

IMPORTANT

WHEN PERFORMANCE DRIVING, ALL TRACTION CONTROL DEVICES
MUST BE TURNED OFF OR CLUTCH SLIPPAGE CAN OCCUR.

CLUTCH BREAK IN PERIOD

McLeod CLUTCHES REQUIRE
BREAK IN PERIOD OF 450-500 MILES OF
STREET STOP AND GO TYPE DRIVING
BEFORE APPLYING FULL POWER. THIS
MILEAGE IS REQUIRED TO PROPERLY
SEAT THE DISC WITH THE PRESSURE
PLATE AND FLYWHEEL.

1600 SIERRA MADRE CIRCLE
PLACENTIA, CA 92870
(714) 630-2764 FAX (714) 630-5129
TECH (714) 630-3668 10:00 A.M.- 12:00P.M. AND 1:00-3:00 P.M.

IMPORTANT

FOR GENERAL MOTORS APPLICATION

HELPFUL HINTS

1. PROPER THROW OUT BEARING INSTALLATION FOR GENERAL MOTOR CARS

INCORRECT

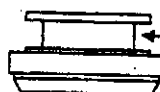


Spring clip does not go on the outside or on top of throw out bearing

CORRECT



Both spring clip & fork go inside the channel on the throw out bearing



CHANNEL OF THROW OUT BEARING

2. PROPER THROW OUT BEARING ADJUSTMENT FOR ALL CARS

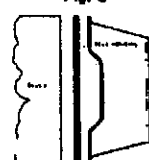
Fig. A



Fig. B



Fig. C



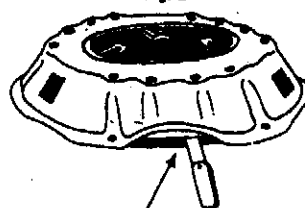
Motor or block plate

Fig. D



Drill hole here

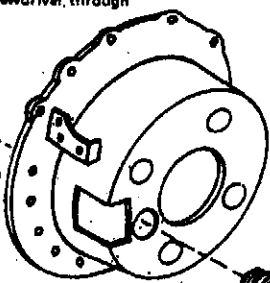
Fig. E



Place feeler gauge between pressure plate & disc.

2. ADJUSTABLE PIVOT — Install from fly side — adjust with screwdriver, through pivot bushing bore

3. LOCK NUT — Installed on adjustable pivot — used to lock pivot after height is adjusted. Loctite recommended



1. PIVOT BASE — Screw in tight — flush with bell housing

Proper installation is the most important part of clutch replacement; then comes proper adjustment.

If yours is a 2-piece bell housing, throw-out bearing adjustment is simple; just look up into the bell housing and adjust the T.O. bearing off fingers, approximately $\frac{1}{8}$ inch.

If yours is a 360 degree bell housing, first determine whether or not your T.O. bearing is of sufficient length and is at the proper pivot angle. Disconnect the adj. Rod so that the fork is free. Move the fork by hand toward the transmission until the T.O. bearing contacts the clutch fingers. At this point, check the angle of the fork as it comes out of the bell housing. It should be coming out straight or be slightly angled toward the motor (see Fig. A). If the angle is toward the trans. (Fig. B), you are past Center with the bearing and are losing all mechanical advantage. To correct this problem, install a slightly longer T.O. bearing (with a flat face) or use the adj. ball stud. Be sure to use the McLeod T.O. Bearing part No. 1602 or its equivalent (Borg Warner N1466 or New Departure CT 989S-6 or their interchanges with local brand carried by your auto parts store.)

When using a scatter shield and motor plate (Fig. C), use of the adj. Ball stud or intermediate T.O. bearing is recommended. To ensure proper adjustment for release on most high performance or drag cars, a hole should be drilled in the bell housing under the clutch assembly large enough to permit entry of a feeler gauge (Fig. D).

When adjusting with a feeler gauge, push the pedal all the way to the floor board (or pedal stop); then, by adjusting the clutch rod, slide the feeler gauge between disc and pressure plate until you have .050 air gap (Fig. E.). When .050 is adjusted into the clutch, let the pedal up. Your clutch assembly is now properly adjusted.

- Notes:
1. All 10.95 pressure plates are furnished with $\frac{3}{8}$ " bolts. Please *do not* use lock washers on these bolts. For extra locking, you may use Loctite or equivalent.
 2. Borg & Beck Long pressure plates will sometimes have one or more slightly loose levers (either sideways or up & down). This looseness is normal-unless the bolts on top of the pressure plate are loose.
 3. When balancing pressure plates and flywheels together, do not weld on or drill pressure plate hat. Welding changes finger height and drilling cause the hat to be weakened.
 4. If pressure plate does not disengage after a period of time, check your linkage (under pressure) for evidence of cracked or broken pieces-before you remove the assembly.

IMPORTANT CLUTCH INSTALLATION HINTS

The following check list is a reminder of the necessary inspection points and precautions required to insure a trouble-free clutch installation.

INSTALLATION / DO'S

1. Determine cause of original clutch failure. Cause of first clutch failure (if not wear) MUST be found and corrected. If oil is present on clutch plate, cause of leak MUST be corrected before installation of new clutch unit.
2. Check splines on transmission input shaft for signs of abnormal wear or "twisting". Slide new disc on spline by hand gently to check fit. Disc should move FREELY.
3. Remove ALL oil or grease from friction surfaces of flywheel and cover assembly. Surfaces MUST be clean and dry. Also clean input shaft spline with a wire brush. Lubricate with dry graphite spray if needed.
4. To insure proper operation, friction surface of flywheel MUST be resurfaced. Check Dowell Pins, they must be smooth and straight.
5. If throw-out bearing is worn, replace it, better now than later.
6. Closely inspect pilot bearing or bushing for excessive wear to avoid transmission shaft misalignment. Replace it if any doubts.
7. Use clutch alignment tool to insure disc and cover are properly aligned with pilot bearing.
8. If using an aftermarket scatter shield/bell housing, checking center hole run out is highly recommended. See sheet supplied.
9. Be sure ALL special type bolts, if any, are replaced in their proper locations.
10. Torque all clutch cover bolts evenly, to factory recommended spec, using a progressive "criss-cross" tightening pattern.
11. Before completing installation, inspect all clutch linkage parts (forks, clevis, pins, etc.) for signs of wear and replace ALL worn pieces. Grease all pivot points in linkage system.
12. Adjust clutch pedal "free play" to correct specifications. T.O. bearing should not be tight against clutch fingers. 1/8 to 1/4 inch is recommended, except for cable linkage.

INSTALLATION / DON'TS

1. Don't let any grease or oil contact ANY friction surface.
2. Don't use an impact (air gun) to tighten cover bolts.
3. Don't let transmission weight rest on input shaft during procedure.

TORQUE SPECS

5/16-18	GRADE 8	25 FT. LBS.
3/8-16	GRADE 8	35 FT. LBS.
7/16-20	GRADE 8	65 FT. LBS.
1/2-20	GRADE 8	75 FT. LBS.

LIMITED WARRANTY

McLeod Products are warranted to be free from defects in material and workmanship for the period of ninety (90) days, from the date of purchase. **McLeod** does not warrant or make any representations concerning its products when not installed and used strictly in accordance with the manufacturer's instructions for such; installation and operation, and in accordance with good installation and maintenance practices of the automotive industry. **McLeod** will not be liable for labor charges and other intangible or consequent losses that might be claimed as a result of the failure of any part, nor shall it be liable for damages or injury to persons or property resulting from the misuse or improper installation of any part subject to this warranty.

No merchandise may be returned for any reason unless prior return merchandise authorization number (RGA) has been obtained from **McLeod**.

McLeod reserves the right to examine all parts returned for warranty claim to determine whether or not any such part has failed because of a defect in material or workmanship. **McLeod** obligation under this warranty shall be limited to repairing, replacing or crediting, at its option, any part found to be so defective, regardless of whether any part is repaired, replace, or credited under this warranty. Transportation charges on the return of such part must be prepaid by the customer under this warranty. There are no other warranties, either expressed or implied, which extend beyond those set forth in the preceding paragraphs.



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 insure trouble-free standard transmission operation, short of trial and error with switching of various O.E. housings.

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. Small corrections may be made by loosening the housing bolts and turning the dowels with a screwdriver to bring the register bore within limits.

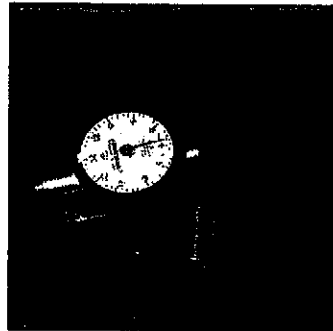
NOTE: Always be careful when removing bellhousing from engine block so that offset dowel pins do not move or change position.

OFFSET DOWEL PIN CHART

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

WELD-ON DOWEL LOCATING KIT

Designed for use on race cars that are frequently disassembled, this kit eliminates the need to "dial-in" the bellhousing after each removal. For Ford or Mopar vehicles with .500" dowel holes use #15980. For GM vehicles with .622" dowel holes use #15981. Welding is required.



**RETAIN THIS INSTRUCTION SHEET
FOR FUTURE REFERENCE.**

P/N 97140222

NOTES

IF USING **McLeod** BELLHOUSING, NO ALIGNMENT IS NEEDED UNLESS ENGINE HAS BEEN LINE BORED