

BOLINDER-MUNKTELL
road grader
VHK 115

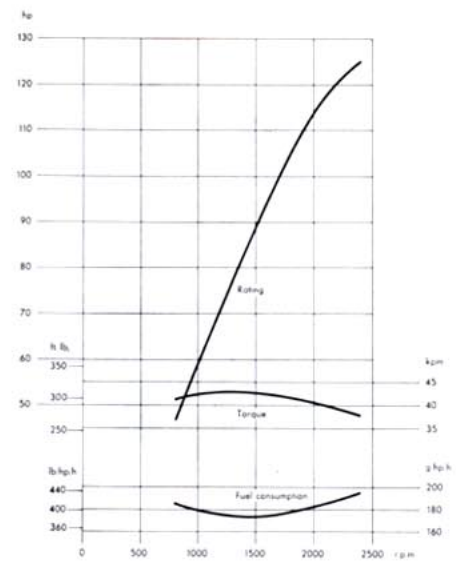


The Bolinder-Munktell VHK 115 is a grader built for hard work on all kinds of jobs. Every component has been designed to take the heaviest stresses. Correct weight distribution allows full use of the lugging capacity of the powerful diesel engine, so that the VHK 115 has the pull you need on heavy construction projects.

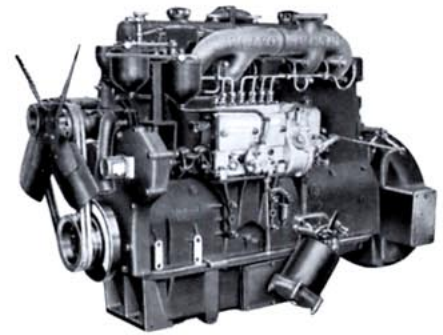
The short wheel base and differential give the VHK 115 its characteristic small turning radius and manoeuvrability. It "squeezes through" narrow, crowded streets and other tight spots.

All operating devices subject to heavy loads are mechanically operated. The grader blade, dozer blade, and scarifier won't "give" when they hit hard ground. You can do a perfect job even when working conditions vary.

40 years of experience in the manufacture of road graders are built into the VHK 115. Bolinder-Munktell, a member of the Swedish Volvo Group, has designed and constructed this grader to the highest standards. That's the best guarantee of economical, reliable service and easy operation on all kinds of assignments.



The highest torque, 311 ft.lb. (43 kpm) at 1200 r.p.m., varies only slightly at higher and lower speeds. This explains the excellent lugging performance of the engine.



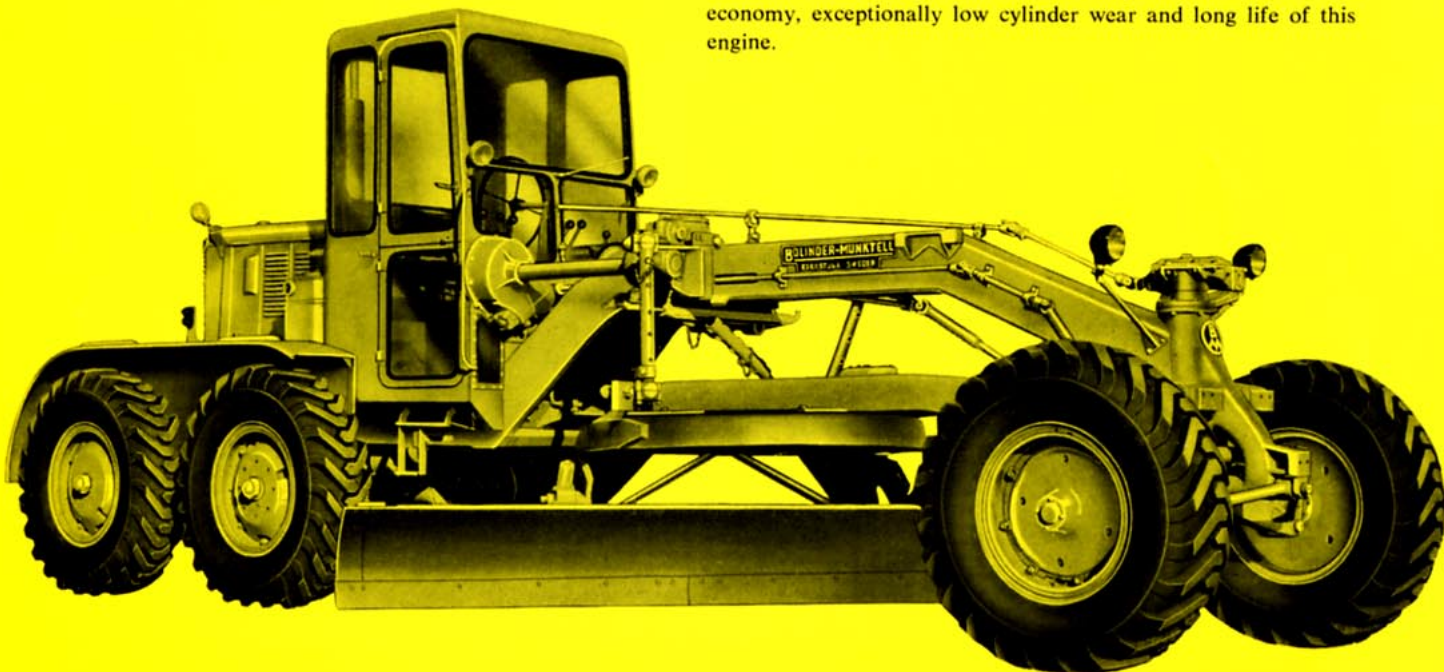
A tough, long-lived diesel that saves on fuel

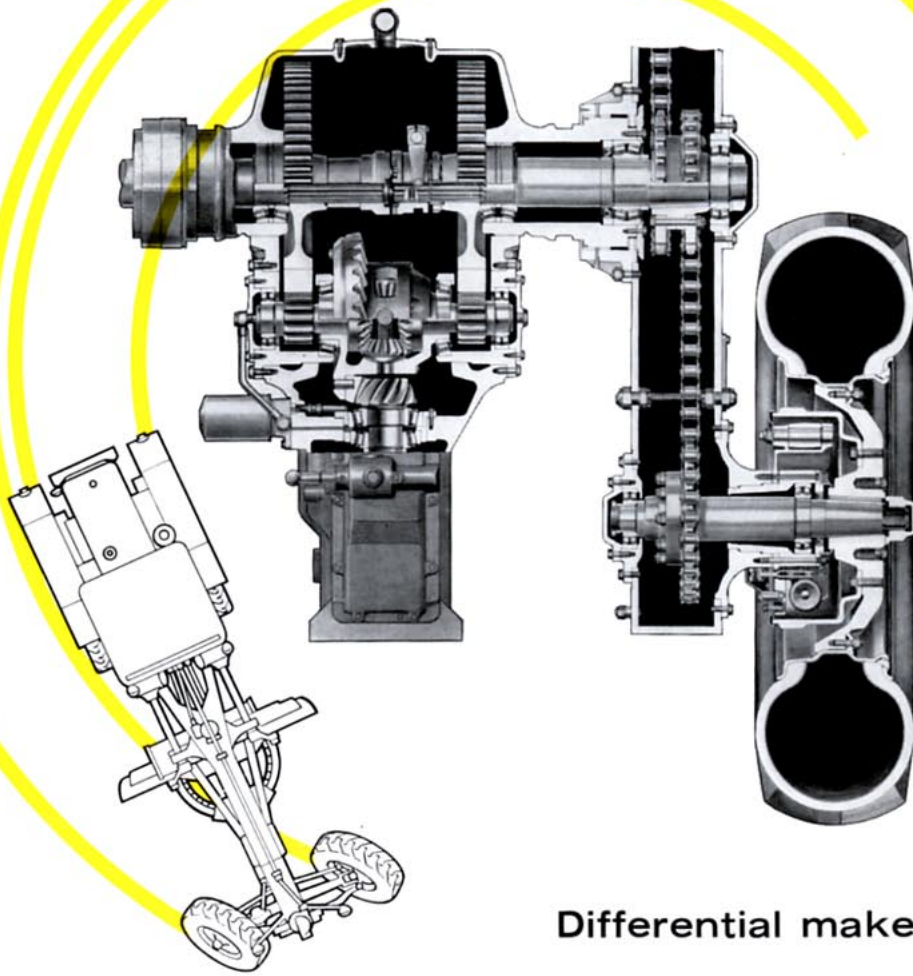
The type D 67, 6-cylinder Volvo diesel is already a tried and trusted power plant, being specified for many contractor's machines such as loaders and excavators. In fact, over 40,000 D 67's are now hard at work all around the globe — proof enough of the reputation enjoyed by this engine in situations where toughness counts.

The direct-injection D 67 develops 110 h.p. at 1,900 r.p.m. It starts right away on diesel fuel without special arrangements. A cold-start device at the injection pump ensures easy starting in even the coldest weather.

The sensitive centrifugal governor reacts quickly to changes on load. The exceptional lugging power of the engine allows pulling down to a low speed without shifting gears.

Direct injection, combustion chamber design and efficient filter arrangements are all factors contributing to the excellent fuel economy, exceptionally low cylinder wear and long life of this engine.





Tandem drive puts the full power
The bogie-mounted driving wheel
in the terrain. The chain drive, w
efficient, and more durable than
The differential of the VHK 115
for its small turning radius, effe

Differential makes driving easier, cu

life. The VHK 115 differential
in the turns and does not chew
On slippery ground, the driver lo
in the cab. This makes the rear
distributes power evenly to all f

Extra blade reach and lift height

The frame and circle construction and the arrangement of the controls give exceptional blade reach. The quick-acting control box saves valuable seconds in changing blade settings. It can operate the grader blade, scarifier, dozer blade, and wheel lean controls all at once, and still give you instant response.

A hydraulic side-shift saves time and trouble on jobs requiring frequent blade-shifting.

The frame design provides good lift height — a big advantage in many likely situations.



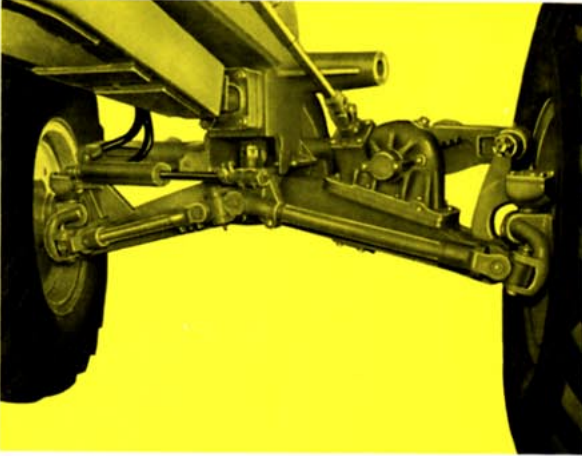
Right tract

The gear
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Easy steering

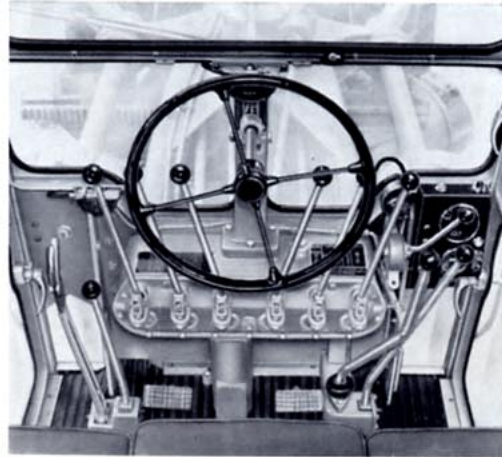
The VHK 115 steers as easily as a car, thanks to the hydraulic servo, which combines the "feel" of mechanical steering with the lightness of power steering.

The gear is non-reversing; road shocks cannot be transmitted from the front wheels to the steering wheel.



Cab with car comfort

The cab is carefully designed for the comfort of the driver. Effective insulation keeps out noise and cold, big toughened glass windows give excellent visibility in all directions. The two-panel doors and a separate ventilator ensure adequate ventilation. The control levers are easily reached in both sitting and standing positions.



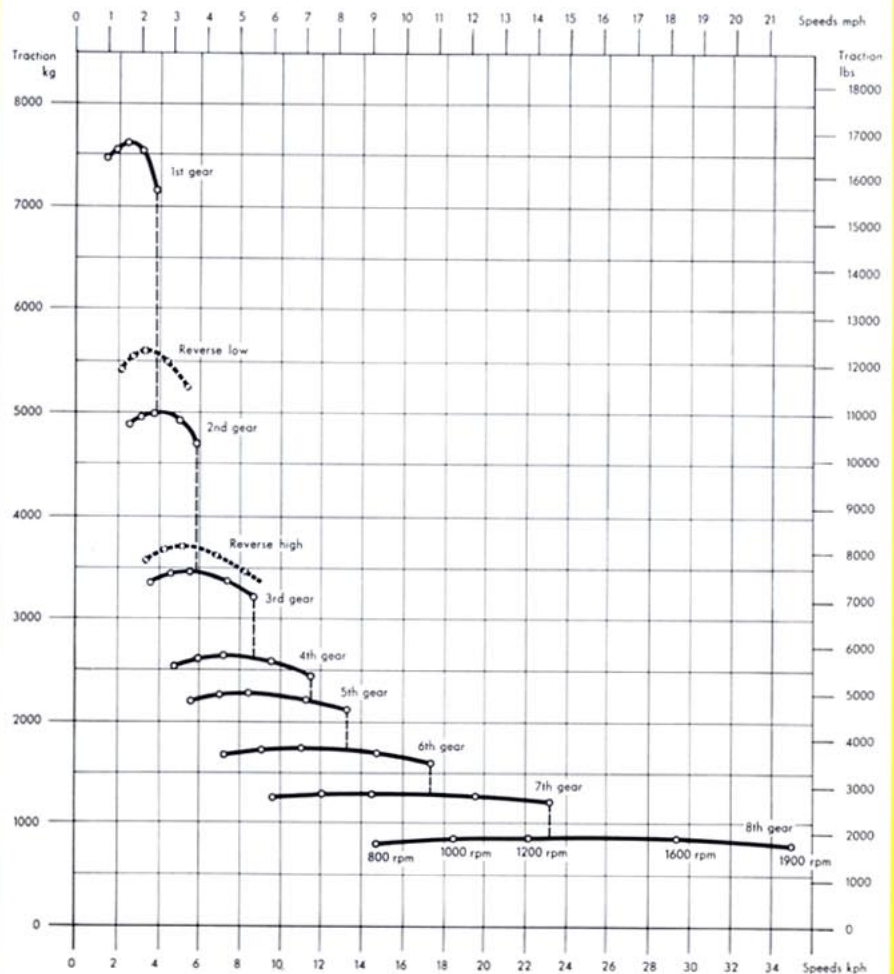
...er of the engine to work.
...s follow all the "ups and downs"
... which runs in oil, is quieter, more
... other types of drive.
... is an important reason
...ortless handling, and long tyre

Reduces tyre wear

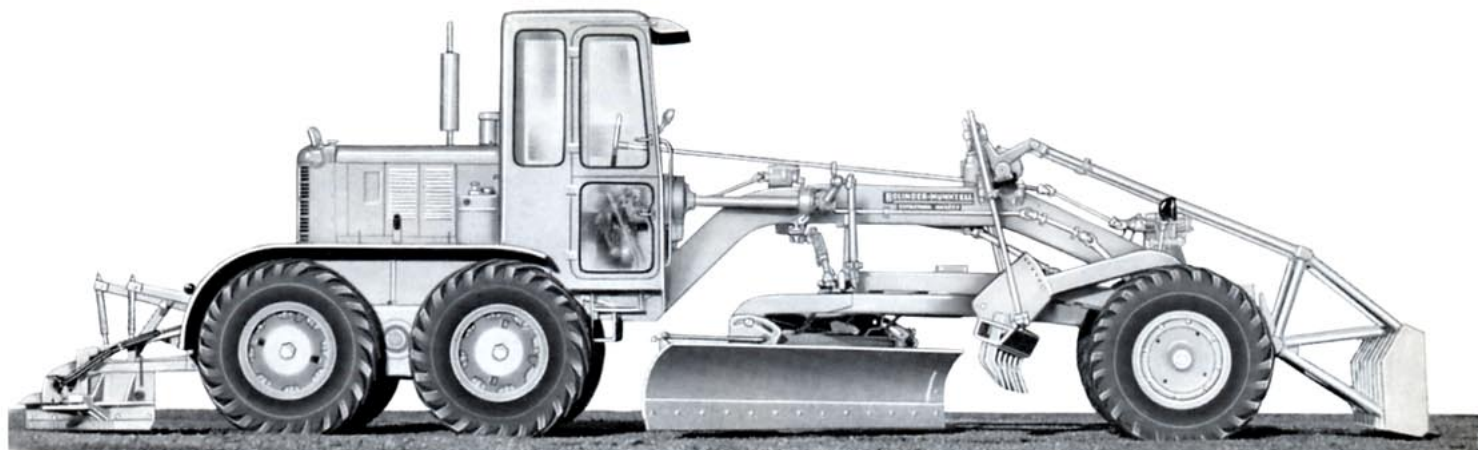
...drives each wheel at its natural speed
...y up asphalt softened by warm weather.
...cks the differential with a control
...axles a rigid unit and
...our driving wheels.

Wide speed and maximum traction on every job

...rbox offers 8 forward speeds and 2 in reverse.
...mission ratios are selected to cover the entire
... speeds and traction powers with good overlap
... gears. The adjacent diagram show clearly that
...s cover the speed range comfortably and that
...ive effort in each gear is virtually identical at
...n and minimum engine r. p. m. This means that
...er can always select the right gear for the job in
...tting best results and maximum "pulling power"
...est possible fuel consumption.
...s are in constant mesh and dog clutches facilitate
... gear in motion. The provision of an independent
...lubrication system for gearbox and differential
...her assurance of long life.



Other equipment



CONTROL GEAR

The raising and lowering of the scarifier, dozer blade, and other implements is controlled through a self-compensating worm gear that ensures reliable, firm settings.



DOZER BLADE

The dozer blade is operated by the same control gear as the scarifier, so that the two can be used alternately. The heavy tubular framework carries a 12-mm sheet-steel blade with rib reinforcement behind. The replaceable edge is made of wear-resistant manganese alloy. The side plates are removable. The dished form of the blade makes it an efficient earth mover.



TROPICAL CAB

— with front glazing.



SCARIFIER

The scarifier is a vee-form implement with 11 strong teeth, these having replaceable points. The angle of the scarifier teeth is widely adjustable.



WINDROW ELIMINATOR

Available in swing-aside model, right-hand or left-hand. Hydraulic operation from cab. Can also be fitted with hydraulic swing control — a big time-saver on narrow roads and in heavy traffic.

SNOW PLOUGHS

HYDRAULIC CONTROL

Arrangements for hydraulic control of various implements are optional. The equipment comprises an oil pump, able to be engaged and disengaged as required, an oil reservoir and a double-action control unit for 1, 3, 4 or 5 implements.

POWER TAKE-OFF

— at rear end of power unit.

ODOMETER AND ROUTE RECORDER

To check distance covered an odometer reading in kilometres can be fitted to the front wheel hub. The route recorder provides 7-day records and is equipped with 4 styluses and a visual distance recorder.

AIR COMPRESSOR

— for tyres, driven through a take-off at the rear of the power unit.

ENGINE PREHEATER

The VHK 115 can be fitted with an engine preheater of electric or burner type to improve cold-weather starting.

HOT CUPBOARD

— for driver's lunch.

2-FOOT BLADE EXTENSION FOR 10 OR 12-FOOT BLADES

MARKER LAMPS

WINDSCREEN WIPER FOR REAR WINDOW

SUN VIZOR

— for windscreen, adjustable.

Technical Data

Working weight with scarifier

and dozer blade 27,400 lb.
(12,430 kg)

Working weight without scarifier and dozer blade 23,960 lb.
(10,870 kg)

Weight on front wheels 6,920 lb.
(3,140 kg)

Weight on rear wheels 17,040 lb.
(7,730 kg)

Grader blade load with 1,100 lb. (500 kg) on front wheels 10,470 lb.
(4,750 kg)

which is 43.5 % of grader weight

Grader blade pressure with front axle raised 12,480 lb.
(5,660 kg)

Driving wheel load with 10,470 lb. (4,750 kg) pressure on the blade 12,390 lb.
(5,620 kg)

Dimensions

Overall length 25'5" (7.75 m)

Overall width 7'7" (2.3 m)

Total height to cab roof ... 9'11" (3.02 m)

Wheel base: Distance between the centre of the rear wheel shafts and the front wheel centre 18'3" (5.56 m)

Track, front 6'2" (1.9 m)

Track, rear 6'3" (1.92 m)

Tandem axle spacing 4'11" (1,508 mm)

Distance of the cutter blade from the front axle 8'1" (2,477 mm)

Ground clearance at the middle of the front axle 2' (607 mm)

Turning radius 27'6" (9 m)

Engine

Volvo direct injection diesel with overhead valves Type D 67

Number of cylinders 6

Swept volume 411 cu.in.
(6.73 litres)

Compression ratio 17:1

Rating at 1,900 r.p.m. 110 hp

Speeds (at 1,900 r.p.m.)

Forward:

| | | | | | | | | |
|------|-----|-----|-----|------|------|------|------|------|
| Gear | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| mph | 2.4 | 3.7 | 5.4 | 7.1 | 8.2 | 10.7 | 14.2 | 21.5 |
| kph | 3.9 | 6.0 | 8.7 | 11.4 | 13.2 | 17.3 | 22.9 | 34.7 |

Reverse: low high

mph 3.3 5.1

kph 5.4 8.2

Speed range (idle to overspeed)

Forward: 0.9—23.5 mph (1.5—38 kph)

Reverse: 1.2—5.6 mph (2—9 kph)

Clutch

Double dry-plate and fitted with a clutch brake.

Dim. 14 in.

Wheels

Tyre sizes, front and rear wheels 13.00—24", 12-ply. Can be equipped with 14.00—24", 12-ply. tyres.

Front wheels can be leaned max. 23°.

Brakes

Hydraulic footbrake with Hydrovac, vacuum servo, acting on 17×4 in. brake drums on the front pair of driving wheels. Mechanical hand brake acting on the same brake shoes as the foot brake.

Main frame

Welded box section unit with internal reinforcement

Weight, maximum cross section approx. 177 lb./ft.
(266 kg/m)

Ground to frame clearance . 5' (1,525 mm)

Circle

Welded box section construction. Diameter 4'10½"
(1,486 mm)

Distance between circle centre and front axle centre line ... 7'1" (2,170 mm)

Circle swing in both directions > 360°

Grader blade

Length 12' (3,680 mm)

Height with cutter blade ... 1'10" (560 mm)

Thickness ¾" (18 mm)

The blade is reinforced with a welded box section with guides on the back.

Grader Blade settings

Maximum lift above the ground at 44° angle 1'10⅝" (575 mm)

Hydraulic side shift relative to the circle:

12 foot blade 3'9¾"
(1,160 mm)

Maximum side shift of the blade without resetting the side shift rod or the setting of the blade relative to the circle 3'3½"
(1,000 mm)

Maximum blade reach from the outside of the wheels to the blade tip: 12 foot blade 7'10" (2,380 mm)
Cutting angle setting range .. 44°—102°

Maximum elevation to either side 90°

Controls

Powered by worm gears driven from the power control box

Lifting speed per sec. 3" (80 mm)

Driving cab

Floor 4'2"×2'5½" (1,270×750 mm)

Height of floor above ground level 3'8½" (1,125 mm)

Head Room

(height inside the cab from floor to ceiling) 6'3" (1,900 mm)

Volumes

Fuel tank 33 Imp. gall. (150 litres)

Cooling system 6½ " " (30 " ")

Crankcase 3.3 " " (15 " ")

Gearbox 16.3 " " (74 " ")

Tandem gearbox (each) 5½ " " (25 " ")

Electrical system

Voltage (12 volt batteries) . 24 volts

Capacity (10 hour discharge) 133 amp.-hour

Generator 450 watts

Starter motor 4 hp

Windshield wipers

— vacuum driven with vacuum pump and tank 3

Scarifier

Weight 1,025 lb.
(465 kg)

Form V-type

Working width 4' (1,235 mm)

Number of teeth 11

Tooth size 3"×1"
(75×25 mm)

Tooth spacing 4¾" (120 mm)

Distance from scarifier to front axle 2'5" (735 mm)

Max. cutting depth 8½" (215 mm)

Max. pressure 9,480 lb.
(4,300 kg)

Worm gear lift for scarifier and dozer blade

Weight 540 lb. (245 kg)

Dozer blade

Weight with mounting plate 1,875 lb.
(850 kg)

Width 8' (2,440 mm)

Height 2'8" (810 mm)

Plate thickness ½" (12 mm)

Max. elevation above the ground 2'7" (790 mm)

Max. cutting depth 6¼" (160 mm)

Windrow eliminator with divided blade mounting

Weight 893 lb. (405 kg)

Width 9'1½"
(2,780 mm)

Normal working width 8'2" (2,500 mm)

Eliminator tip distance from the outside of the wheels in working position: 1'1"—1'5½"
(330—445 mm)

Lift height 1'6¼" (475 mm)

We reserve the right to change the above specification without previous notice.

BOLINDER-MUNKTELL

— a Member of the Volvo Group - Eskilstuna, Sweden



VOLVO