MGB Wilwood Brake Upgrade Kit

Installation Instructions

For 1962 to 1980 MGB

PART # 586-628

440 Rutherford St. P.O. Box 847 Goleta, CA 93117
1-800-667-7872 • FAX 805-692-2525 • www.mossmotors.com

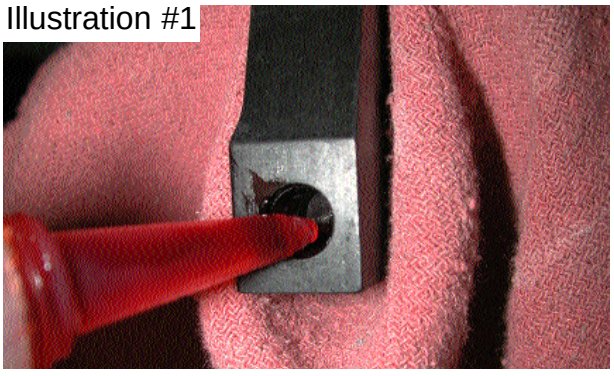
Tools required: torque wrench, 2 x 9/16" sockets, 3/4" socket, 5/8" socket, 1/2" socket, impact gun, ratchet, socket extension, vise, 2 x 9/16" combination wrenches, 9/16" flare nut wrench, 1/2" flare nut wrench, 7/16" combination wrench, floor jack and jack stands, medium flat blade screwdriver, needle nose pliers, dead blow hammer, 1 1/8" socket.

Pre-installation Assembly

Caliper Bracket Assembly

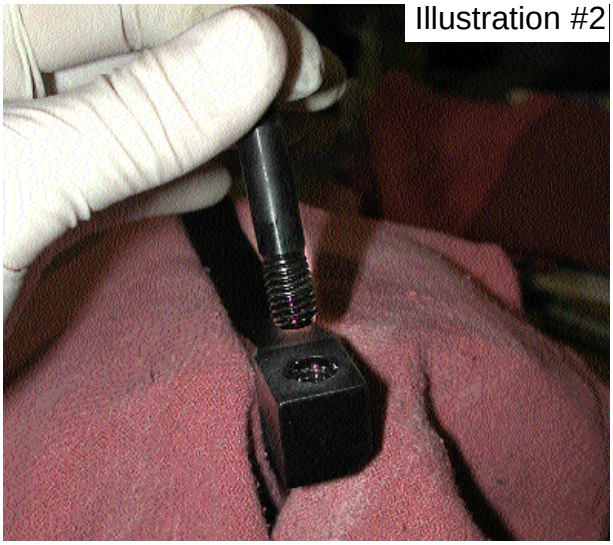
1. Both of the caliper mounting brackets will need to have studs installed using Loctite 271. Find both brackets and ensure that the threaded holes on each bracket are clean and free of debris. Loctite recommends that several drops of the Loctite 271 be applied down the internal threads to the bottom of the blind hole. (Illustration #1)

Illustration #1



2. Find the studs that have a coarse thread on one end and a fine thread on the other. Make sure the threads are clean and dry. Thread the coarse end of the studs into the respective holes on each bracket. (Illustration #2)

Illustration #2



3. Find the two 3/8-24 nuts and lock them together onto the fine threaded end of a stud using two 9/16" combination wrenches. Fix the bracket in a vise and using a torque wrench with a 9/16" socket torque this stud to 35 ft-lbs. Place a rag between the vise jaws and the bracket to protect the surface finish. Repeat this for the other three studs. Wipe away excess Loctite 271. For best results allow the

thread locker to cure for 24 hours. (Illustration #3 & 4)

Illustration #3

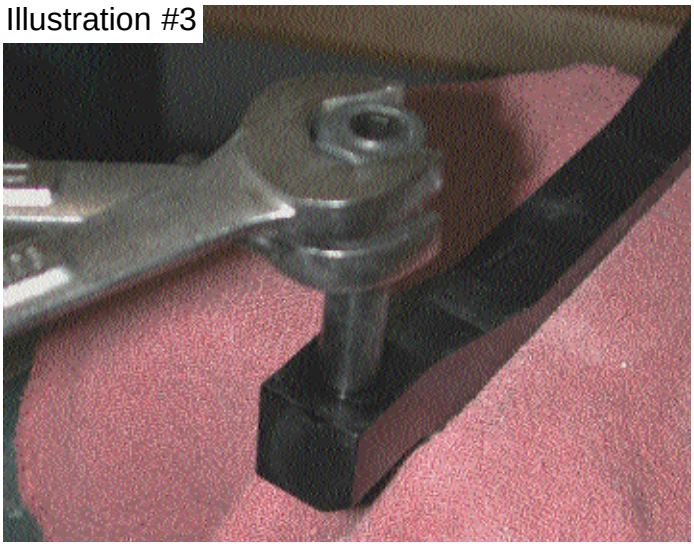
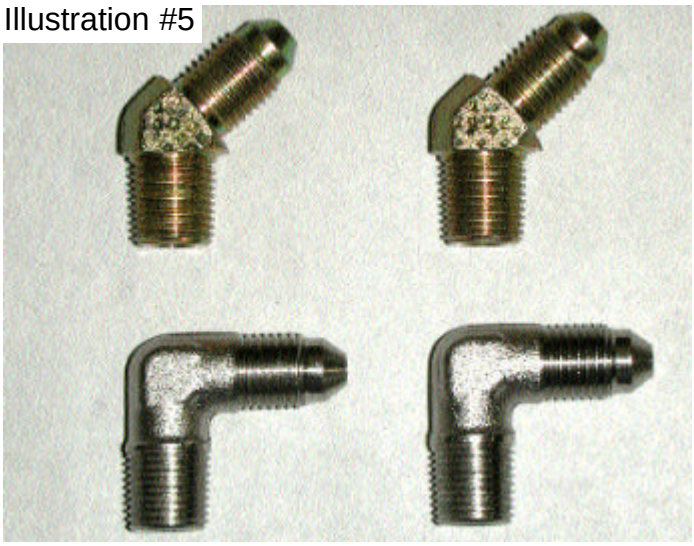


Illustration #4

Brake Caliper Assembly

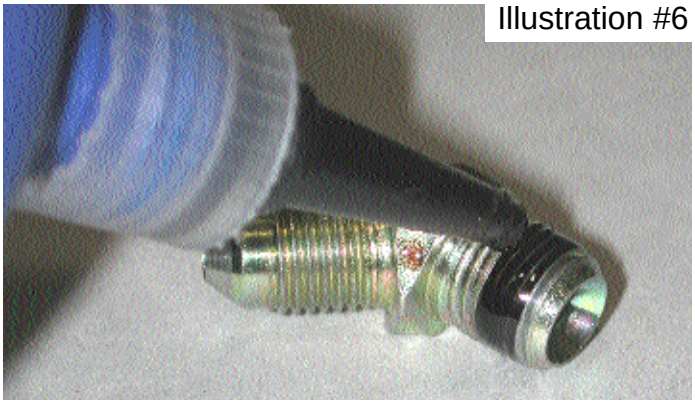
1. Both brake calipers are identical right out of the box and will become left and right specific when the required adapter fittings are installed. There are two kinds of adapter fittings supplied in this kit. One fitting is an AN-3 to 1/8 NPT 45º adapter and will be applied to MGB's that are running a stock front suspension. The other fitting is an AN-3 to 1/8 NPT 90º adapter and will be applied to MGB's that are running the Moss MGB Tube Shock Conversion Kits 268-121 and 268-138. (Illustration #5)

Illustration #5



2. Find the two adapter fittings appropriate for your application and the small tube of Loctite 545 thread sealant. Thread sealant should be applied to both fittings. Loctite recommends that a 360º bead of thread sealer be applied to the leading threads, leaving the first thread free of sealant. Make sure that the sealant fills the troughs of the threads completely. (Illustration #6)

Illustration #6



3. The caliper inlet is a 1/8" NPT female port. Do not attempt to install a banjo or AN-3 fittings of any kind directly into this port. Peel the protective cover off of the caliper inlet and engage the threads of the 1/8" NPT end of the fitting until finger tight. Make sure that the fitting and port are not cross threaded. Lightly fix one of the calipers in a vise with rags to protect the surface and tighten the adapter fitting using a 7/16" combination wrench. Both types of adapter fittings require a specific orientation when being tightened. The 45º fittings should be positioned at a 45º angle pointing up and toward the rear of the car (when installed on the vehicle). The 90º fittings should be positioned so that the flare points straight up. Pictures have been provided to ensure proper positioning (note that one caliper is the mirror image of the other).
(Illustration #7,8, 9)

4. Once the fittings have been properly secured allow the sealant to cure for 24 hours.

Illustration #7

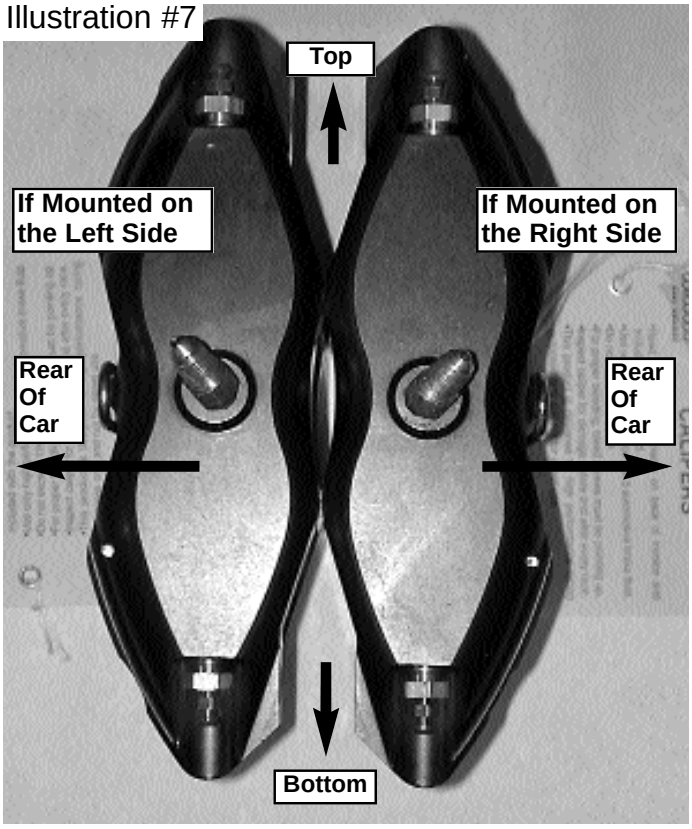


Illustration #8

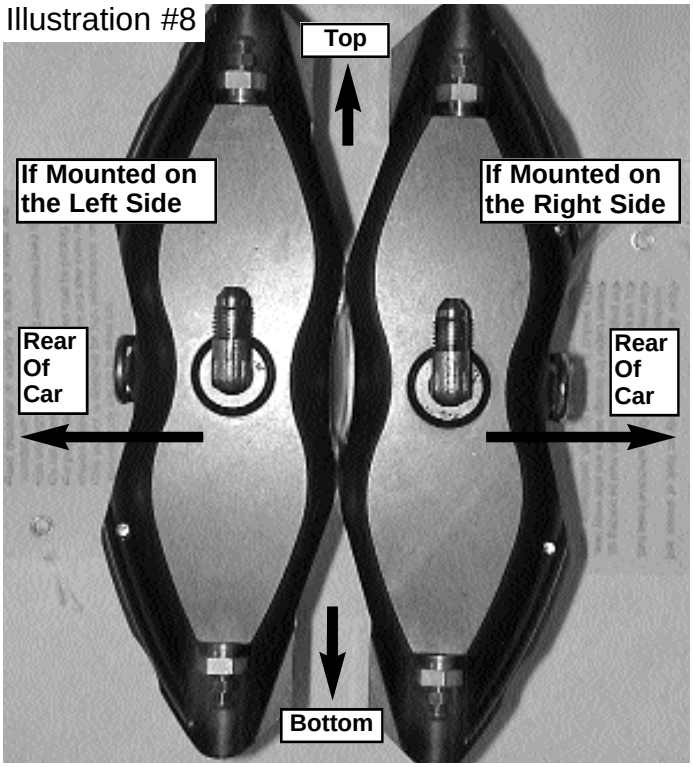
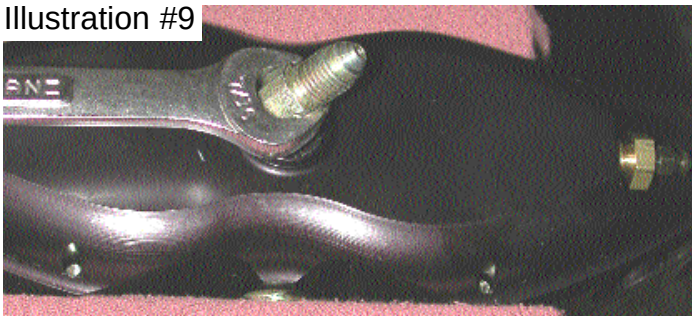


Illustration #9



Brake Kit Installation

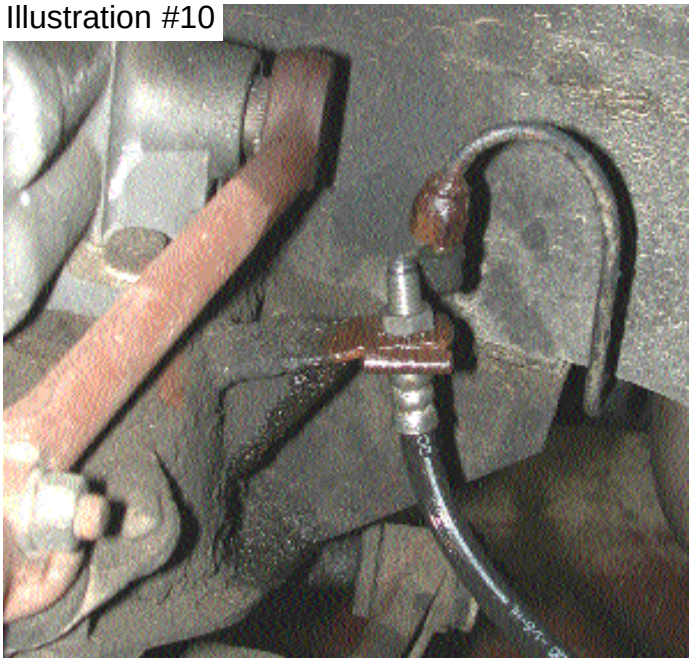
1. Before installing this kit make sure that the braking system is in good working order with no leaks. Consult a proper service manual for maintenance and repair if necessary.

2. Properly lift the front of the vehicle with a floor jack and support it on jack stands. Take off the front wheels using a 3/4" socket with an impact gun.

3. Place a rag underneath the brake line bulkhead to catch brake fluid. Use a 9/16" flare nut wrench on the hard line nut and a 9/16" combination wrench on the jam nut to disconnect the hard line. There are 8 rubber bleed screw caps provided in the kit that can be used to temporarily seal the open ends of the lines. The plastic

caps on the new set of brake lines included in this kit can also be used. Try to minimize brake fluid contact with painted surfaces because it will eat away at paint. (Illustration #10)

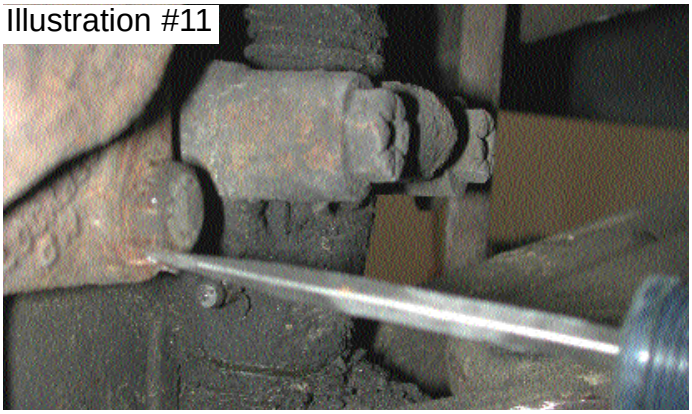
Illustration #10



4. Use a 9/16" flare nut wrench(unless the retaining clip is in place) on the hex of the male barrel fitting and a 9/16" combination wrench on the jam nut to disconnect the soft line from the brake line bulkhead.

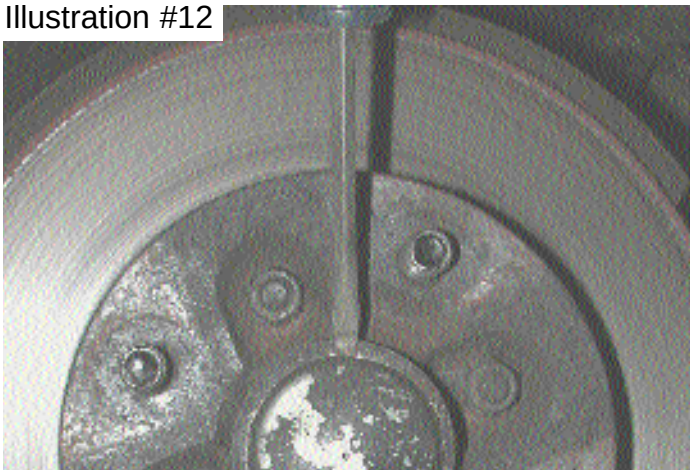
5. Pry back the ears of the tab washer used on the caliper mounting bolts with a medium flat blade screwdriver. Remove the caliper mounting bolts using a 5/8" socket and ratchet. Be prepared to catch the caliper once the last bolt is removed. The tab washer can be discarded since a new one is supplied in the kit. Inspect the bolts and replace if necessary.
(Illustration #11)

Illustration #11



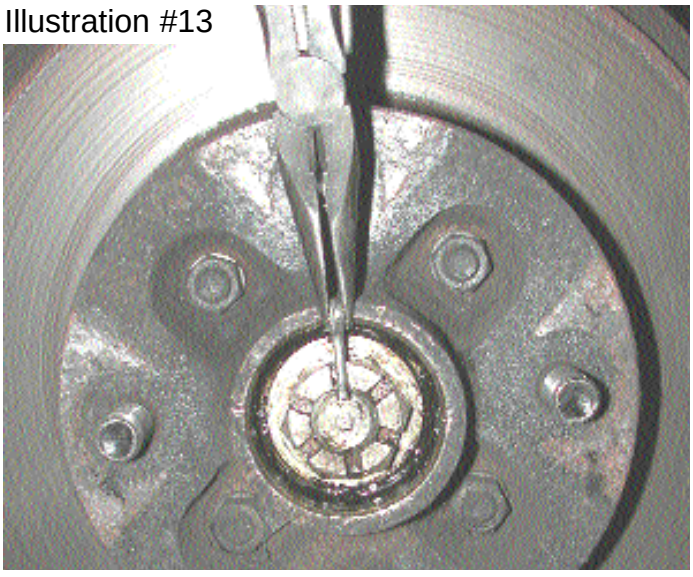
6. The rotor can now be removed. This requires the removal of the hub assembly. Pop off the dust cap at the center of the hub using a medium flat blade screwdriver to evenly pry the rib of the dust cap away from the hub.
(Illustration #12)

Illustration #12



7. Use a set of needle nose pliers to remove the cotter pin that locks the castle nut in place on the spindle. Once the cotter pin is removed the castle nut should come loose easily using a 1 1/8" socket and ratchet. (Illustration #13)

Illustration #13



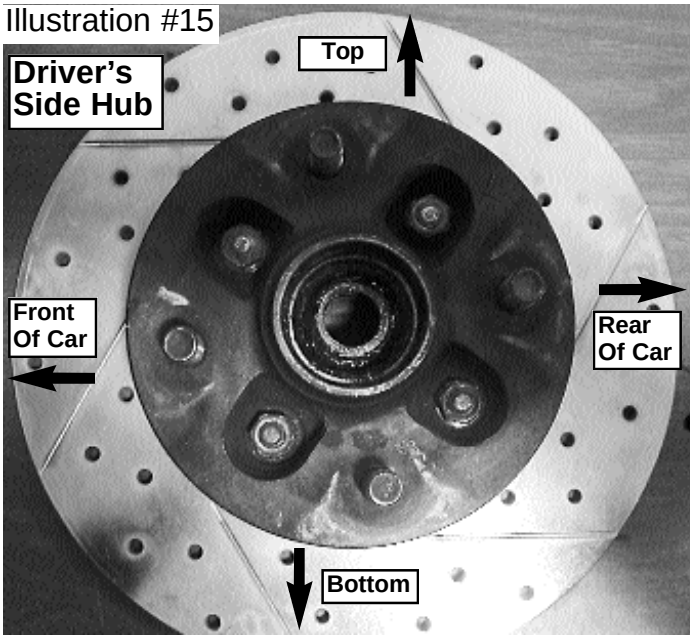
8. Prepare a clean place for the hub assembly and then remove it from the spindle. When removing the hub assembly from the spindle make sure to catch the tapered roller bearing and washer as they will fall out. Also, take precautions to ensure that the hub components, especially the bearings, are kept clean. Inspect the hub assembly and replace parts as necessary.

9. The rotor is fixed to the hub by 4 bolts. Remove these 4 bolts using two 9/16" sockets, two ratchets and a socket extension. It may help to secure the hub in a vise to prevent it from moving while loosening these bolts. Inspect the lock washers and replace as necessary. (Illustration #14)

Illustration #14

10. The two rotors supplied in the kit are cross-drilled and slotted. These features make the rotors specific to the driver side and passenger side of the vehicle. A picture of a driver's side(US spec) hub with the new rotor has been provided to ensure that the correct rotor is installed on the driver's and passenger's side. Once the correct rotor is chosen fix it in place using the same hardware making sure that the head of the bolt is on the backside of the rotor and the nut and lock washer are on the frontside. Tighten the hardware in a cross pattern to 40 to 45 ft.lbs. each using a torque wrench. (See Illustration#15)

Illustration #15



11. Before reinstalling the hub it is necessary to remove the backing plate from the knuckle as it will interfere with the shape of the new caliper. Using a 1/2" socket and ratchet remove the 4 bolts securing the backing plate. (Illustration #16 and 17)

Illustration #16

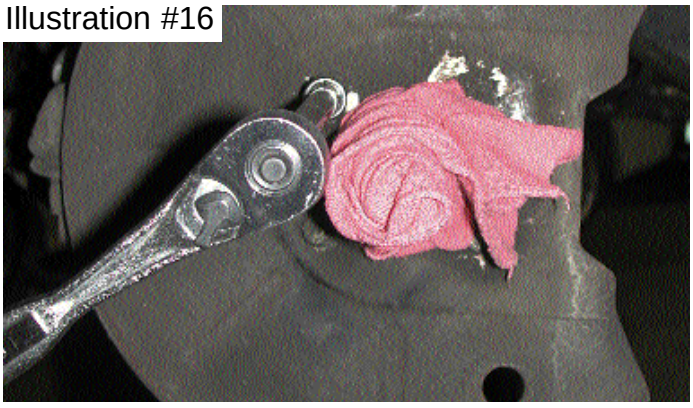
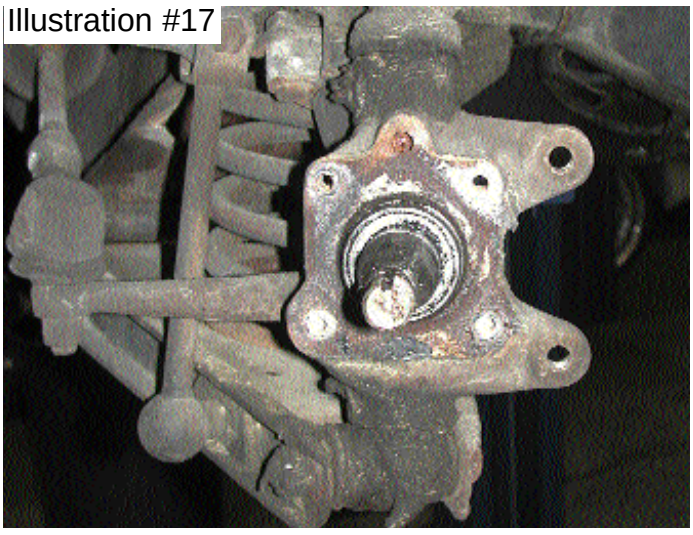
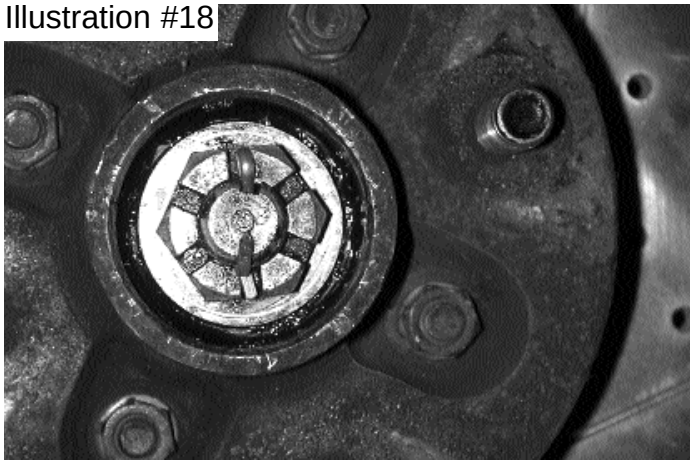


Illustration #17



12. Grease the hub as necessary before refitting and make sure that the spindle is clean. Refit the hub assembly to the spindle along with the outer tapered roller bearing and washer. Thread the slotted nut onto the spindle and leave finger tight. Tighten the nut so that a slot on the castle nut lines up with the hole drilled through the spindle(for inserting the cotter pin) and the end float of the hub is between .002" and .004". Meeting these two criteria may require the use of shims. These shims range from .003" to .030" and are available from Moss Motors. Once the correct preload on the bearings is met install the new cotter pin supplied in the kit.
(Illustration #18)

Illustration #18



13. Spin the hub to confirm proper drag. Clean the inside of the dust cap and tap it onto the hub.

14. Clean the rotor faces with brake cleaner to remove any rust inhibitor and grease from the hub installation. (Illustration #19)

Illustration #19

15. Install one of the caliper mounting brackets along with a new tab washer supplied in the kit and the original bolts. Tighten the bolts to 40 to 45 ft.lbs. using a 5/8" socket and torque wrench. Once tightened bend the ears of the tab washer flat against the head of the bolt.
(Illustration #20 and #21)

Illustration #20

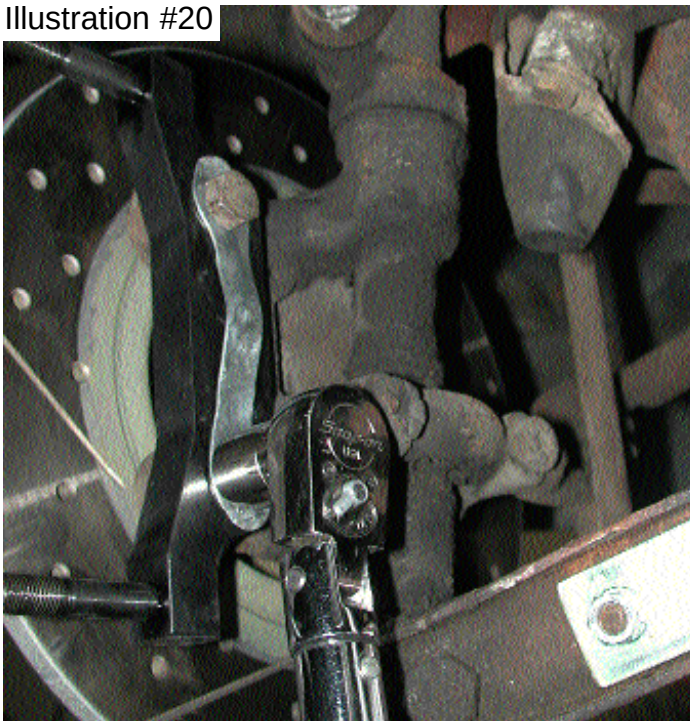
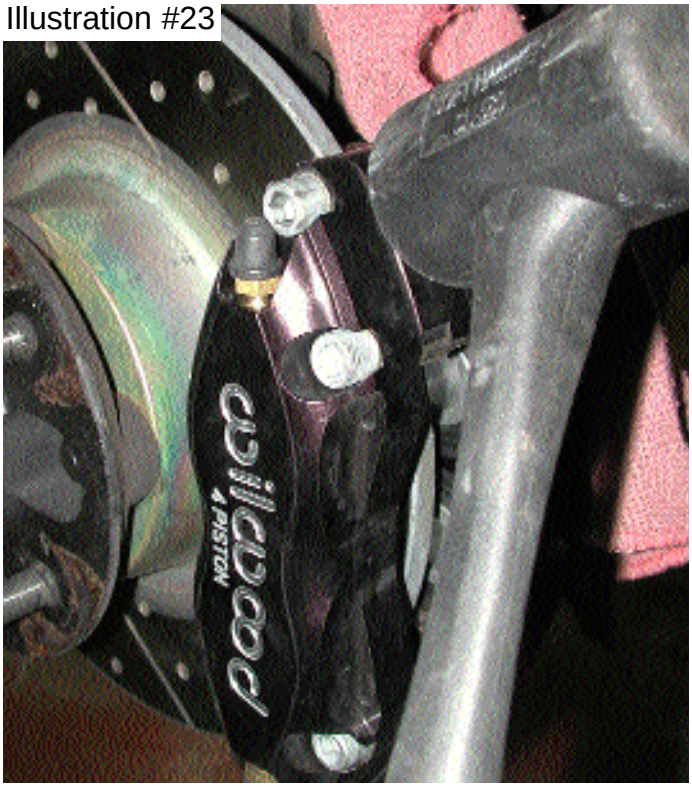


Illustration #21

16. Find the appropriate caliper for the side of the car being worked on. Locate the through holes on the caliper to the studs on the bracket. Slide the bracket onto the studs evenly. If there is resistance between the caliper holes and the studs a dead blow hammer can be used to evenly tap both ends of the caliper until it is flush with surface of the bracket at the base of the studs. Do not use any hammer that will mar the surface of the caliper. (Illustration #22 and #23)

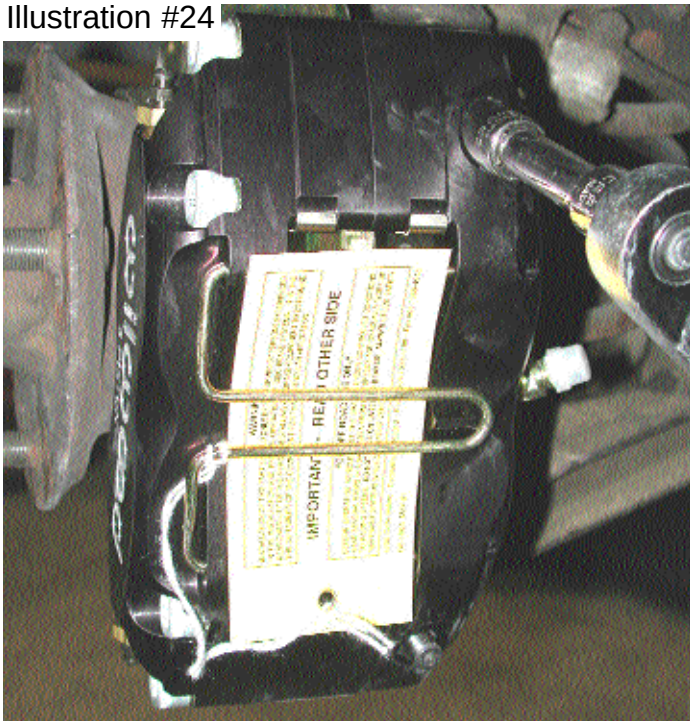
Illustration #22

Illustration #23



17. Find two 3/8-24 jet nuts and two 3/8 washers supplied in the kit. Install a nut and washer set on each stud. Make sure that the jet nuts and studs are not cross threaded. These jet nuts should thread on by hand easily until the crimped top of the nut is reached. Run the nuts down the rest of the way using a 7/16" six point deep socket and ratchet. Inspect the caliper and bracket once again to ensure their mounting faces are properly mated. Jet nuts have a crimped head that make them self-locking. These nuts also have thin side walls and can be stripped if over tightened. To avoid this condition when tightening the nuts do not exceed 30 ft.lbs. of torque. (Illustration #24)

Illustration #24



18. Remove the pad retaining clip on the back of the caliper and insert two of the brake pads supplied in the kit. Reinstall the retaining clip on the caliper while at the same time catching the eyelets of the brake pad backing plates. (Illustration #25 and #26)

Illustration #25

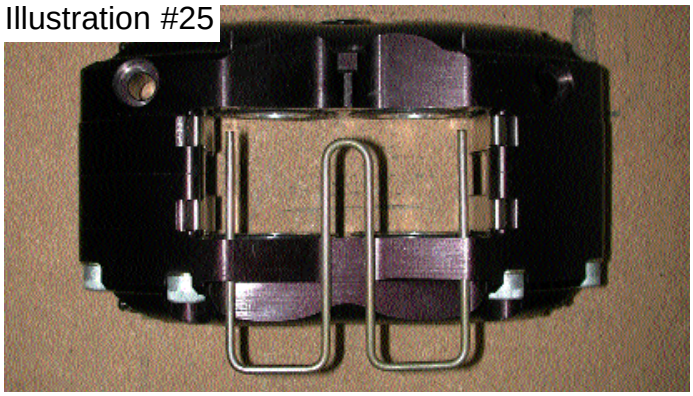
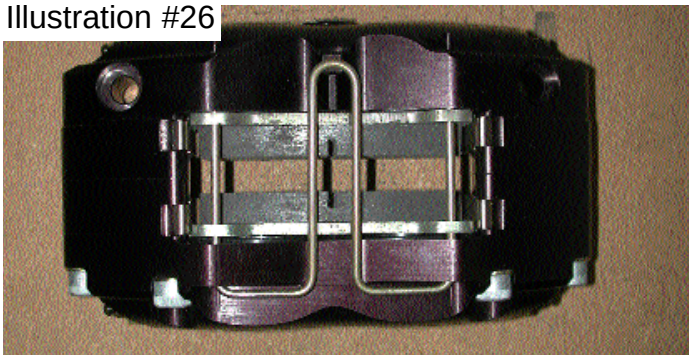


Illustration #26



Steps 19-22 are for cars running a stock front suspension. For cars running the Moss MGB Tube Shock Conversion Kits 268-121 and 268-138, refer to the instructions regarding brake line routing and installation.

19. There are three brake lines supplied in this kit: two longer lines for the front and a short line for the rear. The front lines are symmetric left to right. Remove the clip on the brake line bulkhead. Fix the male tube fitting on the brake line to the brake line bulkhead with the provided jam nut using a 1/2" flare nut wrench and a 9/16" combination wrench. (Illustration #27)

Illustration #27

20. Once the brake line fitting is secured to the bulkhead connect the hard line to the brake line using a 9/16" and 1/2" flare nut wrenches. Loosely connect the other end of the brake line to the 45º adapter fitting on the caliper.

21. The female fitting on the brake line allows the brake line to swivel. This swivel should be used to position the brake line so that it winds up nicely when turning the wheel from left to right without interference. To effectively set the brake line will require a little bit of trial and error. Set the brake line and tighten the female fitting with a 1/2" flare nut wrench and 7/16" combination wrench just enough to secure the position. Now, turn the steering wheel to see how the line behaves. If it rubs anything then loosen the fitting and try it again. Make sure that the brake line fully extends and winds up comfortably when the wheel is turned from left to right and do not allow it to bind or kink. Once satisfied tighten the female fitting to the 45º adapter fitting. (Illustration #28 and #29)

Illustration #28

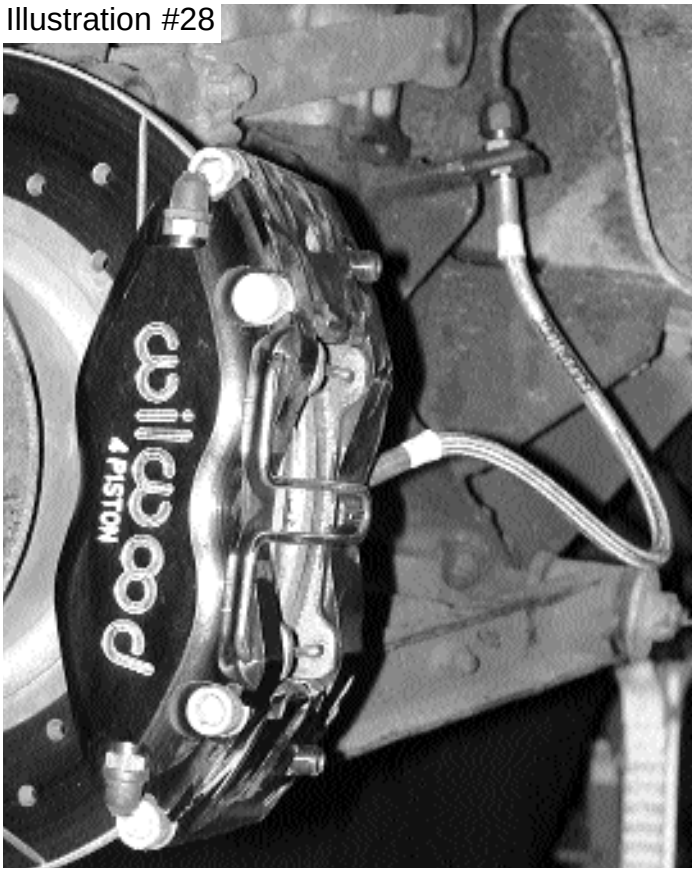
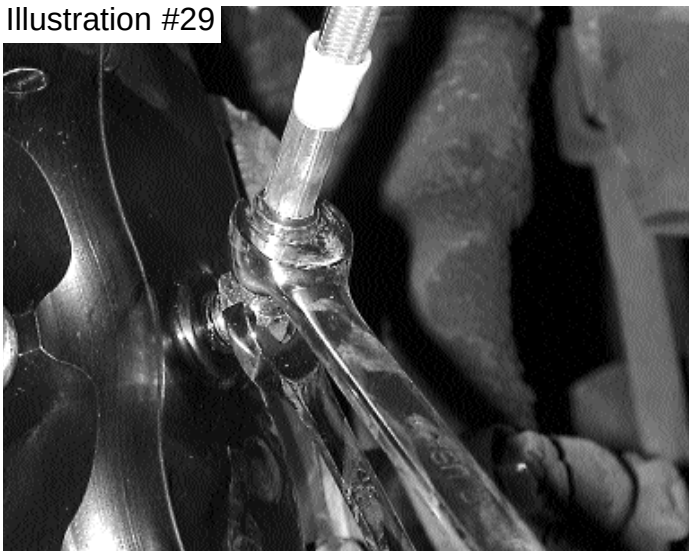


Illustration #29



22. Repeat steps 1-22 of the Brake Kit Installation for the other side of the car.

23. Install the single rear brake line in place of the stock rubber hose that connects the 3-way brake line union on the axle to the hard line on the underbody.

24. For bleeding the brakes Wilwood offers these recommendations for their caliper:

NOTE: Silicone DOT 5 brake fluid is NOT recommended. To properly bleed the brake system, begin with the caliper(or wheel cylinder) farthest from the master cylinder. Bleed the outboard bleed screw first, then the inboard. Repeat the procedure until all calipers (and wheel cylinders) in the system are bled, ending with the caliper closest to the master cylinder. If the caliper is fitted with bleed screws on four corners, make sure the bottom bleed screws are tight. Only bleed from the top bleed screws.
Test the brake pedal. It should be firm, not spongy….If the brake pedal is spongy, bleed the system again. If the brake pedal is initially firm, but then sinks to the floor, check the system for leaks. Correct the leaks (if applicable) and then bleed the system again.
During this process, when the calipers and brake lines are full of fluid, it may help to tap the caliper with a dead blow hammer to knock any trapped air bubbles loose. Then bleed those bubbles out.

25. Clean the bleed screws with brake cleaner and wipe them dry. This will help avoid any confusion about whether there is residual fluid from bleeding the brakes or a leak that needs to be addressed. Install the bleed screw caps provided at all four bleed screws on each caliper.

26. Before mounting the wheels visually check for leaks. Mount the wheels and torque the lug nuts to between 60 and 65 ft. lbs. Test the brakes on low traffic road to assure that they have been successfully bled. Return to your garage and recheck for leaks. Then, and only then, bed in the brake pads. Bed the brake pads by stopping aggressively from 60mph to 10mph **(DO NOT COMPLETELY STOP OR LOCK UP THE BRAKES)** 8-10 times. Cool your brakes between every two runs. After the process is complete drive the car around some more to further cool off the brakes.

27. Enjoy your new Wilwood four piston brakes and stainless steel lines! Please see MossMotors.com for all of your MG Performance and Accessory needs.