TIMING, ADJUSTING, TESTING
MERC 200 FULL GEAR SHIFT

I. IGNITION DATA

Description	Merc 200 Gear Shift
Firing Sequence	Alternate Firing
Spark plug, Standard installation	J6J
Spark Plug Gap	.025"
Timing	.275" BTDC
Breaker Setting	.018"
RPM Maximum	5400

II. TIMING AND SYNCHRONIZING

A. Synchronize Breaker Points

(See information on P. 13 of Ignition System Section V)

B. Maximum Spark Advance

NOTE: Before installing flywheel, maximum spark advance must be set.

1. Place No. 1 piston at .275" BTDC (before top dead center) by rotating crankshaft in a clockwise (forward) direction from BDC (bottom dead center).
2. Thread Timing Gauge (91-30292A1) into No. 1 spark plug hole. (Figure 1)
3. Turn crankshaft until No. 1 piston strikes Timing Gauge.
4. While turning crankshaft, thread Timing Gauge in or out so that piston can "rock" over center shaft of gauge, which indicates that Timing Gauge is set at top dead center position.
5. Rotate crankshaft clockwise 1/4 turn.
6. Depress center shaft of Timing Gauge and rotate 1/4 turn to seat on tool body shoulder (.275" BTDC position). Be careful that tool body does not move, or preceding procedure must be repeated.
7. Rotate crankshaft clockwise until No. 1 piston strikes Timing Gauge center shaft. This is .275" BTDC.
8. Connect one test lead of Timing Meter (91-22966) or Magneto Analyzer 91-25213 (selector switch, on No. 2 Distributor Resistance) to No. 1 breaker point.

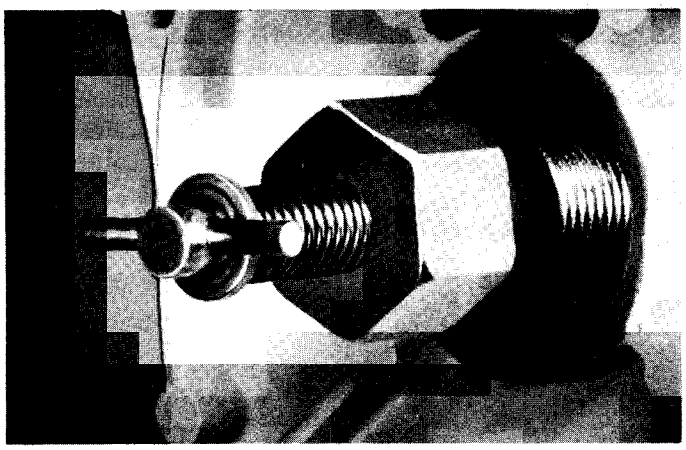

Figure 1. Timing Gauge in No. 1 Spark Plug Hole

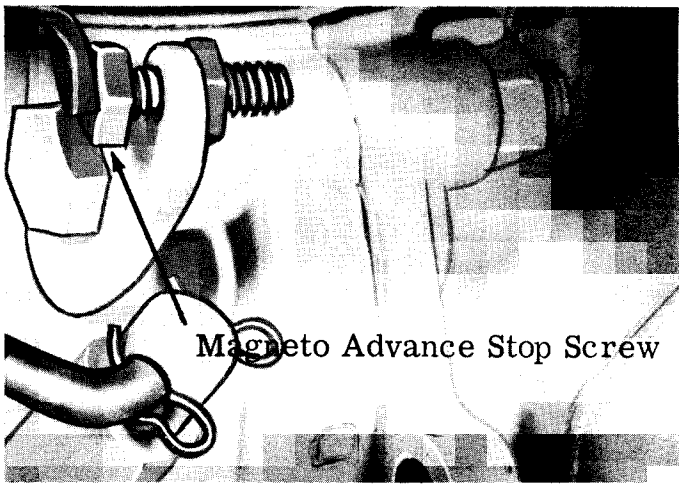

Figure 2. Magneto Advance Stop Screw Adjusted

9. Connect second lead of timing unit to stator plate (ground).
10. Advance magneto slowly until point breaks, as indicated by timing unit used.
11. Hold magneto at this position and adjust magneto advance stop screw to just touch magneto stop and tighten lock nut. (Figure 2).
12. Recheck magneto advance to insure correct setting.

III. CARBURETOR ADJUSTMENTS

A. High Speed Adjustment

1. The carburetor has a fixed high speed jet. The standard jet, installed at the factory, is recommended for operation from sea level to 4000 ft. elevation.
2. If engine is operated above 4000 ft., select and install correct jets from chart below (aperture decreases .002" as elevation increases each 3000 ft.).
3. Before changing jets, check engine out, unless previous tests indicate exact jet size.

Full Gear Shift Model	*Up to 4000'	4000-7000'	7000-10000'
Merc 200 Jet Size	.061"	.059"	.057"

* *Standard Jet - Factory Equipped*

Jet size recommendations are intended as a guide (like a propeller chart). Try size larger or smaller if in doubt.

4. No change in spark advance is recommended for elevation operation.
5. Propellers of lower pitch should be used at high elevations to allow proper engine RPM.
6. Engine can be tested in a test tank with propeller.

B. Idle Adjustment Screws

1. Idle adjustment screw also has been adjusted at the factory.
2. If readjustment is necessary, it can be done with a regular propeller in test tank or on boat.