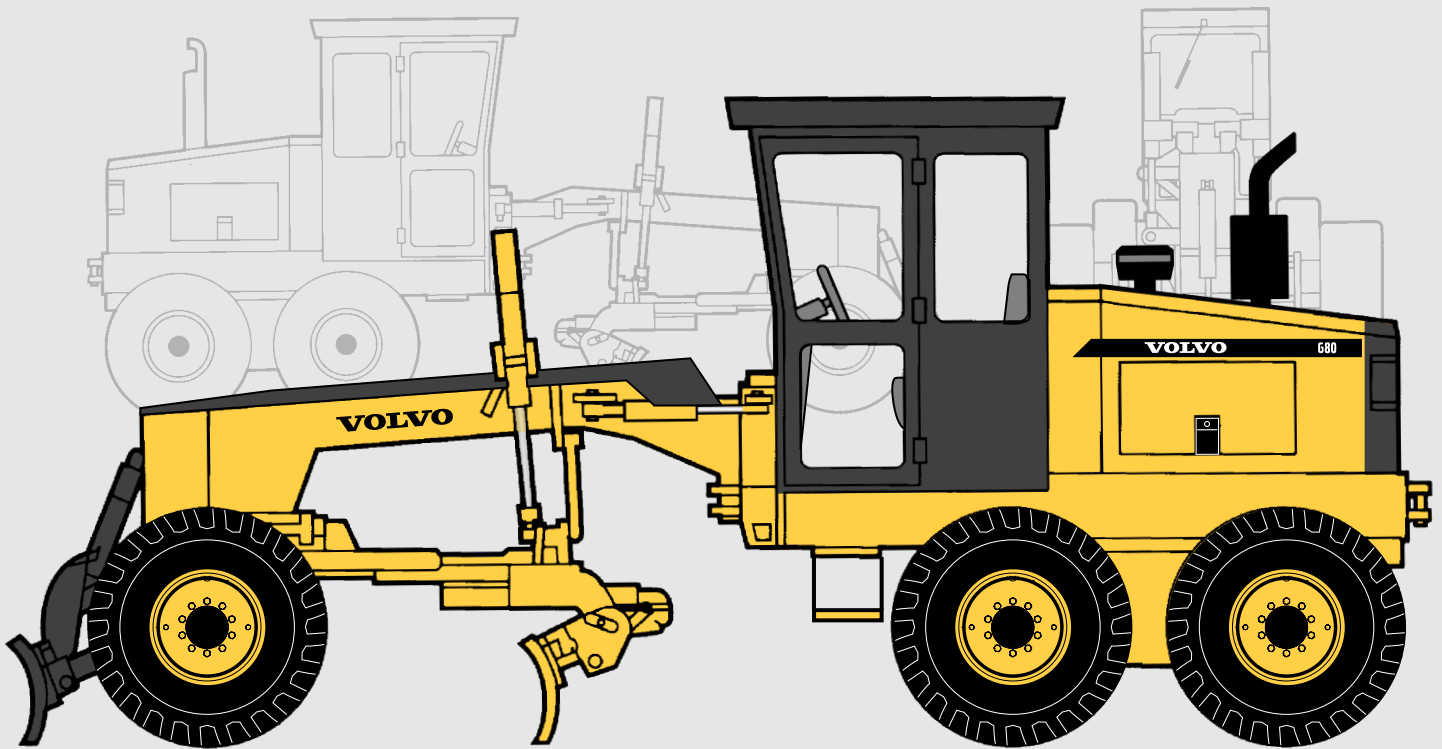


# VOLVO MOTOR GRADER G80 / G86

COMPACT



## KEY FEATURES:

- Infinitely variable ground speeds 0-20 mph (0-32 km/h)
- ROPS canopy or fully enclosed cab ROPS
- Tight turning radius 16'6" (5 029 mm)
- Full range of front and rear attachments
- Fully adjustable, low effort, operator friendly controls
- Tandem drive or All Wheel Drive
- Dual lever speed and directional controls
- Hydraulically Boosted Dual Braking System with reserve power assist
- Heavy duty positive traction differential
- 2 speed rear axle gearbox with neutral position
- 10' (3 048 mm) hydraulic sliding moldboard
- Hydraulic leaning front wheels

MODEL	G80	G86
Configuration	Articulated Frame Tandem Drive	Articulated Frame All Wheel Drive
Engine	Cummins 4B3.9	Cummins 4BT3.9
Output (SAE J1349)	85 hp (63 kW)	110 hp (82 kW)
Operating weight	15,000 lb (6 800 kg)	15,500 lb (7 030 kg)
Turning Radius	16'6" (5 029 mm)	

**VOLVO**



## OPERATING WEIGHTS

### G80

Total ..... 15,000 lb 6 800 kg  
 Front wheels ..... 5,010 lb 2 270 kg  
 Rear wheels ..... 9,990 lb 4 530 kg

### G86

Total ..... 15,500 lb 7 030 kg  
 Front wheels ..... 5,290 lb 2 400 kg  
 Rear wheels ..... 10,210 lb 4 630 kg

Weights shown include ROPS canopy with FOPS protection, all operating fluids and operator.



## ENGINE DATA

### G80

Make/Model ..... Cummins 4B3.9  
 Type ..... 4 cycle, naturally aspirated, diesel  
 No. of cylinders ..... 4  
 Bore & stroke ..... 4.02" x 4.72"  
 (102 mm x 120 mm)  
 Displacement ..... 239 cu in (3.92 L)  
 Horsepower @ 2500 RPM  
 85 hp (63 kW)

### G86

Make/Model ..... Cummins 4BT3.9  
 Type ..... 4 cycle, turbocharged, diesel  
 No. of cylinders ..... 4  
 Bore & stroke ..... 4.02" x 4.72"  
 (102 mm x 120 mm)  
 Displacement ..... 239 cu in (3.92 L)  
 Horsepower @ 2500 RPM  
 110 hp (82 kW)

Engine equipped with a dual element, dry type air cleaner with evacuator. 12 volt starting and electrical system with 65 amp (780 watt) alternator.

Performance: Rated gross horsepower to SAE J1995 standard conditions with water pump, lubricating oil pump and fuel system.

Optionally available on G80: 110 hp (82 kW) Cummins 4BT3.9 turbocharged diesel engine.



## TRANSMISSION

Type ..... Hydrostatic  
 Control ..... Dual lever speed and directional control

Transmission is "declutched" by brake pedal. Mechanical neutral lockout with neutral start switch.

Operating pressure ..... 3,000 PSI  
 (20 700 kPa)

Maximum pressure ..... 5,000 PSI  
 (34 500 kPa)

Hydrostatic Drive provides infinitely variable control to the operator through the entire range of ground speeds. This permits very smooth increases or decreases in operating speeds, essential when fine grading. Rapid forward or reverse selection makes repetitive operations simpler.

### SPEEDS @ 2500 RPM

Forward and Reverse  
 Working range ..... 0-10 mph  
 (0-16 km/h)  
 Rooding range ..... 0-20 mph  
 (0-32 km/h)

Foot controlled forward and reverse pedals available optionally.



## DIFFERENTIAL / FINAL DRIVE

Positive traction differential consists of 4 bevel gears and automatic lock/unlock. Heavy duty flanged sleeve construction is supported by tapered roller bearings, allowing fully floating, non load carrying drive axles. A heavy duty two speed gearbox provides work and travel modes as well as a neutral position for towing.

Ground clearance ..... 10" (254 mm)



## TANDEMS

Tandems are fabricated steel box construction.

Wall thicknesses  
 - inner & outer ..... 0.625" (16 mm)  
 Drive chain pitch ..... 1.5" (38 mm)  
 Oscillation ..... +/-25°



## WHEELS & TIRES

Tire size ..... 15 x 19.5, TL, G-2  
 Ply rating (PR) ..... 8  
 Rim size ..... 12.25" (311 mm)  
 Bolt-on type



## BRAKES

Service Brakes ..... Foot operated  
 Fade resistant, hydraulically actuated disc brakes effective on all four rear wheels.

Braking system operates from a separate hydraulic pump and features dual circuits for even braking on both sides of the grader. Includes reserve power assist and operator warning system (visual and audible). Hydrostatic drive provides dynamic braking.

Parking Brakes ..... Hand operated  
 Independent, mechanically actuated disc brakes effective on all four rear wheels. System uses a cable equalizer to assure even engagement pressure on both discs. Includes visual and audible warning system for parking brake engaged.

All braking systems meet SAE Standard J1473 OCT 90, SAE Recommended Practice J1152 APR 80 and ISO 3450: 1985.



## FRONT AXLE

Front axle type: fully welded steel truss, gusseted for torsional strength and rigidity. Single oscillation pin with replaceable pin supports.

Wheel lean ..... Hydraulic, 15° R or L  
 Oscillation ..... 35° up and down  
 Ground clearance ..... 16" (406 mm)



## STEERING

Type ..... Hydraulic power steering  
 Turning radius (outside front wheel)  
 - articulated frame ..... 16'6" (5 029 mm)  
 - straight frame ..... 27'6" (8 382 mm)  
 Operating pressure ..... 1,200 PSI  
 (8 275 kPa)

Steering system operates from separate hydraulic pump.

## FRAME

Rear ..... 12" (305 mm)  
heavy gauge box channel  
Front ..... welded box type  
Size ..... 0.5" x 8" x 8"  
(13 mm x 203 mm x 203 mm)

Full front and rear frame sections

## ARTICULATION

4" (102 mm) diameter pivot pins, turning on 4 tapered roller bearings. 2 hydraulic cylinders mounted with replaceable ball joints and dust shields.  
Articulation angle ..... 37°

## CIRCLE

Size ..... 39" (991 mm) outside diameter  
Type ..... full circle construction  
Moldboard height controlled by two hydraulic cylinders connected to ball joints at turntable. Trunnion mounted to frame with bearings and replaceable bushings. Circle centered with 3 adjustable alignment blocks with removable shims. Replaceable wearplate between circle and drawbar.

## CIRCLE DRIVE

Circle rotation ..... 120°  
Twin hydraulic cylinder circle drive system uses direct acting hydraulic power permitting moldboard repositioning under full load. Permits moldboard to be repositioned within grader's width for travel. Circle turn cushion valve available as an option.

## DRAWBAR

Main drawbar (solid) .... 4" (102 mm) square  
Cross bar (solid) ..... 1" x 4"  
(25 mm x 102 mm)  
"T" bar designed for maximum visibility and support. Connected to frame by shim adjustable ball stud.

## MOLDBOARD

Size ..... 10' x 19" x 5/8"  
(3 048 mm x 483 mm x 16 mm)  
Replaceable cutting edges  
& end bits - 2 ..... 6'x 6" x 0.5"  
(1 829 mm x 152 mm x 13 mm)  
5'x 6" x 0.5"  
(1 524 mm x 152 mm x 13 mm)  
Cut below ground ..... 8" (203 mm)  
Blade ground clearance ..... 20" (508 mm)  
Blade tilt angle,  
hydraulically powered ..... 45°  
Blade reach outside front tires:  
- moldboard extended & using  
hydraulic blade slide  
right or left ..... 58" (1 473 mm)  
- articulated & extended  
right or left ..... 87" (2 210 mm)

Optional circle sideshift cylinder available for increased blade mobility.

## CAPACITIES

Fuel tank ..... 39 gallon (148 L)  
Hydraulic ..... 30 gallon (114 L)  
Coolant ..... 4.5 gallon (17 L)  
Tandems (each) ..... 18 gallon (68 L)  
Final drive ..... 4.5 gallon (17 L)

## CAB & CONTROLS

All hydraulic controls are located on the fully adjustable steering pedestal. Ten low effort, direct acting hydraulic control levers are arranged in accordance with the industry standard for optimum operator convenience, visibility and comfort. Full hydraulic controls provide operation of circle turn, left and right blade lift and float control, articulation, moldboard slide, moldboard tilt, leaning wheel, front blade/scarifier, and optional circle side shift and front/rear attachments.

Pedestal instrument cluster: engine temperature gauge; engine oil pressure gauge; fuel level gauge; volt meter; tachometer.

A right hand console houses the transmission controller, throttle, hour meter, all electrical switches, heater controls and ignition switch.

## HYDRAULICS

Standard "Single Flow" hydraulic system with feathering blade lift controls provides smooth, uniform response.

Hydraulic tank contains a temperature gauge and sight glass for fluid level checks.

Operating pressure ..... 1,800 PSI  
(12 411 kPa)

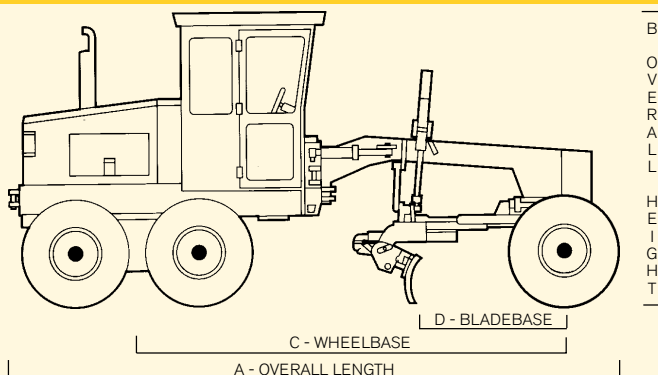
Two section gear pump ..... 24 gpm (91 lpm)

"Twin Flow" hydraulic system available as an option.

## FILTERS

Transmission ..... 10 micron  
Hydraulic ..... 33 micron spin-on type

## DIMENSIONS



A Overall length ..... 20'10" (6 350 mm)

B Overall height ..... 9'6" (2 896 mm)

C Wheelbase ..... 15'4" (4 674 mm)

D Bladebase ..... 6'2" (1 880 mm)

Overall width

- front tires ..... 7'2" (2 184 mm)

- rear tires ..... 7'8" (2 362 mm)



## G86 ALL WHEEL DRIVE

G86 AWD operates in low range, forward and reverse speeds from 0-10 mph (0-16 km/h).

Automatically disengages when the operator presses the brake pedal or shifts the transmission to neutral. All wheel drive provides optimum traction in all working conditions. System maintains equalized traction to both front wheels in turns and in all traction situations. Grader retains full front axle mobilities of oscillation and wheel lean.

### ATTACHMENTS

- Automatic Blade Control
- Counter Weight
- Front Mounted 7' (2 134 mm) Blade/Scarifier
- Front Mounted 8' (2 438 mm) Blade/Scarifier
- Front Mounted "V" Scarifier
- Rear Mounted Rippifier
- Rotary Broom
- Side Dozer
- Utility Front End Loader
- Windrow Eliminator

### STANDARD EQUIPMENT

- Hydrostatic drive
- Heavy duty positive traction differential
- 2 speed rear axle gearbox with neutral position
- ROPS canopy, with FOPS protection, c/w fully adjustable control pedestal, low effort, industry standard controls, feathering type blade lift controls
- 11' (3 353 mm) hydraulic sliding moldboard c/w hydraulic tilt
- Hydraulically Boosted Dual Braking System with reserve power assist
- Power steering
- Suspension seat
- Hydraulic leaning front wheels
- 15 x 19.5 grader tires
- Ratchet type park brake with operator warning alarm and indicator
- Gauges: engine temperature and oil pressure, volt meter, fuel level, tachometer, hour meter
- Moldboard float control valves
- Muffler
- 12 volt electrical system
- Backup alarm
- Seatbelt
- Steps and grab handles
- Lockable engine side panels
- Backup lights
- Front and rear directional, brake and tail lights and hazard lights
- 2 dual beam headlights
- Inside convex rear view mirror
- External lockable battery box
- 8 bank hydraulic manifold
- Moldboard - 10' (3 048 mm)



## FRONT MOUNTED BLADE (optional)

- With scarifier teeth
- Size ..... 7' x 17" x 5/8" (2 134 mm x 422 mm x 16 mm)
- 8' x 17" x 5/8" (2 438 mm x 422 mm x 16 mm)
- Blade ground clearance ..... 16" (406 mm)
- Replaceable, standard grader cutting edge
- Number of teeth ..... 4
- Mounted on front blade. Replaceable tips
- Cutting depth ..... 6" (152 mm) below blade
- Cutting width ..... 43" (1 092 mm)

### OPTIONAL EQUIPMENT

- All Wheel Drive (available as G86)
- Enclosed ROPS cab with FOPS protection
- Cummins 4BT3.9 turbo diesel 110 hp (82 kW) (G80)
- Moldboards
  - 11' x 19" x 5/8" (3 353 mm x 483 mm x 16 mm)
  - 12' x 19" x 5/8" (3 658 mm x 483 mm x 16 mm)
- Hydraulic circle sideshift
- Electronic blade controls
- Forward-Neutral-Reverse foot control pedal
- Foot pedal accelerator
- 7' (2 134 mm) Front Mounted Blade with scarifiers
- 8' (2 438 mm) Front Mounted Blade with scarifiers
- Cab heater
- Windshield defroster
- Beacon light
- Working lights
- Windshield wipers
- Windshield washers
- Air cleaner service indicator
- Outside rear view mirrors
- Rear glass in canopy
- AM/FM radio cassette
- Air conditioning
- "Twin Flow" hydraulic system

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. [www.volvo.com](http://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.

