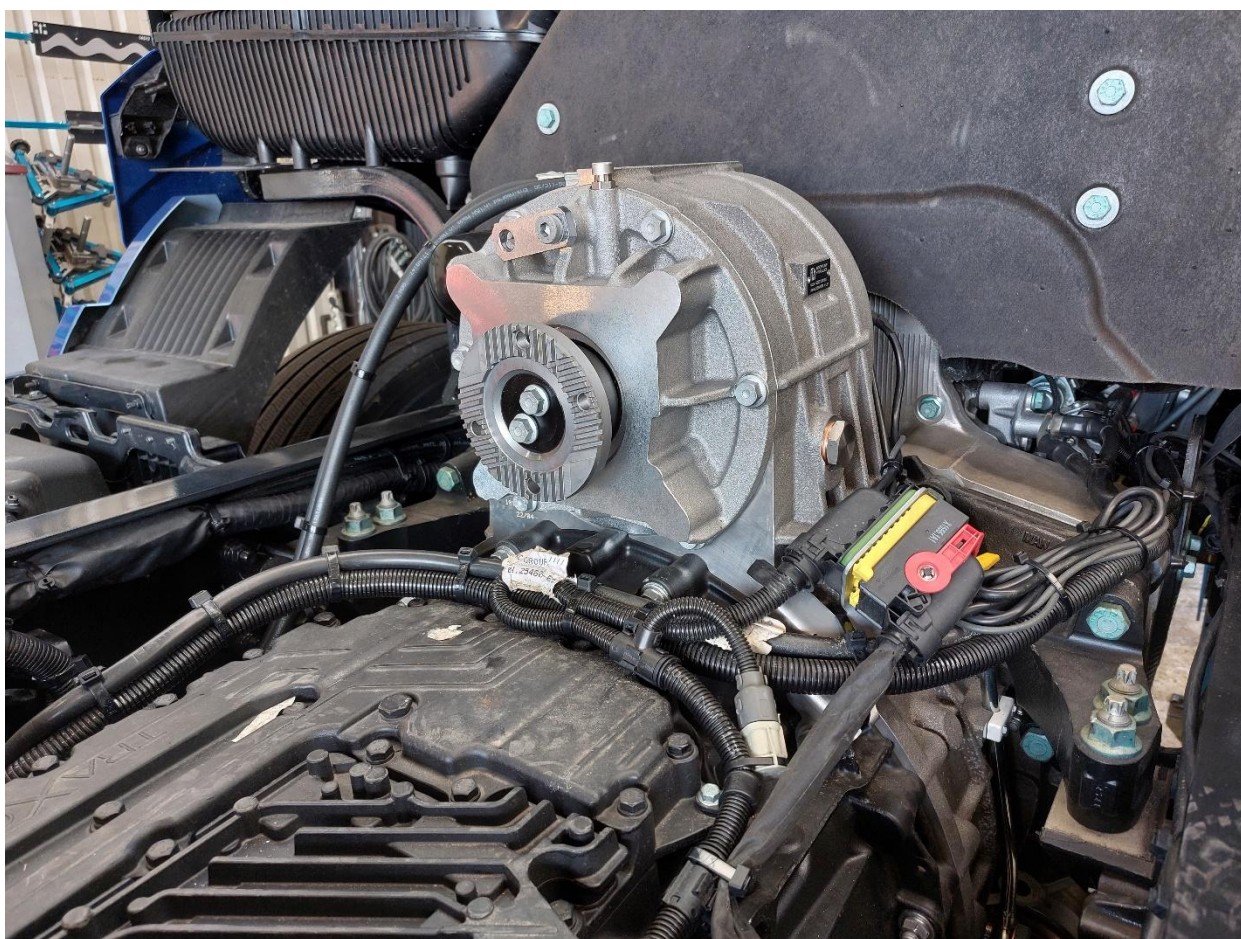




WIERDA VOERTUIG TECHNIEK

Drivers Manual WVT flywheel PTO
WVT-G-9922



Engine Flywheel PTO
MAN trucks

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Manual WVT flywheel PTO

15-10-2025

This manual contains information for operating the PTO. Because we are developing our products constantly, there may be some differences or deviations between this manual and the product. If you need specific details or information about your vehicle, please contact Wierda Voertuig Techniek.

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Adress for technical support

Wierda Voertuig Techniek B.V.

Transportwei 1

8501 ZR Joure

info@wvt.nu

www.wvt.nu

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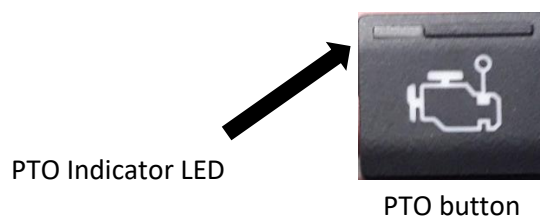
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1. General

The PTO is mounted between the engine and transmission, therefore the PTO can be engaged independent from the state of the clutch and transmission. A multidisc clutch is used to engage and disengage the PTO, it is strongly recommended to engage the PTO at an engine speed of approximately 800 Rpm and disengage the PTO before switching of the engine. The PTO has a dynamic brake on the output flange, when the PTO is disengaged the brake on the output flange is active.

For detailed maintenance information of the PTO please see the 'WVT-G-9923 Service schedule flywheel PTO'.

The basic functionality of the PTO interface is described below, other functions are available on request.



2. Engaging and disengaging PTO

The conditions for engaging the PTO depend on the application in which the PTO is used. Normally the park brake must be active and the gearbox must be in neutral to engage the PTO. The only vehicles on which these conditions do not apply, are vehicles that need to be able to engage the PTO while driving.

Push the PTO button to activate

- RPM increases to 850 RPM (ZDR1 parameters can be changed by MAN workshop)
- PTO engages when the RPM reaches 800 RPM
- The PTO indicator light switches on when the hydraulic pressure on the clutch is reached
- After the PTO is engaged, the RPM can be changed using set +/- on the bodybuilders interface, CAN-bus or from the cabin.

Push the PTO button to deactivate

- The engine RPM drops to idle (+/- 600 RPM)
- PTO disengages and the PTO indicator LED goes off when the hydraulic pressure in the clutch drops down.
- It takes a few seconds before the output flange comes to a complete stop

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3. Errors

When there is an error in the PTO control system the indicator LED shows an error code when the PTO is activated. If needed, it is possible to engage the PTO by overruling the PTO control. Overruling the PTO control works by pushing the PTO button for more than 4 seconds. The solenoid for engaging the PTO will be powered and the PTO indicator LED will flash in a constant rate.

It is the responsibility of the operator to make sure the conditions are save to overrule the PTO.

CAN-bus error (The PTO indicator LED flashes 2 times)

No CAN-bus communication possible with the vehicle. PTO control can be overruled.

Possible defects:

- CAN-bus wiring defect
- PTO control unit defect
- MAN KSM defect

Engagement error (The PTO indicator LED flashes 3 times)

Error is given when there is no feedback signal from clutch status 6 seconds after the solenoid for engaging the PTO is powered or when the feedback signal is lost during operation for more than two seconds. PTO control can be overruled.

Possible defects:

- Broken feedback pressure sensor
- Valve for engaging clutch is defect
- Clutch is defect
- No oil pressure

PTO solenoid error (The PTO indicator LED flashes 4 times)

Error is given when the solenoid for engaging the PTO or the wiring has a defect. When the solenoid or wiring have a defect, the clutch for engaging the PTO **can't** be overruled.

Possible defects:

- Solenoid defect
- Defect in the solenoid wiring

PTO temperature error (The PTO indicator LED flashes 5 times)

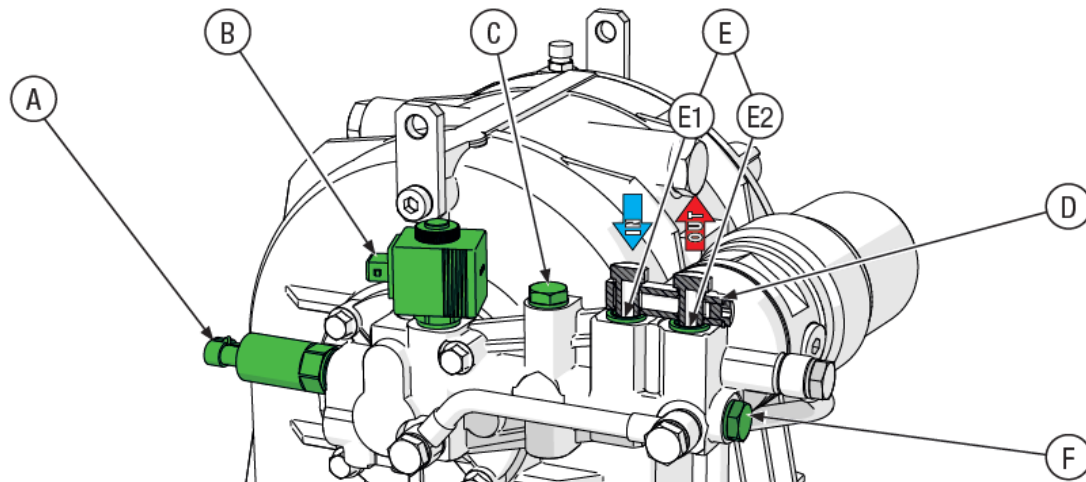
Error is given when the oil temperature exceeds 135°C or when the temperature sensor is not functioning. PTO control can be overruled

Possible defects:

- Oil temperature sensor or wiring defect
- Defect fan or wiring on oil cooler

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4. Overview PTO connections



- A- Pressure switch (N.O.) Clutch status (S1)
- B- Solenoid PTO control (Y1)
- C- Connection for oil pressure sensor
- D- Bypass oil heat exchanger (not used when heat exchanger installed on the truck)
- E- Connections for oil heat exchanger
- F- Connections for oil temperature switch (S2)