

# CLARK

# 75C MICHIGAN





## ENGINE

Make: Cummins Model: V-504C

Max horsepower, hp (kW)**	171 (127) at 2800 rpm
Flywheel horsepower, hp (kW)**	154 (114) at 2800 rpm
Net horsepower, ps (kW)*	154 (115) at 2800 rpm
Max. torque, Nm (lbft)**	508 (375) at 1900 rpm
Max. torque, Nm (lbft)*	498 (367) at 1900 rpm
Bore and stroke, mm (in)	117.6 x 95.3 (4.36 x 3.75)
Number of cylinders	8
Displacement, l (in <sup>3</sup> )	8.26 (504)
Electrical system (alternator)	24V, 65A

\* DIN 70020

\*\* SAE 816b



## DRIVETRAIN

**Torque converter:** Clark high-efficiency industrial type; single-stage with 3.12 to 1 multiplication factor.

**Transmission:** Clark countershaft type powershift with modulating clutches; four speeds forward, four speeds reverse.

### Travel speeds\*

1st	2nd	3rd	4th
6.4	12.3	20.4	32.1 km/h
4.0	7.7	12.7	20.1 mph

\*Measured with 20.5 - 25 12PR (L-3) tires.

**Differential:** Clark torque proportioning front and rear.

**Axles:** Heavy-duty Clark planetary design with single-piece cast steel housing; all wheel drive. Front axle fixed; cradle-mounted rear axle oscillates a total of 24°. Total vertical wheel travel of 381 mm (15.0 in) with all wheels remaining on ground.

**Planetary drives:** Clark low-friction, roller bearing planetary in each wheel. Planetary units can be removed without removing wheels and brakes.



## TIRES

### Tires available (tubeless):

20.5 - 25, 12PR (L-3)	20.5 - 25, 16PR (L-3)	23.5 - 25, 12PR (L-2)
20.5 - 25, 12PR (L-2)	20.5 - 25, 20PR (L-3)	17.5 - 25, 14PR (L-2)



## BRAKES (SAE J1152) (ISO 3450)

**Service:** Four wheel, air-over-hydraulic self-adjusting caliper with 457.2 mm (18.0 in) diameter discs. Application of left pedal also neutralizes transmission in forward only.

**Secondary:** Axle-by-axle system. Automatically actuated by low air pressure or manually applied through dash-mounted control; audible and visual alarm.

**Parking:** Mechanical on front transmission output shaft; 254.0 x 76.2 mm (10.0 x 3.0 in) shoe.

## \*STANDARD EQUIPMENT

ROPS/FOPS Cab (ISO 3164/3471), with acoustical treatment and two side-mirrors. Suspension seat, with seat belt (SAE J 386). Front and rear wipers. Windshield washer. Heater/defroster. Integral sound suppression. Front and rear working lights. Two tail/stop lights. Sealed batteries. Handrails. Front and rear fenders. Boom kickout, adjustable. Bucket positioner, adjustable. Tool Kit. Quick-connect hydraulic pressure test ports. Lockable caps: fuel, hydraulic, and radiator. Gauges: Engine oil pressure; Water temperature; Torque converter temperature; Voltmeter; Hourmeter; Warning lights for brake and steer pressures. Filters: Air (dry-type); Engine oil; Fuel; Hydraulic oil (return), torque converter/transmission.

\*Standard equipment will vary depending upon regulations and requirements for country of destination.

## OPTIONAL EQUIPMENT

Air conditioner. Attachment bracket, with quick-change coupling. Bucket, multi-task (1.9m<sup>3</sup>). Bucket, side-dump (1.9m<sup>3</sup>). Bucket teeth (bolt on), or Bucket cutting edge (bolt on). Counterweight (in lieu of hydroinflation). Engine block heater. Fork attachment. Fuel gauge. No-spin differential, front. Rotating beacon. Seat, de luxe suspension, with heating and seat belt. Speedometer. Spillguard kit. Three-spool valve and piping. Turn signals. Vandal protection kit: instrument panel.



## STEERING SYSTEM

Articulated frame; full hydraulic power steering with speed sensor.

**Angle of Steer:** Each direction 35°; total 70°.

**Pump:** Tandem gear-type design, torque converter mounted; high volume at low engine speed assures fast response, safe steering. Total pump output is 113.6 l/min (30.0 U.S. gpm) at 2450 rpm and 110 bar (1600 psi).

**Relief Pressure:** 110 bar (1600 psi).

**Cylinders:** Two; double-acting with chrome-plated piston rods. Bore and stroke: 88.9 x 406.4 mm (3.5 x 16.0 in).



## HYDRAULIC SYSTEM

Closed and pressurized with a capacity of 227.1 l (60 U.S. gal.); oil supplied from sturdy plate steel reservoir with level sight gauge. Access hole in tank for easy cleaning; in-tank magnet provides extra protection.

**Boom controls:** Valve has four positions: raise, hold, lower, float.

Automatic kickout adjustable for any position between maximum boom reach and full lift height.

**Bucket controls:** Valve has three positions: rollback, hold, dump. Automatic bucket positioner adjustable to any desired loading angle.

**Pump:** Gear-type design, torque converter mounted. Total pump output is 189 l/min (50 U.S. gpm) 2450 rpm and 172 bar (2500 psi).

**Valve:** Two-spool sectionalized with built-in pressure relief valve. Mounted on hydraulic reservoir for easy access.

**Relief Pressure:** 172 bar (2500 psi).

**Cylinders:** Two boom and two bucket; all double-acting with chrome-plated piston rods.

Boom, bore and stroke: 127.0 x 891.5 mm (5.0 x 35.1 in)

Bucket, bore and stroke: 127.0 x 400.0 mm (5.0 x 15.75 in)

**Filter:** Full-flow 10 micron (return); located in hydraulic reservoir.



## HYDRAULIC SPEEDS

	Sec.
Raising time (with load)	6.7
Dumping time (with load)	1.0
Lowering time (empty)	3.5
Total cycle	11.2



## SERVICE CAPACITIES

	Litres	U.S. gal.
Cooling system	49.2	13.0
Crankcase	26.5	7.0
Torque converter & transmission	30.3	8.0
Front & rear axle differentials (each)	11.4	3.0
Front & rear wheel hubs (each)	4.5	1.2
Fuel tank	265.0	70.0
Hydraulic reservoir	189.3	50.0

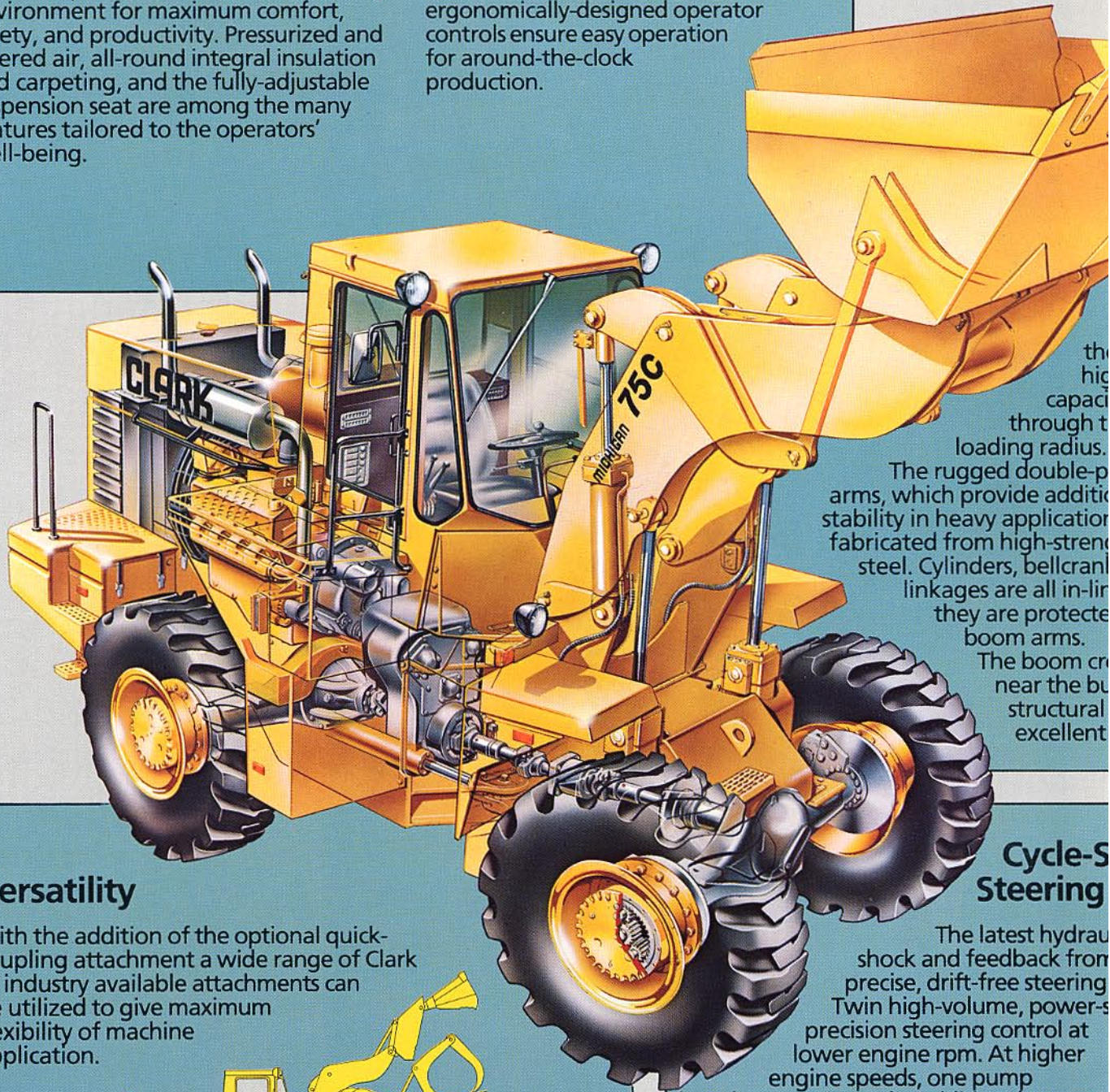
# CLARK MICHIGAN 75C

## Engineered and Tested for Reliability Designed for Serviceability. Built for Per

### Optimum Work Environment

The 75C operator compartment with ROPS cab provides the optimum working environment for maximum comfort, safety, and productivity. Pressurized and filtered air, all-round integral insulation and carpeting, and the fully-adjustable suspension seat are among the many features tailored to the operators' well-being.

Excellent all-round visibility from the roomy cab, easy-to-read gauges and ergonomically-designed operator controls ensure easy operation for around-the-clock production.



### Versatility

With the addition of the optional quick-coupling attachment a wide range of Clark or industry available attachments can be utilized to give maximum flexibility of machine application.

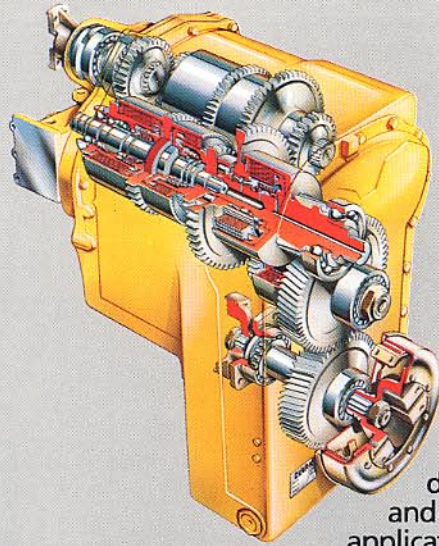


the  
high  
capacity  
through t  
loading radius.  
The rugged double-p  
arms, which provide addit  
stability in heavy applicatio  
fabricated from high-stren  
steel. Cylinders, bellcrank  
linkages are all in-lin  
they are protecte  
boom arms.  
The boom cr  
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structural  
excellent

### Cycle-S Steering

The latest hydraul  
shock and feedback from  
precise, drift-free steering  
Twin high-volume, power-s  
precision steering control at  
lower engine rpm. At higher  
engine speeds, one pump  
bypasses to make additional power  
available to the drivetrain for increased  
lifting speeds and crowding forces.  
Wide vertical spacing between the  
articulation pins provides excellent turn  
stability and rapid service access.

# formance



## The Rugged Clark Integrated Drive Train

### Delivers Maximum Engine Power to the Ground under All Conditions

The Clark Michigan 75C four-wheel drive loader offers dependable performance in a wide range of applications. To accomplish this, a reliable drivetrain is essential. And this is what Clark has been designing and manufacturing for over 65 years. Backed by a program of continuous development, the Clark drivetrain is durable and dependable... and it has been proved in many applications throughout the world over many years.

#### Modulated Transmission

The rugged Clark countershaft transmission is designed for tough jobs that demand fast cycle times. Directional clutch modulation provides smooth, full power, on-the-go forward and reverse shifts without braking – a feature that ensures quick, easy operation and protects the drivetrain.

#### Torque Converter

The Clark torque converter is a long-life, high-efficiency industrial type of single-phase design. It acts as a sensing and control device that automatically matches power output from the engine to varying load conditions.

#### Differential

The Clark torque proportioning differential is standard in both axles; it provides good tractive effort, minimizes wheel spin and retains good turning characteristics with minimum tire scuffing and wear.

#### Planetary Axles

Both front and rear axles have single-piece cast-steel housings for maximum strength and durability. The heavy-duty planetaries at each wheel feature low-friction needle roller bearings for greater efficiency and longer life.

## Trunnion-Mounted Boom Cylinders and Double-Plate Boom Arms

Trunnion-mounted boom cylinders and the direct in-line boom design guarantee high lifting capacity and speeds throughout the entire

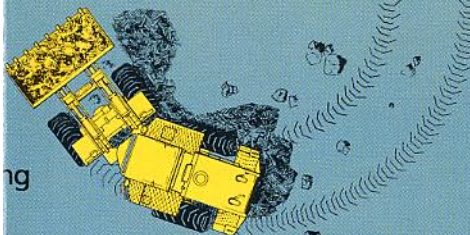
boom arm. The double-plate boom arms, made with alloy steel and reinforced by the



boom tube located in the boom arm provides extra strength and boom rigidity, and allows the operator a clear view of the work area.

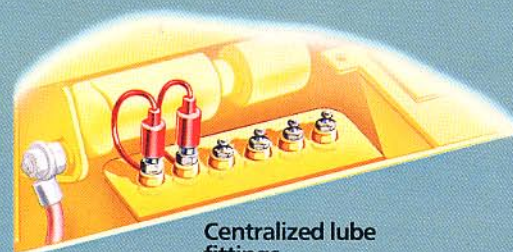
## sensitive

Hydraulic steering technology eliminates the need for steering cylinders, facilitating precise control for the operator. Sensing steering pumps provide



## Serviceability

Centralized lube fittings for steer cylinder anchor pins and axle cradle pins are readily accessible in the engine compartment. Walk-up access without crawling under the machine makes lubrication quicker, easier and ensures it is done on schedule. Located in the wide center hinge area, quick-connect hydraulic test ports facilitate scheduled pressure checks on main and steer systems, transmission clutches and torque converter cooler.



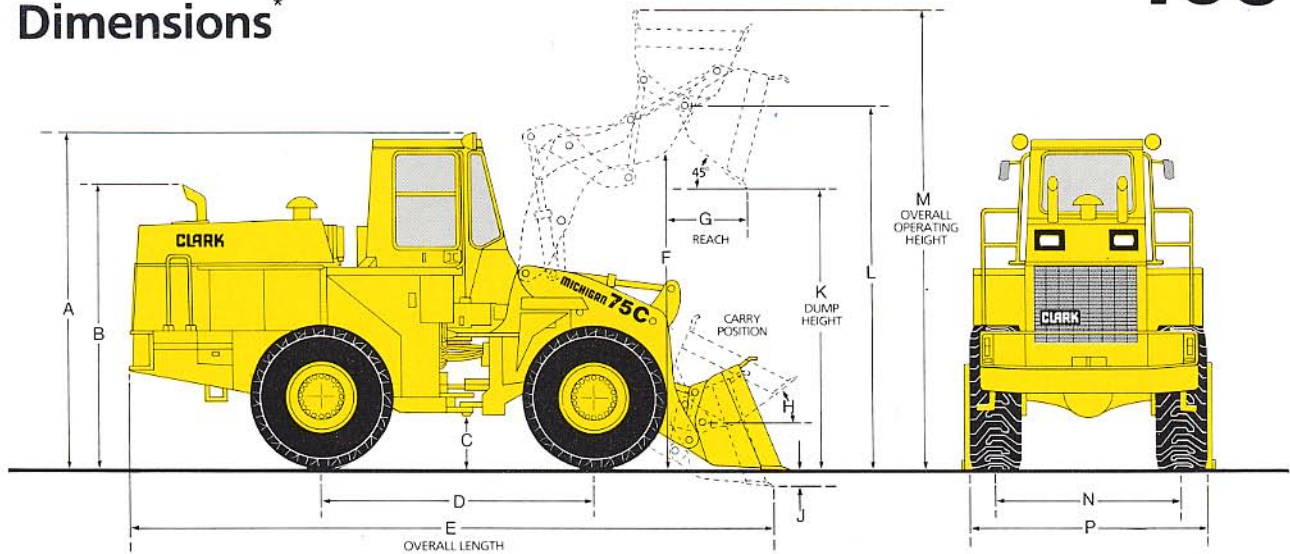
Centralized lube fittings



Hydraulic pressure check ports

# 75C

## † Machine Dimensions \*



Tire	A	B	C	D	E	F	G	H	J	K	L	M	N	P	
20.5-25 (L2, L3)	3302 10'10"	2934 9'7.5"	350 1'1.75"	2858 9'4.5"	**	3175 10'5"	**	38°	69 2.70"	**	3721 12'2.5"	**	1956 6'5"	2496 8'2.25"	mm ft. in.

\*Per SAE J 732 and J 742. \*\*See Operating Data.

## † Operating Data (with 20.5-25 12PR (L-3) tires)

Data given below which conform to applicable standards recommended by the Society of Automotive Engineers, SAE loader ratings J 732 and J 742, are denoted in the text by ▲

Bucket Type	General Purpose	General Purpose	General Purpose	Light Material	
▲ Capacity, Rated (heaped)	1.9	2.1	2.3	3.1	m <sup>3</sup>
	2.5	2.75	3.0	4.0	yd <sup>3</sup>
Rated (struck)	1.6	1.8	1.9	2.6	m <sup>3</sup>
	2.1	2.3	2.5	3.4	yd <sup>3</sup>
▲ Cutting Edge Width	2642 8'8"	2642 8'8"	2642 8'8"	2642 8'8"	mm ft. in.
▲ Dump Height at Full Lift and 45° Discharge Angle	2819 9'3"	2769 9'1"	2743 9'0"	2604 8'6.5"	mm ft. in.
▲ Reach at Full Lift and 45° Discharge Angle	787 2'7"	838 2'9"	902 2'11.5"	1029 3'4.5"	mm ft. in.
▲ Reach at 2134mm (7') Height and 45° Discharge Angle	1295 4'3"	1346 4'5"	1410 4'7.5"	1511 4'11.5"	mm ft. in.
▲ Overall Length	6975 22'11"	7118 23'4"	7220 23'8"	7297 23'11"	mm ft. in.
▲ Overall Operating Height	4877 16'0"	4851 15'11"	4953 16'3"	5017 16'5.5"	mm ft. in.
▲ Clearance Circle (bucket in carry position)	12.14 39'10"	12.55 41'2"	12.57 41'3"	12.83 42'1"	m ft. in.
▲ Breakout Force	119.6 26,700	105.6 23,600	101.0 22,500	90.8 20,300	kN lbf
Effective Digging Force	130.7 58,138	127.9 56,893	126.5 56,270	125.8 55,959	kN lbf
▲ Static Tipping Load*, Straight	12,338 27,200	11,880 26,190	11,662 25,710	11,553 25,470	kg lb
Full (35°) Turn	10,857 23,935	10,453 23,040	10,262 22,620	10,168 22,420	kg lb
▲ Operating Weight*, Total	14,280 31,480	14,408 31,760	14,502 31,970	14,576 32,130	kg lb

\*Approximate; based on bucket shown, ROPS cab, and rear tire hydroinflation. A change in tire size, addition (or removal) of optional equipment and attachments, counterweighting, or rear tire hydroinflation will affect both operating weight and tipping loads.

†Changes in standard configuration may change machine dimensions or operating data.



## Clark Michigan Company Quality Assurance Policy

The policy of the Clark Michigan Company is to achieve and maintain a reputation for leadership in the quality of its products and product services.

The objective of Clark Michigan Company is to produce and market construction machinery equipment and supporting services that equal or exceed its competitors' quality, and satisfy customer needs and expectations. Clark Michigan Company will also assure that all materials, parts, assemblies or sub-assemblies supplied by other Clark divisions or by outside vendors meet the set forth quality requirements.

The Clark Michigan Company is structured to develop, implement and monitor a quality assurance system covering engineering, testing, manufacturing and services to assure a quality product, supported by skilled trained personnel and high parts availability.

The quality assurance system is constantly reviewed, revised and reissued to assure that Clark Michigan Company and its dealer network continue to provide the highest standards of quality.



Illustrations of machines used in this publication may include optional equipment.

Specifications subject to change without notice or obligation.

**CLARK** Construction  
Machinery  
Group

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