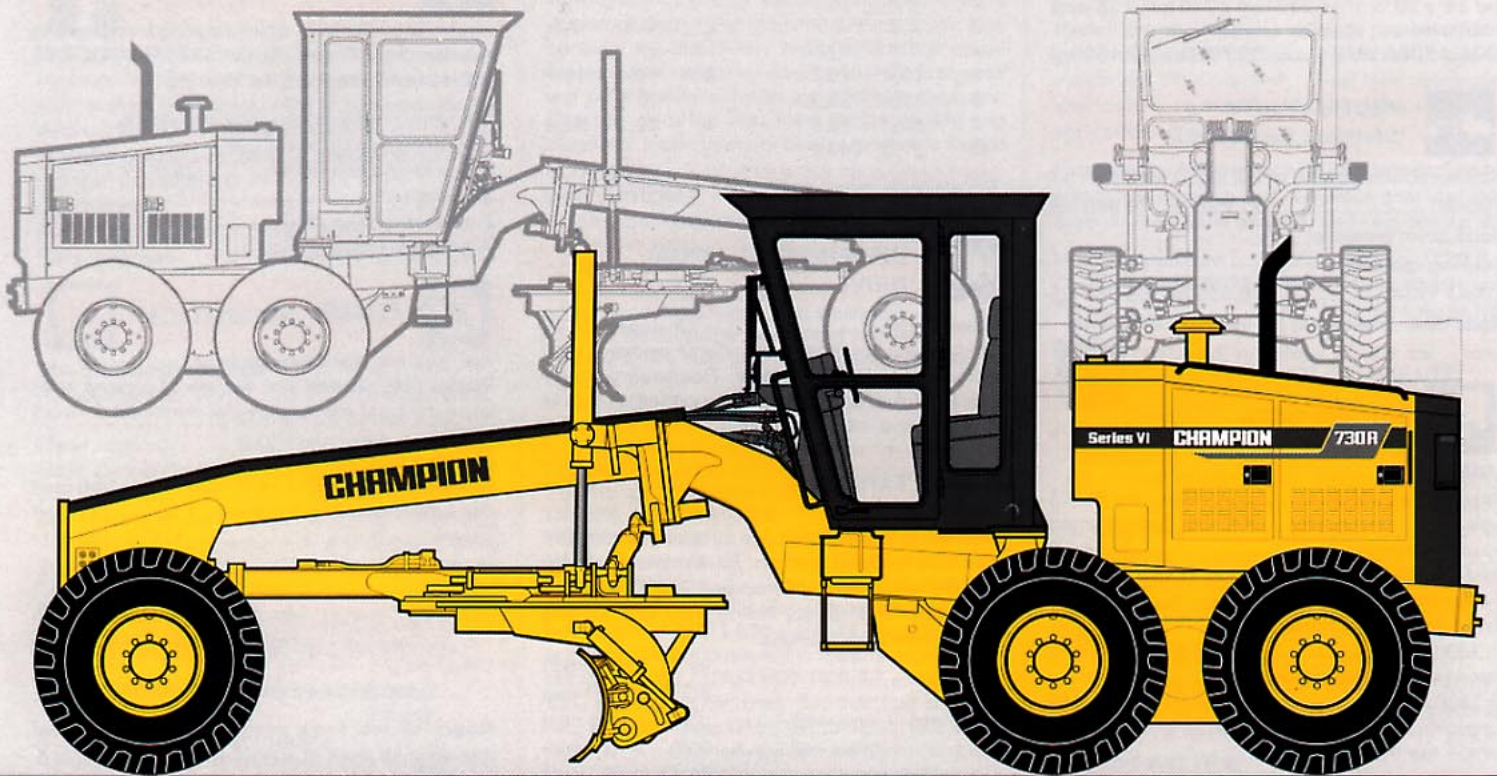


# CHAMPION

# Series VI 730A / 730A VHP

## TANDEM DRIVE MOTOR GRADERS



### KEY FEATURES:

- Low emission, high efficiency Cummins diesel engine
- 8400 Fully sequential direct drive powershift transmission with 13.5" (343 mm) clutch
- Choice of fully enclosed, quiet, comfortable ROPS cab in full height or low profile configuration, or ROPS canopy
- Moveable Blade Control System
- Load-sensing, closed center hydraulic system
- Fully-adjustable, low-effort controls
- Full front and rear frame sections for all attachment applications
- Single lever transmission control with "Smart Shifter" feature
- Hydraulically Boosted Dual Braking System with reserve power assist
- Heavy-duty lock/unlock differential
- Three level electronic operator warning system
- 12' (3 658 mm) moldboard
- Full range of front and rear mounted attachments

MODEL	730A	730A VHP
Configuration	Articulated Frame	Articulated Frame
Engine	Cummins 6C8.3	Cummins 6C8.3
Output (SAE J1349)	195 hp (145 kW)	180-200 hp (134-149 kW)
Base weight	34,750 lb. (15 763 kg)	34,750 lb. (15 763 kg)
Blade down pressure	18,426 lb. (8 358 kg)	18,426 lb. (8 358 kg)
Blade pull	21,736 lb. (9 860 kg)	21,736 lb. (9 860 kg)

# CHAMPION<sup>®</sup> MOTOR GRADERS

A Company within the Volvo Construction Equipment Group

# 730A/730A VHP - Specifications



## BASE OPERATING WEIGHT (Standard Equipment)

Weights shown include full cab with ROPS, all operating fluids and operator.

### 730A / 730A VHP

Total ..... 34,750 lbs (15 763 kg)  
On front wheels ..... 10,595 lbs (4 806 kg)  
On rear wheels ..... 24,155 lbs (10 957 kg)

Weight adjustments for various options are listed.

**Typically equipped operating weight:** includes 17.5 x 25, 12 pr., L2 tires on 14" (356 mm) rims and 14" x 29" x 1" (4 222 mm x 740 mm x 25 mm) moldboard and scarifier.

**730A / 730A VHP** ..... 37,782 lbs (17 139 kg)



## PRODUCTIVITY (Standard Equipment)

Maximum blade pull (no wheel slip, 0.9 traction coefficient) ..... 21,736 lbs (9 860 kg)

Blade down pressure

- cutting capability

(ISO 7134) ..... 18,426 lbs (8 358 kg)

Blade down pressure is the maximum downward force which may be applied at the cutting edge.



## ENGINE DATA

### 730A

Make/Model ..... Cummins 6C8.3  
Type ..... 4-Cycle, Turbocharged  
No. of cylinders ..... In Line 6  
Bore & stroke ..... 4.49 x 5.32 in. (114 x 135 mm)  
Displacement ..... 504.5 cu. in. (8,27 L)  
Rated gross brake horsepower  
@ 2200 RPM ..... 205 hp (153 kW)  
Rated net brake horsepower  
@ 2200 RPM ..... 195 hp (145 kW)  
Torque @ 1500 RPM ..... 636 lb.ft. (862 N.m)  
Torque rise (Net) ..... 35%

### 730A VHP

Make/Model ..... Cummins 6C8.3  
Type ..... 4-Cycle, Turbocharged, Aftercooled  
No. of cylinders ..... In Line 6  
Bore & stroke ..... 4.49 x 5.32 in. (114 x 135 mm)  
Displacement ..... 504.5 cu. in. (8,27 L)  
Rated gross brake horsepower @ 2200 RPM  
- Gears forward 1, 2 and  
Reverse 1 ..... 193 hp (144 kW)  
- Gears forward 3-8 and  
Reverse 2-4 ..... 215 hp (160 kW)  
Rated net brake horsepower @ 2200 RPM  
- Gears forward 1, 2 and  
Reverse 1 ..... 180 hp (134 kW)  
Torque @ 1500 RPM ..... 542 lb. ft. (735 N.m.)  
Torque rise (Net) ..... 24%  
- Gears forward 3-8 and  
Reverse 2-4 ..... 200 hp (149 kW)  
Torque @ 1500 RPM ..... 711 lb.ft. (964 N.m)  
Torque rise (Net) ..... 53%

Engine equipped with a two stage, dual element, dry-type air cleaner with evacuator and dash-mounted service indicator. 24 volt starting and electrical system with 75 amp (1800 watt) brushless alternator with internal voltage regulator. Two heavy duty 12 volt maintenance-free batteries with 625 cold cranking amps (CCA) and 180 minutes reserve capacity per battery. 900 CCA batteries available optionally. System includes battery disconnect.

Performance: Rated net brake horsepower SAE standard J1349/ISO 3046-2 conditions with water pump, lubricating oil pump, fuel system, air cleaner, muffler, alternator, and cooling fan.



## TRANSMISSION

Make/Model ..... Champion 8400  
Fully sequential, direct drive, powershift transmission. Engine cannot be started if transmission is in gear. Single lever transmission controller provides electronic self-diagnostics. The flywheel mounted, multi-disc master clutch is oil-cooled for long life.

Ground speeds at 2200 RPM with standard tires:

Forward			Reverse		
Gears	mph	km/h	Gears	mph	km/h
1	2.7	4,3	1	2.7	4,3
2	3.8	6,1			
3	5.3	8,5	2	5.3	8,5
4	7.4	12,0			
5	10.4	16,7	3	10.4	16,7
6	14.4	23,2			
7	20.2	32,5	4	20.2	32,5
8	27.9	44,9			

Transmission guard is standard equipment and is hinged for easy access.



## DIFFERENTIAL / FINAL DRIVE

Make/Model ..... Champion SR40  
Single reduction final drive with an operator controlled lock/unlock differential. Rear axles are case hardened, full floating design, supported on double row spherical roller bearings.



## TANDEMS

Oscillating tandem case has internal gusseting for maximum torsional strength. Field-proven split ring/flanged sleeve tandem mounting and 1" (25 mm) thick inner wall resists flexing from side loading during severe applications.

Depth ..... 24.5" (622 mm)  
Width ..... 8.25" (210 mm)  
Thickness - inner wall ..... 1.0" (25 mm)  
- outer wall ..... 0.75" (19 mm)  
Center distance ..... 61.5" (1 562 mm)  
Drive chain pitch ..... 2.0" (51 mm)  
Oscillation ..... ± 15°



## BRAKES

Service Brakes: ..... Foot Operated  
Fade resistant, hydraulically actuated, oil disc service brakes located at the four (4) tandem drive wheels are self-adjusting, fully sealed and maintenance-free. System features cross-over dual braking circuits for even braking on both sides of the grader. Includes reserve power assist and operator warning system (visual and audible).

Parking Brake: ..... Hand Operated  
Independent, disc-type hand brake on transmission output shaft and effective on all four (4) tandem drive wheels. Includes visual and audible operator warning system for parking brake on, transmission in gear condition.

Braking systems to:

SAE Recommended Practice J1473 OCT. 90, and J1152 APR. 80; ISO 3450-1993-01-28. Champion uses asbestos-free brake components.



## WHEELS & TIRES (Standard Equipment)

Tire size ..... 14.00 x 24, G-2  
Ply rating (pr.) ..... 12  
Rim size ..... 10" (254 mm)  
Bolt-on rims are interchangeable between the front wheels and rear tandem wheels.



## FRONT AXLE

Type ..... Fully welded steel truss, gusseted for torsional strength, oscillates on a single 3.5" (89 mm) diameter center pivot pin

Wheel lean ..... 18° R & L  
Oscillation ..... 16° up and down  
Ground clearance ..... 24.0" (610 mm)  
Twin 3" (76 mm) diameter wheel lean cylinders with lock valve are standard equipment.



## STEERING

Hydraulic power front wheel steering incorporating two steering cylinders. Meets SAE J1511 OCT. 90 with optional supplemental steering.

Minimum turning radius using articulation, front axle steering, wheel lean and unlocked differential: ..... 25'6" (7 772 mm)  
Steering arc ..... 72°  
Frame articulation angle ..... 22°  
Articulation lock standard.



## FRAME

Full front and rear frame sections.

**Front:** Fully welded box section. Lowered nose plate on front frame provides excellent forward visibility.

Minimum dimensions of box section ..... 10.5" x 14.0" (267 mm x 356 mm)  
Plate thickness - top & bottom .. 1.25" (32 mm)  
- sides ..... 1.0" (25 mm)  
Vertical section modulus  
..... at arch 163 cu.in. (2 676 cm.<sup>3</sup>)  
..... min. 137.7 cu.in. (2 256 cm.<sup>3</sup>)  
..... max. 283.9 cu.in. (4 652 cm.<sup>3</sup>)  
Linear weight - min-max  
..... 148.7 - 244.2 lbs/ft (221.3 - 363.4 kg/m)

**Rear:** Full rear frame permits modular powertrain mounting for ease of service and simplifies attachment fit-up.

Minimum dimensions of rear frame ..... 4.0" x 11.0" (102 mm x 279 mm)  
Plate thickness ..... 1.0" (25 mm)



## ARTICULATION

Twin 4.5" (114 mm) hydraulic cylinders articulate the frame 22° right and left. Anti-drift lock valve.



## CIRCLE

Hardened teeth, cut on the outside of the circle for maximum leverage and minimum wear. Circle is fabricated from high tensile steel and all running surfaces are precision machined.

The circle is held in place at six points by three adjustable clamp plates and three adjustable guide shoes, providing optimum circle support and load distribution. The primary set of clamp and guide shoes is located at the front of the circle where greatest loading occurs. DURAMIDE™ faced clamp and guide shoes prevent metal to metal contact and provide maximum service life.

DURAMIDE™ is a synthetic bearing material that maximizes service life and reduces circle system maintenance requirements.

Diameter ..... 66.25" (1 683 mm)  
Thickness ..... 1.25" (32 mm)  
Adjustable guide shoes ..... 3  
Adjustable Clamp plates ..... 3

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## CIRCLE DRIVE

Champion's dual cylinder circle drive system uses hardened drive pinions and direct-acting hydraulic power for exceptional turning and holding capability under full load. The circle drive system is fully protected against impact damage by an overload cushion valve as standard equipment.

Hydraulic drive cylinders .....	2
Points of leverage .....	2
Rotation .....	360°



## DRAWBAR

Fully welded box section. Narrow 'T' design permits optimum visibility to the work area. Drawbar ball stud provides an adjustment to compensate for different tire sizes. Blade lift cylinder anchors are straddle-mounted on drawbar to provide maximum strength and support.

Dimensions of

box section .....	6.5" x 6.5" (165 mm x 165 mm)
Plate thickness .....	1.0" & 0.75" (25 mm & 19 mm)



## MOLDBOARD

Standard moldboard with replaceable end bits .....

12' x 25" x 7/8"	(3 658 mm x 635 mm x 22 mm)
------------------	-----------------------------

Blade material ..... SAE 1050 high carbon steel  
 Edge: through hardened ..... 6" x 5/8" boron steel  
 (152 mm x 16 mm)  
 Bolt spacing ..... 6" (152 mm)  
 - drilling size ..... 5/8" (16 mm) bolts  
 Slide rails supported by DURAMIDE™ bearings.



## BLADE RANGE: MOVEABLE BLADE CONTROL SYSTEM

(Dimensions with standard moldboard)

	LEFT	RIGHT
Reach outside tires - articulated frame .....	120.0" (3 048 mm)	119.5" (3 035 mm)
Reach outside tires - straight frame .....	79.5" (2 019 mm)	79.0" (2 007 mm)
Blade slide ..	26.5" (673 mm)	26.5" (673 mm)
Circle side shift .....	30.5" (775 mm)	29.5" (749 mm)
Maximum bank sloping angle .....	90°	90°
Blade ground clearance .....	17.5" (445 mm)	
Blade cutting depth .....	30.0" (762 mm)	
Blade tilt range .....	44° forward	6.5° back

Superior blade mobility permits steep ditch cutting angles and bank sloping outside overall machine width.



## CAB & CONTROLS

### CAB & CONTROLS

All controls and gauges are housed in a fully adjustable steering pedestal or right hand console. Located in the pedestal head are the engine oil pressure, coolant temperature and fuel level gauges, transmission gear indicator and a three-level electronic monitoring display. Pedestal located switches include: differential lock/unlock, independent moldboard floats (optional) and combination turn signal, hazard lights, and high beam headlight switch. Heater and wiper/washer controls, lighting and accessory switches are grouped in the operator's right hand console. This console also contains the ignition key and access to the circuit breaker panel. An accelerator/decelerator foot pedal and slider type hand throttle are standard equipment. Outside mounted rear view mirrors (L&R) are standard. Inside operator noise exposure is limited to 75dB(A) per SAE J919 JUNE 86 (enclosed cab).

### CAB OPTIONS:

- High capacity heater/air conditioner c/w adjustable vents, temperature control and 3 speed fan.
- Fully adjustable, suspension seat
- Lower opening vent windows
- Rear windshield wipers and washers
- Lower front window wipers and washers
- Modular, 24 volt radio and cassette player with remote control
- Operator Convenience Package (lunch box, Thermos bottle, ashtray)
- 24 volt to 12 volt converters for electrical accessories or two way radio installations

### Full Height Cab with ROPS

### INSIDE DIMENSIONS:

Height .....	74.0" (1 880mm)
Width @ controls .....	56.0" (1 422 mm)
Depth @ controls .....	55.5" (1 410 mm)

An optional Low Profile Cab is available with an inside height of 62" (1 575 mm). All Champion cabs and canopies are designed to meet or exceed SAE J1040 APR. 88, ISO 3471/1-1986(E), and 86/295/EEC ROPS requirements. The seat belt is 3" (76 mm) wide and meets SAE J386 JUNE 93; ISO 6683-1981(E). A cushioned vinyl covered bucket seat with fore & aft and height adjustment is standard.



## CAPACITIES

	U.S.Gal.	Imp.Gal.	Litres
Fuel tank .....	100.0	83.3	378.5
Transmission .....	10.2	8.5	38.8
Final drive .....	6.0	5.0	23.0
Tandems (ea.) .....	26.4	22.0	100.0
Hydraulic oil tank .....	23.8	19.8	90.0
Coolant antifreeze protection to -58° F (-50° C) .....	11.9	9.9	45.0
Engine oil .....	5.9	4.9	22.4



## LOAD SENSING HYDRAULICS

Closed center hydraulic system senses load requirements and maintains system pressure 250 psi (17,25 Bar) above the load pressure.

When hydraulic pressure is not required, system pressure is only 90 psi (6,2 Bar).

System features industry standard control arrangement c/w low effort, feathering type short throw levers located on a fully adjustable steering pedestal.

System incorporates lock valves to prevent cylinder drift under load in the following circuits: blade lift, moldboard tilt, circle shift, wheel lean, articulation and scarifier (optional). All hoses and fittings are equipped with o-ring seals.

Pump design features include cast iron end covers and center housing, and one-piece gear and shaft assembly to ensure reliability and long service life.

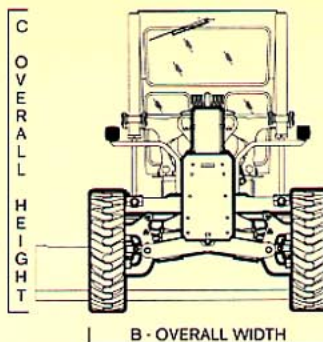
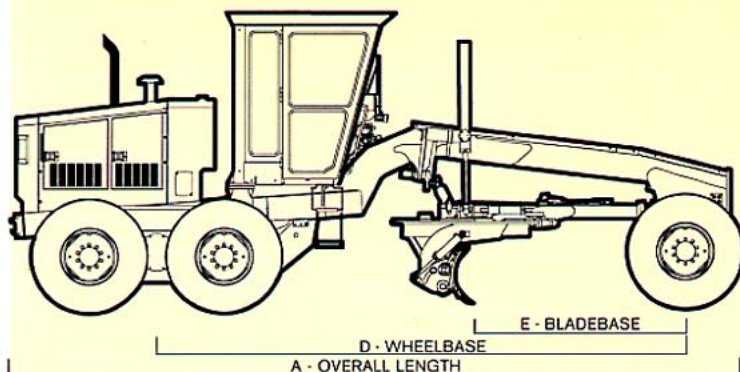
Maximum pressure .....	2,500 psi (172 Bar)
Output at 2200 RPM .....	0-50.5 gpm (0-191 lpm)
Filtration .....	7 micron spin-on type



## CHAMPION ATTACHMENTS

A-Frame .....	850 lbs.	(386 kg)
Dozer blade		
- 8' (2 438 mm) .....	1,600 lbs.	(726 kg)
- 9' (2 743 mm) .....	1,650 lbs.	(749 kg)
One-way plow .....	2,350 lbs.	(1 067 kg)
Push block .....	1,050 lbs.	(476 kg)
Ripper-scarifier, rear .....	2,680 lbs.	(1216 kg)
Scarifier, front, with 11 teeth .....	1,725 lbs.	(782 kg)
Snow wing		
- front-mounted .....	2,900 lbs.	(1 317 kg)
- rear-mounted .....	3,100 lbs.	(1 407 kg)
V-plow		
- 9' (2 743 mm) .....	2,560 lbs.	(1 161 kg)
- 10' (3 048 mm) .....	2,720 lbs.	(1 234 kg)
Fully Hydraulic Wing		
- Hi-bench .....	4800 lbs.	(2 177 kg)
- Low bench .....	4000 lbs.	(1 814 kg)

## DIMENSIONS



A Overall length .....	27' 10" (8 484 mm)
B Overall width .....	8' 4" (2 540 mm)
C Overall height .....	11' 2" (3 404 mm)
- with Low Profile Cab .....	10' 2" (3 099 mm)
D Wheelbase .....	20' 0" (6 096 mm)
E Tread width .....	6' 10" (2 083 mm)
F Bladebase	
- ISO 7134 .....	8' 6" (2 591 mm)

# 730A/730A VHP - Specifications

## STANDARD FEATURES

Operator controlled, lock/unlock differential final drive  
 4-wheel, cross-over, dual braking system with reserve power assist  
 Hand-operated park brake with operator warning alarm and indicator  
 Fully-sequential, direct drive, powershift 8400 transmission, with transmission guard  
 13.5" (343 mm) diameter, 4-plate, full oil master clutch  
 Moveable blade control system for optimum blade mobility.  
 Full front and rear frame sections designed to absorb shock loading of rear attachments  
 Circle drive cushion valve protects circle drive against impact damage  
 Hardened circle teeth cut on outside of circle for maximum turning power  
 Hardened circle drive pinions for maximum wear resistance  
 Isolation-mounted cab, transmission and engine for reduced noise and vibration  
 Adjustable steering control pedestal with tilt head for maximum operator comfort  
 Gauges include: coolant temperature, engine oil pressure, fuel, hourmeter, dash-mounted air cleaner service indicator, articulation angle indicator, three-level electronic monitoring system - M4 - with visual and audible warnings  
 Load-sensing, closed-center hydraulic system with short-throw, low effort control levers. Hydraulically operated blade lift, circle turn, moldboard slide and tilt, circle shift and wheel lean functions.  
 Feathering-type controls for precise blade adjustments  
 100 gallon fuel capacity  
 DURAMIDE™ wear strips on circle guide and clamp plates prevent metal-to-metal contact for maximum service life.  
 Hinged radiator guard for easy trash clean out.  
 Back-up lights  
 Back-up alarm with automatic volume levels  
 Painted High Gloss Champion Yellow, and Grey  
 Lockable tool box with storage space for scarifier shanks  
 Engine side panels c/w locks

## OPTIONAL EQUIPMENT

	lbs.	Kg
Accumulators - blade lift (2) .....	130	59
Air conditioner - 29,000 BTU		
-HFC-134a (non-CFC refrigerant) .	130	59
Brush guards .....	40	18
Cab		
- Canopy shell with ROPS - deduct(200)	(91)	
- FOPS protection for ROPS cabs	220	100
- Low Profile cab with ROPS - deduct(200)	(91)	
Cab heater - 49,000 BTU - with cab		
pressurizer and replaceable filter .....	30	14
Defroster fan .....	3	1
Engine block heater .....	3	1
Engine precleaner - Turbo II .....	6	3
Exhaust aspirated precleaner .....	6	3
Ether cold start .....	10	4
Exhaust rain cap .....	-	-
Fan - blower type		
(suction type is standard) .....	0	0
First user lifetime frame warranty .....	0	0
Float control - Right and Left		
independent, electric .....	15	7
Hub odometer .....	0	0
Hydraulic Manifold Cover .....	10	4
Hydraulic tank heater .....	3	1
Jack - 20 ton (18.5 tonne) .....	35	16
24 volt radio/cassette player .....	6	3
Lights		
- beacon (amber or blue) .....	10	4
clearance lights front & rear .....	2	1
- front-mounted plow lights - 2		
- high mount .....	120	54
- low mount .....	100	45
- Headlights with dimmer switch .....	0	0
- Moldboards lights - 2 .....	2	1
- Rear flood lights - 2 .....	2	1
- Snow wing lights - 2 .....	2	1
Machine Monitor Plus system - M44 ..	0	0
(Audible and visual warnings for transmission and hydraulic filter restriction, low engine oil pressure, high coolant temperature, high transmission temperature, and low transmission clutch pressure)		

## OPTIONAL EQUIPMENT (continued)

	lbs.	Kg
Moldboards		
- 14' x 25" x 7/8"		
(4 267 mm x 635 mm x 22 mm) ...	280	127
- 12' x 29" x 1"		
(3 658 mm x 737 mm x 25 mm) ...	340	154
- 13' x 29" x 1"		
(3 962 mm x 737 mm x 25 mm) ..	490	222
Moldboard extensions		
R & L - 2' (610 mm) .....	200	91
Moldboard edges - Carbide 3/4" x 5"		
(19 mm x 127 mm)		
Operator convenience package		
- lunch box, steel vacuum bottle		
and holder, ash tray .....	10	5
Paint - custom colors .....	-	-
Radiator shutters - hinged .....	10	4
Reflectors - rear .....	-	-
Remote valve for attachments		
- 3 or 5 bank .....	25	11
Dual leaning wheel cylinder .....	25	11
Supplemental steering (power assisted)meets SAE J53 OCT.84 .....	61	28
Suspension seat .....	55	25
Tie-down brackets .....	100	45
Tires		
- 14.00 x 24, 12 pr., G2,		
10" (254 mm) multi-piece rims ....	450	204
- 17.5 x 25, 12pr., L2,		
14" (356 mm) rims .....	1032	468
Tool kit .....	-	-
Transmission sump heater .....	-	-
Tropical protection .....	-	-
Vandalism protection .....	8	4
Wheel weights front or rear - each .	250	113
Window -opening - lower front .....	-	-
Window -opening sliders - left/right .....	-	-
Wiper and washer - front .....	-	-
Wiper and washer - rear .....	-	-
Wiper and washer - lower front windows-	-	-

# CHAMPION MOTOR GRADERS

A Company within the Volvo Construction Equipment Group

Goderich, Ontario, Canada

www.championroad.com

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