

**Stationary Engine
System Analysis &
Troubleshooting**

**Turbocharger Air Specification
Development**

Short Courses

- Turbocharger Performance
- Airflow Management

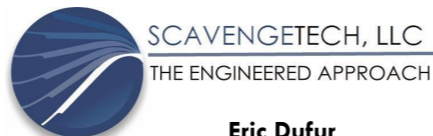


- Data Analysis Service
- Data Forecasting Service

ScavengeTech successfully applies heat and mass transfer, thermal systems, and thermodynamic knowledge to deliver products and services that provide energy-saving and emission-reducing alternatives for the following industries:

- Natural gas transmission
- Oil and gas gathering
- Any other industry utilizing large reciprocating engines

With more than 35+ years of combined experience in overcoming complex engineering issues, our team takes pride in delivering professional, timely and customized solutions to meet each client's specific needs.



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SCAVENGETECH, LLC
THE ENGINEERED APPROACH

The Airflow Management Experts

*Converting operating data
into knowledge*

STATIONARY ENGINE SYSTEM ANALYSIS & TROUBLESHOOTING

ScavengeTech's proprietary software, the Turbocharger-Reciprocating Engine Computer Simulation, allows for a standardized, highly sophisticated method to analyze and diagnose engine and/or turbocharger problems. By using this suite of engineering diagnostic software tools, computer models of specific engine systems can be developed for analysis.

After the system is modeled, our software can be used to:

- Match a turbocharger to the engine
- Use virtual sensor technology to gather information not generally available, such as in-cylinder temperature
- Parametrically simulate the engine over a wide range of conditions

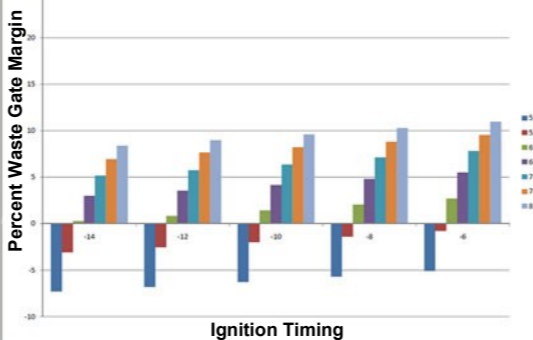
Proven Results

Using ScavengeTech's services in conjunction with historical turbocharger data from the Turbo Shield™ product allowed one of our customers to save approximately **\$2 million** in turbocharger upgrades at a single station, through the development of an airflow solution which used the same turbocharger cases, as opposed to installing new turbochargers.

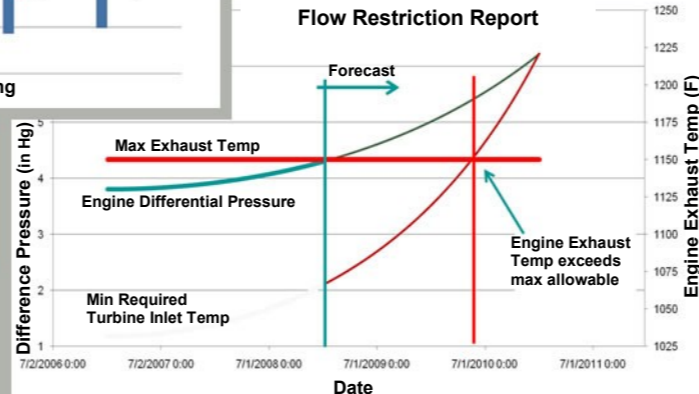
"...allowed one of our customers to save approximately \$2 million..."

Once an engine is properly modeled, problems can be easily identified and solutions developed to lower the lifecycle cost of continued legacy engine operations.

Waste Gate Margin at 100°F Ambient Temp and Various Air Manifold Pressures



Flow Restriction Report



Field engineers often assume the turbocharger is the cause of their operating problems; however, that's not always the case. ScavengeTech engineers can, through thorough analysis using their suite of engineering diagnostic tools, determine the exact cause — for instance, low airflow due to port carboning.

SHORT COURSES OFFERED

We offer on-site classes and training in turbocharger performance and airflow management to provide you with the skills and ability to better understand how your engine system operates, allowing you to get the most out of your engine system.



Turbo Shield™, a ScavengeTech patented product offered exclusively through Exterran, uses hardware and software components to:

- Identify the most economical time to overhaul a turbocharger
- Determine the degradation rate of a turbocharger
- Forecast engine parameters that impact emissions

While the Turbo Shield™ can be operated as a stand alone product, ScavengeTech engineers are also available to help provide solutions to manage your turbocharged engine fleet, by providing data analysis, forecasting and troubleshooting.