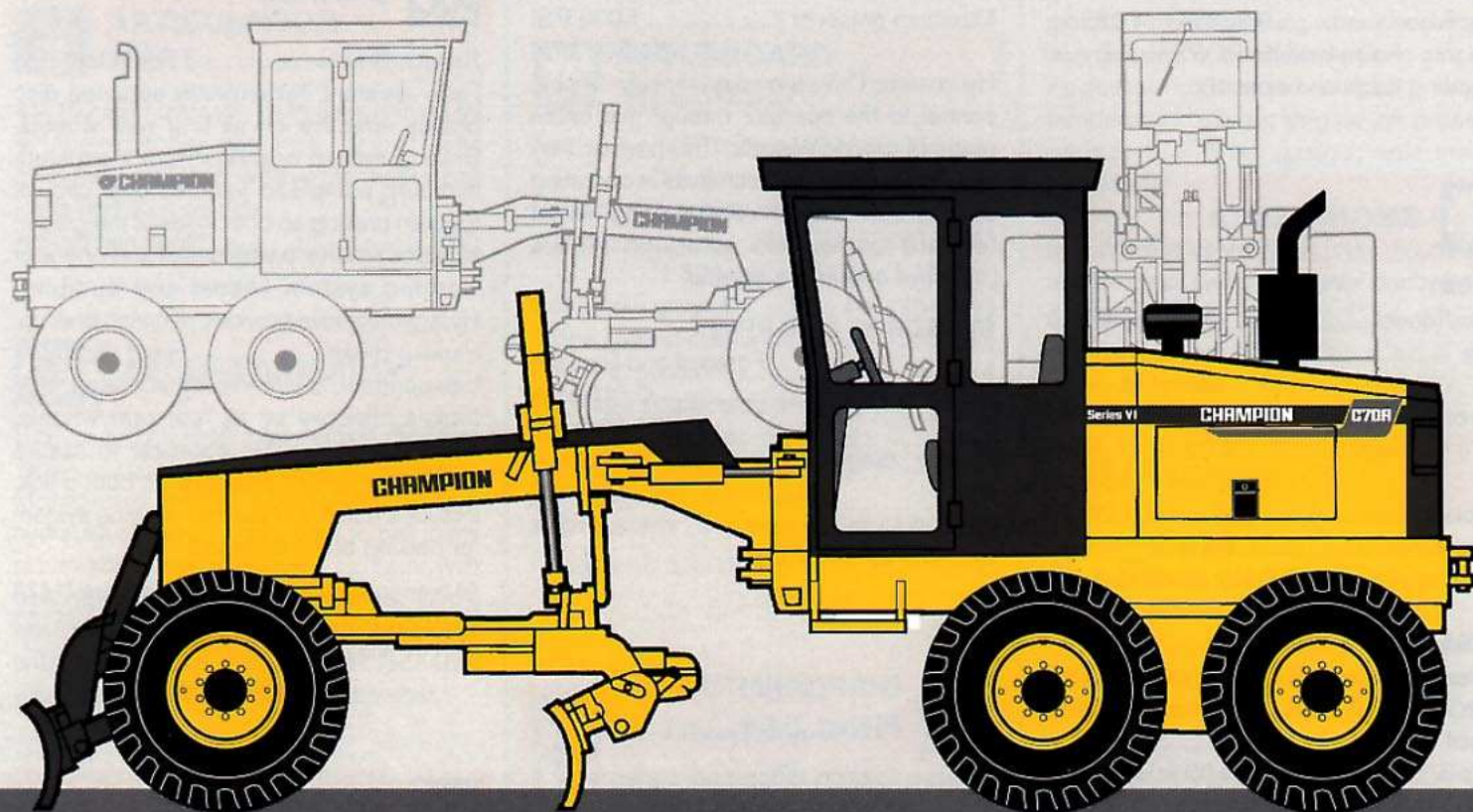


# CHAMPION

## Series VI

## C70A / C76A

### TANDEM DRIVE/ALL WHEEL DRIVE COMPACT MOTOR GRADERS



#### KEY FEATURES

- Infinitely variable ground speeds 0-20 mph (0-32 km/h)
- Low emission, high efficiency Cummins diesel engine
- 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	C70A	C76A
Configuration	Tandem Drive	All Wheel Drive
Engine	Cummins 4B3.9	Cummins 4BT3.9
Output (SAE J1349)	80 hp (60 kW)	110 hp (82 kW)
Operating weight	13,050 lb. (5 919 kg)	13,600 lb. (6 169 kg)
Turning Radius	16' 6" (5 029 mm)	

## CHAMPION<sup>®</sup>

## MOTOR GRADERS

A Company within the Volvo Construction Equipment Group



# C70A/C76A

C70A - Articulated Frame, Tandem Drive C76A - Articulated Frame, All-Wheel-Drive



## OPERATING WEIGHTS

### (C70A)

Total ..... 13,050 lbs. 5 919 kg  
Front wheels ..... 3,920 lbs. 1 778 kg  
Rear wheels ..... 9,130 lbs. 4 141 kg

### (C76A)

Total ..... 13,600 lbs. 6 169 kg  
Front wheels ..... 4,220 lbs. 1 914 kg  
Rear wheels ..... 9,380 lbs. 4 255 kg  
Weights shown include ROPS canopy, all operating fluids and operator.



## ENGINE DATA

### (C70A)

Make/Model ..... Cummins 4B3.9  
Type ..... 4 cycle, naturally aspirated, diesel  
No. of cylinders ..... 4  
Bore & stroke ..... 4.02 in. x 4.72 in.  
(102 mm x 120 mm)  
Displacement ..... 239 cu. in. (3.92 L)  
Horsepower ..... 80 @ 2500 RPM  
(60 kW @ 2500 RPM)

### (C76A)

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

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 C70A: 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 ..... 3000 PSI  
(20 700kPa)  
Maximum pressure ..... 5000 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 as an option.



## 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)



## TANDEM

Tandems are fabricated steel box construction.  
Wall thicknesses  
- inner & outer ..... 0.625" (16 mm)  
Drive chain pitch ..... 1.25" (32 mm)  
Oscillation ..... +/-25°



## WHEELS & TIRES

Tire size ..... 15 x 19.5, TL, G2  
Ply rating (pr.) ..... 8 pr.  
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 ..... 1200 PSI  
(8 275 kPa)

Steering system operates from separate hydraulic pump.



# C70A/C76A



## FRAME

Rear ..... 10" (254 mm)  
heavy gauge box channel  
Front ..... Welded box type  
Size ..... 0.375" x 8" x 8"  
(10 mm x 203 mm x 203 mm)  
Full front and rear frame sections.



## ARTICULATION JOINT

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 ASSEMBLY

Size ..... 37" (940 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 ASSEMBLY

Size ..... 5/8" thick x 19" high x 10' long (16 mm x 483 mm x 3 048 mm)  
Replaceable cutting edges & end bits ..... Two @ 5' x 6" x 0.5" (1 524 mm x 152 mm x 13 mm)  
Cut below ground ..... 10" (254 mm)  
Blade ground clearance ..... 12" (305 mm)  
Blade tilt positions ..... 4  
Hydraulic tilt available as an option.  
Blade reach outside front tires:  
- moldboard extended & using hydraulic blade slide ..... 46" (1 168 mm) right or left  
- articulated & extended ..... 75" (1 905 mm) right or left



## CAPACITIES

Fuel tank ..... 39 gallon (148 L)  
Hydraulic ..... 30 gallon (114 L)  
Coolant ..... 4.5 gallon (17 L)  
Tandems (ea.) ..... 16 gallon (68 L)  
Final drive ..... 4.5 gallon (17 L)



## CAB & CONTROLS



All hydraulic controls are located on the fully adjustable steering pedestal. 8 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, leaning wheel, front blade/scarifier, and optional blade tilt.  
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)  
Single section gear pump ..... 16 gpm (61 lpm)  
"Twin Flow" hydraulic system is optional.

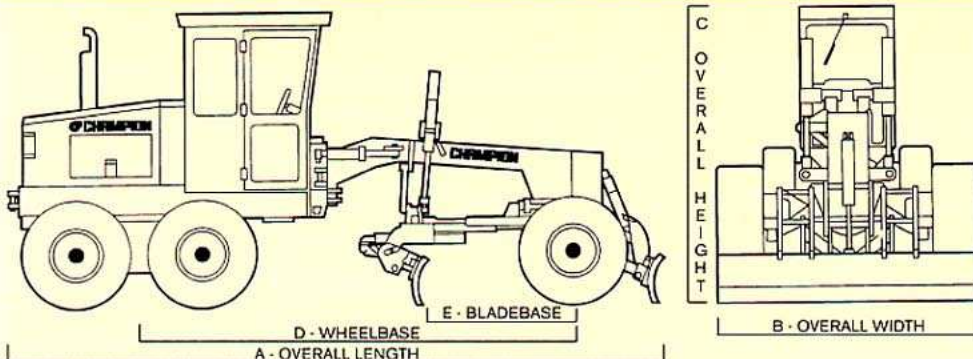


## FILTERS

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

## DIMENSIONS

A Overall length  
- scarifiers up ..... 21' 0" (6 401 mm)  
- scarifiers down ..... 21' 6" (6 553 mm)  
- without scarifiers ..... 20' 8" (6 229 mm)  
B Overall width  
@ front tires ..... 84" (2 134 mm)  
@ rear tires ..... 89" (2 261 mm)  
C Overall height ..... 9' 1" (2 769 mm)  
D Wheelbase ..... 15' 4" (4 674 mm)  
E Blade base ..... 6' 2" (1 880 mm)





# C70A/C76A



## C76A: ALL WHEEL DRIVE

C76A 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.

## AVAILABLE ATTACHMENTS

- Front mounted blade/scarifier
- Front mounted V-type scarifier
- Rear mounted ripper/scarifier
- Automatic Blade controls
- Windrow eliminator
- Hydraulic broom
- Front-end loader bucket
- Side dozer

## STANDARD EQUIPMENT

- Cummins 4B3.9 80 HP (60 kW) - C70A
- Cummins 4BT3.9 110 HP (82 kW) - C76A
- Hydrostatic drive
- "Single Flow" hydraulic system
- Heavy-duty positive traction differential
- 2-speed rear axle gearbox with neutral position
- ROPS canopy, c/w fully adjustable control pedestal, low-effort, industry-standard controls, feathering-type blade lift controls
- 10' (3 048 mm) hydraulic sliding moldboard
- Hydraulically Boosted Dual Braking system with reserve power assist
- Power steering
- 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
- Back-up alarm
- Seat belt
- Steps and grab handles
- Lockable engine side panels
- back up 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



## FRONT-MOUNTED BLADES (optional)

Size: ..... 5/8" thick x 17" high x 7' long  
(16 mm x 422 mm x 2 134 mm)  
Size: ..... 5/8" thick x 17" high x 8' long  
(16 mm x 422 mm x 2 342 mm)  
Blade ground clearance ..... 16" (406 mm)  
Replaceable, standard grader cutting edge.



## SCARIFIERS (optional)

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 C76A)
- Enclosed ROPS cab
- Cummins 4BT3.9 turbo diesel 110 HP (82 kW) for C70A
- "Twin Flow" hydraulic system
- Electronic blade controls
- Forward-Neutral-Reverse foot control pedal
- Hydraulic Blade Tilt
- Foot pedal accelerator
- 7' 0" (2 133 mm) front-mounted blade
- 8' 0" (2 432 mm) front mounted blade
- Cab heater
- Windshield defroster
- Beacon light
- Working lights
- Windshield wipers
- Windshield washers
- Air cleaner service indicator
- Outside rear view mirrors
- Rear glass in canopy

# CHAMPION MOTOR GRADERS

A Company within the Volvo Construction Equipment Group

Goderich, Ontario, Canada

[www.championroad.com](http://www.championroad.com)

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Specifications subject to change without notice. Some items included in this brochure are optional. 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.

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