

(19) Fleets participated in this Best Practice Study

Original question appears in italics

DPF filters:

Cleaning – please complete the chart below with information about your fleet’s experience with required cleaning of DPF filters.

Table below includes all responses we received:

Truck/Engine/Duty Cycle	Type of DPF Cleaning	Average Miles	Time Req. to complete	Performed by Whom?	Problems
Freightliner/Detroit Diesel/Regional	Off Truck	300,000	3 hours	Dealer	Even if we do it at our shop the truck still has to go to the dealer to have the ECM reset
Volvo/Volvo/OTR	Off Truck	425-500,000	3.5 hours to R&R DPF but ..See problems.	Radiator shop specializing in this procedure.	..then we had issues with compact DPF Volvo housing cracked, so that resulted in more downtime. We also went ahead & cleaned and/or replaced 7th injector.
Retrofit Johnson Matthey CRT passive DPF/CAT/High load		Ranges from 80,000 to 250,000.	1 day downtime or 30 minute exchange.	Initially by dealer but their machine didn't work well. We have bought our own.	Dealer machine caused too much downtime.
IH/ProStar/Cummins/OTR	None, but issues				Had DPF's with inside all broke out.
Freightliner/Detroit/OTR	Off-Truck	250,000	2 hours	Dealer	Most had to be replaced
Freightliner/Cummins/OTR	Off-Truck	240,000	2 hours	Dealer	
Peterbilt/CAT/OTR	Off-Truck	225,000	6-8 Hours	Caterpillar	Yes

Best Practice Report
September 20, 2010

Truck/Engine/Duty Cycle	Type	Miles	Time	Whom	Problems
Navistar/Navistar/OTR	Off-Truck	225,000	6-8 Hours	Navistar	Yes
Kenworth/Cummins/OTR	Off-Truck	200,000	6-8 Hours	Cummins	Yes
International/MaxxForce/Short Haul	Off-Truck	300,000	1 hour to actually Clean DPF, plus time to take out, transport and reinstall	Local Cummins Shop	
Kenworth/CAT C13/Short Haul	Off-Truck	175,000	1 hr. cleaning, take out and reinstall and take to dealer	Local CAT dealer	early cleaning due to defective system
International/CAT C13/Long Haul		250,000	1 hr. plus time to take to dealer	Local Cummins Shop	
Volvo/Cummins ISX/Regional	Off-Truck	300,000	7 hours	In-house	Cracked PDF, 7th injector must be cleaned at 125k miles, gasket kits not in stock
International/International/P&D	Off-Truck	Every 30 months	2 days	Outside Vendor	No
Peterbilt/CAT	Off-Truck	150,000	2 Days	OEM Dealer	Cost and time consuming.
Volvo & Navistar/ISX Cummins/OTR	Off-Truck	400,000	Swap out	KW of TNN	some cracks
Navistar/Cummins/	Off-Truck	125,000	2 Days	Cummins	Slow Turn Around
International/Cummins	Off-Truck	225,000	1 day	Engine Dealer	None
International/Cummins/456 miles per day-dry van	Off-Truck	Once at 413,526 miles	Exchange	Cummins	None

Have you had service/operation problems with DPF filters?

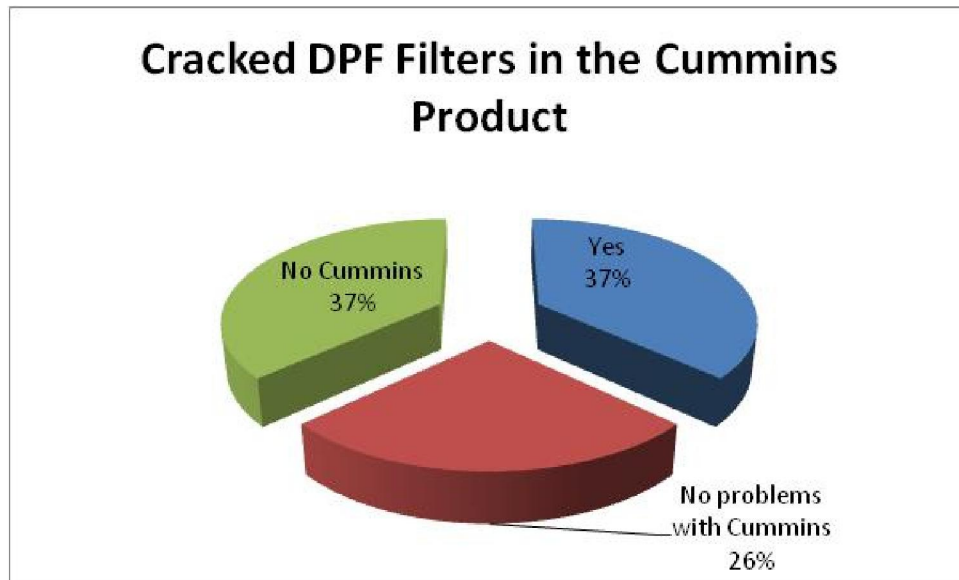
For example:

Are you experiencing a high rate of cracked DPF filters in the Cummins product?

Yes, please explain

No, we are using the product but have had no problems as described

No, we don't have any Cummins engines with DPF filters in our fleet



Problems Identified:

- Cummins had internals broke out then causing no back pressure; Volvo has the bottom of the compact DPF cracking.
- Only one in fleet replaced, had asked to have cleaned because of coolant in exhaust
- Premature failure, cracked DPF
- Almost half of the DPF are cracked at 300k miles. They are outside of the warranty period
- Pull off for cleaning, finding cracks
- You nailed it, high rate of cracked filters on Cummins Products

Have you had to change out plugged DPF's (other than for a mechanical failure requiring the replacement)?

Yes - 50%

If Yes, at what average miles, what duty cycle and engine brand

Miles	Duty Cycle	Engine Brand
300,000	Regional	Detroit Diesel
380,000	Long Haul	Detroit
300,000	long haul	Cummins
250,000	short haul	CAT C13
225,000	Regional	Cat
200,000	Long haul	Cummins
300,000	Regional	Cummins
200,000	Long haul	Caterpillar
350,000	long haul	isx Cummins
413,526	Short Haul	Cummins

Have you had any other service/operation problems with DPF's?

Yes – 56%

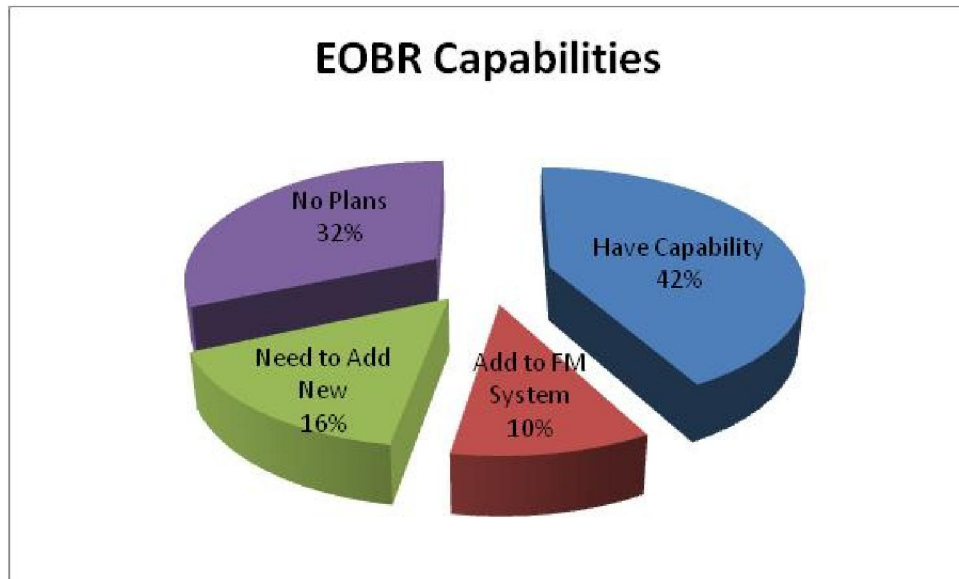
Yes, please explain

- Because of other failures, injectors, sensors, we have had to have our trucks do parked regenerations. If they drive to long before stopping the truck will only do the parked regen when a computer is hooked to it prompting to do so which means towing it to a dealer.
- A lot of issues with the tubes on Cummins.
- Dealer cleaning machine was not adequate, we had to purchase 2 replacement filters they condemned only to find another brand of machine cleaned it successfully. We have since purchased that brand for our in-house use. Bottom line: all cleaning machines are not equal!
- Lack of knowledge at the dealer/distributor
- Leaking exhaust pipes or any related codes prohibit a regen
- Continuous sensor problems
- Other than sensor and mech. Problems having to clean DPF's to regain MPG
- Cat C13 replacement DPF in short supply
- Added expense to maintain the sensors and 7th injector
- Injector over fueling and plugging DPF.
- Numerous electronic issues.

EOBR and Other Regulatory Demands

How is your fleet intending to meet new federal regulations for EOBR's?

- We already have this capability
 - Using what system_____
- We currently have a fleet management system in place to which we will add electronic logging capabilities.
 - What fleet management system_____
- We will need to add new hardware/new system to get this capability
 - What products are you considering and why?_____
- At this time we have no plans to add EOBR because we believe our operation won't be required to have this capability



Current EOBR capability using:

- Qualcomm (5)
- PeopleNet (1)
- Xata (1)
- Cadec Mobius

Current FM Systems – will add electronic logs

- Webtech, Trimble
- In-House System

New systems being considered

- Qualcomm (3), XATA, PeopleNet

Once EOBR's are activated, how does this affect dispatching of trucks?

- No difference
- If you are logging legally there should be no effect- Wow, I can't believe I said that with a straight face!
- We are a day cab operation and HOS does not normally impact dispatch. We record using Argo time clocks (as we have for years). We will go kicking and screaming into any requirement for EOBR's (although I think it is a good idea for sleeper operations).
- Hours are included in the optimization process
- Has made it easier due to visibility of driver hours
- Hours of service planning is more important
- We love paperless. Our drivers do not want to go back to writing paper logs
- We are not sure yet of what changes this will bring
- Does not dramatically affect current practice
- 1 year in use. Made dispatch more efficient. Made breakdowns more difficult.

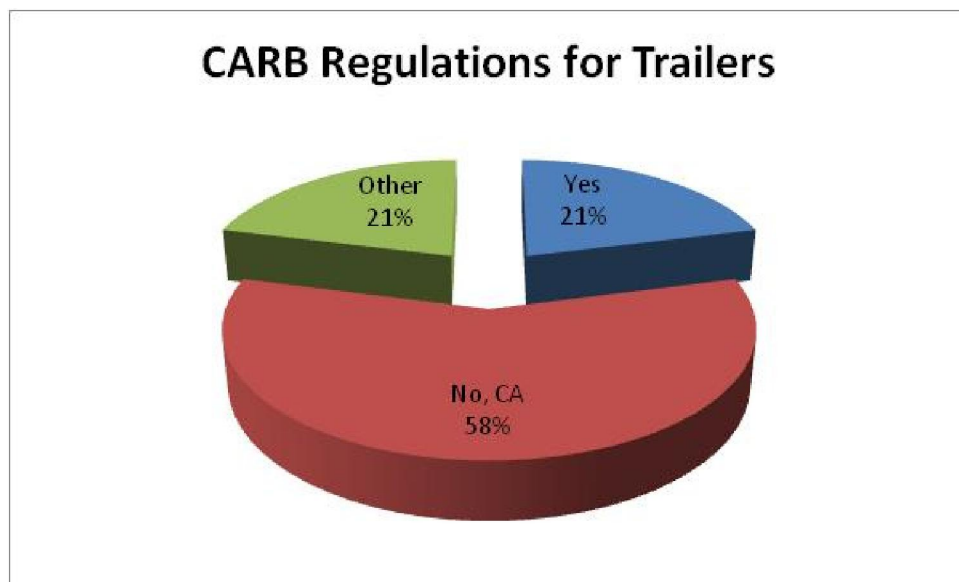
CARB (California Air Resources Board) has issued new rules covering MY 2011 and later trailers operating in the state of CA. Those rules are based on SmartWay recommendations for trailers.

Does your fleet need to comply with these rules?

Yes, we will do it by purchasing trailers with _____

No, we don't operate in CA

Other _____



For those answering yes, trailers will include:

- fuel efficient tires and aerodynamic belly fairings
- compliant reefers and skirts, already using tires
- Skirts, we already use the right tires, etc.
- Low rolling resistance tires side skirts.

Comprehensive Safety Analysis (CSA) 2010 – One of the (7) CSA 2010 Behavior Analysis Safety Improvement Categories (BASICS) is Vehicle Maintenance – Failure to properly maintain a CMV. Example Violations: Brakes, lights, and other mechanical defects, and failure to make required repairs.

What are you doing to ensure that your fleet consistency scores well in this category?

- Currently no problems in this area for our fleet.
- Keeping up on our PM'S, and pounding pre and post trip inspections into our drivers' heads.
- We have excellent PM program in place for years, continue doing that. Drivers are being educated on importance of equipment issues.
- We are tightening up replacement of some of the "little things"; (license plate lamps, etc.) that normally don't affect Safe Stat but will affect CSA-2010. We are advising our drivers that CSA scores affect them too. Most of our "adjustments" are low hanging fruit.
- Educate, inspect and follow-up
- Business as usual, no major changes contemplated
- consistent maintenance and inspection, CANNOT PREVENT UNEXPECTED ON ROAD FAILURES "Equipment breaks"
- Already have good numbers but re enforcing need for proper maintenance and inspections. Trying to get the drivers on board also
- Upgrading training of inspectors. Purchasing trailer light and brake testers
- Training drivers on the need to do a proper pre-trip inspection
- Local driver fleets only.
- Weekly inspections.
- We maintain our trucks at a level that meets or exceeds all regulations applicable to our fleet.
- We are looking to see if we need to add things to our p.m. sheets and are keeping our mechanics updated of why this is important
- More training
- We comply with all regulations now, and have excellent records
- More driver/tech training. Keep them informed of problem areas.

In general, how does your fleet deal with increasing regulatory demands and reporting requirements?

- Add tasks to current staff.
- Just stay on top of these issues, no different than newer technology, no different than keeping up with new maintenance procedure, just part of doing business.
- First we curse "more government" for awhile, then accept it and research the exact requirements. Next, we establish relationships with the government entity and try to develop a working partnership with their decision makers (advice: when working with government "get it n writing" and then keep it forever... this way they can't wiggle out of it). Next, educate our people and implement the changes in the most cost-effective way pathway. Most of this falls on me (no one else wants to hear about it).
- Like eating an elephant, one bite at a time
- One demand at a time, to bad rates don't reflect time, energy & upfront costs involved
- Yes, addition of EOBR
- Trying to get software systems to help without having to add people
- Levels the playing field. We will meet the regulations
- Train to keep current and do what is required
- Constant and regular scheduled maintenance- our govt. fleet is exempt from many regs.
- Our risk management group keeps the maintenance group updated if changes need to be made to our maintenance practices
- Stepping up to meet the challenge
- Why complain, there is nothing we can do about but comply
- If you are legal, it shouldn't be a problem.

New Technologies

Do you have plans to add (or have you already) on-board safety devices such as fatigue detection? If yes, what product and what are the benefits?

- Our new trucks have Bendix ESP stability control, good steps and hand rails, and bright red seat belts.
- Iteris LDWS - Decrease lane departure/rollover type accidents
- Roll stability... has lowered rollovers 75%!
- Electronic Roll Stability
- Anti rollover in the tractors.
- We are taking a look at the On Guard system by Meritor
- On board cameras are a discussion

With regard to new braking technology (air disc brakes): If you add air disc brakes to tractors, will there be an imbalance between those brakes and trailer axle drum brakes, especially on long combination vehicles? If yes, how do you deal with that? Yes, please explain how the imbalance can be mitigated?

- We run some very efficient 30-year old trailers in our mountain operations (no reason to get rid of them). The potential for imbalance is present and we will just have to train our drivers. Therefore, like other issues, best practice is always avoid stupid drivers.
- Certainly will be and have not gone down that road yet, will be huge problem integrating
- Don't see a problem at this point but only have 7 tractors so far with disc brakes
- There should be but AB, traction control, roll stability, etc. should control.
- We don't know for certain. The manufacturers' claim they are taking care of this by better valving but with the tractor brakes doing more work you have to wonder. Mitigated by: Valving, ABS, proper adjustment, lining compound
- If the mfgs have done their job should be no or little imbalance.
- From meetings with our brake suppliers this doesn't appear to be a problem

What tools are you using to maximize information available from on-board diagnostics (OBD)?

- ProLink and OEM supplied software.
- We just use OEM software, but we use for diagnosing & repairing trucks.
- 2010 mandated OBD is just arriving on the scene. Previous diagnostics are interfaced with laptop computers using OEM software.
- Cognos
- OE software programs
- Using Noregon for hookups with OEM software to read and use
- Using software loaded onto laptop computer available from Cummins, Volvo and Bendix. Had to purchase the connecting devices to hook the laptop to the different vehicle ports.
- Laptop computers for maintenance shop.
- We have all OEM software loaded onto our shop computers
- Have not started yet
- Run daily available reports
- Cummins Insight. Eaton MD

If you will have SCR engines in your fleet, how are you planning to handle the addition of SCR UREA-based fluid when required?

- We will purchase totes for refilling at the shop and keep several gallons in each truck.
- Our drivers are responsible for topping up their SCR tanks. We took the time to train them regarding how the system works and their responsibilities. They do fine (it is a non-issue).
- Totes and eventually dispensers on our fuel islands
- Today world, Urea fluid is NOT readily available on the road. Will not purchase SCR engine until SCR fluid is widely available
- As the population of trucks increase, add bulk storage.
- Divers will buy when fueling over the road.
- We will rig up some sort of bulk crate system to start until we have enough trucks to justify a dispensing system on our fuel island
- Gaylords at the fuel island overhead next to the pumps.
- Will install a dispensing device at our fleet maintenance shop.

If you have any questions about the contents of this report, please send me an e-mail and I'll try to answer them.

Best regards,

Chris Kemmer