



# INSTALLATION INSTRUCTIONS

## FRONT DISC BRAKE CONVERSION KITS

A123, A123-1, A123-1C, A123-3, A123-4, A123-5, A123-58, A123-59

1964 - 72 A-BODY

1967 - 69 F-BODY

1962 - 74 X-BODY

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Thank you for choosing STAINLESS STEEL BRAKES CORPORATION for your braking needs. Please take the time to read and carefully follow these instructions to insure the ease of your installation as well as the proper performance of the complete system.

Before beginning your installation, please verify you have received all the parts indicated on the packing slip. If you believe anything to be missing or incorrect, please call our Customer Service Department at 716-759-8666.

To assure your installation will go safely and smoothly, have the following items on hand to assist you:

**JACK & JACK STANDS**  
**LUG WRENCH**  
**TORQUE WRENCH**  
**SOCKET SET**  
**BRAKE CLEANER**

**WRENCH SET**  
**TUBE WRENCHES**  
**MALLET**  
**WHEEL BEARING GREASE**  
**BRAKE FLUID**

**These kits use the following pads:**

**SSBC#: 1050-1**

**FMSI#: D-52**

Revised to level 7 2/27/12

- 1) Raise the vehicle until the wheels and tires clear the floor; support front of vehicle on jack stands. Make sure parking brake is engaged. Remove front wheels and tire assemblies.
- 2) Remove spindle assembly:
  - a) Remove tie rod ends from spindle after removing retaining hardware. We strongly recommend the use of a splitter "picklefork" for this purpose!
  - b) Remove both front shock absorbers.
  - c) Compress both front coil springs with appropriate spring compressor and remove from car. The use of a safety chain around the control arms is recommended to prevent sudden spring unloading during this operation.
  - d) Disconnect both upper and lower ball joints and remove spindle assemblies from car. Separate ball joints from spindle. Remove hub from spindle, save for re-installation.
  - e) Retain all original hardware for possible reuse.
- 3) Install new spindle assembly:
  - a) Check ball joints prior to re-assembly and if any play is indicated, replace with new parts.



**SPINDLE BEARING SURFACES ARE PRECISION MACHINED, PROTECT MACHINED SURFACES AGAINST DAMAGE.**

**BEFORE REINSTALLING STEERING ARMS, DRILL OUT FACTORY 7/16" HOLES TO 1/2" HOLES TO ENABLE REATTACHMENT TO SPINDLE.**

**NOTE: WHEN INSTALLING KITS A123-3 OR A123-4 ON 1962-64 CHEVY II / NOVA, 1965-67 V8 (5 LUG) STEERING ARMS WILL BE REQUIRED.**

- b) Install new spindles and ball joints. Make sure that steering arms point toward rear of car. Torque lower ball joint to 65ft-lbs, upper ball joint to 50 ft-lbs.
- c) Re-install coil springs in reverse manner of removal.
- d) Re-install shock absorbers. Install curved steering arms onto new spindles as in the reverse manner of removal. Note bolts are not the same length, rear bolts are 1/2" longer.
- e) Re-install tie-rod ends and castellated nuts, torque to 35 ft-lbs. install new cotter pins
- 4) Install caliper mounting brackets and hardware
  - a) Place caliper mounting bracket over spindle with ears facing outward, 5/8" dia hole on top.
  - b) Place splash shield over bracket and secure both bracket and splash shield to spindle with (1) 5/8"x 1" bolt and (2) 1/2"-20x2-1/2" bolts. Bend "tab-locks," on splash shield against 1 bolt flat.
  - c) Install new wheel bearings, after packing with a good grade of wheel bearing grease. (Inner wheel bearings must first be installed in rotors and retained with provided grease seals). Use large socket or seal installer tool for correct seating of grease seal.



**BE CAREFUL THAT ALL HYDRAULIC COMPONENTS ARE KEPT CLEAN AND FREE OF DEBRIS, INSIDE AND OUT. REMEMBER, DIRT IS THE ENEMY OF HYDRAULIC SYSTEMS. SSBC WILL NOT BE RESPONSIBLE FOR SYSTEM FAILURES DUE TO AN UNCLEAN INSTALLATION.**

- d) Install rotor over spindle and follow up with new outer bearing, retaining washer and nut. (Turbo slotted rotors are available, contact SSBC or your distributor for more information.)

- e) Torque spindle nut to 12 ft/lbs. While turning rotor, loosen nut one flat and insert cotter pin.



**IF SLOT AND PIN HOLES DO NOT LINE UP, TURN NUT BACK ENOUGH TO INSERT COTTER PIN. MAKE SURE THAT ROTOR SPINS FREELY!**

- f) Install grease cap, do not tap on the center, it will crush easily
- 5) Preparation and Installation of calipers
- Prior to installing calipers, connect flex lines to calipers with hollow bolt and (2) copper washers, one on top and one on the bottom. Don't tighten bolt until after caliper is mounted.
  - Install new sleeves and bushings, provided, into all four ears of each caliper using silicone grease or non-petroleum type grease for ease of installation.
  - Install inboard brake pad with supplied support spring. Inboard pads must lay flat against piston.
  - Install outboard brake pad in the caliper with the ears of the pad over the ears of the caliper and the bottom of the pads engaged in the recess of the caliper.
  - Lubricate supplied caliper mounting bolts with silicone grease or other non-petroleum lubricant.
  - Position the caliper assembly over the rotor and line up the holes in the caliper ears with the holes in the mounting bracket. (Bleeder screws must point up)
  - Install mounting bolts, making sure that the ends of the bolts pass under the retaining ears on the inboard pad. Push bolts through to engage the bushings of the outboard caliper ears while at the same time threading the bolts into the mounting bracket. Torque bolts to 25-30 ft/lbs.
  - Clinch outboard pad to caliper casting so that the pad remains flush against the casting without clearance or movement. (This will minimize brake squeak).



**IF THE PAD DRAGS ON THE HUB OF THE ROTOR, YOU MAY NEED TO CLOSE THE TABS ON THE PADS THAT GO OVER THE OUTBOARD SIDE OF THE CALIPER**

- i) Temporarily connect free end of flex lines to the 12 point retainer brackets on the frame and temporarily secure with "horseshoe clip". Turn steering assembly through a full left to right turn, while noting flex lines, to assure that they do not twist or take a double bend. If incorrect, remove them from the 12 point bracket and re-orient the hose with minimum distortion. Complete permanent connection using a tube wrench.



**FAILURE TO COMPLETE THIS PART OF THE INSTALLATION MAY CAUSE BRAKE LOCK-UP IN SERVICE. THE THIN WALL INTERIOR HOSE OF THE FLEX LINE CAN COLLAPSE DURING TURNS AND RESTRICT THE FLUID FROM RELIEVING THE CALIPER BRAKE LINE PRESSURE WHEN THE BRAKE PEDAL IS RELEASED. MAKE SURE ROTOR SPINS FREELY AND THERE ARE NO INTERFERENCES.**

- 6) Power booster (A123-1, A123-4)

- a) Remove original master cylinder and save clevis and associated hardware.
  - b) If kit has been ordered with power brake option, line up booster to determine which bolts require removal to allow attachment to fire wall. Remove four bolts and install booster (do not tighten fasteners at this time). Assemble jam nuts and clevis onto booster input shaft before final tightening.
  - c) Align holes of clevis with lower hole in brake pedal arm. Adjust clevis to allow 1/8" end play and assure that stop light switch is still in adjustment.
  - d) The most convenient vacuum source for the booster is the engine intake manifold. The minimum vacuum developed by the engine, at idle, should be no less than 18"hg. In addition, the rubber hose between the intake manifold and the booster must be rated for vacuum service and have an outside diameter of no less than 1 1/32"
  - e) An extension rod is supplied for those vehicles that need longer pushrods. (3/8-24 thread).
- 7) Master cylinder
- a) **Always** bench bleed master cylinder before installing in car and refer to the separate "Master Cylinder Installation Instructions."
  - b) If new brake lines are required for proper connections, use only approved steel "Bundyweld" or stainless steel. Pre-flared lengths of "Bundyweld" are supplied in the kit with the most common fittings used with 1967-74 GM vehicles.
  - c) An adjustable proportioning valve, necessary for front to rear brake balancing, is also included in the kit. The prop. valve should be installed in the rear brake line, **after the stock distribution block**. Turning the knob in the "decrease" direction will reduce line pressure to the rear drum brakes and prevent premature rear brake "lock-up".



**REFER TO THE PROPORTIONING VALVE INSTRUCTIONS FOR PROPER ADJUSTMENT AND INSTALLATION.**

- d) The rear line uses the smaller reservoir on the master cylinder and is usually located closest to the firewall. "In" towards the master cylinder, "out" towards rear line.
  - e) The longer line is installed between the front master cylinder port and the original distribution block port that serves the front brakes.
  - f) Because there are a great number of line routings and distribution block locations for the various GM car models and years that accept this kit, it is likely that there may be more line length than required for the perfect installation. Any additional line length may be bent into a loop to fit or shortened by cutting and re-flaring the line.
- 8) Brake fluid and bleeding the system
- a) After completing all hydraulic connections, install new brake fluid (at master cylinder reservoir). Remove the master cylinder and bench bleed the master cylinder. Pump brake pedal several times to initially fill the system and advance the caliper pistons to their working position.



**WHEN BLEEDING THE SYSTEM, PUMP FLUID SLOWLY INTO THE NEW SYSTEM. IF FLUID "FOAMS", IT WILL TAKE A LOT OF FLUID TO BLEED THE BRAKES. SOFT PEDAL IS A RESULT OF POOR BLEEDING. TAKE YOUR TIME!**

- 8A) Bleeding the system

- a) When pressure bleeding is employed the correct pressure setting is 10-15 psi. (max.) for the bleeder tank.
- b) If power brakes are fitted, the engine should not be running and the vacuum reserve should be reduced to zero by pumping the brake pedal or pulling the booster vacuum hose.
- c) Tapping the caliper with a rawhide mallet, before fluid is flowing, may assist in obtaining a better bleed job.
- d) Brake bleeding can be simplified by assuring that there are no line restrictions, by using the gravity bleed approach as follows:
  - 1) Leave all bleeder screws open when installing calipers.
  - 2) Fill master cylinder reservoir, do not pressurize master cylinder or pump brake pedal; instead observe bleeder ports until brake fluid flows out; then shut bleeder valves.
  - 3) No further procedure is required if brake pedal is hard after shutting off all bleeder valves. Make sure that the master cylinder is "topped-off."
- e) With bleeders closed and system bled, a hard pedal should be experienced so that at full application and with the engine running, the toe of your left foot can still be placed between the bottom of the pedal and the floor.
  - 1) In addition there should be brake pedal end-play of 3/4 to 1" inch (from full release until initial braking action takes place).
  - 2) Power brake cars will experience a "drop-off" of the pedal when the engine is started. This is a normal condition, and signifies that the booster is working correctly.



**DO NOT DRIVE THE CAR UNTIL THE BRAKES STOP THE CAR SAFELY, INITIAL BRAKING TESTS SHOULD BE DONE IN A SAFE OPEN AREA! LOOK FOR LEAKS AND INTERFERENCES!**

- f) If brake pedal "end-play" is excessive, adjust push-rod between the brake pedal and booster (to lengthen) in 1/4 turn increments until 1" of "end-play" is achieved.
- 9) Final inspection
- a) Reinstall wheel and tire assemblies.
  - b) Recheck all mechanical and hydraulic connections, look for brake fluid leaks, recheck brake pedal operation.
  - c) Lower vehicle to ground and test braking system for proper operation in a safe area before driving on public highways.

**DO NOT DRIVE IN TRAFFIC UNTIL THE BRAKES SAFELY STOP THE CAR A SAFE DISTANCE WITHOUT A SPONGY PEDAL FEEL!**

**BRAKING TESTS SHOULD ALWAYS BE DONE IN A SAFE OPEN AREA!**

**TECH LINE --** If technical help is required, please call 716-759-8666.

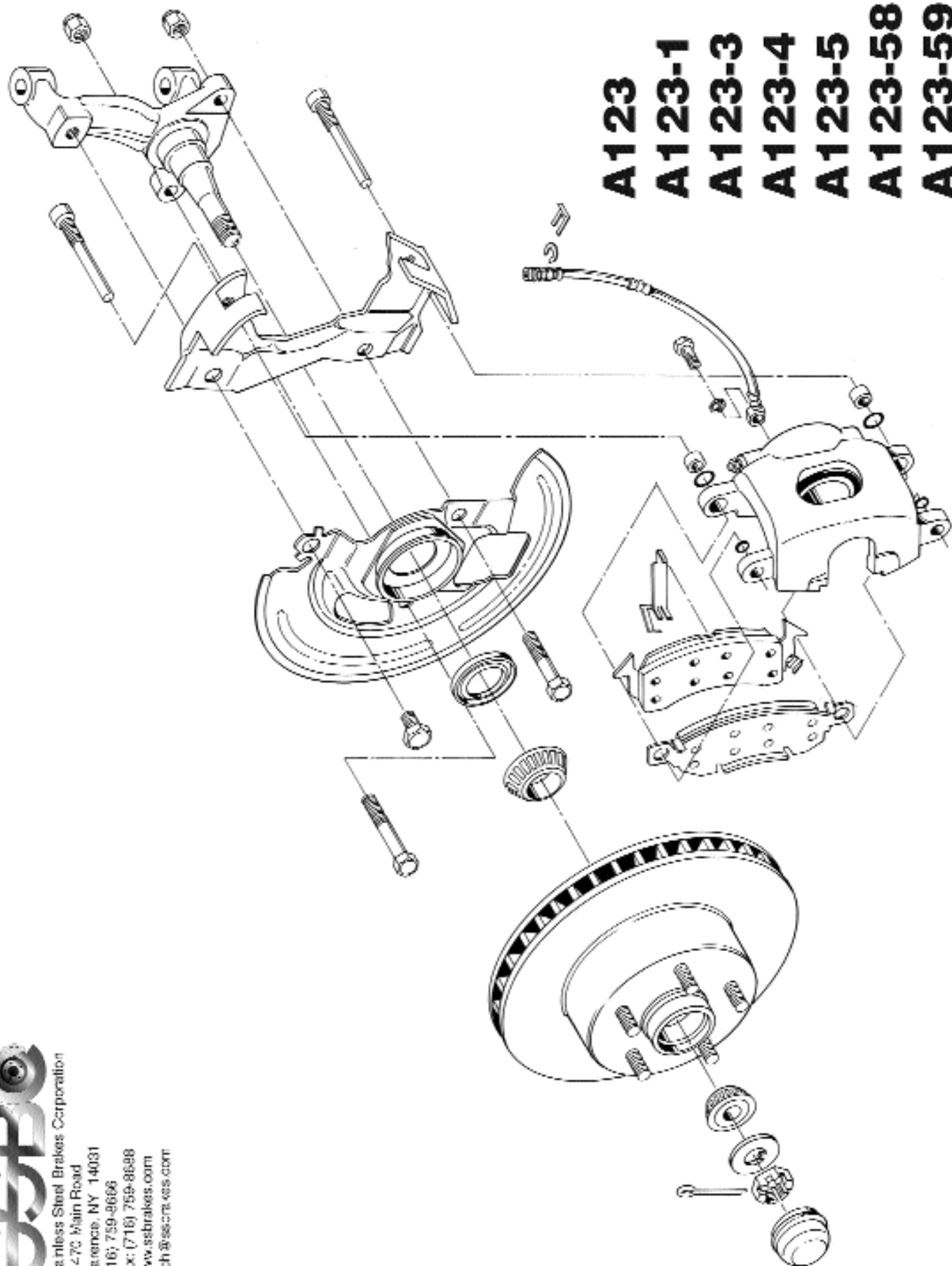
**NOTE: For frequently asked questions and technical reference information please visit the tech section of our website at [www.ssbrakes.com](http://www.ssbrakes.com).**

**NOW ENJOY TRUE PERFORMANCE BRAKING!!**



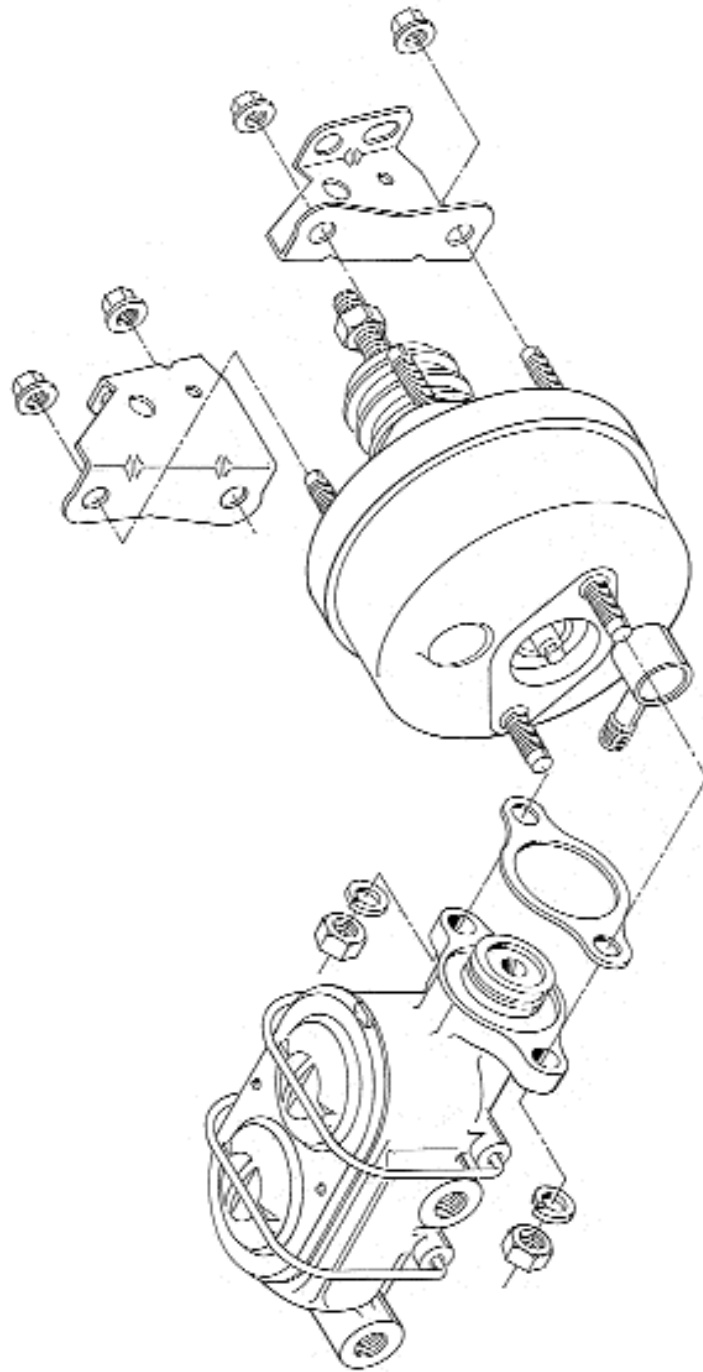
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Revision 7





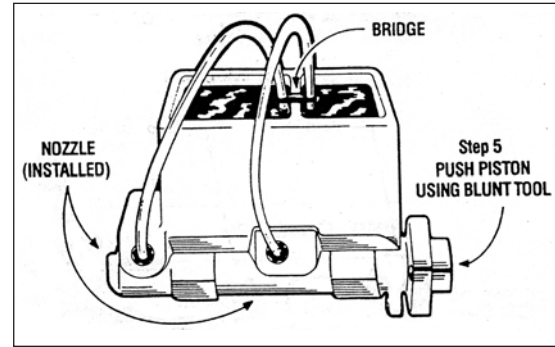
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**A28141**

# How and why do I bench bleed a master cylinder?

When installing or replacing a master cylinder, it is critical that all air is removed from the master cylinder. This can easily be done by bench bleeding the master cylinder prior to installation. Using the SSBC master cylinder bleeder kit (#0460):



- 1) Place your master cylinder in a vise by the ears (not body). Make sure it is level.
- 2) Attach a piece of clear plastic hose to the short end of one of the plastic nozzles. Do the same to the other hose and nozzle.
- 3) Clip the plastic bridge to the wall and push the ends of the hose through the holes so they are SUBMERGED in the reservoir on either side of the wall.
- 4) Press the tapered end of the nozzle FIRMLY into the cylinder port hole with a twisting motion. Repeat this procedure on the other port hole.
- 5) Fill the reservoir with CLEAN brake fluid recommended by the manufacturer.
- 6) Using full strokes, push the piston in, then release. Do this until ALL the air bubbles have disappeared from the clear plastic hose. **(CAUTION-MASTER CYLINDER WILL NOT BLEED PROPERLY UNLESS HOSES ARE SUBMERGED IN BRAKE FLUID UNTIL THE BLEEDING PROCESS IS COMPLETED.)**

Now mount master cylinder and avoid brake fluid leaking out of front and rear ports during installation.

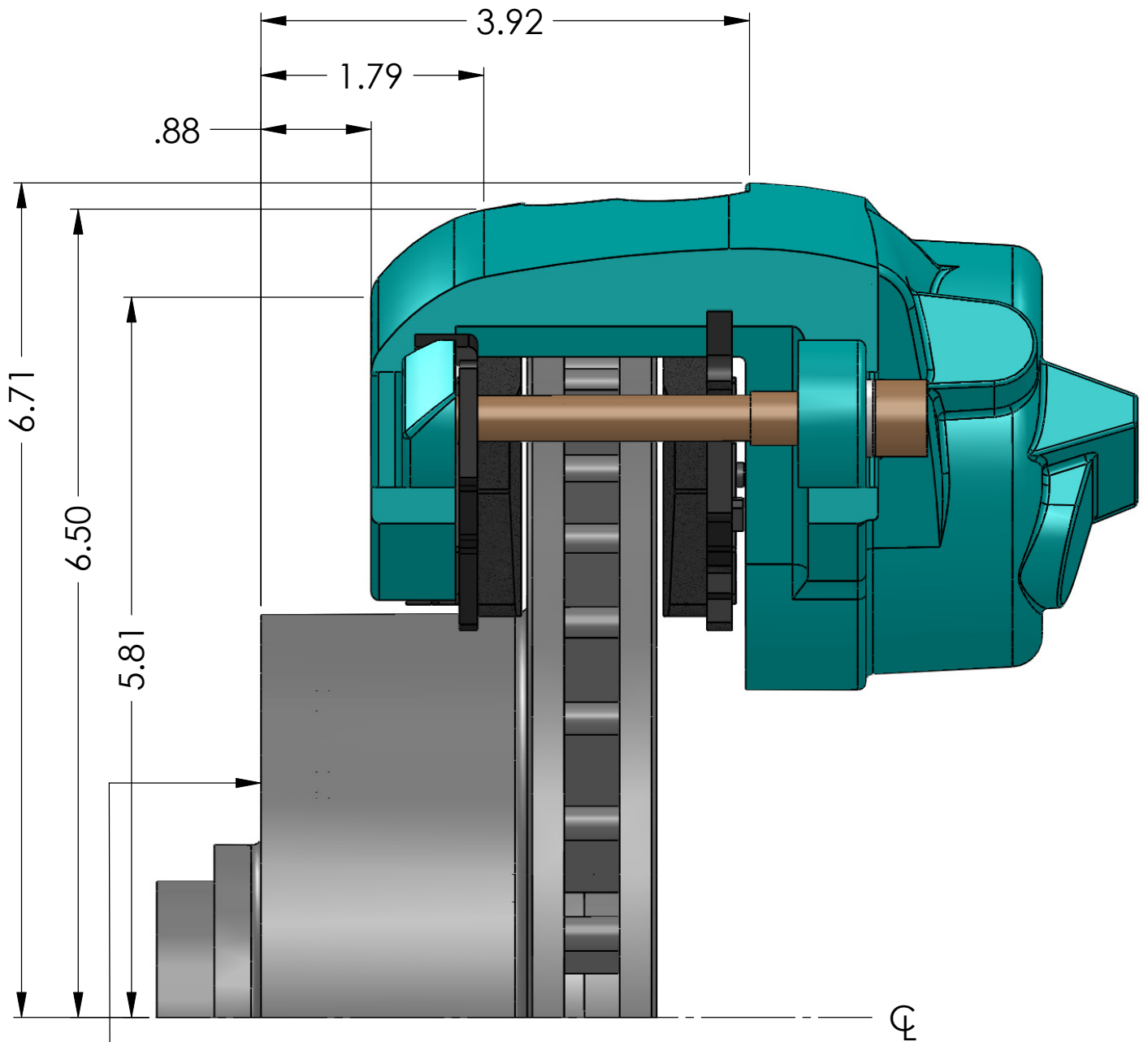
## Bleeding steps for Dual Port Master Cylinder

If you have a master cylinder with dual port holes (4 port holes - 2 on each side), it is necessary to bleed both port sides of the master cylinder. If both sides of the master cylinder are not bled, there will be air trapped in the master cylinder and your brakes will not function properly.

To bleed dual port master cylinders:

- 1) Follow steps 1 - 6 above on the side you will be hooking the brake lines to. Plug the other side.
- 2) Once the air bubbles are no longer visible in the plastic hose, open the bleeder screws in the supplied plugs and allow the mater cylinder to gravity bleed. **DO NOT** push the master cylinder piston in while the plugs are gravity bleeding.
- 3) When clear, steady streams of fluid are coming out of both bleeders, close and tighten the bleeders. Give the master cylinder piston several strokes, making sure there are still no bubbles present in the clear plastic tubes.
- 4) Remove the tubes and plastic fittings and mount the master cylinder on the vehicle being careful not to spill brake fluid on any painted surfaces.





WHEEL MOUNTING SURFACE

TEMPLATE NO. T-001	DO NOT SCALE DRAWING	REV -
<b>SSBC</b> <b>STAINLESS STEEL BRAKE CORP.</b> <small>CLARENCE, NEW YORK 14031-1720</small> <small>Ph: 716-759-8666 / 800-448-7722 ~ Fx: 716-759-8688</small> <small>WWW.SSBRAKES.COM</small>		