



SERVICE BULLETIN

AIRCOOLED MOTORS INC.

SYRACUSE 8, NEW YORK

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**SUBJECT: BATTERY AND MAGNETO IGNITION ON FRANKLIN ENGINES IN SEABEE
INSTALLATION**

Beginning with engine No. 23501, the Seabee engine will be designated as model 6A8-215-B9F.

Beginning with the above engine number all engines will be equipped with split ignition.

The even side will have battery ignition using Auto-Lite distributor and coil.

The odd side will be equipped with magneto Bendix-Scintilla ½ time unit splined to the drive and without impulse.

Magneto point setting for gap is .019" to .021".

Magneto advance is 32 degrees before top dead center (BTC).

On magneto at 100 hour inspection, the felt around the follower for breaker points should be checked. If dry, lubricate with a few drops of SAE 40 oil. Felt should show oil if squeezed but oil should not drip off felt. Do not over lubricate.

Battery ignition distributor point gap is .020".

Battery ignition distributor spark advance setting is 2 degrees advance.

Automatic advance of distributor brings it to a maximum advance of 32 degrees in operation.

Engine firing order is 1-4-5-2-3-6.

Installing and Setting the Battery Ignition Distributor:

1. Remove #1 valve cover to observe valve action.
2. Turn engine in normal direction, clockwise as viewed from the fan end until #1 intake valve is just closing.

3. Turn the crankshaft slowly until the 2 degree mark on the flywheel lines up with the pointer. (In the event you turn slightly past the 2 degree mark, turn in the direction opposite to normal rotation far enough to insure taking out all backlash before coming up to the 2 degree mark again.)
4. Line up the ears on the distributor housing with the mounting pad attaching studs. The connection for the coil wire should be on the top side of the distributor.
5. Remove the distributor cap by loosening the screws holding the spring clamps. Snapping the clamps off of the distributor cap may break the moulded cap.
6. The distributor rotor should be located just to the right of the coil primary wire connection as viewed from the distributor cap end. In this location, the distributor will be firing at #1 cylinder position.
7. Install the distributor in place and draw up the bolts to hold in position. Allow the housing to move freely.
8. With the rotor in position as described in #7, move the distributor housing counter-clockwise until the fibre cam follower is riding on the flat of the cam. DO NOT MOVE ROTOR. Leave in position of full retard as it is when the engine is not running. Full retard is toward a clockwise position.
9. Turn the distributor housing in clockwise direction until the breaker points just open when using a .0015" feeler gauge. When using a light, the light should just go out. Lock distributor housing.
10. Recheck the setting, using feeler or light, by turning engine in the opposite direction to normal rotation, then turn engine in direction of normal rotation until the feeler gauge is free or the light goes out. The 2 degree mark on the flywheel should line up with the pointer. If not, reset and recheck.
11. Lock distributor housing in place and bend up lock washer ears.
12. Install distributor cap and check wiring.
13. Oil cup should be filled with engine oil every 100 hours.
14. Felt pad under the distributor rotor should receive a few drops of engine oil, only enough to just moisten the pad, every 100 hours.

Installing and Setting Bendix-Scintilla Magneto Type S6LN-31:

1. Looking at the back of the magneto with high tension wire cable plate on it, number 1 wire location is observed at the lower right hand corner. The number "1" is cast in the center hole section of the high tension cable plate.
2. Remove the rear magneto cover with cable plate as an assembly by removing the top and two side screws which hold the cover in position. The points and rotor assembly can now be seen.
3. Turn the engine in the normal direction of rotation, clockwise, as viewed from the fan end. Observe the valve action and, as number 1 intake valve starts to close, turn slowly until the 32 degree mark on the flywheel is in line with the pointer. Care must be used not to reverse the direction of rotation during this operation since all backlash must be taken up in the normal direction of rotation for accurate setting. The engine crankshaft is now in position for installation of the magneto.
4. With the magneto back cover off, as explained in 2, observe that the metal finger tip on the center electrode lines up with an arrow on the top face of the black composition cam. At this arrow location, just below the base of the cam on the outside diameter, note the magnet pole piece has a line scribed on it. The scribed line on the magnet pole piece should be in line with the scribed line on the magneto housing located at the lower right corner below the dowel pin on the unmachined surface. When set in this position with the crankshaft set at 32 degrees advance, as previously described, the magneto is set for firing on number 1 cylinder and should be installed in that position.
5. Tighten the magneto fastening nuts lightly to permit shifting the magneto within limits of the slots in the flanges. With a timing light or .0015" gauge, set the magneto so points just break. Tighten fastening nuts thoroughly.
6. Check the actual timing setting by rotating the crankshaft in the normal direction of rotation until the points just break at number 1 firing position. Check and see if the 32 degree mark on the flywheel is in line with the pointer. If not, slightly loosen the magneto fastening nuts and proceed to retime according to instructions previously given.
7. With the timing properly set, see that the magneto fastening nuts are tight and install the magneto cover, being careful to align it properly when installing.

Note: Timing must be set and checked with the crankshaft having been rotated in the normal direction to remove backlash. This is important.

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