

# Technical Service Bulletin

**NUMBER:** 05-08-99 Rev A

**GROUP:** Brakes

**DATE:** Aug. 6, 1999

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**THIS BULLETIN SUPERSEDES TECHNICAL SERVICE BULLETIN 05-08-99, DATED JULY 2, 1999, WHICH SHOULD BE REMOVED FROM YOUR FILES. BRAKE ROTOR P/N 52007715 HAS BEEN ELIMINATED FROM THE PARTS REQUIRED SECTION LEAVING BRAKE ROTOR P/N 52007716 TO BE THE ONLY BRAKE ROTOR USED WHEN PERFORMING THIS TECHNICAL SERVICE BULLETIN.**

***SUBJECT:***

Accelerated Brake Lining Wear, Front Versus Rear

***OVERVIEW:***

This bulletin involves replacing the front and rear brake linings and the rear wheel cylinders.

***MODELS:***

1996 - 1997 (AB) Ram Van/Wagon

**NOTE: THIS BULLETIN APPLIES TO 2500/3500 SERIES VEHICLES EQUIPPED WITH THE HEAVY DUTY 9 1/4 REAR AXLE (SALES CODE DRG).**

***SYMPTOM/CONDITION:***

Front brake linings wear prematurely when compared to the wear experienced on the rear brake linings. Normally, it is expected that the front brake linings will require replacement approximately twice before the rear lining assemblies will need replacement. The accelerated wear condition can be identified by requiring the front brake linings to be replaced three to four times before the rear lining assemblies are replaced.

**NOTE: CORRECT REAR BRAKE ADJUSTMENT IS A MAJOR FACTOR TO IMPROVE FRONT BRAKE LINING LIFE. IF THE VEHICLE IS NOT FREQUENTLY OPERATED IN A REVERSE DIRECTION WITH AGGRESSIVE AND COMPLETE BRAKE STOPS TO AUTOMATICALLY ADJUST THE REAR BRAKES, THE VEHICLE MUST HAVE A MANUAL REAR BRAKE ADJUSTMENT PERFORMED EACH 8047 KILOMETERS (5,000 MILES) OF VEHICLE OPERATION. REFER TO THE APPROPRIATE RAM VAN/WAGON SERVICE MANUAL, GROUP 5, FOR INFORMATION REGARDING REAR BRAKE "ADJUSTMENT WITH ADJUSTING TOOL."**

***DIAGNOSIS:***

1. Review service history to determine if front brake lining wear has been accelerated, typically 3 to 4 times as often as the rear brake linings.
2. Raise the vehicle on a hoist.
3. Remove all four tire/wheel assemblies and the rear brake drums.

4. Visually inspect both front and rear brake assemblies for any signs of abnormal wear with any braking component, abuse, or mis-assembly of components. Refer to the appropriate Service Manual, Group 5, for information regarding service of braking components if the brake assemblies show signs of abnormal wear, abuse or mis-assembly of components.
5. Visually inspect the parking brake mechanism for proper operation and adjustment. Refer to the appropriate Service Manual, Group 5, for information regarding service of the parking brake system.
6. If the brake pads are evenly worn with the rear brake linings indicating light wear, perform the Repair Procedure.

***PARTS REQUIRED:***

1	04088898	Cylinder, Right Rear Brake Wheel
1	04088899	Cylinder, Left Rear Brake Wheel
1	04720191	Kit, Rear Brake Shoe And Lining
1	04728777	Kit, Front Brake Shoe And Lining
AR (1)	04883971	Sealant, Gen II Silicone Rubber Adhesive Sealant
AR (1)	04796269	Lubricant, Brake
AR (1)	04318081	Fluid, Brake
AR (2)	52008325	Brake Drum
AR (2)	52007716	Brake Rotor
AR (2)	03699678	Seals, Front Wheel Bearing

***EQUIPMENT REQUIRED:***

Brake Drum Gauge  
Dial Indicator  
Brake Rotor Micrometer

***REPAIR PROCEDURE:***

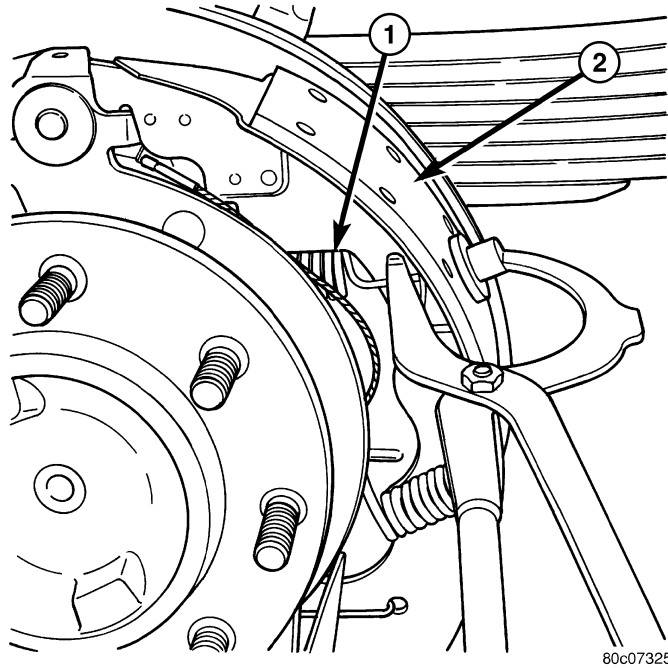
1. Apply a slight amount of pressure to the brake pedal and install a brake pedal depressor.
2. Using a wet type cleaner, clean the rear brake components to remove brake lining dust.

**NOTE: THE REAR BRAKE LININGS CONTAIN ASBESTOS. EXERCISE CARE WHEN SERVICING BRAKE PARTS. THE "OSHA PREFERRED METHOD" FOR DUST CONTROL MANDATED BY OSHA'S FINAL RULE ON ASBESTOS (29 CFR 1910.1001 - APPENDIX F) RECOMMENDS TO CLEAN BRAKING COMPONENTS WITH A WET TYPE CLEANER SUCH AS PENTASTAR SERVICE EQUIPMENT CT-500, CT-200, OR HE-1450.**

**CAUTION: DO NOT CLEAN BRAKE PARTS WITH COMPRESSED AIR OR BY DRY BRUSHING.**

3. Unhook the adjusting lever return spring from the lever and adjuster cable.
4. Remove the lever and the return spring from the lever pivot pin.

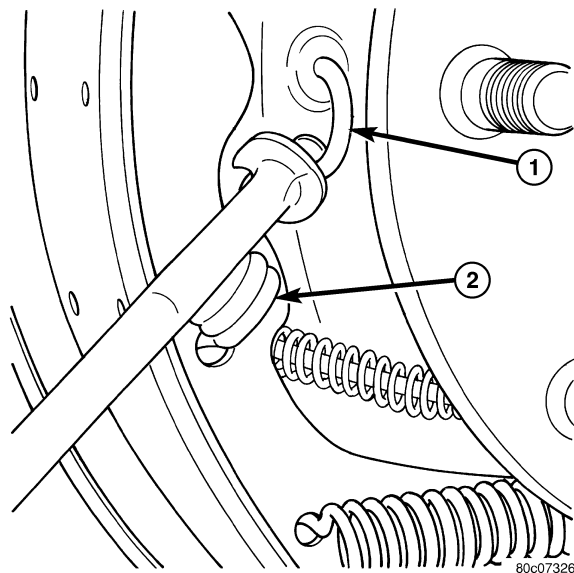
5. Remove primary shoe-to-secondary shoe spring (Figure 1).



- 1 - PRIMARY SHOE-TO-SECONDARY SHOE SPRING
- 2 - SECONDARY BRAKE SHOE

**FIGURE 1**

6. Remove the brake shoe hold-down springs (Figure 2).



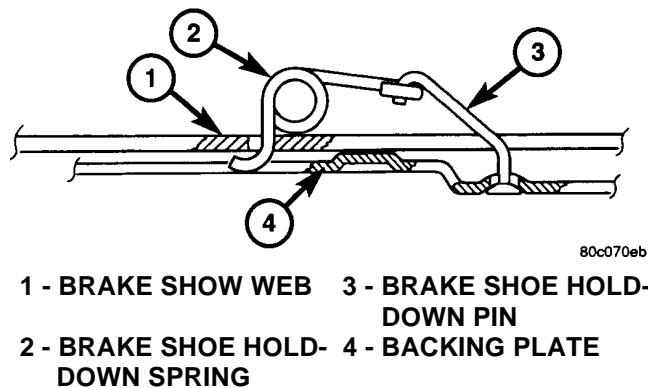
- 1 - BRAKE SHOE HOLD-DOWN PIN
- 2 - BRAKE SHOE HOLD-DOWN SPRING

**FIGURE 2**

7. Remove the primary shoe-to-secondary shoe lower spring and adjuster assembly.
8. Remove the brake shoes.
9. Disconnect the brake wheel cylinder brake line.
10. Remove the brake wheel cylinder attaching bolts and remove the wheel cylinder from the brake support plate.
11. Apply a bead of Mopar Gen II Silicone Rubber Adhesive Sealant p/n 04883971 around the cylinder mounting surface of the support plate.
12. Install the new wheel cylinder (see Parts Required section) onto the brake support plate.
13. Attach the wheel cylinder with the mounting bolts and tighten the bolts to 20 N•m (15 ft. lbs.).
14. Connect the brake line to the wheel cylinder. Tighten the brake line to 13 N•m (115 in. lbs.).
15. Coat the contact pads on the brake support plate with Mopar Brake Lubricant p/n 04796269.
16. Assemble the brake adjuster, lower spring and both the primary and secondary brake shoes p/n 04720191. Then, position the assembled components on the brake support plate.

**NOTE: THE PRIMARY SHOE IS INSTALLED TOWARD THE FRONT OF THE VEHICLE AND THE SECONDARY SHOE TOWARD THE REAR OF THE VEHICLE.**

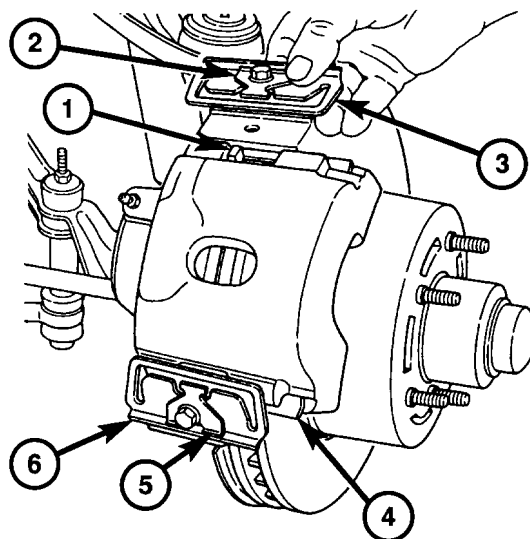
17. Install the brake shoe hold-down springs and pins. Be sure hold-down springs are seated in the support plate and springs are connected (Figure 3).



**FIGURE 3**

18. Install the upper spring
19. Position the adjuster lever returning spring onto the pivot.
20. Install the adjuster lever.
21. Attach the adjuster cable to the adjuster lever. Be sure the cable is routed properly.

22. Measure the brake drum diameter using an accurate gauge. Maximum allowable diameter of the drum braking surface is indicated on the outer edge of the drum. Measure drum diameter variations and runout by mounting the drum onto a brake lathe and measuring with a dial indicator. Variations in drum diameter should not exceed 0.076 mm (0.003 in.). Drum runout should not exceed 0.20 mm (0.008 in.). Replace the rear brake drum with p/n 52008325 if the variation or runout is exceeded.
23. Adjust the brake shoes to the brake drum with a brake gauge. Then, install the brake drum.
24. Install the wheel and tire assembly.
25. Perform Steps 2 through 24 on the other side of the vehicle.
26. Lower the vehicle down.
27. Remove the brake pedal depressor.
28. Clean the master cylinder reservoir and filler caps.
29. Remove the reservoir filler cap and remove approximately 1/4 of the fluid from the reservoir. Use a clean suction gun or similar device to drain the brake fluid.
30. Raise the vehicle.
31. Remove the front brake caliper mounting bolts, retaining clips, and anti-rattle springs (Figure 4).

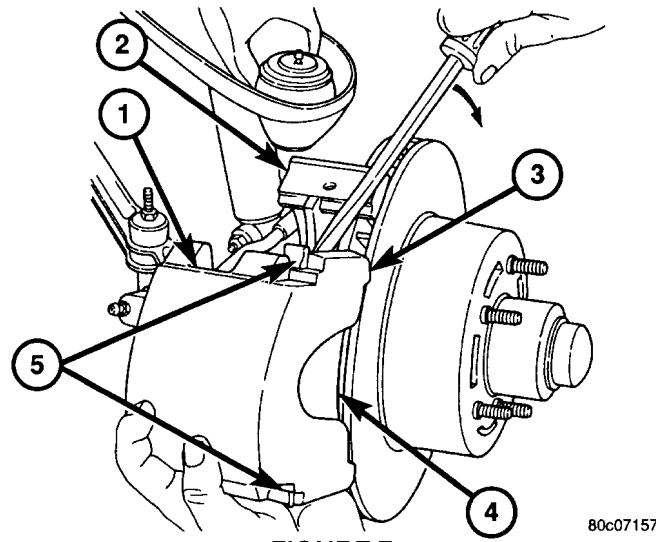


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- 1 - INBOARD SHOE FLANGE
- 2 - ANTI-RATTLE SPRING
- 3 - RETAINER CLIP
- 4 - OUTBOARD SHOE FLANGE
- 5 - ANTI RATTLE SPRING
- 6 - RETAINER CLIP

**FIGURE 4**

32. Remove the caliper by tilting it rearward and lifting it up and off the rotor (Figure 5).



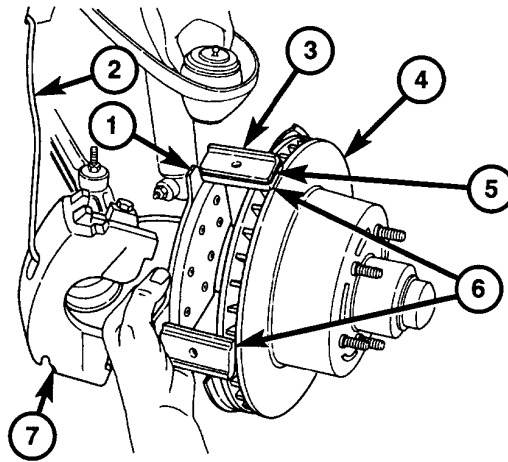
- 1 - CALIPER  
 2 - ADAPTER  
 3 - CALIPER FINGER  
 4 - OUTBOARD BRAKE SHOE REACTION FLANGE  
 5 - OUTBOARD SHOE RETENTION FLANGE

**FIGURE 5**

33. Remove the outboard brake shoes from the caliper adapter. Use a pry tool to remove the shoe from the caliper if the flanges are tight.
34. Remove the inboard shoe from the caliper mounting adapter (Figure 6).
35. Support the caliper by fabricating a hanger and hanging the caliper by the wire on the suspension.

**CAUTION: DO NOT ALLOW THE BRAKE HOSE TO SUPPORT THE WEIGHT OF THE CALIPER.**

36. Remove the O-ring from the caliper adapter.
37. Place one of the old brake shoes between a C-clamp and the caliper piston. Then, using the C-clamp, bottom the brake caliper piston in its bore.
38. Inspect the rotor for thickness variation, rotor runout, and minimum thickness. Refer to the 1997 Ram Van/Wagon Service Manual (Publication No. 81-370-7107), page 5-11 for disc brake rotor Diagnosis And Testing. The rotor should be machined if the variation or runout is exceeded using an On-Car brake lathe. If machining causes the rotor to exceed the minimum allowable thickness, replace the rotor (see Parts Required section).
39. Install new inboard brake shoe p/n 04728777 in adapter.
40. Remove protective paper from noise suppression gasket on new outboard shoe.



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- 1 - INBOARD PAD
- 2 - WIRE SUPPORT FOR CALIPER
- 3 - ADAPTER
- 4 - BRAKING DISC
- 5 - "O" RING
- 6 - CALIPER SUPPORT RAILS
- 7 - CALIPER

**FIGURE 6**

41. Install the outboard shoe into the caliper. Remove any free play by bending the brake shoe retaining flanges. Bend the flanges until the brake shoe has a light interference fit in the caliper.
42. Lubricate the caliper slide surfaces and the caliper mounting adapter slide surfaces with Mopar Brake Lubricant p/n04796269.
43. Install the caliper mounting O-ring onto the caliper adapter.
44. Install the caliper over the rotor and into the adapter.

**CAUTION: DO NOT DISPLACE OR DAMAGE THE PISTON DUST BOOT WHEN INSTALLING THE CALIPER.**

45. Install the brake caliper retaining clips, anti-rattle springs, and retaining bolts. Tighten the bolts to 20 N•m (15 ft. lbs.).
46. Install the tire and wheel assembly.
47. Perform Steps 31 through 46 to the other side of the vehicle.
48. Bleed the brakes. Follow the procedures identified in the 1997 Ram Van/Wagon Service Manual (Publication No. 81-370-7107), page 5-12 and 5-13.
49. Make sure you apply the brakes to seat the brake shoes. Then, fill the master cylinder with Mopar Brake Fluid p/n 04318081 to the bottom of the master cylinder ring indicators.

**POLICY:** Reimbursable within the provisions of the warranty.

**TIME ALLOWANCE:**

Labor Operation No:

05-70-22-99 Brakes, Accelerated Brake Lining Wear, Front Versus Rear..... 1.9 Hrs.

Related Operations:

05-20-20-50 Replace Right Rear Drum ..... 0.1 Hrs.

05-20-20-51 Replace Left Rear Drum..... 0.1 Hrs.

05-21-10-50 Replace Right Front Rotor..... 0.5 Hrs.

05-21-10-51 Replace Left Front Rotor ..... 0.5 Hrs.

05-21-11-50 Reface Right Front Rotor ..... 0.6 Hrs.

05-21-11-50 Reface Left Front Rotor..... 0.6 Hrs.

**FAILURE CODE:** P8 – New Part