

MH3022

WHEEL MATERIAL HANDLER



Engine Model
Maximum Operating Weight
Maximum Reach

Cat® C4.4
24 500 kg (54,000 lb)
9280 mm (30.4 ft)



MH3022

WHEEL MATERIAL HANDLER

We know that when it comes to material handling equipment, your success depends on productivity and low operating costs. The Cat® MH3022 is a purpose-built material handler that features simple-to-use technologies, a redesigned cab for enhanced comfort, and more options to match your work. Combine these features with up to 10% lower operating costs, and you have a safe, quality and reliable product that will provide you with the superior performance you need for your toughest indoor material handling applications.



SUPERIOR PERFORMANCE

Improved cycle times let you complete more work in less time. A wider machine footprint improves stability.

UP TO 10% LOWER OPERATING COSTS

With extended maintenance intervals and fewer connections and hoses, you get more done at a lower cost compared to the previous model.

ENHANCED COMFORT

Operate with ease in cab comfort options of your choice and better visibility with 360° machine view.

LATEST FEATURES



- Cab Monitor Improvements
 1. Continuously improved user interface allows for intuitive navigation, minimizing performance interruption with the easy-to-use touchscreen menu.
 2. Identify apps quickly with a grid list view, abbreviated app names, and categorized menu options.
 3. A new notification center keeps important information visible to the operator, and displays messages without shrinking the camera view.
 4. Color coded notifications set critical messages apart from the rest.
 5. Use the in-monitor QR code to learn about machine technology and features through a full suite of “how-to” videos.
 - Enhance visibility to make service work easier and safer with optional inspection lighting.
 - Standard integrated vehicle health management system alerts the operator with service guidance and parts needed to enhance uptime.
- Not all features are available in all regions. Please check with your local Cat dealer for specific offering availability in your area.
Build Number: 07D***



HIGH PERFORMANCE

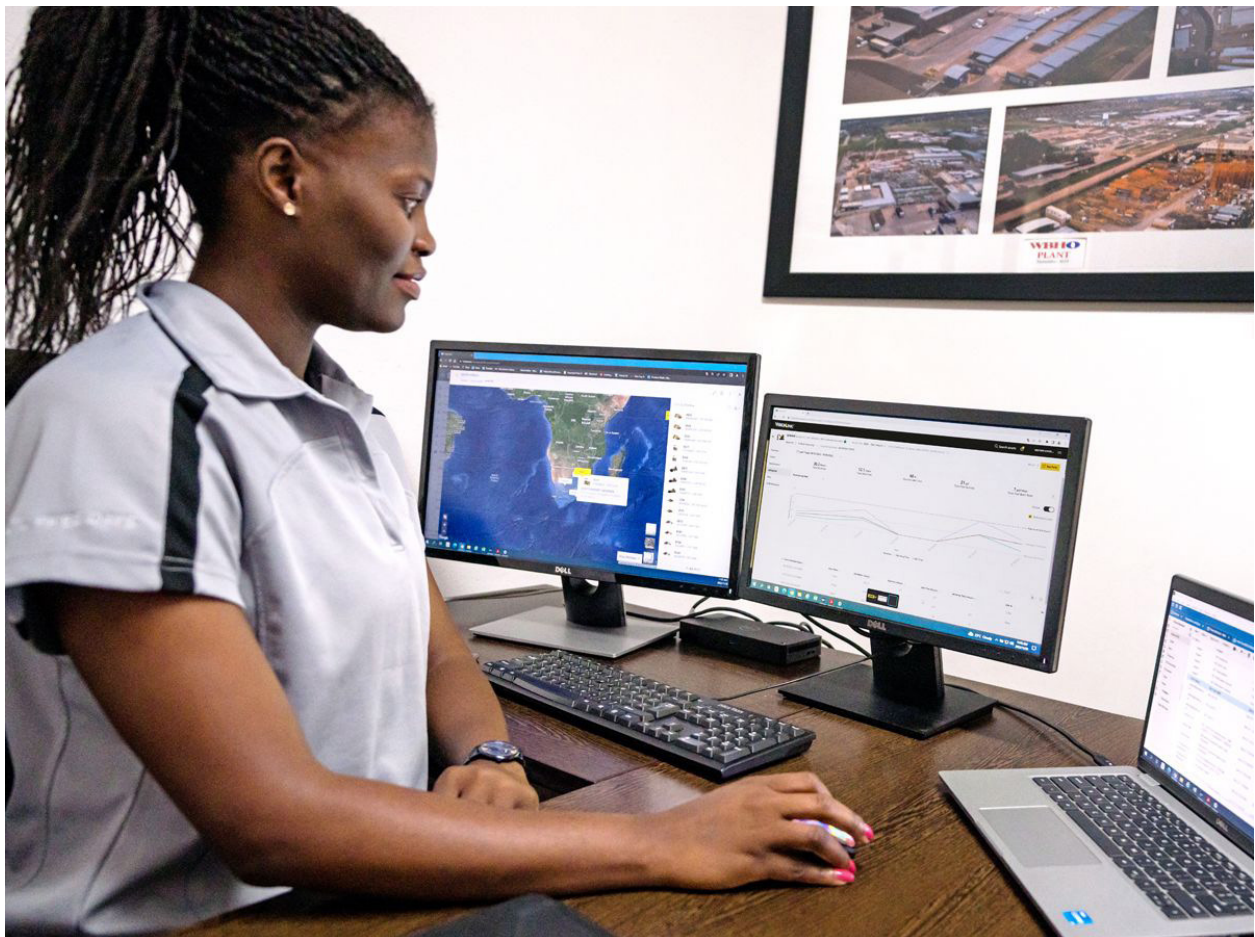


- Use up to 10% less fuel versus the previous model, with no impact on your productivity.
- The C4.4 engine can run on biodiesel up to B20 and meets U.S. EPA Tier 4 Final and EU Stage V Final emissions standards with an aftertreatment system that requires no scheduled downtime or maintenance.
- Match the machine to the job with three power modes – Power, Smart, and Eco. Smart mode automatically matches engine and hydraulic power to working conditions, providing maximum power when needed and reducing power when it isn't to save fuel.
- The advanced electro-hydraulic system provides the optimum balance of power and efficiency while giving you the control you need.
- Available SmartBoom™ lets the boom freely travel up and down without using any pump flow so operators can focus on stick and bucket work.
- Valve priority puts hydraulic pressure and flow where you need it.
- The variable gauge undercarriage retracts for easy transportation and expands for increased stability and lifting capacity.
- Program and store your preferred power mode and joystick settings using your Operator ID. The machine will automatically remember your selections.

TAKE THE GUESSWORK OUT OF MANAGING YOUR EQUIPMENT

- Cat Payload helps you achieve precise load targets to improve your operating efficiency. Pick up a load of material – with a bucket and thumb combination or grapple and clamshell attachments – and get a real-time weight estimate without swinging.
- Combine Payload with VisionLink® and remotely manage your production targets.
- VisionLink provides actionable data insights for all assets – regardless of fleet size or equipment manufacturer.* Review equipment data from your desktop or mobile device to maximize uptime and optimize assets. Dashboards provide information such as hours, miles, location, idle time, and fuel utilization. Make informed decisions that lower costs, simplify maintenance, and improve safety and security on your jobsite.
- Remote Troubleshoot is a mobile application that allows your Cat dealer to perform diagnostic testing on your connected machine remotely to help ensure that issues are resolved quickly and with less downtime.
- Remote Flash is a mobile application that allows you to update onboard software without a technician being present, allowing you to initiate software updates when convenient, increasing your overall operating efficiency.

*** Data field availability can vary by equipment manufacturer.**



WORK IN COMFORT



- Choose between Deluxe and Premium cab options.
- The Deluxe seat is heated and air adjustable, while the Premium seat is heated and ventilated and adjusts automatically.
- The cab has a wide seat that adjusts for operators of all sizes.
- Control the machine comfortably with easy-to-reach controls.
- Standard automatic climate control keeps you at the right temperature all shift long.
- Stow your gear with plenty of in-cab storage beneath and behind the seat, overhead, and in the consoles. A cup holder, document holder, bottle holder, and coat hook are also provided.
- Connect to personal devices via the standard radio's USB ports and Bluetooth® technology.
- Cat continues to improve user interface functionality for operators of all skill levels. The touchscreen monitor is an easy-to-use operating tool that presents the jobsite dashboard with an intuitive format.
- Productivity applications are displayed in grid-view to read on the go, and touchscreen navigation is programmed to make sure job performance continues without any hold-ups.



RELIABLE, DURABLE, AND VERSATILE

- Count on your machine to withstand wear throughout the years. Boom, sticks, and other high-stress areas are reinforced with thick multi-plate fabrications, castings, and forgings to ensure quality and reliability.
- Work up to 3000 m (9,840 ft) above sea level without derating.
- Don't let the temperature stop you from working. The material handler has a standard high-ambient temperature capability of 52° C (125° F) and a cold-start capability of -18° C (0° F).
- Auto warm-up speeds up hydraulic oil warming in cold temperatures and helps prolong the life of components.
- Match your machine to your application. Multiple configurations allow you to customize your machine to your needs.
- Equip your MH3022 with an optional 15 kW (20.4 hp) generator for magnet operation. Generator controls are fully integrated into the cab monitor.
- Expand your work capabilities with attachments for a variety of applications.



MAINTENANCE



- Track your machine's filter life and maintenance intervals via the in-cab monitor.
- Using Cat genuine oil and filters and doing your typical Scheduled Oil Sampling (S-O-SSM) monitoring will double the current service interval to 1,000 hours, giving you greater uptime to do more work.
- Expect the latest air intake filter with pre-cleaner to last up to 1,000 hours – a 100% increase over the previous filter.
- The latest hydraulic oil filter provides improved filtration performance, anti-drain valves to keep oil clean when the filter is replaced, and longer life with a 3,000-hour replacement interval – 50% longer than previous filter designs.
- High-efficiency cooling fans run only when needed; you can program intervals so they automatically reverse to keep cores clean without interrupting your work.
- S-O-S ports are on ground level, simplifying maintenance and allowing for quick, easy extraction of fluid samples for analysis.
- Boost productivity with proactive service reminders. The integrated vehicle health management system alerts the operator with step-by-step service guidance and the parts needed so you don't experience unnecessary downtime.

- Cab Avoidance helps you avoid contact between your work tool and the cab.
- Standard 2D E-Fence prevents your machine from moving outside operator-defined parameters.
- Ground-level shutoff switch stops all fuel to the engine when activated and shuts down the machine.
- Keep your machine secure with Operator ID. Use your PIN code on the monitor to enable the push-button starting feature.
- Enjoy great all-around visibility with the help of smaller cab pillars, larger windows, and a flat engine hood design. Rearview and side-view cameras are standard.
- Standard 1,800-lumen LED exterior lights illuminate your surroundings for a safer work environment.
- Thick impact-resistant windshields fulfill P5A standards.
- Service platform design provides easy, safe, and quick access to the upper service platform. The service platform steps use an anti-skid punch plate to prevent slipping.
- The standard hydraulic lockout lever isolates all hydraulic and travel functions in the lowered position.
- Optional Operator Protective Guards (OPG) protect from falling and flying debris.
- When activated, the ground-level shutoff switch stops all fuel in the engine and shuts down the machine.
- In an emergency, lower the cab safely with the emergency cab lowering valve behind the cab riser or to the right of the seat. The valve located behind the cab riser is easily accessible.
- Boom and stick lowering check valves prevent reverse flow, keeping your front linkage securely in place should the hydraulic system unexpectedly lose pressure.
- Make service work more accessible and safer with optional inspection lighting. With the flip of a switch, lights will illuminate the engine pump, battery, and radiator compartments to enhance visibility.



SUSTAINABILITY

- The Cat C4.4 engine meets U.S. EPA Tier 4 Final and EU Stage V emission standards.
- The MH3022 emits up to 22% less CO₂ than the previous MH3022-06.*
- Cat diesel engines are required to use ULSD (ultra-low sulfur diesel fuel with 15 ppm of sulfur or less) or ULSD blended with the following lower-carbon intensity fuels*** up to: 20% biodiesel FAME (fatty acid methyl ester)** or 100% renewable diesel, HVO (hydrogenated vegetable oil) and GTL (gas-to-liquid) fuels. Refer to guidelines for successful application. Please consult your Cat dealer or “Caterpillar Machine Fluids Recommendations” (SEBU6250) for details.
- Auto Engine Speed Control reduces unnecessary fuel burn and greenhouse gas emissions by allowing the engine to automatically go into idle mode when the machine is not working.
- Cat® 2D E-fence keeps the front linkage within a predefined work area to avoid hazards such as traffic – not only helping keep personnel safe but also helps avoid repairs, downtime, and costly jobsite fines.
- Extended maintenance intervals reduce downtime and decrease the amount of fluid and filters that are replaced over the life of the machine.
- VisionLink displays the CO₂ emissions for monitored assets, calculated by fuel type for the Runtime Fuel Burned each day in a selected date range.
- Remote Flash minimizes downtime and maintenance time while keeping your asset running with maximum efficiency. Alerts for machine updates are sent virtually from your Cat dealer and updates can be deployed without a dealer technician needing to be onsite.
- Remote Troubleshoot decreases maintenance time and keeps your machine running with maximum efficiency by allowing your Cat dealer to virtually test the machine while working. Once a problem is identified, a technician can fix it the first time, saving time and money.

***All comparisons to MH3022-06. Productivity, fuel and CO₂ emissions vary by application. CO₂ emissions calculations based on a reference work cycle using 2.2 U.S. gallons per hour of #2 U.S. diesel fuel based. Applies IPCC2006 methodology using U.S. EPA Emissions Hub emission factors. Includes DEF (diesel exhaust fluid) related CO₂. Fuel measurements are at 15° C. Estimated average fuel consumption improvements are based on tests or Product Link™ data where available. Productivity improvements are based on test data.**

****Engines with no aftertreatment devices can use higher blends, up to 100% biodiesel (for use of blends higher than 20% biodiesel, consult your Cat dealer).**

*****Tailpipe greenhouse gas emissions from lower-carbon intensity fuels are essentially the same as traditional fuels.**



MORE THAN MACHINES

BUILT AROUND YOUR SUCCESS

When you buy Cat equipment, you get so much more than the machine. You also get the support of a best-in-class dealer network, backed by a range of flexible solutions, technology, tools, and more.



CUSTOMER VALUE AGREEMENTS

A Customer Value Agreement (CVA) from your Cat dealer helps you do more and worry less. A CVA simplifies machine ownership and maintenance, adds the security of expert dealer support, and gives you the peace of mind from effective equipment health management.

GENUINE CAT PARTS

Genuine Cat parts deliver the highest level of reliability and productivity. Order direct from your Cat dealer or shop online at parts.cat.com.

REPAIR OPTIONS

A broad range of repair options gives you choices that work with your needs, budget, and timeline. Every repair is performed by expert Cat technicians. You'll receive smart repair advice, a timely, accurate quote, and service that gets your machine back into action quickly.

FINANCIAL SERVICES

Count on Cat Financial to provide the best finance and extended protection solutions for your business. For more than 30 years, we have helped our customers succeed through financial service excellence.



DOZERS



SKID STEERS



MATERIAL HANDLERS



EXCAVATORS



WHEEL LOADERS



TRACK LOADERS

INCREASE YOUR PRODUCTIVITY AND PROFIT WITH CAT ATTACHMENTS

Easily expand the performance of your machine by using Cat attachments. Each Cat attachment is designed to fit the weight and horsepower of Cat material handlers for improved performance, safety, and stability. Complete attachment guides can be found in the technical specifications documents.

GSH – ORANGE PEEL GRAPPLES



GSV – ORANGE PEEL GRAPPLES



DEMO AND SORTING GRAPPLES



CLAMSHELL GRAPPLES



MULTI-PROCESSORS



TECHNICAL SPECIFICATIONS

Engine

Engine Model	Cat C4.4	
Net Power – ISO 9249	108 kW	145 hp
Net Power – ISO 9249 (DIN)	147 hp (metric)	
Engine Power – Maximum – ISO 14396	110 kW	148 hp
Engine Power – ISO 14396 (DIN)	150 hp (metric)	
Bore	105 mm	4.1 in
Stroke	127 mm	5 in
Displacement	4.4 L	268.5 in ³
Biodiesel Capability	Up to B20 ¹	
Emissions	Meets U.S. EPA Tier 4 Final and EU Stage V emission standards.	

Net power advertised is the power available at the flywheel when the engine is equipped with fan, air intake system, exhaust system, and alternator with engine speed at 2,000 rpm. Advertised power is tested per the specified standard in effect at the time of manufacture.

¹Cat diesel engines are required to use ULSD (ultra-low sulfur diesel fuel with 15 ppm of sulfur or less) or ULSD blended with the following lower-carbon intensity fuels** up to: 20% biodiesel FAME (fatty acid methyl ester)* or 100% renewable diesel, HVO (hydrotreated vegetable oil) and GTL (gas-to-liquid) fuels. Refer to guidelines for successful application. Please consult your Cat dealer or “Caterpillar Machine Fluids Recommendations” (SEBU6250) for details.

*Engines with no aftertreatment devices can use higher blends, up to 100% biodiesel (for use of blends higher than 20% biodiesel, consult your Cat dealer).

**Tailpipe greenhouse gas emissions from lower-carbon intensity fuels are essentially the same as traditional fuels.

Hydraulic System

Maximum Flow – Implement/Travel Circuit	306 L/min	81 gal/min
Maximum Pressure – Implements	37 000 kPa	5,366 psi
Maximum Pressure – Travel	35 000 kPa	5,076 psi
Maximum Pressure – Swing	36 500 kPa	5,294 psi

Machine Weights

Maximum Operating Weight	24 500 kg	54,000 lb
Minimum Operating Weight	21 200 kg	46,750 lb

Service Refill Capacities

Fuel Tank Capacity	350 L	92.5 gal
Diesel Exhaust Fluid Tank	30 L	7.9 gal
Cooling System	36 L	9.5 gal
Engine Oil	13 L	3.4 gal
Hydraulic Tank	155 L	40.9 gal
Hydraulic System – Including Tank	345 L	91.1 gal
Rear Axle – Housing (Differential)	14 L	3.7 gal
Front Steering Axle – Differential	10.5 L	2.8 gal
Final Drive – Each	2.5 L	0.7 gal
Powershift Transmission	2.5 L	0.7 gal

Swing Mechanism

Swing Speed	8.2 r/min	
Maximum Swing Torque	54 kN-m	39,553 lb/ft

Dimensions

Stick	Straight 4.3 m (14'1")	
Boom	MH Boom 5.35 (17'7")	
Shipping Height (with OPG, without stick)	11 ft	3,350 mm
Shipping Length	8300 mm	27.3 ft
Shipping Length (with push blade)	8600 mm	28.3 ft
Machine Length	4950 mm	16.3 ft
Machine Length (with push blade)	5390 mm	17.8 ft
Tail Swing Radius	2600 mm	8.5 ft
Counterweight Clearance	1300 mm	4.3 ft
Cab Height- Lowered	3350 mm	11 ft
Cab Height-Lowered with OPG	3350 mm	11 ft
Cab Height-Raised	5750 mm	18.8 ft
Cab Height-Raised with OPG	5750 mm	18.8 ft
Wheel Base	2600 mm	8.5 ft
Shipping Width	2540 mm	8.3 ft
Ground Clearance	310 mm	1 ft
Undercarriage Length	4900 mm	16.1 ft
Undercarriage Length (with push blade)	5365 mm	17.6 ft
Upper Frame Width (including handrails)	2540 mm	8.3 ft

Working Ranges

Stick	Straight 4.3 m (14'1")	
Boom	MH Boom 5.35 (17'7")	
Maximum Reach	9280 mm	30.4 ft
Maximum Height	10 760 mm	35.3 ft
Minimum Dump Height	3310 mm	10.8 ft
Maximum Reach at Ground Line	8680 mm	28.5 ft
Maximum Depth	1460 mm	4.8 ft
Boom Pin Height	7120 mm	23.3 ft

Transmission

Maximum Gradeability	65	
Maximum Travel Speed (with steering wheel)	20 km/h	12.4 mile/h
Maximum Travel Speed (with joysticks)	15 km/h	9.3 mile/h
Drawbar Pull	127 kN-m	28,551 lb/ft

STANDARD & OPTIONAL EQUIPMENT

NOTE: Standard and optional equipment may vary. Consult your Cat dealer for details.

	Standard	Optional		Standard	Optional
BOOMS AND STICKS			CAT TECHNOLOGY		
6.4 m (21') Straight MH boom		✓	Cat VisionLink	✓	
5.35 m (17'7") Straight MH boom		✓	Cat Payload	✓	
5.26 m (17'3") Variable Angle boom		✓	Remote Flash	✓	
5.65 m (18'6") One-piece boom		✓	Remote Troubleshoot	✓	
4.5 m (14'9") Drop Nose MH stick		✓	ELECTRICAL SYSTEM		
4.3 m (14'1") Straight MH stick		✓	Rooding and indicator lights at front and rear	✓	
4.0 m (13'1") Drop Nose MH stick		✓	Maintenance-free batteries	✓	
5.0 m (16'5") Drop Nose MH stick		✓	LED chassis light, left-hand/right-hand boom and stick lights, cab lights	✓	
2.9 m (9'6") Straight stick		✓	Centralized electrical disconnect switch	✓	
2.5 m (8'2") Straight stick		✓	Programmable time delay LED working lights	✓	
No Stick Configuration		✓	Electrical refueling pump		✓
Bucket linkage, B-type with lifting eye		✓	SERVICE AND MAINTENANCE		
CAB			Automatic lubrication system for implement and swing system	✓	
Advanced sound-suppressed Tip Over Protective Structure (TOPS) cab (ISO 12117-2 compliant)	✓		S-O-S ports	✓	
Fixed one-piece laminated windshield (P5A glass)		✓	Integrated vehicle health management system	✓	
Fixed one-piece laminated windshield (P8B glass)		✓	UNDERCARRIAGE AND STRUCTURES		
OPG		✓	2550 mm (8'4") wide undercarriage	✓	
Keyless push-to-start engine control	✓		3700 kg (8,150 lb) counterweight	✓	
LED dome lights	✓		All wheel drive	✓	
Deluxe cab: Heated seat with air-adjustable suspension	✓		Automatic brake/axle lock	✓	
Premium cab: Heated and cooled seat with automatic adjustable suspension	✓		Creeper speed	✓	
SAFETY AND SECURITY			Heavy-duty axles, advanced disc brake system, and travel motor with adjustable braking force	✓	
Cab Avoidance	✓		Lockable, oscillating front axle with remote greasing point	✓	
Rear- and right-side-view cameras	✓		Push Blade		✓
Secondary engine shutoff switch	✓		10.00-20 dual solid rubber tires		✓
Lockable disconnect switch	✓		10.00-20 16 PR dual tires		✓
360° visibility		✓	ENGINE		
Travel alarm		✓	C4.4 engine	✓	
Inspection lighting		✓	One-touch low idle with automatic engine speed control	✓	
HYDRAULIC SYSTEM			Automatic engine shutdown	✓	
Electric main control valve	✓		52° C (125° F) high-ambient capability	✓	
Automatic hydraulic oil warm up	✓		Cold start capability-18° C (-0° F)	✓	
Automatic swing brake	✓		Electric fuel priming pump	✓	
Separate dedicated swing pump	✓		Double element air filter with integrated pre-cleaner	✓	
Boom and stick lowering check valves	✓		On-demand electric cooling fans with auto-reverse function	✓	
Medium pressure auxiliary circuit	✓				
Element type main hydraulic filter	✓				
SmartBoom™	✓				
Smart Stick	✓				
Heavy lift mode	✓				

For more complete information on Cat products, dealer services and industry solutions, visit us on the web at www.cat.com.

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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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