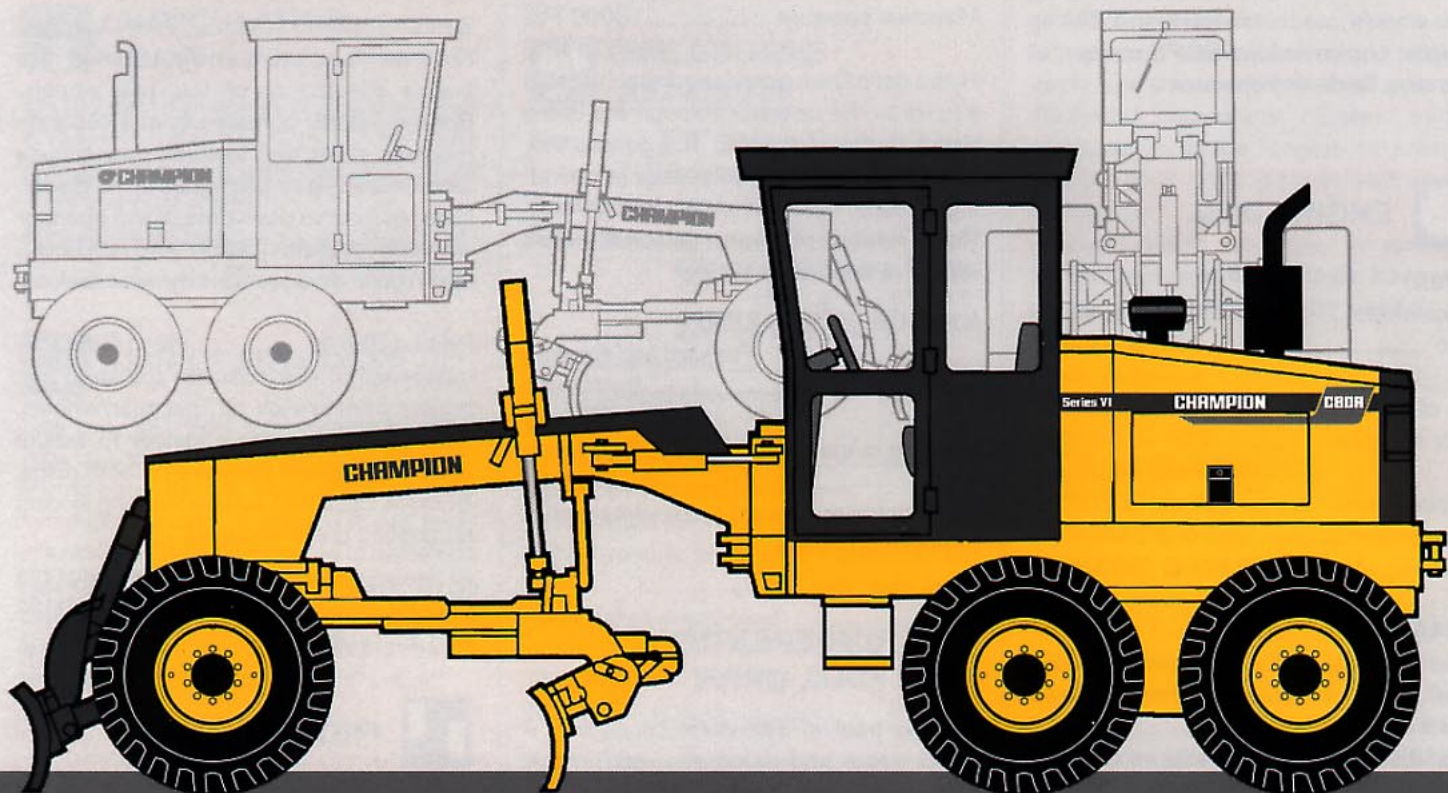


Series VI

CHAMPION C80A / C86A

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
- 11' (353 mm) hydraulic sliding moldboard
- 7' (2 133 mm) front-mounted blade
- 4 scarifiers mounted on front blade
- Hydraulic leaning front wheels

MODEL	C80A	C86A
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	15,320 lb. (6 949 kg)	15,870 lb. (7 205 kg)
Turning Radius	16' 6" (5 029 mm)	

CHAMPION[®] MOTOR GRADERS

A Company within the Volvo Construction Equipment Group

C80A/C86A

C80A -Articulated Frame, Tandem Drive C86A -Articulated Frame, All-Wheel-Drive



OPERATING WEIGHTS

(C80A)

Total 15,320 lbs. 6 949 kg
Front wheels 5,120 lbs. 2 322 kg
Rear wheels 10,200 lbs. 4 627 kg

(C86A)

Total 15,870 lbs. 7 205 kg
Front wheels 5,420 lbs. 2 481 kg
Rear wheels 10,450 lbs. 4 744 kg
Weights shown include ROPS canopy, all operating fluids and operator.



ENGINE DATA

(C80A)

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)

(C86A)

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 C80A: 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)
Roading 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)



TANDEM

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, 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.

C80A/C86A

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 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 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 ASSEMBLY

Size 5/8" thick x 19" high x 11' long
(16 mm x 483 mm x 3 353 mm)
Replaceable cutting edges
& end bits One @ 6'x 6" x 0.5"
(1 829 mm x 152 mm x 13 mm)
One @ 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 58"
(1 473 mm) right or left
- articulated & extended 87"
(2 210 mm) right or left
Optional circle side shift 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 (ea.) 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.

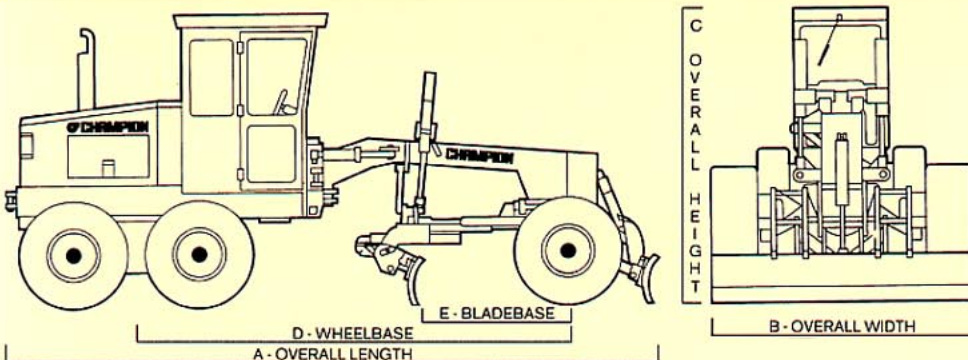
HYDRAULICS

Standard "Twin-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)

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)
B Overall width
@ front tires 88" (2 235 mm)
@ rear tires 92" (2 337 mm)
C Overall height 9' 7" (2 921 mm)
D Wheelbase 15' 4" (4 674 mm)
E Blade base 6' 2" (1 880 mm)

C80A/C86A



C86A: ALL WHEEL DRIVE

C86A 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 8' (2 342 mm) 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) - C80A
- Cummins 4BT3.9 110 HP (82 kW) - C86A
- Hydrostatic drive
- "Twin 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
- 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
- 7' 0" (2 133 mm) front-mounted blade
- 4 scarifiers mounted on front blade
- 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 BLADE (standard)

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



SCARIFIERS (standard)

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 C86A)
- Enclosed ROPS cab
- Cummins 4BT3.9 turbo diesel 110 HP (82 kW) for C80A
- 5/8" thick x 19" high x 12' long moldboard (16 mm x 483 mm x 3 658 mm)
- Hydraulic circle sideshift
- Electronic blade controls
- Forward-Neutral-Reverse foot control pedal
- Foot pedal accelerator
- 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

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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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