

## Moco Knives

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## John Deere Mower Conditioner Knives



When operating a mower conditioner, blade speed is about 190mph. At that speed, impact with obstacles results in thrown objects and broken knife blades. The first concern of John Deere when delivering a product to a customer is: SAFETY.

For operators and bystanders in the field, safety when harvesting is highly important. John Deere mower conditioners have met industry standards for containment of projectiles. Nevertheless, when occurring, a broken knife has negative effects such as:

- Cattle could be injured by ingesting a steel fragment
- Cutting quality is not homogenous and the operator might not notice it if the un-cut row is under the windrow
- SPFH stops when its metal detector senses a broken knife piece leading to a decrease in harvesting output



John Deere applies the best of its experience to design the safest mower conditioner knives possible. ISO standards only bind knife manufacturers to comply with static knife bending. John Deere goes further and has perfected a test, which quantifies the impact resistance of the knife. This test is closer to the reality of field conditions and consequently more appropriate to qualify robustness.

With usual alloys, impact resistance varies inversely to wear resistance. This means if a knife is safe with a high impact resistance, it will wear very quickly.

To comply with its safety request and to have a high durability in the fields, John Deere manufactures knives made of a boron alloy, which provides impact resistance as well as wear resistance.

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### Wear Resistance

Genuine John Deere knives will be more resistant to wear than look a like parts; one reason for this is the manufacturing process each knife goes through. Steel bars used to make knives go through a cold forming process. The edges of the knives are cold formed by pressing the steel. The continuous grain flow that results from this process yields superior mechanical properties of wear resistance. Several other manufacturers generate the cutting edges by grinding. This process breaks the grain flow and creates micro tears, which may initiate cracks.



John Deere knife before cold forming



John Deere knife after cold forming :  
Continuous grain flow in the edges

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### Traceability

John Deere knives are produced under an ISO quality assurance system. Each batch of John Deere knives has a code to be able to trace the product from the manufacturer to the end-user.



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### Powder Painting

Each John Deere knife is the result of our experience in mastering steel processes. It is then a must for John Deere knives to remain perfect even after a long period of storage in hard conditions. All knives are painted with a high corrosion resistant powder coating to avoid

rust.

Take care, only this protection is efficient. Have a glance at the appearance of a varnish protected knife and John Deere knife after being exposed to salty fog.

	Varnish protected knife	John Deere knife
After 20 hours salty fog Rust on more than 80% of the surface		After 48 hours salty fog Rust on less than 1% of the surface
Before testing		Before testing

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Part No.	Description
FH304879	Moco knife
FH304880	Moco knife

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