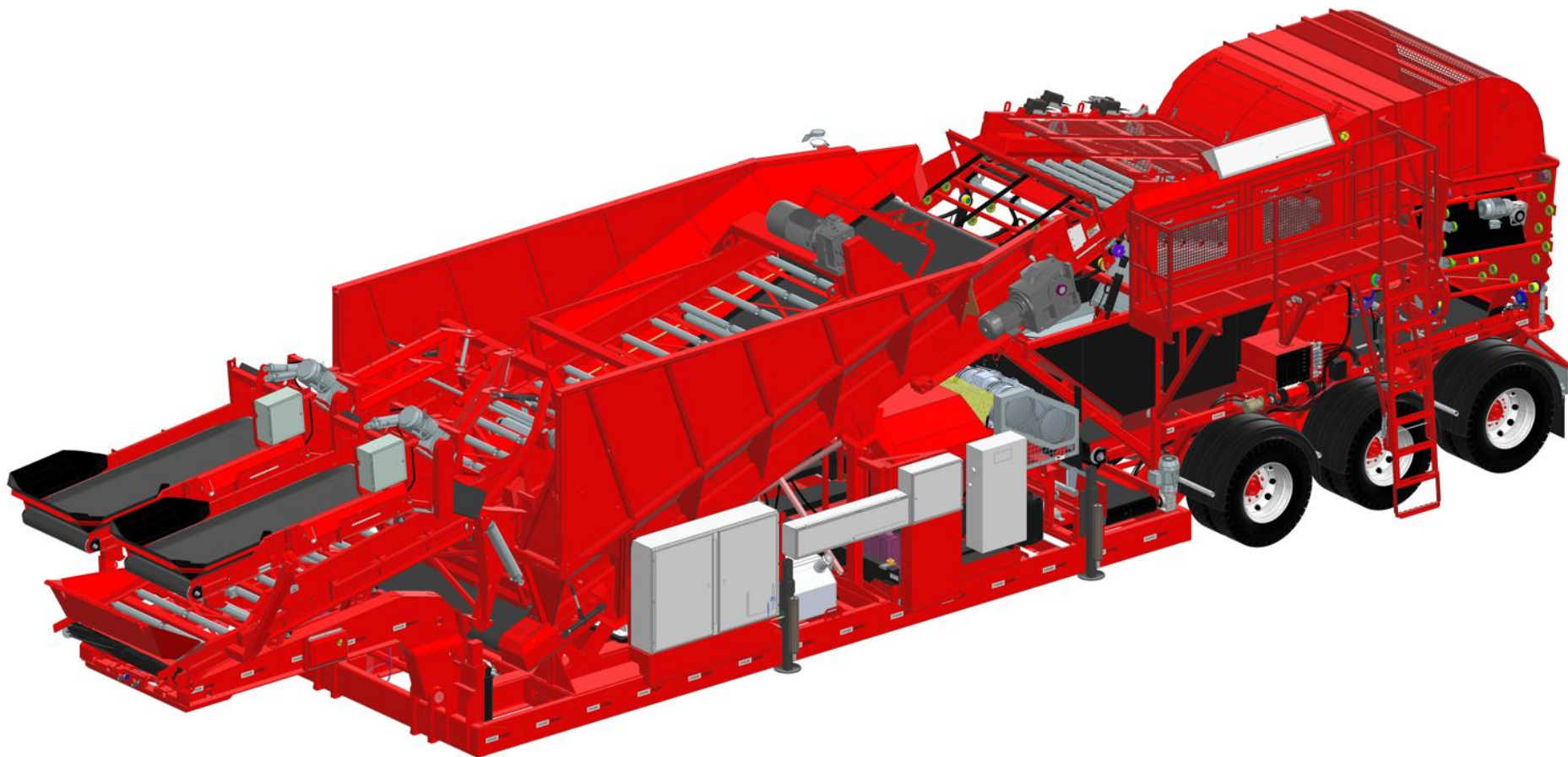
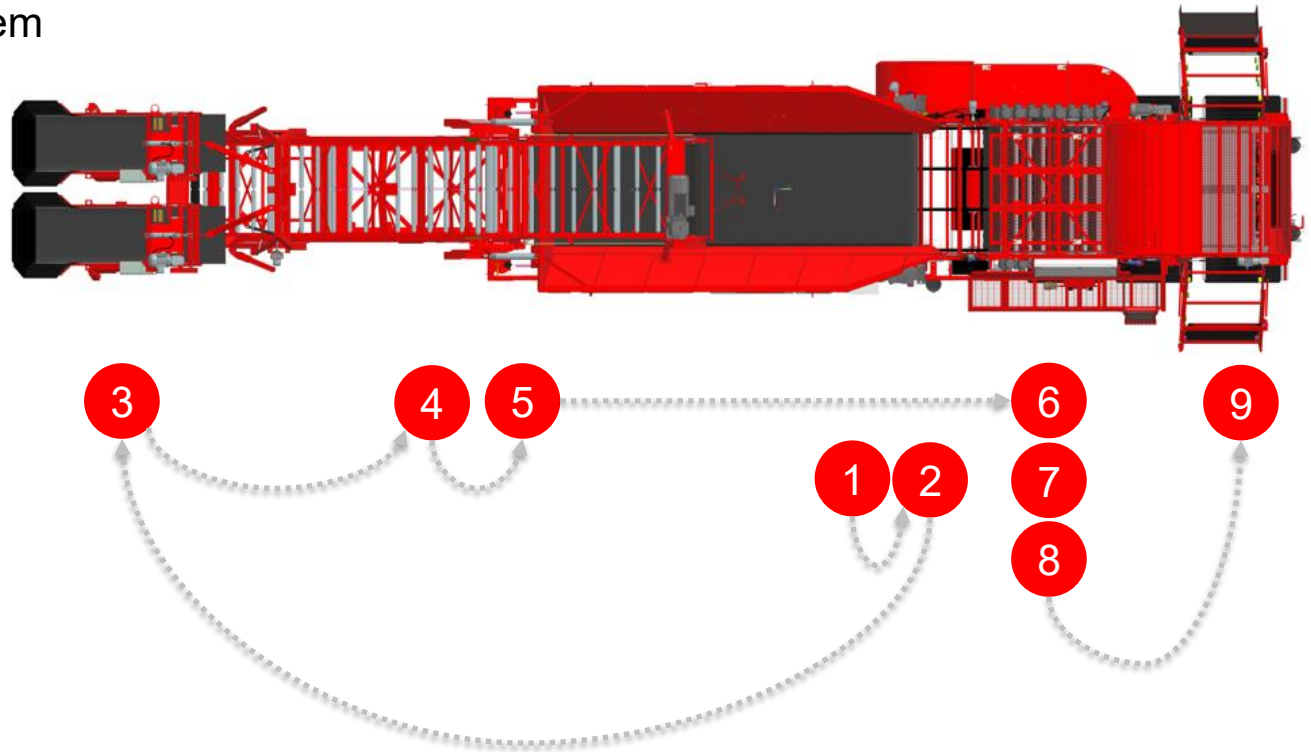


SPUDNIK 2984



Walk Around

- 1 Concept
- 2 Generator/Power Supply
- 3 Pup & Trolley System
- 4 Elevator & Boom
- 5 Holding Tank
- 6 84" 8-Roll MultiSep
- 7 AirSep
- 8 Rock Discharge
- 9 Potato Discharge
- 10 Controls



Concept

“All-In-One” High Speed Axle/Trailer

- Highway speeds
- Air brakes
- Road legal lighting package
- **Operationally ready** to deploy and break down in **15 minutes or less**



Concept (continued)

Onboard Generator (Optional)

Evenflow Front End – Using Proven Technology and Systems

- 2 Pups
- Elevator
- Holding Tank

Increased Cleaning Capacity

- 8-Roll, 2-Section MultiSep for Increased Cleaning Capacity AND Combinations
- AirSep w/ High Efficiency Blower for Increased Product Flotation Capability and Reduced Amp Draw



Pup & Trolley System

2x 12' L x 36" W Pups

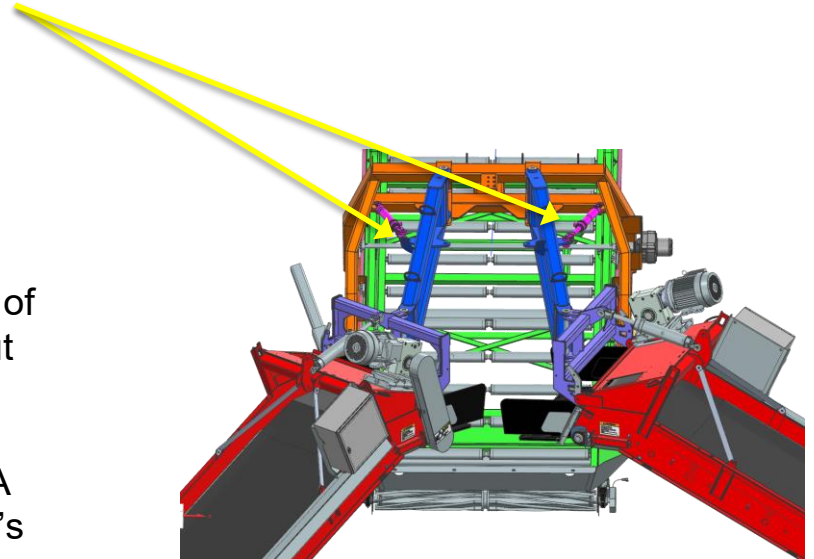
- Lift/Lower
 - 2025 (Prototype)
 - Hydraulic only
 - 2026
 - Hydraulic/electric-over-hydraulic control
 - Hydraulic Pup Swing
 - Adjustable Pup Hangar L & R Position

Pup & Truck Power:

- 20A Service for each pup.
- Pup Belt & 3-Ph truck power

Trolley

- Trolley carries Pups in to (trolley extends) and out of (trolley retracts) **working position**, w/ sensor input at either end of trolley rail for detection of position.
- Controls for pup/trolley are located where the operator is intended to operate the system from. A control pendant is provided at the front, left (driver's side) corner of the machine.



Elevator

Elevator

- Electrically driven (25 HP)
- 60" W, 150 lb. belt with V guide and 1" Chevron cleat
 - Almost a carbon copy of Evenflows (proven performance)
- Manual Speed Control – open loop (speed monitored, but not dependent on speed sensor.
- Autoflow – Closed-loop, VFD-controlled speed.
- Gearbox w/incorporated brake to prevent rollback – electrically engaged/disengaged.
- Improvements:
 - Extended elevator by 18 inches to decrease pup angle, which increases product flow and capacity, while reducing rollback.



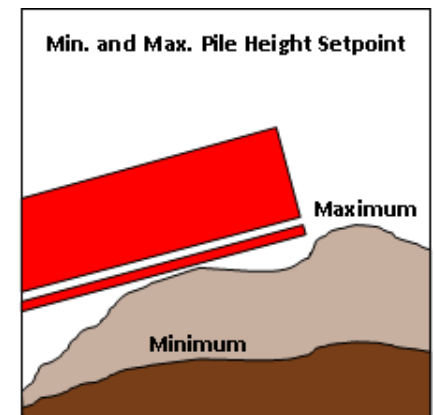
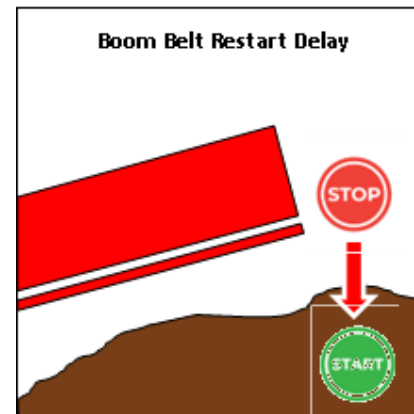
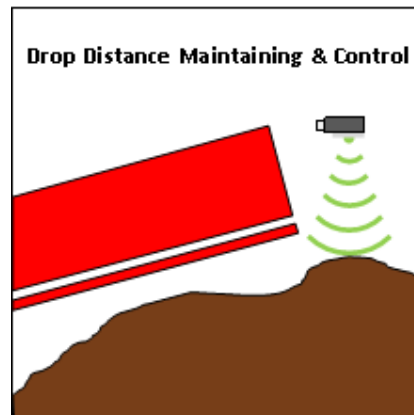
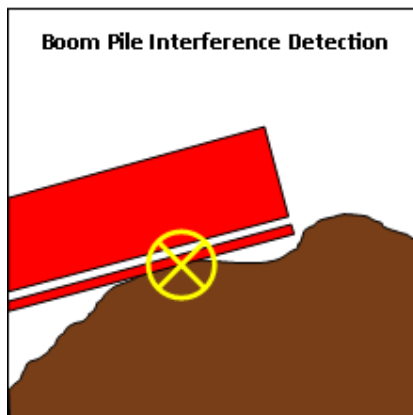
Boom

Features and Functions

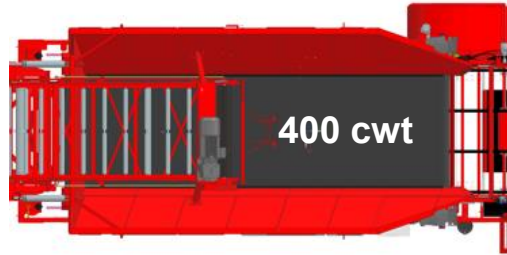
- Hydraulic lift and lower
- Radar sensor (in test) drop distance monitoring and control
- Minimum and maximum pile height setpoints and control
- Belt restart delay control
- Boom pile interference detection
- Main control panel touchscreen/keypad access to adjustments
- Boom work lights



Radar Distance
Sensor
Status: In Test ONLY



Holding Tank



Holding Tank

- 400 cwt capacity
- Fold-away (inside) hopper extensions to guarantee advertised capacity.
- Improved flow through the discharge area (eliminate non-moving product flow)

Bottom Belt

- 20 degrees, with 5-6 straight 1/2" tall cleats to facilitate product movement and cleanout.
- 150 lb. belt attached to steel roller chain. Same style as in the Potato Cart. This configuration requires little maintenance, tracks consistently, and the steel rollers reduce the load on the drive system, reducing motor size and HP requirements.
- Electric gearbox w/incorporated brake to prevent rollback. Electrically engaged/disengaged and includes mechanical override.



8-Roll, 84" MultiSep

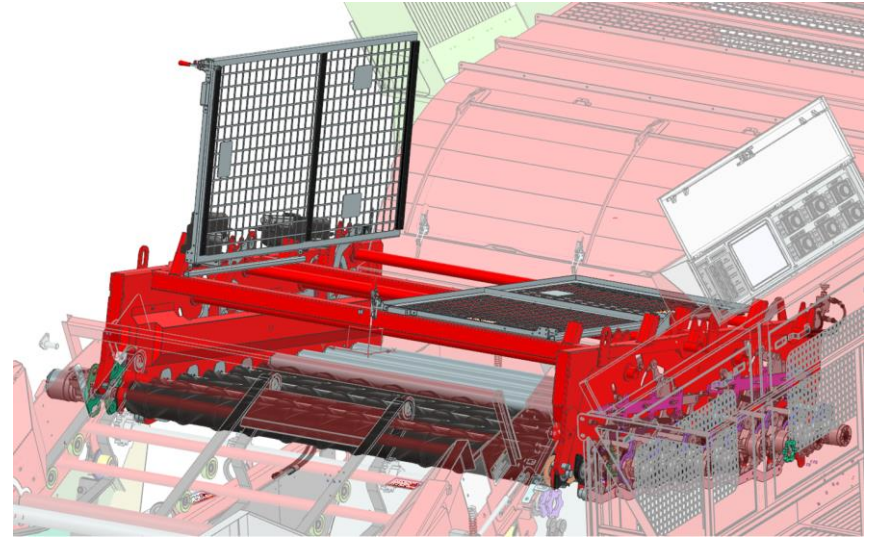
2x 4-Roll MultiSep Table Sections Which Feature Independent Control Of...

- Segment Roller Speed
- Clod Roll Speed and Direction
- Gap Adjustment
- Height Adjustment

Table angle is NOT controlled independently per 4-Roll Section, but as a single, whole-table adjustment. Hydraulic Adjustment.

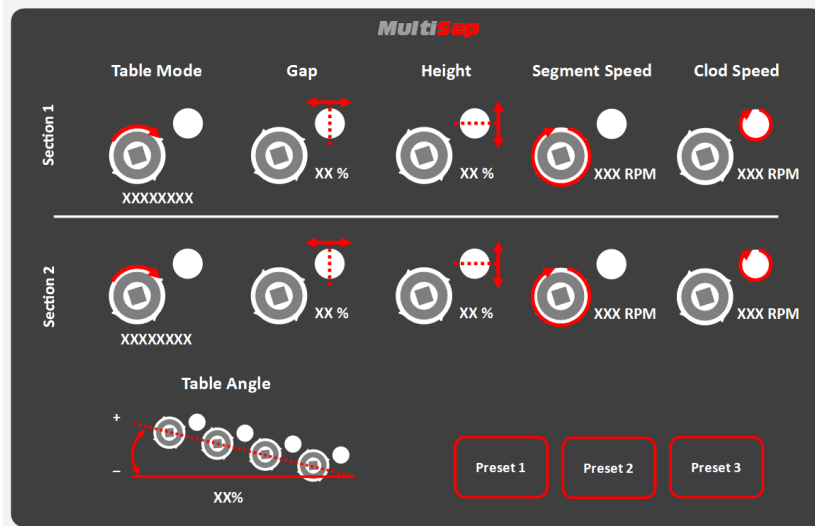
Table Drive

- 2025: Electric
- 2026: Hydraulic or Combination Electrical (Segment) and Hydraulic (Clod)



Rendering of 8-Roll MultiSep with increased access to table for cleanout and maintenance purposes only.

Advantages of the 8-Roll MultiSep



Two 4-Roll Tables on 1 Frame

- Each table features independent...
 - Gap Adjustment
 - Height Adjustment
 - Segment Speed Control
 - Clod Speed & Direction Control

- 1) Transport, Transport
- 2) Transport, Pinch
- 3) Pinch, Transport
- 4) Pinch, Pinch



Table Section 1 Settings

Mode: Transport
Clod Speed: 100 RPM
Segment Speed: 148 RPM



Table Section 2 Settings

Mode: Pinch
Clod Speed: 175 RPM
Segment Speed: 150 RPM



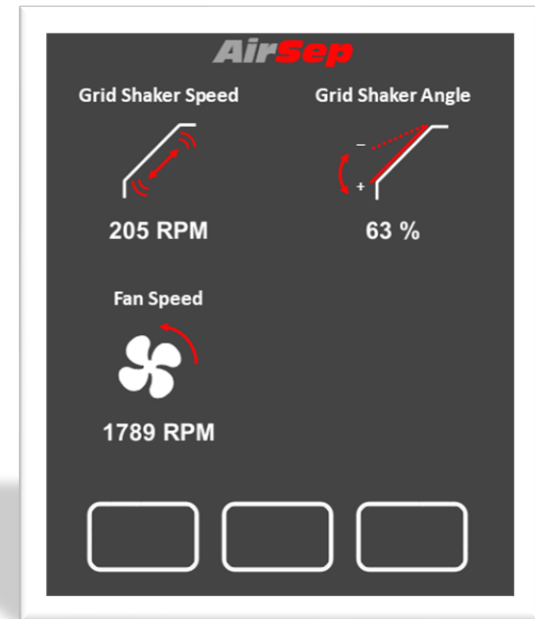
AirSep

Same proven AirSep design and functions provided on other AirSep Eliminators.

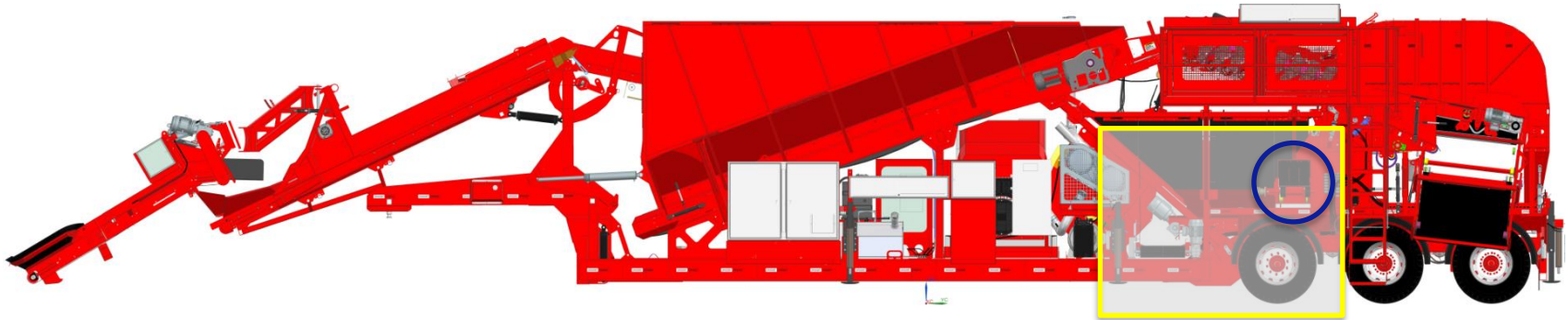
High-Efficiency Blower Upgrade – increased air at same RPM; 10% or greater gains. Reduces amperage requirement and/or greater air generation capacity.

Cogged-belt and drive system—increases reliability, and application-favorable.

AirSep-specific presets (x3)



Rock Discharge

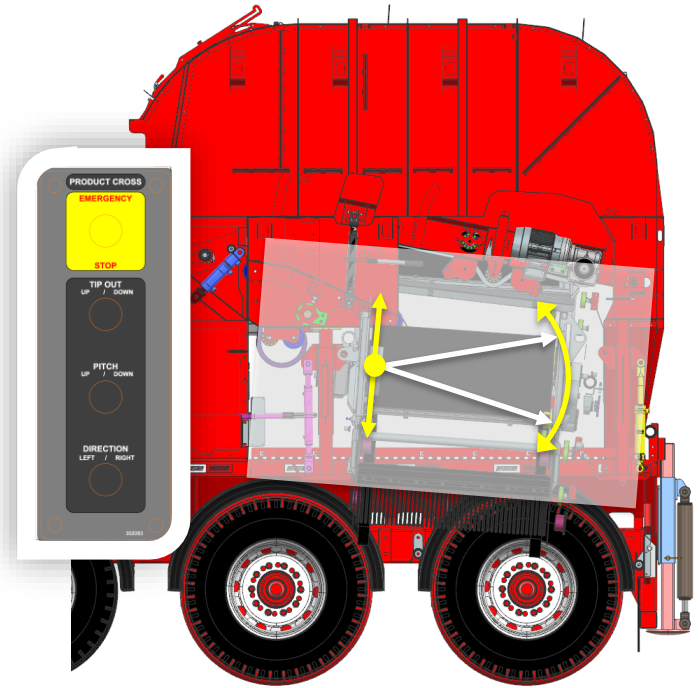


- Discharges continuously to only one side—operator side. Does reverse momentarily to help clear plugs.
- 220 lb. flat belt
- No swivel conveyor but...
- Has a combining conveyor which captures rock conveyor FM and carries it to dirt cross conveyor, combining flows.



Potato Discharge

- Control of tip-out, pitch, and discharge direction from controls located.
- Pitches up/down.
- Narrowed to 42" (now standard) from 48" (prototype).
- What chain pitch? Pillow cushion, style?
- Tipout length increasing by 1' to ease transition to conveyor system.



Generator & Power Supplies

Cummins C200D2RE

- 180 kW (225 kVA) @ 60Hz
- 270 Amp Power Capability (accounts for PF of 0.8)
- Tier IV
- 480VAC 3-Phase Output
- Can be paralleled with other Cummins generators
- Fuel and after-treatment located within 'cube'
 - 20 hr. Fuel Supply
- Significantly reduced noise (<dB)
- 3-Year Warranty

120VAC 2-Wire Spudnik Interlock

Available Conveyor Power Voltages

- 480VAC
- 240VAC

Side Plugs

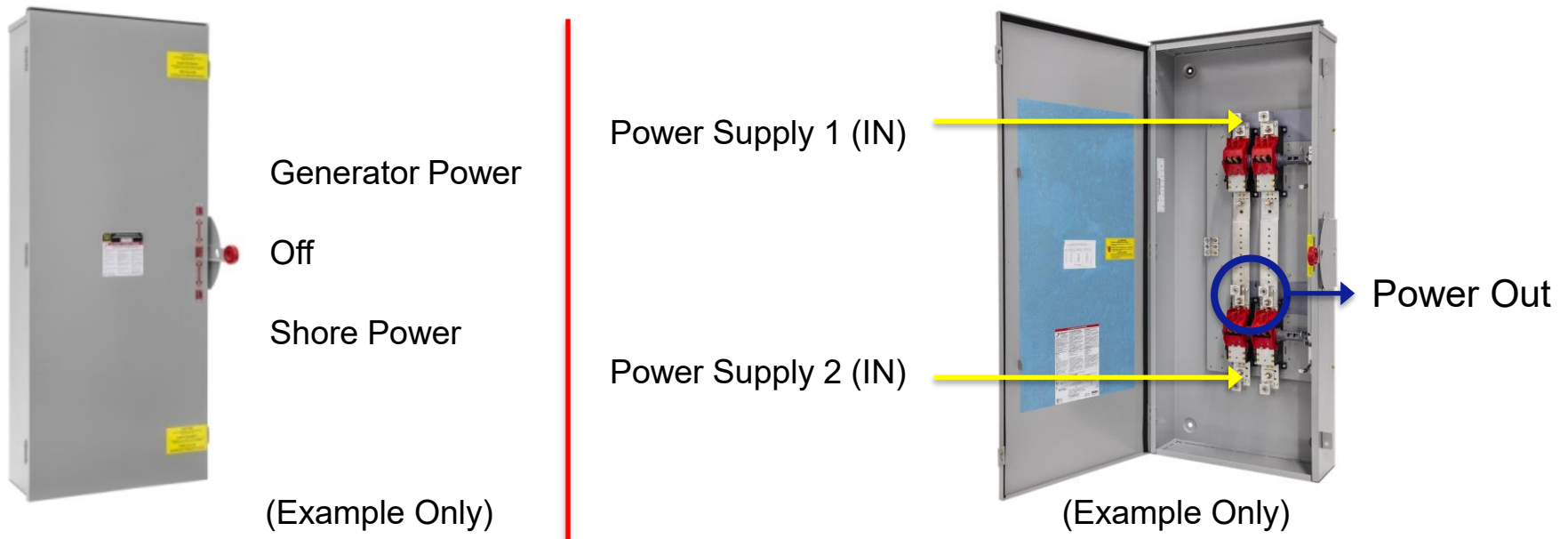
- 2 Circuits
 - Pup Power
 - No 1-Ph Truck Power



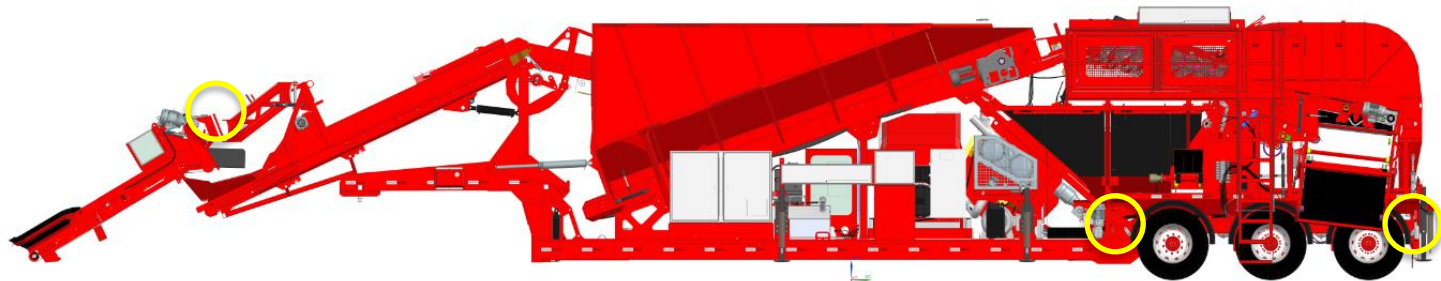
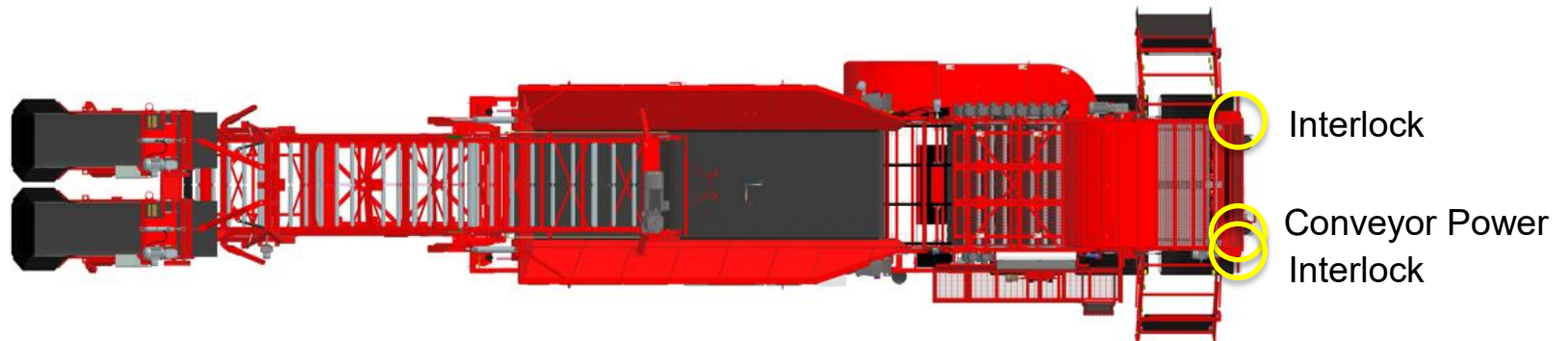
Generator & Power Supplies

Electric Transfer Switch

- Allows electrical service to be switched between generator and shore power without having to manually make and break electrical connections every time.



Electrical Plug Connections



Standard connections for Pup pwr (3ph truck and pup)
20A/ea x 2

Side Plug
Dirt Conveyor
(both sides)
20A

Rock Conveyor Side Plug
20A (one side)



Axle Details

Custom, Extra-Wide Ridewell Brand Axles

- Width provides the machine with extra stability during transport AND...
- Provides extra room needed to keep the total height of the machine underneath required legal limits.
- Ridewell was easy to work with and had what we needed. Seems to be a strong supply chain.

AirRide Suspension

- Spec'd to provide ideal shock absorption and support at highway speeds.

Drum Air Brakes

- Simple and reliable.

Wheels/Tires

- 11R22.5 tire is a common tire size and easy to source.
 - Low profile and offers a high load rating.
 - Commonly available with non-aggressive highway tread patterns, OR very aggressive offroad patters for increased protection
- Polished Rims
 - LOOKS COOL!

Fenders

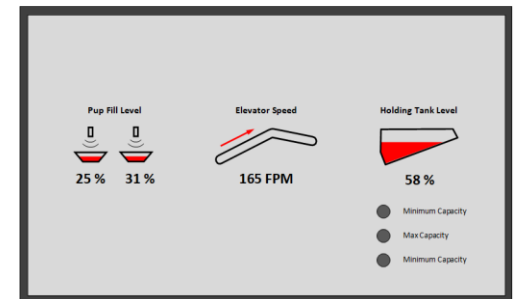
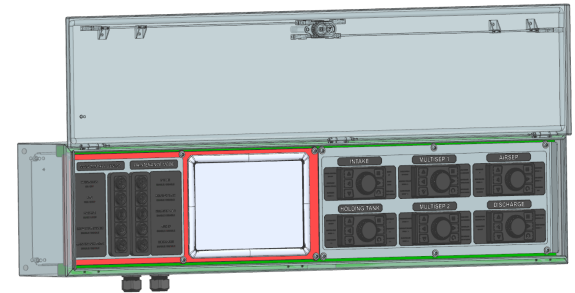
- The poly Minimizer brand fenders are low profile and hug the tires, and are very durable and hold their 'shape memory' very well.



Controls

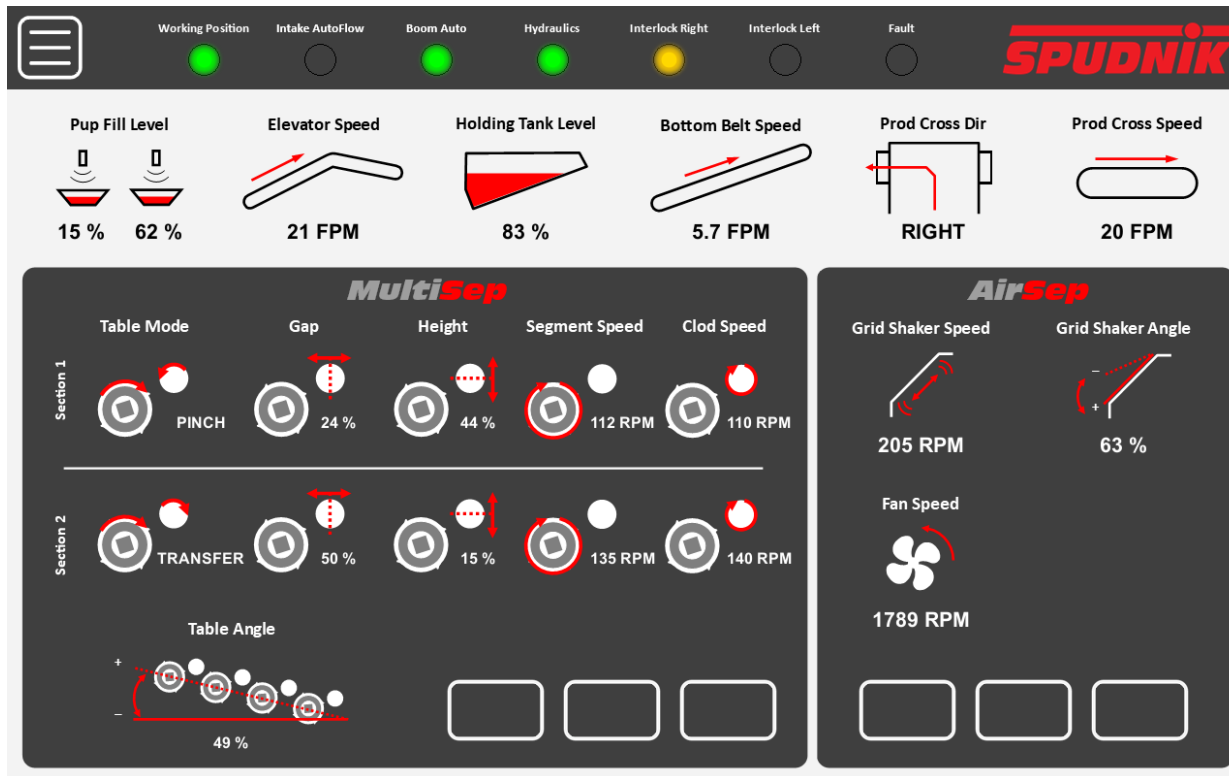
Operator Stations

- 2x Main Control Stations
 - 12" TTControl Vision 312 Touchscreen Display
- 1x Gooseneck-Located Elevator/Holding Tank Display, Speed Control, and Fault Indicator
 - 5" TTControl Vision 305 Display
- Pendant for Pup and Trolley Control
 - Trolley Up/Down
 - Upright Fold In/Out
 - Fold Enable/Disable
 - Boom Lift
 - E-Stop
- 2x (1 Left, 1 Right) Discharge-Mounted Rear-X Direction, Pitch, and Tip-Out
- E-Stops at Every Operator Station and Corner of Machine



Controls

Graphic User Interface(s)



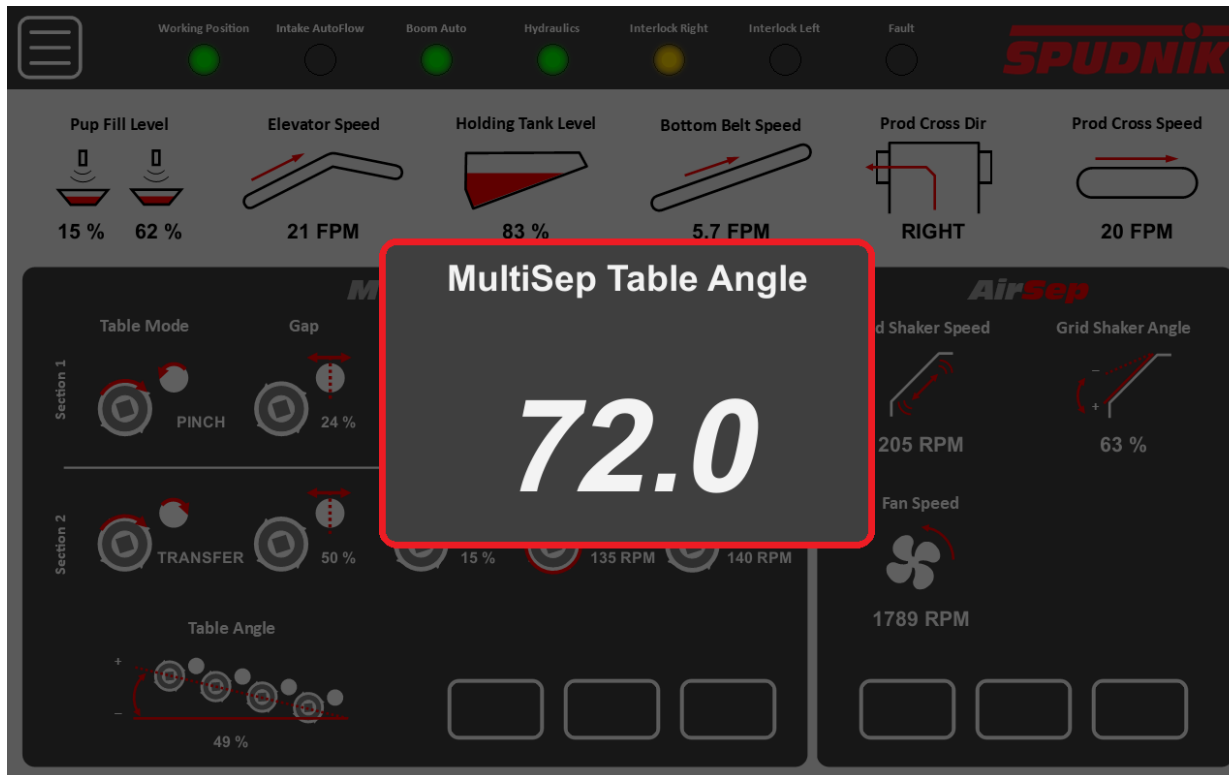
Improved Dashboard

- Key operational indicators top and center
- Use of symbols that emulate and reinforce existing training materials for machines that utilize the same functions. Reduces English language dependency.
- Control sections grouped graphically.
- Utilization of separate presets for MultiSep and AirSep
- Improved Fault and Diagnostic Utility
- Improved Menu Navigation for Setup, Settings, and Diag.



Controls

Graphic User Interface (continued)



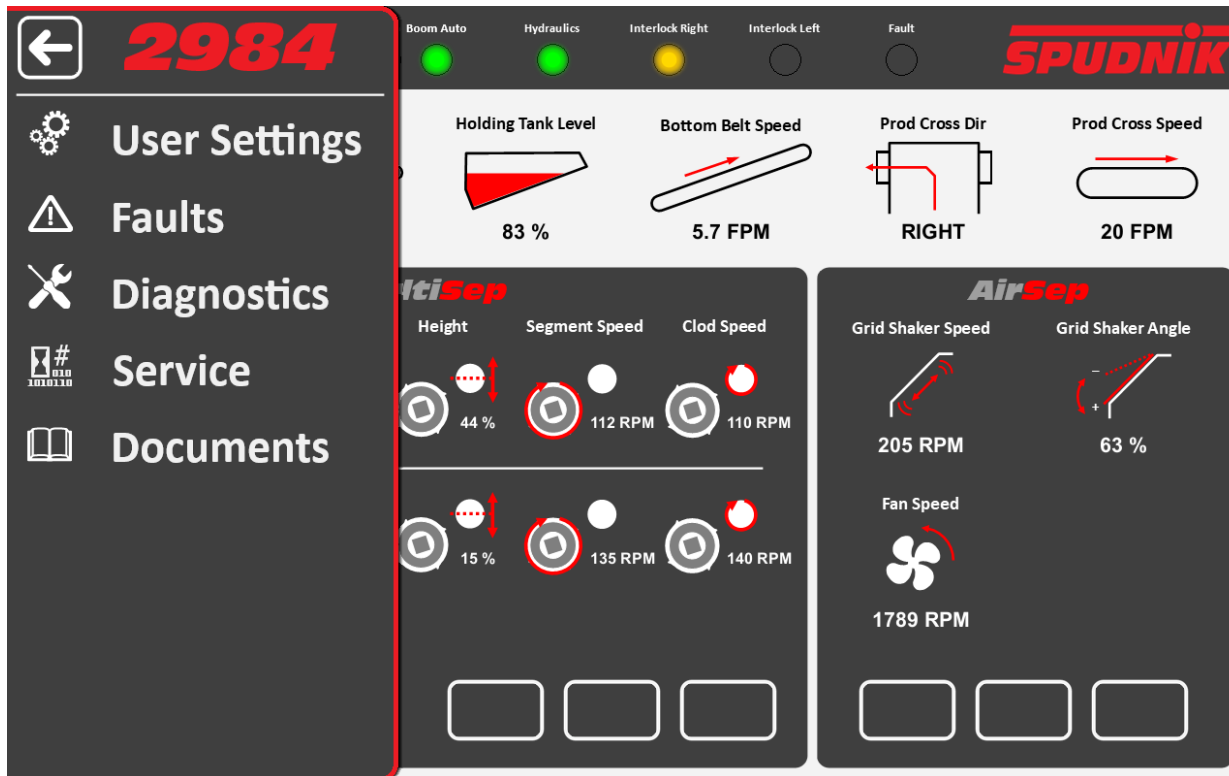
Pop-Ups for Each Operator Control Target/Setpoint

Pop-ups like these provide instantaneous feedback about changes to machine settings and operation.



Controls

Graphic User Interface (continued)



Enhanced Menu Navigation at Left

Provides single-button access to machine settings, faults, diagnostics, service menus, and PDF documentation.



Controls

Graphic User Interface (continued)

Service Information

Machine Number: 2984-55-25

Machine Run Hours: 114.38

Controller Software Version: 2.1.1
Display Software Version: 0.01.21

Set Multisep Preset Names:

Set Airsep Preset Names:

Assign Location of Display (restarts display): LOWER

Check for USB Update

Service Information

Set preset names and see information such as machine hours, software versions for both the screen and controller, and machine serial number.



Controls

Graphic User Interface (continued)

Machine User Settings

Intake Elevator Speed0 fpm

Bottom Belt Speed0.0 fpm

Transfer Chain Speed0 %

Product Cross Speed0 fpm

Boom Drop Distance0 in

Boom Drop Delay0 sec

Boom Min Capacity0.0 mA

Boom Max Capacity0.0 mA

MultiSep

	Section 1	Section 2
Table Mode	PINCH	TRANSFER
Table Angle	0 %	- - -
Roller Gap	0 %	0 %
Clod Roller Height	0 %	0 %
Segment Roller Speed	0 rpm	0 rpm
Clod Roller Speed	0 rpm	0 rpm

AirSep

Minimum Fan Speed0 rpm

Operating Fan Speed0 rpm

Grid Shaker Angle0 %

Grid Shaker Speed0 rpm

Discharge Speed0 fpm

Rock Cross Speed0 fpm

Machine User Settings

See all machine settings in one place.



Graphic User Interface (continued)

Working Position Readiness Instructions and Status

Instructions provided to ensure that working position and transport position modes are achieved. Provides status of the machine's functional position.



Intake Position Control



Transport Position

1. Lift pups to clear elevator hopper.
2. Move pup trolley to upper position on elevator.
3. Lower pups onto transport braces.
4. Lift elevator boom until it reaches max up position.
5. Fold elevator into bin.
6. Adjust multisept table angle to lowest position.



Working Position

1. Unfold elevator out of bin.
2. Lift pups and remove transport braces.
3. Move pup trolley to bottom of the elevator.
4. Adjust pup position for truck unloading.



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Miscellaneous

No poly tank! Metal hydraulic reservoirs.

Airhood Trash Conveyor

- Grimme style “hybrid chain” that is a flat belt attached to a belted chain, which provides great sealing capability and prevents vines from being blown inside of it. Positive drive which shouldn’t slip or cause tracking issues.



Technical Data

Working Length.....70 ft
Working Width.....18 ft
Working Height.....18 ft
Weight.....79,250 lbs

Transport Length.....55.5 ft
Transport Width.....13.8 ft
Transport Height.....13.4 ft
Tongue Weight.....28,500 lbs

Pups.....2x 36” Wide 12’ Length Pups (Custom, Non-Standard)
Elevator Width.....60”
H. Tank Belt Width.....72”
Clean. Table Width.....84”
AirSep Width.....84”
Elev. Hopper Height.....57”
Disch. Conv. Height.....28” (+)
H. Tank Capacity.....400 cwt

