During December 2009, we sent out a questionnaire consisting of questions submitted to us by our regular fleet advisors. Unfortunately, the questionnaire was quite long and we received only 19 responses. Some questions were not answered by all respondents. Because this is a "best practice" report, we generally try to include all comments rather than just giving a group analysis. We believe you would like to see all comments from other fleet executives.

Original question will appear in *italics* – followed by responses

1. *What do you do about tire damage caused by driver error?*
   - *Reprimand the driver?*
   - *Charge the driver back for the damage?*
   - *Grin and bear it – or do nothing*
   - *Something else, What?*

The majority - (9) "Grin and bear it – or do nothing".
(2) Reprimand the driver
(4) Charge the driver back for damage
(3) Do something else

- Reprimand plus bonus disqualification if damage exceeds a set threshold (including any road call costs)
- Our drivers are given a safety bonus of $400.00 each quarter if they do not have an accident or speeding violation. So in this case the driver would lose that quarter's safety bonus. The biggest reason for driver negligence tire failures is dragging the tires down the road when the brakes are froze up. Many of these damaged tires are not found until doing a PM....then it is virtually impossible to track down the guilty driver
- Charge Transportation and look into the root cause

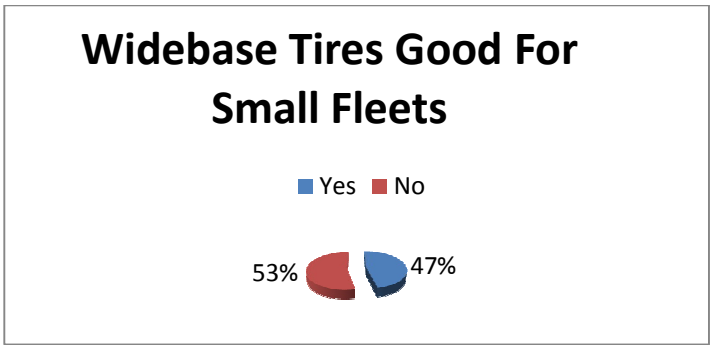
2. *What do you do when a wide based single tire and wheel are ruined?*

- Replace it with new
- Try to educate driver (again) on proper braking with tire failure
- If we cannot find a like for like replacement, we purchase (2) trailer tires and steel rims that we can use on a trailer
- We would have to replace them both. This would normally occur on a blowout when the wheel is violently pushed into the road especially when the driver is in the middle of a turn. We chose to add straps to our axles to keep the wheel from hitting the road in those cases.
- Throw out
- Same, pro-rate cost

3. *Have you experienced wheel bearing failures that can specifically be attributed to a switch from dual tires to wide base tires?*

We received ZERO yes answers to this question

4. *In your opinion are wide-base tires a good product for use in small fleets? Why or Why not?*



Yes (7) - Why

- Increased payload, some fuel savings. Has to be managed better to get payback
- They can be, but it depends on what you are trying to accomplish. We are a small fleet and were testing them for fuel economy savings…so far they have not proven themselves as more fuel efficient for us. However, in one case where weight savings was the critical factor, they have proven successful
- If more revenue is generated from weight savings
- MPG and weight savings
- If you can justify the cost and see a positive ROI
- In controlled situations
- Control is much easier in a small fleet

No (8) – Why not

- Start up cost
- Not enough data to justify; life is shorter than claimed
- When you get a flat, you're down
- Depends on the fleet, commodity carried (weight sensitive?) and area of operation (2-lane, interstate, close to or far from support, etc.)
- So far we have not seen the promised ROI. The slight increase in fuel economy does not off-set the loss of wear mileage. We have seen a reduction of over 100,000 miles in tread life
- if one goes bad there you sit until replaced
- Getting repairs on the road; you are forced as a small fleet to carry a fully mounted spare

5. What type, if any, tire sealant do you use in wide base tires?

None of the respondents indicated they are using any tire sealant in wide base tires

6. How often do you recommend tire air checks with a gauge?

There was no real consensus on what's best - daily, weekly, every PM and other intervals as mentioned. One constant is that for most, there is a definite plan for gauging tires at some specific point in time.

- Once a week
- Every day
- Every fuel stop
- Everyone of our tires is checked (gauged and visually) every Saturday morning and during all services
- Monthly
- 10,000 kms (Canada)
- Require air inflation system on trailers. Try to hit trucks weekly
- Driver should check it at least weekly
- Weekly
- We gauge the tires every time a piece of equipment comes into our shop; even if a truck is pulling a trailer in for a PM, the truck will get gauged as well. In the perfect world, there is nothing better than a driver gauging his/her tires before every trip...the major challenge with that is getting the drivers to use the gauges, and the fact that the gauges need to be calibrated on a regular basis
- Every fleet shop visit
- Every vehicle PM
- As units pass through terminal daily
- At scheduled PM, have monitoring or auto-air systems on tires
- We recommend daily, but it does not happen
- Every service and weekly yard checks
- As often as possible. Trailer should use a positive air system
- Every 30 days

Engines

7. What experience have you had with cleaning DPF's

- □ *How are you handling?*
- □ *How many miles were accumulated when cleaning was necessary?*
- □ *Under what duty cycle?_____*
- □ *Have not had to clean any DPF's yet*

We did not receive a lot of input to this question other than most respondents "have not had to clean DPF's yet". The additional information we received included:

- Currently doing the first of our 50 retrofit DPF units. Remove, clean, re-install. Substitute a spare unit if needed but always reinstall original when cleaning is finished
- 10 CAT DPF's were pulled and cleaned at 250,000 to check the status. All 10 cleaned up fine and could have gone to 300,000 miles. 0% idle, CJ-4 oil, line haul, ISX DPF's will not be pulled for preventive cleaning until the engine codes for restriction of MPG drops due to excessive regen
- We have not experienced any need to have the DPF's cleaned because of ash loading (380,000 miles on most used truck)

8. *If you have had any experience with 2010 engines running in a real world environment, for each engine brand please complete the following chart comparing those engines with what you are currently running in your fleet*

2010 Engine Brand/Truck brand	*Pre-2010 Engines/trucks in your fleet*	*MPG - % better or worse than pre-2010*	*Performance better or worse than pre 2010*	*Any other comparisons*

Unfortunately, since this is the question most often requested, we received no responses.

9. How do you plan to manage SCR? Adding Urea, when, where, how, etc

For those few fleets that responded with plans to have any SCR engines in the near future, their plans for adding UREA:

- We will have barrels or totes at our shops for top up (we fuel at own locations)
- When we get to the point we will buy bulk containers for refill at the home terminal and carry a few gallons in each truck
- We plan to install a bulk tank at our facility, and keep an extra gallon or two in the truck

10. What emission motors are mostly spec'd in new units?

- International
- We were CAT-15, we will most likely be Paccar MX
- Maxxforce 13
- Maxxforce International
- 07 ISX, Paccar MX
- DD15's (2)
- Cummins, but we are currently seeking to buy used units with 02 emissions
- We will be using Cummins
- Cummins and Volvo, same amount
- Navistar
- EGR MaxxForce DT
- We have not spec'd any new units
- CAT C13

11. How much has the 2007/2010 emissions contributed to added maintenance costs?

- A bunch
- 5%
- We avoided the 2007-2009 engines. I think 2010 will be much improved in spite of addition of SCR
- Gut feeling only at this time - has added more down time
- Significant amount of issues dealing with warranty work including moving vehicles to and from dealers
- 07 engines have required cleaner oil, better lube filtration
- Our biggest issues have been with the Series 60 engines calling for parked regenerations due to part failures such as doser valves, injectors, or sensor problems. If the driver does not do the regeneration promptly the dash switch is useless and a technicians has to come out with a laptop and force the unit into a regen mode. This has happened to us at least 10 different times. Our DD15's have not had any issues at all as far as emissions problems.
- At this point, it did not add to maintenance because many of the repairs were completed under warranty
- Substantially, not only downtime, but tech training, parts purchases downtime
- .02/mile
- Have experienced high % of fuel dilution in engine oil
- At this point, minimal
- Significant costs related to downtime
- 30%

<u>Equipment and Components Other than Engines and Tires</u>

12. Do you anticipate going to a higher output alternator on your 2010 spec truck?

(5) of the respondents answered with an unequivocal yes – with one adding "Yes, OEM's are already going that direction. Not much choice as these components get vertically integrated by the OEM". One respondent answered that he will "if they are available". (7) respondents answered with a simple no but we received some other comments as well:

- No, already use a 160 amp
- We always go for the best, I do not know why they still offer cheap ones
- We have spec'd 160 amp for several years and do not believe will go higher than that unless we go to the all electric APU's which recommend 200 amp

13. What is your experience with Teflon wear pads for trailer spring suspensions?

Most had no experience at all with these pads but a few had some comments; mostly positive

- They work well
- The best
- Wears fast
- If you're talking about the wear pads between the slider rail and tandem assembly, they last a long time, sometimes come out though - not an issue whatsoever

14. Durability of engine emissions related to components?

- They wear out about 20% earlier than the rest of the components
- Once we get past initial bugs (in 2006 engines), durability improved dramatically. The trick is having a tight relationship with engine partner.
- Exhaust issues with 08/09 Cats
- Problem with sensors, 7th injectors and ECM upgrades
- EGR coolers on '07 Cummins are leaking
- Terrible, this new phrase "oh, that's a maintenance item" has developed. ERG valves on both Cummins and Volvo has poor service life. Numerous 7th injector issues
- Need to improve
- EGR coolers are failing
- Very poor. Base engines are excellent
- About half what they should be for the additional cost

15. What systems are you aware of that are available to maintain trailer fullness or cube?

We received only (1) suggestion

- Both Ancra and Kinedyne make adjustable beams, obviously the standard beam with log posts

16. What in-cab safety technology have you added to your trucks/tractors? What have been the benefits?

Technology	Benefit
Rollover stability	No rollovers
GPS	Helps with directions
Iteris Lane Departure	Maintain center of lane, increase awareness, increase use of turn signal
Radar	Works well, drivers like it but can't justify cost
Omnivision by Qualcomm	Text to speech
Camera	Backing/blind spots
TPMS	Avoid low tires and blow outs
Stability Control	Surprised at how many times the system is activated
ESS	
Bendix ABS6 w/ESC	Lessen opportunity for roll over
Lane departure	Again works well on major highways, can't justify cost

17. What standards have you set for fuel economy in your fleet?

As you can see by the table below there were various expectations with a typical line haul, OTR fleet expecting 7.0 or little more and a mixed fleet (long haul, short haul) expecting from 6.0 to 6.5 mpg. We received an additional expectation from one fleet:

- If the driver does not maintain 6.9 mpg, we reduce their max speed from 75 to 69 then if the truck falls below 6.7, we reduce their max speed from 69 to 67, then if the truck falls below 6.5 we reduce their max speed from 67 to 65

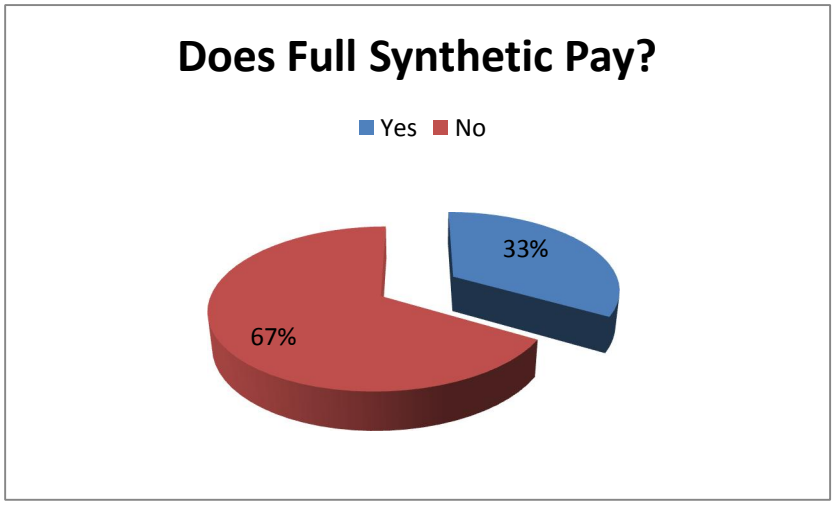
Expected MPG	Duty Cycle
7.3-7.5 CDN	08/09 CATS
7.5-8.0 CDN	2010 MaxxForce
6.4	Fleet Wide
7+	Line haul, 0% idle
6	Local
6.7	Long haul
7.2	OTR
7	OTR
7	OTR
7	OTR
7	OTR
5.5	Short haul
6+	Varies, local and road
6.5	Varies, local and road

18. In your opinion what are the best driver techniques to maximize fuel economy?

The suggestion we received the most **(8)** was the most obvious **– reduce and/or control speed** with one respondent indicating they control that by limiting the top speed on the truck (I expect more than one fleet does that). **Reducing idle time** as the next most mentioned **(4)** with the following suggestions being added by others:

- Automatic transmissions
- Good MPG records
- I've seen guys that run trucks real hard get real good mpg. I've seen older drivers that drove forever get poor economy - makes no sense
- Keep front of trailer within 30" of back of cab or extenders
- Keep them comfortable
- Pay attention
- Progressive shifting matched to engine sweet spot
- Stay in top gear at least 97% of the time….skip gears when possible and get to 10th or 13th as soon as possible and DO NOT down shift until the RPM's drop below 1000. Shift to next gear before RPM's reach 1400
- Tire PSI
- Watch the road ahead, plan your moves in advance
- When in high gear the cruise control should be engaged at least 80% of the time weather permitting
- Work the engine in the range it is designed for

19. Does using 100% synthetic oil pay? If no, why not?



A few of those that answered yes, had additional comments:

- You did not specify what component this is for - drivetrain yes, engine, no
- We are using it in on a group of 12 tractors, working EXTREMELY well
- Only if you extend the interval

For the majority who did not think 100% synthetic oils paid off, the reasons why not were:

- It cost too much for as often as it is changed
- Too expensive - some non-synthetics are almost as good
- Costs too much (2)
- Mineral oils are now so good that synthetic has to be run to extreme miles to recover the additional cost
- We tested it and couldn't get our cost back
- I will assume you are referring to the engine and explain our thinking on that. We do not want the trucks to go more than 25,000 miles without being inspected and lubed. The time it takes to actually drop the oil out of the engine and replace it is only a few minutes if you have the proper equipment. If you are turning your equipment over at 500,000 miles as wer are then there is no real benefit to running the synthetics and we can justify the cost based on labor costs alone
- Using semi-synthetic works fine

20. What are you doing to reduce idle time and still maintain driver comfort?
With equipment technology/use or
With driver management

With Equipment Technology	With Driver Management
• Using Idle-Air - evaluating alternative systems • 5-minute shut down same plan as 1992 • Webasto fuel fired heaters/APU's/Webasto Blue Cool • Bunk heaters • APU's • Tri-Pac, ClimaCab • Currently we are using Carrier APU's. Engine idle time is set at 5 min max with no driver over-ride • Webasto cab heaters, heated blankets • Shut off at 5 min • Diesel fired cab and engine heaters work • Battery operated engine off idle solution heat/ac • 5-minute electronic timer • One group of tractors has Webasto heaters	• Use PeopleNet data weekly to determine idle percent • Driver comfort is most important • Make it clear that CARB idle fines are paid by the driver, not the company • Data collection through Qualcomm Performance • Feed back to drivers of idle time and mpg • Watch idle time

21. How do you determine when equipment is ready to be traded-in or sold?

Power Equipment	Trailers
• Deal made with vendor when purchased • Mileage over 800,000 • When I can afford it • Original method was to compare cost of operation (increasing down time) with revenue generated. New method will be largely determined by CARB requirements • Total miles based on maintenance cost and purchase price of new equipment • 36 months or when used market is good • By when we can afford to do it! Hopefully no more than 500,000 miles which our studies show is typically when maintenance costs start to rise • We are still trying to figure that one out….our goal is to run them for 1.5 million miles • Out of warranty and starting to have problems - we buy in large groups • Safety • We keep Day Cabs for life. Determining factor for retirement is costs too much to repair. Sleeper trucks….sometimes we will sell them before overhaul (million miles) sometimes we will overhaul and run until something major goes wrong and then we decide to scrap truck out (consume all the parts in our fleet) • Age/miles • 10 year life cycle	• None • Excessive tank repairs • When I can afford to add new equipment • People get rid of trailers?? • None, expect 15 years of service • Years • 7 years • Our customers set that for us. Too many customers are now refusing to load a trailer that is more than 10 years old. • We are still trying to figure that one out….our goal is to run them for 15 years • Holes it is no longer feasible to repair • Safety • We try to set 14 years as standard, but sometimes cost to fix excessive corrosion over-rides repairing trailer • Age • 15-20 year life cycle (beverage)

22. What experiences are you having with adaptive cruise control and lane departure systems? Please mention brand

- Iteris LDS – no comments offered
- Iteris - results are good, but can't justify cost at this point
- None now but Eaton system next round of purchases
- Vorad – two mentioned Vorad without any comments pro or con
- Vorad - drivers are not readily accepting the technology

23. If any of your units are equipped with air disc brakes how are they working for you?

None, except one older Rockwell system which work "ok"

24. If you are a flatbed carrier, what do use for load securement?

- Recently switched to straps due to injuries from chain binders
- Chains and straps

25. How do you identify appropriate new technology for your specific operation?

- Read industry news and periodicals, attend trade shows
- Active involvement with TMC and state associations plus manufacturers. Also, benchmark against carriers of known applications and similar history
- Does it make sense, ROI
- Try to test before implementing
- CPM & ROI
- What are the benefits? What is the payback time? Are there any insurance deductions possibilities
- ROI
- Vendors/TMC/Magazines
- Internet-Trade Magazines-Dealer Involvement
- Every piece of reading material that the industry provides

<u>Technicians</u>

26. How do senior maintenance managers satisfy themselves that their standards are being properly upheld (compliance achieved plus quality compliance)?

- Quality checks
- Monitor repairs and OOS
- "MBWA" (management by wondering around) - get out and look, go under truck when it's on the pit, random test drives, listen to drivers. Also follow reports and fleet stats but don't limit your knowledge to office based metrics
- MTO audits, road side inspections, and breakdowns
- Audits of PM's (actual inspection of units)
- I have a certified technician that does one Quality Inspection (QI) per day. This person brings in a unit that was either worked on the night before or during the day and inspects the workmanship. A QI form is then filled out and gone over with the technician that did the work. Improper repairs, unclean repairs, and incomplete paper work are all addressed. The QI form is then signed by the technician and the inspector and put into the employee's file. If no faults are found, the QI form is still signed and filed acknowledging good workmanship. This same quality inspector is main trainer as well. The trainer certifies the other technicians to do more complex jobs such as brakes, turbos, injectors, king pin bushings, radiators, charge air coolers, etc.
- Don't worry about it constantly
- Have a high equipment usability rate

- Walk around your shop & equipment and talk to people. You will see where you lack, then address those issues. Keep doing that until you have no more issues to address. At that point, you will be totally satisfied. Yes, it's that simple. Get away from your desk and visit your equipment and people
- In-house score card
- Scrutinize completed repair orders and physical inspection of completed work.
- Look at printed reports
- Close contact and audits

27. How do ensure that you are getting the most productivity from your technicians? How do you measure it?

How to get most productivity	**How do you measure it?**
Be on the floor with them	By watching them
Walk around and look at reports showing how many units are past due	We do not measure
All items in Q26 plus watch your technicians, pay attention to their questions (to plan training) benchmark their times (against each other and expected times), verify that work is complete and of best quality to prevent come backs	Visually and review of work orders
	% charge out, fully loaded cost per hour by shop, rework (private fleet)
With various reports from Transman software	I make comparisons from year to year and month to month using these same reports
Reward with jobs well done (eg, cook outs, days off, etc.)	Time to do job/cleanliness/cost effective/safety
How do you get the most productivity from yourself, from your parts department and from your office staff…why is everyone always worried about the poor tech and don't think about the rest of the staff. Surround yourself with high productivity in all aspects of your business, not just tech. If you do this and can achieve this, then you're getting the most out of everyone, and that should be what you're really after	I don't believe in the "our techs are 95% efficient" phrase. 95% of what. What is the standard? Some people bring up indirect labor. What defines indirect labor? A tech should be turning wrenches, if you're really worried about indirect labor, then whoever is issuing his work may need improved. How do you measure for yourself? Again, how do you measure for your office staff? For your parts department?
In-house job standard repair times	Productivity report
Time studies and work order reports	Standard times vs. actual time
	We have timecard reports for the paper side
Maintenance software tracking	Based on company standards

28. How do you determine staff and technician levels for your fleet?

% of maintenance done in house_____
How we determine number of staff and technicians to support that_____

%	How number of staff/technicians is determined
80	15:1 ratio tractors to techs
80	11-12:1 ratio tractors to techs
95	"Sense of balance" between work accomplished and pending work (is pending work shrinking, growing or staying firm)
85	Fleet increase in size and age
75	Overtime, cost per hour, charge out %, amount of work that has to be sent to outside shop from in house shop
80	25 power units per mechanic seems to be about right
99	Once there is a constant need for 35 hours of more of overtime
94	How well we keep up to the volume now equipment aging and we are lucky we maintained so well
90	No equipment waiting to come into shop
95	We do considerable amount of outside work, so we go by shop revenue
80	Monitoring work load, projections based on fleet age
98	50:1 fleet units
60	How many we can fit in the shop
95	Tracking age and out of service activity as well as overtime

29. Best method to standardize technician efficiency comparisons

- Manually check maintenance records
- Don't have any, policy here miss nothing and do it right
- With various reports from Transman software
- Hours against std and production
- Honestly, it is impossible to have techs equal each other. If someone thinks this is possible, you will fight this forever. How can a 20 year old be the same as 40 year old? So with that said now look strictly at tech efficiency. We have time standard for every common function. Use that. But quality must also be met, look at amount of rework per tech also
- We developed our own in house standard repair times
- Work order time studies
- They are all different, some better than others
- Mutual meetings with management and technicians

30. Overtime, when is it time to add another technician, cost vs. benefits?

- *When you are paying overtime every payroll*
- *Overtime consistently exceeds 15 hours per week*
- *We try not to add staff unless we have achieved good productivity with existing techs and we aren't exceeding set amounts of overtime on an everyday basis. If we are "going backwards" in spite of good productivity with existing crew then we look at pros/cons of additional staff*
- *Paid only when necessary*
- *Depends on size of shop but needs to be looked at when getting 35 hours of overtime per shop per week*
- *Once there is a constant need for 35 hours or more of overtime*
- *Now NO OT. Best at no more than 10 hours per week MAX - huge benefit*
- *Too much downtime on equipment*

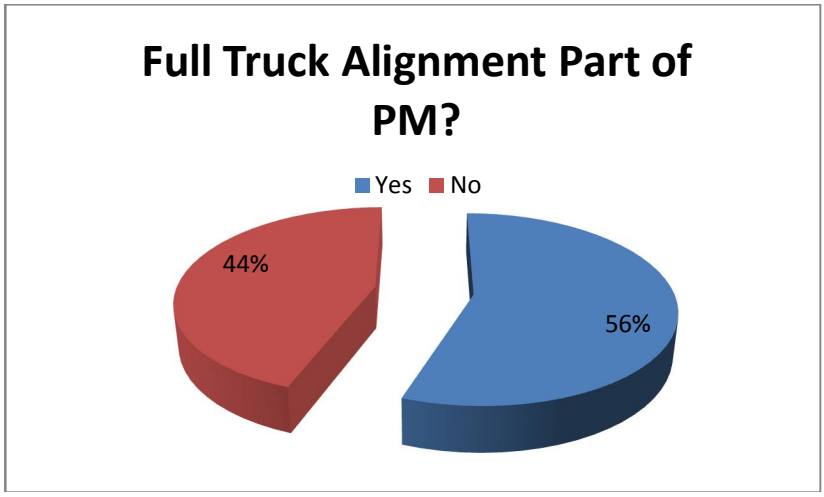
- *Our outside shop revenue dictates this. Plus we don't pay overtime, all of our truck techs are all straight time, no matter how many hours they work.*
- *If overtime is increased for several months and is not due to added projects we give consideration to adding head count*
- *We currently are watching downtime, allowed to finish a job*
- *When safety is a concern - 55-60 hours*

31. What are your plans for developing a work force for the future? Where will you find new techs, how will they be trained for new technology? Etc.

- In-house training
- Working with OEM's and suppliers to provide training materials
- We have a good workforce. We are always working to get deeper buy-in from them by offering additional training, involvement in decision making, team building "living wage" compensation, and (most importantly) treat them with respect. We have monthly meetings to "touch base" and develop training based on their requests at these meetings
- Word of mouth. We are in an area where there is a lot of technicians and few jobs
- Training is always an issue with each series being so different. Have no problem attracting and keeping them
- Our shop is outstanding shop. It has a great reputation. That fact alone brings new comers into our building. We participate in local job fairs. We work with local vocational schools. We will continue the on-going process of training. WE WILL FOLLOW BASIC MANAGEMENT TECHNIQUES
- Grow them / we do in house training all technicians required to participate in ASE certification
- New techs??? Utilize on-line training for OEM's
- We are currently working with local technical institutes and in-house training

<u>Maintenance</u>

32. Should full truck alignments to be a part of the PM process? Yes or No



33. Are you experiencing problems using new oils in older engines?

Only a couple of respondents had any issues at all

- Yes, dirties much faster and overheats
- Just started using a blended oil on units that are 12 years old with 1.1 million miles - I'll let you know

34. What do you do to get your equipment ready for winter?

- We have check list that must be completed by Nov 15 for all tractors
- Add fuel additive to fuel when it drops below 25 degrees
- Extra cooling system checks, quarterly battery tests are tighter on pass/fail borderline decisions, verify best operation of winter systems (defrost, heat, door seals, etc.) verify proper lights operations and correct airming, etc.
- Block and bunk heaters working, battery and antifreeze tests
- Basics only, check of hoses, filters, heating system and APU's
- Add one pint of Isopropyl alcohol to each fuel tank every 6 weeks in the winter
- Have a strict winterizing plan
- A winterization program
- Our PM program prepares for winter preparation year round
- We try to keep it up all year long
- Year round maintenance
- Do a winter service

35. How do you determine when shocks need replacing and how to do a ROI?

- When they leak (2)
- Based on driver reports
- When I start going through tires
- In our application, I'm yet to find where new vs. old shocks makes any ROI benefit. If they are obviously broke or badly leaking, we change them; otherwise if they are warm to the touch they run again
- Drive ability / vibration complaints or leaking/damaged
- Driver complaint of evidence of leaking
- When they leak, must be wet 3/4 down the shock body
- They must be leaking, seeping is ok
- Ride or if they are leaking
- Leaks, rust/broken/tire wear
- When they are broke, refer to TMC RP
- Warm shocks, check for oil leaks
- When they show signs of leakage
- When either leaking or not warm when coming off road

36. If your fleet has decided to keep equipment longer, how are your maintenance practices changing because of this?

Quite a few of the respondents indicated they have made no changes – including these comments

- No change, just keep doing the same thing. We have 30 over a million miles
- We have always focused on keeping the equipment forever. We have not changed

Others who have made some changes:

- We have started in-frame overhauls
- We service our truck at 25,000 miles until they reach 500,000 miles, then we service them at 20,000 miles
- We were just getting ready to start to back off the older stuff and stop fixing engine trans majors when they said no new so fix we do
- Replacing parts

37. How do you analyze brake shoe failure to determine if its associated with routine wear, cracks, weak material or just "junk" shoes?

- If it is unusual we check to see what happened
- Brake shoe "failure" in our fleet is a rare exception, usually a defect in the reline process
- More questions than answers…quality of name brand products suspect
- Have had a standardized program for some time based on testing. No unusual problems, just normal wear out
- The biggest failure that we had many years ago was rust jacking. We eliminated that with new shoes vs. reman
- Look at all as they off replace drums and shoes together
- If repeated failure move on to another brand
- Wear-no more pad left; cracks are cracks; weak material is rust jacking, rivets breaking. Brake shoe failure - what is actually failing, once that is determined, then act on it
- Use a quality, proven product
- Check for rust jacking, irregular wear of components
- Visual inspections
- If glazing and no space between table it is a balance problem, if no glazing and has space, it is rust jacking

38. If you utilize a diesel powered APU, do you feel the maintenance costs associated with it are

- *lower than expected*
- *higher than expected*
- *what I expected*

Of the nine respondents to this question, (8) said maintenance costs were higher than expected. The other said they were what he expected.

39. What are the best basic steps for trouble shooting problems?

- Completely analyze the problem to ensure what is causing the trouble
- Understand how the system works! (2) Get the complete story on the problem (3) Find and correct the root cause, don't just fix the symptom.
- Follow the guidelines set by the manufacturer. Giving the technicians the freedom to troubleshoot on their own notions vs. using the manufacturer's procedures is a grave mistake
- Start with write up and confirm the easiest answer to solve problem
- Keep it simple stupid
- Refer to TMC RP manual
- Think/organize/do the work/test after work complete
- Manufacturer suggested procedures
- Following OEM trouble trees
- Try and get a good description from the driver and use OEM's trouble shooting tree

40. If you have had any experience with disc brake maintenance, how does it compare with drum brake maintenance?

We received two comments that seem opposite to me.

- Cost is less on disc
- Work is more complex than drum

Other

41. What specific cost measurements are you responsible for? For each, how do you keep those costs under control?

Measurement	How to Control
% of sales/maintenance costs	Reviewing every purchase
All fleet maintenance	Yearly budget and hope for no surprises
All maintenance cost	Monitor CPM, both fleet wide and equipment wide
All maintenance costs	Identify by unit with feedback to cost center manager
CPM for mechanical	Too deep - not enough time or space
CPM for tire wear	It starts with the alignments. Testing of different tires is also an important key. I have too many ideas on this and not enough time or space to provide it all.
Diesel fuel	Smart buying
Eq. specing and purchasing	
Fuel economy	Driver rewards, or penalties, and many others
Inventory levels	Scorecard monitoring / make adjustments as needed
Monthly total maintenance costs	Tight PM, productive use of time, fix it right, use the correct fix (parts and repair strategy) for the task
MPG	Scorecard monitoring / make adjustments as needed
Outside revenue, both parts and service	
Parts	Compare costs
Production	Amount of uptime
Running cost	Scorecard monitoring / make adjustments as needed
Scheduled vs. non-scheduled repairs	Monthly reviews with staff, problem solving (we should have done this, we will from now on")
Shop and equipment safety performance and environmental compliance	Monthly review, schedule inspections, benchmark with industry standards
Supplies	Compare costs
Tire Cost	CPM
Tires	Laminated tire policy and careful buying
Tires	Compare costs/tire wear life
Trailer Maint	CPM
Truck Maint	CPM
Wage	No OT
Cost Measurement Item	Control of this measure

42. What truck productivity measurements do you track?

- MPG, Idle Time, Total Revenue and CPM
- Total monthly costs, planned vs. unplanned, are all PM measures current
- Out of route miles, loaded percentage
- None, except maintenance since we fix them ourselves we know the problems and try to eliminate getting the same problem recurring in subsequent models
- Paid miles / asset utilization
- Fuel economy

43. What is the value of "green" in dollars?

- Most have an equivalent or better return

- If it makes you more efficient (better MPG=less carbon) then green is good. If it is only "feel good" without efficiency increase then it's "greenwash"
- That's an easy one - 0
- Wow, a person could write a book on this one
- Not a damn thing, to me
- The more greener you are environmentally, the less greener your check book is
- Only if it is the most economical long term, such as SmartWay program reference
- None to us. We are in survival mode
- I'm not sure there is a measuring device - it's just the right thing to do

44. Where can fleets find bio-diesel fuel if they wanted it to use it?

- Check with state, internet search has several listed
- Oregon is mandated B2 so all fuel is small qty bio. CA is marching toward an established "low carbon fuel standard" (will soon be Oregon on steroids). We won't have to look, it will find us
- There are sooo many variables with bio-diesel. Before you use it DO YOUR HOMEWORK. You might find you don't want to use it just yet. The question should be where can I find QUALITY bio-diesel if I wanted to use it
- We are using 5% to say we are green mixed from one vendor arrives at port with his 5% on board and fills up between that, the drive here and the dump that is the mix (stays local)
- Cenex
- Where the diesel pump is labeled bio-diesel. Corn states have it plentiful, other states lack it, Go to national bio diesel website, they have a map showing this
- Not sure, think the focus needs to be on more natural gas to fill the gap until electric power become more effective.
- Not available in our area (FL)
- Illinois, for sure

45. How are you insuring that your fleet has capacity when the economy and freight returns?

- Tractors are parked on the fence the ywill be there when the economy comes around
- We still have plenty of capacity and have more drivers than before the turnaround
- All parked vehicles are either kept in "ready-to-work" condition or "will be ready with minimum restoration". We anticipate that we will be able to see an upswing coming with enough warning
- Continued maintenance to ensure everything ready to go
- We are seeing returns in freight already, so have been gearing up
- Keep them all running
- The capacity issue will not hit hard and fast. We will purchase used if in a hurry to add
- By doing the right things to survive the downturn
- Better utilization. A lot of dead time now. A lot of cancelled loads by shippers

If you have any questions or want more detail regarding the answers in this Best Practice Report, please send an e-mail to chris@ckcvr.com and I will try to help.

Best regards,

Chris Kemmer