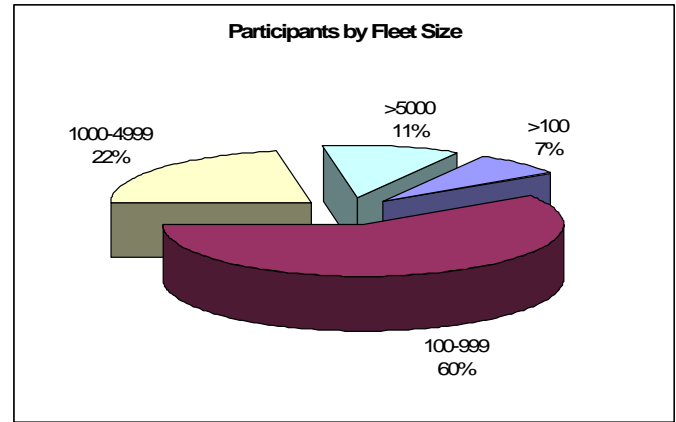
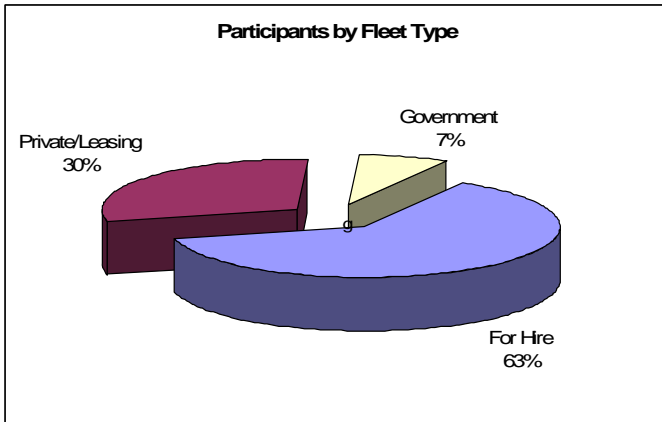


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Participants:

Twenty-seven (27) completed questionnaires were received. The following charts indicate the types and sizes of fleets that participated in this Best Practice Study:



Questions as they appeared on questionnaire will appear in italics followed by results

*If you run Class 8 vehicles, do you combine oil and grease servicing intervals? If yes, at what interval?*

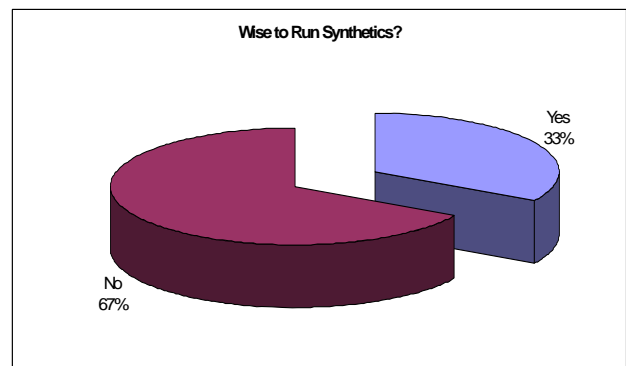
26 of 27 respondents answered yes to this question.

Intervals ranged from 15,000 to 40,000 for OTR fleets with the average for this group of 24,000 miles. We did get other intervals times such as 3,000 miles for a government fleet.

Some other specific comments we received to this question include:

- We do visual inspection and grease every 14 days. We add oil change to this whenever oil mileage falls within a window of 23,000 to 28,000 during an inspection/grease service
- Depends, some trucks at 3 months, some @20,000, some at 25,000
- 90 days
- 40,000 OTR, 24,000 for short haul
- 250 hrs grease, 500 hrs. oil and grease
- 6 mos/15,000 mi
- Grease & oil filter change @ 4months
- Every 15K and oil at 45K
- 15,000 grease; 30,000 oil
- 120 days
- Grease at every shop visit and also at oil change intervals

*Do you think it's "wise" to run synthetic oils during this tough economy? If yes, why; if no, why not?*



Twice as many don't think this is a good idea than think it is. The reasons for and against below:

**Yes:**

- Synthetic in transmission, rear ends, and wheel ends are always wise. Synthetic in engine is not cost effective for us regardless of economic times
- In drivetrain components, of course plus...if you determine synthetics have a lower cost per mile, then it doesn't matter what kind of economic times
- Cost of oil is actually small - the payback is in keeping engines running longer. Having to do major engine work during a tough economy due to taking short cuts could be a big economic mistake during these times
- Fuel efficiency, extended life, better wear on components
- Better all around, we are working on a pilot program to start using synthetic oil on some tractors
- semi-synthetics on contract
- In the transmissions and rear ends yes, but we have never been able to cost justify it in the engine
- On areas that can get extended change intervals provides ROI
- Lower overall maintenance costs

**No:**

- Not sure, we are studying the costs. It fits our SmartWay program
- Synthetic oils are excessively high in price while petroleum is rather low
- ROI does not support it
- We use waste oil to heat our shops so we need oil. Make up oil on road is too expensive
- Not for my low mileage application, P&D fleet. It makes sense for high mileage fleets where extended drain intervals can be instituted to take advantage of synthetic oil properties
- Too costly for my fleet, required to do PM's at 3000 mile intervals
- Not sure the pay back is there
- Can't see the bang for the buck
- Do not run it normally
- Top tire oils well for the price
- We keep our fleet for 1.3 million miles. Conventional oil along with oil sampling has helped us achieve this. I do not see the additional cost of synthetic oil worth the added cost
- Granted you can extend your interval, but you still have to bring the truck in for a grease and probably change out the filters. If the fuel economy improvement is big enough it probably made sense at \$4/gallon, but not at \$2 gallon
- At this time we do not use synthetic oils
- Can't extend oil change intervals without sacrificing warranty
- Full synthetics CJ4 don't pay due to lower additive packages and reduced oil change intervals
- Too expensive with emission requirements

*If you have APU's on your equipment, how do you stop corrosion caused by water intrusion inside the APU?*

Actually most respondents who have APU's on their equipment have not seen a problem with corrosion – possibly best expressed by one “Not sure I understand, our boxes are pretty well sealed” A few respondents are engaged in some activity to reduce the problem at their fleets:

- Continued cleaning
- Run them regularly, at least once a month
- At every truck PM (20,000 miles) we flush the APU with clean tap water and a mild detergent

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*Do you do your own warranty work (power and trailer) in house and then seek reimbursement from OEM? What percentage?*

Sixteen (60%) respondents indicated they are doing an average of 47% of their power unit warranty work in house. Eleven (40%) indicated they are doing an average of 58% of their trailer warranty work in house.

*How are you maintaining electrical systems on temporarily idled equipment?*

About one third of the respondents were doing something to address this issue; some have a more extensive program in place than others.

- If the truck is being kept "ready-to-work" then we make sure it starts, use it for moving trailers around yard, etc. If it is "mothballed" then we disconnect the negative battery cables
- Don't, batteries go dead, then deal with it when truck becomes available for service
- Periodic idling of the equipment and slight yard use
- We have a schedule to run and service idle equipment
- Not well, run monthly
- Disconnect any major draw components and start and run weekly
- Plug in chargers
- Scheduled during PM's
- Disconnecting batteries, pulling QC fuses, start every month
- Periodically starting them

*What are your maintenance practices for wheel-end maintenance?*

- Verify oil (proper level and visual condition), verify that all bearing adjustments and seal replacements are done properly (training, review, and review all failed and removed parts), visual inspect at each service for oil, seal leakage, tire wear patterns, and consider bearing adjustment a possible cause of ABS faults
- Every tech has been trained by a formal in house training and signs documents that he has received said training. In addition, it is mandatory that they document each torque sequence on every wheel end RO
- Follow OEM recommended schedule (2)
- Complete breakdown inspection every 3 years. Brake and end play inspection every PM
- Use synthetic grease as needed
- Adhere to manufacturer and TMC RP's. Part of PM program
- We have started doing dye checks on older trailer axles to check for cracks, have found a few so far. 20 yr. old plus trailers
- Inspect wheel ends at every level of maintenance. Don't touch the wheel end unless some evidence of a problem exists
- Only when leaking
- We inspect them at our regular PM intervals and that is it.
- Unitized hubs jacked up and checked for play or noise on services done in shops
- Check them at every service
- Trucks, don't have a problem; Trailers, we do every other brake job we tear down and check
- As per TMC and MFG requirements
- Torque to manufacturer's specs, check endplay
- As needed
- Routine inspections
- Wheels are removed annually and maintenance items checked
- We use LMS wheel end components on power, don't keep units past 400,000. Do wheel end maintenance when brake job is performed
- No less than once a year

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- Check runout, endplay, and lube on PM's
- Alignment checks at 14 month intervals, wheel bearing checks @PM

*How often do you torque suspension U-bolts on your trucks?*

No way to determine any "average" practice here – It's a wide range....

- Religiously every 90 days. Greatly helps reduce spring breakage, alignment and "changes" general handling plus encourages deeper inspections if torque is found loose without explanation. Also, if a spring is replaced, we bring truck back through shop within a couple shifts for u-bolt retorque (and keep doing it until it no longer tightens) We follow manufacturer specs and use a good torque wrench
- Never torque them
- At in service, after the first 25,000 and whenever suspension items are r/r
- Only as needed
- No interval
- First PM and then every other
- Manual check
- At major service, 2 yr/80,000 miles
- Annually or at replacement whichever occurs first
- c inspection
- They are checked at regular PM intervals
- Inspected at service intervals and tightened as required
- When we replace them
- Don't
- Every PM-120 days
- When replaced
- When there are visible signs of looseness
- They are checked at first service (35,000)
- Every 6 months
- First PM and 250,000 miles thereafter
- No less than twice a year
- On in-service and when we see/suspect something is loose
- 150,000 miles

*What equipment maintenance (both demand and planned) gets outsourced? Why?*

Only one of our respondents (small operation) out sources all maintenance – the rest do most in house with the exceptions below:

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What's Done Outside	Why?
None (3 respondents)	(1) because of "warranty"
PM's and repairs at other locations that don't have shops; emergency repairs	self-explanatory
Some PM's and occasional clutch and engine work	Work load only
All maintenance beyond normal PM's	We lack the parts and equipment
The only outsource maintenance is some HM183 tank inspections	Cost of maintaining certified inspector exceeds outsourcing costs
Engines (ex overheads and hang on warranty), drive lines, accidents	Available tech time, better trained techs, and OSHA (on the accidents issue)
Major engine work, tank trailer barrel repairs	Do not have the resources for this work
Only heavy repairs (engine rebuild, trans)	Where we lack expertise of equipment to handle it.
Engine overhauls, clutches, heavy trailer repairs	Skill and equipment required, and big jobs take big space
Body work, engine overhauls and tire work	Shop is staffed to focus on preventive maintenance schedule. Not staffed to perform this type of work and scheduled maintenance would suffer.
	Overhaul done outside for the same reason in addition to vendor warranties.
Major repairs or major overhauls	We have inadequate staff and time available to perform this work in house
engine/transmission work	Lack of time/warranty and clean room
All body work	Cost of setting up body shop vs. need - can't justify
Some trailer services and trucks at certain terminals without shops	Lack of facilities
What requires special tools not available in our shops and not financially feasible to purchase	Lack of special tools or equipment
Most engine work	Time we have enough going on without trying to take care of engine work also.
	Understand there isn't that much of this
Generally only warranty	
All, don't want to maintain shop or employ mechanics	
At some point all heavy to major work will get sent outside	When we get backlogged, we send work out to get caught up
All planned maintenance is performed in house. OTR breakdown is outsourced	No choice
Less than 10%	We do majority of our work in house
20%	Demand and major
Mostly demand, wreck repair, and warranty	Don't have time, staff or space for warranty and wreck work
Alignment, some emission work, body work	Double check our work and cost of specialized equipment

*Do you routinely "chase" your trailers in order to check lube, wheel tightness, bearing adjustment, etc.*

*If Yes, how do you do this?*

*If No – then how/when is this maintenance scheduled/performed*

I actually think many of the yes and no answers reflect the same basic process. "Chasing" to some may equal scheduling to others. I have listed each response under the associated yes/no choice, but they may cross over categories. How trailers are maintained in some semblance of a schedule is reflected in most of the answers in both categories.

### Yes

- When a trailer flags as due for a major service (every 90 days) we locate the facility it is currently operating at and they schedule it. 2) Whenever a trailer is getting work done (brake replaced, etc) an inspection and service is added to that task. Our theory is that you can't have too many eyes on trailers
- We "chase" trailers to PM them. I agree, why does the maintenance dept have to chase trailers; why can't operations work closer with maintenance??
- Quarterly inspections, deadline equipment
- 90 days
- Computer reports of trailers needing service. We use "out of service" status that forces the driver to call in before they can do an "L" call
- Maintenance scheduled in TMT maintenance program
- PM schedule every 5 months
- Computerized preventive maintenance schedule. Post units due on weekly basis.
- Every spring before the summer rains and heavy weights
- Use outside vendors at locations where we maintain trailer pools
- Units flagged for shops or company mobile
- System alerts
- We do service every 6 months, track via dispatch system at 180 days
- Yes, semi-annually

**No**

- Checked every 6 months
- Schedule monthly, averages 45 days
- We see trailers often enough we don't have to chase them
- 90 day service watch for trailer or track on computer and route in for repairs
- All equipment is returned every three days
- As needed, trailers are in terminal enough to be inspected regularly or annually
- We PM trailers every 90 days and inspect at that time
- PM interval is 9 months - operations routes 65% of those services through our company shop. The others are done OTR at select shops.
- All trailers are regularly routed through our maintenance facility
- Most are through home terminal regularly
- Safety lane inspections, 30 days inspections, 6 mo PM

*If you operate refrigerated trailers with lift gates, how do spec and maintain electrical and charging systems?*

- Upgrade on alternator specification on refrigeration unit with isolator
- Liftgate batteries are charged with single pole charge cable from tractor. Refrigeration system is left out of the liftgate loop. Refrigeration unit is too valuable to open it up to possible failure because of liftgate problems.
- Only 2 reg maint @4 month interval
- Charge through tractor
- Test @PM, battery replacements @18 months

*How do you efficiently use the internet for parts and service information?*

- Use vehicle OEM, engine and primary WD web sites as specific info for their products. Additionally, all major component manufacturers are flagged in web browser home pages for quick access. We use this info very effectively (a real time saver vs. the "old days")
- OEM & Google search
- Use it to find out about new technology and comparison shopping
- We have limited access for technicians, but plan to upgrade that. We are behind the curve on implementing this service
- Do look ups on the web for parts and look at manufacturers sites for service information
- Don't use fully but each shop is getting better
- Has become very helpful for drawings and parts info
- Parts cross reference
- Often for parts
- WE are set up on vendor sites for parts and service needs
- Internal systems connectivity to mfg and suppliers
- Not much in the parts ordering are, but we do get information off internet for equipment
- Use mfg web sites that allow VIN information (Fleet ISIS)
- We order some parts on line and use Email to send lists of parts for replenishments to the OEM's
- Cummins QuickServ, CAT SIS and ET, KW ECAT, all available in shop
- Look up dealers for road emergencies
- Use Mfg web sites for access

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*With the addition of more electrical, what can be done to prevent unneeded repair costs that are usually due to loss of ground connection?*

- There is no substitute for understanding how the system works (including its ground paths). If you understand it then you can make root cause troubleshooting decisions and fix it correctly (the first time). Hire (and take care of) intelligent good quality people and train them at as deep a level as they can accept. Part of training is understanding how important a good ground is.
- Use the "black goo" on exposed electrical connections. Routine service of bulkhead and all connections.
- Careful repairs to harness
- We spec redundant grounds on all tractors. We spec 4-0 cabling also
- Good, solid installation, better design and manufacturing to prevent chaffing
- OEM's have problems insuring good grounds. At in-service, tech must remove each ground point, grind and clean, and re-install.
- We must clean and tighten ground connections during routine service which adds to our operating costs
- More grounding points
- Proper preventive maintenance
- Constant changing on PM's
- Better connections processes/locations and training to techs
- Do a better job at watching that connection. Keep it clean
- Good question, some may be addressed on pm
- Inspect all ground connections at the time of PM's and ground problem awareness
- Hold OEM accountable for good grounding at factory - good pilot review
  
- We perform an electrical system check at every PM
- Check the wiring every time truck is serviced
- Inspect clean and tighten on any shop visits
- Corrosion protection

*Other than routine washing, how do you deal with corrosion on trailers?*

- I would love to answer that with routine painting, but we don't do that often. We have taken numerous trailers out of service due to corrosion. Whether it's the grid rusting out, the bottom rail to cross member surface, or the sub frame rusting out.
- Periodic sandblasting, prime and painting
- Good specs and frequent washing
- We spec stainless rear frames, otherwise no action
- All our trailer frames are made of stainless steel. Prep some areas with corrosion resistant material such as under the 5th wheel plate
- Washing seems to solve. Can't get them washed enough
- Spec anti-corrosion coatings
- Changed our spec to either galvanized or stainless steel in high corrosion areas
- Acid washing
- We wash twice per month

*Do you have specific strategies for reducing CPM?*

- 1) Know your costs accurately. 2) Benchmark your costs (in house and outside). 3) Try to address issues and tasks at the level that is most cost effective (catch approaching failure at PM, listen to your operators, do good root cause investigations, don't "over-repair" 4) Always have some experiments in progress
- This is a constant in business. There should be no specific plan unless you have to EXTREMELY cost cut for a short term period. For short term periods, yes we have a plan, we document everything we could put off for a while, whether its complete trailer door replacements (roll and swing), limit plywood replacement, run tires balder yet (we normally pull at 6.32, maybe go down to 3-4/32. Obviously there are disadvantages to these measures, we understand this.
- Yes through specifications, enhanced warranty coverage and improved in house pm's
- Monitor speed, rpms and idling
- Yes, a multi-facetted approach
- Only trying to justify each expenditure at time of purchase. Cost/benefit analysis on planned major purchases or charges
- Targeting areas not necessary to sustain our operation at this time
- Overall program of PM's (on time and complete) tire management, driver awareness and fuel
- Focus maintenance efforts on performing thorough PM's Don't try to "save" money by watering down PM process
- No engine idle time, no un-necessary trips
- First you have to know your true cost per mile which I will wage most companies do not
- Spec equipment to last
- Pay attention to everything and adjust if you see something changing in a bad way
- Currently starting a breakdown process that analyzes each road breakdown. We take this information back to the techs to use for training
- Monitor daily expenses, don't buy anything unless its necessary
- Dissecting expenses monthly

*How do you control tire costs?*

- 1) Air pressure checks and visual inspection weekly. 2) If it's low, it's leaking...fix it 3) Alignment, find and correct wear or defects and then set specs as close to perfect as possible (OEM specs are too wide), special attention to tandem alignment and toe-in. 4) Do regular failed tire inspections to understand out-of-service causes (good or bad), investigate and address failure causes (including talking to drivers).
- With a tried and proven tire program that we adhere to religiously. In this day and age, ask your buddies what they are doing. We are almost all doing the same thing. Whether its tires or what have you. Guess that's why you're askin!!!! Maybe separate this simple question into multiple questions cause obviously, one could write a book on "how to control tire costs"
- A laminated company policy covering all areas
- Spec'ing our trailers with the systems that maintain air in the tires
- Tire pressure!!!
- I haven't found an effective way to "control". We try to maximize life, but trade fuel efficiency for tread life every time
- Use national accounts, inspect tires every time they come into the terminal
- Monitoring, testing, reporting and working with tire rep's both local and national
- Big problem, we use cats eyes on some equipment to make drivers aware, if they look at them.
- As part of PM program, scheduled inspecting and airing
- Utilize recap tires on all drive and trailer axles
- Can't - customer gets sidewall damage due to landfill
- Branding and tracking every tire cradle to grave
- In-house tire program

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- Maintain pressures and check them regularly
- Tire inflation is a big help for us
- Aggressive tire program
- Buy from CPM analysis
- Inspect regularly, run recaps, educate drivers about importance of proper tire pressure
- We do a poor job here, we could do much better. Driver awareness is the first area I would try to improve
- Maintaining inflation - using national account pricing OTR, rotate drives, maintain alignments
- Check tires with gauges regularly, monitor wear and rotation
- Manage National Account pricing, inspection procedures and training of drivers and technicians
- PSI is the only help
- Identify problem drivers for abuse, shipper or consignee areas, use PSI
- Air pressure check EVERYTIME they come into shop and at each return to the yard

*What "check-lists" do you use to "self-inspect" your operations to determine how you can become more efficient?*

- Monthly shop meetings with review of previous month costs and activities, especially any exception activities (road calls, repeat repairs, etc.) Verify that all scheduled activities (PM events, etc) are getting done. Finally, put on coveralls, show up unexpected, and see what you find while using same inspection criteria that technicians follow.
- TMC RP 526 Guidelines for Shop Review Practices. TMC RP530 Fleet Guidelines for Parts Purchasing; TMC RP 531 Parts Inventory Management Guidelines....HEY BREAK OUT THE TMC MANUAL!
- Deming management systems and tools
- Compare our P&L to previous years and work on areas that have the biggest impact
- Amount of road calls
- Supervisory follow-up and inspection of the maintenance product
- Weekly and monthly reports
- In-house QDM
  
- Compare with what information that comes my way through vendors or trade publications
- Percentage of billed hours, CPM, Safety, Training. Encourage CI and elimination of waste
- Benchmark our expenses vs. any that are published
- Monthly maintenance analysis, MBWA, inspect and verify

*Is your fleet including any surcharges in their rates for cost increases you are experiencing?*

About half the respondents have a surcharge in place for fuel only. Other specific items mentioned by individual fleets:

- Extra penny for BIO it cost more in filters
- Detention charges as necessary, inside delivery charge

*What is your ratio of technicians and staff to pieces of equipment?*

**Technicians:**

Low: (1) Technician for every (11) pieces of equipment

High: (1) Technician for every (132) pieces of equipment

Average: (1) Technician for every (42) pieces of equipment

**Staff:**

Low: (1) Staff person for every (17) pieces of equipment

High: (1) Staff person for every (400) pieces of equipment

Average: (1) Staff person for every (153) pieces of equipment

Other (staff ratios)

1 staff/30 technicians and 1 staff /10 techs

Ratios might be difficult to compare because it certainly depends on amount of maintenance you are doing in house, what type, what type of operation (OTR or vocational, etc.) One respondent made this comment "We are topsy turvy right now. Never really agreed with ratios, has to do with equipment volume per shop."

*How is information (skills, updates, parts choices, etc) communicated to technicians? Printed Bulletins, Shop Meetings, Other*

Printed bulletins 80% of Respondents

Shop meetings 80% of Respondents

Other:

- One on one; supplier training; internet training. In addition, we have what we call "PLAN OF THE DAY" (for you Navy vets out there, remember this?) So the Plan of the Day is a document that is printed up daily to communicate with every employee. It is their responsibility to read the Plan of the Day. This works extremely well.
- Computer messages
- Training both outside and in house, internet
- Vendor and OEM training
- Quarterly with me at all facilities at all shifts
- Computer and on-line training
- Video, Intranet
- DVD/CD media
- e-mail

*How do you encourage drivers to check tire pressure?*

Some respondents see this as fruitless – but many are trying some concrete steps to at least give it a try:

- Maintenance staff gauges all tires air pressure weekly and at vehicle service. Drivers are encouraged to gauge daily (but required to do visual inspection and "thump" on pre and post trips)
- Honestly we don't. We supply a hammer in each tractor for them to knock tires. We train that the hammer is used for this purpose.
- Periodic use of gauge for pre and post trip inspections
- Supply all who want a tire pressure gauge and charge back for run flats
- Constant reminders, but little success
- We use crossfires to make it easy
- Where done by discipline but most drivers do not do anything including thumping tires
- Suppose to be part of pre-trip AND post trip, wishful thinking
- They don't; Walk around and bump check for flats only
- We hold them accountable if a driver picks up a piece of equipment and it has a flat
- Show them how it impacts the company and less down time for them
- Communications/ Meetings
- We try to explain wear and air pressure; but I am not sure that it happens. It is a constant battle; that is why we do it.
- Awareness
- Talk to them
- Encourage yes, but they don't follow through
- Constant reminder
- Give them gauges

*How do you get drivers to understand the correlation between idle time and engine wear?*

Many respondents are more concerned with idle time and how it affects fuel consumption – so most are "controlling" it in some way as opposed to getting drivers to understand how idle time affects engine wear.

- Daycab fleet so idle is less anyway. Fleet goal is 10% idle time, many drivers beat this. We post and train info regarding costs of idling and "challenge" idling drivers to improve. We also publicize that CARB idle tickets are very expensive and that the ticket goes to the driver, not the company
- We don't push this. We push idle time is fuel dollars wasted
- Our approach has been toward fuel costs not engine wear
- Company policy and constant monitoring with telematics
- Fleet managers monitor idle time at all times. We terminate drivers for idle over 50%
- We constantly talk to them about it. This topic is included in our company newsletter
- OTR has a fuel bonus that works very well, short haul drivers do not
- We have idle timers, 5 minutes, on tractors
- They don't. Utilize ECM to enforce idle limit. We are a P&D fleet only, so this is not a big issue
- 5-minute shut off
- We took the driver out of the equation by installing APU's and limiting idle time to 4 minutes with no over ride
- Extremely hard---now have incentive program in place
- We just shut them off after 3 min and don't let them have the option of idling
- Communications/meeting
- We don't hire them if they can't understand things like this.
- We do not - we talk about idle time and the cost of fuel being consumed
- Idle is not allowed - it is monitored every week
- We pay a monthly MPG/Idle time bonus

*How do you eliminate the poor opinion of drivers regarding wide-based tires?*

For those respondents who operate WB tires and believe in them themselves feel that if a driver gets a chance to drive a vehicle with them on it, he will have a positive opinion:

- Take an outspoken open minded senior driver and install wide based on his unit; he will tell others
- Those that have them have adapted and in some cases prefer them. Once they drive them it is not really a problem much like anything that is new
- We are testing 12 tractors with wide based tires and have not nothing but positive comments from our drivers
- Let them choose a tractor with wide or narrow tires
- Put the tires on the truck and let the driver operate for a month. Then show the driver the benefits of the WB tires through fuel savings, better ride and the idea of a "better feel of the road". We have had great success in driver acceptance of WB tires, once they drive them for over a month

However, a few of the respondents were not necessarily interested in how the drivers felt about them:

- At today's fuel prices wide base don't pay for themselves; we found 2.50 is the breakeven point
- We have less than 10 tractors on wide base, just a little comment: sometimes "squirly".
- Wide based tires do not work as well as duals. You can tout the weight savings and resultant fuel use reductions, but tire costs increase due to erratic wear patterns and poor capping characteristics
- Hard sell when I don't believe in them either!

*If you use PTO accessories, how are you adapting to SCR and DPF systems?*

We only received a few recommendations:

- Current DPF units are vertical or else located away from PTO. NO SCR yet
- Yes, Switch to hydraulic drives for PTO driving components
- Have to be sure to spec the vehicle properly. SCR not there yet and we hope to avoid it by going with Int.

*Have you decided on an engine for your 2010 units? If yes, which one?*

About half (13) indicated they have made a choice and those choices, where identified (and number of respondents) are:

- *Cummins (3)*
- *International (3) – "Still testing but Maxxforce is looking good. If we get better MPG now we will stick with it, if not we may have to go with another make"*
- *DD15 (3)*
- *"SCR" (1)*
- *Paccar (1)*
- *"MX" (1)*
- *Mercedes (1)*

*What is your perception of the new MaxxForce engine?*

A lot of opinion – some good, but the many don't think this engine is a viable alternative

- Being a CAT fleet with lots of C-15 experience we are glad to see the basic engine live on. Not likely to buy Navistar just to get it, however
- The 15L will be POS (Cat short block with European head; that marriage won't work). The 11 and 13L has too much complexity built into it. Air to air coolers on top of engine....do you understand under hood heat????
- I feel advanced EGR is not the way to go and that this approach will change in time, similar to what Cummins has done
- It looks like a good engine
- Waiting on delivery of 1st engines
- Cat C15 under another brand. International is hurting themselves with this being the only offering for 2010
- Very good - makes the most sense for our operation
- So far very good. We have bought every manufacturer available this year except PACCAR. All are good so far
- We have one, poor engine brake, poor throttle response, been to dealer 3 times
- Nothing with a "huey" system works real good
- Very quite (quiet?) but untested and do not like the fact that Navistar is using credits. They will have to go to SCR eventually too.
- We are hoping it will work well
- Well, it does look interesting. I learned a few new things the other day that might make it more appealing.
- Will have a test unit in our fleet in July
- Very worried. It is untested and International has had some bad engines during this decade of emissions i.e. 6.0 (Ford), VT365 and even the 6.4. Cat gave up the fight and International is using CAT platforms???? I'm worried. But unlike Cummins, International seems to stand behind their product.
- Run too hot - radiator too small for heat generated poor underhood airflow
- Unproven
- An animal that eats its own waste dies! The 2007's are suffering and this will be worse!

*How do you make sure that most current updates are installed (2007 and later engines)?*

- We let all the other fleets test them first before we install (unless we are having a specific software problem)
- Constant battle, have your OEM help on this. Make them give you this information and you follow up with it. "They ain't got nothin better to do cause they ain't selling trucks"; this is good practice for them to develop...customer service
- Continued conversation between the dealership and managers plus OEM software.
- Rely on engine manufacturer
- Depending on update and value, some may be done in own shop, others at dealers
- OEM update bulletins (Mack)
- International ISSIS program
- Bulletins and recalls
- Check lists
- Hopefully, the dealer will notify us
- When there at the dealer for warranty repair
- Utilize the campaign feature in our maintenance software (Innovative)
- We get the newest updates each month
- Constant struggle!

*In your opinion, are OEM's inflating the cost of UREA equipment?*

Yes 56%

*What accident prevention optional equipment do you have, or will you add to your vehicles?*

Equipment that respondents already have (with number in ( ) in multiple):

- Roll stability (7)
- Vorad (3)
- ABS (2)
- Automatic Traction Control (2)
- Lane departure (2)
- Active braking
- Bigger brakes
- Critical Event Notification
- Driver Cam
- Driver tracking (old fashioned Argo charts reviewed every day. Lots of work but a watched driver is a better driver)
- Fatigue detection
- NetworkCAR GPS Tracking
- Quality drivers
- Rear/side view cameras
- Seat belts
- Sonar
- Use on-board event recorder to monitor questionable driving procedures such as hard braking.

Planned safety equipment includes:

- Roll-over stability (2) "a bargain for its cost"
- Quality drivers
- Lane Deviation
- GPS Low Bridge Warning
- Collision Avoidance System
- Adaptive cruise
- Upgrading new trucks to 6S4M abs

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What is your opinion/experience (good and bad) on automated and automatic transmissions?

Type of Transmission	GOOD	BAD
Automated	<ul style="list-style-type: none"> <li>• Work better with clutch can ease into dock, pin to trailer, rock in snow, etc.</li> <li>• Take driver out of the picture</li> <li>• Safer, larger driver pool, less wear on clutches, drive lines, brakes, less rear end damage</li> <li>• Reduced accidents and increased clutch and driveline life</li> <li>• Neat, when they work</li> <li>• Mostly good for driver appreciation and maintenance</li> <li>• Longer clutch life reduced maintenance costs. Improved MPG performance</li> <li>• Increase in overall mpg</li> <li>• Eaton Gen 2</li> <li>• Eaton Autoshift</li> <li>• Drivers seem to like them</li> <li>• Drivers prefer. Moves poor performing drivers toward average performance, but lowers best MPG drivers toward average also</li> <li>• Drivers love them. Even the drivers that initially did not want to drive them like them now.</li> <li>• Drivers love them once they get used to them.</li> </ul>	<ul style="list-style-type: none"> <li>• We are still having problems, one in yard now; stuck in gear. We have gen 1.5 Eaton Autoshifts 1998, 1999 and 2000 models</li> <li>• They are terrible in heavy snow conditions and more maintenance prone</li> <li>• Slow "launch"</li> <li>• Resale and driver acceptance</li> <li>• Major problems, ECM's, wiring harnesses, speed sensors. Total recall on Eaton Gen 3 Ultrashifts. No support for Gen 2's. We are 100% automated, but changing back to 10-speed overdrives. Lots of electrical issues</li> <li>• It's like everything else, when they work, they work good, when they don't, truck doesn't move</li> <li>• Hard to get worked on the road if necessary</li> <li>• Fuel gains have not been what was promised. Therefore it is hard to justify the \$3800 up charge</li> <li>• Electrical issues and locked in gear issues; Dealership repair costs when away from company shops</li> <li>• Electrical issues</li> <li>• Driver resistance until they get used to them. Sensitive to ground problems</li> <li>• Constant electrical problems. Can not find qualified technicians when needed out on the road</li> <li>• Can be touchy when backing up</li> </ul>
Automatic	<ul style="list-style-type: none"> <li>• Work OK</li> <li>• Very reliable. Reduces driver training requirements</li> <li>• No problem with what we have</li> <li>• Good "launch" and very favorable driver acceptance</li> <li>• Easy to drive</li> <li>• Drivers love them</li> <li>• CAT, Allison</li> <li>• Allison automatic transmission no problems with transmission but have problems with the transmission touchpad control in cab</li> </ul>	<ul style="list-style-type: none"> <li>• Worst is JATCO</li> <li>• Same as automated</li> <li>• Reduced MPG performance. Increase preventive maintenance requirements</li> <li>• Poor Fuel Mileage</li> <li>• Overall cost and not suited for PTO operations</li> <li>• Allison is/was the only player in town and their service was not very good nor very friendly.</li> </ul>

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*Which fleet management software is best for small, medium and large size fleets?*

Small	Medium	Large
<input type="checkbox"/> TMT (3) <input type="checkbox"/> Squarerigger <input type="checkbox"/> Something that uses VMRS <input type="checkbox"/> Ron Turley Associates (2) <input type="checkbox"/> JJ Keller	<input type="checkbox"/> TMW/TMT <input type="checkbox"/> TMT (3) <input type="checkbox"/> Squarerigger <input type="checkbox"/> Something that uses VMRS <input type="checkbox"/> Ron Turley Associates (3) <input type="checkbox"/> Ours - built in house <input type="checkbox"/> Maintenance Dossier <input type="checkbox"/> Fleet Assist <input type="checkbox"/> Enrich	<input type="checkbox"/> TMW/TMT <input type="checkbox"/> TMT (4) "A/SS40 works well for us" <input type="checkbox"/> Squarerigger <input type="checkbox"/> Something that uses VMRS <input type="checkbox"/> Ron Turley Associates (2) - "WE have used it for 15 years and would recommend to anyone." <input type="checkbox"/> Maintenance Dossier (2) <input type="checkbox"/> Innovative <input type="checkbox"/> In-house developed <input type="checkbox"/> Enrich

*When new emissions rules take place, how will you retire your "old" equipment?*

- Some will transfer to Oregon frm CA, surplus old equipment will probably go to auction
- Use in other aspects of business. The used market is flooded
- As the equipment begins to fail they will be slowly replaced
- Turn trucks in when our lease terms
- No plans to change current trade cycles
- Keep as long as possible
- As slowly as possible
- Most of our equipment is old, average 8.5 years, we have 2 1988 sleepers left on the road
- Sell out of fleet through dealer consignment
- Slowly
- Sell or trade in
- Run into ground
- Trade them in
- Crush
- Sell to another end user
- No
- Through replacement
- Probably run it an extra 12 months (48 total) and then wholesale like normal
- Our oldest tractors are 2007 and are currently being sold/returned to OEM
- Always sale overseas
- Trade cycle?
- Sale

How do you currently get rid of used equipment?

- Good used equipment is "sold" to a sister company (if they can use it). Some individual trucks are sold as single sales or small groups to other companies. Especially when retired for emissions reasons, much old age surplus will probably need to be scrapped
- Tractors - either sell locally or use US Auctioneers, they do a great job: Trailers - put in storage trailer fleet, quit buying new and force price of new trucks down. How arrogant can an OEM be when they announce a NON-NEGOTIABLE \$9,400 upcharge. Can their customers demand that? No, we are hauling for chicken feed as it is now
- Salvage, continue to utilize the equipment
- Most are under lease. Very old trucks are sold locally. Use them for yard service or local service.

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- Sell to wholesaler, let the market correct itself
- Trade in
- We sell our used equipment. Keep existing trucks and cut back on new purchases until the market stabilizes
- Either sell outright or through a wholesaler. Sell in foreign markets if possible. Other than that only a robust economy will help
- We deal with two used truck dealers, they know what they are getting, not complaints, it depends who needs them. The export people like simple machines
- Sell out of fleet through dealer consignment. Move non-compliant equipment to less emission sensitive areas, to include non US markets. There is money to be made in their area for someone with national and international connections because used equipment can be obtained at low local rates
- Sell at public auction. More truck refurbishments and updating powertrain components may be required
- Auction, make the sleepers into spotters and day cabs
- Sell or trade in
- Run into ground
- Trade them in
- Sell ourselves (3)
- Crush/Sale. Offer financially feasible upgrade programs for obsolete equipment
- Trade or sell, recycle them or export them
- Sell outright. Obama is giving money to everybody else, maybe we should have the government buy back the old trucks and destroy them. That way we can all breathe a little easier and we can cut back on the use of our AC because we can reduce global warming. Isn't that what Al Gore wanted?
- Sell them ourselves, get them out of the country - or demand has to pick up to absorb the excess capacity
- Trade in and private sale
- Private treaty, Taylor & Martin Auctions, It's getting increasingly difficult with gov't regulations and export regulations
- Deal with re-marketers, there is none with bankruptcies looming large
- Trade back or sell outright, find a cliff or a deep hole!
- Auction

*Compared to previous years, have you seen the re-sale value of your used trucks decline? If Yes, by what percentage?*

60% of respondents indicated that they have seen an average of 28% decline in used truck values

*What is the best strategy for the industry to deal with excess used trucks in the market?*

No-one answered his question

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*Because of supplier cutbacks, do you expect a parts shortage to become critical in maintaining your equipment? If Yes, how soon and what components specifically do you think will be affected the most?*

One-third of the respondents indicated they expect shortages to become critical:

- See it already. Components are engine control parts. You know what also hurts is the LACK OF STANDARDIZATION Each new truck that comes out has new parts. Really give this some thought in your own operation. We still run older trucks, keep buying new, new stuff changes real often, now look what we have.
- captive parts
- Tires (2)/ Wheels
- Parts are becoming harder to get across the board
- Transmissions and rear ends, engine components
- Hydraulic and wheel ends/ suspensions
- Soon as this starts to turn and the demand increases
- Already has been an issue with Paccar

As a follow up to recent industry discussion about the possible increase in vehicle fires, please tell us – based on your experience or knowledge, if you agree or disagree to each of the following statements:

	I agree with this statement	I disagree with this statement
1. There is an increase in vehicle fire incidents throughout the trucking industry	11	13
2. More electrical and electronics add to probability	20	6
3. All the stuff a driver can/does add can be unsafe and cause problems	24	2
4. Manufacturing shortcuts (to reduce cost) can be part of the problem	16	9
5. Increased idling due to slow freight can cause turbo fires	4	21
6. The new componentry for meeting EPA emissions regulations causes higher heats on the vehicles	23	3
7. More front end collisions result in fires than in the past	3	22
8. The increased use of plastics, sheet molded plastics, urethanes, and sealants lend to a fast hot fire with nothing left to investigate	19	7

If you have any questions regarding the contents of this report, please send an e-mail to [chris@ckcvt.com](mailto:chris@ckcvt.com) and I'll try to answer them for you.

Best regards,  
Chris Kemmer