

CAT® GRADE CONTROL

DEPTH AND SLOPE | E SERIES EXCAVATORS

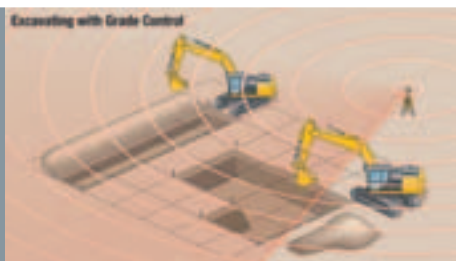


WORK CONFIDENTLY. STAY ON GRADE.

DO IT ONCE. DO IT RIGHT. ALL DAY. EVERY DAY.



CAT GRADE CONTROL HELPS OPERATORS FO SO YOU CAN FOCUS ON PROFITABILITY



With Cat Grade Control, operators can measure depth and slope from inside the cab, which greatly improves safety.

SIMPLICITY EQUALS PROFITABILITY

With Cat® Grade Control, available on our E series excavators, new and experienced operators can work more efficiently and effectively in a wide range of applications. That means you'll be more productive, complete jobs quicker and lower costs – all of which help keep you one step ahead of your competitors.

Working with Cat Grade Control is simple. The system comes fully installed and calibrated, so it's operational as soon as the machine hits the jobsite. It's also integrated with the E series' standard HD display, giving operators constant access to information that's clear and easy to read. Adjust depth and slope, set reference points, and catch the laser – all using the joysticks – enabling

operators to work more efficiently, with less effort. This means you'll spend less time making corrections and completing projects, and more time earning money.

CATERPILLAR ADVANTAGES

Compared to aftermarket systems, Cat Grade Control includes protection for embedded position sensors and provides better, real-time performance for more accurate bucket positioning. And, because our excavators and grade control systems are manufactured together, there are no additional displays or redundant components to install. This integration means reduced acquisition costs and faster, easy maintenance. Of course with every piece of Cat equipment, you also get all the benefits that come with

CUS ON THE JOB,

At Caterpillar, we believe the technology we integrate into our machines should make your job easier and more sustainable. That not only means increasing productivity while reducing fuel consumption and emissions, but also when completing your grading projects using machine control and guidance systems. As the first manufacturer to install and calibrate a grading solution for excavators right from the factory, Cat Grade Control offers all these benefits in one solution.



As an added enhancement, a laser catcher comes installed and ready to be used with your laser transmitter for increased accuracy, more flexibility and easier benchmarking.

the Cat dealer network, so superior service and support are never far away.

RELIABILITY

Cat Grade Control is integrated with many components already built into today's Cat equipment, including sensors, displays and on-board processors. These are all time-tested and site-proven components your Cat dealer is familiar with. Each is manufactured to be accurate and rugged to give you the most uptime. There's no need to worry about compatibility because it's a complete Cat system.

FUTURE PROOF

The demands of the worksite are constantly changing. That's why Cat Grade Control was designed to be scalable. For example, you can upgrade Cat Grade Control to a 3D solution that immediately increases production and efficiency beyond 2D depth and slope applications. If you're looking for a cost-effective, all-in-one grading solution that enhances jobsite safety, improves reliability and adds to your machine's value, both on the job and at resale, look no further than Cat Grade Control.

SAFETY

Safety on the jobsite is everything. When using Cat Grade Control, operators can measure depth and slope from inside the cab. That means fewer stakes are needed and grade checkers don't have to be in the trench or near excavators while they are working.

Cat Grade Control is currently available (depending on configuration) on the following E series excavators: 312E, 316E, 318E, 320E, 323E, 324E, 329E, 336E, 349E.

CAT GRADE CONTROL FEATURES AND BENEFITS

WORK CONFIDENTLY WITH DEPTH AND SLOPE GUIDANCE. Save time. Save materials.

Digital design plans are revolutionizing the earthmoving industry. Cat Grade Control puts grade plans in the cab with the operator on an easy-to-read display.

Cat Grade Control is all about efficiency and ease. This next-generation technology makes it possible to:

- Significantly reduce surveying and staking
- Improve operator efficiency
- Assist inexperienced operators and get them up to speed faster
- Save manpower, time and expenses
- Do more work in less time

INTEGRATED JOYSTICK SWITCHES

- Multifunction buttons at operators' fingertips
- Easier for operators to adjust depth, slope, bench and to catch the laser
- Easier operation, means less fatigue, increased efficiency and safety

INTEGRATED DISPLAY

- Uses standard operator display; no additional display required for 2D
- Maintains operator visibility
- Easy to navigate menus
- Easy to enter depths and slopes and view bucket tip position
- Light bars provide graphical guidance

DEPTH AND SLOPE GUIDANCE

- Prevents over and undercutting
- Provides feedback as work progresses
- Eliminates rework and reduces the need to transport materials

ELEVATION LINKAGE MONITOR

- Set reference height for ceiling and/or floor
- Audible alarm warns operator when approaching height and depth limits

3D READY

- Future proof – through retained, integrated, on-machine components for 3D systems
- Plug-and-play in the field
- UTS and GPS ready

LASER CATCHER INCLUDED

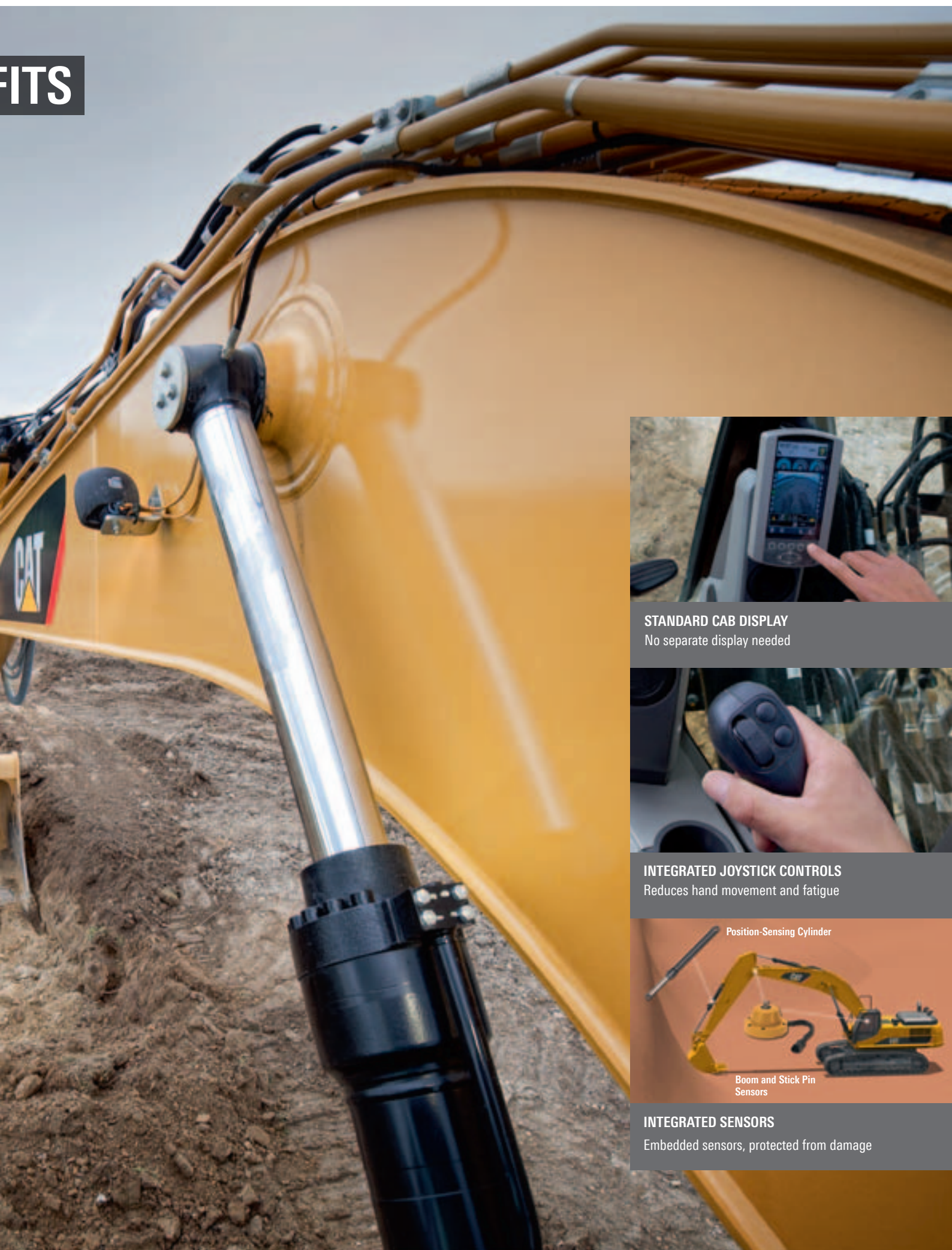
- Ready to use with your laser transmitter so there's no need for extra components
- Better accuracy, more flexibility, easier benchmarking

STANDARD AND CUSTOM BUCKET SUPPORT

- Supports faster bucket changes to increase efficiency and overall productivity
- 10 user-defined buckets
- Tilt-bucket compatible



ITS



STANDARD CAB DISPLAY
No separate display needed



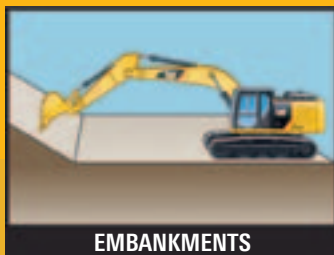
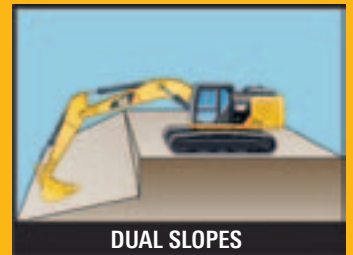
INTEGRATED JOYSTICK CONTROLS
Reduces hand movement and fatigue



INTEGRATED SENSORS
Embedded sensors, protected from damage

APPLICATIONS

JOB-READY FOR 2D APPLICATIONS



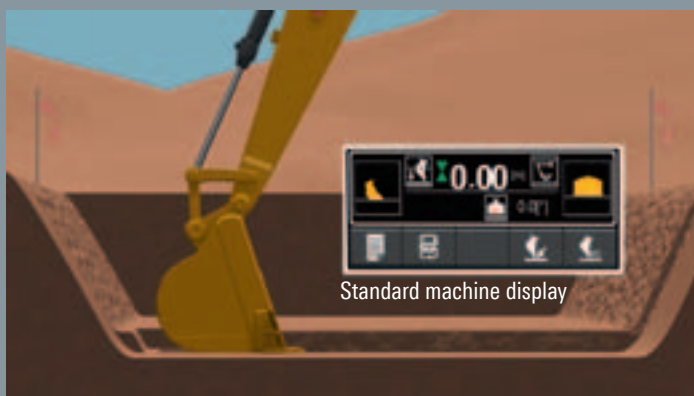
HOW IT WORKS



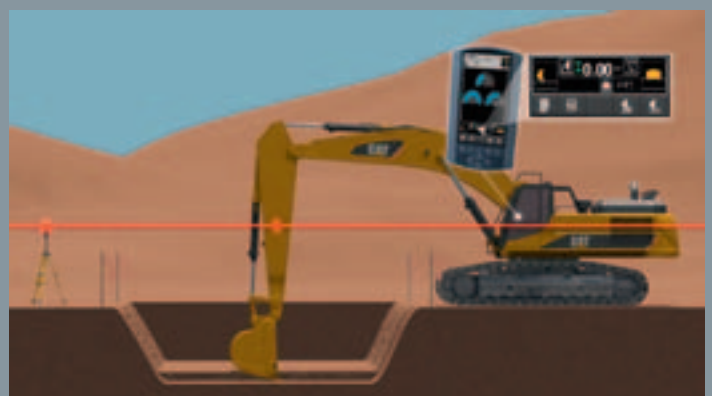
Puts grade plan in the cab. Provides feedback as work progresses.

A laser transmitter is used to create a laser plane over the work area. The operator uses the laser plane as a fixed reference to benchmark the system once and dig to depth. When the operator moves the machine, the laser catcher references the laser beam, enabling the operator to immediately dig to depth again, without re-staking or re-benching.

This laser guided control system helps operators accurately maintain designed slopes and makes reaching desired depth or grade easy and more accurate – even on uneven ground.



Target grade achieved.



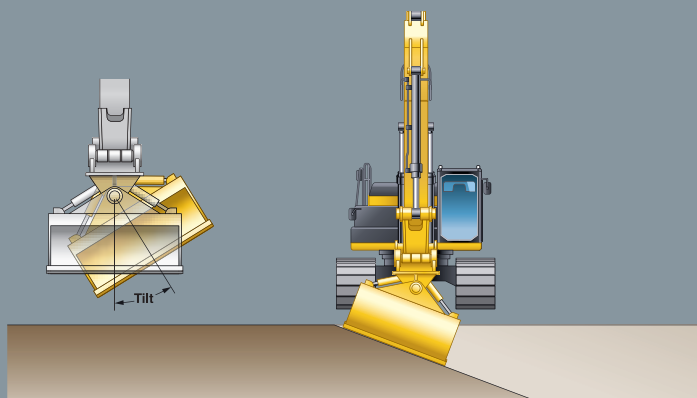
Easy benchmarking to grade stake or known elevation.

OPTIONAL EXTRAS

HELPING OPERATORS WORK QUICKLY AND ACCURATELY



OPTIONAL SENSORS



Tilt bucket sensor improves cutting accuracy.

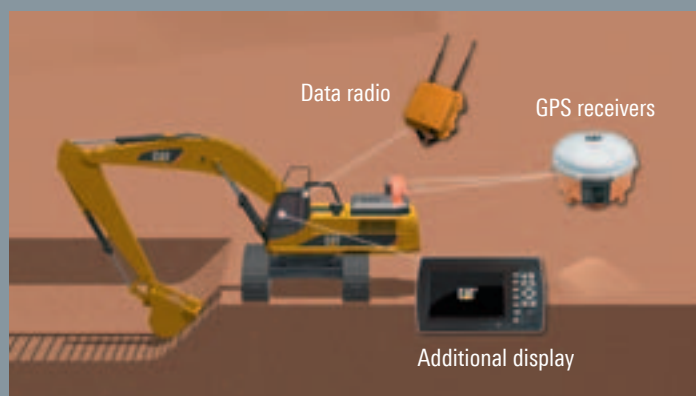
TILT BUCKET SENSOR

Configurable, via the display, to ensure the bucket is at the correct angle, even under water, for more accurate cutting.

HEADING (ORIENTATION) SENSOR

Measuring the rotation of the cab, using the boom, stick and bucket, is critical when digging large, flat slopes such as embankments. Operators need to rotate while digging. The heading sensor enables operators to achieve better alignment and accuracy.

3D SYSTEMS



Upgrade to 3D capability. Adds location/position to depth and slope. All upgrade components are additional and work in conjunction with the 2D base system components.

UPGRADE TO 3D CONTROL

Fully upgradable to single or dual GPS, or UTS (universal tracking system) when additional accuracy and control is needed. System flexibility enables machines to work on sites where 3D control is required and in applications with complex grades and slopes. 3D applications include:

- Sound barriers
- Roadwork
- Foundations with complex geometries

Compatible with all AccuGrade™ upgrade kits from your Cat dealer.

CAT GRADE CONTROL. DO IT ONCE. DO IT RIGHT. ALL DAY. EVERY DAY.

As always, Caterpillar is committed to providing you with world-class technology solutions that are backed by the renowned Cat dealer network. For more information on Cat Grade Control technology and support, visit us online at www.cat.com/gradecontrol.

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