

## 2016-2017 RESULTS

### BLADES AND PLOWS

#### BlockBuster blades - hammerhead carbide (Winter Equipment)

<http://winterequipment.com/blockbuster-classic>

State	Quantity tested	Season tested	Instructions	Ease of installation	Vendor support	Durability	Addressed problem	Overall satisfaction
Iowa	6 sets of 11' front blades	2015-2017	4	2	4	4	4	3

#### Comments

Comments from the Operators:

\* Very heavy and tough to install.

\* Worked well on micro surface roads.

\* 2 trucks went the entire winter season without changing blades, when they would normally go through 2-3 sets of blades in a winter season.

#### Ice-O-Force underbody blades (Ironhawk)

<http://www.ironhawkindustrial.com/files/104803749.pdf>

State	Quantity tested	Season tested	Instructions	Ease of installation	Vendor support	Durability	Addressed problem	Overall satisfaction
Iowa	2 sets of 11' underbody	2016-17	4	4	4	4	4	4

#### Comments

Operator comments:

\* Install was very easy.

\* Seemed to wear very good on all surfaces and was very quiet.

\* Worked well on packed snow.

#### Joma plow blades

<http://www.blackcatwearparts.com/products/snow-plow/>

State	Quantity tested	Season tested	Instructions	Ease of installation	Vendor support	Durability	Addressed problem	Overall satisfaction
Delaware	N/A	2014-2017	N/A	5	5	4	4	5
Missouri	N/A	2015-2017	4	5	5	5	4	4
Pennsylvania	N/A	2014-2017	3	4	3	5	4	4

#### Comments

##### Delaware DOT (2014-2017) • Overall rating: 5

Black Cat Joma blades performed very well during plowing operation. Very minor damage was observed to the cutting edges and plow trucks stayed on their routes much longer than with traditional carbide blades.

##### Missouri DOT (2015-2017) • Overall rating: 4

We are very satisfied with the Joma blades.

##### Pennsylvania DOT (2014-2017) • Overall rating: 4

Blades last longer and reduce noise

### Kuper Kombi H ceramic-insert blades

<http://www.kueperblades.com/>

State	Quantity tested	Season tested	Instructions	Ease of installation	Vendor support	Durability	Addressed problem	Overall satisfaction
Iowa	25 sets of front blades	2015-2017	4	3	4	3	3	3

#### Comments

Overall comments from Operators were mixed:

- \* We had a combination of the older and newer style of the Kombi H. The newer style performed much better and seemed to be more durable.
- \* Most operators liked the ease of installation and they were impressed with how quiet they were
- \* Some operators thought the performance of this blade was equal to JOMA blades.

### Lake Effect blade assembly (Ironhawk)

<http://www.ironhawkindustrial.com/files/105086284.pdf>

State	Quantity tested	Season tested	Instructions	Ease of installation	Vendor support	Durability	Addressed problem	Overall satisfaction
Iowa	4 sets of front blades	2016-17	4	5	4	4	4	4

#### Comments

This is the first year that we have tested these blades.

Comments from Operators:

- \* Easy to install and seemed to be very durable.
- \* Used on Micro surface and concrete with good results. Seemed to work well on packed snow.

### Monroe flex plow with trip edge

<http://www.monroetruck.com/Products.aspx?category=185&product=131&name=Flex%20Plow>

State	Quantity tested	Season tested	Instructions	Ease of installation	Vendor support	Durability	Addressed problem	Overall satisfaction
Arizona	25	2015-17	3	4	4	5	5	4

#### Comments

Goal: Better lane coverage due to wider plow moldboard.

We have problems with uneven bridge expansion joints during the winter months. Whereas a standard expressway plow's bit will either drop in between the expansion joint, or catch on an expansion joint that is higher on one side than the other. Depending on the plow truck's speed, this scenario can cause thousands of \$\$ in damage to equipment.

The Monroe flex plow with trip edge (must differentiate between "trip edge" and trip moldboard. Plows with trip moldboard require the plow driver to exit the vehicle and try to reset the moldboard which is dangerous for more than one reason)

When the Monroe trip edge catches on something, it trips a spring-loaded latch that lets the plow edge go over these hazards. All the operator needs to do to reset the trip edge is bump the plow raise lever to raise the plow about 6" and the edge resets. He doesn't have to get out of the truck or stop the truck.

1 = Poor, 5 = Excellent  
 Darker shading indicates higher ratings

### PolarFlex blades (Valley Blades Ltd.)

<http://www.valleyblades.com/polarflex/>

State	Quantity tested	Season tested	Instructions	Ease of installation	Vendor support	Durability	Addressed problem	Overall satisfaction
Iowa	8 sets of front blades	2015-2017	4	4	4	4	4	4

#### Comments

- Operator Comments:  
 \* Install was fairly easy.  
 \* Seemed to wear good on all surfaces.  
 \* Flexed very well on uneven surfaces.  
 \* Very quiet.

### Power float valves (Cirrus)

<http://www.ciruscontrols.com/snow-plow-hydraulics/blade-savers/>

State	Quantity tested	Season tested	Instructions	Ease of installation	Vendor support	Durability	Addressed problem	Overall satisfaction
Iowa	12 units	2016-2017	3	3	4	4	4	4

#### Comments

We installed these units on trucks that were also being used for blade testing. Goals were to reduce weight on the front plow and to increase blade life. Operator comments:

- \* Not sure how much more blade life was achieved but this obviously made a difference. Much better when operating in conditions of light fluffy snow or when clearing areas that have pillow drifts.
- \* Need a different setup in the truck for the operator to engage the Float valve. (Operator had a to use a toggle switch that was remotely mounted to engage the float. Operators had a difficult time using this toggle switch. This winter season, we are removing the toggle switches and going to a 3 button joystick that will be much easier to operate.)
- \* This float valve must be used with a load sense pump not a gear pump.

We plan to outfit approximately 30% of our fleet for the 2017-2018 winter season and continue testing this Power Float.

### TowPlow (Viking-Cives)

<http://www.vikingcives.com/pdf/VCU/Tow%20Plow.pdf>

State	Quantity tested	Season tested	Instructions	Ease of installation	Vendor support	Durability	Addressed problem	Overall satisfaction
Idaho	2	2016-2017	4	3	4	3	3	3
Pennsylvania	N/A	2011-2017	3	2	3	2	1	2
South Dakota	1	2015-2017	5	5	5	5	5	5
Vermont	2	2013-2017	4	5	4	5	4	5

#### Comments

##### Pennsylvania DOT (2011-2017) • Overall rating: 2

Tow plow could not spread the entire snow route with material and Dump Truck required modifications

##### South Dakota DOT (2015-2017) • Overall rating: 5

We finally had a decent snow year to test out the bi-directional tow plow. We plan to purchase 6 more bi-di's for this next season.

##### Vermont AOT (2013-2017) • Overall rating: 5

We were able to deploy the tow plow during overnight storms (and others to a lesser degree) and provide winter maintenance to 2 lanes of traffic with one truck, which allows more coverage when we send workers home due to 1.2 to 1.3 operators per route.