

THE GREAT LUBRICATION ROAD TRIP

MAPPING OUT YOUR
LUBRICATION PROGRAM



INTRODUCTION

Every year, thousands of vacationers hit the open road on the most North American of traditions; the road trip. The well planned road trip can be something the whole family can enjoy, creating memories that last a lifetime. Conversely, a poorly planned trip can also become unforgettable, but for all the wrong reasons. Lubrication improvements are much the same. Just like a road trip, the “journey” from poor lubrication to preferred practices can be successful and enjoyable. But without careful planning it can become an exercise in futility where nothing ever gets done, and nothing ever changes. So how do you make sure your lubrication road trip is full of happy memories and you arrive at your destination refreshed rather than exhausted and frustrated? Follow these tips to get everything squared away and head out; the open road awaits.



THE GREAT AMERICA ROAD TRIP: A HISTORICAL PERSPECTIVE

Arguably the first “road trip” in North America occurred in 1804, when Meriwether Lewis and William Clark set out on what was then known as the Corps of Discovery Expedition, now more commonly referred to as the Lewis and Clark Expedition. Their goal was to map uncharted territory and find efficient trade routes to the Pacific Northwest. Fast forward 200 years to 2004 when Google purchased a small company, Where 2 Technologies. This small Australian start-up company had developed software for computer-based mapping that, once acquired by Google, became the nexus for Google Maps. In 2013, it was reported that in excess of a billion people use Google maps every month to either find a destination or plot the most efficient route to take.

Today, with GPS technology, online booking travel sites, and smartphone Apps, it has never been easier to plan a road trip. But just like Lewis and Clark, a little bit of pre-planning can make the difference between success and failure. Lubrication is no different. There's tons of information to be found online, at training classes and workshops, as well as at conferences. But how do you sift through this plethora of information and make the right choices for your lubrication program?

PICK A ROUTE

The first step is to pick a route. Let's assume you're planning a road trip from Nashville to San Francisco, a journey of some 2300 miles. You know your starting point – Nashville – and you know your destination – San Francisco, but which route should you take? Do you head north to St. Louis, through Kansas to Denver, then onto Reno and finally San Francisco? Or do you take the southerly route, picking up the iconic Route 66 through Oklahoma, Amarillo, Albuquerque, Los Angeles and San Francisco? According to Google maps, the difference in distance travelled is only 61 miles, but the experience will be very different. If you're an outdoor buff, maybe the northern route is better with the appeal of the Rocky Mountains, coupled with the natural beauty of Yosemite between Reno and San Francisco. Or maybe the Southern Route is more your style with the lure of sidebar trips to Las Vegas and Disneyland in California? The path you take to reach your destination will depend on your circumstances, budget, and goals.

Precision lubrication is no different. You know where you're starting from and you know the end goal: get the right amount of oil or grease in each machine, ensuring that the lubricant is kept clean, dry, and cool. It's pretty simple; but how to get there? Maybe you handle oil in barrels, in which case a small portable filter unit capable of mounting on a barrel is the best route. A best practice oil transfer container keeps oil clean as it moves to equipment, its final destination. And a desiccant breather keeps the lubricant clean and dry while in use. It is a matter of selecting the best road to lead you to your goal.



Now you have to decide who's actually going to do lubrication. Do you prefer to have dedicated lubrication techs, will general mechanics also do lubrication or is your goal to have operators do basic tasks? Each option comes with pros and cons but is a major "fork in the road" that dictates other decisions down the road.

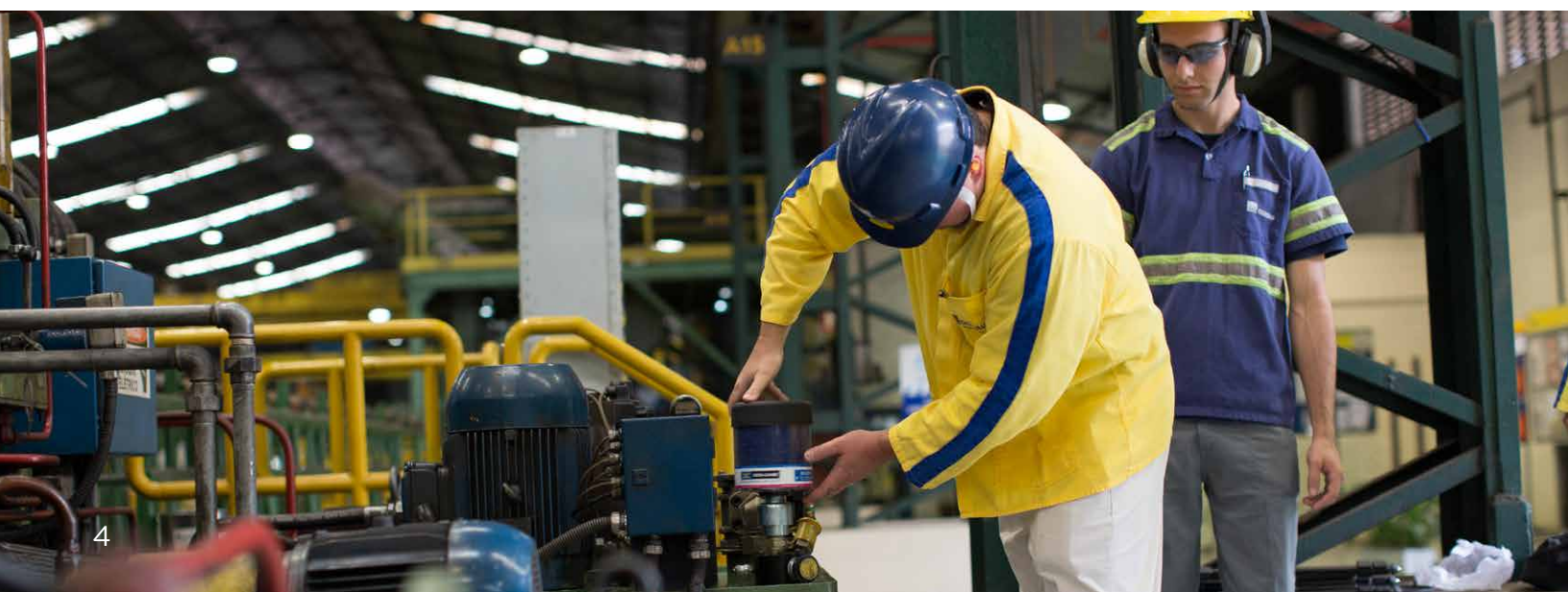
Once you have chosen the general route, the choices become even more granular. Which towns do you plan to stay in overnight? Is there a particular hotel chain you plan to use to get awards points? Are there any particular attractions on the way where a short detour might be in order? Lubrication improvements are no different. Once you make the "big picture" decisions (bulk vs. barrel, supplier A vs. supplier B, lube tech vs. operator), there's a host of choices still to be made. Take for example, electric motor lubrication. Do you want to use a simple route base process which includes calculating the optimum volume and frequency to re-grease or do you want to invest in an ultrasonic tool to make the process more rigorous? Both will give you good reliability if you apply the process correctly.

The decisions are endless; which color should I color code gear oil? What tests should I do for hydraulic fluids? How should I monitor oil level in my process pumps? Will the electricians be responsible for motor lubrication?

But what's key is that you have a route planned and start to plan the options and preferences ahead of time to avoid the disappointment of a full hotel with no reservation or missing the world's longest aerial tramway in Albuquerque (yes, there really is one!).

Lubrication is the same. Starting out with a goal to "improve our lubrication program" is not a plan – it's a desire. Instead, each step and turn and each decision point should be mapped out so that options can be considered and the right decisions made based on a combination of company goals, plant layout, and operating environment.

Of equal importance is the need for someone to "own" the plan. Just like the voice on a GPS providing step-by-step instructions to help you navigate the pre-planned route, all successful lubrication improvements have a champion – the "voice of reason" – to coach and help steer the team into making the correct turns and taking the right "freeway exit" to stay on course.



PLAN FOR THE UNEXPECTED

Aside from auto insurance, it's never a bad idea to look at supplemental travel insurance when planning a road trip to account for those unexpected bumps along the way. Similarly, even the best laid lubrication plans often encounter unexpected road blocks so purchase insurance in the form of oil analysis. While nobody wants to file an insurance claim any more than anyone wants to see a problem showing in oil analysis, having the benefit of an oil analysis "insurance policy" to warn of impending problems can be the difference between a minor speed bump and a total and catastrophic breakdown.

INSPECT FOR SUCCESS



On a multi-day road trip, a simple vehicle inspection before you start out in the morning can help prevent an unexpected problem later. Simple visual checks such as pulling the dipstick to check engine oil level, making sure coolants and other fluids are topped off and checking tire pressure all serve as a check and balance. With lubrication, similar visual inspections can go a long way toward identifying problems before they become problematic. Using a oil level indicator to check oil level, inspecting the color and clarity of the oil with a sight glass or bottom sediment bowl, recording

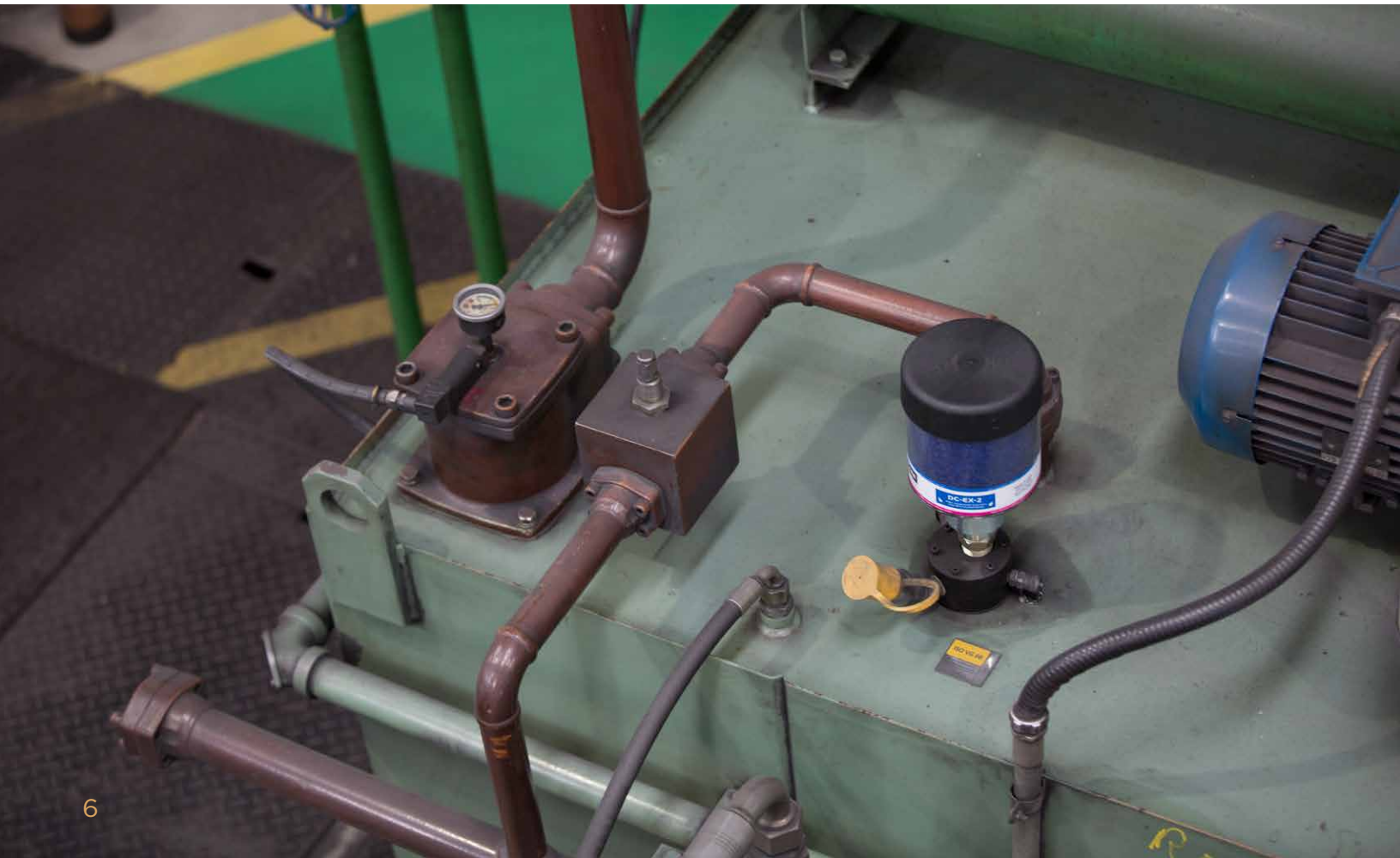
bearing temperatures with a non-contact infra-red pyrometer or looking at the color of the breather can all pinpoint an emergent issue. While a check-list may be overkill for simple vehicle checks, basic lubrication check sheet similar to those used by pilot for pre-flights checks are a good idea to make sure everyone's inspecting and expecting the same thing.



ALWAYS OBEY THE SPEED LIMIT

Nothing serves as a road trip buzz kill like a speeding ticket, so make sure you always observe the speed limit along the way. Pay close attention to changes in speed limit as you continue your journey. On the open highway far away from any town where conditions are more forgiving, maybe the limit is a fairly loose 70 mph. But turn off the highway into a town or residential neighborhood and you'll quickly find the limit dropping to 45 mph, then 30 mph and perhaps down to just 15 mph if you pass through a school zone. As the limit drops, instinctively you'll apply the brakes to come into compliance, all the time watching your speedometer to insure you're below, or at least no more than 5-10% over the limit!

The lubrication "highway" is no different. Just like we set lower speed limits in critical areas like school zones where pedestrian traffic is higher and the consequence of "failure" is far greater, we should set tighter controls on contaminants and other oil condition parameters to insure production or safety critical assets are kept under strict control. While an ISO 19/17/14 and 500 ppm of water might be acceptable for a large, slow turning gearbox, a more critical high pressure hydraulic system will need a much lower "speed limit" of 15/13/10 or better and no more than 100 ppm of water. Just like driving, whenever, we exceed the contamination control "speed limit" we should apply the "brakes" by checking the breather and other points of ingress or employing supplemental filtration, until oil analysis (our lubrication speedometer) tells us we're back in compliance.





ARE WE THERE YET?

A road trip is about more than just the destination; it's as much about the journey. Similarly, precision lubrication is not a destination, it is a journey. If we're always looking for an end point where we intend to stop, complacency often sets in and we slip back into bad habits. Like any other reliability initiatives, precision lubrication should be about creating a new culture where continuous improvement is built into every day discussions. Similarly, next time you take a road trip, don't just think about how many miles are left until you get there; think about what's working and what's not so much fun, and plan for the next great adventure on the open road.

Planning for a road trip can be a lot of work. Mapping the route, selecting stops and activities, booking hotels, servicing the car, packing, and keeping kids entertained are all necessary tasks to make the trip safe and keep everyone sane. And while planning the perfect road trip can seem like an exhausting ordeal, the payoff of an exciting and memorable vacation is well worth the effort. Similar attention and planning should be given to the "road trip" your lubricants take from arrival at your facility to use in machinery. Like road weary travelers, lubricants have needs along the way to arrive at their destination clean and contamination free. What is the best route to take? What stops should be made? Where will it be stored? These and many other factors will determine if your lubricant arrives energized or worn-out.

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