

# CAT<sup>®</sup> MEDIUM WHEEL LOADER TECHNOLOGIES





From material handling and truck loading to general construction or stockpiling, Cat® medium wheel loader technologies help you work faster and with greater accuracy. Save time, materials, and rework from start to finish. Help operators of all skill levels work more efficiently and productively – and with less fatigue – all shift long.

# CAT® MEDIUM WHEEL LOADER TECHNOLOGIES

AVAILABLE FOR SELECT MODELS



## BUILT-IN PROBLEM SOLVERS

Cat technologies are built into your medium wheel loader at the factory.

- + Fully integrated for optimal performance.
- + Easily upgrade later as your work demands it.
- + Cat technologies work together to help improve operator safety, comfort, and performance.
- + Automated functions help newer operators achieve greater efficiency and productivity in a shorter amount of time.
- + Seasoned operators can enjoy reduced effort and less fatigue, along with faster, more accurate results.



# PAYLOAD TECHNOLOGY

LOAD EVERY TRUCK RIGHT THE FIRST TIME



## PAYLOAD

Cat Payload technology delivers precise bucket load information with on-the-go weighing, which helps prevent over or under loading. The low lift weigh and manual tip-off functions optimize the final bucket process and maximize efficiency.

## ADVANCED PAYLOAD

Advanced Payload is a system upgrade that offers expanded features and capabilities. Tip-Off Assist adds automation to the final bucket process. Multitask mode tracks two loading processes simultaneously. Split mode allows for loading multiple bodies while tracking individual targets and grand totals. Add Dispatch for Loading\* to integrate the loader into the scale house process. e-Ticketing allows an operator to generate a weighing ticket and automatically send it to any pre-programmed email address.

*\* Subscription and compatible scale house software required.*

## PAYLOAD FOR TRADE – ONLY FOR SPECIFIC REGIONS

The Cat Payload for Trade option for Cat Advanced Payload allows you to integrate the scale data directly into your business processes.

The Cat Payload for Trade system is type approved by the International Organization of Legal Metrology, while retaining all the features of the standard version of Cat Advanced Payload.

During the verification process, key metrological relevant components are sealed to avoid tampering.

A second, non-certified, scale mode remains available for different tasks, if required.

Cat Payload for Trade is available in Europe.\*\*

*\*\* Country certifications vary. Contact your Cat dealer for more information.*

# HELP BOOST OPERATOR EFFICIENCY

# ASSIST FEATURES

Assist features on next generation wheel loaders add semi-autonomous functionality to boost operator efficiency. These systems work with Payload and Advanced Payload, allowing you to optimize your loading applications.

## AUTOMATED ASSISTANCE AVAILABLE

**Auto Set Tires** – Aids operators with proper digging technique and improving bucket fill by detecting pile engagement to reduce tire slip for longer tire life.

**Autodig** – Performs a full dig cycle for the operator. Upon detecting a dig condition, Autodig will command lift and tilt functions to fill the bucket, then raise to a default kickout height or one set by the operator.

**Programmable Kickouts** – Automates repetitive tilt, lower, and lift functions to reduce operator fatigue, resulting in higher efficiency for greater productivity.

**Machine Speed Limit** – Allows operators to control the machines top speed, which helps save fuel by limiting runout speed in load and carry applications. Limiting machine speed can also help you comply to safety regulations and best practices.

**Tip-Off Assist** – An Advanced Payload feature that removes the need for the operator to manually dump (meter load) to target. When the operator initiates the final pass weighing process and activates Tip-Off Assist, the loader will automatically tip-off to target weight.

**Automatic Differential Lock** – Either the front or both the front and rear axle differentials can be equipped with locking mechanisms (available on 950-972 machines). The automatic system has two engagement strategies: the ground engagement strategy (to maximize traction in the dig cycle) and the wheel slip detection strategy (to reduce tire wear). 980 and 982 machines can be equipped with limited slip differential axle(s).



**Tire Pressure Monitoring System** – Allows operators to easily monitor tire pressure from the main machine display, helping to improve machine performance, operator ride, and operating costs.

**Printer Support** – Quickly print single truck payload tickets, plus summary reports in the cab for daily record keeping and shift reporting. Optional printer must be ordered separately.

**Job Aids** – Helps you place the bucket at the optimal height for stability and maximum material retention in load and carry operations. The work tool zero angle widget helps you enter the pile at the right angle and allows you to set zero angles for different work tools and attachments.



ASSIST TECHNOLOGY

# OPTIMIZE YOUR LOADING TIMES



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## AUTO SET TIRES

Auto Set Tires aids operators in proper digging technique.

Detects pile engagement, limits rack functions, and ensures initial lift command to pin tires.

Lifting to pin tires provides the following benefits:

- + Reduced tire slip for a longer tire life
- + Improved pile penetration and larger payload
- + Reduced fuel consumption

Automatically generates a lift command if the operator doesn't lift to pin tires.

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## AUTODIG

Autodig performs full dig cycles for the operator.

Automatically detects pile engagement, commands lift and tilt functions to fill bucket, then raises to kickout height.

The operator can choose between five pre-programmed dig efforts to match the material to load. They can also record a personal load cycle to replay, which helps to reduce repetition and fatigue.

Can be stopped at the end of the dig or extended all the way through the payload weigh range.



## BOOST MACHINE SECURITY AND USABILITY

Save your settings, track usage, and secure your Cat wheel loader.



## YOUR SAFE AND SECURE **OPERATOR ID**

### OPERATOR ID

- + Operator IDs require operators to log in via Passcode or Bluetooth® (Cat Key Fob) at machine startup. This helps to deter theft, vandalism, and unauthorized use.
- + IDs save settings from the last time an operator was logged in. Profiles are retained during machine software flash updates.
- + Operator IDs are managed directly on the machine touchscreen or from the back office. Operator IDs can also be managed remotely and uploaded to the machine through VisionLink®.

### APPLICATION PROFILES

- + Application Profiles allow you to change a set of multiple machine parameters with the push of a button.
- + Operators can enjoy optimal performance and efficiency without trade-offs on a variety of applications.
- + All users can create and customize profiles on board the machine.
- + A subset of direct access profiles (if selected) is saved with the operator ID.



# SAFETY

## YOUR SCALABLE TECHNOLOGY SYSTEM

No matter the jobsite or application, safety remains the top priority. Your Cat wheel loader comes equipped from the factory with a suite of safety equipment.

### FACTORY STANDARD

- + HD Rear Camera (Integrated Touchscreen)
- + Security (Operator ID with Passcode and/or Bluetooth Key fob)
- + Convenient Access and Grouped Maintenance
- + Easy Ingress/Egress with 15° Inclined Ladder
- + Monitored Seat Belt
- + Variable Backup Alarm

Additional safety technologies upgrade your machine to better help you load with confidence, speed, and accuracy. The result? Increased productivity and lower costs.

### OPTIONAL UPGRADES

- + External light for Monitored Seat Belt
- + New and improved four-point seat belt kit with lap retractors for increased comfort during operation
- + Multiview (360°) Vision System
- + Rear Object Detection
- + Collision Warning System with Motion Inhibit and People Detection





# INCREASE OPERATOR VISIBILITY AND AWARENESS **MULTIVIEW (360°) VISION SYSTEM**

The Multiview (360°) Vision System uses three additional, external cameras and an in-cab dedicated display to provide an overview of the whole area around the machine. Operators can use this optional system to identify potential hazards and help prevent incidents.



## BOOST JOBSITE SAFETY

- + The system provides operators with simultaneous views from the front, rear, left, and right cameras.
- + Included are three additional cameras and a high definition, touchscreen monitor. The Multiview monitor displays simultaneous views from multiple cameras and a separate, dedicated camera view.
- + Machine movement prompts front and rear cameras to show larger views on the display.
- + Increases awareness of blind spots and jobsite activities to help reduce incidents and maximize productivity.
- + Combine with Rear Object Detect and Collision Warning systems to increase awareness around the machine.

## WHAT CAN MULTIVIEW CAMERAS DO FOR ME?

- + Greater worksite visibility reduces blind spots, injuries, and repair costs.
- + The in-cab display allows operators to easily see from all sides of their cab, increasing comfort and productivity.



# REAR OBJECT DETECTION

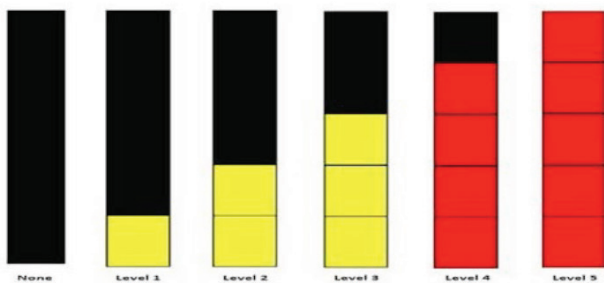
SUPPLEMENTS OPERATOR PERCEPTION WHEN REVERSING



Rear Object Detection for wheel loaders is a system providing enhanced blind spot awareness. Radar provides visual and audible alerts when objects enter a safety proximity zone, while the camera allows the operator to see what's behind the machine when reversing.

## PROXIMITY BARS SHOW WARNING LEVELS

Warning levels change with ground speed, reducing “nuisance” alarms and increasing operator acceptance and awareness.



## WHAT CAN REAR OBJECT DETECTION DO FOR ME?

- + Radar sensors provide the operator with monitoring behind the machine to boost jobsite confidence and awareness.
- + Audible and visual alerts help to reduce the risk of collisions with static and moving objects.
- + System alerts you when an object is in the critical zone behind the machine while machine is in neutral or reverse.



# COLLISION WARNING SYSTEM

## HELP IMPROVE WORKER SAFETY ON THE GROUND

While Cat wheel loaders are designed to maximize operator visibility, it can be challenging to constantly monitor what goes on around them. Ever-changing jobsite conditions pose unexpected risks that potentially lead to injury or repair costs. Collision Warning System with Motion Inhibit and People Detection utilizes radar and vision sensors to detect hazard potentials, alert operators and inhibit motion in the instant a machine transitions from an inactive to an active state.

### HELPS MITIGATE RISK OF INJURY ON THE JOBSITE

Collision Warning System specifically targets collision potentials that emerge behind the machine. Audible and visual alerts can deliver the power to see, mitigate and manage hazards that may otherwise go undetected to both novice and experienced operators. Three color zones provide approximate distance to the anticipated path of the machine – yellow (awareness), amber (caution), and red (critical alarm zone).

When the system detects something in the critical alarm zone, and the operator shifts a stationary machine from neutral to reverse gear, Motion Inhibit will prevent reverse gear engagement and automatically apply the brake. An on-screen pop-up shows when the auto brake is applied to alert the operator.

### WORK MORE CONFIDENTLY

People Detection utilizes both a smart camera and radar to alert the operator when a person is detected behind the machine. Three levels of alerts dynamically adjust based on a person's proximity to the machine.

When the machine is stationary for at least 15 seconds, and if the rear detection system detects something in the alarm zone, Motion Inhibit will prevent the machine from engaging reverse gear. If the operator goes back into neutral and the danger is gone, it will reverse.



#### DETECTION ZONES

Red Zone (Critical)

Amber Zone (Caution)

Yellow Zone (Awareness)



### WHAT CAN COLLISION WARNING SYSTEM DO FOR ME?

- + Intuitive system empowers operators at all skill levels with increased jobsite awareness to help them stay focused on their work.
- + Actively inhibits reverse movements of the stationary machine to avoid collisions with personnel or objects.
- + Audible and visual alerts trigger when the machine approaches a person or an object. Three hazard zones are defined based on their proximity to and the speed of the machine.
- + System highlights people in red bounding boxes on the in-cab monitor to help operators more quickly manage potential risks.



# BOOST OPERATOR SAFETY CAT COMMAND

Cat Command is an integrated remote-control system that takes operators off the machine and away from potential dangers when working with hazardous materials or in unsafe conditions. Plus, it maintains the option to utilize other advanced control technologies like Payload and Detect features for wheel loaders.



## INCREASED COMFORT

As operators become familiar with the feel of the remote-control system, they can operate efficiently, accurately, and confidently. Operators using remote control typically experience significantly reduced noise and vibration as compared to operators working in machine cabs.

## FULL INTEGRATION

Most components that make Command for Loading possible are already integrated into next generation machines. Getting the operator started is fast and easy with few additional parts needed. Contact your dealer for more information.

## TWO SOLUTIONS

The portable Cat Command Console allows the user to work outside of the cab while remaining on site and in direct visual contact with the machine. The dedicated Cat Command Station allows for working remotely in a seated indoor “virtual cab” located on site or many miles away.

*Note: Cat Command is not available in all regions or for all models. Please consult with your Cat dealer for machine compatibility and availability in your area.*



For more complete information on Cat products, dealer services and industry solutions, visit us on the web at [www.cat.com](http://www.cat.com).

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(Global)

Materials and specifications are subject to change without notice. Featured machines in photos may include additional equipment. See your Cat dealer for available options.

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Based on the Labor, Safety and Health Laws in Japan, employers of small construction equipment are required to provide specific training for all operators on machines with machine weight less than 3 metric tons. For machines greater than 3 metric tons, operator needs to obtain operator license certification from a government-approved registered training school.

