
How and why to maintain a slip clutch.



In the video accompanying this post, we'll show you why and how you should maintain a slip clutch you might have on a PTO-driven implement.

PTO-driven implements are typically used to dig, till, mow, cut, and other sorts of rough, tough work. That means you and your equipment are working in areas where obstacles like rocks, stumps, logs, and dead varmints can be hidden. Just the kind of debris that can bind up that blade or auger, and tear up a gear box or tractor PTO.

That's why those implements use a device, like a slip clutch, to limit the torque delivered to the equipment in case of a torque overload. Torque overload is typically caused by something jamming the rapidly moving parts – like that pesky dead varmint.

A slip clutch should be inspected and adjusted at the beginning of each new season before you use the implement. The clutch can become locked up due to rust caused by rain or snow, or even condensation if the implement is stored indoors. A visual inspection of the slip clutch may show if rust is present. If it is, you should go through this maintenance process to make sure the clutch is slipping properly.

And note: This process is appropriate for a ground-engaging implement like a rotary tiller. The process is different for a non-ground-engaging implement like a rotary cutter.

To demonstrate, we're using a **Frontier RT3062 Rotary Tiller** ([US CA](#)), which we'll use later with a **John Deere 3038E Compact Utility Tractor** ([US CA](#)).

After parking the tiller in the machine shed, unhook it from the iMatch™ Quick Hitch and pull the tractor out of the way.

Remove the cowling around the PTO shaft and mark the hub's current position using chalk, paint, or grease pencil. Then loosen each spring fixing nut exactly one full turn.

Attach the implement to your tractor PTO again. In an area such as the garden you want to rotary till, lower the implement to the ground, engage the PTO at idle speed, then raise the RPM to operating speed.

While the implement is on the ground, shut off the PTO, the tractor, and set the parking brake. Next, inspect the position marks you made on the hubs. They should now be in different positions,

indicating the clutch is slipping freely. If the position marks on the hubs are still in their original positions, that means the clutch hasn't slipped.

If that's the case, unscrew the spring fixing nuts one more full turn, re-attach the implement to the tractor, and repeat the process of raising the RPM to operating speed until you can determine the position marks are no longer in their original positions.

Then retighten the nuts in a star or crisscross pattern to the manufacturer's specified setting. In this case, that means to the measured distance between the outside edges of the hubs as shown **here** (*show drawing from OM*) and specified in the Operator's Manual. It's important to not fully tighten the nuts, which would prevent the clutch from slipping. That would void the function of the springs and, subsequently, of the clutch, thus damaging the implement's gearbox components.

Finally, reattach the PTO cowling, hook up the tiller to the tractor, and you're ready to get to work, with your PTO equipment protected against buried rocks, logs . . . and dead varmints.

Frontier has nearly 600 implements that are available only from your John Deere dealer, the place to go for advice and equipment.

So remember, for implements that help turn your tractor into the workhorse it was built to be, think Frontier and your John Deere dealer.

Helpful Links:

Frontier Rotary Tillers ([US CA](#))

John Deere Tractors ([US CA](#))

How To Plow & Till A Big Vegetable That's Never Been Plowed Before

[How to make great garden soil](#)

[How To Use A Middle Buster In Your Garden](#)

[How To Use A One-Row Cultivator](#)

[Why & When To Use A Cultipacker](#)

[Using a rotary tiller](#)



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