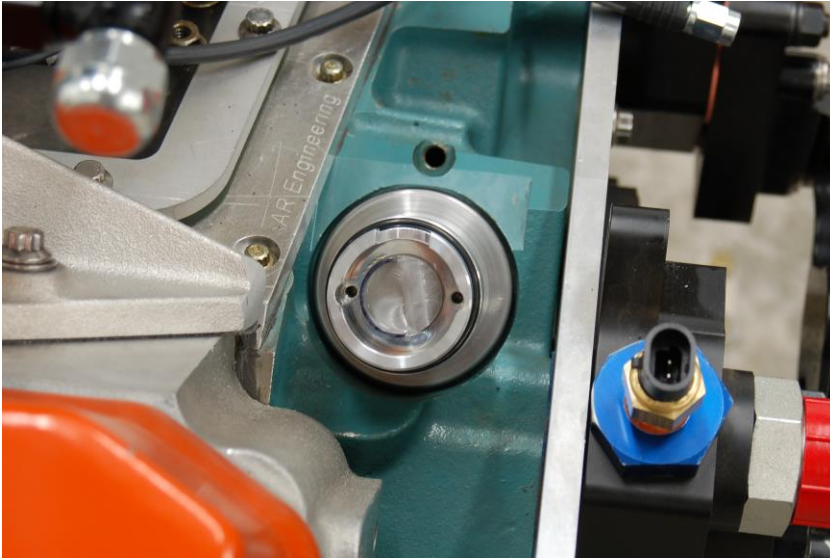


How to install the AR403 Cam Sync Unit



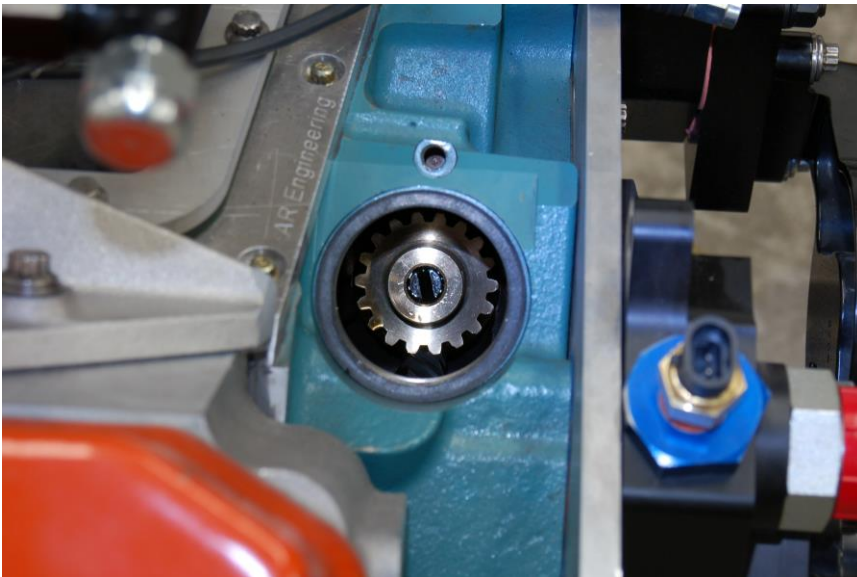
The AR403 cam sync unit provides a square wave signal for a fuel injection ECU. The spinning shutter wheel generates a high voltage signal for 180 degrees of cam rotation and then gap produces a zero voltage signal for the other 180 degrees of rotation. Most EFI systems will accept a square wave signal and typically the EFI instructions will recommend using the falling edge of the signal rather than the rising edge. The falling edge of the signal is produced when the shutter wheel leaves the sensor. Therefore, the AR403 should be installed so the shutter wheel is leaving the sensor when the ECU expects it to.

For example, Holley EFI wants to trigger on the falling edge of the cam signal when the engine is at 195 degrees BTDC on the firing stroke. The easiest way to install the housing is to rotate the engine to 195 degrees BTDC on the firing stroke for number 1 cylinder and then rotate the shaft so the shutter wheel is leaving the sensor. (The shutter wheel spins CCW on a big block) The next picture illustrates how the shutter wheel should look when the engine is at 195 degrees BTDC.

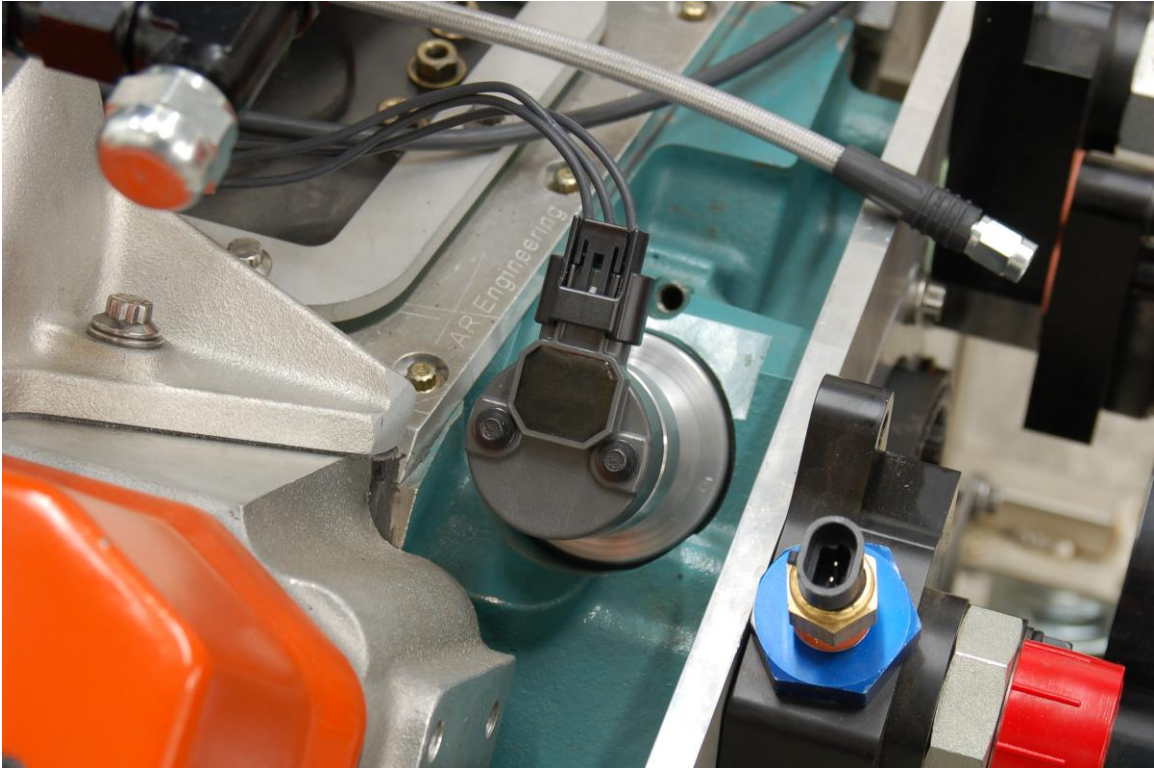


In this view the opening in the housing is pointed up and the shutter wheel has just rotated out of the sensor. Rotating out of the sensor will produce a falling edge for the square wave which is what the Holley ECU prefers for a signal.

The tang on the shutter driveshaft is machined to be in line with the edges of the shutter so in this case the tang will be at roughly 11 o'clock. The slot in the oil pump driveshaft needs to also be at 11 o'clock so the AR403 housing can drop into position. Here is a picture of what the oil pump driveshaft should look like when the engine is at 195 degrees BTDC.



Notice that the slot in the oil pump driveshaft is one tooth before straight up. This gives the proper alignment for the shutter by moving the shutter just past the sensor in the housing with the cable harness pointing straight up.



With the oil pump driveshaft and the shutter driveshaft both lined up at 11 o'clock then the slot in the housing should be pointed straight up and the sensor should mount so the harness wires are coming out at the top. This will provide the most clearance for the carburetor and intake manifold. If there is something else in the way then the entire housing can be rotated as necessary as long as the driveshaft is also rotated in order to keep the shutter exiting the sensor.