

Component Procedures: Brake Caliper

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Component Procedures: Brake Caliper

Parts and Labor (itype_189)

Parts

Qualifier	Part #	Name	Price	Note
Front Brakes > Caliper > Rig?	13578804	Caliper	198.85	
Front Brakes > Caliper > Left	13578803	Caliper	196.94	
Rear Brakes	15926281	Caliper Piston	21.10	
Rear Brakes > Caliper > Right	25843041	Caliper	155.23	
Rear Brakes > Caliper > Left	25843042	Caliper	155.23	
Caliper Overhaul Kit > Rear ?	25814676	Seal Kit	16.10	

Labor

Operation	Qualifier Path	Skill	Std Hrs	Wty Hrs
Remove & Replace	Brake Components > Brakes, R&R > Front Pads	B	1.3	0.0
Remove & Replace	Brake Components > Brakes, R&R > Front Pads >?		0.3	0.2
Remove & Replace	Brake Components > Brakes, R&R > Front Pads >?		0.2	0.2
Remove & Replace	Brake Components > Brakes, R&R > Front Pads >?		0.1	0.2
Remove & Replace	Brake Components > Brakes, R&R > Front Pads >?		0.2	0.2
Remove & Replace	Brake Components > Brakes, R&R > Front Pads >?		0.2	0.2
Remove & Replace	Brake Components > Brakes, R&R > Front Pads >?		0.4	0.2
Remove & Replace	Brake Components > Brakes, R&R > Rear Pads	B	1.3	0.0
Remove & Replace	Brake Components > Brakes, R&R > Rear Pads > ?		0.3	0.2
Remove & Replace	Brake Components > Brakes, R&R > Rear Pads > ?		0.2	0.2
Remove & Replace	Brake Components > Brakes, R&R > Rear Pads > ?		0.1	0.2
Remove & Replace	Brake Components > Brakes, R&R > Rear Pads > ?		0.2	0.2
Remove & Replace	Brake Components > Brakes, R&R > Rear Pads > ?		0.2	0.2
Remove & Replace	Brake Components > Brakes, R&R > Rear Pads > ?		0.4	0.2

Specifications Quick Reference (itype_439)

Quick Specifications

- item

Front Brake Caliper Overhaul (LFX) (Article 10609)

Disassembly Procedure

- Replace all the components included in the repair kits used to service this brake caliper .
- Lubricate the rubber parts with GM approved brake fluid from a clean, sealed brake fluid container to make assembly easier.
- If any hydraulic component is removed or disconnected, it may be necessary to bleed all or part of the brake system.
- The torque values specified are for dry, non-lubricated fasteners.
- Perform the service operations on a clean bench, free from all mineral oil materials.
- Remove the brake caliper from the vehicle. Refer to Front Brake Caliper Replacement .
- Drain the brake fluid from the brake caliper.
- Place a 25 mm (1 in) block of wood between the caliper housing and the piston. Click for full-size image
- Install a large C-clamp over the body of the brake caliper with the C-clamp ends against the rear of the caliper body and against the block of wood.
- Carefully remove the brake caliper piston (1) by directing low pressure compressed air into the brake caliper inlet hole.
- Remove the C-clamp from the caliper.
- Remove the block of wood from the caliper.
- Remove the piston dust boot seal (1) from the seal counterbore in the brake caliper and discard the dust boot seal. Click for full-size image
- Using a small wooden or plastic tool, remove the piston seal (1) from the brake caliper bore and discard the piston seal. Click for full-size image
- Remove the brake caliper bleeder valve cap (1) and bleeder valve (2). Click for full-size image
- Inspect the brake caliper mounting bracket guide surfaces for corrosion and wear. Remove and replace the

brake caliper mounting bracket if damaged or worn.

- Clean the brake caliper piston bores and seal counterbore with denatured alcohol, or equivalent.
- Clean the brake caliper piston with denatured alcohol, or equivalent.
- Dry the caliper piston bore and counterbore with non-lubricated, filtered air.
- Dry the brake caliper piston with non-lubricated, filtered air.
- Inspect the caliper bore for cracks, scoring, pitting, excessive corrosion.
- If light corrosion is present in the caliper bore, attempt to remove the imperfection with a fine emery paper. If the imperfection cannot be removed, replace the caliper assembly.
- If cracks, scoring, pitting, and excessive corrosion are present in the caliper bore, replace the caliper assembly.
- Inspect the caliper piston for cracks, scoring, and/or damage. Replace the caliper piston if any of these conditions exist.

Assembly Procedure

- Install the brake caliper bleeder valve (2) and tighten to 17-20 Nm (13-15 lb ft) . [Click for full-size image](#)
- Install the brake caliper bleeder valve cap (1).
- Lubricate the new piston seal (1) with GM approved brake fluid from a clean, sealed brake fluid container. [Click for full-size image](#)
- Install lubricated piston seal into the brake caliper bore seal groove. Ensure the seal is not twisted.
- Install the piston dust boot seal (1) to the caliper. Ensure the seal is seated evenly and completely into the groove in the caliper housing. [Click for full-size image](#)
- Place the caliper piston into the caliper housing by carefully lifting the edge of the dust boot seal. [Click for full-size image](#)
- Carefully push the piston (1) squarely into the brake caliper bore.
- Ensure the caliper dust boot is properly seated into the piston groove and into the groove in the brake caliper bore.
- Install the brake caliper to the vehicle. Refer to [Front Brake Caliper Replacement](#) .

Rear Brake Caliper Overhaul (LFX) (Article 10626)

Disassembly Procedure

- Replace all the components included in the repair kits used to service this brake caliper .
- Lubricate the rubber parts with GM approved brake fluid from a clean, sealed brake fluid container to make assembly easier.
- If any hydraulic component is removed or disconnected, it may be necessary to bleed all or part of the brake system.
- The torque values specified are for dry, non-lubricated fasteners.
- Perform the service operations on a clean bench, free from all mineral oil materials.
- Remove the brake caliper from the vehicle. Refer to [Rear Brake Caliper Replacement](#) .
- Drain the brake fluid from the brake caliper.
- Place a 25 mm (1 in) block of wood between the caliper housing and the piston. [Click for full-size image](#)
- Install a large C-clamp over the body of the brake caliper with the C-clamp ends against the rear of the caliper body and against the block of wood.
- Carefully remove the brake caliper piston (1) by directing low pressure compressed air into the brake caliper inlet hole.
- Remove the C-clamp from the caliper.
- Remove the block of wood from the caliper.
- Remove the piston dust boot seal (1) from the seal counterbore in the brake caliper and discard the dust boot seal. [Click for full-size image](#)
- Using a small wooden or plastic tool, remove the piston seal (1) from the brake caliper bore and discard the piston seal. [Click for full-size image](#)
- Remove the brake caliper bleeder valve cap (1) and bleeder valve (2). [Click for full-size image](#)
- Inspect the brake caliper mounting bracket guide surfaces for corrosion and wear. Remove and replace the brake caliper mounting bracket if damaged or worn.
- Clean the brake caliper piston bores and seal counterbore with denatured alcohol, or equivalent.
- Clean the brake caliper piston with denatured alcohol, or equivalent.
- Dry the caliper piston bore and counterbore with non-lubricated, filtered air.
- Dry the brake caliper piston with non-lubricated, filtered air.
- Inspect the caliper bore for cracks, scoring, pitting, excessive corrosion.
- If light corrosion is present in the caliper bore, attempt to remove the imperfection with a fine emery paper. If the imperfection cannot be removed, replace the caliper assembly.

- If cracks, scoring, pitting, and excessive corrosion are present in the caliper bore, replace the caliper assembly.
- Inspect the caliper piston for cracks, scoring, and/or damage. Replace the caliper piston if any of these conditions exist.

Assembly Procedure

- Install the brake caliper bleeder valve (2) and tighten to 17-20 Nm (13-15 lb ft) . Click for full-size image
- Install the brake caliper bleeder valve cap (1).
- Lubricate the new piston seal (1) with GM approved brake fluid from a clean, sealed brake fluid container. Click for full-size image
- Install lubricated piston seal into the brake caliper bore seal groove. Ensure the seal is not twisted.
- Install the piston dust boot seal (1) to the caliper. Ensure the seal is seated evenly and completely into the groove in the caliper housing. Click for full-size image
- Place the caliper piston into the caliper housing by carefully lifting the edge of the dust boot seal. Click for full-size image
- Carefully push the piston (1) squarely into the brake caliper bore.
- Ensure the caliper dust boot is properly seated into the piston groove and into the groove in the brake caliper bore.
- Install the brake caliper to the vehicle. Refer to Rear Brake Caliper Replacement .

Front Brake Caliper Replacement (LFX) (Article 10612)

Removal Procedure

- Inspect the fluid level in the brake master cylinder reservoir .
- If the brake fluid level is midway between the maximum full point and the minimum allowable level, no brake fluid needs to be removed from the reservoir before proceeding.
- If the brake fluid level is higher than midway between the maximum full point and the minimum allowable level, remove brake fluid to the midway point before proceeding.
- Raise and support the vehicle. Refer to Lifting and Jacking the Vehicle .
- Remove the tire and wheel assembly. Refer to Tire and Wheel Removal and Installation .
- Install a C-clamp against the outer brake pad and the rear of the brake caliper body.
- Slowly tighten the C-clamp until the brake caliper piston is compressed into the brake caliper bore.
- Remove the brake hose fitting bolt (1). Click for full-size image
- Remove the brake hose fitting gaskets (2) and the brake hose (3).
- Discard the brake hose fitting gaskets.
- Using a backup wrench on the brake caliper guide pin, remove the brake caliper guide pin bolts (1). Click for full-size image
- Remove the brake caliper (1). Click for full-size image

Installation Procedure

- Inspect the brake caliper guide pins, seals and brake pad springs for damage and/or corrosion. Refer to Front Disc Brake Mounting and Hardware Inspection .
- Install the brake caliper (1). Click for full-size image
- Using a backup wrench on the brake caliper guide pin, install 2 new brake caliper guide pin bolts (1) and tighten to 27 Nm (20 lb ft) . Click for full-size image
- Assemble the brake hose fitting bolt (1) and 2 new brake hose fitting gaskets (2) to the brake hose (3) and tighten the fitting bolt to 40 Nm (30 lb ft) . Click for full-size image
- Bleed the hydraulic brake system. Refer to Hydraulic Brake System Bleeding .
- Install the tire and wheel assembly. Refer to Tire and Wheel Removal and Installation .
- With the engine OFF, gradually apply the brake pedal to approximately 2/3 of its travel distance.
- Slowly release the brake pedal.
- Wait 15 seconds, then repeat steps 7–8 until a firm brake pedal apply is obtained. This will properly seat the brake caliper pistons and brake pads.
- Fill the brake master cylinder reservoir to the proper level. Refer to Brake Master Cylinder Reservoir Filling .

Rear Brake Caliper Replacement (LFX) (Article 10628)

Removal Procedure

- Inspect the fluid level in the brake master cylinder reservoir .
- If the brake fluid level is midway between the maximum full point and the minimum allowable level, no brake fluid needs to be removed from the reservoir before proceeding.

- If the brake fluid level is higher than midway between the maximum full point and the minimum allowable level, remove brake fluid to the midway point before proceeding.
 - Raise and support the vehicle. Refer to Lifting and Jacking the Vehicle .
 - Remove the tire and wheel assembly. Refer to Tire and Wheel Removal and Installation .
 - Install a C-clamp against the outer brake pad and the rear of the brake caliper body.
 - Slowly tighten the C-clamp until the brake caliper piston is compressed into the brake caliper bore.
 - Remove the brake hose fitting bolt (1). Click for full-size image
 - Remove the brake hose fitting gaskets (2) and the brake hose (3).
 - Discard the brake hose fitting gaskets.
 - Using a backup wrench on the brake caliper guide pin, remove the brake caliper guide pin bolts (1). Click for full-size image
 - Remove the brake caliper (1). Click for full-size image
- Installation Procedure
- Inspect the brake caliper guide pins, seals and brake pad springs for damage and/or corrosion. Refer to Rear Disc Brake Mounting and Hardware Inspection .
 - Install the brake caliper (1). Click for full-size image
 - Using a backup wrench on the brake caliper guide pin, install the brake caliper guide pin bolts (1) and tighten to 27 Nm (20 lb ft) . Click for full-size image
 - Assemble the brake hose fitting bolt (1) and 2 new brake hose fitting gaskets (2) to the brake hose (3) and tighten the fitting bolt to 40 Nm (30 lb ft) . Click for full-size image
 - Bleed the hydraulic brake system. Refer to Hydraulic Brake System Bleeding .
 - Install the tire and wheel assembly. Refer to Tire and Wheel Removal and Installation .
 - With the engine OFF, gradually apply the brake pedal to approximately 2/3 of its travel distance.
 - Slowly release the brake pedal.
 - Wait 15 seconds, then repeat steps 7–8 until a firm brake pedal apply is obtained. This will properly seat the brake caliper pistons and brake pads.
 - Fill the brake master cylinder reservoir to the proper level. Refer to Brake Master Cylinder Reservoir Filling .

Front Brake Caliper Hardware Replacement (LFX) (Article 10606)

Removal Procedure

- Raise and support the vehicle. Refer to Lifting and Jacking the Vehicle .
- Remove the tire and wheel assembly. Refer to Tire and Wheel Removal and Installation .
- Using a backup wrench on the brake caliper guide pin, remove and discard the brake caliper guide pin bolts (1). Click for full-size image
- Remove the brake caliper (1) and support with heavy mechanics wire or equivalent. Click for full-size image
- Remove the outer brake pad (1). Click for full-size image
- Remove the inner brake pad (2).
- Remove the brake pad springs (1). Click for full-size image
- Remove the upper brake caliper guide pin (1). Click for full-size image
- Remove the upper guide pin seal (2).
- Remove the lower brake caliper guide pin (1). Click for full-size image
- Remove the lower guide pin seal (2).

Installation Procedure

- Inspect the brake caliper guide pins, seals and brake pad springs for damage and/or corrosion. Refer to Front Disc Brake Mounting and Hardware Inspection .
- Apply a thin coat of high temperature silicone brake lubricant the brake caliper guide pin. Click for full-size image
- Install the lower brake caliper guide pin (1) to the guide pin seal (2).
- Ensure the guide pin seal is fully seated in the groove of the brake caliper guide pin.
- Install the lower guide pin and seal to the brake caliper bracket.
- Ensure the guide pin seal is fully seated in the groove of the brake caliper bracket.
- Install the upper brake caliper guide pin (1) to the guide pin seal (2).
- Install the upper guide pin and seal to the brake caliper bracket.
- Install the brake pad springs (1). Click for full-size image
- Install the outer brake pad (1). Click for full-size image
- Install the inner brake pad (2).
- Install the brake caliper (1) to the caliper bracket. Click for full-size image
- Using a backup wrench on the brake caliper guide pins, install 2 new brake caliper guide pin bolts (1) and tighten to 27 Nm (20 lb ft) . Click for full-size image

- Install the tire and wheel assembly. Refer to Tire and Wheel Removal and Installation .

Rear Brake Caliper Hardware Replacement (LFX) (Article 10624)

Removal Procedure

- Raise and support the vehicle. Refer to Lifting and Jacking the Vehicle .
- Remove the tire and wheel assembly. Refer to Tire and Wheel Removal and Installation .
- Using a backup wrench on the brake caliper guide pin, remove and discard the brake caliper guide pin bolts (1). Click for full-size image
- Remove the brake caliper (1) and support with heavy mechanics wire or equivalent. Click for full-size image
- Remove the inner brake pad (1). Click for full-size image
- Remove the outer brake pad (2).
- Remove the brake pad springs (1). Click for full-size image
- Remove the 2 brake caliper guide pin seals (1) and guide pins (2). Click for full-size image

Installation Procedure

- Inspect the brake caliper guide pins, seals and brake pad springs for damage and/or corrosion. Refer to Rear Disc Brake Mounting and Hardware Inspection .
- Apply a thin coat of high temperature silicone brake lubricant the brake caliper guide pins. Click for full-size image
- Install the 2 brake caliper guide pin seals (1) to the guide pins (2).
- Ensure the guide pin seals are fully seated in the groove of the brake caliper guide pins.
- Install the 2 guide pins and seals to the brake caliper bracket.
- Ensure the guide pin seal is fully seated in the groove of the brake caliper bracket.
- Install the brake pad springs (1). Click for full-size image
- Install the inner brake pad (1). Click for full-size image
- Install the outer brake pad (2).
- Install the brake caliper (1) to the brake caliper bracket. Click for full-size image
- Using a backup wrench on the brake caliper guide pins, install 2 new brake caliper guide pin bolts (1) and tighten to 27 Nm (20 lb ft) . Click for full-size image
- Install the tire and wheel assembly. Refer to Tire and Wheel Removal and Installation .

Front Brake Caliper Bracket Replacement (Article 10604)

Removal Procedure

- Raise and support the vehicle. Refer to Lifting and Jacking the Vehicle .
- Remove the tire and wheel assembly. Refer to Tire and Wheel Removal and Installation .
- Using a backup wrench on the brake caliper guide pins, remove and discard the brake caliper guide pin bolts (1). Click for full-size image
- Remove the disc brake caliper (1) and support with heavy mechanics wire or equivalent. Click for full-size image
- Remove the outer disc brake pad (1). Click for full-size image
- Remove the inner disc brake pad (2).
- Remove the disc brake pad springs (1). Click for full-size image
- Remove and discard the disc brake caliper bracket bolts (1). Click for full-size image
- Remove the disc brake caliper bracket (1). Click for full-size image
- Inspect the disc brake hardware. Refer to Front Disc Brake Mounting and Hardware Inspection .

Installation Procedure

- Install the disc brake caliper bracket (1). Click for full-size image
- Install 2 new disc brake caliper bracket bolts (1) and tighten to 40 Nm (30 lb ft) + 90 degrees . Click for full-size image
- Install the disc brake pad springs (1). Click for full-size image
- Install the outer disc brake pad (1). Click for full-size image
- Install the inner disc brake pad (2).
- Install the disc brake caliper (1). Click for full-size image
- Using a backup wrench on the brake caliper guide pins, install 2 new brake caliper guide pin bolts (1) and tighten to 27 Nm (20 lb ft) . Click for full-size image
- Install the tire and wheel assembly. Refer to Tire and Wheel Removal and Installation .

Rear Brake Caliper Bracket Replacement (Article 10622)

Removal Procedure

- Raise and support the vehicle. Refer to Lifting and Jacking the Vehicle .

- Remove the tire and wheel assembly. Refer to Tire and Wheel Removal and Installation .
- Using a backup wrench on the brake caliper guide pins, remove and discard the brake caliper guide pin bolts (1). Click for full-size image
- Remove the disc brake caliper (1) and support with heavy mechanics wire or equivalent. Click for full-size image
- Remove the inner disc brake pad (1). Click for full-size image
- Remove the outer disc brake pad (2).
- Remove the disc brake pad springs (1). Click for full-size image
- Remove and discard the disc brake caliper bracket bolts (1). Click for full-size image
- Remove the disc brake caliper bracket.
- Inspect the disc brake hardware. Refer to Front Disc Brake Mounting and Hardware Inspection .
- Installation Procedure
- Install the disc brake caliper bracket.
- Install 2 new disc brake caliper bracket bolts (1) and tighten to 40 Nm (30 lb ft) + 90 degrees . Click for full-size image
- Install the disc brake pad springs (1). Click for full-size image
- Install the inner disc brake pad (1). Click for full-size image
- Install the outer disc brake pad (2).
- Install the disc brake caliper (1). Click for full-size image
- Using a backup wrench on the brake caliper guide pins, install 2 new brake caliper guide pin bolts (1) and tighten to 27 Nm (20 lb ft) . Click for full-size image
- Install the tire and wheel assembly. Refer to Tire and Wheel Removal and Installation .

Rear Brake Rotor Replacement (LFX) (Article 10631)

Special Tools

- J-41013 - Rotor Resurfacing Kit
- J-42450-A - Wheel Hub Resurfacing Kit

For equivalent regional tools, refer to Special Tools .

Removal Procedure

- Raise and support the vehicle. Refer to Lifting and Jacking the Vehicle .
- Remove the tire and wheel assembly. Refer to Tire and Wheel Removal and Installation .
- Remove and discard the disc brake caliper bracket bolts (1). Click for full-size image
- Remove the disc brake caliper and bracket assembly (1) and support with heavy mechanics wire or equivalent. Click for full-size image
- Remove the disc brake rotor bolt (1). Click for full-size image
- Remove the disc brake rotor (1). Click for full-size image

Installation Procedure

- Using the J-42450-A - Wheel Hub Resurfacing Kit , thoroughly clean any rust or corrosion from the mating surface of the hub/axle flange.
- Using the J-41013 - Rotor Resurfacing Kit , thoroughly clean any rust or corrosion from the mating surface and mounting surface of the brake rotor.
- Inspect the mating surfaces of the hub/axle flange and the rotor to ensure there are no foreign particles or debris remaining.
- Install the disc brake rotor (1). Click for full-size image
- Install the disc brake rotor bolt (1) and tighten to 10 Nm (89 lb in) . Click for full-size image
- Install the disc brake caliper and bracket assembly (1). Click for full-size image
- Install 2 new disc brake caliper bracket bolts (1) and tighten to 40 Nm (30 lb ft) +90 degrees . Click for full-size image
- Inspect the parking brake adjustment. Refer to Parking Brake Adjustment .
- Install the tire and wheel assembly. Refer to Tire and Wheel Removal and Installation .
- If the brake rotor was refinished or replaced, or if new brake pads were installed, burnish the pads and rotors. Refer to Brake Pad and Rotor Burnishing .

All New Technical Service Bulletins (itype_432)

Tsbs

- Staining/Discoloring to Brake Caliper Paint (16-NA-059, 2026/06/01)

All Technical Service Bulletins (itype_100)

Tsbs

- Staining/Discoloring to Brake Caliper Paint (16-NA-059, 2026/06/01)

Brake Caliper Inspection (Article 10586)

- Inspect the brake caliper housing (1) for cracks, excess wear, and/or damage. If any of these conditions are present, the brake caliper requires replacement. [Click for full-size image](#)

- Inspect the caliper piston dust boot seal (3) for cracks, tears, cuts, deterioration and/or improper seating in the caliper body . If any of these conditions are present, the brake caliper requires overhaul or replacement.

- Inspect for brake fluid leakage around the caliper piston dust boot seal (3) and on the disc brake pad s. If there is any evidence of brake fluid leakage, the brake caliper requires overhaul or replacement.

- Inspect for smooth and complete travel of the caliper piston (2) into the caliper bores. The movement of the caliper piston (2) into the caliper bores should be smooth and even. If the caliper piston (2) is frozen or difficult to bottom, the caliper requires overhaul or replacement.