

LS1 INSTRUCTIONS

IMPORTANT DISASSEMBLY INSTRUCTIONS

If you do not need to do the drill modification to the hydraulic line, and it is possible to just unbolt it from the transmission, slide it off the input shaft, and let it hang down connected to the feed line.

DO NOT disconnect the slave cylinder from the hydraulic feed line. Even though there is a quick disconnect on the line, you may have to bleed the system if you disconnect and reconnect the line.

RECOMMENDED PROCEDURE FOR THE DRILL MODIFICATION F-BODY CARS

If you are racing the car you will want to do the drill modification, which is required for speed shifting. In this case, it is necessary to remove the master cylinder, hydraulic reservoir, and feed line as a unit from the car. Remove the split pin holding the feed line to the master cylinder and remove the line. Drill out the 0.060" restriction to 0.125". Flush or blow out any chips from the quick coupling end of the line. (Press the end of the quick disconnect down to let fluid or air in.)

Connect the reservoir hose to the master cylinder. Fill the master cylinder with fluid from the hydraulic line opening. Prop the quick connect end of the hydraulic line open with a small punch and connect the hydraulic line to the master. Hold the reservoir up high and fill it with fluid. The fluid will drain down through the master and hydraulic line. When you have fluid flow out the quick disconnect remove the tool holding it open. Be sure there is some fluid in the reservoir. The system is now free of air bubbles ready for installation back in the car. Be sure to always keep the reservoir higher than the master when handling the assembly to prevent any air from entering the system.

After the transmission is reinstalled it is necessary to bleed the slave cylinder. Have your assistant push and hold down the pedal while you let any trapped air out through the cylinder bleed valve. Repeat if necessary. The pedal should have a solid feel. (Positive connection to the clutch.)

Follow this procedure closely as it is virtually impossible to bleed the system if it is in the car.

PILOT BUSHING

Check the condition of the pilot bushing at this time. Normally the pilot bushing has no significant load placed on it and if there are no input shaft misalignment problems it should be in good condition. Check for out of round condition. Replace if necessary.

PRE INSTALLATION PROCEDURES

Before reinstallation, bolt the Ram pressure plate & disc to the flywheel and use a hydraulic, arbor, or other suitable means to check for proper release by depressing the levers until the disc is free. The travel required to full release is 0.450" +/- 0.050". This step is required in the event you need further technical assistance.

INSTALLATION

Install the flywheel and torque the flywheel bolts to 70 foot pounds.

Check the runout of the flywheel in the middle of the friction surface with a dial indicator. Runout should not exceed 0.010" if the flywheel has been properly fixtured when resurfaced.

Wipe the friction surface with brake clean or other solvent to remove any contaminants.

Slide the disc onto the input shaft to see that it slides freely on the shaft. Lubricant is not required.

Install the disc and pressure plate to the flywheel. Use the alignment tool to center the disc with the cover mounting bolts finger tight. Tighten down the cover bolts one turn at a time in a criss cross pattern to 30 foot lbs.

REFER TO THE ENCLOSED BEARING POSITION CHECK INSTRUCTIONS.

Install the slave cylinder assembly on the transmission using the provided spacer, if indicated, placed between the transmission and slave base.

Install the transmission and put it in first gear. **AT THIS POINT, DO NOT COMPLETE THE INSTALLATION UNTIL YOU HAVE CHECKED THE CLUTCH SYSTEM FOR PROPER RELEASE AND BEARING POSITION.**

C5 – C6 SPECIAL INSTRUCTIONS

Before reinstalling the exhaust, tunnel plate, and bellhousing cover on the bottom of the bellhousing, check the release bearing position and free play. Using a large screwdriver, you should be able to move the bearing backwards off the clutch fingers a minimum of .150". If the bearing appears tight, you may have to relieve pressure on the bleed screw to do this test and then re-bleed the system. This is a critical test that will keep you from having to again remove the exhaust and tunnel plate should any release or engagement issues arise.

RAM STRONGLY RECOMMENDS THE USE OF AN ADJUSTABLE MASTER CYLINDER WITH RAM SINGLE AND STREET DUAL CLUTCH UNITS.

Depress the clutch pedal and have your assistant turn the transmission output shaft to be sure the clutch is releasing cleanly. Use the driveshaft and slip yoke if necessary to turn the shaft.

Make sure at this point that the pedal feels solid and not spongy which would indicate a problem with air in the hydraulic system, which would require bleeding the system.

If you are installing a Ram adjustable master cylinder, set the adjustment to suit your preferred engagement point. Be careful to make this point low enough to prevent excessive release that can cause damage to the pressure plate.

TROUBLESHOOTING RELEASE PROBLEMS

Assuming the clutch released cleanly when you performed the pre installation procedure, any release problems can now be attributed to the hydraulic system. Typically there is air trapped in the system that needs to be bled off. Symptoms may include: Not enough travel for complete release, spongy pedal, and non release at high rpm. Refer to the bleed recommendations above.