



Clutch Hydraulic System – Official Bleeding Procedure

✓ Required Fluid

- **DOT 3 or 4 Brake Fluid.** Like McLeod 13900.
- Use only fresh fluid from a sealed container.

Method 1 — Manual Bleeding (Factory Procedure)

1 Prepare System

- Verify clutch master reservoir is full.
- Remove cap and keep fluid level near MAX during procedure.
- Raise vehicle safely if needed to access bleeder.
- Locate bleeder screw on transmission (passenger side of bellhousing area).
- Install clear hose onto bleeder and route into a clean container.

2 Bleeding Cycle

Repeat the following until no air bubbles are seen:

1. Depress clutch pedal slowly and hold to floor.
2. Open bleeder screw.
3. Allow air/fluid to discharge.
4. Close bleeder screw **before releasing pedal**.
5. Slowly release clutch pedal.
6. Wait 3–5 seconds between strokes.

Check and refill reservoir as needed.

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⚠ Do NOT allow reservoir to run dry.

3 Final Pedal Stroke Procedure

After fluid runs clear:

- Close bleeder.
- Torque bleeder screw to:

106 in-lbs. (12 NM)

- Cycle clutch pedal **Several times until pedal feels firm.**
- Start engine and verify:
 - Full disengagement
 - Smooth engagement
 - Firm, consistent pedal.

If pedal feels spongy → repeat bleed.

If Master or Slave Was Replaced

If replacing components:

- Bench bleed master cylinder before installation.
- Some replacement JK clutch assemblies come **pre-filled and pre-bled.** These are **non-serviceable sealed systems** and should NOT be manually bled unless opened.

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Method 2 — Pressure Bleeding (Preferred for JK)

This is more effective due to air trapping in the master cylinder angle.

Use a Mity Vac or Phoenix Systems Pressure bleeder.

Setup

- Install pressure bleeder on clutch reservoir.
- Pressurize system to:

15–20 PSI MAX

Bleeding

- Open bleeder screw.
- Allow fluid to flow until it is bubble-free.
- Close bleeder.
- Remove pressure.
- Cycle pedal several times slowly.
- Recheck pedal feel.

Important JK-Specific Notes

◆ Air Trapping Issue

The JK master cylinder sits at an angle that traps air near the outlet port.

If stubborn air remains:

- Let system sit for 30 minutes. Let gravity work.
- Tap lightly on master and hydraulic line. Perform another short bleed cycle.

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- Jack front of vehicle up to allow air bubbles to move towards port.

Troubleshooting After Bleeding

Symptom	Likely Cause
Pedal spongy	Air still trapped
Engagement near floor	Incomplete bleed
Hard shifting into reverse	Insufficient slave travel
No pressure	Master cylinder bypassing

Expected Pedal Feel (Healthy System)

- Firm mid-stroke resistance
- Engagement mid-travel
- No gradual sink while holding pedal down.

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