



Heavy-Duty NGV Maintenance and Diagnostics Training
Centre Area Transportation Authority (CATA) Administrative Office
2081 W. Whitehall Road, State College, PA 16801

Option One:

October 8, 2018 – 10 AM to 5 PM
October 9, 2018 – 8 AM to 5 PM

Option Two:

October 10, 2018 – 10 AM to 5 PM
October 11, 2018 – 8 AM to 5 PM

The number one challenge facing heavy-duty NGV technicians is how to distinguish between a fuel quality problem, a fuel system problem or an engine problem. This course is the only training available that treats these three elements as a system and helps technicians understand how they are interrelated. Emphasis is placed on the safety knowledge and repair practices that are unique for heavy-duty natural gas engines. The course covers the components of all CNG fuel systems (regardless of manufacturer), as well as the Cummins ISL G and ISX12 G engines.

The course includes operational theory with more than a dozen hands-on exercises. It is a perfect prerequisite to fuel system or engine manufacturer training. This course also helps prepare technicians for the ASE H1 exam.

The learning objectives for this course include:

- Identify and compare the properties and characteristics of CNG and LNG to diesel
- Describe the safety procedures necessary to maintain and repair CNG and LNG vehicles
- Identify and describe the operation, maintenance, diagnostics, and repair of the low- and high-pressure components of a CNG fuel system
- Properly assemble and re-assemble high-pressure tube fittings following safe procedures
- Identify the unique components and operation of the Cummins ISL G and ISX12 G engines and emissions control system
- Identify and describe fuel system and engine component maintenance intervals and procedures unique to Cummins powered NGVs
- Describe basic diagnostic procedures for Cummins ISL G and ISX12 G engines
- Identify diagnostic procedures and interpret data for electrical related issues, sensors and solenoids using wiring diagrams and other tools
- Diagnose hard starting and/or poor drivability issues
- Identify unique components and operation of LNG (saturated) and HPDI (unsaturated) LNG fuel systems
- Increase the technician's knowledge and preparation for successful completion of the Cummins ISL G and ISX12 G engine certification and/or the ASE H1 Alternative Fuels certification exam

Presented by: Gordon Larson, Natural Gas Vehicle Institute

Cost: \$190 per person. PPTA [Cancellation Policy](#) applies.

This PennTRAIN-sponsored option is being offered at a substantially lower cost to agencies than the option NGVi is bringing directly to PA in September!

Meals: Lunch and breaks will be provided. Please inform Sara Bowden at sara@ppta.net of any dietary restrictions at least one week in advance.



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Lodging: Courtyard by Marriott (1730 University Drive, State College, PA 16801)
 Room block is available for the nights of October 7-10, 2018 at the government rate of \$102/night plus taxes. [Click here to book online](#) or call 814-238-1881 (ask for PennTRAIN block). Rooms will be released on September 14 (or when sold out).

Parking: Free, on-site parking is available at the Courtyard by Marriott. Parking at CATA is free, but limited. Spots in front of the CATA Administrative Office must remain open for visitors throughout the day. Since we will be in building all day, we ask that you park across the street, in the brick spots behind the Ferguson Township Police Department.

Attire: Casual. Some of the training will be in a classroom. Some will be in the maintenance shop. Please dress accordingly. Because it can be a challenge to keep the classroom at a temperature that accommodates everyone, we recommend bringing a sweater or jacket to stay comfortable.

Attendee Registration:

Submit to Sara Bowden, PennTRAIN Program Coordinator
 Email: sara@ppta.net Fax: 717-234-7176
 Mail: 600 N 3rd Street, 4th Floor, Harrisburg, PA 17101

Organization Name

Attendee Name

Attendee Title

Attendee Email Address

Attendee Phone Number

Preferred Dates:

October 8 & 9, 2018 October 10 & 11, 2018

Organization Contact Name:

Organization Contact Email Address:

Method of Payment:

Check enclosed # _____ OR Please invoice me