

**VOLVO MOTOR GRADERS**

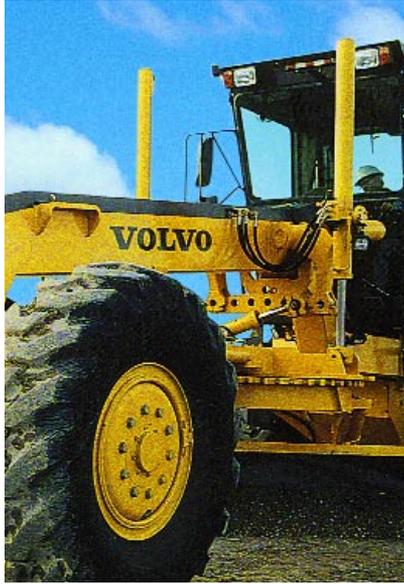
# **G700B SERIES**



**VOLVO**

# Rely on Volvo motor graders for every job

Since we put the first motor graders on the road in 1875, Volvo has been building and backing the toughest machines on the jobsite. We have combined our extensive experience in motor graders with today's advanced design technology to build the most productive and reliable graders in the industry.



## Built on experience

For over 125 years, we have been building and maintaining roads around the world and building our reputation as the grader experts in the process.

We've always listened to our customers and looked for new ways to make our graders the toughest, most powerful, most comfortable and most productive. We pre-engineered our graders to accept and support the complete range of attachments you need to achieve maximum utilization of your equipment. We've also worked to make our support organization the best in the world.

Volvo graders are a combination of the most advanced design and

manufacturing technologies and our many years of grader experience. With innovations in virtually every component, Volvo graders are an industry leader in reliability and performance.

Whether you're building a road, cutting a ditch, fine grading or cleaning up after a snowstorm, there's a Volvo motor grader for every job. Choose tandem or All Wheel Drive, depending upon your requirements.

## Worldwide network

The Volvo team stands behind every grader we build with a worldwide parts and service support network – qualified grader professionals who have earned the reputation of being “The Grader Experts.”

## A proud family

The Volvo name means many things. The best remembered of these is quality; quality of design, quality of manufacture, quality of support. The Volvo name means quality.

At Volvo Construction Equipment, we share the core values of quality, safety and care for the environment in everything we do.

## Ready for the future

Volvo is committed to advancing graders and grader technology, to set new benchmarks for power, performance and reliability that allow you to do your job more efficiently and cost effectively than ever before.

For superior graders, attachments and product support, rely on Volvo.

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# Motor grader productivity defined

Motor graders are often discussed in terms of weight and horsepower specifications. These specifications indicate the size of the machine but say nothing about grader productivity. At Volvo, we know that grader productivity is measured by the work graders do – cutting and pushing. Grader productivity is not simply a function of weight and horsepower, but more importantly, where the weight is placed and how it is applied to the ground.

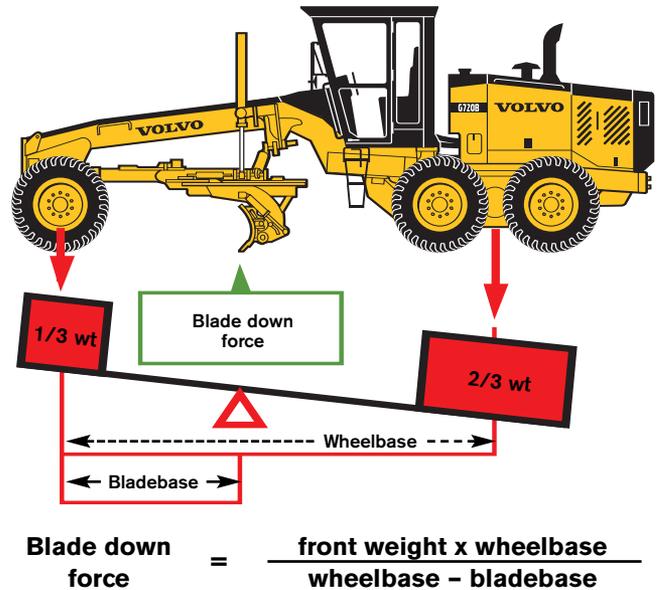
## Grader capability

Unlike other construction equipment, the business end of a grader is in the middle. At Volvo, we build graders to distribute the weight where it translates into more cutting capability at the blade edge. Since the weight of all motor graders is concentrated at the back of the machine, Volvo engineers have moved the blade as far back toward the rear of the machine as possible. This takes advantage of the rear weight but is still well within the operator's line of sight. Volvo recognized the importance of a long bladebase many years ago, and as a result, our graders offer the highest cutting capability.

The other secret to proper weight distribution is at the rear of the machine. By strategically positioning the powertrain components, we get even distribution of weight to each rear driven wheel. This optimizes the machine's pushing capability.

## Blade down force

The calculation of "Blade Down Force," or cutting capability, identifies two things as important in determining cutting capability – front weight and a long bladebase. Volvo graders combine lots of weight up front with a long bladebase to optimize the amount of machine weight that can be applied to the ground at the blade edge.



## Pushing capability

Pushing capability, too, is a function of weight and where it is placed. Seventy percent of the grader's weight is at the rear. Distribution of that weight to best apply it to the drive wheels is critical. By positioning the powertrain components strategically, Volvo graders apply more power to the ground.

## Grader Productivity

- Long bladebase for optimum blade down force.
- Strategic positioning of powertrain components provides optimal weight distribution.





# From the ground up

**No matter how you use your motor grader, stresses constantly change, creating spike loads on the frame and front axle well in excess of the total machine weight. To keep these loads under control, the frame and axle have to take all these stresses without deflecting or deteriorating. These stresses can be further increased when the grader articulates for maximum reach or to cut ditches.**



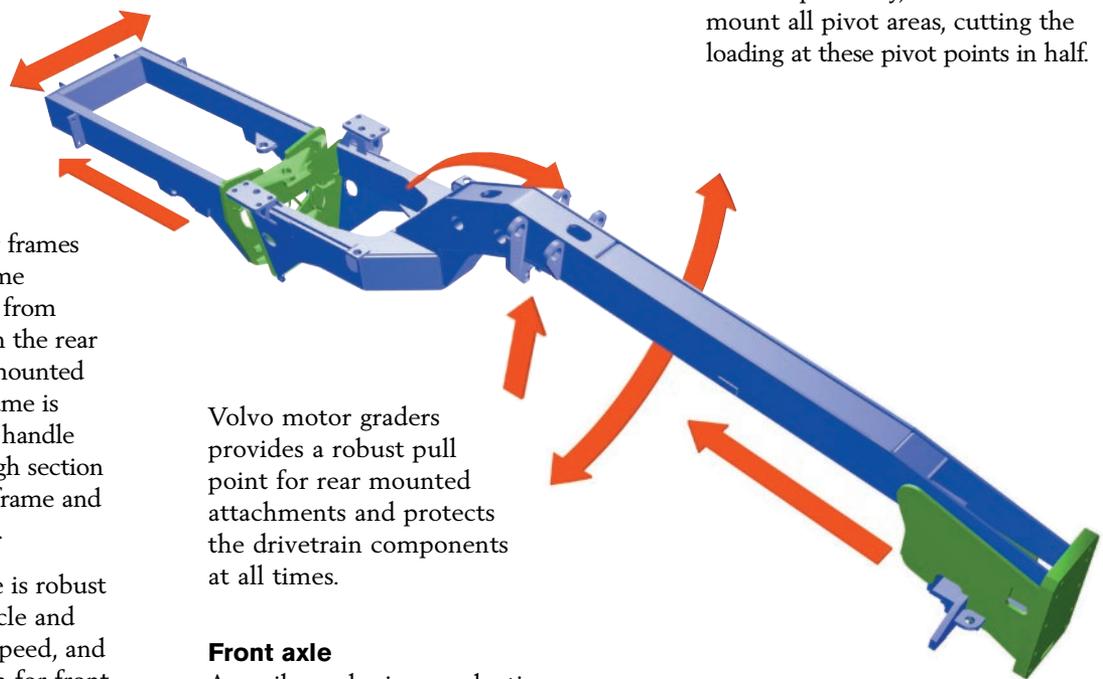
## Frame

Every inch of a grader is under stress from every imaginable direction. So, you need a frame that can carry the load while protecting the powertrain components.

Day in and day out, grader frames continuously absorb extreme stresses: in the front frame from heavy drawbar loads and in the rear frame from side and rear mounted attachments. The Volvo frame is unequalled in its ability to handle these stresses through a high section modulus, box beam front frame and a full perimeter rear frame.

The “B” Series front frame is robust enough to support the circle and moldboard, even at high speed, and provides a firm foundation for front attachments.

Loads generated from rear mounted attachments and the rear drive wheels place tremendous loads on the rear frame. The full perimeter rear frame section on



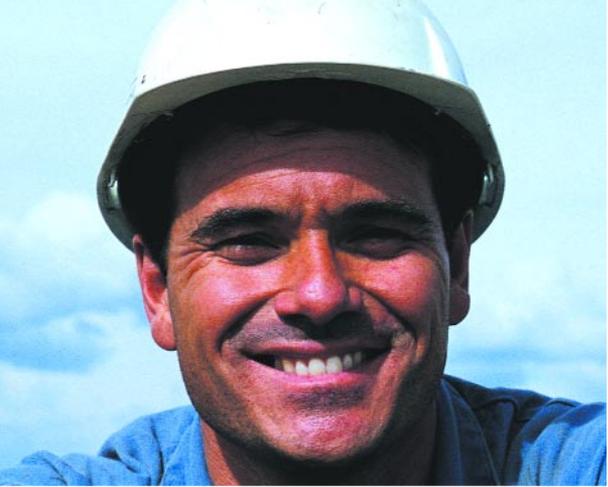
Volvo motor graders provides a robust pull point for rear mounted attachments and protects the drivetrain components at all times.

## Front axle

An agile grader is a productive grader. Grader front axles have three ranges of mobility. These are steering, wheel lean and axle oscillation. The front axle must function through all of these ranges of movement and in

any combination of them literally hundreds of times a day. The “B” Series front axle is built to handle these huge stresses – even when you attach a snow plow or dozer blade up front.

Our front axle design handles these stresses in three ways. First, we mount the axle to the machine securely through the use of an adjustable heavy-duty pivot pin that is designed to handle any application imaginable. Next, the axle frame utilizes an integral box section weldment that holds the front and rear axle plates together, allowing strength and flexibility. Most importantly, we straddle mount all pivot areas, cutting the loading at these pivot points in half.



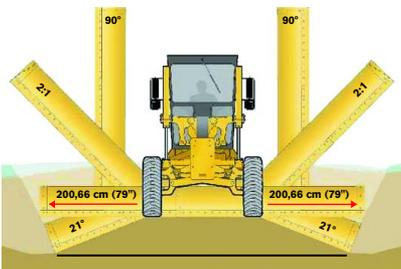
# Superior blade control

No other motor grader gives you the blade mobility, stability or reach of Volvo graders. Three systems – the MBCS (Moveable Blade Control System), Circle Turn System and Blade Lift System – work together to help you achieve the required profile and reduce the number of passes required to handle material accurately and efficiently.

## Mobility and stability

The blade mobility system of a motor grader is one of the most sophisticated tool mobility systems in construction equipment design. The Volvo Blade Control System is designed to offer superior stability whether cutting, bank sloping, back sloping or fine grading, as well as achieving 90/90 and 21° downward positioning on both sides of the machine. You can cut a 2:1 bank slope with the moldboard completely outside the tire profile.

With its simple seven position linkage, the “B” Series Moveable Blade Control System provides the full 90° left or right blade mobility from the operator’s seat. This is used when cutting slopes and cleaning ditches. The Blade Lift System raises the moldboard to a full 445 mm (17.5”) height for travelling.



The MBCS gives you the flexibility to position the blade at any angle you need for shouldering, slope work and ditch cleaning – up to 90° upward and 21° downward.

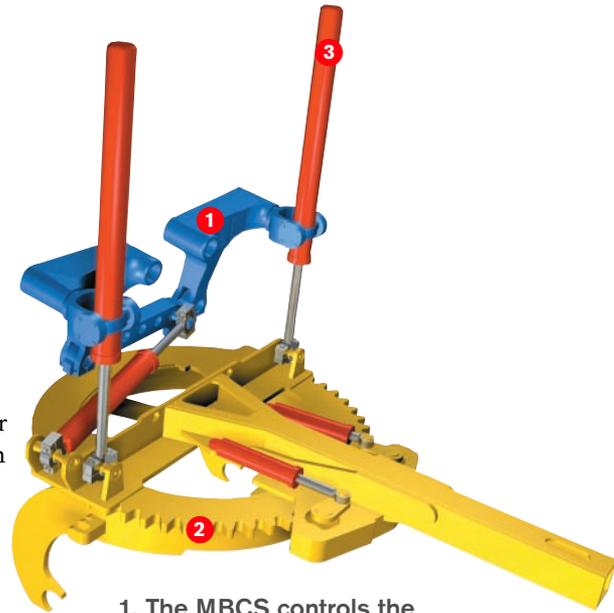
## Circle turn

This Circle Turn System is another high-performance innovation from Volvo.

This unique system is operated by two direct-acting hydraulic cylinders, 90° out of phase, acting on teeth cut on the outside of the circle. The drive cylinders are controlled through a distribution valve and protected by a cushion valve. The Volvo Circle Turn System design achieves far greater load handling strength, with fewer moving parts than worm gear reduction systems.



Volvo graders have the industry's longest blade reach outside the tire profile, reducing the number of passes you need to make, increasing your productivity.



1. The MBCS controls the moldboard angle relative to the ground.
2. The twin cylinder Circle Turn System controls the rotation of the moldboard.
3. The Blade Lift System raises the moldboard to a height of 445 mm (17.5") and lowers it to a maximum cutting depth of 838 mm (33").



Duramide™ bearing material eliminates metal-to-metal contact and reduces the need for circle turn lubrication and adjustment. As well as being simple and cost-effective to replace, it has a minimum service life of more than 5,000 hours.



# A great place to work

**A motor grader is only as productive as the operator. For that reason, Volvo takes pride in providing an operator environment that is recognized for its comfort and functionality.**

**In designing the operator environment, we listened to customers around the world to determine what they need in order to reduce operator fatigue and increase productivity. The result is a cab that is quieter and more comfortable, with excellent climate control, convenient operating controls and 360° visibility.**



## **Superior visibility**

Because you operate your grader on or near public roads, in tight areas and around other equipment, the sloped front frame and rear cowling are designed to open up your line of sight. The Volvo cab offers a 360° view around the grader to watch the road and attachments and a clear view down to the blade area. This means an unobstructed view around the front wheels for accuracy, safety and high productivity.

## **Built for productivity**

All of the controls are conveniently located within a 90° arc, either directly in front of the operator or in the right hand console. Added touches, like side and lower front opening windows and an operator convenience package, put the operator's comfort first.

Located forward of the operator are all hydraulic control levers, as well as engine oil pressure, coolant temperature and fuel level gauges, transmission gear indicator, differential lock/unlock, hazard lights and others.

In the right hand console you'll find the electrical switches, circuit breakers, climate controls, engine start and the "Smart Shifter" transmission controller. All of the controls you need, available immediately at your right hand.

## **Contronics – A Volvo exclusive**



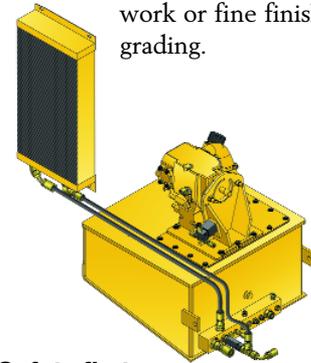
The nerve center of the "B" Series operator environment is the Contronic Monitoring System. This multi-function system tells the operator the status of all machine functions, including engine RPM, engine temperature, fuel level, ground speed, filter restriction, differential lock/unlock and many others. Contronics tells the operator what is happening with the machine as he or she operates it.

Using VCADSPro, the service technician has easy access to the operating data recorded within Contronics and can use the information to diagnose machine problems and analyze the machine's past performance characteristics. This enables the technician to take corrective action before a failure or to diagnose the cause of a failure, should one occur.

## **Hydraulics**

The "B" Series hydraulic system is designed to work with you, providing the responsiveness that every experienced operator relies on to work efficiently. At its heart

is a closed center, load-sensing axial piston pump that provides consistent response regardless of engine RPM. This provides the right feel at the controls whether the grader is doing heavy road work or fine finish grading.



## **Safety first**

The single most important safety feature in a motor grader is the operator's ability to see over the nose, down to the front wheels, to the blade/circle system, over the rear of the machine and to the rear attachments. Large windows and a narrow steering pedestal provide a clear view of the moldboard and areas forward of the machine. This improved visibility gives you confidence to maneuver in congested areas with greater safety.

A sloped rear cowling provides excellent visibility to attachments or when reversing.



# Volvo Motor Grader Specification Chart

| CATEGORY   |  <b>G710B</b>                |  <b>G720B</b>                |  <b>G726B (AWD)</b>        |                            |
|--|---|---|---|---|
| <b>Base operating weight</b>   |   |   |   |   |
| W/full cab, ROPS, fluids and operator  |   |   |   |   |
| Total  | 15 150 kg <b>(33,400 lb)</b>  | 15 422 kg <b>(34,000 lb)</b>  | 16 057 kg <b>(35,400 lb)</b>  | 16 103 kg <b>(35,500 lb)</b>  |
| On front wheels  | 4 394 kg <b>(9,686 lb)</b>  | 4 472 kg <b>(9,860 lb)</b>  | 4 657 kg <b>(10,266 lb)</b>   | 4 670 kg <b>(10,295 lb)</b>   |
| On rear wheels   | 10 757 kg <b>(23,714 lb)</b>  | 10 950 kg <b>(24,140 lb)</b>  | 11 401 kg <b>(25,134 lb)</b>  | 11 433 kg <b>(25,205 lb)</b>  |
| <b>Productivity</b>  |   |   |   |   |
| Maximum blade pull   | 9 681 kg <b>(21,343 lb)</b>   | 9 855 kg <b>(21,726 lb)</b>   | 14 116 kg <b>(31,121 lb)</b>  | 10 290 kg <b>(22,685 lb)</b>  |
| Blade down force   | 7 697 kg <b>(16,968 lb)</b>   | 7 778 kg <b>(17,148 lb)</b>   | 8 099 kg <b>(17,854 lb)</b>   | 8 121 kg <b>(17,904 lb)</b>   |
| <b>Engine data</b>   |   |   |   |   |
| Make/Model   | Volvo D7DGAE2   | Volvo D7DGBE2   | Volvo D7DGDE2   | Volvo D7DGCE2   |
| Type   | 4 Cycle, Turbocharged, Aftercooled  | 4 Cycle, Turbocharged, Aftercooled  | 4 Cycle, Turbocharged, Aftercooled  | 4 Cycle, Turbocharged   |
| No. of cylinders   | In Line 6   | In Line 6   | In Line 6   | In Line 6   |
| Bore & stroke  | 108 x 130 mm <b>(4.25" x 5.11")</b>   |
| Displacement   | 7,1 l <b>(436 cu in)</b>  |
| Maximum net engine output @  | 1900 RPM (per SAE J1349)<br>110 - 133 kWp <b>(148 - 179 hp)</b>   | 1900 RPM (per SAE J1349)<br>126 - 157 kW <b>(169 - 210 hp)</b>  | 2200 RPM (per SAE J1349)<br>148 - 175 kW <b>(198 - 235 hp)</b>  | 2200 RPM (per SAE J1349)<br>148 - 165 kW <b>(198 - 222 hp)</b>  |
| Rated gross power @ 2200 RPM   |   |   |   |   |
| Gears forward 1 & 2 and R 1  | 110 kW <b>(148 hp)</b>  | 127 kW <b>(170 hp)</b>  | 153 kW <b>(206 hp)</b>  | 153 kW <b>(206 hp)</b>  |
| Gears forward 3 - 8 and R 2 - 4  | 129 kW <b>(173 hp)</b>  | 153 kW <b>(205 hp)</b>  | 180 kW <b>(241 hp)</b>  | 170 kW <b>(228 hp)</b>  |
| Rated net power @ 2200 RPM   |   |   |   |   |
| Gears forward 1 & 2 and R 1  | 105 kW <b>(141 hp)</b>  | 122 kW <b>(164 hp)</b>  | 148 kW <b>(198 hp)</b>  | 148 kW <b>(198 hp)</b>  |
| Gears forward 3 - 8 and R 2 - 4  | 124 kW <b>(166 hp)</b>  | 148 kW <b>(198 hp)</b>  | 175 kW <b>(235 hp)</b>  | 165 kW <b>(221 hp)</b>  |
| Torque   | 743 N.m <b>(548 lb.ft)</b> @ 1100 RPM   | 831 N.m <b>(613 lb.ft)</b> @ 1100 RPM   | 900 N.m <b>(664 lb.ft)</b> @ 1100 RPM   | 900 N.m <b>(664 lb.ft)</b>  |
| <b>All Wheel Drive engaged</b>   |   |   |   |   |
| Rated gross power @ 2200 RPM   |   |   | 180 kW <b>(241 hp)</b>  |   |
| All gears  |   |   |   |   |
| Rated net power @ 2200 RPM   |   |   | 175 kW <b>(235 hp)</b>  |   |
| All gears  |   |   |   |   |
| <b>All Wheel Drive</b>   |   |   |   |   |
| Typical operating pressure   |   |   | 206 Bar <b>(3,000 psi)</b>  |   |
| Maximum operating pressure   |   |   | 344 Bar <b>(5,000 psi)</b>  |   |
| Minimum operating pressure   |   |   | 34 Bar <b>(500 psi)</b>   |   |
| Top speed  |   |   | 32,5 km/h <b>(20.2 mph)</b>   |   |
| Creep Mode speed   |   |   | 0-3,2 km/h <b>(0-2 mph)</b>   |   |
| <b>Transmission</b>  |   |   |   |   |
| Make/Model   | Volvo 8400  | Volvo 8400  | Volvo 8400  | Volvo 8400  |
| Ground speeds  | km/h  | km/h  | km/h  | km/h  |
| Forward  | mph   | mph   | mph   | mph   |
| 1  | 3,8   | 4,4   | 4,4   | 4,4   |
| 2  | 5,4   | 6,2   | 6,2   | 6,2   |
| 3  | 7,4   | 8,5   | 8,5   | 8,5   |
| 4  | 10,4  | 11,9  | 11,9  | 11,9  |
| 5  | 14,7  | 16,9  | 16,9  | 16,9  |
| 6  | 20,5  | 23,6  | 23,6  | 23,6  |
| 7  | 28,5  | 32,7  | 32,7  | 32,7  |
| 8  | 39,8  | 45,7  | 45,7  | 45,7  |
| Reverse  |   |   |   |   |
| 1  | 3,8   | 4,4   | 4,4   | 4,4   |
| 2  | 7,4   | 8,5   | 8,5   | 8,5   |
| 3  | 14,7  | 16,9  | 16,9  | 16,9  |
| 4  | 28,5  | 32,7  | 32,7  | 32,7  |
| <b>Differential / Final drive</b>  |   |   |   |   |
| Make/Model   | Volvo SR30 - Operator lock/unlock.  | Volvo SR30 - Operator lock/unlock.  | Volvo SR30 - Operator lock/unlock.  | Volvo SR40 - Operator lock/unlock.  |
| <b>Brakes</b>  |   |   |   |   |
| Service brakes   | Foot operated: Fade resistant, hydraulically actuated, oil disc service brakes.                               | Foot operated: Fade resistant, hydraulically actuated, oil disc service brakes.                               | Foot operated: Fade resistant, hydraulically actuated, oil disc service brakes.                               | Foot operated: Fade resistant, hydraulically actuated, oil disc service brakes.                               |
| Parking brake  | Independent, disc type parking brake on transmission output shaft and effective on all 4 tandem drive wheels. | Independent, disc type parking brake on transmission output shaft and effective on all 4 tandem drive wheels. | Independent, disc type parking brake on transmission output shaft and effective on all 4 tandem drive wheels. | Independent, disc type parking brake on transmission output shaft and effective on all 4 tandem drive wheels. |
| <b>Steering</b>  |   |   |   |   |
| Minimum turning radius   | 7 747 mm <b>(25'5")</b>   | 7 772 mm <b>(25'6")</b>   | 7 772 mm <b>(25'6")</b>   | 7 772 mm <b>(25'6")</b>   |
| <b>Frame</b>   |   |   |   |   |
| Articulation   | Yes   | Yes   | Yes   | Yes   |
| <b>Circle</b>  |   |   |   |   |
| Type   | Hardened teeth on outside of circle.  |
| Duramide™ faced adjustable guide shoes / clamp plates                          | 3 / 3   | 3 / 3   | 3 / 3   | 3 / 3   |
| <b>Circle drive</b>  |   |   |   |   |
| Hydraulic drive cylinders  | 2   | 2   | 2   | 2   |
| Rotation   | 360°  | 360°  | 360°  | 360°  |
| <b>Cab and controls</b>  |   |   |   |   |
| Controls and gauges housed in fully adjustable pedestal and right hand console | Yes   | Yes   | Yes   | Yes   |
| <b>Load sensing hydraulics</b>   |   |   |   |   |
| Axial piston pump  | Yes   | Yes   | Yes   | Yes   |
| Maximum pressure   | 186 Bar <b>(2,700 psi)</b>  |
| Output @ 2200 RPM  | 0-284 lpm <b>(0-75 U.S. gpm)</b>  |

| G730B  |  |  G740B |  |  G746B (AWD) |  |  G780B |  | CATEGORY                        |
|--|--|---|--|---|--|--|--|---------------------------------|
| <b>Base operating weight</b>   |  |   |  |   |  |  |  |                                 |
| W/full cab, ROPS, fluids and operator  |  |   |  |   |  |  |  |                                 |
| Total  |  |   |  |   |  |  |  |                                 |
| lb)  |  | 16 840 kg (37,125 lb)   |  | 17 350 kg (38,250 lb)   |  | 19 618 kg (43,250 lb)  |  | On front wheels                 |
| lb)  |  | 5 052 kg (11,138 lb)  |  | 5 205 kg (11,475 lb)  |  | 5 885 kg (12,975 lb)   |  | On rear wheels                  |
| lb)  |  | 11 788 kg (25,988 lb)   |  | 12 145 kg (26,775 lb)   |  | 13 733 kg (30,275 lb)  |  |                                 |
| <b>Productivity</b>  |  |   |  |   |  |  |  |                                 |
| Maximum blade pull   |  |   |  |   |  |  |  |                                 |
| Blade down force   |  |   |  |   |  |  |  |                                 |
| <b>Engine data</b>   |  |   |  |   |  |  |  |                                 |
| Make/Model   |  |   |  |   |  |  |  |                                 |
| Type   |  |   |  |   |  |  |  |                                 |
| No. of cylinders   |  |   |  |   |  |  |  |                                 |
| Bore & stroke  |  |   |  |   |  |  |  |                                 |
| Displacement   |  |   |  |   |  |  |  |                                 |
| Maximum net engine output @  |  |   |  |   |  |  |  |                                 |
| Rated gross power @ 2200 RPM   |  | 168 kW (225 hp)   |  | 168 kW (225 hp)   |  | 168 kW (225 hp)  |  | Gears forward 1 & 2 and R 1     |
| Gears forward 1 & 2 and R 1  |  | 186 kW (250 hp)   |  | 186 kW (250 hp)   |  | 186 kW (250 hp)  |  | Gears forward 3 - 8 and R 2 - 4 |
| Rated net power @ 2200 RPM   |  |   |  |   |  |  |  |                                 |
| Gears forward 1 & 2 and R 1  |  | 163 kW (219 hp)   |  | 163 kW (219 hp)   |  | 163 kW (219 hp)  |  | Gears forward 3 - 8 and R 2 - 4 |
| Gears forward 3 - 8 and R 2 - 4  |  | 181 kW (243 hp)   |  | 181 kW (243 hp)   |  | 181 kW (243 hp)  |  |                                 |
| @ 1100 RPM   |  | 1 135 N.m (837 lb.ft) @ 1000 RPM  |  | 1 135 N.m (837 lb.ft) @ 1000 RPM  |  | 1 135 N.m (837 lb.ft) @ 1000 RPM   |  | Torque                          |
| <b>All Wheel Drive engaged</b>   |  |   |  |   |  |  |  |                                 |
| Rated gross power @ 2200 RPM   |  |   |  |   |  |  |  |                                 |
| All gears  |  |   |  |   |  |  |  |                                 |
| Rated net power @ 2200 RPM   |  |   |  |   |  |  |  |                                 |
| All gears  |  |   |  |   |  |  |  |                                 |
| <b>All Wheel Drive</b>   |  |   |  |   |  |  |  |                                 |
| Typical operating pressure   |  |   |  |   |  |  |  |                                 |
| Maximum operating pressure   |  |   |  |   |  |  |  |                                 |
| Minimum operating pressure   |  |   |  |   |  |  |  |                                 |
| Top speed  |  |   |  |   |  |  |  |                                 |
| Creep Mode speed   |  |   |  |   |  |  |  |                                 |
| <b>Transmission</b>  |  |   |  |   |  |  |  |                                 |
| Make/Model   |  |   |  |   |  |  |  |                                 |
| Ground speeds  |  |   |  |   |  |  |  |                                 |
| mph  |  | km/h  |  | mph   |  | km/h   |  | Forward                         |
| 2.8  |  | 4.2   |  | 2.6   |  | 4.2  |  | 1                               |
| 3.9  |  | 5.9   |  | 3.7   |  | 5.1  |  | 2                               |
| 5.3  |  | 8.2   |  | 5.1   |  | 7.1  |  | 3                               |
| 7.5  |  | 11.4  |  | 7.1   |  | 10.0   |  | 4                               |
| 10.5   |  | 16.1  |  | 10.1  |  | 14.1   |  | 5                               |
| 14.7   |  | 22.7  |  | 14.1  |  | 19.7   |  | 6                               |
| 20.4   |  | 31.4  |  | 19.5  |  | 27.3   |  | 7                               |
| 28.5   |  | 43.8  |  | 27.2  |  | 38.3   |  | 8                               |
| 2.8  |  | 4.2   |  | 2.6   |  | 3.7  |  | Reverse                         |
| 5.3  |  | 8.2   |  | 5.1   |  | 7.1  |  | 1                               |
| 10.5   |  | 16.1  |  | 10.1  |  | 14.1   |  | 2                               |
| 20.4   |  | 31.4  |  | 19.5  |  | 27.3   |  | 3                               |
|  |  |   |  |   |  |  |  | 4                               |
| <b>Differential / Final drive</b>  |  |   |  |   |  |  |  |                                 |
| Make/Model   |  |   |  |   |  |  |  |                                 |
| <b>Brakes</b>  |  |   |  |   |  |  |  |                                 |
| Service brakes   |  |   |  |   |  |  |  |                                 |
| Parking brake  |  |   |  |   |  |  |  |                                 |
| <b>Steering</b>  |  |   |  |   |  |  |  |                                 |
| Minimum turning radius   |  |   |  |   |  |  |  |                                 |
| <b>Frame</b>   |  |   |  |   |  |  |  |                                 |
| <b>Articulation</b>  |  |   |  |   |  |  |  |                                 |
| <b>Circle</b>  |  |   |  |   |  |  |  |                                 |
| Type   |  |   |  |   |  |  |  |                                 |
| Duramide™ faced adjustable guide shoes / clamp plates                          |  |   |  |   |  |  |  |                                 |
| <b>Circle drive</b>  |  |   |  |   |  |  |  |                                 |
| Hydraulic drive cylinders  |  |   |  |   |  |  |  |                                 |
| Rotation   |  |   |  |   |  |  |  |                                 |
| <b>Cab and controls</b>  |  |   |  |   |  |  |  |                                 |
| Controls and gauges housed in fully adjustable pedestal and right hand console |  |   |  |   |  |  |  |                                 |
| <b>Load sensing hydraulics</b>   |  |   |  |   |  |  |  |                                 |
| Axial piston pump  |  |   |  |   |  |  |  |                                 |
| Maximum pressure   |  |   |  |   |  |  |  |                                 |
| Output @ 2200 RPM  |  |   |  |   |  |  |  |                                 |
| S. gpm)  |  | 186 Bar (2,700 psi)   |  | 186 Bar (2,700 psi)   |  | 186 Bar (2,700 psi)  |  |                                 |
|  |  | 0-284 lpm (0-75 U.S. gpm)   |  | 0-284 lpm (0-75 U.S. gpm)   |  | 0-284 lpm (0-75 U.S. gpm)  |  |                                 |

# Technically speaking

## 1 Hydraulic Fan

The variable-speed hydraulic fan manages air flow according to actual demand optimizing fuel economy while maximum available horsepower is maintained for other machine functions.

## 2 Hydraulics

The load-sensing, closed-center axial piston pump provides the industry's highest flow capacity to enable multi-function operations with precision and responsiveness regardless of RPMs.

## 3 Engine

Tough, fuel efficient, reliable Volvo 9.6 and 7.1 liter engines deliver high torque at low engine RPM. These engines also deliver an exceptional power profile for every grading application. All Volvo engines meet Tier II/Stage II environmental standards.

## 4 Accessibility

All access doors open wide to enable a clear, unobstructed view of powertrain components for service. Left side servicing makes all routine service checks convenient.

## 5 Operator Station

A quiet, comfortable and productive operator environment. Available in full height or low profile enclosed cab or full height canopy cab configuration.

## 6 Blade Mobility

The blade mobility system provides full 90°/90° positioning of the moldboard to both sides of the machine for superior bank-sloping and ditching.

## 7 Circle Drive

The Volvo dual cylinder Circle Drive System provides optimum circle turn and holding power with few moving parts.

## 8 Front Axle

The Volvo front axle, whether it is in a tandem or All Wheel Drive configuration, is built on a welded box section frame with straddle-mounts at every critical pivot area and a heavy-duty pivot pin, all designed to withstand the extreme stresses of cutting and pushing heavy loads.

## 9 Machine Monitoring

Contronics, a Volvo exclusive, is a 3-level warning system providing excellent machine protection by constantly monitoring and reporting vital grader functions.

## 10 Transmission

The Volvo 8400 transmission, with 8 forward and 4 reverse gears, provides the right speeds and rapid gear selection for any application.

## 11 Final Drive/Brakes

Operator-controlled lock/unlock differential, and 4-wheel "crossover" oil multi-disc brakes are standard equipment.

## 12 Full Perimeter Frame

The full perimeter frame provides a solid mount for attachments and prevents shock-loads to powertrain components.





# A true All Wheel Drive motor grader

**Volvo All Wheel Drive motor graders are like three drive systems in one – 2, 4 or 6 wheel drive. In 2 wheel drive, only the front wheels are powered from 0 - 3,2 km/h (0 - 2.0 mph), ideal for slow speed fine grading. In 4 wheel drive, you have a highly efficient tandem grader. In 6 wheel drive, you get an extra 3 855 kg (8,500 lb) more blade pull and up to 32,7 km/h (20.4 mph) for operation in poor footing or snow plowing.**



Whatever your application, the Volvo All Wheel Drive System is tuned to the task. The system provides an even distribution of power through independent variable displacement pumps and high torque motors at each front wheel. If the traction differs on either side, this system ensures that optimum pulling power is still achieved.

Speed sensors on each front wheel control the relative front to rear speeds. The main AWD control features 16 levels of aggression. This allows precise matching of front wheel aggression to tractive conditions. This means that not only do the G700B Series Motor Graders deliver up to 3 855 kg (8,500 lb) more blade pull to your heavy application, the slow speed adds extreme precision to your fine grading applications.

## **Leading All Wheel Drive innovation**

Only Volvo AWD graders offer you the ability to switch to Creep Mode for low speed, fine grading application. Creep Mode disengages the rear drive and pulls the grader in hydrostatic front wheel drive only. This puts the power where it needs to be for fine grading and allows the



moldboard to be navigated around the tightest corners without the rear wheels “scuffing” the finished grade. The controls for the AWD System, consisting of the AWD On/Off switch, 16 position aggression setting dial, Creep Mode activation switch and audible/visual AWD System Monitoring System, are conveniently located at the operator’s right hand.

## **Unbeatable high speed operation**

Only G700B All Wheel Drive models work up to 32,7 km/h (20.4 mph) for optimum snow clearing performance. This innovative AWD System is available in the G726B and G746B graders.





# Power and performance

**Because motor graders do work at all speeds, in all seasons and dozens of different applications, the Volvo 700B Series Graders utilize a matched set of powertrain components delivering the right kind of power and speed when and where it's needed.**

**Fuel efficient Volvo 9.6 litre and 7.1 liter engines are designed to deliver superior performance and reliability, especially matched to the proven Volvo 8400 transmission. Four wheel oil disc brakes and lock/unlock final drives complete a powertrain package second to none in the industry.**



## **Environmental commitment**

Care for the environment has always been one of the Volvo core values. We see our commitment as an integral part of our operation. Not only our plants, but also our manufacturing processes are certified in accordance to ISO 14001. Ninety percent of all the material in Volvo motor graders is recyclable. These are a few of the reasons that tell our customers that they are getting one of the most environmentally responsible motor graders on the market.

## **Electronic engine control**

Volvo engines are excellent for the type of work graders do; excellent low end torque to “power through” as load levels change, superior quietness for night operation and working in urban areas, superior fuel efficiency at all load levels and of course, low emissions. With variable horsepower, you have the right power matched to either low speed or high speed operation – automatically.

Volvo graders are equipped with turbocharged, high-performance, low-emission diesel engines, featuring electronically-controlled injection and intercooler. To ensure that all Volvo graders lead the industry's most progressive

environmental standards worldwide, Volvo diesel engine emissions are fully compliant with both the U.S. E.P.A. Tier II requirements and with the equivalent Stage II standards outlined by European authorities. Cooling is thermostatically controlled, with a variable speed fan that is governed by cooling demand. This means optimal use of power and lower fuel consumption.

## **Power when you need it**

High torque at low engine RPM is the secret behind the Volvo engine's high productivity in grading applications. The Volvo engine has the ability to sustain power under load and as loads change.

## **The proven 8400 transmission**

The Volvo 8400 transmission has been a proven performer in tens of thousands of our graders and millions of operating hours. With 8 forward and 4 reverse speeds, this fully sequential direct drive transmission has the right speed for every operation; with 5 speeds below 11 miles per hour for all grading operations, a high speed road maintenance gear, a snow plowing speed and a gear for high speed roading. The 8400 “Smart Shifter” provides rapid gear access

through pulse shifting, while ensuring that the operator always has an appropriately matched forward or reverse gear – automatically, just by changing direction. And finally, all Volvo “B” Series Graders have lock/unlock final drives, 4-wheel “crossover” oil multi-disc service brakes, fail-safe braking and spring applied/hydraulic release park/emergency brakes as standard equipment.



Since the grader's need for cooling depends on ambient conditions as well as the engine's power output, the variable-speed hydraulically driven fan on Volvo graders is designed to respond to actual demand. Combined with non-stacked coolers, the system continuously delivers just the right amount of cooling effort, consuming less fuel, producing less noise and maximizing available power for other grader functions.



# Support you can depend on

No matter where you are located, your Volvo Dealer will keep your motor graders operating at maximum productivity day after day. Our parts availability and service expertise are second to none in the industry.



The foundation of the success of all Volvo Construction Equipment products is your Volvo Dealer. We recognize that our relationship with our customers only begins with the sale of an articulated hauler, wheel loader, excavator, compact equipment and, of course, motor grader.

## Parts support

Genuine Volvo parts are manufactured to the most stringent specifications, guaranteeing compatibility, superior performance and a long service life.

To make sure you never have to settle for less than the best, your local dealer carries a complete inventory of parts for your Volvo grader.

## Service and support

When you're backed by Volvo, your Volvo grader is backed by thousands of skilled parts and service people in over 100 countries. Together, we cover the globe. We also offer a full range of customer service agreements individually tailored to ensure that your equipment and fleet continuously deliver the high productivity and availability you expect from Volvo.

Your local Volvo Dealer is fully equipped and trained to support every aspect of our products and your business with parts support, service assistance and training that you expect from the name Volvo.



## The right connections

Choose Volvo people to do your on-site or off-site maintenance. This decision means that you want and expect the very best. You want people who know your machine. Our service technicians have the parts, the equipment and the know how to get you up and running quickly and keep you running day after day. After all, isn't that what you expect?





# Life-long utilization

Volvo brings more than a century of field experience to the design of motor graders that are equal to every job a motor grader will ever have to do. By properly understanding the work that your graders do, we build in the capacities and capabilities to meet the demands of tomorrow's worksite as well as today's.



## Strength and precision

Many graders that are originally spec'd out for heavy cutting and pushing are often assigned to fine-grading applications, too. So every Volvo motor grader is built to combine the essential power and responsive controls that allow precise operation in any application. For slow fine work, the high torque engine delivers consistent power at low RPM,

while the large-displacement pump ensures that flow capacity is available for multi-function operation. Together, these provide the precise response ensuring effective, consistent moldboard and grade control. Mounting brackets and a pre-engineered interface simplify installation of automated blade control systems as original equipment or as retrofits.

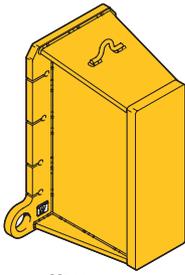
## Engineered for versatility

Adapting a grader to new tasks begins long before the attachments are chosen. Volvo graders are engineered to simplify installation and to ensure strength to handle the varied stresses generated by all kinds of attachments, front, rear and mid-mounted. The full-perimeter frame gives attachments an ideal base for solid support while isolating drivetrain components from the excessive loads of clearing snow, benching, ripping and scarifying. The proven box-section front axle design stands up to the challenges of heavy pushing and plowing while it supports complete wheel mobility. Volvo offers a complete range of optional hydraulic packages, and each is designed to integrate attachment controls for your grader application.



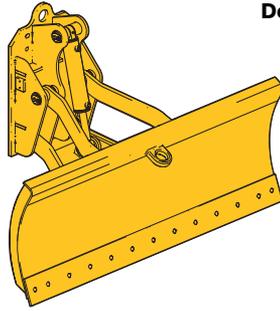
Engineered for versatility, your grader is fully equipped to accept a wide range of Volvo-built or Volvo-compliant attachments to maximize utilization of your equipment on every jobsite.

**Push Block**



**Model** V011  
**Weight** 476 kg (1,050 lb)  
**Push area** 2 594 cm<sup>2</sup> (402 in<sup>2</sup>)

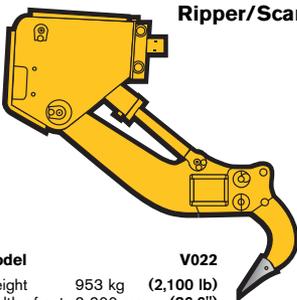
**Dozer Blade**



|                     |                     |                     |                     |
|---------------------|---------------------|---------------------|---------------------|
| <b>Model</b>        | <b>V016</b>         | <b>V017</b>         | <b>V018</b>         |
| <b>Width Class</b>  | 2,5 m (8')          | 2,7 m (9')          | 3,0 m (10')         |
| <b>Weight</b>       | 1 045 kg (2,300 lb) | 1 070 kg (2,360 lb) | 1 095 kg (2,415 lb) |
| <b>Width of cut</b> | 2,5 m (98")         | 2,75 m (108")       | 3,0 m (118")        |
| <b>Blade height</b> | 953 mm (37.5")      | 953 mm (37.5")      | 953 mm (37.5")      |



**Ripper/Scarifier**



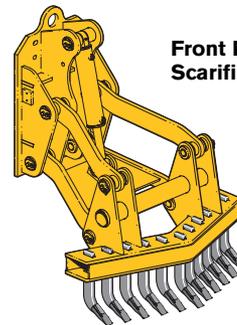
**Model** V022  
**Weight** 953 kg (2,100 lb)  
**Width of cut** 2 200 mm (86.6")

**Mid Mount Scarifier**



**Model** V001  
**Weight** 782 kg (1,725 lb)  
**Width of cut** 1 235 mm (48.6")

**Front Mounted Scarifier**



**Model** V005  
**Weight** 704 kg (1,552 lb)  
**Width of cut** 1 248 mm (49")



Volvo Construction Equipment is different. It's designed, built and supported in a different way. That difference comes from our 170-year engineering heritage. A heritage of thinking first about the people who actually use the machines. About how to help them be safer, more comfortable, more productive. About the environment we all share. The result of that thinking is a growing range of machines and a global support network dedicated to helping you do more. People around the world are proud to use Volvo. And we're proud of what makes Volvo different – **More care. Built in.**



*All products are not available in all markets. Under our policy of continuous 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.*

# **VOLVO**

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