

Wagner Equipment Co.

# Gas Engine Training

WAGNER TRAINING INSTITUTE

## CLASS SCHEDULE FOR 2023:

**GAS I:** Jan 30 – Feb 3, Feb 27 – March 3

**ADEM III (G3500):** Feb 6 – 10, May 8 – 12, Aug 21 – 25, Nov. 6 - 10

**COST:** Only \$2,300 for 4.5 days of training

## INFORMATION:

**Classes held Monday - Thursday, 8:00 am - 4:30 pm, Friday 8am – Noon**

**Lunch provided Monday - Thursday**

**Location: Wagner Training Institute, 18021 E. 22nd Avenue Aurora, CO 80011**

**Also offering:** G3600 ADEM III Setup, Tuning, and Adjustments, G3600 A3 and A4 Installation, Set-up, and Operation  
G3500 and G3600 Operation and Maintenance, Gas Engine Tune Up and Troubleshooting 3300-3600  
\*Gas Engines I is a prerequisite for these offerings \* G3600 classes are conducted at the customer site only

### Gas Engines I

Basic operating principles of gaseous-fueled engines. Emphasis is on the composition of fuels, horsepower calculations, maintenance, fuel systems, intake and exhaust system and the ignition system. Students learn navigation and use of SIS (Service Information System), media resources and GERP (Gas Engine Ratings Pro). The lab engine is a G3406, although content covers G3000, G3300, G3400, and G3500 series Caterpillar engines.

**Course Objectives:** Explain the operating principles of basic gaseous fueled engines - Understand the air fuel ratio differences between a standard, rich, and lean burn gas engine - Evaluate pre-ignition, detonation, and misfire - Calculate the effect of temperature, altitude, and fuel heat value on developed horsepower - Identify the proper media and procedures for preventive maintenance practices and schedules - Perform cooling system, lubrication system, and fuel system maintenance - Determine the effects of separate circuit after coolers on engine performance - Understand operation, define correct settings, and adjust a gas pressure regulator - Measure and calculate the pressure relationships in a gas engine - Understand operation and adjustments of a carburetor - Determine the effects of turbochargers and wastegates on engine performance - Correctly set up and tune a gas engine using an exhaust gas analyzer - Understand the Altronic magneto ignition system, and correctly set ignition timing - Perform diagnostic troubleshooting of a gas engine based on the learned class principles

### ADEM III (G3500)

The ADEM III course provides learners with an understanding of ADEM III control systems with an emphasis on understanding wiring schematics, relevant service literature, and their effective use in the troubleshooting process. Students also develop the skills required to properly set up and tune G3500 A and B lean burn and ultra lean burn engines to the desired emission specifications. Students use the emission analyzer as a tool during lab activities to understand the affects of cylinder temperatures, as they relate to required emission levels and the adverse affects they can have on the life of the engine.

**Course Objectives:** Understand the operating principles of Caterpillar ADEM III gas engine controls - Develop troubleshooting skills to diagnose and effectively repair - ADEM III control systems - Understand the operations of the air/fuel ratio of the engine control system - Understand wiring diagrams and symbols .....and more

**Employees that are knowledgeable and capable in their skills are more productive, safer, motivated, and efficient. Our courses are developed to meet the highest learning standards. Our instructors are highly trained and certified in providing solid foundational to advanced level training including hands-on application in our interactive learning shops, classrooms, and lab.**

**Visit our website: [www.wagnertraining.com](http://www.wagnertraining.com) for a listing of all our training course options or contact us today for information!**



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