

FRONT BRAKE CALIPER REMOVAL

1. Remove the banjo screw (12) and crush washers (14) from the caliper assembly (15). Catch the fluid that drains from the brake line.
2. Remove the two 3/8-16 x 1" Allen head screws (16) and washers (17) that mount the front caliper to lower leg. Note the location of the caliper shims (18) for installation.

INSTALLATION

1. Install the caliper shims (18) in the previously noted location and install the caliper. Verify that the caliper is aligned with the brake rotor.
2. Apply Loctite 2440 to the threads of the 3/8-16 x 1" socket head cap screws (16). Install the caliper with the appropriate shims and tighten to 25 ft•lbs. Verify that the caliper is aligned with the brake rotor.

NOTE: If the caliper requires centering, use the following procedure:

Look down from the top of the caliper onto the rotor. If the caliper is offset to the outside then you will need to install shims. Check centering at the top and the bottom of the caliper to verify that the rotor is centered. It may be necessary to install different thickness shims on the top and bottom mount to center the caliper.

WARNING: FAILURE TO CENTER THE BRAKE CALIPER OVER THE ROTOR WILL DIMINISH BRAKING PERFORMANCE.

3. Use new crush washers (14) and install the brake line (11) and banjo fitting (13). Orient the banjo fitting upwards and tighten the banjo screw (12) to 18 ft•lbs.
4. Connect the brake line, bleed the brake system and verify that the brake system operates properly before riding.

REAR BRAKE CALIPER - REMOVAL

1. Remove the rear brake switch cable assembly (44) and crush washers (14). Catch the fluid that drains from the brake line.

NOTE: The rear brake switch cable assembly (44) is located in the master cylinder assembly on the Mutt and Pitbull models.

2. Remove the two, 3/8-16 x 1" button head cap screws (43), washers (17) and any caliper shims (18) mounting the rear caliper assembly (47) to the bracket (48). Note the location of the caliper shims (18) for installation.

INSTALLATION

1. Install the caliper shims (18) in the previously noted location and install the rear caliper assembly (47). Verify that the caliper assembly is aligned with the brake rotor.
2. Apply Loctite 2440 to the threads of the 3/8-16 x 1" button head cap screws (43). Install the caliper with the appropriate shims and tighten to 25 ft•lbs. Verify that the caliper is aligned with the brake rotor.

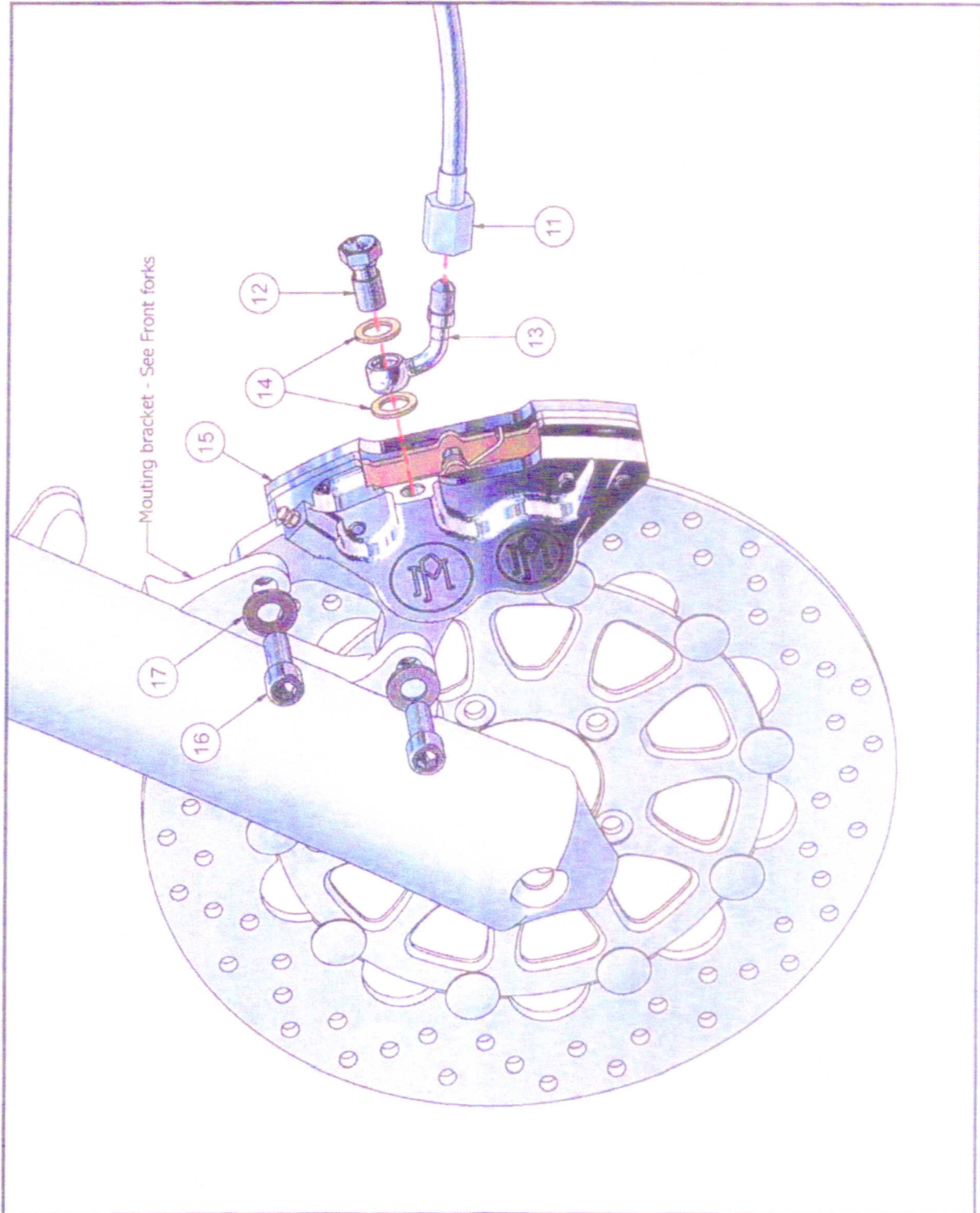
NOTE: If the caliper requires centering, use the following procedure.

3. Look down from the top of the caliper onto the rotor. If the caliper is offset to the outside then you will need to install shims. Check centering at the top and the bottom of the caliper to verify that the rotor is centered. It may be necessary to install different thickness shims on the top and bottom mount to center the caliper.

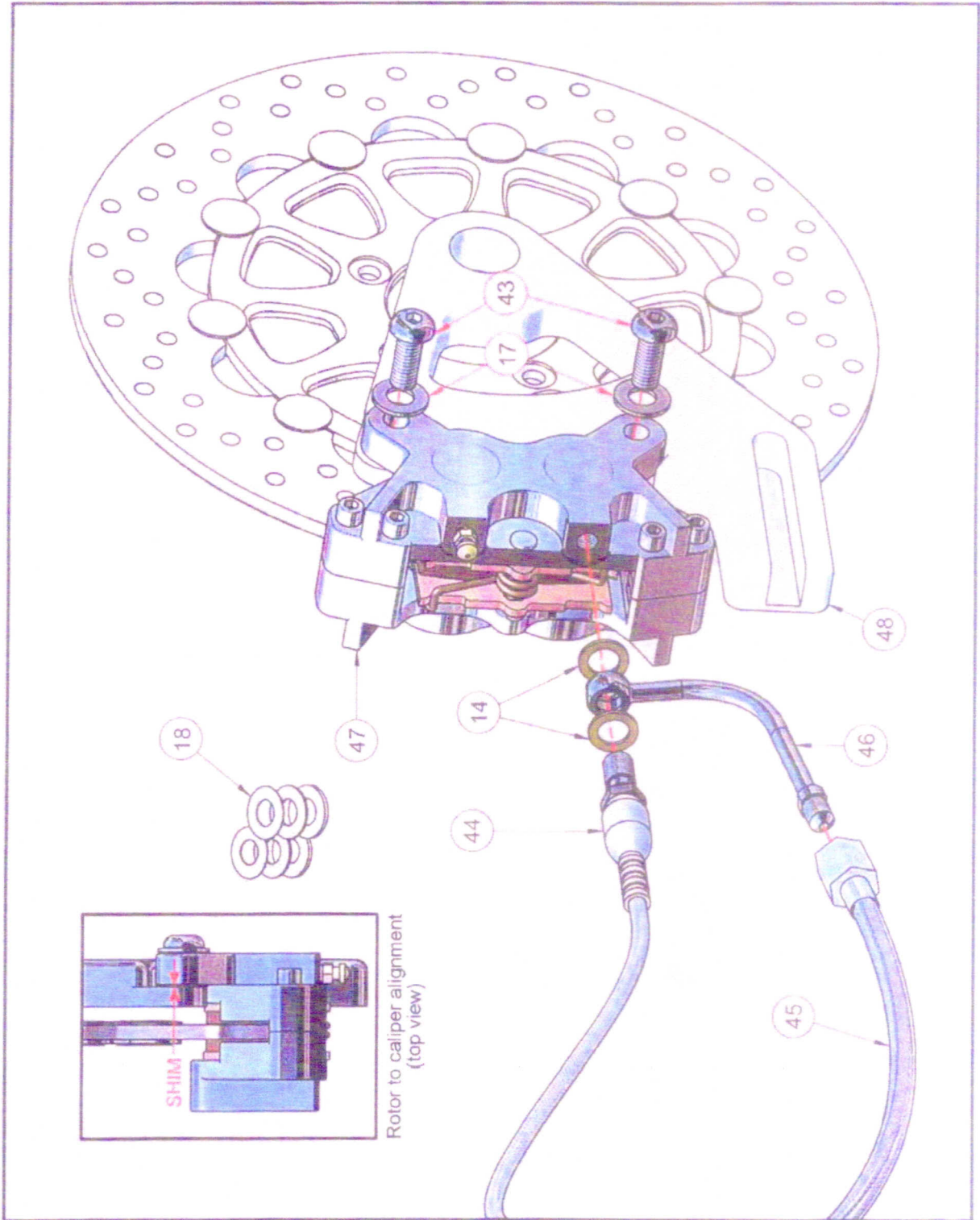
CAUTION: FAILURE TO CENTER THE BRAKE CALIPER OVER THE ROTOR WILL DIMINISH BRAKING PERFORMANCE.

4. Use new crush washers (14) and install the rear brake line (45) and fitting (46). Orient the banjo fitting downward and tighten the rear brake switch cable assembly (44) to 18 ft•lbs.
5. Connect the brake line (45), bleed the brake system and verify that the brake system operates properly before riding.

FRONT BRAKE CALIPER MOUNTING



REAR BRAKE CALIPER MOUNTING



CALIPER REBUILD

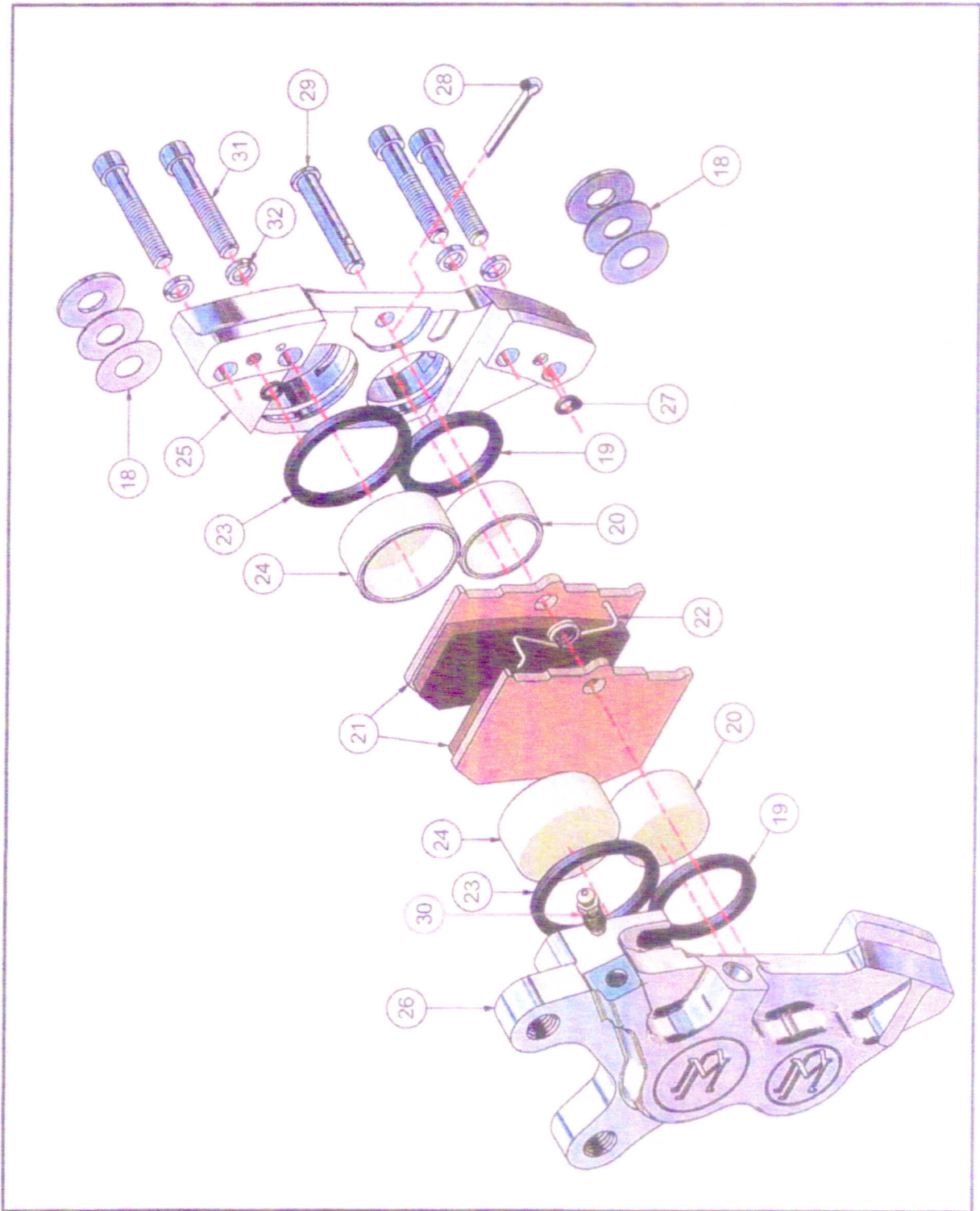
1. Remove the brake caliper assembly (15).
2. Remove the cotter pin (28), the clevis pin (29) that retains the brake pads (21) and the anti-rattle spring (22).
3. Remove the brake pads (21). If the brake pad thickness is below 0.094" at the thinnest point, it should be replaced.
4. Remove the four, 5/16-18 x 1-1/4" socket head cap screws (31) and flat washers (32) attaching the caliper halves (25, 26) and carefully separate the caliper halves.
5. Remove the pistons (20, 24) and the O-rings (19, 23, 27).
6. Clean the caliper halves with brake cleaner and blow compressed air through the fluid passage.
7. Inspect the caliper halves for debris in the bores and fluid passages. Ensure the piston bores are smooth.
8. The brake caliper rebuild kit contains new O-ring seals (19, 23, 27) and pistons (20, 24). Coat the piston O-ring seals with DOT 5 brake fluid and install into the grooves in the caliper.
9. Coat the piston bores with brake fluid and press the pistons to the bottom of the bores.
10. Coat the small O-rings (27) with brake fluid and install them into the caliper half with the counter bore.
11. Assemble the caliper halves (25, 26), being careful to keep the small O-rings (27) in position.
12. Place washers (32) on the 5/16-18 x 1-1/4" socket head cap screws (31) and apply Loctite 2440 to the threads. Install and tighten to 25 ft•lbs.
13. Install the brake pads (21), clevis pin (29), anti-rattle spring (22) and cotter pin (28).
14. Install the brake caliper assembly, verify alignment to the rotor and bleed the brake system.
15. Verify that the brake system operates properly before riding.

BRAKE PAD REPLACEMENT

NOTE: The following instructions are applicable to both the front and rear brake pad/caliper assemblies. Callouts are given only for the front brake assembly.

1. Remove the caliper assembly (15).
2. Remove the cotter pin (28). Remove the clevis pin (29) that retains the pads (21) and anti-rattle spring (22). If the brake pad thickness is below 0.094" at the thinnest point, it should be replaced.
3. Insert the clevis pin (29) through the back side of the brake caliper and guide through the new brake pads (21) and anti-rattle spring (22). Install the cotter pin (28).
4. Position the anti-rattle spring hooks on top of the brake pads.
5. Install the brake caliper assembly (15). Verify alignment. Verify that the brake system operates properly before riding.

FRONT CALIPER ASSEMBLY



BIG DOG MOTORCYCLES SERVICE MANUAL

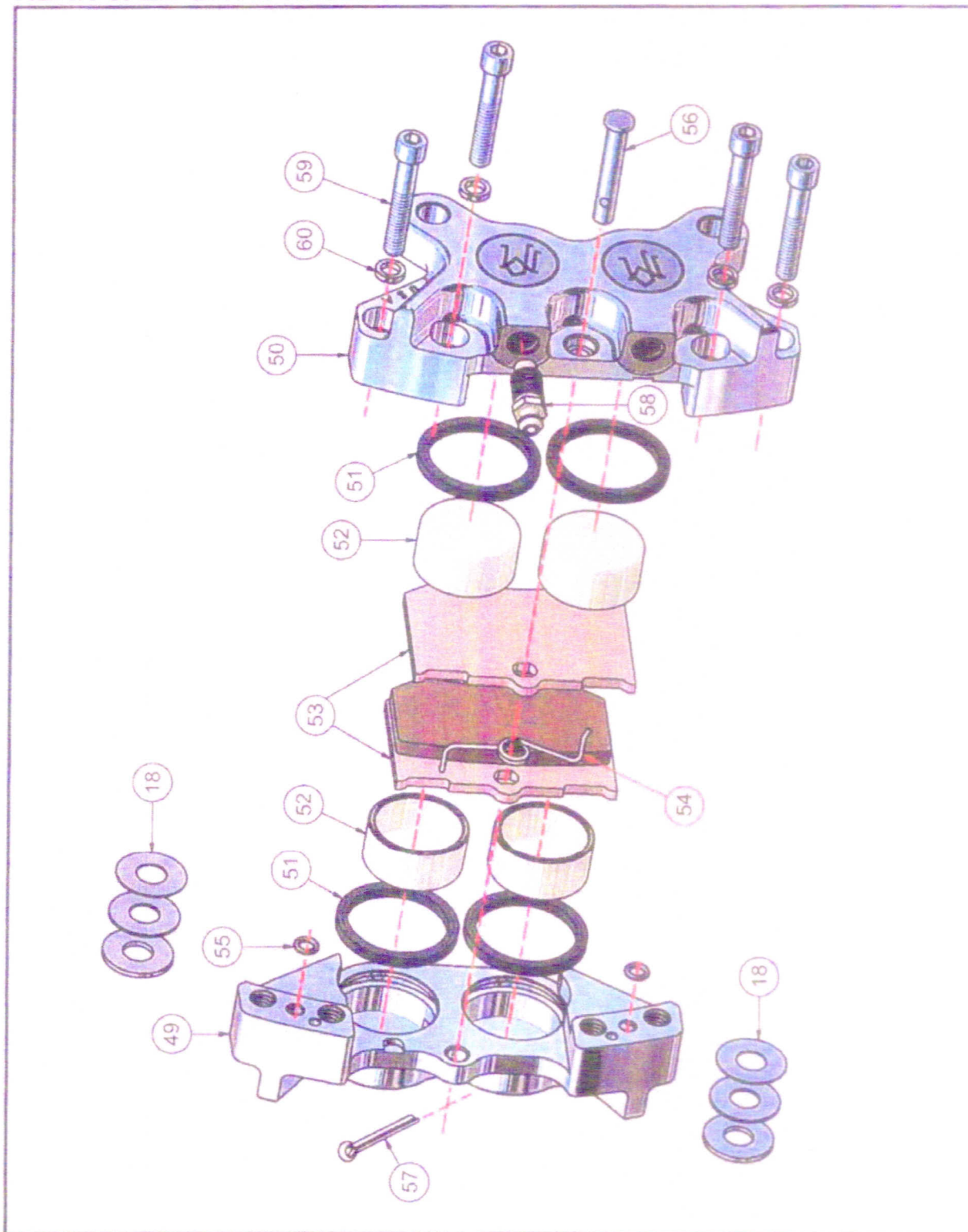
PARTS LIST – FRONT BRAKE ASSEMBLY

ITEM	DESCRIPTION	QTY
1	Pushrod, master cylinder	1
2	Boot, brake pushrod	1
3	Snap ring, internal, 13/16 x 0.042"	1
4	Washer, master cylinder piston retainer	1
5	O-ring, master cylinder piston	1
6	Piston, 5/8" master cylinder control	1
7	Cup, 5/8" master cylinder control	1
8	Spring, follower	1
9	Spring, master cylinder handlebar control	1
10	Gasket, handlebar master cylinder control	1
11	Brake line, front	1
12	3/8-24 banjo screw	1
13	Banjo screw fitting, front	1
14	Washer, crush, 10 mm	2
15	Assembly, front brake caliper	1
16	5/16-18 x 1" SHCS, chrome	2
17	Washer, flat, 3/8" AN, SS, polished	2
18	Shim kit, 3/8"	1 set
19	Caliper piston seal, 1-1/8 x 0.125"	2
20	Piston, 1.125 x 0.625", SS, regular caliper	2
21	Brake pads, 125 x 4R	2
22	Anti-rattle spring, 125 x 4R	1
23	Piston seal, caliper, 1-3/8 x 0.125"	2
24	Piston, 1.375 x 0.635 SS, regular caliper	2
25	Caliper housing, 137 x 4B, inner	1
26	Caliper housing, 137 x 4B, outer	1
27	O-ring, 0.375 x 1/16" caliper	2
28	Cotter pin, 3/32 x 1/2"	1
29	Clevis pin, 1/4 x 1-3/8 x 0.222, chrome	1
30	Bleeder screw, 1/4-28	1
31	SHCS, 5/16-18 x 1", chrome	4
32	Washer, 0.316 x 0.440 x 0.060"	4

TORQUES - BRAKES

DESCRIPTION	ITEM	TORQUE	LOCTITE
Brake line banjo screws	(12)	18 ft•lbs	None
Brake caliper bracket mounting screws (front and rear)	(16, 43)	25 ft•lbs	2760
Brake caliper screws	(31, 59)	25 ft•lbs	2440
Brake switch cable assembly (rear)	(44)	18 ft•lbs	None

REAR CALIPER ASSEMBLY



PARTS LIST – REAR BRAKE ASSEMBLY

ITEM	DESCRIPTION	QTY
33	Pushrod, master cylinder	1
34	Boot, brake pushrod	1
35	Snap ring, internal, 13/16 x 0.042"	1
36	Washer, master cylinder piston retainer	1
37	O-ring, master cylinder piston	1
38	Piston, 5/8" master cylinder control	1
39	Cup, 5/8" master cylinder control	1
40	Spring, follower	1
41	Spring, master cylinder, forward control	1
42	Gasket, master cylinder, forward control	1
43	5/16-18 x 1" BHCS, chrome	2
44	Assembly, rear brake switch cable	1
45	Brake line, rear	1
46	Brake line fitting, elbow, rear	1
47	Assembly, rear brake caliper	1
48	Bracket, rear brake caliper assembly	1
49	125 x 4R caliper housing, inner	1
50	125 x 4R caliper housing, outer	1
51	Piston seal, 1-1/4 x 1/8"	4
52	Piston, 1-1/4 x 5/8" SS, regular caliper	4
53	Brake pads, 125 x 4R, EBC, SB101C	2
54	Spring, anti-rattle, 125 x 4R	1
55	O-ring, 3/8 x 1/16"	2
56	Pin, clevis, 1/4 x 1-1/2 x 1-15/32"	1
57	Pin, cotter, 3/32 x 1/2"	1
58	Bleeder screw, 3/8-24	1
59	SHCS, 5/16-18 x 1-1/4"	4
60	Washer, 0.316 x 0.440, x 0.06", steel	4

TORQUES - BRAKES

DESCRIPTION	ITEM	TORQUE	LOCTITE
Brake line banjo screws	(12)	18 ft•lbs	None
Brake caliper bracket mounting screws (front and rear)	(16, 43)	25 ft•lbs	2760
Brake caliper screws	(31, 59)	25 ft•lbs	2440
Brake switch cable assembly (rear)	(44)	18 ft•lbs	None

NOTE: Before assembly, thoroughly clean threads of all removed screws. Thoroughly clean internal threads at all screw locations. Use Loctite products as indicated. Use torque values specified.

BRAKE SYSTEM BLEEDING

1. Remove the two screws attaching the master cylinder cover and remove the cover.
2. Fill the syringe from the Brake Bleed Kit, 263-000004-00, with brake fluid, using **only** DOT 5 brake fluid from a clean, sealed container.
3. Place a 1/4" wrench on the front bleeder screw (**30**) [3/8" for the rear bleeder screw (**58**)].
4. Attach appropriate tip on syringe, connect to bleeder screw and loosen.
5. With bleeder screw loosened, inject brake fluid from syringe into brake system, being careful not to overfill, or inject air into the system.
6. After fluid has been injected, tighten the bleeder screw and remove syringe, hose and wrench.

CAUTION: DO NOT REMOVE BRAKE KIT SYSTEM BEFORE TIGHTENING THE BLEEDER SCREW (30**, **58**), OR AIR WILL BE PUSHED INTO THE SYSTEM AND THE PROCEDURE WILL HAVE TO BE REPEATED.**

7. Check the fluid level in the master cylinder and top off as needed.
8. Replace cap on master cylinder and tighten screws securing cap.
9. Use the brake lever for the appropriate system (front or rear), and cycle lever several times to properly seat brake pads. Check for proper lever travel and brake engagement.
10. Thoroughly clean brake fluid from all components.

MASTER CYLINDER FILL PROCEDURE

1. Rotate handlebar until the master cylinder lid is horizontal.
2. Remove the two screws attaching the master cylinder cover and remove the cover (see **Chapter 3, Controls**).
3. Remove master cylinder gasket (**10**, **42**).
4. Check fluid level. Fill as needed using **only** DOT 5 brake fluid from a clean, sealed container. Do not allow fluid to get into the master cylinder cover mounting holes, as clean fluid from holes will look like seepage.
5. Replace gasket (**10**, **42**) and cover. Reinstall cover screws.