FROM THE BENCH BY CHRIS WICKERSHAM

Automatic Ignition Timing Control

Last month, we talked about how to use the spark lever to better control the igniting timing for improved engine performance. I am sure a lot of readers may have said "why bother, my car runs just fine with the spark lever set in one position after the engine is started" while others thought "this is all way too complicated for me".

By 1932, Henry came to the conclusion that the manually operated spark lever was no longer needed because ignition timing could automatically be controlled with the use of a centrifugal advance unit in the distributor.

Starting in 1932, all Fords had this automatic spark advance control which not only made operating the car easier but better power was developed over a wider range of engine speed. The 1932-1934 Model B distributor was designed with 15 degrees of mechanical advance. When initial advance was set at 18 degrees before top dead center of number 1 piston, the resultant advance curve is close to the optimum for our engines.

Original Model B distributors in good condition are getting hard to find and quality replacement parts are difficult to obtain, but there are other options. The early Mallory Model A distributors work very well but these also are getting hard to find. Another very good choice is the older Mallory V-8 dual point 4 lobe cam distributors that have been modified for 4 cylinder operation and machined to fit the Model A engine. These are very high quality distributors with an adjustable advance curve that can easily be tailored to fit the requirements of either a stock or modified Model A or Model B engine.

New replacement distributors with mechanical advance are also available but their advance curve may not always be optimum for the Model A engine. Look for a distributor that has about 15 to 20 degrees of mechanical advance (engine) with no mechanical advance at idle and full mechanical advance occurring at about 2300 to 2500 engine RPM.

Ignition timing should be adjusted for 30-32 degrees advance at 2000 engine RPM. Most distributors with mechanical advance will require the installation of a timing tab and a mark on the front pulley with the #1 piston at top dead center on the compression stroke. You can then use a timing light to adjust the timing.

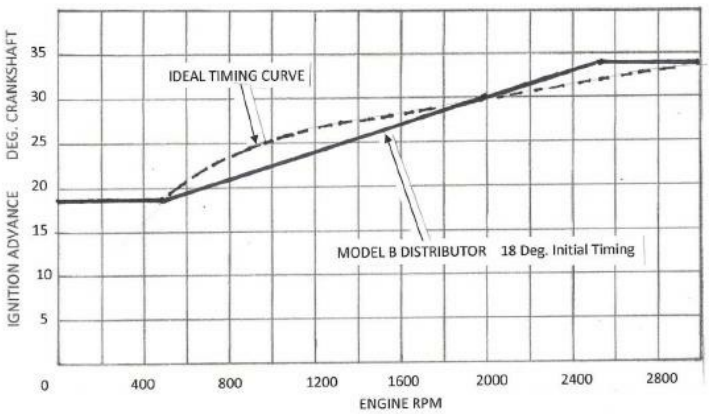
If you are using a Model B distributor, timing can be set with the conventional manner using the timing pin if you also have the Model B timing gear cover installed on the engine. The timing pin hole in the Model B cover is indexed at 18 degrees (engine) before top dead center which results in 18 degrees of ignition advance at idle, 30 degrees at 2000 RPM and 33 degrees at 2600 RPM. This advance curve is close to ideal for most Model A and Model B engines, either in stock or touring configuration. Having 15-18 degrees of initial ignition advance will greatly improve performance off idle and thru the low and mid range RPM of the engine. More heavily modified engines may require a slightly different advance curve and initial timing settings.

Tech Tip

When looking at distributor specifications, and timing curves, keep in mind that while most specifications are expressed in engine RPM and degrees of crankshaft rotation, some distributor specifications may be expressed in distributor RPM and degrees of distributor shaft rotation. The distributor turns at one half the speed of the engine therefore it takes two full revolutions of the crankshaft for one revolution of the distributor. Specifications expressed in distributor degrees and distributor RPM must be multiplied by 2 to convert to engine RPM and crankshaft degrees.

Model B Distributor

Mallory Distributor



Model B Distributor automatic advance curve and ideal curve