

TIMING, ADJUSTING, TESTING --- MARK 55H - 30H

TIMING AND ADJUSTING

Flywheel and Magneto Pulley Timing

Rotate flywheel until timing mark ("TDC" stamped on rim) is in a straight line with center of crankshaft and distributor pulley center. Position arrow on pulley to point at timing mark and replace timing belt, plate, cap screws and washers. (Figure 1)

Timing Magneto to Motor

The flywheel has 2 markings: One is a line marked TDC (top dead center) and the other marked "40". (Figure 1) This is $40\frac{1}{2}^\circ$ or $.320''$ (8.128mm) BTDC (before top dead center). When the "40" marking is in line with the short line marked on the pulley flange, the piston is $40\frac{1}{2}^\circ$ or $.320''$ (8.128mm) BTDC. Use Timing Gauge (C-91-24111) to check timing.

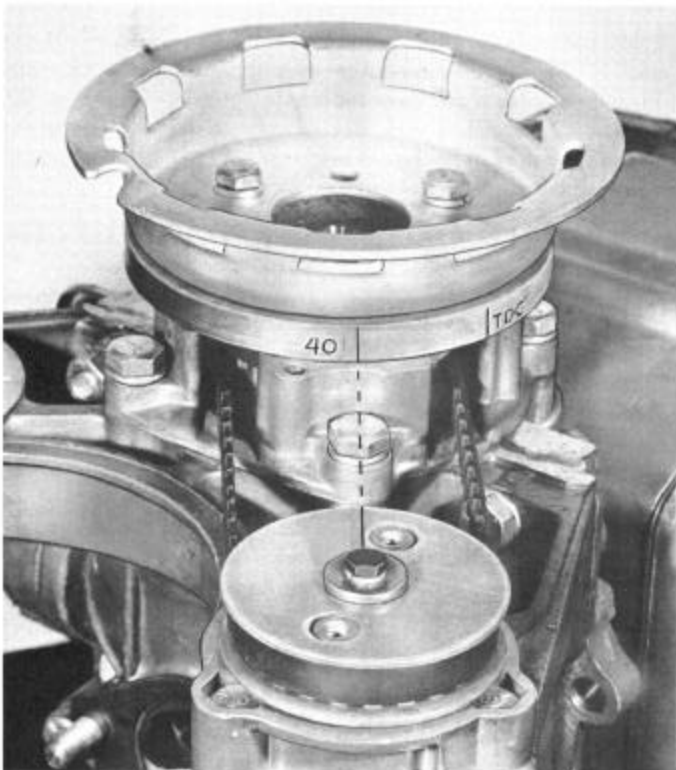


Figure 1. Timing $.320''$ BTDC

Magneto Drive Coupling

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

Attach grounding wire to magneto frame with self-tapping screw and nylon clamp and terminal of grounding wire to primary ground terminal of magneto with $3/8''$ nut. Secure ground strap to crankcase bolt which was removed and replace magneto air ventilation hoses.

PICKUP ADJUSTMENT

With engine running, loosen 2 hex head cap screws

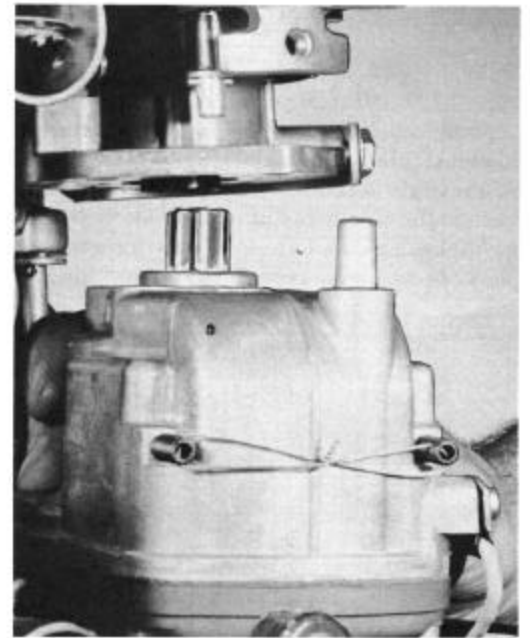


Figure 2. Installing Magneto on Engine

which hold carburetor actuating bracket on magneto Advance throttle (magneto) to obtain 1000-to-1100 RPM on Mark 30H and Mark 55H with Tillotson carburetors, 2000-to-2400 RPM on Mark 55H with Carter carburetors. Rotate carburetor actuating bracket so that it just touches back of throttle pickup bracket. (Figure 3) At this RPM, secure carburetor actuating bracket in position by tightening the 2 cap screws.

CARBURETOR ADJUSTMENTS

When adjusting carburetor high speed needles, it is recommended that the propeller be removed and the carburetor adjusting propeller (A-48-26003-D for Mark 55H A-48-26003-C for Mark 30H) be installed. Engine will then turn about 6000-to-7000 RPM at full throttle. This will permit the accurate adjustment of carburetors for maximum engine RPM. (Use service tachometer.)

High Speed Adjustment

First warm up engine thoroughly. Operate engine at wide open throttle and slowly turn high speed mixture adjusting needle counterclockwise until engine starts to "four-cycle" and begins to slow down. Then turn high speed mixture adjusting needle clockwise through range where cylinders fire normally to the point where engine again slows down, indicating that mixture is becoming too lean. Determine this critical "leaning out" point as accurately as possible and back adjusting needle out one-half turn from that point. When in doubt, it is better to set mixture slightly rich rather than too lean, because an excessively lean mixture will cause overheating and loss of power. Sustained full throttle operation with an excessively-lean mixture may cause severe engine damage.

Slow Speed Adjustment

Make slow speed adjustment after high speed adjustment is completed. It, too, can be done with the carburetor adjusting propeller in the test tank or on the boat.