

# IT PAYS TO MAINTAIN YOUR GET

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Whether you own one piece of heavy equipment or an entire fleet, you probably have a plan for managing the asset—a plan that's designed to boost productivity, extend component life and reduce owning and operating costs. The question is, how comprehensive is your equipment management plan? Does it include the engine? Of course. The transmission? Undoubtedly. Final drive components? Most likely. But how about your Ground Engaging Tools?

If you're like many equipment owners, you don't manage your GET investment as aggressively as you do the major drive train components. You may view GET as sacrificial iron, and as a result, give it less than your full attention. If that's the case in your operation, it's time to look at your GET from another perspective. Because even though Ground Engaging Tools are technically "just" wear parts, it pays to manage them effectively.

Here's why good GET management is important:

- Well-managed GET components not only protect your buckets, rippers, blades and moldboards from premature wear; they also improve your machine's productivity and performance, so you can move more material every hour.
- The right GET, properly managed, can also extend machine and component life. That's because the work tool will penetrate tough materials easier, reducing shock loads and other stresses that get transmitted back into the machine's structures and major components.
- By managing your GET, you can reduce fuel consumption, which drives down operating costs and can extend engine life.
- A comprehensive GET management program can reduce the risk of unscheduled downtime. That means more time on the job, working productively and profitably.
- And finally ... GET costs can really add up over the life of a machine. Depending on your application, your lifetime investment in GET may actually exceed the original purchase price of your machine.

To incorporate GET into an equipment management plan, you'll need to address five key factors. They include:

- Selecting the right GET for the job
- Ensuring proper operating techniques
- Adhering to a rigorous maintenance schedule
- Keeping accurate records
- And analyzing worn iron to assess performance, measure life and identify problem areas...just like you are probably already doing with an oil sampling program to help manage the power train components

Although each factor is critical, this article focuses on the role of maintenance in a GET management plan.

## Performing regular inspections

Inspections are at the core of a solid GET maintenance strategy. Operators, maintenance staff and service technicians share responsibility for inspecting your Ground Engaging Tools..

At the start of every shift, it's important for the operator to walk around the machine and perform a quick visual check. A GET system inspection should be part of this walk around. The operator should look at the GET system as a whole and verify that all GET components are wearing in a balanced manner. GET from the Original Equipment Manufacturer is designed to wear as a system. A serious imbalance could indicate a problem - with the operator, the application or some other factor.

In addition to this "big-picture" look at the GET system, other things the operator should check during the walk-around inspection include the following:

- Excessive wear or bending in corner areas
- Badly bent or broken-through corner gussets
- Cracked or worn-through areas at weld joints
- Cracks along welds or plates inside and on the underside of buckets
- Missing tips, retainers and worn adapters, especially adapter straps and noses

- Loose or missing bolts
- Excessive wear or scalloping along base edges
- Excessive wear of retainer slots for side-pinned tips and adapters. (If the slot gets too wide, there will be a loss of retention, which affects performance.)

While it's vital to complete a brief GET inspection prior to each shift, a more comprehensive evaluation should take place every time a machine receives PM or undergoes a repair. Make sure all maintenance staff and service technicians are familiar with the GET inspection procedures outlined in your machine's Operation and Maintenance Guide.

## Fixing Problems

Any time an inspection reveals a problem, it's important to take action as soon as possible. A single loose bolt could cause a failure. Missing tips could result in premature wear of more expensive components. Other seemingly minor problems could have a negative impact on safety, productivity, performance and operating costs.

Some of the most frequently performed GET maintenance procedures include the following:

- Adjust the bucket positioner properly and verify that the operator understands its function and does not override the adjustment
- Rotate bucket tips regularly. Faster wearing corner tips should be switched with slower wearing center tips
- If repairing or replacing GET requires welding, always follow the OEM's welding procedures
- Change edge segments before wear can extend into a dozer or motor grader moldboard
- "Propeller" overlay end bits (on a motor grader moldboard) when corner wear is high
- Install ripper tips correctly (penetration tips with the rib up)
- Tighten any loose hardware. Prolonged operation with loose hardware will cause boltholes to elongate, GET to break and give rise to other maintenance problems
- Use the proper procedure to tighten GET hardware. First, clean all surfaces of rust, paint, nicks and burrs. Then tighten the nut to the proper torque specification. Next, carefully strike the plow bolt head with a hammer. (Make sure you're wearing safety glasses.) Finally, retighten the nut to the published torque specification
- When replacing missing or damaged hardware, always use hardened washers, nuts and bolts
- Repair all weld cracks
- Replace worn protection material

When repairing GET, sometimes what appears to be the problem is just a symptom of the real problem. For example, loose hardware could be the result of improper installation, improper hardware or even something as simple as not cleaning paint and other debris from GET mating surfaces prior to installation. It is important to find and fix the root cause of a problem to prevent reoccurrence and minimize maintenance and repair costs.

## One more thought

It's very important to manage the wear life of your Ground Engaging Tools, but don't over- or under-protect your buckets, dozers and other tools with GET or other wear packages. Either approach will jeopardize machine performance and productivity and increase owning and operating costs. The proper balance can only be determined through evaluation of the application and good record keeping.

## Broaden your plan

There was a time when many contractors and other earthmoving professionals did not have a plan for managing their major drive train components. But when the benefits of component management were explained, many of them got onboard. Now they're tracking drive train performance and life aggressively, but may not be giving their GET components the same kind of attention. We urge you to work with your dealer on GET management. Together you can create a plan that incorporates the essential factors of GET management - selection, operation, maintenance, record keeping and worn iron analysis. This comprehensive approach will pay big returns - in terms of higher productivity, longer component life, more uptime and lower owning and operating costs.

For more information >> Visit [www.cat.com/parts/ground-engaging-tools](http://www.cat.com/parts/ground-engaging-tools).

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