The 12 Port Story Pt. #2

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In our last installment of the "The 12 Port Story," we left off in the Winter of 1949-1950 when Wayne F. Horning and Harry Warner had gone their separate ways. By June of 1950, Wayne F. Horning had begun advertising under the company name "Wayne F. Horning." At that time he offered racing engines for both Chevy and GMC. Wayne's first advertisements didn't mention any 12 port heads at all. It wasn't until the Fall of that year (1950) that he first offered the 12 Port head, but now, not for Chevy, but GMC!

The original drawings for the Horning GMC 12 port head, show design dates as early as May 8, 1950. Therefore, this new project was definitely underway as soon as Wayne and Harry broke up. The big boost in making this new head well known to racers and rodders across the country came in April and May 1951, when "Hot Rod" magazine ran a two part series on the head and engine, entitled: "The Horning GMC, Converted Truck Engine with Special Cylinder Head Forms Nucleus of Capable Competition Powerplant," written by Don Francisco.

The first head was used on a 274 cu. in. GMC and put into the remodeled Marvin Lee streamliner, "The City of Pasadena." The old Model of "The City," had run a 12 Port Wayne Chevy engine to record setting speeds. "The City of Pasadena," was first run with this new combination at Bonneville in 1951. With Puffy Puffer at the helm, the car made a couple of trial runs and then went for it. Well, it went too fast or something, because the car got sideways at over 200 mph, and flipped over. This accident fortunately left Puffy alright. The motor was saved also, but the car was total loss.

The following year, 1952, the same motor still running the original head, was used by these enterprising gentlemen in an attempt to qualify for the Indianapolis 500. However, that attempt proved unsuccessful. As Wayne Horning, recalling those times, said, "...we put it (the original head and motor) in the Indy car and went back to try to qualify for the 500..." "I remember we split that head lengthwise running too much nitro!"

Shortly after the failed Indy attempt, Wayne Horning decided to move onto other challenges and sold the business. Two well know Chevy/GMC speed merchants, Frank McGurk and Calif. Bill Fisher, bought him out. Frank McGurk bought the patterns for the newly designed components such as the pistons and intake manifolds. Calif. Bill Fisher purchased the patterns and the molds for the 2-piece aluminum valve covers, as well as all the extra parts inventory.

Wayne F. Horning then went into the specialty component manufacturing business. He helped supply the aerospace industry, just then beginning to take hold in Southern California. (You'll remember that Wayne had previously worked as an engineer for Lockheed Aircraft) Wayne Horning was a success in this endeavor also.

There still remains today somewhat of a mystery as to exactly how many 12 port GMC heads the "Wayne F. Horning Co." produced. While the production rate wasn't too extensive, Wayne Horning recalls, "There were other heads! Because I remember now, I changed the thickness of the castings. There must have been 10 or 12 castings all told." These first 12 port heads for GMC were all done in cast iron. While aluminum 12 port heads for GMC were to be offered later by others, Wayne Horning's were all cast iron.

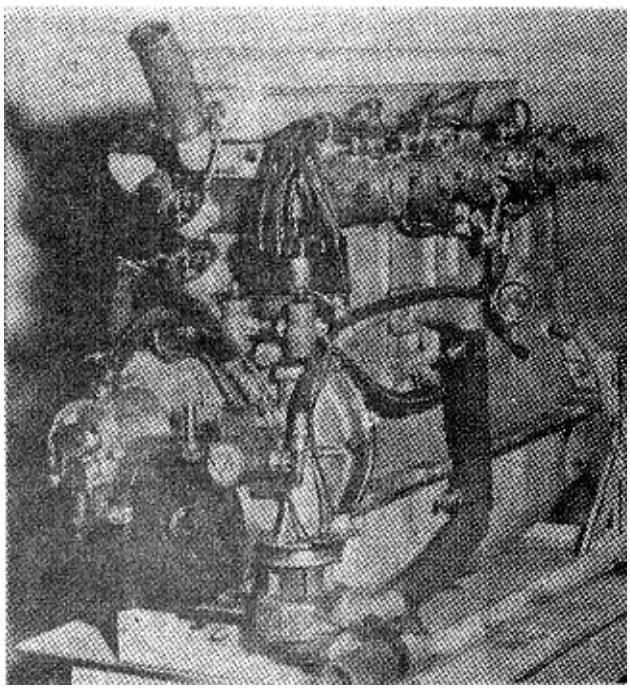
While the "Wayne F. Horning Co." didn't stay too long in the 12 port head business, Wayne Horning's creative genius, his determination, and his ability, have left their mark on all of the 12 port heads. In fact, Wayne Horning's contributions constitute a major chapter in American hot rod history. Wayne Horning was the father of the 12 port concept, and as his creations are still running strong today, he has every reason to be proud.

However, the 12 port story didn't end with Wayne Horning going in to aerospace business. His molds and patterns were bought by Calif. Bill Fisher and that's a part of the story we'll get to later. While all of the this 12 port GMC business was happening for Wayne Horning his old partner Harry Warner had been busy under the old company name of "Wayne Manufacturing," as well see in our next chapter. Harry also brought out his own version of the 12 port GMC head as well as other exiting pieces of equipment, certainly not the least of which was a dual overhead cam 12 port GMC head.

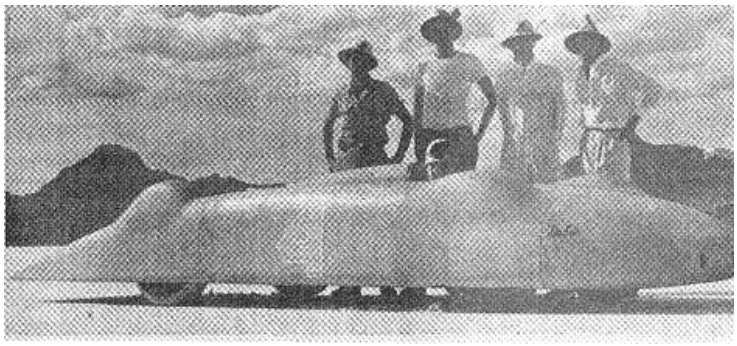
What follows is a brief overview of the "Horning" 12 port head with some observations about the motor it was first used on. This is not intended to be a comprehensive technical review. Rather, it is hoped that this will provide some brief technical information to acquaint some of our readers with this head. Hopefully this will provide a general basis for understanding the similarities and principle differences in these three cylinder heads. Perhaps in future issues of the "12 Port News," more in-

depth technical articles can be provided.

The first head was done in cast iron, with six intake ports on the right side and six exhaust ports on the left. The intakes were 1 11/16 inch at the manifold opening, then gently increasing to 1 3/4 inch at the valve seats. The exhaust ports were 1 1/2 inch at the valve seats, going out to 1 7/8 inch at the manifold surface. The head featured shallow and nearly round combustion chambers, which were fully polished. The 12.4 to 1 compression ratio could be changed by employing different pistons. The head utilized the cartridge fire principle and employed "end seal" type spark plugs to eliminate potential hot spots due to sharp edges. The valves were fully polished and their edges were radiused. The valve seats were not the insert type, but were cast right into the head. This was possible due to the high quality of the cast iron used for the entire head. The intakes were made from 1950 235 Chevrolet intake valves. These were shortened and the head size cut-down to 1 7/8 inch. The exhaust valves were `48 Cadillac having a head size of 1 5/8 inch. Chevrolet valve guides and keepers were used. Dual springs consisting of GMC or Chevy outer springs and new special inner springs provided the closing power Horning needed. Stock fabricated type rocker arms and shaft were used. New, shorter than stock, tubular pushrods, with hardened ends, rested on either stock Chevy solid lifters, or "Herbert" roller lifters. One of the principle changes Wayne Horning made was in the valve sequence. He changed from the stock practice and had the valves alternate starting at each end of the head with an intake valve and ending in the center of the head with two exhaust valves back to back. This type of valve arrangement necessitated a special billet cam. The head was used on a stock 270 block, bored over .125 thousandths, then de-stroked using a 248 crankshaft to give a displacement of 274 cubic inches. Most of the bottom of the motor was stock. The pistons were aluminum alloy, solid skirt type made by Frank Venolia. Horning used Hilborn-Travers constant flow fuel injection. He also designed and produced a special front accessory drive set-up to run a dual oil pump, the high-pressure fuel pump, the distributor and an Offenhauser water pump.



The first "Horning" 12 Port GMC, as it was set up for dyno testing for the April & May 1951 articles in "Hot Rod." Notice the Hilborn-Travers fuel injection, the front accessory cover, with the distributor on Rt., offy water pump on left, 2-piece aluminum valve cover.



The remodeled "City of Pasadena" on the salt at Bonneville in 1951. This car (showing Puffy Puffer at the wheel), flipped at over 200 mph. Both Puffy and the motor were saved but the car was a total loss. This was the maiden run for the new "Horning" 12 port GMC. Puffy later drove the unsuccessful Indy qualifying attempt, which used the same engine.