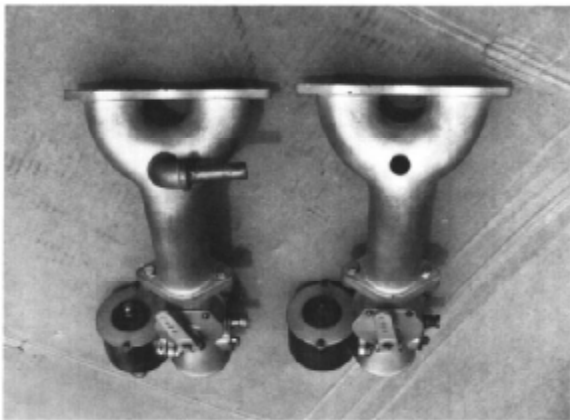
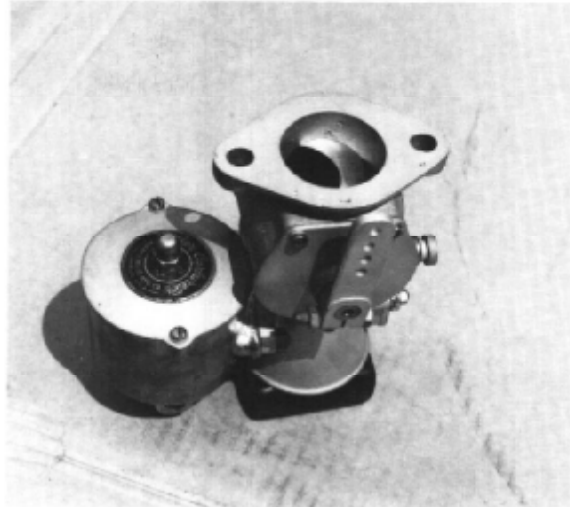
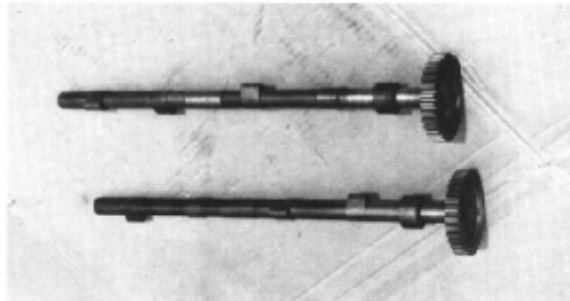


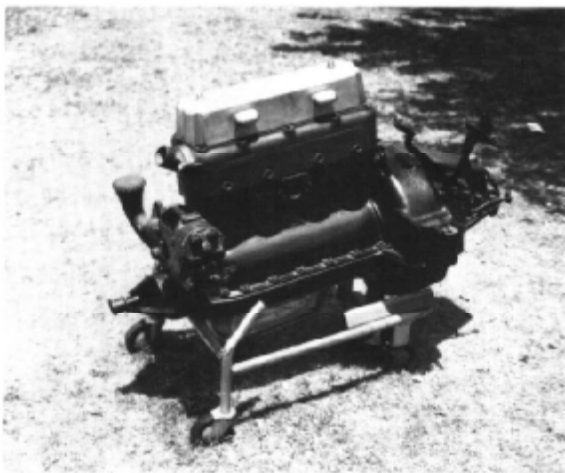
Miller 1-7/8 barrel-valve carburetor. Two were used on the D.O. Gallivan.



Intake manifolds and Miller carburetors for the Gallivan. The manifolds are numbered to match the head.



The camshafts for the Gallivan head.



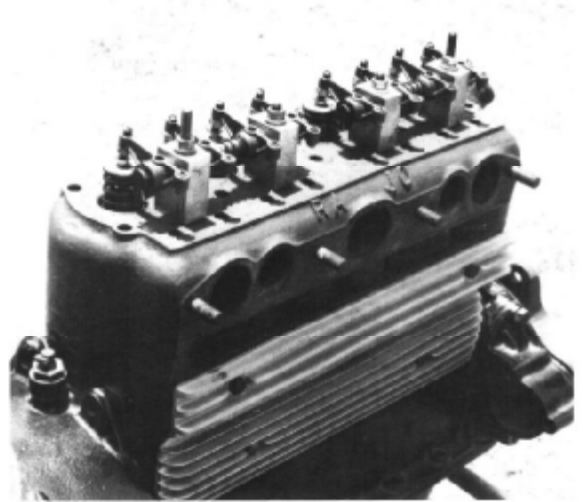
Spark plug side of a Model C Rajo showing a Columbo magneto bracket with a Bosch ZR-4 dual spark magneto.

## THE RAJO

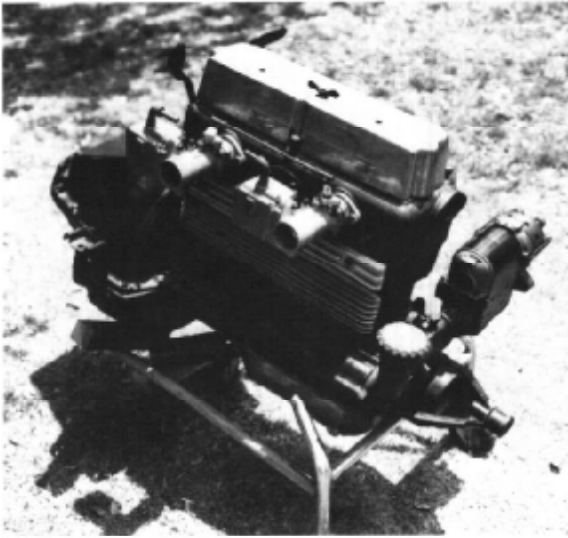
Named after the city (RACine) and the builder (Joe Jagersberger), this overhead valve conversion appeared first as an "F" head about the time of World War I. The "F" head used, the standard Ford exhaust valves and manifold but had overhead intake valves. A major advantage of this arrangement was that the head could be installed without cutting the firewall for clearance.

Early in the 1920 s, the eight-valve overheads appeared in a number of types, and these are by far the most common today.

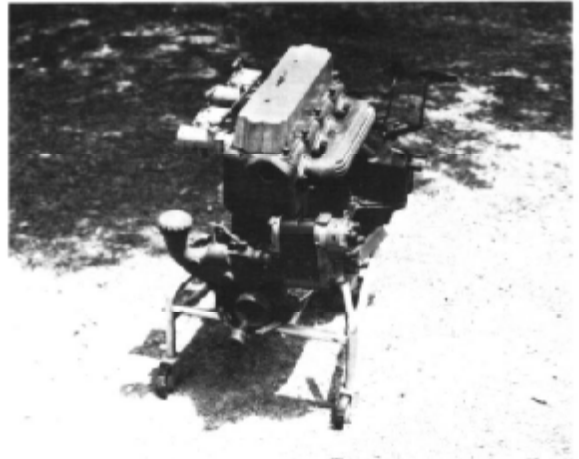
The engine and accessory photos here are through the courtesy of Doug Langevin, of Costa Mesa, Calif., who also supplied the captions.



Model C Rajo head with the valve cover and manifolds removed. Note the port layout as compared with the Model BB; also the shape of the head casting above the magneto post.



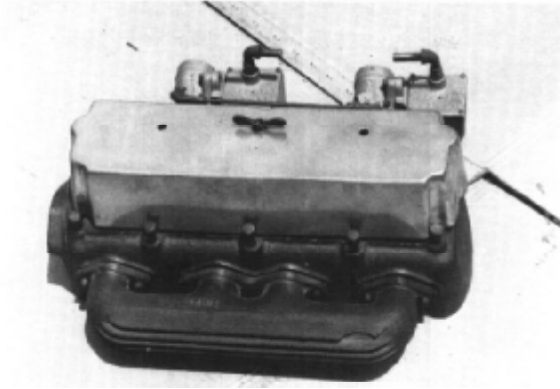
Intake side of the Model BB, showing the Reed carburetors, one set of spark plugs, aluminum oil sump for four-dip pan (original) and original aluminum side covers.



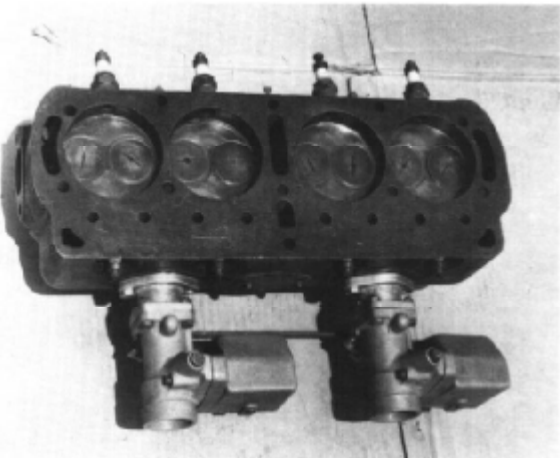
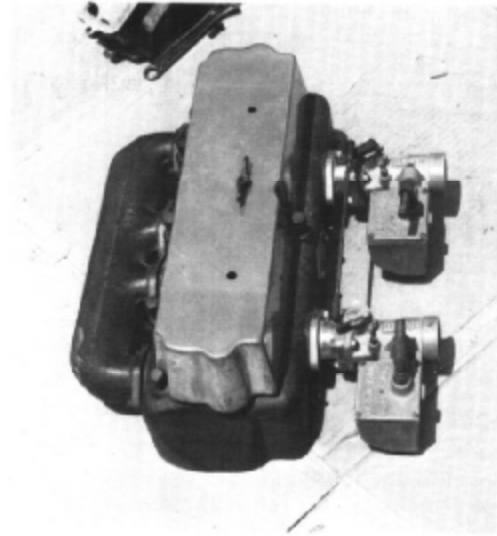
Front view of a 1926 Model BB Rajo with the Columbo magneto bracket and Bosch magneto. This engine has two Reed 1-5/8 side-draft carburetors, a Model B Rajo street exhaust manifold (which will not work with the Model BB because the exhaust pipe exits against the right-side spark plugs).



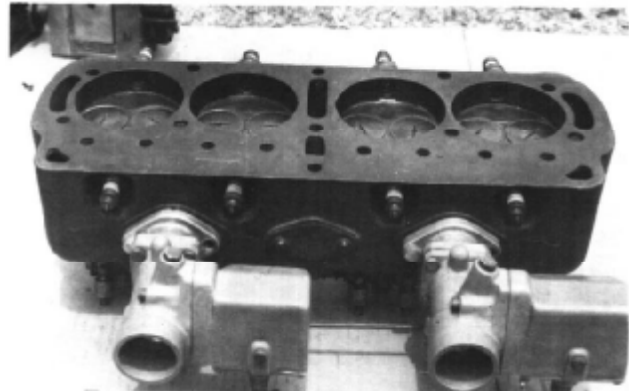
The Model BB with the exhaust manifold removed to show the exhaust ports and the second set of spark plug holes. On late BB racing heads, both sets of spark plug holes were 18mm, instead of 1/2 pipe. If the plug size does not match from side to side on a BB head, the head is not a genuine BB but, rather, a single-ignition "B" drilled for a second set of plugs.



The Model BB head. This is the 1926-7 type of head. Note the back of the head casting. This "flattened" area was due to the new 1926-type cowl with the gas tank enclosed. The old-style head made it necessary to either dent the cowl and tank, or move the tank to another location, so Rajo modified the casting to clear the firewall.



Model BB Rajo, chamber side. 1-7/8 valves are stock in the real "BB racing head. This head also came with two plugs per cylinder, both 18mm thread racing plugs, and the combustion chamber was much shallower without being milled, thus raising the compression and yet leaving plenty of metal for strength. A real "BB racing head is rare; most offered for sale being a "B touring head drilled for the second plug and milled until the head is paper-thin to raise the compression to racing specifications, with larger valves installed and a porting job to complete the deception.



Another view of the "BB head. Notice the two plugs per cylinder, large valves, shallow combustion chambers and the thickness of the head below the spark plugs on the intake side. When a "B Rajo head is milled, the metal below the spark plugs on the gasket surface is milled away leaving a "scalloped edge effect on the intake side of the head.

A Rajo oil level gage. It has a cork float with a wire attached and shows the oil level by the amount of wire showing next to the scale. The housing is cast iron.

