

RICHARD B. GIBSON

Resume supplement expanding on Diesel Engine Experience.

Over 40 years in the design, maintenance, development, testing and analyzation of Diesel engines. Mr. Gibson's experience outside of Diesel engines may be found on his other resume.

EDUCATION

BSME University of Pittsburgh
MSM (MBA) Frostburg State University

Mack Trucks Inc. - Mack Trucks is the only integrated truck manufacturer in the United States. This means they design, develop, and manufacture Diesel engines, transmissions, rear axles, chassis and cabs. Mr. Gibson began his Mack career in Diesel engine design, specializing in valve train components. In this capacity he received a Patent for a variable valve train system. Mack used it as an engine retarder marketing it under the name Dynatard. The Patent ran out in 1990; however many other manufacturers have used the principles of the invention for variable valve trains as a method to improve emission and fuel economy. As time progressed Mr. Gibson became responsible for complete engine designs. Through promotion he advanced to Chief Engineer of Power Trains (1967 to 1983) then Chief Engineer of Vehicle Laboratories then Chief Engineer of Vehicle Development (All of the advanced truck products).

The Clean Air Act was first promulgated in 1968. In those early years Mack began emission work with South West Research of San Antonio and Mr. Gibson maintained a relationship with them through out his career. This early work permitted Mack to build and develop their emission cells and their own research group. In 1971 Mr. Gibson and a colleague developed the first humidity correction factor for gaseous emissions. Three years later the Federal Government funded an expensive study that produced the same results. During his time at Mack he was deeply involved in the pursuit of meeting gaseous emission standards. Mack would also use engines from Cummins, Caterpillar, and Detroit Diesel. Due to this relationship they maintained close technical ties and participated in development of their products.

From 1968 to 1989 Mack was part of Signal Oil and Gas conglomerate. Garrett Air Research was a sister company. They provided Turbo Chargers for Mack engines. In the early 70's working with Garrett, Mack introduced the first air to air charge air intercooling system. This allowed improvements in emission while maintaining power levels and improved fuel mileage.

EZGO Golf Car (A Textron Company): The EZGO experience is significant because of the engines. As their Vice president of Engineering Mr. Gibson lead the effort with their Japanese engine supplier to design and develop a new four cycle gasoline engine replacing the outdated two cycle.

FORCON

INTERNATIONAL

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Ford New Holland (Sold in 1992 to Fiat): Worked as Power Train Manager with agricultural Diesel power plants in the United States and Europe.

Blue Bird Bus: Blue Bird Bus, builds a complete line of Diesel powered buses for the school systems, commercial and motor homes. As Vice President of Engineering Mr. Gibson was involved in the specifications for Diesel power from all of the major engine manufacturers. This required a review of their designs and development as well as their manufacturing plants and processes.

In an effort to supply low emission vehicles to the school and commercial market place Blue Bird embarked on the development of natural gas engines. This work was in conjunction with South West Research and John Deere. They developed/converted natural gas engines from gasoline V8's and inline six cylinder Diesel engines.

Orion Bus: Director of Engineering: Specifying and developing Diesel and natural gas engines for the commercial bus industry.

Bearing Truck: Vice President of Engineering - This was a start up company that failed, however they successfully worked with Hyundai of Korea to develop a line of trucks for the United States market. This required Mr. Gibson to work in Korea helping with development for U.S. Diesel emission standards.

Present: Work - part time, in retirement, as an automotive consultant to Forcon on cases involving diagnosing Diesel engine failures and emissions.