Garry's Garrage

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Midyear Distributor / Ignition

One thing is for sure, you never stop learning about how best to resolve issues on older cars… no matter how long you have been at it.

I recently acquired a ’65 with a 327/250HP engine. The prior owner had the engine rebuilt by Chuck’s Speed Shop in Phoenix back in December of 2012. Although the car ran well, I wanted to double check the timing on the car as it did run a little hotter than I liked when I drove the car home. (I did use an infrared thermometer to verify the car indeed was as hot as the temp gauge indicated.) Timing can be a contributor to a warmer running engine.

After setting up the timing light, I was first stumped by the fact that my base timing (engine warm, no vacuum advance, idle RPM) was not affected by the presence or absence of the vacuum advance line from the carburetor. Turns out that a small stainless steel ball was placed inside the tubing of the vacuum line – thus blocking the vacuum signal to the distributor advance. Sometimes this is done to keep the stock appearance, but change the control of timing to a purely mechanical advance operation. I was not interested in this, so I removed the ball and got my vacuum signal back.

The second issue I ran into was the inability to rotate the distributor enough (clockwise) to set the base timing at 4-6 degree BTDC (typical). I was at least 10-12 degrees off. Essentially the canister of the vacuum advance was hitting the coil, and the tach-drive cable was being bent excessively. So with a little internet research I found out that it is often necessary to rotate the distributor driven gear by 180 degrees when a newer (i.e., modern) CAM is installed in the engine. Normally, the dimple on the driven gear aligns with the tip of the rotor cap. Rotating the driven gear essentially moves the distributor timing about 14 degrees on the crankshaft (whereas leaving the drive gear alone and rotating the distributor by one tooth will move the timing about 28 degrees). This slight change was enough to put the distributor in a position where I could properly set the base timing and not interfere with the coil and avoid any major bends in the tach-drive cable.

Once both of these issues were resolved, I was able to set the base timing, and ensure my all-in mechanical advance was about 32-36 degrees. I then hooked up the vacuum advance, which adds 12 degrees of advance at full vacuum (probably not the correct vacuum advance for this car – but that is another item to research).

Now it is time to get the car out of the garage and drive it around to see what, if any, impact adjusting the timing has had on the overall running temperature of the car… so I will see you at the next Corvettes and Caffeine.

Cheers!
Garry