FORM CT1003

RAM 7.25 Instructions

Congratulations on the purchase of your Ram 7.25 clutch assembly. You have obtained the very finest unit available and if you follow the instructions in this manual your clutch will provide you with many laps of trouble free performance. Please read this manual completely before installing you new clutch assembly. If you have any questions you may reach us via email at tech@ramclutches.com

Breakaway view of the 7.25 clutch assembly

Definitions

Button Style Clutch – this unit is designed for use with an automatic transmission flexplate.

Full Flywheel Clutch – this unit is built with the starter ring and flywheel integrated into the clutch assembly.

Cover – the outer housing that contains the diaphragm spring.

Pressure Plate – the top steel friction plate that compresses the diaphragm spring.

Floater Plate(s) – the intermediate steel friction plate(s) that run between the clutch discs.

Preload Measurement – the gap between the bottom edge the clutch cover and the top edge of the flywheel before the cover is bolted down to the flywheel. This measurement assures optimum clamp load and holding power for the clutch assembly.

Before Installing Your New Ram Clutch

Check the bellhousing for alignment to the engine block. Misalignment is common in aftermarket bellhousings and will lead to premature failure of your clutch assembly. See your bellhousing manufacturer's instructions on alignment. The bellhousing is not being square to the engine block and the transmission pilot hole is not concentric to the crankshaft will lead to pilot bushing/bearing failure which can ruin the clutch discs and complete clutch assembly.

To check alignment use a dial indicator with the base mounted to the crank flange and check the transmission pilot hole for concentricity to the crankshaft centerline within +/-.010". Check the face of the bellhousing for

squareness to the back of the engine block. Variance should be no more than +/-.010" side to side and top to bottom.

Check the pilot bushing/bearing for wear. Always replace the pilot bushing/bearing when installing a new clutch. Input shaft runout will cause broken clutch discs, worn clutch splines, chatter, and erratic release.

Clutch Installation

If you are installing a button flywheel unit place the flexplate onto the crankshaft hub and install the button flywheel on top of the flexplate. Full flywheel units should bolt directly to the crankshaft. Make sure the flywheel bolt heads do not protrude above the friction surface. Use only high quality fasteners. Torque the flywheel to 85 ft/lbs.

Lay the cover plate upside down on the bench. Assemble the unit by placing the pressure plate in against the diaphragm spring. Then place the top disc in with the long end of the clutch hub facing down. Follow this with a floater plate, the center disc with the short hub, another floater plate, and then the bottom disc with the long end pointing upward. Be sure that the timing marks (a small dot on each clutch disc hub) line up.

Lift the cover plate onto its side and slide the alignment shaft through the clutch discs. If all the discs are timed properly the four paddles on each disc should aligned with each other.

Now set the completed cover assembly onto the flywheel and insert the alignment shaft into the pilot bushing/bearing as you are doing this. Install the six cover bolts and tighten them down gradually working around the cover in a star pattern. Once the cover is drawn down to the flywheel torque the cover to 25-28 ft/lbs.

Now install the bellhousing and transmission. Be extremely careful not to force the transmission into the clutch discs or draw the transmission up to the bellhousing using the mounting bolts as the disc carriers will bend or distort causing problems with the clutch assembly.

About the Release Bearing

Ram 7.25 clutches operate best with a rounded or angular contact bearing face. Flat face bearings will result in a harsh pedal effort, non-release, and possibly premature failure of the clutch assembly. The proper bearing is available from Ram in either a mechanical or hydraulic design.

Adjusting the release bearing

Adjustment of your RAM clutch is critical. Over-traveling the diaphragm spring will result in damage to the spring and a resulting loss of holding power.

The key to proper adjustment lies in obtaining the minimum release necessary for the clutch to operate without the clutch "pulling" when depressed. Use the roll method of adjustment with the engine off.

Adjust the bearing so that it barely releases the clutch. With the pedal depressed, try to roll the car. Continue to add release, little by little, until the car rolls freely. Now add just a little bit more release. Start the engine and test the clutch. If the transmission won't shift or the car tries to pull, add a little more release.

It is important to check release periodically as the clutch fingers will tend to come back towards the bearing as the clutch friction surfaces wear.

If using a hydraulic release bearing, check with the manufacturer as to compatibility with your RAM clutch. We recommend the use of our hydraulic units, PN 78100 for GM applications.

Maintenance of your Ram 7.25 Clutch Assembly

To check the wear on your Ram 7.25 clutch you must check the preload measurement. This is what provides the clamping force on the clutch pack. Assemble the unit on a workbench and check the *distance between the flywheel and cover plate when the cover is not bolted to the flywheel.* This distance is .070" when the clutch pack is new. Over time as the clutch wears this dimension will become smaller and the clamping force of the diaphragm will be reduced. When the preload measurement falls below. .030-.040" the clutch discs and/or steel plates will need to be replaced to achieve the correct preload measurement. At this time it is a good idea to examine the diaphragm springs for wear and replace if necessary.

The release bearing clearance should be checked often. If the bearing is riding on the clutch fingers the holding power of the clutch will be reduced. Over travel of the diaphragm spring will weaken the spring and result and premature clutch wear.

Oil and grease contaminating the clutch assembly will cause premature failure of the unit as well. Always check the oil pan and main seals for leakage.

Rebuilding Services

When your Ram 7.25 clutch assembly wears to the point that adequate preload cannot be maintained the unit will need to be rebuilt. At this point the clutch discs are worn, but at the same time the steel plates may need to be replaced and the diaphragm spring my have become fatigued. REPLACING ONLY THE CLUTCH DISCS WILL RESTORE THE CLUTCH. The clutch discs need a good mating surface and installing new discs on a used friction surface may lead to premature clutch failure.

All the components for the Ram 7.25 are available for replacement or you may return the unit to the factory for rebuilding. When returning a unit please log onto ramclutches.com and fill out a repair order form. This will expedite the rebuilding process.

Returning the Clutch for Rebuild

Send your complete unit (including flywheel) to Ram via UPS or other suitable carrier. Include the factory repair form (online at ramclutches.com). On this form you will need to complete the information detailing the work to be completed and any problems encountered along with your address and contact information. All units will be rebuilt and returned via UPS.