

Product Specifications For 416



Engine

Net Power - SAE J1349	70 HP (52 kW) / 86 HP (64 kW)
Displacement	220 in ³
Net Power Rating at 2,200 rpm - SAE J1349	86 hp
Net Power Rating at 2,200 rpm - ISO 9249	85 hp
Ratings at 2,200 rpm - Gross Power SAE J1995	96 hp
Power Rating Conditions - No De-Rating Required Up To	10000 ft
Engine Model	C3.6 70 kW (96 hp) Electronic Turbo Intercooled
Emissions	Engine meets Tier 4 Final/Stage V emission standards.
Net Torque Rise - 1,400 rpm - SAE J1349	43%
Ratings at 2,200 rpm - Gross Power ISO 14396	94 hp
Net Torque Rise - 1,400 rpm - SAE J1349	292 ft-lb
Net Peak Power Rating @ 2,200 rpm - SAE J1349	86 hp
Dimensions - Bore	3.86 in
Net Peak Power Rating @ 2,200 rpm - ISO 9249	85 hp
Dimensions - Stroke	4.72 in

Backhoe

Dig Depth - Standard	14 ft
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Weights

Operating Weight - Maximum	24251 lb
Cab - ROPS/FOPS	306 lb
Air Conditioning	99 lb
Operating Weight - Estimated*	16532 lb
Auto-Shift Transmission	269 lb
MP Bucket (0.96 m³/1.25 yd³) - Without Fold-Over Forks	1642 lb
Ride Control	33 lb
Note	*Machine configuration: standard stick hoe, OROPS canopy, 4WD standard shift transmission, 0.96 m ³ (1.25 yd ³) GP (General Purpose) loader bucket, 610 mm (24 in) standard duty hoe bucket, front 340/80-18 and rear 500/70-22.40 kg (530 lb) counterweight, 80 kg (176 lb) operator, full fuel tank.
Operating Weight - Maximum - ROPS Capacity	24251 lb
MP Bucket (0.96 m³/1.25 yd³) - With Fold-Over Forks	2017 lb
Counterweights, base - Maximum	1014 lb
Counterweights, base	256 lb
Loader QC	540 lb

Counterweights, base - Stackable, one	529 lb
Extendible Stick (excludes ft. counterweight)	613 lb
All-Wheel Drive	STD (N/A)

Hydraulic System

Pump Type	Variable-flow, Axial Piston
Type	Closed Center
System Pressure - Loader	3336 psi
System Pressure - Backhoe	3336 psi
Pump Capacity at 2,200 rpm	34.9 gal/min

Transmission

Note	Travel speeds of backhoe loader at full throttle, when equipped with 500/70-24 rear tires.
Power-Shift Transmission - Optional - Reverse - 3rd	17 mile/h
Power-Shift Transmission - Optional - Forward -1st	3.7 mile/h
Power-Shift Transmission - Optional - Forward - 2nd	5.8 mile/h
Power-Shift Transmission - Optional - Reverse - 1st	3.7 mile/h

Power-Shift Transmission - Optional - Reverse - 2nd	7.6 mile/h
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Power-Shift Transmission - Optional - Forward - 4th	25 mile/h
Power-Shift Transmission - Optional - Forward - 3rd	12 mile/h
Power Shuttle Transmission - Standard - Forward - 3rd	13 mile/h
Power Shuttle Transmission - Standard - Forward - 2nd	5.7 mile/h
Power Shuttle Transmission - Standard - Forward - 1st	3.4 mile/h
Power Shuttle Transmission - Standard - Reverse - 4th	23 mile/h
Power Shuttle Transmission - Standard - Reverse - 1st	3.4 mile/h
Power Shuttle Transmission - Standard - Reverse - 3rd	13 mile/h
Power Shuttle Transmission - Standard - Reverse - 2nd	5.7 mile/h
Power Shuttle Transmission - Standard - Forward - 4th	23 mile/h

Axle Ratings

Rear Axle - Dynamic	22046 lb
Rear Axle - Static	58422 lb
Front Axle, AWD - Dynamic	19841 lb
Front Axle, AWD - Static	51808 lb

Steering

Turning Circle - (inner wheel not braked) - Outside Front Wheels	26.92 ft
Power Steering	Hydrostatic
Stroke	4.2 in
Bore	2.6 in
Turning Circle - (inner wheel not braked) - Outside Widest Loader Bucket	35.25 ft
Type	Front Wheel Steering
Axle Oscillation	11°
Rod Diameter	1.6 in
Cylinder	One Double-Acting

Service Refill Capacities

Hydraulic System	25.1 gal (US)
Engine Oil - With Filter	2.4 gal (US)
Hydraulic Tank	11.1 gal (US)
Diesel Exhaust Fluid (DEF)	5 gal (US)
Cooling System with Air Conditioning	4.8 gal (US)
Rear Axle	4.2 gal (US)
Fuel Tank	42.3 gal (US)
Rear Axle - Planetaries	0.4 gal (US)
Transmission - Power Shuttle - AWD	4.8 gal (US)

Transmission - Power Shift - AWD	5 gal (US)
Front Axle (AWD)	2.9 gal (US)
Front Axle (AWD) - Planetaries	0.2 gal (US)

Sustainability

Recyclability	92%
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416 Standard Equipment

STANDARD EQUIPMENT

- Air cleaner
- Alarm, back-up
- Audible system fault alarm
- Backhoe controls, mechanical two lever
- Battery, maintenance-free, 850 CCA
- Battery disconnect switch
- Boom transport lock
- Brace, lift cylinder
- Brake, parking, mechanical
- Brakes, hydraulically boosted, oil disc, dual pedals, interlocking
- Bucket level indicator
- Canopy, ROPS/FOPS
- Coat restraint
- Coolant/antifreeze, extended life
- Counterweight, bumper
- Dome light (cab only)
- Diagnostic port for engine
- Differential lock, loader joystick
- Drink holders, two
- Engine, Cat C3.6 (Direct Injection Turbocharged), meets Tier 4 Final/Stage V emission standards, Selective Catalytic Reduction, Diesel Oxidation Catalyst (DOC)
- Engine enclosure, sound suppression, removable side panels
- Face seals, O-ring
- Fan, suction and guard
- Fast reversing shuttle, all gears
- Fenders, rear
- Filters, spin-on: fuel, engine oil, transmission oil, water separator
- Filters, bowl and cartridge: hydraulic fluid
- Flashing hazards/signal lights
- Floor mat
- Four wheel drive
- Four wheel drive shaft guard

Fuel tank, fully enclosed
Fully hinged front grill for cooling package cleaning access
Gauge cluster: coolant temperature, fuel level, torque converter temperature, DEF level
Ground level fuel fill and DEF fill
Halogen lights, working (2 front, 2 rear)
High ambient cooling package
Hood lock, inside cab
Hydraulic hose, XT™
Hydraulic oil cooler
Hydraulic oil level sight gauge
Hydraulic valves, loader 2 function
Hydraulic valves, backhoe 4 function
Hydraulics, load sensing with variable displacement piston pump
Indicator lights: wait to start, water in fuel, engine warning, warning lamp, emissions module malfunction
low battery/charging system warning, high hydraulic oil temperature: LCD warnings: engine oil pressure,
machine locked, service due, air filter blocked, high coolant temperature, auto idle shutdown, high torque
converter temperature, hydraulic filter bypass
Instrument panel lights
Key start/stop system
LCD operator display with soft key controls: engine speed, hour meter, gear/direction, battery voltage,
hydraulic oil temperature, torque converter temperature, coolant temperature, trip totals (fuel and hours),
lifetime totals (fuel and hours), operator settings (units, brightness, programmable hoe auxiliary flow),
service mode diagnostics, maintenance intervals, ECM/system info
Loader, self-leveling, return-to-dig and transmission disconnect switch
Loader, single tilt
Mechanical two lever controls
Mirror, interior, rearview
Open circuit breather
Power receptacle, 5 volt USB, 1 internal
Power receptacle, 12 volt, 2 internal, 1 external
Power steering, hydrostatic
Product Link™, cellular, network manager
Product Link, satellite, network manager
Seat belt, retractable, 51 mm (2 in)
Socket, two roof
Stabilizer shoes, street
Steering column, tilting
Steering knob
Seat, air suspension, vinyl cover, with armrest
Starting system, glow plugs
Storage compartment, lockable
Storage tray
Stop and tail lights
Swing transport lock
Tilt steering column
Tires
Toolbox, external, lockable
Torque converter

Throttle, hand and foot, electronic
Transmission, four speed, manual, syncromesh
Transmission neutralizer switch
Transport tie-downs
Vandalism locks, four
Warning horn, electric

416 Optional Equipment

OPTIONAL EQUIPMENT

Auxiliary hydraulics, rear, adjustable flow
Battery, additional, 850 CCA
Brake, parking, Spring Applied Hydraulically Release (SAHR)
Cab, standard
Cold weather fuel (–30° C/–22° F)
Cold weather package, including additional battery, engine block heater, radiator antifreeze (–50° C/–58° F), cold weather fuel (–30° C/–22° F) and mounting for an ether bottle
Counterweights, 115 kg (255 lb), 240 kg (530 lb) or 460 kg (1,015 lb)
Fenders, front with integral steps
Guard, boom protection plate
Guard, stabilizer, rock
Hydraulic valves, loader (3rd valve for MP or Quick Coupler)
Hydraulic valves, backhoe (5th and 6th function)
Hydraulic lines, combined function auxiliary
Joystick controls: pilot operated, excavator style with pattern changer
LED lights, working (2 front, 2 rear)
Pattern changer, in cab
Quick Coupler, hydraulic, dual lock
Quick Coupler, manual, dual lock
Quick Coupler, manual, pin lock
Radio and CD player, Bluetooth®
Ride Control
Rotating beacon, magnetic mount
Seat, air suspension, fabric with armrest
Seat belt, retractable, 75 mm (3 in)
Security system, Bluetooth
Security System, operator display
Side mirrors, cab, external
Single Tilt Loader Coupler, Integrated Tool Carrier (IT) Interface
Stabilizer pads, grouser type
Stabilizer pads, reversible
Stick, extendible
Transmission, 4 speed, powershift
Vandalism protection, gauge cover
Work Tool Attachments such as buckets, forks, material handling arms, augers, hammers, brooms, cold planers and vibratory plate compactors. See your Cat dealer for more information.