



# WESTERN MOTORSPORTS

*Dedicated to Ford Performance*

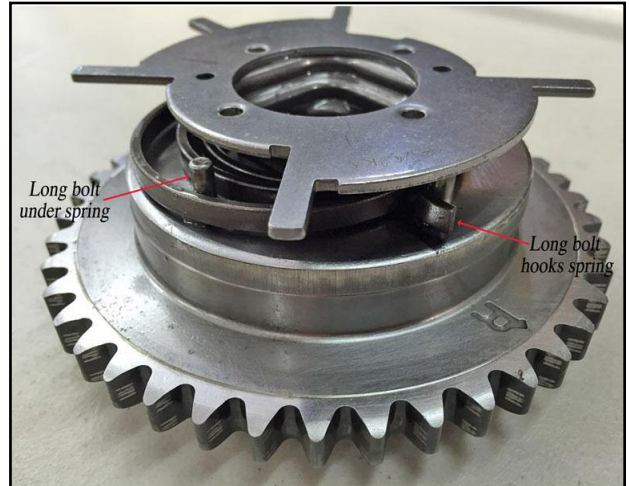
## 4.6 / 5.4 3V Cam Phaser Lockouts

\*Installation should be performed by a licensed mechanic\*  
\*FOR OFF HIGHWAY OR RACING USE\*

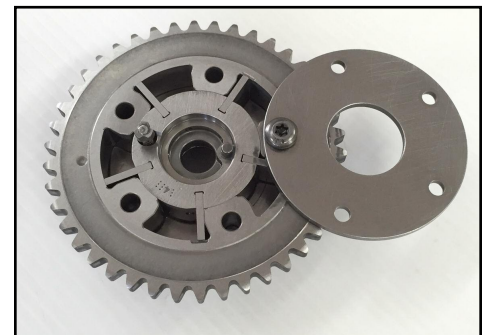
The lockouts are one piece billet aluminum block designed to fit within the stock phaser locking the cam timing in the fully advanced position. The lockouts lock the internals of the cam phaser to create a fixed gear with no moving parts and no internal mechanisms to make noise or fail.

The following instructions will help to guide you through the installation. These instructions are based on having the camshaft phaser previously removed from the engine. Please follow the factory Ford manual for removing the phasers from the engine.

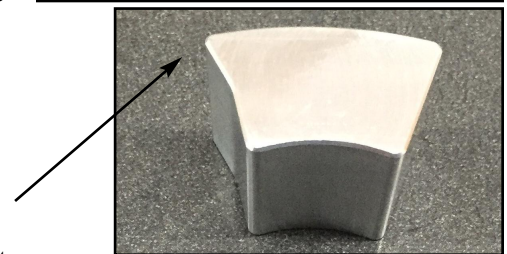
1. Remove 4 of the 5 bolts holding the phaser together and **loosen** the one long bolt that hooks the spring to keep it in tension. This bolt will be left in place to keep the spring tension, only loosen enough to allow the rear cover to rotate out of the way. Some phaser versions use a long bolt under the spring, this is removed and replaced in the same location.



2. Rotate the backing plate of the phaser unit on the long bolt that was left in place. When rotating this plate proceed slowly as there is a spring that will force a small check valve out. Do not lose the spring or check valve. Do not disassemble any further.



3. The lockouts are precision machined to fit in one section better than the rest. The lockout should be installed into the void that has the tightest fit. Push the lockout block fully down into the phaser. Our blocks have been designed to fit snug and there can be a large variance in phasers. If the block is too tight you can file down the top 'pointy' edge to fit. It doesn't take much to make a big difference in fit. Note the locks for Dormans do not require filing.



File this edge to fit

4. To reassemble place the spring and check valve back into the phaser, rotate the plate back into position and reinstall the other 4 bolts. Be sure the one long bolt that was removed is replaced in its original location and is under the spring as shown. It may be necessary to pry the spring over the bolt. Use a small dab of blue loctite on each bolt and torque to 145 in lbs (approx. 12 ft lbs)





# **WESTERN MOTORSPORTS**

*Dedicated to Ford Performance*

## **SCT Cam Phaser lockout custom tune**

A custom tune file is already loaded onto the SCT tuner. This tune is based on the 4 digit 'catch code' provided when ordering. Ford may have updated your ECU with a new calibration when in for service so the actual calibration of the ECU may be different than the 'catch code'. The 'strategy code' must be checked to verify this.

### **Step 1 - Verify the Calibration**

Plug the SCT into your OBDII port, go to 'Vehicle Info' and check the 'strategy code'. This is a 7 digit code, a mix of numbers and letters. Compare the 'strategy code' to the one printed on your SCT box. If the code matches then the custom tune file is correct you are ok to load the custom tune

If your 'strategy code' does not match we will need check your custom tune file. Call us at 403-243-6205 or email - fastford@wmsracing.com with the following information

Strategy Code:  
SCT serial number:  
Original invoice number:  
Name:

BE SURE your battery is fully charged and will keep a full 12V when programming, if any doubt use a battery charger at medium setting while loading the tune.

### **Step 2 - Load the Custom Tune**

Go to 'Program Vehicle' and under Custom Tunes select the file named 'VCT LOCK TUNE'. You must load this custom tune. Do not load any of the preloaded tunes at the top of the screen as they will not function correctly with the VCT locks.

Our vct lock tune is a performance tune specific for the locked phasers. This tune is designed for 87 Octane and includes many changes to enhance power and driveability including shifting. User adjustable options are included as well for fine tuning and include:

- Idle Speed and Rev Limits
- Global Spark - this allows you to retard the entire spark timing curve
- Spark at RPM range - this allows you to retard spark at specific rpm range. If you have detonation in one of these ranges you can reduce the timing with this option
- WOT Fuel - this allows you to add fuel under wide open throttle
- Axle and Tire size - to correct the speedometer and shifting if running larger tires or gears
- WOT Shift - allows you to change shift rpm points under wide open throttle
- Shift Pressure - allows you to adjust how firm shifts are.

---

**223114 Range Rd 285, Rocky View, Alberta, Canada T1X 0J7**

**Phone: (403) 243-6205 Fax: (403) 243-8102 [www.wmsracing.com](http://www.wmsracing.com)**