EUCLID

R100

EUC R100

ENGINES

Make	Detroit Diesel	Cummins
Model	12V-149T	KTA38-C
Type	2 Cycle	4 Cycle
Aspiration	Turbo-charged	Turbo-charged Aftercooled
Rated Output (SAE)	783 kW @ 1900 rpm (1050 bhp)	783 kW @ 2100 rpm (1050 bhp)
Flywheel Output (SAE)	746 kW @ 1900 rpm (1000 bhp)	746 kW @ 2100 rpm (1000 bhp)
No. Cylinders	12	12
Bore & Stroke	146mm x 146mm (5¾" x 5¾")	159mm x 159mm (6¼" x 6¼")
Displacement	29.4 litres (1792 in³)	37.7 litres (2300 in³)
Max. Torque	4102 N•m @ 1600 rpm (3025 lb-ft)	4095 N•m @ 1500 rpm (3020 lb-ft)
Starting	Air	Air

TRANSMISSION

Allison DP-8963. Planetary type, full power shift with automatic shifting. Integral torque converter with automatic lock-up in all ranges and hydraulic retarder. Remote mounted, 6 forward speeds, 1 reverse. Allison Transmission Electronic Control (ATEC) shift system.

Maximum Speeds @ 2100 RPM Governed Engine Speed

		STANDARD 3.42:1 Diff.		OPTIONAL 3.15:1 Diff.	
Range	Gear Ratio	km/h	(mph)	km/h	(mph)
1	4.24	9.41	(5.85)	10.22	(6.35)
2	2.32	17.20	(10.69)	18.68	(11.61)
3	1.69	23.60	(14.67)	25.63	(15.93)
4	1.31	30.47	(18.94)	33.08	(20.56)
5	1.00	39.90	(24.80)	43.33	(26.93)
6	0.73	54.69	(33.99)	59.37	(36.90)
R	5.75	6.93	(4.31)	7.53	(4.68)

DRIVE AXLE

Full floating axle shafts, double reduction provided by Euclid Model 2650 differential and single reduction planetary with balanced life gears in each wheel.

Ratios	Standard	Optional
Differential	3.42:1	3.15:1
Planetary	7.41:1	7.41:1
Total Reduction	25.34:1	23.34:1
Maximum Speeds		
with 27.00-49 tires	54.7 km/h (34.0 mph)	59.4 km/h (36.9 mph)
with 30.00-51 tires	58.2 km/h (36.2 mph)	63.2 km/h (39.3 mph)

TIRES

Standard — Front and Rear	Rim Width
Goodyear 27.00-49(48)E-3	495mm (19.5")
Optional — Front and Rear	
Goodyear 30.00-51(46)E-4	559mm (22.0")

Plus optional Goodyear tire types, treads, and ply ratings.

LOAD CAPACITY

	m³	(yd³)
Struck (SAE)	35.1	(46.5)
Heap 3:1	48.5	(63.4)
Heap 2:1 (SAE)	55.0	(71.9)
Euclid Field Heap	53.1	(69.4)

Based on material density, Euclid will size an optional larger or smaller body to assure 100 short tons (91 metric tonnes) capacity. Consult Euclid's Sales Engineering Department.

WEIGHTS

	kg	(lb)
Chassis with Hoists	51,710	(114,000)
Body	15,831	(34,900)
Net Weight	67,541	(148,900)
Front Axle	32,523	(71,700)
Rear Axle	35,018	(77,200)
Payload	90,720	(200,000)
Gross Weight	158,261	(348,900)
Front Axle	55,389	(117,700)
Rear Axle	104,872	(231,200)

Options:	kg	(lb)
Body Liners, Complete: 19mm (3/4") floor, 16mm (5/8") corners, 10mm (3/8") sides, front and top rails, 6mm (1/4") canopy	7 039	(15,519)
Tires:		
27.00-49(48)E-4	1 086	(2,394)
30.00-51(46)E-4	4 387	(9,672)

STEERING

Closed center full time hydrostatic power steering system using two double acting cylinders, piston type pump and combined brake/steering system reservoir. Accumulator provides supplementary steering in accordance with SAE J53.

Steering Angle	35°
Turning Diameter (SAE)	25.0m (82'0")
Steering Pump Output (@ 2,100 rpm)	129 l/m (34 g/m)
Operating System Pressure	17 237 kPa (2,500 psi)

HOIST

Two (2) Euclid three-stage, double-acting cylinders, inverted and outboard mounted. Separate reservoir and independent gear pump. Control valve mounted on reservoir.

Body Raise Time	20 sec.
Hoist Pump Output (@ 2,100 RPM)	609 l/m (161 g/m)
System Relief Pressure	17 237 kPa (2,500 psi)

ELECTRICAL

Twenty-four volt lighting and accessories system. Seventy-five amp alternator with integral transistorized voltage regulator. Two 12 volt heavy duty batteries connected in series.

AIR SYSTEM

Compressor	
Detroit Diesel	5.66 l/s (12.0 cfm)
Cummins	5.66 l/s (12.0 cfm)
Service Air	
Pressure	860 kPa (125 psi)
Start System	
Pressure	860 kPa (125 psi)
Reservoir Capacity	453 litres (16 ft³)

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ALL HYDRAULIC BRAKING

Service
All hydraulic power braking system. Free floating, internal expanding, two shoe type with automatic adjusters. System is pressure proportional front to rear for improved slippery road condition control.

Front Size . . . . . 914mm x 216mm (36" x 8½")
Lining area per axle . . . . . 8 490cm² (1306 in²)

Rear Size . . . . . 914mm x 305mm (36" x 12")
Lining area per axle . . . . . 11 987cm² (1844 in²)

Secondary
Three independent circuits within the service brake system provide secondary stopping capability conforming to SAE J1224. System is automatically or manually applied to stop machine within prescribed braking distance.

Parking
Drum, two shoe internal expanding type mounted behind transmission around driveline. Manually controlled from instrument panel. Automatically applied if air pressure is lost.

Size . . . . . 438mm x 102mm (17¼" x 4")
Lining Area . . . . . 1 226cm² (190 in²)

Retarder
Foot operated valve allows operator to control oil flow into paddlewheel type retarder integral with transmission housing. Provides constant speed control on downhill hauls. Retarder is automatically applied in the event air pressure is lost.

Maximum retarding output (includes engine friction hp)
@ 2,200 rpm . . . . . 1486 kW (1991 bhp)

The Euclid R100 is equipped with an all hydraulic actuated braking system providing increased braking force and quick system response. A primary accumulator stores oil under sufficient pressure so that 100% braking pressure is always available.

The main valves in the all hydraulic brake system are conveniently located at shoulder height on the forward left hand frame rail. The placement of this valve package enhances serviceability as all pressure checks and system troubleshooting can be made at this central location. Steel tubing is used to eliminate line swell and ruptures commonly associated with hose assemblies. Sheet metal guards protect the valve package and steel tubing.

The R100 brake system is pressure proportioned, front to rear, for improved slippery road control, and features automatic adjusters. Three independent hydraulic circuits within the service braking system and dual emergency accumulators provide emergency stopping capability conforming to SAE J1224. The Euclid R100 has been designed with a simplified, easier to maintain brake system that provides superior stopping capability.

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STANDARD EQUIPMENT

General

Air cleaner guards
Air horns, dual
Allison Transmission Electronic Control (ATEC)
Body down indicator, mechanical
Body prop cable
Fan guard
Fully hydraulic brake system
Ground level air start charge line
Guard rails around platform
Mirrors, right and left
Moisture ejector (air reservoir)
Mud flaps
Nitrogen/oil suspension
Operator arm guard
Radiator grille guard
Reverse alarm
Rock ejector bars
Supplementary steering system, accumulator
Tow hooks, front

Cab

Ash tray
Cab interior light
Cigar lighter
Fold-down service tray
Full electrical terminal block
Heater and defroster
Load and hold switch
Operator seat, air ride
Operator seat belt
Passenger seat and belt
Rubber floor mat
Sun visor
Tilt steering wheel
Tinted glass, all windows
Windshield washer
Windshield wiper

Gauges and Indicators

Air cleaner restriction gauge
Air pressure gauge
Brake/steering pressure gauge
Clutch pressure gauge
Converter lock-up indicator light
Converter oil temperature gauge
Coolant temperature gauge
Engine oil pressure gauge
Gauge lights switch
High beam indicator light
Hourmeter
Hydraulic filter restriction indicator light
Parking/load and hold brake indicator light
Rear brake malfunction indicator light
Speedometer
Steer system malfunction indicator light
Steering filter restriction indicator light
Tachometer
Transmission oil level sight gauge
Voltmeter

Machine Lights

Back-up light
Clearance lights
Dual combination stop and tail lights
Engine compartment light
Headlights, four
Turn signals and four-way flasher

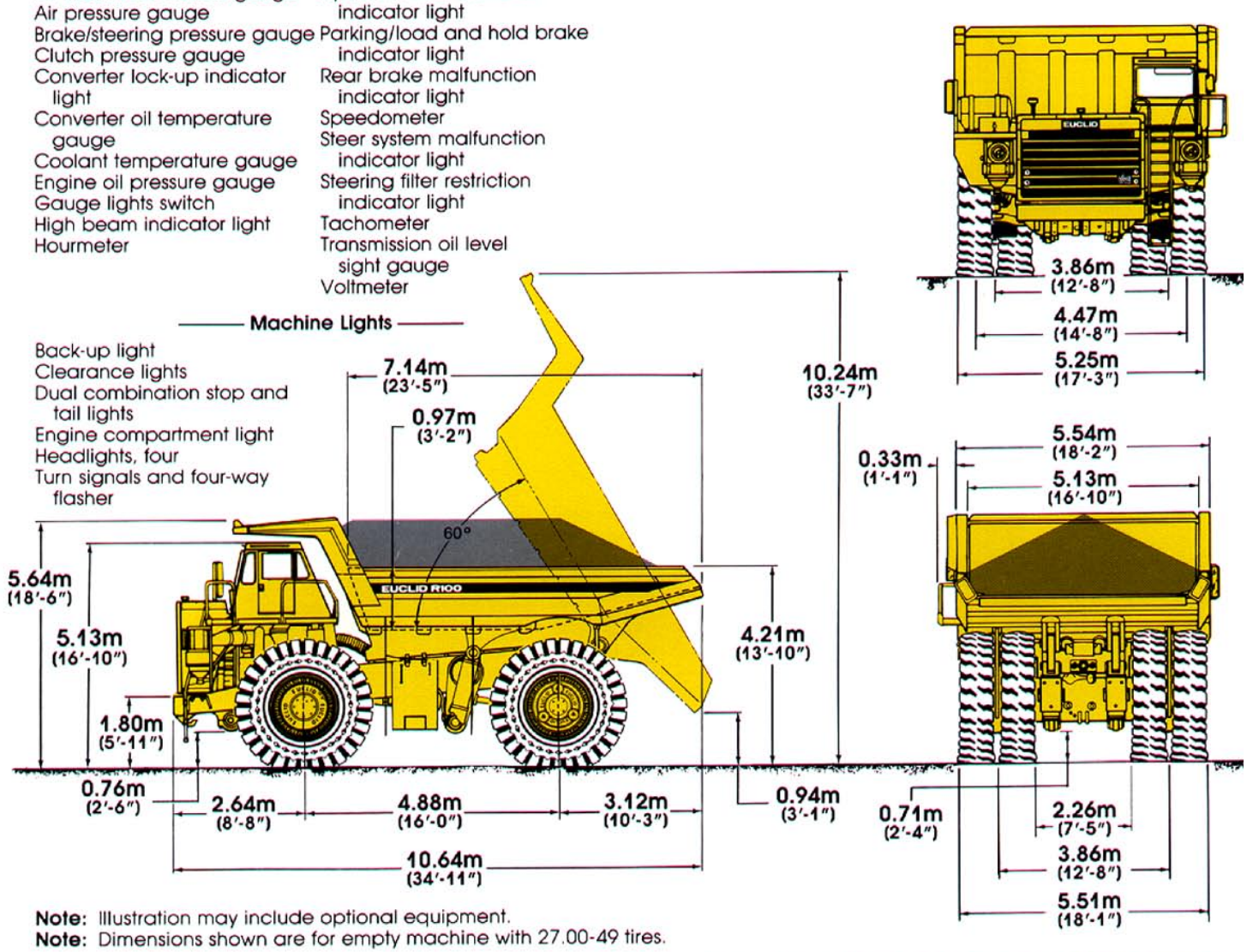
OPTIONAL EQUIPMENT

Air conditioner
Air dryer
Alarm system, four function (low oil pressure, high coolant temperature, low coolant level, high conv. temperature)
Alcohol vaporizer
Body liner plates
Canopy spill guard extension
Centralized lube
Centralized service
Cold starting aid
Differential, 3.15 ratio
Differential, no spin
Electric start
Fast fueling system (Wiggins)
Field repairable core radiator
Fuel gauge
Hubodometer
Kim Hotstart
Lube system, automatic
Tachograph, 24 hr. recording

Standard and optional equipment may vary from country to country.

Special options provided on request. Consult Euclid Sales Engineering Department.

Product improvement is a continuing Euclid project. Therefore, all specifications are subject to change without notice.



Note: Illustration may include optional equipment.
Note: Dimensions shown are for empty machine with 27.00-49 tires.

The Euclid Field Heap illustrated above maintains a 2:1 heap ratio from the floor/tail chute junction to the peak of the load profile. The SAE 2:1 heap ratio is actually a 1:1 heap ratio from floor/tail junction to the top body edge, then switches to a 2:1 heap ratio to the load peak. The Euclid Field Heap is more representative of field loading practices and payload distribution. Euclid body capacity ratings are based on the field heap philosophy.

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FRAME

Box section main rails bridged by three cross members, front bumper and front suspension tube. Rail depth is constant taper, rear to front. Two rear cross members are castings, 655 N/mm² (95,000 psi) yield strength with integral body, suspension and drive axle mountings. Cross members to frame rail junctions use large radii to minimize stress. Frame utilizes 689 N/mm² (100,000 psi) yield strength alloy steel.

SUSPENSION SYSTEM

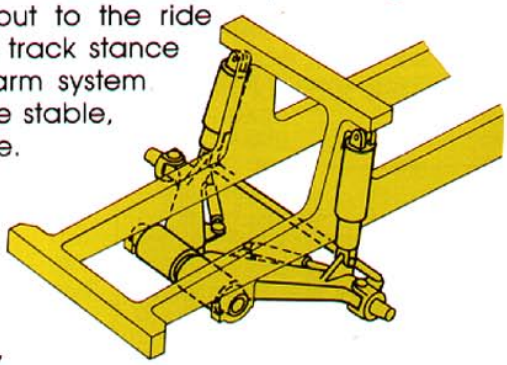
Front Suspension

Independent trailing arm for each front wheel. Nitrogen/oil suspension cylinders are mounted between trailing arm and frame. Rebound feature included.

Rear Suspension

"A" frame structure integral with axle housing links drive axle to frame at forward center point with pin and spherical bushing. Track rod provides rear link between frame and drive axle. Rear mounted nitrogen/oil suspension cylinders suspend drive axle from frame. Rebound feature included.

The unique trailing arm front suspension absorbs haul road input and provides independent tire action, minimizing suspension-induced frame twisting. Pivot mounting of the front ride strut cylinders limits cylinder wall stress by assuring a purely axial input to the ride struts. The wide track stance of the trailing arm system provides a more stable, comfortable ride.



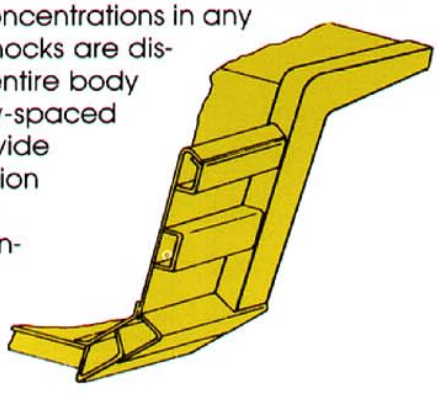
BODY

Transverse "V" floor, sloped tailchute, continuously exhaust heated. High yield strength 689 N/mm² (100,000 psi) alloy steel used in thickness of:

Floor	19mm (3/4")
Front	10mm (3/8")
Sides	10mm (3/8")
Canopy	5mm (3/16")

High yield strength 689 N/mm² (100,000 psi) alloy steel used for canopy side members and floor stiffeners. Body is rubber cushioned on frame.

The horizontal stiffener design of the Euclid body minimizes stress concentrations in any one area. Load shocks are dissipated over the entire body length. The closely-spaced floor stiffeners provide additional protection by minimizing distances between unsupported areas.



SERVICE CAPACITIES

	litres	(gallons)
Crankcase (Incl. filters)		
Detroit Diesel	128.7	(34.0)
Cummins	151.4	(40.0)
Transmission	113.6	(30.0)
Cooling System	321.7	(85.0)
Fuel Tank	1 230.1	(325.0)
Hydraulic		
Hoist Tank	503.5	(133.0)
Steering Tank	151.4	(40.0)
Drive Axle	193.0	(51.0)

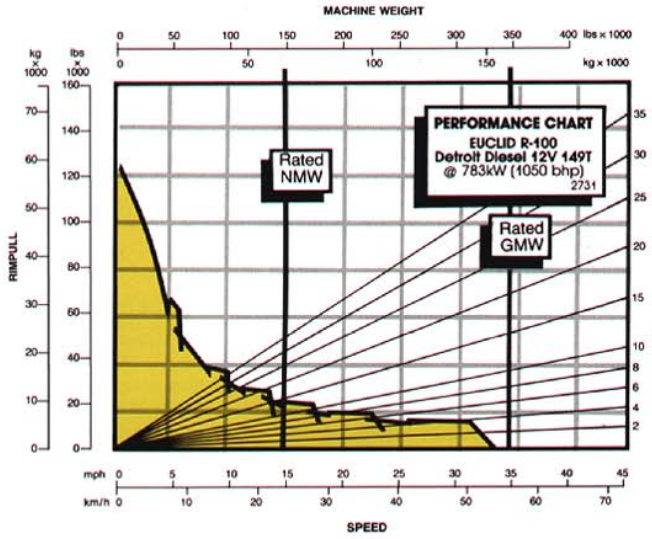
COMMAND CAB II

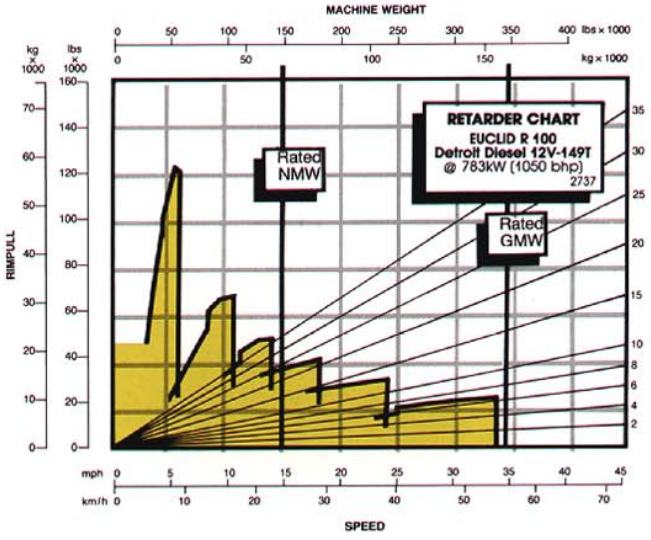
Structurally Sound. Command Cab II, double wall construction of 11 gauge inner and outer steel panels lends itself to a more structurally sound cab. Foam rubber lining material along with foam rubber backed carpeting and multiple layered floor mat act to absorb sound and control interior temperature. A three-point rubber iso-mount arrangement to the deck surface minimizes vibration to the operator's compartment.

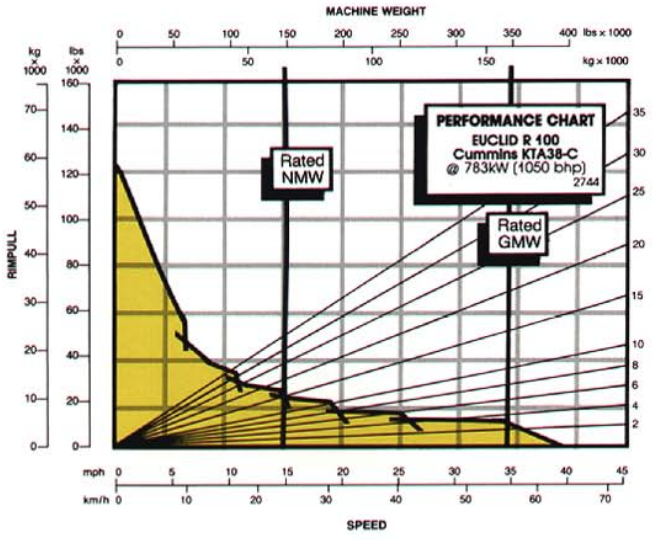
Ease of Operation and Systems Monitoring. A wrap-around style dashboard positions the controls within easy reach and visual contact. A full compliment of easy to read, color banded gauges with international symbols and centrally positioned tachometer, speedometer and bank of warning lights provide the operator information required to safely pilot the machine.

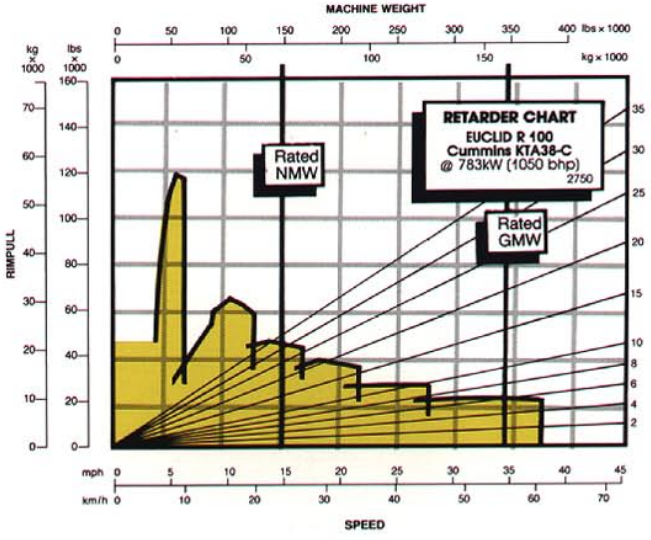
Excellent Serviceability. A removable front closure allows easy access to electrical components, brake master cylinder, retarder valve, and washer bottle. All electrical junction points are located in the front compartment. The filter is located to the side of the cab and servicing requires the removal of only two bolts. The upper dash utilizes four (4) removable panels to house gauges and customer options. Each panel is individually removed from inside the cab and only those requiring service need to be removed.

Designed for Operator Comfort. Command Cab II standard equipment includes the Isringhausen six-way adjustable air seat, tilt steering wheel, filtered ventilation and a fully upholstered trainers seat that folds down to reveal a tray for lunch boxes and other gear.









INSTRUCTIONS:

Diagonal lines represent total resistance (Grade % plus rolling resistance %). Charts based on 0% rolling resistance, standard tires and gearing unless otherwise stated.

1. Find the total resistance on diagonal lines on right-hand border of performance or retarder chart.
2. Follow the diagonal line downward and intersect the NMW or GMW weight line.
3. From intersection, read horizontally right or left to intersect the performance or retarder curve.
4. Read down for machine speed.

NOTE: Dotted line on retarder chart represents optional extended range dynamic retarding.

Units shown may include optional equipment.

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