

Student Name \_\_\_\_\_

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.

**AST221A AUTOMOTIVE BRAKE SERVICE**

<b>Task</b>	<b>Satisfactory</b>	<b>Unsatisfactory</b>
<b>HYDRAULIC SYSTEM DIAGNOSIS AND REPAIR</b>		
Measure and adjust the pedal length and height.		
Check master cylinder for internal and external leakage and proper operation; determine necessary action.		
Remove and bench bleed and reinstall a master cylinder.		
Diagnose poor stopping, pulling or dragging concerns caused by problems in the hydraulic system; determine necessary action.		
Inspect brake lines, flexible hoses, and fittings for leaks, dents, kinks, rust cracks, bulging or wear; tighten loose fittings or supports; determine necessary action.		
Fabricate and install brake lines (double flare and ISO types); replace hoses, fittings and supports as needed.		
Select, handle, store and install brake fluids to proper level.		
Inspect, test, and replace components of brake warning light system.		
Flush and Bleed (manual, pressure, vacuum or surge) brake system.		
Inspect, test and adjust height (load) sensing proportioning valve.		
<b>DRUM BRAKE DIAGNOSIS AND REPAIR</b>		
Diagnose a vehicle for poor stopping, noise, pulling, grabbing, dragging, and pedal pulsations and determine repairs for drum brakes.		
Remove, clean, inspect, and measure brake drums; service or replace as needed.		
Mount brake drum on lathe; machine braking surface.		

Task	Satisfactory	Unsatisfactory
Remove, clean and inspect brake shoes, springs, pins clips, leavers, adjusters/self-adjusters, other related brake hardware, and backing support plates; lubricate and reassemble.		
Remove, inspect and install wheel cylinders.		
Pre-adjust brake shoes and parking brake before installing brake drums or drum/hub assemblies and wheel bearings.		
Reinstall the tire/wheel assembly and torque to manufacturer's specifications.		
<b>DISC BRAKE DIAGNOSIS AND REPAIR</b>		
Diagnose a vehicle for poor stopping, noise, pulling, grabbing, dragging, and pedal pulsations and determine repairs for disc brakes.		
Remove caliper assembly from mounting and slides for wear and damage to caliper housing; determine necessary action.		
Clean and inspect caliper mounting and slides for wear and damage; determine necessary action.		
Remove, clean and inspect pads and retaining hardware; determine necessary action.		
Disassemble and clean caliper assembly; inspect parts for wear and damage; replace seal, boot and damaged or worn parts.		
Reassemble, lubricate, and reinstall caliper, pads and related hardware; seat pads and inspect for leaks.		
Clean, inspect and measure rotor and a micrometer; follow manufacturer's recommendations in determining need to machine or replace.		
Refinish rotor according to manufacturer's recommendations.		
Adjust calipers with integrated parking brake system.		
Install wheel, torque lug nuts and make final checks and adjustments.		
Remove and reinstall a rotor.		
<b>POWER ASSIST UNITS: DIAGNOSIS AND REPAIR</b>		
Test pedal free travel with and without engine running; check power assist operation.		
Check vacuum supply (manifold or auxiliary pump) to vacuum-type power booster.		
Inspect both hydraulically assisted and vacuum -type power booster unit for vacuum leaks, inspect the check valve operation and determine necessary action.		
<b>MISCELLANEOUS (WHEEL BEARING, PARKING BRAKES, ELECTRICAL, ETC.) DIAGNOSIS AND REPAIR</b>		

Task	Satisfactory	Unsatisfactory
Diagnose wheel bearing noises, wheel shimmy, and vibration concerns; determine necessary action.		
Remove, clean, inspect, repack and install wheel bearings and replace seals; install hub and adjust wheel bearings.		
Check parking brake cables and components for wear, rusting, binding, and corrosion; clean, lubricate and replace as needed.		
Check parking brake operation; adjust as needed.		
Check operation of parking brake indicator light system.		
Check operation of brake stop light system; adjust and service as needed.		
Replace wheel bearing and race.		
<b>ANTI-LOCK BRAKE SYSTEM</b>		
Inspect and test the anti-lock brake system (ABS) components; determine necessary action.		
Diagnose poor stopping, wheel lock-up, abnormal pedal feel or pulsation, and noise concerns caused by the anti-lock brake system (ABS); determine necessary action.		
Diagnose anti-lock brake system (ABS) electronic control(s) and components using self-diagnosis and/or recommended test equipment; determine necessary action.		
Bleed the anti-lock brake system's (ABS) front and rear hydraulic circuits.		
Remove and install anti-lock brake system (ABS) electrical/electronic and hydraulic components.		
Service, test and adjust anti-lock brake system (ABS) speed sensors.		
Diagnose anti-lock brake system (ABS) braking concerns caused by vehicle modifications (tire size, curb height final drive ration, etc.).		
Interpret vehicle identification numbers (Numbers).		
Identify traction control/vehicle stability control system components.		
<b>GENERAL BRAKE SYSTEM DIAGNOSIS</b>		
Collect customer information, vehicle identifying information and any other information needed to fill out a work order.		
Analyze and identify brake system concerns and determine action to be taken.		
Collect applicable vehicle service information dealing with brake system operation and service history, use TSBs if needed.		

Task	Satisfactory	Unsatisfactory
Replace wheel studs.		

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