



INSTALLATION INSTRUCTIONS FOR PART #650-6210 HYDRAULIC THROW-OUT BEARING FOR STOCK-TYPE CLUTCHES
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WARNING!

Use this throw-out bearing with stock-type diaphragm clutches only. Use of this bearing with Borg & Beck type clutches or racing mini-clutches will result in clutch & bearing damage. This throw-out bearing works best with a 3/4" bore master cylinder, such as Southwest Speed Part #290-412. Never use petroleum or mineral base fluids; only DOT 3 or equivalent non-silicone brake fluid.

1. Facing the transmission, replace the bearing retainer bolt in the 2 o'clock position with the supplied 5/16" or 3/8" stud. (See illustration below).
2. Install the throw-out bearing over the bearing retainer shaft, making sure the newly installed stud is between the two fittings of the throw-out bearing. The bleeder fitting should rest against the stud, which will allow the inlet fitting proper orientation with the clutch fork hole in the bellhousing. It is imperative that the bleed screw is the highest place on the throw-out bearing to allow the system to be bleed properly.
3. Assemble your flywheel and clutch on the crankshaft and bolt the bellhousing to the engine block.
4. Measure the distance from the bellhousing surface to the clutch fingers & write that down. Now measure from the face of the transmission to the front of the bearing. Install the necessary amount of the supplied shims until the two dimensions are equal. Each shim is .045" thick. Make sure to always take up all the clearance, even if the bearing has to ride slightly against the pressure plate. The bearing is designed so that if it turns all the time, it won't incur any damage. A pre-load of .040" wouldn't be an excessive amount & would ensure that the clutch disc would disengage.
5. Attach a -4 AN flexible line to the inlet fitting.
6. Install the transmission & throw-out bearing assembly. Again, if done properly, there should be zero clearance or slight pre-load between the bearing & the clutch fingers.
7. If your master cylinder is new, it will be necessary to bench bleed the master cylinder to prevent damage, due to bottoming the master cylinder piston against the return spring without fluid in the system. Bleed the system thoroughly, making sure that if there is a high spot in the line between the master cylinder and the throw-out bearing, that the air is forced from this spot. The throw-out bearing will usually gravity bleed, if you leave the bleed screw open and continue to add fluid to the master cylinder. Make sure to keep fluid in the master cylinder. Allowing it to run out of fluid will re-introduce air to the system & make it necessary to restart the bleeding process. This is best done overnight with a container to catch the waste fluid. Upon completion of the gravity bleeding process, close the bleeder valve & re-fill the master cylinder. Should the system still need to be bled, apply pressure to the pedal & open the bleeder screw, gently depressing the pedal to the end of the pedal travel. Continue to hold the pedal down until the bleeder screw is closed. Release the pedal & repeat as many times as necessary to complete the bleeding process. NEVER PUMP THE PEDAL TO BLEED THE SYSTEM. This rapid pumping aerates the fluid & can destroy the master cylinder. Aluminum master cylinders without pedal stops won't withstand rapid, forceful, pumping.
8. Southwest Speed throw-out bearings are known to fit Saginaw 3-speed, Muncie 4-speed, GM T-10 and Jerico 2 & 4-speed transmissions. It won't fit T-5 transmissions without modification to the bearing retainer (nose cone) and won't work with a RAM coupler. The SW Speed bearing will work with all OEM and OEM replacement clutches. The throw-out bearing may fit other transmissions if there is adequate room between the transmission & the clutch. The throw-out bearing must also fit over the diameter of the transmission bearing retainer shaft. Refer to the critical dimensions in the drawing below.

