

# ICE-O-FORCE HD™ BLADE SYSTEM

Expansion joints, pavement changes, and other variations in the road surface create shock and vibration. A rigid blade is not equipped to adapt to these irregularities and will transmit the vibration and noise to the plow truck. Ironhawk's patented Ice-O-Force HD™ blade system suspends the blade, allowing it to travel 3/8", greatly reducing shock and vibration. Less vibration = less noise, which can significantly help reduce operator fatigue over a long shift.

## 66% More Carbide

We designed the HD version of our popular Ice-O-Force™ system initially for western state DOTs that were looking for a long-life blade for their long stretches of highway.

One of the key design parameters for a carbide insert blade is how much tungsten carbide is brazed into the blade. We weld 2" x 10" carbide insert blocks to the back of a 3/4" x 7" carbide insert blade. These blocks increase the amount of tungsten carbide wear surface by 66% making it the most carbide in a single-blade system.

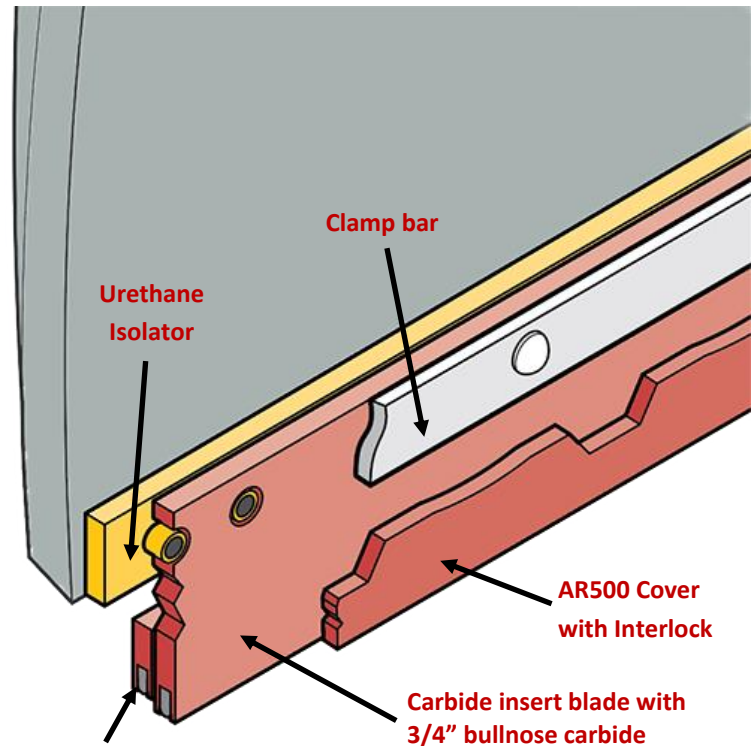
## Dampen Shock and Vibration

A standard plow cutting edge transmits a tremendous amount of vibration into the moldboard and then the truck. This vibration can play havoc with a plow truck's mechanical and electrical systems. The Ice-O-Force HD™ blade systems use a flexible urethane isolator to eliminate the metal-to-metal contact between the blade and the moldboard.



## Reduced Driver Fatigue

As any plow truck driver can attest, noise is a major cause of operator fatigue. In-cab noise levels can exceed the OSHA limits for a shift. Our Ice-O-Force HD™ system has been proven to reduce the in-cab noise levels by 8 to 10 decibels, which is equivalent to reducing the volume in half.



2" x 10" Carbide insert backers with 3/4" bullnose carbide

## Increase Blade Life 2 to 3 Times

Tungsten carbide's hardness is the key to the long life of a carbide insert blade. However, while it is very hard, it is also brittle and will fracture and fall out of a normal carbide blade over time. The Ice-O-Force HD™ blade system uses a urethane isolator and an AR500 welded-on cover to protect the carbide, which in turn increases the blade life by 2 to 3x over a typical carbide blade system.

To demonstrate the effectiveness of our vibration isolation technology, we conducted a test with a state DOT. We ran back-to-back tests of a standard carbide blade and then an Ice-O-Force™ blade. The test was conducted using the same truck on the same route. The Ice-O-Force™ blade system had a smooth and consistent wear with no loss of carbide, whereas the standard carbide had lots of fractured and missing pieces of carbide.

**IRONHAWK®**

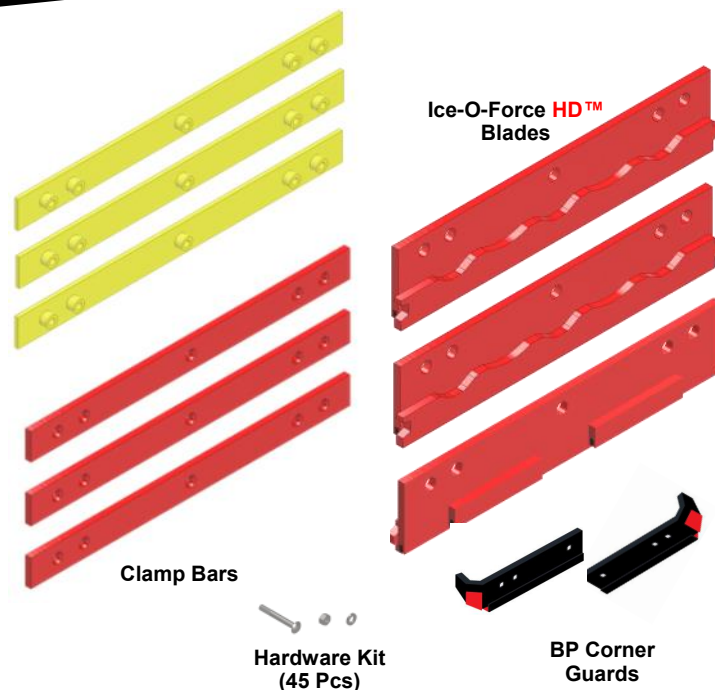
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# ICE-O-FORCE HD™ BLADE SYSTEM KITS

We have bundled our Ice-O-Force HD™ Blade Systems into kits. A single part number will get you everything needed, including:

- (3) Ice-O-Force HD™ Carbide Blades with AR500 Cover
- (3) Urethane Isolator - reusable
- (3) Clamp Bar—reusable
- (2) BP Series 8" Corner Guards
- (1) Grade 8 Hardware Kit
- (1) Installation Instructions
- (1) Systems are individually crated



Description	Part #
8 ft Ice-O-Force HD Isolated Carbide Blade System - Initial Set-up Kit	PBA-IF8-INT-HD
9 ft Ice-O-Force HD Isolated Carbide Blade System - Initial Set-up Kit	PBA-IF9-INT-HD
10 ft Ice-O-Force HD Isolated Carbide Blade System - Initial Set-up Kit	PBA-IF10-INT-HD
11 ft Ice-O-Force HD Isolated Carbide Blade System - Initial Set-up Kit	PBA-IF11-INT-HD
12 ft Ice-O-Force HD Isolated Carbide Blade System - Initial Set-up Kit	PBA-IF12-INT-HD
14 ft Ice-O-Force HD Isolated Carbide Blade System - Initial Set-up Kit	PBA-IF14-INT-HD
8 ft Ice-O-Force HD Isolated Carbide Blade System - Replacement Kit	PBA-IF8R-INT-HD
9 ft Ice-O-Force HD Isolated Carbide Blade System - Replacement Kit	PBA-IF9R-INT-HD
10 ft Ice-O-Force HD Isolated Carbide Blade System - Replacement Kit	PBA-IF10R-INT-HD
11 ft Ice-O-Force HD Isolated Carbide Blade System - Replacement Kit	PBA-IF11R-INT-HD
12 ft Ice-O-Force HD Isolated Carbide Blade System - Replacement Kit	PBA-IF12R-INT-HD
14 ft Ice-O-Force HD Isolated Carbide Blade System - Replacement Kit	PBA-IF14R-INT-HD