AccuGrade® Compaction

GPS MAPPING AND MEASUREMENT FOR SOIL COMPACTORS

CATERPILLAR®

TODAY'S WORK. TOMORROW'S WORLD.™

KNOW WHAT LURKS BENEATH THE SURFACE.

Enhanced Productivity

- provides real-time data to operator
- tells operator when to stop working an area
- defines areas that require more work
- alerts operator to compaction problems early in the process
- optimizes manpower by eliminating unnecessary passes
- real-time testing eliminates the need to stop and wait for testing results
- allows operator to map existing base and identify potential problem areas

Sometimes experience doesn't cut it. Soil just has too many variables – uniformity, particle size, and moisture content, to name a few. Even operators with years of experience can have difficulty judging when the soil is compacted to spec. Rework can be costly and time consuming. And, it is time consuming and risky to have the operator compact an area over and over without knowing when the proper compaction level has been attained. Over-compaction can cause properly compacted materials to de-compact, or in some cases crush the aggregates, reducing their engineering value. More is not always better.

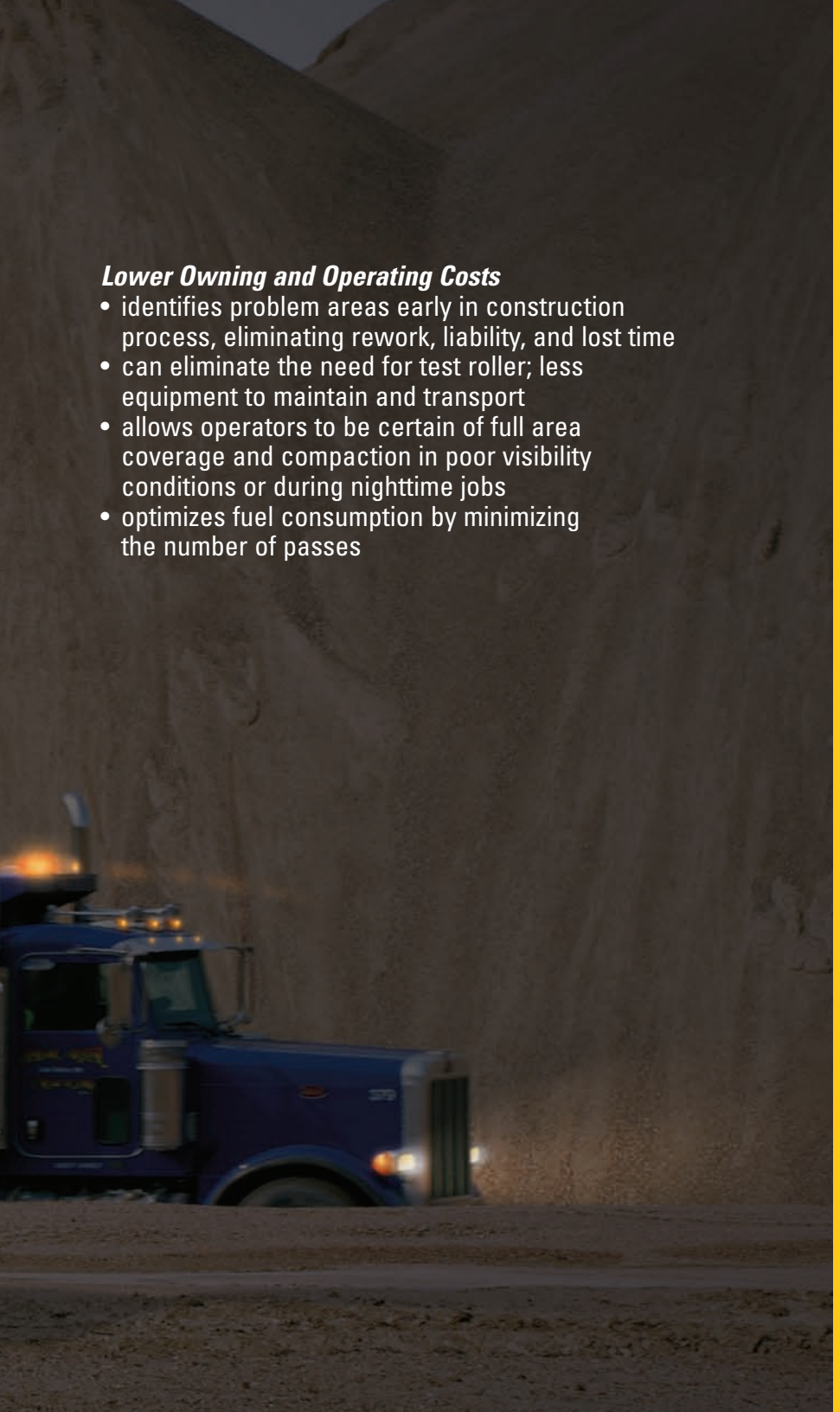
The AccuGrade® Compaction GPS Mapping and Measurement System for Soil Compactors turns your operator into a soil compaction expert.

AccuGrade Compaction senses soil stiffness, an excellent indicator of load bearing strength, documents the information, and logs the precise location with GPS. Compaction data is displayed to the operator, showing where proper compaction has been achieved, and areas that need additional work. The information can be used to create historical compaction maps of the entire job site.

But that's not all. **AccuGrade** Compaction provides the operator with real-time compaction information, eliminating guesswork and alerting the operator to areas that may require rework – soft spots, buried objects, moisture problems – before the progress of the job makes it expensive to fix.

AccuGrade Compaction provides the operator with the information needed to provide the highest quality of compaction while optimizing the efficiency and pace of the work.

IF YOU CAN SEE IT, YOU CAN FIX IT.



Lower Owning and Operating Costs

- identifies problem areas early in construction process, eliminating rework, liability, and lost time
- can eliminate the need for test roller; less equipment to maintain and transport
- allows operators to be certain of full area coverage and compaction in poor visibility conditions or during nighttime jobs
- optimizes fuel consumption by minimizing the number of passes

Compaction problems often don't become an issue until after the wear course is laid. By then, problems become expensive to remedy.

AccuGrade Compaction uses an accelerometer to measure drum movement, then converts those measurements into stiffness values, which are displayed to the operator as Caterpillar Compaction Values (CCVs). CCVs are displayed in color to the operator as they are measured. The colors are assigned to values that reflect a graduated scale based on a pre-established CCV baseline, which varies depending on soil type and site conditions. When the operator's screen displays uniform coloration of the work area, the operator makes a proof run to document the work and moves on to the next area. No wasted passes, no wasted fuel, no wasted time.

AccuGrade Compaction measures more than just the compaction values. It also tracks other vital data, including machine speed, drum amplitude, frequency, and number of passes. All of that information is sent to a single display screen that is bright, colorful, and easy to use. No need for a handful of hard-to-read gauges – the operator can choose to display the information needed to ensure the job is done right. The screen is backlit, so operators can keep on working in low-light conditions, even in the dark. The AccuGrade GPS will know where the machine is, and the display unit will show the operator.

Operators can see compaction values, machine speed, frequency, amplitude, number of passes, and more.

Did your work meet specifications? This screen will tell you.

PROVE YOUR QUALITY.

Quality Control / Quality Assurance

- documents work completed: number of passes and stiffness results by position
- reduces number of required manual compaction tests, reduces job site congestion
- provides in-process control, ability to monitor progress daily
- provides electronic data for computer analysis
- creates historical record of job site data to correlate with long-term results
- lowers testing costs, fewer samples to tag and store
- provides historical compaction records that will assist in planning manpower requirements for future work in similar applications
- highly accurate GPS provides precise location and elevation data on site; assists job site planner in determining when additional lifts are required to meet elevation specifications

Collecting all that data means nothing if you can't correlate it with a point on a map.

AccuGrade Compaction provides the most accurate GPS mapping capability available on a soil compactor.

How accurate? Centimeter-level accurate – precise enough to find errors in the finished grade.

The ability to connect data with the exact point it was measured makes it good for all sorts of things. Like what? How about for use in Quality Control processes, to help ensure that the road is built to exacting standards. How about for Quality Assurance for the project owner, providing historical compaction maps on a one-to-one basis rather than a million-to-one, as with manual testing. **AccuGrade** Compaction allows you to reduce the number of manual tests, or in some cases eliminate them altogether. Imagine the time and expense saved on manual testing alone.

The ability to map compaction values with your compactor improves testing coverage, site safety, and job efficiency. It lowers operating costs due to less testing, manpower, and on-site machine maintenance.

AccuGrade Compaction also provides the capability to monitor progress of the machine from the site office computer through a two-way wireless radio network. The operator and the office engineer can see the same data as it's transmitted to and from **AccuGrade Office**. **AccuGrade Office** makes your entire **AccuGrade** machine fleet – hydraulic excavators, motor graders, track-type tractors, and soil compactors – easier to manage.

Using AccuGrade Compaction for QC/QA reduces the need for testing personnel on the ground, increasing site safety.

The **AccuGrade** Compaction product is another offering in the Caterpillar Connected Worksite. All **AccuGrade** products are factory-integrated, sensor-independent, and dealer-supported. Caterpillar is raising the bar in the industry by backing its solutions with the renowned Caterpillar® dealer network.

As always, Caterpillar is committed to providing you with world-class technological solutions backed by the renowned Caterpillar dealer network. For more information on **AccuGrade** technology and support, visit us online at **www.CatAccuGrade.com.**

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