Euclid R35

MAXIMUM GMW
66 200 KG (146,000 LBS)

PAYLOAD RANGE
31,75 TO 36,6 TONNES
(35.0 TO 40.3 TONS)

WET DISC BRAKES

TWO MAN INTEGRAL ROPS/FOPS CAB

HIGH HARDNESS, HIGH STRENGTH STEEL BODY

ALLISON TRANSMISSION ELECTRONIC CONTROL

NEOCON SUSPENSION

TWO AVAILABLE DIFFERENTIAL RATIOS

SEPARATE HYDRAULIC RESERVOIRS FOR STEERING, BRAKE COOLING AND HOIST, TRANSMISSION

EUCLID

ENGINE

Make			**Cummins**	
Model			KT19-C	
Type			4 Cycle	
Aspiration			Turbocharged	
Rated Output				
(SAE @ 2100 rpm)	kW	**bhp**	336	**450**
Flywheel Output				
(SAE @ 2100 rpm)	kW	**bhp**	321	**430**
No. Cylinders			6	
Bore & Stroke	mm		159 x 159	
	in		**6 1/4 x 6 1/4**	
Displacement	liters	**in³**	18.8	**1150**
Max. Torque @ 1300 rpm	N•m	**lb ft**	1906	**1,406**
Starting	Electric			

TRANSMISSION

Allison CLT-5962, Planetary type, full automatic shift. Integral torque converter with automatic lock-up to lock-up shifting in all ranges. Remote mounted, 6 forward speeds, 1 reverse. Allison Transmission Electronic Control shift system.

Maximum Speeds @ 2100 rpm Governed Engine Speed

		Standard		Optional	
	Gear	3.13:1 Differential		2.81:1 Differential	
Range	Ratio	km/h	mph	km/h	mph
1	4.00	9,57	**5.95**	10,66	**6.63**
2	2.68	14,29	**8.88**	15,92	**9.89**
3	2.01	19,05	**11.84**	21,22	**13.19**
4	1.35	28,37	**17.63**	31,60	**19.64**
5	1.00	38,30	**23.80**	42,66	**26.51**
6	0.67	57,16	**35.52**	63,67	**39.57**
R	5.12	7,48	**4.65**	8,33	**5.18**

DRIVE AXLE

Full floating axle shafts, double reduction provided by Euclid Model 2052 differential and single reduction planetary with balanced life gears in each wheel.

Ratios	**Standard**	**Optional**
Differential	3.13:1	2.81:1
Planetary	6.00:1	6.00:1
Total Reduction	18.78:1	16.86:1
Maximum Speeds		
with 18.00-33 Tires	km/h 57,2	km/h 63,7
	mph 35.5	**mph 39.6**

TIRES

Standard - Front and Rear	**Rim Width**
Goodyear 18.00-33(28)E-3	mm **in** 330 **13**

Plus optional Goodyear tire types, treads and ply ratings.

ELECTRICAL SYSTEM

Twenty-four volt lighting and accessories system. 75 amp alternator with integral transistorized voltage regulator. Two 12 volt heavy duty batteries connected in series.

LOAD CAPACITY

	m³	yd³
Struck (SAE)	17,0	**22.2**
Heap 3:1	21,2	**27.7**
Heap 2:1 (SAE)	23,3	**30.5**
Payload	Tonne	**Ton**
From	31,75	**35.0**
Maximum	36,6	**40.3**

WEIGHTS

	kg	lb
Chassis with Hoist	22 317	**49,200**
Body	7 212	**15,900**
*Net Machine Weight	29 529	**65,100**
Front Axle	14 437	**31,828**
Rear Axle	15 092	**33,372**
Maximum GMW with Selected Tires		
18.00-33(28)E-3		
Maximum Gross Machine Weight	63 220	**139,380**
*Net Machine Weight	29 529	**65,100**
Maximum Payload	33 693	**74,280**
18.00-33(32)E-3		
Maximum Gross Machine Weight	66 220	**146,000**
*Net Machine Weight	29 665	**65,400**
Maximum Payload	36 560	**80,600**
18.00-R33 RL3		
Maximum Gross Machine Weight	66 200	**146,000**
*Net Machine Weight	30 338	**66,882**
Maximum Payload	35 888	**79,118**

Machine weight based on 50% fuel
Maximum gross machine weight not to exceed 66 200 kg **146,000 lbs** including options, fuel and payload.

Options/*Approximate Change in Net Machine Weight

Body Liners, 400 BHN Steel, Complete:		
10 mm **3/8"** floor, 6 mm **1/4"** corners,		
6 mm **1/4"** sides, front		
6 mm **1/4"** canopy, 10 mm **3/8"** top rails	2 340	**5,160**
Body Liners, 400 BHN Steel, Complete:		
13 mm **1/2"** floor, 13 mm **1/2"** corners,		
8 mm **5/16"** sides, front		
6 mm **1/4"** canopy, 10 mm **3/8"** top rails	3 080	**6,790**

STEERING SYSTEM

Closed-center hydraulic system with separate reservoir. Hydrostatic power steering using two double-acting cylinders and independent gear pump. Supplementary steering provided by electric motor/pump in accordance with SAE J53 and ISO 5010.

Steering Angle				**42°**
Turning Circle (SAE)	m	**ft in**	16,15	**53'0"**
Steering Pump Output (@ 2100 rpm)	l/m	**gpm**	125	**33**
System Relief Pressure	kPa	**psi**	13 790	**2000**

HYDRAULIC SYSTEM

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

Body Raise Time	s		11	
Brake Cooling Pump Output (@ 2100 rpm)	l/m	**gpm**	197	**52**
Hoist Pump Output (@ 2100 rpm)	l/m	**gpm**	299	**79**
System Relief Pressure	kPa	**psi**	17 237	**2500**

AIR

Compressor				
Cummins	l/s	**cfm**	6.2	**13.2**
Service Air				
Pressure	kPa	**psi**	862	**125.0**
Reservoir Capacity	liters	**ft³**	150	**5.3**

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

BRAKE SYSTEM

Service
Air/oil actuated front disc brakes with one caliper per front disc. Calipers are internally ported, each containing three pairs of opposing pistons. Rear brakes are oil-cooled wet discs. Provide stopping capability conforming to SAE J1473 and ISO 3450.

Front Axle - BFGoodrich Dry Disc				
Disc Diameter Each	cm	**in**	63.5	**25**
Braking Surface	cm²	**in²**	3870	**600**
Lining Area Per Axle	cm²	**in²**	968	**150**
Brake Pressure (Max.)	kPa	**psi**	14 273	**2070**

Rear Axle - VME Oil-Cooled Wet Discs				
Brake Surface Area Per Axle	cm²	**in²**	37 318	**5784**
Brake Pressure (Max.)	kPa	**psi**	6 895	**1000**

Secondary
Two independent circuits within the service brake system provide emergency stopping capability conforming to SAE J1473 and ISO 3450. System is manually or automatically applied to stop vehicle within prescribed braking distance.

Parking
Drum, two shoe internal expanding type mounted behind transmission. Spring applied, manually controlled from instrument panel. In accordance with SAE J1473 and ISO 3450.

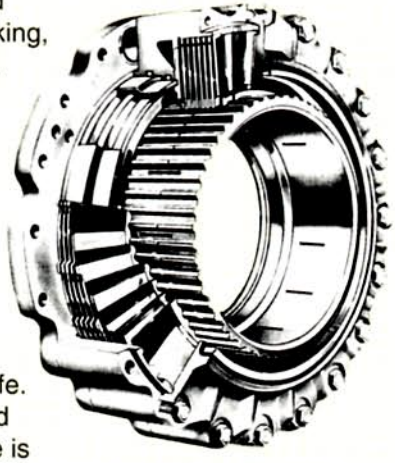
Size	mm	**in**	305 x 127	**12" x 5"**
Lining Area	cm²	**in²**	968	**150**

Retarder
Foot operated valve controls air/oil actuation of oil-cooled wet disc brakes on rear axle.

Capacity (continuous)	kW	**hp**	434	**582**

WET DISC BRAKE

The Euclid designed wet disc brake is engineered for long service life even in the most extreme environments. The wet disc brakes are located on the rear axle and provide service braking, emergency braking, and retarding. The brakes are of a multi-plate design, constantly oil-cooled. The sealed design protects against environmental contamination for prolonged service life. Both application and release of the brake is accomplished through a hydraulically controlled piston. This simplified system does not require springs or other mechanical components, resulting in reduced maintenance.



As a service brake, it incorporates VME's philosophy of system separation; service brake actuation is totally separate from retarder actuation. Both service braking and retarder functions are accomplished utilizing separate pedals. This allows the operator to activate the brakes or the retarder without removing his hands from the steering wheel.

The R35 utilizes dry disc front brakes in conjunction with the wet disc rear brakes for proportioned braking action.

FRAME

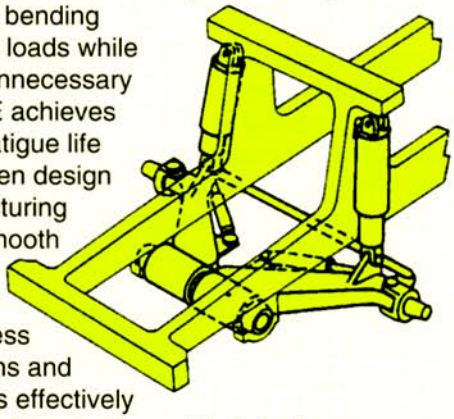
Box section main rails bridged by three cross members, front bumper and front suspension tube. Rail depth is constant taper rear to front. Two rear cross members are castings with integral body, suspension and drive axle mountings. Cross member to frame junctions use large radii to minimize stress. Frame utilizes 310 N/mm² **45,000 psi** yield strength alloy steel.

SUSPENSION

Front Suspension
Independent trailing arm for each front wheel. Neocon struts, containing energy absorbing gas and compressible Neocon-x fluid, mounted between trailing arm and frame.

Rear Suspension
"A" frame structure, integral with axle housing, links drive axle to frame at forward center point with pin and spherical bushings. Track rod provides rear link between frame and drive axle. Rear mounted Neocon struts suspend drive axle from frame. Neocon struts provide variable damping and rebound feature.

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. VME achieves long frame fatigue life through proven design and manufacturing practices. Smooth frame transitions minimize stress concentrations and steel castings effectively distribute input loads. Frame life is further enhanced by utilizing fatigue resistant weld joints and locating welds in low stress areas. 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 sidewall forces by insuring a purely axial input to the ride strut. The wide track stance of the trailing arm design and long wheel base assure a more stable, comfortable ride. The suspension struts employ gas and Neocon-x fluid as the energy-absorbing media. This suspension continues to absorb energy when extreme dynamic loads are generated which significantly contributes to improved isolation of the operator and machine components.



SERVICE CAPACITIES

	liters	**gallons**
Crankcase (incl. filters)		
Cummins	58,7	**15.5**
Transmission (incl. filters)	70,0	**18.5**
Cooling System	140,0	**37.0**
Fuel Tank	454,2	**120.0**
Hydraulics		
Hoist Tank	174,1	**46.0**
Steering Tank	98,4	**26.0**
Drive Axle	53,0	**14.0**

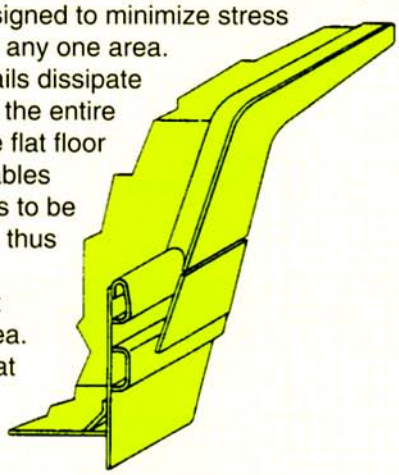
BODY

Flat floor, sloped tailchute, continuously exhaust heated. High tensile strength 1310 N/mm² **190,000 psi** alloy steel, 400 BHN used in thickness of:

	mm	**in**
Floor	16	**5/8"**
Front	8	**5/16"**
Sides	8	**5/16"**
Canopy	5	**3/16"**

High yield strength 551 N/mm² **80,000 psi** alloy steel used for canopy side members, stiffeners: front, floor and side. Body is rubber cushioned on frame.

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 flat floor configuration enables the floor stiffeners to be uniformly spaced thus equalizing stress levels throughout the floor plate area. In addition, the flat floor increases durability and augments body liner installation.



The sloped floor profile provides a low center of gravity for maximum stability. Body lifting cut-outs on the underside of the top rails are provided to facilitate installation or removal of the body. The cut-outs are standardized to industry hook sizes. Additional features include a durable weld-on arm guard for operator safety and a weld-on exhaust collector box to eliminate a periodic service area.

CAB ROPS/FOPS

VME 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, filtered ventilation. Ladder and catwalk entry. The R35 is designed and originally manufactured to meet OSHA sound limitations at the operator's station with windows and vents closed under normal conditions. Featuring an integral ROPS (Rollover Protective Structure) manufactured by VME in accordance with SAE J1040 and ISO 3471. FOPS SAE J231, ISO 3449. Operator and trainer seat belt in accordance with SAE J386 and ISO 6683.

STANDARD EQUIPMENT

General

- Air horns, dual
- Allison Transmission Electronic Control
- Body down indicator, mechanical
- Body prop cable
- Continuous heated body
- Canopy spill guard
- Electric start
- Fan guard
- Hoist interlock
- Hoist tank sight gauge
- Mirrors, right and left
- Mud flaps
- Neocon suspension
- Operator arm guard
- Park brake interlock
- Radiator grill guard
- Reverse alarm
- Rock ejector bars
- Supplementary steering system, electric
- Steering tank sight gauge
- Tow hooks, front
- Transmission sight gauge

Cab

- Acoustical lining
- Ash tray
- Cab interior light
- Cigar lighter
- Heater and defroster
- Integral ROPS/FOPS cab
- Operator seat belt
- Operator seat, mechanical
- Park brake control
- Trainer seat and belt
- Rubber floor mat
- Safety glass
- Sun visor
- Tinted windshield
- Windshield washers
- Windshield wipers

Gauges and Indicators

- Air cleaner restriction indicator light
- Ammeter
- Allison Transmission Electronic Control malfunction indicator light
- Clutch pressure gauge
- Converter lock-up indicator light
- Converter oil temp. gauge
- Coolant temperature gauge
- Engine oil pressure gauge
- Gauge lights with rheostat
- High beam indicator light
- Hydraulic filter restriction indicator light
- Park brake applied indicator light
- Rear brake malfunction indicator light
- Retarder high oil temperature indicator light
- Service air pressure gauge
- Speedometer
- Steering filter restriction indicator light
- Steer system malfunction indicator light
- Tachometer and hourmeter
- Transmission malfunction indicator light
- Transmission filter restriction indicator light
- Wig-wag low air pressure alarm

Machine Lights

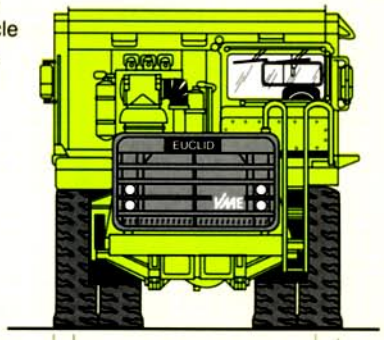
- Back-up light, (1)
- Headlights, (4)
- Dual combination stop and taillights, (2)

OPTIONAL EQUIPMENT

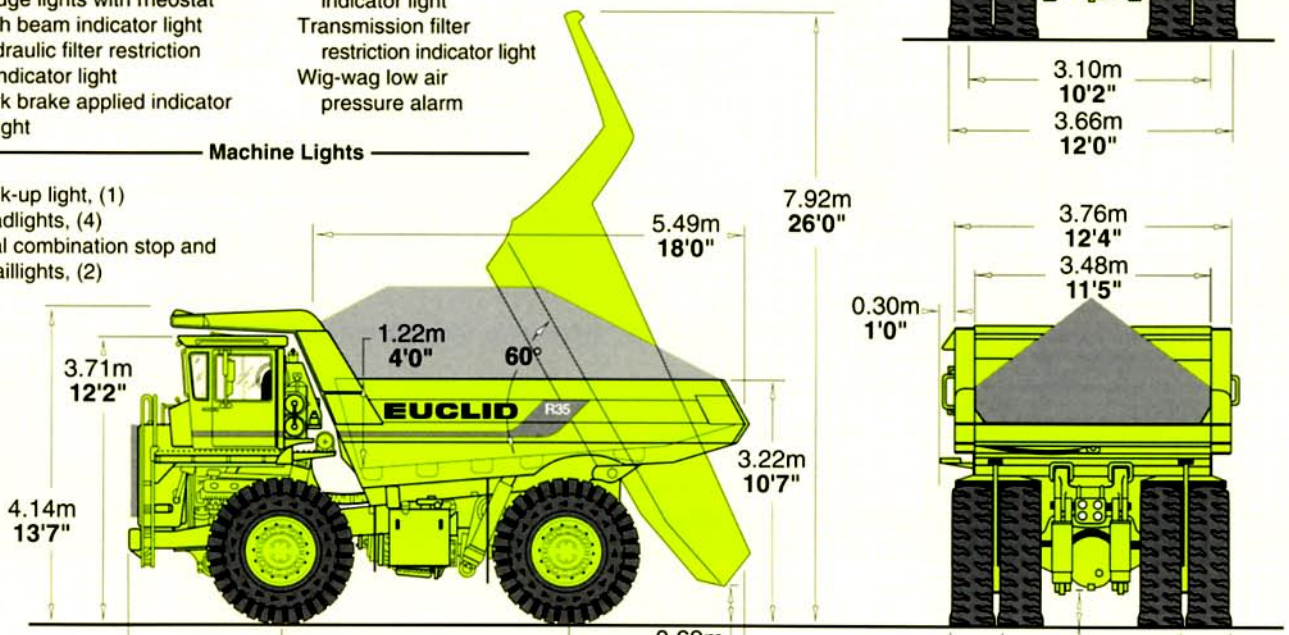
- Air conditioning
- Air dryer
- Air suspension seat
- Alarm system, multi-function (low oil pressure, high coolant temperature, low coolant level, high conv. temperature)
- Body liner (400 BHN) plates
- Cab sound suppression
- Canopy spill guard extension
- Cold starting aid
- Decals, French & German
- Differential, 2.81 ratio
- Engine heater (oil & coolant)
- Extra reverse alarm
- Fast fueling
- French certified air tanks
- Fuel gauge
- German market equipment list (TBG)
- Guard rails
- Hoodsides (canvas)
- Hoodsides (metal)
- Hubodometer
- Lube system, automatic
- Lube system, centralized
- Main battery switch
- Metric speedometer
- Muffler
- No spin differential
- Tires (type & rating)
- Tachograph, 24 hour recording
- Transmission guard
- Turn signals & hazard flashers
- Unit sound suppression

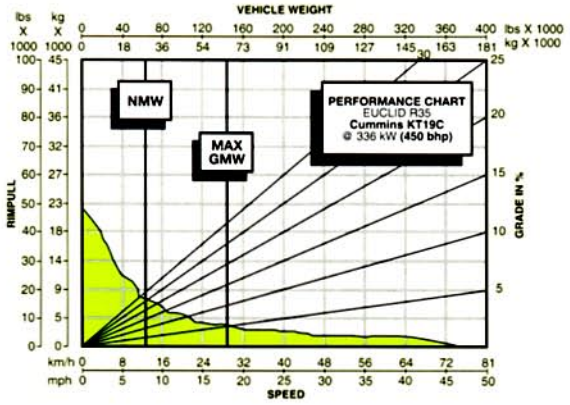
Standard and optional equipment may vary from country to country. Special options provided on request. Consult VME Market Support. Product improvement is a continuing VME project. Therefore, all specifications are subject to change without notice.

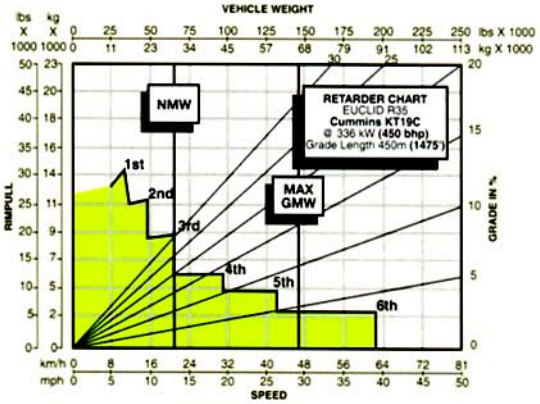
Note: Dimensions shown are for empty vehicle with 18.00-33 tires.

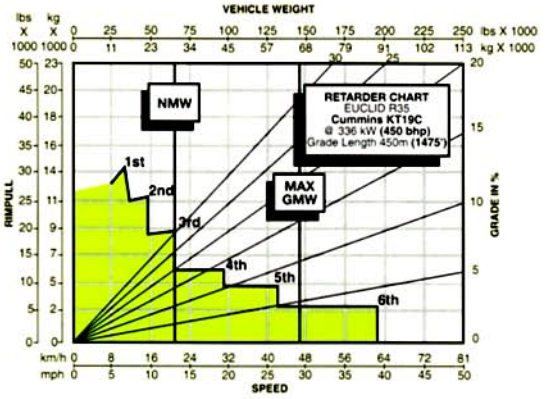


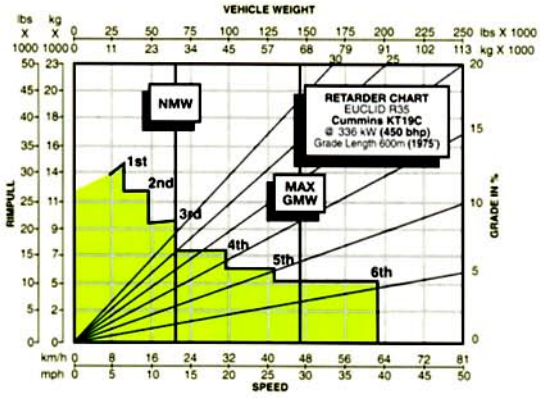
3.10m **10'2"**
3.66m **12'0"**

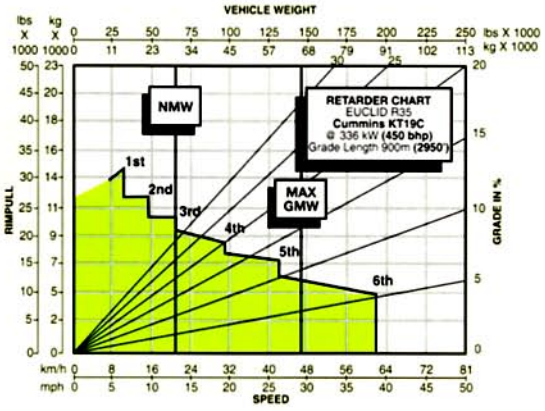


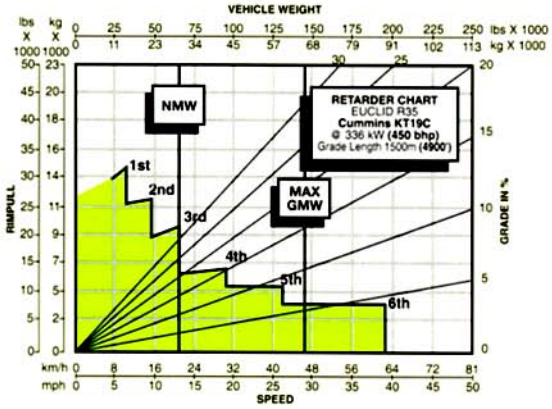












INSTRUCTIONS:

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: Photos and illustrations throughout may show optional equipment.

Under our policy of continous product improvement, we reserve the right to change specifications and design without prior notice. The Illustrations do not necessarily show the standard version of the machine.

VME Industries North America

A Business Unit of VME Americas Inc.

P.O. Box 178017
Cleveland, Ohio 44117-8017

FORM NO. RH-637
DATE 8/92
Printed in U.S.A.