

WARNING/TIMING

The number one problem in the industry concerning engine driveability, is ignition timing. Timing lights do not work for this – the reason is, timing marks are located on your harmonic balancer. The harmonic balancer is mounted in rubber and over the years they MOVE.

- Whenever our clients call us concerning driveability problems (hesitation, flat spots, surges) 99% of the time the problem is ignition timing. We will share with you a cumulation of many years of experience and if you follow our GOOF PROOF method – you will be rewarded with the best driveability and performance you have ever experienced.

THE THEORY

All Ford engines will run better, deliver more power and give better fuel economy with the timing advanced BEYOND factory specifications. In addition, premium unleaded fuel is recommended – especially in six cylinder engines. After you have read the procedure, your engine will perform the best when the engine will either just barely "ping" on full acceleration or not quite "ping." (PINGING indicates timing advanced too far.)

THE PROCEDURE

- FIRST - If you have a timing light, Do not use it this time. All you will need is a 1/2 inch wrench or distributor wrench, a vacuum gauge (optional) and most importantly your ear.

We are now going to give you a reference point where your distributor should point. (See diagrams.)

Standing, facing the radiator – we will call the fire wall 12 o'clock and the radiator 6 o'clock.

The reference point on the distributor is the vacuum advance diaphragm unit. More specifically – either the steel vacuum line as it enters the distributor or the nipple for a vacuum hose on the advance diaphragm is the reference center line.

1. On the V-8 engines (with distributor in front) the "center line" should point at 7 o'clock. E.g., the center line of the vacuum advance should point at your left pocket.
2. On six cylinder engines 1961 through 1967 the center line should point halfway between #5 and #6 spark plugs (the last two closest to the fire wall).
3. On six cylinder engines 1968 through 1973 the center line should point at approx. 12 o'clock (some engines may be closer to 11 o'clock).
4. NOTE: It is assumed your distributor is in the correct tooth/gear position. If when rotating the distributor to advance timing, and the distributor vacuum advance unit hits the thermostat housing, (V-8), or block (6 cyl.) and at that position the engine runs the fastest and best – your distributor has been installed in the wrong tooth. It must be moved 1 - 2 teeth to allow proper timing adjustment.

The adjustment is easy. With the engine at operating temperature and at idle, loosen the 1/2 inch bolt that holds the distributor in place.

1. On V-8 engines – rotate the distributor clockwise until the engine idles the fastest. (This direction advances the timing.)
2. On six cylinder engines (144, 170, 200, 250) – rotate the distributor counter clockwise until the engine runs the fastest. (This direction advances the timing.)

DON'T Worry if you rotate the distributor too far, the engine will start to run rough and buck at idle. It's telling you it does not like the timing that far advanced.

Snug down the 1/2 inch bolt. Take the car out and drive it — if it "pings" move the distributor back just a tiny bit (that's counter clockwise on V-8's and clockwise on six cylinders) go out and drive it again.

- **Note:** When the engine just barely "pings" or just barely does not — leave the timing right there — that's it.

If you have a vacuum gauge, you will want to adjust the timing until maximum vacuum is attained. This means that at idle the engine is running the most efficient. The maximum engine vacuum is also drastically affected by air/fuel ratio. At idle the idle mixture screws or screw on six cylinders, also, needs to be adjusted to attain maximum RPM and maximum vacuum. Adjust the idle mixture screws AFTER adjusting the timing.

A GUIDE FOR ENGINE VACUUM IN INCHES AT SEA LEVEL, IDLE SPEED 700 — 800 RPM

1. 1961 - 67 — SIX CYLINDERS = IS 19 TO 20 INCHES
2. 1968 - 73 — SIX CYLINDERS = IS 18 TO 19 INCHES
3. 260, 289 (EXCEPT HI PO), 302 (EXCEPT BOSS), 351 W — V - 8 = IS 19 TO 20 INCHES
4. 351 C, 390, 400, 429 = IS 18 TO 19 INCHES
5. 427 (SINGLE CARB.), 428, 460, 289 HI PO * = IS 16 TO 18 INCHES
6. BOSS 302 *, BOSS 351 * = IS 15 TO 17 INCHES
7. DUAL QUAD * = IS 14 TO 15 INCHES

* RPM IS 1000 TO 1100

- **NOTE:** If a higher performance camshaft has been installed (i.e., not factory) the vacuum readings at idle will be lower. How much lower depends on how radical the cam is.

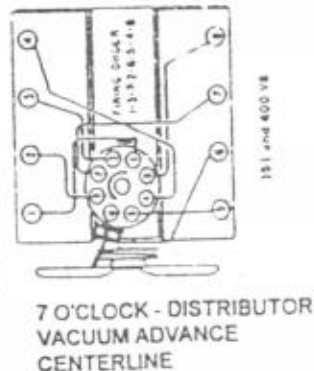
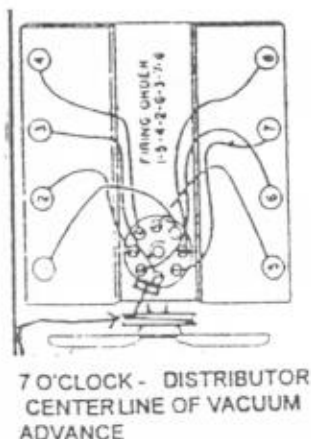
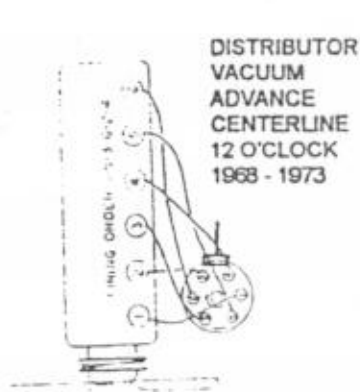
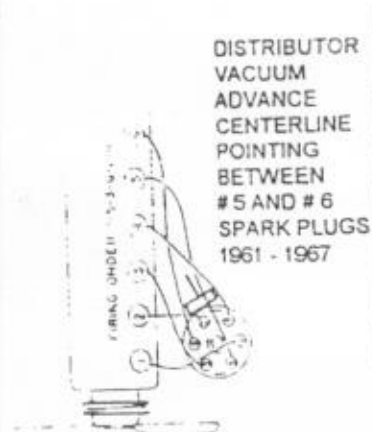
NOTE: On many pre 1967 engines, getting a port for intake manifold vacuum will be difficult or impossible. On any engine — the distributor vacuum port is NOT a source for manifold vacuum. On most engines — there is NO vacuum to the distributor until the engine reaches at least 1200 RPM's.

FIRE WALL-12 O'CLOCK

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FIRE WALL -12 O'CLOCK



RADIATOR - 6 O'CLOCK

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DISTRIBUTOR VACUUM ADVANCE POSITION DIAGRAM