TIMING, ADJUSTING, TESTING
MERC 850 (76 Cu. In.)-800-700 FULL GEAR SHIFT

I. IGNITION DATA

Description	Merc 850-800	Merc 700
Cyl. Firing Order (Figure 1)	1-4-5-2-3-6	1-6-4-2-5-3
Coil No. 1 Fires Cyls.	1-5-3	1-4-5
Coil No. 2 Fires Cyls.	4-2-6	6-2-3
Spark Plug, Std. Install.	J4J §	J6J
Spark Plug, Resistor Type*	XJ4J	XJ6J
Spark Plug Gap	.025" (.635mm)	
Timing	.235" (5.969mm) BTDC	
Full Throttle RPM Range	4800-5200	5100-5500

* *For static elimination on radio or radio-telephone equipped boats.*

§ *See Note No. 1 on Page 75.*

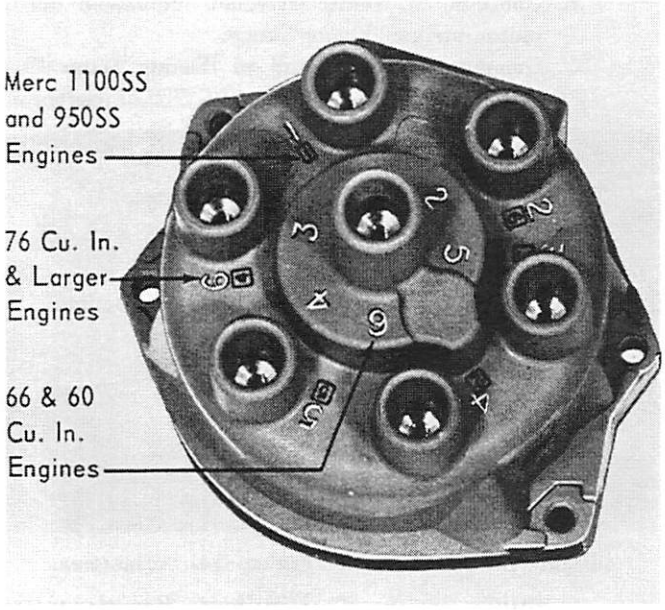


Figure 1. Distributor, Merc 850-800 Outside Ring, Merc 700 Inside Ring

II. TIMING AND LINKAGE ADJUSTMENT

A. Flywheel, Distributor Pulley and Belt Assembly

1. Rotate flywheel until timing mark (a straight line stamped on upper surface) is in a straight line with center of crankshaft and distributor pulley center. (Figure 2)
2. Position arrow on pulley (not plate) to point at timing mark on flywheel.
3. Install timing belt, plate, cap, washers and screw and tighten to 60 in . lbs . (10.65kg/cm).

B. Distributor Drive Coupling

1. When reassembling distributor, leave distributor cap off to aid in timing engine as described in following instructions.

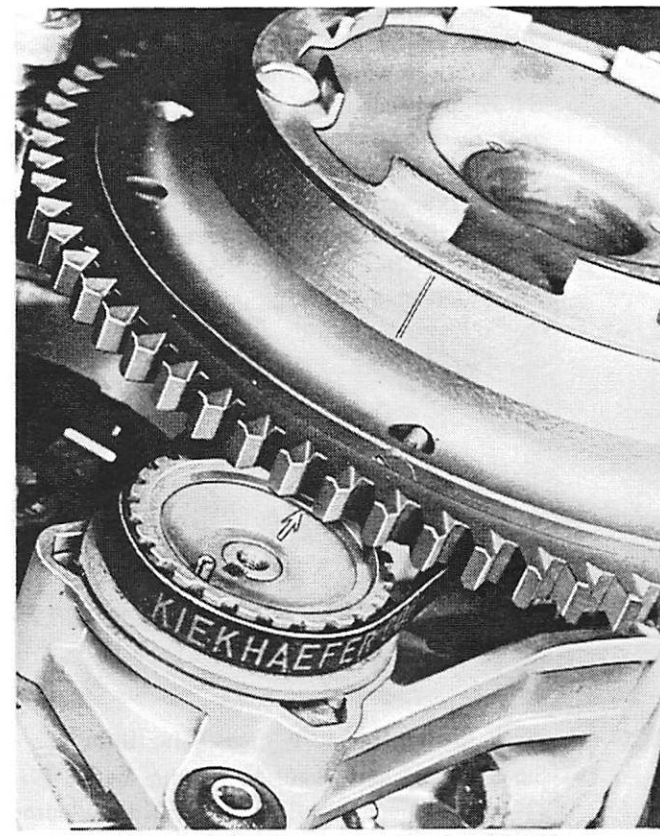
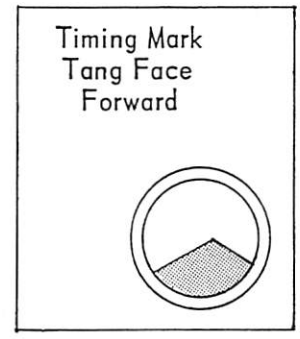


Figure 2. Timing Marks on Flywheel and Pulley

2. When distributor is reassembled to engine, flywheel and distributor pulley should be aligned as explained in Para. "A", preceding. The radius of the tang at drive end of distributor shaft should point forward (direction engine will travel when distributor is bolted in place). (See drawing on left.)



3. Secure distributor adaptor with 4 hex head cap screws.

C. Spark Advance Stop Adjustment

1. Position distributor with air vent elbow facing approximately forward.
2. Place No. 3 piston of Merc 850-800 (No. 4 piston on Merc 700) at .235" (5.969mm) BTDC (before top dead center) by rotating flywheel in a clockwise (forward) direction from BDC.
3. Thread Timing Gauge (C-91-26916A1) into No. 3 (or No. 4) spark plug hole. (Figure 3)
4. Turn flywheel until No. 3 (or No. 4) piston strikes Timing Gauge.

5. 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 position.
6. Rotate flywheel clockwise ¼ turn.
7. Depress center shaft of Timing Gauge and rotate ¼ turn to seat on tool body shoulder (.235" BTDC position). *NOTE: Be careful that tool body does not move, or preceding procedure will have to be repeated.*
8. Rotate flywheel clockwise until No. 3 (or No. 4) piston strikes Timing Gauge center shaft. This is .235" BTDC.

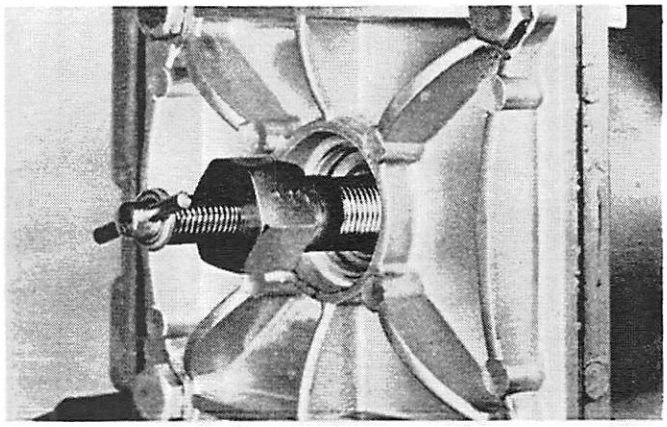


Figure 3. Timing Gauge in Spark Plug Hole

9. Connect one test lead of Timing Meter (91-22966) or Magneto Analyzer (91-25213) (selector switch on No. 2, Distributor Resistance) to white lead (No. 1 coil primary) at terminal block.
10. Attach second lead of tester to distributor frame.
11. Retard distributor against "idle speed" stop screw. (Figure 4)
12. Turn distributor rotor slowly counterclockwise to touch drive coupling.
13. Turn distributor (holding rotor) slowly counterclockwise until points break, as indicated by timing unit used.

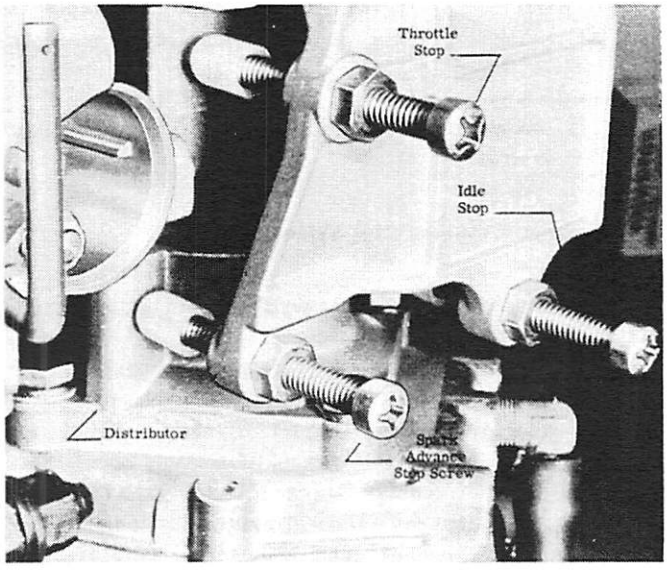


Figure 4. Spark Advance Adjustment

14. Hold distributor in this position and adjust spark advance stop screw to just touch pilot assembly and tighten lock nut.
15. Recheck steps 11, 12 and 13 to be sure adjustment is correct.

D. Pickup Plate Adjustment

1. Thread .015" Timing Gauge (91-31161A1) into No. 3 spark plug hole of Merc 850-800, No. 4 spark plug hole for Merc 700. (Figure 3)
2. Turn flywheel until 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 and rotate ¼ turn to seat on tool body shoulder (.015" BTDC). *(Note: Be careful that tool body does not move or preceding steps will have to be repeated.)*
6. Continue to rotate flywheel clockwise until piston strikes Timing Gauge.
7. Connect one test lead of Timing Meter (91-22966) or Magneto Analyzer (91-25213) (selector switch on No. 2, Distributor Resistance) to white lead (No. 1 coil primary) at terminal block.
8. Attach second lead of tester to distributor frame.
9. Retard distributor against idle stop screw.
10. Turn distributor rotor slowly counterclockwise to touch drive coupling.
11. While holding rotor in this position, rotate distributor slowly counterclockwise until points break, as indicated by timing unit used.
12. Loosen throttle pickup plate screws. (Figure 5)
13. Slide throttle pickup plate so that first throttle tab (without nylon sleeve) just touches carburetor cluster. (Figure 5)
14. Tighten throttle pickup plate screws.
15. Turn distributor against .235" ("spark advance") stop.
16. Bend second throttle pickup pin (with nylon sleeve) against carburetor cluster (.000"-to-.015" gap). (Figure 6)

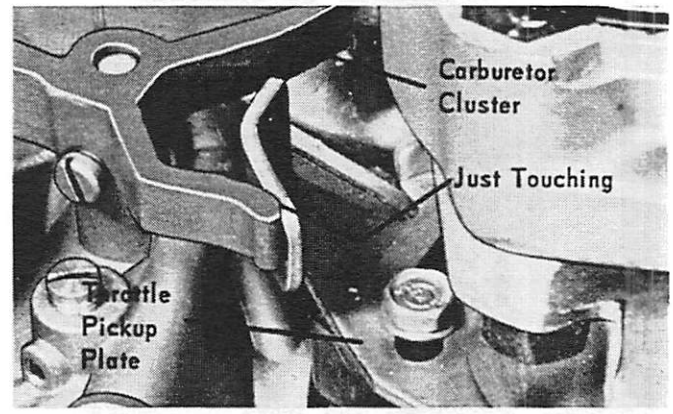


Figure 5. First Throttle Pickup Tab Adjustment