

Best Practice Report  
December 2010

*Original question is shown in italics – We received only 14 responses to this particular best practice questionnaire so some questions may be repeated in the next one scheduled for March.*

*What reliability issues (please be specific) are you experiencing with engines (all years) you are running in your fleet? After we receive answers to this question, the next Best Practice questionnaire may expand on each issue as we get a baseline.*

This question was asked because one of our Fleet Advisors asked us to gather some specific information about engine reliability issues. I have listed all responses we received in the following table.

		% Downtime	
Make/Model	Problem	Average Month.	Resolution
Cat			
Cat 09 C13	Exhaust & Cool Gas pipes		Testing third party pipe systems.
CAT C9-11-13	Heads & top end bad metal we think excessive wear expensive Little help. New parts are as weak as the old.	5	Selling them off as soon as possible. Never again I don't care what they come with.
Caterpillar Accert	Various parts.	2	If we can solve it with our one dealer tech advisor we are ok, if it goes above him then not good.
Caterpillar C-15	DPF and related components. Turbo failure.	5	We are getting no support from Caterpillar even though we have been long term loyal Cat customers.
Cummins	M11, ISM 1998-2000 Gasket leaks Block fretting.		Costly repairs
Cummins 04 ISX	EGR valves		Tolerating--dealer claims we have best valves & software available
Cummins ISX			
Cummins ISX	DPF failures.	?	Not buying more engines due to their stellar support!
Cummins ISX 15	Losing Overhead Cams on every engine when it reaches 500K miles. Lobe delamination of hardened surface.	5	Cummins will not warranty because we extended our oil changes beyond Mfg recommendations after switching to Mobil 1 Full Synthetic.
Cummins N14			
DD15	TURBOS	?	48 of 185 of 2010 yr mdl have failed. DDC just (finally) released a recall.
Detroit Diesel DD13	We have a full year with these engines now and they are performing well.	1	Warranty
Int. Maxxforce 13	EGR, Radiator, electrical	2	Problems with first purchase on EGR's, next group OK. Put shroud in at bottom of radiator for one application to prevent dust and dirt from blowing up between radiators and plugging up electrical due to faulty grounds and sensors that have been fixed.
International DT466/HT570	Fuel dilution in crankcase. EGR coolers leaking internally.	1	Re-flash Eng ECM for fuel dilution. Replacing EGR cooler.
Mack	EUP- Electronic unit pump injectors		
Mack MP8	EGR, DPF's, suspension	7	Don't plan on buying anymore.
Paccar MX	Emission control electronics	2	Working directly with OEM techs and engineering.
Series 60	Anything to do with emissions.		We take them back to the dealer for repairs but do not have a clue as to how to solve the problem. We are struck with the technology. So far buying new trucks with SCR has been as close to a solution as we have.
Volvo D13	EGR, DPF's, electrical.	7	Don't plan on buying anymore.

*If you have now had some experience with SCR and/or Advance EGR engines, please explain the good and bad*

<b>SCR</b>	<b>Advanced EGR</b>
<u>Good</u> <ul style="list-style-type: none"><li>• Fuel economy (2)</li><li>• Decent performance, no surprises.</li></ul>	<u>Good</u> <ul style="list-style-type: none"><li>• No extra fluid and hardware to contend with.</li><li>• No problems so far but only have had less than a month</li><li>• So far no issues but early.</li></ul>
<u>Bad</u> <ul style="list-style-type: none"><li>• No SCR issue to date but we did extensive driver training before launch.</li><li>• Added costs and weight.</li><li>• Fuel mileages not what we expected</li></ul>	<u>Bad</u> <ul style="list-style-type: none"><li>• Have to monitor oil and coolant analysis closely.</li></ul>

*How do you account for DEF burn to get a real "fluid economy" measure? Does Qualcomm, People Net, etc. pull this data similar to the way they do fuel?*

- People Net, Zonar and Fuel Management system
- Actual tank miles only way to keep track of right now.
- ECM data
- PeopleNet does not pull this information with its current version, but future versions may.
- We track DEF consumption per 100 gallons of fuel as a separate item, then add total DEF cost per truck to fuel consumed per truck.
- Currently we just add it to the cost of the fuel for our CPM calculations.

*What is your experience with reliability and cleaning of DPF filters?*

- Scheduled cleaning has not been an issue, had 1 cracked filter out of 6.
- We have seen a number of cracked or otherwise unrepairable filters even though these units do not have a lot of miles DPF systems have been very expensive to maintain.
- Only have a few and filter cracks on over 50%
- Just now starting to clean DPF's as a program, some improvement on MPG.
- So far OK-- 1 failure in 10 cleaned.
- 500,000 miles and not cleaning required yet.
- No problems.
- We have our own cleaning machine, purchased after OEM machines weren't up to the job. We closely track each DPF filter pressure to determine cleaning schedule. DPF management is mandatory.
- COST IS HIGH!

*Do you utilize engine parameters such as gear down protection, progressive shifting, load based speed control, driver reward, etc.*

70% do utilize these parameters as follows:

- Road speed and idle time limiters.
- Progressive shifting, driver reward.
- Eaton Ultra Shifts and all of the above.
- Significant bonuses paid for speed and idle reduction.
- 62 mph top speed, gear down protection, upper rpm limits, idle shut down ( 3 min.)
  
- All of the above mentioned.
- Progressive shifting.
- Programmed 62MPH, 5 minutes idle shutdown since 1992.
- All trucks set at 62 mph. We feel the driver rewards defeat the purpose of slowing down to begin with.
- 9th gear limited to 58 mph, cruise gives 2 more mph.

*Borderline warranty, discretionary policy, and just plan problem settlements are becoming rarer from engine suppliers as a result of market contraction combined with 2010 compliance costs. What are you doing to think "outside the box" with your suppliers to help offset this?*

- No action on this as of this time.
- Changing Suppliers
- Bitching at local vendor & all factory people we know
- Requiring more training provided by O. E. M.'s to do in house work.
- Not only engine-- ALL suppliers have adapted same policies.
- Must be stern with them and demand policy help from the dealers.
- Extended warranty packages.
- Same as always: complete honesty with suppliers, don't file what you don't deserve (no phony claims for driver damage or something we caused), always be willing to hear OEM side, never bad mouth a supplier. If we do this then they are willing to hear an honest claim from us.
- We have noticed that "policy" money has just about dried up.

*Are you planning to add (or already have added) on board safety technologies?*

60% of respondents indicated they did plan to add (or have already) safety technologies –primarily stability control which has worked well for those that have it now - total list includes:

- Stability Control
- Roll Stability
- Planning lane change & no tip.
- Radar, lane departure, Driver cam, RSC
- EORB
- Roll stability 75% reduction in rollovers.
- Bendix ESP stability program.
- Roll stability control- we have had it for almost 6 years and have not had a roll over in that time frame...knock wood.

*Do you think trailer skirts are effective in lowering fuel consumption?*

77% indicated that they thought they were effective with a few giving neither yes or no answers. A few of the positive responses, however some had some reservations:

- OTR only. Maybe not in snow.
- Jury out--don't believe measurable in fleet operation.
- Got to go fast to see benefits...we are slowing down.
- Possibly but do to the costs associated with installation and upkeep offset any benefit of added fuel mileage?

*What tires are you running in your fleet, what tread configuration?*

Power Units	Trailers
<ul style="list-style-type: none"> <li>• Michelin XZA 2, highway tread.</li> <li>• 11R22.5 &amp; 315R22.5 Drive/Traction tread design.</li> <li>• XDN2</li> <li>• Michelin X-one XDN2 Super Singles</li> <li>• Michelin XZA3 steering Michelin XDN2 drives</li> <li>• Goodyear Floats</li> <li>• Bridgestone R280 OTR, R260 short haul steers, M720 drives both OTR and short haul, Bandag Fueltech drives OTR and Eclipse rib short haul caps. Michelin HAD OTR and HDN2 short haul super singles, Bandag BDR caps.</li> <li>• Michelin XZA3 steers/ B/S 711</li> <li>• Michelin XZA3 on Steer, and XDA Energy on Drive.</li> <li>• BS R287A, M726EL</li> <li>• Recapped open shoulder lug tires (we run in "traction required" conditions).</li> <li>• GY-G 399 fuel tech steers, GY-G372 drives</li> <li>• Bandag Megatrek</li> </ul>	<ul style="list-style-type: none"> <li>• Michelin XZA retread.</li> <li>• 11R22.5 Highway. Trailer tread design.</li> <li>• XDA3</li> <li>• Michelin X-One XTE Super Singles</li> <li>• Michelin several types</li> <li>• Brazilian recaps Highway tread.</li> <li>• Bridgestone R196 and 195 and Bandag STM, Michelin HTA and Bandag BRR caps for super singles.</li> <li>• B/S R195</li> <li>• XT1-AT on Trailer</li> <li>• R197</li> <li>• Recapped highway rib tread tires.</li> <li>• GY-G316 duraseal fuel tech trailer tires</li> <li>• Bandag FCR</li> </ul>

*Does your fleet have a "standard" for aftermarket parts?*

70% do have some standard for aftermarket parts – examples:

- Meets OEM specs.
- Stick with Brand Name and what works.
- Purchase OEM whenever practical.
- Must rate higher than one.
- Must meet or exceed O. E. M. spec's.
- N/ American made, you get what you pay for.
- Don't use them!
- The least expensive high quality parts we can get!
- Only that they meet or exceed OEM specs.

*Would you support an initiative towards aftermarket standardization and regulation?*

*If yes, please explain; if no, why not?*

Yes (58%)	No (41%)
<ul style="list-style-type: none"><li>• Product quality varies greatly between some of the aftermarket brands available in today's marketplace.</li><li>• Need to know what we are getting and how it will last.</li><li>• Takes worry of knock off parts from off shore.</li><li>• Protect us from junk.</li><li>• Only if it is an industry initiative (modeled on TMC "Best Practice" format). Keep government out of all issues except fraud and critical safety items.</li><li>• Standardization makes everyone's life easier and ultimately saves us money.</li><li>• We want good stuff.</li></ul>	<ul style="list-style-type: none"><li>• Too much government regulation now.</li><li>• We are careful with what we buy.</li><li>• Cost of compliance and testing will be passed on to consumers.</li><li>• NO MORE RED TAPE</li></ul>

*Just recently tire manufacturers have announced pricing increases, do you expect more increases because of rubber shortages?*

*Yes, about what percentage of price increase do you think they will pass on within the next (3) months?*

*No, I think the price increase we've just seen will be the end of it for awhile*

50% expect an average of 4.65% additional increase in the next 3 months – 50% don't expect any more increases for awhile.

If you have any questions about the contents of this report, please send an e-mail to [chris@ckkemmercomm.com](mailto:chris@ckkemmercomm.com)