

# I WAS THERE!

by Dale W. Martin

I was commissioned a Second Lieutenant in the Army Air Corp on May 2, 1942, and graduated with a B.S.M.E. from Purdue University the following day, reporting to the Wright Field one week later. An assignment with the power plant laboratory gave me experience in endurance testing of high-temperature materials being used in General Electric turbo superchargers. My very first flight was in a B-17 on a Saturday morning at Patterson Field standing in the cockpit between Col. Pearl Robey and Col. Frank Cook, flying at 16,000 feet with no oxygen. The turbo superchargers performed better than I did.

In June of 1943, I received an assignment as a technical officer for Headquarters Thirteenth Air Service Command in the South Pacific, which lasted 2.5 years. After returning to the U.S., I was reassigned as a Major in the power plant laboratory under "Doc" Al Berger, who worked with Dr. Moss from the General Electric Company to improve the turbo supercharger, and at the time was sponsoring the development of high-temperature ceramic coatings for use in aircraft. My responsibility was to monitor research programs with the ceramic departments of Ohio State University and the University of Illinois. During one of our reviews, a comment was made by one of the contractors that, "You are expecting performance on this contract as if you were spending your own money." I assured them that their perception was correct, and soon after successful development of high-temperature ceramic coatings was attained.

My tour of duty terminated late in 1946 and I formed Cerametalics Inc. to utilize this technology—J-33 combustion liners and some rocket-launching tubes were processed using electric furnaces at Chicago Vitreous Enamel, International Harvester Company, and the Cerametalics plant in Springfield. The Ferro Corporation in Cleveland furnished the frit

to meet government specifications.

This effort created a new idea. Why not coat automobile exhaust systems to greatly extend the operating life? "Doc" Berger (who coined the word "Cermets") from the power plant laboratory at Wright Field offered to contact Charles F. Kettering and arrange for a visit. I was able to meet with Mr. Kettering early in 1947 to discuss the recent improvements that had been made in developing high-temperature coatings.

I suggested that General Motors might like to utilize this technology. Mr. Kettering acknowledged that it might have been a feasible approach, but he stated, "We are also in the spare parts business."

Later, I realized the full impact of such a profound statement and determined that Cerametalics Inc. might have limited growth potential, and ceased the operation.

Since then, some automobile exhaust systems have used ceramic coatings, but the normal replacement of mufflers and tailpipes remains a profitable business.

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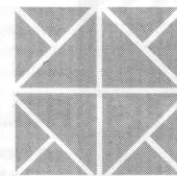
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