

# Automotive Service Technician Program Competency Profile - Brakes-A5

## Student Information

Last Name
First Name
Telephone

**Directions:** Evaluate the student according to the rating scale to indicate the degree of competency. The rating for each competency should indicate employability readiness, rather than the grades given in class.

### 2012 NATEF Standards for Automotive Service Technology

#### Student Rating Scale:

- 1 = NO EXPOSURE - no experience or knowledge in this area
- 2 = KNOWLEDGE - can recall, explain, or has been exposed to this information
- 3 = LIMITED SKILLED - requires instruction and close supervision
- 4 = MODERATELY SKILLED - can perform job completely with limited supervision
- 5 = SKILLED - can work independently with no supervision

**Score** *A. General* **Date Completed**

	1. Research applicable vehicle and service information, vehicle service history, service precautions, and technical service bulletins. P1 Job	
	2. Describe procedure for performing a road test to check brake system operation, including an anti-lock brake system (ABS). P1 Job	

#### *B. Hydraulic System*

	1. Measure brake pedal height, travel, and free play (as applicable); determine necessary action. P-1 Job	
	2. Check master cylinder for internal and external leaks and proper operation. P-1 Job	
	3. Inspect brake lines, flexible hoses, and fittings for leaks, dents, kinks, rust, cracks, bulging or wear; tighten loose fittings and supports; determine necessary action. P-1 Job	
	4. Select, handle, store, and fill brake fluids to proper level. P-1 Job	
	5. Identify components of brake warning light system. P3 Job	
	6. Bleed and/or flush brake system. P1 Job	
	7. Test brake fluid for contamination. P1 Job	

#### *C. Drum Brakes*

	1. Remove, clean, inspect, and measure brake drum diameter; determine necessary action. P-1 Job	
	2. Refinish brake drum and measure final drum diameter; compare with specifications. P-1 Job	
	3. Remove, clean, and inspect brake shoes, springs, pins, clips, levers, adjusters/self-adjusters, other related brake hardware, and backing support plates; lubricate and reassemble. P1 Job	
	4. Inspect wheel cylinders for leaks and proper operation; remove and replace as needed. P-2 Job	
	5. Pre-adjust brake shoes and parking brake; install brake drums or drum/hub assemblies and wheel bearings; make final checks and adjustments. P-2 Job	
	6. Install wheel and torque lug nuts. P-1 Job	

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### *D. Disc Brakes*

1. Remove and clean caliper assembly; inspect for leaks and damage/wear to caliper housing; determine necessary action. P-1 Job	
2. Clean and inspect caliper mounting and slides/pins for proper operation, wear, and damage; determine necessary action. P-1 Job	
3. Remove, inspect, and replace pads and retaining hardware; determine necessary action. P-1 Job	
4. Lubricate and reinstall caliper, pads, and related hardware; seat pads and inspect for leaks. P1 Job	
5. Clean and inspect rotor, measure rotor thickness, thickness variation, and lateral runout; determine necessary action. P-1 Job	
6. Remove and reinstall rotor. P1 Job	
7. Refinish rotor on vehicle; measure final rotor thickness and compare with specifications. P-1 Job	
8. Refinish rotor off vehicle; measure final rotor thickness and compare with specifications. P-1 Job	
9. Retract and re-adjust caliper piston on an integrated parking brake system. P3 Job	
10. Check brake pad wear indicator; determine necessary action. P-2 Job	
11. Describe importance of operating vehicle to burnish/break-in replacement brake pads according to manufacturer's recommendations. P-1 Job	

### *E. Power Assist Units*

1. Check brake pedal travel with, and without, engine running to verify proper power booster operation. P-2 Job	
2. Check vacuum supply (manifold or auxiliary pump) to vacuum-type power booster. P-1 Job	

### *F. Miscellaneous (Wheel Bearings, Parking Brakes, Electrical, Etc.)*

1. Remove, clean, inspect, repack, and install wheel bearings; replace seals; install hub and adjust bearings. P-1 Job	
2. Check parking brake cables and components for wear, rusting, binding, and corrosion; clean, lubricate, or replace as needed. P-2 Job	
3. Check parking brake operation and parking brake indicator light system operation; determine necessary action. P-1 Job	
4. Check operation of brake stop light system. P-1 Job	
5. Replace wheel bearing and race. P-2 Job	

### *G. Electronic Brake, Traction and Stability Control Systems*

1. Identify traction control/vehicle stability control system components. P-3 Job	
2. Describe the operation of a regenerative braking system. P-3 Job	

### *H. Wheels and Tires*

1. Inspect tire condition; identify tire wear patterns; check for correct size and application (load and speed ratings) and adjust air pressure; determine necessary action. P1 Job	
2. Rotate tires according to manufacturer's recommendations. P1 Job	
3. Dismount, inspect, and remount tire on wheel; balance wheel and tire assembly (static and dynamic). P1 Job	
4. Dismount, inspect, and remount tire on wheel equipped with tire pressure monitoring system sensor. P2 Job	
5. Inspect tire and wheel assembly for air loss; perform necessary action. P1 Job	
6. Repair tire using internal patch. P1 Job	
7. Identify and test tire pressure monitoring systems (indirect and direct) for operation; verify operation of instrument panel lamps. P2 Job	