



---

---

## **SPECIFICATIONS FOR THE 2009/10 BC2002 COMPUTER CONTROLLED SELF-PROPELLED TANDEM CHIP SPREADER**

### **POWER TRAIN**

Engine: Cummins, Tier 3 QSB 6.7L liter, 6 cylinder Turbo-charged diesel engine, 275 H.P. @ 2300 RPM and 730 Peak Torque @1500 RPM, electric start, alternator voltage regulator and (2) 12 volt batteries. Includes dry type air cleaner, disposable element type oil filter, heavy duty cooling system, sucker type fan, engine mounted Wabco 17 CFM @ 2400RPM air compressor with a variable speed governor & a Wabco System Saver 1200 series 12Vdc air dryer, a 80 gallon fuel tank.

### **DRIVE TRAIN**

Axial piston variable rate high torque 130cc hydrostatic pump directly coupled to engine, running a variable rate 160cc hydraulic motor direct coupled to a 2 speed transfer case driving the front steer axle.

### **DRIVE/STEERING AXLE**

Limited slip differential front wheel drive, front wheel steer, with planetary gear hubs with a total axle reduction of 14.769 to 1 reduction, 42 degree steering angle, 14,425kg (31,800lbs) capacity, w/rubber spring suspension.

### **REAR AXLE**

Solid tube type 5" diameter trailer axle, 11,340kg (25,000lbs) capacity, with oil filled wheel bearings.

### **BRAKES**

Front: Wet disc air over hydraulic.  
Rear 16.5 X 7 drum, S cam air brakes.  
Parking: Spring anchorlok parking brake on rear axle, spring applied hydraulic release wet-disk on front.

### **STEERING**

Hydraulically powered orbital type, no mechanical linkage, with an engine mounted vane type power steering pump with a 6gpm flow control cover.

## CONTROLS AND INSTRUMENTS

Operators panel includes, ignition switch, hitch switch, conveyor switch, spread width and rate controls, parking brake, engine throttle.

Instruments include fuel, hydraulic temperature, engine temperature, engine RPM, hour meter, oil pressure, charging system voltage.

**Control functions available from operator seat position:** ignition switch, FWD/REV, Spread width and rate, **Gate control to include;** open/close, tamper cut with one switch from left and right, individual gate on/off switch for each gate, LCD displays active spread box width and gates ON, hitch release, left & right belts as described below, left and right augers OFF/ON w/gates, Auto, CRC will calculate square yards covered and update total square yards covered every 2 seconds, CRC to calculate total lineal feet cover, totals can be reset, parking brake, foot accelerator pedal.

Optional engine speed cruise control available.

## OPERATOR STATION

Operator station will have one seat, one steering wheel, and one control panel, this assembly will move left and right hydraulically so the operator can drive from an position, all standard chipper functions will be accessible while the operator's right arm is on the arm rest, seat has fore, aft, backrest angle and seat height adjustment, the brake pedal and accelerator pedal has fore and aft adjustment and the steering wheel has 30deg of angle adjustment. This operator assembly includes a rain/sun cover/roof.

## COMPUTER RATE CONTROL (CRC)

The CRC system measures the chip spreader ground speed and controls the gate opening to maintain the pre set lbs/sq. yd application rate, these CAM position sensors are self calibrating non-contacting Hall-effect pulse pickup type integral with the cam gear box motor. The application rate is set on the front page of the CRC operator display and can be changed any time during operation. The application rate can be calibrated and balanced (left box/right box) from the CRC operator panel to meet the specific application rates.

CRC calculates and displays Feet Per Minute (FPM), cam opening display in a percentage, current spread box width, linear feet & square yards spread.

All controllers communicate over a two wire CAN communication system. All CRC controllers, sensors, and connectors are IP65 or IP67 rating or have solder type terminals; all wiring is field replaceable wire harnesses. CRC is equipped with diagnostic tools for switches, sensors & controllers.

The CRC also controls the hydrostatic transmission in an automotive type of operation (stepping on the accelerator pedal increases engine RPM, the CRC monitors this and will stroke the hydrostatic transmission according to engine RPM), it also controls maximum travel speed to prevent over speeding and has HP control to prevent engine stalling. Note: this type of control helps fuel economy.

Continued on next page.

## **CRC controlled belts, (3 modes):**

- 1: ON/Manual
- 2: Auto ON with gates open & chip box level switches calling for chips.
- 3: Auto ON with chip box level switches calling for chips.

CRC controlled left and right belt speed according to chip demand; chip demand is monitored by ultrasonic sensors on the chip boxes, this allows the belt speed to run at speed required to maintain a constant level of chips in the chip box save fuel belt life.

## **ENGINE INFORMATION**

The system monitors oil pressure, coolant temperature, & hours, the engine is equipped with hp cutback and or engine shutdown if parameters are out of specification.

## **POSITIVE LOCK HITCH**

Type: Hydraulically powered positive non binding, latch and release.

Adjustment Range: 8" to 20" height  
6" fore. and aft.

Hitch permits the hooking and unhooking of aggregate trucks without stopping.

## **WHEELS**

Disc type 10 hole, front and rear to be interchangeable.

## **TIRES**

Standard: 385/165R X 22.5 highway tread.

## **AGGREGATE HANDLING SYSTEM**

Rear hopper is 120" wide, with struck capacity of 4 cubic yards, heavy duty rubber skirting and grimly screens over belt openings.

## **CONVEYOR**

Two heavy duty 30" 2 ply conveyor belts with 35° troughing rollers. Independent hydraulic motor control by solenoid valves through enclosed adjustable level sensors in feed hopper. Self-cleaning tail pulleys and return rollers. Adjustable diverters at belt discharge. Conveyor hydraulic motor coupled direct to head pulley. Conveyor belts capable of starting fully loaded.

## **OIL COOLER/FILTRATION**

Oil cooler has total return flow capacity and constantly running hydraulic fan, cooler mounting is hinged to allow easy access for cleaning. 10 micron return filters, with one water-absorbing element, and 30 mesh suction strainers. Cooling system has a 15gpm circulating pump to continually move oil through the cooler and filters.

## **SPREADER HOPPER**

Infinitely variable from 10 feet to 20 feet, capacity 4.0 cubic yards. Spread width range 12 inches to 20 feet. Computer controlled spread rate range 1 to 80 pounds per square yard. The spread hopper is a high flow, gravity feed vertical drop hopper to prevent chips from rolling in the oil and or creating a wave in the oil as they hit on the road surface. Augers, to move the material to the outer gates, Grizzly gates over the spread hopper with 1 ½" opening to retain oversized materials. Clean outside surface of chip box, has no motors, hoses, etc. these allows the chip spreader to be tight against a wall or guard rail allowing the chips to be spread all the way to the edge of the road surface.

Aggregate flow, computer controlled opening of pneumatic actuated gates in relation to ground speed and pound per square yard to be spread at any given width 12 inches to 20 feet.

Cut off gates. Pneumatic powered 12" wide, adjustment (calibration) and PSY set-point capability from operator's station.

## **SAFETY EQUIPMENT**

Ladders on each side; safety handrails; electric backup alarm; air signal horn, parking brakes, seat belts.

Optional: strobe light, turn/flasher/stop lights, and tractor type night work lights.

## **FINISH**

The Chip Spreader shall be painted with a high grade of paint in the manufacturer's standard color of orange.