PAYLOAD
TECHNOLOGIES FOR EXCAVATORS

CAT®

CAT® PAYLOAD*
TECHNOLOGY
RAISE YOUR PRODUCTIVITY

*NOT LEGAL FOR TRADE

Next-generation excavators take on all kinds of tasks - loading, stockpiling, material handling, and more. Cat® Payload technology provides on-the-go weighing to help operators hit exact targets every time and avoid overloading, underloading, or misloading materials.

ACCURATE LOADING. FASTER. EASIER. SAFER. EVERY TIME.

Four ways Cat Payload delivers results for excavator applications:

- **REDUCE COSTS**: SAVE ON TIME, LABOR, AND FUEL COSTS.

- **IMPROVE ACCURACY:** PRECISE PAYLOAD TARGETS HELP ELIMINATE OVER AND UNDERLOADING.

- **INCREASE OPERATOR EFFICIENCY:** EXPERIENCED OPERATORS WORK MORE ACCURATELY THAN EVER, WHILE NEW OPERATORS CAN GET UP TO SPEED MORE QUICKLY.

- **ENHANCE SAFETY:** HELPS PREVENT TRUCK OVERLOADING, WHICH CREATES HEAVIER AND MORE UNSTABLE LOADS, REDUCING BRAKING PERFORMANCE AND PUTTING THE DRIVER AT GREATER RISK OF TIPPING.

DEEP INTEGRATION

SIMPLE TO USE WITH ZERO GUESSWORK

Cat Payload technologies are deeply integrated into next-generation Cat excavators to provide operators with a simple-to-use tool for precise loading. Payload is factory-installed on new excavators or can be retrofitted as a dealer option for select models.

THE RIGHT TECHNOLOGY FOR ANY LOADING APPLICATION

Operators can instantly view real-time weights on the monitor and know precisely how much material is in the bucket/grapple and the truck, every load, every time. An easy-to-read display shows bucket/grapple and truckload weights while tracking load counts and material movements. This ensures trucks are loaded to their maximum potential and improves payload consistency for operators of all experience levels.

Payload compatibility varies by excavator model. Contact your Cat dealer to discuss the best systems and options for your fleet, operators, and applications.

PAYLOAD TECHNOLOGY
LOAD EVERY TRUCK RIGHT THE FIRST TIME

PAYLOAD

Cat Payload technology delivers bucket load information with on-the-go weighing, which helps prevent over or underloading. Low-lift weights and overload alert functions optimize the final bucket process to maximize efficiency.

ADVANCED PAYLOAD

Advanced Payload is a system upgrade that offers expanded features and capabilities, including custom tags, daily totals, and electronic ticketing (E-Tickets).*

* Advanced Payload requires an additional software license (SEA). Not available for wheel excavators. E-Ticket functionality requires a subscription to VisionLink® Productivity.

WHAT CAN PAYLOAD DO FOR ME?

+ Increases productivity from operators
+ Helps to prevent over/underloading and misloading
+ Improves cycle times

+ Helps improve fuel efficiency, save on fuel costs
+ Helps retain skilled operators
+ Reduces unnecessary equipment wear and damage

HOW IT WORKS

ON-THE-GO LOAD WEIGHING

The Cat Payload system calculates material weight on the go by using data from sensors that measure bucket/grapple position and hydraulic pressure.

+ Automatic weighing provides estimated weights at low lifts (below weigh range) and scaled weights with the boom raised (through the weigh range).
+ Easily tip-off excess material on the last pass with real-time weight estimates for precise loading - eliminate under / overloading.
+ Bucket/grapple payloads are transferred to the truck's cumulative payload weight as soon as an estimated weight is calculated. The payload is latched to the truck once the bucket is fully dumped.
+ Set grab and dump area boundaries to help prevent payload miscounts, which may occur during activities such as re-sorting.
+ View bucket/grapple payload and truck cumulative payload weight effortlessly from the touchscreen monitor.
+ Receive payload overload alerts when bucket/grapple loads exceed machine payload limits.
+ Operators can track daily production from the cab with quick access to truck weights, load/cycle counts, material movement, and daily totals.
+ Managers can view payload details and key performance indicators online to help manage the business - requires a VisionLink® Productivity subscription.
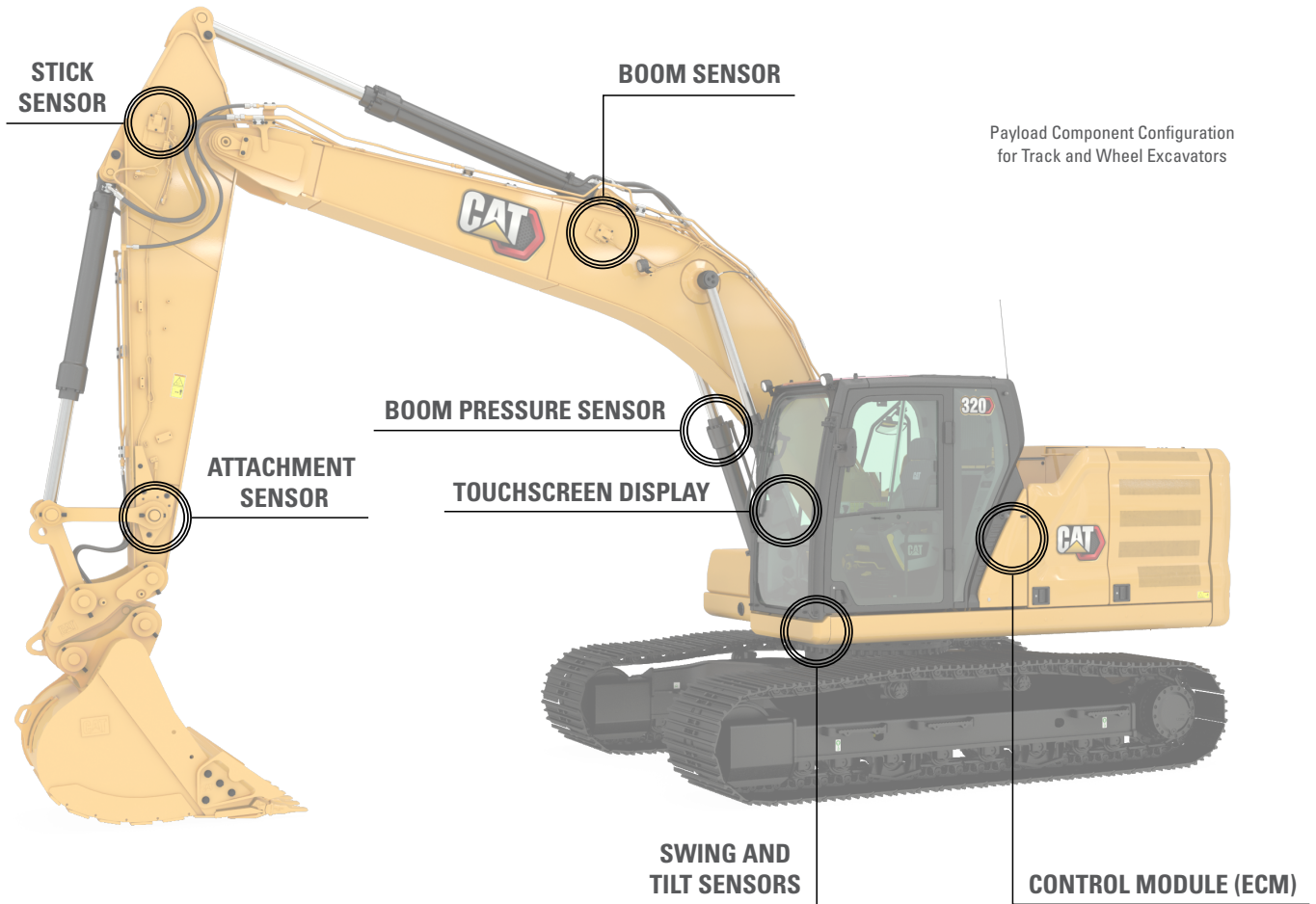
PAYLOAD TECHNOLOGY BASIC OPERATION:

1. Warm up lift components for better accuracy.
2. Zero the empty bucket/grapple.
3. Set payload target weight (optional).
4. Load bucket/grapple with material.
5. Lift smoothly through the weigh range to generate a scaled weight.
6. Tip-off bucket/grapple (as needed) to remove excess material to meet target weight for the last pass.
7. After the last bucket/grapple pass, press store to save payload data to memory and update totals.

PAYLOAD TECHNOLOGY
MODULAR COMPONENTS

Cat Payload's integrated components are protected from damage, ensuring long life, reliable control, and accurate results. Features and availability may vary. Consult your Cat dealer for model-specific information.

STICK SENSOR

BOOM SENSOR

Payload Component Configuration for Track and Wheel Excavators

BOOM PRESSURE SENSOR

ATTACHMENT SENSOR

TOUCHSCREEN DISPLAY

SWING AND TILT SENSORS

CONTROL MODULE (ECM)

ATTACHMENTS

Payload for excavators functions with a wide array of work tool attachments.

Buckets (Various Types)

Demolition & Sorting Grapples

Clamshell Grapples

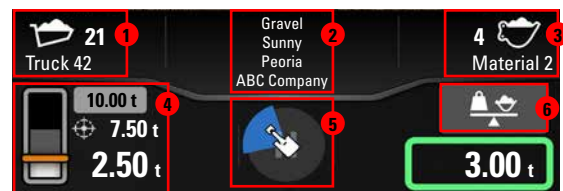**Orange Peel Grapples**

PAYLOAD DISPLAY OVERVIEW

Next Generation Display Shown
(Display Can Vary By Machine Model)

Advanced Payload includes all of the standard features of Payload, plus the additional options outlined below:

	PAYLOAD NAVIGATION MENU
1	Truck ID & Count - Identifies the truck being loaded, and the load count for the truck.
2	Payload Gauge - Shows the current truck load level (white) and previews the result of material currently in the bucket/grapple (gray).
3	Target Payload - Sets the target payload weight.
4	Target Payload Status Icon - Conveys the target weight status to the operator (active if a target has been set).
5	Remaining Truck Payload - Displays the remaining weight needed to achieve the target payload.
6	Current Truck Payload - Displays the weight of material currently in the truck.
8	Material ID & Count - Identifies the material being loaded and the load count for the current truck.
9	Reweigh Button - Allows the operator to recalculate the current bucket/grapple load.
10	Bucket / Grapple Load - Shows the weight of material in the bucket/grapple. The green box indicates load weighing has been completed.
11	Grab & Dump Area Icon - Displays the set dump area range and shows if the bucket/grapple is within the dump area. Helps prevent payload miscounts during activities such as re-sorting.
12	Menu Button - Displays the Payload menu options.

	ADVANCED PAYLOAD NAVIGATION MENU
7	Custom Lists - Create, choose, and organize up to four customizable lists.
*	Daily Totals - View in-cab payload reports for the current day, previous day, or since reset.
*	Smart Target Weight - Quickly select the four most frequently used target payloads.
*	E-Tickets - Send payload tickets via email instead of printed versions. Requires VisionLink® Productivity subscription.

Functionality not shown. Available through the Menu Button.

Touchscreen shortcut areas allow operators to quickly access key menu features:

1. Truck Select   4. Target Payload
2. Custom Lists   5. Grab & Dump Area
3. Material Select   6. Reweigh

GRAB-DUMP AREA
PREVENT ACCIDENTAL MISCOUNTS

Operators can set grab-and-dump area boundaries to help prevent payload miscounts. If limits are not specified, a miscount can occur during a re-grab or stockpiling of material.
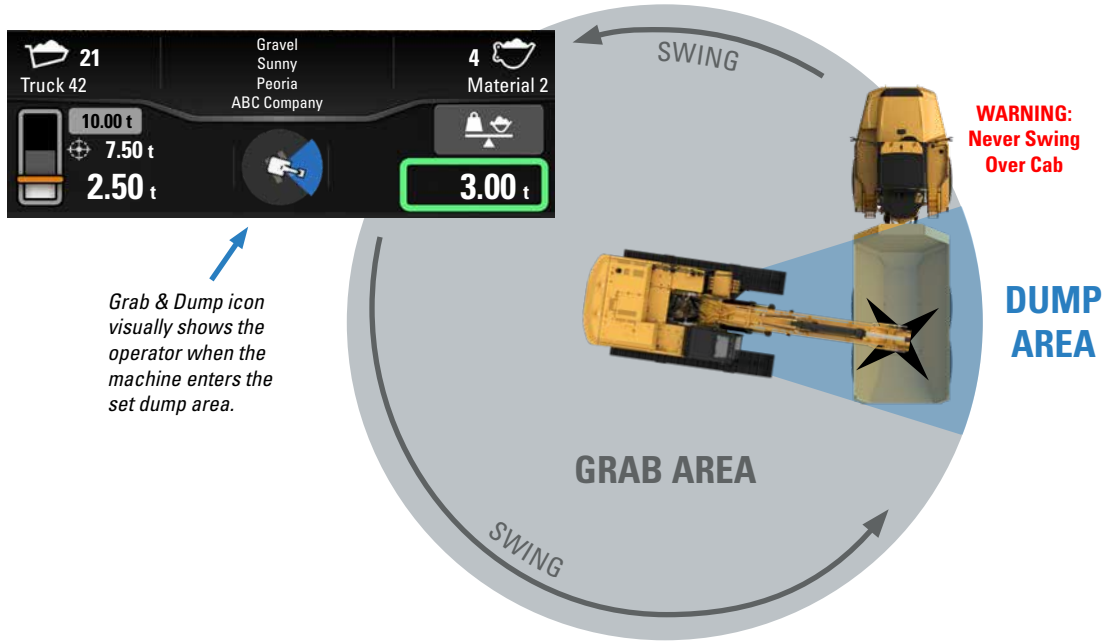
Grab-and-dump functionality calculates and counts the payload weight when the bucket/grapple crosses over the defined dump area. This functionality is helpful for industrial waste, demolition, and wood applications.

GRAB AREA

+ If the machine dumps in this area, the material weight is not reflected in the truck's payload.

DUMP AREA

+ The material weight will be added to the truck's payload when the machine dumps inside this area.

Grab & Dump icon visually shows the operator when the machine enters the set dump area.

WARNING: Never Swing Over Cab

DUMP AREA

GRAB AREA

SWING

ADVANCED PAYLOAD
TRACK AND MONITOR PRODUCTION

Advanced Payload is a system upgrade that offers expanded features and capabilities.

ADVANCED FEATURES INCLUDE:

+ **Custom Lists** – Create, select, and arrange up to four customizable lists containing customer names, order numbers, and site details. Customized lists provide more detailed payload information for reporting.
+ **Daily Totals** – Operators can easily access detailed payload reports using the in-cab display. They have the flexibility to view reports for the current day, the previous day, or since the last reset. Additionally, operators can conveniently check report totals categorized by truck, material, or custom lists.
+ **Smart Target Weight** – Enables operators to choose from the four most frequently utilized target payloads.
+ **E-Tickets** – Gain the convenience of receiving payload tickets via email instead of printed versions. Upgrade to a VisionLink® Productivity subscription to unlock this feature.

PAYLOAD CYCLE
HIT PAYLOAD TARGETS EVERY TIME

1. DIG

The weight from the previous bucket is displayed. The payload gauge indicates the amount loaded in the truck (15.00 t). The target payload is 25.00 t, and the remaining payload is 10.00 t.

12 Truck 42	1 Material 2
25.00 t	
10.00 t	
15.00 t	15.00 t

2. LIFT

The next bucket of material has been loaded. When the bucket is curled and lifted, the load indicator shows an estimated weight of 10.00 t.

12 Truck 42	1 Material 2
25.00 t	
10.00 t	
15.00 t	10.00 t

12 Truck 42	1 Material 2
25.00 t	
10.00 t	
15.00 t	10.00 t

3. SWING (START)

Bucket payload weight begins to converge with payload gauge data (dark gray area), and the estimated weight is still displayed.

4. SWING (END)

Weighing has been completed, as indicated by the green box around the bucket load total. The target payload status icon indicates the last cycle as the remaining truck payload target has been reached. The bucket is now positioned within the dump area.

12 Truck 42	1 Material 2
25.00 t	
10.00 t	
15.00 t	10.00 t

12 Truck 42	2 Material 2
25.00 t	
25.00 t	
25.00 t	10.00 t

5. DUMP

When the bucket material is dumped, the truck payload, remaining payload, and bucket count are updated. The target payload status icon indicates that the target has been reached.

6. OVERLOAD

If an overload occurs, the target payload status icon turns red, and the remaining truck payload shows the overload amount (-1.00 t).
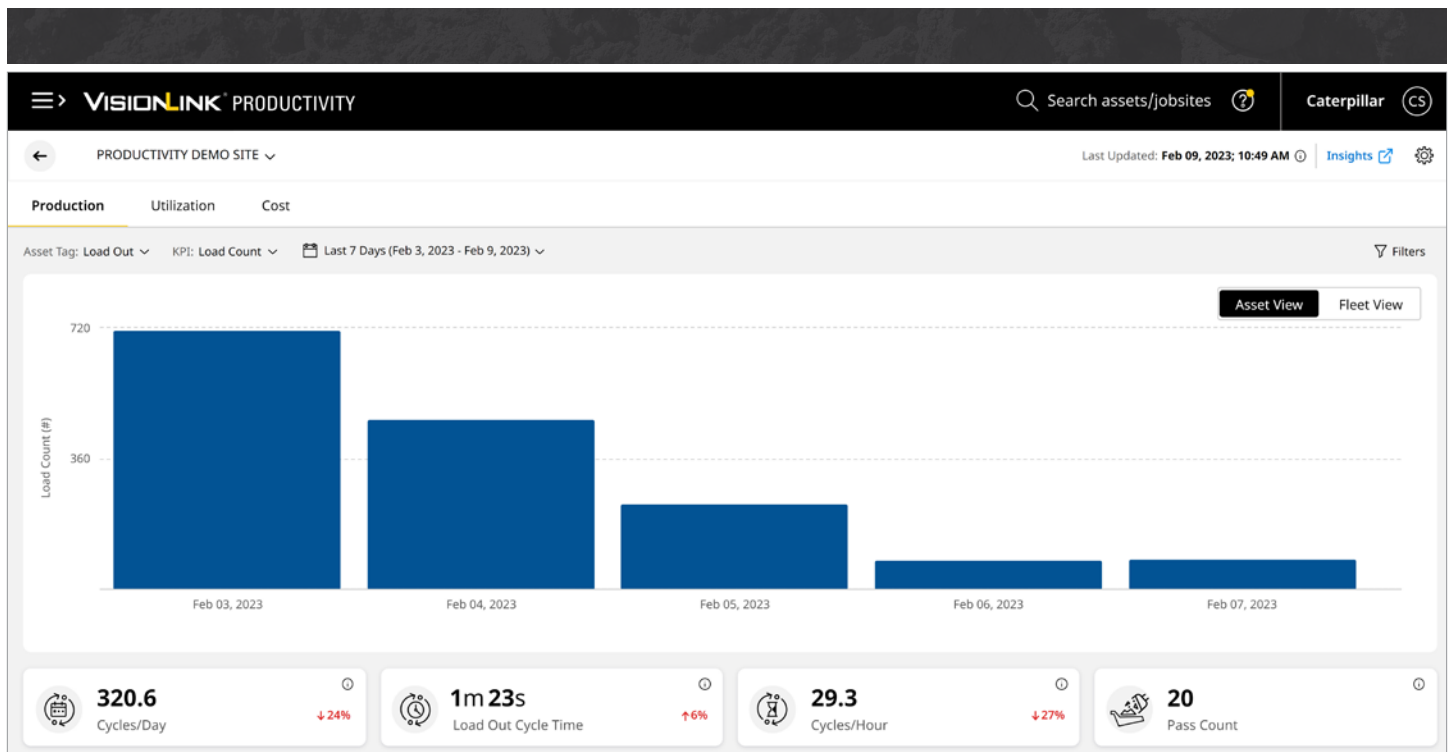
12 Truck 42	3 Material 2
25.00 t	
-1.00 t	
26.00 t	1.00 t

VISIONLINK® PRODUCTIVITY
BETTER DATA, BETTER DECISIONS

While every jobsite engages in production, productivity remains a challenge for many. Low productivity means low revenue and has a direct impact on profitability. VisionLink® Productivity helps you measure, monitor, and manage your assets to maximize productivity - on or off the jobsite.

VisionLink Productivity is a scalable, cloud-based application that collects and summarizes machine telematics and jobsite data from all your equipment - regardless of the manufacturer.*

The platform provides users with actionable information, including idle time, fuel burn, location, material moved, and more. The data is transmitted from the onboard cellular Cat Product Link™ device to the web platform. Users can access information using a smartphone, tablet, or desktop device.

YOU HAVE QUESTIONS

VISIONLINK PRODUCTIVITY HAS THE ANSWERS

Whether you are a site manager, foreman, or owner, you will have questions about your operations. VisionLink Productivity can provide answers to how work is progressing wherever you are on or off the jobsite.

- Cycle Count
- Total Payload
- Date Last Reported
- Average Payload

- Average Cycle/Hour
- Payload/Hour
- Payload/Fuel
- Total Distance

- Runtime Hours
- Idle Hours
- Fuel Burned

NOTE: A VisionLink® Productivity plan for each asset is required. Machines must be equipped with Cat Payload to provide more advanced productivity data. Availability may vary by region and model, not available for wheel excavators. Consult your Cat dealer for details.

* Data field availability can vary by equipment manufacturer.