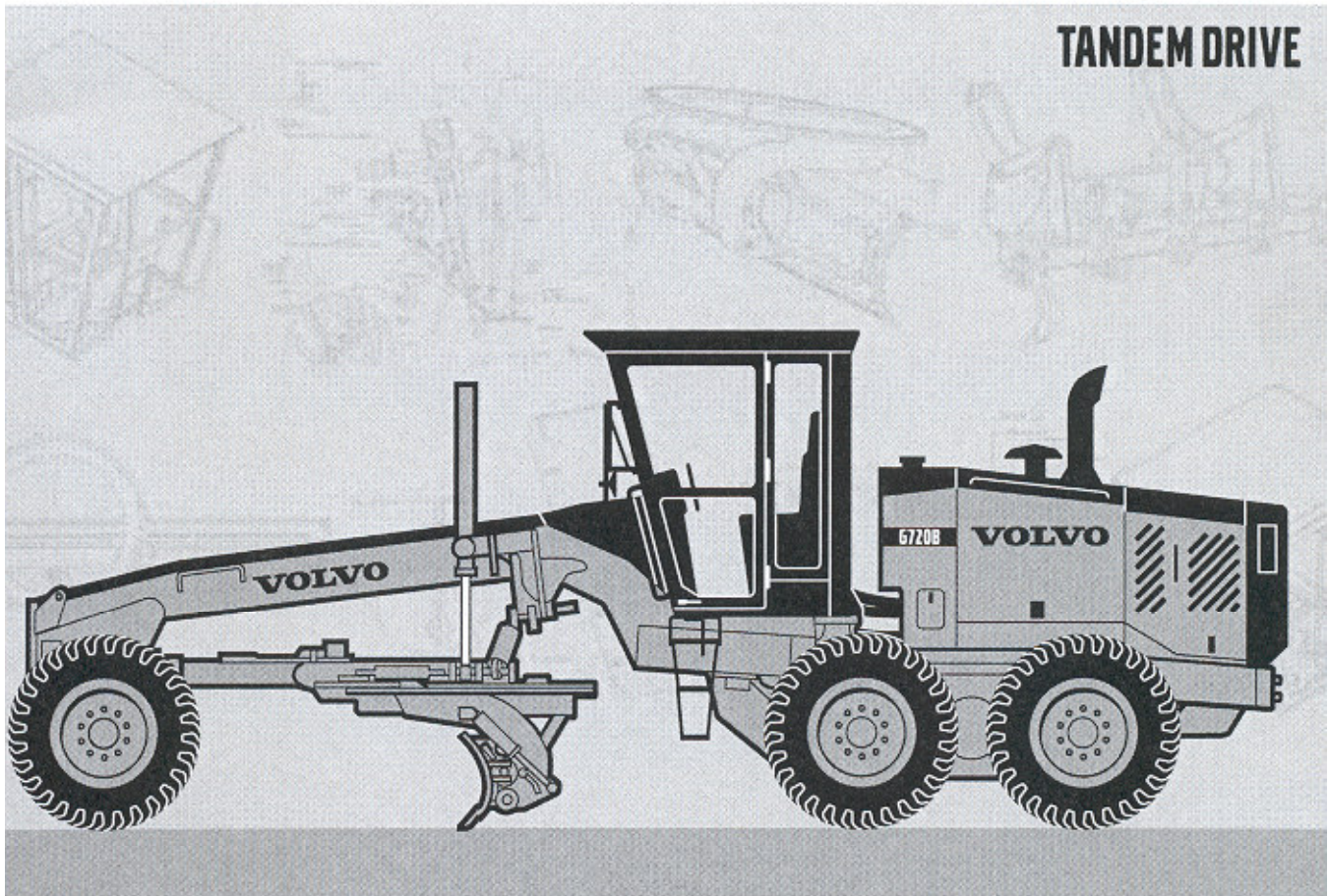


VOLVO MOTOR GRADER

G720B

TANDEM DRIVE



- **Configuration:** Articulated frame
- **Engine model:** Volvo D7DGBE2
- **Maximum net engine output @1900 RPM (per SAE J1349):** 169 - 210 hp (126 - 157 kW)
- **Base weight:** 34,000 lb (15 422 kg)
- **Blade down force:** 17,148 lb (7 778 kg)
- **Blade pull:** 20,519 lb (9 307 kg)
- 8400 fully sequential direct drive powershift transmission
- Choice of fully enclosed, ROPS cab in full height or low profile configuration, or ROPS canopy
- Moveable Blade Control System
- Load sensing, Closed Center Hydraulic System
- Fully adjustable control pedestal with low effort hydraulic controls
- Full front and rear frame sections designed for attachment mounting
- Single lever "Smart Shifter" transmission control with gear memory feature
- Hydraulically Boosted Dual Crossover Braking System with reserve power assist
- Heavy duty lock/unlock differential
- Contrinsic Monitoring System for all machine functions
- Full range of front and rear mounted attachments

VOLVO



Base operating weight (Standard equipment)

Weights shown include full cab with ROPS, all operating fluids and operator.

G720B

Total 34,000 lb (15 422 kg)
On front wheels 9,860 lb (4 472 kg)
On rear wheels 24,140 lb (10 950 kg)

Weight adjustments for various options are listed.

Typically equipped operating weight:

includes 14:00 x 24, 12 PR, G-2 tires on 10" (254 mm) rims and 14' x 25" x 7/8" (4 267 x 635 x 22 mm) moldboard and scarifier.

G720B 36,020 lb (16 338 kg)



Productivity (Standard equipment)

Maximum blade pull (no wheel slip, 0.9 traction co-efficient) 20,519 lb (9 307 kg)

Blade down force

+ cutting capability

(ISO 7134) 17,148 lb (7 778 kg)

Blade down force is the maximum downward force which may be applied at the cutting edge.



Engine data

G720B

Make/Model Volvo D7DGBE2

Type 4 Cycle, Turbocharged/Aftercooled

No. of cylinders In Line 6

Bore & stroke 4.25" x 5.11" (108 x 130 mm)

Displacement 436 cu in (7.1 l)

Maximum net engine output @ 1900 RPM

(per SAE J1349) 169-210 hp (126-157 kW)

Rated gross brake horsepower @ 2200 RPM

• Gears forward 1, 2 and

Reverse 1 170 hp (127 kW)

• Gears forward 3-8 and

Reverse 2-4 205 hp (153 kW)

Rated net brake horsepower @ 2200 RPM

• Gears forward 1, 2 and

Reverse 1 164 hp (122 kW)

Torque @ 1100 RPM 613 lb.ft. (831 N.m)

Torque rise 51%

• Gears forward 3-8 and

Reverse 2-4 198 hp (148 kW)

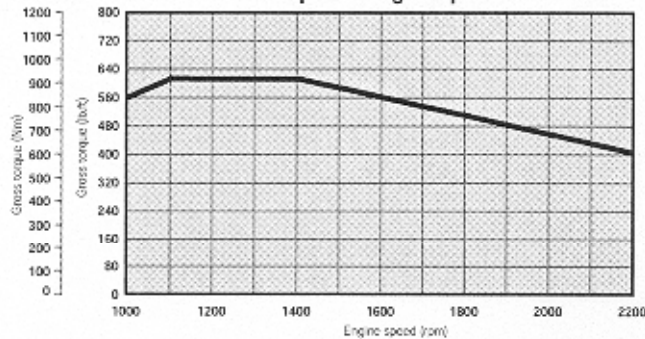
Torque @ 1400 RPM 701 lb.ft. (950 N.m)

Torque rise 43%

Performance: Rated net brake horsepower SAE standard J1349/ISO 3046-2 conditions with water pump, fuel system, air cleaner, muffler, alternator, and cooling fan.

Engine performance curve

torque vs. engine speed



Engine data (continued)

Engine equipped with a two stage, dual element, dry type air cleaner with exhaust aspirator and service indicator, 24 volt starting and electrical system with 75 amp (1800 watt) brushless alternator with internal voltage regulator. Two heavy duty 12 volt maintenance free batteries with 660 cold cranking amps (CCA) and 160 minutes reserve capacity per battery. 950 CCA batteries available optionally. System includes battery disconnect.



Transmission

Make/Model Volvo 8400

Fully sequential, direct drive, powershift transmission. Engine cannot be started if transmission is in gear. Single lever "Smart Shifter" electronic transmission controller provides self-diagnostics. The flywheel mounted, multi-disc master clutch is oil cooled and lubricated for long life.

Ground speeds at 2200 RPM with standard tires:

Forward		Reverse	
Gears.....mph.....km/h	Gears.....mph.....km/h	Gears.....mph.....km/h	Gears.....mph.....km/h
1.....2.8.....4.4	1.....2.8.....4.4	1.....2.8.....4.4	1.....2.8.....4.4
2.....3.9.....6.2	2.....3.9.....6.2	2.....5.3.....8.5	2.....5.3.....8.5
3.....5.3.....8.5	3.....5.3.....8.5	3.....10.5.....16.9	3.....10.5.....16.9
4.....7.5.....11.9	4.....7.5.....11.9	4.....20.4.....32.7	4.....20.4.....32.7
5.....10.5.....16.9	5.....10.5.....16.9	5.....14.7.....23.6	5.....14.7.....23.6
6.....14.7.....23.6	6.....14.7.....23.6	6.....28.5.....45.7	6.....28.5.....45.7
7.....20.4.....32.7	7.....20.4.....32.7		
8.....28.5.....45.7	8.....28.5.....45.7		

Transmission guard is standard equipment and is hinged for easy access.



Differential / Final drive

Make/Model Volvo SR30

Single reduction final drive with an operator controlled lock/unlock differential. Rear axles are induction hardened, supported on double row spherical roller bearings.



Tandems

Oscillating tandem case has internal gusseting for maximum torsional strength. Field proven split ring/flanged sleeve tandem mounting and 1" (25 mm) thick inner wall resists flexing from side loading during severe applications.

Depth 24.50" (622 mm)

Width 8.25" (210 mm)

Thickness + inner wall 1.00" (25 mm)

+ outer wall 0.75" (19 mm)

Center distance 61.50" (1 562 mm)

Drive chain pitch 2.00" (51 mm)

Oscillation ±15°



Brakes

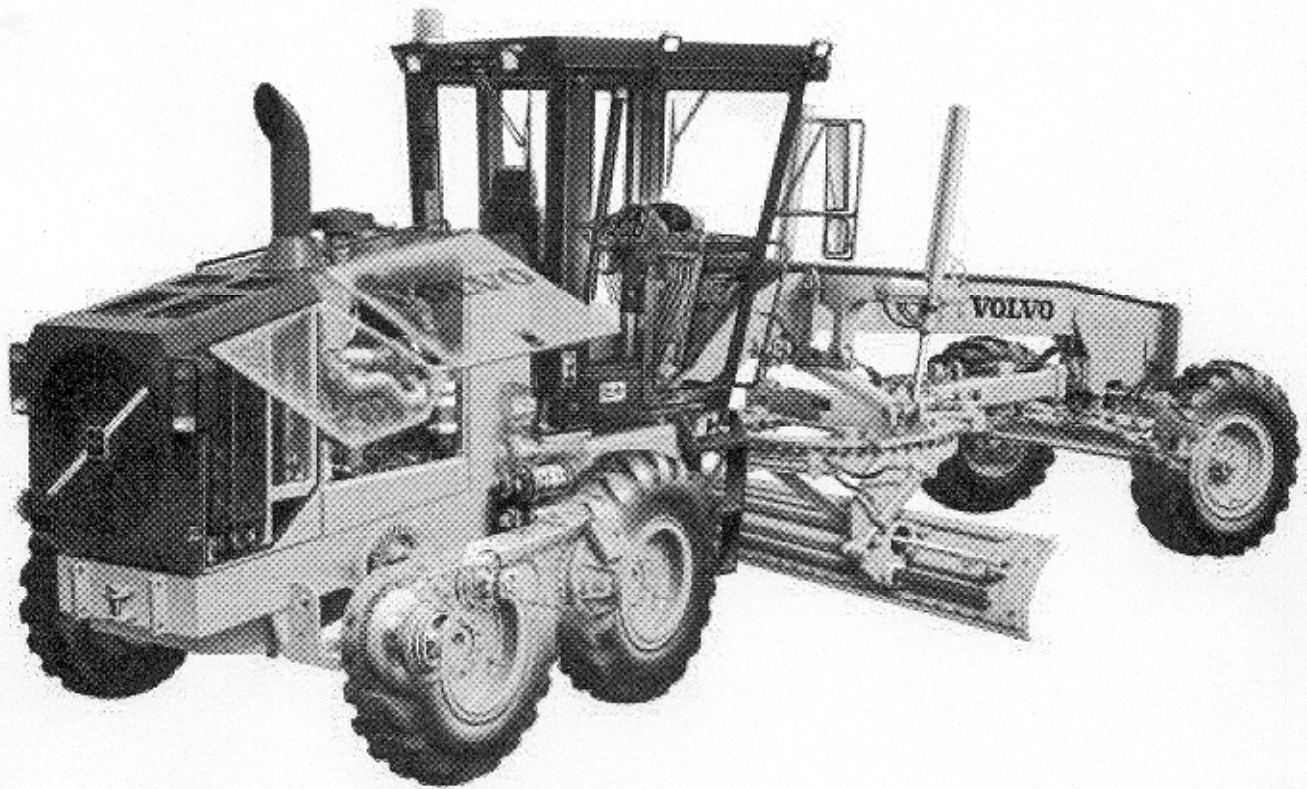
Service Brakes: Foot operated

Fade resistant, hydraulically actuated, oil disc service brakes located at the 4 tandem drive wheels are self-adjusting, fully sealed and maintenance free. System features crossover dual braking circuits for uniform braking on both sides of the grader. Includes reserve power assist and operator warning system (visual and audible).

Parking Brake

Spring applied hydraulic release independent, disc type parking brake on transmission output shaft and effective on all 4 tandem drive wheels. Includes visual and audible operator warning system for parking brake on, transmission in gear condition. Transmission will not engage with park brake on.

Braking systems to SAE Recommended Practice J1473 OCT. 90, and J1152 APR. 80; ISO 3450-1993-01-28. Volvo uses asbestos free brake components.



Wheels & tires (Standard equipment)

Tire size 14:00 x 24, G-2
 Ply rating (PR) 12
 Rim size 10.0" (**254 mm**)
 Bolt-on rims are interchangeable between the front wheels and the tandem wheels.



Front axle

Type: Fully welded steel truss, gusseted for torsional strength, oscillates on a single 3.5" (**89 mm**) diameter center pivot pin.

Wheel lean 10° R & L
 Oscillation 16° up and down
 Ground clearance 24.0" (**610 mm**)

A single 4" (**102 mm**) diameter wheel lean cylinder with lock valve is standard equipment. Two 3" (**76 mm**) diameter wheel lean cylinders and lock valve are available optionally.



Steering

Hydrostatic power front wheel steering incorporating two steering cylinders. Meets SAE J1511 OCT. 90 with optional secondary steering.

Minimum turning radius using articulation, front axle steering, wheel lean and unlocked differential 25'6" (**7 772 mm**)
 Steering arc 72°
 Frame articulation angle 22°

Articulation lock standard.



Frame

Full front and rear frame sections.

Front: Fully welded box section. Dual sloped front frame provides excellent forward visibility.

Minimum dimensions of
 box section 10.5' x 14.0' (267 x 356 mm)
 Plate thickness 0.75" (19 mm)
 Vertical section modulus
 at arch 119 cu in (1 950 cm³)
 minimum 101.5 cu in (1 663 cm³)
 maximum 212 cu in (3 474 cm³)
 Linear weight - minimum-maximum
 107.1 - 232.5 lb/ft (159.4 - 346.0 kg/m)

Rear: Full perimeter rear frame permits modular powertrain mounting for ease of service and is ideal for attachment mounting. Optional first user lifetime warranty on frame and articulation joint.

Minimum dimensions of
 rear frame 4.0' x 10.0' (102 x 254 mm)
 Plate thickness 0.5" (13 mm)



Articulation

Twain 4.5" (114 mm) hydraulic cylinders articulate the frame 22° right and left. Anti-drift lock valve ensures stable operation.



Circle

Hardened teeth, cut on the outside of the circle for maximum leverage and minimum wear.

The circle is supported at six points by three adjustable clamp plates and three adjustable guide shoes, providing optimum circle support and load distribution. DURAMIDE™ faced clamp and guide shoes prevent metal-to-metal contact and provide maximum service life.

DURAMIDE™ is a synthetic bearing material that maximizes service life and reduces circle system maintenance requirements.

Diameter 66.25" (1 683 mm)
 Thickness 1.25" (32 mm)
 Adjustable guide shoes 3
 Adjustable clamp plates 3



Circle drive

The Volvo dual cylinder Circle Drive System uses direct acting hydraulic power for exceptional turning and holding capability under full load. The Circle Drive System uses hardened drive pinions and is protected against impact damage by an overload cushion valve as standard equipment.

Hydraulic drive cylinders 2
 Points of leverage 2
 Rotation 360°



Drawbar

Fully welded box section. Narrow "T" design permits optimum visibility to the work area. Drawbar ball stud provides an adjustment to compensate for different tire sizes. Blade lift cylinder anchors are straddle mounted on drawbar to provide maximum strength and support.

Dimensions of
 box section 6.5' x 6.5' (165 x 165 mm)
 Plate thickness 1.0" & 0.75" (25 & 19 mm)



Moldboard

Standard moldboard with replaceable end bits 12' x 25" x 7/8" (3 658 x 635 x 22 mm)

Blade material SAE 1050 high carbon steel
 Edge: through hardened 6" x 5/8" boron steel
 (152 x 16 mm)
 Bolt spacing 6" (152 mm)
 • bolt size 5/8" (16 mm)

Slide rails supported by DURAMIDE™ bearings.



Blade range: Moveable Blade Control System

(Dimensions shown with standard moldboard)

	LEFT	RIGHT
Reach outside tires - articulated frame 120.0" (3 048 mm) 119.5" (3 035 mm)		
Reach outside tires - straight frame 79.5" (2 019 mm) 79.0" (2 007 mm)		
Blade slide 26.5" (673 mm) 26.5" (673 mm)		
Circle side shift 30.5" (775 mm) 29.5" (749 mm)		
Maximum bank sloping angle 90° 90°		
Blade ground clearance 17.5" (445 mm)		
Blade cutting depth 32.0" (813 mm)		
Blade tilt range 44° forward 6.5° back		



Cab & controls



All controls are located in a 90° arc forward and to the right of the operator. Located forward of the operator are the engine oil pressure, coolant temperature and fuel level gauges, transmission gear indicator and a multi-function Contronic monitoring display. Located in the fully adjustable steering pedestal are the following switches: differential lock/unlock, hazard lights, combination turn signal, horn and high beam headlight. Heater and wiper/washer controls, lighting and accessory switches are grouped in the operator's right hand console. This console also contains the ignition key and access to the circuit breaker and fuse panel. An accelerator/decelerator foot pedal and slider type hand throttle are standard equipment. Outside mounted rear view mirrors (L&R) are standard. Interior operator noise level ranges from 78 to 81 dB(A) per ISO 6394 (enclosed cab).

Cab options

- High capacity heater/air conditioner c/w adjustable vents, temperature control and 3 speed fan
- Fully adjustable, suspension seat
- Lower opening front windows
- Rear windshield wipers and washers
- Lower front window wipers and washers
- Modular, 24 volt radio and cassette player with remote control
- Operator Convenience Package (lunch box, steel vacuum bottle and holder, ashtray)
- 24 volt to 12 volt convertor for electrical accessories or two way radio installations

Full height cab with ROPS

Inside dimensions

Height 74.0" (1 880 mm)
 Width @ controls 56.0" (1 422 mm)
 Depth @ controls 55.5" (1 410 mm)

An optional Low Profile Cab is available with an inside height of 62" (1 575 mm). All Volvo Grader cabs and canopies are designed to meet or exceed SAE J1040 APR. 88, ISO 3471/1-1986(E), and 86/295/EEC ROPS requirements. The seatbelt is 2" (51 mm) wide and meets SAE J386 JUNE 93; ISO 6683-1981(E).



Load sensing hydraulics

Closed Center Hydraulic System senses load requirements and maintains system pressure 350 psi (24 Bar) above the load pressure.

System features industry standard control arrangement complete with low effort, feathering type, short throw levers located on a fully adjustable steering pedestal.

System incorporates lock valves to prevent cylinder drift under load in the following circuits: blade lift, moldboard tilt, circle shift, wheel lean and articulation.

Hydraulic system features include axial piston pump, pressure and flow compensated, variable displacement with high output for smooth multi-functioning.

Maximum pressure 2,700 psi (186 Bar)

Output 2200 RPM.... 0-75 U.S. gpm (0-284 lpm)

Filtration 10 micron spin-on type



Capacities

U.S.Gal. Imp.Gal. Litres

Fuel tank	100.0	83.3	378.5
Transmission	10.0	8.4	38.0
Final drive.....	6.0	5.0	23.0
Tandems (each)	26.4	22.0	100.0
Hydraulic oil tank	35.4	29.5	134.0
Coolant antifreeze protection to -58° F (-50° C) approx. 12.4	10.3	47.0	
Engine oil	5.0	4.2	19.0



Attachments

A Frame..... 700 lb (318 kg)

Snow

Hydraulic Wing

• high bench 4,800 lb (2 177 kg) |

• low bench 4,000 lb (1 814 kg) |

One Way Snow Plow 2,350 lb (1 065 kg) |

V Snow Plow

• 8' (2 743 mm) 2,500 lb (1 134 kg) |

• 10' (3 042 mm) 2,650 lb (1 202 kg) |

Earth

Dozer Blade

• 8' (2 438 mm) 2,620 lb (1 188 kg) |

• 9' (2 743 mm) 2,870 lb (1 302 kg) |

• 10' (3 048 mm) 3,120 lb (1 415 kg) |

Front Mounted Scarifier..... 1,780 lb (807 kg) |

Mid-mount Scarifier 1,725 lb (782 kg) |

Push Block 1,125 lb (510 kg) |

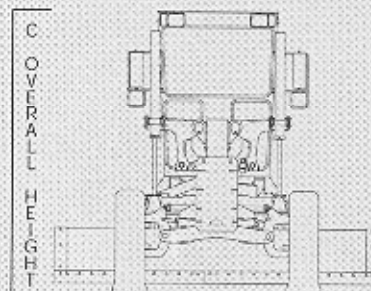
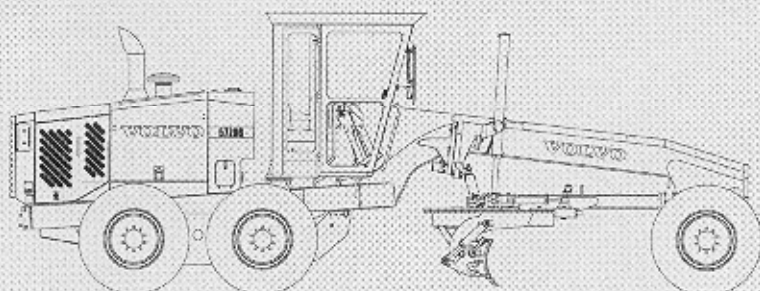
Ripper/Scarifier, rear 2,880 lb (1 306 kg) |

Windrow Eliminator 1,300 lb (590 kg) |

Dimensions

- A Overall length 29'11" (9 119 mm)
- D Wheelbase 20'0" (6 096 mm)
- E Bladebase
- ISO 7134..... 8'6" (2 591 mm)

- B Overall width..... 8'4" (2 540 mm)
- C Overall height..... 11'2" (3 404 mm)
- with Low Profile Cab..... 10'2" (3 099 mm)
- F Tread width..... 6'10" (2 083 mm)



D - WHEELBASE

A - OVERALL LENGTH

E - BLADEBASE

F - TREAD WIDTH

B - OVERALL WIDTH

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STANDARD FEATURES

Operator controlled, lock/unlock differential final drive

4 wheel, crossover, dual braking system with reserve power assist

Park brake with operator warning alarm and indicator

Fully sequential, direct drive, powershift 8400 transmission, with transmission guard

13.5" (343 mm) diameter, 4 plate, full oil master clutch

Movable Blade Control System for optimum blade mobility

Full front and rear frame sections designed to withstand shock loading of rear attachments

Circle drive counter-balance valve protects circle drive against impact damage

Hardened circle teeth cut on outside of circle for maximum turning power

Hardened circle drive pinions for maximum wear resistance

Isolation mounted cab, transmission and engine for reduced noise and vibration

Adjustable steering control pedestal with tilt head for maximum operator comfort

Gauges include: coolant temperature, engine oil pressure, fuel, hourmeter, dash mounted air cleaner service indicator, articulation angle indicator, multi-function ConTronic Monitoring System with visual and audible warnings

Load sensing, Closed Center Hydraulic System with short throw, low effort control levers. Hydraulically operated blade lift, circle turn, moldboard slide and tilt, circle shift and wheel lean functions

Feathering type controls for precise blade adjustments

Suspension seat

100 U.S. gallon (378.5 l) fuel tank capacity

DURAMIDE™ wear strips on circle clamp plates and guide shoes prevent metal-to-metal contact for maximum service life

Hinged radiator guard for easy trash clean out

Backup lights

Backup alarm with automatic volume levels

Painted high gloss Volvo yellow and gray

Lockable tool box with storage space for scarifier shanks

Engine side panels complete with locks

Left and right outside rear view mirrors

Interior rear view mirror

Exhaust aspirated air cleaner

Front cab wiper and washer

OPTIONAL EQUIPMENT

	lb	kg
Accumulators - blade lift (2)	122	55
Air conditioner - 29,000 BTU		
• HFC-134a (non-CFC refrigerant)	130	59
Brush guards	40	18
Cab		
• Canopy shell with ROPS - deduct . . . (625)	(284)	
• FOPS protection for ROPS cabs	220	100
• Low Profile Cab		
with ROPS - deduct (270)	(122)	
Cab heater - 49,000 BTU • with cab		
pressurizer and replaceable filter	60	27
Defroster fans	3	1
Engine block heater	3	1
Engine pre-cleaner - Turbo II	6	3
First user lifetime frame warranty	0	0
Float control • right and left detent style		
independent, electric	15	7
Hydraulic manifold cover	10	4
Hydraulic tank heater	3	1
24 volt radio/cassette player	6	3
Lights		
• Beacon (amber or blue)	10	4
• Clearance lights front & rear	2	1

	lb	kg
• Front mounted plow lights - 2		
• high mount	120	54
• low mount	100	45
• Headlights with dimmer switch	0	0
• Moldboards lights - 2	2	1
• Rear flood lights - 2	2	1
• Snow wing lights - 2	2	1
Fenders		
• Front	80	36
• Rear	400	182
Moldboards		
• 14" x 25" x 7/8"		
(4 267 x 635 x 22 mm)	240	109
Moldboard extensions		
R or L - 2' (610 mm)	190	86
Moldboard edges - carbide 3/4" x 5"		
(19 x 127 mm)	-	-
100 amp alternator	0	0
Operator convenience package		
• lunch box, steel vacuum bottle		
and holder, ashtray	10	5
Paint - custom colors	-	-
Polar protection	0	0
Reflectors - rear/side	-	-

	lb	kg
Remote lube manifold for articulation		
cylinders	0	0
Remote valve for attachments		
• 3 or 5 bank	85	39
Sideshift accumulator	50	23
Second leaning wheel cylinder	30	14
Secondary steering (power assisted)	95	43
Tie down brackets	100	45
Tires		
• 14:00 x 24, 12 PR G-2,		
10" (254 mm) 3 piece rims	390	177
• 17.5 x 25, 12 PR, L-2,		
14" (356 mm) rims	825	374
Tool kit	35	16
Transmission sump heater	-	-
Tropical protection	-	-
Vandalism protection	8	4
Wheel weights front or rear - each	250	113
Window - opening - lower front	-	-
Window - opening sliders - left/right	-	-
Wiper and washer - rear	-	-
Wiper and washer - lower front	-	-

Your safety and the safety of those around you depends on using care and judgement when operating and servicing your grader. Do not operate the grader until you read and understand the warnings and instructions in the operator's manual. Volvo Motor Graders Limited is an ISO 9001 and 14001 registered company. www.volvo.com

Under our policy of continuous product development and 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.

Consult your Volvo dealer for recommended option and attachment selection.

VOLVO

Construction Equipment

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