

Valves, Rider Bands, and Crosshead Slides

Monday, October 19, 2026 & Tuesday, October 20, 2026
from 8:00 AM to 5:00 PM

NAIT Productivity & Innovation Centre – Room 233
(Northern Alberta Institute of Technology)
11762 - 106 Street, Edmonton, AB, Canada, T5G 2R1



About the Course

This two-day introductory short course focuses on common condition monitoring analysis techniques used on reciprocating pumps and compressors. The course introduces the use of vibration, pressure, and shaft displacement measurements highlighting this unique reciprocating machine-held space and dynamic behaviour associated with reciprocating machinery. Participants will gain an understanding of how this technology differs from those used on rotating equipment and how they are applied in both machinery protection and condition monitoring environments. Real-world case studies are used throughout the course to reinforce the theoretical correlation between time, pressure, vibration, and shaft displacement, demonstrating how these measurements are applied for both machinery protection and asset health monitoring and efficiency.

Course Topics

- Key failure modes of reciprocating triplex pumps and reciprocating compressors
- Sensors and instrumentation used for reciprocating machinery
- Measurement techniques for vibration, pressure, and displacement
- Basic analysis methods and condition monitoring parameters
- Continuous versus periodic monitoring methods and strategies
- Basic diagnostic information interpretation related to valves, rider bands, and crosshead slides and structural failure modes
- Practical interpretation of: Segmented Time waveforms analysis; Pressure and vibration correlations; Dynamic and static piston rod displacement measurements; PV Curves; PT Curves.

Meet your instructors



Mike Greer P.Eng. has over 30 years of experience in machinery health and reliability, specializing in vibration condition monitoring and analysis since 1990. He has spent more than 20 years as a certified instructor delivering training from basic to advanced levels, including reciprocating machinery, modal, and diagnostic transient analysis. His background spans roles in vibration analysis, turbomachinery field service, and reliability leadership, supporting major industrial operations. Currently serving as a Lead Instructor.



Ethan Clark is the General Manager of Signet Monitoring & Analysis, now part of Spartan Controls, and brings over 30 years of experience in the natural gas engine and compressor industry. A Journeyman Red Seal Heavy Duty Mechanic, Ethan spent more than two decades in the field maintaining, repairing, tuning, and commissioning engine and compressor systems, including specialized training in U.S. EPA emissions testing protocols earned while working in California.

Who Should Attend?

- Maintenance and reliability personnel
- Condition monitoring technicians
- Reliability engineers and machinery specialists
- Operations and engineering staff responsible for reciprocating equipment

Fees

Early bird rate until August 31st
\$1 800

Regular fee starting September 1st
\$2 000

What's included ?

- AM & PM coffee breaks
- Lunch
- Course notebook
- October 20 NAIT shop tour

To register

1. Log in or create a user profile on www.cmva.com
2. In the Shop (top right), select ATC Pre-Conference Courses
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Adding value to your training : Attend the 2026 CMVA Annual Technical Meeting

The 2026 ATC will take place at NAIT in Edmonton, Alberta October 21-22. Expect hands-on training, expert speakers and focused technical streams. This conference will include a tradeshow featuring exhibitors representing the reliability realm, offering a path to increased uptime through products, services, and training for all of the relevant predictive technologies.

To register to the ATC

In the store, after selecting your course(s), go to Annual Technical Conference Registration section & choose the appropriate fee.