

**MOBIL
SWEEPER**

AV445
"TERRA-JET"

HIGH SPEED VACUUM AIRPORT SWEEPER



*High speed vacuum sweeper designed exclusively
for airport cleaning
Meets military cleaning specifications worldwide*

Airport Sweeper AV445 "Terra-Jet"

The need for immaculate cleaning of airfields has intensified proportionately with the increased worldwide use of jet engine aircraft. Small objects or debris ingested by jet engines, upon take-off or landing, can cause severe damage - not to mention the possible threat to personnel safety. With the number of daily flight operations constantly increasing, airfield surfaces must be cleaned as quickly as possible.

The task at hand is clearly defined - immaculate high speed cleaning of very large, flat paved surfaces. Just as clearly, there is only one U. S. manufactured sweeper designed specifically and exclusively to accomplish that task: The Mobil Sweeper AV445 Terra-Jet.

Exclusive 70/30 blow-air/suction system - Our unique full width, forward acting sweeping forces provide extremely fast and thorough F.O.D. control.

SEVEN SWEEPERS IN ONE MACHINE

- (1) F.O.D. removal**
*Broom assisted Blow-air
Suction head*
- (2) Glycol recovery vehicle**
Approximately 700 gallon capacity
- (3) Curb line sweeping**
Add right hand side broom
- (4) Jet blasting large areas**
Add left hand blast air nozzle
- (5) Magnetic sweeping**
Add permanent magnet assembly
- (6) Catch basin cleaning**
Add wander hose
- (7) Snow removal**
Add front mounted roller brush

When it comes to cleaning runways everything about our 70/30 system makes sense. The full width pick-up head employs **three (3)** separate forward acting (in the direction of machine travel) sweeping forces: **1)** full width positive pressure blast nozzle at rear of sweeper; **2)** the industry's largest "In-Head" heavy duty roller broom; and **3)** full width suction nozzle in front of the broom. When these forces are backed up by *the most powerful auxiliary engine and blower in the sweeping industry* - F.O.D. doesn't stand a chance. Also, our 70/30 system eliminates the need for a mechanical seal at the pavement. Our "Make Up Air" seal will never wear out and it constantly adjusts to any gap between the pick-up head and pavement.

30,000 CFM Terra-Jet's blower Driven by a powerful 200 H.P. Cummins engine, our Terra-Jet is by far the most powerful of any vacuum sweeper built in the United States. Combine all that air movement with our unique "Make-up Air" seal, and the Terra-Jet becomes a natural for glycol recovery as well as F.O.D. removal.



Debris container in dump position. Clean design for easy maintenance.



Alternative chassis available. Consult factory

A wide choice of options makes the AV445 the most versatile sweeper in the industry!

Lateral Blast Air Nozzles

Single or dual side blast nozzles can be mounted, in front of rear wheels, to provide a high-speed stream of air for efficient clearing of taxi ramps and for F.O.D. removal. The blast nozzle(s) are raised/lowered via cab control, are orientable to 360 degrees and provide a sweeping path of 25 to 40 feet wide. This blast nozzle option is an excellent tool for removing grass clippings, snow, ice, sand, or other debris from around ground lighting, runway edges or any large paved surface.

Side Brooms

Single or dual side brooms can be mounted, in front of rear wheels, to allow sweeping of curb lines and close to walls and buildings. These broom(s) are pneumatically positioned, hydraulically driven, with cab controlled variable down pressure and speed. The 42" diameter broom is available as 4 segment disposable or 7 segment refillable, with choices of steel wire or polypropylene filaments.

Front Mounted Magnet

For the purpose of collecting metallic debris, a permanent ceramic magnet assembly can be mounted to the front of carrier vehicle. Magnet raise/lower, unload and return to sweep functions are hydraulically controlled from the cab.

Wander Hose Assembly

A rear mounted 8" wander hose is available for picking up leaves, refuse, emptying drain boxes and trash containers and cleaning relatively inaccessible areas.

Front Mounted Snow Broom

For clearing snow and sand, a front roller brush assembly (pivotable for right or left operation) can be installed. For easy attachment, the assembly has its own 2 wheel chassis. The roller brush is hydraulically driven from a PTO. The speed is variable, and positioning is through a hydraulic cylinder. All operations are cab controlled. Consult factory for chassis compatibility.



Lateral blast nozzles removing sand from runway with pickup head in retracted position.



Front mounted snow broom available with some chassis. Consult factory.

STANDARD FEATURES

- BLOW-AIR/SUCTION SWEEPING
- 8 CUBIC YARD HOPPER
- 45 DEGREE DUMP ANGLE
- AUTOMATIC LIFTING OF SWEEPING EQUIPMENT WHEN REVERSING
- AUTOMATIC CENTRIFUGAL BLOWER CLUTCH
- FIBERGLASS WATER TANKS
- ALL FUNCTIONS CAB CONTROLLED
- HYDRANT FILL HOSE
- HIGH PRESSURE WASH OUT SYSTEM
- TAILGATE DOOR DRAIN STUB

MODEL AV445 AIRPORT SWEEPER

GENERAL SPECIFICATIONS

Approximate weight empty	21,540 lbs. (9,770 Kg.)
Gross vehicle weight rating (GVWR)	33,000 lbs. (14,968 Kg)
Wheelbase	192" (4,877 mm)
Overall length	26' 0" (7,945 mm)
Overall width	8' 0" (2,438 mm)
Overall height (w/out rotary beacon)	10'-8" (3,251 mm)
Turning diameter (curb to curb)	52'-0" (15.8 m)
Sweeping speed	4 to 25 m.p.h. (6.5 to 40 KmPH)
Sweeping path (pick-up head only)	87" (2,210 mm)
Sweeping path (w/one side broom)	114" (2,895 mm)
Sweeping path (w/two side brooms)	142" (3,607 mm)
Sweeping path (w/one or two blast nozzles)	25 to 40 feet (7.6 to 12.2M)
Sweeping path (with front mounted magnet)	84" (2,134 mm)
Axle capacity front	12,000 lbs. (5,443 Kg)
Axle capacity rear	21,000 lbs. (9,525 Kg)

DIRT HOPPER

Capacity	8.0 cubic yards (6.1 cu. m.)
Lift	Hydraulic telescoping cylinder
Tailgate	Hydraulically raised/lowered
Latch	Hydraulically latched/unlatched
Control	Manual 3 spool valve
Location	R.H. side of machine
Safety features	Pilot operated check valves all circuits Safety props for body and tailgate Separate tailgate closing valve at rear
Dump angle	45 degrees
Tailgate door features	Observation door and water drain stub

BLOWER

Drive	Single powerband belt
Belt tension adjustment	Idler pulley
Clutch	Fluid coupling
Impeller diameter	31" (787 mm)
Impeller width	6-1/2" (165 mm)
Number of blades	12
Speed	3,300 RPM
CFM rating	30,000 CFM
Construction	Abrasion resistant steel

PICK-UP HEAD

Total area	2,436 sq. in. (15,717 sq. cm)
Suction area	261 sq. in. (1,684 sq. cm)
Pressure nozzle area	174 sq. in. (1,123 sq. cm)
Inside width	87 in. (2,210 mm)
Hoses:	
Pressure	Qty. Diameter
Suction	Three (3) 10" (254 mm)
Support front	Two (2) 10" (254 mm)
Support rear	Adjustable parallelogram suspension Four adjustable 10" diameter caster wheels

ROLLER BROOM (IN PICK-UP HEAD)

Diameter	16" (406 mm)
Length	87" (2,210 mm)
Control	Pneumatic with variable down pressure
Drive	Hydraulic motor
Speed	Variable 0-400 RPM
Material	Polypropylene
Time required to change broom	Less than 30 minutes

DUST CONTROL SYSTEM

Total capacity (2 water tanks)	420 U.S. gal. (1,590 L)
Tank construction	Reinforced fiberglass
Pump:	
Type	Roller pump
Capacity	12 GPM @ 100 psi (45 LPM @ 6.9 Bar)
Drive	Hydraulic motor
Protection	Automatic shutdown when tanks empty
Inlet screen	80 mesh
Spray nozzles:	
Pick-up head	6
External spray bar	5
Optional side broom(s)	2 each broom
Control	Individual switch cab control
Fill hose	15'-0" (4.5 M) long with 2-1/2" NST coupling
Wash out hose	3/4" dia. (19 mm) X 40 ft. (12 M) long w/nozzle

DUST SEPARATOR

Type	Air/water
Location	Internal in dirt hopper

HYDRAULIC SYSTEM

Pump type	Tandem gear
Drive	Direct via auxiliary engine accessory drive
Capacity:	
Primary section	20 GPM (76 LPM)
Secondary section	9 GPM (34 LPM)
Function:	
Primary section	Roller broom and water pump drive
Secondary section	Body dump function, optional side broom drive and optional magnet raise/lower
System protection	Relief valves all circuits
Filtration	10 micron

PNEUMATIC SYSTEM

Function	Raise/lower pick-up head, roller broom, optional side broom(s) and blast nozzle(s) Variable down pressure roller and side broom(s) Conversion sweep to blast air
Source	13.2 CFM chassis air brake compressor
Safety	85 PSI pressure protection valve
System maintenance	Air dryer, filter, regulator and lubricator

ELECTRICAL SYSTEM

Alternator (auxiliary engine)	105 amp
Battery (chassis)	1200 CCA
Type	12 volt negative ground

INSTRUMENTATION

Back lit center mounted control console and auxiliary engine monitoring panel with key start and throttle control. Sweeper console houses all switches, gauges, and warning lights for sweeper operation, except dirt hopper dump functions.

AUXILIARY ENGINE

(Powers blower and hydraulic pump)	
Make	Cummins 6CT8.3
Type	Water cooled in-line six cylinder
Displacement	504 cu. in. (8.3 L)
Bore	4.49 in. (114 mm)
Stroke	5.32 in. (135 mm)
Compression ratio	17.3:1
Horsepower	210 (157 KW) @ 2200 RPM
Torque	567 lb. ft. (769 N-M)
Protection	Automatic shutdown for low oil pressure/hi water temperature with visual and audible alarm

CHASSIS REQUIREMENTS

GVWR	33,000 lbs.
Front axle	12,000 lbs.
Rear axle	21,000 lbs.
Cab to axle dimension	129" min.
Engine	Diesel 175 HP min.
Transmission	Allison AT545 or MD3060P "Wordl Transmission"
Air compressor	12 CFM min.
Fuel tank (diesel)	Min. 50 gal. U.S.
Cab	Air conditioned and sound insulated
Seating	Two (2) bucket type seats

OPTIONAL EQUIPMENT

Single or dual 42" diameter side brooms
Single or dual lateral blast air nozzles
Front mounted 84" permanent magnet
Front mounted snow broom (not available with some chassis, consult factory)
Rear mounted 8" diameter wander hose

CONFIGURATIONS POSSIBLE

Standard machine (no side brooms, no blast nozzles)
One blast nozzle, no side brooms
Dual blast nozzles, no side brooms
One side broom, no blast nozzles
Dual side brooms, no blast nozzles
One side broom and one blast nozzle (opposite sides of machine)

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