



# INSTRUCTIONS

J04189

2006-05-01



## XL CHROME MASTER CYLINDER AND CLUTCH BRACKET KIT

### GENERAL

#### Kit Number

42307-07

#### Models

This kit fits 2007 and later XL models with single disc front brakes.

#### Additional Parts Required

Installation of this kit will also require the use of Brake Pin Grease (Part Number 42820-04) and D.O.T. 4 Hydraulic Brake Fluid (Part Number 99953-99A), available separately from any Harley-Davidson dealer.

Ask your Harley-Davidson Dealer about the selection of hand control levers, and braided brake lines and clutch cables that are also available for these models. These items can be easily installed at the same time as this kit.

#### ⚠ WARNING

Rider and passenger safety depend upon the correct installation of this kit. If the procedure is not within your capabilities or you do not have the correct tools, have a Harley-Davidson dealer perform the installation. Improper installation of this kit could result in death or serious injury. (00308b)

#### NOTE

This instruction sheet references Service Manual information. A Service Manual for your model motorcycle is required for this installation and is available from a Harley-Davidson Dealer.

#### ⚠ WARNING

Brakes are a critical safety component. Contact a Harley-Davidson dealer for brake repair or replacement. Improperly serviced brakes can adversely affect brake performance, which could result in death or serious injury. (00054a)

#### ⚠ WARNING

Do not use parts from single caliper repair kits (9/16 inch bore) on dual caliper models. Likewise, do not use parts from dual caliper repair kits (11/16 inch bore) on single caliper models. Using incorrect parts can cause brake failure, which could result in death or serious injury. (00278a)

### Kit Contents

See Figure 8 and Table 1.

### INSTALLATION

#### Removing the Stock Master Cylinder

##### ⚠ WARNING

To prevent accidental vehicle start-up, which could cause death or serious injury, remove main fuse before proceeding. (00251b)

1. Refer to the Service Manual and follow the instructions given to remove the maxi-fuse.
2. See Figure 1. Loosen the turn signal clamp screw (3) and remove the turn signal assembly (5) from the front brake master cylinder housing (1).

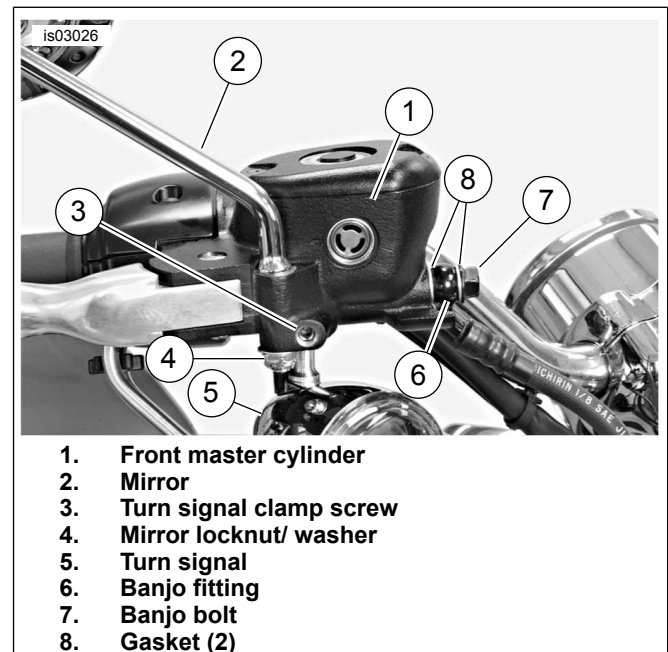


Figure 1. Front Brake Master Cylinder

3. Loosen and remove the lock nut and washer (4), and lift the mirror (2) from the master cylinder housing.



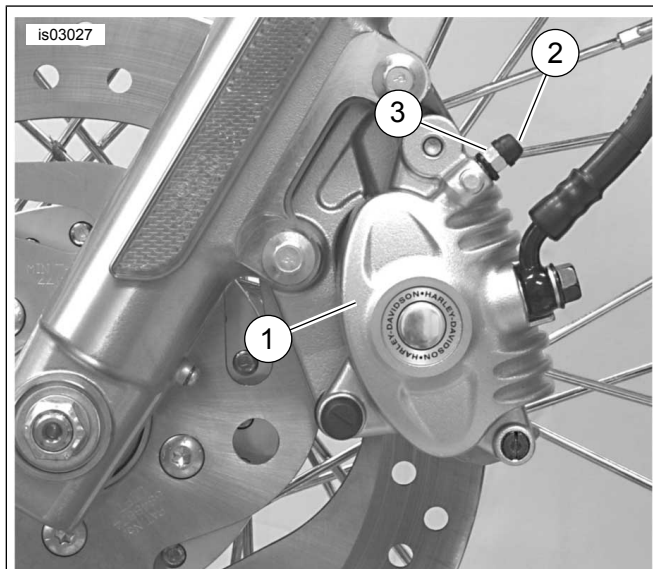
**⚠ WARNING**

Contact with DOT 4 brake fluid can have serious health effects. Failure to wear proper skin and eye protection could result in death or serious injury.

- If inhaled: Keep calm, remove to fresh air, seek medical attention.
- If on skin: Remove contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. If irritation develops, seek medical attention.
- If in eyes: Wash affected eyes for at least 15 minutes under running water with eye lids held open. If irritation develops, seek medical attention.
- If swallowed: Rinse mouth and then drink plenty of water. Do not induce vomiting. Contact Poison Control. Immediate medical attention required.
- See Safety Data Sheet (SDS) for more details available at [sds.harley-davidson.com](https://sds.harley-davidson.com)

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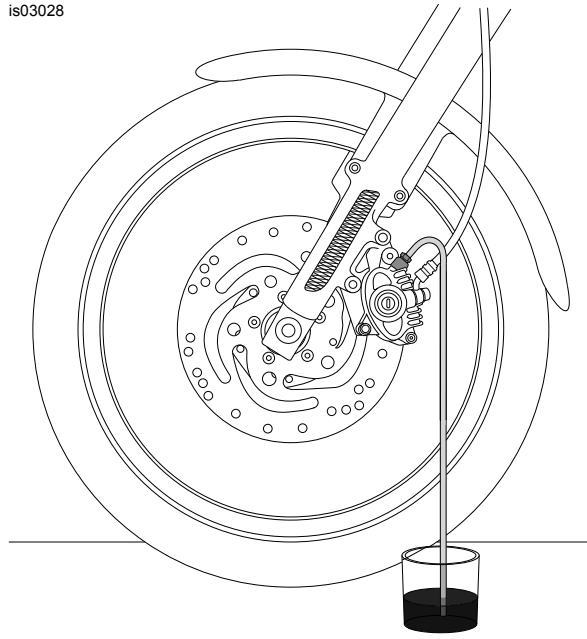
4. See Figures 2 and 3. Remove the bleeder nipple cap (2) from the bleeder valve (3) on the front brake caliper (1). Install the end of a length of clear plastic tubing over the caliper bleeder valve (3), while placing the free end in a suitable container. Open the bleeder valve about 1/2 turn. Pump the brake hand lever to drain the brake fluid. Close the bleeder valve.



1. Front brake caliper
2. Bleeder nipple cap
3. Bleeder valve

**Figure 2. Front Caliper Bleeder Valve**

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**Figure 3. Bleeding the Hydraulic System**

**⚠ WARNING**

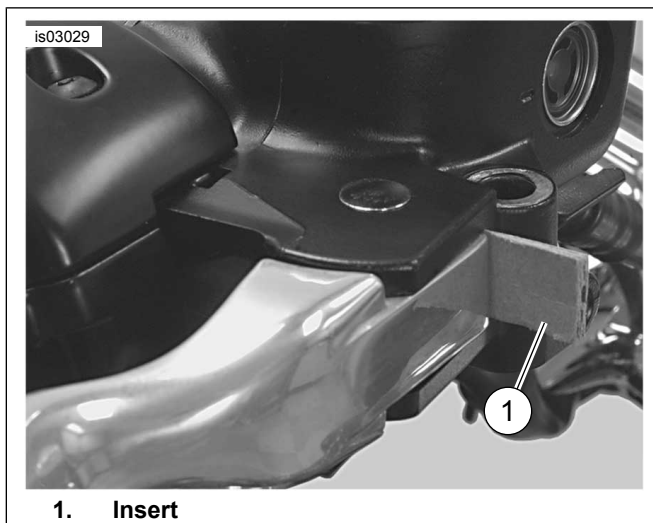
**Replace brake line gaskets. Re-using original gaskets can cause brake failure and loss of vehicle control, which could result in death or serious injury. (00318a)**

5. See Figure 1. Remove the banjo bolt (7) and two brake-line gaskets (8) to disconnect the hydraulic brake line banjo fitting (6) from the master cylinder (1). Discard the washers.

**NOTICE**

**Do not remove or install the master cylinder assembly without first positioning a 5/32-inch (4 mm) thick insert between the brake lever and lever bracket. Removing or installing the master cylinder assembly without the insert in place may result in damage to the rubber boot and plunger on the front stoplight switch. (00324a)**

6. See Figure 4. Squeeze the front brake lever and place a 5/32 inch (4 mm) thick insert between the brake lever and lever bracket. Release the brake lever.



**Figure 4. Install 5/32-Inch (4 mm) Thick Insert Before Removing or Installing Master Cylinder Assembly**

7. See Figure 8. Using a T-27 TORX drive head, remove the two screws (9) securing the handlebar clamp (8) to the master cylinder (1) housing. Remove the brake lever/ master cylinder assembly and clamp from the handlebar.

#### ⚠ WARNING

**Wear safety glasses or goggles when removing or installing retaining rings. Retaining rings can slip from the pliers and could be propelled with enough force to cause serious eye injury. (00312a)**

8. Remove and discard the retaining ring (6) from the groove at the bottom of the brake hand lever pivot pin. Remove and save the pivot pin and brake hand lever from the master cylinder assembly. Further disassembly is not needed.

### Installing the New Chrome Master Cylinder

1. Obtain the new chrome master cylinder and cover assembly from the kit.
2. Apply approximately 0.1 g of G40M brake grease (Part No. 42820-04, sold separately) to the pivot hole in the brake hand lever.
3. Align the hole in the brake hand lever with the hole in the master cylinder bracket. From the top of the assembly, slide the pivot pin (removed in Step 8) through the bracket and hand lever.

#### ⚠ WARNING

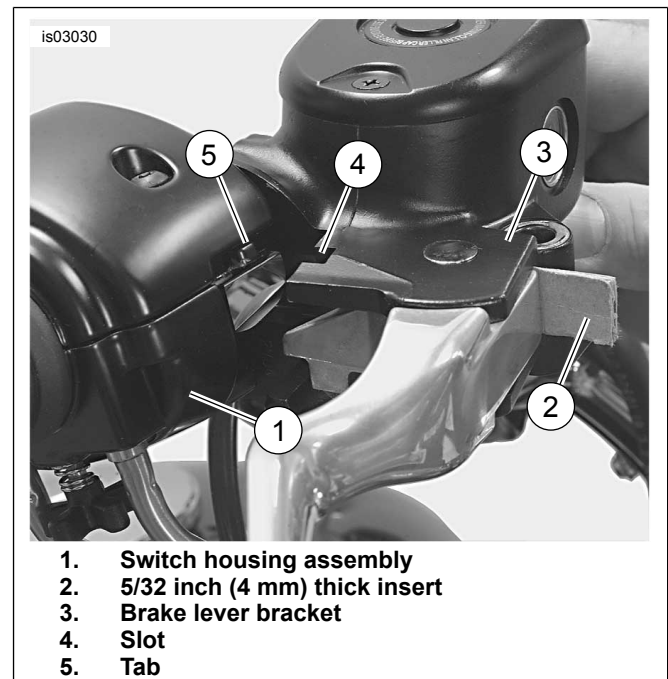
**Wear safety glasses or goggles when removing or installing retaining rings. Retaining rings can slip from the pliers and could be propelled with enough force to cause serious eye injury. (00312a)**

4. Install the new retaining ring (6) from the kit in the pivot pin groove. Verify that the retaining ring is fully seated in the groove.

#### NOTICE

**Do not remove or install the master cylinder assembly without first positioning a 5/32-inch (4 mm) thick insert between the brake lever and lever bracket. Removing or installing the master cylinder assembly without the insert in place may result in damage to the rubber boot and plunger on the front stoplight switch. (00324a)**

5. See Figure 4. Squeeze the front brake lever and place a 5/32 inch (4 mm) thick insert between the brake lever and lever bracket. Release the brake lever.
6. See Figure 5. Position the brake lever/ master cylinder assembly inboard of the switch housing assembly (1), engaging the tab (5) on the lower switch housing in the slot (4) at the top of the brake lever bracket (3).



**Figure 5. Fitting Brake Lever/ Master Cylinder to Right Handlebar Switch Housing**

7. See Figure 8. Align the holes in the handlebar clamp with those in the master cylinder housing. From the kit, start the new screws and washers (9). Position for rider comfort. Beginning with the top screw, tighten the screws to 108-132 in-lbs (12.2-14.9 Nm) using a T27 TORX drive head.

#### NOTE

*Master cylinder housing has a positive stop for banjo fitting. When tightening banjo bolt into master cylinder in the next step, rotate banjo fitting clockwise until it contacts positive stop.*

#### ⚠ WARNING

**Replace brake line gaskets. Re-using original gaskets can cause brake failure and loss of vehicle control, which could result in death or serious injury. (00318a)**

## NOTICE

**Avoid leakage. Be sure gaskets, banjo bolt(s), brake line and caliper bore are clean and undamaged before assembly. (00321a)**

8. See Figure 1. Position a gasket (8) on each side of the hydraulic brake line banjo fitting (6). Insert the banjo bolt (7) through the washers and fitting. Thread the bolt into the master cylinder housing. Tighten to 20-25 ft-lbs (27.1-33.9 Nm).
9. Position the motorcycle so that the top of the master cylinder reservoir is level. See Figure 8. Remove the two screws (5), front master cylinder reservoir cover (3), diaphragm plate and diaphragm (see Gasket Kit, Item 2).
10. See Figure 6. Add enough Harley-Davidson D.O.T. 4 HYDRAULIC BRAKE FLUID (Part Number 99953-99A) to reservoir to bring fluid level even with ridge cast (1) into inside of reservoir, about 0.25 inch (6 mm) below top edge.

### NOTE

*See Figure 6. Do not use sight glass to determine maximum fluid level. Sight glass should only be used as a visual indicator that fluid level is low and needs attention. A ridge is cast into the inside of the reservoir to assist you in determining the correct level.*

*Use only Harley-Davidson D.O.T. 4 HYDRAULIC BRAKE FLUID from a sealed container.*

*Do not overfill reservoir. Do not reuse old brake fluid.*



**Figure 6. Filling Front Master Cylinder Reservoir**

## ⚠ WARNING

**Contact with DOT 4 brake fluid can have serious health effects. Failure to wear proper skin and eye protection could result in death or serious injury.**

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- **If on skin:** Remove contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. If irritation develops, seek medical attention.
- **If in eyes:** Wash affected eyes for at least 15 minutes under running water with eye lids held open. If irritation develops, seek medical attention.
- **If swallowed:** Rinse mouth and then drink plenty of water. Do not induce vomiting. Contact Poison Control. Immediate medical attention required.
- **See Safety Data Sheet (SDS) for more details available at [sds.harley-davidson.com](https://sds.harley-davidson.com)**

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## ⚠ WARNING

**Be sure the master cylinder relief port is not plugged. A plugged relief port can cause brake drag or lockup and loss of vehicle control, which could result in death or serious injury. (00317a)**

11. Verify proper operation of the master cylinder relief port. Actuate the brake hand lever with the reservoir cover removed. A slight spurt of fluid will break the fluid surface in the reservoir compartment if all internal components are working properly.
12. See Figure 2. Install a length of clear plastic tubing over the front brake caliper bleeder valve (3). Place the free end of the tube in a clean container.
13. Depress and hold the brake hand lever to build up hydraulic pressure.
14. Open the front caliper bleeder valve about 1/2-turn. Brake fluid will flow from the bleeder valve through the tubing. Close the bleeder valve when the brake hand lever has moved approximately 1/2 to 3/4 of its full range of travel. Allow the brake hand lever to return slowly to its released position. Repeat Steps 14 through 16 until all air bubbles are purged.
15. Final tighten the bleeder valve to 35-61 **in-lbs** (3.9-6.9 Nm). Install the bleeder nipple cap.
16. See Figure 8. Note that the angular shape of the master cylinder cover (3) makes one side wider than the other. Install the cover with the diaphragm plate and diaphragm (see Gasket Kit, item 2) on the master cylinder housing as shown so that the wider side is positioned above the brake line banjo fitting. Fasten the cover to the reservoir with two screws (5). Tighten to 9-17 **in-lbs** (1.0-2.0 Nm).
17. See Figure 1. Install the mirror (2), secure with the lock nut and washer (4) removed in Step 3. Position the mirror for best rearward visibility. Tighten the lock nut to 96-144 **in-lbs** (10.9-16.3 Nm).

18. Install the turn signal (5), and secure with the clamp screw (3) removed in Step 2. Position so the turn signal lens faces directly forward and the turn signal does not strike the fuel tank when the handlebars are turned to the full right position. Tighten to 96-120 **in-lbs** (10.9-13.6 Nm).

## Removing the Stock Clutch Lever Bracket

1. See Figure 7. Remove the retaining ring (3) and pivot pin (6) from the clutch lever (1). Retain the pivot pin, but discard the retaining ring. Remove the clutch lever from the clutch lever bracket (5).

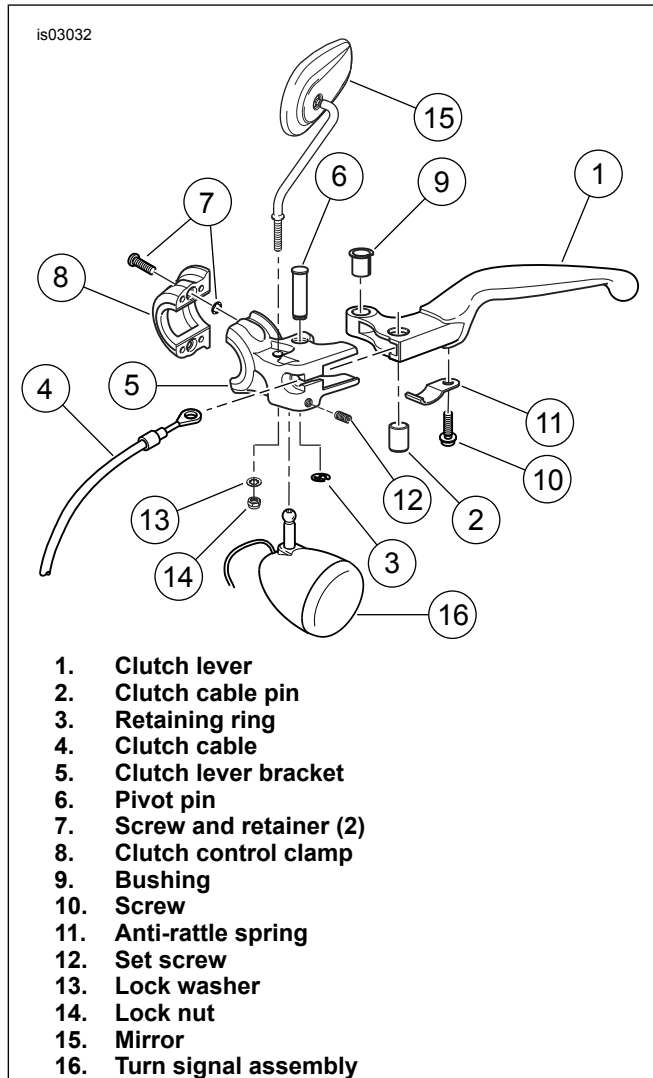


Figure 7. Clutch Hand Control

2. Remove the clutch cable pin (2). Disconnect the clutch cable (4) upper section from the lever.
3. Loosen the set screw (12), and remove the turn signal assembly (16) from the clutch lever bracket.
4. Loosen and remove the lock nut (14) and lock washer (13), and lift the mirror (15) from the clutch lever bracket.

5. Remove and discard the two screws and retainers (7) from the clutch control clamp (8). Remove and discard the clutch control clamp and clutch lever bracket from the left side of the handlebar.

### NOTE

*You may need to loosen the two screws of the left-side handlebar switch housing to remove the clutch control clamp and clutch lever bracket from the handlebar.*

## Installing the New Chrome Clutch Lever Bracket

1. See Figure 8. Position the new chrome clutch control clamp (8) and clutch lever bracket (5) from the kit onto the left side of the handlebar. Hold the clamp and bracket assembly firmly against the left-side handlebar switch housing. Secure the clamp and bracket to the left side of the handlebar using the two new screws, washers (9) and retainers (6). Tighten to 108-132 **in-lbs** (12.2-14.9 Nm).
2. See Figure 7. Re-install the mirror (15), and secure with the lock nut (14) and lock washer (13) removed earlier. Position the mirror for best rearward visibility, then tighten the lock nut to 96-144 **in-lbs** (10.9-16.3 Nm).
3. Install the turn signal (16), and position so the turn signal lens faces directly forward and the turn signal does not strike the fuel tank when the handlebars are turned to the full left position. Tighten the set screw (12) to 96-120 **in-lbs** (10.9-13.6 Nm).

### NOTE

*If the two screws of left-side handlebar switch housing were loosened during clutch hand control removal, tighten to 35-45 **in-lbs** (4.0-5.1 Nm).*

4. Connect the end of the clutch cable (4) upper section to the clutch lever (1) using the clutch cable pin (2).
5. Position the lever within the clutch lever bracket (5), install the pivot pin (6) and secure with the new retaining ring (3) from the kit.
6. Adjust the clutch if necessary. Refer to CLUTCH: ADJUSTMENT in the Service Manual.

## Final Steps

1. Refer to the Service Manual and follow the instructions given to re-install the maxi-fuse.

### ⚠ WARNING

**After servicing brakes and before moving motorcycle, pump brakes to build brake system pressure. Insufficient pressure can adversely affect brake performance, which could result in death or serious injury. (00279a)**

2. Turn the Ignition/ Light Key Switch to IGNITION and apply the front brake hand lever to test the operation of the brake lamp.

### ⚠ WARNING

**After repairing the brake system, test brakes at low speed. If brakes are not operating properly, testing at high speeds can cause loss of control, which could result in death or serious injury. (00289a)**

3. Test ride the motorcycle at low speed. If the brake feels spongy, repeat the bleeding procedure.

SERVICE PARTS

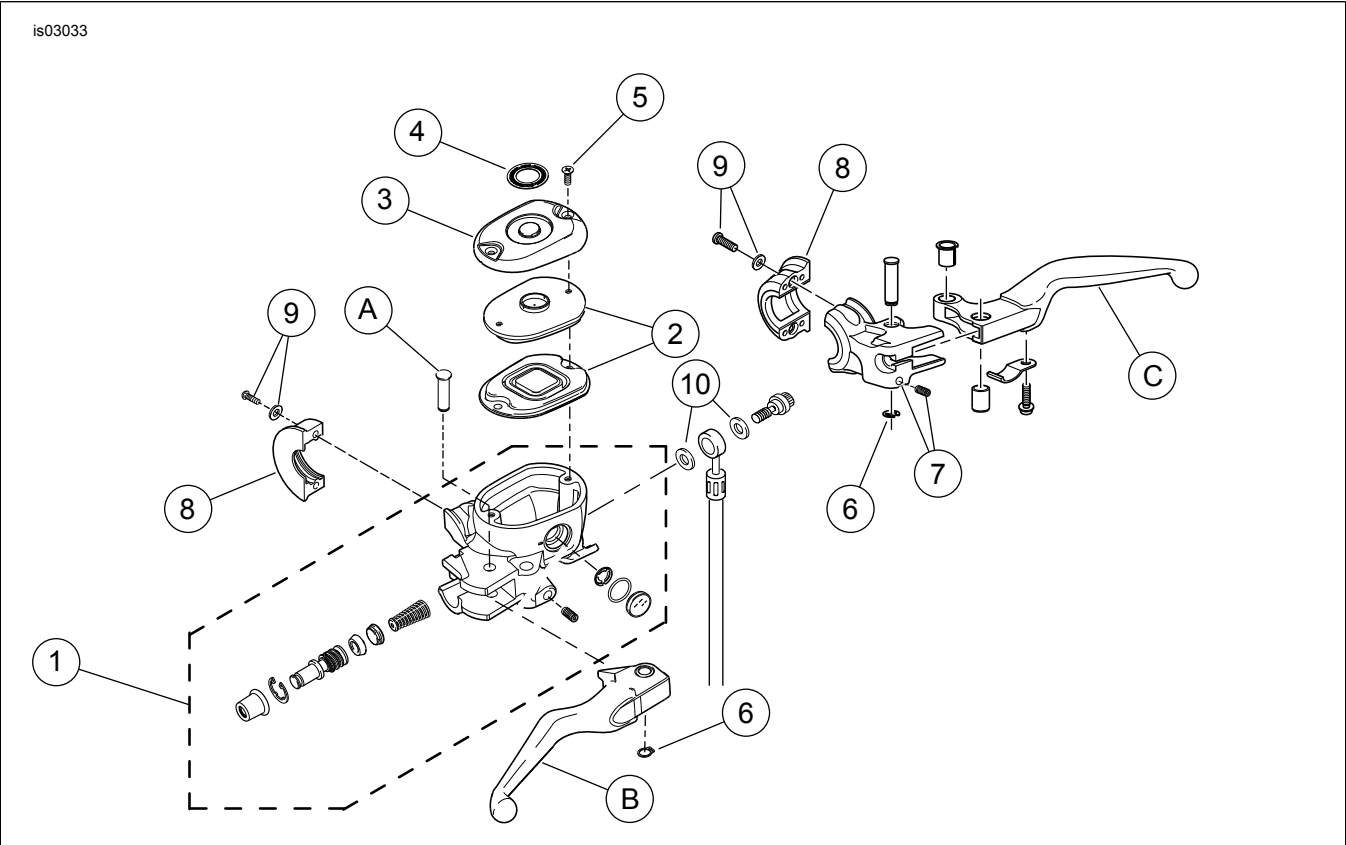


Figure 8. Service Parts: Chrome Front Brake Master Cylinder

Table 1. Service Parts Table

Item	Description (Quantity)	Part Number
1	Master cylinder (chrome)	45321-07
2	Gasket kit, master cyclinder	42805-04
	Diaphragm plate	Not Sold Separately
	Diaphragm	Not Sold Separately
3	Cover, master cylinder (chrome)	Not Sold Separately
4	Decal	44791-07
5	Screw, cover kit, (stainless) (sold in Kit 42329-04, qty. of 2)	Not Sold Separately
6	Retaining ring (2)	11379
7	Clutch lever bracket assembly (chrome)	38603-04
8	Clamp (chrome) (2)	42323-04
9	Screw (4), washer (4)	42320-04A
10	Sealing washer, 10 mm (2)	41732-04
Items mentioned in text, but not included in kit:		
A	Pin, pivot	
B	Lever, brake hand	
C	Lever, clutch hand	