



# EUCLID

## R-50





# EUC R-50

## ENGINES

Make	Detroit Diesel	Cummins	Cummins
Model	16V-71N	VT-1710-C	KTA-1150-C
Type	2 Cycle	4 Cycle	4 Cycle
Aspiration	Natural	Turbo-Charged	Turbo-Charged
Rated Output (SAE)	453 kW @ 2100 rpm 608 bhp	473 kW @ 2100 rpm 635 bhp	448 kW @ 2100 rpm 600 bhp
Flywheel Output (SAE)	430 kW @ 2100 rpm 576 bhp	452 kW @ 2100 rpm 606 bhp	423 kW @ 2100 rpm 571 bhp
Number Cylinders	16	12	6
Bore & Stroke	108mm x 127mm 4¼" x 5"	139mm x 152mm 5½" x 6"	159mm x 159mm 6¼" x 6¼"
Displacement	18.6 litres 1136 in <sup>3</sup>	28.0 litres 1710 in <sup>3</sup>	18.9 litres 1150 in <sup>3</sup>
Maximum Torque	2170 N•m @ 1600 rpm 1600 lb-ft	2369 N•m @ 1500 rpm 1747 lb-ft	2238 N•m @ 1600 rpm 1650 lb-ft
Starting	Air	Air	Air

## TRANSMISSION

Allison CLBT-6061. Planetary type, full electric power shift. Integral torque converter with automatic lock-up in all ranges and hydraulic retarder. Remote mounted, 6 forward speeds, 1 reverse.

## DRIVE AXLE

Full floating, double reduction provided by Euclid Model 2350 differential and single reduction planetary with balanced life gears in each wheel.

Ratios	Standard	Optional
Differential	3.73:1	3.15:1
Planetary	5.80:1	5.80:1
Total Reduction	21.63:1	18.27:1
Maximum Speeds		
21.00-35	53.9 km/h 33.5 mph	63.9 km/h 39.7 mph
24.00-35	56.4 km/h 35.1 mph	66.9 km/h 41.5 mph

## TIRES

Standard	Rim Width
Front & Rear 21.00-35 (32PR) E-3	381 mm (15")
Optional	
Front & Rear 24.00-35	432 mm (17")
Plus tire types, treads and ply ratings	

## BODY

Chute type, front floor horizontal with transverse "V"; flat sloped rear floor, closed loop exhaust heated. High yield strength 689 N/mm<sup>2</sup> (100,000 psi) alloy steel used in thickness of:

Floor	19 mm (¾")
Front	10 mm (⅜")
Sides	10 mm (⅜")
Canopy	5 mm (⅜")

High yield strength 551 N/mm<sup>2</sup> (80,000 psi) alloy steel used for canopy side members, floor and side stiffeners. Body is rubber cushioned on frame.

## CAPACITY

Struck (SAE)	23.5 m <sup>3</sup> (30.8 yd <sup>3</sup> )
Heap 3:1	29.0 m <sup>3</sup> (37.9 yd <sup>3</sup> )
Heap 2:1 (SAE)	31.7 m <sup>3</sup> (41.4 yd <sup>3</sup> )
Euclid Field Heap	30.1 m <sup>3</sup> (39.3 yd <sup>3</sup> )

## 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 with integral body suspension and drive axle mountings. Cross member to frame junctions use large radii to minimize stress. Frame utilizes 310 N/mm<sup>2</sup> (45,000 psi) yield strength alloy steel.



# EUC R-50

## SUSPENSION

### Front

Independent trailing arm for each front wheel. Ride struts containing variable rate energy absorbing rubber elements are mounted between trailing arm and frame. Rebound feature included.

"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. Rearward mounted ride struts containing variable rate energy absorbing rubber elements suspend drive axle from frame. Rebound feature included.

## STEERING

Open-center hydraulic system with separate reservoir. Hydrostatic power steering using dual, double acting cylinders and independent gear pump.

Steering Angle	39°
Turning Circle (SAE)	18.8 m (61'8")
Steering Pump Output (@ 2100 rpm)	90.8 l/m 24 g/m
System Relief Pressure	13 790 kPa 2,000 psi

## AIR SYSTEM

<b>Compressor</b>	w/Detroit Diesel	5.66 l/s (12.0 cfm)
	w/Cummins	6.23 l/s (13.2 cfm)
<b>Service Air</b>	Pressure	860 kPa (125 psi)
	Reservoir Cap.	147.0 litres (5.2 ft <sup>3</sup> )
<b>Start System</b>	Pressure	860 kPa (125 psi)
	Reservoir Cap.	282.0 litres (10.0 ft <sup>3</sup> )

**Warning** Wig-wag alarm in cab activated when pressure drops to 620 kPa (90 psi)

## ELECTRICAL

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

## SERVICE CAPACITIES

	litres	gal
Crankcase (incl. filters)		
Detroit Diesel	61.0	16.0
Cummins	72.0	19.0
Transmission (incl. filters)	95.0	25.0
Cooling System		
Detroit Diesel	163.0	43.0
Cummins	183.6	48.5
Fuel Tank	700.0	185.0
Hydraulic		
Hoist Tank	148.0	39.0
Steering Tank	98.0	26.0
Drive Axle	50.0	13.3

## BRAKES

### Service

Air/oil activated. Two calipers per disc, front and rear. Calipers are internally ported, each containing three pairs of opposing pistons.

### Front Axle

(X2) Disc Diameter Each	68.6 cm	27 in
(X8) Lining Area Each	241.9 cm <sup>2</sup>	37.5 in <sup>2</sup>
Brake Pressure (Max)	15 859 kPa	2,300 psi

### Rear Axle

(X2) Disc Diameter Each	71.1 cm	28 in
(X8) Lining Area Each	241.9 cm <sup>2</sup>	37.5 in <sup>2</sup>
Brake Pressure (Max)	15 859 kPa	2,300 psi

### Emergency

Two independent circuits within the service brake system provide emergency stopping capability conforming to SAE J1224. System is manually or automatically applied to stop vehicle within prescribed braking distance.

### Parking

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

Size	305 mm x 127 mm	12" x 5"
Lining Area	970 cm <sup>2</sup>	150 in <sup>2</sup>

### Retarder

Foot operated valve controls oil flow into paddle-wheel 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) @ 2,250 rpm ..... 702 kW 941 hp

## HOIST

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

Dump Angle	60°
Body Raise Time	18 sec
Hoist Pump Output (@2,100 rpm)	265 l/m 70 g/m
System Relief Pressure	17 237 kPa 2,500 psi

## CAB

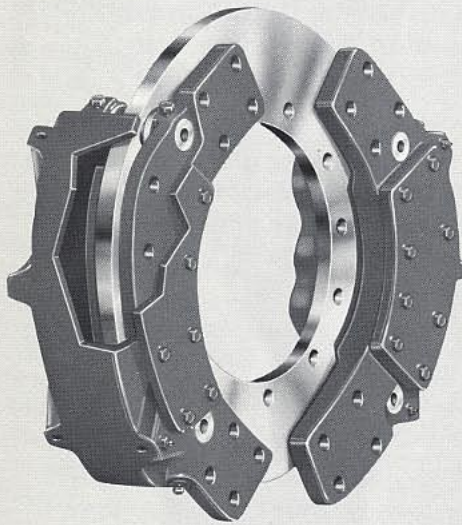
Euclid designed 142 cm (56") wide all steel cab offset to the left and three point rubber mounted to isolate the operator from vibration. Safety glass throughout, tinted windshield with 5° slant. Fully insulated for noise and temperature control. Fresh air pressurized, ventilators seal out dust. Ladder and catwalk entry. The R-50 is designed and originally manufactured to meet OSHA sound limitations at the operator's station with windows and vents closed under normal conditions.



# EUC R-50

## DRY DISC BRAKE

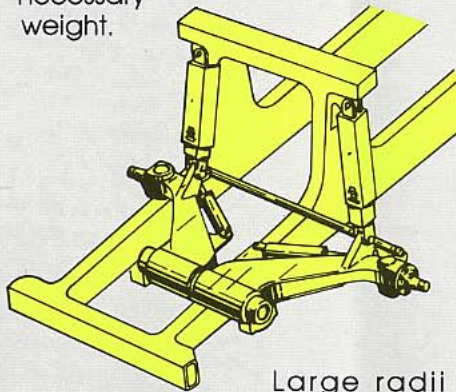
Dry disc brakes continue the Euclid philosophy of high performance, lower cost and reduced maintenance. In this brake, design simplicity is the key phrase, where fewer parts performing fewer functions combine in a brake with low cost, reduced incidence of failure because of fewer components, while easily exceeding industry braking standards.



The dry disc brake features several unique characteristics. It has torque input directly proportional to brake pedal input. It exhibits high fade resistance and positive self-adjustment features. Lastly, because it is a simpler system, it is easier to maintain. Less down time means greater production and lower cost per ton.

## FRAME/SUSPENSION SYSTEM

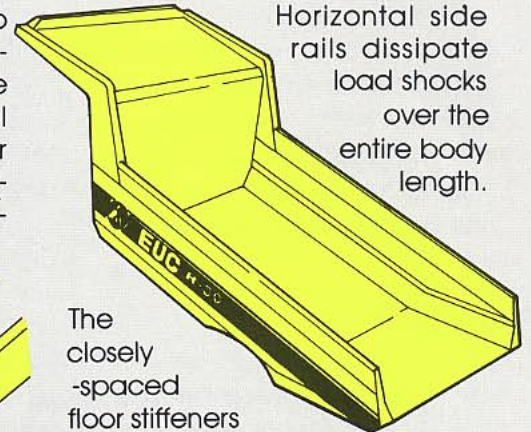
The Euclid frame and suspension are designed to work in unison to provide maximum structural integrity and operator comfort. The tapered box beam frame rail construction provides superior resistance to bending and torsional loads while eliminating unnecessary weight.



Large radii and advanced blending techniques are utilized throughout the frame, minimizing stress concentrations. The unique trailing arm front suspension absorbs haul road input, minimizing suspension-induced frame twisting while providing independent tire action. Ride struts are mounted with spherical bushings, eliminating extreme side-wall forces by insuring a purely axial input to the ride strut. The wide tract stance of the trailing arm design assures a more stable, comfortable ride.

## BODY

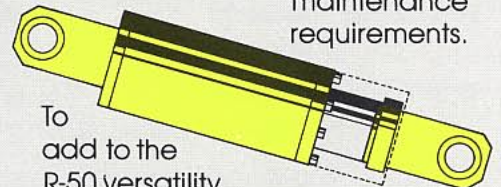
The horizontal stiffener design of the Euclid body is specifically designed to minimize stress concentrations in any one area. Horizontal side rails dissipate load shocks over the entire body length.



The closely spaced floor stiffeners provide additional protection by minimizing distances between unsupported areas.

## SUSPENSION OPTIONS

The R-50 offers rubber element ride struts as standard equipment. These struts provide a stable, comfortable ride and low maintenance requirements.



To add to the R-50 versatility, nitrogen/oil suspension cylinders are available as optional equipment. These struts are interchangeable with the rubber struts and provide excellent ride characteristics.

## WEIGHTS

	kg	lb
Chassis with Hoists	24 823	54,725
Body	10 138	22,350
Net Weight	34 961	77,075
Front Axle	17 067	37,625
Rear Axle	17 895	39,450
Payload	45 360	100,000
Gross Weight	80 321	177,075
Front Axle	27 205	59,975
Rear Axle	53 117	117,100

### Options:

	kg	lb
Body Liners, 3/8" floor, 1/4" front, sides, and top rails; 1/4" canopy	2 699	5,950
Body Liners, 3/4" floor, 3/8" fronts, sides, and top rails, 1/4" canopy	4 536	10,000
Body Top Extensions (4 cu. yd.)	481	1,060

### Tires:

21.00-35 (36 PR) E-4	604	1,332
24.00-35 (36 PR) E-3		
Rock Tread	1 089	2,400
24.00-35 (36 PR) E-4		
Extra Rock Tread	1 717	3,786



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## STANDARD EQUIPMENT

### General

Air horns, dual  
Body down indicator,  
mechanical  
Body prop cable  
Fan guard  
Mirrors, right and left

### Cab

Ash tray  
Cab interior light  
Cigar lighter  
Downshift inhibitor  
Electric shift control  
Hand control valve  
for rear brakes  
Heater and defroster  
Grille guard

### Gauges and Indicators

Air cleaner restriction  
indicator light  
Ammeter  
Clutch pressure gauge  
Converter oil temp. gauge  
Converter lock-up  
indicator light  
Coolant temperature gauge  
Engine oil pressure gauge  
Gauge lights rheostat  
High beam indicator light

### Vehicle Lights

Dual combination stop  
and taillights  
Back-up lights  
Headlights, four

Mud flaps  
Operator arm guard  
Reverse alarm  
Rock ejector bars  
Supplementary steering

Operator seat, air ride  
Operator seat belt  
Passenger seat  
Rubber floor mat  
Sun visor  
Wig-wag low air  
pressure alarm  
Windshield washers  
Windshield wipers

Hydraulic filter restriction  
indicator light  
Parking/hand brake applied  
indicator light  
Rear brake malfunction  
indicator light  
Service air pressure gauge  
Speedometer  
Steering filter restriction  
indicator light  
Tachometer and hourmeter

## OPTIONAL EQUIPMENT

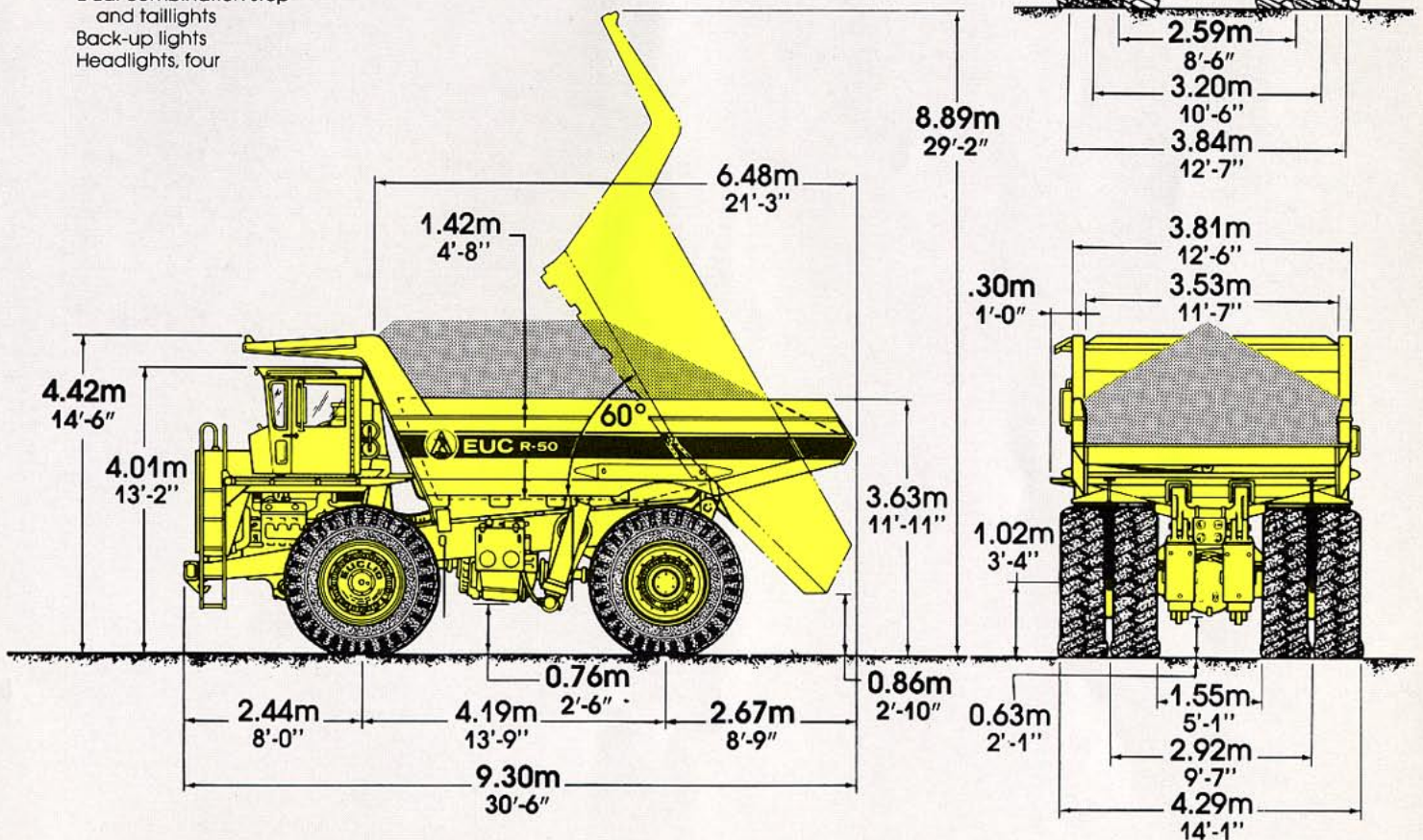
Air conditioning  
Alcohol vaporizer  
Automatic electric shift  
Body liner plates  
Brake guards  
Canopy spill guard  
Cold starting aid  
Differential, no spin  
Differential ratio, 3.15:1  
Electric start  
Guard rails

Hoodsides  
Hubodometer  
Lube system, automatic  
Multifunction alarm systems  
Nitrogen/oil suspension  
Passenger seat belt  
Radiator shutters  
Sideboard extensions  
Tachograph  
Thermatic fan (DD 16V-71N only)  
Transmission guard

Standard and optional equipment may vary from country to country.

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

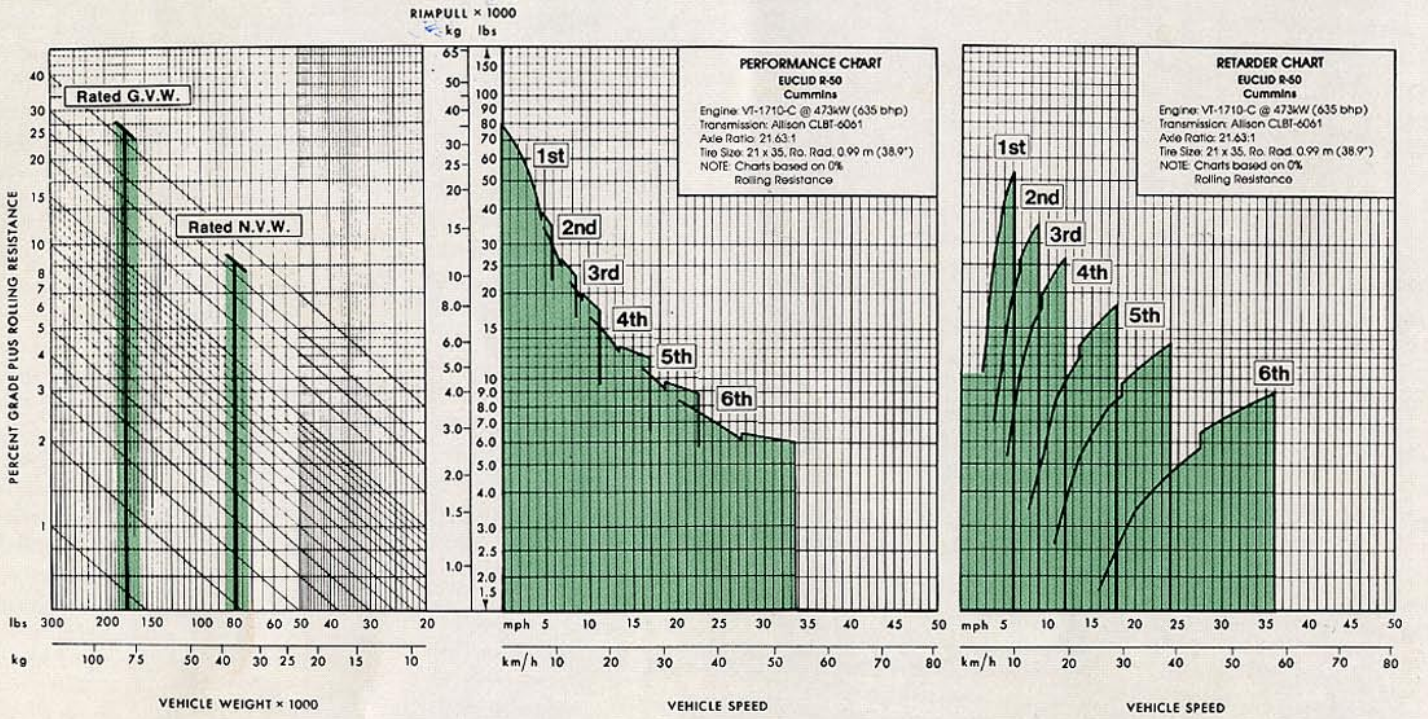
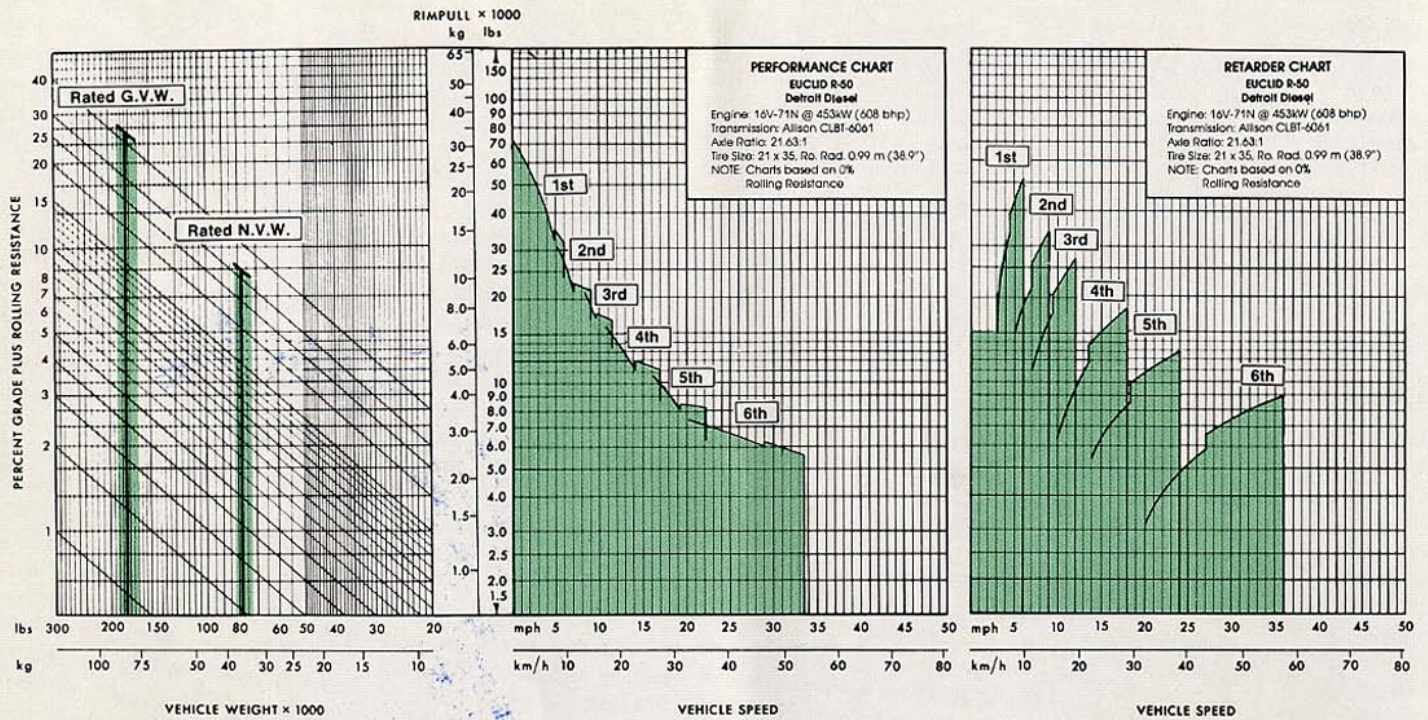
Product improvement is a continuing Euclid project. Therefore, all specifications are subject to change without notice.



The Euclid Field Heap illustrated in the side view 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.



# EUC R-50



- INSTRUCTIONS**
1. FIND TOTAL RESISTANCE ON LEFT VERTICAL SCALE
  2. READ DOWN SLANTED LINE TO VEHICLE WEIGHT LINE
  3. FROM INTERSECTION READ HORIZONTALLY TO THE RIGHT TO INTERSECTION WITH PERFORMANCE OR RETARDER CURVE
  4. READ DOWN FOR VEHICLE SPEED



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