

# FORCON INTERNATIONAL

**WILLIAM R. HEADINGTON, P.E.**

## **EDUCATION**

Ohio State University, 1954 - Bachelor of Mechanical Engineering Degree  
Fluid Dynamics Institute, Dartmouth College - Turbo-charging the Internal Combustion Engine  
Sperry Schools for Non Destructive Testing - Radiographic Film Interpretation  
Material Resource Planning  
Production and Material Scheduling

## **MEMBERSHIPS**

Registered Professional Engineer in the States of Florida and Ohio.

## **CAREER HISTORY**

### **Consultant - Forcon International Corporation**

Forcon Associate providing forensic investigation and reconstruction of mechanical malfunctions and failures involving machinery and equipment. This includes investigations of:

- Pipe/valve failure causing contamination in orange juice processing facility.
- Hydraulic door closure failure.
- Water heater failure.
- Knuckle Boom Failure
- Coefficient of Friction tests.
- Toilet/ball cock failures.
- Washing Machine failure causing flooding.
- Compression fitting failure causing flooding.
- Fire sprinkler head failure.
- PVC Pipe burst flood damage.
- Cause & origin of water damage in warehouse.
- Cause & origin of a residential pipe leak.
- Insulation failure on chilled water system.
- Restaurant Gas Pipe explosion.
- Manufacturer's design deficiencies and owner's maintenance practices contributing to failure.
- Overload conditions resulting in failure of boom cranes.
- Hydraulic brake, internal combustion engines and seat belt failures in automobiles and trucks.
- Industrial machinery design and maintenance and determination of accelerated versus normal wear and tear.

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- Product liability as a consequence of manufacturer's design deficiencies that result in subsequent redesign.
- Damaged machinery to determine if condition resulted from poor maintenance, vandalism, or normal wear and tear.
- Conducting site coefficient of friction testing on walkway surfaces to determine slip resistance in accordance with accepted standards.

## **Self Employed Engineering Consultant**

Designed inspection gages and production tooling for the remanufacture of Pratt & Whitney, and General Electric jet engine blades and vanes. The production tooling is for use on vertical EDM, wire cut EDM, ECM, electron beam (EB) welding, surface grinding, and TIG welding machines. Also developed the processes for the evaluation and repair of jet engine and other machine components.

## **Cooper Energy Services Division of Cooper Industries**

Associated with Cooper Energy Services manufactures of engines, gas turbines and compressors for the oil and gas industries for thirty years until retirement. Worked in the following departments of corporate responsibility:

Manufacturing - Complete responsibility for the repair of damaged machinery returned by the customer. The machinery included gas generators and centrifugal compressors from the Alaska pipeline, centrifugal compressors from all of the natural gas pipeline companies, and turbo-machinery from reciprocating engines with up to 20,000 brake horsepower.

Quality Control - Responsibilities included the direct supervision of QC inspectors and the assignment of work to accomplish the production objectives established by the master production schedules. Responsibilities also included the radiographic film interpretation of all critical casings and forgings.

Design - Responsibilities included the conception and implementation of new turbo charger designs to permit product improvements, increased performance and greater profitability.

Research and Development - Experience included the installation and development testing of the first natural gas burning jet engine produced by Rolls Royce. This work involved the installation of the reaction turbine and support equipment and the selection of instrumentation, and the collection and analysis of performance data.