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Setting the initial timing with a magneto using the FIE Inductive Magneto timing box:

1. Rotate the crank until the timing pointer is aligned with the desired timing mark on your hub or balancer. If you want 36 degrees of timing for example, point the pointer at 36 degrees before the TDC mark. An engraved balancer or a timing tape is great to have for this.
2. Check the rockers on cylinder #1 to make sure you have the correct TDC or you could end up 180 degrees out! Both rockers should be loose (have lash). If not, rotate the motor 360 degrees and try again.
3. Determine the direction of magneto rotation for your motor. For example, Chevy: clockwise (as viewed from the top)
4. Find the #1 cylinder contact inside the cap and mark the outside of magneto housing with a felt pen to show this location and the contact just before it in the firing order.
5. Rotate the magneto very slowly (don't get shocked) until the rotor is pointing between the marks you made on the housing in step #4.
6. Line up any oil pump drives or other accessories and insert the magneto into the engine. It may take a few tries and some manipulation of the oil pump drive shaft to engage it and the teeth on the magneto gear. When the magneto is down and seated on the manifold or block surface, note the position of the rotor. Rotate the magneto housing until the rotor is between the marks you made. If the magneto housing position is not satisfactory, remove the magneto, rotate the oil pump shaft slightly and try the next tooth until the mag is seated and the housing location is to your liking.
7. Check end play between the oil pump intermediate shaft and the magneto. Sometimes this is best accomplished by inserting the magneto into the engine with no gasket initially (if one is used). If it seats on the manifold or block surface, then you'll know that adding a gasket will provide sufficient clearance. If clearance is not sufficient, the pump shaft will be forced into the pump when you clamp the magneto and pump/engine failure could result!
8. Tighten the magneto clamp very lightly so that the mag will move with only a slight amount of effort.
9. Hook up the magneto timer box to the orange & yellow primary wires from the magneto on a Mallory mag. On a Vertex internal coil magneto, hook one lead to the side terminal of the mag (remove any ground or kill switch wires at this time) and the other lead to ground. Turn on the timer box.
10. Hold the magneto rotor AGAINST rotation using a few ounces of pressure.
11. Turn the outside case of the mag the same direction as rotation until the rotor is between the two marks you made (before the #1 mark position). When the buzzer stops and the timer LED shows the points are closed, stop.
12. While maintaining pressure on the rotor against rotation, slowly rotate the mag housing against rotation until the buzzer sounds and the "Points Open" indicator shows that the points have just opened. Do this several times until you get the exact location where the points open. This is where the spark happens.
13. Tighten the clamp until the magneto will not turn.
14. To check if you're correct, now grasp the rotor and turn it against rotation. The buzzing should stop when back pressure is applied to rotor and begin buzzing with reduction of back pressure. You're done!

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