

## NOTICE!

If you are expecting the kit to be some kind of miracle cure for bad brake performance, there are a lot of other things you need to investigate first. Old brake fluid, worn out rubber lines, leaks, air in the lines, air in the ABS system, old brake pads / shoes / rotors / drums, incorrectly adjusted rear brakes, bad master cylinder and / or brake booster could be potential causes for braking system problems. All this kit does is eliminate the LSPV valve, which can wear out and cause inconsistent braking performance as well as give you some adjustability to your rear brakes performance.

These instructions are written based on my experience installing these kits. By following these instructions, you are modifying your vehicle's braking system and are solely responsible for the results. If you do this improperly, or it simply does not work as written, I am liable for nothing beyond the cost of the kit itself. I only recommend that this modification be done on off-road vehicles only; any changes made to your road going vehicle are entirely your responsibility and liability in regards to local laws, legislation, liability, and performance.

If you live in a salt state, and have rusted lines, fittings, etc. you may run into additional issues beyond the scope of these instructions that I am unable to assist with; in which case, may God have mercy on your soul.

**READ THIS BEFORE PROCEEDING!** During the course of installation, there will be a slow drain on your brake fluid once you disconnect the lines from your LSPV until you reconnect them to the Wilwood manual valve. It is recommended that you constantly ensure your brake fluid does not go below the minimum level mark in your master cylinder's reservoir, as if it goes dry you may have to remove and bench bleed your master cylinder, perform additional bleeds on your system, and in the case of ABS vehicles, visit a dealer to have a proper ABS bleed performed. It will take several minutes for it to drain down, so it is easily managed by one person, but it is the biggest chance of this 1 hour job turning into a 3 day ordeal so exercise caution.

In both of my Tundras, I've used this as an opportunity to do a complete brake fluid flush as you'll probably get a fair bit of drainage from the master cylinder while performing this. I helped the process along by, at the start, sucking out as

much of the old fluid as I could with a turkey baster and filling it with new fluid. That way, once I was bleeding clear fluid in all 4 corners, I knew I was totally flushed).

**Tools Needed:**

10mm, 12mm socket / ratchet

10mm open ended wrench (for tightening brake lines, bleeding the system, backing wrench)

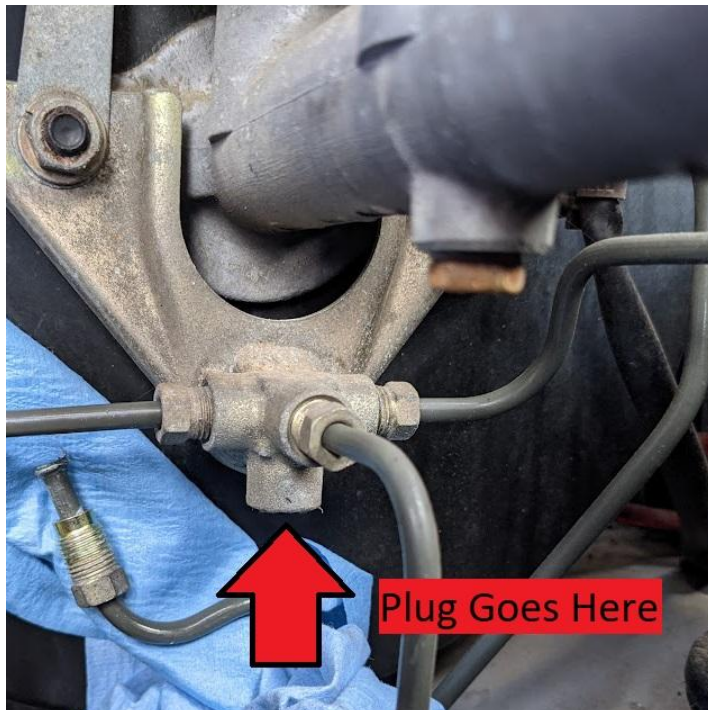
Brake Fluid (minimum of 1 quart, recommend 2 just in case, especially if performing a flush)

Rags / Towels for Clean Up

Catch Pan for draining brake fluid

First, assemble the Wilwood manual proportioning valve using the included fittings.

Install the female banjo fitting into the outlet port, using the included banjo bolt and copper washer on both sides of the fitting. Make sure that it is 90 degrees to the body of the proportioning valve, with the mounting holes on the right. I also like to preset the valving by starting with the valve turned all the way counter clockwise, and then turning it clockwise 2.5-3 turns; that usually gets me in the ballpark of the correct setting and just requires small tweaks after that.



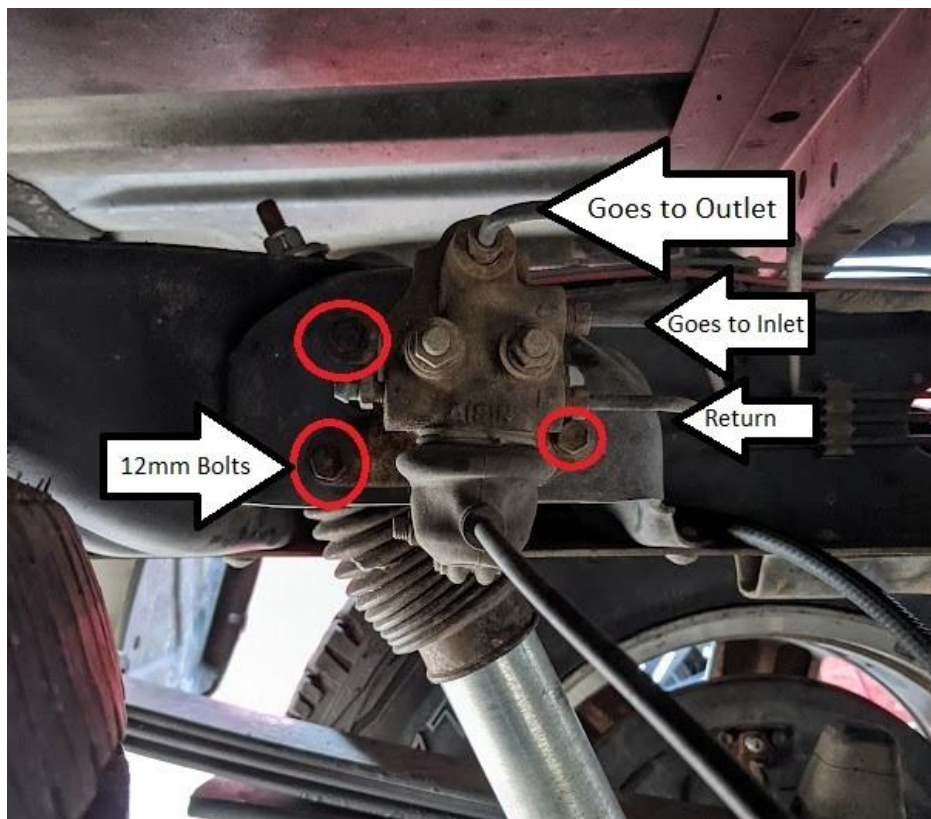
On both a 2000 AC with no ABS and a 2006 DC with ABS, it is the bottom line that will be plugged on the master cylinder: VERIFY that this matches up with the return line on your LSPV before proceeding. Physically trace the line back to the LSPV and make sure it is the line going into the bottom of the LSPV.

Disconnect the return line that goes to the master cylinder, and install the plug using a 10mm wrench/socket. A small amount of brake fluid may leak out, so lay a rag to catch any drips while installing the plug.

**IMPORTANT!** The next step will begin the slow drain of brake fluid as it leaks from the disconnected brake lines. It is recommended that you have a catch pan in place to catch the draining fluid as well as ensure the master cylinder reservoir is topped off and checked often until reconnection of the brake lines is complete. Also, leave the reservoir cap ON while performing the following steps to slow the flow of fluid.

Break loose the 3x brake line fittings on the LSPV, and hand tighten them back up to stop the flow of fluid. Disconnect the LSPV's lever arm from the axle using a 10mm or 12mm socket (depends on year), and then remove the 3x 12mm mounting bolts for the bracket holding the LSPV to the frame. Now remove the 3 brake lines that were hand tight to fully release the LSPV from the truck and chuck it to the side.

Referencing the diagram below, the bottom brake line is the now unused return line to the master cylinder; if you wish to remove it, you can, I just left mine hanging on the off chance someone wants to put an LSPV back in place at some point.



The “middle” line can be hand tightened into the IN port on your Wilwood valve at this point, and the remaining line can be connected to the right angle banjo fitting you installed to the outlet port of the assembled Wilwood valve. You may have to slightly flex the input brake line to make it line up with the outlet line, and then hand tighten the outlet line which should stop the flow of brake fluid (except for some residual fluid in the return line).

Install the relocation bracket to the frame, reusing the factory bolts. The bracket is slotted to give you plenty of adjustment to line up the Wilwood valve; attach the Wilwood valve to the bracket using the included 10mm Bolts, Washers, and Nylock Nuts: hand tight is all that’s needed, and I do not recommend using an impact to prevent damage to the valve.



Now, tighten down both brake line connections to the Wilwood valve; make sure your brake fluid is still at a good level in the reservoir, and give your brake pedal a few presses to make sure you have no leaks at every point in the system you’ve modified (the plug at the master cylinder, the input connection to the Wilwood valve, and the output connection / banjo fittings at the Wilwood valve). If there are no leaks, bleed your rear passenger brake, followed by your driver side rear brake, then your passenger front caliper and your driver front caliper to ensure no air is in the system (and complete the brake flush, if doing that at the same time).

Take your truck for a test drive, and adjust the rear valve as needed. By pre-setting the valve, it should be close, but you can adjust the braking ratio between your front and rear brakes by adjusting the valve knob.