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Enter Student Name

Enter School / Training Facility

**ARTICULATION COMPETENCY RECORD**

**Baker College**

|  |
| --- |
| Please check below each skill the student has mastered with a minimum of 80 percent accuracy. |

**DSL141 Diesel Electrical/Electronic Systems I**

|  |  |  |
| --- | --- | --- |
| **Task** | **Satisfactory** | **Unsatisfactory** |
| **A. Electrical/Fundamentals** |  |  |
| 1. | Understand the principles of electricity. |[x] [ ]
| 2. | Define the following: |  |  |
|  | a. | A simple circuit |[x] [ ]
|  | b. | Voltage |[x] [ ]
|  | c. | Current |[x] [ ]
|  | d. | Resistance |[x] [ ]
|  | e. | Series circuit |[x] [ ]
|  | f. | Parallel circuit |[x] [ ]
|  | g. | Series-parallel circuit |[x] [ ]
| 3. | Demonstrate knowledge of working safely with electrical/electronic components on a vehicle. |[x] [ ]
| **B. Electrical/Electronic Systems Battery Diagnosis and Repair** |  |  |
| 4. | Perform battery load test; determine needed action. |[x] [ ]
| 5. | Determine battery state of charge using an open circuit voltage test. |[x] [ ]
| 6. | Inspect, clean, and service battery; replace as needed.  |[x] [ ]
| 7. | Inspect and clean battery boxes, mounts, and hold downs; repair or replace as needed. |[x] [ ]
| 8. | Charge battery using slow or fast charge method as appropriate. |[x] [ ]
| 9. | Inspect, test, and clean battery cables and connectors; repair or replace as needed. |[x] [ ]
| 10. | Jump start a vehicle using jumper cables and a booster battery or auxiliary power supply using proper safety procedures. |[x] [ ]
| 11. | Perform battery capacitance test; determine needed action. |[x] [ ]
| **C. Electrical/Electronic Systems Starting System Diagnosis and Repair** |  |  |
| 12. | Perform starter circuit cranking voltage and voltage drop tests; determine needed action. |[x] [ ]
| 13. | Inspect and test components (key switch, push button and/or magnetic switch) and wires in the starter control circuit; replace as needed. |[x] [ ]
| 14. | Inspect and test, starter relays and solenoids/switches; replace as needed. |[x] [ ]
| 15. | Remove and replace starter; inspect flywheel ring gear or flex plate. |[x] [ ]
| **D. Electrical/Electronic Systems Charging System Diagnosis and Repair** |  |  |
| 16. | Diagnose instrument panel mounted volt meters and/or indicator lamps that show a no charge, low charge, or overcharge condition; determine needed action. |[x] [ ]
| 17. | Diagnose the cause of a no charge, low charge, or overcharge condition; determine needed action. |[x] [ ]
| 18. | Inspect and replace alternator drive belts, pulleys, fans, tensioners, and mounting brackets; adjust drive belts and check alignment.  |[x] [ ]
| 19. | Perform charging system voltage and amperage output tests; determine needed action. |[x] [ ]
| 20. | Perform charging circuit voltage drop tests; determine needed action. |[x] [ ]
| 21. | Remove and replace alternator. |[x] [ ]
| 22. | Inspect, repair, or replace connectors and wires in the charging circuit. |[x] [ ]
| 23. | Diagnose AC voltage leakage (failed rectifier) at alternator output; determine needed action. |[x] [ ]

Teacher signature Enter Date