

Snow Removal Equipment Calculations

* Data entry required

Airport Name

Location

*Average Annual Snow Fall

*Type of Airport

*Annual Operations

Time allowed for removal per AC 150/5200-30 hours

Users requiring assistance or reasonable accommodation may contact the FAA Central Region at 816-329-2600

Refer to AC 150/5220-20, Airport Snow and Ice Control Equipment, and AC 150/5200-30, Airport Winter Safety and Operations for specific guidance.

Critical Snow Removal Areas:

*Primary Runway (usually one)

length (ft) x width (ft) = sq. ft.
 length (ft) x width (ft) = sq. ft.

*Parallel taxiway and one or two principle connecting taxiways

length (ft) x width (ft) = sq. ft.
 length (ft) x width (ft) = sq. ft.
 length (ft) x width (ft) = sq. ft.
 length (ft) x width (ft) = sq. ft.

*Terminal, Cargo, and General Aviation Aprons

Critical apron area assumed as 1/2 of the apron.

<input type="text" value="50"/> % Req' x	<input type="text" value="600"/> length (ft) x	<input type="text" value="250"/> width (ft)	=	<input type="text" value="75,000"/> sq. ft.
<input type="text" value="50"/> % Req' x	<input type="text" value="850"/> length (ft) x	<input type="text" value="300"/> width (ft)	=	<input type="text" value="127,500"/> sq. ft.
<input type="text" value="50"/> % Req' x	<input type="text" value="350"/> length (ft) x	<input type="text" value="350"/> width (ft)	=	<input type="text" value="61,250"/> sq. ft.
<input type="text" value="50"/> % Req' x	<input type="text" value=""/> length (ft) x	<input type="text" value=""/> width (ft)	=	<input type="text" value="0"/> sq. ft.
<input type="text" value="50"/> % Req' x	<input type="text" value=""/> length (ft) x	<input type="text" value=""/> width (ft)	=	<input type="text" value="0"/> sq. ft.

Other critical areas (ie. emergency or ARFF access roads)

length (ft) x width (ft) = sq. ft.
 length (ft) x width (ft) = sq. ft.
 length (ft) x width (ft) = sq. ft.

Total Area = sq. ft.

*Snow Depth (in)

*Snow Density (lbs/cu ft)

Tons of Snow tons

Rotary Plow

*Rotary Plow Efficiency %

Minimum Rotary Plow snow removal rate tons/hr

Displacement Plow

*Operating Speed (mph)

*Plow Efficiency %

*Plow Cutting Angle (degrees)

Effective Blade Length (ft) Required ft.

Actual Blade Length (ft) Required ft.

Snowfall Maps can be found here:

Iowa:

<http://www.hprcc.unl.edu/wrcc/states/ia.html>

Kansas:

<http://www.hprcc.unl.edu/wrcc/states/ks.html>

Missouri:

<http://www.hprcc.unl.edu/wrcc/states/mo.html>

Nebraska:

<http://www.hprcc.unl.edu/wrcc/states/ne.html>

- Refer to Figure 2-6 AC 150/5220-20 for GVW & HP rating @ carrier vehicles.

- Refer to AC 150/5220-20, Chapter 6, Paragraph 38 for minimum equipment requirements at Commercial Service and General Aviation airports. Program Guidance Letter, PGL 08-04 limits non Primary airports to one SRE vehicle

Eligible Items	Max Quantity	Size	tons/hr Total
Rotary Plow	<input type="text" value="4"/>	<input type="text" value="5,680"/>	<input type="text" value="22,720"/> tons/hr Total
Displacement Plow	<input type="text" value="8"/>	<input type="text" value="48"/>	<input type="text" value="384"/> ft, Total
Sweeper	<input type="text" value="3"/>		
Hopper Spreader	<input type="text" value="3"/>		
Front End Loader	<input type="text" value="1"/>		

Class 2 (up to 1500 tons/hr, 75' casting distance)

Up to 2 times the # of snow blowers (displacement plows should have equal capacity as max rotary plow capacity)

Sweeper per 750,000 sq. ft. of pavement (rounded up)

Hopper Spreader per 750,000 sq. ft. of pavement

Front End Loader per 500,000 sq. ft. of critical apron space