



Ag Clutch Cover Information Sheet

Double or Dual Independent type



Clutch cover function

To allow the tractor's PTO and transmission drives to operate independently of each other by using a separate hand lever in conjunction with a foot pedal.

Clutch cover design concept

The term 'independent release' is commonly used to describe the operation of this type of clutch. The main and PTO plates are operated separately using a dual release mechanism, the cover combines both the main and PTO drives into one assembly. There are a variety of clamping methods incorporating coil, diaphragm or Belleville springs.

Levers or a diaphragm are used to operate the main drive whilst another set of levers operates the PTO. Both clutch plates are in the engaged (drive position) until the hand lever or foot pedal is applied to release the disc. The covers vary in design with some having a captive PTO along with an external main drive plate or vice versa depending on the specific application.

Double or Dual Independent type (with safety PTO)



Clutch cover function

To allow the operation of the transmission and PTO drives independently by using a separate hand lever in conjunction with a foot pedal.

Clutch cover design concept

The term 'independent release' is commonly used to describe the operation of this dual type clutch. The main and PTO plates are operated separately using a dual release mechanism, the cover combines both the main and PTO drives into one assembly. Generally three levers or a diaphragm spring are used to engage the main drive while another set operates the PTO.

Sometimes referred to as having a Safety PTO, it works the opposite way to the standard dual independent type. The PTO drive operates in the disengaged (non-drive position) until the hand operated lever is applied to engage the disc. The advantage here is that the implement will automatically stop should there be release mechanism failure. This design can vary in as much that the cover may have a captive PTO with loose main plate or vice versa depending on the application.

Double or Dual Sequential Type



Clutch cover function

To allow the tractor's PTO and transmission drives to operate in two stages (sequence) by use of a single foot pedal.

Clutch cover design concept

The term "sequential" is commonly used to describe the two stage operation of this clutch. The main and PTO plates are released in sequence using a single release bearing mechanism.

The most common type is a three lever version having a bolt or pin actuated secondary PTO. Another type is a six lever design having two sets of levers working at slightly different heights on the same radius. Both of these work in the same manner, the levers travel through the first stage allowing the main drive to disengage, further depressing of the levers then disengages the PTO. The main disc is usually mounted against the flywheel and the PTO within the clutch.. The cover load or clamping method is usually a single or dual diaphragm spring, coil type spring, or a combination of both.

Single Pull Type



Clutch cover function

To operate the tractor's transmission drive using a single pedal release mechanism.

Clutch cover design concept

The term 'pull type' can be used to describe the operation of this type of cover. The cover is operated by a single release bearing, operated in a rearward pulling motion (away from the flywheel) with the use of hydraulics or mechanical linkages connected to a foot pedal. The plate clamping method is usually a single diaphragm spring or coil type spring and lever arrangement. The cover is used with single clutch disc mounted against the flywheel. The cover provides no PTO drive, although this does not necessarily mean the tractor has no PTO - a drive hub may be fitted into to the flywheel instead. This usually operates an independent hydraulic PTO pack whilst the engine is running, and is engaged or disengaged via a separate cab mounted lever.

Single Push Type Clutch



Clutch cover function

To operate the tractor's transmission drive using a single pedal release mechanism.

Clutch cover design concept

The term 'push type' can be used to describe the operation of this type of cover. The cover is operated by a single release bearing, operated in a forward pushing motion (toward the flywheel) with the use of hydraulics or mechanical linkages connected to a foot pedal. The plate clamping method is usually a single diaphragm spring or coil type spring and lever arrangement. The cover is used with single clutch disc mounted against the flywheel.

The cover provides no PTO drive, although this does not necessarily mean the tractor has no PTO - a drive hub may be fitted into the flywheel instead. This usually operates an independent hydraulic PTO pack whilst the engine is running, and is engaged or disengaged via a separate cab mounted lever.

Single Split > Torque (Fixed PTO)



Clutch cover function

To operate the tractor's transmission drive using a single pedal release mechanism whilst utilising the cover to power the PTO (implement drive).

Clutch cover design concept

The terms 'Split Torque' and 'Fixed PTO' are often used to describe the operation of this clutch. The cover has an internally fixed splined hub providing power to the hydraulic PTO pack. This is operated independently by means of a lever located within the cabin. The plate clamping method is usually a single diaphragm spring or coil spring and lever type arrangement, the cover is used in conjunction with single clutch disc mounted against the flywheel.



Luk > Single Split > Torque (Safety PTO)



Clutch cover function

To operate the tractor's PTO (implement drive) whilst providing transmission drive using fixed damper hub.

Clutch cover design concept

This Luk design is commonly used in tractors where a shuttle or power shift type transmission is fitted. Referred to as having a Safety PTO, it works the opposite way to a standard version, the PTO drive operates in the disengaged (non drive position) until the hand operated lever is applied to engage the disc.

The advantage here is that the implement will automatically stop should there be release mechanism failure.

The PTO plate is mounted on the flywheel and the clamping method used is a single diaphragm spring. The cover utilizes a torsion damper to drive the transmission through a hollow shaft, the hub specially designed to combat the severe vibration and noise which is often transferred from the engine to transmission and drive train.

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