MONTANA
Department of Transportation

MDT-BRG-015 04/23

Montana Department of Transportation
Bridge Bureau
Approved Construction Equipment List

Make:	*Bearcat*
Model:	*Tandem-20*
Equipment Type:	*Super Chipper*
Contractor Modifications:	*None*

Interstate Approval Conditions

Approval Type	***Crossing Only***
Speed:	***No Restriction***
Weight:	***43,400 lb or less***
Traffic:	***Ok with regular traffic***
Location Restrictions:	***No restriction***

Non-Interstate Approval Conditions

Approval Type	***Crossing Only***
Speed:	***No Restriction***
Weight:	***43,400 lb or less***
Traffic:	***Ok with regular traffic***
Location Restrictions:	***No restriction***

Comments:

Equipment configuration, weights, and specifications on following pages. Approval does not apply to posted bridges. Other construction equipment is not allowed to operate on or cross bridge at the same time this equipment is on the bridge. Equipment must be empty while crossing.

Pavement Maintenance Services

Equipment ID/Model

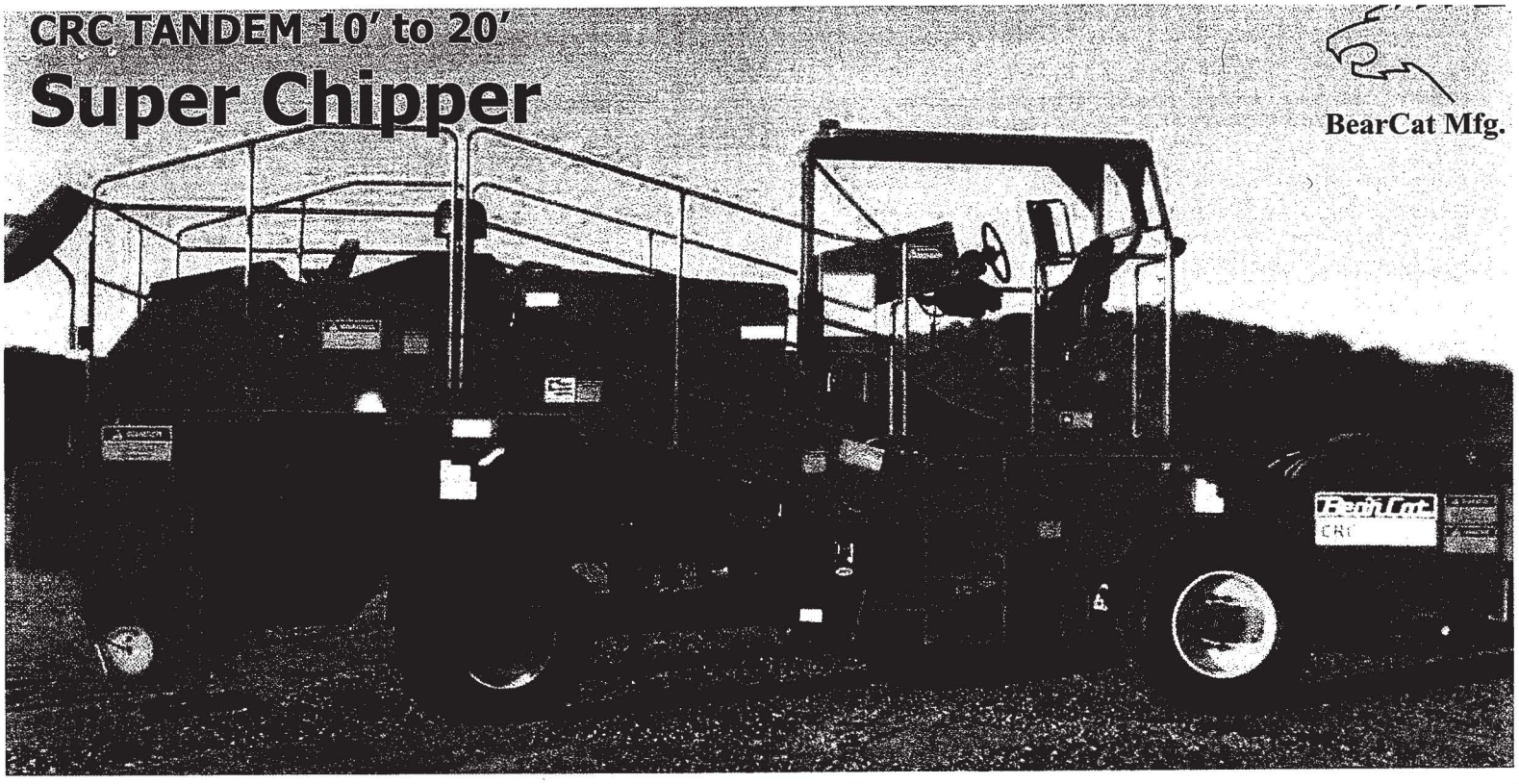
BearCat Tandem 20' Super Chipper

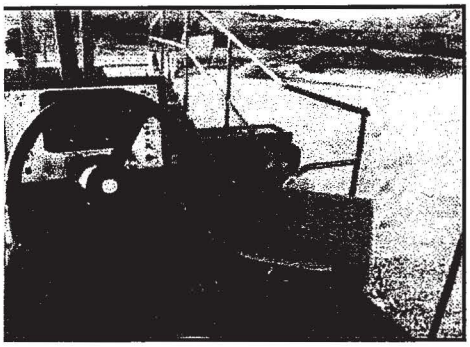
Detailed data

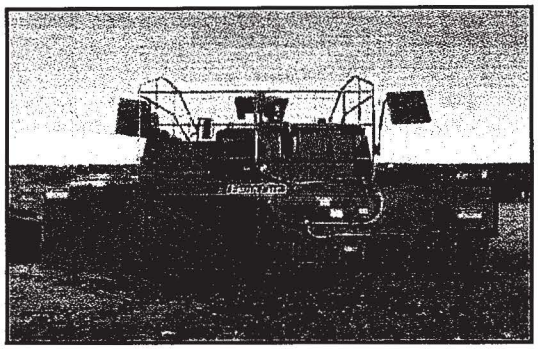
Vehicle width	10' - 20'
Vehicle length	27'
Number of axles	2
Distance between axles	13' 2- 1/2"
Track/wheel dimensions	385/165R x 22.5
Track/wheel gage spacing	78" Front / 102" Rear
GVW	43,400 lbs. with rock
Hauling capacity	17,600 lbs.
Max operating speed	7 MPH
Potential dynamic or vibratory effect?	None
Equipment modifications?	None
Contractor's contact information	Jason Simmons (406) 261-5195

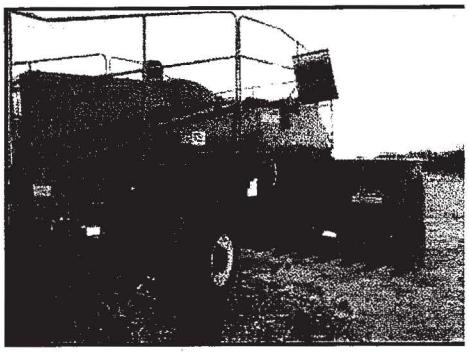
CRC TANDEM 10' to 20'
Super Chipper

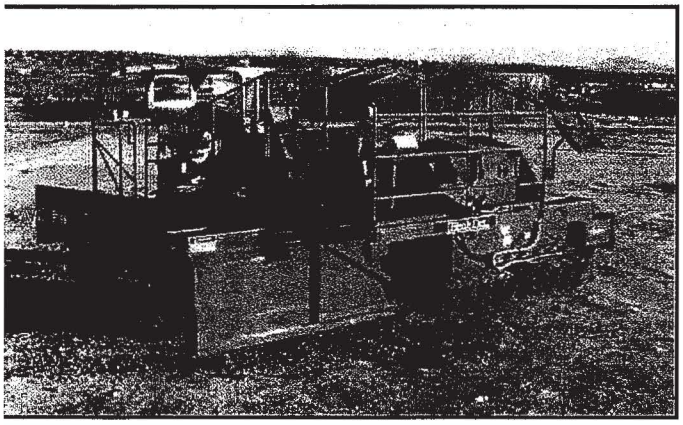
BearCat Mfg.

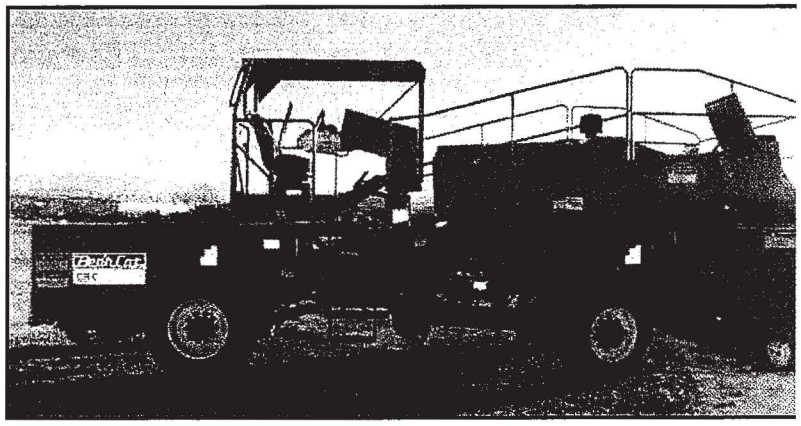










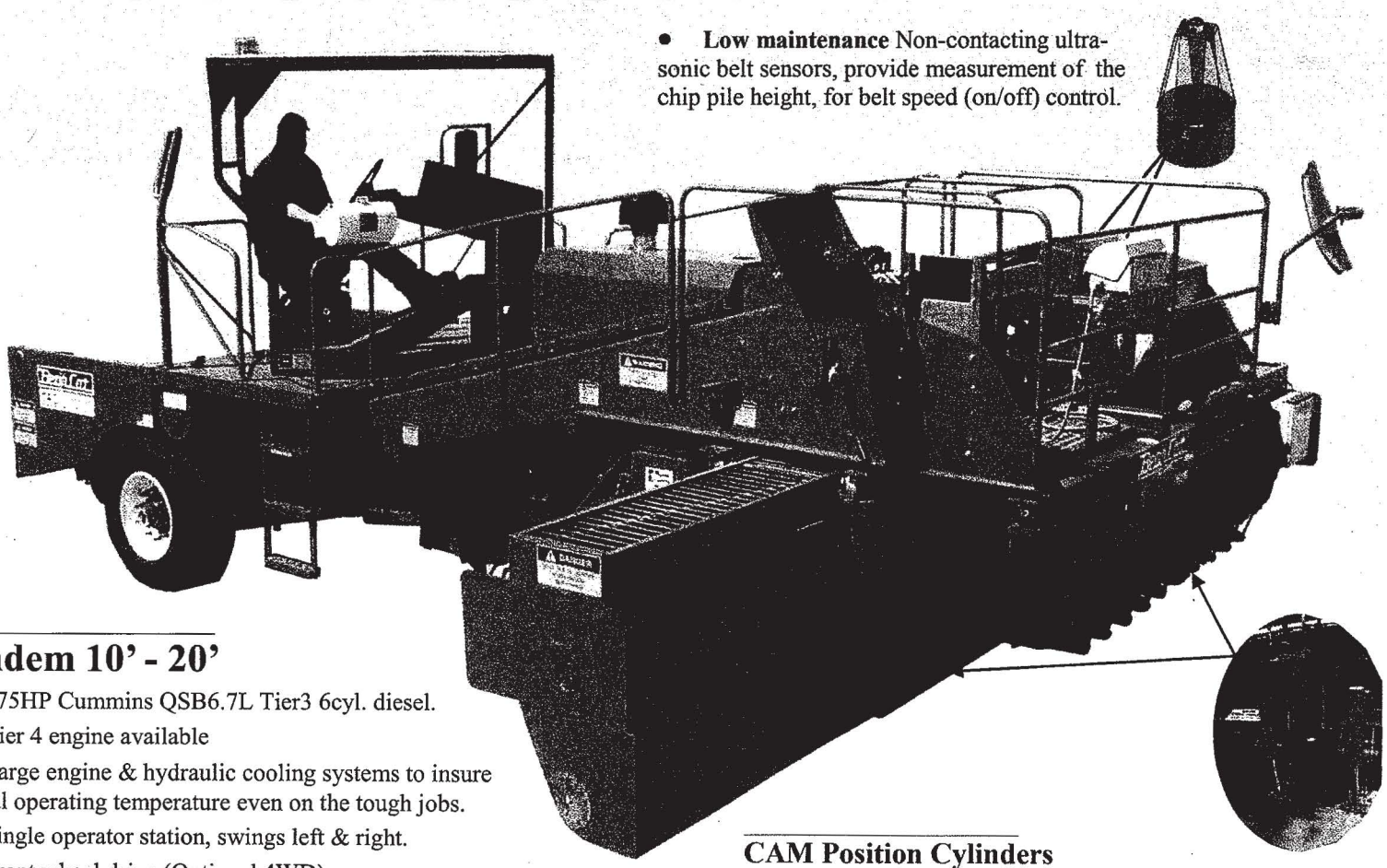




BearCat Mfg. Inc. "Innovation by Design"

CRC Tandem 10' to 20'
Chip spreading widths from 1' to 20'

- **Low maintenance** Non-contacting ultra-sonic belt sensors, provide measurement of the chip pile height, for belt speed (on/off) control.

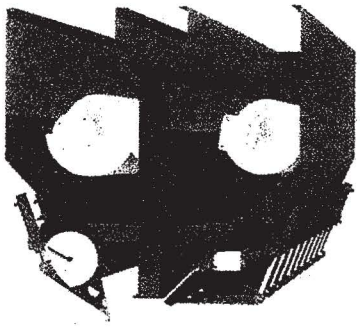


Tandem 10' - 20'

- 275HP Cummins QSB6.7L Tier3 6cyl. diesel.
- Tier 4 engine available
- Large engine & hydraulic cooling systems to insure normal operating temperature even on the tough jobs.
- Single operator station, swings left & right.
- Front wheel drive (Optional 4WD).
- State of the art Computer Rate Control (CRC).

CAM Position Cylinders

- Hydraulically driven position sensing cylinders.
- Non-contacting Hall-effect percent open sensor.
- Reliable and accurate control of the gate position CAM.



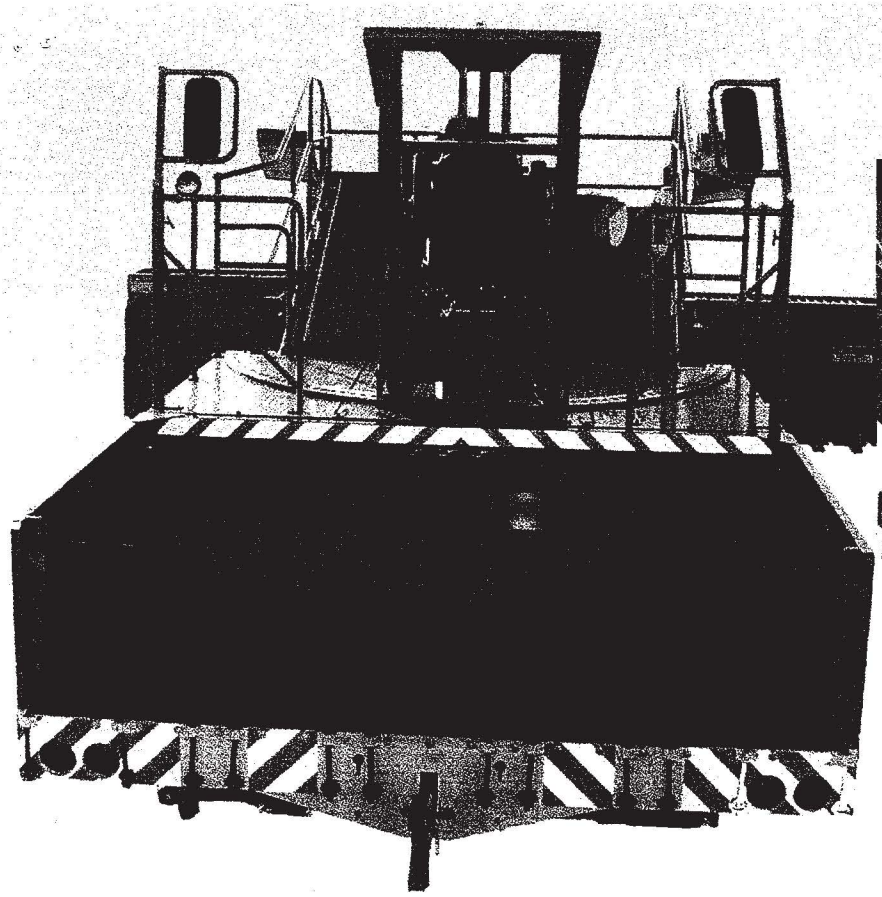
Spread Hopper

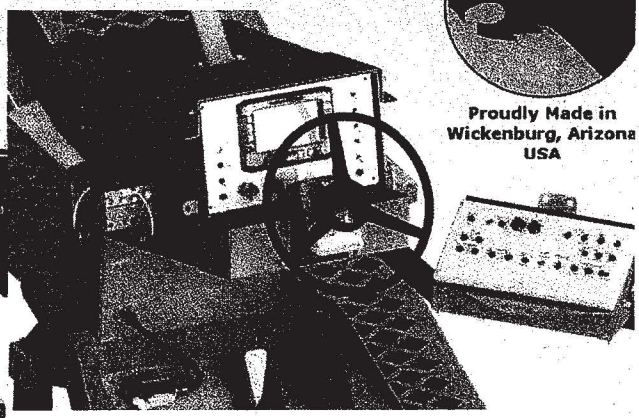
- HSLA steel construction tandem hoppers extend from 10' to 20'.
- A 14" abrasion resistant auger moves materials to the outside gates.
- No agitator or spread roll to wear or limit production.
- Oversized objects pass through the largest opening in the industry.
- The tandem design allows for straight line starts and minimal aggregate waste.

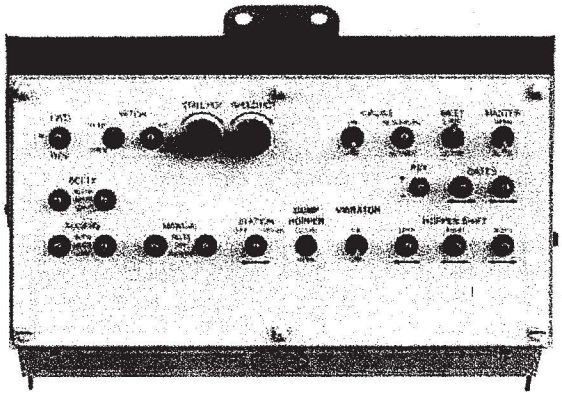


BearCat

Proudly Made in Wickenburg, Arizona USA

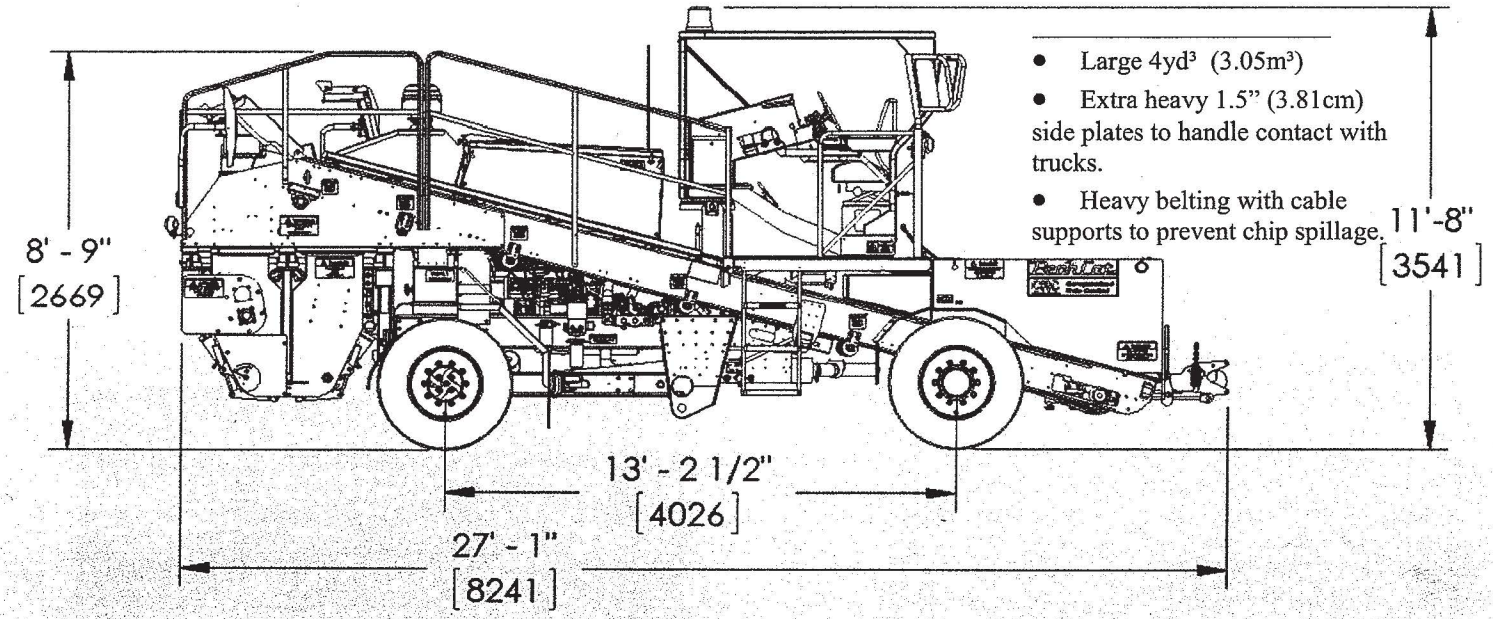








- State of the art Computer Rate Control (CRC).
- Operator convenience & adjustable control positions designed into the chip spreader.



- Large 4yd³ (3.05m³)
- Extra heavy 1.5" (3.81cm) side plates to handle contact with trucks.
- Heavy belting with cable supports to prevent chip spillage.

CRC Tandem 10' - 20' Specifications

Engine and Drive-train

- Cummins Tier3 QSB6.7L 6-cylinder Diesel. Tier 4 available.
- 275 HP @ 2,300 RPM.
- 730 ft-lb of torque @ 1,500 RPM.
- Air compressor; engine mounted Wabco 17 CFM @ 2400 RPM.
- Wabco System Saver 1200 series 12 VDC air dryer.
- Hydrostatic Transmission (6,000 psi / 410 Bar):
  - 130 cc variable displacement piston pump.
  - 160 cc variable displacement piston motor.
  - 2-speed (high/low) transfer-case (Electric / Air Shift).
  - Automotive control w/HP & Anti-stall control; drives like a truck with and automatic transmission.

Axles, brakes and tire

- Front Wheel Drive, 14.769:1 planetary drive/steer axle, 42 degree turn angle, 31,800 lb (14,425 kg) w/rubber suspension. Front axle integrated hydraulic steering cylinder.
- Steering system: Hydraulically powered orbital type, no mechanical linkage, with an engine mounted vane type power steering pump with a 6gpm flow control cover
- Solid tube type 5 in diameter trailer axle, 25,000 lb (11,340 kg) capacity, with oil filled wheel bearings.
- Optional: Four wheel drive. Uses a modified 23,000 lb truck axle and a BearCat differential mounted gear-box.
- Brakes, front: air over hydraulic:
  - Air over hydraulic master cylinder.
  - Service brakes; spring released, hydraulic applied, multi-disc wet disc pack.
  - Parking brakes; spring applied air-released disc, mounted on the front drive shaft.
- Brakes, rear:
  - Service brakes; 16.5 in x 7 in drum, S-cam air brakes.
  - Parking brakes; Spring anchor-lok.
- Tires: 385/165R X 22.5 highway tread
- Wheels: disc type 10 hole, front and rear are interchangeable.

Hydraulic system

- 130 cc pressure compensated axial piston pump, system pressure set at 2300 psi (160 bar)
- Hydraulic tank; 100 gallon (300 liter), closed to atmosphere 5 psi (0.35 bar) positive pressure system, to prevent moisture ingression.
- Large 53 in x 35 in (135 cm x 89 cm) oil cooler, with large 3 in (6.35 cm) plumbing with a large 24 in (61 cm) dia. temperature controlled hydraulic fan. One 15 gpm constant flow circulation filtering/cooling pump.
- Filters: 10 micron return, 100 mesh suction.
- Belt motors; 400cc LSHT, direct coupled to the head-pulleys.
- Auger motors; 624cc LSHT, direct coupled to the augers.

Dimensions

- Length: 27 ft (8.23 m) Width: 10 ft (3.05 m)
- Height: 12 ft (3.65 m) w/cab removed 9' 1" (2.75 m)
- Wheelbase: 13' 2 1/2" (4.03 m)
- Weight empty (shipping): 25,800lbs (11,703kg)

Material Handling Specifications

- Rear hopper is 120 in (305 cm) wide, with struck capacity of 4 cubic yards (3.05 cubic meters).
- Heavy 1.5 in (3.81 cm) side plates to handle contact with trucks.
- Belts; two heavy duty 30 in (76 cm), 2 ply conveyor belts with 35° troughing rollers.
- Belts speed (on/off) is controlled by ultrasonic position sensors measuring chip level in the chip spreading box.
- Spread hoppers; infinitely variable from 10 ft (3.05 m) to 20 ft (6.1 m), capacity 4.0 cubic yards (3.05 cubic meters) combined spread hopper total.
- Extensions; 1 ft (0.305 m) left & right available.
- Heavy duty spread gate CAM position cylinder w/non-contact position feedback sensor.
- Cut off gates: Pneumatic powered 12 in wide gate, with 1-1/2 in x 6 in (3.8 cm x 15.2 cm) air-cylinders.
- Hitch: Hydraulic positive non binding, latch and release.

Electrical system

- 12 VDC 160 amp belt drive alternator w/internal regulator.
- Two 12 VDC Group 31-MHD / 950 cca batteries.
- Computer Rate Control (CRC), Sauer-Danfoss Plus+1 CAN network communication, w/automotive style wire harnesses.
- Operator display advanced color TFT 240 x 400 pixel, to display fuel level, hydraulic temperature, engine temperature, engine RPM, hour meter, charging system voltage and system diagnostics.
- System diagnostics displayed on the color TFT display:
  - Battery voltage low/high, computer node communication okay, pictorial display of switch position, all sensor voltage or pulse (frequency) values, hydraulic & engine over-temp log, hydraulic oil level low log.
- All electrical connectors, & controllers IP67 rated (pressure wash-down).
- Any non IP67 rated connectors are crimped and soldered to prevent corrosion of terminals and copper wiring.
- Field replaceable automotive style wiring harnesses.
- Individual and tapper switch control of gate open and close.
- Belt operation selection; OFF/Auto/Auto w/Master Switch ON.
- Optional: High output low current draw light package.

Single seat operator station

- The operator station hydraulically moves left/right and can be used on the left, right side or anywhere in between.
- Dash panel is directly in front of the operator.
- All chip spreading function control switches are on a control panel accessible while the operator's arm is on the right side arm rest.
- Seat adjustments; fore & aft, backrest angle, and height.
- Accelerator/Brake pedal adjustment; fore and aft.
- Steering wheel adjustment; 30 deg of angle.
- Operator station includes a rain/sun cover/roof.

As a part of product improvement, BearCat Mfg. Inc. reserves the right to make changes in any of BearCat's product specifications at any time. *BearCat. Mfg.*

V2.0 - February, 2017

BearCat Mfg.
3650 Sabin Brown Road
Wickenburg, AZ 85390
Ph: 928-684-7851
Fax: 928-684-5876
www.bearcatmfg.com

BearCat™ Mfg.