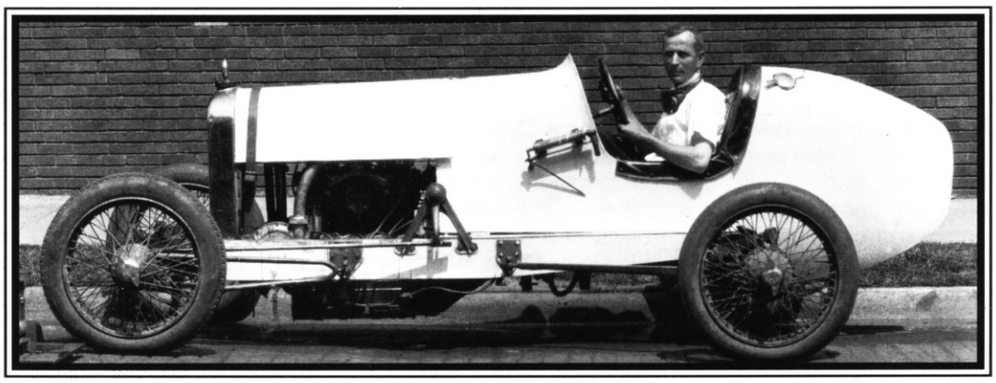
ROBERT ROOF

by Kem Robertson



Robert Roof *Roof Family Collection*

Robert M. Roof was born in New Castle, Indiana, on November 13, 1882, and his family moved to nearby Muncie when Robert was a young child. The youngster's mechanical aptitude began to show when he built his first car in 1898 at the age of 16, although he later used the word "awful" to describe it. He began working in a foundry and started his career as a machinist apprenticeship at 17. He studied the internal combustion engine while working for the Muncie Gas Engine and Supply Company and at age 21, opened the Robert Roof Machine Co. in Muncie.

He built his first race car in 1908, a six cylinder that was typical of this period in a stripped down production machine. His first successful engine design and development was a line of small stationary engines. He developed the Gray Eagle air-cooled aviation engine in 1909, and this engine was fitted into a Curtiss bi-plane for a successful flight in Indianapolis. It was his notoriety as an innovator and engine builder that allowed Roof to join the Anderson Foundry and Machine Co. in 1911.

As the Chief Engineer, Roof developed a complete line of heavy industrial semi-diesel engines as well as his first 16-valve rocker arm racing head for the Model T sometime during 1915 or 1916 under the new Roof Auto Specialty Company. This head was a dominating winner on the local tracks during the 1917 season. He soon joined Laurel Motor Co. of Anderson as Chief Engineer and the first Vice President to produce a long line of overhead valve conversions and racing equipment for the Model T Ford. From 1918 to '26, he produced at least nine patents for racing hardware under the Laurel name. He designed four versions of the 16-valve racing head, at least three eight-valve rocker arm overhead valve conversion designs for the Model T Ford, a sixteen-valve system for the Dodge four and a complete 16-valve tank engine for the United States War Department. To augment these head designs, Roof developed a DOHC setup for the sixteen-valve heads and two SOHC systems for the eight-valve heads. His products were the main product line that drove the business success of the company that not only included cylinder heads but other performance parts for the Ford and Dodge four-cylinder engines of the time such as pistons, rods, high speed camshafts, magneto drives, super chargers, oiling systems, five main bearing crankshaft kits and chassis components.

A 1924 attempt at qualifying for the Indianapolis 500 was not successful and Roof soon left Laurel Motors to join with Myron B. Reynolds to form the R&R Manufacturing Company. This enterprise produced 8- and 16-valve racing heads for the Model T, and racing heads for the Dodge and Chevrolet, as well as various racing products such as cam shafts, crank shafts and manifolds. In 1927, the "Giant Super Power Head" rocker arm was developed for the Chevrolet four-cylinder. Using this head a special racing chassis was built and Robert turned to his long time friend Floyd "Pop" Dreyer to build the body for the car that would launch the racing career of Bob Carey, who had been sweeping floors in Roof's shop. It was Robert Roof, ten years senior to Dreyer, that helped persuade Pop to campaign his own Dreyer Specials.

By mid-1929, Roof left the partnership with Reynolds but continued to produce products for all forms of racing including midgets, 'big cars', and stock cars under the R& R Manufacturing name. In 1931, the "Cyclone" F head and the "RCO Flash" SOHC for the Model A/B Ford block were introduced, and, by 1934, a complete line of midget cars began to be produced. His design talents produced a rocker arm head and DOHC for the Ford six, a rocker arm conversion for the Cord eight, SOHC for the V8 Ford flathead, special racing "two-piece" flatheads for the Ford Fergerson 4-40, Willys 134, Studebaker 170, Dodge and Chevrolet engines. Roof produced complete racing engines from the Ford and Mercury lines of V8s that carried his special two-piece twin spark plug racing heads, manifolds and internal parts for marine and sprint cars of the late1930's and post war racing. His keen business sense developed kits he sold to convert stock engines for racing for those that operated the low budget cars.

Researching this early period of racing one has to be impressed with Robert Roof, not only as a prolific speed equipment designer, but also as a publisher and writer. His articles on racing can be found in many of the automotive trade journals of the 1920's and '30s. Racing lost one of it's pioneer equipment manufacturers in 1949 and the R&R Manufacturing Company was sold to one of Roberts long time employees, who unfortunately allowed the R&R Manufacturing Company to fade into history.