Note our New Address Everything else remains the same.

Texas T Parts
1820 Gray Stone Drive
Bryan, Texas 77807
(979) 260-5433 1-800-337-6977
www.TexasTParts.com

T2565-*Sure-Stop* Disc Brake Kit
Small Drum - Wire Wheel
Installation Instructions

Revised: May 2014

NOTE: Please READ completely through the instructions and UNDERSTAND the instructions before you begin installation of your brake kit. Then, FOLLOW THE INSTRUCTIONS as you install your brakes. There are several details that will make your installation proceed smoothly.

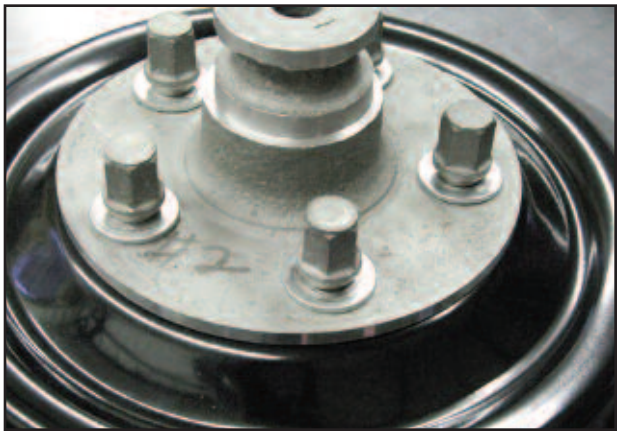
Your *Sure-Stop* Disc Brake kit should include the following components:

- ☐ 2 - Small-Drum Wire-Wheel Drum/Rotor Assy.
- ☐ 2 - 3/16” x 40” Steel Brake Lines
- ☐ 2 - Disc Brake Calipers **No. 120-3277**
- ☐ 1 - Disc Brake Pads **No. 15Q10144K**
- ☐ 2 - NAPA DOT3 Brake Fluid
- ☐ 2 - Small Drum Caliper Brackets
- ☐ 1 - Master Cylinder Bracket
- ☐ 1 - Master Cylinder Kit
- ☐ 1 - Model T Brake Pedal w extension
- ☐ 1 - Large Drum - Wood Wheel Installation Instructions
- ☐ 2 - 3/8”x 6”dia Wire Wheel Spacers

- ☐ **Installation Hardware Bag**
  - ☐ 1 - 1/8" Brake Line Hose Assembly w Fittings
  - ☐ 1 - Master Cylinder Hardware Kit
  - ☐ 1 - Loctite 242, Threadlocker
  - ☐ 1 - Clevis Hardware Kit
  - ☐ 1 - 18” of 1/4” Clear Vinyl Tubing
  - ☐ 1 - 1/4” x 10mm Box Wrench (to bleed brakes)
  - ☐ 1 - Small Drum Caliper Hardware Kit
  - ☐ 2 - Cotter Pins for Axle Nuts
  - ☐ 1 - Scrubs In-A-Pack to clean up when done
  - ☐ 1 - LED flashlight to be able to see under the car.

In addition to the tools that we would expect you to have in a moderately equipped Model T hobbyist’s garage, you will probably need a wheel puller to remove the rear hubs from your car to install the *Sure-Stop* Disc Brake Kit. You will also probably need a friend to assist you in bleeding the brake lines when that task needs done.

Small Drum - Wire Wheel Installation Procedure



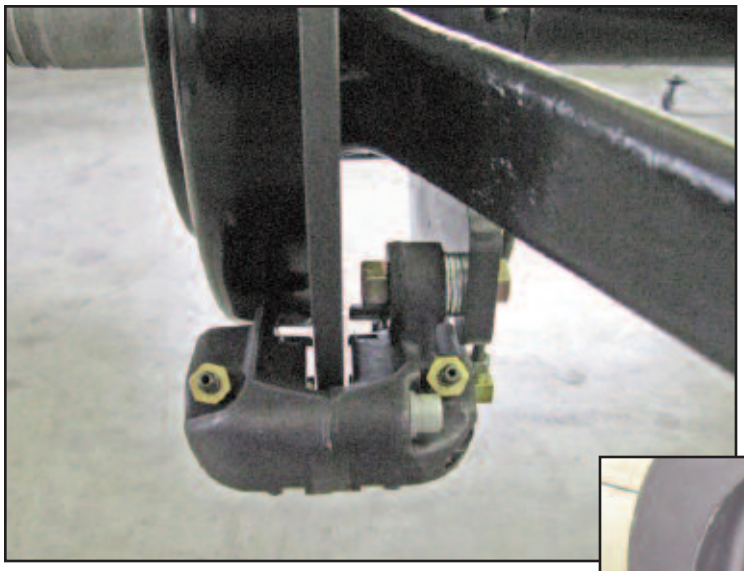
1. Jack up the rear axle and place jack stands under the rear axle about 6” inward from each rear wheel. Remove the rear wheels from the car and remove the rear hubs. Remove the old brake drums from the hubs. The bolts need to be pressed out one at a time with a backer tube behind so as not to bend the hub. If you are not using floating hubs on your car, your new drums will already have new lug bolts installed. (If you have floating hubs installed, the lug bolts in the floating hubs will need to be replaced with the longer lug bolts included in this kit. The longer lug bolts need to pass thru the new drum assembly, your existing wheel hub, and the 3/8” spacer plate provided in this kit.) Install the new disc brake drum on your original hubs using lug nuts and large washers. Tighten in sequence so as to pull the hub tight against the drum evenly. Be careful not to burr the lug bolt shafts.

DO NOT TRY TO USE A PRESS THE HUB OVER THE LUG BOLTS IN ANY OTHER FASHION!
YOU WILL DEFORM THE DRUM AND RUIN THE DRUM/DISC ASSEMBLY CAUSING THE DISC TO WOBBLE!

Small Drum - Wire Wheel
Installation Procedure

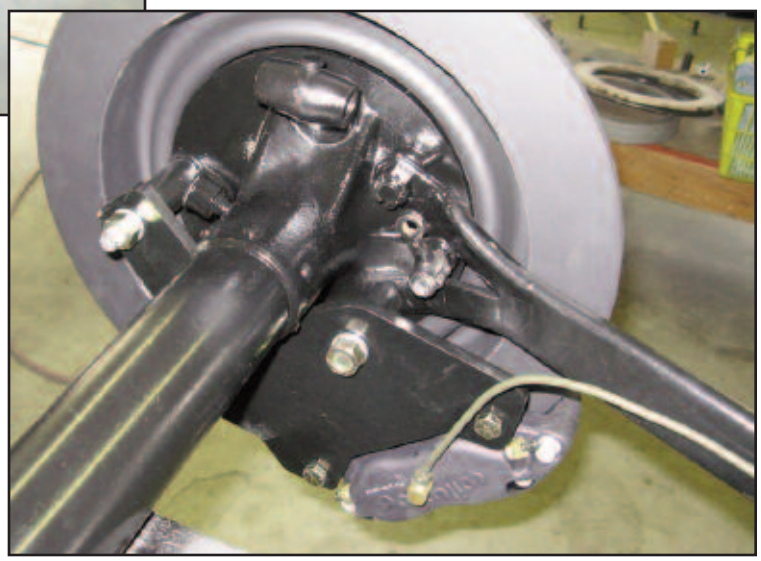
2. Remove the lower radius rod bolt and the brake shoe bolt. Install the new bolts provided along with the spacers and the caliper brackets. The 1-3/4" spacer is to be used at the radius rod with the 1/2-20 x 3" grade 8 bolt. The 1-1/8" spacer is to be used with the 1/2-20x4 fully threaded bolt to replace the brake shoe bolt. At the brake shoe bolt, allow just enough space so the brake shoe moves freely. Torque the 1/2-20 x 3" Grade 8 bolt to 90 ft.lbs and the 1/2-20 x 4 fully threaded bolt replacing the brake shoe bolt to 60 ft.lbs. Use the lock washers provided on all of the 1/2" bolts.

   Note: At brake shoe bolt, allow just enough space so brake shoe moves freely.



3. Using the 3/8-24 x 1-1/4" Grade 8 bolts, install the brake calipers, making sure the brake disc is centered in the calipers. Shim washers provided (3/8" SAE washers) may be required to achieve this centering. If your disc is too far toward the center of the car to get it centered, your axle and/or hubs are probably badly worn. Axle shims may be required. You will need to remove the caliper and then remove the wheel to install shims. Replacement of your axle shaft with one of the new axle shafts that are 1/16" longer may be a good idea.

   When you have your spacing worked out, use Loctite 242 Threadlocker on these bolts/nuts. Torque to 40 ft/lbs.

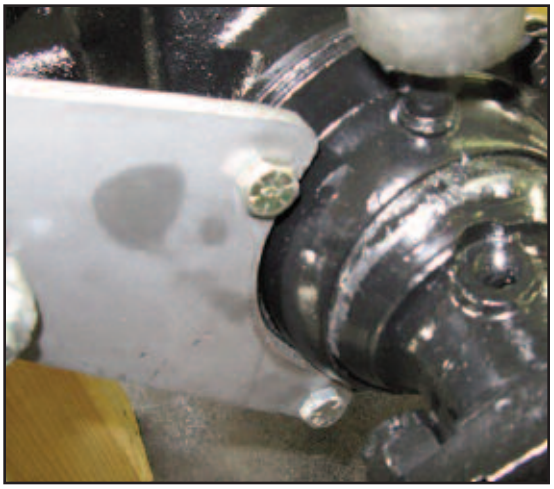


4. Install brake pads, sliding them into the calipers on either side of the brake disc and securing them with the cotter pin provided. **Caution**: When installing the brass elbow in the calliper to attach the brake lines, make sure your wrench is fully engaged to the fitting or you will crush the sides and make it unusable.

Small Drum - Wire Wheel
Installation Procedure

5. Install your brake pedal with the extension arm welded onto it. If you are not confident in this procedure, get help from other Model Ter's. Take special care to NOT drop the transmission shaft nut or washer down into the oil pan. We recommend stuffing shop rags between the bands and the transmission cover to prevent anything falling into the oil pan. Oh yeah. Don't forget to remove the shop rags before closing up the transmission cover. If necessary, refer to the Model T Ford Service Manual. Texas T Parts sells this book as Item BT-1. If you do not have a copy of this book - you need one!

6. Adjust your Ford transmission brake band so that it contacts drum when the brake pedal is close to floor as it tightens. This allows for the hydraulic brakes to operate before the Ford brake band tightens but assures you have your original brakes in service if anything ever goes wrong with the hydraulic brake system. **IMPORTANT:** You should re-check this adjustment every 6 months or 1,000 miles (whichever occurs first) to make sure your Ford transmission brake remains functional at all times. To re-check this adjustment, remove the clevis pin from the brake pedal extension to disable the hydraulic brakes and make sure the pedal engages your transmission brake appropriately to be functional. Be sure to replace the clevis pin and cotter pin.

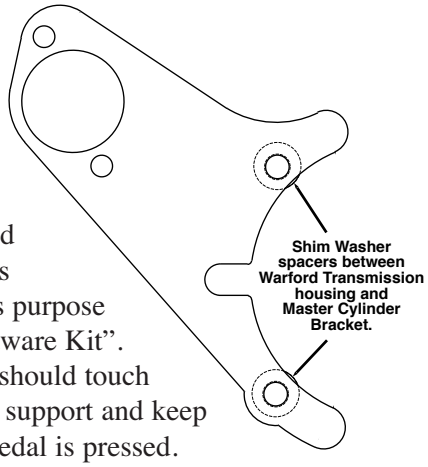


7. Before installing the master cylinder, the manufacturer instructions are for you "bench bleed" it. After "bench bleeding" the master cylinder, install it on the master cylinder bracket using two 5/16-24 x 1-1/2" bolts, nuts and lock washers as described below.

8. Install the master cylinder bracket to the flange of the universal joint ball with two 3/8-24x1-3/4" thin head bolts provided. Install the Master Cylinder on the bracket using two 5/16-24 x 1-1/2" bolts and nuts. Use Loctite on the threads of all bolts.

Special considerations:

If you are using a KC Warford Transmission, the master cylinder bracket will need to have shim washers installed between the transmission case and the bracket because of the machined recess in the Warford case. SAE washers for this purpose are included in the "Master Cylinder Hardware Kit". The extensions beyone the two bolt holes should touch the Warford housing to provide maximum support and keep the bracket from flexing when the brake pedal is pressed.



DO NOT use the shim wahers with the standard Ford universal ball cap or any other application where the mating surface does not have a machined recess.

Small Drum - Wire Wheel
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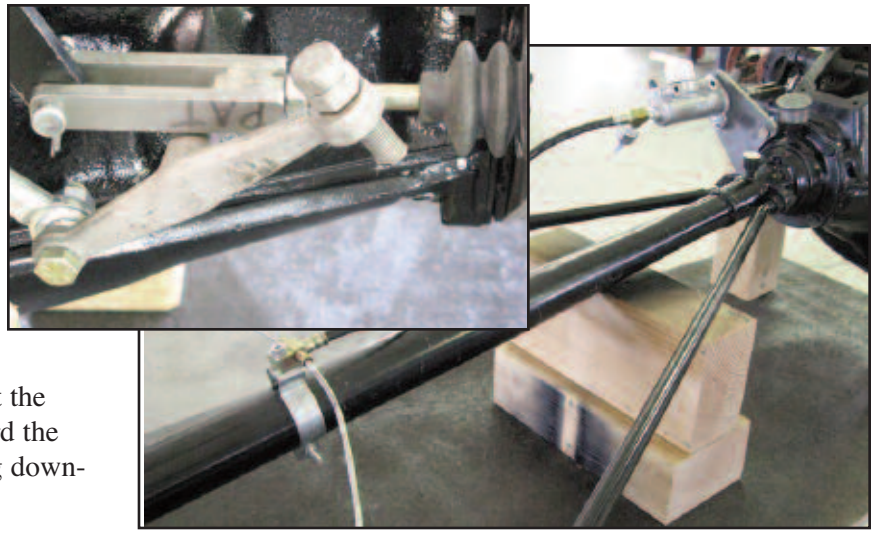
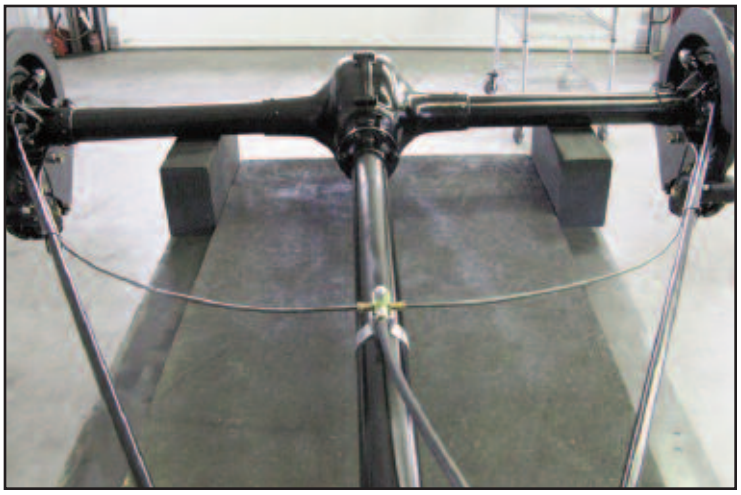
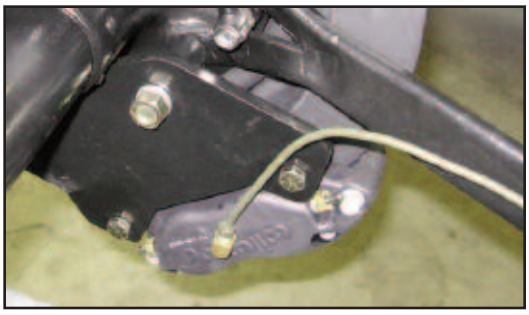
9. Install the clevis on the master cylinder rod after first installing the 5/16-24 nut on the threaded actuator rod to act as a locking nut. Pull the pedal up and adjust the master cylinder rod so there is a slight bit of play on the clevis pin.



10. Install the flexable hydraulic pressure line to Master cylinder. Finish tightening the fittings so that the brake light pressure switch is toward the driver's side of the car and pointing downward at least by 45°.

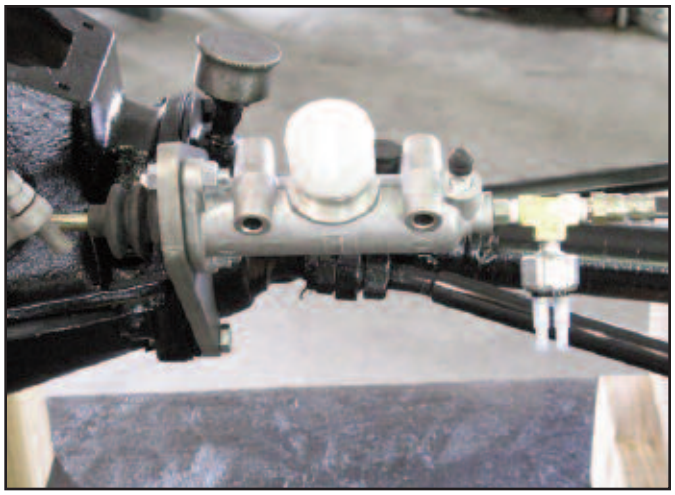
11. Install the pressure line clamp on your torque tube approximately 21" in front of the back flange of the torque tube. It can be installed on the top or bottom of the tube, whatever you need on your car.





12. Install metal brake lines, bending by hand to follow radius rod as per picture. Secure the steel brake lines to the radius rods with the Zip ties provided.

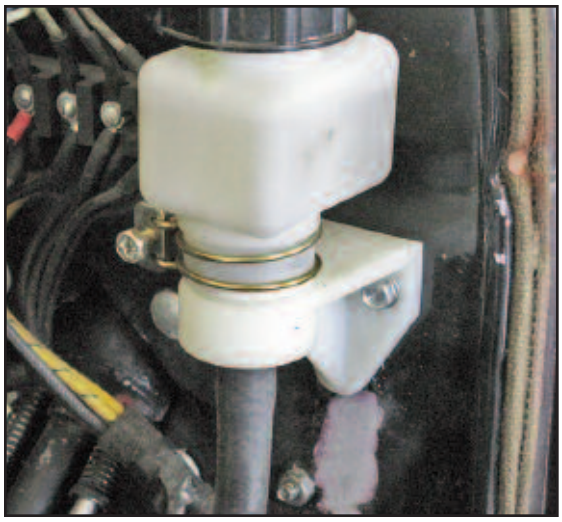
13. Read the Wilwood manufacturer's instructions first and then install cap to master cylinder per manufacturer's instructions. Wilwood recommends that the plastic componnts be heated before installing to prevent them from cracking. We've found that the best position to have the connection tube on the Master Cylinder Cap is to turn it to face the tube to the left side of the car.



Note: We have found that it is difficult to get a good seal at the O-ring connection on both the Master Cylinder Cap installed in Step 13 and the Fluid Reservoir installed in step 14.

Use a small amount of clear silicone caulk smeared on the surfaces of the two adjoining components before assembly.

CAUTION: If the hydraulic fluid leaks on a painted surface it will likely damage or remove the paint on that surface. If you wish, you can use DOT-5 brake fluid, which does not affect your paint, but DO NOT ever mix DOT-5 and DOT-3 types of brake fluid. Note also, the lid of the fluid resivoir has "Use DOT 3 Brake Fliud...". If you use DOT-5 Brake fluid initially, do not let anyone mistakenly add DOT 3 fluid at a later time.



14. Install the hydraulic fluid reservoir. You may use either the large or small reservoir - whichever works better for our installation location. The hydraulic fluid reservoir may be installed under the front seat on many cars or on the left side of the firewall. Do NOT install hydraulic components in a location that will result in excessive exposure to heat. Any car which has been modified with the exhaust manifold or exhaust pipes on the left side of the car, such as on some overhead valve setups, will necessate the owner/installer to resolve this issue.

    The hose that comes with the Master Cylinder Kit is not long enough to install the reservoir as high as the electrical terminal block as shown in the photograph on the right, but if you want to select a high location, the same hose is available from any NAPA store. It is not a pressurized hose. It is a 3/8" hose which sells by the foot and the NAPA part number is H1937.

15. Connect the hose between the reservoir and the master cylinder.

16. Add hydraulic brake fluid and bleed the brake system per the Wilwood instructions. A clear plastic hose is provided to catch fluid for reuse as bleeding may take a lot of fluid. It will take **two** people to bleed the brake system. If you do not know how to bleed brakes, get a friend who does already know how to help you bleed the brakes. When bleeding the brakes the bleed screws on the calipers should be point straight up so there is no possibility of air bubbles getting trapped inside the internal chamber. Since the calipers are mounted on an angle in this installation, you will need to remove the lower mounting bolt from the caliper and temporarily pivot the caliper so the top bleed screws point up. IMPORTANT - Place a spacer between the pads to prevent the pistons from coming out of the housing.

    Since this is a complete new hydraulic system it will need to be bled MUCH more that if you were just replacing one component. It may take as much bleeding as running two full bottles of fluid thru the system. Keep bleeding until you have a firm pedal. You may re-use the fluid coming out of the bleeder valves if you keep it clean.

    IMPORTANT CONSIDERATION: There is a unique situation with the Model T that may cause you to experience a soft brake pedal and think the brakes have not been bled adequately when, in fact, they have. If the thrust washers in the differential assembly are worn or not fitted properly the entire assembly of the axles and ring gear cage will shift back and forth from side to side within the housing when you turn corners. The caliper cylinders have a total of eight 1-3/4" diameter pistons. As the assembly shifts, it will push the eight pistons back away from the pads on the disc brakes. Then when you press the brake pedal the next time, the first hydraulic fluid coming through the system will be needed to move these pistions back into the position that they begin to apply pressure on the disc to stop the car. If this looseness in the differential assembly is significant you may need to "pump the brakes" once before you have good brakes just like you would if you had air in the brake system.

If you do have to pump the brakes on your car, the way to tell if it is actually air in the lines is to test the brakes when the car is parked in your garage. Press the brake pedal once or twice to get a good tight brake pedal. Wait about one minute without any pressure on the system and then try the brakes again. If you have a good solid pedal, you do not have air in your brake system. If, only when you drive the car, you find out that you sometimes do have to pump the brake pedal once before you get a good feel on the pedal then your issue is probably looseness in the differential assembly. Not only will you have to pump your brakes to get them to work, but other more serious mechanical problems may develop if you leave it unattended.

IMPORTANT: If you have installed any bolts temporarily without using the Loctite 242 Threadlocker, go back and remove the nuts and use the Loctite Threadlocker. Also, make sure you remembered to tighten the lock nut on the brake pedal clevis and check to assure that you installed the cotter pin on the brake pedal clevis pin securely. **DON'T FORGET** You have removed your rear wheel hubs from your axles to install these brakes. After you have driven 50 to 100 miles remove your hub caps, (or wheels if you have wire wheels), and re-tighten the axle nuts. You should repeat this process until you no longer get the nuts to turn any tighter when you try. If you do not adhere to this proceedure there is significant risk that your hubs will loosen which could ruin your hubs and axles and ultimately cause an axle to break.

Drive Carefully!

Current users have stated that these brakes stop their Model Ts "just like their modern car". We caution you not to drive the Model T like your modern car. You still should drive the Model T like a Model T. They are not a modern car no matter what modern safety accessories you may install. You may improve the performance and handling but a Model T will never be as safe nor as maneuverable as a modern vehicle. Please drive all your vehicles carefully.

We hope your installation has gone smoothly and you get many years of safe enjoyment while driving your Model T Ford.

Disclaimer of Warranty

WARNING.....

It is the responsibility of the person installing any brake components or kit to determine the suitability of the component or kit for their particular application. If you are not sure how to safely use our auxiliary brake kit, you should not install or use it. If you decide not install this brake kit, it may be returned within 30 days for a full refund of your purchase price.

Improperly installed or un-maintained brakes are dangerous. If you are not sure, have a professional automotive shop assist you or do the work for you. Whoever does the installation must know how to properly use this disc brake kit. This kit is designed and tested on standard Model T cars which have had no modifications that may interfere with the function of the brakes. There have been an almost unlimited number of "back-yard" modifications to Model Ts thru the years and it is the installers responsibility to understand enough about their vehicle to evaluate the effect that any modification may have on the installation and use of these brakes. It is not possible over the phone or by email to understand or foresee all the issues that might arise during your installation.

Brake assemblies and equipment must be maintained, and should be checked regularly for fatigue, damage, and wear. We strongly recommend that on completion of the assembly, a certified mechanic or other such professional inspect and certify that the installation is suitable. Do NOT remove or disable use of the regular Ford internal transmission brake assembly. Under no circumstances, should you remove or disconnect your emergency brake mechanism.

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Tips on Bleeding the Sure-Stop Disc Brakes

A few of the Sure-Stop Brake Kit customers have had a problem getting all of the air out of the hydraulic system. One issue is the fact that your newly installed system is completely dry and has to be purged of a lot of air. It takes a lot of time and effort to completely bleed the system. Below are a few tips and some information that might help you in accomplishing the task.

1. **When bleeding the master cylinder IT IS NECESSARY to bleed it by pushing the plunger rod by hand so that it goes all of the way into the bore of the cylinder. If you try to bleed it by hooking it up to the brake pedal the piston will not be pushed all of the way to the end of the bore because the brake pedal will bottom out on the Model T transmission brake before the master cylinder piston reaches the end of the bore. Any air remaining in the master cylinder after attempting unsuccessfully to bleed it will be VERY difficult to get out after the brake pedal is hooked up.**

2. **Important: The caliper bleeding valve is made of two pieces. The valve body and the bleeder valve. The valve body is brass and about 1/2" hex. The bleeder valve is black steel and is 1/4" hex. DON'T unscrew the valve body from the caliper!**

When bleeding the calipers, the bleed screws on the calipers (the top two) should be point straight up so there is no possibility of air bubbles getting trapped inside the internal chambers. Read the instructions and bleed BOTH bleeder valves on the top of each caliper. Since the calipers are mounted on an angle in this installation, you will need to remove the lower mounting bolt from the caliper and temporarily pivot the caliper so the top bleed screws point up. IMPORTANT - Place a spacer between the pads to prevent the pistons from coming out of the housing when you pressurize the system during bleeding.

There is a unique situation with the Model T that may cause you to experience a soft brake pedal and think the brakes have not been bled adequately when, in fact, they have. If the thrust washers in the differential assembly are worn or not fitted properly the entire assembly of the axles and ring gear cage will shift back and forth from side to side within the housing when you turn corners. The caliper cylinders have a total of eight 1-3/4" diameter pistons. As the assembly shifts, it will push the eight pistons back away from the pads on the disc brakes. Then when you press the brake pedal the next time, the first hydraulic fluid coming through the system will be needed to move these pistions back into the position that they begin to apply pressure on the disc to stop the car. If this looseness in the differential assembly is significant you may need to "pump the brakes" once before you have good brakes just like you would if you had air in the brake system.

If you do have to pump the brakes on your car, the way to tell if it is actually air in the lines is to test the brakes when the car is parked in your garage. Press the brake pedal once or twice to get a good tight brake pedal. Wait about one minute without any pressure on the system and then try the brakes again. If you have a good solid pedal, you do not have air in your brake system. If, only when you drive the car, you find out that you sometimes do have to pump the brake pedal once before you get a good feel on the pedal then your issue is probably looseness in the differential assembly. Not only will you have to pump your brakes to get them to work, but other more serious mechanical problems may develop if you leave this situation unattended.

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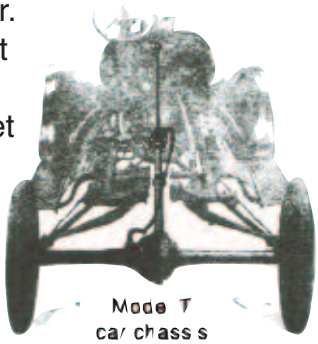
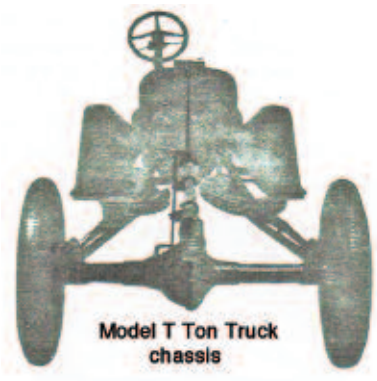
Other Considerations

Ruckstell Axles

The Sure-Stop Brake kits are compatible with Ruckstell Two Speed Rear Axles. However, we have heard from some customers who had a problem because their Ruckstell shift rod was installed on the left side of their drive shaft. Note the images below. On a Model T car, the shifter should be installed so that the front end of the shifter rod is on the RIGHT side of the car and the rod crosses over the driveshaft to the shifter lever on the left side of the car. If your car is not set up this way, the shift lever at the front of the driveshaft will interfere with the Master Cylinder Bracket of the Sure-Stop Brake Kit. If it is possible, turn the Ruckstell shifter around and everything will work out fine.





On a Ton Truck, the shifter rod travels down the left hand side of the driveshaft and you may need to modify the Master Cylinder Bracket to allow the shifter rod to stay in this position. If you need to modify the Master Cylinder Bracket please contact us and we will send you a drawing that shows how one of our customers has solved this problem.

Hassler Shock Absorbers

Hassler Shock Absorbers are not compatible with our Sure-Stop Disc Brake Kits. You will have to decide whether having the Hassler Shocks or having the Sure-Stop Disc Brakes meets your needs the most.

We are unaware of any other incompatibility issues with the Sure-Stop Disc Brakes as of June 1st, 2013.