**Examining an engine overheating scenarios**

**Case 1: Exhaust Gas Temperature (EGT) > 1,300°F (700°C)**

#### **Diagnosis: Lean Air-Fuel Mixture or Turbocharger Issue**

* **Cause**: High EGT readings above 1,300°F suggest that the engine is running with an excessively lean air-fuel ratio. A lean mixture causes higher combustion temperatures, leading to engine overheating.

### **Case 2: Coolant Temperature > 220°F (105°C) and Radiator Outlet Temperature ≈ Radiator Inlet Temperature**

#### **Diagnosis: Radiator or Coolant Circulation Problem**

* **Cause**: If the coolant temperature exceeds normal limits and there is little to no difference between the radiator inlet and outlet temperatures, the radiator is not effectively dissipating heat.