



As the Wrenches Turn

Fleet Maintenance White Paper

This white-paper is the fourth (4) of eight (8) segments of the essential principles of the Preventative Maintenance Process enabling organizational success. The Preventative Maintenance Process is the most widely used fleet maintenance process in the transportation and service sectors.

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MCB Fleet Management

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Herein lies where the money will be saved, breakdowns will be prevented and the lifecycle of the asset and its respective components will be extended and you will reap the rewards from your due-diligence put-forth in the previous sections as well as find some “Free Money.” It’s time to put the structure in place with the “Scheduled & Service Interval” Repair Process. This section of the white paper will tackle what these repairs are, how they are generated, what they entail, and most importantly how to most efficiently and cost-effectively accomplish these necessary tasks. In short, I will depict which wrench to use and how low cost & high quality maintenance are Not mutually exclusive.

Low Cost & High Quality Maintenance are Not Mutually Exclusive.

Scheduled Repairs

During the previous PMI (As the Oil Hits the Pan.) section, a very critical element was training the mechanic to inspect various components and forecast within your fleet maintenance system (FMS) when such items will need to be repaired or in most cases replaced. This can be a challenge with some mechanics due to hesitancy or fear of documenting a future repair when in reality they are recording the current condition is satisfactory, thus insuring they inspected the item in question rather than a hasty check mark on the PMI form. They say you need to choose your battles wisely, due to the positive impact this process will have on the organization, this is a battle you need to take on with **both** guns. I’ve had mechanics give me all sorts of excuses why this can’t be accomplished, up to “I’m not Nostradamus. However, once it was demonstrated that it can be achieved the mechanics either made themselves available to the industry or had enough intestinal fortitude to thank you for elevating their respective skill level and their new found respect from operations and drivers. In short, it’s not much different than forecasting a budget. In reality, if a mechanic cannot gauge the wear on a component you really don’t want them performing PMI inspections on your equipment. Yes, even the fledgling mechanic can be taught this skill. For example the mechanic completes the PMI and during the inspection he/she observes the brakes are 50% worn. This should be recorded in the FMS using the “Deferred Repair or Open job bucket” to the next PMI. (Deferred Repair or Open Job Bucket will be

Predicting asset down time when the asset is scheduled for its next PMI, will reduce the strife between operations, maintenance, and the operator.

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explained in detail later within this section.) If the mechanic is trained properly this can be accomplished for many items thus extending the life of the components, reducing cost, preventing unexpected breakdowns, and increasing asset utilization. This proactive step goes along way in predicting asset down time when the asset is scheduled for its next PMI, reduce the strife between operations, maintenance, and the operator by reducing the number of unexpected surprises. Just imagine knowing before a unit even comes into the shop that it will take approximately “X” numbers of hours to make the necessary repairs? In short, this will provide you with the information required to know whether to temporarily put the driver in another unit or not. Is it 100 percent? By no means, however, as the mechanics improve on their ability to accurately predict future repairs the morale of the organization as well as the respect for the Maintenance Team will increase, thus enabling you to capture the maximum life of the components on each asset. Moreover, additional tasks may be generated from the PMI, breakdown follow-ups, or from required repairs coming from warranty and/or equipment failure data. These tasks are scheduled in the aforementioned “Deferred Repair or Open job bucket.”

A Few of the advantages of Scheduled Repairs:

- Extended Asset Lifecycle.
- Extended Component Lifecycle.
- Reduced Unscheduled Maintenance.
- Asset Utilization.
- Labor management.
- Warranty Recovery.
- Reduced management workload.
- Improved employee, company camaraderie & morale.
- Calculate overall condition of fleet.

Getting this process started will go along way in lowering cost and improving service. As the saying goes, ***“Failing to plan, is planning to fail.”***

Service Interval Repairs

Most of you, at one point or another have opened an owner’s manual of some type and while looking for some other latent piece of information stumbled across the manufacturer’s recommended intervals for various repairs on the respective vehicle. At this point you gasp, closed the manual and shoved it quickly back into the glovebox. Good for you! Those recommendations are what is referred to as “D-Rated” and I won’t go into that but those repair intervals are designed to protect the manufacturers warranty and to generate revenue for the dealer. While these said repairs are required at some point, the manufacturer’s schedule is extremely premature. In short, based on

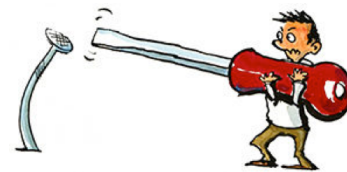
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the operational and environmental demands placed on the asset. Your maintenance department must determine the optimum interval for each of these repairs that will not put the lifecycle of the asset or component in jeopardy, these are “Service Interval Repairs.” Moreover, once these optimum intervals are determined to capture the maximum life out of them and operations wants to defer the said repair to the next PMI, you are at that point putting the asset, your budgeted maintenance expense, and component in jeopardy. Additionally, these intervals will need to be adjusted (Shorten.) during the lifecycle in order to capture maximum return on your investment (ROI). In short, if you did everything the manufacturer wanted, at their recommended interval your maintenance expense would be high and your asset utilization would be in the gutter. The “Serviced Interval Repairs” will be based on manufacturer recommendations that are adjusted to the operational demands placed on the asset, historical data, and industry best practices. These service interval repairs are set-up in your Fleet Maintenance System (FMS) and generate in the FMS when the asset reaches the agreed upon mileage, hour or time interval. As such, once the PMI is generated in the system, **all the scheduled and service interval repairs and open job bucket repairs appear on the work order providing the supervisor a solid estimate of total repair time or out of service estimate.** Additionally, technological advancements have perpetuated the need for service interval repairs on injectors, turbos, after-treatment, and the associated componentry. These and several other systems need to be periodically serviced to gain the maximum performance and utilization.

Technological advancements have perpetuated the need for Service Interval Repairs on injectors, turbos, After-treatment systems and the associated componentry.

Service Interval Repair Examples but not limited to:

- Cooling System Flush.
- Transmission Service.
- Differential Service.
- Air dryers.
- Engine Overhead (Valve Adjustment).
- After-treatment System & Componentry.



The challenge for any and every preventative maintenance process is to effectively adjust the maintenance consistent to the operational demands placed on the asset. In short, in this highly competitive marketplace cookie-cutter maintenance processes are ineffective on the technology laden equipment in use today.

"Innovation distinguishes between a leader and a follower." - Steve Jobs.

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Standard Repair Times (SRT)

In order to be fair and equitable while simultaneously controlling labor expense, manufacturers develop what are known as “Standard Repair Time (SRT) or Book Times.” These estimated/average times are developed after a specific job has been performed a number of times and a somewhat fair duration has been established. These “book times” are used to pay mechanics who are being paid on a flat-rate basis as well as used for warranty reimbursement. However, what happens in many cases the customer is charged the actual time it took the mechanic to perform the job while the vendor pays the mechanic the SRT/book time. Many many dollars of maintenance expense can be reduced just by demanding to pay the SRT/book time and not the actual repair time. Maintenance vendors will come up with a whole plethora of excuses such as troubleshooting, broken bolts, removal of components to gain access to said component etc... However the reality of it is these extenuating circumstances are in most cases included in the SRT/book time. Importantly, if no SRT time is available for a specific task most Fleet Maintenance Systems (FMS) will generate “average-mean time” if a consistent code is used for the specific task. Unless you don’t watch any TV, I’ll venture to say that you’ve seen the “Car Shield” commercials with spokesperson Ernie Hudson who starred in the movie “Ghostbusters.” Standard Repair or book times are the impetus of how Car Shield and their respective competitors are able to hold repair shops accountable and keep the repair cost fair and turn a profit.

One(1) out of every three (3) parts is changed in error.

Additionally, there are circumstances when a maintenance vendor will change more than one (1) part in order to eliminate a defect, however, this is not the norm so don’t let it happen to you on a consistent basis! In some cases the deterioration of one component will cause the deterioration of another component, this is the very essence of “Preventative Maintenance”. Example, a weak battery causes the starter to crank longer than required to start the engine, thus making the alternator work harder to replace the energy in the battery etc... Thus, causing undesired/excessive wear on all components. One must remember that one out of three parts is changed in error. However, in many cases this is used as a crutch to offset the lack of a methodical troubleshooting process and/or system knowledge. Here is latent point not readily known where I will give mechanics and the vendor a break so to speak, I’ve mentioned this several times but it all fairness it must be reiterated here. In order to protect their intellectual capital as well as an attempt to generate more shop revenue for themselves, manufacturers only provide a vague description on how the systems function rather than an explicit explanation. This causes a great deal of frustration for the mechanic who is attempting to make a living, not to mention the negative social stigma. This is one (1) of many key factors perpetuating unnecessary part changes and excess cost.

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SRT/book times can and should be used in the fleet maintenance environment as well in order to monitor productivity, control labor cost, solidify out of service time, as well as shop morale. Morale, I see that big question mark (?) on your face. The reality of it is that many mechanics will gravitate to fleet maintenance from the flat-rate world because they can't make a good living in the flat rate world inasmuch they don't have the knowledge and/or skills it takes and they are afraid to step out of their comfort zone to get it, or they just flat (Pun intended.) don't want to work that hard. In short, if productivity standards are not in place you'll have 20 percent of the workforce carrying the load while the other 80 percent become professionals at doing just enough to get by and morale will suffer. Nothing, (let me say that again,) nothing will kill a great employee faster than watching YOU tolerate a bad one.

Advantages of SRT/Book Times include the following:

- Expense Control.
- Vendor Accountability & Integrity.
- Mechanic / Technician Productivity & Accountability.
- Shop Morale.
- Solidify out of service time.
- Asset Utilization.

Manufacturers are only giving a vague description of how systems operate rather than an explicit explanation!

Don't ask, demand "Standard Repair/Book Times from vendors and shop personnel, its a battle you can't afford to lose. Any shop manager who is wishy-washy or resistive to "Standard Repair Times" either lacks the management/leadership to hold mechanics and vendors accountable or is taking kickbacks. The reality of it is **"You can't manage what you can't measure."**

Open job bucket

The "open job bucket" or "deferred maintenance" option within your Fleet Maintenance System (FMS) is rarely used to its full capacity. Hypothetically, lets say a vehicle breakdowns on the road and a repair is made such as the removal and replacement of a brake canister. Due to the multitude of available types and sizes of brake canisters on the market, and the criticality of the repair, it is imperative this repair be followed up on. As such, once the breakdown repair is made by the individual approving the repair, he/she opens up an open job to check the quality of the vendor's repair, as well as, is the said component that what was recorded on the invoice. (Did we pay for a top of the line part and get a cheap aftermarket substitute or the incorrect size and was the repair performed properly?) As such, the next time someone opens up a work order on the vehicle

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they are immediately notified of the open repair. Hence, the “Open Job Bucket.” There are multitude examples of how this tool can be used effectively to not only prevent duplicate breakdowns as well as hold vendors and mechanics accountable for the quality of their work as well as parts.

A few of the uses of the Open Job Bucket are as follow:

- Road call / vendor follow-up.
- Capturing the full-life of components.
- Vendor and Mechanic accountability.
- Road call prevention.
- Calculate overall condition of fleet.
- Campaign & Warranty follow-up.
- And many, many more too numerous to list.

In short, the “open job bucket” ensures critical items are followed up on even if they have been openly communicated in this fast paced industry.

“One of the tests of leadership is the ability to recognize a problem before it becomes an emergency.” --Arnold Glasgow

Mechanics, Technicians, Vendors, & Scumbags

Yea, you’re somewhat skeptical at this point due to the title, but please give me a moment to explain. Which Wrench to use and when is the quintessential question for this section.

Each and every one of us is brought up in a social-economical level whether it be low, middle or high class. As such, each one of us will do whatever it takes to maintain that social-economic level. Due to the lack of good mechanics in the industry, many individuals become mechanics to fulfill the economic aspirations rather than a true career interest. These individuals only have marginal mechanical skills and no discernible ambition to enhance their respective skills. Which is exactly why they are mechanics who will never be anything more than mechanics and there isn’t a darn thing you, I or anyone else with all the leadership talent in the world can change. Due to the tight labor market you must use them effectively as possible. Most of these individuals are what I’ve coined the term as “Tight-wrenched”. They won’t let on what they know or don’t know for fear of being found out or you might dock their pay because they don’t know the true purpose of a radiator cap or even how compression causes a diesel engine to fire. They will even play stupid or improficient to get out of some of the tougher jobs. This is all part of the mix, you must know their strengths and limitations of each and use your labor talent effectively, not what they may or not may

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not want to do. In short, you must hold them accountable or this will kill shop morale and productivity. These are your “**Mechanics**” and your challenge is to use them as such to the very edge of their capabilities. A portion of this resistance is due to the previously mentioned fact the repair data from the manufacturers does not explicitly explain how the systems operate. Furthermore, in most cases, they are unaware they are reading ambiguously written material if they even read it. Then you have the twenty (20) percent who are hungry for knowledge and get their respective sense of accomplishment from not just changing parts but actually fixing things. They are or will soon be “**Technicians**” and hunger for knowledge and will continually gravitate to much more complex issues. What happens in many cases is the Pareto Concept takes over and these individuals that hunger to better themselves get overworked because they offer the least resistance when asked to complete the tougher tasks. The supervisor can’t get the mechanics to do and eventually their morale and productivity declines and they eventually leave or become part of portion milking the clock, doing just enough to get by. There again, why SRT/book times are imperative. The technicians must be encouraged to enhance their skills while simultaneously held accountable. Some technicians will milk diagnosing a problem in order to prevent being assigned an onerous task such as a clutch or brake job, and just like the mechanics, this must be strictly monitored. The front-line supervisor must be cognizant of where each individual working with them falls into the pecking order and foremost must have the intestinal fortitude to keep this to him or herself and not blab it to their favorite employee or buddy or he will fail miserably. That in itself is a sign of a good or bad leader. The point is they can hang technology on equipment from now until the cows come home and it will never, never be more difficult than dealing with people. In order to attract mechanics, technicians, or drivers, you can’t glamorize something that isn’t glamorous or you’ll be seen as fake and your integrity and trust will be compromised. Once that happens, it will never be regained.

Most shops (Internal or Vendor) are a mixture of baby-boomers, generation X & Y and now millennial mechanics. However, to successfully manage a variety of generations while remaining impartial takes a talented leader with a “teachable spirit.” The generation X & Y and millennial mechanics are young, smart, and brash. They want to work, but they don't want work to be their life, so there needs to be expectations and accountability. There needs to be a very specific job-description, scope of responsibility, as well as agreed upon ground rules. A policy stating that texting, web surfing, or excessive cell phone usage should be for emergency or while on lunch or break. Any other time their cell-phone should be in their toolbox for a whole multitude of safety, production, and morale issues. Given a leader who will inspire and challenge them, most are solid employees and given the situation will do whatever is asked of them if all mechanics and

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technicians are held accountable. Due to the pace at which technology is changing they will require constant training, accountability, and appreciate positive encouragement from everyone including operations when a job is well done. As such, within the confines of your maintenance intellectual human capital you have a variety of multi-generational skill-sets you must lead and manage. Here are a few tips require to accomplish this challenging task:

Never hire anyone until you've witnessed how they walk on their own accord, how they walk is how they will work.

- Treat mechanics with respect & acknowledge their talent and unique skill-set no matter where their skill level falls.
- Hold everyone accountable.
- Don't over extend those who are doing the job with few qualms with all the difficult jobs and undesirable tasks. Conversely, don't let the troubleshooter milk the diagnostic tasks to the point he never is assigned an undesirable task like a clutch or brake job.
- Communicate regularly that its ok **not** to know everything indirectly in order to create an environment of trust.
- Train those who have a teachable spirit, until those who don't demonstrate that desire.
- Never hire anyone until you've witnessed how they walk on their own accord, how they walk is how they work.

However when you are unable to attract enough technicians or its not cost- effective to have a shop in certain locations you must rely on "**Vendors.**" What you must first ascertain that you have X number of assets that require X amount of work that must be proactively completed to maintain your fleet to meet the needs of your customers as well as DOT/FMCSR regulations. As such, if you must rely on outside assistance, whether you want to accept it or not your vendors become an integral part of your maintenance equation and subsequent success. "**Vendor Network**" will be covered extensively in the next section however, there are some key/important latent similarities to your in-house maintenance team that need to be covered here. First and foremost, you must realize that all the aforementioned challenges facing your leadership such as mechanics vs. technicians, productive vs. just enough, managing/ leading across the generational landscape, lack of definitive system functionality, etc... are facing the vendor as well, and oh yea, they must make a profit every week to keep the doors open. Herein lies your garage-door of opportunity. Put yourself in the Vendors shoes for just a moment and think about stress of enough consistent work to keep the books in the black. This provides you the opportunity to negotiate

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a fair labor and parts rate in return for a consistent flow of work. The most important element of any negotiation is that it must be a **win-win for both parties** or it will never last and end in a flaming disaster. Does he want to be an affiliate or is he a “**Scumbag**” that just wants to drain you for every cent he can get out of you? Is he one of the Scumbags raping you blind in the middle of the night by selling you a steer tire (Most expensive in most cases) for a trailer because he says that’s all he has in stock and then charging you an enormous service/callout and mileage charge? These types of vendors have no business sense, are short-term thinkers, and by making the quick buck are actually hurting their chances for remaining in business, as well as the economy, especially in today’s technology rich environment. Karma will catch-up with them sooner rather than later. Unfortunately, sometimes we have no other choice but to use the Scumbag. You must know who they are and only use them on an as needed basis. However on the positive side, if you can get a vendor relationship going, whereas you fulfilling each others needs it can solve a lot of headaches for both parties involved. The challenge you’re facing is knowing your vendors capabilities in the exact same manner you know the skills of your mechanics/technicians and well as know the **pay structure of his employees**. The reality of it is, you can’t afford not to know these key factors regarding your vendors. You will learn how to accomplish these things in the next section “**Vendor Network**.” However, a few more important items to cover. No matter whether they are mechanics, technicians, vendors, or scumbags they must have the required brake, inspection, and tire certifications and you must audit these on an annual basis. These are direct DOT and FMCSR safety regulations and if out of compliance would need to be corrected immediately. Why is all this so important? You can’t afford nor do you have the available asset or labor hours to pay a technician to do a job a mechanic can do. Conversely, you wouldn’t want to assign a job to a mechanic that is he/she is not competent to complete in a timely manner. Example; you wouldn’t want to waste a technicians time flushing a cooling system when it can be accomplished by a mechanic. Nor would you want to send a piece of equipment out to be repaired by a **vendor** that Does Not have the qualified technicians, tools, software, or available labor hours to complete the task in a timely cost-effective manner. This applies to internal and external repairs. In short, you have four (4) different options for each and every task that must be completed in a timely manner in order to control cost and asset utilization, its imperative you utilize your human and vendor capital efficiently.

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“If your actions inspire others to dream more, learn more, do more and become more, you are a leader.” -John Quincy Adams

Vendor Network

Having fully-equipped shops, strategically placed in all your critical locations, that are staffed with the proper mixture of trained mechanics and technicians to adequately handle the workload, with a sound preventative maintenance process in place is a pipe dream that many CEO's and Directors of Maintenance have regularly. The reality of it is, no matter what the structure of your preventative maintenance process happens to be, at some point you'll be at the mercy of a third-party vendor. As such, if you proactively do your due-diligence it will be rewarded ten-fold and eliminate a lot of stress and expense. A properly implemented in-house "Preventative Maintenance Process" will yield and enable you more control over quality, cost, and priority of repairs in order to meet the demand of your customers. However, if your in-house process is **Not** properly managed it can and will easily become as costly as an out-sourced maintenance process. As such, these and several other critical factors are what you must ascertain in regards to your perspective vendor in order to determine if they will be able to provide the type of maintenance required to keep your assets moving on a consistent basis enabling you to negotiate accordingly. Knowing your vendors skills, qualifications, and limitations is just as important as knowing the these same aspects on your in-house human capital. Moreover, just because a said vendor happens to be a dealership, by no means does that guarantee they are competent. Remember that bad Wendy's hamburger you had a few sections back, how about an order of cold fries to go with it? Irregardless of your current maintenance combination you must proactively manage both aspects of the maintenance landscape.

If your in-house process is Not properly managed it can and will easily become as costly as an out-sourced maintenance process.

The first-step is a **"Vendor Qualification List."** This list should be developed based on a list of qualifications enabling cost-effective repairs. Requesting a vendor to perform maintenance they are unqualified to do will always come at a much higher cost and decreased utilization. It should then be elevated to an agreed upon **"Vendor Scorecard"** and set hourly rates on SRT (Standard Repair Times) **not** the amount of time it takes them to complete the repair and parts percentage mark-up. In order to negotiate fair labor rate and parts pricing and hold your vendor accountable its imperative you know how the respective vendor pays his mechanics/technicians. Remember, it must be a win-win for both parties. These vendors need to be set-up in critical areas where your shop configuration cannot support the workload, where you can capture warranty, and well as in

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the lanes or areas you service on a consistent basis. Yes, this could be right down the street from any one of your brick & mortar shops.

The following is a sample “**Vendor Qualification List**” but not limited to:

It is the objective of all (Your Company Name (XXX)) companies to maintain their vehicular fleets in the best, safest and most efficient operating condition at the lowest cost. Equipment must also be kept neat, clean and uniform in appearance.

- Meet Insurance Requirements.
- Perform PMI inspections adhering to (XXX's) inspection methods and certification.
- ASE Certified Mechanics or equivalent.
- Mechanics must have PMI, Brake, Tire and A/C certifications on file.
- Certified to perform annual FAI, State, or California B.I.T. Inspections and indicate on invoice when services rendered.
- Perform Opacity Tests where required.
- Perform Electrical system diagnosis and inspection adhering to (XXX's) inspection methods.
- Must supply own tools.
- Electronic engine, drivetrain, & body diagnostic equipment to meet the needs of (XXX).
- Perform CAC (Charge Air Cooler) and turbo inspection adhering to XXX's inspection methods.
- 24/7 Service & Coverage (If required).
- Tire maintenance and preventative maintenance on an as needed basis.
- Shop & Road Service Capabilities including proper welding as needed.
- Compliance with (XXX's) security initiatives and be aware safety requirements while on (XXX's) property.
- Compliance with Federal and local environmental policies and controls.
- Vendor must possess applicable registration/permits (e.g. hazardous waste transporter/recycler).
- Vendor certificate of Workman's compensation coverage.
- Identify, avoid, and properly dispose of all hazardous chemicals.
- The use of company safety initiatives (e.g. Lock-out / Tag-out, etc) while on (XXX's) property.

As previously mentioned, that was only a “**Sample**” vendor qualification list, your needs could be somewhat different. The extent and criticality of your Vendor

Qualification List is predicated on your dependence on outside vendors.

The “**Vendor Qualification List**” must be signed by both parties and used as the basis for developing the “**Vendor Scorecard**” monitoring their performance to your need in the areas of cost, asset downtime, response time etc... in each one of their agreed upon service offerings you are utilizing. I would recommend monitoring any new vendor on a monthly basis until which time they have deemed themselves competent and gravitate to quarterly. However, I would recommend never

advancing any vendor beyond a quarterly evaluation basis. If so, it becomes way too easy for them to become cosy, comfortable, and complacent. A period of greater than three (3) months, the critical specifics around certain incidents are easily forgotten or confused. Additionally, just as with an employee evaluation the **Vendor Scorecard Review** should be used to compliment and thank them for a job well done.

Just because a said vendor happens to be a dealership by no means does that guarantee they are competent.

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Breakdown/Roadcalls

In a perfect world assets wouldn't breakdown or your Vendor Network would be perfectly aligned with your lanes or service areas and you could utilize them anytime an anomaly occurred. However, as you know, we don't live in a perfect world therefore you must proactively plan for such occurrences. There are reputable breakdown service providers should you need assistance in areas where you don't have vendors set-up. However, the key is proactively setting them up and negotiating pricing and service expectancy instead of when your in a pinch. However, remember that Wendy's hamburger, they too have good & bad service providers you must be cognizant of consistently or your service and cost will suffer. Therefore, these breakdown service vendors also need to be evaluated regularly for performance with your Vendor Scorecard. This paradox is facing you everyday comparable to knowing the skills and limitations of your shop mechanics/technicians, you must know your vendors abilities and qualifications and utilize them within that arena. In short, you can't afford not to know.

"Do not follow where the path may lead, go instead where there is no path and leave a trail." - Ralph Waldo Emerson

Free Money (Warranty)

Every warranty dollar collected is two (2) dollars off the bottom line of your budgeted maintenance expense in the exact same manner as a deduction off your adjusted-gross income on



KNOW YOUR OPTIONS!!!

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Global Electronics Repair 2020, assessed March, 29, 2020, <https://gesrepair.com/what-warranty-types-mean/>

anyones income taxes. Example: The starter, alternator or any other component fails prematurely and that said repair cost you (I'll just throw a number out there.) is seven hundred-eighty dollars (\$780) and you pay that expense, that increases your budgeted or variable maintenance expense by the said amount. However, if you collect that in warranty it will decrease your variable maintenance expense by that said amount. In short, that is a

Every warranty dollar collected is two (2) dollars off the bottom line of you budgeted maintenance.

fifteen-hundred sixty dollars difference to the expense line. Every single thing you purchase has a certain percentage (%) of warranty calculated into the total price. The reality of it is whether it is product warranty on your capital purchases or aftermarket warranty it won't come without some effort and documentation, which in most cases will come from your Fleet Maintenance System (FMS). In short, the better your documentation is, the easier it will be to capture what is coming to your organization. Additionally, in some cases you may have to handover over copies of your repair history in order to prove that you are performing maintenance at the recommended intervals. Moreover, many companies attempting to sell you a FMS will tout their system will pay for itself with the increased warranty dollars collected due to the functionality of their respective system. However, its not that easily accomplished. Why? In most cases individuals with strong technical skills aren't the best at following procedures required to document repairs properly. However, some of it can be negotiated on the front-end of the purchase. The following is a short summation of warranty and the various forms of warranty.

Warranty Defined

Warranty is a promise from a manufacturer or vendor stating they will stand behind their product or service. In short, it is their integrity statement and commitment to you if the product or service fails to meet agreed upon expectations. The **Magnuson- Moss Warranty** Act is a federal law enacted in 1975. The law was created to prevent manufacturers from using disclaimers on warranties in an unjust or misleading manner. As you have probably learned warranties will not cover defects caused by abuse, normal wear, failure to use properly and/or improper maintenance. What you may not know is manufacturers are using data stored within the vehicles computers memory and black-box in order to hold you accountable and forego warranty claims.

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The Magnuson-Moss Warranty Act applies to vehicles under their original or extended manufacturers warranty, and the vehicle must be in the shop for three (3) or more times for the same problem before it will fall under the Lemon Law in certain states. In short, the Act requires manufacturers and sellers of consumer products and services to provide consumers with clear and detailed information about warranty coverage.

Standard Warranty

Original Equipment Manufacturer (OEM) warranties will cover most major repairs for the specified amount of time and miles driven. However, they come in a variety of forms and as previously mention it must be clearly spelled out in terms of key items such as engine, transmission, drivetrain (Including complete rear-axle), turbos, and after-treatment componentry to name a few. Ensure the warranty parameters of each and every component on each and every asset are entered into your Fleet Maintenance System (FMS). Many items are covered under warranty however, some of these items will not be cost-effective to move the asset back to the dealer in order to collect. However, you should keep track of the cost and labor of each of these items, retain the high ticket items, and review it quarterly with them during the quarterly vendor scorecard review. If they are vendor who wants your repeat business they will ask you to submit work orders and will reimburse you a certain percentage on a pro-rated basis.

Every single thing you purchase has a certain percentage (%) of warranty calculated into the total price.

Extended Warranty

An extended warranty or service contract as they are sometimes referred is an optional agreement for product service that customers sometimes purchase when they have limited or compromised maintenance structure. It is a prolonged warranty offered to consumers in addition to the standard warranty on new items. It may cover all or a part of the items included in your initial warranty. There again, by law it must be clear and detailed and should you purchased it, ensure it is entered into your FMS system for each and every asset. The extended warranty may be offered by the warranty administrator, the manufacturer, or a third (3rd.) party.

Aftermarket

Aftermarket warranty comes in two (2) forms. The first being warranty on all your aftermarket parts you purchase in order to maintain your fleet. These are new/replacement parts you are using to replace the OEM parts that came on the asset. You can procure these aftermarket parts from a variety of reputable sources that are as good and some cases better than OEM parts at

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a significant savings. (Yes, sometimes the manufacturer don't always select the best supplier. Cost, supply, and egos can get in the way.) Warranty on these items are much shorter, however, due to the criticality of these parts they must be tracked as well not only for reimbursement but for the overall success of the organization. Are they failing prematurely causing you unnecessary service interruptions? The second type of aftermarket warranty is on used equipment. This is warranty is beyond the standard and extended warranty. They focus exclusively on the key big ticket items such as the powertrain and after-treatment systems. However, they key to purchasing this type of warranty is to apply for it prior to the standard or extended warranty period elapsing or extensive testing and documentation will be required.

Emission Warranty

When that pesky amber or yellow "Check Engine Light" comes on or you fail and emission or opacity test rather than fretting you need to be checking to determine if this repair is covered under warranty. Many parts you may not think of as as emission components are in fact just that. Think of it this way, if a component due to its failure causes the vehicle not to function properly or emit higher than normal emissions, its probably an emission component. The only way to know is to look it up or ask the manufacturers dealer. In short, push the issue. If a dealer does not cover this with you its your first tale-tell sign of an unscrupulous dealer who does not have your best interest at heart.

Policy Warranty

Policy or sometimes referred to as "Good Faith" comes into play when a manufacturer has a problem with large number of vehicles or a key component to the point it is well known and documented in the industry. At this point they are attempting to save your business, their reputation as well as prevent a class action lawsuit due to the extent the negative impact the anomaly has on you as well as the industry. The key here is persistent negotiation. You should pursue asset downtime, replacement rentals, labor, parts, towing charges incurred, and administrative fees.

Tires

Tires, in most cases are your highest maintenance expense. Controlling this key element starts with having a defined process in place and ends with a scrap tire analysis, which must be completed when you vendor accumulates 100-150 scrap tires. During the scrap tire analysis you will find tires that fell outside the parameters of your tire process or failed prematurely due to a variety of root causes, some of which will fall directly into the lap of your vendor yielding you what

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are referred to as “**adjustments.**” In short, this is yet another form of warranty. Adjustments are generated by the following:

- Manufacturer defects.
- Failing to adhere to your tire process parameters (Too Numerous to List.)
- Failing to adhere to pull points.
- Bead damage - caused by improper mounting or dismounting.
- Recap process errors - too numerous to list.
- Poor or Improper Repairs - too numerous to list
- Driver abuse - these won't be adjustments, but will open your eyes to what your drivers are up to such as run-flats.
- Knock-off brands - You'll get a close-hand look of tires your breakdown vendors are pawning off on you. (The ones the open-job bucket is suppose to be catching.)

If your maintenance leader is not completing these in each location you are loosing money and accountability of your vendor, and left unchecked will lead to disastrous results. Just the fact that your vendor knows that you are looking, even with little to no knowledge at first will yield you a minimum of a ten (10) percent reduction in your tire cost. I know you might think you have better things to do than wrestle with 100 to 150 tires, however the learning curve is quite steep. What will all this do for you, peace of mind, huge savings, reduced breakdowns, increased casing resale value, just to name a few.

Don't let what you can't do interfere with what you can do. - John Wooden

For further explanation on warranty laws and regulations:

<https://www.ftc.gov/tips-advice/business-center/guidance/businesspersons-guide-federal-warranty-law#intro>

The Final Torque of the Wrench

The final torque of the wrench and most important factor in the grand scheme of things, in order to juggle all these essential elements of fleet maintenance is your Maintenance leader's management & leadership skills. Most shop managers, if competent, elevate up to director of maintenance, come from the floor, if there is enough room for opportunity. And while they are technically astute, most lack management and leadership skills. No disrespect intended, technical and managerial skills are not commonly found in a lot of individuals. As such, the most important factor when looking or evaluating an individual in one of these positions is do they possess a “Teachable Spirit.” If they don't you need to look for a new leader, that's not something you can indoctrinate. Is he/she an autocratic version of the aforementioned Tight-wrenched mechanics you

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have on the floor? Does he/she put on a facade of knowing it all? Or do they have the intestinal fortitude to say “I don’t know.” Autocratic leadership went out with the hula-hoop and will run off those with even with marginal technical skills to places where they are treated with respect and feel they can grow without a cloud of intimidation lingering over the shop. What is required in today’s shop is a leader who can lead a multi-generational diverse group with various skill-sets. With today’s rapid changing technology this individual can’t be afraid to say **“I don’t know, let’s figure it out.”** This declaration of integrity will go along way in gaining trust and respect essential to the success of the maintenance function as well the organization. In short, he/she doesn’t need to know everything. We all know the value of having a truck that is operating in the sweet-spot, achieving maximum torque while simultaneously achieving optimum fuel economy with minimal or zero emissions. This same analogy can be made for your maintenance leaders management & leadership skills. The first place to look in order to determine if your maintenance leaders function is operating in the sweet-spot is the shop morale. We all know every shop has the rotten-egg who is attempting to undermine management. However, if the leader is holding this individual accountable, shop morale will not suffer and they leave one way or another. Tom Peters stated “That 85% of what the front line supervisor or manager needs to know is how to properly manage his/her resources such as time, budget, parts, and employees no matter what industry. And only 15% knowledge of the respective industry at hand.” This number diminishes as one gravitates up the corporate ladder, while the management/leadership percentage escalates.

So how do you keep the wrenches turning effectively? In the industry with paper thin margins it’s imperative to get the most out of the maintenance dollar. The umbrella of success is not only to operate a financially strong organization but have defined processes and build a culture that retains top talent. Leaders in any industry must be proactive in regards to managing their variable costs as well as total cost of ownership. It’s a combination of leadership and management that enables effective sustained cost control and the primary factor that goes into it is trust. In order to have trust you must first have integrity. If you have integrity, and treat everyone at all levels with respect, your trust will escalate your ability to influence and inspire individuals to foster improvement, you will be consistently profitable and your maintenance function is no different.

Here are a few techniques to prevent the clogs normally found imbedded in the wheel of maintenance, profitability, and safety:

- Treat mechanics with respect & acknowledge their unique skill-set.
- Demand shop cleanliness, parts & tool organization.
- Rigorous PMI inspection process.
- Standard Repair Times or estimates on ALL jobs.

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- Accurate monitoring of “direct” vs. “indirect” labor.
- Agreed upon metrics & scorecard to control mechanic and vendor productivity.
- Communicate solutions throughout the organization via portal or e-mail to share knowledge across the organization. Once a solution to a problem is determined you can’t afford to keep solving the same problem repetitively, if this tool is not in place, I guarantee you it will happen.
- Shop leader & mechanics that are willing to develop their skill-sets.
- Retention thru leadership, accountability, development, and competitive wage structure.
- Methodical troubleshooting process.
- Communicate the fact that repair manuals are written ambiguously.

Predictive Maintenance can be gradually implemented once the needs and requirements of the preventative maintenance process are fulfilled. The quintessential mistake is to attempt to implement predictive or any other form of a maintenance process without preventive maintenance in place. The maximum ROI is captured when the right wrench, is on the right bolt and/or nut turning in the proper direction.

“Nothing great is ever accomplished without enthusiasm!” - Ralph Waldo Emerson

The next section of the white paper will offer the key steps in building your critical support network when some element of the process breaks down and fails to meet the objectives.

MCB Fleet Management Consulting

MCB Consulting was formed after a very successful career of twenty-four (24) years with UPS (United Parcel Service) which included the development and implementation of UPS Fleet Professional Service consulting subsidiary. Through the implementation of cost effective fleet asset and leadership processes, it is our goal to make the global marketplace a safer place to live and do business. We will accomplish this by lowering your operating cost, reducing capital and aftermarket procurement expense, increasing efficiencies, improving fuel mileage, lowering vehicle emissions, and training your team to sustain these results in order to improve the environment in which we live.



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