

LAKEWOOD BELLHOUSING ALIGNMENT PROCEDURE

Due to manufacturers' machining tolerances of engine blocks in relationship to dowel pin location, it is quite possible for the crankshaft centerline and bellhousing bore to be misaligned. With the transmission installed in a misaligned condition, several problems can occur, such as pilot bearing and main shaft bearing wear, difficulty in shifting, and in extreme cases breakage of transmission gears and cases. While most housings will fall within the allowable limits, it is good insurance to check for register bore runout whenever any housing or engine block is installed. Most factory service manuals will outline the checking procedure, but will not give correctional measures necessary to ensure trouble-free standard transmission operation, short of trial and error with switching of various O.E. housings.

NOTE: Adjustable dowels are used to dial in bell housings because the engine blocks casted from the OEM factory can be out of tolerance. So, you will need to align engine and bellhousing.

Offset dowel pins are available from Lakewood Industries to ensure correct adapter housing installation. For checking, you will need a dial indicator (preferably with a magnetic base), a few simple tools and close attention to detail to give you accurate installation results.

INSTRUCTIONS

1. Remove clutch assembly from flywheel and install bellhousing on engine block. (It is easier when you leave the clutch assembly off the flywheel.)
2. Install dial indicator base on the flywheel and adjust plunger to contact the register bore of the housing. (See photo.)
3. Rotate the flywheel and note indicator reading. Misalignment is one-half of the indicator reading (maximum allowable is .005").
4. To correct off-center condition, select the offset dowel pin pair that is closest to one-half of the indicator reading. (i.e., if reading is .016", $1/2R=.008"$ use .007" dowels. If reading is .024", $1/2R=.012"$ use .014" dowels).
5. Remove stock dowel pins by driving from back side or pulling with gripper pliers.
6. Clean engine block dowel holes and coat lightly with lubricant.
7. Lubricate dowel pins and install in block. The slot in the dowel pins indicates the direction of maximum offset. They should be installed parallel to one another, and in pairs (both .007" or both .014" and .021").
8. Install and tighten bellhousing securely. Remount the dial indicator and recheck the register bore runout (Repeat step 3).
9. To make small corrections or adjustments to the alignment, you will need to remove the bellhousing and drive the offset dowels out of the block. Reposition the dowels using the slot as a reference point and re-install. Re-check register bore run-out. Repeat this procedure until the register bore is within limits.



NOTE: Always be careful when removing bellhousing from engine block so that offset dowel pins do not move or change position.

OFFSET DOWEL PIN CHART				
Total Indicator Reading	One-Half Total Indicator Reading	Size Dowel To Be Used	Lakewood Offset Dowel Part Number	
			GM .625" DIA	Ford/Mopar* .500" DIA
.012" to .020"	.006" to .010"	.007"	#15920	#15950
.022" to .034"	.011" to .017"	.014"	#15930	#15960
.036" to .052"	.018" to .026"	.021"	#15940	#15970

* NOTE: Will not fit Ford 4.6L/5.4L engine blocks