

Centrifugal Advance Magneto Timing Procedures

Tools needed:

1. Bring engine to TDC on #4 compression stroke. Use TDC tool to ensure top dead center.
2. Install pointer to align with zero on prop shaft. (See photos.)
3. Hook up magneto timing tool.
4. Check stamped degrees on magneto to determine magneto timing from selected chart.
(See photo and chart.)
5. Move prop to correct setting on the prop shaft, as referenced on the chart.
6. Install left magneto so that the points open at the selected degrees. If the correct magneto setting exceeds the adjustment travel, remove the magneto from the accessory case. It will be necessary to make a fine adjustment of the timing.

Fine Adjustment of Magneto Timing:

- Remove the magneto.
- Align the brass drive on the bottom of the magneto so that it is 90 degrees from rubber shock bushing in the case. (See photos.)
- Place a reference mark with a pencil or scribe on the magneto bushing to enable a reference point for the direction of turn.
- Remove cotter pin and loosen the non-slotted bolt on the brass drive, first.
- Remove cotter pin and loosen the slotted bolt. (The slotted bolt is threaded completely and is the "adjustment" bolt. The threads of this bolt

turn on the threads of the worm of the bushing.) Turning the adjustment bolt clockwise normally advances the magneto timing. Turning the adjustment bolt counter-clockwise normally retards the magneto timing. One complete turn of the adjustment bolt, changes the timing approximately 2°.

-In order to ensure that the magneto points are releasing back into the same place every time, you will need to load the magneto drives. This is performed by turning the propeller backwards and advancing slowly into the timing mark on the propeller flange. Since M9 - 35M magnetos are centrifugal advance, you must rotate the rotor on the magneto clockwise till it is at a hard stop, before you bring prop shaft into timing mark. This will insure that the magneto is at its fully retarded position or "fully loaded". If you do not carry out this important step, your magneto timing will be difficult to adjust and the readings on the magneto timing device will be inaccurate each time you check it. (See photos.)

7. Once the points are opening at the correct setting, remove the magneto and tighten bolts to align cotter pin holes and install cotter pins.
8. Reinstall the left magneto with mounting hardware (nut, lockwasher and washer).
9. Double-check the timing using the "loading" method. Once the correct timing is achieved, tighten the 3 mounting nuts.
10. Repeat process for the right magneto. NOTE: The magnetos may have different timing, as evidenced by differing degrees stamped on the magnetos.
11. After magnetos are timed correctly, install the pencils, distributor caps, covers and P-Leads.
12. Safety magneto covers. Remove indicator from prop shaft.