

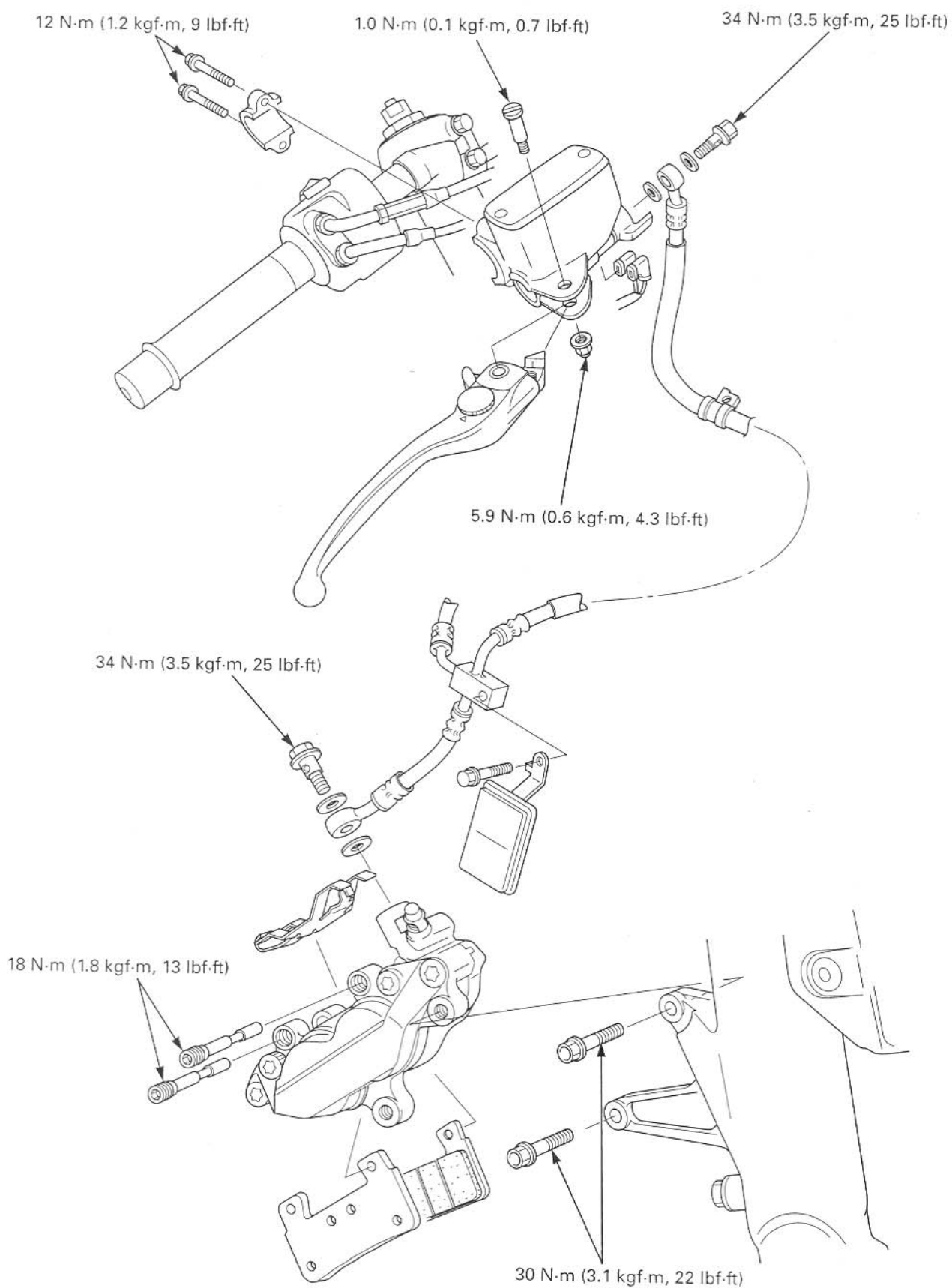
16. HYDRAULIC BRAKE

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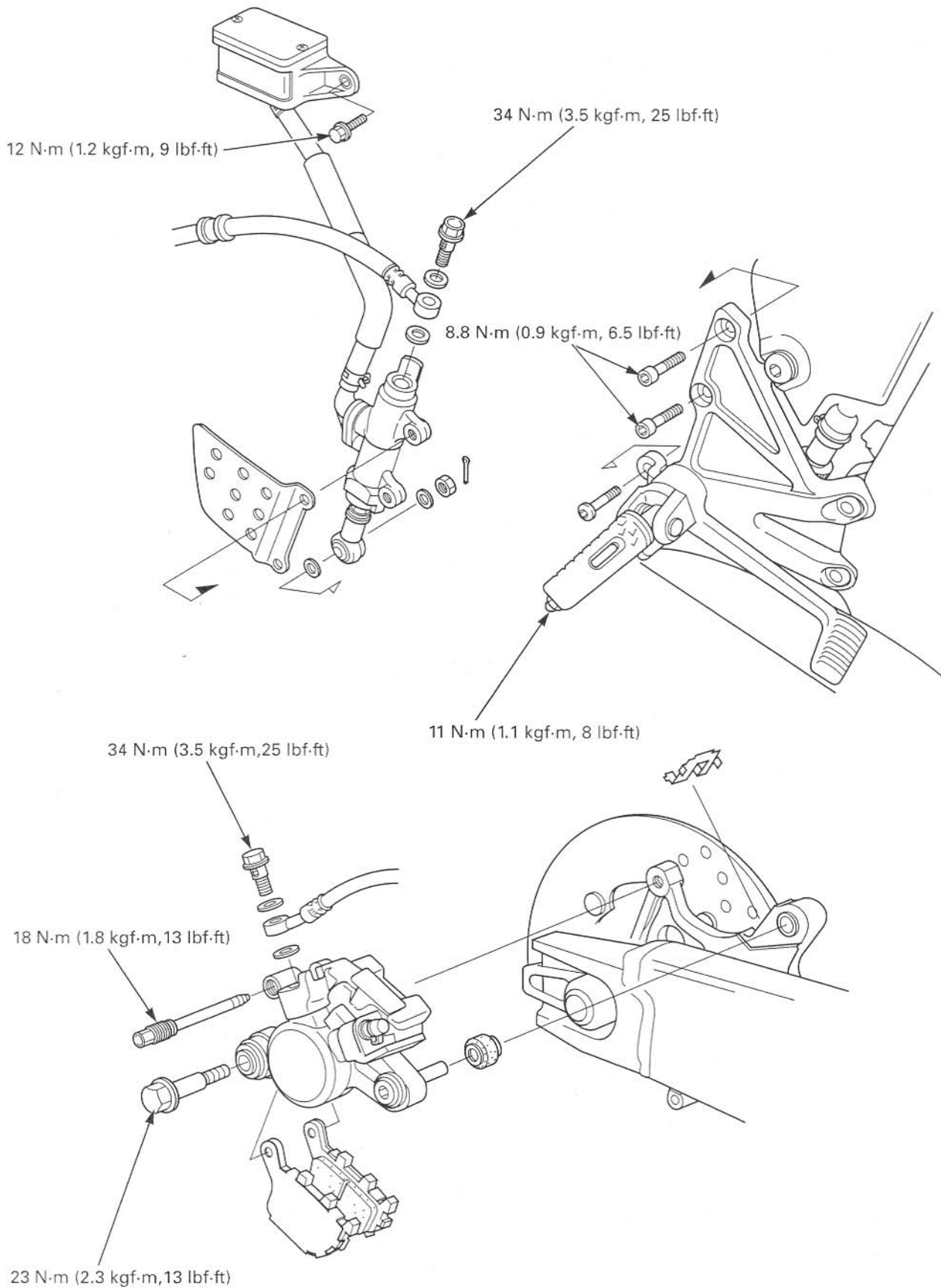
HYDRAULIC BRAKE

COMPONENT LOCATION

FRONT:



REAR:



HYDRAULIC BRAKE

SERVICE INFORMATION

GENERAL

⚠ CAUTION

Frequent inhalation of brake pad dust, regardless of material composition, could be hazardous to your health.

- Avoid breathing dust particles.
- Never use an air hose or brush to clean brake assemblies. Use an OSHA-approved vacuum cleaner.

NOTICE

Spilled brake fluid will severely damage instrument lenses and painted surfaces. It is also harmful to some rubber parts. Be careful whenever you remove the reservoir cap; make sure the reservoirs are horizontal first.

- A contaminated brake disc or pad reduces stopping power. Discard contaminated pads and clean a contaminated disc with a high quality brake degreasing agent.
- Check the brake system by applying the brake lever or pedal after the air bleeding.
- Never allow contaminants (dirt, water, etc.) to get into an open reservoir.
- Once the hydraulic system has been opened, or if the brake feels spongy, the system must be bled.
- Always use fresh DOT 4 brake fluid from a sealed container when servicing the system. Do not mix different types of fluid; they may not be compatible.
- Always check brake operation before riding the motorcycle.

SPECIFICATIONS

Unit: mm (in)

ITEM		STANDARD	SERVICE LIMIT
Front	Specified brake fluid	Honda DOT 4 Brake Fluid	—
	Brake disc thickness	4.4 – 4.6 (0.17 – 0.18)	3.5 (0.14)
	Brake disc runout	—	0.30 (0.012)
	Master cylinder I.D.	17.460 – 17.503 (0.6874 – 0.6891)	17.515 (0.6896)
	Master piston O.D.	17.321 – 17.367 (0.6819 – 0.6837)	17.309 (0.6815)
	Caliper cylinder I.D.	A 32.030 – 32.080 (1.2610 – 1.2630)	32.092 (1.2635)
		B 30.230 – 30.280 (1.1902 – 1.1921)	30.292 (1.1926)
	Caliper piston O.D.	A 31.948 – 31.998 (1.2578 – 1.2598)	31.940 (1.2574)
Rear	Caliper cylinder I.D.	B 30.082 – 30.115 (1.1843 – 1.1856)	30.074 (1.1840)
	Specified brake fluid	Honda DOT 4 Brake Fluid	—
	Brake pedal height	75 (3.0)	—
	Brake disk thickness	4.8 – 5.2 (0.19 – 0.20)	4.0 (0.16)
	Brake disc runout	—	0.30 (0.012)
	Master cylinder I.D.	15.870 – 15.913 (0.6248 – 0.6265)	15.925 (0.6270)
	Master piston O.D.	15.827 – 15.854 (0.6231 – 0.6242)	15.815 (0.6226)
	Caliper cylinder I.D.	38.180 – 38.230 (1.5031 – 1.5051)	38.24 (1.506)
	Caliper piston O.D.	38.098 – 38.148 (1.4999 – 1.5019)	38.09 (1.500)

TORQUE VALUES

Front master cylinder reservoir cap screw	1.5 N·m (0.15 kgf·m, 1.1 lbf·ft)
Front brake lever pivot bolt	1.0 N·m (0.1 kgf·m, 0.7 lbf·ft)
Front brake lever pivot nut	5.9 N·m (0.6 kgf·m, 4.3 lbf·ft)
Front brake light switch screw	1.0 N·m (0.1 kgf·m, 0.7 lbf·ft)
Front master cylinder holder bolt	12 N·m (1.2 kgf·m, 9 lbf·ft)
Front brake caliper assembly torx bolt	23 N·m (2.3 kgf·m, 17 lbf·ft)
Front brake caliper mounting bolt	30 N·m (3.1 kgf·m, 22 lbf·ft)
Rear master cylinder reservoir cap screw	1.5 N·m (0.15 kgf·m, 1.1 lbf·ft)
Rear master cylinder push rod joint nut	18 N·m (1.8 kgf·m, 13 lbf·ft)
Rear master cylinder mounting bolt	8.8 N·m (0.9 kgf·m, 6.5 lbf·ft)
Rear brake reservoir mounting bolt	12 N·m (1.2 kgf·m, 9 lbf·ft)
Rear brake caliper mounting bolt	23 N·m (2.3 kgf·m, 17 lbf·ft)
Rear brake caliper slide pin bolt	27 N·m (2.8 kgf·m, 20 lbf·ft)
Front brake caliper pad pin	18 N·m (1.8 kgf·m, 13 lbf·ft)
Rear brake caliper pad pin	18 N·m (1.8 kgf·m, 13 lbf·ft)
Brake hose oil bolt	34 N·m (3.5 kgf·m, 25 lbf·ft)
Front brake hose clamp bolt	12 N·m (1.2 kgf·m, 9 lbf·ft)
Front brake hose 3-way joint bolt	12 N·m (1.2 kgf·m, 9 lbf·ft)

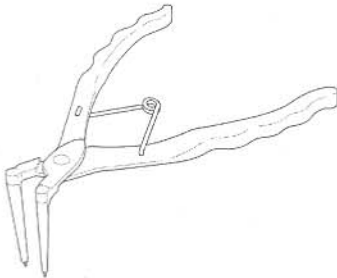
Apply a locking agent to the threads
ALOC bolt: replace with a new one

HYDRAULIC BRAKE

Rear brake reservoir hose joint screw	1.5 N·m (0.15 kgf·m, 1.1 lbf·ft)	Apply a locking agent to the threads
Brake caliper bleed valve	5.9 N·m (0.6 kgf·m, 4.3 lbf·ft)	
Driver footpeg bolt	44 N·m (4.5 kgf·m, 33 lbf·ft)	
Driver footpeg cap bolt	11 N·m (1.1 kgf·m, 8 lbf·ft)	ALOC bolt: replace with a new one
Driver footpeg bracket socket bolt	37 N·m (3.8 kgf·m, 28 lbf·ft)	

TOOLS

Snap ring pliers
07914-SA50001



TROUBLESHOOTING

Brake lever/pedal soft or spongy

- Air in hydraulic system
- Leaking hydraulic system
- Contaminated brake pad/disc
- Worn caliper piston seal
- Worn master cylinder piston cups
- Worn brake pad/disc
- Contaminated caliper
- Caliper not sliding properly (rear)
- Low brake fluid level
- Clogged fluid passage
- Warped/deformed brake disc
- Sticking/worn caliper piston
- Sticking/worn master cylinder piston
- Contaminated master cylinder
- Bent brake lever/pedal

Brake lever/pedal hard

- Clogged/restricted hydraulic system
- Sticking/worn caliper piston
- Caliper not sliding properly (rear)
- Clogged/restricted fluid passage
- Worn caliper piston seal
- Sticking/worn master cylinder piston
- Bent brake lever/pedal

Brake drags

- Contaminated brake pad/disc
- Misaligned wheel
- Clogged/restricted brake hose joint
- Warped/deformed brake disc
- Caliper not sliding properly (rear)
- Clogged/restricted hydraulic system
- Sticking/worn caliper piston
- Clogged master cylinder port
- Sticking master cylinder piston

HYDRAULIC BRAKE

BRAKE FLUID REPLACEMENT/ AIR BLEEDING

NOTICE

Spilled fluid can damage painted, plastic, or rubber parts. Place a rag over these parts whenever the system is serviced.

- Do not allow foreign material to enter the system when filling the reservoir.

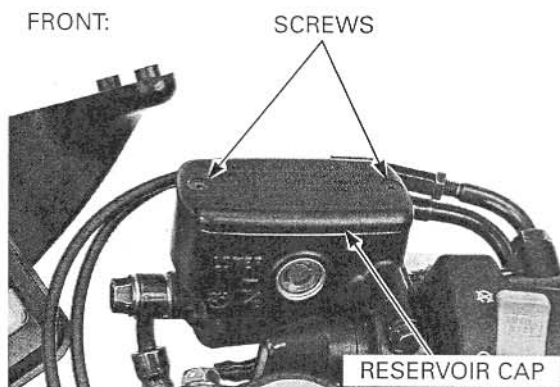
BRAKE FLUID DRAINING

Remove the upper cowl (page 3-9).

For the front brake, turn the handlebar until the reservoir is parallel to the ground, before removing the reservoir cap.

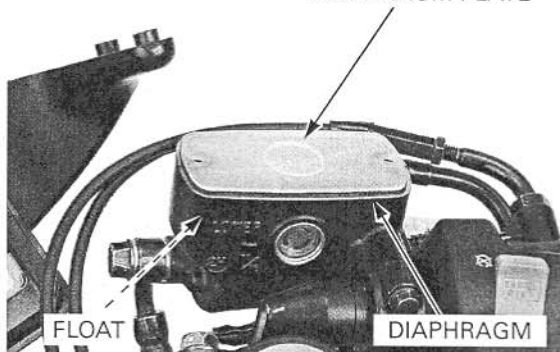
Remove the screws and reservoir cap.

FRONT:



Remove the diaphragm plate, diaphragm and float.

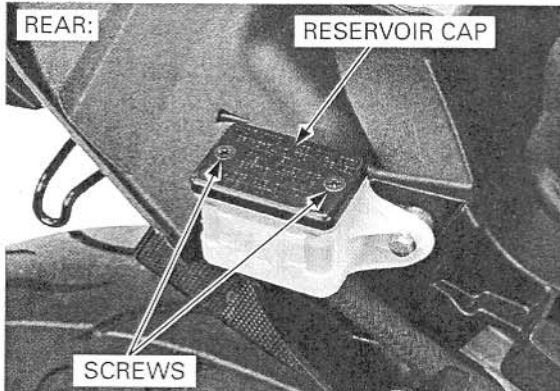
DIAPHRAGM PLATE



Remove the rear cowl (page 3-5).

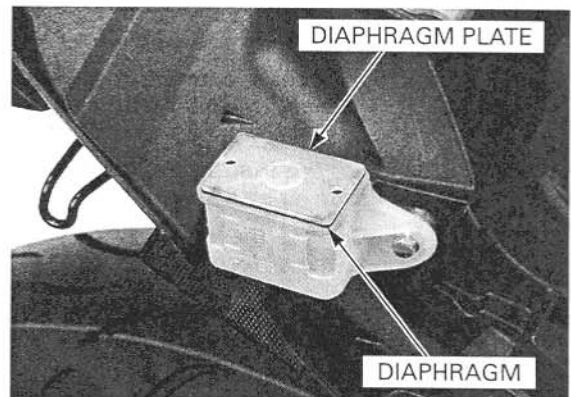
For the rear brake, remove the screws and reservoir cap.

REAR:

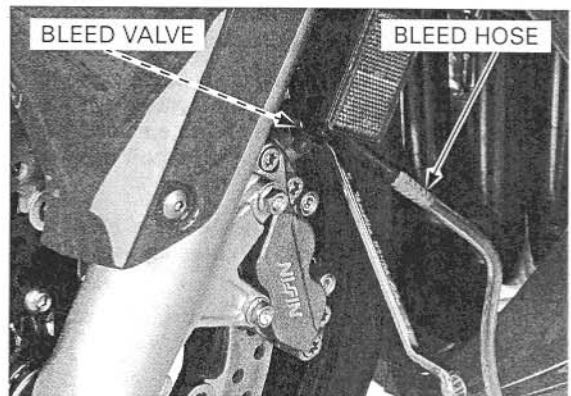


HYDRAULIC BRAKE

Remove the diaphragm plate and diaphragm.



Connect a bleed hose to the caliper bleed valve.



Loosen the bleed valve and pump the brake lever or pedal.
Stop pumping the lever or pedal when no more fluid flows out of the bleed valve.



BRAKE FLUID FILLING/AIR BLEEDING

Fill the reservoir with DOT 4 brake fluid from a sealed container.

NOTE:

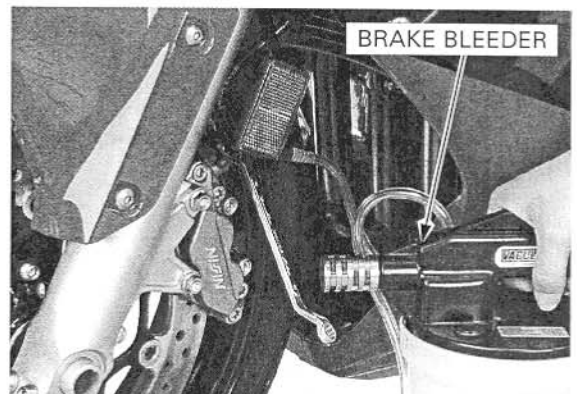
- Use only DOT 4 brake fluid from a sealed container.
- Do not mix different types of fluid. There are not compatible.

Connect a commercially available brake bleeder to the bleed valve.

Operate the brake bleeder and loosen the bleed valve.

If not using an automatic refill system, add brake fluid when the fluid level in the reservoir is low.

- Check the fluid level often while bleeding the brakes to prevent air from being pumped into the system.
- When using a brake bleeding tool, follow the manufacturer's operating instructions.



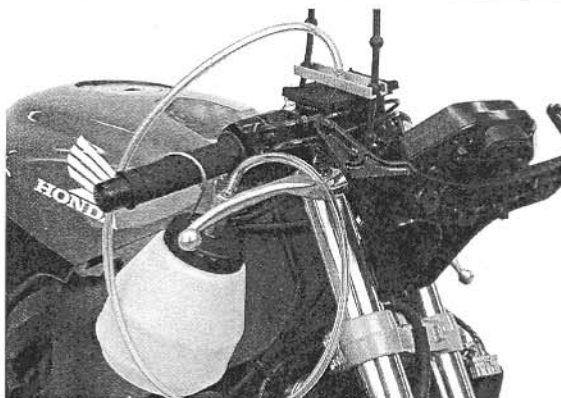
HYDRAULIC BRAKE

Perform the bleeding procedure until the system is completely flushed/bled.

- If air is entering the bleeder from around the bleed valve threads, seal the threads with teflon tape.

For the front brake, close the bleed valve and perform air bleeding for the other side bleed valve.

Operate the brake lever or pedal. If it still feels spongy, bleed the system again.



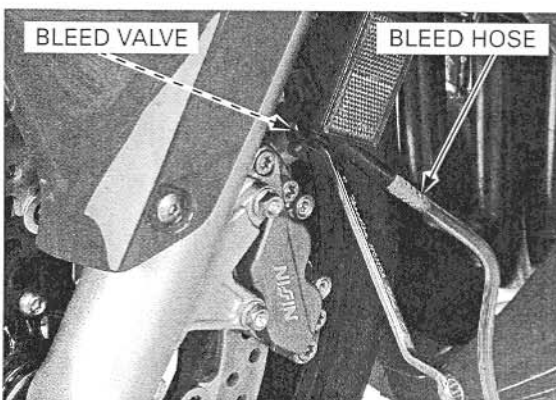
If the brake bleeder is not available, perform the following procedures:

Connect a clear bleed hose to the bleed valve.

Pressurize the system with the brake lever or pedal until there are no air bubbles in the fluid flowing out of the reservoir small hole and lever or pedal resistance is felt.

Do not release the brake lever or pedal until the bleed valve has been closed.

1. Squeeze the brake lever or push the brake pedal, open the bleed valve 1/2 turn and then close the valve.
2. Release the brake lever or pedal slowly and wait several seconds after it reaches the end of its travel.
3. Repeat steps 1 and 2 until bubbles cease to appear in the fluid coming out of the bleed valve.
4. Tighten the bleed valve.

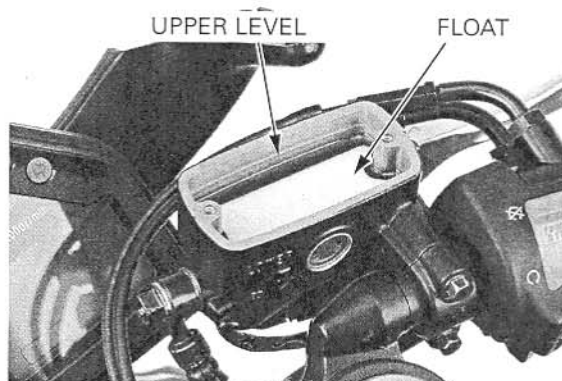


TORQUE: 5.9 N·m (0.6 kgf·m, 4.3 lbf·ft)

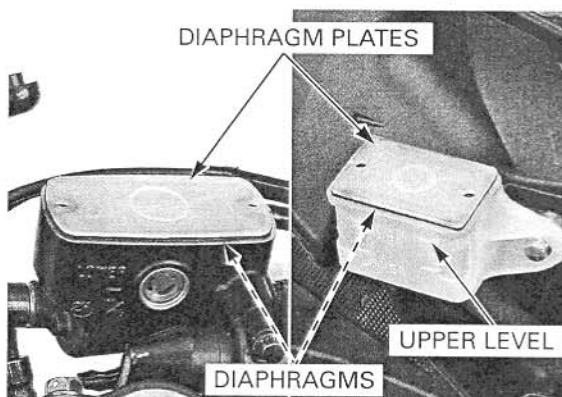
For the front brake, perform air bleeding for the other side bleed valve.

Fill each reservoir to the upper level with DOT 4 brake fluid from a sealed container.

For the front brake, reinstall the float.



Reinstall the diaphragms and diaphragm plates.



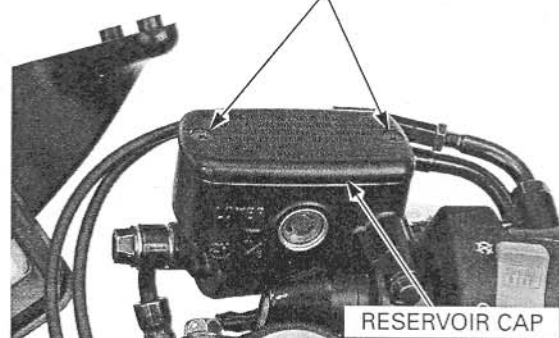
On the front brake, install the reservoir cap and tighten the screws to the specified torque.

TORQUE: 1.5 N·m (0.15 kgf·m, 1.1 lbf·ft)

Install the upper cowl (page 3-12).

FRONT:

SCREWS



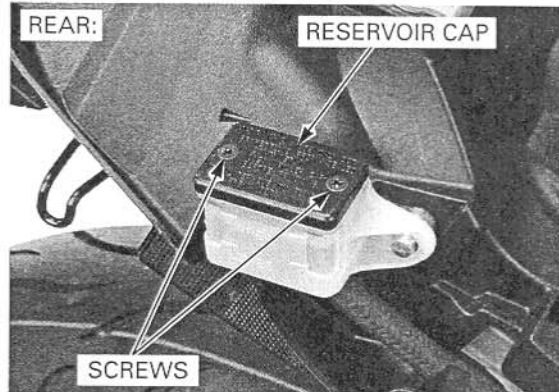
On the rear brake, install the reservoir cap and tighten the screws to the specified torque.

TORQUE: 1.5 N·m (0.15 kgf·m, 1.1 lbf·ft)

Install the rear cowl (page 3-5).

REAR:

RESERVOIR CAP



BRAKE PAD/DISC

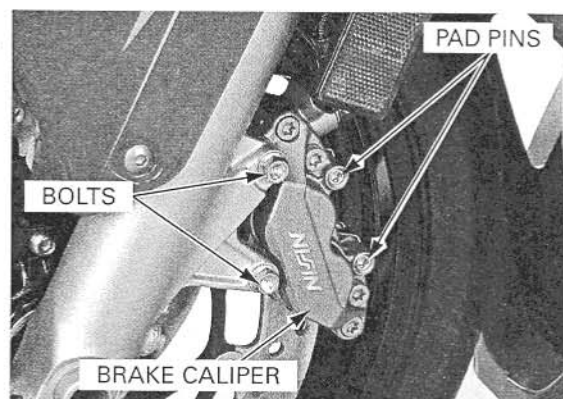
Always replace the brake pads in pairs to assure even disc pressure.

FRONT BRAKE PAD REPLACEMENT

Loosen the pad pins.

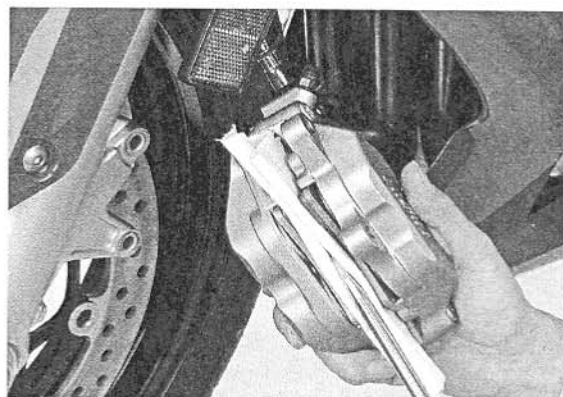
Remove the caliper mounting bolts and brake caliper.

Discard the brake caliper mounting bolts.



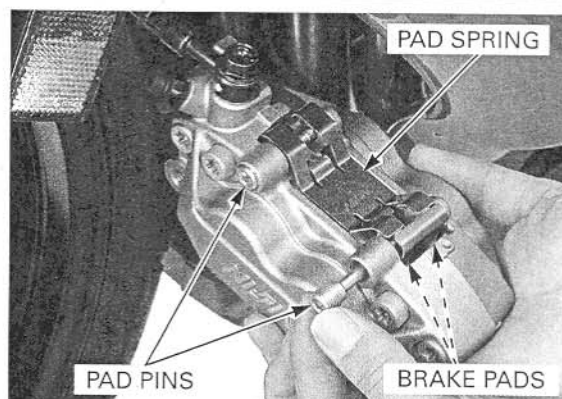
Check the brake fluid level in the brake master cylinder reservoir as this operation causes the level to rise.

Push the caliper pistons all the way in to allow installation of new brake pads.



HYDRAULIC BRAKE

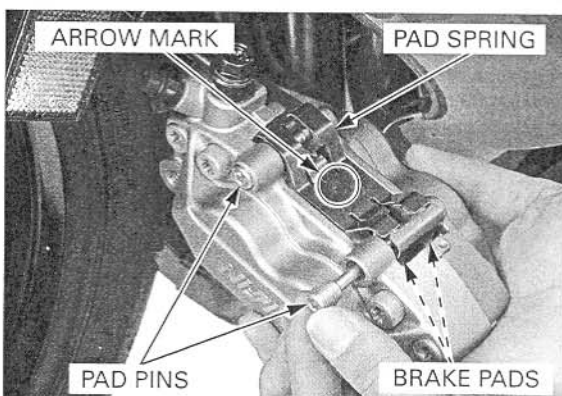
Remove the pad pins, pad spring and brake pads.



Clean the inside of the caliper especially around the caliper pistons.



Install the new brake pads.
Install the pad spring with its arrow mark facing up as shown.
Install the pad pins while pushing in the pad spring.



Be careful not to damage the pads.

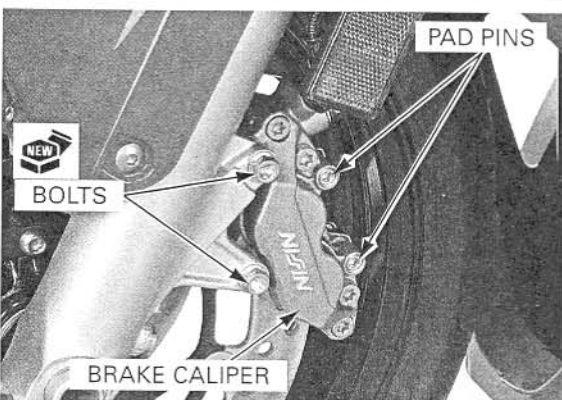
Install the brake caliper to the fork leg so that the disc is positioned between the pads.

Tighten the new brake caliper mounting bolts to the specified torque.

TORQUE: 30 N·m (3.1 kgf·m, 22 lbf·ft)

Tighten the pad pins to the specified torque.

TORQUE: 18 N·m (1.8 kgf·m, 13 lbf·ft)



REAR BRAKE PAD REPLACEMENT

Always replace the brake pads in pairs to assure even disc pressure.

Check the brake fluid level in the brake master cylinder reservoir as this operation causes the level to rise.

Push the caliper piston all the way in by pushing the caliper body inward to allow installation of new brake pads.

Loosen the pad pin.

Remove the caliper mounting bolt.

Pivot the caliper up.

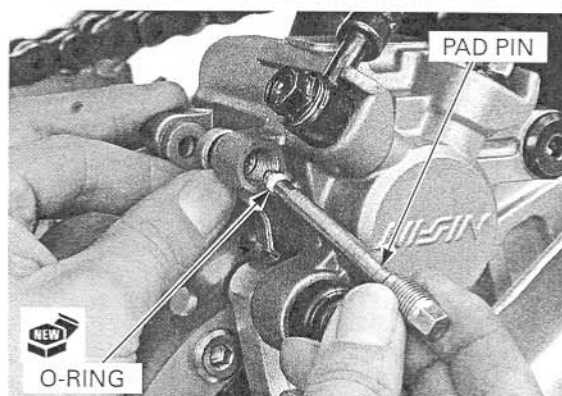
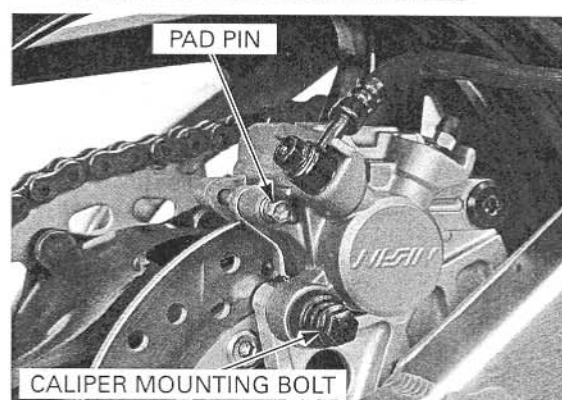
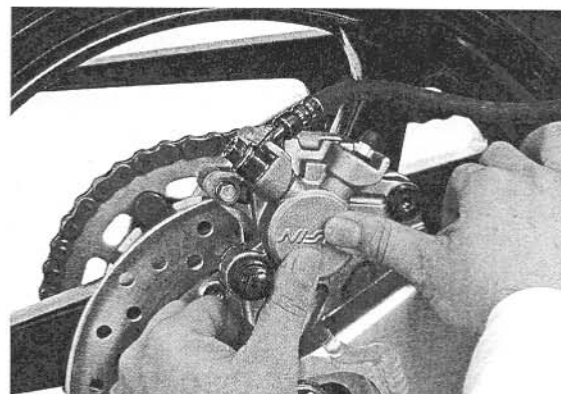
Remove the pad pin and brake pads.

Clean the inside of the caliper especially around the caliper pistons.

Make sure the brake pad spring is in place.
Install new brake pads.

Lower the caliper while pushing the pads against the pad spring so that the pad ends are positioned onto the retainer on the caliper bracket.

Install a new O-ring into the pad pin groove.
Install the pad pin.



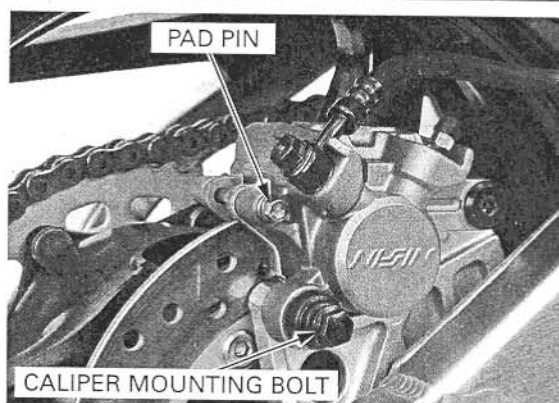
HYDRAULIC BRAKE

Tighten the caliper mounting bolt to the specified torque.

TORQUE: 23 N·m (2.3 kgf·m, 17 lbf·ft)

Tighten the pad pin to the specified torque.

TORQUE: 18 N·m (1.8 kgf·m, 13 lbf·ft)



BRAKE DISC INSPECTION

Visually inspect the brake discs for damage or cracks.

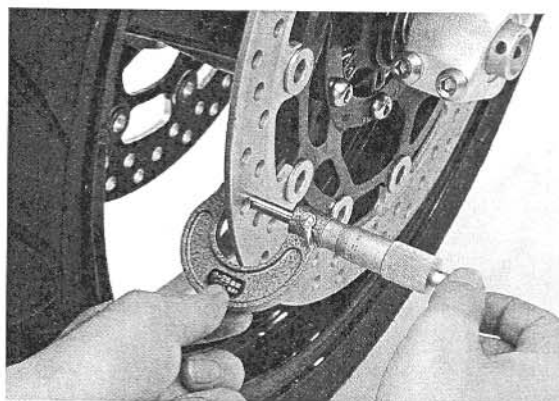
Measure the brake disc thickness with a micrometer.

SERVICE LIMITS:

FRONT: 3.5 mm (0.14 in)

REAR: 4.0 mm (0.16 in)

Replace the brake disc if the smallest measurement is less than the service limit.



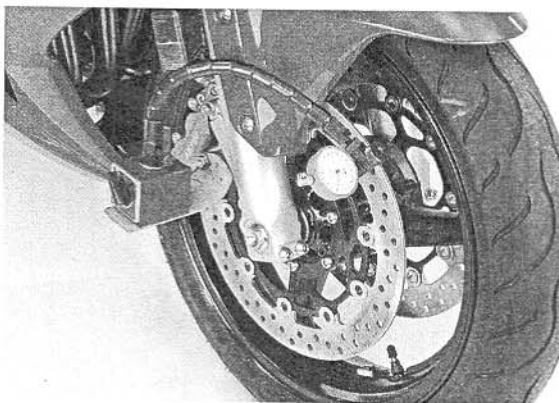
Measure the brake disc warpage with a dial indicator.

SERVICE LIMITS:

FRONT: 0.30 mm (0.0012 in)

REAR: 0.30 mm (0.0012 in)

Check the wheel bearings for excessive play (page 14-13), if the warpage exceeds the service limit. Replace the brake disc if the wheel bearings are normal.



FRONT MASTER CYLINDER

NOTICE

Spilled fluid can damage painted, plastic, or rubber parts. Place a rag over these parts whenever the system is serviced.

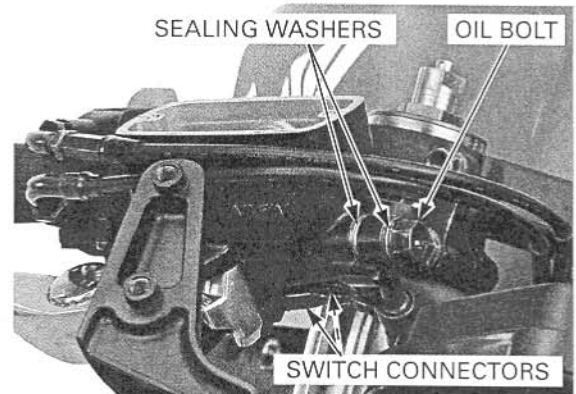
REMOVAL

Drain the front hydraulic system (page 16-6).

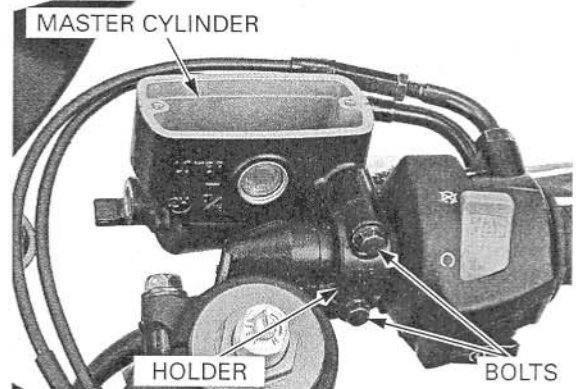
Disconnect the brake light switch wire connectors.

Remove the brake hose oil bolt, sealing washers and brake hose eyelet joint.

Avoid spilling fluid on painted, plastic, or rubber parts. Place a rag over these parts whenever the system is serviced.

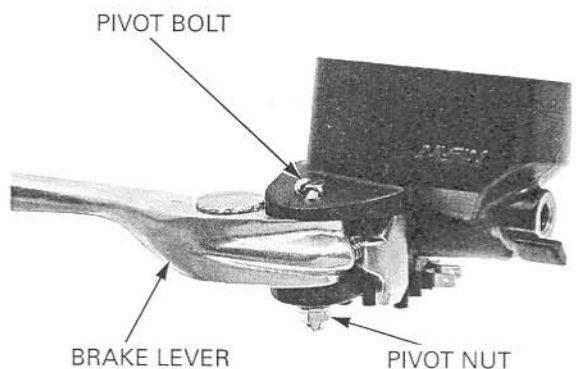


Remove the bolts from the master cylinder holder and remove the master cylinder assembly.



DISASSEMBLY

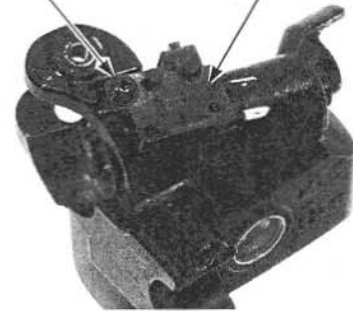
Remove the pivot bolt/nut and brake lever assembly.



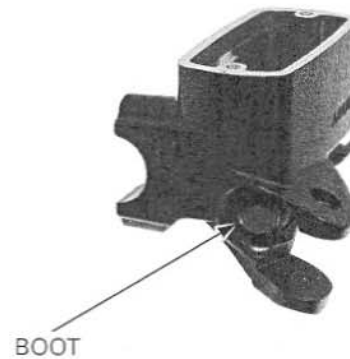
HYDRAULIC BRAKE

Remove the screw and brake light switch.

SCREW BRAKE LIGHT SWITCH



Be careful not to damage the boot. Remove the boot.



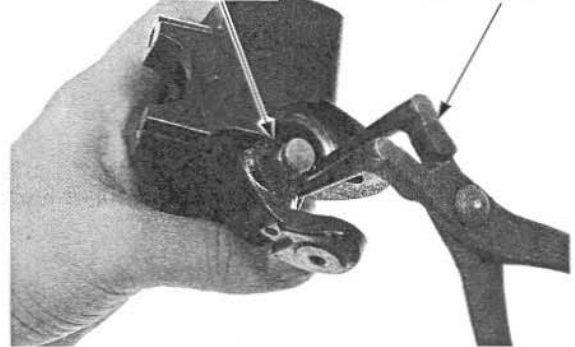
Remove the snap ring from the master cylinder body using the special tool as shown.

TOOL:

Snap ring pliers

07914-SA50001

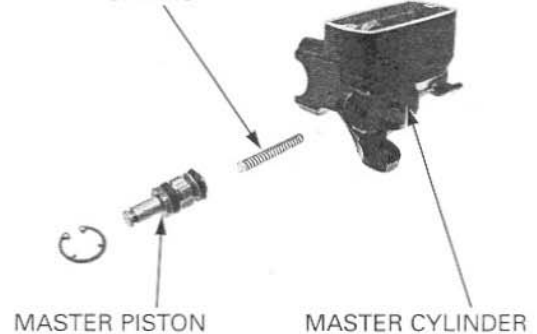
SNAP RING SNAP RING PLIERS



Remove the master piston and spring.

Clean the inside of the cylinder and reservoir with clean brake fluid.

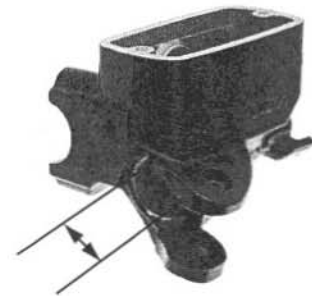
SPRING



INSPECTION

Check the piston boot, primary cup and secondary cup for fatigue or damage.
Check the master cylinder and piston for abnormal scratches.
Measure the master cylinder I.D.

SERVICE LIMIT: 17.515 mm (0.6896 in)

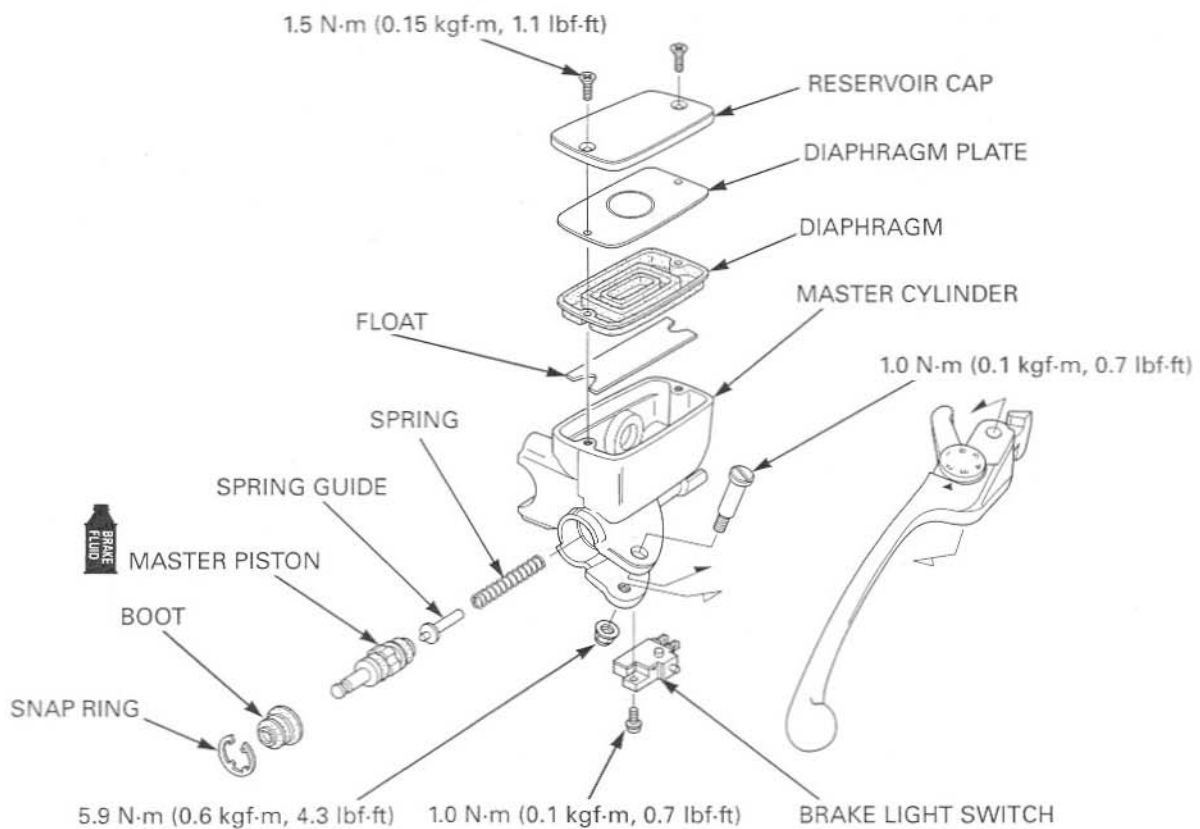


Measure the master cylinder piston O.D.

SERVICE LIMIT: 17.309 mm (0.6815 in)



ASSEMBLY



HYDRAULIC BRAKE

Keep the piston, cups, spring, snap ring and boot as a set; do not substitute individual parts.

When installing the cups, do not allow the lips to turn inside out.

Be certain the snap ring is firmly seated in the groove.

Coat all parts with clean brake fluid before assembly.

Dip the piston in brake fluid.
Install the spring into the piston.
Install the piston assembly into the master cylinder.

Install the snap ring with the special tool.

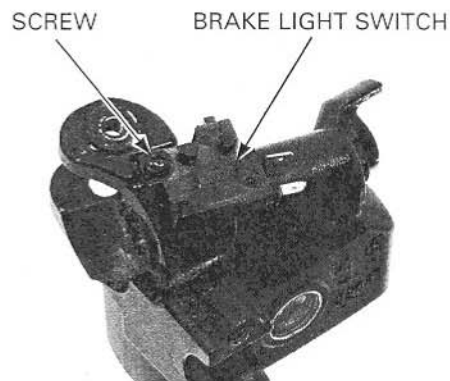
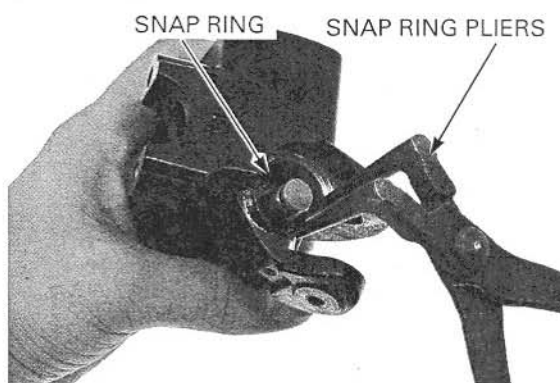
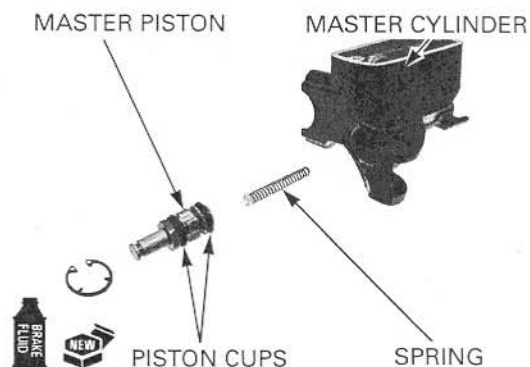
TOOL:
Snap ring pliers

07914-SA50001

Install the boot.

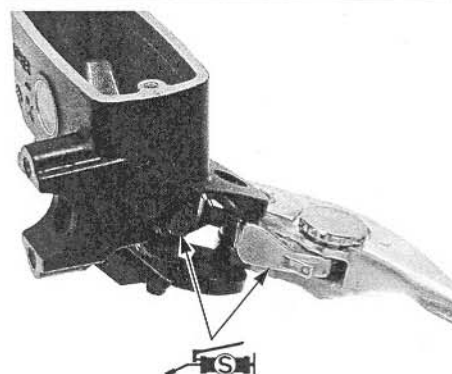
Install the brake light switch and tighten the screw to the specified torque.

TORQUE: 1.0 N·m (0.1 kgf·m, 0.7 lbf·ft)



HYDRAULIC BRAKE

Apply silicone grease to the contact surfaces of the brake lever and piston tip.



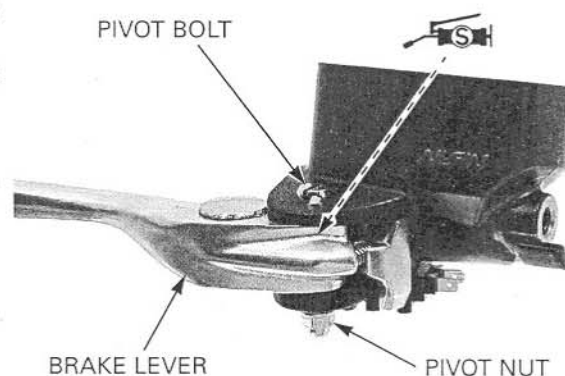
Apply silicone grease to the brake lever pivot bolt sliding surface.

Install the brake lever assembly, tighten the pivot bolt to the specified torque.

TORQUE: 1.0 N·m (0.1 kgf·m, 0.7 lbf·ft)

Hold the pivot bolt and tighten the pivot nut to the specified torque.

TORQUE: 5.9 N·m (0.6 kgf·m, 4.3 lbf·ft)



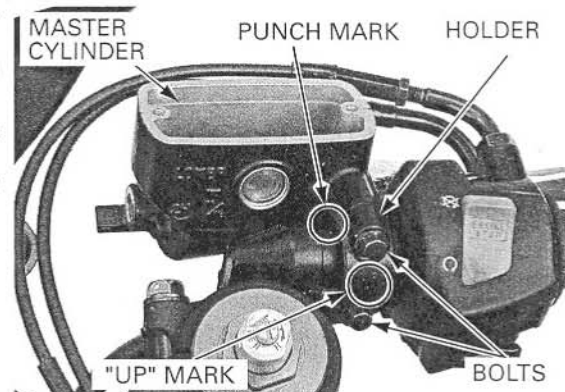
Place the master cylinder assembly on the handlebar.

Align the end of the master cylinder with the punch mark on the handlebar.

Install the master cylinder holder with its "UP" mark facing up.

Tighten the upper bolt first, then the lower bolt to the specified torque.

TORQUE: 12 N·m (1.2 kgf·m, 9 lbf·ft)



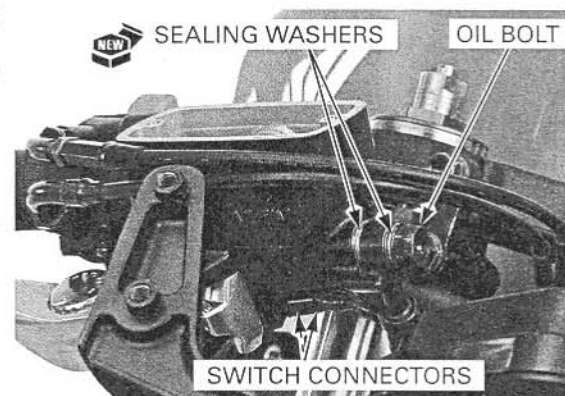
Install the brake hose eyelet with the oil bolt and new sealing washers.

Push the eyelet joint against the stopper, then tighten the oil bolt to the specified torque.

TORQUE: 34 N·m (3.5 kgf·m, 25 lbf·ft)

Connect the brake light switch wire connectors.

Fill brake fluid and bleed air the front brake hydraulic system (page 16-7).



HYDRAULIC BRAKE

REAR MASTER CYLINDER

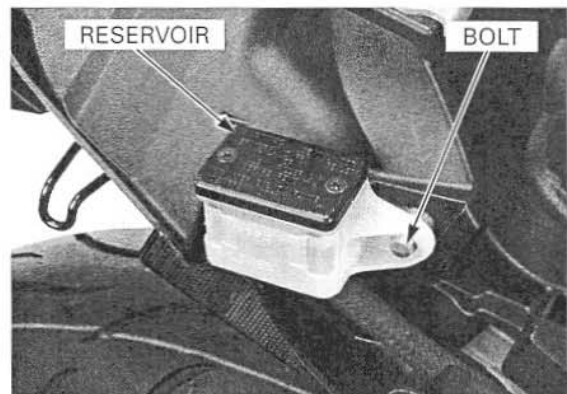
NOTICE

Spilled fluid can damage painted, plastic, or rubber parts. Place a rag over these parts whenever the system is serviced.

REMOVAL

Drain the rear hydraulic system (page 16-6).

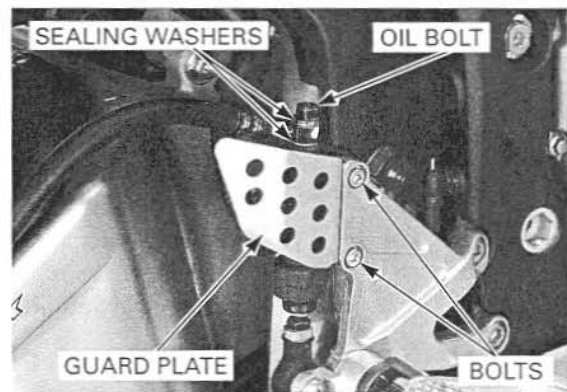
Remove the rear master cylinder reservoir mounting bolt.



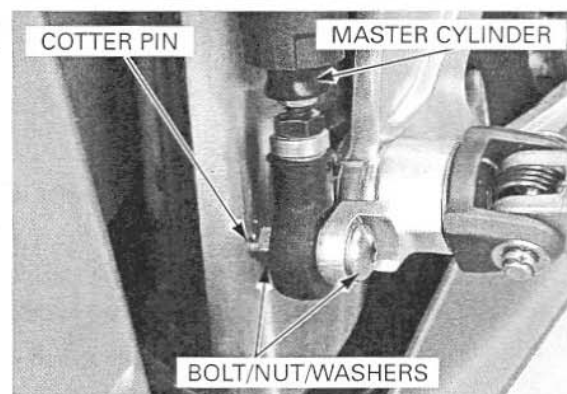
Avoid spilling fluid on painted, plastic, or rubber parts. Place a rag over these parts whenever the system is serviced.

Remove the brake hose oil bolt, sealing washers and brake hose eyelet joint.

Remove the rear master cylinder mounting bolts and master cylinder guard plate.



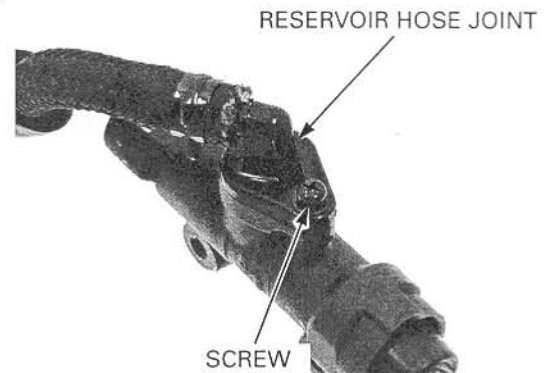
Remove and discard the brake pedal joint cotter pin. Remove the bolt, nut, washers and rear master cylinder from the right driver footpeg bracket.



DISASSEMBLY

Remove the screw and reservoir hose joint from the master cylinder.

Remove the O-ring from the joint.



Be careful not to damage the boot.

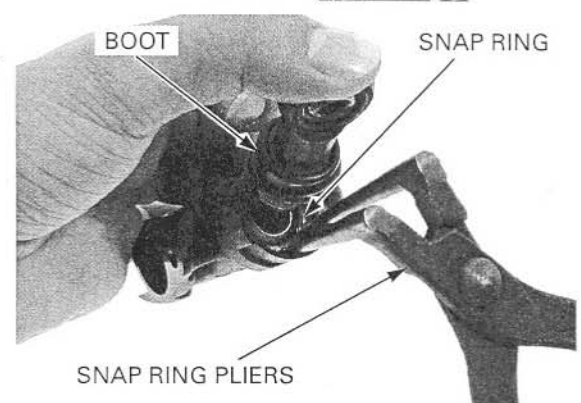
Remove the boot from the master cylinder body.

Remove the snap ring from the master cylinder body using the special tool as shown.

TOOL:

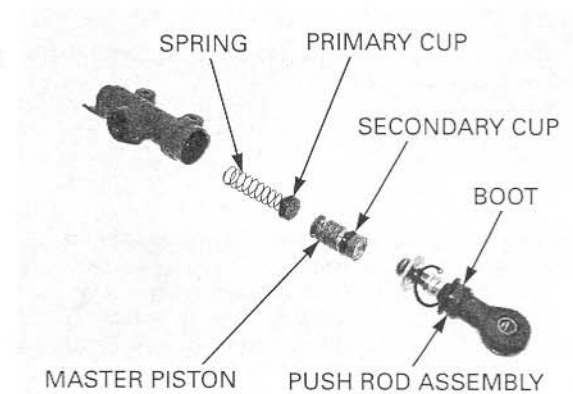
Snap ring pliers

07914-SA50001



Remove the push rod, master piston and spring.

Clean the inside of the cylinder with clean brake fluid.



INSPECTION

Check the piston boot, primary cup and secondary cup for fatigue or damage.

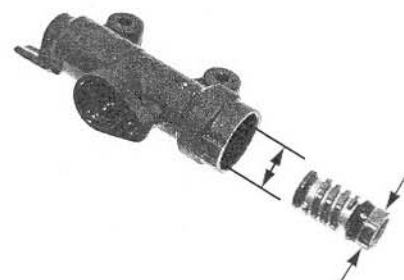
Check the master cylinder and piston for abnormal scratches.

Measure the master cylinder I.D.

SERVICE LIMIT: 15.925 mm (0.6270 in)

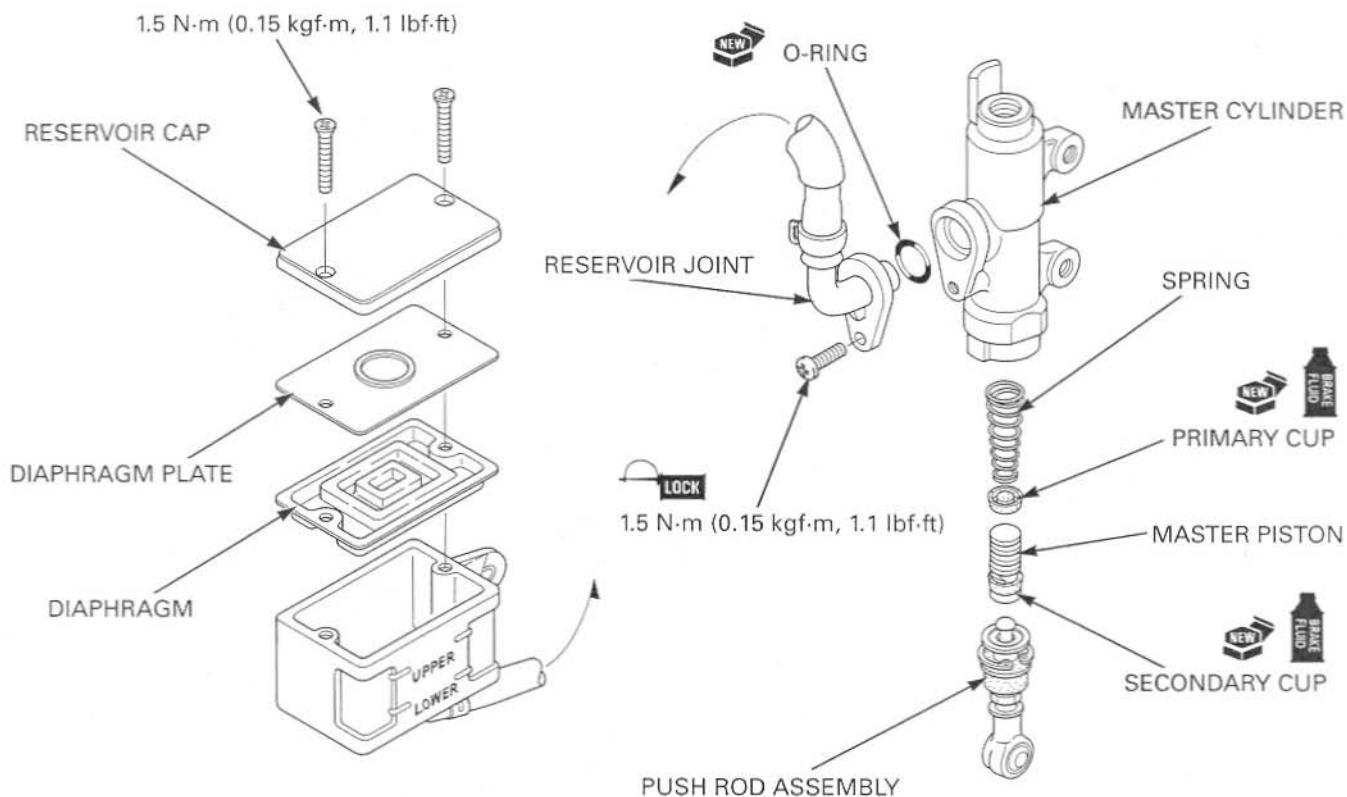
Measure the master cylinder piston O.D.

SERVICE LIMIT: 15.815 mm (0.6226 in)



HYDRAULIC BRAKE

ASSEMBLY



Keep the piston, cups, spring, snap ring and boot as a set; do not substitute individual parts.

Coat all parts with clean brake fluid before assembly.

When installing the cups, do not allow the lips to turn inside out.

Dip the piston in brake fluid. Install the spring to the primary cup. Install the spring/primary cup and master piston assembly into the master cylinder. Apply silicone grease to the piston contact area of the push rod.

If the push rod is disassembled, refer to (page 4-27) for push rod length adjustment.

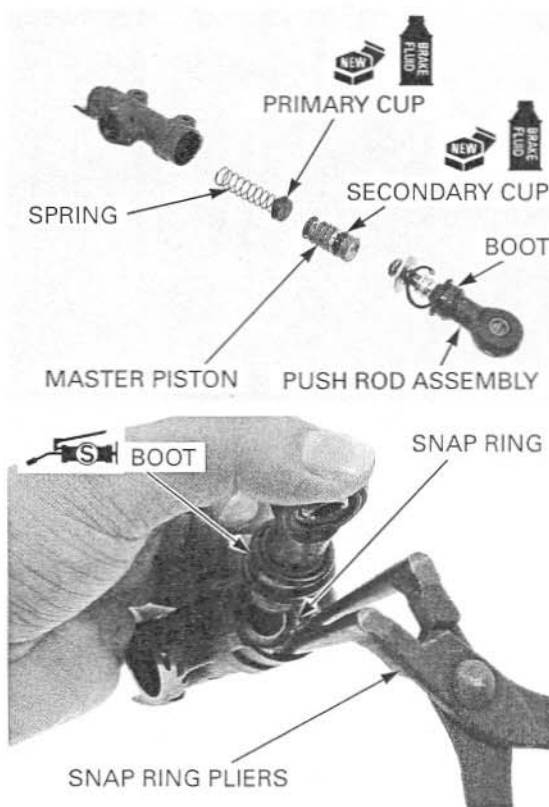
Install the push rod into the master cylinder.

Be certain the snap ring is firmly seated in the groove.

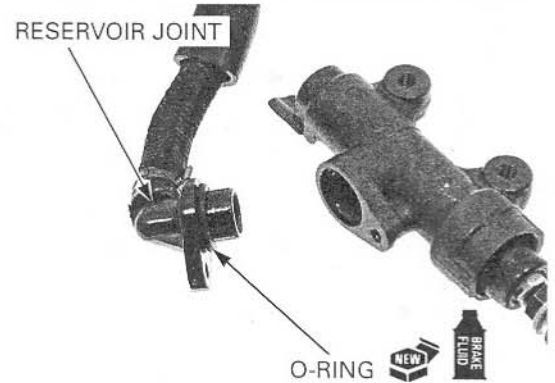
Install the snap ring with the special tool.

TOOL:
Snap ring pliers
Install the boot.

07914-SA50001

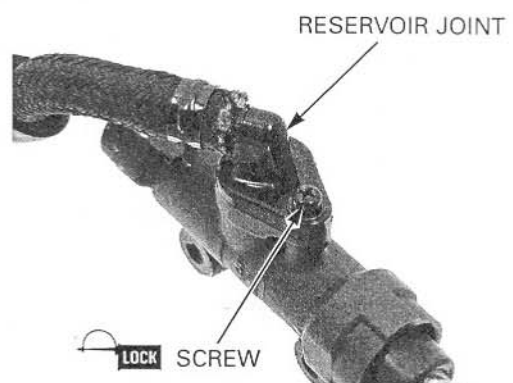


Apply brake fluid to a new O-ring and install it onto the reservoir joint.
Install the reservoir joint into the master cylinder.



Apply a locking agent to the reservoir joint screw threads.
Tighten the screw to the specified torque.

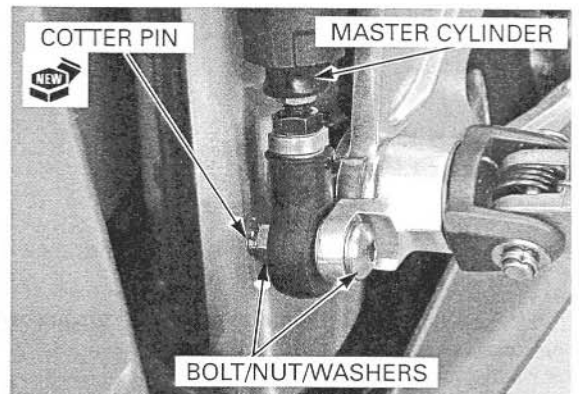
TORQUE: 1.5 N·m (0.15 kgf·m, 1.1 lbf·ft)



INSTALLATION

Connect the brake pedal to the push rod lower joint.
Install the bolt, washers, nut and tighten the nut securely.

Install a new cotter pin.



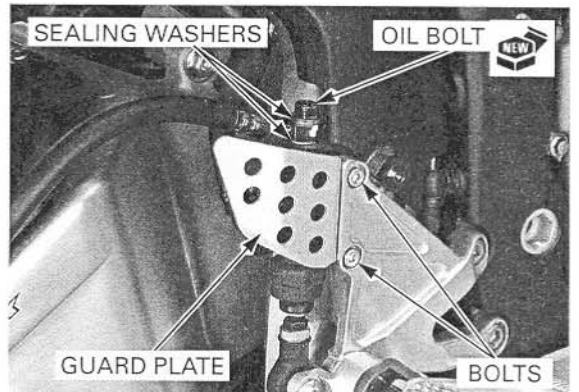
Install the master cylinder and guard plate, tighten the bolts to the specified torque.

TORQUE: 8.8 N·m (0.9 kgf·m, 6.5 lbf·ft)

Install the brake hose with the oil bolt and new sealing washers.

Push the eyelet joint against the stopper, then tighten the oil bolt to the specified torque.

TORQUE: 34 N·m (3.5 kgf·m, 25 lbf·ft)



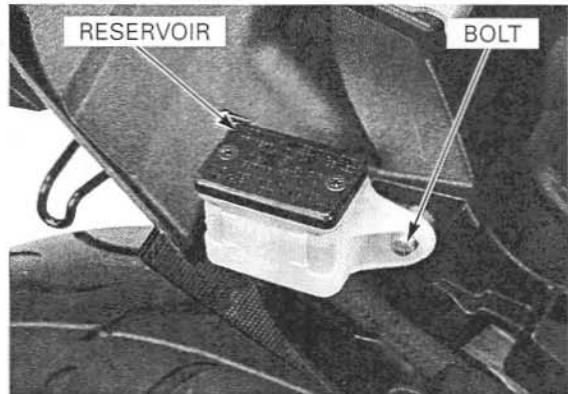
HYDRAULIC BRAKE

Rout the brake hose properly (page 1-22).

Install and tighten the brake reservoir mounting bolt to the specified torque.

TORQUE: 12 N·m (1.2 kgf·m, 9 lbf·ft)

Fill brake fluid and bleed air the rear brake hydraulic system (page 16-7).



FRONT BRAKE CALIPERS

NOTICE

Spilled fluid can damage painted, plastic, or rubber parts. Place a rag over these parts whenever the system is serviced.

REMOVAL

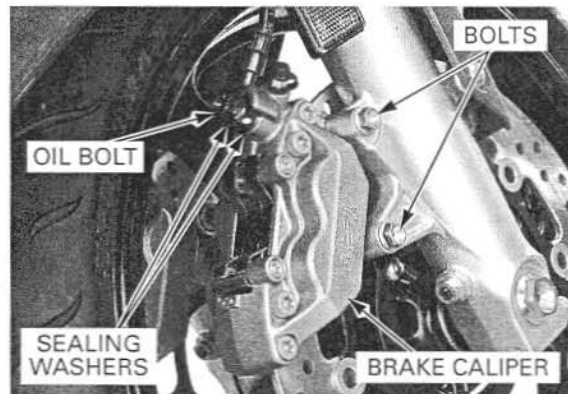
Drain the front brake hydraulic system (page 16-6).

Avoid spilling fluid on painted, plastic, or rubber parts. Place a rag over these parts whenever the system is serviced.

Remove the brake hose oil bolt, sealing washers and brake hose eyelet joint.

Remove the caliper mounting bolts and brake caliper.

Remove the brake pads (page 16-9).

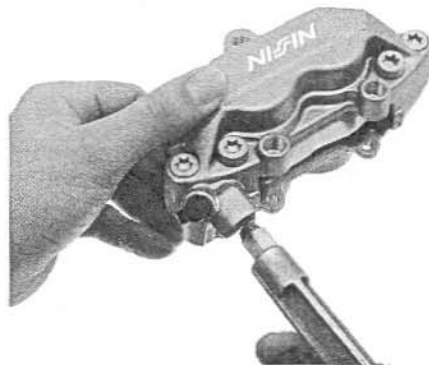


DISASSEMBLY

Install a corrugated cardboard or soft wood sheet between the pistons.

Do not use high pressure air or bring the nozzle too close to the inlet.

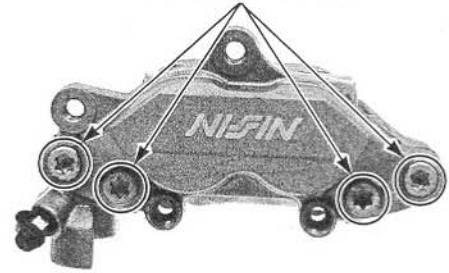
Apply small squirts of air pressure to the fluid inlet to remove the pistons.



HYDRAULIC BRAKE

Remove the four caliper assembly torx bolts and separate the caliper halves.

ASSEMBLY BOLTS

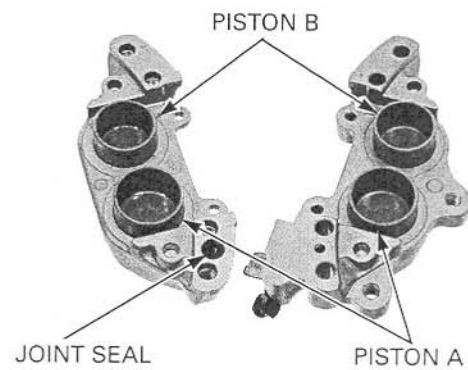


Mark the pistons to ensure correct reassembly.

Remove the following:

- Joint seal
- Caliper piston A
- Caliper piston B

PISTON B

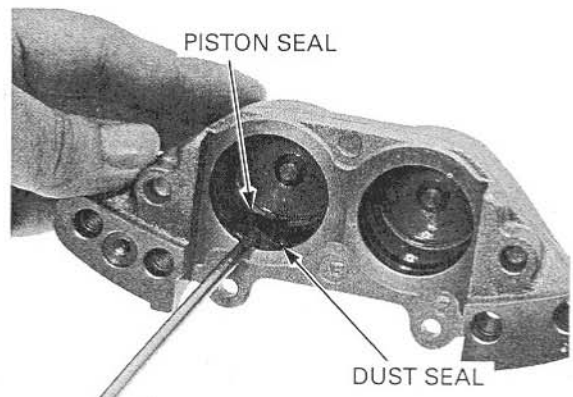


Be careful not to damage the piston sliding surface.

Push the dust seals and piston seals in and lift them out.

Clean the seal grooves with clean brake fluid.

PISTON SEAL



INSPECTION

Check the caliper cylinder for scoring or other damage.

Measure the caliper cylinder I.D.

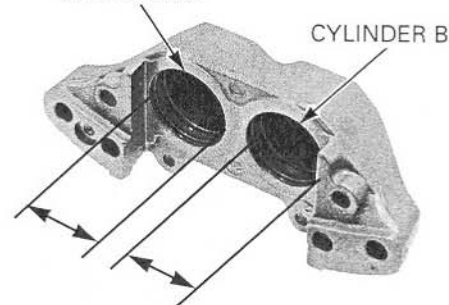
SERVICE LIMITS:

Cylinder A: 32.092 mm (1.2635 in)

Cylinder B: 30.292 mm (1.1926 in)

CYLINDER A

CYLINDER B



HYDRAULIC BRAKE

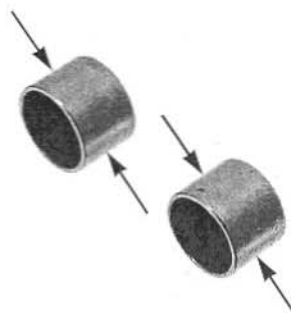
Check the caliper pistons for scratches, scoring or other damage.

Measure the caliper piston O.D.

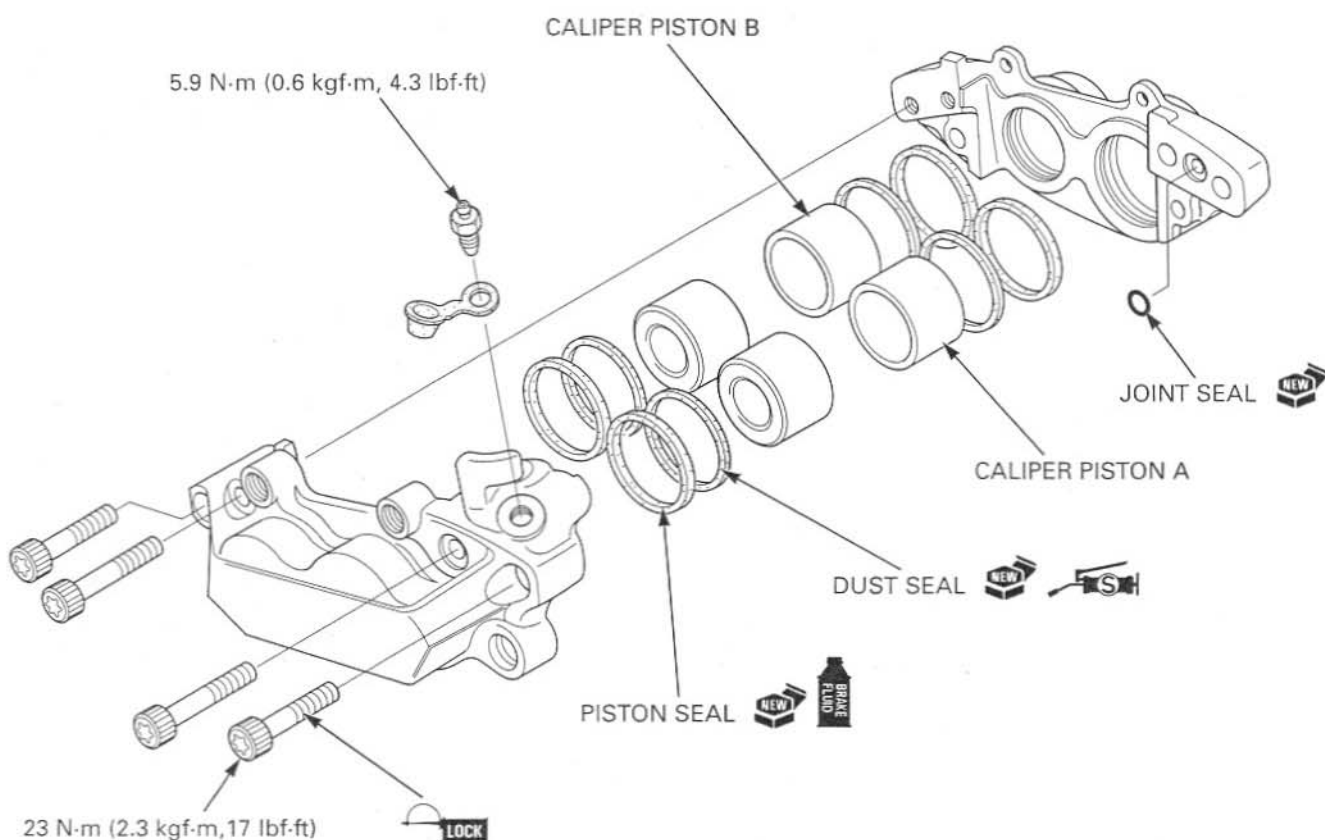
SERVICE LIMITS:

Piston A: 31.940 mm (1.2574 in)

Piston B: 30.074 mm (1.1840 in)



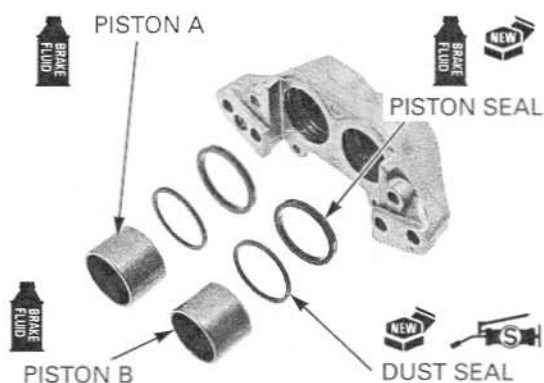
ASSEMBLY



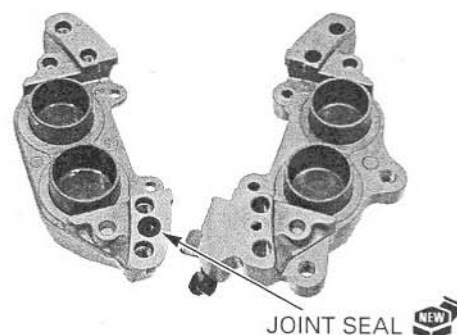
Coat new piston seals with clean brake fluid.
Coat new dust seals with silicone grease.

Install the piston and dust seals into the grooves of the caliper body.

Coat the caliper pistons with clean brake fluid and install them into the caliper cylinder with their open ends toward the pad.

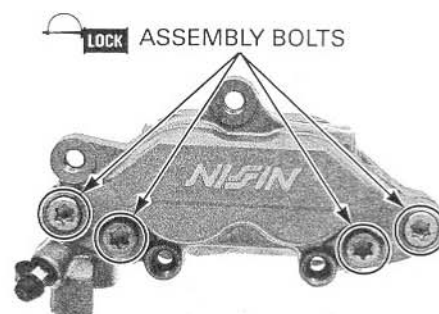


Install the new joint seal into the fluid passage on caliper.



Assemble the caliper halves.
Apply a locking agent to the caliper assembly torx bolt threads.
Tighten the caliper assembly torx bolts to the specified torque.

TORQUE: 23 N·m (2.3 kgf·m, 17 lbf·ft)

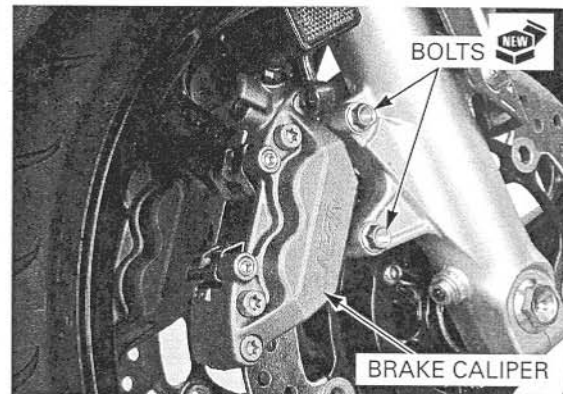


INSTALLATION

Install the brake pads and caliper onto the fork leg (page 16-9).

Tighten the new caliper mounting bolts to the specified torque.

TORQUE: 30 N·m (3.1 kgf·m, 22 lbf·ft)

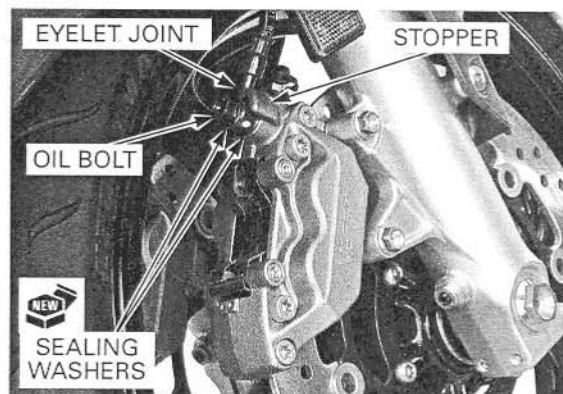


Install the brake hose eyelet joint to the caliper body with two new sealing washers and oil bolt.

Push the brake hose eyelet joint to the stopper on the caliper, then tighten the oil bolt to the specified torque.

TORQUE: 34 N·m (3.5 kgf·m, 25 lbf·ft)

Fill brake fluid and bleed air the front brake hydraulic system (page 16-7).



HYDRAULIC BRAKE

REAR BRAKE CALIPER

NOTICE

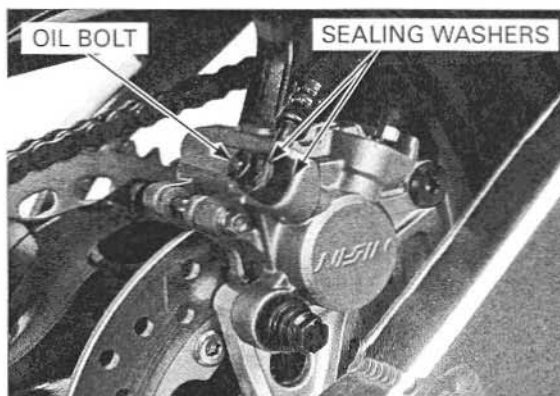
Spilled fluid can damage painted, plastic, or rubber parts. Place a rag over these parts whenever the system is serviced.

REMOVAL

Drain the rear brake hydraulic system (page 16-6).

Avoid spilling fluid on painted, plastic, or rubber parts. Place a rag over these parts whenever the system is serviced.

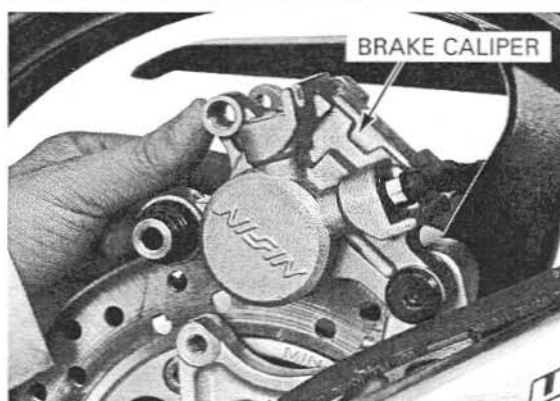
Remove the oil bolt, sealing washers and brake hose eyelet joint.



Remove the caliper mounting bolt and the brake pads (page 16-11).

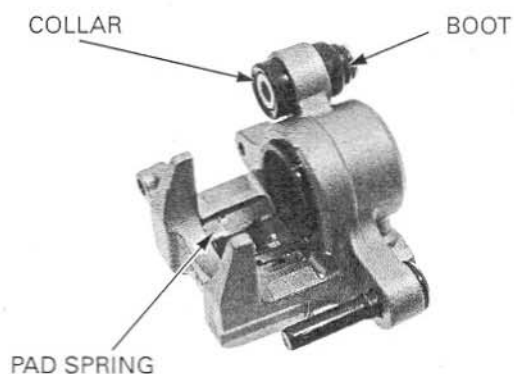
Pivot the caliper up and remove it.

Remove the pad retainer.



DISASSEMBLY

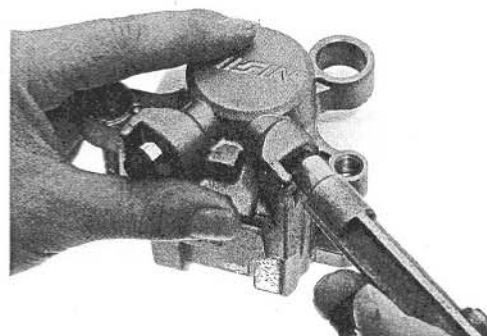
Remove the pad spring, collar and boot from the caliper body.



Place a shop towel over the piston.

Do not use high pressure air or bring the nozzle too close to the inlet.

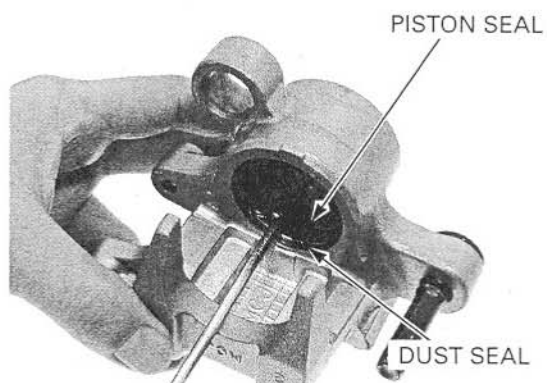
Position the caliper body with the piston down and apply small squirts of air pressure to the fluid inlet to remove the piston.



Be careful not to damage the piston sliding surface.

Push the dust seal and piston seal in and lift them out.

Clean the seal grooves with clean brake fluid.

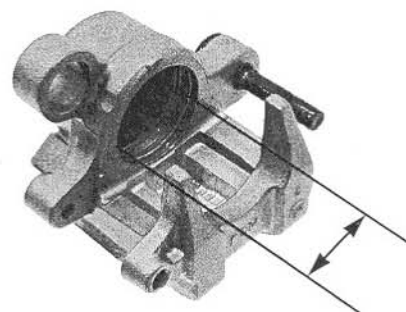


INSPECTION

Check the caliper cylinder for scoring or other damage.

Measure the caliper cylinder I.D.

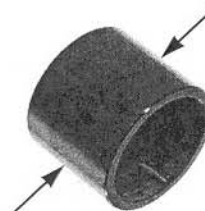
SERVICE LIMIT: 38.24 mm (1.506 in)



Check the caliper piston for scratches, scoring or other damage.

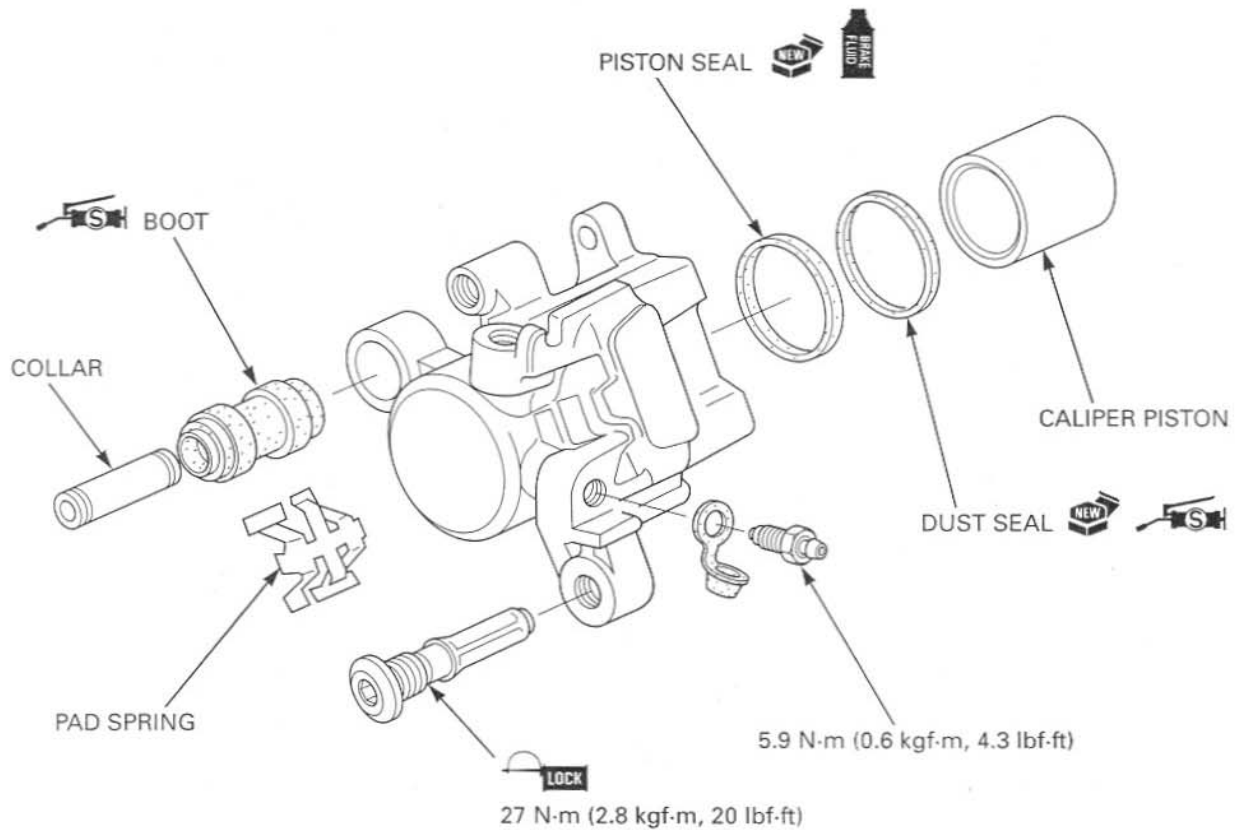
Measure the caliper piston O.D.

SERVICE LIMIT: 38.09 mm (1.500 in)



HYDRAULIC BRAKE

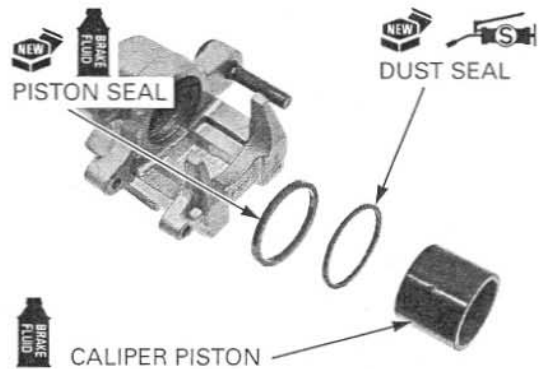
ASSEMBLY



Coat a new piston seal with clean brake fluid.
Coat a new dust seal with silicone grease.

Install the piston seal and dust seal into the groove of the caliper body.

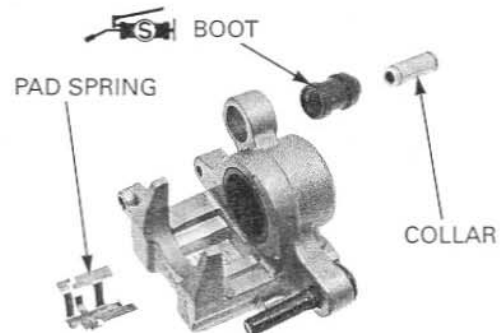
Coat the caliper piston with clean brake fluid and install it into the caliper cylinder with its open end toward the pad.



Install the pad spring into the caliper body.

Apply silicone grease to the inside of the boot and install the boot and collar into the caliper.

If the boot is hard or deteriorated, replace it with a new one.

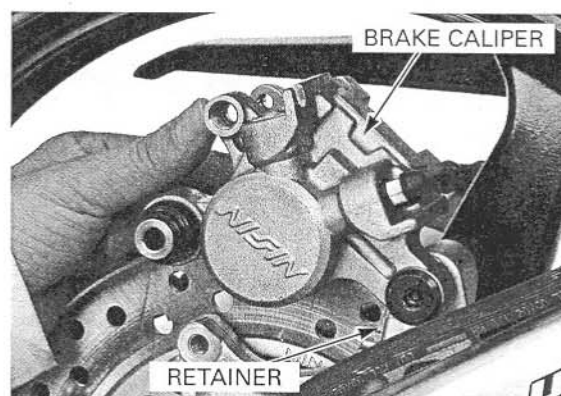


INSTALLATION

Install the pad retainer into the bracket.

Apply silicone grease to the caliper pin and install the caliper onto the bracket.

Install the brake pads (page 16-11).



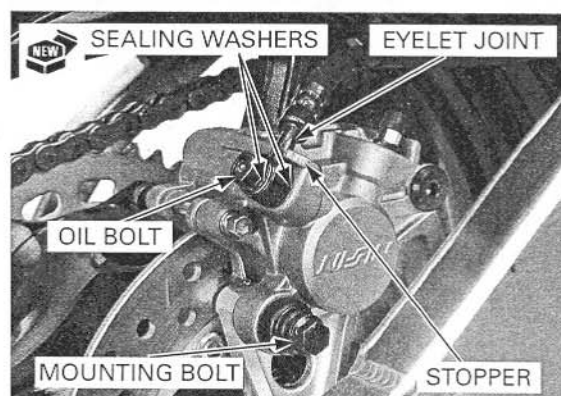
Install and tighten the caliper mounting bolt to the specified torque.

TORQUE: 23 N·m (2.3 kgf·m, 17 lbf·ft)

Install the brake hose eyelet joint to the caliper body with two new sealing washers and oil bolt. Push the brake hose eyelet joint to the stopper on the caliper, then tighten the oil bolt to the specified torque.

TORQUE: 34 N·m (3.5 kgf·m, 25 lbf·ft)

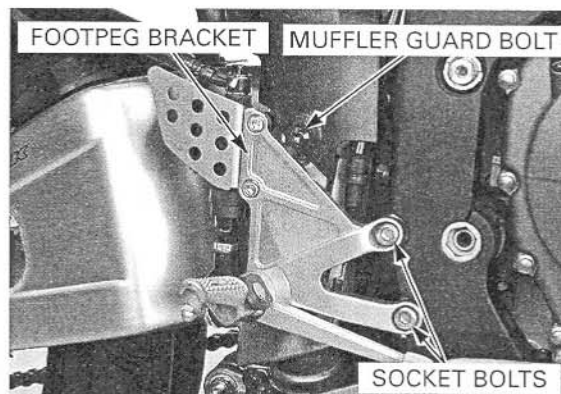
Fill brake fluid and bleed air the rear brake hydraulic system (page 16-7).



BRAKE PEDAL

REMOVAL

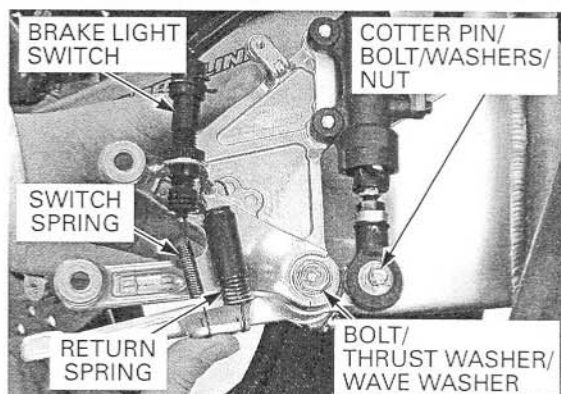
Remove the muffler guard bolt, driver footpeg bracket socket bolts and bracket assembly from the frame.



Remove and discard the brake pedal joint cotter pin. Remove the bolt, nut, washers and disconnect the push rod lower joint from the brake pedal.

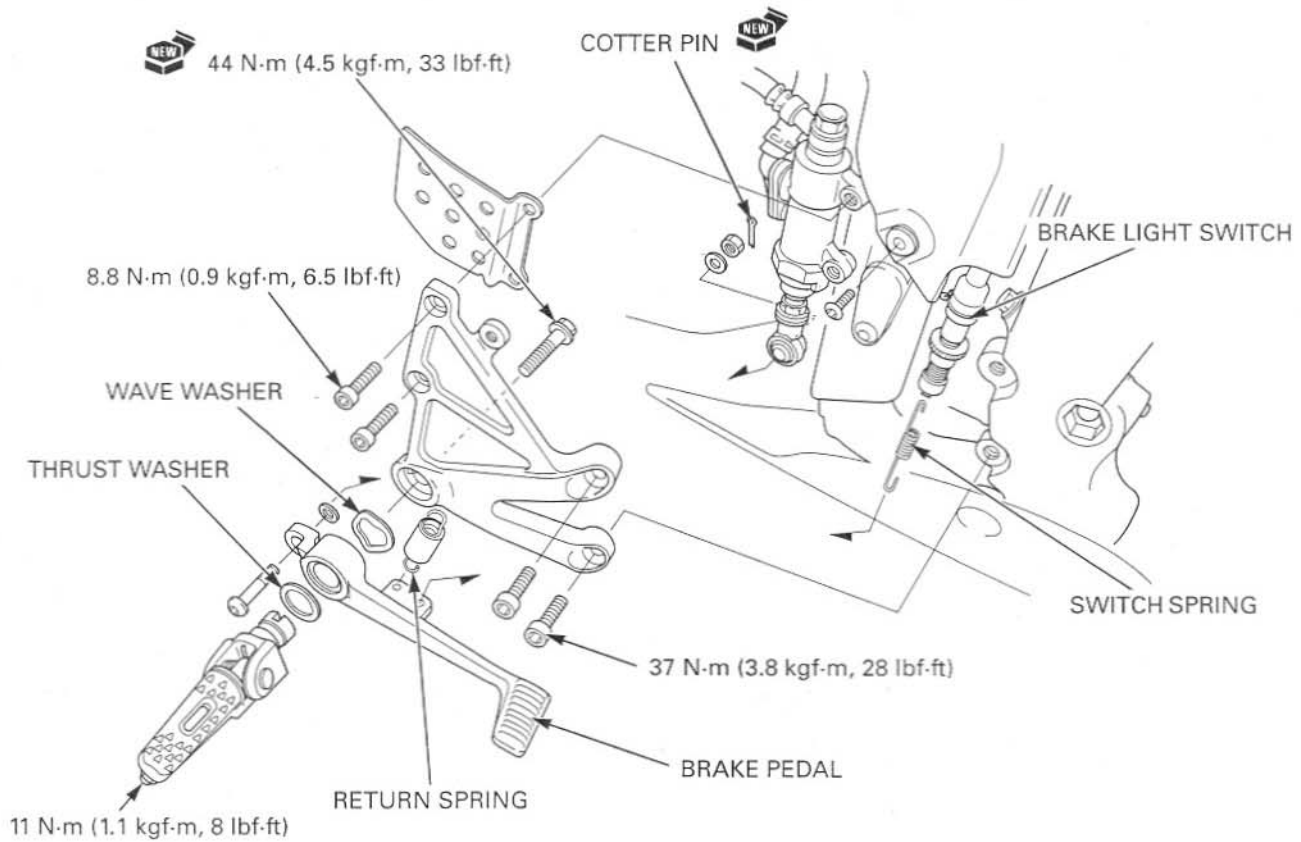
Unhook the switch spring and remove the brake light switch from the footpeg bracket. Unhook the brake pedal return spring.

Remove the bolt, thrust washer, and wave washer. Remove the footpeg assembly and brake pedal from the footpeg bracket.

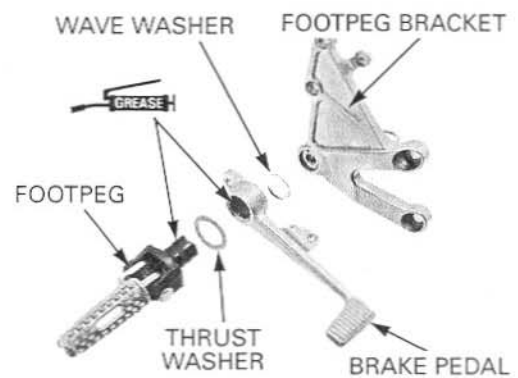


HYDRAULIC BRAKE

INSTALLATION



Apply grease to the sliding surface of the brake pedal and footpeg.
Install the wave washer, brake pedal, thrust washer, footpeg bracket and footpeg bolt.



Install a new footpeg bolt and tighten it to the specified torque.

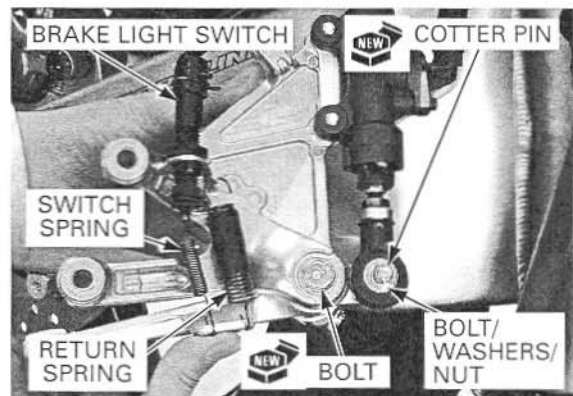
TORQUE: 44 N·m (4.5 kgf·m, 33 lbf·ft)

Hook the brake pedal return spring.

Install the brake light switch and hook the switch spring.

Connect the brake pedal to the push rod lower joint. Install the bolt, washers, nut and tighten the nut securely.

Install a new cotter pin.

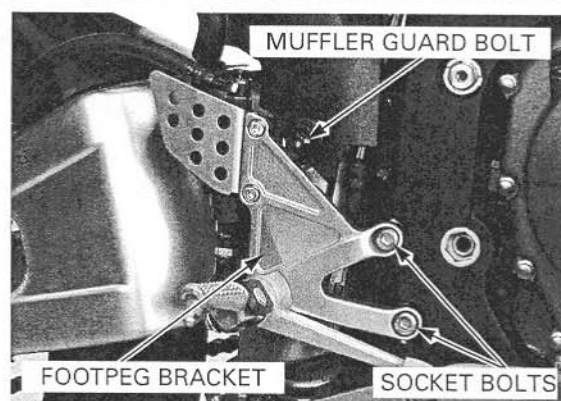


HYDRAULIC BRAKE

Install the footpeg bracket assembly onto the frame. Install and tighten the footpeg bracket socket bolts to the specified torque.

TORQUE: 37 N·m (3.8 kgf·m, 28 lbf·ft)

Tighten the muffler guard bolt.
Adjust the rear brake light switch operation (page 4-27).



17. BATTERY/CHARGING SYSTEM

SYSTEM DIAGRAM.....	17-2	BATTERY TRAY	17-7
SERVICE INFORMATION	17-3	CHARGING SYSTEM INSPECTION.....	17-9
TROUBLESHOOTING	17-4	ALTERNATOR CHARGING COIL	17-9
BATTERY	17-5	REGULATOR/RECTIFIER	17-10

BATTERY/CHARGING SYSTEM

SYSTEM DIAGRAM

