

# Original operating manual

## Engine PTO FPS-PTO JD-3R - MY2024

for John Deere, type 3033R, 3038R, 3045R, 3046R

**2000 rpm CCW**  
**1000 rpm CCW**

**2000 rpm CW**  
**1000 rpm CW**



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## 1. About this operating manual

Dear customer!

Thank you for purchasing this implement, we appreciate your trust.

Prior to using this implement for the first time, read this operating manual carefully and conscientiously all the way through.

Listings with bullet points are marked as follows:

- Text
- Text
- Text

Handling instructions are marked in the sequence in which they should be executed, as follows:

1.1.1. Text

1.1.2. Text

1.1.3. Text . . .



**This implement is subject to change in the interest of technical progress. All information, illustrations, and technical specifications represent the latest status at the time this manual was published. The manufacturer reserves the right to make changes at any time in the interest of technical progress.**

## 2. Safety

Guidelines and instructions with which you must comply, are summarized in this section.

Personnel who install, operate and maintain the implements, must have read and understood this operating manual.

### 2.1. Intended use

The engine PTO shaft extends the crankshaft of the tractor to the front. It is used to power sweepers, front mowers, or similar implements that are driven with PTO shafts. This engine PTO shaft should only be mounted on tractors, as specified on the cover sheet.

Non-intended use causes:

- Health hazards for the operator or for third parties
- Damage to the tractor and the implements
- Environmental damage

### 2.2. Qualifications of personnel

Only personnel 18 years of age or older, or instructed personnel should install, operate, and maintain the implements. The operator must have read and understood this operating manual.

### 2.3. General safety notices

General safety notices are explained in this section. These safety notices are used in the subsequent sections. In addition to the safety aspect, you will save money and work time if you follow these safety instructions.



**Danger!**  
**Severe injury to the operator or third parties occurs.**  
**Comply with the safety notice.**



**Attention!**  
**Minor injury to the operator or third parties can occur. The tractor, the implement or the environment can be damaged.**  
**Comply with the safety notice.**



**Note!**  
**Important, helpful tips or information for the operator.**  
**Read this note. It facilitates your work.**



**Attention!**  
**Injuries can occur.**  
**Wear protective work clothing.**

## 2.4. Special safety notices

The safety instructions specified in this section are also affixed as stickers on the implements.



**Read the operating manual and observe the safety information.**

Order-Nr.: V0002923



**Injuries due to crushing.**

**Never reach into the crushing hazard danger zone if the parts there can move.**

Order-Nr.: V0002938



**Injuries due to fluid escaping under high pressure.**

**Comply with the notice in the operating manual.**

Order-Nr.: V0002929



**Prior to performing maintenance and repair tasks, turn off the engine and remove the key.**

Order-Nr.: V0002925



**Do not position yourself in the area of the drive shaft!**

Order-Nr.: V0002930



**Tighten all screws after each use**

Order-Nr.: V0002965

## 2.5. Supplemental provisions

- Ensure that the speed and the direction of rotation of the engine PTO shaft are suitable for driving the implement before coupling an implement to the tractor.
- Always switch off the front PTO shaft and wait until the PTO shaft is no longer turning when you leave the tractor or work on the connected implement.
- Do not attempt to find a possible leak in the hydraulic system with your fingers. Oil under high pressure can easily penetrate skin and clothing and cause serious injury

### 3. Installation



**Danger!**  
Severe injury to the operator or third parties occurs.  
Switch off the tractor and remove the ignition key before mounting or dismounting the engine PTO shaft.



**Attention!**  
Injuries can occur.  
Wear protective work clothing.

#### 3.1. Preparatory measures

- 3.1.1 The prerequisite for using the engine PTO shaft is that the tractor must already be equipped with the matev front linkage
- 3.1.2 Drive the tractor onto the lift platform. Completely remove the battery with the battery tray.



Fig. 1: Battery with bracket

- 3.1.3 Dismount all attachment parts from the battery tray. You will need the attachment parts later.



- 3.1.4 Make the cut out for the engine PTO shaft in the plastic cover as shown in the drawing below.

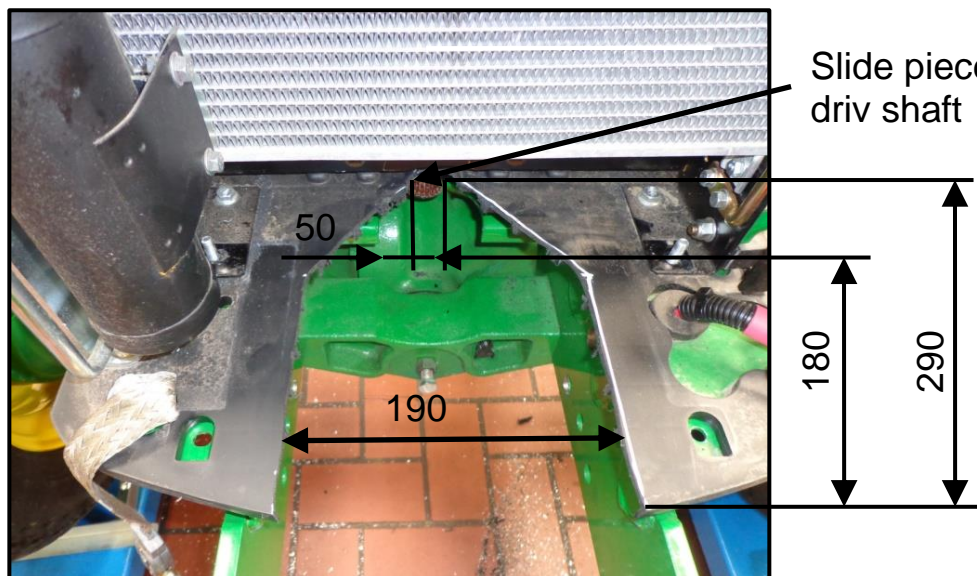


Fig. 2: Cutout for engine PTO shaft

- 3.1.5 Insert the slide piece for the drive shaft (flange with 6 bores) between radiator and axle. Once the pulley is mounted, the slide piece can no longer be pushed through.



Fig. 3: Slide piece positioned



- 3.1.6 Mount the provided pulley on the pulley of the engine. Use the provided Allen screws DIN 912 – M10x20-8.8. Secure the screws with a liquid thread-lock compound. Tighten the screws with a torque of 43 Nm.

If the tractor is equipped with an air conditioning system, then the pulley for the AC compressor must be replaced with the provided pulley.

Pull the belt back on and fit the sliding piece of the drive shaft onto the pulley. Use the enclosed hexagon head screws DIN933 - M6x16-8.8. Secure the screws with a liquid thread-lock compound. Tighten the screws to a torque of 9 Nm.

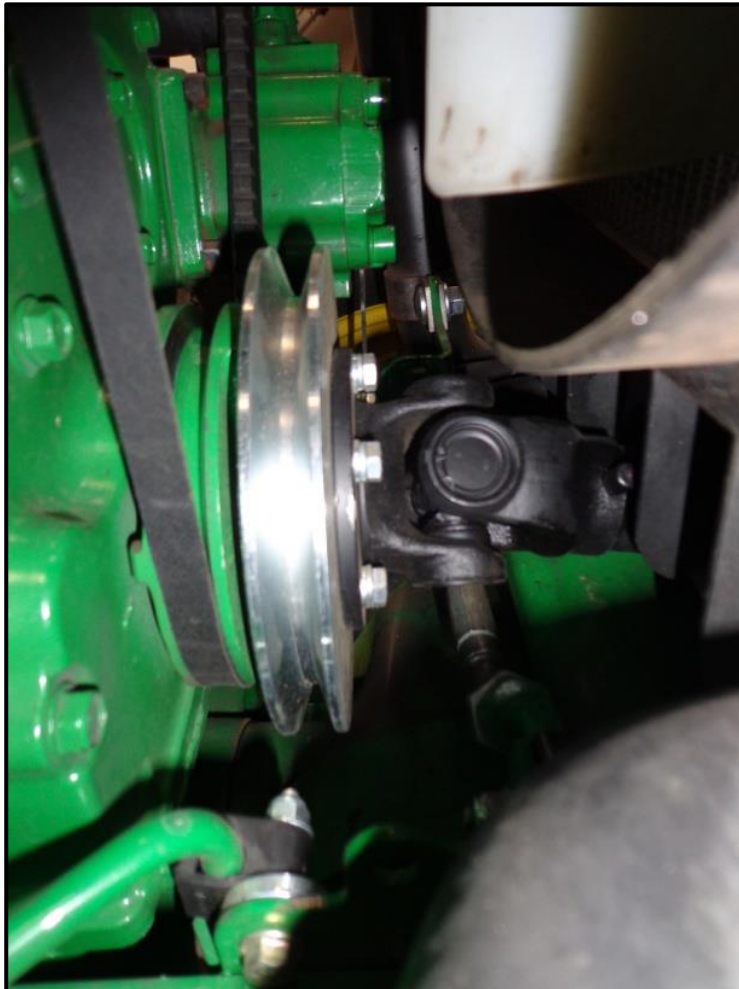


Fig. 4: Belt pulley with drive shaft

- 3.1.7 On the pendulum axle replace the screw with the threaded pin included in the scope of delivery.

Then remove the grease nipple and mount the extension as shown in the illustration below. Finally, fit the original grease nipple to the end piece of the extension.



Fig. 5: Front axle Grease nipple Extension Screw

- 3.1.8 Slide the splined shaft part of the drive shaft onto the slide piece. In this process, ensure correct orientation of the drive shaft (white line on the tube)

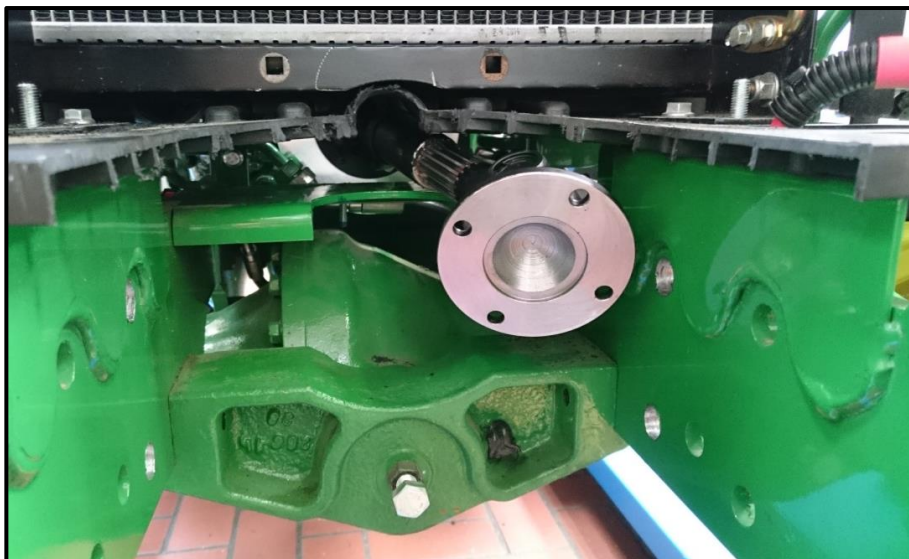


Fig. 6: Drive shaft installed

### 3.2. Mounting the engine PTO shaft

**Note!**

The gearbox is already filled with oil. Keep this in mind when handling the gearbox.

3.2.1 If this has not yet occurred, mount the front linkage as described in the manual for the front linkage.

3.2.2 Mount the engine PTO shaft on the front linkage.  
Use the provided spacer bushes for the upper fastening screws.



Spacer bushing

Fig. 7: Installation of the engine PTO shaft on the front linkage

3.2.3 Fasten the drive shaft on the flange of the engine PTO shaft. Use the provided Allen screws DIN 912-M8x20-8.8. Secure the screws with a liquid thread-lock compound. Tighten the screws with a torque of 22 Nm.

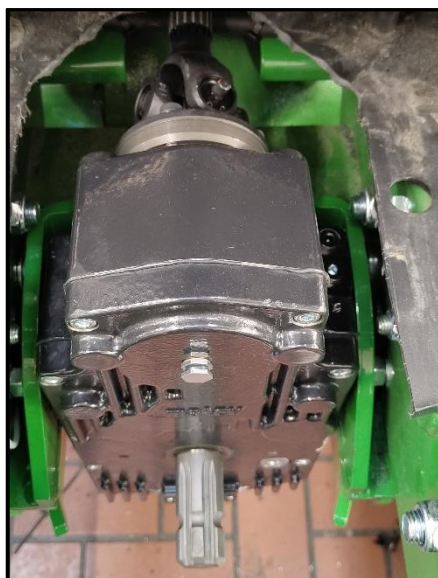
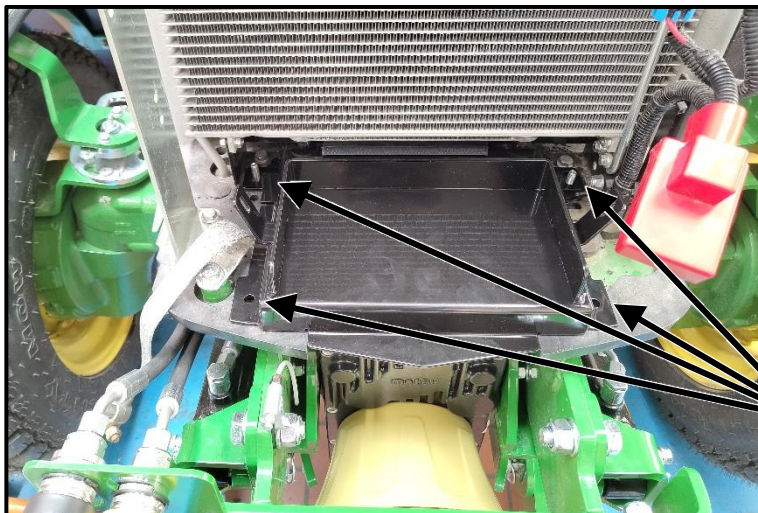


Fig. 8: Fasten the drive shaft on the gearbox flange



### 3.2.4 Install the battery tray on the tractor.



Reassemble with  
original screws/nuts

Fig. 9: Battery tray installed

### 3.2.5 Install the battery. Do not connect the battery until the engine PTO has been fully assembled.



Fig. 10: Battery installed

### 3.3. Connect the electrical system

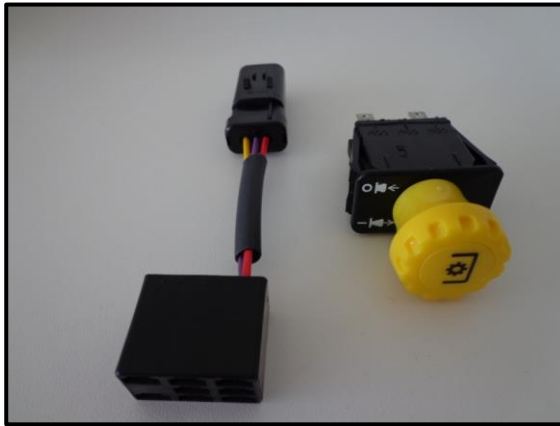


Fig. 11: PTO shaft switch + cable

- 3.3.1 Connect PTO shaft switch and cable. Mount the switch on the empty space on the tractor.



Fig. 12: PTO shaft switch (tractor without cab)



Fig. 13: PTO shaft switch (tractor with cab)

- 3.3.2 Detach the instrument panel on the tractor and lift it off. Find the cable for the engine PTO shaft. Remove the protective plug with the bridge and connect it to the PTO switch.

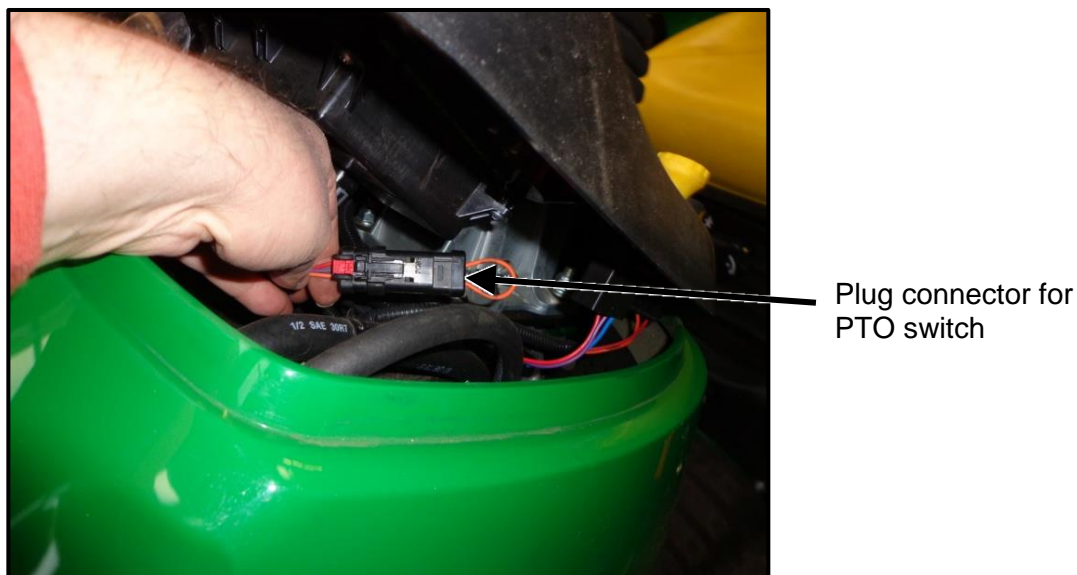


Fig. 14: Cable for engine PTO shaft (tractor without cab)

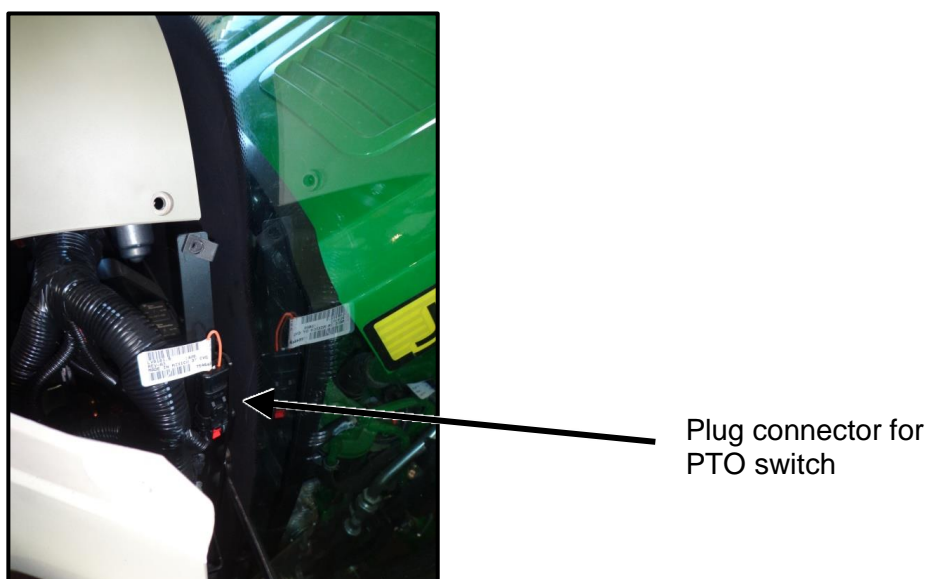
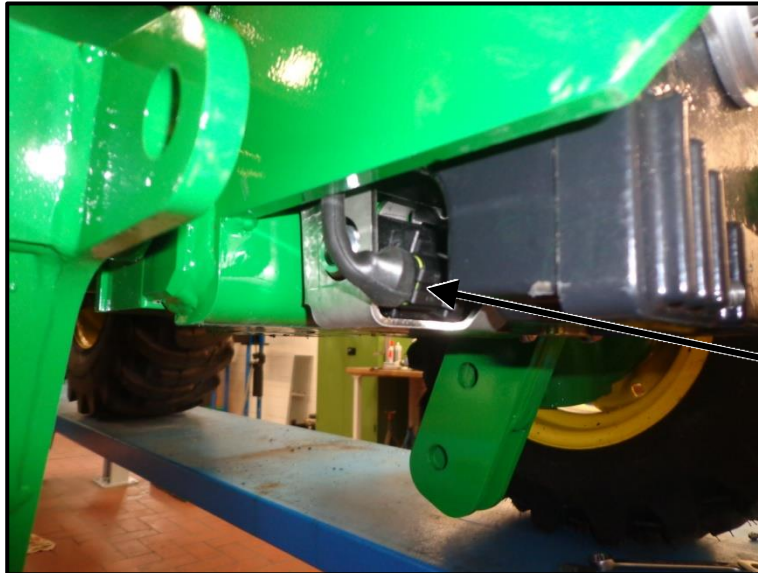


Fig. 15: Cable for engine PTO shaft (tractor with cab)

3.3.3 Reattach the instrument panel.

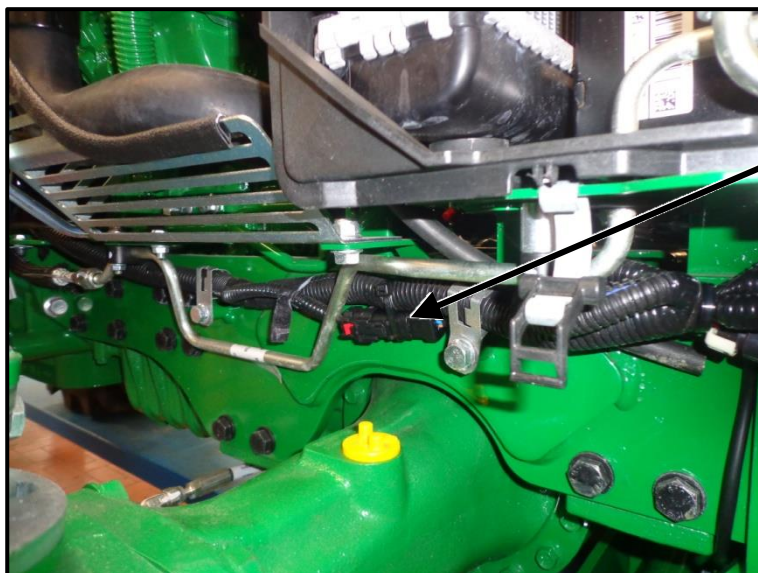
3.3.4 Plug in the provided cable on the engine PTO shaft.



Plug connector  
switch-on valve

Fig. 16: Plug connector – switch-on valve

3.3.5 The cable for the connection on the engine PTO shaft is at the front, on the right, near the front axle. Remove the protective cap from the plug and connect the plug connection to the engine PTO shaft.



Plug connector for  
engine PTO shaft

Fig. 17: Plug connection – engine PTO shaft



### 3.3.6 Check the oil level.

The oil level should be checked before mounting the protective cover. Place the tractor on a level substrate and open the oil fill plug. The oil level should be directly underneath the fill opening. Top up oil as needed. Use STOU 10W-30.

Alternatively JD HyGard JDM 20C can be used. When changing the oil type, please execute a complete oil change.

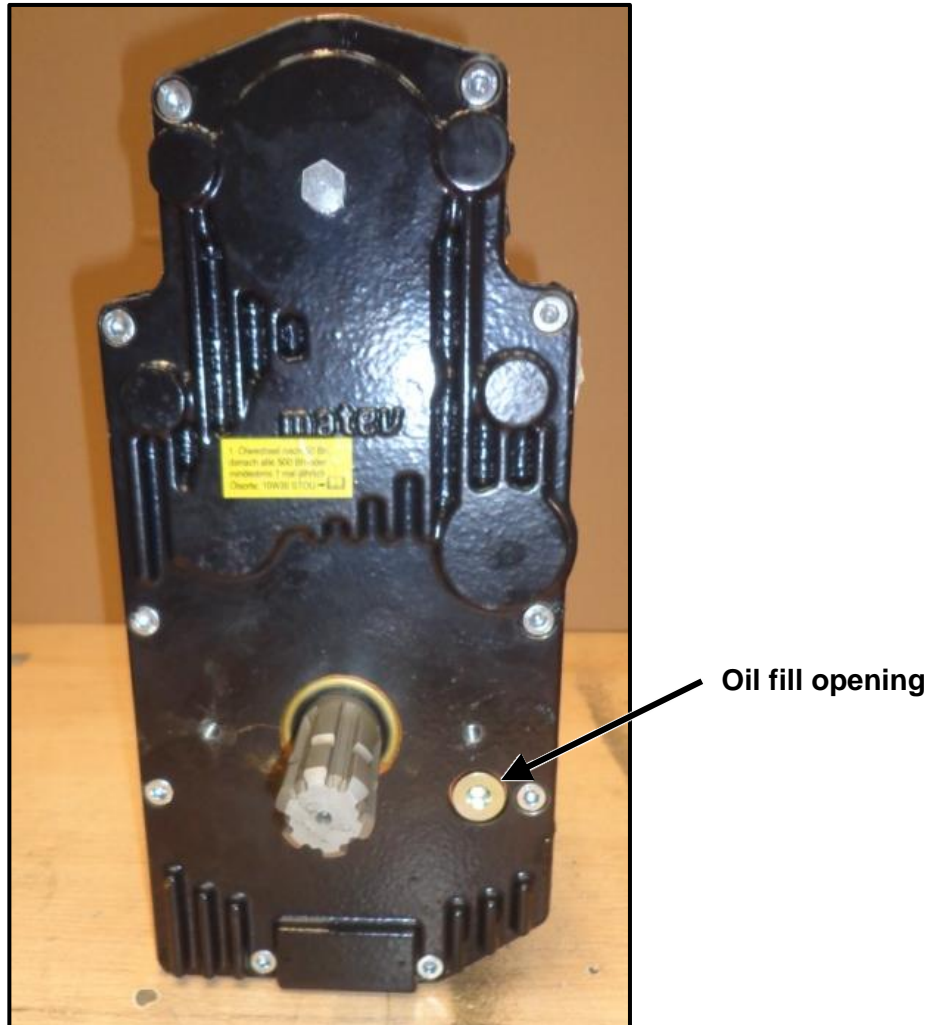


Fig. 18: Oil fill plug

- 3.3.7 Drill the mounting holes in the protective cover. Use the holder for the PTO profile guard as a template for this.  
When using a front loader, the protective cover must be cut out as shown so that the front loader locking mechanism does not damage it.  
Attach the protective cover.

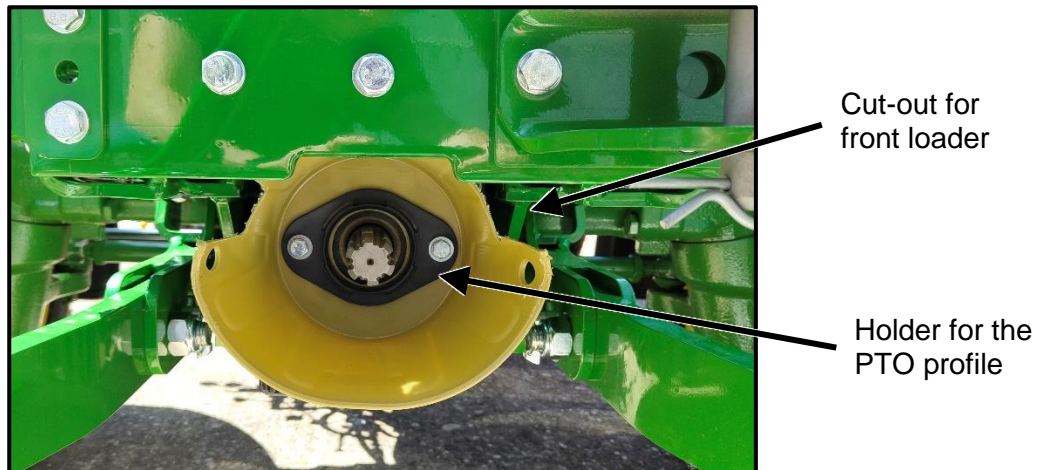


Fig. 19 Protective cover

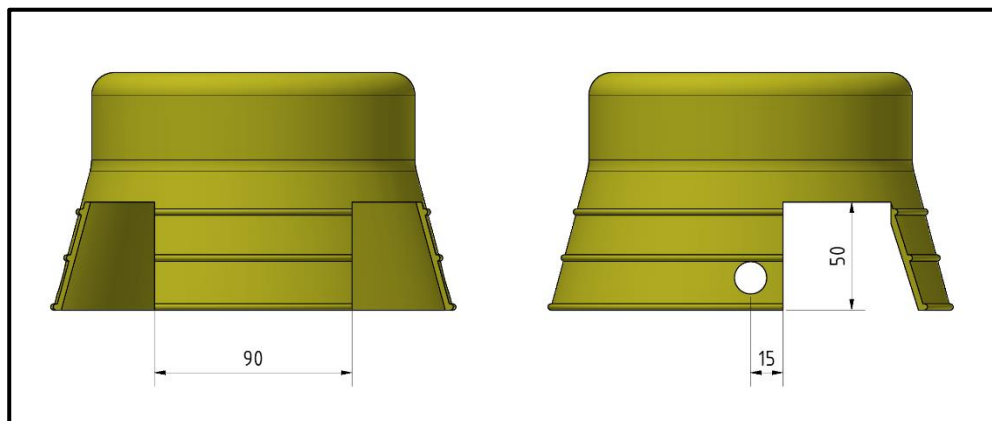


Fig. 20 Protective cover cut-out

- 3.3.8 Attach the PTO shaft guard.

### 3.4. Installation is complete

Check all threaded unions. Then check to ensure that all cables and hoses are sufficiently far away from moving parts and that no injury hazard exists. Remove all tools and loose parts from the tractor.



**Attention!**

**Increased risk of accident due to rotating PTO shaft.**

**Do not enter the work area of the PTO shaft when it is rotating.**

**For your own safety do not wear any loose clothing, belts, or any other loose items. Switch off the implement. Wait until all machine parts have come to a standstill before converting or servicing the implement.**



**Attention!**

**Injuries due to fluid escaping under high pressure.**

**Comply with the notice in the operating manual.**

3.4.1 Reconnect the battery.

3.4.2 Perform a trial run. Switch on the tractor. Ensure that the engine PTO shaft is at a standstill. Switch on the engine PTO shaft in idle and listen for unusual noises. Increase the speed to full throttle. Switch off the engine PTO shaft. Ensure that the engine PTO shaft is at a standstill.

3.4.3 After the trial run check all bolts, cables, and hoses for firm seat as the concluding step.

## 4. Operation



**Attention!**

**Before starting up the implement, read the instructions on safety and handling for operation of the entire implement and connection to the tractor.**

**Attention!**

**The total power of the front implements must not be exceeded, depending on the gearbox, otherwise the front PTO shaft could be damaged.**

	CW		CCW	
Rotational speed on the gearbox output	1000 rpm	2000 rpm	1000 rpm	2000 rpm
max. power	47 kW			
max. continuous power	30 kW	30 kW	21 kW	33 kW
Rotational speed on the gearbox output	1000 rpm	2000 rpm	1000 rpm	2000 rpm

#### 4.1. Coupling and uncoupling implements



**Note!**

**Comply with the axle loads specified by the tractor manufacturer**

**Attention!**



**Increased risk of accident due to rotating PTO shaft.**

**Do not enter the work area of the PTO shaft when it is rotating.**

**For your own safety do not wear any loose clothing, belts, or any other loose items. Switch off the implement. Wait until all machine parts have come to a standstill before converting or servicing the implement.**

- 4.1.1 Drive the tractor forward in front of the implement.
- 4.1.2 Lower the front linkage.
- 4.1.3 Drive slowly toward the implement until the coupling triangle of the tractor is under the coupling triangle of the implement.
- 4.1.4 Slowly lift the front linkage until the implement is slightly lifted.
- 4.1.5 Secure the implement with the appropriate triangle locking mechanism. The triangle locking mechanism depends on the type of implement.



**Attention!**

**Damage can occur to the engine PTO shaft or to the tractor.**

**Comply with the instructions in the operating manual provided by the manufacturer of the drive shaft.**



**Note!**

**Mount the drive shaft as described in the original manual supplied by the manufacturer of the drive shaft.**

#### 4.2. Mounting the drive shaft



**Danger!**

**Severe injury to the operator or third parties occurs.**

**Switch off the tractor and remove the ignition key before mounting or dismounting the engine PTO shaft.**

**Attention!**



**Increased risk of accident due to rotating PTO shaft.**

**Do not enter the work area of the PTO shaft when it is rotating.**

**For your own safety do not wear any loose clothing, belts, or any other loose items. Switch off the implement. Wait until all machine parts have come to a standstill before converting or servicing the implement.**

- 4.2.1 Press the locking pin on the outer fork and keep it depressed.
- 4.2.2 Slide the outer fork onto the profile stub of the front PTO shaft on the gearbox.
- 4.2.3 Release the locking pin.
- 4.2.4 Slightly move the drive shaft back and forth until the locking pin audibly locks in place.
- 4.2.5 Repeat steps 1 to 4 to attach the drive shaft to the implement.

- 4.2.6 Hook the safety chain of the drive shaft to a fixed part (see Fig. 21).

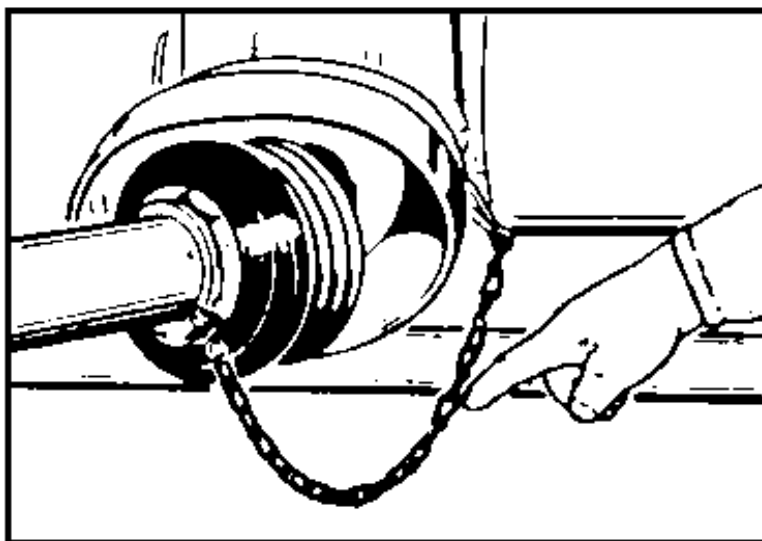


Fig. 21 Safety chain on the drive shaft

#### 4.3. Dismounting the drive shaft



**Danger!**

**Severe injury to the operator or third parties occurs.**

**Switch off the tractor and remove the ignition key before mounting or dismounting the engine PTO shaft.**

**Attention!**



**Increased risk of accident due to rotating PTO shaft.**

**Do not enter the work area of the PTO shaft when it is rotating.**

**For your own safety do not wear any loose clothing, belts, or any other loose items. Switch off the implement. Wait until all machine parts have come to a standstill before converting or servicing the implement.**

- 4.3.1 Detach the safety chain on both sides.
- 4.3.2 Press the locking pin on the outer fork and keep it depressed.
- 4.3.3 Pull the outer fork down from the profile stub of the PTO shaft on the tractor.
- 4.3.4 Release the locking pin.
- 4.3.5 Repeat steps 2 to 4 to detach the drive shaft on the implement.

#### 4.4. Switching the engine PTO shaft on and off

- 4.4.1 Switching on the engine PTO shaft: switch on the engine PTO shaft at approx. 1000 rpm, and do not increase the rpm of the tractor engine when switching on the engine PTO shaft. Do not switch on the engine PTO shaft at a rotational speed greater than 1200 rpm.
- 4.4.2 Switching off the engine PTO shaft: switch off the switch for the front PTO shaft.
- 4.4.3 Never attempt to loosen a seized front implement by switching the engine PTO shaft on and off.

## 5. Maintenance

### 5.1. Maintenance

- After 5-10 operating hours with a new engine PTO shaft, or after a repair, check whether all bolts are still tightened to the correct torque
- Change the oil after 50 operating hours. Use STOU 10W30. Alternatively JD HyGard JDM J20C can be used.
- After 100 operating hours check the oil level. Place the tractor on a horizontal surface and check whether the oil reaches the fill plug. If necessary top-up with oil.
- The drive shaft must be lubricated every 250 operating hours, however at the latest after 1 month.
- After every 400 operating hours check all threaded connections for correct tightening torque. Check the hydraulic lines for leaks
- Change the gear oil after 500 operating hours. Clean the oil filter in the pump unit.

### 5.2. Changing the gear oil

- 5.2.1 Place the tractor on a level surface
- 5.2.2 Remove the oil drain plug and drain the oil into a collection container. The oil drain plug is on the underside of the gearbox.  
Clean the oil drain plug and screw the oil drain plug back in.
- 5.2.3 Unscrew the screw on the cover for the oil filter and remove the cover.

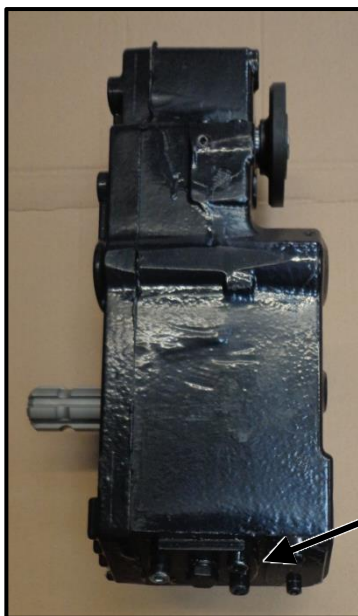


Fig. 22: Replacing the oil filter

- 5.2.4 Replace the oil filter.
- 5.2.5 Remove the oil fill plug and fill with STOU 10W-30 (alternatively HyGard JDMJ 20C).  
The oil level is correct, when the oil is on the lower edge of the oil fill opening.  
Remount the oil fill plug.



## **6. Repair**

Never open the gearbox on your own.

If there are faults, problems, or other indications of malfunction, contact your sales consultant or contact the manufacturer directly:

matev GmbH

Nürnberger Str. 50

90579 Langenzenn, Germany

Tel.: +49 9101 9087-0

[www.matev.eu](http://www.matev.eu)

[info@matev.eu](mailto:info@matev.eu)

## **7. Disposal**

The implement must be disposed of in accordance with the applicable regulations of the municipality or the country.

Take the parts to the collection points for residual waste, special waste, or recycle them depending on material.

matev GmbH does not provide any disposal services.

## **8. Guarantee**

The general terms and conditions of matev GmbH apply.

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10. EC Declaration of Conformity

The manufacturer / distributor



**matev GmbH  
Nürnberger Straße 50  
90579 Langenzenn  
Germany**

hereby declares that the following products of the product series: Engine PTO shaft

Product: FPS-JD 3R independent engine PTO shaft

comply with all relevant provisions of the applicable legal regulations (hereinafter) – including applicable amendments at the time of the declaration. The manufacturer bears the sole responsibility for issuing this declaration of conformity. This declaration refers only to the machine in the condition in which it was placed on the market; any parts attached and/or subsequent modifications made by the end user are not taken into account.

The following legal regulations were applied: Machinery Directive 2006/42/EC

The following harmonized standards were applied:

DIN EN ISO 12100:2010-03	Safety of machinery – General principles for design – Risk assessment and risk reduction
DIN EN ISO 4254-1:2022-12	Agricultural machinery- Safety- Part 1: General requirements
DIN EN ISO 4413:2011-04	Hydraulic fluid power– General rules and safety requirements for systems and their components

Name of the person who is authorized to compile the technical documents:

Georg Hemmerlein

Place: Langenzenn

Date: 2024-10-24

A handwritten signature in black ink, appearing to be 'G. Hemmerlein', written over a horizontal line.

Georg Hemmerlein  
Managing Director

11. Declaration of Conformity

This declaration is issued under the sole responsibility of the manufacturer



**matev GmbH  
Nürnberger Straße 50  
90579 Langenzenn  
Germany**

Product range: Engine PTO shaft

Product: FPS-JD 3R independent engine PTO shaft

Description:

The object of the declaration above is in conformity with the relevant UK Statutory Instruments (and their amendments):

2008 No. 1597 Supply of Machinery (Safety) Regulations 2008

and the following harmonizing standards were applied:

DIN EN ISO 12100:2010-03 Safety of machinery- General principles for design- Risk assessment and risk reduction

DIN EN ISO 4254-1:2022-12 Agricultural machinery- Safety- Part1: General requirements

DIN EN ISO 4413:2011-04 Hydraulic fluid power- General rules and safety requirements for systems and their components

Signed for and on behalf of  
matev GmbH, Nürnberger Straße 50, 90579 Langenzenn, Germany

Georg Hemmerlein

Place: Langenzenn  
Date: 2024-10-24

A handwritten signature in black ink, appearing to be 'G. Hemmerlein', written over a horizontal line.

Georg Hemmerlein  
Managing Director