

Best Practice Report
December 2011

Original question is shown in italics – We received 30 responses to the December 2011 Best Practice questionnaire between Dec 13 and Dec 20. Typically for these Best Practice reports, we simply relate the answers we receive so you can see individual responses. If the responses lend themselves to chart, graphs or tables, they will be included.

1. *For the available 2010 emissions engines, if you have any experience in your fleet to-date, would you complete the requested information below to share with other fleet managers:*

The following tables relate the information we received for each engine brand:

Cummins

Duty Cycle	MPG	Negative Issues
Vocational P&D	4.5	
OTR	6.8	Fuel mpg/ EGR cooler/ particulate filter
P&D	6.4	N/A
OTR, P&D, Off Rd		DPF on Off road units
OTR	6.5	EGR Coolers
OTR	6.75	EGR coolers and EGR valves
Local	6.8	Not doing 7.8 mpg
OTR	6.7	
OTR, P&D		
P&D	6.526	NO
OTR	7	Regen issues, Calibration updates, MPG is not better than pre-2010
P&D	6	Regen issues, Calibration updates, MPG is not better than pre-2010

Detroit Diesel

Duty Cycle	MPG	Negative Issues
OTR	7.2	
OTR	7	
OTR		Good support...but that will be changing soon
OTR, P&D		
OTR	6	Lousy MPG
Regional	6.969	None

Mack

Duty Cycle	MPG	Negative Issues
Regional	7.5	
OTR	7.4	Regen system failures

Navistar – MaxxForce

Duty Cycle	MPG	Negative Issues
OTR	6.9	Longevity questions?
OTR	6.4	EGR Coolers
P&D and OTR	7	Programming
I/H and P&D	6.3	
OTR		Lots of national back order parts
OTR, P&D		
OTR	6.45	Less than expect MPG
OTR	7.1	

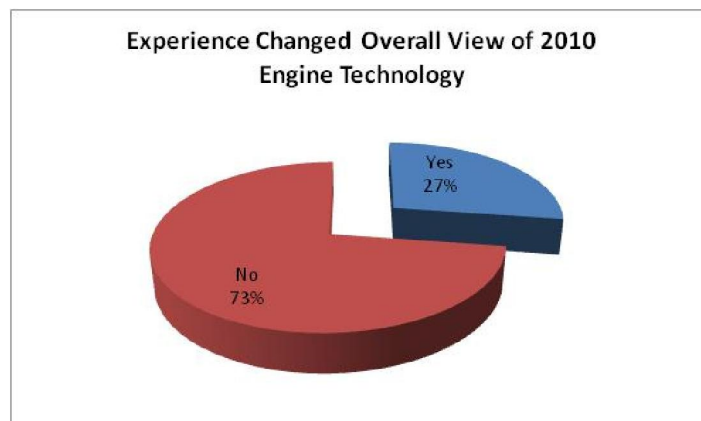
Paccar MX

Duty Cycle	MPG	Negative Issues
OTR	6.75	Minor sensor issues
Regional high duty cycle (mountain roads, bulk hauls in non-aero friendly trailers)	4.5 to 6.5	Core engine is great, issues have been primarily with software
OTR	7.5	Iron is great, software is too smart (read complicated)/dealers are not yet up to speed on diagnostics
OTR	6.45	At least 6 recalls

Volvo

Duty Cycle	MPG	Negative Issues
Regional	6.3	Not as good on MPG as promoted
OTR	7.1	None
OTR	6.8	

2. Has your actual experience with 2010 emission engines changed your overall view of the technology? Yes, how? No, our experience is pretty much what we expected from the technology



The majority who have actual experience with 2010 technology are seeing about what they expected from it; but a few have changed their overall view, some for the better and some for the worse:

- Dealing with DEF is a pain for our fleet and increases our costs
 - Better than expected, more like what we were hoping for
 - Fuel mileage lower than expected / cost
 - More expensive to maintain
 - Engine and hard part components have worked well (except for a few sensors) but engine is programmed with too many non-critical fault codes that interfere with an otherwise good product. Get rid of half the codes and I bet many issues go away
 - More reliable
3. *Tire prices continue to increase, what are you doing to mitigate the impact of those increases on your fleet?*
- Increasing the use of recaps - we previously only used recaps on very limited basis
 - More recaps; also moving to tire inflation systems
 - Trying to maintain correct air pressures
 - Buying tires when actually in stock and bulk sale prices and storing them
 - We have extended our casing program from 5 years to 7 years for capping
 - Fortunately had them under annual contract. Buy heavy at each end to get ahead of new prices
 - Best practices regarding tire maintenance
 - Better in house management
 - Retreads
 - Using recaps, removing all wide based tires, purchasing tires through a buyers group to get better discounts
 - So far with the volume we do with a major supplier hasn't hit us real bad so far
 - Running more recaps and use more brands
 - Changing brands for pricing
 - Tighter air PSI checks, program enhancement; balancing, rotations, alignments
 - Continue to evaluate tire performance through cost-per-mile best mile analysis by application
 - Same thing we have always done. Good air pressure, good recap program, maintenance, and choose correct tire for the job.
 - Using more recaps than before
 - Tighter controls on retreads and on the road events
 - Increased focus on RAR controls, increase retreading and new products, broaden the supply chain channels
 - Best thing to do is work out long term purchasing agreements with 2/year price adjustment based on some factual material cost increase index
 - Increase retreading
 - We've worked closely with our retreader, to make sure that our program was in line with getting the most of our casings, we also standardized our truck and trailer fleet on size
 - Preach keeping them aired properly
 - Looking at lower cost alternatives such as Double Coin and running the tires longer before removal
 - Reviewing our supplier, evaluating our retread program to extend casing life, increasing tire pressure monitoring
 - Pre-bought a few tires, but really just sticking to the program
 - Paying closer attention to detail, air pressure and matching, etc.

Do you have any particular recommendations about tires (best type, brand, how to manage, etc.) that might help another fleet?

- Keep them aired up. We are on a 45 to 60 days cycle for trailer PM
- Casings are better than ever all we are using new OE are fronts
- We haven't changed brand; manage our pull points and capping
- Bandag
- As far as tire brands and models; what works best for one may not work for another. As far as maintaining your tires; you must be diligent when it comes to inspections and air pressure
- Tires I feel are always up in the air, everyone's operation is a little different
- Bridgestone and Michelin appears to be the premium tire. Goodyear making progress in this area
- Tire application is key. A cost-per-mile best performing tire in a 2-axle steer, P&D application will not be the best cost-per-mile performer in a 3 axle steer, regional application
- The one most overlooked is "take the time to listen to what your tires are telling you" (inspect condition and air PSI, look at wear, conduct tests)
- Michelin recaps are doing well
- Increased focus on audit process at location level
- New FE premium brand 1st tires, then retread with quality retreader and use FE tread stock
- Tire maintenance procedures , mating, matching, air pressure management, rotation from tractor drive axles to trailers, retreading several times
- Pull point is critical, as well as pressure management
- Do not go with cheap brand of tires (we tried Wanli). The ones I have tried wear at a faster rate than name brands. Toyo seems to wear as good as any other. Currently I am trying BFG's. They are doing a good job so far.
- Inflation and alignments, cost of tires are getting out of control
- Tire Two tires (Hancock, Continental) are a pretty good tire for the money
- Keep them aired up, matched up and aligned up

4. If you are using an automatic tire inflation system, which one and would you recommend it to others?

Eight indicated they are using the PSI system and everyone would recommend this system to others.

Four indicated they are using or have tried the TireMaxx system: Two would recommend to others but two would not recommend because:

- Requires hand held to adjust tire pressure, not reliable
- Too many repairs

5. *How has SmartWay green technology affected you tire program? Example SmartWay caps on non-SmartWay casings?*

One third of the respondents indicated some effect from SmartWay initiative, in some case simply stated that SmartWay recommended tires are being purchased. All answers listed below:

- Shifted to all Smartway Tires
- We have been staying with our regular capping process but ordering our new with Smartway thread and we are still out to school on them
- We are staying in compliance with the program. It is adding about .001 to tire cost
- Increased cost
- Some of the regional tires are not part of the program while the selection is much larger for the drives. We struggle to fit on the steer side of Smartway
- Smartway caps on Smartway casings - yes
- If you are running side skirts, tires and brakes are running hotter thus less life to replacement
- We are attempting to go SmartWay on everything
- We spec a SmartWay tire from the factory, but capped with something else
- We are SmartWay certified and purchase SmartWay approved when possible.

6. *Are you testing any alternative fuels for your vehicles, if yes, what has been your experience? With CNG specifically, if you have any experience with this fuel, has it had an effect on your maintenance costs?*

Type	Experience
Bio	What we expected
CNG	Years ago abandoned station because time to refill and small fuel load ability
CNG	Under review
CNG	No value thus far. Increase in PM and failures due to extreme duty cycle of low litered engine
State mandated B-5	The need to triple our fuel tank maintenance due to the fact that any fuel bugs just love the stuff
Hybrid and Bio Fuels	Increased cost
CNG	Good so far; Most have been warranty BUT maintenance will get expensive. The tradeoff is the big dollar savings in fuel cost

7. *We use a Puradyne filter system and change out oil only when analysis says we must. We have some units that have gone as long as three years on the same oil. Does anyone else do something different?*

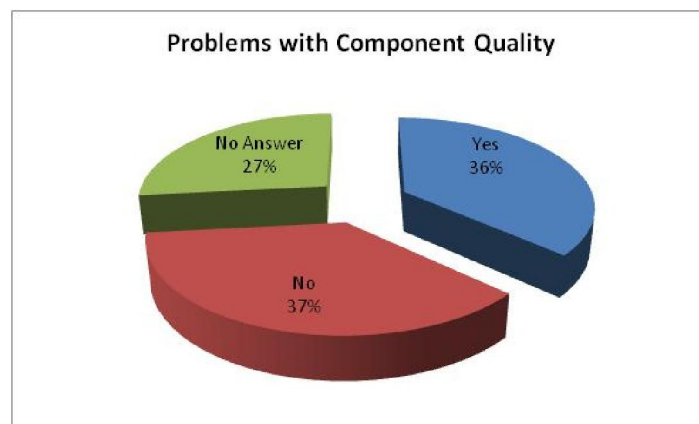
- Always change at 30,000 miles
- We are the ones on Puradyne (asking question) and still very happy some now longer than three years
- We have started pulling samples from all equipment and will be extending our oil change interval in 2012
- We tried that many years ago and my advice would be to really look at your oil analysis. Just because you are putting an additive package back in the oil when you change the filter, does not mean the oil is as good as new
- Using Puradyne with same intervals. Currently installing Spinner II centrifuge
- Three years on the same oil? Sounds like trouble. Must be synthetic
- Not sure this will be a good practice with new engines while they are still under warranty coverage!
- We also use Puradyne, with great success so far; we're looking to expand its utilization, needless to say that a structured oil sampling program is a must
- We are on a mileage oil change interval
- Traditional methods but would like to look into Puradyne concept
- Between top off and filter changes, you've changed the oil, don't kid yourself

8. *Do you have any successful practices for hiring and retaining quality drivers that you could share?*

Unfortunately there aren't many effective strategies noted in the answers we received:

- Treat them like your friend because they are
- OTR is becoming more of a challenge
- I wish we did. We raised pay, got more dedicated freight, have a lot of drop and hook loads, and still have a large turn over
- Treat them with respect
- Wish we did

9. *We are running into problems we have never had before like components barely outliving warranties even of things like springs. Are others seeing the same thing? Yes, what specifically; No*



A little more than a third of those responding to this questionnaire indicted that they are seeing this phenomenon - specifically with:

- Auto-shift Trans
- The wiring on trucks has not kept up to the demands of the new technology. Still wiring trucks the same as we did 20 years ago
- Engine electronic components
- Turbos built in Mexico
- Springs and exhaust systems
- I feel that the biggest problem comes from out of country manufacturing materials and quality control process
- Big components (engines, gears) do fine but the smaller stuff has become lower quality (imported) or lighter duty (plastic and "car parts" that used to be metal "truck parts". Some stuff falls apart or even falls off.
- Plastic coolant tanks on Internationals, EGR coolers on Cummins ISX engines, air tanks on Internationals
- Brakes chambers, frames, fuel systems
- Fuel injectors, engine ECM's
- Batteries
- Radiators

10. Do you have a recommended practice for extending the life of injectors?

- Try to buy quality brand fuel and use lubricity additives
- Dry fuel; we use heated fuel filters even here in Florida
- Adding supplements to bulk fuel. (Diesel Kleen + Cetane Boost and Lubricity additive)
- Review during PM's
- Quality fuel filters changed regularly
- Quality fuel and additives

11. Do you have a recommended practice for air dryer maintenance?

- We service our fleet's air dryers annually or every 1500 hours
- We change filters or cartridges once a year in the fall; and test or replace heaters
- Clean and rebuild on regular basis
- We have them set up on the PM schedule starting in August to go through the dryers
- Change the filter in the dryer as recommended. Rebuild at 300,000
- New desiccant filters and valve every three years
- Follow mfg guidelines. Inspect and replace when directed
- Review during PM's
- None other than manufacturer recommended schedules
- Whoever has a good answer here wins the prize! Have tried various ideas over 30 years and still end up bypassing them on the road!
- Rebuild whenever water is found in air tanks
- Mandatory cartridge replacement at annual inspection
- We change the cartridge every 6 months. Only lost one dryer in the last five years
- Change the filter once a year
- Most dryer problems stem from the purge valve, keep it clean and water out of your air system
- 3 year and replace with new
- Rebuild them each October before the cold weather really sets in

12. What are the most effective on-board safety devices, in your opinion?

- E-logs - ensures drivers are not exceeding H.O.S. limits which helps make sure they are not fatigued
- Roll over protection
- We have put some units with on-guard system into service this year
- We are testing "SideEye" blind spot system and adaptive cruise
- Qualcomm has made an improvement on our drivers knowing "big" is watching
- MPH Limits on engine controllers. GPS
- Roll stability
- Proper training and monitoring of the person behind the steering wheel! Stability control systems are also good but they don't replace the previous sentence.
- Roll stability
- Backing cameras
- Electronic Stability Control, Roll Stability Control, Iteris w/Safety Direct program, Qualcomm CER reporting
- Electronic Stability
- A rested driver NOT on his cell phone
- Roll Stability and On-Guard

13. Do you have a process for measuring third party maintenance (whether it's meeting your expectations, doing repairs correctly, cost effective)

- Annual reviews
- Our 3rd party maintenance is only controlled items like brakes and they use our parts
- This will be something we will be looking into in 2012
- Trying diligently to do so. Have started a very manual system on tracking repairs. We are still in development
- Yes, we bring units in after several PM's have been performed by outside vendors and completely go over the units a report card
- Yes, we maintain a monthly and YTD on all areas such as engines and tractor repairs, trailer repairs, tire expense, etc.
- Data analysis
- Yes, a scorecard type system measuring volume, cost, comebacks, and downtime
- Closely audit invoices, require estimates on all repairs, audit repair work, take bids
- Only use 3rd party in an emergency
- Random spot checking of the work completed and follow up with vendor both negative and positive. By doing this, the vendor knows you are watching and is less likely to add fraudulent repairs (mostly by managers looking to cap off bonus's)

14. Do you have a recommendation for fuel heaters?

- Arctic Fox
- DAVCO
- Have like the Davco product for years
- We use Davco fuel filter and heater. Just replace o rings for maintenance
- Shouldn't really need them anymore!
- For us the in-tank fuel heaters caused more problems than they ever solved. Try to use good quality treated fuel. Unless you are running in arctic climates, they are unnecessary

15. What specific trailer technologies (if any) actually have an ROI in terms of fuel savings?

- Side skirts
- We have started retro-fitting skirts but are unable to capture a fuel savings because we don't dispatch trailers
- Tire inflation systems work very well
- Tire inflation systems
- Inflation systems, correct tires, lighter weight
- Aerodynamics
- Side skirts
- None, because we do not marry the trailer to the tractor and it is hard to track fuel performance with trailer devices
- Hard to measure
- Have not found one yet that can test reliably

16. *What is your opinion about possible aftermarket parts legislation and standardization?*

- I don't think more legislation is required as long as quality parts are available
- Legislation should require aftermarket parts to be same quality and warranty as OEM parts
- Should be done
- Will end American trucking as we know it. Coming
- It's about time
- It may help but only if it involves primary input from ATA TMC (Best Practices), fleets, and reputable suppliers. Keep politics (and thus most of congress) away from it.
- Required long overdue
- It is a long time overdue and the sooner the better
- Should be some sort of standard parts from overseas need to meet before we put them on our highways
- Bad news
- Don't buy from the internet unless you know the supplier
- Just let the market regulate this stuff
- They will do whatever they want and then it will change. Nothing new here.

If you have any questions regarding the content of this report, please send an e-mail to chris@ckcvr.com and I'll try to answer them for you. Thanks for participating; hopefully this report will be a helpful source of information.

Best regards,
Chris Kemmer