Troubleshooting Ignition

Recently a Region Member was having difficulty getting the old flathead 6 Plymouth to fire up after many years of faithful service. Troubleshooting Ignition is a summary of the discoveries determined after new ignition components were replaced and the engine still wouldn't start. It turned out that three problems existed at the same time.

It was determined the coil wire had no spark so the distributor was examined first.

1) It was discovered, using an electrical VOM meter that the ungrounded side of the new points was grounded even when the points were open. Since the hot/ignition switch wire is hooked to the fixed side of the points it shouldn't be grounded since that side of the points is suppose to be isolated from ground by insulators. It was found that there was contact between the fixed point support plate and an underlying distributor component due to a distortion of one of the components.
2) After the above was fixed now there was no grounding of the fixed points even when the points were closed. Problem 2 turned out to be oxidation of the newly purchased point surfaces that occurred during storage or shipping from the seller. The point surfaces were both cleaned with 2500 grit sandpaper until the oxidation was removed. At this point the fixed point properly grounded when the points were closed. The coil wire now had spark as the distributor points were opened and closed.

The engine still would not start so timing was suspected.

3) The number 1 spark plug was removed with the vibration damper showing the engine at top dead center. It was decided to see if the vibration damper indicator was accurately positioned since old vibration dampers can become inaccurate on an old engine as the rubber on the vibration damper ages. A screwdriver was inserted thru the spark plug hole and it located the slotted intake valve. The engine was rotated back and forth to determine when the intake valve was seated/lifted and determine if the vibration damper was accurately showing Top Dead Center.

   After verifying the intake valve had properly seated at the right time for the engine position it was determined that the cylinder was ready to fire. This helps determine if a distributor is in correctly and that number 6 cylinder was not the cylinder firing.

   The distributor cap was removed and the rotor position noted. The rotor was pointed to a different distributor cap terminal then where the number 1 wire was located. The easiest method to correct this problem was to move all the wires maintaining the 153624 firing order and making sure the rotor was pointed to the correct terminal.

   The distributor was rotated until the points were just starting to open and then the distributor was locked down. The cap was put back on the distributor. At this point the carb received some starting fluid since the carb float bowl was empty. The engine started on the first turn of the starter. Several shots of starting fluid got enough engine rotation to load the carb float chamber with fuel and the engine idled smoothly while a timing light was used to refine the distributor position.

There were 3 problems at the same time keeping this flathead from humming: fixed point distributor plate grounded, point contact surfaces oxidized, & distributor rotor not positioned properly.