Fastener Tightening Specifications

Application	Specification	
	Metric	English
Backing Plate-to-Rear Axle Nuts	28 N·m	21 lb ft
Brake Pipe Fitting	16 N·m	12 lb ft
Drum-to-Hub Screws	4 N·m	35 lb in
Wheel Cylinder-to-Backing Plate Bolt	8 N·m	71 lb in

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Drum Brake Component Specifications

Application	Specification	
	Metric	English
Brake Drum Inside Diameter - New	200 mm	7.87 in
Brake Drum Maximum Inside Diameter	201 mm	7.91 in
Brake Drum Maximum Radial Runout - Not Installed	0.04 mm	0.002 in
Wheel Cylinder Diameter - Rear	20.64 mm	0.81 in

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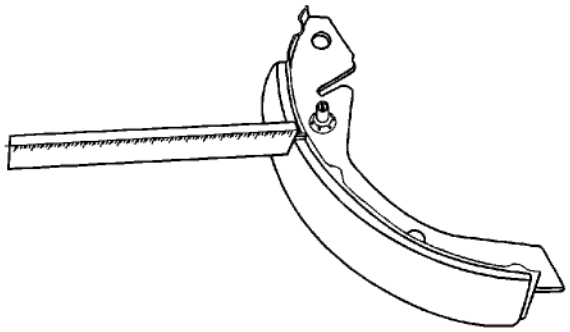
Brake Shoe Inspection

Inspection Procedure

1. Remove the brake drum. Refer to Brake Drum Replacement.

   Warning: Refer to Brake Dust Warning in the Preface section.



2. Measure the lining thickness.

   Specification
   The minimum lining thickness is 0.5 mm (0.02 in).

   Note: Replace the shoe and lining assembly in axle sets only.

3. If the lining thickness is less than the specification, or if a defect is found, replace the linings. Refer to Brake Shoe Replacement.
4. Install the brake drum. Refer to Brake Drum Replacement.

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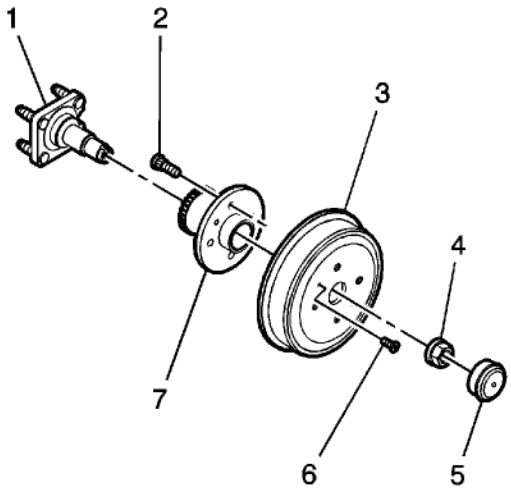
Brake Drum Replacement

Removal Procedure

1. Release the park brake.
2. Apply the brake pedal 10 times.
3. Raise and support the vehicle. Refer to Lifting and Jacking the Vehicle.
4. Remove the rear tire and wheel assembly. Refer to Tire and Wheel Removal and Installation.



5. Remove the screws (6) from the brake drum (3).
6. Remove the brake drum from the hub (3).

Inspection Procedure

1. Clean the brake components.
2. Inspect the brake drum. Replace the drum, if necessary. Refer to Brake Drum Surface and Wear Inspection.

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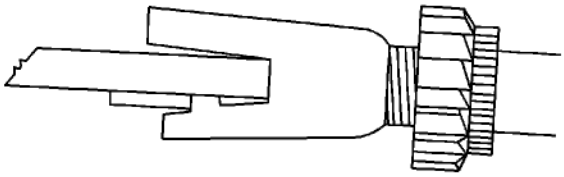
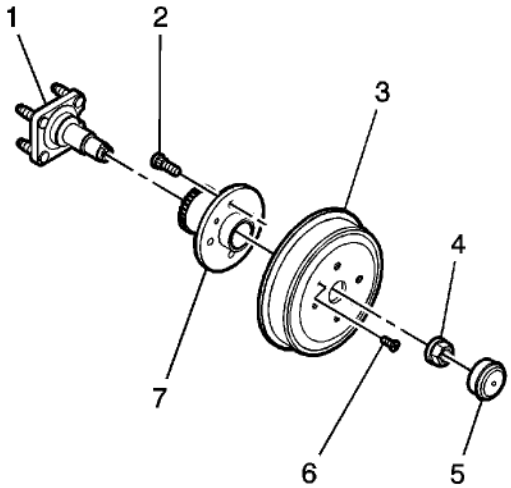


3. Apply lubricant to the adjuster assembly.
4. Inspect the threads of the adjuster assembly for smooth rotation.

Installation Procedure

1. Adjust the rear brakes. Refer to Drum Brake Adjustment.



2. Install the brake drum (3) to the hub (7).

   Caution: Refer to Fastener Caution in the Preface section.

3. Install the screws (6) to the brake drum.

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Tighten
Tighten the screws to 4 N·m (35 lb in).

4. Install the rear tire and wheel assembly. Refer to Tire and Wheel Removal and Installation.
5. Lower the vehicle.

Note: If the clicking sound of the adjuster is not audible from either brake drum, the clearance between the brake shoes and the brake drum is adjusted.

6. Apply the brake pedal at least 10 times in order to adjust the clearance between the brake shoes and the brake drum.

   Verify the clicking sound of the adjuster assembly is not audible from either brake drum.

7. Adjust the park brake. Refer to Parking Brake Adjustment.

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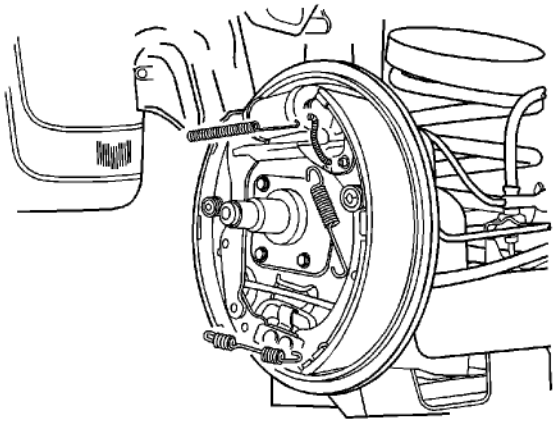
Brake Shoe Replacement

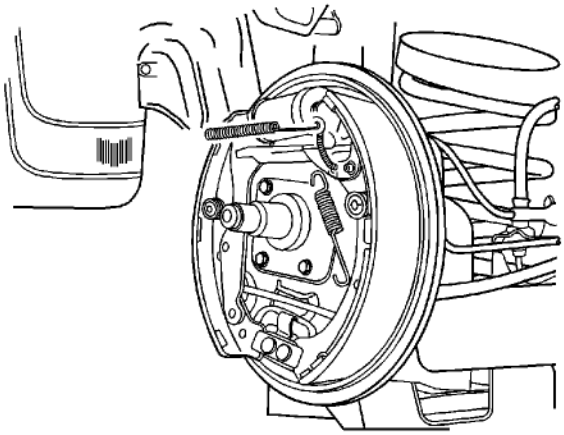
Removal Procedure

Warning: Refer to Brake Dust Warning in the Preface section.

1. Remove the brake drum. Refer to Brake Drum Replacement.



2. Remove the lower return spring.



3. Remove the upper end of the connecting link from the leading shoe to relieve tension on the upper return spring.

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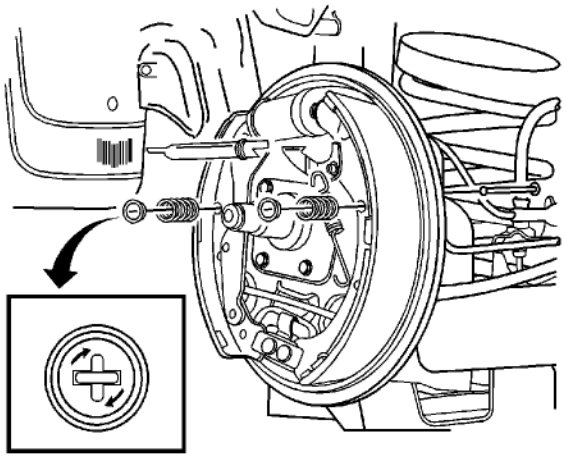
4. Remove the connecting link spring.
5. Remove the connecting link and the adjusting lever.
6. Remove the upper return spring and the adjuster.



7. Remove the trailing shoe hold-down spring and cap.
8. Remove the trailing shoe hold-down pin.
9. Remove the trailing shoe.
10. Remove the leading shoe hold-down spring and cap.
11. Remove the leading shoe hold-down pin.
12. Remove the leading shoe.

Inspection Procedure

Warning: Refer to Safety Glasses Warning in the Preface section.

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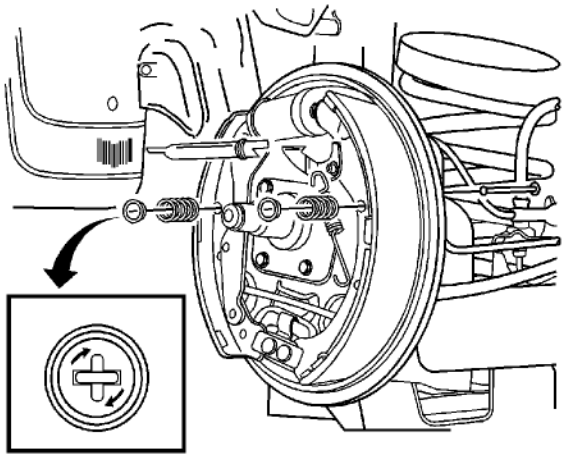
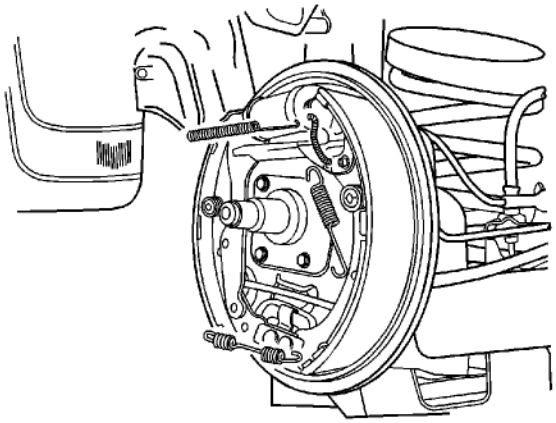
1. Measure the minimum brake lining thickness. Refer to Brake Shoe Inspection.
2. Clean the adjuster assembly and apply grease.
3. Inspect the threads of the adjuster assembly for smooth rotation.
4. Inspect the brake components for damage or wear. Replace any damaged or worn components.

Installation Procedure

1. Verify the park brake cable is properly routed.
2. Attach the park brake cable to the trailing shoe lever.



3. Install the trailing shoe with the hold-down spring, the cap, and the pin.



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Note: Do not overstretch the lower return spring.

4. Install the lower return spring to the trailing shoe.
5. Position the leading shoe and the adjuster assembly against the backing plate.
6. Install the lower return spring to the leading shoe.
7. Install the adjuster assembly.
8. Turn the adjuster in as far as possible.
9. Install the leading shoe with the hold-down spring, the cap, and the pin.
10. Install the adjusting lever to the leading shoe.
11. Install the connecting link to the leading shoe.
12. Install the connecting link spring.

Note: Do not overstretch the lower return spring.

13. Install the upper return spring from the leading shoe to the connecting link.

Note: The nut must not lock firmly at the end of the adjustment assembly.

14. Ensure the adjuster assembly nut is drawn all the way to the stop.
15. Adjust the rear brakes. Refer to Drum Brake Adjustment.
16. Install the brake drum. Refer to Brake Drum Replacement.
17. Adjust the park brake. Refer to Parking Brake Adjustment.

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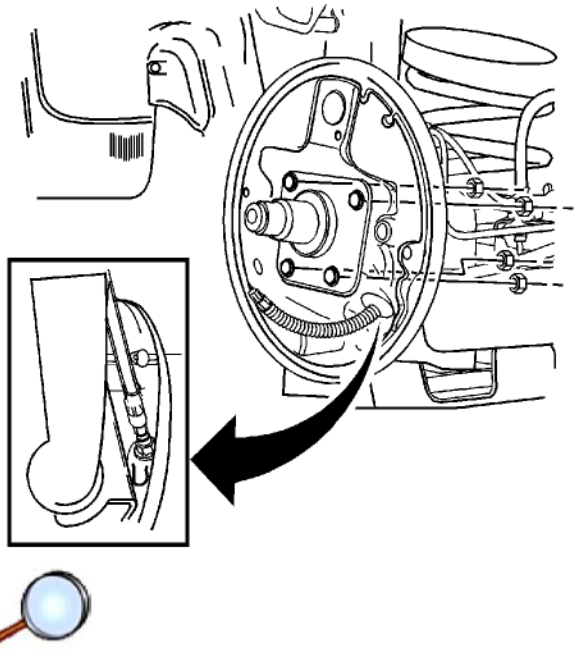
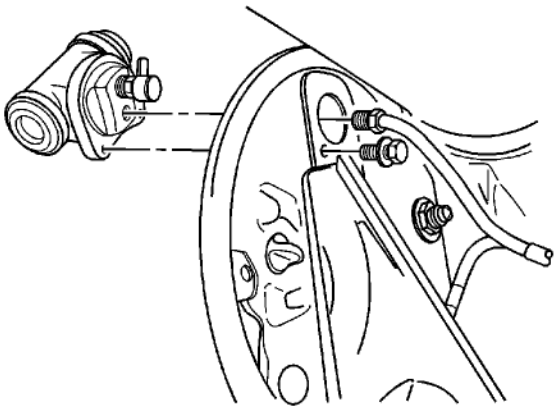
Rear Brake Backing Plate Replacement

Removal Procedure

Caution: Refer to Vehicle Lifting and Jacking Caution in the Preface section.



1. Raise and suitably support the vehicle.
2. Remove the brake shoe components, including complete removal of the parking brake with the retainer. Refer to Brake Shoe Replacement.
3. Remove the nuts that secure the wheel hub assembly to the backing plate.
4. Remove the brake line and plug the opening in the line to prevent fluid loss or contamination.



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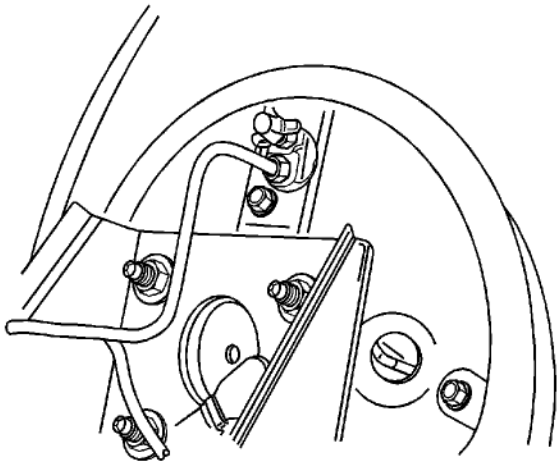
5. Remove the wheel cylinder assembly. Refer to Wheel Cylinder Replacement.
6. Remove the wheel hub assembly.
7. In case of an antilock brake system (ABS) brake, disconnect the cable that goes to the wheel speed sensor.
8. Separate the backing plate and the gasket.

Installation Procedure



1. Place the backing plate with a new gasket on the wheel hub. The ABS hub is shown.

   Caution: Refer to Fastener Caution in the Preface section.

2. Insert the complete wheel hub/backing plate assembly into the rear axle plate. In case of ABS brakes, install the nuts and connect the wheel speed sensor.

   Tighten
   Tighten the brake wheel hub/backing plate-to-rear axle nuts to 28 N·m (21 lb ft).

3. Install the brake wheel cylinder assembly to the backing plate. Refer to Wheel Cylinder Replacement.
4. Connect the brake line.

   Tighten
   Tighten the brake line to 16 N·m (12 lb ft).

5. Install the brake components. Refer to Brake Shoe Replacement.
6. Install the parking brake cable with the retainer by attaching the cable to the brake shoe lever. Refer to Park Brake Cable Replacement.
7. Bleed the brakes. Refer to Hydraulic Brake System Bleeding.

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8. Lower the vehicle.

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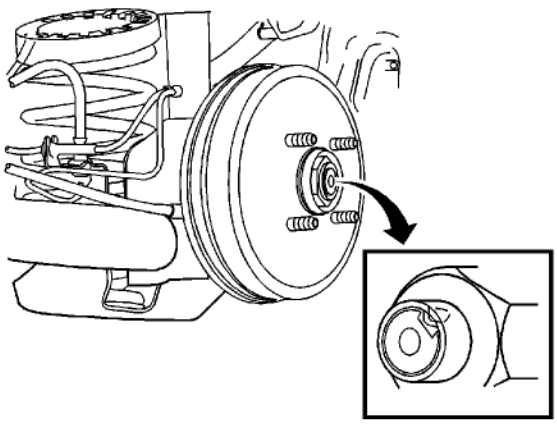
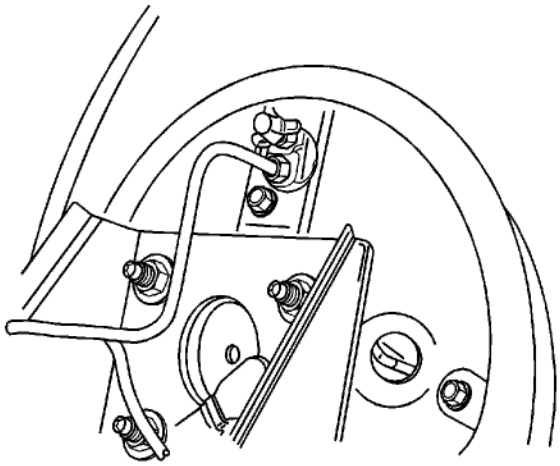
Wheel Cylinder Replacement

Removal Procedure

Caution: Refer to Vehicle Lifting and Jacking Caution in the Preface section.



1. Raise and suitably support the vehicle.
2. Remove the rear wheels. Refer to Tire and Wheel Removal and Installation.
3. Mark the position of the wheels relative to the wheel hubs.
4. Remove the brake drum.
5. Remove the shoe and lining. Refer to Brake Shoe Replacement.



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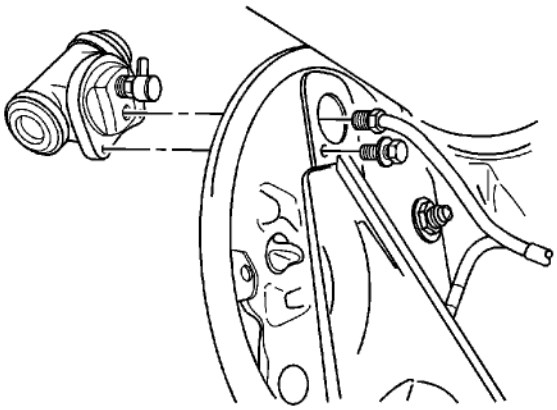
6. Clean the dirt and foreign material from around the wheel cylinder brake line inlet, the pilot, and the bolt.
7. Disconnect the brake line from the wheel cylinder.
8. Plug the opening in the brake line to prevent fluid loss or contamination.



Warning: Brake fluid may irritate eyes and skin. In case of contact, take the following actions:

- Eye contact - rinse thoroughly with water.
- Skin contact - rinse with soap and water.
- If ingested - consult a physician immediately.

9. Remove the wheel cylinder-to-backing plate bolt.
10. Gently tap out the wheel cylinder from the backing plate, using care not to damage the bleeder valve or its cap.

Installation Procedure

Caution: Refer to Fastener Caution in the Preface section.

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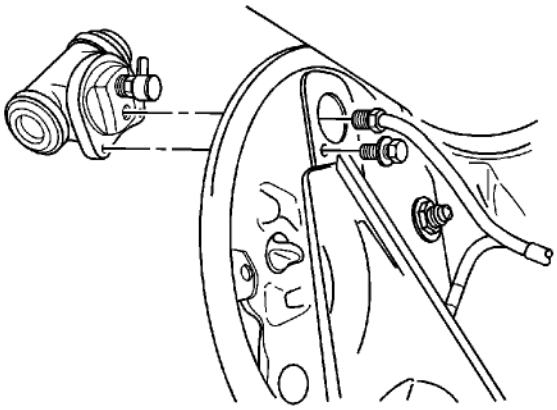
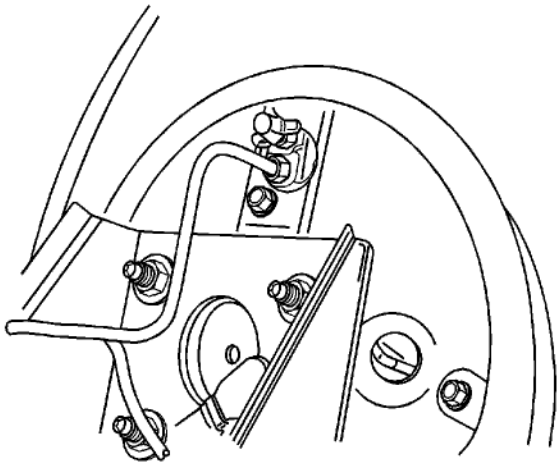


1. Install the wheel cylinder to the backing plate with the wheel cylinder bolt.

   Tighten
   Tighten the wheel cylinder-to-backing plate bolt to 8 N·m (71 lb in).



2. Connect the brake line to the wheel cylinder.

   Tighten
   Tighten the brake line to 16 N·m (12 lb ft).

3. Install the shoe and lining, and the brake drum. Refer to Brake Shoe Replacement.
4. Bleed the brakes. Refer to Hydraulic Brake System Bleeding.

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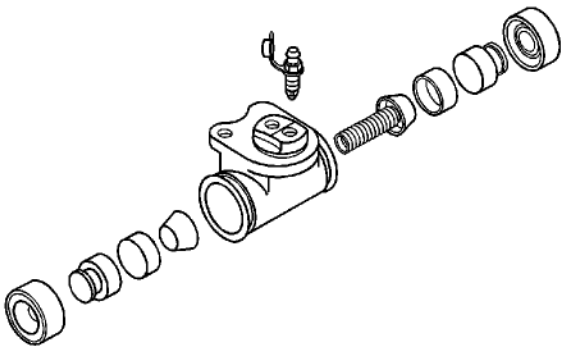
Wheel Cylinder Overhaul

Disassembly Procedure



Warning: Brake fluid may irritate eyes and skin. In case of contact, take the following actions:

- Eye contact - rinse thoroughly with water.
- Skin contact - rinse with soap and water.
- If ingested - consult a physician immediately.

1. Remove the wheel cylinder assembly from the backing plate. Refer to Wheel Cylinder Replacement.
2. Twist off the boots, the pistons, and the seals from each end of the wheel cylinder.
3. Remove the spring assembly.

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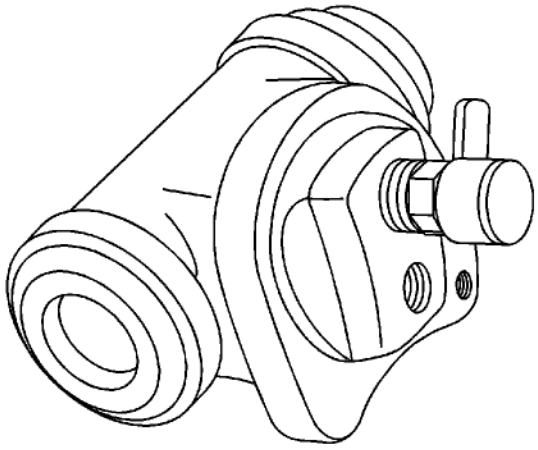
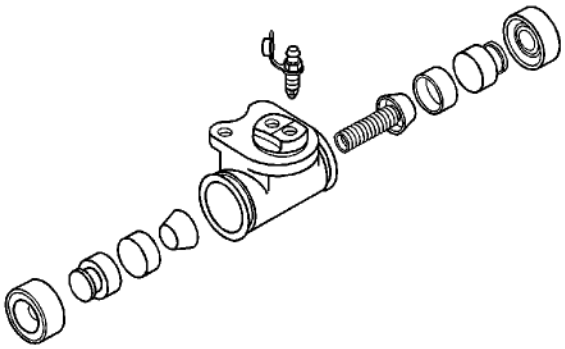


4. Remove the bleeder cap and the bleeder valve.

Assembly Procedure

Warning: Refer to Safety Glasses Warning in the Preface section.



1. Inspect the wheel cylinder bore and the pistons for scoring, nicks, corrosion, and wear.

   Note: If the bore will not clean up with a crocus cloth, replace the assembly.

2. Use a crocus cloth to polish out light corrosion in the wheel cylinder bore.

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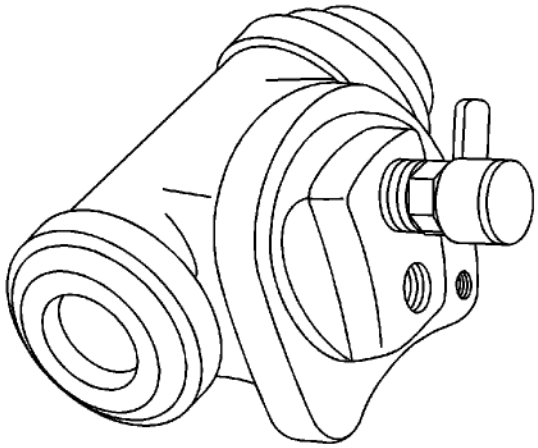
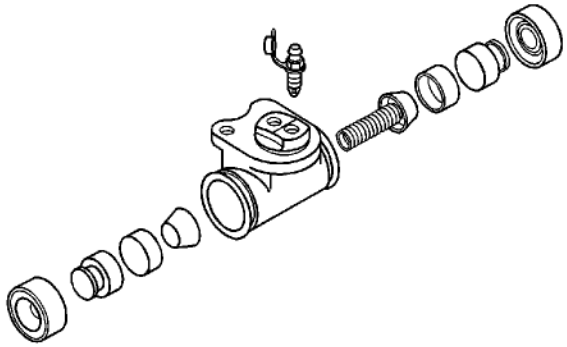


3. Clean all the parts in clean denatured alcohol or brake fluid. Dry all the parts with unlubricated compressed air and lubricate the new seals, the pistons, and the wheel cylinder bore with clean brake fluid before assembly.
4. Thinly coat all the parts except the dust caps wit brake cylinder fluid.
5. Fasten the bleeder valve and the cap to the wheel cylinder.



6. Attach to the wheel cylinder the spring assembly, followed by the pistons, the seals, and the boots.
7. Inspect the pistons for free movement.
8. Install the wheel cylinder assembly. Refer to Wheel Cylinder Replacement.

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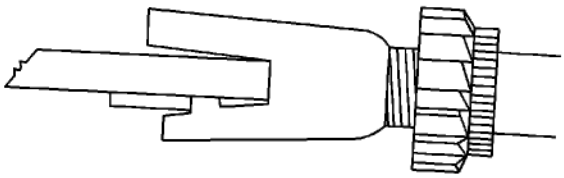
Drum Brake Adjustment

Adjustment Procedure

Warning: Refer to Brake Dust Warning in the Preface section.

1. Remove the brake drum. Refer to Brake Drum Replacement.



2. Using the rear brake adjuster nut, turn the adjuster assembly in until a sufficient amount of drag occurs on the brake drum.
3. Place the parking brake lever stops against the edge of the shoe web. If necessary, loosen the park brake cable at the equalizer. Refer to Parking Brake Lever Replacement.
4. Install the brake drum. Refer to Brake Drum Replacement.

Note: If the clicking sound of the adjuster assembly is not audible from either brake drum, the clearance between the brake shoes and the drum is adjusted.

5. Apply the brake pedal at least 10 times. Verify the clicking sound of the adjuster assembly is not audible from either brake drum.
6. Adjust the park brake. Refer to Parking Brake Adjustment.

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