

## Butler Performance, Inc.

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### INITIAL START-UP PROCEDURE

1. 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.
2. **ALL engines must use Comp Cams #159 (or equivalent) break-in lube during break-in and at the first oil exchange. It is recommended to be used at subsequent oil changes also. Failure to do so will void any manufacturer's cam warranty. We recommend using Valvoline 20/50 Racing oil with the additive, or Joe Gibbs "Hot Rod" 15/50 Oil (no additive required with Joe Gibbs Oil)**
3. Use only AC PF 24 or 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. A. After engine has been warmed up for the 1<sup>st</sup> time, set **total** timing to 32-36 degrees (Depending on CR / Octane). Re torque heads to 100 ft lbs bolts (unless engine was run by BPI--if so, this has already been done).  
B. **Re torque / Double Check ALL Bolts on Engine after 100 miles. Including intake, exhaust etc.**
6. Carb idle adjustments and jetting 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.**
8. CALL WITH ANY QUESTIONS OR CONCERNS.

**THIS ENGINE/SHORT BLOCK IS INTERNALLY BALANCED.**

**YOU MUST USE A NEUTRAL BALANCED FLYWHEEL OR FLEXPLATE AND HARMONIC BALANCER.**

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