

Transportation Technology/Diesel

Level IV Unit Outline

Unit 1: Safety in the Shop

- Identify safety concerns in the shop.
- Protective clothing/equipment- Safety glasses, boots, pants, gloves etc.
- Identify safety equipment i.e., fire extinguishers, eye wash etc.
- Demonstrate first aid procedures.
- OSHA
- Tool safety
 - Hand tool safety
 - Power tool safety
- Shop equipment safety
- Spills, Blood Borne Pathogens (BBP's)
- Around the vehicle safety
- Hazards in the work place

Unit 2: General Diesel Engine Systems

- Diesel Engine fluid levels; causes and conditions
- Diesel engine malfunctions diagnosis and repair
- Use of electronic diagnostic codes in diesel engines

Unit 3: Cylinder Head and Valve Train

- Inspection of Cylinder Head
- Cylinder Head/Valve Train Components
- Related Cylinder/Valve Train Components

Unit 4: Engine Block

- Perform, inspect, and test components in engine block
- Pistons Jets and Crankshafts
- Flywheel housing and Related Components

Unit 5: Lubrication and Cooling Systems

- Lubrication Systems
- Cooling Systems
- Related Components

Unit 6: Air Induction, Exhaust Systems, and Engine Brakes

- Air Induction Systems
- Exhaust Systems
- Engine Brakes

Unit 7: Fuel Systems

- Fuel Supply System
- Electronic Fuel Management Systems
- Fuel Injector Systems

Unit 8: Hydraulic Systems Operations

- General system operations

Unit 9: Hydraulic Pumps

- Diagnose Pump concerns
- Inspect, repair, replace pumps

Unit 10: Hydraulic Filtration/Reservoirs

- Filtration Systems
- Reservoirs

Unit 11: Hydraulic Hoses, Fittings, Connections

- Diagnosis and inspection of hoses, fittings, and connections
- Assembly and Inspection of hoses, fittings, and connections

Unit 12: Hydraulic Control Valves

- Safety Relief Valve
- Control Valve Operation

Unit 13: Hydraulic Actuators

- Actuator Type
- Proper operation of Actuators

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New Jersey Student Learning Standards (NJSL)

NJ Learning Standards: CTE.9.3

CONTENT AREA:	9.3 CAREER AND TECHNICAL EDUCATION
TRANSPORTATION, DISTRIBUTION & LOGISTICS CAREER CLUSTER[®]	
Number	Standard Statement
<i>By the end of Grade 12, Career and Technical Education Program completers should be able to:</i>	
CAREER CLUSTER[®]:	TRANSPORTATION, DISTRIBUTION & LOGISTICS (TD)
PATHWAY:	SALES & SERVICE (TD-SAL)
9.3.12.TD-SAL.1	Analyze the ongoing performance of transportation, logistics and distribution-related sales and service operations.
9.3.12.TD-SAL.2	Demonstrate the use of sales and ongoing service of products and services that are transportation related to promote development of existing and future clients and customers.