

# It's All in THE HEAD



**EXAMINING THE HEADS OF ROLLS-ROYCE/PACKARD MERLINS WITH EMPHASIS ON HOW THEY INTERACTED WITH UNLIMITED MUSTANG RACERS STREGA AND VOODOO**

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**S**ir Henry Royce once stated, "Strive for perfection in everything we do. Take the best that exists and make it better. When it does not exist, design it. Accept nothing that is nearly right or good enough."



ic Rolls-Royce Merlin aircraft engine.

First mass-produced in 1937, the 1650-cu-in V-12 Merlin I was rated at 1030-hp. In its definitive form as the powerplant of choice for Unlimited aircraft, this horsepower figure has more than tripled. The achievement of reliably generating close to 3850-hp from a design born at a period when Henry Ford's Model A ruled the road, has been a formidable task.

Along its path to immortality, the Merlin has worn many hats. Between 1939 and 1945, it saw service in 19 different types of aircraft. As a cheap source of postwar power, it was harnessed to everything from oil well pumps to hot rods and drag racers. The year 1946 unwrapped a new use for the versatile Merlin in the form of powering the Unlimited hydroplane *Miss Windsor* at the Detroit boat races. That same year fans witnessed continued use of the Merlin as it once again found home powering the legendary P-51 Mustang to victory in both the Bendix and SOHIO Championship Air Races at the new post-war Cleveland National Air Races. It then finished the year with a hotly contested third overall in the Thompson Trophy race.

In motor sports, an essential prerequisite to success is horsepower and — generally speaking — more is better. Blessed with its high altitude two-stage supercharger, a savvy hot rodder could easily disable the Merlin's boost control regulator allowing manifold pressure (MP) to surge to 100-inches by simply pushing the throttle lever up. This increase of boost over the normal regulated 61-inches of MP would increase power from 1495-hp at 3000-rpm to 2425-hp at the same RPM.

As the urge to make more power with increased MP become common practice,



The Rolls-Royce head tool required to install the valve seats.