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**Purpose Auto VR Sim Sequences: Diesel Powertrain Inspection & Repair**
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**Diesel Powertrain Inspection & Repair**
This immersive training course from Purpose Auto focuses on the essential systems that make up a diesel vehicle’s powertrain. Using detailed, hands-on VR simulations, students learn to service and inspect fuel systems, air intake and exhaust components, turbochargers, starting systems, and drivetrains. The course is designed to prepare learners for entry-level careers in diesel engine maintenance and light repair.

Over 4.5 hours of guided simulation time, learners develop and demonstrate their skills through iterative practice. A passing score of 90% is required to complete the course, tracked through Purpose Auto’s built-in performance evaluation tools.

**Program Summary:**

* **Total Duration:** 271 Minutes (4.5 Hours)
* **Total Simulations:** 14
* **Key Modules:** Diesel Vehicle Maintenance, Diesel Engine Overhaul

**Simulation Modules and Learning Outcomes**

| **Module** | **Simulation** | **Learning Outcome** | **Duration (min)** |
| --- | --- | --- | --- |
| Diesel Vehicle Maintenance | Lifting Devices | Safely place jack stands and lift a diesel truck. | 16 |
| Diesel Vehicle Maintenance | Oil & Filter Service | Perform an oil and filter change on Cummins X15 and Detroit DD15 engines. | 23 |
| Diesel Vehicle Maintenance | Drivetrain Inspection | Lubricate the clutch and U-joints, and service the transmission and rear axles. | 20 |
| Diesel Vehicle Maintenance | Fuel System Service | Replace the fuel filter and properly prime and bleed the fuel system on both engine models. | 20 |
| Diesel Engine Overhaul | Fuel System & Cam Gear Removal | Remove external fuel system components and camshaft gears. | 15 |
| Diesel Engine Overhaul | Fuel System Installation | Reinstall and secure the fuel supply system. | 15 |
| Diesel Engine Overhaul | Air Intake, EGR & Crankcase Vent Removal | Disassemble the air intake, EGR, and crankcase ventilation components. | 20 |
| Diesel Engine Overhaul | Air Intake, EGR & Crankcase Vent Assembly | Reassemble and install the air intake, EGR, and ventilation systems. | 15 |
| Diesel Engine Overhaul | Exhaust System Removal | Remove turbocharger, exhaust manifold, and thermostat housing. | 26 |
| Diesel Engine Overhaul | Exhaust System Installation | Reinstall and secure the turbocharger, exhaust manifold, and thermostat housing. | 20 |
| Diesel Vehicle Maintenance | Engine Analysis | Diagnose engine oil, DEF, and coolant conditions. | 18 |
| Diesel Vehicle Maintenance | Battery Replacement | Diagnose, remove, and replace the truck’s battery. | 19 |
| Diesel Vehicle Maintenance | Starter Replacement | Diagnose, remove, and replace the starter motor. | 13 |
| Diesel Vehicle Maintenance | Wheel Ends | Service the wheel-end assembly, including disassembly, bearing inspection, lubrication, and reassembly using the dial indicator method. | 31 |