ALISSA RECKER
CATALYST KIT ENGINEER – PERFORMANCE & EMISSIONS

DAIMLER
Daimler Trucks North America

ZEV FUTURE
Starts Now

40+
Trucks in customer test fleets

45+
Customers in the U.S. & Canada

1.000.000
Electric test miles

22/23
SOP eCascadia/eM2

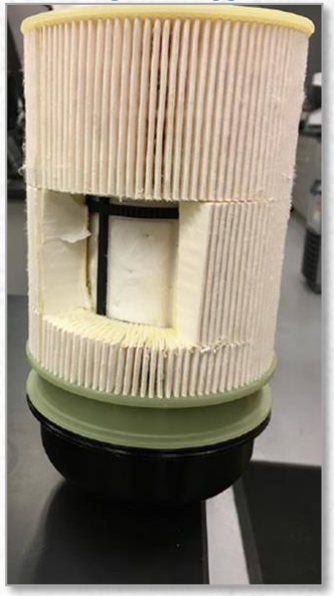
B20 Failure Modes

Cost Fleets Significant Downtime

Fleet Impacts:

- Engine oils must be sampled and monitored for fuel dilution. Shorter oil change intervals may be required.
- Fuel filters must be changed at 50% of the standard ULSD service interval.
- Vehicles parked for an extended period of time must have fuel system flushed before parking.

New Filter



Used Filter

Cut Media

Biodiesel Oxidation Byproduct

ASTM biodiesel specifications are not sufficient for modern engines.

This B20 met all relevant ASTM specifications but caused fleet-wide failures.

B20 Usage Conflicts with NOx Reduction Goals

Up to **7%** direct NOx Increase

Degrades emissions controls, further increasing NOx

B20

0% CO_2 Reduction

Renewable Diesel offers a 9% reduction in NOx and 6% reduction in CO_2

Requiring B20 for State Contracts:

- Increases NOx emissions
- Does not reduce vehicle CO_2 output
- Eliminates Daimler product offerings

Fuel Recommendations

B20 Mitigation Strategies

Blend B20 with Renewable Diesel

- Reduces NOx bump
- Improves product quality

Require Distillation of Biodiesel

- Improves product quality

Require Minimum 8hr B100 Stability

- Reduces harmful fuel deposits
- Reduces operator downtime

Limit Metals to Non-Detectable Levels

- Prevents degradation of emissions control catalysts

Detailed fuel recommendations, including full property specifications, can be found in our publically available service literature.