initials:

Date:

## AUTOMOTIVE TECHNOLOGY 3 STUDENT PROFILE COURSE CODE: 6032

**Directions:** Evaluate the student using the applicable rating scales below and check the appropriate box to indicate the degree of competency. The ratings 3, 2, 1, and N are not intended to represent the traditional school grading system of A, B, C, and D. The description associated with each of the ratings focuses on the level of student performance or cognition for each of the competencies listed below.

### PERFORMANCE RATING

- 3 - Skilled--can perform task independently with no supervision
- 2 - Moderately skilled--can perform task completely with limited supervision
- 1 - Limitedly skilled--requires instruction and close supervision
- N - No exposure--has no experience or knowledge of this task

### COGNITIVE RATING

- 3 - Knowledgeable--can apply the concept to solve problems
- 2 - Moderately knowledgeable--understands the concept
- 1 - Limitedly knowledgeable--requires additional instruction
- N - No exposure--has not received instruction in this area

#### A. ENGINE REPAIR

- |               |   |
|---------------|---|
| 3 2 1 N       |   |
| __ __ __ __1. | Install engine covers using gaskets, seals, and sealers as required.  |
| __ __ __ __2. | Perform common fastener and thread repair, to include the following: remove broken bolt, restore internal and external threads, and repair internal threads with thread insert. |
| __ __ __ __3. | Remove, inspect, and replace thermostat and gasket/seal.  |

#### B. AUTOMATIC TRANSMISSION AND TRANSAXLE

- |               |   |
|---------------|---|
| 3 2 1 N       |   |
| __ __ __ __1. | Inspect, adjust, and replace external manual valve shift linkage, transmission range sensor/switch, and park/neutral position switch. |

#### C. MANUAL DRIVE TRAIN AND AXLES

- |               |   |
|---------------|---|
| 3 2 1 N       |   |
| __ __ __ __1. | Inspect, adjust, and replace transmission/transaxle external shifter assembly, shift linkages, brackets, bushings/grommets, pivots, and levers. |
| __ __ __ __2. | Inspect and replace external seals.   |
| __ __ __ __3. | Inspect, service, and replace drive shaft center support bearings.  |
| __ __ __ __4. | Inspect, adjust, and repair transfer case manual shifting mechanisms, bushings, mounts, levers, and brackets.                                   |

#### D. SUSPENSION AND STEERING

- |               |  |
|---------------|--|
| 3 2 1 N       |  |
| __ __ __ __1. | Inspect and replace power steering hoses and fittings.                     |
| __ __ __ __2. | Inspect, remove, and replace shock absorbers; inspect mounts and bushings. |
| __ __ __ __3. | Describe the function of the power steering pressure switch.               |

- |               |   |
|---------------|---|
| __ __ __ __4. | Dismount, inspect, and remount tire on wheel; balance wheel and tire assembly (static and dynamic).                                 |
| __ __ __ __6. | Repair tire using internal patch.   |
| __ __ __ __7. | Identify and test tire pressure monitoring systems (indirect and direct) for operation; verify operation of instrument panel lamps. |
| __ __ __ __8. | Demonstrate knowledge of steps required to remove and replace sensors in a tire pressure monitoring system.                         |

#### E. BRAKES

- |               |   |
|---------------|---|
| 3 2 1 N       |   |
| __ __ __ __1. | Describe procedure for performing a road test to check brake system operation, including an anti-lock brake system (ABS). |
| __ __ __ __2. | Check master cylinder for external leaks and proper operation.  |
| __ __ __ __3. | Bleed and/or flush brake system.  |
| __ __ __ __4. | Remove, clean, inspect, and measure brake drum diameter; determine necessary action.                                      |

- \_\_ \_\_ \_\_ \_\_5. Refinish brake drum and measure final drum diameter; compare with specifications.
- \_\_ \_\_ \_\_ \_\_6. Remove, clean, and inspect brake shoes, springs, pins, clips, levers, adjusters/self-adjusters, other related brake hardware, and backing support plates; lubricate and reassemble.
- \_\_ \_\_ \_\_ \_\_7. Inspect wheel cylinders for leaks and proper operation; remove and replace as needed.
- \_\_ \_\_ \_\_ \_\_8. Pre-adjust brake shoes and parking brake; install brake drums or drum/hub assemblies and wheel bearings; make final checks and adjustments.
- \_\_ \_\_ \_\_ \_\_9. Remove and clean caliper assembly; inspect for leaks and damage/wear to caliper housing; determine necessary action.
- \_\_ \_\_ \_\_ \_\_10. Clean and inspect caliper mounting and slides/pins for proper operation, wear, and damage; determine necessary action.
- \_\_ \_\_ \_\_ \_\_11. Remove, inspect, and replace pads and retaining hardware; determine necessary action.
- \_\_ \_\_ \_\_ \_\_12. Lubricate and reinstall caliper, pads, and related hardware; seat pads and inspect for leaks.
- \_\_ \_\_ \_\_ \_\_13. Clean and inspect rotor; measure rotor thickness, thickness variation, and lateral runout; determine necessary action.
- \_\_ \_\_ \_\_ \_\_14. Remove and reinstall rotor.
- \_\_ \_\_ \_\_ \_\_15. Refinish rotor on vehicle; measure final rotor thickness and compare with specifications.
- \_\_ \_\_ \_\_ \_\_16. Refinish rotor off vehicle; measure final rotor thickness and compare with specifications.

- \_\_ \_\_ \_\_ \_\_17. Retract and readjust caliper piston on an integral parking brake system.
- \_\_ \_\_ \_\_ \_\_18. Describe importance of operating vehicle to burnish/break-in replacement brake pads according to manufacturer's recommendations.
- \_\_ \_\_ \_\_ \_\_19. Remove, clean, inspect, repack, and install wheel bearings; replace seals; install hub and adjust bearings.
- \_\_ \_\_ \_\_ \_\_20. Inspect the vacuum-type power booster unit for operation and vacuum leaks; inspect the check valve for proper operation.
- \_\_ \_\_ \_\_ \_\_21. Identify operation of electric-hydraulic assist system; check system for leaks and operation.
- \_\_ \_\_ \_\_ \_\_22. Identify operation of hydro-boost assist system; check system for leaks and operation.
- \_\_ \_\_ \_\_ \_\_23. Remove, bench bleed, and reinstall master cylinder.
- \_\_ \_\_ \_\_ \_\_24. Measure and adjust master cylinder pushrod length.

**F. ELECTRICAL**

- 3 2 1 N
- \_\_ \_\_ \_\_ \_\_1. Perform solder repair of electrical wiring.
  - \_\_ \_\_ \_\_ \_\_2. Replace electrical connectors and terminal ends.
  - \_\_ \_\_ \_\_ \_\_3. Remove and install starter in a vehicle.
  - \_\_ \_\_ \_\_ \_\_4. Inspect and test switches, connectors, and wires of starter control circuits; determine necessary action.
  - \_\_ \_\_ \_\_ \_\_5. Remove and reinstall door panel.
  - \_\_ \_\_ \_\_ \_\_6. Verify horn operation; determine needed repairs.

**G. HVAC**

3 2 1 N

- \_\_ \_\_ \_\_ \_\_1. Inspect engine cooling and heater systems hoses; perform necessary action.

**H. ENGINE PERFORMANCE**

3 2 1 N

- \_\_ \_\_ \_\_ \_\_1. Remove and replace spark plugs; inspect secondary ignition components for wear and damage.
- \_\_ \_\_ \_\_ \_\_2. Inspect condition of exhaust system hangers, brackets, clamps, and heat shields; repair or replace as needed.