214542 (2021/01) EN

CLEANFIX KIT FOR JOHN DEERE

6090M / 6100M / 6110M / 6120M

Operating instructions

https://cleanfix.org/instructions-jd

EN: Scan QR code to get instructions in other languages.

DE: QR-Code scannen um Anleitung in weiteren Sprachen zu erhalten.

FR: Scanner le code QR pour obtenir des instructions dans d'autres langues.

IT: Scansione QR-Code per ottenere istruzioni in altre lingue.

ES: Escanea el Código QR para obtener instrucciones en otros idiomas.

PT: Digitalize o Código QR para obter instruções noutras línguas.

TR: Diğer dillerdeki talimatlar için QR kodunu tarayın.

Hägele GmbH
Am Niederfeld 13
73614 Schorndorf
Germany

Service:
Phone: +49 7181 96988–36
E–mail: service@cleanfix.org

Contents

1 General information

1.1 Legal notice

TRANSLATED OPERATING INSTRUCTIONS

READ CAREFULLY BEFORE USE.
KEEP THE OPERATING INSTRUCTIONS FOR FUTURE REFERENCE.

1.1.1 Copyright

1.1.2 Manufacturer and service address

Hägele GmbH

Am Niederfeld 13

73614 Schorndorf
Germany

Phone: +49 7181 96988–0

Fax: +49 7181 96988–80

E-mail: info@cleanfix.org

Website: http://www.cleanfix.org

Service:

Phone: +49 7181 96988-36

E-mail: service@cleanfix.org

Our customer service department or one of our representatives around the world is available at any time to answer further questions.

1.2 Introduction

Before installing or starting up the Cleanfix® reversible fan, familiarize yourself with the contents of these operating instructions. This facilitates safe and efficient handling of the product.

The operating instructions are a component of the product and must always be close at hand. This ensures the following:

- accidents are prevented.
- warranty terms are complied with.

1.2.1 Target group of these operating instructions

These operating instructions are intended exclusively for mechanics trained on agricultural machinery.

The product may be installed and started up only by persons who are familiar with the operating instructions, the product, as well as the national laws and regulations concerning work, safety, and accident prevention.

1.2.2 Liability and damages

Since we are not included in technical service updates from the manufacturer, you may be required to make adjustments when installing this product. Hägele GmbH does not assume responsibility for installation and modification costs.

On account of the information provided in these operating instructions, the manufacturer accepts no liability for direct damages or indirect losses arising from improper operation or maintenance. In the same way, we assume no liability for personal injury or property damage caused by untrained personnel or through failure to comply with regulations concerning work, safety, and accident prevention.

No claims for modification of products that have already been delivered may be made on the basis of the data, illustrations, and descriptions in these operating instructions.

For your safety, use only original spare parts and original accessories.

We assume no liability for the use of other products and any resulting damages.

Observe the following before installation or start-up:

- Inspect delivery for damage in transit and for completeness.
- Immediately document in writing any defects and damages.
- Photograph damaged components.
- Send in a written damage report.

1.2.3 Validity

These operating instructions contain information required to install and start up the product.

In addition to the description of the standard features, the operating instructions contain a number of abstractions and exemplary illustrations of optional features. The product features may therefore partially deviate from the descriptions and depictions.

1.2.4 Product identification

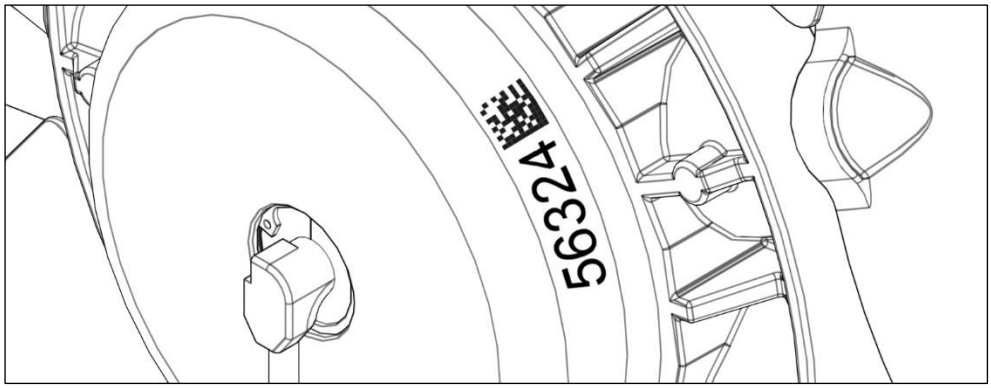
The following information is necessary for inquiries to the manufacturer:

(1) Fan serial number:

- On the side edge of the front housing

Serial number:

#						



(2) Vehicle:

Manufacturer: _____

Model: _____

Operating hours: _____

(3) Photo of the fan:

1.2.5 Typographical conventions

The following symbols and terms are used in these operating instructions:

- A dot is used for bulleted lists.

► A triangle is used for actions to be performed.

➢ An arrowhead is used for measures to avoid risks.

[+] A plus sign indicates an optional feature that is not included in the standard features.

(1) A number in parentheses is used for labeling of illustrations.

The “Information” pictograph points out tips and additional information.

The “Additional information” pictograph points out cross-references to information from other documentation.

1.2.6 Safety information in the text

Safe use is possible only if all information necessary for safe operation is observed.

The safety information warns users about risks and informs them how to avoid the risks.

General safety information is provided at the beginning of these operating instructions in chapter 2.

Specific warning information appears before a dangerous step.

Safety and warning information that must be followed is highlighted as follows:

Danger to people

⚠ DANGER!

Warns of an extremely dangerous situation in which failure to observe the hazard warning will result in death or major irreversible injury.

⚠ WARNING!

Warns of a dangerous situation in which failure to observe the hazard warning may result in death or major irreversible injury.

⚠ CAUTION!

Warns of a dangerous situation in which failure to observe the hazard warning may result in minor reversible injury.

Danger to property

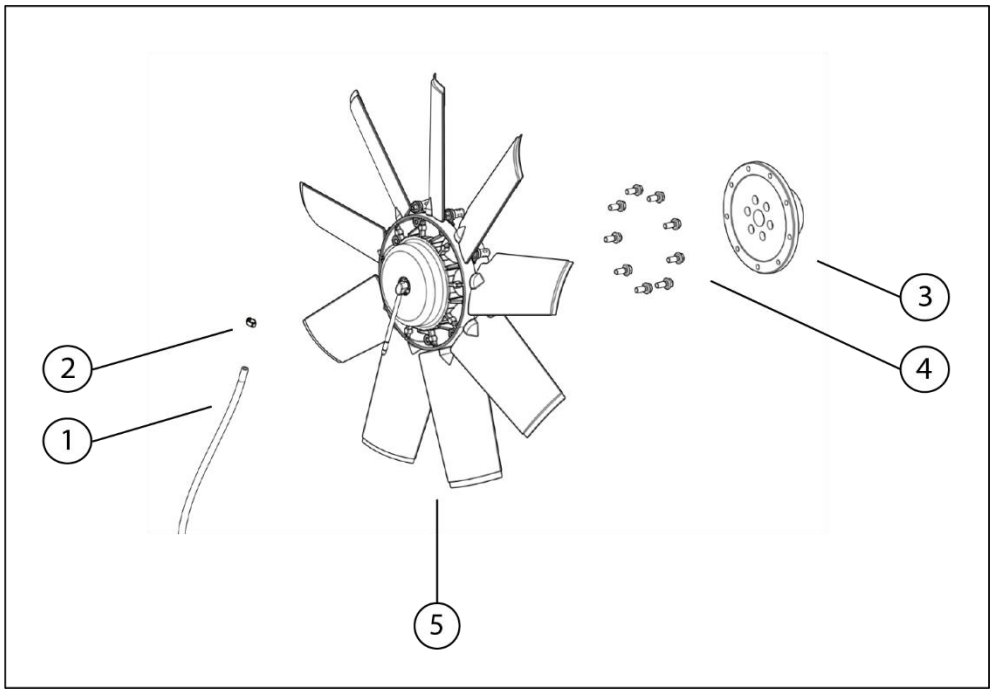
NOTE

Warns of situations in which failure to observe the information may result in property damage.

In addition, the information and safety rules provided by the manufacturer in the respective vehicle documentation must be observed.

1.3 Product description

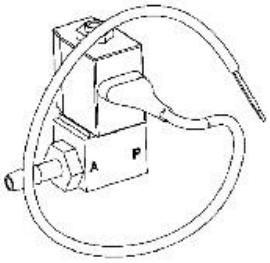
1.3.1 Pneumatic fan components



(1) Pressure hose
(2) Hose clamp
(3) Flange
(4) Flange screws
(5) Fan

1.3.2 Cleanfix® electrical components

Cleanfix® offers a number of control solutions. The reversing function is activated pneumatically or hydraulically and controlled electronically.

	For vehicles with a compressed air system
Cleanfix® electrical component	**Valve** 
Reversing function	**Switch** Press the switch to change from cooling to cleaning. The fan remains in cleaning mode for as long as the switch is pressed.

2 Safety

This chapter provides general safety information.
The individual chapters of the operating instructions also contain specific safety information that is not provided in the “Safety” chapter. Safety information should be observed:

- for your own safety.
- for the safety of others.
- to ensure machine safety.

When commercial vehicles are involved, a number of risks can arise due to improper behavior. For this reason, always work very carefully and not under time pressure.

2.1 Intended use

The product may be used only for the following purposes:

- For cooling commercial vehicles.
- For cleaning the fans of commercial vehicles

Only persons authorized by the manufacturer may make modifications, alterations, and repairs.

As a general principle, unauthorized modifications, alterations, or improper use exempt the manufacturer from liability for resulting damages.

2.2 Other regulations

In addition to these operating instructions, the respective national laws and regulations as amended must be observed (e.g., protective clothing, accident prevention regulations, and occupational health and environmental rules).

2.3 Safety instructions

⚠ WARNING!

Rolling of the vehicle may result in serious injury or death!

An unsecured vehicle can run over or crush bystanders. This can result in serious injury or death.

- Turn off the vehicle.
- Remove the ignition key.
- Secure the vehicle against rolling.

Wearing loose-fitting work clothes may result in serious injury or death!

Loose-fitting clothes can become entangled in rotating parts.

- Wear work and protective clothing stipulated by the employer's liability insurance association.

Working on a machine while it is running may result in serious injury or death!

No work may be performed on the machine while it is running. Objects or persons may be caught, pulled in, or crushed.

- Work only on machines that have been turned off.

Modifications to the fan may result in serious injury or death!

Unauthorized modifications may impair the functioning and/or safety and the service life of the fan. Unauthorized modifications to the fan terminate the manufacturer’s warranty and liability. This may result in damage to the machine as well as to serious injury or death.

- Absolutely no modifications may be made to the fan.

⚠ CAUTION!

Failure to resolve malfunctions may result in accidents or damage!

Operation of a defective fan or fan component may lead to accidents or damage.

- Immediately stop the machine.
- Shut down the machine.
- Secure the machine.
- Resolve the fault promptly or engage a vehicle shop.

Activation of the reversing function while persons are standing in front of the vehicle may result in accidents!

The fan generates strong air currents when it is in the cleaning position. Persons standing in front of the vehicle may be struck by flying dirt when the reversing function is activated.

- Nobody may be standing in front of the vehicle when the reversing function is activated.

Activation of the reversing function in closed rooms may result in accidents!

The fan generates strong air currents when it is in the cleaning position. In closed rooms, this may generate dust and result in damage or accidents due to flying parts.

- Use the reversing function only in a safe location and only outside of closed rooms.

Damage caused by lines or tubes that are too loose or are attached to moving parts!

During travel, the installed lines and tubes are subjected to vibrations. As a result, lines or nearby parts may be damaged due to friction.

- All lines and tubes must be securely fastened and must not make contact with moving parts.

NOTE

Property damage may result if the fan is installed directly on the crankshaft or when the fan is driven by a spur gear!

Torsional vibrations from the crankshaft or the spur gear will damage the fan and may cause damage to the vehicle.

- Install Cleanfix® vibration dampers between the fan and crankshaft or spur gear.

Reversing the fan while the vehicle is in the red temperature range may result in property damage!

The cooling effect is interrupted when the reversing function is activated. Reversing the fan while the vehicle is in the red temperature range causes the engine to overheat.

- Do not reverse the fan when it is in the red temperature range.
- Park the vehicle and open the hood so that the vehicle can cool down.

3 Required tools

Flange installation

- Magnetic or clamp type dial gauge
- 45 Nm torque wrench

Fan installation

- 20 Nm torque wrench
- Locking pliers
- Standard tools

Pressure hose installation and connection

- Lubricant
- Pincers
- Standard tools for pressure hose fitting

Electrical component installation and connection

- Standard electrical and hand tools

4 Removing the manufacturer's components

⚠ CAUTION!

Risk of injury due to the hot engine!

A hot engine can burn hands or other body parts

- ➢ Turn off the engine.
- ➢ Allow the engine to cool down.
- ➢ Remove the ignition key.
- ➢ Disconnect the battery.

► Make sure that the engine is turned off.

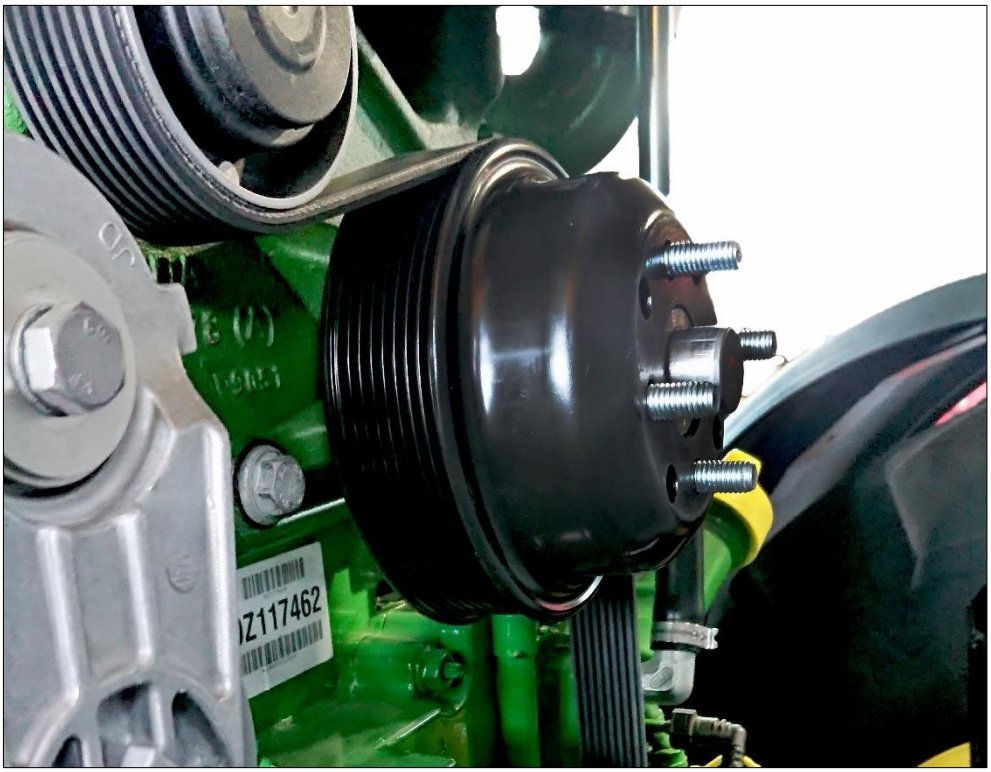
► If necessary, remove the fan guard and safety components to gain access to the manufacturer's installed fan.

► Remove the drive belt of the original fan at the tensioner.

► Remove the original fan and fan shroud.

► Remove other fan accessories as required.

Read and observe the manufacturer's vehicle manual before removing the manufacturer's fan.

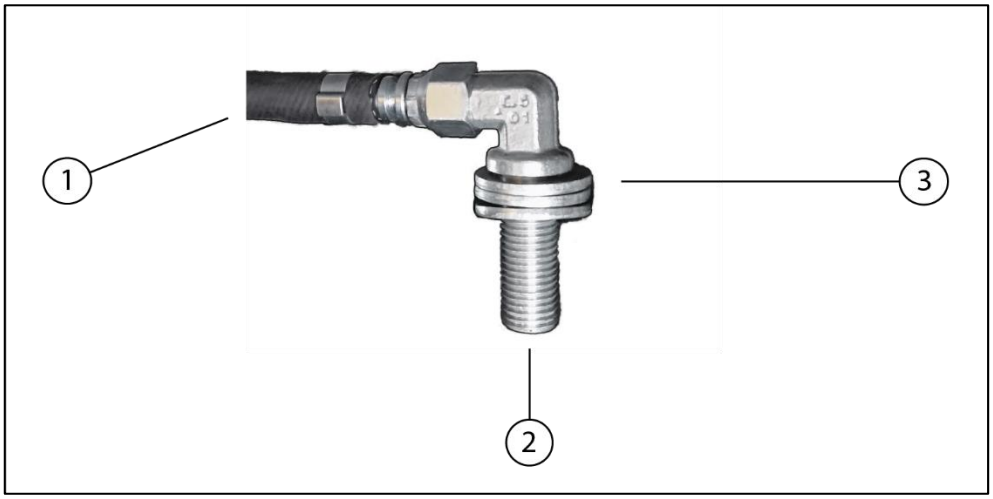


5 Installing the Cleanfix® fan components

5.1 Inserting the fan shroud and Cleanfix® reversible fan

► Insert the supplied fan shroud in front of the radiator with the ring side toward the engine (see position in image).

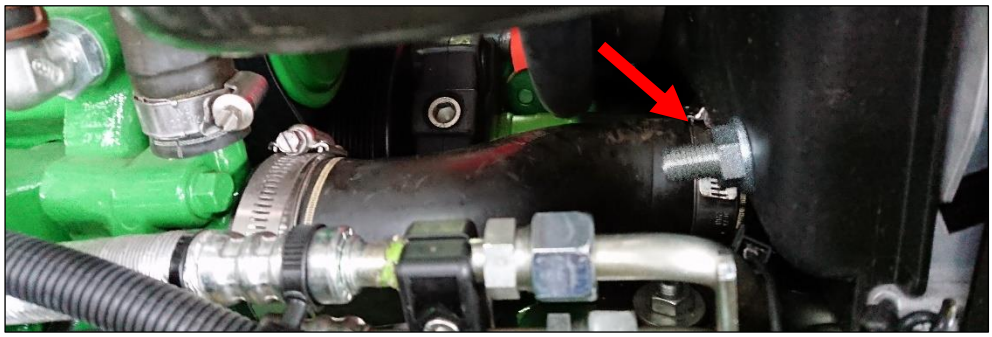
► Insert the Cleanfix® reversible fan in the fan shroud with the flange side toward the engine.



(1) Pressure hose
(2) Bulkhead elbow coupling
(3) Washers

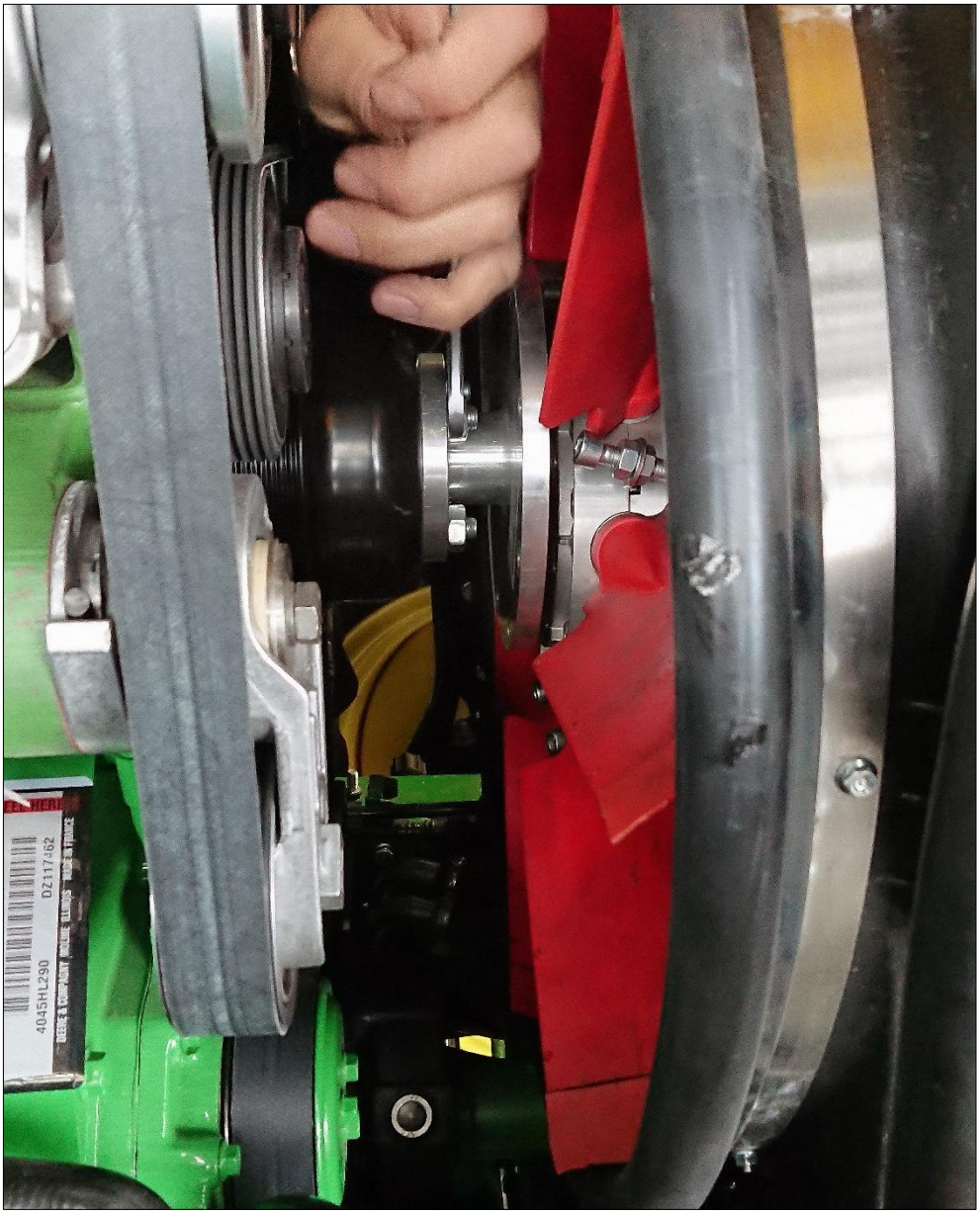
► Guide the bulkhead elbow coupling with the three supplied washers through the hole from the inside of the fan shroud.

► Mount a nut with washer on the bulkhead elbow coupling from the outside, but do not firmly tighten it.



5.2 Mounting the Cleanfix® flange

- ► Clean the fan drive mounting surface for the flange to remove all dirt and rust.
- ► Attach the flange to the fan drive using the four supplied M10 nuts.
- ► Tighten the nuts to 45 Nm torque.



5.2.1 Checking the flange axial and radial circular runout

⚠ WARNING!

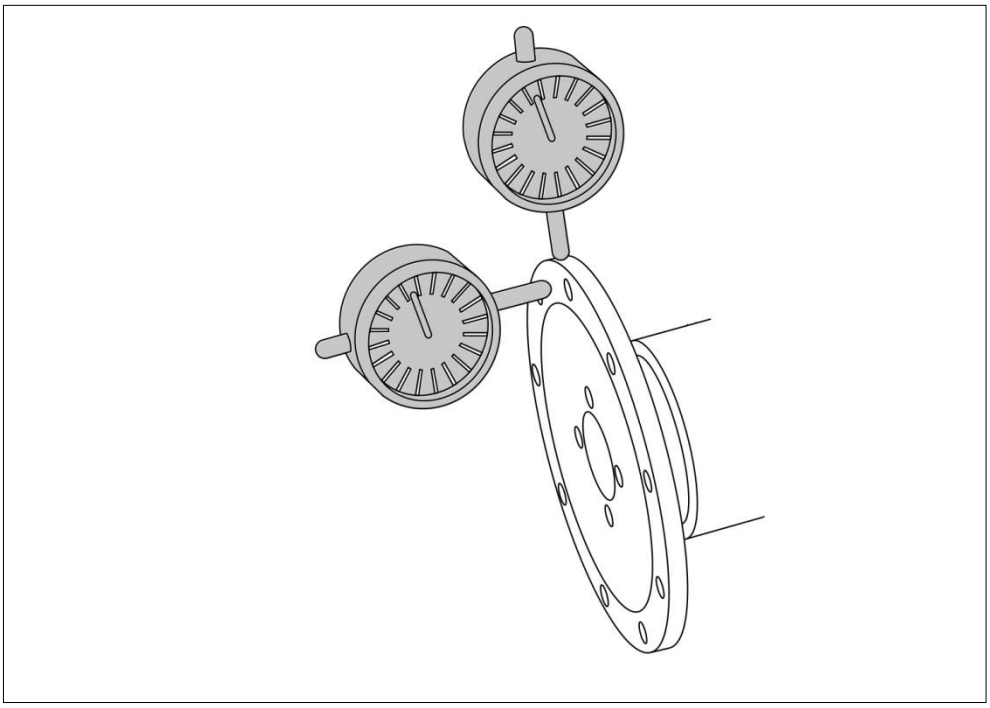
Property damage due to axial and radial circular runout!

Imbalances damage the fan and may result in vehicle damage and serious injury.

- The axial and radial circular runout must be checked using a dial gauge and must not exceed 0.1 mm (0.004").
- Check the fan drive mounting surface and the flange for contamination and clean accordingly.
- If necessary, rotate the flange to the next hole and install and measure again.

► Loosen any belts that drive the fan pulley. This will allow for a more accurate axial and radial circular runout measurement.

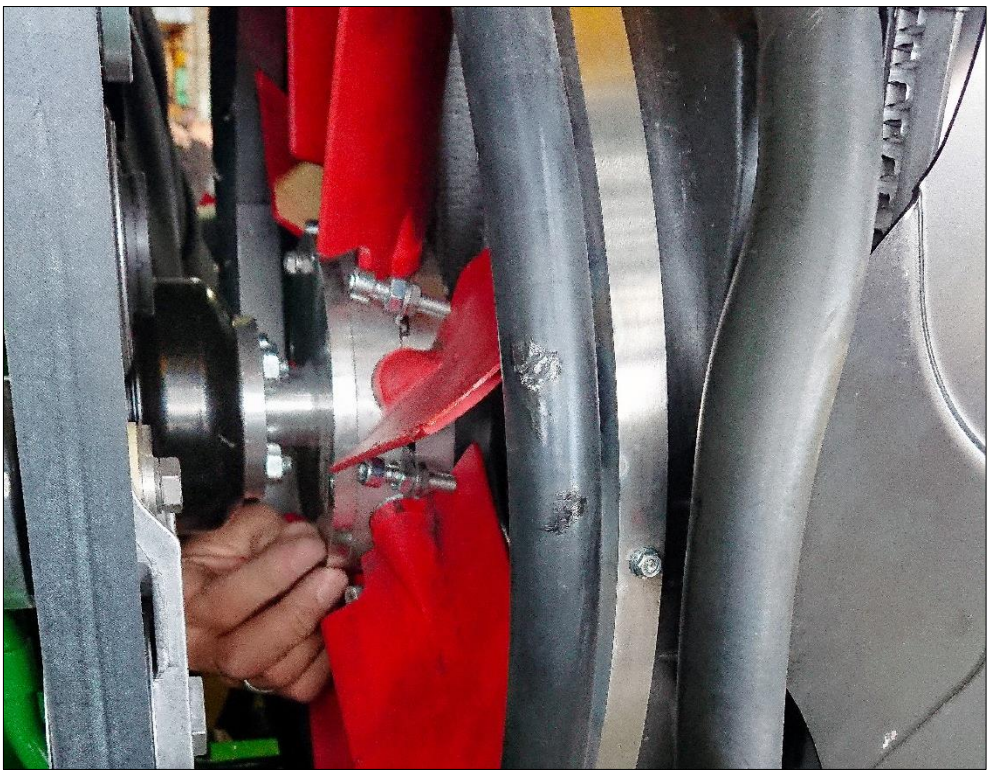
► Check the axial and radial circular runout using a dial gauge. The axial and radial circular runout must not exceed 0.1 mm (0.004").



5.3 Attaching the Cleanfix® reversible fan and fan shroud

► Attach the Cleanfix® reversible fan to the flange using the supplied locking screws.

► Tighten the locking screws to 20 Nm.

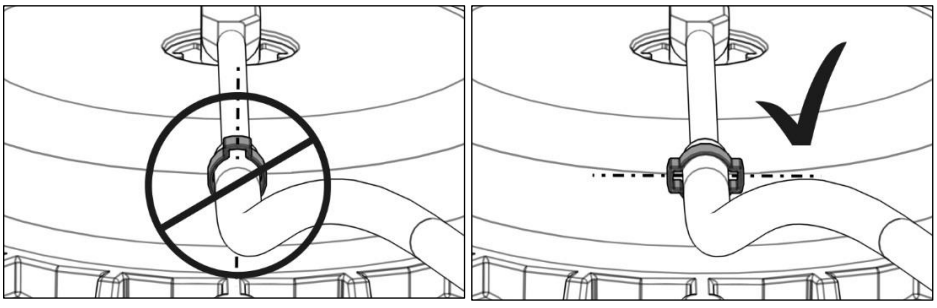


NOTE

Property damage due to bending of the air intake tube!

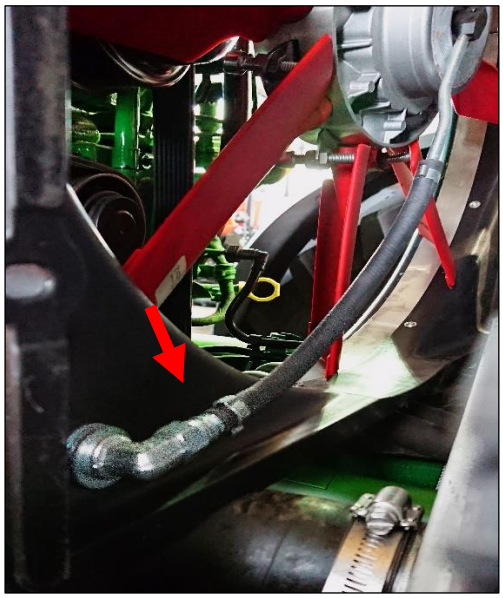
If the air intake tube of the air intake assembly is bent down toward the blades during installation, the fan blades will hit the hose during operation.

➢ Manually bend the air intake tube of the air intake assembly into the original position.



► Use the supplied screws to firmly attach the fan shroud to the radiator.

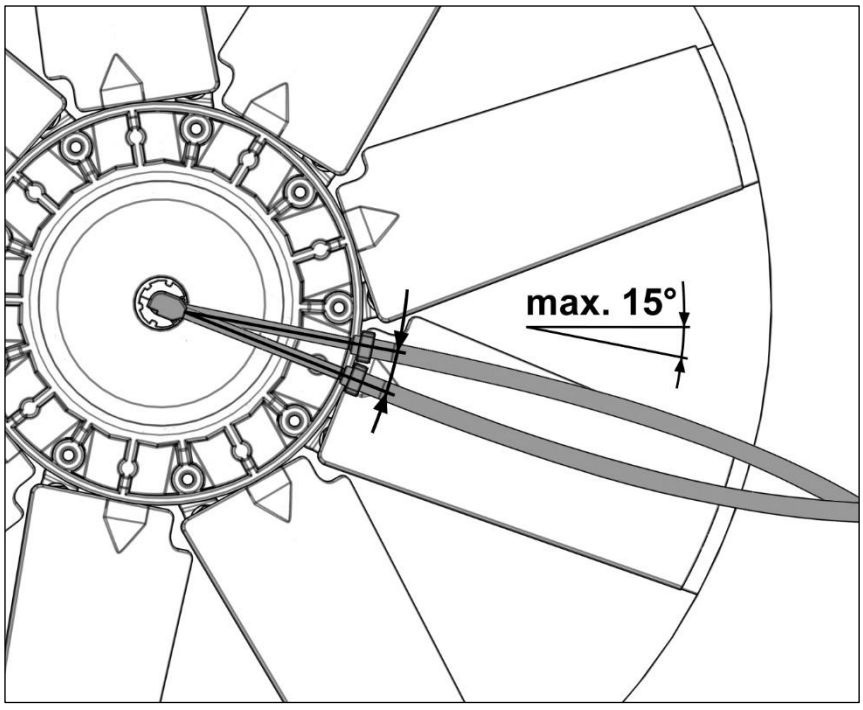
► Press down slightly on the bulkhead elbow coupling from the inside to apply tension to the pressure hose and simultaneously tighten the nut with washer on the outside.



NOTE

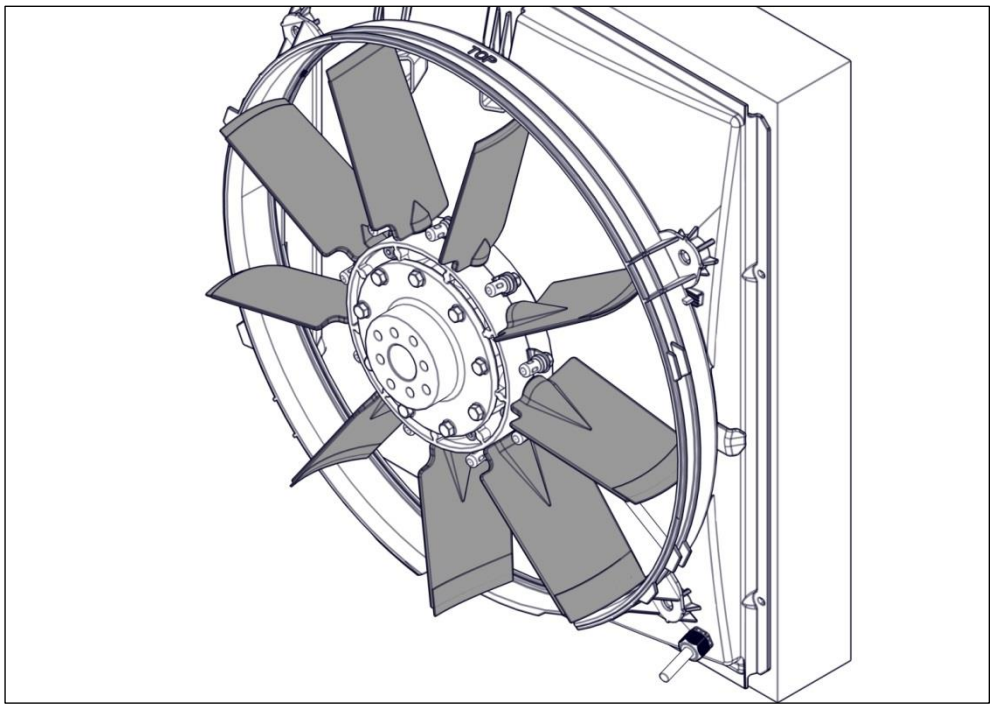
If the pressure hose is tensioned too tightly, the seals at the air intake assembly will wear and the fan leak will leak. For an optimum result, it must be possible to rotate the air intake assembly by maximum 15°.

➢ Make sure that the pressure hose neither makes contact with the fan during operation nor is tensioned too tightly.



5.3.1 Checking the smooth movement of the Cleanfix® reversible fan

- ► Supply compressed air (max. 10 bar or 140 psi) to the fan until the blades turn to their cross position.
- ► Use locking pliers to pinch the pressure hose, which will trap the air in the system.
- ► Remove the pressure hose from the compressed air supply.



The depicted representation is an example.

NOTE

Property damage due to rotation of the fan with tight drive belts!

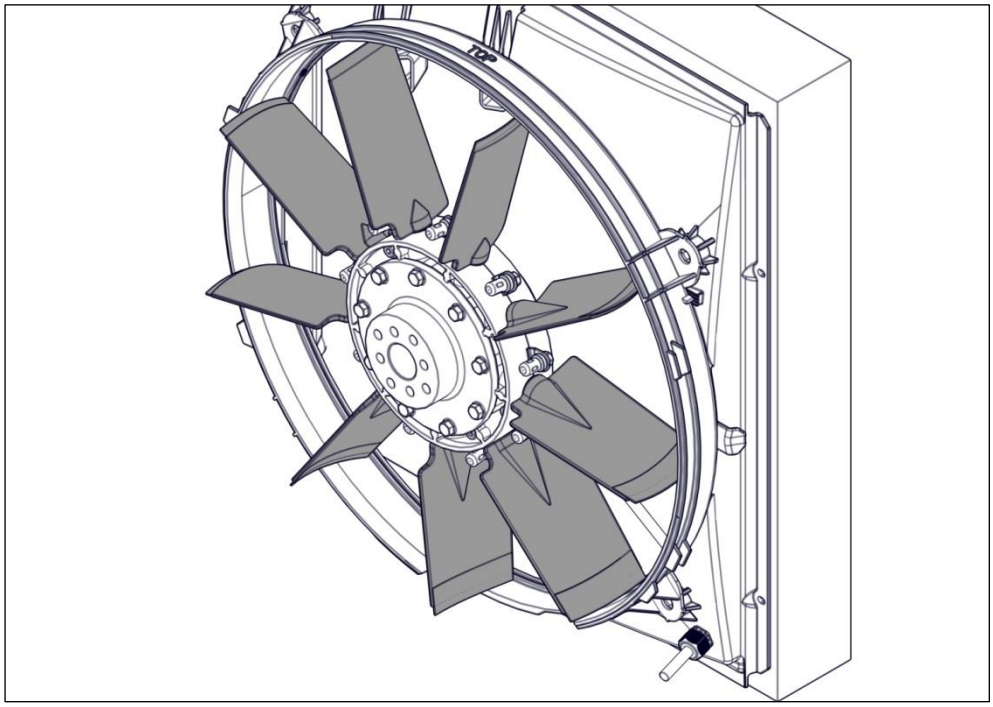
Rotation of the fan with tight belts results in excessive force and may result in damage to the fan and drive.

➢ Loosen the drive belts.

► Manually rotate the fan.

► Make sure that the blades do not come into contact with any objects.

► Make adjustments as needed.



The depicted representation is an example.

► Remove the locking pliers.

⚠ WARNING!

Pulling in of loose objects!

Loose objects can be pulled into the fan during operation, which may result in damage to the fan and vehicle and cause serious injury!

➢ Remove loose objects or secure them with plastic ties.

6 Installing the Cleanfix® electrical components

⚠ CAUTION!

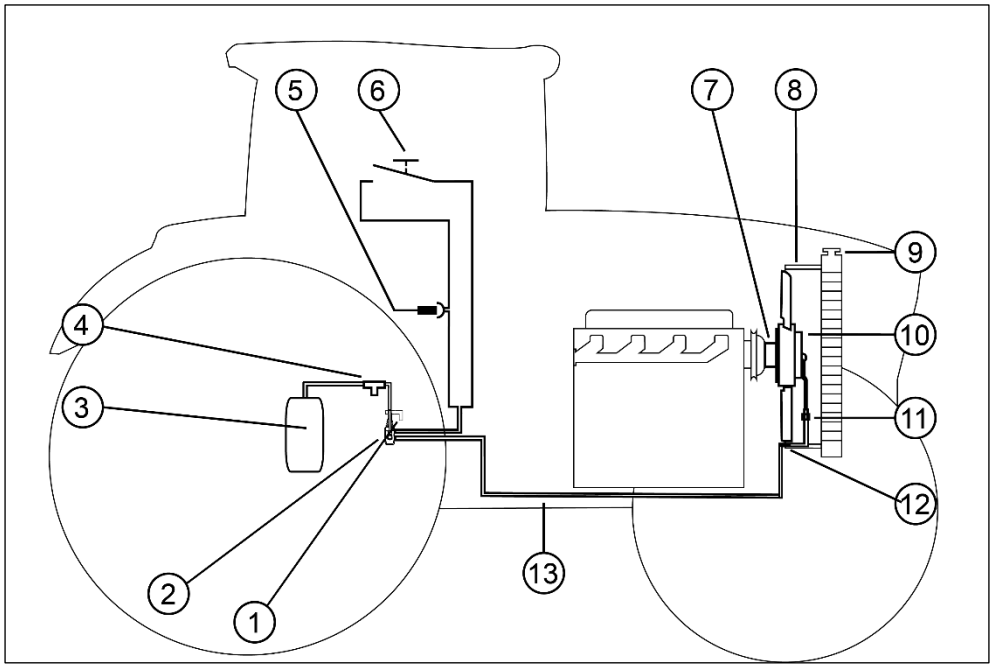
Damage caused by lines or tubes that are too loose or are attached to moving parts!

During travel, the installed lines and tubes are subjected to vibrations. As a result, lines or nearby parts may be damaged due to friction.

- All lines and tubes must be securely fastened and must not make contact with moving parts.

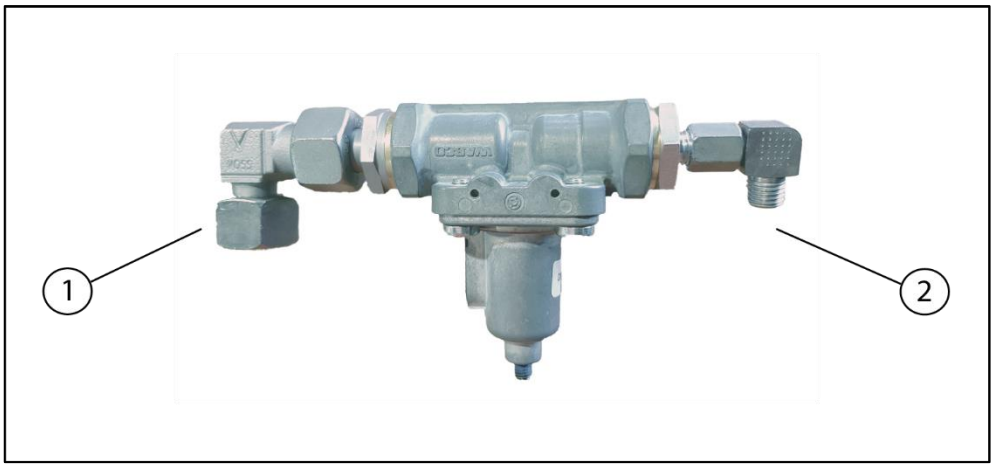
The Cleanfix® electrical components are installed as described in the following sections. The relevant section must be taken into account depending on the delivered version.

6.1 Cleanfix® valve unit / for vehicles with a compressed air system



(1) Metal support
(2) Cleanfix® valve unit
(3) Compressed air reservoir
(4) Overflow valve (min. 6.5 bar or 94 psi, max. 7.0 bar or 102 psi)
(5) Plug in the side console at the lower right
(6) Switch (momentary rocker switch)
(7) Adapter flange
(8) Fan shroud
(9) Radiator
(10) Cleanfix® reversible fan (pneumatic)
(11) Hose clamp
(12) Bulkhead elbow coupling
(13) Pressure hose (fuel line)

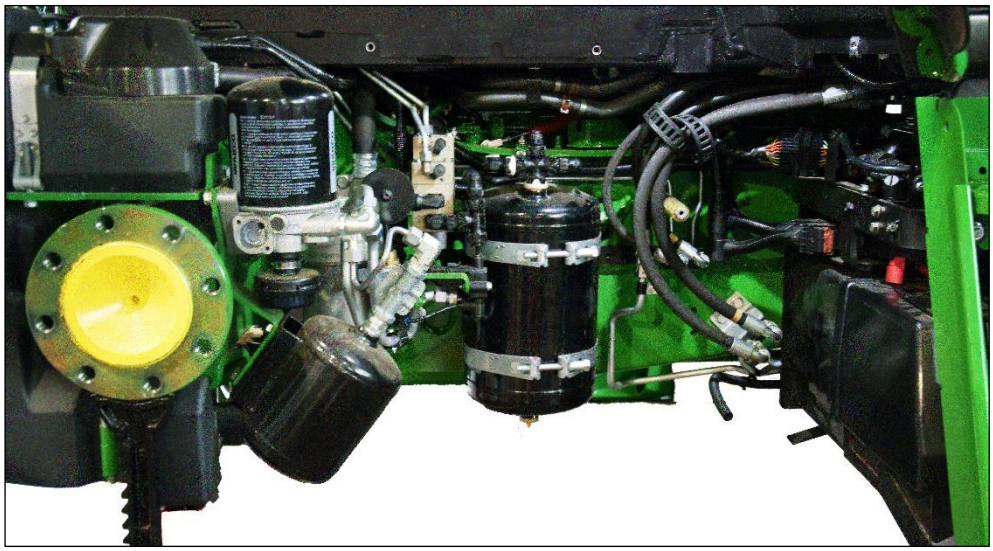
6.1.1 Installing the overflow valve



(1) Connection for compressed air reservoir
(2) Connection for pressure hose

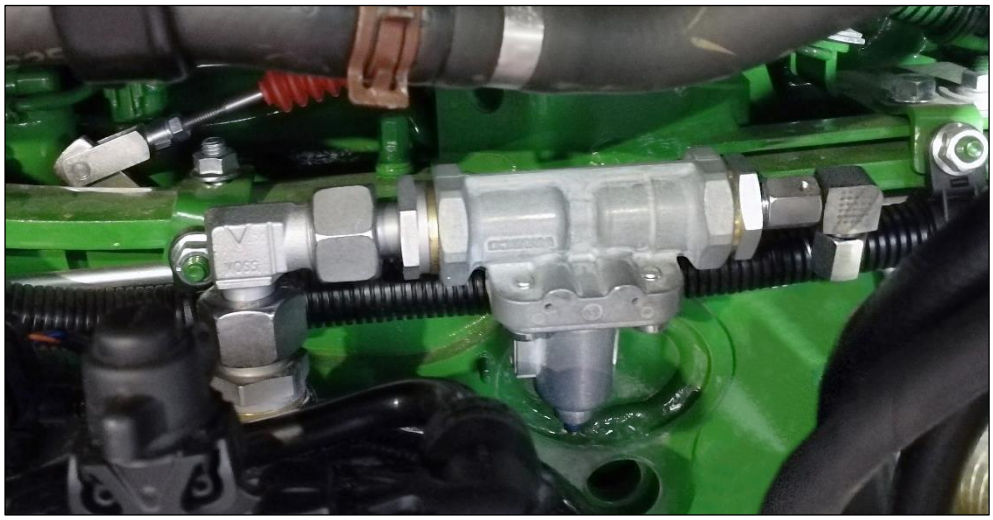
► Remove the right rear wheel to access the vehicle's compressed air supply.

► Remove the cover.

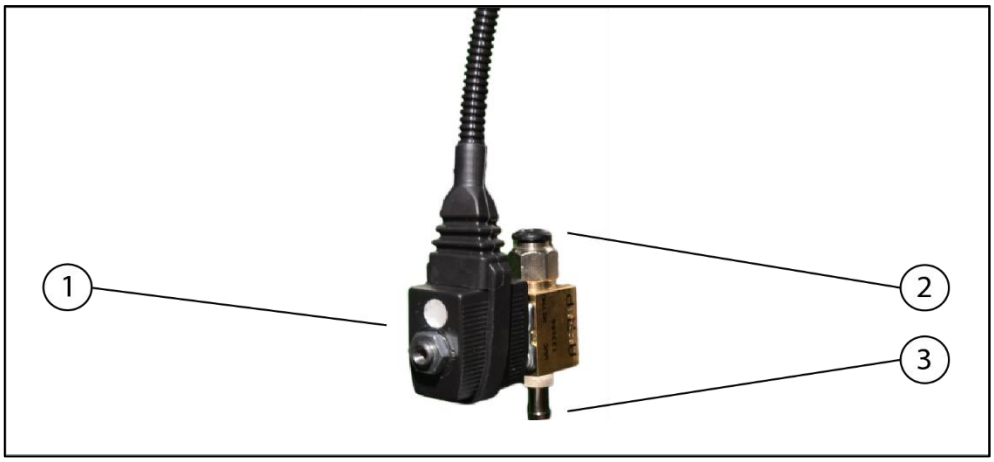


► Remove the filler plug at the compressed air supply and install a straight screwed coupling for the overflow valve.

► Install the overflow valve at the compressed air supply and tighten the screws.

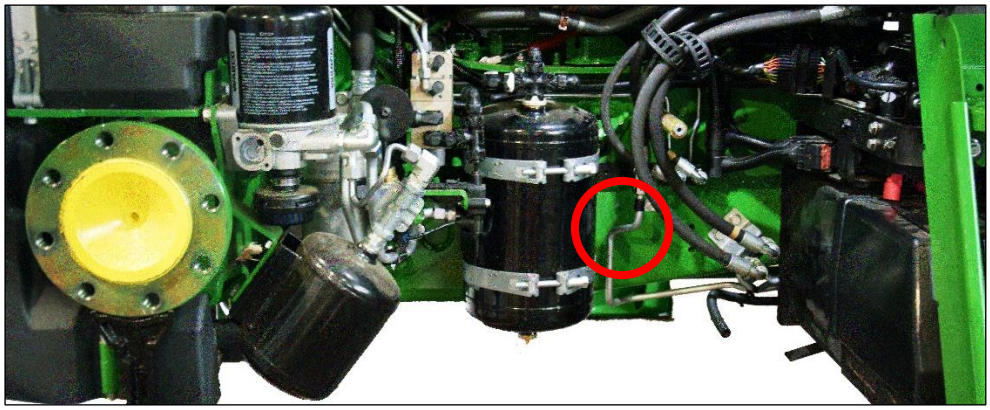


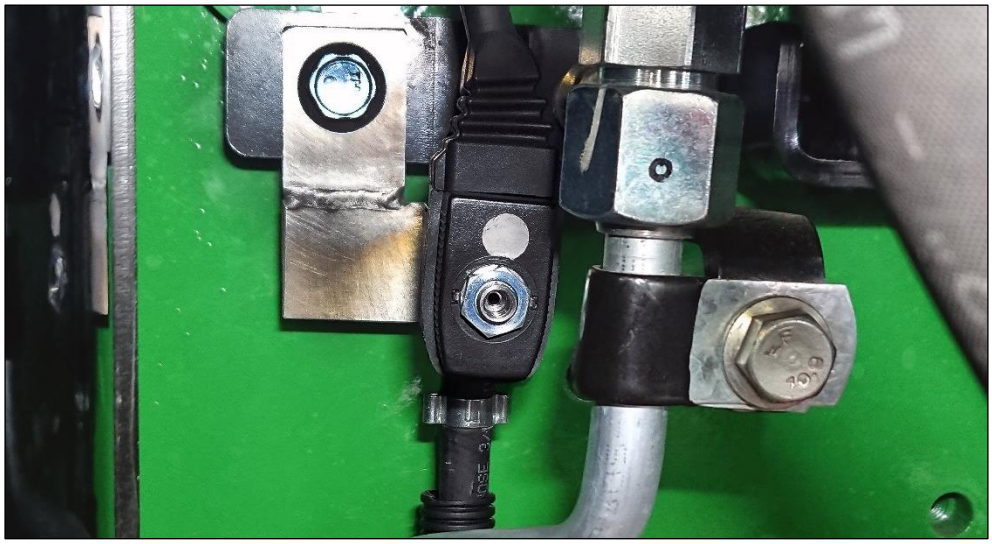
6.1.2 Installing the Cleanfix® valve



(1) Cleanfix® valve unit
(2) Connector P (compressed air) of the Cleanfix® valve
(3) Connector A (fan) of the Cleanfix® valve

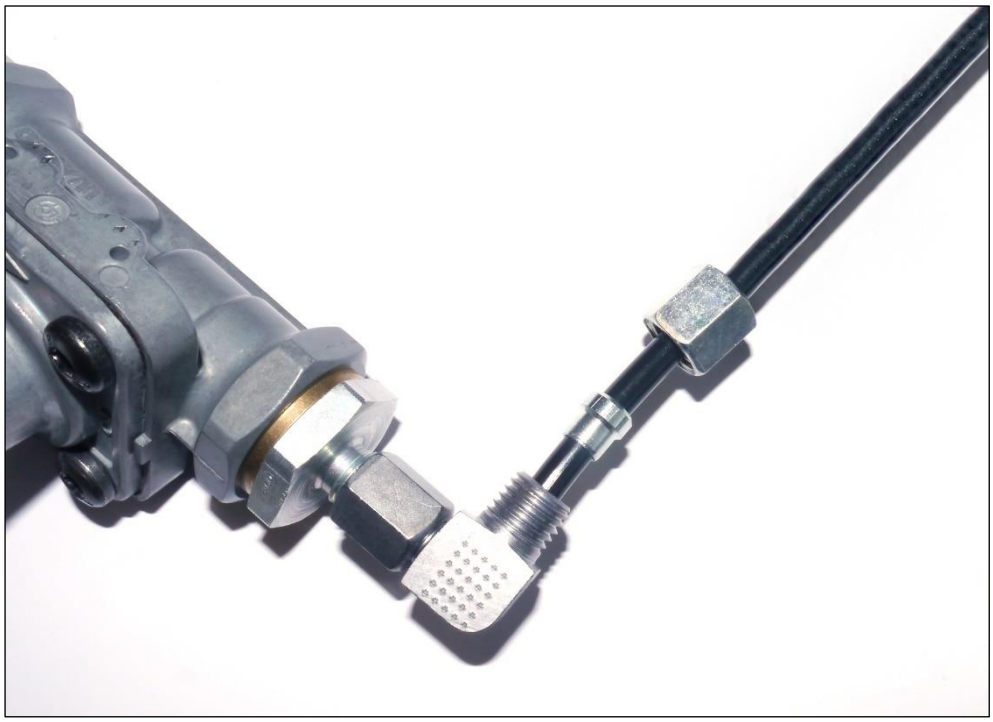
► Attach the valve holder with nut to the metal support (see position in image).

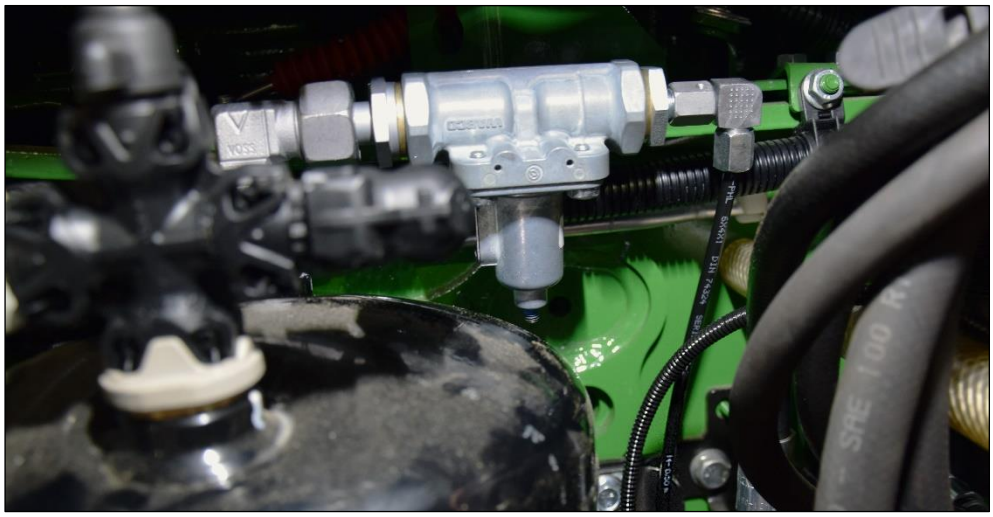




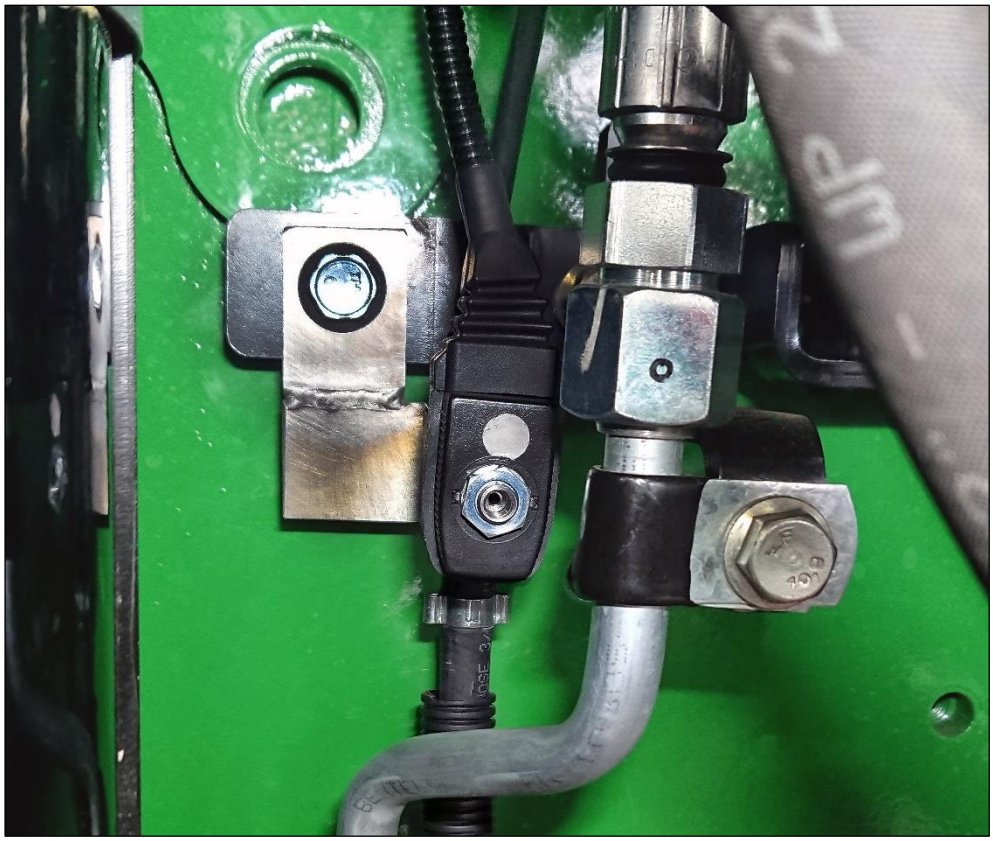
6.1.3 Connecting the pressure hose to the overflow valve and the Cleanfix® valve

► Connect the pressure hose with the tubular stiffener and cutting ring to the overflow valve.





► Connect the pressure hose to connector P of the Cleanfix® valve.



► Slide the hose clamp over the pressure hose with corrugated tube.

► Connect the pressure hose with corrugated tube to connector A of the Cleanfix® valve.

► Secure the pressure hose using the supplied hose clamp.

6.1.4 Running the pressure hose of the Cleanfix® reversible fan to the Cleanfix® valve

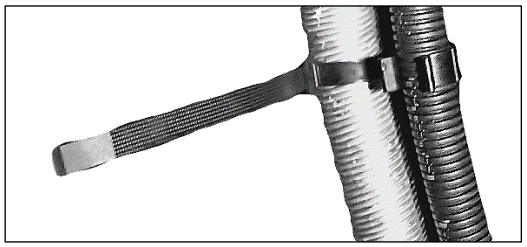
► Run the pressure hose with corrugated tube hose as pictured.

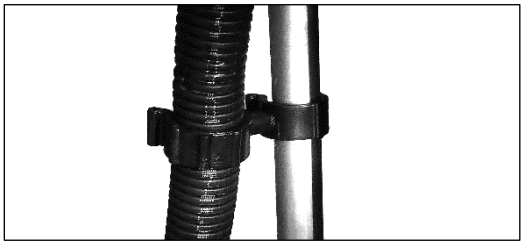
NOTE

Property damage due to contact of the corrugated tube with hot pipes!

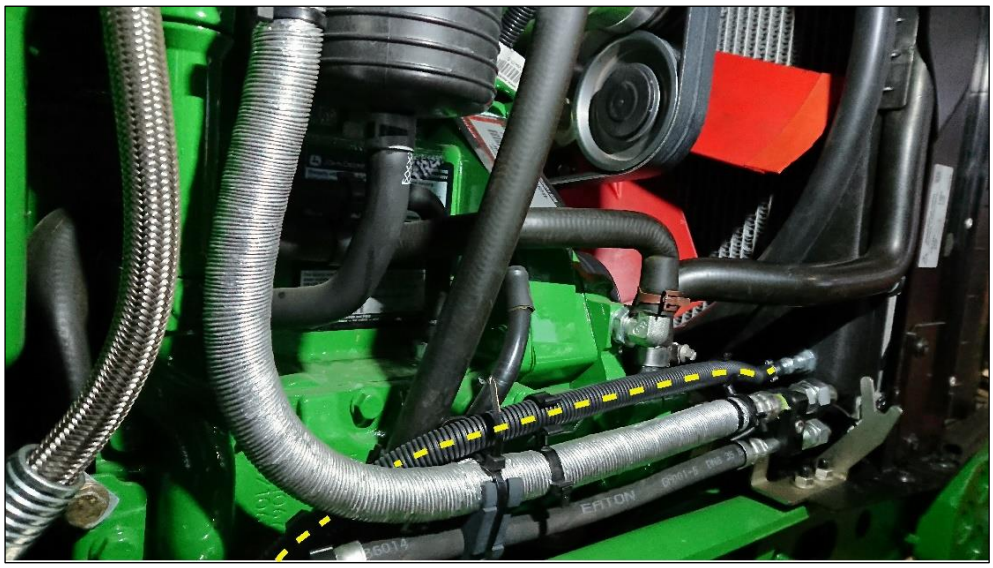
➢ The minimum clearance of 10 mm (0.4") to other cables and tubes must be observed.

► Use the supplied rotatable corrugated tube holders to attach the corrugated tube to adjacent cables or tubes.





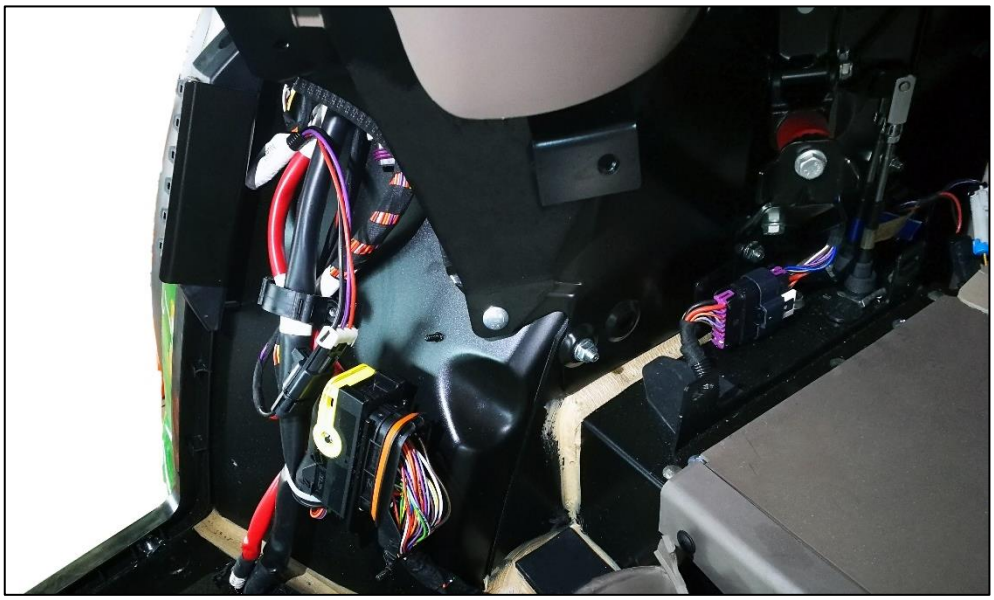
► Cut the pressure hose of the Cleanfix® fan to a suitable length.



6.1.5 Installing the switch

Installation location: side console

► Remove the side console cover according to the instructions in the vehicle manual.



► Carefully remove the cover plate for the switch from the connector holder using a screwdriver.

6.1.6 Connecting the Cleanfix® valve and switch to the vehicle's power supply

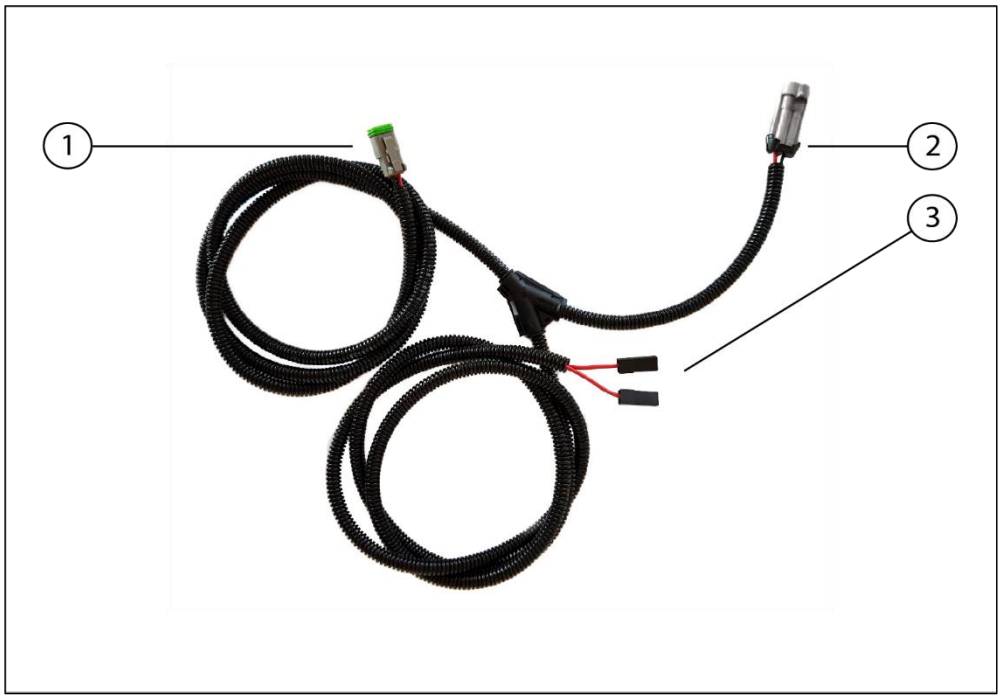
⚠ CAUTION!

Damage caused by lines or tubes that are too loose or are attached to moving parts!

During travel, the installed lines and tubes are subjected to vibrations. As a result, lines or nearby parts may be damaged due to friction.

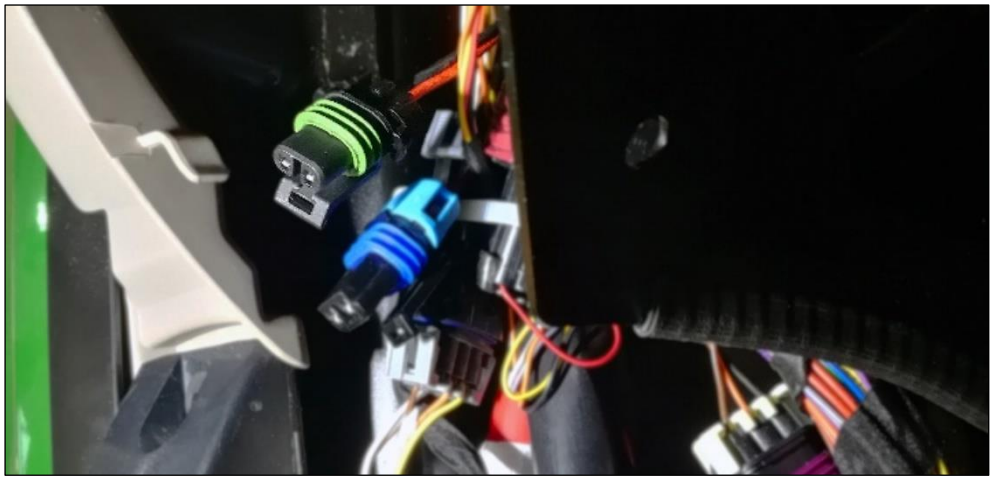
➢ All lines and tubes must be securely fastened and must not make contact with moving parts.

► Run the supplied cable harness between the valve and the driver's cab.

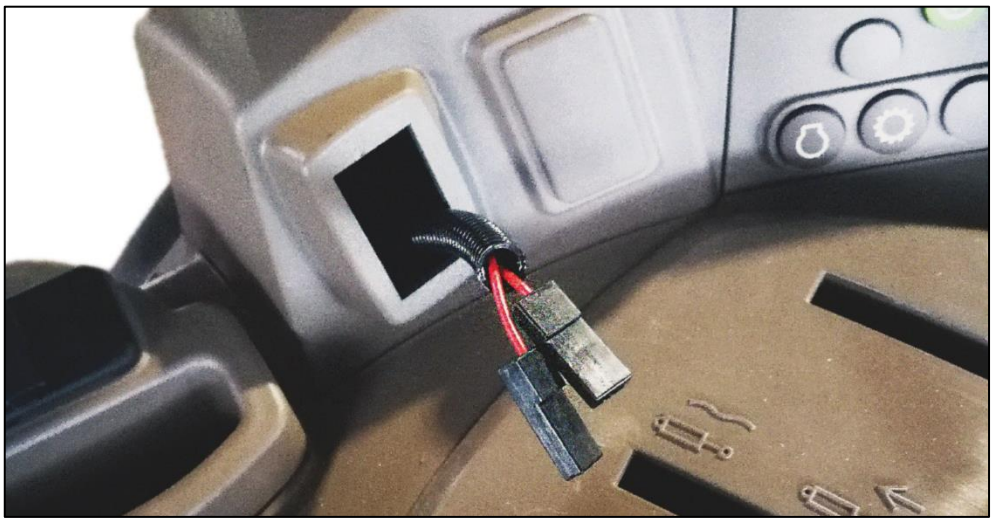


(1) Connector for valve
(2) Connector for plug
(3) Connector for switch

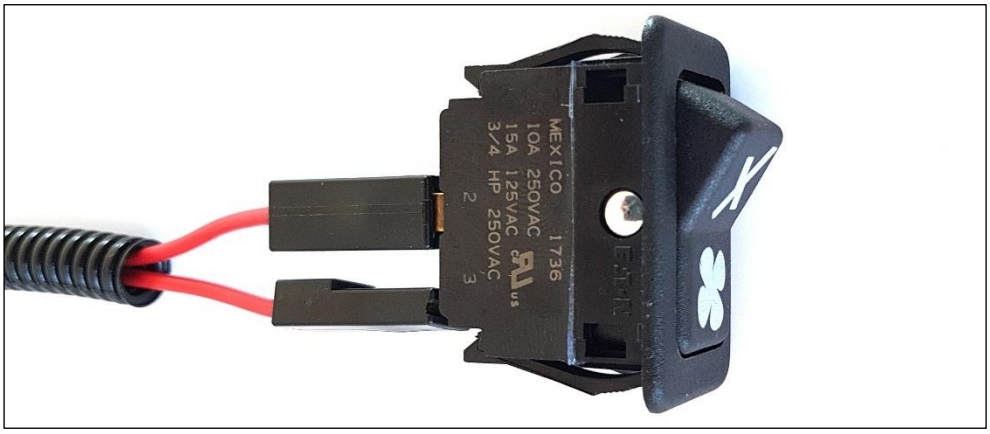
► Connect the cable harness connector to the plug (in the side console at the lower right).



► Lead the cable harness connector for the switch through the opening in the side console toward the connector holder.



► Connect the cable harness connector to the switch.



► Mount the switch in the connector holder.

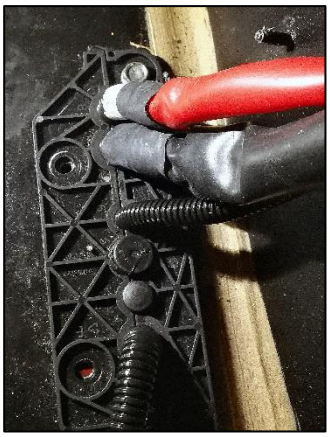
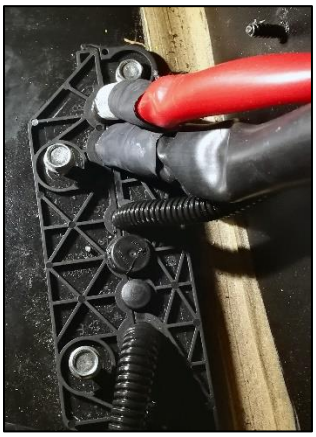
► Attach the “Cleanfix” label below the switch.

► Remove the nuts from the cover for the strain relief fitting.

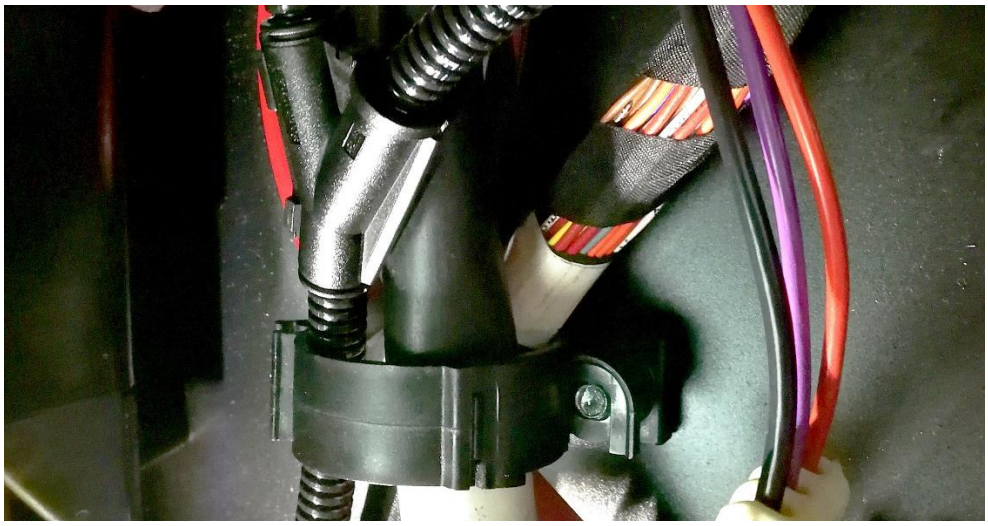
► Remove the filler plug.

► Clamp the cable harness in the strain relief fitting.

► Screw the cover on again with the nuts.

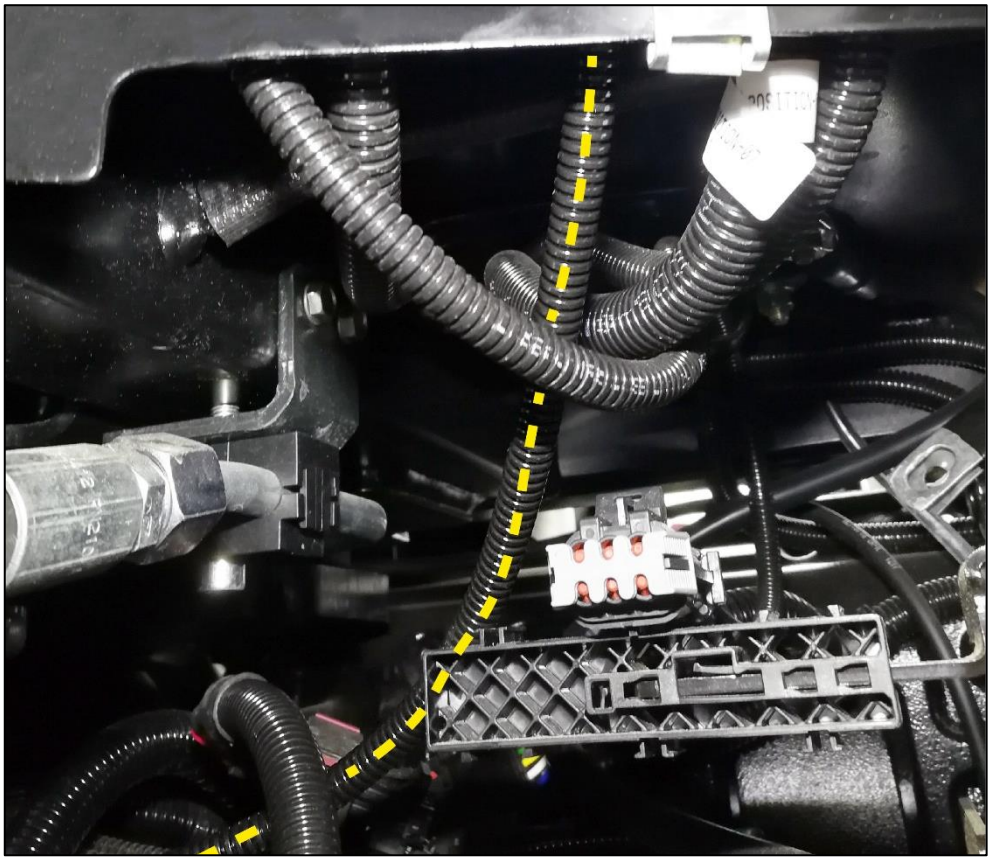




► Attach the cable harness to the adjacent cables using an anchor.

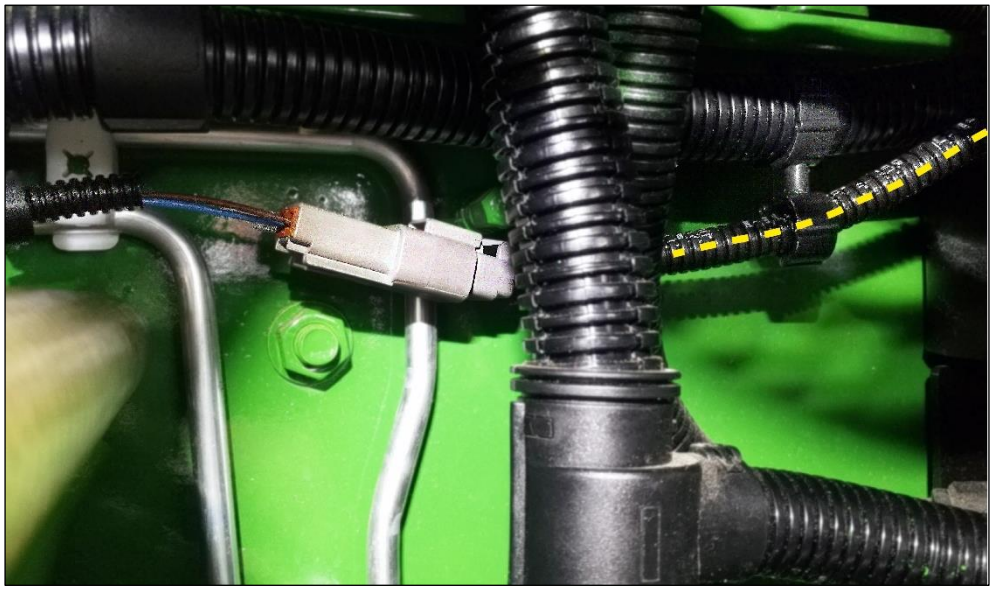


► Push the cable harness under the side console toward the valve connector.

► Run the cable harness as shown.



► Join the connectors of the valve and the cable harness.



7 Operation

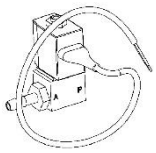
7.1 Initial start-up

- ► Start the engine.
- ► The first time you start up the fan, reverse it three times in neutral.

  Then reverse the fan at gradually higher speeds from min. (3x 1,400 rpm) to max. (3x 1,800 rpm)

7.2 Cleanfix® valve / for vehicles with a compressed air system

Valve



Press the switch to change from cooling to cleaning. The fan remains in cleaning mode for as long as the switch is pressed.

8 Maintenance

8.1 Servicing the Cleanfix® reversible fan

Cleanfix® reversible fans are maintenance-free.

8.2 Servicing the Cleanfix® electrical components

Cleanfix® valve units are maintenance-free.

9 Troubleshooting

9.1 Troubleshooting Cleanfix® reversible fans

	Error		Cause of error	Troubleshooting
1	Blades do not rotate to the cleaning position	→ **1.1**	No or low compressed air supply (with a compressed air system)	→ **1.1.1** Check the compressed air supply at the solenoid valve. Compressed air supplied at the solenoid valve → see 1.1.2 ➔ If no pressure is being applied to the solenoid valve, check the compressed air supply (min. 6.5 bar or 94 psi / max. 8 bar or 116 psi). **1.1.2** Check the functioning of the solenoid valve. If necessary, connect external power supply. (Please note: voltage 12 V or 24 V only) Solenoid valve switches (soft clicking) → see 1.1.3 ➔ If the solenoid valve does not switch, replace the valve. **1.1.3** Check the pressure hose. If necessary, pull the pressure hose from the valve and connect it to the vehicle shop compressed air supply (max. 8 bar / 116 psi) to locate possible leaks faster. The pressure hose from the solenoid valve to fan has no kinks or leaks → see 1.1.4 ➔ In the case of leaks in the hose, the hose needs to be replaced. ➔ When the air intake assembly on the fan is leaking, an appropriate seal kit must be ordered.

1.1.4 Mechanical failure.

If all the above conditions are met and the blades do not rotate, then the trouble is a mechanical error. The fan must be sent to the manufacturer for testing.

2	Blades do not return from the cleaning position to the cooling mode	→ **2.1**	Fan speed is too high	→ **2.1.1** Reduce the speed.
				2.1.2 Install more springs if possible. Additional springs increase the release force. The fan must be sent to the manufacturer.
		2.2	Fan cannot vent anymore	→ **2.2.1** Check the pressure hose. The pressure hose from the solenoid valve to fan has no kinks or pinched positions → see 2.2.2
				2.2.2 Check the functioning of the solenoid valve. If necessary, connect external power supply. (Please note: voltage 12 V or 24 V only) Solenoid valve switches (soft clicking) → see 2.2.3 ➔ If the solenoid valve does not switch, replace the valve.
				2.2.3 Mechanical failure If the fan with hose disconnected does not turn back in the idle state, there is a mechanical failure. The fan must be sent to the manufacturer for testing.