

Cat® GRADE with Assist

for Hydraulic Excavators



Cat® GRADE with Assist brings grading speed and accuracy to a new standard by automating boom and bucket movements typically achieved by the operator. This significantly reduces manual inputs, errors, and fatigue—improving grading consistency for operators at all experience levels.

PRODUCTIVITY / EFFICIENCY

- **Reach target grade** – as much as 45 percent faster than traditional grading.
- **Get more done with less effort** – automated adjustments complete the precision work; the operator simply controls the speed.
- **Work confidently without guesswork** – grade to exact specification without overcutting or rework; reduce passes and speed time to completion.
- **Maintain accuracy across the jobsite** – always in auto, always ready to assist, without the need for infrastructure. Add GPS or laser to improve grading efficiency.
- **Minimize site costs** – reduce staking; eliminate grade checkers and delays; save time, labor, fuel, machine wear, and material consumption.
- **Work safely** – integrated features like floor and ceiling protect safeguard operator from overhead and underground hazards.

INTEGRATION

- **Built-in reliability** – integrated into proven grade guidance system for accurate, reliable results.
- **Easy operation** – integrated into grade guidance system, machine display, and joysticks; enter depth and slope, press auto, and get to work.
- **Optimized performance** – machine and grade technology work as a system; maintains full power with precise control throughout the cut.
- **World-class support** – your Cat dealer and SITECH® technology partner can help you get set up and working efficiently.

AVAILABILITY

323F (AmN) | 323E/F (EU)

Available on machines with Cat GRADE technology standard, from the factory or as a retrofit kit.

APPLICATIONS

2D Control

- Grading
- Trenching
- Footings
- Basements
- Ditches
- Slopes

3D Control

- Large jobsites
- Complex designs

ACCURACY

- Within 2-3 cm

CEILING PROTECT
prevents boom, stick, or bucket from going above a pre-set elevation.

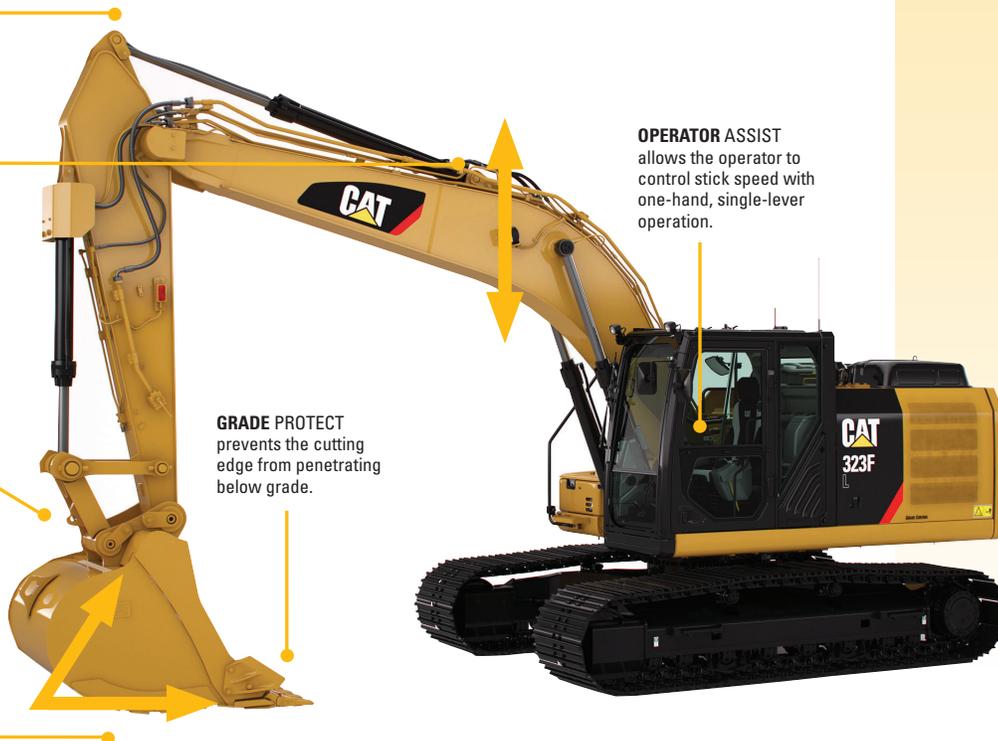
GRADE with ASSIST
automatically adjusts boom up/down and bucket in/out movements to maintain grade.

BUCKET ANGLE ASSIST
automates adjustments to maintain a constant bucket angle.

FLOOR PROTECT
prevents bucket tip from going below a pre-set depth.

GRADE PROTECT
prevents the cutting edge from penetrating below grade.

OPERATOR ASSIST
allows the operator to control stick speed with one-hand, single-lever operation.



FEATURES AND FUNCTIONALITY

Cat GRADE with Assist delivers breakthrough gains in customer productivity. Intelligent operator, machine control, and safety features assist customers in getting more work done with less effort.

CAT GRADE INTEGRATION

Assist technology is integrated into the required base Cat GRADE indicate system.

- The base **GRADE** system provides real-time 2D bucket tip elevation guidance and audible alerts. The operator manually controls elevation and bucket angle.
- **Assist** provides the same real-time guidance and alert features as the base GRADE system, plus automatically controls elevation and bucket angle.
- **2D Control** – the operator can create simple designs (grades and slopes) from the cab on the jobsite. No hardware required.
- **3D Control** – add AccuGrade™ when 3D control is needed for working larger jobsites and complex designs. Additional hardware required.

ASSIST FEATURES

- **GRADE with Assist** – the operator enters depth and slope values into the display, presses auto, and when the cutting edge reaches target, the system locks onto grade and automatically adjusts boom elevation up/down and bucket in/out movements to maintain constant grade.
- **Operator Assist** – the system does the precision work by automatically controlling boom and bucket movements. The operator simply controls stick speed with one hand using a single lever for precise control with less effort and fatigue, all shift long.
- **Bucket Angle Assist** – the operator sets the desired bucket angle and the system automates adjustments to maintain the precise cutting angle throughout the cut. When the operator manually readjusts the angle, the system recalls and maintains the last saved value.

PROTECT FEATURES

- **Grade Protect** – prevents the cutting edge from penetrating below grade, eliminating the chance of overcutting and rework.
- **Ceiling Protect + Floor Protect** – prevents any part of the boom, stick, and bucket from going above or below a pre-set elevation, protecting the machine and operator from obstacles and hazards like ceilings, overpasses, and above- and below-ground utilities.
- **Operator Override** – a fingertip trigger on the joystick enables the operator to quickly override auto functionality.

CONTROL CAPABILITIES

| Cat GRADE Features | GRADE Guidance Only | GRADE with Assist |
|---|---------------------|-------------------|
| Design 2D Grade and Slope Plans In-cab | • | • |
| Real-time 2D Elevation Guidance | • | • |
| Real-time 3D Elevation & Position Guidance* | • | • |
| Integrated Display | • | • |
| Integrated Joystick Buttons | • | • |
| Audible Grade Alerts | • | • |
| Ceiling/Floor Alerts | • | • |
| Auto Grade Elevation Control | | • |
| Auto Bucket Angle Control | | • |
| Auto Grade Protection | | • |
| Auto Ceiling/Floor Protection | | • |
| Operator Override | | • |

*Requires AccuGrade 3D



CAT® CONNECT TECHNOLOGY

BUILT FOR IT.™

www.cat.com

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