

**Sanitary
Equipment
Co., Inc.**

SALES PARTS SERVICE

DO IT RIGHT THE FIRST TIME

Committed to delivering equipment
that meets immediate needs
and exceeds expectations
for years to come.

INDUSTRY LEADING EQUIPMENT



SHOP OEM PARTS AT SANITARYEQUIPMENT.COM

25 Industry Dr
West Haven, CT 06516
(203) 933-9599

1140 Turnpike St., Unit 3&4
Stoughton, MA 02072
(855) 373-7324



DCL500SM16 CDL-Exempt System

The Most Flexible Truck-Mounted Debris Collection System

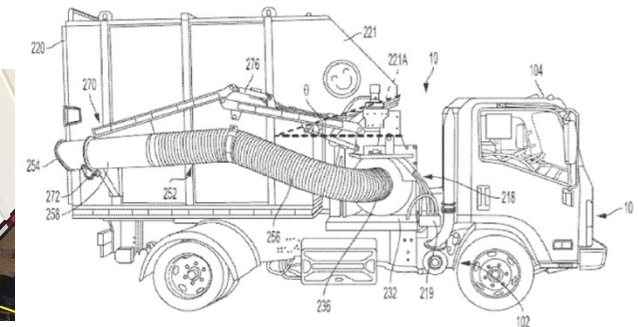
PATENTED



- CDL-Exempt
 - ✓ Labor Resource Flexibility
- Single-Person Operation
 - ✓ Reduced Labor Costs
- In-Cabin Controls
 - ✓ Optimal Safety
- Patented **ECO-MODE™**: Standard
 - ✓ 35% Reduced Fuel Consumption
- Compact Profile – High Capacity
 - ✓ Maneuverability in Tight Areas
 - ✓ Reduced Liability
 - ✓ 16 Cubic Yard Capacity
- Dual Steering Control: Standard



(12) United States Patent Calloway et al.		(10) Patent No.: US 11,319,683 B1
		(45) Date of Patent: May 3, 2022
(54) COMPACT MATERIAL COLLECTION SYSTEM	(58) Field of Classification Search CPC E01H 1/0836; E01H 1/005; A47L 5/36; A47L 9/242; A47L 9/248 See application file for complete search history.	
(71) Applicant: Old Dominion Brush Company , Henrico, VA (US)	(56) References Cited U.S. PATENT DOCUMENTS 4,904,126 A * 2/1990 Voith B01D 46/521 2002/0157212 A1 * 10/2002 Velinsky E01H 1/0827 15/414	
(72) Inventors: Britt R. Calloway , Midlothian, VA (US); Robert Mayes , Hanover, VA (US); Tim Stumph , Midlothian, VA (US); Chris Turner , Aylett, VA (US)	* cited by examiner	
(73) Assignee: Old Dominion Brush Company , Henrico, VA (US)	<i>Primary Examiner</i> — David Redding (74) <i>Attorney, Agent, or Firm</i> — Sterne, Kessler, Goldstein & Fox P.L.L.C.	
(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.	(57) ABSTRACT The present disclosure provides a material collection system. The material collection system includes a conduit, a vacuum generator coupled to the conduit, an engine powering the vacuum generator, and a container mounted to a chassis of a vehicle. The vacuum generator generates airflow for drawing material into a material inlet of the conduit. The container receives collected material from the conduit. The material collection system and vehicle can have a gross vehicle weight rating of at or below approximately 26,000 lbs.	
(21) Appl. No.: 17/314,760	Related U.S. Application Data	
(22) Filed: May 7, 2021	(60) Provisional application No. 63/109,714, filed on Nov. 4, 2020.	
(51) Int. Cl. E01H 1/08 (2006.01) E01H 1/00 (2006.01) A47L 9/24 (2006.01) A47L 5/36 (2006.01) U.S. Cl. CPC E01H 1/0836 (2013.01); A47L 5/36 (2013.01); A47L 9/242 (2013.01); A47L 9/248 (2013.01); E01H 1/005 (2013.01)	11 Claims, 14 Drawing Sheets	



Walk-around Outline

ODB DCL500SM16

CDL-EXEMPT

The Most Flexible Truck-Mounted Debris Collection System



■ Non-CDL

✓ Labor Resource Flexibility

■ Single-Person Operation

✓ Reduced Labor Costs & Management

■ In-Cabin Controls

✓ Optimal Safety

■ Patented **ECO-MODE™**

✓ 35% Reduced Fuel Consumption

✓ Standard

■ Overall Width: <102"

✓ Maneuverability in Tight Areas

✓ Reduced Liability

■ Dual Steering Control - Standard

SPECIFICATIONS: DCL500SM16

Chassis

- ISUZU NRR
- 215 HP 5.2L I4 Turbocharged Diesel Engine
- 6 Speed automatic transmission
- 30 gallon in-frame fuel tank
- Standard 2" Hitch Receiver
- LED type DOT compliant lighting
- 19,500 lbs GVWR, 25,500 GCWR
- 8,440# front leaf suspension
- 14,550# rear leaf suspension
- Extended 5-year/200,000 mile warranty

Tires

- 225/70R19.5F 12 ply tubeless radial
- 225/70R19.5F 12 ply tubeless radial

Auxiliary engine

- Water cooled Kubota 24HP Diesel engine
- In-cab remote throttle, 2-speed electronic
- Pull-out radiator screen
- Patented ECO-MODE™ system controls which reduces fuel consumption upwards of 35% (~3.1 fewer gal/hr, 15-18 less gallons per day), noise (50%), dust (40%), and wear & tear
- 12-gallon poly fuel tank

Engine/Vacuum System Skid

- Engine exhausts through the floor of the skid
- Skid ladder and handrail
- Diamond plate catwalk
- Tab and Slot construction throughout
- All metal laser-cut for precision

Boom/Hose

- Single Operator, In-cab controls
- 3-axis Standard with wheel type planetary gearbox with gear motor
- Aux engine powered pump
- 12" Urethane Vacuum Hose
- Steel nozzle with replaceable tip
- Boom rest on chassis

Hydraulics

- Proportional
- Boom pump powered by aux engine
- Dump pump powered by truck battery
- Outside cab dump control valve

SPECIFICATIONS: DCL500SM16 (continued)

Fan / Impeller

- 20" fan standard
- Option: Shred Master™ Fan – high compaction, high capacity
- Direct belt drive
- Self-clearing
- Scalloped design reduces decibel level
- Back plate protects bearings and shaft
- Fans are robotically welded, stress relieved and statically and dynamically balanced
- AR400 material

Fan housing

- Hinges open with 3-axis boom
- Cleanout door is safety interlocked
- Replaceable ¼" steel liners
- Robotically welded

Fan Bearings

- Proprietary Quad-Glide™ sealed bearings
- Designed in partnership with Timken engineering
- Grease zerks located outside housing with high pressure feed lines

Rear Door

- Manually operated street side hinge door
- Chipper door option
- Backup camera
- Gear driven electric pump
- Dump angle 52 degrees
- LED type DOT amber flashers
- Cab controlled LED directional light bar option

Hopper Construction

- Heavy duty 11-gauge steel
- 83.6" hopper width
- Integrated floor drainage system
- Perforated stainless steel vents
- Regular perforated steel with mesh overlay vents
- Paint Standard white, custom available
- 16 cubic yard capacity

Hoist

- 14,000 LB single cylinder
- Welded into frame

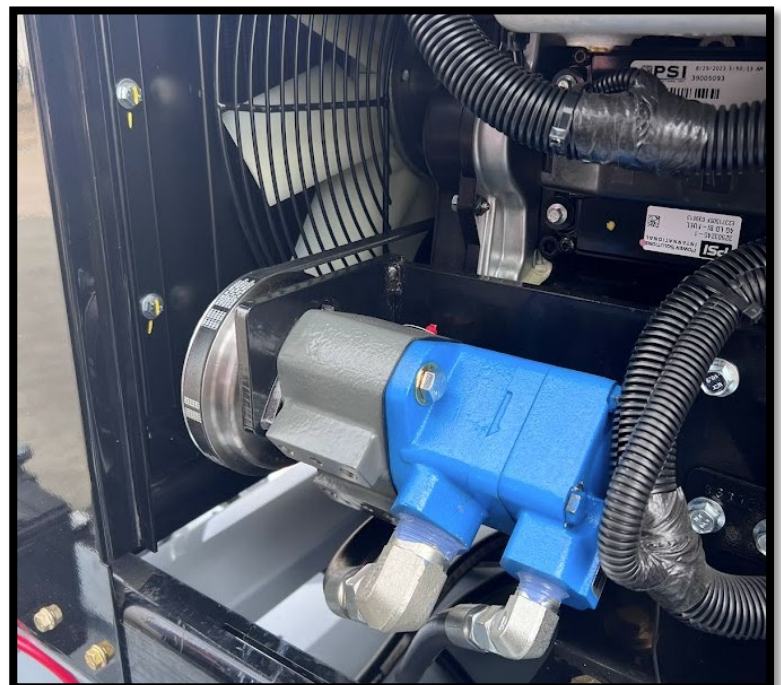


DCL500SM16, 78 HP Gas Aux Engine



78 HP PSI Gas Engine

Improved Pump Design





DCL500SM16, 78 HP Gas Aux Engine

SPECIFICATIONS: DCL500SM16 CDL-EXEMPT

Chassis

- ISUZU NRR
- 350 HP 6.6L V8 Gas Engine
- Allison 1000 Series Transmission
- 38.6 gallon in-frame fuel tank
- Standard 2" Hitch Receiver
- LED type DOT compliant lighting
- 19,500 lbs GVWR, 25,500 GCWR
- 8,440# front leaf suspension
- 14,550# rear leaf suspension
- Extended 5-year/200,000 mile warranty

Tires

- 225/70R19.5F 12 ply tubeless radial
- 225/70R19.5F 12 ply tubeless radial

Auxiliary engine

- Water cooled PSI 78 HP Engine
- In-cab remote throttle control
- 30-gallon steel fuel tank

Engine/Vacuum System Skid

- Skid ladder and handrail
- Diamond plate catwalk
- Tab and Slot construction throughout
- All metal laser-cut for precision

Boom/Hose

- Single Operator, In-cab controls
- 3-axis Standard with radial piston wheel motor
- Aux engine powered pump
- 12" Urethane Vacuum Hose
- Steel nozzle with replaceable tip
- Boom rest on chassis

Hydraulics

- Proportional
- Boom and dump pump powered by aux engine
- Outside cab dump control valve

Fan / Impeller

- 20" fan standard
- Option: Shred Master™ Fan – high compaction, high capacity
- Direct drive
- Manual Clutch
- Self-clearing
- Scalloped design reduces decibel level
- Back plate protects bearings and shaft
- Fans are robotically welded, stress relieved and statically and dynamically balanced
- AR400 material

Fan housing

- Hinges open with 3-axis boom
- Cleanout door is safety interlocked
- Replaceable ¼" steel liners
- Robotically welded

Rear Door

- Manually operated street side hinge door
- Chipper door option
- Backup camera
- Gear driven electric pump
- Dump angle 52 degrees
- LED type DOT amber flashers
- Cab controlled LED directional light bar option

Hopper Construction

- Heavy duty 11-gauge steel
- 83.6" hopper width
- Integrated floor drainage system
- Perforated stainless steel vents
- Regular perforated steel with mesh overlay vents
- Paint Standard white, custom available
- 16 cubic yard capacity

Hoist

- 14,000 LB single cylinder
- Welded into frame



**Sanitary
Equipment
Co., Inc.**

SALES PARTS SERVICE

DO IT RIGHT THE FIRST TIME

Committed to delivering equipment
that meets immediate needs
and exceeds expectations
for years to come.

INDUSTRY LEADING EQUIPMENT



SHOP OEM PARTS AT SANITARYEQUIPMENT.COM

25 Industry Dr
West Haven, CT 06516
(203) 933-9599

1140 Turnpike St., Unit 3&4
Stoughton, MA 02072
(855) 373-7324