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Student Name

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High School or Vocational Center

**COMPETENCY RECORD FOR ARTICULATION**

**Baker College**

Please check below each skill the student has mastered with a minimum of 80 percent accuracy or with an A or B grade.

**DSL 221: HEAVY DUTY BRAKE SERVICE**

<b>Task</b>	<b>Satisfactory</b>	<b>Unsatisfactory</b>
<b>A. Air Brakes</b>		
<b>1. Air Supply and Service Systems</b>		
1. Identify poor stopping, air leaks, premature wear, pulling, grabbing, dragging, or balance problems caused by supply and service system malfunctions; determine needed action. <b>P-1</b>		
2. Check air system build-up time; determine needed action. <b>P-1</b>		
3. Drain air reservoir/tanks; check for oil, water, and foreign material; determine needed action. <b>P-1</b>		
4. Inspect compressor drive gear and coupling; replace as needed. <b>P-3</b>		
5. Inspect air compressor inlet; inspect oil supply and coolant lines, fittings, and mounting brackets; repair or replace as needed. <b>P-2</b>		
6. Inspect and test air system pressure controls: governor, unloader assembly valves, filters, lines, hoses, and fittings; adjust or replace as needed. <b>P-1</b>		
7. Inspect air system lines, hoses, fittings, and couplings; repair or replace as needed. <b>P-1</b>		
8. Inspect and test air tank relief (safety) valves, one-way (single) check valves, two-way (double) check valves, manual and automatic drain valves; replace as needed. <b>P-1</b>		
9. Inspect and clean air drier systems, filters, valves, heaters, wiring, and connectors; repair or replace as needed. <b>P-1</b>		

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10. Inspect and test brake application (foot) valve, fittings, and mounts; check pedal operation; replace as needed. <b>P-1</b>		
11. Inspect and test stop light circuit switches, wiring, and connectors; repair or replace as needed. <b>P-1</b>		
12. Inspect and test hand brake (Trailer) control valve, lines, fittings, and mountings; repair or replace as needed. <b>P-1</b>		
13. Inspect and test brake relay valves; replace as needed. <b>P-1</b>		
14. Inspect and test quick release valves; replace as needed. <b>P-1</b>		
15. Inspect and test tractor protection valve; replace as needed. <b>P-1</b>		
16. Inspect and test emergency (spring) brake control/modulator valve(s); replace as needed. <b>P-1</b>		
17. Inspect and test low pressure warning devices, wiring, and connectors; repair or replace as needed. <b>P-1</b>		
18. Inspect and test air pressure gauges, lines, and fittings; replace as needed. <b>P-2</b>		
<b>2. Mechanical/Foundation</b>		
19. Identify poor stopping, brake noise, premature wear, pulling, grabbing, or dragging problems caused by the foundation brake, slack adjuster, and brake chamber problems; determine needed action. <b>P-1</b>		
20. Inspect and test service brake chambers, diaphragm, clamp, spring, pushrod, clevis, and mounting brackets; repair or replace as needed. <b>P-1</b>		
21. Inspect and service slack adjusters; perform needed action. <b>P-1</b>		
22. Inspect camshafts, rollers, bushings, seals, spacers, retainers, brake spiders, shields, anchor pins, and springs; replace as needed. <b>P-1</b>		
23. Inspect, clean, and adjust air disc brake caliper assemblies; determine needed repairs. <b>P-3</b>		
24. Inspect and measure brake shoes or pads; perform needed action. <b>P-1</b>		
25. Inspect and measure brake drums or rotors; perform		

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needed action. <b>P-1</b>		
<b>3. Parking Brakes</b>		
26. Inspect and test parking (spring) brake chamber diaphragm and seals; replace parking (spring) brake chamber; dispose of removed chambers in accordance with local regulations. <b>P-1</b>		
27. Inspect and test parking (spring) brake check valves, lines, hoses, and fittings; replace as needed. <b>P-1</b>		
28. Inspect and test parking (spring) brake application and release valve; replace as needed. <b>P-2</b>		
29. Manually release (cage) and reset (uncage) parking (spring) brakes in accordance with manufacturers' recommendations. <b>P-1</b>		
<b>B. Hydraulic Brakes</b>		
<b>1. Hydraulic System</b>		
30. Identify poor stopping, premature wear, pulling, dragging, balance, or pedal feel problems caused by the hydraulic system; determine needed action. <b>P-2</b>		
31. Check brake pedal pushrod length; adjust as needed. <b>P-3</b>		
32. Inspect and test master cylinder for internal/external leaks and damage; replace as needed. <b>P-2</b>		
33. Inspect hydraulic system brake lines, flexible hoses, and fittings for leaks and damage; replace as needed. <b>P-2</b>		
34. Inspect and test metering (hold-off), load sensing/proportioning, proportioning, and combination valves; replace as needed. <b>P-3</b>		
35. Inspect and test brake pressure differential valve and warning light circuit switch, bulbs, wiring, and connectors; repair or replace as needed. <b>P-2</b>		
36. Inspect disc brake caliper assemblies; replace as needed. <b>P-2</b>		
37. Inspect/test brake fluid; bleed and/or flush system; determine proper fluid type. <b>P-2</b>		
<b>2. Mechanical/Foundation</b>		
38. Identify poor stopping, brake noise, premature wear, pulling, grabbing, dragging, or pedal feel		

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problems caused by mechanical components; determine needed action. <b>P-2</b>		
39. Inspect and measure rotors; perform needed action. <b>P-2</b>		
40. Inspect and measure disc brake pads; inspect mounting hardware; perform needed action. <b>P-2</b>		
41. Check parking brake operation; inspect parking brake application and holding devices; adjust and replace as needed. <b>P-2</b>		
<b>3. Power Assist Units</b>		
42. Identify stopping problems caused by the brake assist (booster) system; determine needed action. <b>P-3</b>		
43. Inspect, test, repair, or replace hydraulic brake assist (booster), hoses, and control valves; determine proper fluid type. <b>P-3</b>		
44. Check emergency (back-up, reserve) brake assist system. <b>P-3</b>		
<b>C. Air and Hydraulic Antilock Brake Systems (ABS)</b>		
<b>1. Automatic Traction Control (ATC)</b>		
45. Observe antilock brake system (ABS) warning light operation (includes dash mounted trailer ABS warning light); determine needed action. <b>P-1</b>		
46. Diagnose antilock brake system (ABS) electronic control(s) and components using self-diagnosis and/or specified test equipment (scan tool, PC computer); determine needed action. <b>P-1</b>		
47. Identify poor stopping and wheel lock-up problems caused by failure of the antilock brake system (ABS); determine needed action. <b>P-1</b>		
48. Test and check operation of antilock brake system (ABS) air, hydraulic, electrical, and mechanical components; perform needed action. <b>P-1</b>		
49. Test antilock brake system (ABS) wheel speed sensors and circuits; adjust or replace as needed. <b>P-1</b>		
50. Bleed the ABS hydraulic circuits following manufacturers' procedures. <b>P-2</b>		
51. Observe automatic traction control (ATC) warning light operation; determine needed action. <b>P-3</b>		

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52. Diagnose automatic traction control (ATC) electronic control(s) and components using self-diagnosis and/or specified test equipment (scan tool, PC computer); determine needed action. <b>P-3</b>		
<b>D. Wheel Bearings</b>		
53. Clean, inspect, lubricate and replace wheel bearings and races/cups; replace seals and wear rings; inspect spindle/tube; inspect and replace retaining hardware; adjust wheel bearings. <b>P-1</b>		
54. Inspect or replace extended service wheel bearing assemblies. <b>P-3</b>		
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55. Demonstrate the ability to complete the safety test with 100% accuracy.		
56. Understand, and demonstrate the proper use of nonpower-driven hand tools, portable electric power tools, pneumatic power tools, and stationary equipment.		
57. Effectively use personal protective equipment.		
58. Recognize, understand, and use warning labels, Material Safety Data Sheets (MSDS) and Workplace Hazardous Material Information Systems (WHMIS)		

Teacher signature \_\_\_\_\_ Date \_\_\_\_\_