Hydroboost Bleeding Procedure



Notes:

1. Note: please read through all instructions prior to removing or installing any part. If you do not feel comfortable with the instructions or in your ability to install or modify your vehicle, please take to a reputable mechanic to have them perform the installation. BJ's Off-Road can not and will not determine your ability to install this kit, and the extent of our warranty and liability only cover the components of this kit, and do not cover improper installation, abuse, neglect, labor rates, etc. Contact us with any questions prior to installation.

IMPORTANT NOTES:

- **Never** pull up on the brake pedal at any point. Irreparable damage may result
- **Never** depress the brake pedal without the Master Cylinder attached. Irreparable damage may result
- **Never** install a Master Cylinder with too much or too little pre-load on the booster input rod. Irreparable damage may result
- **Never** allow the pump reservoir level to drop even near where the vanes will cavitate or catastrophic/irreparable damage may result
- **Never** connect the pressure line out of the pump to the 16mm port (pressure out) on the booster or catastrophic/irreparable damage may result
- **Never** plug the 16mm port (pressure out) on the booster or catastrophic/irreparable damage may result
- The booster **will not** run on ATF and the booster **will develop leaks if synthetic fluid is used**
- The booster was designed to operate on AC-Delco 10-5073 Power Steering fluid (equivalent 89020661 / 19329448, here: https://bjsoffroad.com/gm-goodwrench-power-steering-fluid-89020661-19329448)

It is **HIGHLY** recommended that flush the Power Steering system and install a Power Steering filter (described below) in the return line, BEFORE installing the hydroboost or cutting / teeing the return line. Once the system has been flushed and the filter installed, drive the vehicle for a while (or idle if immobile) to allow the filter to pick up any remaining debris. Be sure to clean the filter screen and reinstall before you cut and add the tee to the return line, and install the hydroboost.

- **Cardone (serviceable) 3/8" Power Steering filter #20-0038F or #MPP 991FLT4.**
- If your return lines have AN fittings, CPP on eBay sells serviceable Power Steering filters also: #PowerSteeringF-AN, CPP's Universal Power Steering Fluid In-line Filter -6AN to -6AN.

If a Power Steering cooler is used, it needs to be in the return line from the steering gearbox to the pump, before the Tee fitting. It must be no more than 2-pass and must have 3/8" ID tube (otherwise the flow restrictions lead to issues).

Where possible, 2-return pump reservoirs (those with 2 return ports on the back) or remote reservoirs work better than installing a Tee fitting in the return line. Filters and coolers (if installed) always need to be between the steering gearbox and Tee (**never** at or after the Tee in a combined return system), or if on a dual-return system, ONLY on the steering gearbox to pump line (**never** in the hydroboost-to-pump return line on a dual-return system).

If using a two-return remote reservoir, be sure to read the manufacturer's directions on where to hook up the two returns because if you mix them up you will introduce air into the Power Steering system, which causes the brakes to self-apply as the booster won't pressurize.

Bleeding Procedure:

1. **Always start the bleed with the engine off, rear wheels chocked, front wheels off the ground and turn lock to lock (without hitting or holding at the lock) until the reservoir level quits dropping. This may take some time, so don't get discouraged.**

    a. If you instead start with the engine running, you pump air into the system and it can take a LONG time (it has taken some customers up to 500 miles) to clear. So be sure to start the process with the engine off! It's also possible the level in the reservoir will drop quicker than you notice which can expose the pump vanes causing them to overheat and turn to metal shards, which will then contaminate your entire Power Steering system and jam the spool valve in the hydroboost.

2. Next, with the ignition disabled (you can remove the coil wire on those with a separate coil; or if using an HEI, pull the power wire that goes to the HEI), bump the engine over briefly and top up the reservoir. Repeat and once the level quits dropping, re-enable the ignition. Start the engine briefly then shut off, check the reservoir level and repeat until it quits dropping.

3. Once the fluid level stops dropping (in #2 above), start the engine and let it idle, while initially and then periodically checking the reservoir level (topping off as needed).

4. Once the level is stabilized in #3 above and while idling, turn lock to lock (without hitting the lock) slowly while keeping an eye on the reservoir. When you don't need to top it off anymore and there is no cloudiness in the fluid, the pedal should be back to full height and ready to depress while idling. Again, check the reservoir level. If the pedal is slow to return, let it idle until it's no longer slow then it should be ready to road test and be quiet.