

PC-12 Updates



Agenda

Safety Moment

PC-12 Overview

PC-12 Upgrades

Customer Impact

Q&A

Quiz

Safety Moment



- Watch for children
- Obey school zone speed limits
- Do not pass a bus loading or unloading children
- Never pass vehicles stopped at crosswalks
- Pay attention to school crossing guards
- Eliminate distractions
- Use designated student drop-off and pick-up zone.

Overview



PC-12



American
Petroleum
Institute

2027 Adoption

(MY 2027)

Improved Oxidation Protection

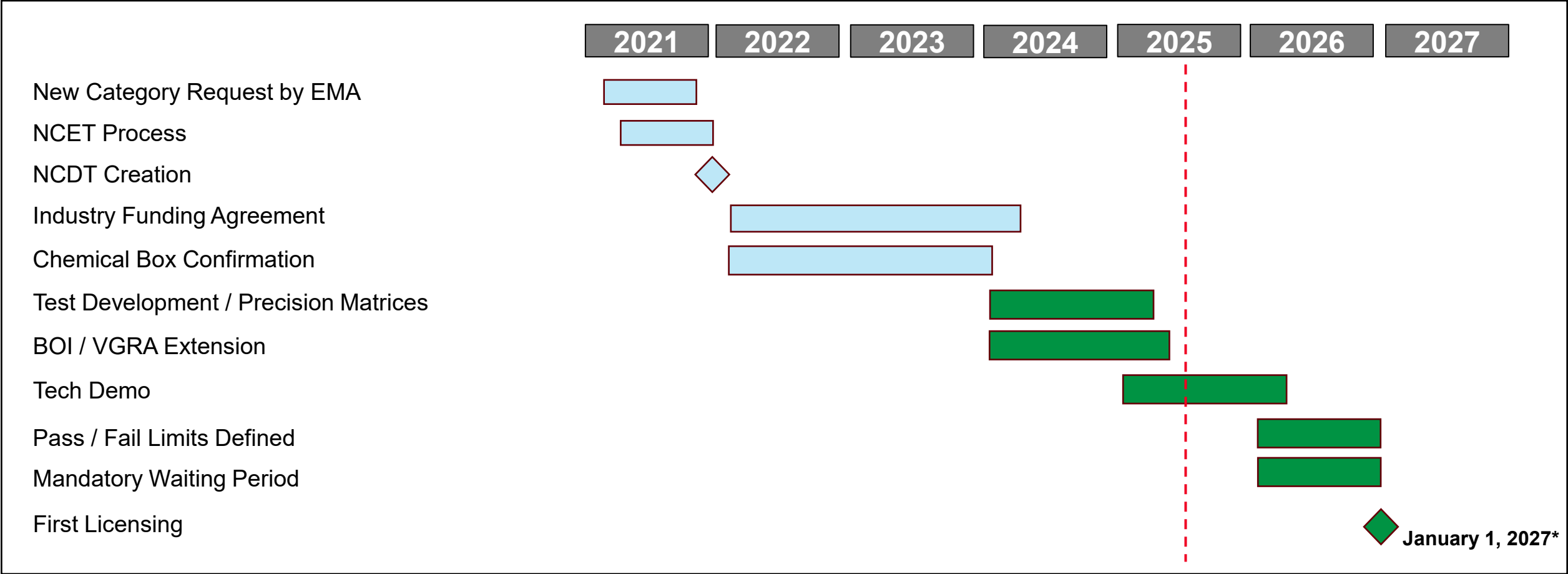
Aftertreatment Durability to
Support New Vehicle Technologies

New Improved Tests / Eliminate
Outdated Tests

Lower Viscosity Grades



PC-12 Overview — Timeline



* Estimated Launch Date



PC-12 Overview — Two Specifications

PC-12A

CL-4

Enhanced Durability
Requirements

Yes

SAE Grades

XW-30 and Heavier

Backwards Compatible

CH-4 / CI-4 (Plus)
CJ-4 / CK-4

Fuel Economy

Good

Applications

On Road / Off Road

PC-12B

FB-4

Yes

XW-30 / XW-20

?

Better / Best

On Road



Upgrades



PC-12 Upgrades — Tests

Additional wear performance

Detroit Diesel DD13 Scuffing Test included to address concerns around scuffing in the power cylinder with lower viscosity fluids

Improved oxidation performance

Tighter Limits in Volvo T-13 test

Improved Tests

Cummins ISB engine test is replacing Mack T-11 test. Measures soot related viscosity increases. Cummins test is more efficient and cost effective

Removal of older tests through redundancy

Caterpillar 1N, Roller-follower wear test and Mack T-12

Improved seal protection

Addition of new hydrogenated nitrile butadiene rubber (HNBR) material

PC-12 Upgrades — Key Benefits

**New wear tests
ensures excellent
hardware protection**

Vehicle Warranty

2X Increase in yrs (5 to 10)

4X Increase in miles (100,000 to 450,000)

50% Increase in Aftertreatment
System life (435,000 to 650,000)

PC-12 Upgrades — Key Benefits

**Lower chemical
limits improve
exhaust
aftertreatment
longevity**

75% Reduction in NOx

50% Reduction in Particulate
Matter

Additional Reduction in
Phosphorus, Sulphur and
Sulphated Ash

PC-12 Upgrades — Key Benefits

**Lower viscosity oils
& new engine oil
specifications
support fuel
economy
improvement**

XW-30 / XW-20

becoming more relevant in the market

“F” Engine Oil

Specification increasing in production with manufacturers



Customer Impact



Customer Impact

Become the **EXPERT**

Look for Opportunities to
CHANGE the
Conversation



Customer Impact — Longer Service Life

**Lower
chemical
limits & New
wear tests**

**In what areas do installers
benefit from lower chemical
limits & these new tests?**

Extended Engine Life

Longer Service Intervals

Increased Business Profit and Productivity



Customer Impact — Fuel Economy

**Lower
viscosity
oils**

**How does lower viscosity
oils benefit the customer?**

Extends Engine Life

Better Fuel Mileage

\$1,000 Annual Fuel Savings / Unit



* Fuel mileage savings from 10W-30 vs 15W-40 ranges from 1% to 1.5%

Customer Impact — Fuel Economy

New Engine oil specifications

New Engine Oil Specifications help customer in what way?

Extends Engine Life

Better Fuel Mileage

\$1,000 Annual Fuel Savings / Unit



* 1% Fuel Mileage savings is based on industry estimates FA-4 vs CK-4

Thank you!



Survey- Feedback

DSR Virtual Training Follow Up
Survey HD PC-12 September 5th,
2025



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QUIZ!

What are the two new specifications going to be?

CL-4 and FB-4

When it comes to viscosity grades, which specification (CL-4 and FB-4) will have the lower viscosity offerings?

FB-4

Which specification is going to be backwards compatible?

CL-4



The key benefits



Better oxidation control to help extend oil life



- Fewer oil changes
- Lower running costs
- Less maintenance
- Keep vehicle in service for longer



Lower chemical limits improve exhaust aftertreatment longevity



- Compliance with regulations
- Less maintenance
- Keep vehicle in service for longer



Lower viscosity oils support fuel economy improvement and reduce greenhouse gas emissions



- Lower fuel costs
- Fewer refuelling stops - more time in service
- Lower carbon emissions
- More sustainable operation



New wear test ensures excellent engine hardware protection



- Increased engine life
- Longer service intervals

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