

Butler Performance, Inc.

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INITIAL START-UP PROCEDURE

1. STEPS 2 & 3 are performed at Butler Performance if we ran the engine on the dyno
2. The oiling system must be primed before attempting to start the engine for the first time, unless the engine was **recently** run or primed by BPI. Then it can be primed by turning it over with the starter, with the distributor or coil disconnected. The priming can be accomplished on a wet sump system by placing a shaft down the distributor hole and turning the oil pump over with a drill motor. We offer a Pontiac oil pump primer shaft, part # BPI-039P for \$18.95. On a dry sump engine, the drive belt is removed and the engine is primed by turning the external dry sump oil pump over with a drill motor.
- 2a. **ALL engines must use a break-in oil during first start-up and break-in (minimum 100 miles, under load). Failure to do so will void any manufacturer's cam warranty- this also aids in ring seal. We recommend DRIVEN Break-in 15/50. After break-in we recommend using DRIVEN "Hot Rod" 15/50 Conventional Oil (no additive required with Joe Gibbs Oil) or the DRIVEN GP1 15W40 or 15W40.**
3. Use only Wix 51258 oil filters. (Do NOT use FRAM).
4. Fill with water WITHOUT T-stat installed-Run engine to circulate and remove any air pockets. Drain water to just below T-stat housing and install T-stat. Refill with water/anti-freeze.
5. **If engine was run by BPI--, Then Step A. has already been done and ONLY needs checked once installed.**
 - A.** After engine has been warmed up for the 1st time, set **total** timing to 32-36 degrees (Depending on CR / Octane). Re torque heads to 100 ft lbs bolts
 - B. Re torque / Double Check ALL Bolts on Engine after 100 miles. Including intake, exhaust, accessories (ie March systems and pulleys), etc.**
6. Carb idle adjustments and jetting or EFI tune may need to be fine-tuned for your altitude, weather, car, etc.
7. Improperly aligned bell housing, transmission, or too long a pilot shaft can cause the main thrust bearing to fail. This alignment must be checked and corrected with offset dowel pins if necessary. If the pilot shaft "bottoms" in the crankshaft, the pilot shaft must be shortened. Thrust bearing failure is also caused by improperly shimmed or defective torque converters. **THE THRUST END PLAY SHOULD BE CHECKED AFTER THE TRANSMISSION IS INSTALLED TO BE SURE THAT NOTHING IS WRONG AND THAT THE END PLAY REMAINS THE SAME.**

THIS ENGINE/SHORT BLOCK IS INTERNALLY BALANCED.

YOU MUST USE A NEUTRAL BALANCED FLYWHEEL OR

FLEXPLATE AND HARMONIC BALANCER (Stock is NOT neutral balanced).

(If included with engine when received from BPI these pieces will be correctly balanced.)