CHAPTER 74

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CHAPTER 74 - IGNITION

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GENERAL - DESCRIPTION AND OPERATION

Each engine is equipped with two Bendix S-1200 series magnetos. The left magneto incorporates a retard breaker point assembly which provides a fixed retard and long duration spark for easier starting. The right magneto has only the conventional breaker points which are grounded out when the engine is being started.

"END"

ELECTRICAL POWER SUPPLY - MAINTENANCE PRACTICES

MAGNETO DROP-OFF CHECK

The magneto drop-off may be checked as follows:

a. Throughly warm up engine and set the propeller control in low pitch. Place the mixture control in "FULL RICH".

b. Set the throttle to produce 2000 rpm.

c. Note the amount of rpm drop-off as the magneto switch is turned from "BOTH" to "LEFT" and back to "BOTH", and then to "RIGHT" position.

CAUTION

Operation on one magneto should not exceed 5 seconds to avoid fouling the spark plugs.

d. Normal magneto drop-off is approximately 100 rpm on either magneto and should be within 50 rpm of each other. If the magneto drop-off persistently exceeds 175 rpm, an inspection to determine the cause should be accomplished. Common causes are incorrect grade of fuel, fouled or incorrectly gapped spark plugs, incorrectly timed magnetos, incorrect air/fuel ratio.

MAGNETO BREAKER POINT ADJUSTMENT

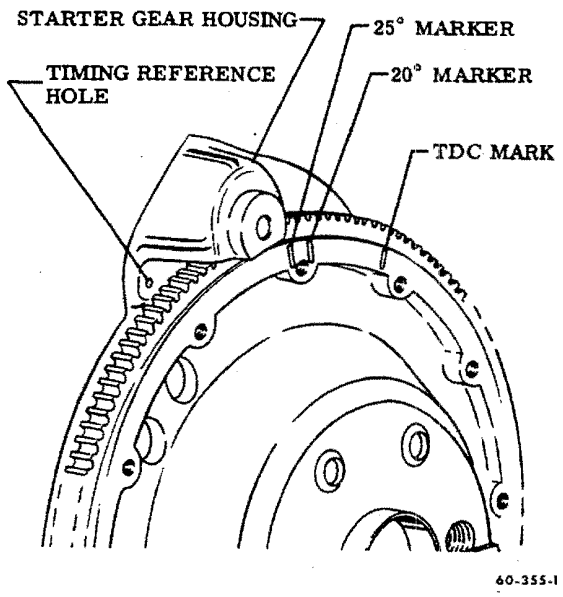
Every 100 hours check the breaker points for condition, clearance and timing. Breaker point clearances for the magnetos are .016 ± .006 for the retard points and .016 ± .003 for the conventional points. If the points are burned or worn excessively, do not try to redress the contact surfaces. Install a complete new breaker assembly if the points are found to be in an unsatisfactory condition. Wipe the breaker compartment free of any oil or dirt with a clean cloth.

MAGNETO TIMING

(Figure 201)

a. Remove a spark plug from No. 1 cylinder and turn the crankshaft in the direction of normal rotation until the compression stroke is reached.

b. Continue turning the crankshaft until the 20° BTC advance timing mark, on the forward face of the starter ring gear, is in alignment with the small hole located on the face of the starter housing.



Magneto Timing Reference Points
Figure 201

c. Remove the inspection plug on the left magneto and turn the drive coupling in the direction of normal rotation until the first marked tooth is aligned in the center of the inspection hole. Without allowing the gear to turn from this position, assemble the gasket and magneto to the engine.

d. Using an electric timing light, fasten the ground wire to any unpainted portion of the engine and one of the positive wires to a suitable terminal connected to the ground terminal of the magneto. Then turn the crankshaft several degrees from the advance timing mark in the direction opposite to that of normal rotation.

e. With the timing light on, turn the crankshaft slowly in the direction of normal rotation until the mark on the starter ring gear aligns with the hole in the starter housing. If the timing is correct the timing light should go out.

NOTE

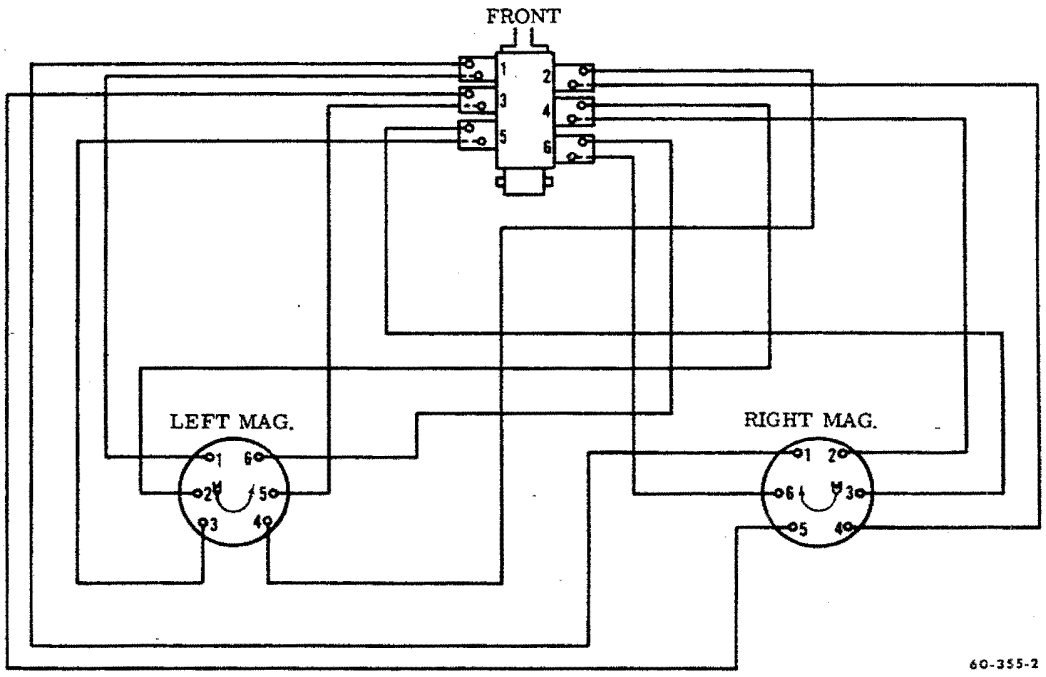
When a battery powered timing light is used, the light will go on when the marks align.

"END"

DISTRIBUTION - MAINTENENCE PRACTICES

(Figure 201)

In the event that an ignition harness or an individual lead is to be replaced, consult the Magneto Wire Routing Diagram, Figure 201, to be sure that the harness is correctly installed. Mark locations of clamps and clips to be certain that the replacement is clamped at the correct locations.



FIRING ORDER: 1-4-5-2-3-6

Magneto Wire Routing Diagram
Figure 201

"END"