

## LS GM Applications



### Notice: Strap alignment

Alignment of the cover plate and floater plate are critical for proper operation of the RAM Street Dual. The pressure plate straps and floater plate straps must be staggered as in illustration below.



### Before installation

Proper release bearing preloading is essential to operation of this clutch. You **MUST** use the setup drawing located at the following link to check this before finishing the install. Please see [Understanding factory hydraulics](#)

An adjustable master cylinder is **REQUIRED** for installation of the RAM Street Dual. Part numbers are listed at the end of this instruction sheet.

The 'drill modification' **MUST** be performed for any LS application using the RAM Street Dual. Failure to perform this operation will result in premature slippage of the clutch system. There is an excellent tutorial on this at [www.installuniversity.com](http://www.installuniversity.com). Click on 'LSX vehicles', then 'install documents'.

LS hydraulic systems are extremely finicky. When installing the new hydraulics, it is **ESSENTIAL** to flush the system of old fluid and re-bleed with new fluid. Small particles in the fluid can clog the return port on the master cylinder and cause premature slippage of the clutch system.

Bleeding **MUST** be done by vacuum method or using a power bleeder such as a mity-vac.

Test fit both discs on the input shaft of the transmission. Make sure they slide freely on the splines.

If you are using an aftermarket bellhousing, it **MUST** be dial indicated to the engine before installing the clutch. These bellhousings typically are not centered and can cause release issues if not addressed.

## Clutch installation

Remove the pressure plate attachment nuts from the flywheel stand bolts (3/8" 12-point nuts). Notice the proper orientation as noted above. Be sure the unit is installed this way. Lift the cover from the flywheel. The top disc is a sprung hub configuration. After removing the sprung hub disc you will see the floater plate.

The floater plate drives off of the six pressure plate stands and is tethered to the flywheel with three straps which are bolted in position. Notice how the floater plate moves freely up and down around the drive stands. This is how the floater should fit when installing the unit in the car. If the floater plate is bound to or hung up on the drive stands during installation the clutch will not release properly. Note: the drive stands each have shims on top of them. Be sure they are in place when the unit is installed.

Remove the three 5/16-18 capscrews and lift the floater plate out of the assembly. The solid hub bottom disc can now be removed.

Install the flywheel loctite or similar thread locker on the flywheel bolts. Torque the flywheel bolts to 75-85 ft/lbs.

Slip the top clutch disc (sprung hub disc) onto the clutch alignment shaft followed by the floater plate and bottom clutch disc (solid hub). Be sure the floater plate side that has the machined outer lip is facing the transmission (i.e. the completely flat side towards the flywheel).

Slide the clutch alignment tool into the pilot bushing while positioning the floater plate over the drive lugs. The three retaining straps should line up with the three 5/16-18 holes on the flywheel surface.

Install the three 5/16-18 capscrews through the strap and into the flywheel (note: the straps should line up without any repositioning). Use a threadlocker on the capscrews.

At this point make sure the floater plate moves freely up and down on the drive stands and that the retaining straps slide freely on each mounting bolt. The floater plate must move freely or the clutch will not disengage properly.

Place the pressure plate over the stand bolts and torque the cover nuts to 30 ft/lbs on the steel stands and 25 ft/lbs for the composite stands, tightening them in a star pattern so that the diaphragm is pulled down evenly. Be sure the cover drive straps are offset from the floater straps and that each stand has its shims between the cover and the stand.

The bellhousing and transmission can now be reinstalled. Be very careful not to let the transmission hang on the clutch disc spline during reassembly as this may bend the clutch disc carrier, which will cause release problems.

## Adjustment

### Mechanical & Cable linkages

Adjust your pivot ball to achieve a forward attitude (drivers side pivot) or rearward (pass. Side pivot) on the clutch fork when the bearing is just touching the fingers. Set the release low to the floor, maximum freeplay. If this is not comfortable then use a pedal stop to avoid excessive release.

### LS1 hydraulic applications

RAM recommends using an adjustable master cylinder with this clutch assembly so you can limit the clutch travel and avoid shifting problems. Set the clutch pedal for minimum release, that is keep the pedal as low to the floor as possible. Please see Understanding factory hydraulics.

RAM adjustable master for F-body 98-02 510

RAM adjustable master for Corvette 97-04 515

RAM slave cylinder for F-body 98-02 520

RAM slave cylinder for Corvette 97-04 525

## IMPORTANT NOTICE

PROPER FLYWHEEL BOLT TORQUE IS CRITICAL WHEN INSTALLING YOUR RAM STREET DUAL CLUTCH SYSTEM. RAM STRONGLY RECOMMENDS AFTERMARKET FLYWHEEL BOLTS FOR YOUR APPLICATION.

7/16" BOLTS – 85 FT/LBS.

½" BOLTS – 135 FT/LBS.

10mm BOLTS – 65-70 FT/LBS.

11mm BOLTS – 80-85 FT/LBS.

USE A HIGH QUALITY AFTERMARKET BOLT SET AND RED LOCTITE ON THE THREADS. GO THROUGH THE TORQUE SEQUENCE 3 TIMES.

RAM FLYWHEEL BOLT SET PART NUMBERS ARE:

|                          |          |
|--------------------------|----------|
| 7/16 X 1                 | PN 575   |
| ½ X 1 (6 BOLT)           | PN 596-6 |
| ½ X 1 (8 BOLT)           | PN 596   |
| 10mm – 1 x 1 (4.6L Ford) | PN 529   |
| 11mm – 1.5 x .880 (LS1)  | PN 528   |

Technical help

Please visit our website [www.ramclutches.com](http://www.ramclutches.com) for technical or product information.