

## MARK-3<sup>®</sup>

### 185cc Point Ignition Timing Tool

#### USER INSTRUCTIONS

##### Ignition Timing

To check ignition timing on a pointed engine, proceed as follows:

1. Inspect breaker points. Clean or replace if necessary.
2. Install stator plate.
3. To adjust the breaker points gap, turn the crankshaft until the points gap is at the maximum opening (high part of the crankshaft lobe). Using a feeler gauge, adjust the maximum gap opening to 0.014-0.018 in [0.35-0.45 mm]. Firmly tighten the breaker points mounting screw.
4. Slightly loosen the three stator plate mounting screws to allow for the stator to be rotated for the timing adjustment.
5. Remove the spark plug.
6. Screw the ignition timing gauge nut in the cylinder head spark plug hole.
7. Set the piston at top dead center. Screw timing gauge (R-954-14) into spark plug opening until it just touches the piston. Leave timing gauge in this position.
8. Mark cylinder head fin with a small mark aligned with the zero '0' on the gauge.
9. Looking at the magneto side of the engine, rotate crankshaft approximately 90° counter clockwise.
10. Screw timing gauge to 0.147 in [3.75 mm], or almost three complete revolutions (0.050 in per revolution).
11. Slowly rotate crankshaft clockwise until piston comes to rest against gauge plunger. Piston is at 0.147 in before top dead center (BTDC).
12. Remove the condenser nut to release the black points ground wire from the condenser.
13. Using a multimeter or an ohmmeter (one probe on the engine crankcase, one probe on the black points ground wire), rotate the stator plate until it breaks continuity. Tighten the three stator mounting screws.
14. Reinstall flywheel and set air gap between the flywheel magnets and ignition coil to 0.010-0.013 in [0.25-0.33 mm].
15. For final ignition timing dynamic verification, refer to the MARK-3 Owner's Manual for procedures.

##### Notes

- To reduce the risk of kickbacks during engine start up, the timing can be "retarded" to 0.140 in [3.55 mm] instead of the standard 0.147 in [3.75 mm]. There will not be any noticeable change in pump performance.
- Do not exceed recommended "gap limits" when setting breaker points.

##### Warranty, Service and Support

Product and service documentation such as tech notes, data sheets, manuals and information on the limited warranty provided on products manufactured by WATERAX can be found on our Web site at: [www.waterax.com](http://www.waterax.com).



R-954-14 Ignition timing gauge (600171)



Cylinder head with ignition timing tool

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