

Enter Student Name

Enter School / Training Facility

**ARTICULATION COMPETENCY RECORD**

**Baker College**

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

**AST231A Automotive Suspension / Steering**

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| **Task** | | **Satisfactory** | **Unsatisfactory** |
| **A. General Suspension and Steering System Diagnosis** | |  |  |
| 1. | Demonstrate how to fill out a work order using customer information, service history and cause and correction. |  |  |
| 2. | Identify and interpret suspension and steering concerns and repair as needed. |  |  |
| 3. | Locate and interpret the vehicle VIN number and research applicable vehicle service information, such as service precautions and service history. |  |  |
| **B. Steering System Diagnosis and Repair** | |  |  |
| 4. | Demonstrate how to disable and enable a SRS. |  |  |
| 5. | Practice removing and replacing a steering wheel; center/time SRS coil and clock spring. |  |  |
| 6. | Diagnose steering column noises, looseness and binding concerns, repair as needed. |  |  |
| 7. | Diagnose both non rack and pinion and rack and pinion steering gear problems, such as binding uneven turning and noise, repair as needed. |  |  |
| 8. | Inspect steering shaft u-joints, flexible couplings, and collapsible column and lock cylinders repair as needed. |  |  |
| 9. | Demonstrate how to adjust a non rack and pinion worm gear bearing preload and sector lash. |  |  |
| 10. | Remove and replace a rack and pinion steering gear; inspect mounting bushings and brackets. |  |  |
| 11. | Inspect and replace rack and pinion steering gear inner tie rods and bellows boots. |  |  |
| 12. | Flush, fill and bleed a power steering system, determine proper power steering fluid type, checking for proper level. |  |  |
| 13. | Diagnose power steering fluid leaks repair as needed. |  |  |
| 14. | Remove and replace a power steering pump, and power steering pump pulley, checking for alignment of the belt. Replace power steering belt. |  |  |
| 15. | Inspect and replace power steering hoses. |  |  |
| 16. | Inspect and replace pitman arm, center link, idler arms and steering dampers. |  |  |
| 17. | Inspect and replace inner and outer tie rod ends, sleeves and clamps. P-1  Inspect and test a non-hydraulic electric-power assist steering; test components of an electronically controlled steering system, repair as needed. |  |  |
| 18. | Identify hybrid vehicle power steering circuits, service and safety precautions. |  |  |
| **C. Suspension System Diagnosis and Repair** | |  |  |
| 19. | Diagnose short arm and long arm suspension systems for noise, uneven ride height and body sway. Repair as needed. |  |  |
| 20. | Diagnose strut suspension system for noise, uneven ride height, and body sway. Repair as needed. |  |  |
| 21. | Remove, inspect and install upper and lower control arms, bushings, shafts and rebound bumpers. |  |  |
| 22. | Remove, inspect and install strut rods and bushings, adjust if necessary. |  |  |
| 23. | Remove, inspect and install upper and lower ball joints. |  |  |
| 24. | Remove, inspect and install steering knuckle assemblies. |  |  |
| 25. | Remove, inspect and install long arm short arm suspension coil springs and spring insulators. |  |  |
| 26. | Inspect and remove and reinstall and adjust torsion bars, and mounts. |  |  |
| 27. | Remove and replace stabilizer bar bushings and brackets and links. |  |  |
| 28. | Remove and replace strut cartridge or full strut assembly, coil spring and upper strut bearing mounts. |  |  |
| 29. | Remove and install a leaf spring, spring insulator, spring insulators, shackles and mounts. |  |  |
| **D. Miscellaneous Service** | |  |  |
| 31. | Lubricate the suspension and steering system if possible. |  |  |
| 32. | Demonstrate how to remove and replace shock absorbers. |  |  |
| 33. | Remove, inspect and replace non-serviceable wheel bearings. |  |  |
| 34. | Remove, clean, inspect, repack and replace serviceable wheel bearings. |  |  |
| 35. | Diagnose, test, inspect and adjust components of electronically controlled suspension and steering systems, use a scan tool if needed. |  |  |
| 36. | Describe the function of an idle compensation switch. |  |  |
| **E. Wheel Alignment Diagnosis, Adjustment and Repair** | |  |  |
| 37. | Diagnose vehicle wander, drift, hard steering, bump steer, memory steer, torque steer and steering return problems. Repair as needed. |  |  |
| 38. | Perform pre-alignment inspection, measure vehicle ride height. Repair as needed. |  |  |
| 39. | Check and adjust front wheel alignment; caster, camber, toe and center steering wheel. |  |  |
| 40. | Check and adjust rear wheel alignment; camber, toe and thrust angle. |  |  |
| 41. | Check for toe out on turns. Adjust as needed. |  |  |
| 42. | Check SAI and included angle. Determine what needs to done to repair. |  |  |
| 43. | Check for front wheel setback; repair as needed. |  |  |
| 44. | Check front cradle (subframe) for proper alignment; repair as needed. |  |  |
| **F. Wheel and Tire Diagnosis and Repair** | |  |  |
| 45. | Inspect tire wear patterns; check and adjust tire pressure. |  |  |
| 46. | Diagnose wheel / tire vibration, shimmy and noise; determine what must be done to repair. |  |  |
| 47. | Rotate tires according to manufacturer’s recommendations. |  |  |
| 48. | Demonstrate how to measure wheel, tire, and hub runout; repair as needed. |  |  |
| 49. | Diagnose tire pull; repair as needed. |  |  |
| 50. | Dismount, inspect and remount a tire on a wheel; balance wheel and tire assembly. |  |  |
| 51. | Dismount, inspect and remount a tire on a wheel equipped with a tire pressure sensor. |  |  |
| 52. | Reinstall a wheel; torque lug nuts. |  |  |
| 53. | Perform a pressure test on a tire to if there is any loss of air. |  |  |
| 54. | Repair tire using internal patch. |  |  |
| 55. | Inspect, diagnose and calibrate tire pressure monitoring system. |  |  |
| 56. | Demonstrate the ability to pass a safety test with 100% accuracy after classroom review and correction. |  |  |

Teacher signature Enter Date