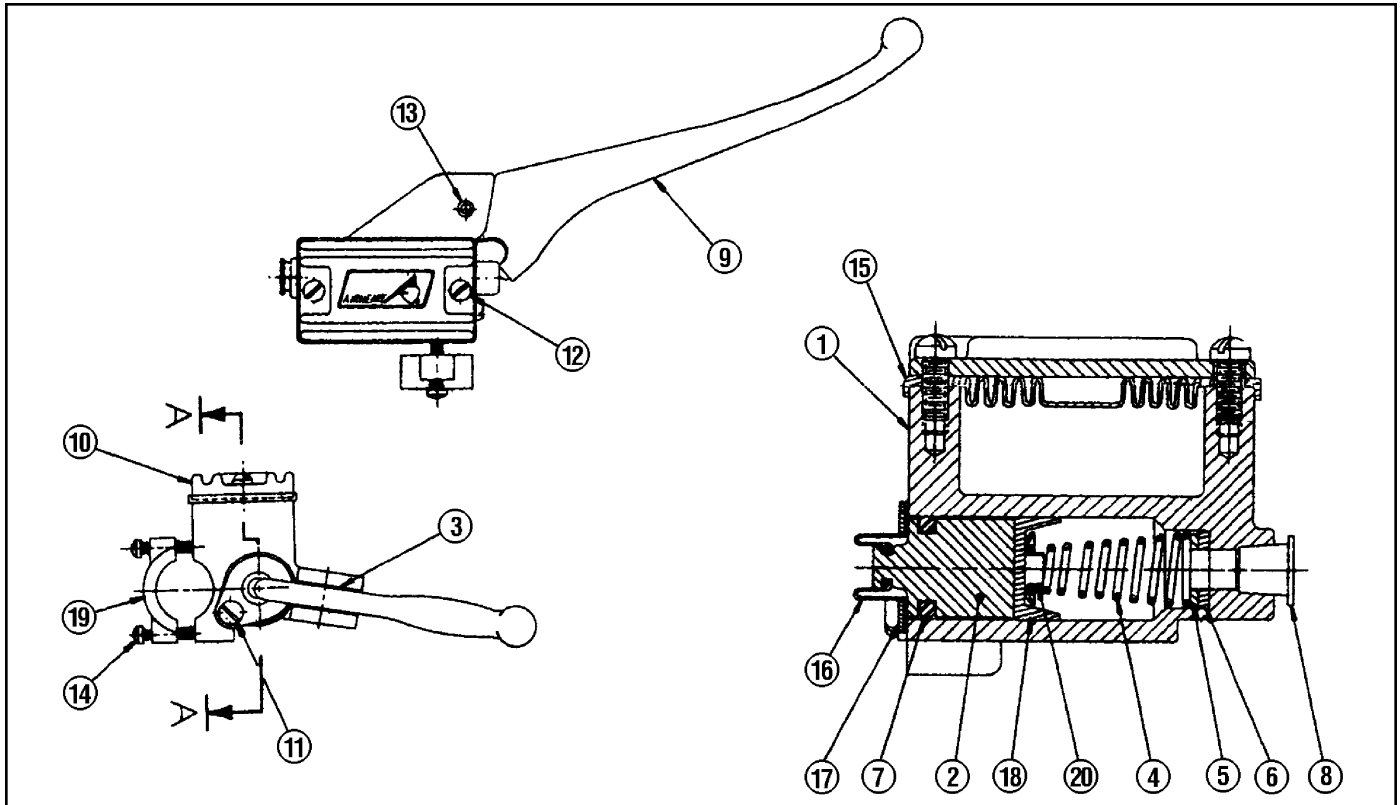




### Handle Bar Mount Master Cylinder

**MODELS:**

3110-0000 5/8" Bore  
3110-0200 3/4" Bore



### Parts List

Item	Part No.	Description	3110-0000 5/8" Bore	3110-0200 3/4" Bore
1	3110-1019	Master Cylinder Housing, 5/8" bore	1	
	3110-1001	Master Cylinder Housing, 3/4" bore		1
2	3110-1020	Master Cylinder Piston, 5/8" bore	1	
	3110-1002	Master Cylinder Piston, 3/4" bore		1
3	3110-1004	Wave Spring	1	1
*4	3110-1005	Conical Spring	1	1
5	3110-1006	Washer, .39 ID x .625 OD x .04	1	1
6	3110-1007	Valve Shaft Washer	1	1
*7	3110-1021	O-Ring, EPR, 5/8" bore	1	
	3105-1005	O-Ring, EPR, 3/4" bore		1
8	3110-1018	Caplug	1	2

Item	Part No.	Description	3110-0000 5/8" Bore	3110-0200 3/4" Bore
**9	3110-9000	Hand Lever Subassembly	1	1
10	3110-1009	Master Cylinder Cover	1	1
11	3105-1014	Pan Head Screw	1	1
12	3105-1015	Screw	2	2
*13	3105-1016	Roll Pin	1	1
14	3110-1010	Fillister Head Screw	2	2
15	3105-1017	Diaphragm	1	1
*16	3115-1020	Boot	1	1
*17	3115-1019	Retainer	1	1
*18	3110-1022	Cup, 5/8" bore	1	
	3110-1020	Cup, 3/4" bore		1
19	3110-1012	Clamp	1	1
*20	3110-1023	Cup Protector	1	
	3110-1004	Cup Protector		1

\* Included in Overhaul Kits 3110-9004 (5/8" bore)  
3110-9003 (3/4" bore)

\*\* Hand Lever Subassembly 3110-9000 includes Lever 3110-1013, Screw 3110-1015, and Bushing 3110-1016. These parts ARE NOT available separately, but must be ordered as a subassembly.

**INSTALLATION**

1. Mount the Master Cylinder to a handlebar by taking out Screws (#14) and freeing the Clamp (#19) from the master cylinder housing. Then, using the Clamp and two Screws, lock the master cylinder into place on a handlebar or similar location.
2. When mounting the Handlebar Mount Master Cylinder, take care that it is mounted with the Cover Plate (#10) up and level.

**BLEEDING**

The goal of the bleeding procedure is to remove any air from the brake system. Air in the system will result in poor brake performance.

**CAUTION!**

Wear adequate eye protection, gloves and clothing. Brake fluid will cause eye irritation. In case of eye contact, flush with water for 20 minutes and get immediate medical attention.

**NOTE: When filling the brake system, use clean, fresh brake fluid from an unopened container. Brake fluid exposed to air can absorb water. Contaminated brake fluid can cause brake system failure.**

Make sure that the Master Cylinder is mounted upright and level above the level of the brakes.

1. Connect the hydraulic line to the master cylinder outlet port (1/8-27 NPT). **DO NOT ATTEMPT TO ENLARGE THE OUTLET PORT IN ANY WAY.** Use TEFLON® tape to seal all pipe thread joints.
2. Check the single small hole (Bypass Port) in the floor of the master cylinder reservoir with a very thin wire (0.015" diameter) to see that there are no obstructions. The Cup (#18) must not block the Bypass Port when the piston is retracted. If necessary, adjust the Piston Assembly to retract the Cup further.
3. If new brake calipers have been installed, pre-fill calipers by gravity feeding them with fresh brake fluid into the inlet port on the brake, with the bleeder screw open. When the brakes are full, close the bleeder screws and connect all the lines to the brakes and master cylinder.
4. Start by bleeding the brake caliper with the longest run of tubing from the master cylinder and conclude with the brake caliper nearest to the master cylinder.
5. A short length of rubber tubing that fits the bleed plug nipples tightly should be used to draw off fluid from each caliper during bleeding. The free end of the tube must be submerged below some brake fluid at the bottom of a vessel such as a 1 quart glass jar. The tube end must remain submerged at all times, or air will be drawn back into the system.
6. First, make sure the bleeder port plugs on the brakes are closed. Then, with the Cover Plate (#10) and Diaphragm (#15) removed, fill the reservoir with fresh high temperature brake fluid which meets the specifications for SAE J-1703 or DOT 3.

**NOTE: If DOT 5 brake fluid (silicon) is to be used, the entire brake system MUST be disassembled and washed down with solvent. ALL traces of DOT 3 brake fluid must be removed before the introduction of DOT 5 fluid. Mixing DOT 3 and DOT 5 fluids can result in vapor lock, causing inadequate or unstable brake performance.**

7. When the tubes from the bleeder plugs are submerged in brake fluid, depress the brake pedal or lever and hold in position. Then, open one bleeder plug. Repeat the procedure until air bubbles no longer appear at the end of the tubing when the pedal or lever is depressed.
8. Remember to close the bleeder plug port BEFORE releasing the brake pedal or lever. Allow the pedal or lever to return slowly. Avoid using excessive pedal pressure during bleeding, as it can cause an unexpected surge of air and fluid from the bleeders.
9. Repeat the procedure with each brake. Repeat the procedure until the brake pedal or lever has a firm feel to it.
10. Fluid level **MUST** be maintained in the reservoir. Check the fluid level frequently during bleeding and add more fluid if required.
11. After the system has been bled, the following test should be performed. Observe the fluid in the reservoir as the piston is actuated for the first time (depress brake pedal or lever). An upward surge in the fluid should occur, indicating pressure in the system as the piston is

released. A HEAVY upward surge in the fluid, however, indicates that air is still in the system and the bleeding procedure must be repeated.

**PRESSURE BLEEDING**

If you are using a pressure bleeding device, be sure the vessel contains a sufficient quantity of brake fluid. Prepare each brake for bleeding as described above. Charge the device with 20 to 25 PSI of air pressure. Fasten the correct master cylinder adapter to the master cylinder (1/8-27 NPT port). Open the feed line to the master cylinder. Open the bleeder plugs on the brake. Close the bleeder plugs on the brake when no air bubbles escape from the submerged ends of the rubber tubing in the vessels containing the brake fluid.

**NOTE:** If the master cylinder is located well above the brake, allow the vehicle to sit for a few hours to enable any air trapped in the system time to work out of the lines and back up to the reservoir.

**DISASSEMBLY PROCEDURE**

1. Remove Cover (#10) and Diaphragm (#15) and drain brake fluid.
2. Drive out the Roll Pin (#13) with a 1/4" diameter metal rod and remove the Hand Lever (#9). The entire master cylinder will come apart. (Use caution to keep parts from popping out.)
3. Discard the Roll Pin (#13), Cup (#18), Conical Spring (#4), Boot (#16) and O-Ring (#7). These parts are included in the Overhaul Kit.
4. Clean all of the metal parts in solvent. Blow off the solvent with compressed air, or allow it to evaporate completely before reassembly as the solvent will harm the new rubber parts.

**REASSEMBLY PROCEDURE**

1. Place the rubber Cup (#18) on a flat surface and insert the Cup Protector (#20) inside the Cup.
2. Position the Conical Spring (#4) inside the Cup.
3. Lubricate the housing bore with brake fluid and insert the Cup and spring assembly (spring first) into the Housing (#1).
4. Install the O-Ring (#7) and Boot (#16) on the Piston (#2), lubricate with brake fluid and insert into Housing (#1). Slip the Piston Retainer (#17) over the Boot, align the holes in the Retainer, Boot and Housing.
5. Hold pressure on Piston and insert Screw (#11) into the Housing. Place Loctite® on the screw threads before inserting screw.
6. Place the Wave Spring (#3) in recess around Roll Pin hole in Handle (#9), making sure the holes are lined up.
7. Insert the Hand Lever Subassembly (#9) into the slot in the Housing (#1). Then insert the new Roll Pin (#13) into the hole, with the split in the Roll Pin facing away from the Housing.
8. Replace the master cylinder on the vehicle, making all of the necessary connections. Fill with fresh brake fluid, bleed the brake system, following the Bleeding Instructions, and replace the Diaphragm (#15) and the Cover (#10).

**NOTE:** It is recommended that the master cylinder reservoir not be filled completely. Instead, leave about 1/16" of air space to allow the system to "breathe".

**SUGGESTIONS:**

1. Keep the master cylinder as clean as possible.
2. Flush the entire brake system with new brake fluid once a year.
3. When the brake fluid gets extremely dirty, change the fluid.
4. Check the Cup (#18) for wear at least every six months.

Capacities	3110-0000	3110-0200
Bore:	.625 inches	.750 inches
Stroke:	.50 inches	.50 inches
Volume:	.15 cu. in.	.22 cu. in.
Reservoir Capacity:	2.4 cu. in.	2.4 cu. in.
Port Size:	1/8-27 NPT	1/8-27 NPT
Overhaul Kits	3110-9004	3110-9003

**MAXIMUM OPERATING PRESSURE 1000 PSI.**

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