



PALADIN
POWERFUL CONSTRUCTION ATTACHMENTS

Airport Runway Sweeper

3000 & 3100 models for trucks

FEATURES

- High speed front mounted sweeper
- Brush angles 45° left or right
- “Closed loop” hydrostatic brush drive with in-cab controls.
- Optional hurricane force airblast system
- Self-leveling frame, heavy duty swing and anti-shimmy casters provide easy operation



PALADIN LIGHT CONSTRUCTION



3000/3100 Brush & Mounting

Hydrostatic Brush Drive

- Hydrostatic Pump - The brush is powered by a closed loop, variable speed, hydrostatic drive system. The hydrostatic system gives optimum brush power at an infinite number of brush speeds. The pump is driven from the crankshaft of the prime mover vehicle engine (Model 3000) or an auxiliary rear-mounted engine (Model 3100). In-cab control lets the operator adjust the brush speed from the seat. This drive system eliminates high maintenance drive components used on mechanical sweepers.
- Brush Head - The brush core is split into two halves to allow for easier brush replacement by allowing the handling of one half the brush at a time. Brush drive components are mounted inside the brush frame to protect against accidental damage. Multiple brush drive configurations are available with up to 5,040 ft. lbs. torque at 525 RPM.

In-Cab Control

- This efficient feature means your operator can control all of the brush and airblast functions with one finger! Control the speed of the engine and brush with a flip of the switch. Change the position of the brush head, air deflector and airblast on each pass quickly and easily. Start or stop the engine and turn on the headlights without leaving the seat.

High-Speed Brush

- The brush can be 10, 12, 14, 16, 18, 20, 22 or 24 feet wide and 46" in diameter. The wide diameter of the brush generates high tip speeds for more effective cleaning action. The brush is designed for airport operation and available in polypropylene, wire or a combination of 1/2 poly and 1/2 wire bristles.

Adjustable Brush Pattern

- The brush pattern adjusts with only one bolt. The operator can quickly set the correct brush pattern to meet any sweeping condition, even in bad weather. Sweeping with the correct brush pattern reduces brush wear and extends brush life.

Adjustable Brush Hood Stripper

- Models 3000/3100 have an adjustable brush hood bolted to the brush frame. Two crank handles easily adjust the hood as the brush wears. The hood tips back for easy access when changing the brush. The front edge acts as a stripper cleaning snow, slush, water and debris from the brush and preventing carry over from falling back on the runway.

Broom Mounting

- The sweeper is front-mounted and is a separate attachment to the prime mover vehicle. The sweeper is carried on casters mounted behind the brush in the sweeping path of the sweeper. The front-mounted sweeper precedes the vehicle and allows the operator to directly observe the area being swept. The sweeper can be mounted on a variety of prime movers ranging from 5 ton and larger, with four-wheel drive. The sweeper is a quick-disconnect type (30 minutes) and will not interfere with the normal operation of the truck when the sweeper is removed. This gives the benefit of multiple uses of the truck.

Prime Mover

- The 3000 and 3100 are approved by all major truck and prime mover manufacturers. Installation of the sweeper does not void prime mover warranty. Custom prime mover designs are available from Sweepster.
- For the 3000 model the truck engine must be capable of producing, at the minimum, 250 hp at 2200 RPM. The sweeper requires up to 196 hp in heavy working conditions with approximately 120 to 150 hp required to sweep average snow.
- The 3100 model is powered by a rear mounted auxiliary diesel engine of 250 hp or larger depending up brush width. The rear engine may be mounted directly to the prime mover frame or be skid mounted to allow for quick removal from a flat bed or dump body.

Hydraulic Air Deflector

- The movable, hydraulic air deflector on the brush hood directs snow down toward the runway or up for the wind to carry it away. In-cab control lets the operator quickly adjust the air direction to meet sweeping conditions

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PALADIN LIGHT CONSTRUCTION

Frame, Caster System & Airblast System

Self-Leveling Brush Frame

A revolutionary, independent spherical bearing suspension carries the brush. This suspension allows the brush to move both perpendicular and parallel to the line of travel. Free movement keeps the brush level, giving you a clean sweep and reducing brush wear.

Heavy Duty Swing

The swing assembly is constructed of heavy duty rectangular tubing. The pivot point is bearing mounted for easy movement.

Caster System

The majority of the weight of the sweeper is carried on the casters, not on the truck. 18 x 7 x 8 and 16 ply tires are mounted on swivel casters. Two taper roller bearings support each caster shaft. Rear mounted casters travel in the swept path of the brush providing a clean sweep.

The casters are equipped with the exclusive Sweepster anti-shimmy system. This simple system prevents damage prevalent in complicated hydraulic caster anti-shimmy systems. The caster tires are nitrogen filled. The rims are welded to the hub to prevent wheel bolts from coming loose.



Airblast System

The high capacity airblast with movable chutes gives the versatile power needed for runway sweeping.

• High Capacity Fan

The high capacity fan provides air velocity up to 320 mph. The blower is capable of moving water and sand off the runway and removing fresh fallen snow from runway lights in one pass.

• Hydrostatic Airblast Drive

The airblast is powered by an independent, closed loop, hydrostatic system driven from a rear mounted engine. The hydrostatic motor is mounted directly to the fan blade shaft. The pump is connected to the sweeper engine. Direct power drive eliminates belts, chains and other machinery susceptible to high wear and high maintenance costs.

• Blower Mounting

The blower is mounted on the rear or middle of the truck carrying the sweeper. All blower mountings are independent of the sweeper mounting and operation. The mounting can be a quick disconnect to accommodate multiple-use requirements of the prime mover. Maximum removal time is 30 minutes. Once detached, the blower mounting will not interfere with the normal operating functions of the truck. All hose connections are equipped with quick couplers.

• Air Delivery

The movable air chutes on the 3000/3100 Series raise and lower. The airblast can be directed to the right or left with in-cab control. The 3" x 11" (7.62 cm x 27.94 cm) duct opening provides airflow 90° toward the direction of the brush discharge. The brush and airblast work together. The airblast angle and lift change automatically to match the brush angle. An optional manual control allows for independent operation of the airblast system separate from the broom if necessary.

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