



MDL Bleeder Kit

This one-person bleeder kit serves as the primary way to bleed your hydraulic system. This kit will not work with the single-line OE Ford HRB/CSC.



This kit works with all Modern Driveline supplied reservoirs and master cylinders.

Read this Entire document before beginning.

Safety Equipment – Always wear ANSI approved safety goggles/glasses when working with metal and fluids. Wear proper gloves when working with hot surfaces and corrosive fluids.

Don'ts

- NEVER PUMP THE CLUTCH PEDAL – this is not brakes and you will introduce micro-bubbles into the fluid.
- Never shake or drop your new brake fluid container.
- **Never use Silicone based fluids in this system.** Castrol LMA PTFE DOT 5 and ATE Type 200 are known to be incompatible and may cause seals to swell. It is not necessary to run any type of synthetic or high-heat fluid. The clutch actuation system does not see the same strenuous demands as brake systems.

Do's

- Always use clean, new DOT 3 fluid. Using recycled fluid can contaminate the system and introduce micro-bubbles.

Warnings

- DOT 3 fluid is harmful to paint. Wash off spilled fluid immediately with soapy water.

Helpful Hints

- Make sure all fluid fittings are tight.
- Make sure the master cylinder is installed in an upright position.
- Verify the slave cylinder or internal release bearing (HRB, CSC) has the exit/bleed port in the highest position.
- Remove any installed check ball valves from bleeder screws (if equipped).
- Read step 1 completely.
- Be sure there are no extra parts added to the system such as residual check valves.

Steps

1. Perform the initial gravity bleed of the system – Disconnect the clutch master cylinder rod. Close the bleed screw on the slave cylinder or hydraulic throw out bearing. Remove the bladder (if equipped in the reservoir) & fill reservoir with DOT 3 brake fluid. Open the bleed screw at least 1/2 turn on the slave cylinder or hydraulic throw-out bearing. Allow gravity to fill the system until fluid comes out the bleed screw then close the bleed screw. Maintain and restore the fluid level in the reservoir to 1/3 full. If your system will not gravity bleed there is something wrong. The system should gravity bleed before proceeding.

IF YOU CANNOT GET YOUR SYSTEM TO GRAVITY BLEED THERE IS A RISK OF DOT 3 BRAKE FLUID SPILLING ON YOUR VEHICLE FINISH. Do not hook the clutch master cylinder rod back up until after all bleed operations have been performed.

2. Install rubber stopper firmly into reservoir.

Note: do not worry about any pocket of air remaining in the reservoir. The transfer of fluid will continue to push fluid into the system.



3. Attach the vinyl tubing to the slave cylinder bleed screw and create an upward facing trap (loop up, then down). This will allow you to bleed the system without a helper and keep air from re-entering the system. Use tie-wraps or tape to hold the tubing in place as required. Place the end of the tubing into an open or VENTED catch-can.

Do not open the bleeder fitting at this time because the system will continue to gravity bleed.

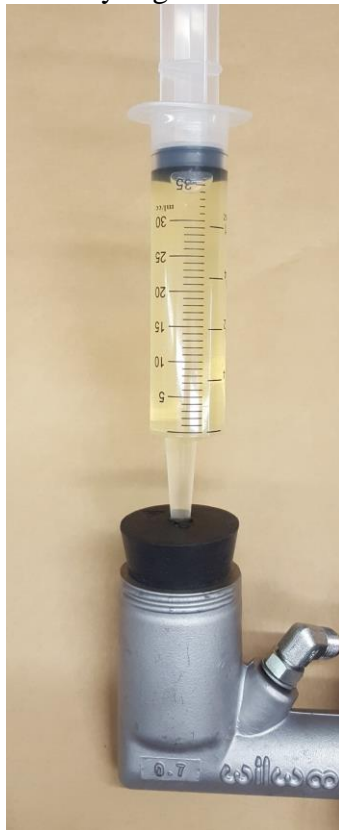
Note – It is okay that your HRB/CSC bleed line does not face upward so long as you have an upward loop in the vinyl tubing.



4. Use the syringe to draw in new clean DOT 3 fluid from the original or a clean container to completely fill the syringe. Be sure the tip of the syringe is constantly submerged.
Drawing in air will introduce micro bubbles into the fluid and you must start over, purging the syringe and setting the removed fluid aside.



5. Turn syringe tip up, tap the body of the syringe and ensure any remaining air travels to the tip and push the plunger slightly to fill the tip.
6. Insert the syringe firmly into the rubber stopper then open the bleed screw about 1/2 turn.
7. With the syringe inserted firmly into the rubber stopper, while holding the stopper down with one hand, press on the plunger **COMPLETELY**, in a single stroke of the plunger with the other hand. This should take no more than 3 seconds or you are pushing too slow.
 - **If you push the plunger too slow it will not force any trapped air from the system.**
 - Do not remove the syringe from the rubber stopper at this time.



Step 6



Step 7

8. Close the bleed screw THEN remove the clear vinyl tubing from the end of the bleed screw. Fluid and air will exit the vinyl tubing. Clean up any residual fluid.
9. Remove the syringe and rubber stopper from the reservoir. Clean up any residual fluid.
10. Fill the reservoir to the proper level and re-install any removed bladders and the cap.
11. Test the system –Reconnect the clutch master cylinder rod per installation instructions. Push on the clutch pedal with your foot. It should be firm top to bottom and release the clutch. If it does not release the clutch... push on the clutch pedal with your hand. If the pedal is soft and then gets firmer... you still have air in the system. Repeat the bleed procedure as written. Do not work out of order.
12. Inspect for leaks after cycling the pedal a few times. Press the clutch pedal and hold down. Have a second person inspect master cylinder fittings, reservoir connections, any in-line unions on the braided lines, circlip fittings at CSC/HRB, fittings at slave cylinder, bleed screw. At the clutch pedal you can expect some light wetting of the clutch master cylinder rod **boot** – the bore of the clutch master cylinder may be rougher than the pressure seal will be able to seat against until some cycling has occurred, but it should not leak under pressure. The CSC/HRB or external slave cylinder should also remain extended without moving.
13. Release the clutch pedal and remove the reservoir cap and bladder. Wear safety glasses. Carefully and slowly press on the clutch pedal and verify the fluid level in the reservoir does NOT rise. **If the fluid level does rise this is an indication the reservoir port seal is damaged or has debris stuck on the seal (Wilwood/Girling style master cylinders only).**
14. Re-install bladder (as applicable) and cap.
15. Inspect fluid line routing – make sure the pressure line(s) are not in the way of moving parts (in and out of the bell housing as applicable) and are routed away from all heat sources. Tether or P-clamp lines to stabilize as needed. Verify reservoir hose is not pinched or pulled tight.

If the pedal is not firm by hand after two additional bleeding attempts, or if you have leaks that cannot be overcome by following installation instructions

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