

ENGINE

| | |
|------------------------------|--|
| Model | Case 432T/M3 |
| Type | 4-stroke |
| Cylinders | 4 |
| Bore/Stroke | 3.89 in x 4.09 in (99 X 104 mm) |
| Displacement | 195 in ³ (3.2 L) |
| Fuel injection | Direct |
| Fuel | #2 Diesel |
| Fuel filter | Replaceable, full flow spin-on cartridge |
| Air filter | Dry type element w/warning restriction indicator |
| Radiator | |
| Core type | Staggered |
| Fan | |
| Style | Direct drive |
| Lubrication/cooling oil pump | |
| Style | Integral |
| Engine oil | |
| Pump | Deep sump plate cooler with pressurized under-piston nozzles |
| Pump operating angle ratings | |
| Side-to-side | Rated 35° |
| Fore and aft | Rated 35° |
| Oil filtration | Replaceable, full flow spin-on cartridge |
| Engine speeds (rpm) | |
| Rated speed, full load | 2500 |
| Low idle | 900-950 |
| High idle, no load | 2580-2680 |
| Horsepower – Rated | |
| Gross | 74 (55.0 kW) @ 2500 rpm |
| Net | 69 (51.0 kW) @ 2500 rpm |
| Peak torque @ 1400 rpm | |
| Gross | 203 lb-ft (275 N·m) |
| Net | 200 lb-ft (271 N·m) |
| Torque rise | 30% |

NOTE: Gross horsepower and torque per ISO 9249.
Net horsepower and torque per ISO 9249.

DRIVETRAIN

| | | |
|--|---|-----------------|
| Transmission | Hydrostatic transmission | |
| Pump relief | 6,773 psi (46 700 kPa) | |
| Pump flow | 35.9 gpm (136 L/min) | |
| Differential | Front limited slip w/45% transfer on front axles | |
| Front axle | | |
| Differential ratio | 3.66 | |
| Planetary ratio | 6.00 | |
| Final axle ratio | 22.00 | |
| Planetaries | Outboard | |
| Service brakes | Hydraulically actuated, dry disc w/accumulator to front axle & joint shaft | |
| Parking brake | Mechanical | |
| Travel speeds – mph (km/h) w/365/80 R20 tires | Forward | Reverse |
| Low | 0-4.0 (0-6.4) | 0-4.0 (0-6.4) |
| High | 0-12.4 (0-20) | 0-12.4 (0-20) |
| Optional HTS (High Travel Speed) | Forward | Reverse |
| Low | 0-3.3 (0-5.3) | 0-3.3 (0-5.3) |
| High | 0-10.3 (0-16.5) | 0-10.3 (0-16.5) |
| HTS engaged | 0-21.7 (0-35) | 0-21.7 (0-35) |

NOTE: Travel speeds at full engine throttle.

ELECTRICAL

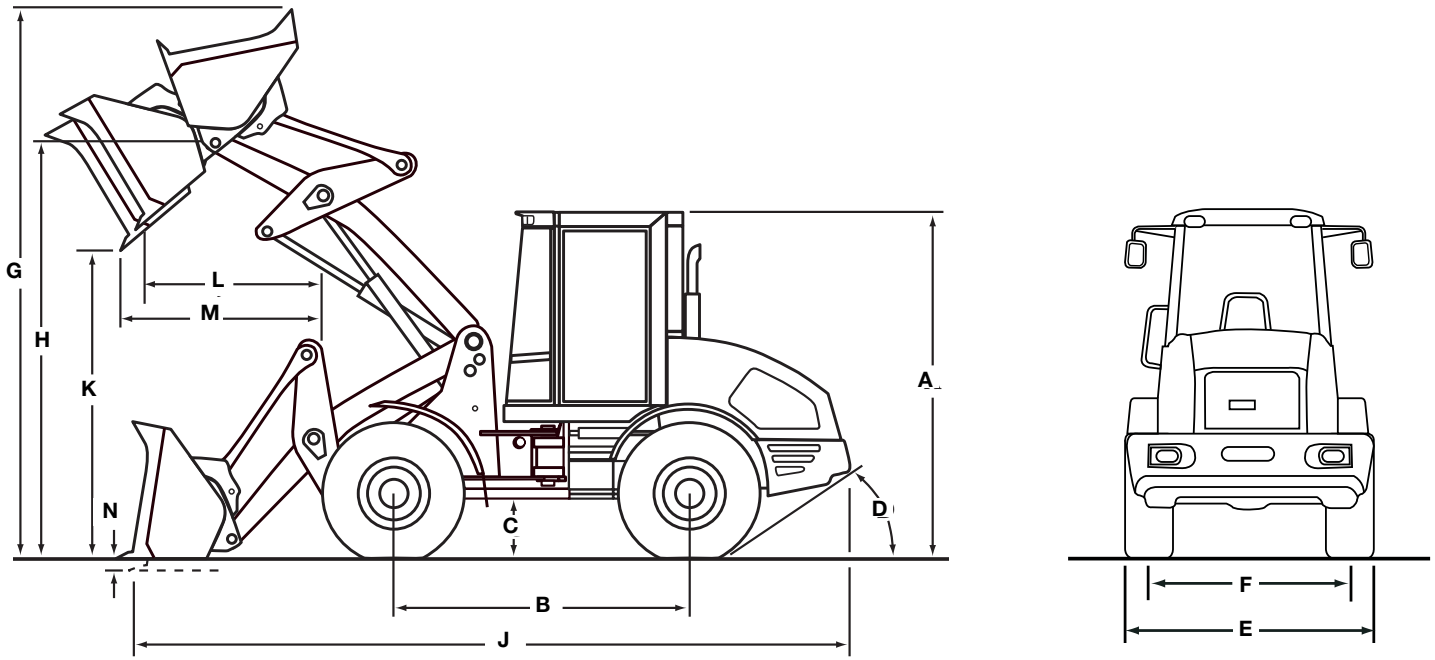
| | |
|------------|---------------------------|
| Voltage | 12 Volts, negative ground |
| Alternator | 95 amp |
| Batteries | 95 AHR, 900 CCA |

HYDRAULICS

| | |
|------------------------------|---|
| Pump (steering/implement) | Open-centered pressure/flow compensated |
| Fixed gear type | 18.5 gpm @ 2500 rpm @ 3916 psi (70 L/min @ 2500 rpm @ 27 000 kPa) |
| Loader control valve | Open-center, 1 lever loader control w/forward/neutral/reverse switch, float detent |
| Loader auxiliary steering | Hydraulic orbital center-pivot articulating w/on-demand oil flow |
| Main relief pressure @ valve | 3,626 psi (25 000 kPa) |
| Filtration | 15-micron, full flow replaceable cartridges on return line |

CYLINDERS

| | |
|---------------|------------------|
| Lift cylinder | |
| Bore diameter | 3.5 in (90 mm) |
| Rod diameter | 2.0 in (50 mm) |
| Stroke | 28.4 in (721 mm) |
| Dump cylinder | |
| Bore diameter | 3.5 in (90 mm) |
| Rod diameter | 2.0 in (50 mm) |
| Stroke | 18.0 in (459 mm) |



DIMENSIONS

| | |
|---------------------------------|--------------------|
| Height to – | |
| A. Top of ROPS cab | 110.7 in (2813 mm) |
| B. Wheelbase | 92.5 in (2350 mm) |
| C. Ground clearance under shaft | 16 in (415 mm) |
| C. Ground clearance under axles | 13 in (330 mm) |
| D. Angle of departure | 35° |
| Width – | |
| E. Overall* w/o bucket | 75 in (1904 mm) |
| F. Centerline tread | 60.1 in (1526 mm) |
| Turning radius* – outside | |
| 161.2 in (4095 mm) | |
| Turning angle – | |
| From center | 41° |
| Total angle | 82° |
| Rear axle oscillation, total | |
| 24° | |

NOTE: *Dimensions taken with 365/80 R20 tires. Additional dimensions on pages 3 & 4.

PERFORMANCE DATA

| 221E Versa-Boom | 1.3 yd³ GP (1.0 m³) Bucket w/Bolt-on Edge | 1.18 yd³ GP (0.9 m³) Bucket w/Bolt-on Edge |
|--|--|---|
| SAE bucket capacity – struck | 1.09 yd ³ (0.83 m ³) | 0.85 yd ³ (0.65 m ³) |
| Heaped | 1.31 yd ³ (1.00 m ³) | 1.18 yd ³ (0.90 m ³) |
| Bucket width – outside | 82.7 in (2100 mm) | 80.7 in (2050 mm) |
| Bucket weight | 948 lb (430 kg) | 919 lb (417 kg) |
| G. Operating height – fully raised w/spillguard | 173.4 in (4403 mm) | 172 in (4369 mm) |
| H. Hinge pin height – fully raised | 133.3 in (3386 mm) | 133.3 in (3386 mm) |
| J. Overall length – bucket level on ground | 221.9 in (5635 mm) | 220.5 in (5600 mm) |
| Dump angle – fully raised | 45° | 45° |
| K. Dump height – fully raised, 45° dump | 102.3 in (2598 mm) | 103.2 in (2622 mm) |
| L. Bucket reach – fully raised, 45° dump | 34.1 in (867 mm) | 33.2 in (843 mm) |
| M. Bucket reach – 7 ft 0 in (2.13 m) height, 45° dump | 49.1 in (1247 mm) | 48.7 in (1238 mm) |
| N. Dig depth | 3.2 in (81 mm) | 3.2 in (82 mm) |
| Operating load – ISO | 4,001 lb (1815 kg) | 4,028 lb (1827 kg) |
| Maximum material density – ISO | 3,059 lb/yd ³ (1815 kg/m ³) | 3,422 lb/yd ³ (2030 kg/m ³) |
| Tipping load – ISO | | |
| Straight | 9,358 lb (4245 kg) | 9,416 lb (4271 kg) |
| Straight w/optional counterweight | 9,933 lb (4506 kg) | 9,991 lb (4532 kg) |
| 40° turn | 8,002 lb (3629 kg) | 8,056 lb (3654 kg) |
| 40° turn w/optional counterweight | 8,490 lb (3850 kg) | 8,544 lb (3875 kg) |
| Lift capacity – | | |
| Full height | 5,733 lb (2600 kg) | 5,768 lb (2616 kg) |
| Maximum reach | 7,810 lb (3543 kg) | 7,836 lb (3554 kg) |
| Ground | 11,146 lb (5056 kg) | 11,175 lb (5069 kg) |
| Breakout force w/tilt cylinder | 9,723 lb (4410 kg) | 10,189 lb (4622 kg) |
| Maximum rollback – | | |
| Ground | 45° | 45° |
| Carry position | 52° | 51° |
| @ Maximum reach | 54° | 54° |
| @ Full height | 54° | 54° |
| Maximum grading angle w/bucket – back dragging | 108° | 107° |
| Loader clearance circle | 364.7 in (9263 mm) | 362.2 in (9199 mm) |

INSTRUMENTATION

Electronic Information Center

Displays/Gauges –

- Fuel level
- Hourmeter
- Engine oil temperature

Indicator lights –

- Hydraulic oil temperature
- Alternator
- Work lights*
- Brake pressure
- Parking brake
- Air conditioning*
- Air filter restriction
- Travel direction F/R
- Speed range selected
- Shift pressure*
- Turn signal indicator
- Engine oil temperature
- Engine oil pressure
- Preheating indicator lamp
- High beam lights

Audible alarms –

- Caution alarm
- Critical alarm
- Backup alarm

Horn

NOTE: *If equipped with option.

OPERATOR ENVIRONMENT

Cab w/heat

Key start

Articulated power steering w/tilt column

Fully adjustable, cloth suspension seat

Foot throttle

Single lever electronic speed shift control,
F/N/R switch in loader control handle

Cup holder

Retractable seat belt

Storage tray

Sun screen – front

Defroster

Opening side window – 180°

Dome light

Wipers rear & front

12-volt auxiliary power

External rearview mirrors

R.H. steps

Coat hook

Loader control lockout

LOADER

Versa-Boom loader linkage

Single control for lift and tilt

Positive hold float

Skid steer compatible attachment coupler

CYCLE TIME

Raise w/rated bucket load 6.0 sec

Dump w/rated bucket load

Versa-Boom 1.0 sec

Lower (empty)

Float down 3.0 sec

SERVICE CAPACITIES

Fuel tank 26.0 gal (100 L)

Hydraulic system

Total 17.7 gal (67 L)

Reservoir 10.5 gal (40 L)

Front and rear axle

Total axle (each) 2.1 gal (8.0 L)

Engine oil w/filter 2.3 gal (8.5 L)

Cooling 4.4 gal (16.5 L)

OPERATING WEIGHTS

Versa-Boom

Unit equipped with ROPS cab with heater, standard counterweight, 365/80 R20 Dunlop tires, front and rear fenders, 1.18 yd³ (0.9 m³) general purpose loader bucket w/edge, full fuel, 165 lb (75 kg) operator 11,947 lb (5419 kg)

With optional counterweight 12,268 lb (5564 kg)

STANDARD EQUIPMENT

OPERATOR'S ENVIRONMENT

See page 4

ENGINE

Case 432T/M3

Fuel filter w/water trap

Dual element air cleaner

95 amp alternator

(1) 900 CCA 12-volt battery

Liquid-cooled radiator

LOADER

See page 4

DRIVETRAIN

4-wheel drive

Hydrostatic transmission

Single lever electronic speed shift control,
F/N/R switch in loader control handle

Outboard planetary axles

Limited slip differential, front axle

Transmission oil cooler

Hydraulic dry disc brakes

Mechanical parking brake

HYDRAULICS

3-spool loader control valve

(8) Diagnostic quick couplers

Auxiliary hydraulics

OTHER

Front and rear fenders

Lights –

(2) Front flood lights

(2) Front driving headlights (high/low beam)

(2) Stop/tail lights and backup light

Front and rear turn signal/flash

Drawbar pin

Articulation locking pin

Tie-down points – front/rear

Backup alarm

Wired for radio

Bucket position indicator

OPTIONAL EQUIPMENT

OPERATOR'S COMPARTMENT

Cab air conditioning w/heater

Rotating beacon

Limited slip option, rear axle

High travel speed (HTS)

0-21.7 mph (0-35 km/h)

Radio ready antenna and speakers

OTHER

(2) Rear flood lights

Tool box

LOADER

Bucket position indicator

Buckets (see page 3)

General Purpose

4-IN-1

Forks

Ride control

Return To Dig

TIRES

365/80 R20 EM SPT9

405/70 R20 SPT9

375/75 R20 XM27

COUNTERWEIGHT

321 lb (146 kg)

Mounts on rear chassis

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NOTE: All specifications are stated in accordance with SAE Standards or Recommended Practices, where applicable.

NOTE: All engines meet current EPA emissions requirements.

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