



CTI/WTI Heavy Duty Online Training Series

This series will cover everything heavy duty, from the ground up. You will dive deep into every system of the modern-day heavy duty/commercial vehicle and grasp a better understanding of what makes these so robust and how to prevent failures, service and maintain these workhorses.

	Course Code	Training Type	Duration	Description
Air Brakes General	HDOLT-4401	OLT	2:00	Covers basic movement, friction, torque and pressure systems and properly reading vernier caliper.
Alternator	HDOLT-4203	OLT	3:00	Covers charging system introduction, induction, alternator components, voltage types and regulation.
CANbus	HDOLT-4602	OLT	1:20	CANbus introduction, electrical operation, network configuration, error detection and rectification and network topology.
Chassis	HDOLT-4502	OLT	3:20	Vehicle Identification Number (VIN), trailer coupling systems, vehicle combinations (EU and USA), truck cabs, vehicle dimensions, tow couplings, fifth wheel construction, forces and angles, central lubrication, oxidation and protection
Climate Control	HDOLT-4701	OLT	9:35	Covers climate control operations, heating and cooling, components, auxiliary heating and components, metering and working principles, refrigerant types, property's environmental impacts, leak detection and tools.
Cold Start System	HDOLT-4204	OLT	0:45	Cold start system overview and auxiliary heater operation
Electronics	HDOLT-4601	OLT	9:30	DC and AC voltage, duty cycle, signals, resistance, amplitude modulation, commercial vehicle pulse width modulation, electrical components including capacitors, diodes, relays, coils, transistors, potentiometers light dependent resistors, magnetic dependent

CTI/WTI Heavy Duty Online Training Series

				resistors, NTC and PTC thermistors, oscillographs and oscilloscopes.
Lead Acid Battery	HDOLT-4201	OLT	4:00	Covers lead-acid battery introductions, using/reading a hydrometer, design differences, connection and charging of multiple battery systems.
Lighting Systems	HDOLT-4603	OLT	2:15	Lighting system overview including headlights and tail light systems, light sources, types of light beams, types and operation of reflectors, lighting and signaling systems, cornering lights and headlight height adjustments.
Service Brake	HDOLT-4402	OLT	4:00	Covers servicing of air brakes, disc brakes, brake chambers, air compressors, treadle valves, air storage systems, air dryers, expansion and cooling pipes, separate and four-circuit protection valves.
Shock Absorbers	HDOLT-4503	OLT	0:55	Vibration dampening, shock absorber types including single cylinder and twin cylinder designs.
Springs	HDOLT-4505	OLT	2:20	Wheel suspension introduction, component overview including springs, wheel suspension springs, air suspension system, air suspension with leaf springs, air system components and electronically controlled air suspension.
Starter Motor	HDOLT-4202	OLT	0:40	Starter motor introduction, components such as electric motor, solenoid, shift lever, overrunning clutch, planetary gear set, electromagnetism and Lorentz force.



CTI/WTI Heavy Duty Online Training Series

Steering	HDOLT-4504	OLT	2:20	Steering system introduction, understeer and oversteer, steering system components including linkages, indirect steering, steering boxes, gear ratios, power steering, steering axles, Ackerman steering geometry and lane departure and lane keeping support systems.
Suspension	HDOLT-4506	OLT	3:15	Wheel movements, wheel suspension overview, lift axles, axle load, and trailer axle load, wheel components including linkages, wheel bearings, suspension stabilizers.
Theft Protection	HDOLT-4205	OLT	0:25	Covers theft protection overview and principles of operation.
Wheel Settings and Alignment	HDOLT-4507	OLT	2:10	Preparation for alignments, setting up an alignment machine, alignment sequence, alignment procedure, camber, caster, toe angle, steering axis inclination (SAI), Thrust angle and alignment report and adjustment.
Wheels and Tires	HDOLT-4501	OLT	4:45	Covers, wheels, tires, dimensions and marking on tires, valve stems, wheel designs, wheel mounting, tread depths, tread wear, retreading and repair, torque wrenches longitudinal forces on a vehicle, wheel imbalance and balancing, TPMS and ATIS introductions.