

The Equipment Walkaround

The most important part of the day for construction equipment may be a matter of minutes just before and after operation.

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Equipment manufacturers talk a lot about advanced technology – and with good reason – but one of the most important actions an equipment owner or operator can take for the good of their machine requires very little technology at all: the pre- and post-operation walkaround. Equipment owners likely do this now, to an extent – but how consistently is it done?

Taking a few minutes at the beginning and end of each day to visually inspect the machine and its surroundings, and to clean off critical components from accumulated dirt/fluid, can identify issues with the machine that may require attention. It can tip the operator off to operating practices that can be altered to improve productivity and efficiency. And it creates a routine that gives the operator pride of ownership over that machine, its appearance, and how it works.

Ground Engaging Tools

Ground engaging tools – teeth, cutting edges, rippers, dozer blades – all tell a story. Inspecting these items before and after operation gives the operator a frame of reference to how that machine is working, and can prevent future damage if abnormal wear patterns are noticed. A few examples:

- Teeth are meant to take the brunt of the digging force. If a tooth is worn down and past its useful life, is it damaging the structure around it?
- Is a blade positioned too aggressive for its application, to where it's compressing the dirt as it cuts it (excessive wear at the cutting edge) instead of properly wind-milling it off to the side and carrying it across the blade (consistent wear across the central carrying portion of the blade)? This may indicate a need to alter operating practices.
- Ripper shanks may wear or deteriorate in a way that indicates that it's not the right match to the machine or application, creating an inefficient use of the machine it's attached to.
- Fleet managers who regularly check wear patterns across numerous machines can identify if one set of teeth is wearing faster than another, and if so, why is that? Bad parts? Operator inefficiency? Monitoring wear patterns can provide insights into part quality and how these machines are being operated.

Tracks and Tires

Inspect and clean out tracked machines both before and after operation. Dirt and rock contributes heavily to wear, and can generally be removed in just a few minutes. This is especially important in winter months, where frozen tracks, and accumulated material that freezes and expands, can cause damage and operational problems. Cleaning will also reveal worn bushings or other undercarriage components in need of repair, instead of concealing them in dirt.

Look for punctures and under-inflation on tires. Under-inflation can lead to poor fuel economy, poor ride performance and slow speed, hampering machine performance, or a blowout or further damage. Also, look for barbed wire or other material wrapped around the hub that could cause punctures or other damage. Is the rim damaged? It may not pose a problem today, but that damage may eventually cause a leak or puncture.

Obstacles

When conducting a machine walkaround, noting what's *around* the machine is almost as important as noting what's *on* the machine. A cognitive awareness of the obstacles, and where other people are working/operating, gives the operator a better sense of the site, and ultimately improves performance and safety. Talk with other equipment operators before the beginning of the shift to get an understanding of where they'll be operating.

Fluids Tell a Story

Fuel and DEF levels should be checked daily and filled at regular intervals. Fuel is obviously needed to operate, and a lack of DEF will cause engines with SCR technology to de-rate, limiting operation. Operators should also check engine and hydraulic oil levels, as well a coolant levels and overflow.

Equally important is looking where fluids *shouldn't* be. Look under the machine – is the dirt congealed with fluid that leaked overnight? Look down into the belly pan of the machine – has any fluid accumulated there? Are there odd smudges of oil or grease that reappear after they've been wiped away? Find the source of these abnormalities.

And don't underestimate the powers of perception: checking fuel or DEF fluid levels, both before and after operation, gives operators a baseline of how much of each fluid is used each day. Establishing this baseline will allow the operator to identify any sudden shifts in fluid use ("I used 40 percent more fuel today – why?"). This may be a symptom of a bigger problem with the machine, or an operational practice that can be corrected, or even a security concern with your equipment/jobsite.

Safety and Cleanliness

Once in the cab, the operator should take stock of the view and surroundings. Remove excess material from the floor of the cab that could impede operation. Check the horn and check the backup alarm to ensure the machine can “communicate” with its surroundings. Clean the windows – that’s important for both visibility and efficient operation. Check the seat belt – is it locking in? Does the lap bar come down all the way? Are all the gauges showing correctly? Are any fault codes present? Operators should look for anything and everything that might take their attention away from operation.

Signs of Stress, Wear or Impact

Identifying dents and dings on the machine immediately after operation creates an awareness of when that damage occurred. Did the machine come into contact with any structures on site? Diagnosing when and where it happened will help prevent operators from doing it again, and help explain how it happened if there is damage to the site or other equipment. Also, is there any other change to the fit and finish of the machine? Look for loose nuts and screws, or other abnormalities.

Incorporate Telematics

Telematics – as part of its core capabilities – does an excellent job of tracking and identifying machine operating parameters/issues. Operators with access to these systems can cross check their visual findings at the end of the day with what the system is reporting to establish one more check and balance. Empowering the operator with access to that data also gives them greater ownership over the process, which will make them more committed to the work and care of that machine.

That sense of ownership and pride is critical. For any operation that is judged by productivity and efficiency, having a machine that runs at peak performance is the top priority – and it all starts with that operator. Taking five or ten minutes, both before and after operation, is time well spent to ensure that each machine maintains its required level of safety and productivity.

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