

What is a power take off? Power take-off (PTO) transfers the mechanical power of the engine over to another piece of the equipment. This allows for the power to move throughout the equipment to transmit energy even if it doesn't have a motor or engine itself.

HOW THE PTO WORKS

The rotating power from turning gets turned into what is known as hydraulic power. This has also become known as fluid power, and it gets controlled through a pressurized system. The rotating motion will cause a buildup of pressure in the crankshaft, and the power can be used for a variety of different purposes as it builds up.

Some of the uses that you might turn it to include:

- Greater engine efficiency
- Controls the hydraulics for raising or lowering dump truck bed
- Used for towing vehicles
- Runs the water pump to spray through the hose

You will see that PTO has been used for a variety of different applications like harvesters, wood chippers, hay balers, water pumps and carpet cleaners.



THE TYPES OF PTO'S

In years past, we saw [Power Take-Offs](#) operate from a belt drive, pneumatics like bleed air and drive shaft attachments. In most circumstances today, how PTO works is with a geared transmission. However, you still have three common PTO methods available on the mobile machine market:

- Engine crankshaft-driven style
- Tractor style

- Truck transmission style

CRANKSHAFT-DRIVEN METHOD

The crankshaft-driven method usually gets used for hydraulic pumps mounted to the front of your truck. For example, you might use it for a cement mixer. The small shaft will have a U-jointed design and attach to the yoke coupler for turning the pump. Normally, you don't hear this configuration referred to as a PTO, but it still technically classifies as one.

See also: [Top 3 Industrial Applications of Marine Clutches](#)

TRACTOR PTO

How does a PTO work? You can trace the tractor PTO back almost as far as tractors themselves from when most of the PTOs drove with a transmission, located near the back part of the tractor. This form of PTO will only engage when you power up the transmission clutch. In fact, the mechanism couples with the transmission so that when you depress the clutch, the PTO doesn't run.

TRUCK PTO TRANSMISSION STYLE

Smaller trucks use the PTO to drive the hydraulic pump for a hoist or winch. Meanwhile, large trucks might employ a PTO for a variety of purposes, but hydraulic pumps are the most common, and they get used to load and unload the different types of cargo. For a larger transmission, you might have two to three of these to help with the provision of every transmission. Let the normal clutch out to get the output shaft to spin.



APPLICATIONS OF THE PTO

Whenever the equipment doesn't have its own engine, you will see this used. For example, you will often see PTOs used in commercial vehicles and farming equipment. In fact, the innovation of the PTO came mostly from the ingenuity of farmers. A tractor engine serves as the PTO to operate a jackhammer or other equipment.

Some of the other applications where you see a PTO includes:

- Wood chippers
- Hay balers

- Harvesters
- Mechanical arms
- Water pumps

WHAT DOES A PTO DO?

When you ask, “What does a PTO do?” you can sum up the action where it converts rotary power over into hydraulic power. Once converted into hydraulic power, it runs the hydraulic hookups like oscillating power mowers, cotton pickers, backhoes, fire engine pumps and dump trucks. The access happens most often through a mechanical, electrical or hydraulic pump, and the motor converts the force back into a mechanical force or a rotary force, depending on the need.

See also: [Why Torque Converters are the Best Thing Since Sliced Bread](#)

What is a power take off? The internal mechanisms of the system use the engine to power up separate parts of the machine. This makes for better convenience, more efficiency and a cheaper option than installing another motor. Anyone who uses industrial equipment every day will understand the value of this technology, even when they can’t answer the question of, “how does a PTO work?” If you’re looking for a power take off, we offer [top quality PTO replacement parts](#). Contact us today to find out how we can help you!

WHY ARE POWER TAKE OFFS (PTO) IMPORTANT?

The PTO takes energy that would’ve been wasted otherwise and transfers it over to another source. This is what helps it to perform a variety of functions that are entirely necessary. For example, towing wouldn’t be possible at the weight amount that it is without having power take off. That’s why having this installed in your machinery matters because of how much it can help you with different applications.