



## Clutch Hydraulic Check List

For those experiencing problems with their clutch hydraulics, the following check list will help pinpoint a specific problem. Please keep in mind that these are merely suggestions for diagnosing clutch problems, there are plenty of other acceptable methods to inspect your clutch system. The Fiero Store is only responsible for the parts that it ships. The Fiero Store is not responsible for any expenses incurred as a result of inspection or installation of any part. Please seek the help of a professional automotive technician if you feel that this may not be the job for you.

The most common cause of Fiero clutch problems is the clutch pedal. Most Fiero clutch pedals were made of an aluminum and steel composite. Over time, the aluminum portion of the pedal will flex. The Fiero's hydraulic clutch needs a minimum 1.15" (slave cylinder rod must travel 1.15" for full disengagement) of travel for full clutch disengagement. When the old pedal flexes, it will decrease your hydraulic clutch travel, which will cause hard shifting and grinding going into gears. GM now produces a redesigned, all steel clutch pedal to resolve this problem. To determine which pedal is currently installed on your Fiero, hold a magnet to every portion of the pedal. If it does not stick, you need a new pedal. In some instances, original steel pedals can produce similar symptoms. The Fiero Store carries the all steel clutch pedal (part #66423) and the clutch pedal bushings that should also be changed during installation. You will need two pivot bushings (part #64358) when replacing your clutch pedal.

### Replacing the Clutch Pedal

1. Remove the retaining clip that holds the master cylinder rod to the pedal and slide the master cylinder rod off of the pedal.
2. Disconnect the cruise control switch if your car is equipped.
3. Remove the nut from the top pivot bolt of the pedal.
4. Slide the pivot bolt out far enough to remove the clutch pedal but not far enough to remove the brake pedal.
5. To make the job easier, find the U-shaped bracket on the left-hand side of the clutch/brake pedal assembly. Loosen, but do not remove, the two 13mm bolts connecting the bracket to the clutch/brake pedal assembly. Loosening the bolts is all that is required, they are very difficult to put back in place if they are removed.
6. Remove the pedal. The pivot spring may cause some resistance. If so, remove the spring, it will not be required with your new pedal.
7. Install the two pivot bushings (part #64358) into each end of the pivot hole at the top of the new pedal.
8. Remove the banjo bushing from the end of the master cylinder rod. You will not be able to use the master cylinder rod bushing with The Fiero Store's clutch pedal since the bushing is built into the pedal.
9. Reinstall the clutch pedal using the same procedure used for removal.
10. The loop end of the master cylinder rod banjo should be facing up. Strive for very little side-to-side movement from the master cylinder rod. Use flat washers to decrease sideways movement.

### Clutch Arm

Inspect the clutch arm that installs on the clutch fork assembly. This arm was originally a stamped steel unit with a plastic insert. The slave cylinder rod pushes on this arm and sits on top of the transmission. The original stamped steel units could crack, bend or the plastic insert would wear or break. GM reproduced this arm in a one-piece cast iron to cure these problems. Any wear in the arm will cause a loss of disengagement travel. Cast iron replacements are available at The Fiero Store.

### Bleeding the Clutch System

You will need another person to press and release the clutch pedal while you bleed the system from the engine compartment. If you cannot find someone to help, you might find a vacuum pump, such as part #56820 useful. Keep in mind that a vacuum pump may not remove all air from the master cylinder. Always make sure that your eyes are protected when bleeding your clutch system.

**NEVER PUMP THE CLUTCH PEDAL!** Pumping the clutch pedal will make smaller air pockets from the air that is already trapped in your hydraulic system.

1. Top off the fluid in the clutch master cylinder reservoir.
2. Press and hold the clutch pedal to the floor.
3. Open the bleeder valve on the clutch slave cylinder, allowing fluid/air to escape.
4. Close the bleeder valve once the majority of the air has escaped.
5. Release the clutch pedal and top off the fluid in the master cylinder reservoir.
6. Repeat steps 2-5 at least 6-8 times or until you feel all air has escaped from the clutch line.
7. Once the master cylinder and clutch line have been bled, you need to bleed the clutch slave cylinder. The slave cylinder needs to be bled since it is after the bleeder valve and air can get trapped in the cylinder. Remove the bleeder valve from the slave cylinder. Removing the bleeder valve will prevent air from reentering the clutch line.
8. Push the slave cylinder rod into the cylinder until it bottoms out and hold.
9. Reinstall and tighten the bleeder valve with the slave cylinder rod held in.
10. Release the slave cylinder rod and guide it back into its proper position. Top off the fluid in the clutch master cylinder.