TIMING, ADJUSTING, TESTING
MERC 500 STARTING WITH 1965

DESCRIPTION	MERC 500
Firing Order	1-3-2-4
Firing Sequence	90° Consecutive
Spark Plug-Standard Installation	J4J
Spark Plug Gap	.025" (.6350mm)
Timing	.235" (5.9690mm) BTDC (34½°)
Breaker Point Setting	48° Dwell (.010"[.2540mm] + .000"-.002"[.0508mm])
RPM, Maximum Recommended	5500-5800

I. TIMING AND LINKAGE ADJUSTMENT

A. Timing Flywheel and Magneto Pulley

1. Flywheel has one mark, a straight line, which times the motor to top dead center (TDC) when positioned with arrow on magneto driven pulley.
2. Rotate flywheel until timing mark (straight line stamped on rim) is in a straight line with center of crankshaft and distributor pulley center. (Figure 1)

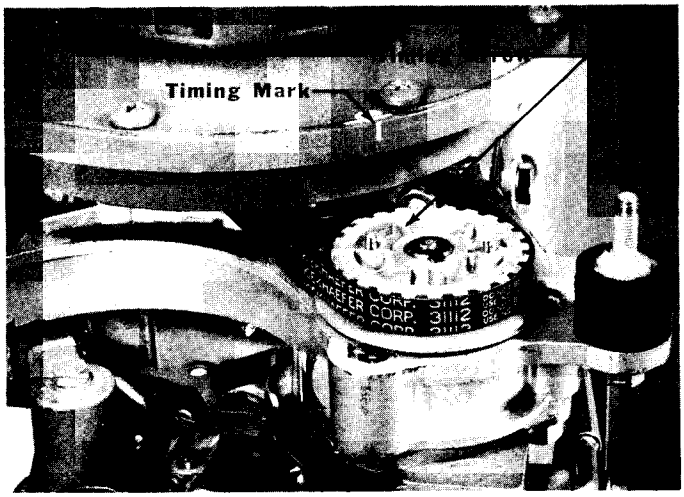

Figure 1. Flywheel and Magneto Pulley Timing

3. Position arrow on pulley to point at timing mark.
4. Replace timing belt, plate, cap screw and washers.

B. Installing Magneto

1. Magneto rotor shaft and shaft extension are splined with one blanketed spline on each shaft for easy installation.
2. With flywheel and pulley in position described in "A" preceding, install magneto on engine.
3. Rotate timing pulley until shaft sets in place. A 1/16" (1.588mm) groove is located at end of shaft coupling in centerline of blanketed shaft to locate for easy installation.
4. Secure magneto to magneto adaptor with 4 hex head cap screws.

C. Setting Maximum Spark Advance

1. Thread Timing Gauge (C-91-26916A1) into No. 1 spark plug hole.
2. Turn flywheel until No. 1 piston strikes Timing Gauge.
3. While turning flywheel, thread Timing Gauge in or out so that piston can "rock" over center shaft of gauge, indicating that Timing Gauge is set at top dead center (TDC) position.
4. Rotate flywheel clockwise ¼ turn.
5. Depress center shaft of Timing Gauge.
6. Rotate gauge shaft ¼ turn to seat on tool body shoulder (.235" [5.9690mm] BTDC position). Be careful that tool body does not move, or preceding procedure will have to be repeated.
7. Rotate flywheel clockwise by hand until No. 1 piston strikes Timing Gauge center shaft. This is .235" (5.9690mm) BTDC.
8. Attach one test lead of Timing Meter (C-91-22966) or Magneto Analyzer (C-91-25213) (on No. 2. Resistance) to magneto frame.
9. Attach second lead of tester to primary ground terminal of magneto.
10. Slowly advance magneto until points break, as indicated by tester used.
11. Hold magneto in this position and adjust spark advance screw to just touch pilot assembly and tighten lock nut.(Figure 2)
12. Recheck setting by actuating magneto with throttle control lever.

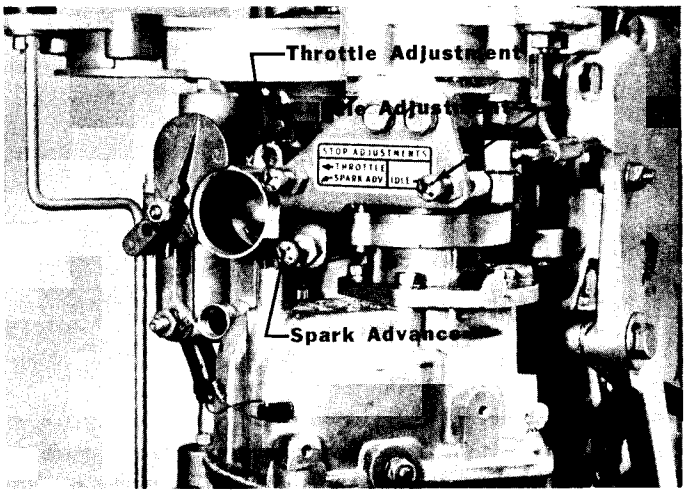

Figure 2. Magneto Stop Bracket Adjustment

D. Adjusting Carburetor Throttle Pickup Plate

Adjust carburetor throttle pickup plate position with .015" (.3810mm) feeler gauge to obtain 1/64" (0.397 mm) clearance between second pickup pin and No. 2 lever or carburetor cluster when magneto is against the stop in full advance position. (Figure 3)
(Note: Be sure that throttle moves freely throughout range and both throttle shutters close fully at idle position.)

E. Full Throttle Stop Adjustment Screw

Set full throttle stop adjustment screw to allow 1/64" (0.397mm) free movement of cluster lever in clockwise direction when throttle is held against its full throttle stop. (Figure 4) Push cluster lever with finger. *(Note: If timing stop is readjusted, Paragraph C, preceding, must be repeated.)*