



CZP 350Z Wilwood Clutch Master Cylinder Upgrade Kit

Installation Guide



Thank you for your purchase of the CZP 350Z Wilwood Clutch Master Upgrade Kit! Please make sure your kit arrived with all of the necessary hardware listed below:

- 1x Wilwood clutch master cylinder w/ CZP Adapter Plate
- 1x CZP Clutch Adapter Plate Gasket
- 1x 5/16"-24 Clevis Fork w/ Clip On Spring Clevis Pin
- 1x 5/16"-24 Jam Nut
- 1x Replacement Primary Clutch Line
- 1x 3/8"-24 Banjo Bolt
- 2x 3/8" Copper Crush Washers
- 2x 5/8" Vibration Damping P-Clamps

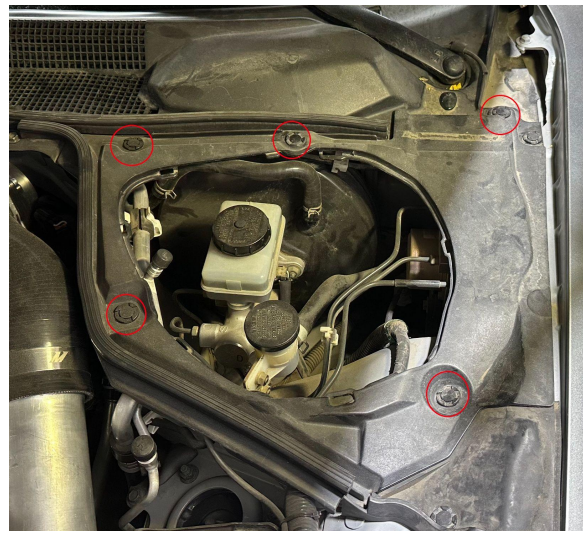
All mention of direction (left, right, front, back) will be oriented as if you were sitting in the driver's seat looking out of the front windshield.



1. To start removal, we will unbolt the high pressure line at the union to the flexible line going to your slave cylinder using a 10mm flare nut wrench. **Do not spill clutch fluid onto painted surfaces. If it spills, wipe up immediately and wash the affected area with water.**



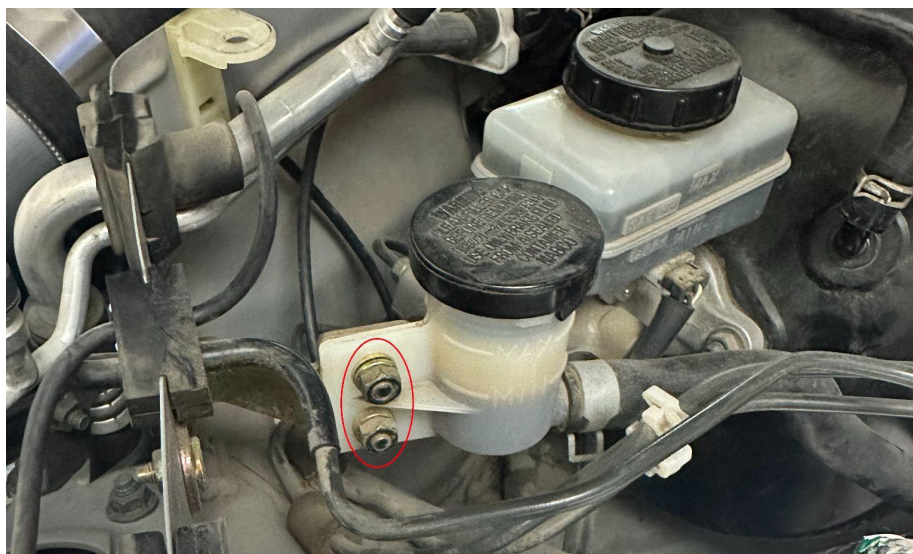
2. We will then clear the system of the old clutch fluid to limit the amount that can be dripped and/or spilled during the removal of the old master cylinder. This is done by either slipping a short length of 1/4" ID clear vinyl tubing onto the flare of the clutch hardline or simply bending the hardline slightly, so you can place a container or drip pan beneath the line in order to catch the clutch fluid. We have a new line for this location anyway, and will be removing the old hardline in a later step.
3. Simply press and release the clutch pedal repeatedly. You may have to eventually start lifting up the clutch pedal from the floor in order to pump the last few times and fully clear the system of fluid. Check the reservoir after 5-6 pumps and make sure it's completely empty, repeat until it is. The more time you spend here clearing the system of fluid, the cleaner the removal process will be.
4. If your old fluid is dark or has debris suspended in it, we strongly recommend replacing your clutch slave cylinder and its short secondary clutch line. The dark coloring and debris in the fluid is from the OEM rubber line and rubber seals inside the master and slave breaking down and disintegrating slowly over time, and this will cause premature failure of new components (clutch master and slave) if not dealt with.
5. Now that the system has been emptied, we can start disassembly. Remove the brake cubby lid as well as the brake cubby surround and its five pop clips (circled in red). This can be done using a medium flathead screwdriver to pry the center section of the plastic clip up and then removing the full clip after it has been released.



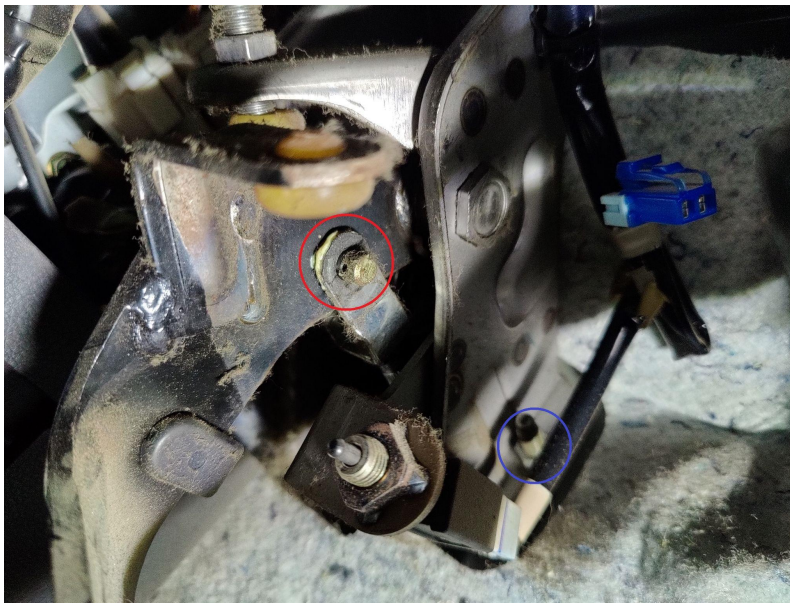
6. Unbolt the flare nut for the high pressure line (circled in blue) from the master cylinder using a 10mm flare nut wrench.



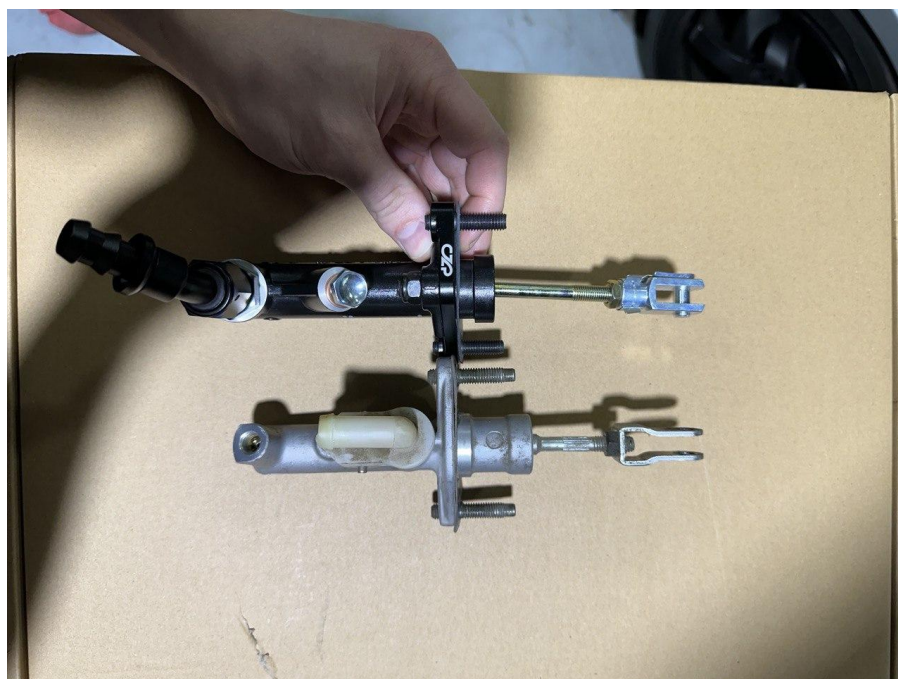
7. Remove the two 10mm hex M6 nuts and their washers (circled in red) that are holding the clutch master cylinder reservoir to its bracket but leave it connected to the master as we will be removing it at the same time, as one complete unit.



8. We will then move inside to continue removing the clutch master. Start by opening the driver's door and removing the dead pedal by grabbing it firmly and pulling up and away from the carpet, and the plastic pedal will release from the two mounting studs.
9. Unmount the your stock clutch master cylinder on the inside of the cabin by removing the clevis pin (circled in red) and its cotter pin as well as the two 12mm hex M8 mounting nuts (one is circled in blue, the other is on the opposite side).



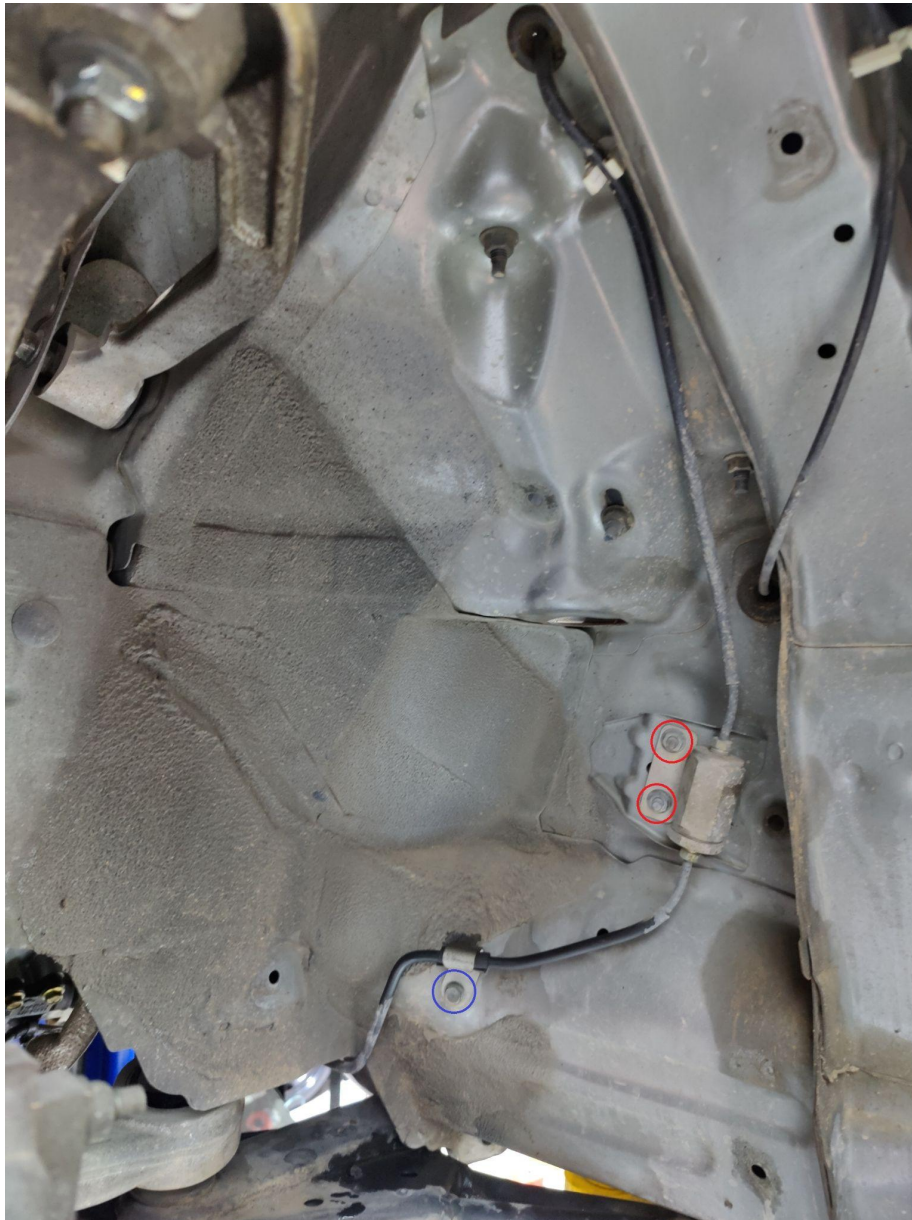
10. The full assembly, clutch master, reservoir line, and the reservoir can be carefully removed from the firewall and pulled from the chassis. **Do not spill clutch fluid onto painted surfaces. If it spills, wipe up immediately and wash the affected area with water.**
11. While we have both assemblies complete and out of the car we will take measurements of our stock unit from the center of the clevis pin hole to the face that mounts against the firewall. We will then adjust the new wilwood cylinder to the same approximate length and loosely snug up the jam nut as this is just a preliminary adjustment. We will most likely need to adjust this later, but it needs to be installed in the pedal assembly to properly do so, this step will save time fiddling with it down in the driver's footwell later.



12. Our next step in disassembly is to fully remove the stock hardline which begins with removing the Front LH Wheel Well Rear Splash Shield (the splash shield right behind and above the driver's side front wheel). There are seven plastic pop clips (3 of them are circled in blue) and four philips head screws (circled in red) holding it in place.



13. Start with the four philips screws going along the edge and bottom of the fender. Then for the remaining clips, remove them in the same way as performed earlier with the pop clips for the brake cubby surround. Once all seven of the plastic pop clips have been removed the rear half of the fender liner should come right off revealing the clutch hardline. For people whose cars have the OEM mud guards, you will have to remove those as well.



14. Remove the two 10mm head M6 nuts (circled in red) holding the hardline and its junction to the chassis as well as one last 10mm head M6 bolt (circled in blue) holding a bracket. Snake the hardline through the grommet and remove the line from the car. Thread the bolt back into its hole as well as one of the nuts so as to not lose them for later since we will be reusing them to secure the new clutch line.
15. Now that all of the old parts have been removed it's time to start the install of the new Wilwood master, but first we will bench bleed the system to ensure we have a smooth install. In order to start bench bleeding the clutch master cylinder, and slave cylinder if you're replacing it as well, you will need two to three feet of two different sizes of clear vinyl tubing: 1/2" ID (for the clutch master feed line), and 1/4" ID (for the clutch master outlet and the clutch slave cylinder bleeder) We got short lengths of multiple sizes cut at our local ACE Hardware for less than \$0.25/ft.



16. Carefully, as to not mar the finish, clamp the master cylinder in a vice or to a table in a way that you can still actuate the cylinder but the cylinder is as close to level as possible to avoid air pockets from forming while still maintaining clear access to both threaded ports.
17. Make sure both of the inlet fittings that came preinstalled are tight, and the barbed fitting is clocked correctly. If we imagine the center of the fitting is the center of a clock and the rod of the master cylinder is pointed towards the 12 o'clock position, then the fitting should be pointing towards the 7 o'clock position. This means that when the master cylinder is installed, the fitting will be pointing just slightly toward the center of the engine. Now, using a 9/16" socket or wrench, attach the clutch line with the banjo end of the line at the same angle as shown below, (also approximately the 7 o'clock position) using one copper crush washer above the fitting and one below. **(Torque spec for the banjo bolt is 13-14 lb-ft or 17-20 N-m)**



18. Attach the 1/2" line to the barbed fitting we just tightened and the 1/4" line to the 90 degree end of the clutch line, using the small flare as a barb and run both open ends of the hoses to a fresh bottle of brake fluid. We recommend to use Genuine Nissan Brake Fluid*4 (P/N 999MP-A4100P) or equivalent DOT 3 (US FMVSS No. 116). Motul 100951 Dot 5.1 Synthetic Racing Brake / Clutch Fluid is great for those who intend to track their car as it has a higher boiling point and is not as hygroscopic as many other racing brake fluids. **Do not spill clutch fluid onto painted surfaces. If it spills, wipe up immediately and wash the affected area with water.**



19. Pump the piston of the master cylinder by hand, drawing fluid into the master and pumping out a mix of air and fluid back into the bottle of brake fluid. Repeat this until you can see no bubbles coming through the smaller clear tube ensuring our master is free of air and ready to install.
20. Next we need to remove and, if necessary, clean the reservoir and line from the old master cylinder as we will be reusing both. The line will need to be trimmed approximately 2-3 inches from the bottom as the barb and fittings on the new master are much taller and located closer to the reservoir. See picture below:



21. Install the reservoir hose onto the wilwood master and secure it with the stock spring clamp.



22. Making sure to go underneath the two ABS lines, run the clutch line through the grommet at the front left hand side of the brake cubby (from which we removed the old hard line) and route it along the inner fender skin, following the routing of the stock line.



23. Making sure the new gasket is installed on the adapter plate, slide the clevis and both mounting studs through the holes in the firewall and if possible, have a friend hold it in place while you move to the interior and thread the two factory 12mm head M8 nuts on, making sure to go back and forth when tightening. **(Torque spec is 69-88 in-lb or 7.8-10 N-m)**

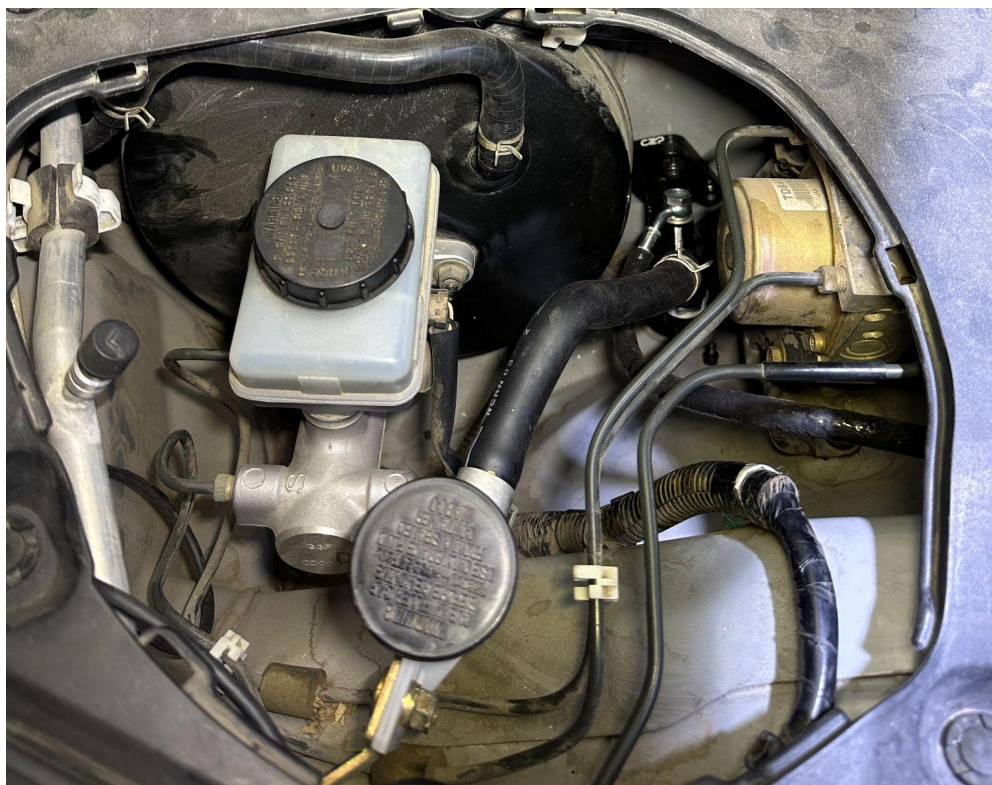
24. Use the two supplied Vibration Damping P-Clamps and one of the two M6x1.0mm head bolts, as well as the 10mm hex nut, to secure the new line in place making sure it is not rubbing against any sharp corners or able to loosely flop around. If possible, use the small clip that used to hold the hardline just in front of the grommet as shown. **(Torque spec is 69-88 in-lb or 7.8-10 N-m)**



25. Attach the clevis fork to the pedal arm using the supplied snap-on spring clevis pin, making sure to rotate the tail spring so it clips onto the clevis and seats firmly into place around the shaft. It can help to add a dab of grease to the clevis pin to aid in installation and reduce the chance of any squeaking down the line.



26. Mount the clutch fluid reservoir back to its mounting bracket with the two 10mm hex M6 nuts and washers we removed from it earlier in step 7. **(Torque spec is 69-88 in-lb or 7.8-10 N-m)**



27. Grab the loose 90 degree end of the clutch line we fed through the grommet to the fender well earlier. This end goes under the chassis rail behind the compression rod to the stock clutch line bracket that is on the chassis, next to the transmission and the short clutch leader line we unscrewed the stock hardline from earlier. Screw the fitting into the line that is clipped to the chassis and tighten it down with a flare wrench. **(Torque spec for the union is 11-12 lb-ft or 15-17 N-m)**



28. Now that the system is closed, fill the reservoir and we will fully bleed the system. Even though we bled the master, the system was open, and we evacuated the old fluid from the system. Attach the 1/4" vinyl line to the bleeder on the clutch slave cylinder, run it into a bottle and have someone in the car to help pump the pedal and bleed the system. Keep bleeding until no air bubbles are coming from the slave. Keep an eye on the reservoir level as they are relatively small, and letting it go dry means bleeding the whole system again from the start. **(Torque spec for the bleeder is 53-86 in-lb or 5.9 - 9.8 N-m)** Top off the reservoir and replace the cap once you're done bleeding.



29. The last step is to adjust the clutch pedal correctly so you get the full travel of the slave to disengage the clutch, but not too much as to always have pressure on the slave, perpetually slipping the clutch.
30. Go up under the dash in the driver's footwell armed with both a 14mm and a 1/2" open ended wrench as well as a good light, and check for play in the clutch pedal. When pressed, it should have a small amount of play before actuating the rod on the master cylinder. There should not be much play, but you do need some, because when the clutch fluid warms up and expands slightly there needs to be room for the piston to extend slightly further than when cold. Nissan does this by having you verify that the clutch pedal clevis pin floats in the bore of the clutch pedal. It should not be bound by the clutch pedal nor the clevis on the master cylinder. If there is even a very slight bit of pressure being applied by the clutch at rest you need to readjust. You have an adjustment at the top of the clutch pedal in the form of a switch and jam nut (or in cars without cruise control, a stopper bolt and a jam nut). You can unthread the jam nut using the 14mm wrench, and unthread the sensor or stopper bolt until it is barely making contact with the clutch pedal (if there are enough threads present) then tighten back up on the jam nut and you're finished.

Otherwise, if there still is pressure on the slave cylinder even after this adjustment, we will need to make our final adjustment at the rod & clevis. This is done by loosening up on the 1/2" hex jam nut on the rod, and grabbing the shaft of the master cylinder by hand or with long needle nose pliers if necessary and spinning it COUNTER CLOCKWISE until there is a bit of play in the pedal. You should not need to thread it in very much as long as you properly did the preliminary adjustment to the OEM master length. While turning the shaft COUNTER CLOCKWISE you should notice a very small gap forming between the pedal

and the stopper or switch at the top of the assembly, this is your goal as it means the pedal is no longer applying pressure to the master cylinder at rest.

When the adjustment is complete, tighten the 1/2" jam nut against the clevis. Take one last moment to ensure there is a bit of play in the assembly before the master begins being depressed by the pedal. Repeat this step and readjust if necessary. **(Torque spec for both jam nuts is 9-10 lb-ft or 12-14 N-m)**



31. After checking for any leaks or loose hardware in the cubby, go ahead and reinstall the brake cubby cover with the five plastic clips we removed in step 5. You can also fit the lid for the cubby now.



32. Reinstall the dead pedal we removed in step 8.

33. Inspect the mounting and routing of the clutch line and adjust if necessary. Reinstall the Front LH Wheel Well Rear Splash Shield with its plastic clips and philips screws that we removed in step 12.



This completes the install of your CZP 350Z Wilwood Clutch Master Cylinder Upgrade! If you have any questions, please reach out to us at info@myczp.com, and we will assist you as best we can.

