SOLID TO SUCCEED

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XCMG

Motor Grader

GR165

www.xcmg.com

The motor grader is mainly used for ground leveling, ditching, slope scraping, bulldozing, scarification, snow removal for large areas such as highway, airports, farmlands etc. It is the necessary construction machinery for urban and rural road construction and water conservancy construction, farmland improvement and so on. This specification is applied for machine type of GR165.

Main Technical Performance and Characteristics

1 **Power system :**This machine is equipped with turbocharged diesel engine. Large output torque and power reserve coefficient and low oil consumption.

2 **Transmission system:**Transmission system comprises torque converter, power shift transmission, drive axle, rear axle and rear wheel. The transmission and the torque converter are of electronically controlled power shift countershaft transmission. Torque converter has big torque coefficient, wide high efficiency area. It has good combination working characteristics with engine. The transmission box has six forward gears, three backward gears, with neutral start protection function, gear shift controlled by electro-hydraulic, flexible operation, shift without impact, reasonable speed ratio distribution, meet the requirements of various working conditions.

3 **Braking system:**The braking system consists of the braking system (i.e. the foot brake) and the parking brake system (i.e. hand brake). The service brake is one single-circuit hydraulic brake system, which acts on the rear wheels of the motor grader, and the brake is safe and reliable. The parking brake system consists of the manipulator and brake.

4 **Front axle:**The front axle is steering axle. The axle can swing from side to side. In addition to the front steering, it also uses the articulated frame, which can further reduce the turning radius.

5 **Working devices:**The working device consists of the hitch frame, the turning bearing, the blade and the angle adjustment device, etc. The ball joint at the front end of the hitch frame, articulated with frame, allows rotation arbitrary around the ball joint. The turning circles at the hitch frame can rotate under drive of the slewing drive device, to turn the blade. Two sliding rails behind the blade supports in the chute of the angle adjustment device, side shifting realizing by cylinder. The blade can change the shovel angle, the angle can reach 40° of front blade and 5° of rear blade.

6 **Hydraulic system:**The hydraulic system is composed by three main parts: Operating hydraulic system, Steering hydraulic system,Service brake system.Double - loop hydraulic system, which operates on the four rear wheels of the motor grader. They are made up of gear pump, brake valve, oil filling valve, accumulator, brake cylinder, etc. Used to control the service brake.

7 **Hood :**The hood is structural part, well shaped with turn over function, the two sides double door is reversible, enhances the maintainability.

8 **Interior trim parts and electrical appliances :**Sealed cab includes air conditioning system, the interior design is made of high quality and smooth materials, fully embodies the man-machine engineering needs. The electrical system consists of instrument panel, control box, wire harness, detection sensor, various lighting and driving indicator lights. The engine running, driving, various lighting and driving indicators, rain scraping and horn can be controlled. The engine, torque converter, hydraulic system, braking system, storage battery charging and discharging and all kinds of filter can be monitored here, feedback of the machine status can be provided instantaneously to the operator.

Durable Rear Axle

1 Upgraded Swing Structure

- Innovative slewing bearing structure for longer service life

2 First-class “No-spin” Differential

- More adaptable to harsh working conditions

3 Integral Forged Wheel Hub

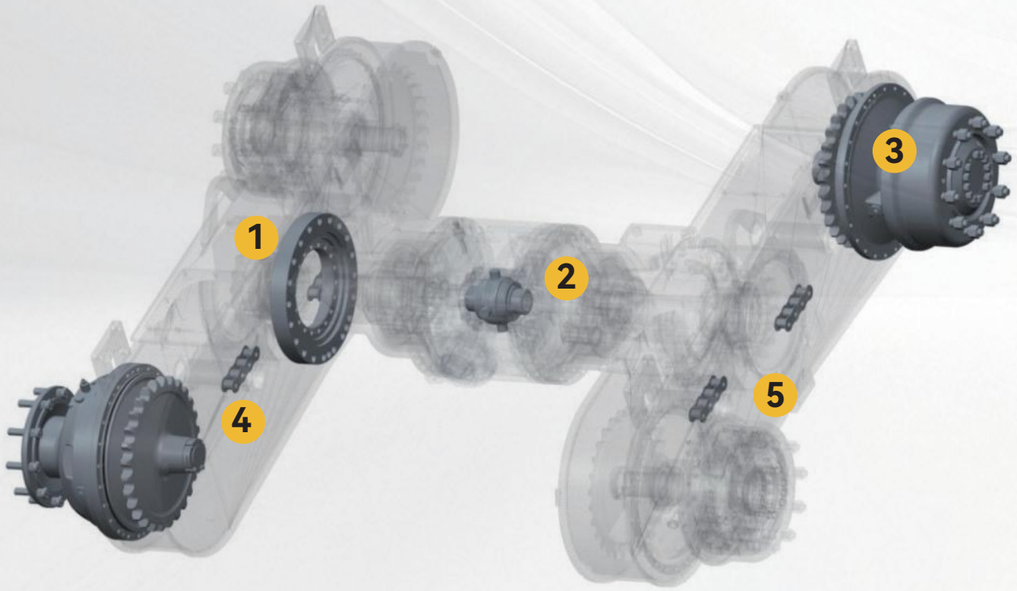
- It has stronger bearing capacity and can adapt to worse working conditions

4 Heavy Load Bearing

- Increased carrying capacity and life

5 Heavy-duty Bearing Heavy Roller Chain

- The bearing capacity is increased by 35%, which can adapt to worse working conditions



Durable Front Axle

1 The First Single Cylinder Steering Technology In The World

- Small turning radius, long service life

2 Variable Cross-section Mandrel

- The specification of the outer bearing is increased, and the service life of the bearing is greatly improved

3 New Wear-resistant Shaft Sleeve

- Low maintenance cost and long life

4 Cast Joints (Except Gr135)

- High reliability, stronger bearing capacity

Heavy Duty Bulldozing Device

1 Heat Treatment Ring Gear

- Up to 10 000 hours service life

2 High Wear-resistant Rail Bushing

- Service life is doubled

3 Initially Arc Gear Transmission

- 8% reduction in maximum stress

4 Structurally Optimized Blade

- Traction force increased by 2.6%~5.8%;
  Digging resistance decreased by 2.3%~6.4%;
  The vertical downward pressure increases 700N~14000N

High-reliability Hydraulic System

1 Cylinder with Combined Seal

- More reliable and durable

2 International Matching of Key Hydraulic Components

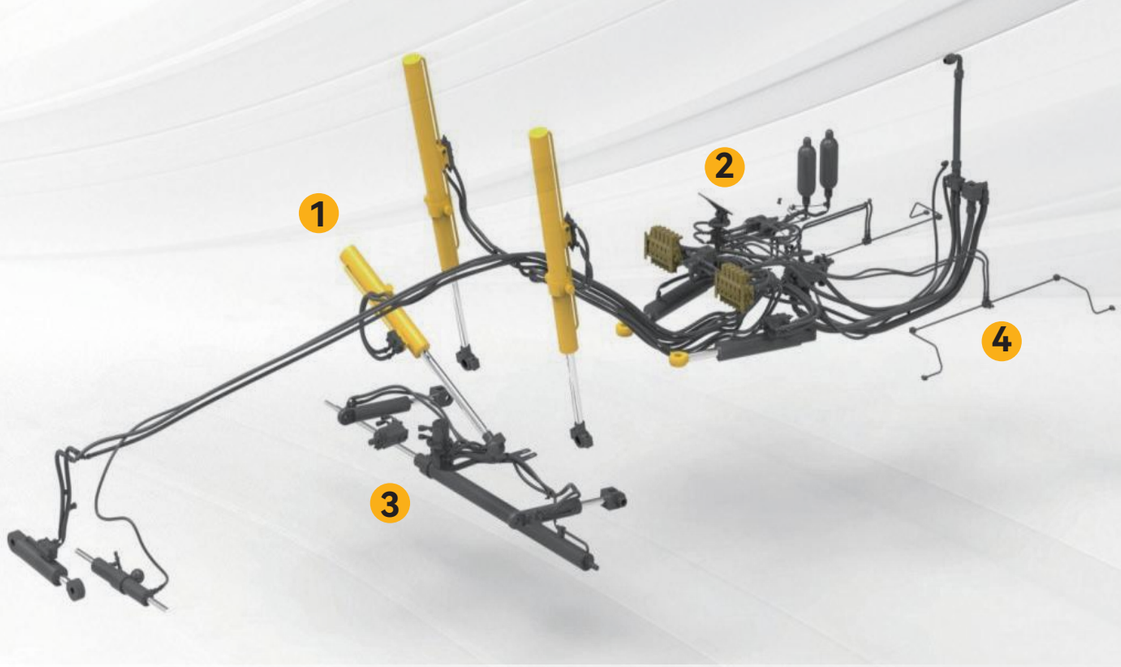
- Superior to competition

3 The Response Speed of The Working Cylinder Is Increased by 20%

- Precise treatment of leveling at different positions

4 Hydraulic Drum Brake System

- More reliable



High-reliability Electrical System

1 Led Work Lights

- Achieve good illumination at night, 20 000 hours lifetime

2 Lcd Combination Dashboard

- Fault indication and query, service life is up to 10,000 hours

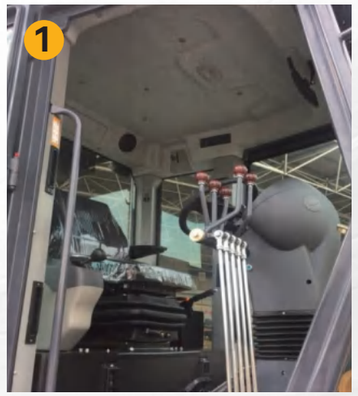
Ergonomic Operating Comfort

1 Comfortable Driving Environment

- Achieve good illumination at night, 20 000 hours lifetime

2 Effort-saving Operation

- The operating force is reduced by 30%
  Control stroke reduced by 25%



3 All-around Visibility

Rich customization technologies

1 Air Conditioner for + 50 °c Ambient Temperature

2 High-power Warm Air

3 Multi-stage Air Filtration

4 Multi-functional Auxiliary Attachments

5 Ultra-low Temperature Cold Starting

6 Anti-uv Cabin

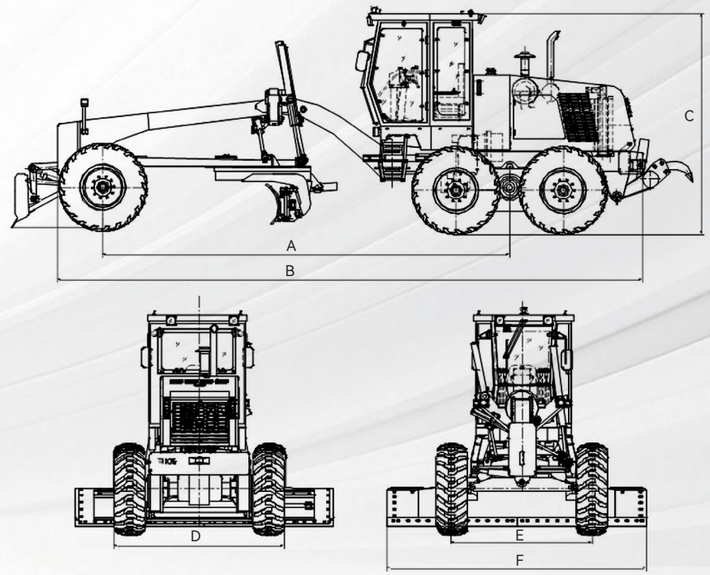
7 -40 °c Extremely Cold Environment

8 +55 °c Hot Desert Environment

Technical parameter table

Items			GR165
Basic parameters		Engine model	6BTA5.9-C180-II
		Rated power/speed	132kW/2200rpm
		Overall dimensions (Standard configuration)	8900×2625×3420mm
		Overall weight (Standard configuration)	15000kg
		Tire specification	17.5-25
		Ground clearance (Front axle)	430mm
		Wheel tread	2156mm
		Span between front and rear axles	6219 mm
		Space of middle and rear wheels	1538 mm
Performance parameters		Forward speed	5、8、11、19、23、38km/h
		Reverse speed	5、11、23km/h
		Traction force f=0.75	≥77kN
		Maximum gradeability	≥25%
		Inflation pressure of tires	260kPa
		Working system pressure	16MPa
		Transmission pressure	1.3—1.8Mpa
Working parameters		Maximum steering angle of front wheels	±50°
		Maximum inclination angle of front wheels	±17°
		Maximum swing angle of front axle	±15°
		Maximum swing angle of balance box	15°in front and 15°at back
		Maximum steering angle of frame	±27°
		Minimum turning radius	7.3m
	Blade	Maximum lifting height	450mm
		Maximum shoveling depth	500mm
		Maximum lateral inclination angle	90°
		Cutting angle	28°—70°
		Slewing angle	360°
		Length× chord height	3660×610mm
Filling capacity		Coolant	50L
		Fuel tank	280L
		Engine	24L
		Transmission	38L
		Balance box	46L
		Drive axle	28L
		Hydraulic oil	110L

Appearance And Dimensions



Model	A	B	C	D	E	F
GR165	6219	8900	3420	2625	2156	3660