


Image Cover Sheet

CLASSIFICATION UNCLASSIFIED	SYSTEM NUMBER 516446 
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TITLE
Diesel dilemmas

System Number:
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Notes: Paper #31 contained in Parent Sysnum #516410

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Diesel Dilemmas

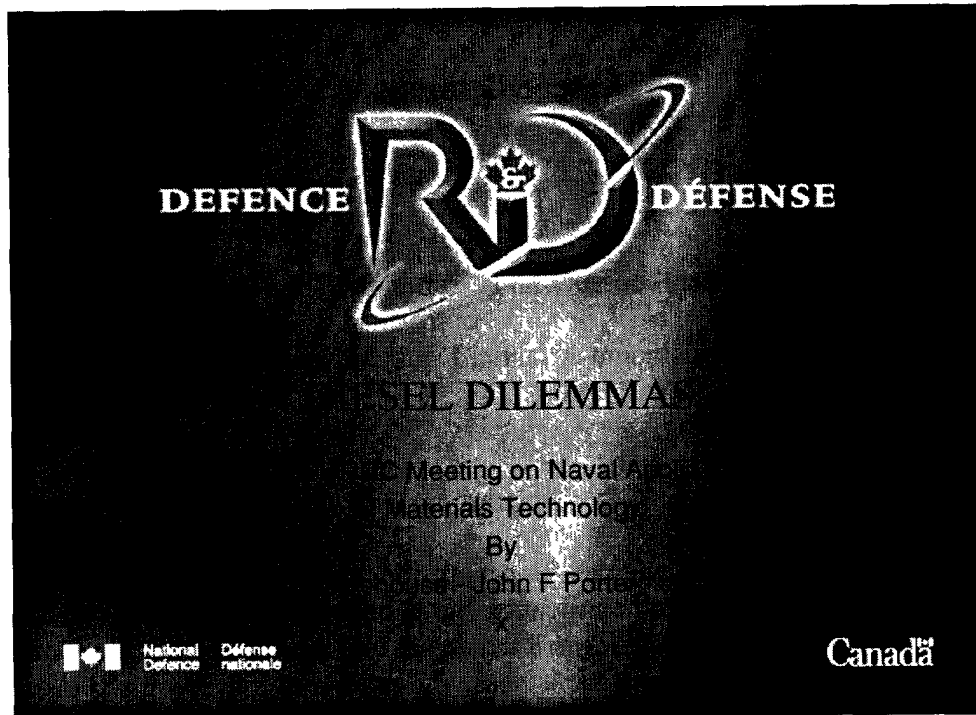
by

Danny O. Morehouse, John F. Porter and John A. Hiltz

Defence Research Establishment Atlantic, Dockyard Laboratory, Halifax, N.S

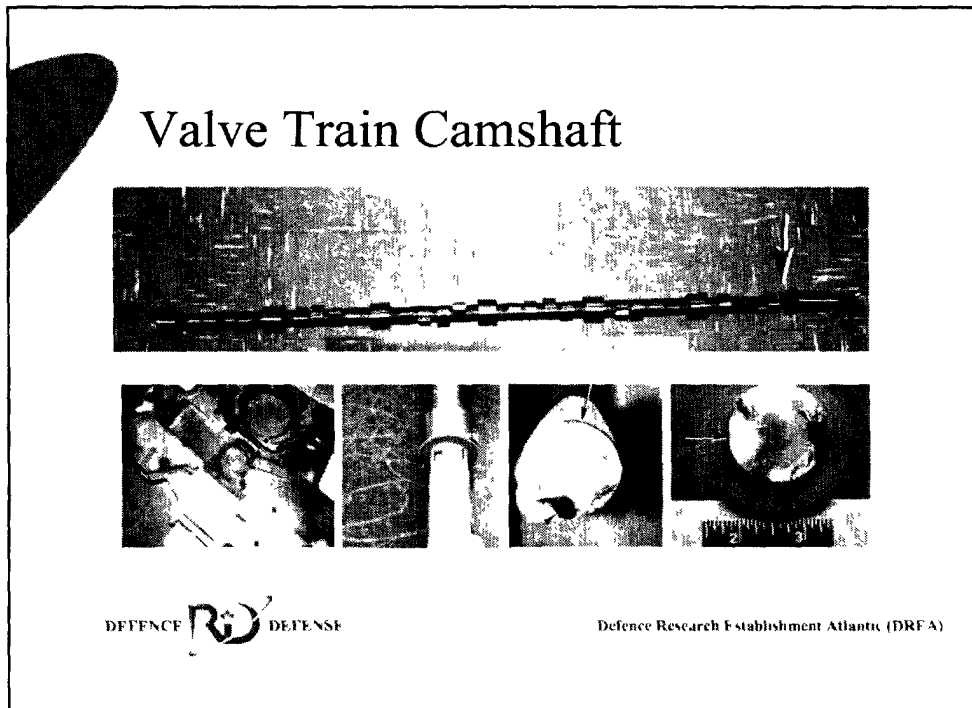
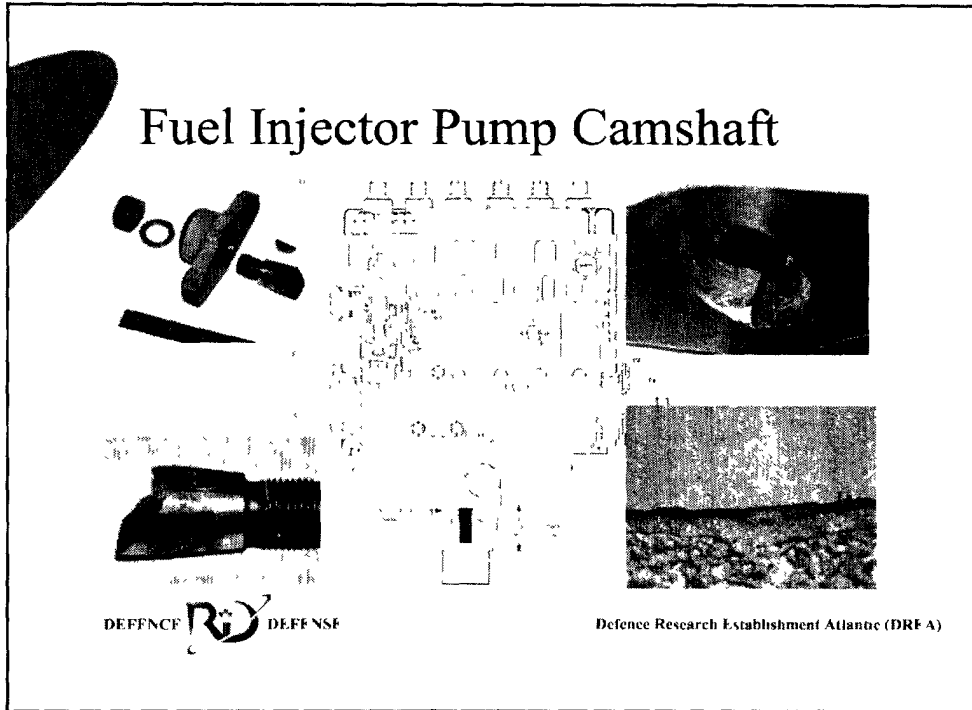
Abstract

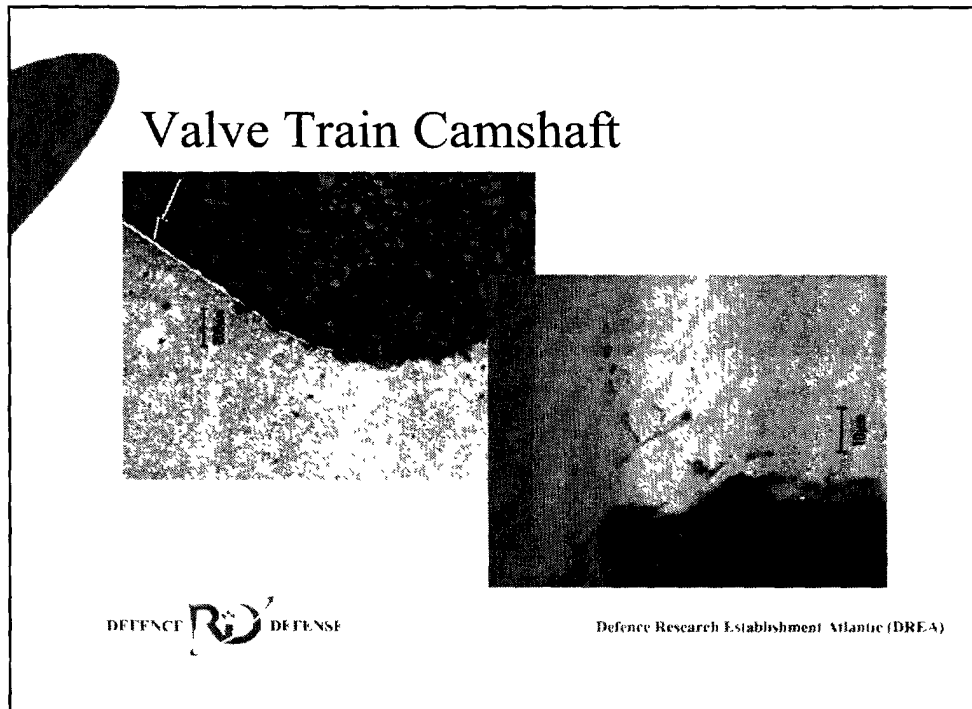
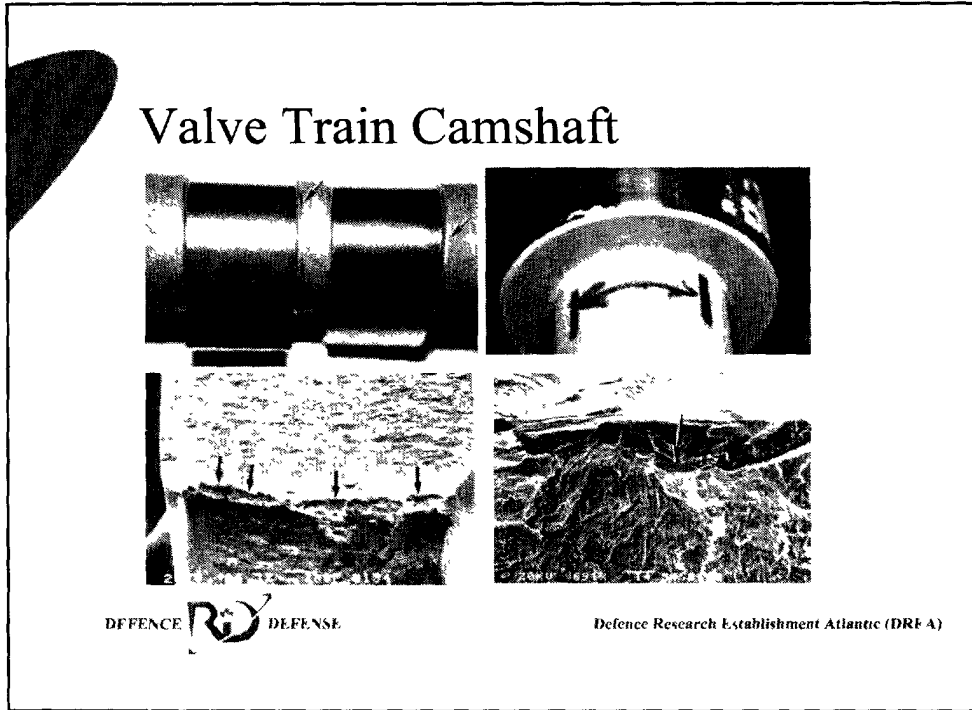
The application of diesel engines for propulsion and electrical generation on naval platforms is not new in concept and application but is becoming the general rule. This has led to design changes that have transformed the diesel into a high revving more output per pound prime mover. Maintaining robustness while delivering the required output, in as light and as small a package as possible, is a challenging task. When one factors in the problems associated with the integration with other manufacturer's systems, variations of lubricants and fuels utilized, as well as, design oversights and varied maintenance/operational environments, the odds of providing a trouble-free power plant with longevity diminishes. This presentation will cover a few of the more interesting failure investigations seen in the last five to ten years involving naval platform prime movers. Similarities will become apparent and ways of preventing future problems addressed.



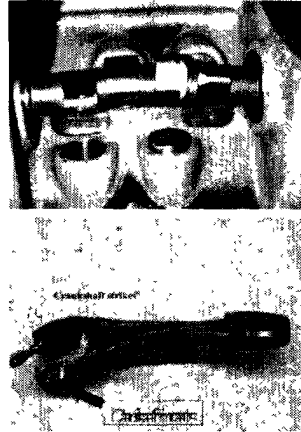
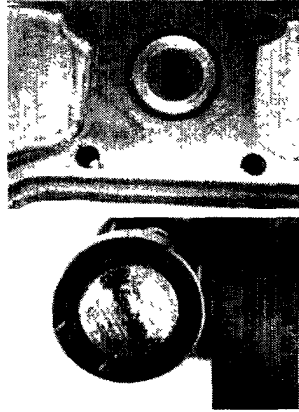
Topics

- **Camshafts**
 - Fuel Injection Pump
 - Valve Train
- **Connecting Rod Fasteners**
 - Diesel Generator for Electric Propulsion
- **Engine Valves**
 - Diesel Propulsion and Electrical Generation





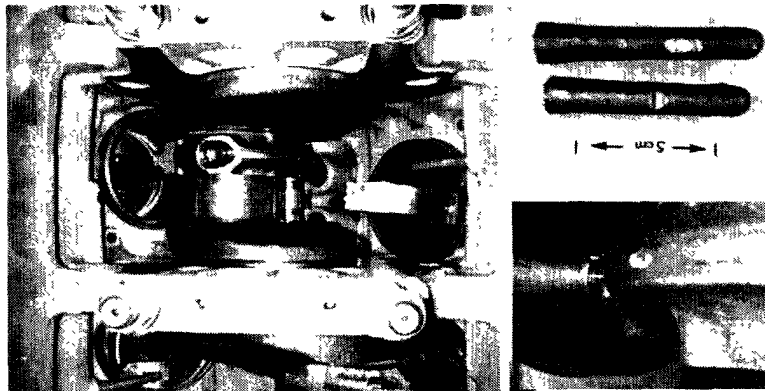
Valve Train Camshaft



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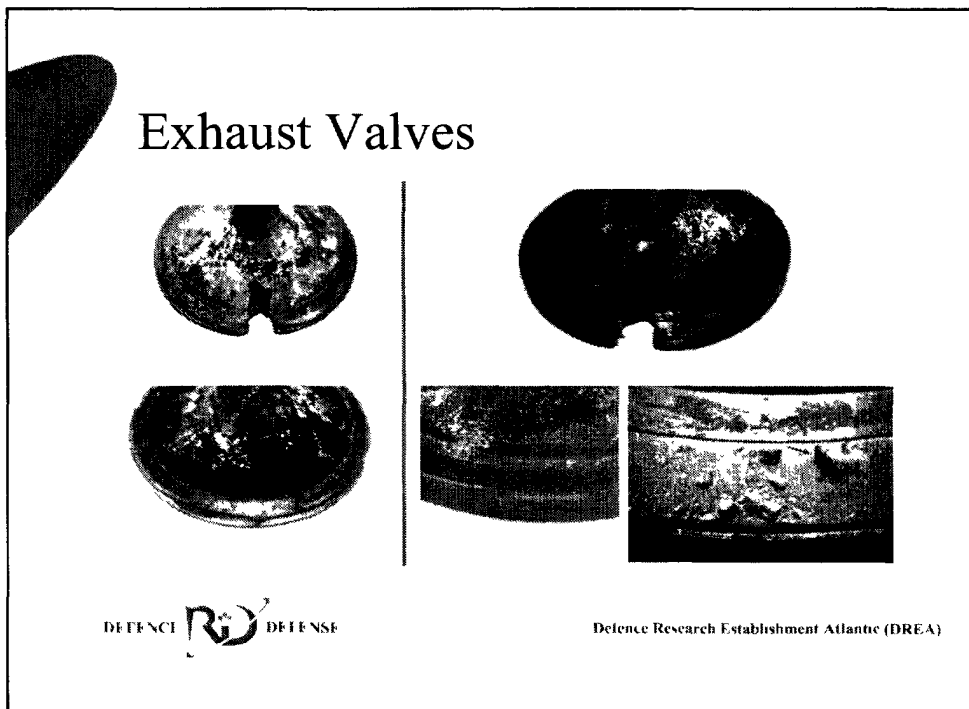
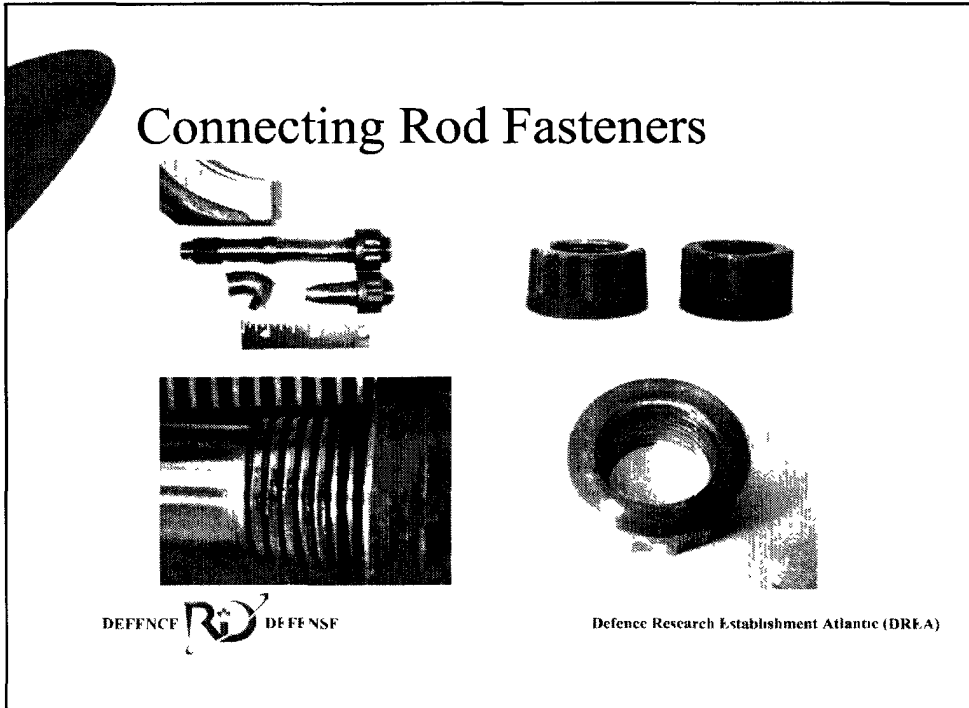
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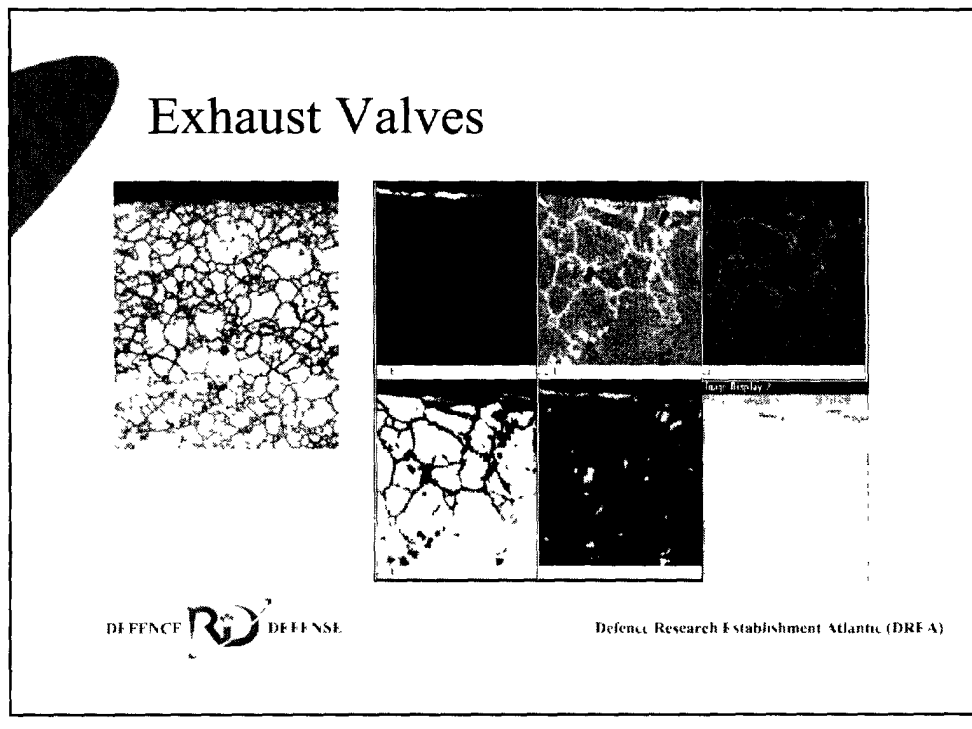
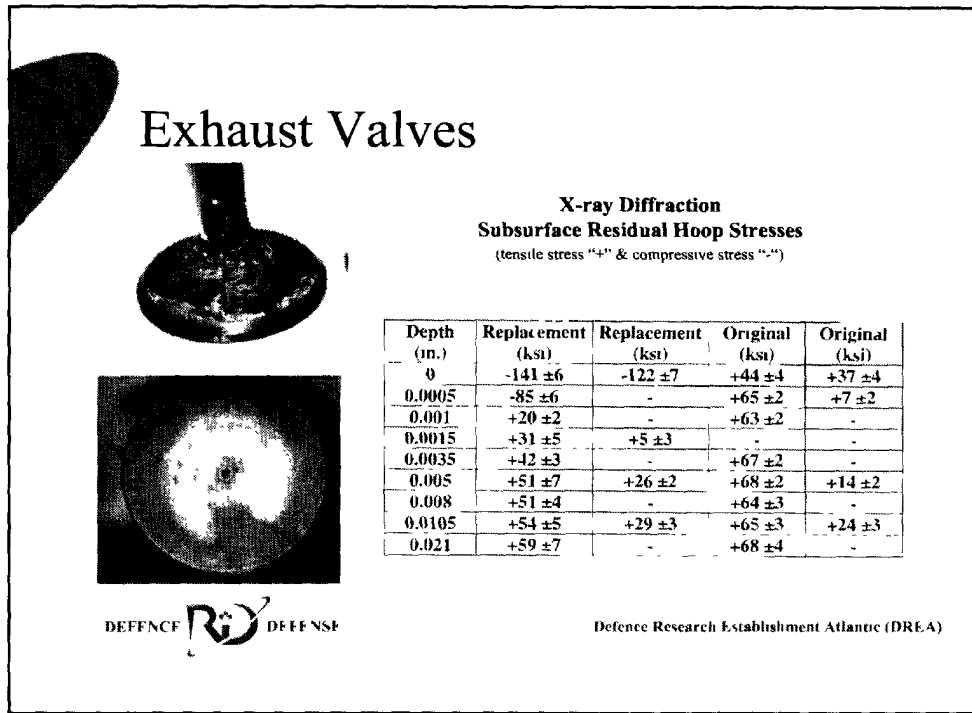
Connecting Rod Fasteners

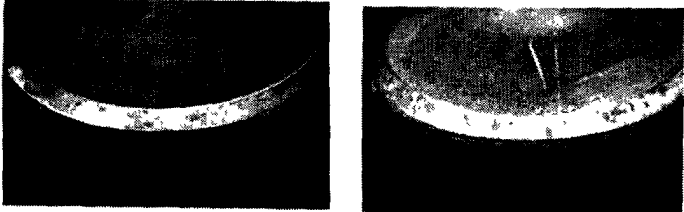


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Reflection

- **Manufacture/Assembly (Camshaft)**
- **Design (Connecting Rod Fasteners)**
- **Application (Engine Valves)**
- **Quality Control for Performance**

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