

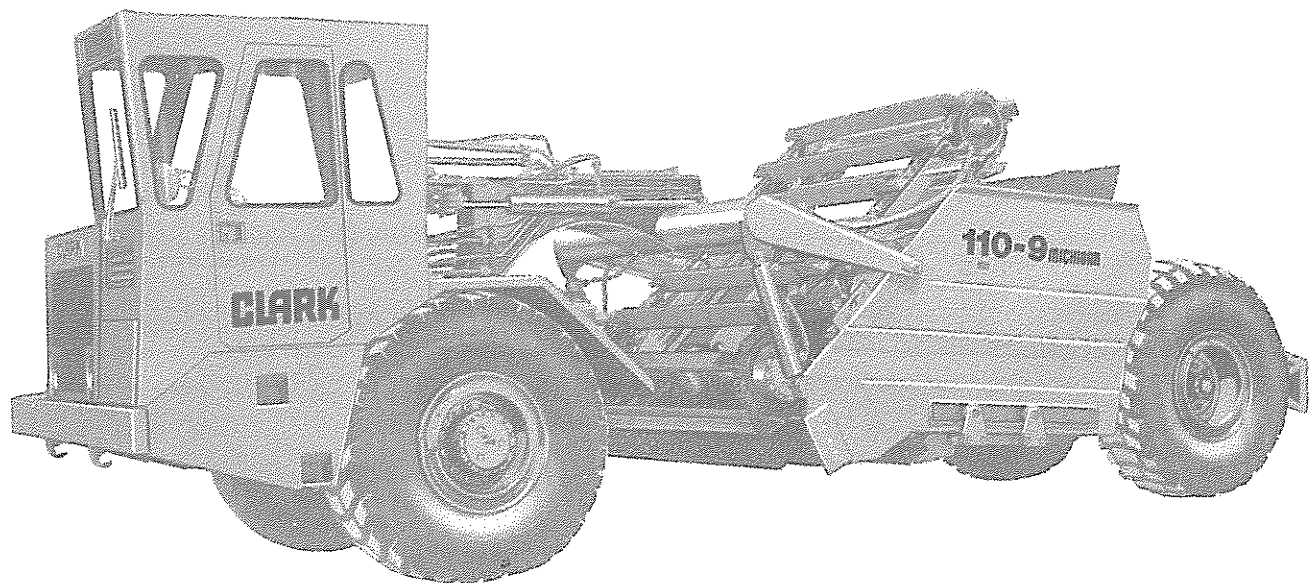
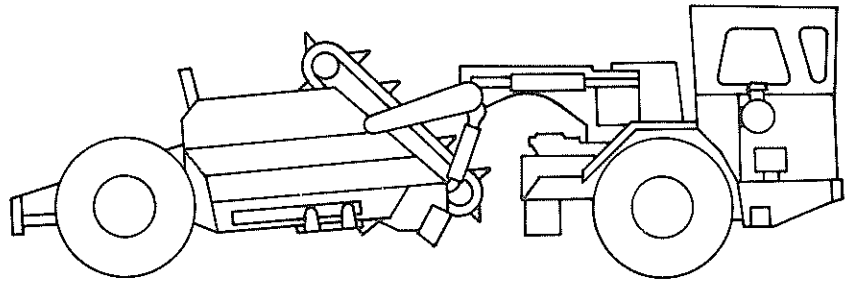
CLARK

110-9

MICHIGAN

ELEVATING SCRAPER

- Complete powertrain designed and manufactured by Clark
- Cummins V-504-C engine...160 flywheel horsepower
- Welded tube construction bowl with fixed moldboard
- Patented rolling floor with automatic strike-off...positive ejection
- Reversible heavy-duty, hydraulic powered planetary drive axle elevator, with variable speed forward...adjustable elevator height
- Disc brakes on all wheels...manually or automatically applied emergency brake



ENGINE

Make	Cummins
Model	V-504-C
*Maximum h.p.	183
**Flywheel h.p.	160
Governed RPM	2600
Maximum torque, ft. lbs.	388 @ 1850
(kg-m)	(53,6 @ 1850)
Bore and stroke, in.	4.62 x 3.75
(mm)	(117,48 x 95,25)
Number of cylinders	8
Displacement, cubic in.	504
(litres)	(8,26)
Electrical system (alternator)	24 volt, 30 amp

*Maximum horsepower of basic engine under S.A.E. standard J816 — barometric pressure of 29.38 in. hg. (74,61 cm hg), 85°F (29,4°C) and maximum engine speed with fuel pump, water pump and lubricating oil pump.

**Net usable horsepower at engine flywheel under S.A.E. standard J816 — barometric pressure of 29.38 in. hg. (74,62 cm hg), 85°F (29,4°C) and governed engine speed with fan, alternator, air cleaner and air compressor.

POWERTRAIN

TORQUE CONVERTER: Clark high-efficiency industrial type; single-stage with 1.82:1 torque multiplication ratio.

TRANSMISSION: Clark countershaft type powershift, with five speeds forward, one speed reverse. Travel speeds, MPH (km/hr):*

	Lo-Lo	1st	2nd	3rd	4th
Forward	2.1	4.8	10.1	17.6	31.4
	(3,4)	(7,7)	(16,3)	(28,3)	(50,5)
Reverse	—	4.8			
		(7,7)			

*Measured with 18.00-25, 12 PR (E-2) tires.

DIFFERENTIAL: Clark torque proportioning in front axle.

DRIVE AXLE: Heavy-duty Clark planetary design with cast steel housing.

PLANETARY DRIVES: Clark low-friction, roller bearing planetary in tractor wheels. Planetary units can be removed without removing wheels and brakes.

TIRES

Tubeless, nylon body 18.00-25, 12 PR (E-2)

Other tires available:

18.00-25, Radial (XRB)
23.5-25, 16 PR (E-2)
23.5-25, Radial (XRB)
23.5-25, Radial (RL-Z)

BRAKES (SAE J319b)

SERVICE: Four wheel hydraulic self-adjusting double caliper discs, 18 in. dia. (457 mm).

EMERGENCY: Spring applied, hydraulically released; on front axle input shaft. System automatically actuated by low hydraulic pressure or manually applied through dash-mounted control; audible and visual alarm.

PARKING: Spring applied, hydraulically released; on front axle input shaft.

ELEVATOR

Width	6' 5"	(1956 mm)
Length	7' 2"	(2184 mm)
Number of flights	15	

Reversible elevator with variable forward speed from 0 to 272 FPM (0 to 82,9 m/min).

HYDRAULIC SYSTEM

Fluid capacity 54 gals. (204 litres)

Closed and pressurized system; oil supplied from sturdy plate steel reservoir. Hand hole in reservoir for easy cleaning; in-reservoir magnet provides extra protection. Main and steering systems supplied by tandem pump; elevator has separate pump.

All pumps are torque converter mounted and flywheel driven.

MAIN (BOWL & EJECTOR)

Gear-type tandem pump (front section); two spool main valve located in engine compartment.

Pump capacity @ 2600 RPM	25.5 GPM	(96,5 litres/min.)
Relief Pressure	2500 PSI	(175,7 kg/cm ²)
Bowl cylinders (2, double-acting) .	4.00" dia.	(101,6 mm)
	18.00" stroke	(457,2 mm)
Ejector cylinders (2, double-acting)	4.00" dia.	(127,0 mm)
	26.00" stroke	(660,4 mm)

STEERING

Full hydrostatic power steering with hydraulic follow-up; 90° angle of steer, left and right.

Gear-type tandem pump (rear section); relief valve in valve supply line.

Pump capacity @ 2600 RPM	25.5 GPM	(96,5 litres/min.)
Relief pressure	1800 PSI	(127,6 kg/cm ²)
Steering cylinders (2, double-acting)	4.00" dia.	(101,6 mm)
	18.00" stroke	(457,2 mm)

Width required for 180° turn		
Curb-to-curb (18.00-25 tires)	27' 8"	(8,43 m)
Curb-to-curb (23.5-25 tires)	26' 6"	(8,08 m)
Wall-to-wall (23.5-25 tires)	29' 0"	(8,84 m)

ELEVATOR

Piston-type variable displacement hydrostatic pump; control valve on pump.

Pump capacity @ 2600 RPM	33.5 GPM	(126,8 litres/min.)
System pressure	5500 PSI	(386,7 kg/cm ²)

Pump supplies piston-type hydrostatic motor which powers planetary axle to drive elevator.

FILTERS: Full-flow 10 micron suction filter and full-flow 10 micron return filter.

SERVICE CAPACITIES

	U.S. Gal.	(litres)
Cooling system	11.0	(41,6)
Crankcase	7.5	(28,4)
Torque converter & transmission	9.0	(34,1)
Front axle differential	3.25	(12,3)
Front wheel hubs (each)	1.25	(4,7)
Fuel tank	80.0	(302,8)
Hydraulic reservoir	40.0	(151,4)

BOWL DIMENSIONS

Maximum depth of cut	17"	(432 mm)
Cutting edge length	7' 6"	(2286 mm)
*Cutting edge, two sections	¾" x 10" x 30"	(19 mm x 254 mm x 762 mm)
*Cutting edge, two sections	¾" x 10" x 15"	(19 mm x 254 mm x 381 mm)

*Like sections, interchangeable and reversible.

CAPACITY

Heaped capacity, cu. yds. (m³)	9.5	(7,16)
Rated load, lbs. (kg)	22,800	(10 342)

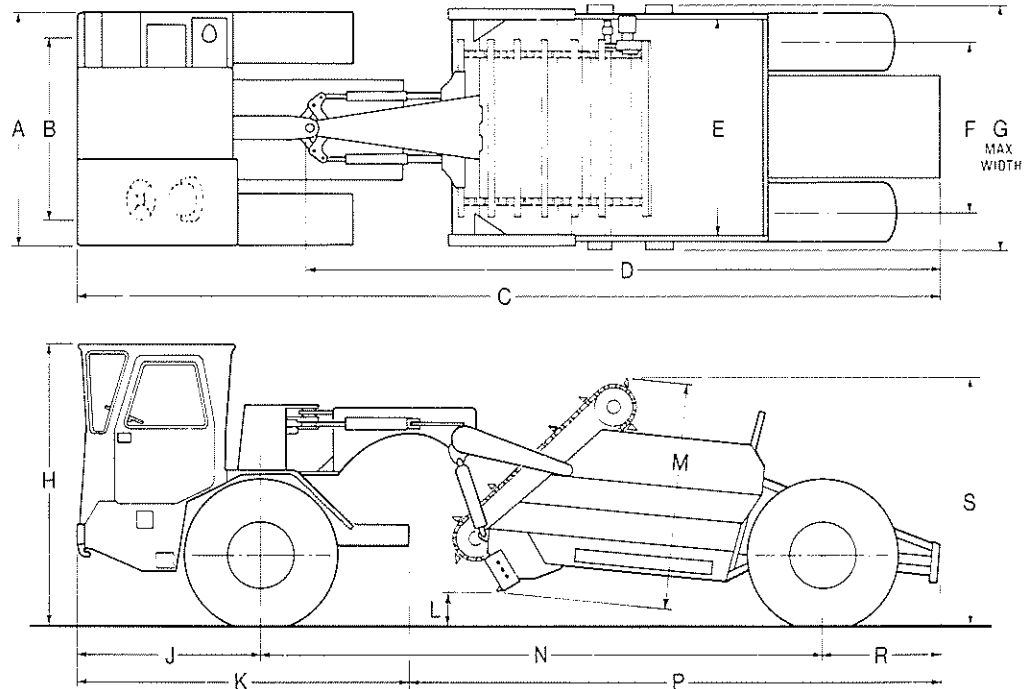
WEIGHT (Approx.)

Tractor, lbs. (kg)	12,735	(5777)
Scraper, lbs. (kg)	15,748	(7143)
Total Shipping, lbs. (kg)	28,483	(12 920)

Axle Weights

	EMPTY		LOADED
Front, lbs. (kg)	19,366	(8784)	26,667 (12 096)
Rear, lbs. (kg)	9,117	(4135)	24,616 (11 166)
Rated Load, lbs. (kg)	22,800	(10 342)	
Gross Weight, lbs. (kg)	51,283	(23 262)	

MODEL 110-9



MACHINE DIMENSIONS (with 18.00-25 Tires)

A	B	C	D	E	F	G	H*	J	K	L	M*	N*	P	R	S*
8' 0"	6' 0.5"	29' 0"	22' 4"	7' 9.5"	6' 1.5"	8' 2"	9' 6"	6' 2"	10' 11"	1' 6.5"	8' 5"	18' 9"	18' 1"	3' 11"	9' 9"
(2438 mm)	(1842 mm)	(8839 mm)	(6807 mm)	(2375 mm)	(1867 mm)	(2489 mm)	(2896 mm)	(1880 mm)	(3327 mm)	(470 mm)	(2565 mm)	(5715 mm)	(5512 mm)	(1194 mm)	(2972 mm)

*Deduct 0.8" (20,3 mm) when equipped with 23.5-25 tires.

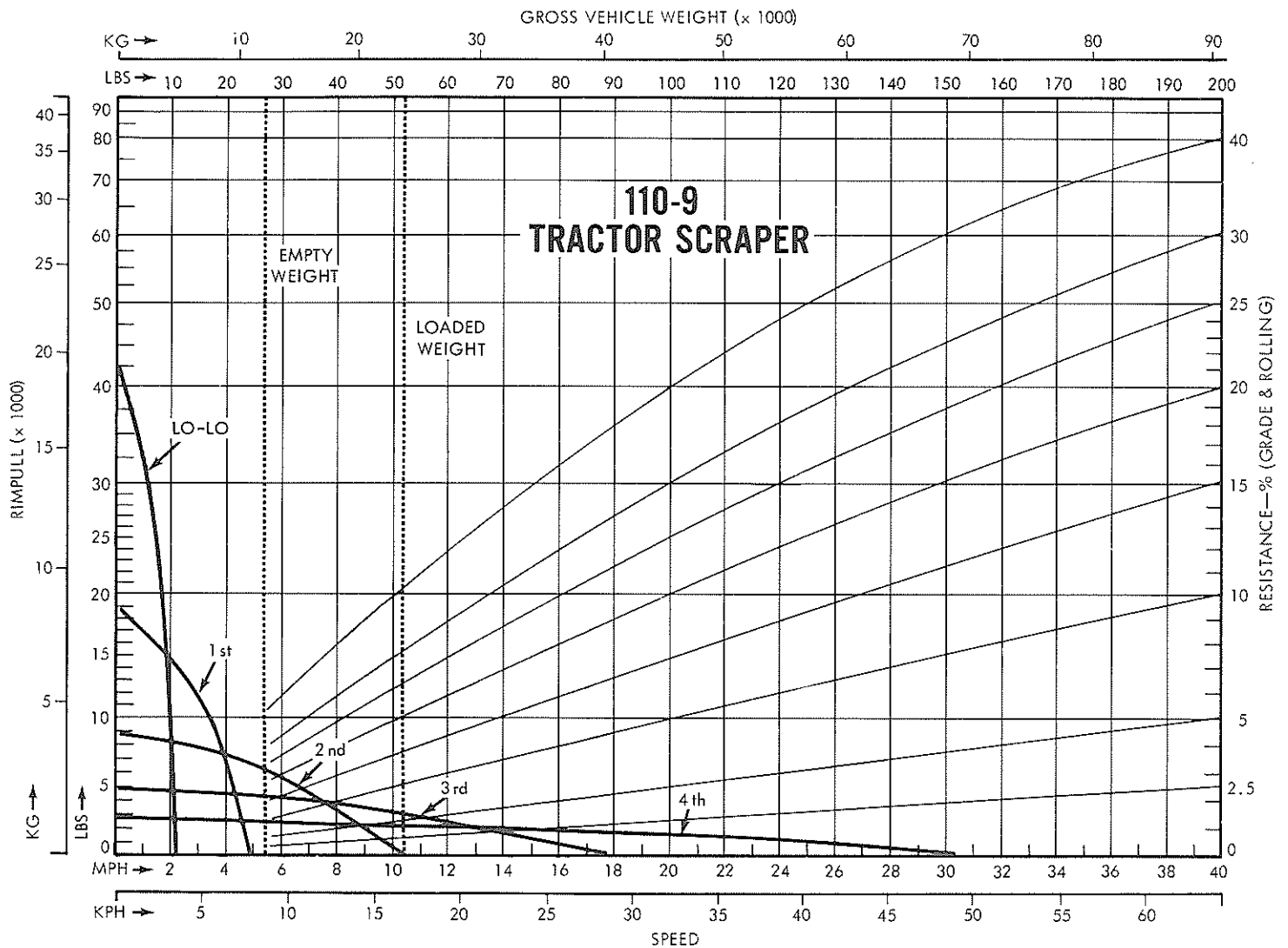
OPTIONAL EQUIPMENT

and approximate installed weights

	Lbs.	(kg)		Lbs.	(kg)
Acoustical Kit	125	(56,7)	Lights, Stop, with turn signals	10	(4,5)
Air Conditioner	125	(56,7)	Loading Light	4	(1,8)
Airdraulics Suspension Seat	100	(45,4)	Mirrors, Rearview	10	(4,5)
Cutting Edge Teeth (4)	100	(45,4)	Rock Guards, Elevator Planetary	50	(22,7)
Fenders, Rear (SAE J321a)	350	(158,8)	Tachometer	1	(0,5)
			*Transmission Guard	100	(45,4)

*Standard outside U.S.A. & Canada.

110-9 PERFORMANCE DATA



1. Determine gross scraper weight; locate on top scale.
2. Read down to % total resistance — grade plus rolling resistance.
3. From total resistance/weight intersection point, read horizontally to highest gear curve.
4. From point on gear curve, read vertically to determine maximum speed in that gear.

NOTE: Actual performance depends on traction available and weight on drive wheels.

MATERIALS AND SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE OR OBLIGATION

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CLARK Construction Machinery Division

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