



# Greater Dayton RTA – Engine Oil Specification

Revised – September 28, 2023

This specification represents the minimum standards for motor oil to be used primarily in Dayton RTA vehicles equipped with 4 cycle diesel engines **with** EGR and Aftertreatment.

Documented certification of the requirements listed below **must be submitted to RTA** to ensure that the oil meets the standards and/or licensing as stated.

## The engine oil:

- **MUST** be on the most current **Cummins Engine Oil Registration List for CES 20086**
- **MUST** meet **Cummins Engineering Standard 20086 (CES 20086)**
- **MUST** meet **American Petroleum Institute Standard (API CK-4)**
- **MUST** be SAE grade **15W-40**
- **MUST** be blended from **Base Oil Categories Group II, III or IV.**
  - Oil blended from **Base Oil Category I is NOT acceptable.**
- **MUST not contain** supplemental friction modifiers
- **MUST not be classified** as a break-in oil
- **MUST not be re-refined oil, reclaimed oil, used oil or recycled oil.**
- **MUST meet used oil analysis guidelines below when compared to new (unused) oil**

The Oil Analysis table below was copied from Cummins Quickserve – Fluids for Cummins Products Service Manual

Table 1: Lubricating Oil Analysis Limits		
Oil Analysis Parameter	Limit	
Viscosity change at 100°C [212°F] (American Society of Testing and Materials (ASTM) D445)	For xW-40 - MIN: 12.5, MAX: 16.3 For xW-30 - MIN: 9.3, MAX: 12.5	
Fuel Dilution	5 percent MAX	
Table 2: Oil Contamination Guidelines for Soot		
Cummins® Engineering Standard (CES)	Midrange B and C Soot Limit	All Other Engines Soot Limit
CES 20076, 20077, 20078, 20081, 20086, 20087, and 20088	3.0 percent MAX	5.0 percent MAX
CES 20075	1.5 percent MAX	1.5 percent MAX
Table 3: Oil Contamination Limits for Total Base Number (TBN)		
	Engines ≤ 19L Displacement	Engines ≥ 19L Displacement
Total base number (ASTM) D4739	2.5 MIN	2.5 MIN or equal to TAN

**Note: Table 4 should only be used as a reference if flag limits cannot be established through statistical analysis.**

<b>Table 4: Lubricating Oil Analysis Guidelines</b>	
<b>Oil Analysis Parameter</b>	<b>Limit</b>
Water content (ASTM D6304)	3000 parts per million (ppm) or 0.3 percent MAX
Silicon (SI)	15 ppm increase over new oil
Sodium (Na)	20 ppm increase over new oil
Boron (B)	25 ppm increase over new oil
Potassium (K)	20 ppm increase over new oil

It should be noted that all engine oils will be regularly tested by Dayton RTA to ensure that oil quality standards are being maintained. In addition, oil deliveries will be tested at the 1<sup>st</sup>, initial delivery and randomly thereafter to ensure compliance to all of the specifications of this contract. The 1<sup>st</sup> test will be used to establish a baseline of product quality. Samples may be requested for testing prior to a contract award.

The Cummins Engine Oil Registration List is included with this bid package. **Any engine oil proposed MUST meet the following requirements:**

1. Be listed on Cummins Engine Oil Registration List
2. Meets or exceeds Cummins CES 20086
3. Meets or exceeds Dayton RTA's requirements

**ALL of the requirements of Cummins CES 20086, of this document and any accompanying documents, must be adhered to in order to meet Dayton RTA's Engine Oil standards.**

### **SPECIAL SPECIFICATIONS**

This contract is for a 2-year period with firm fixed prices for **each year** of the contract. It is estimated that the RTA will use approximately 7,800 gallons of engine oil per year. These quantities are **not guaranteed and shall not be binding upon RTA**. Engine oil shall be delivered in bulk to 600 Longworth St. The RTA has a 2000 gallon underground storage tank for new engine oil. Deliveries are to be made between the hours of 7:30 am and 3:00 pm, Monday through Friday.

The contractor shall comply with all Federal, State and Local environmental regulations. This includes, but is not limited to, fluid delivery, fluid transfer, spill prevention/containment procedures, necessary equipment to ensure compliance and supplying of MSDS sheets prior to delivery. The Contractor shall be responsible for all costs associated with any spillage, including regulatory fines, cleanup materials and labor, damages to property from the spillage or any other costs related to the spillage and/or failure to comply with all environmental regulations.