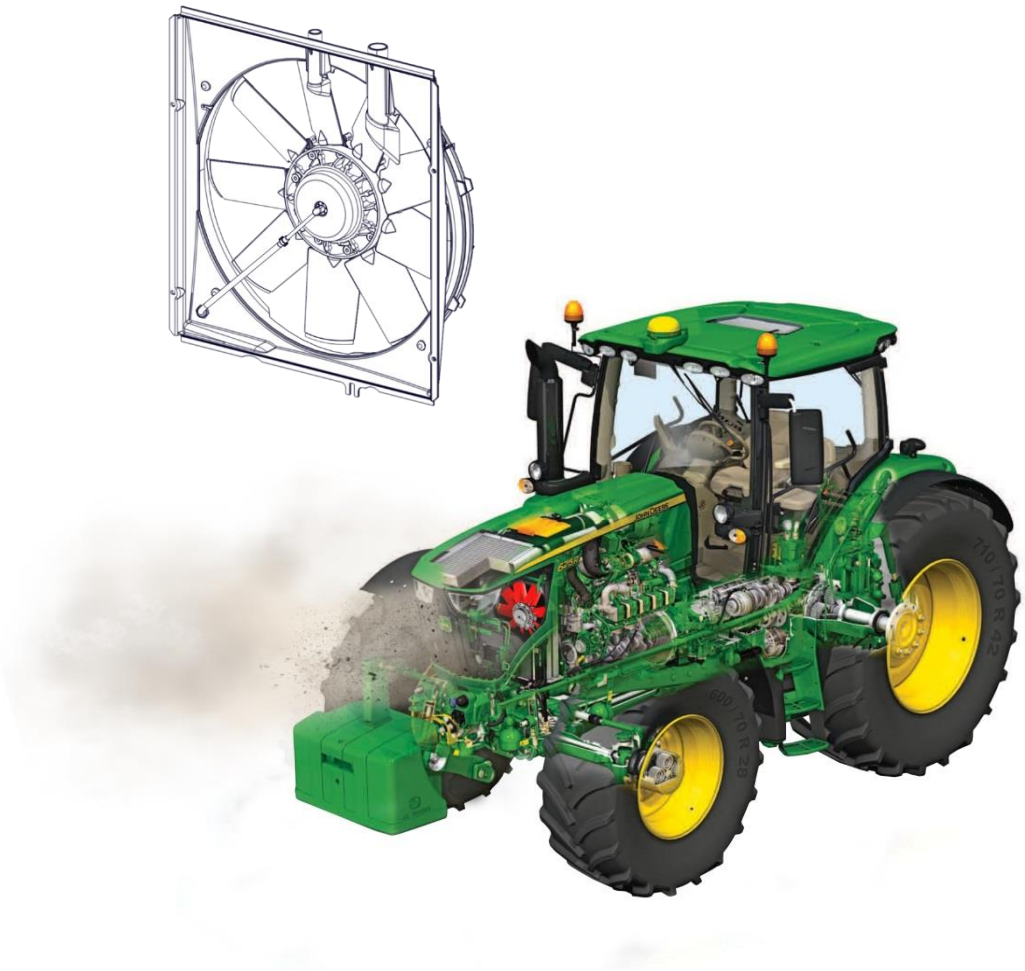
208408 (2021/01) EN

CLEANFIX®

CLEANFIX KIT FOR JOHN DEERE

6145R / 6155R / 6175R / 6195R / 6215R

Installation 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.

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Contents

1 General information

1.1 Legal notice

1.1.1 Copyright

1.1.2 Manufacturer's and service address

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For additional information, feel free to contact our customer service team and our worldwide representatives at any time.

1.2 Introduction

Before installing or operating the Cleanfix® Kit for John Deere, familiarize yourself with the contents of these operating instructions. This will help you achieve optimal results and work safely. The operating instructions are a component of the product and must always be close at hand. By doing so, you will:

- avoid accidents.
- comply with the warranty terms.

1.2.1 Target group of these operating instructions

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

The product may be installed and commissioned 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 kit. 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. We disclaim all liability for personal injury or property damage caused by untrained personnel or through failure to comply with regulations concerning work, safety, and accident prevention.

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.

► 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 instructions contain information required for installation and operation of the product.

In addition to the description of the equipment, the instructions also contain some abstract pictures. The product equipment may therefore partially deviate from the descriptions and depictions.

1.2.4 Product identification

Inquiries addressed to the manufacturer must include the order number or the fan serial number. You can find these numbers at the following locations:

Order number:

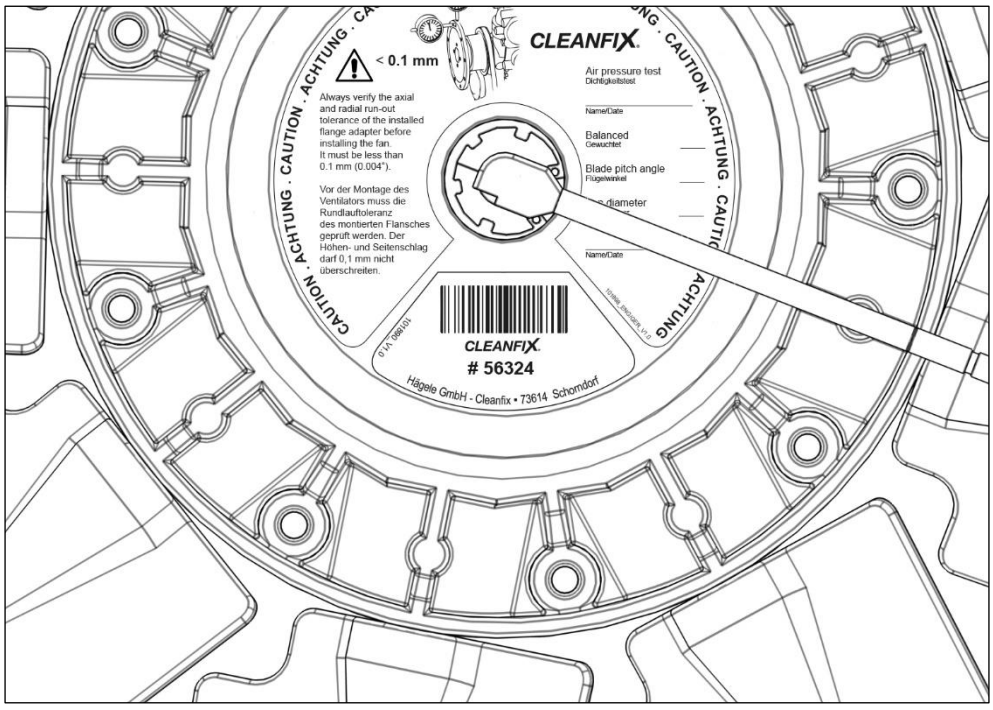
- In the header of the order confirmation, the delivery note, or invoice.

Order number:	V	A	0	0	0					

Fan serial number:

- On the top of the fan.

Serial number:	#					



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. Observe the safety information:

- 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, work with special care and never 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

2.2 Other regulations

In addition to these 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 Warning messages

⚠ WARNING!

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

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

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

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

Unauthorized modifications can 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 can 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 can result in accidents or damage!

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

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

Activation of the reversing function while persons are standing in front of the vehicle can cause injury!

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

- Make sure that no persons are standing in front of the vehicle.

Activation of the reversing function in closed rooms can cause accidents!

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

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

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

- Grease
- Pliers for 2-ear hose clamp
- 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.

- ► Remove the fan guard and safety components as needed to gain access to the installed fan.
- ► Loosen any belts that drive the fan pulley.
- ► Remove the fan and fan shroud.
- ► Remove the studs.

5 Installing the Cleanfix® fan components

5.1 Installing 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 M10x55 cap screws.
- ► Tighten cap screws to 45 Nm.

5.3 Checking the flange axial and radial runout

⚠ WARNING!

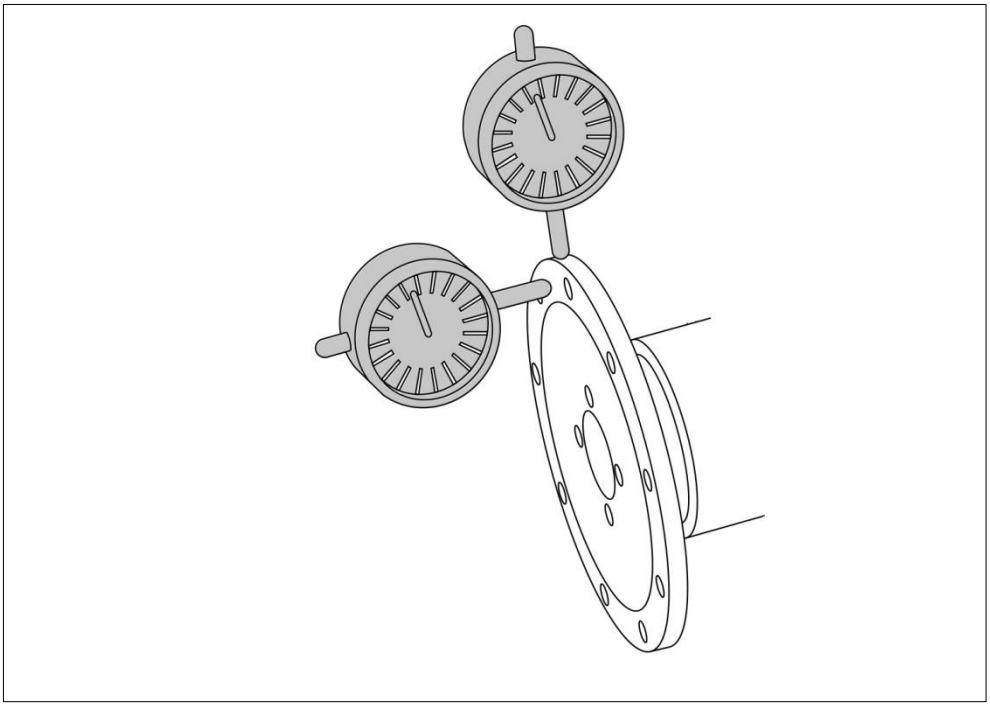
Property damage due to axial and radial runout!

Imbalances damage the fan and can lead to vehicle damage and serious injury.

- The axial and radial 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 runout measurement.

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



5.4 Attaching the pressure hose to the fan

NOTE

Property damage due to bending of the air intake tube!

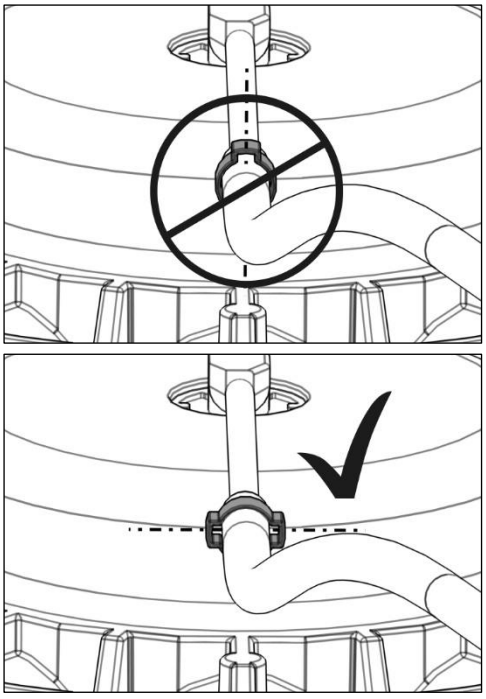
If the air intake tube of the air intake assembly is bent down toward the blades during installation, the fan blades will hit the hose during operation.

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

Collision due to incorrectly installed 2-ear hose clamp!

The 2-ear hose clamp must be parallel to the fan as pictured. If the ears of the 2-ear hose clamp point up and down, the fan blades can hit the 2-ear hose clamp during operation.

➢ Rotate the 2-ear hose clamp using pliers.



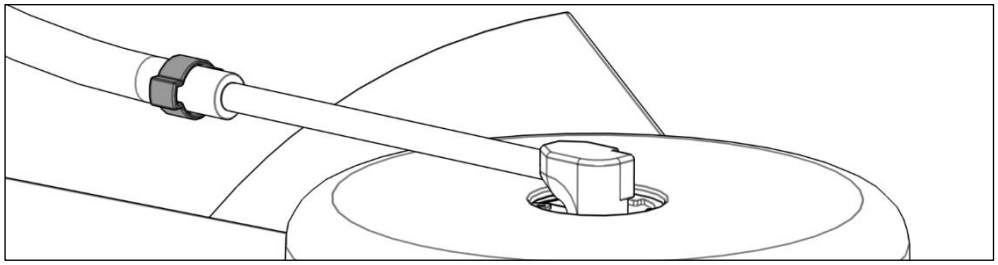
► Apply a thin layer of grease to the end of the air intake tube to make it easier to slide the pressure hose over the air intake tube.

► Slide the 2-ear hose clamp over the pressure hose.

► Slide the pressure hose up to the side marks (25 mm; 1") on the air intake tube of the air intake assembly.

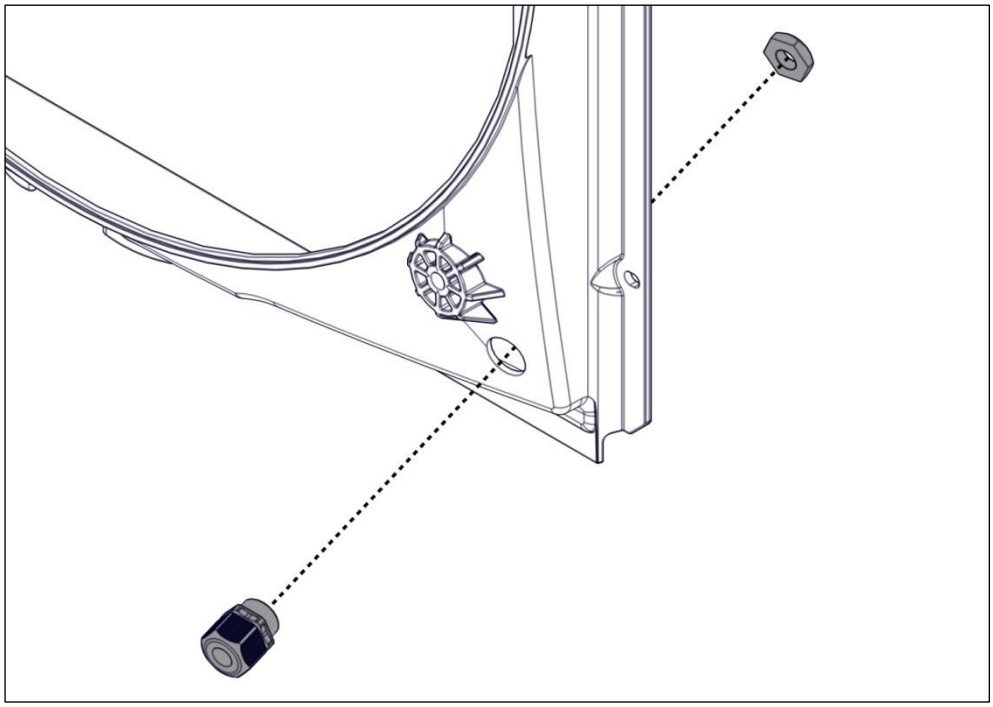
► Position the 2-ear hose clamp as shown in the picture.

► Secure the pressure hose by pinching the ears of the 2-ear hose clamp with a crimping tool.

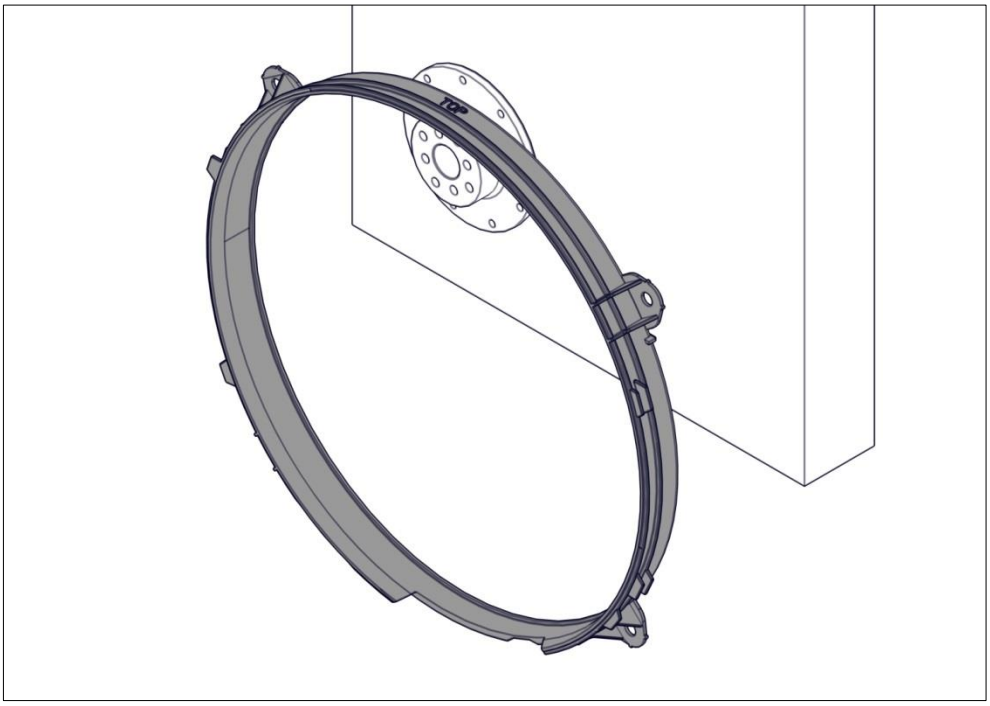


5.5 Installing the Cleanfix® reversible fan and fan shroud

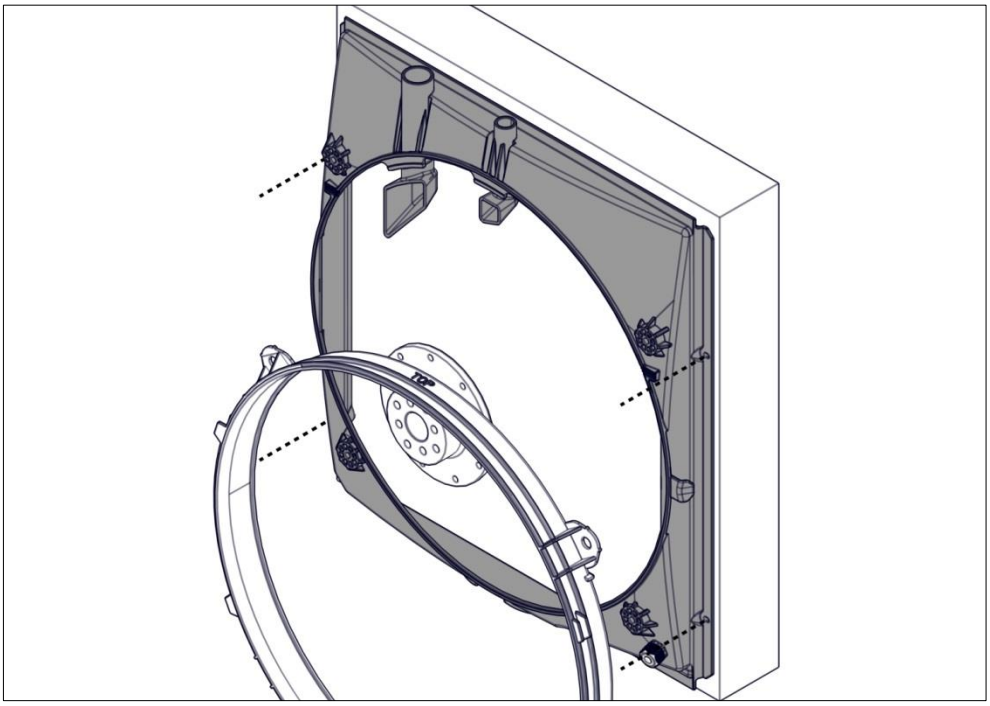
► Assemble the supplied strain relief fitting.



► Hang the supplied ring over the flange so that you can mount it more easily later.

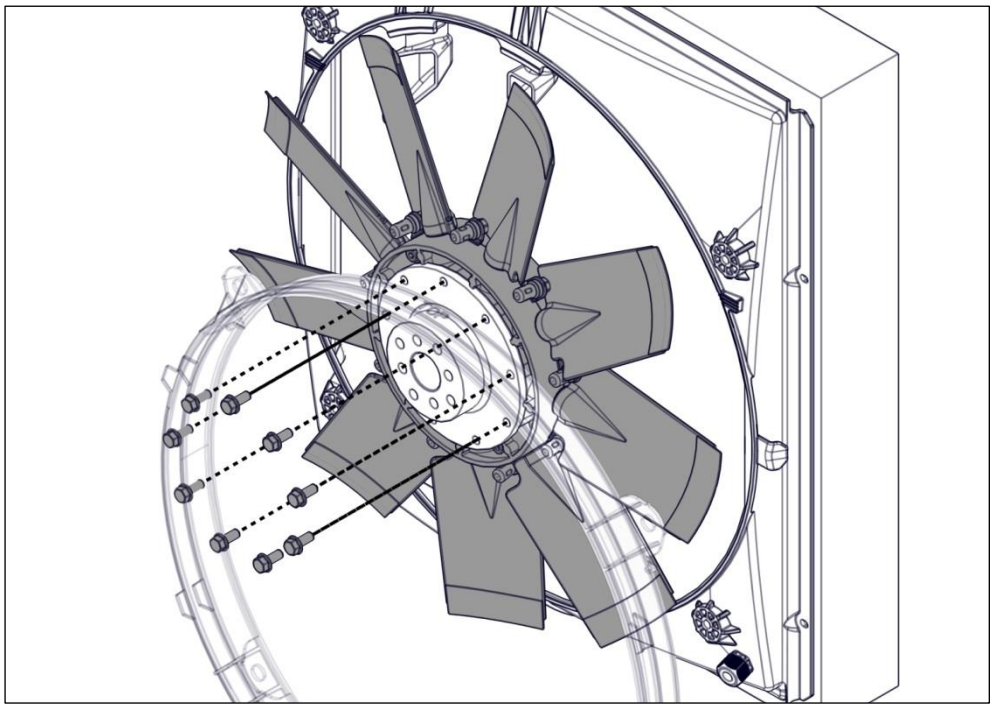


► Attach the supplied fan shroud to the radiator.

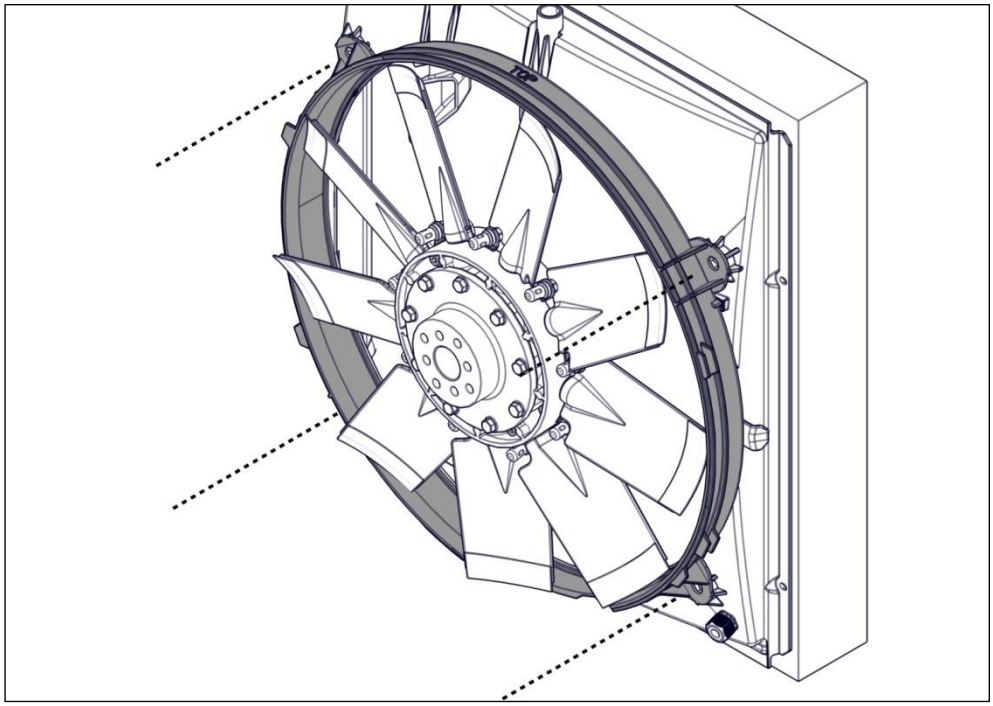


► Attach the Cleanfix® reversible fan to the flange using the supplied serrated flange screws.

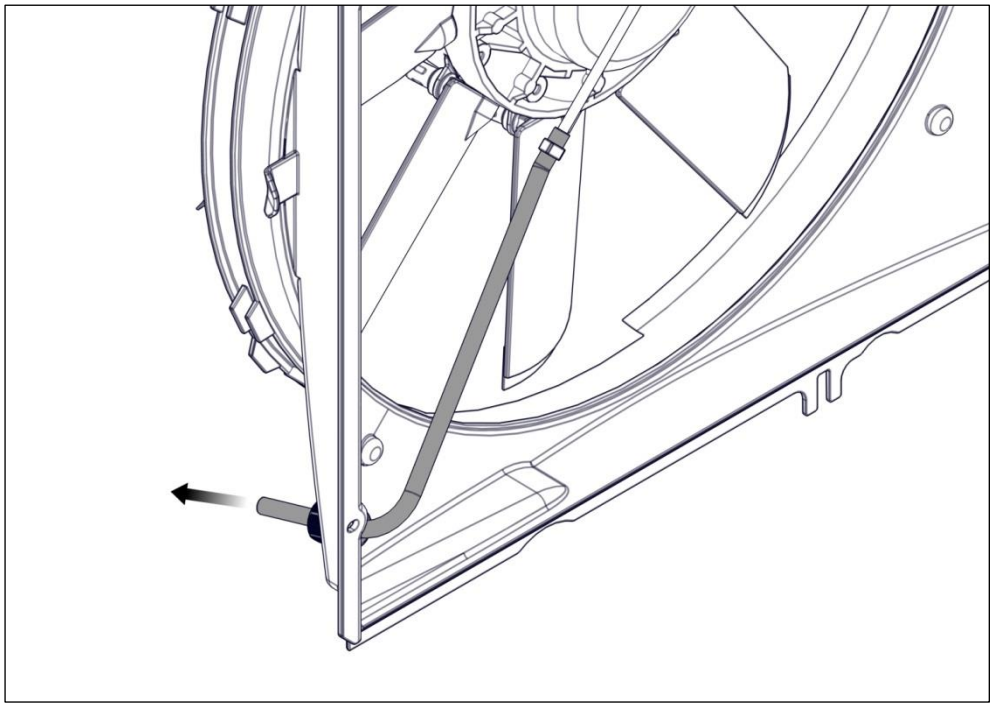
► Tighten the serrated flange screws to 20 Nm.



► Mount the ring using the supplied screws and washers. Make sure that the ring is centered on the fan.



► Guide the pressure hose from the inside of the shroud through the strain relief fitting.



NOTE

Property damage due to excessive tension on the pressure hose!

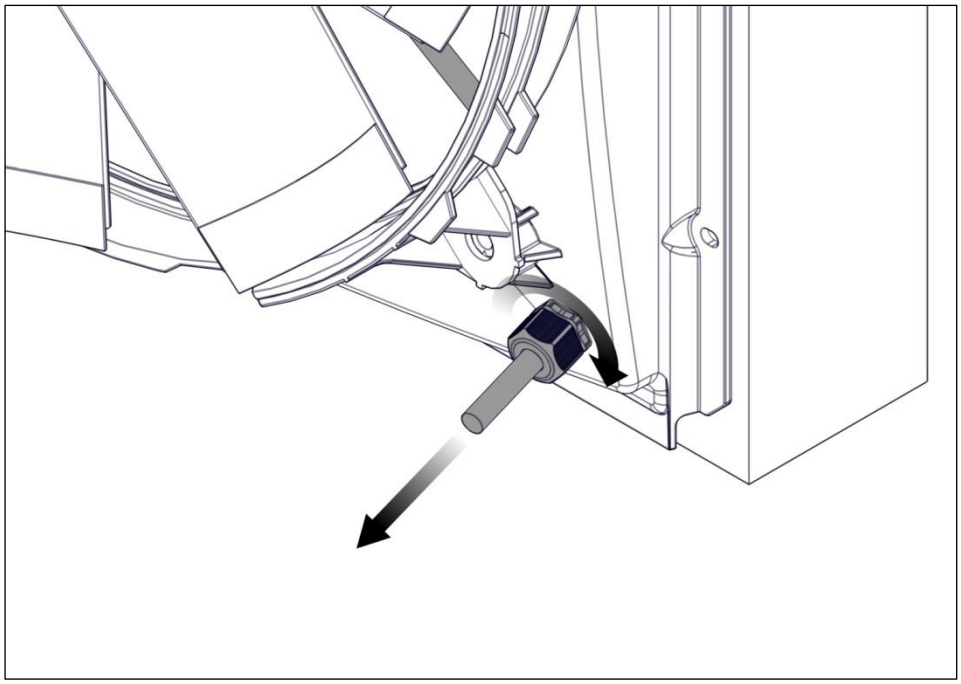
If the air intake assembly on the fan is under tension from the hose, the seals on the air intake assembly will wear out and the fan will start leaking.

➢ If necessary, open the strain relief fitting, adjust the hose tension, and close the strain relief fitting again.

► Pull the pressure hose through strain relief fitting so that it does not catch on the blades.

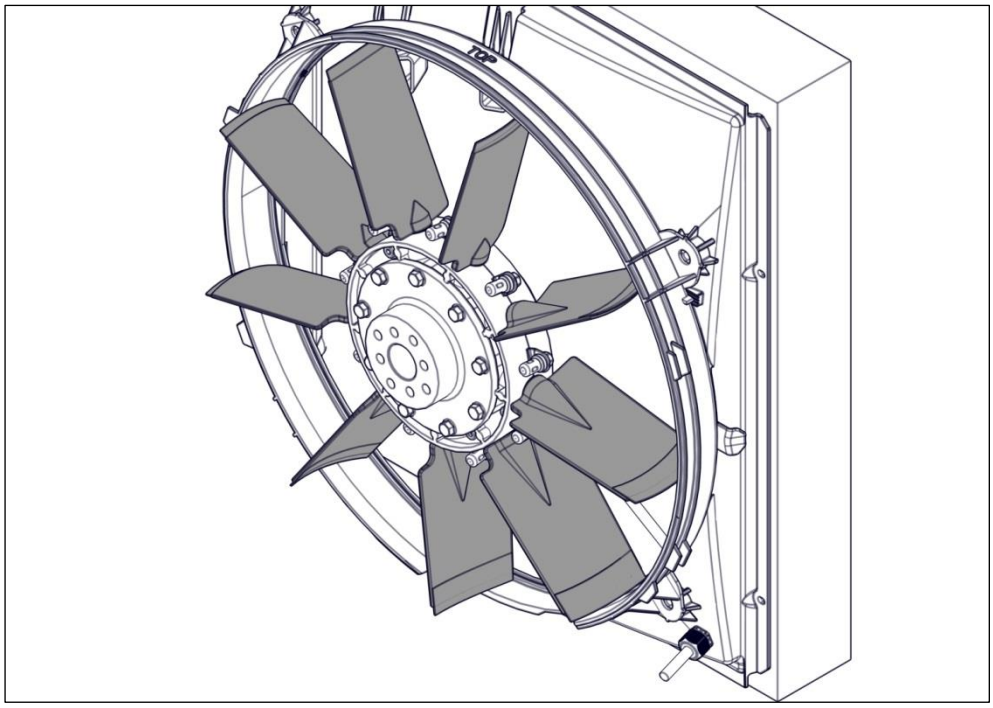
► Make sure that the pressure hose is not kinked behind the strain relief fitting.

► Secure the hose with the compression nut of the strain relief fitting.



5.6 Checking the 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.



NOTE

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

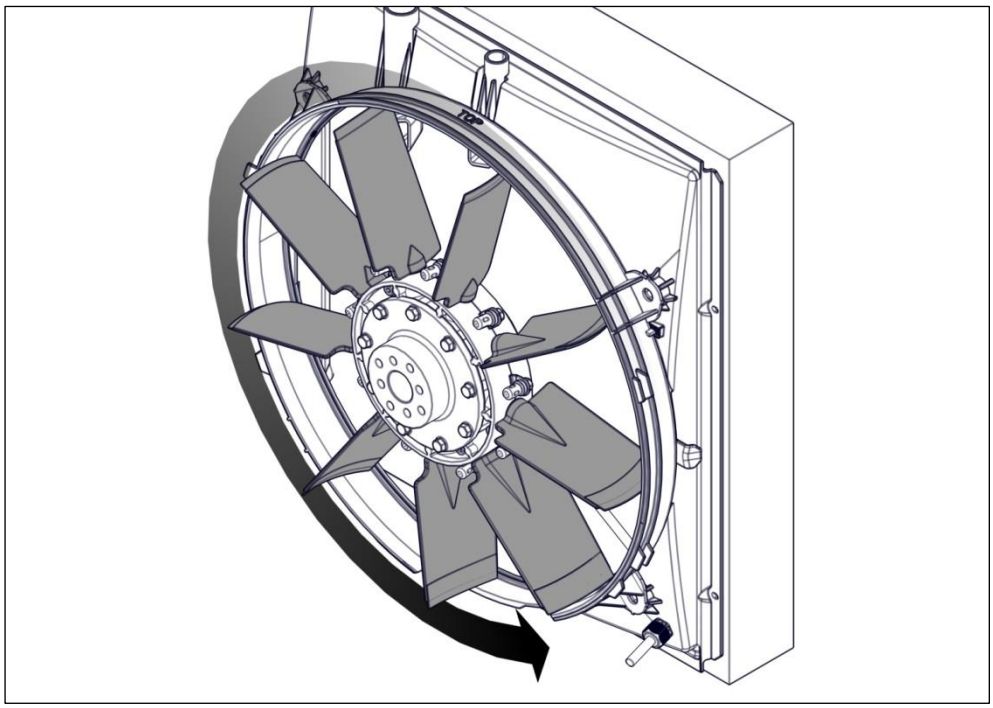
Rotation of the fan with tight belts results in excessive force and can cause damage to the fan and drive.

➢ 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.



► Remove the locking pliers.

⚠ WARNING!

Pulling in of loose objects!

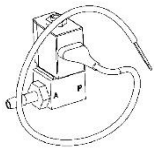
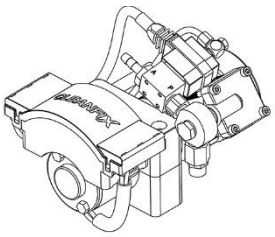
Loose objects can be pulled into the fan during operation, which can result in damage to the fan and vehicle and cause serious injury!

➢ Remove loose objects or secure them with plastic ties.

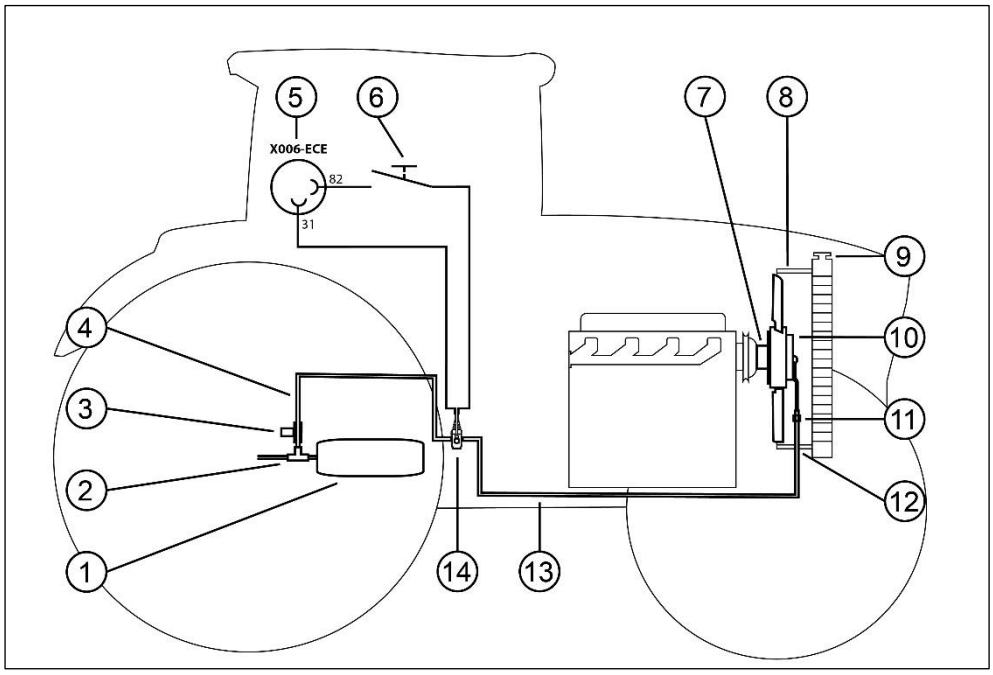
6 Installing Cleanfix® electrical components

Overview of the Cleanfix® electrical components

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

	For vehicles with compressed air system	**For vehicles without compressed air system**
Cleanfix® **electrical component**	Valve ➔ For installation, see **chapter 6.1** 	Control unit minitimer ➔ For installation, see **chapter 6.2** 
Switch function	**Push button** Press the push button to switch from cooling to cleaning. The fan remains in cleaning mode for as long as the button is pressed.	**Push button with minitimer** Briefly press the push button to automatically switch from cooling to cleaning and back again.

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

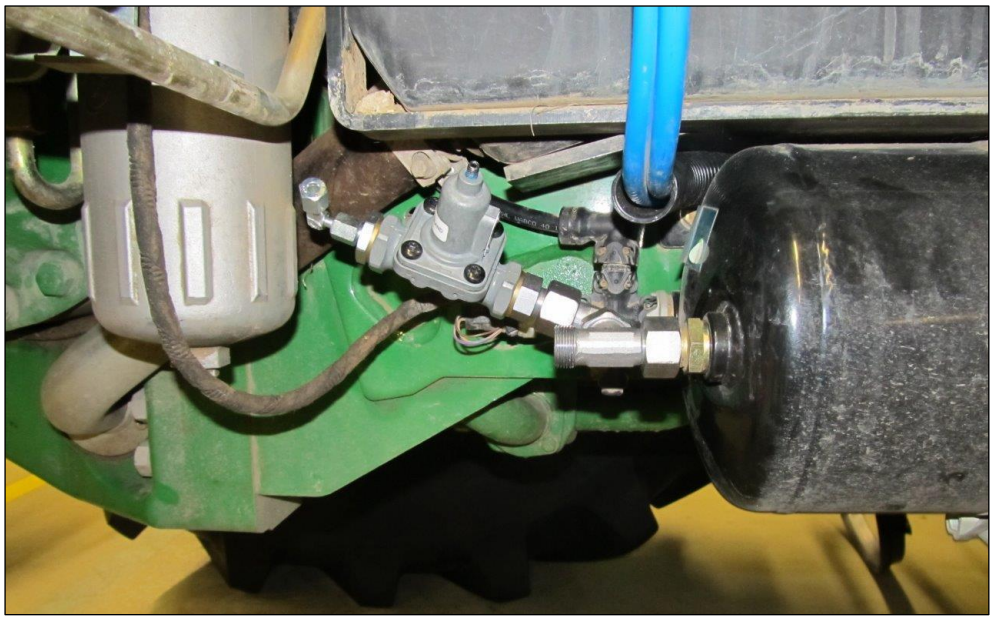


(1) Compressed air reservoir
(2) Tee fitting
(3) Overflow valve (min. 6.5 bar or 94 psi, max. 7.0 bar or 102 psi)
(4) Pressure hose
(5) 3-pole outlet in the control console
(6) Switch (push button)
(7) Adapter flange
(8) Fan shroud
(9) Radiator
(10) Cleanfix® reversible fan (pneumatic)
(11) 2-ear hose clamp
(12) Strain relief fitting
(13) Pressure hose (fuel hose)
(14) Cleanfix® valve unit

6.1.1 Installing the tee fitting and overflow valve

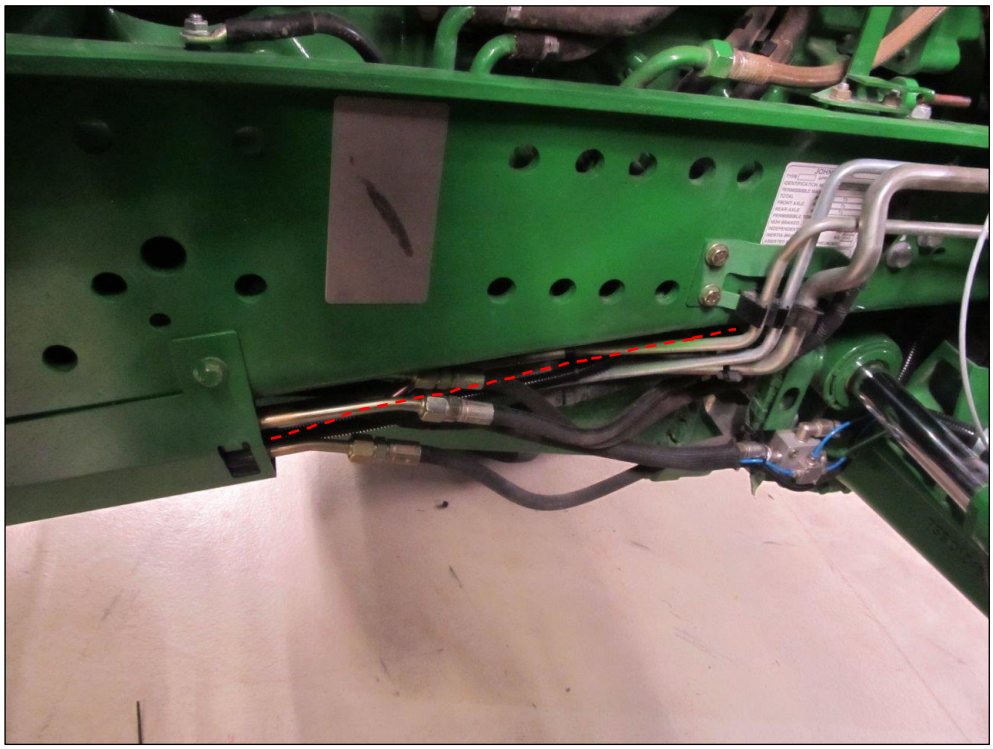
- ► Remove the right rear wheel to access the vehicle's compressed air supply.

- ► Remove the compressed air tube from the compressed air reservoir.
- ► Mount the tee fitting on the compressed air reservoir.
- ► Shorten the compressed air tube as needed and reconnect it to the compressed air reservoir via the tee fitting.
- ► Connect the overflow valve to the arm of the tee fitting.
- ► Align the tee fitting and overflow valve and screw down the connections.



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

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

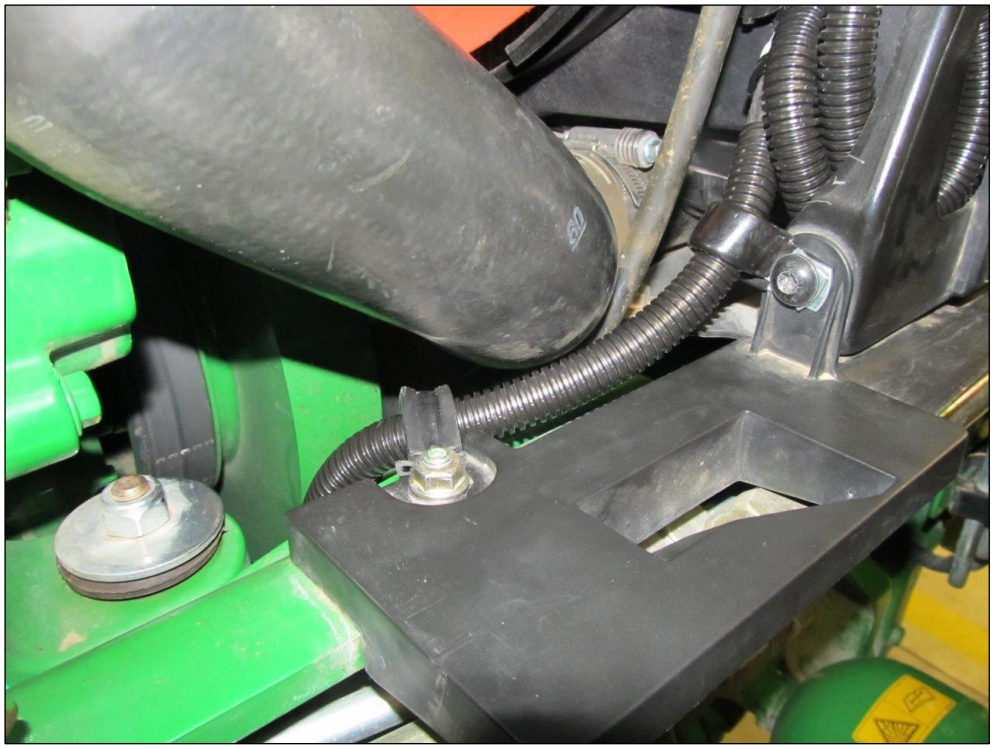


NOTE

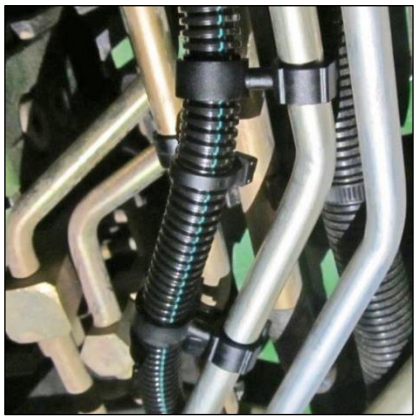
Property damage due to contact of the corrugated tube with hot pipes!

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

► Use the two supplied P-clamps to attach the corrugated tube with pressure hose near the fan shroud to the bracket.



► Use the supplied rotatable cable clips to attach the corrugated tube with pressure hose to adjacent cables or pipes.



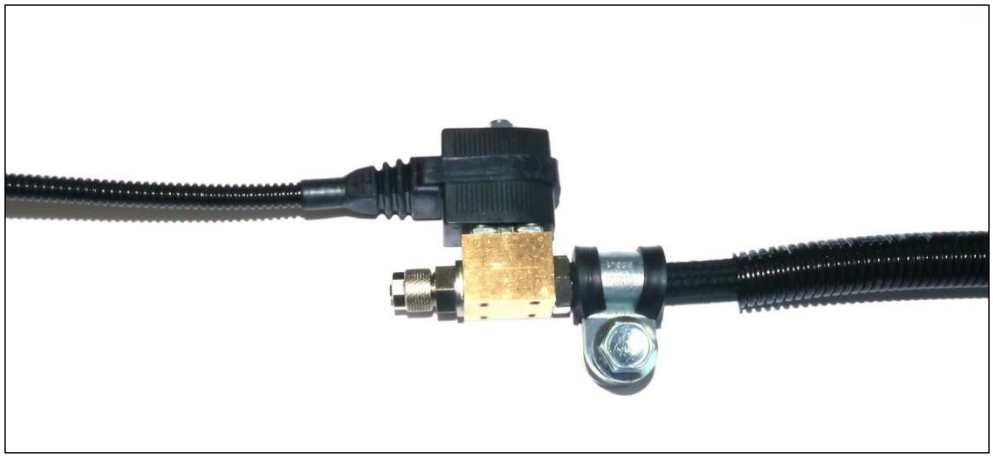
6.1.3 Installing the Cleanfix® valve

► Drill an 8-mm (0.32") hole below the flap at the steps, as pictured.

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

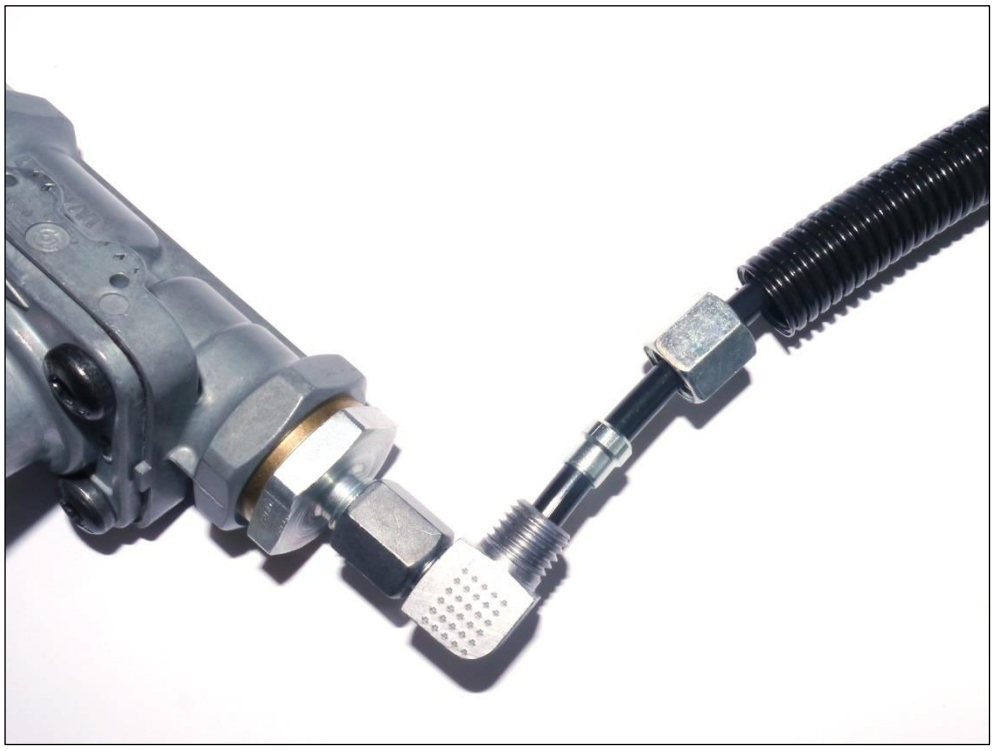
► Connect the pressure hose to connector A of the Cleanfix® valve.

► Use the supplied P-clamp, screw, and nut to attach the Cleanfix® valve to the inside of the flap.



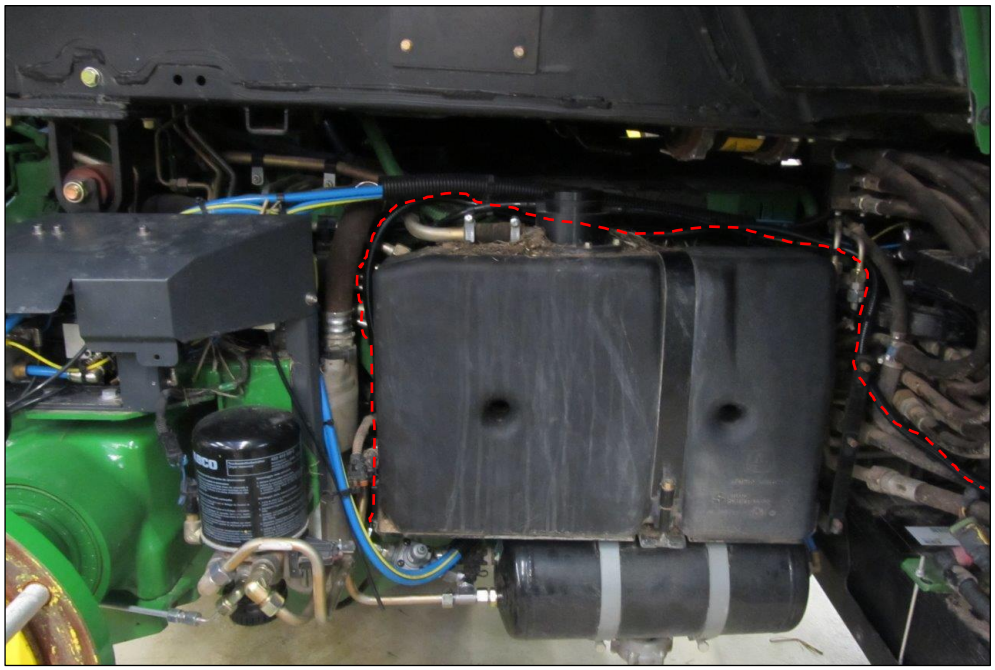
6.1.4 Installing the pressure hose from the compressed air reservoir to the valve

► Connect the pressure hose with corrugated tube to the overflow valve.



► Run the pressure hose with corrugated tube as pictured.

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



NOTE

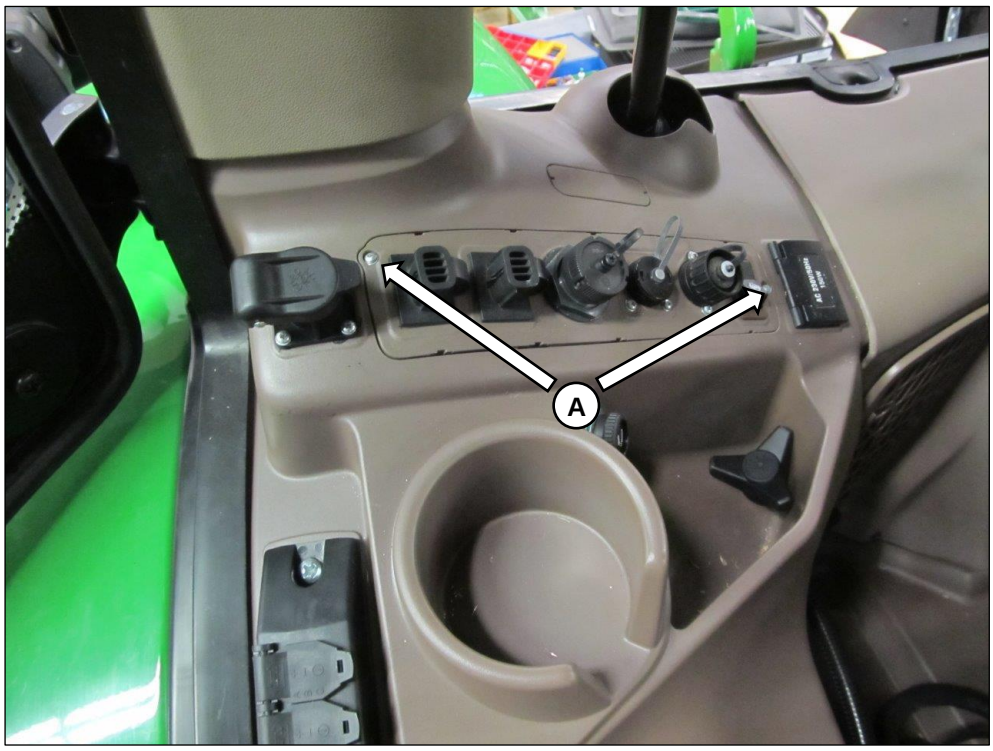
Property damage due to contact of the corrugated tube with hot pipes!

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

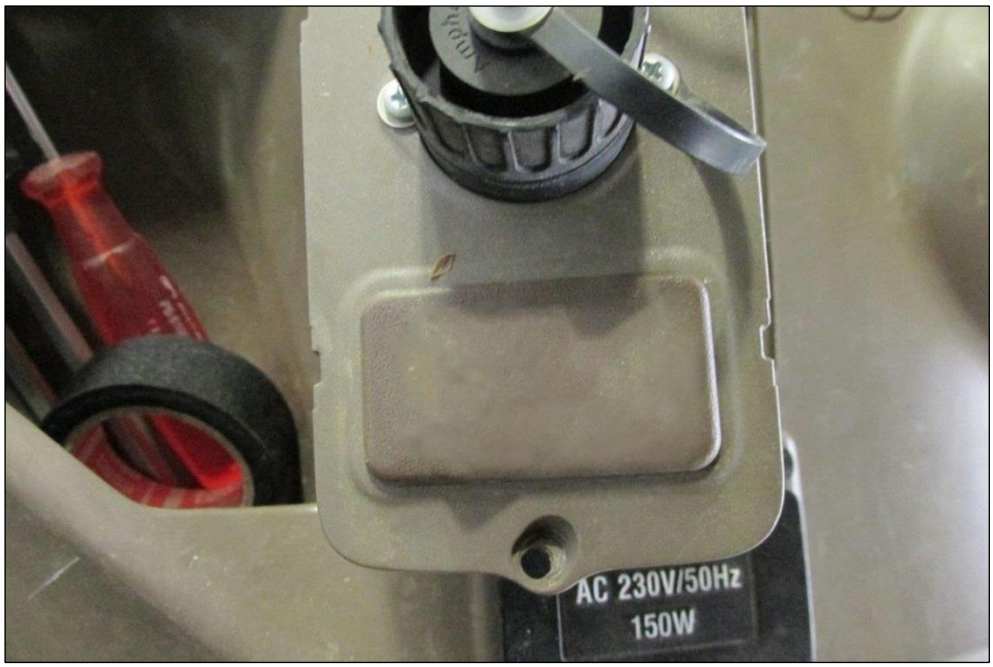
► Use the supplied rotatable cable clips to attach the corrugated tube to adjacent cables or pipes.

6.1.5 Installing the push button

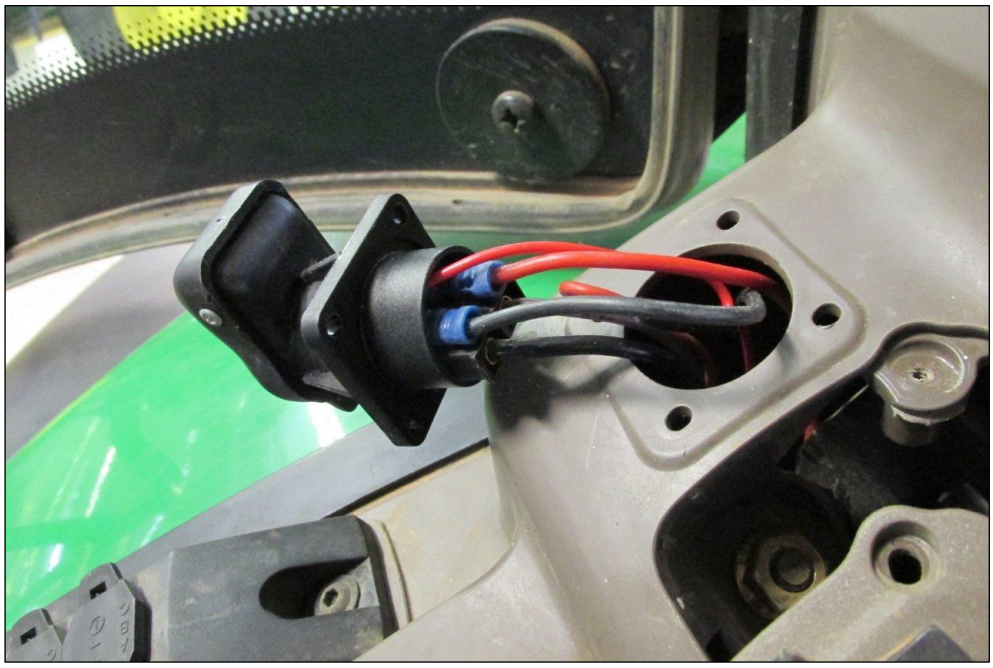
- ► Remove the screws (A) from the connector holder.
- ► Carefully lift out the connector holder.



- ► Lift out and remove the cover for the switches from the connector holder.

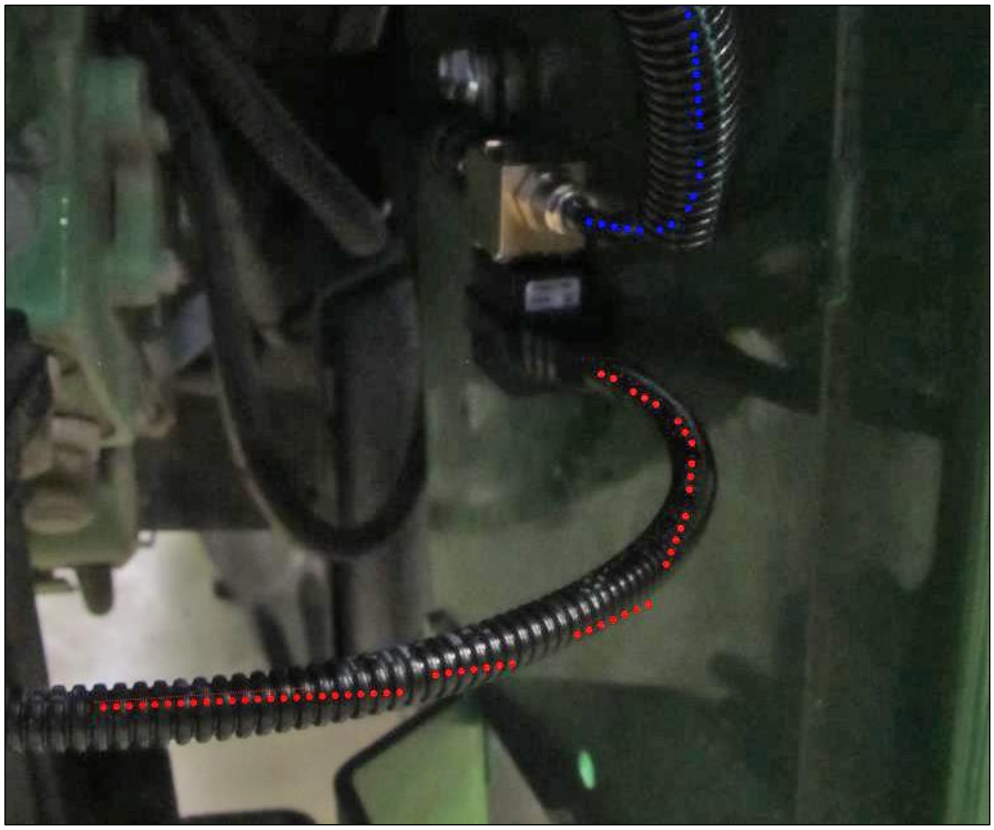


- ► Remove the screws on the socket.
- ► Lift out the socket.

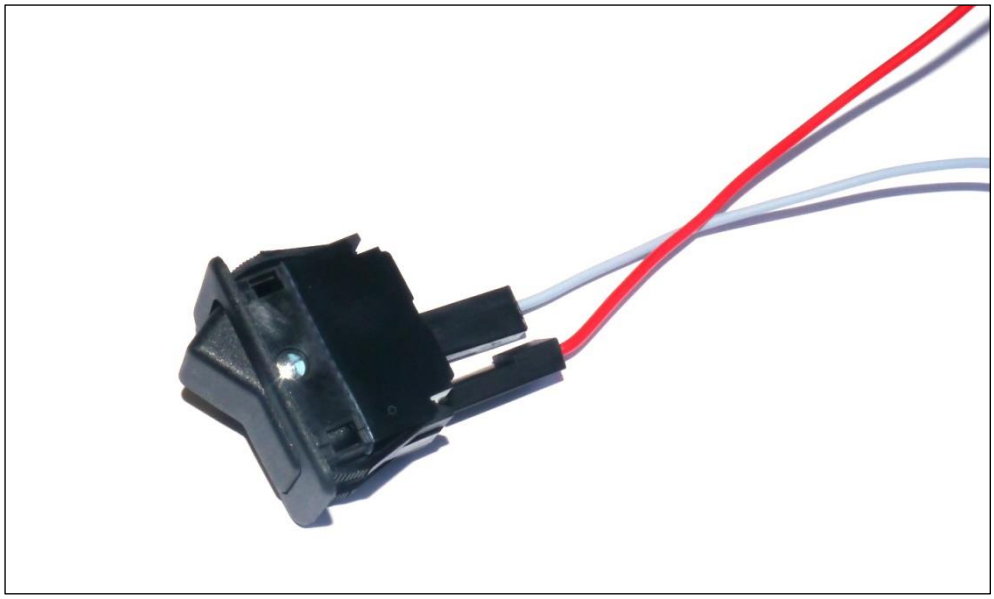


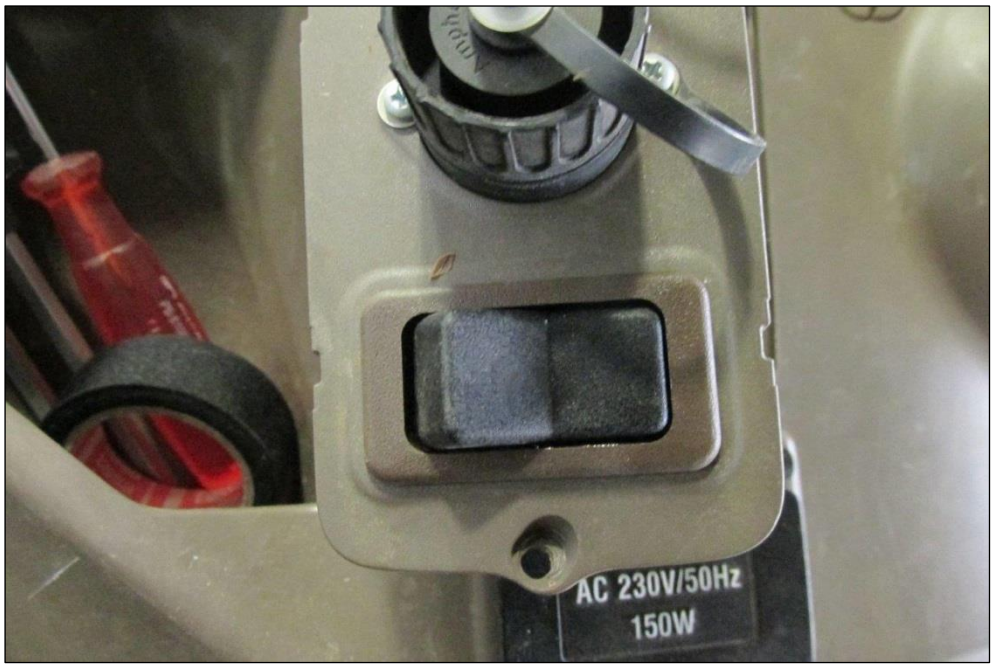
6.1.6 Connecting the Cleanfix® valve and push button to the vehicle's power supply

- ► Run the supplied cable harness between the valve and the driver's cab.
- ► Plug in the connectors of the valve and the cable harness.

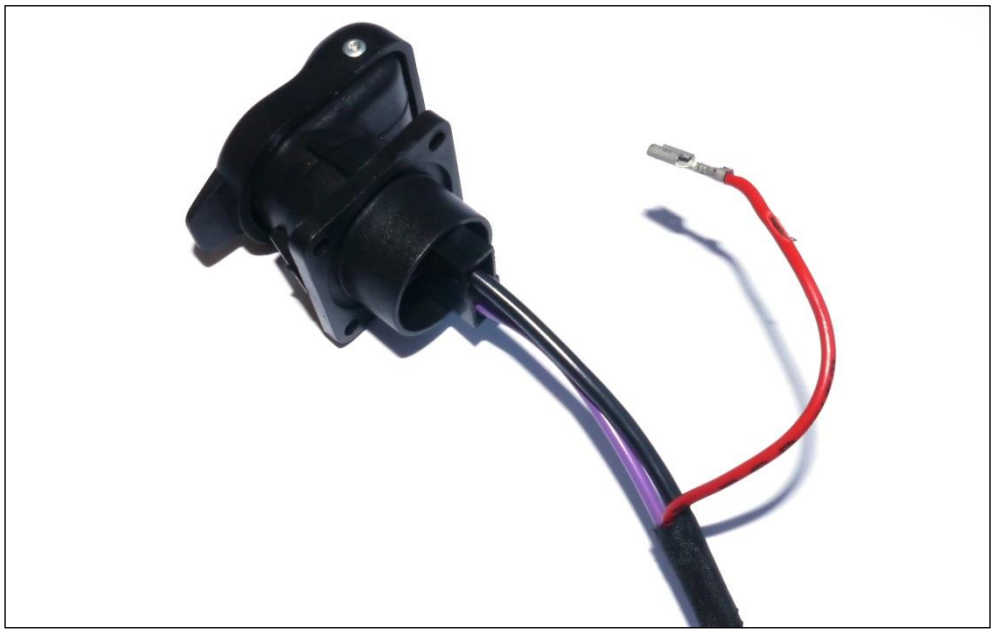


- ► Install the switches in the connector holder and reconnect.

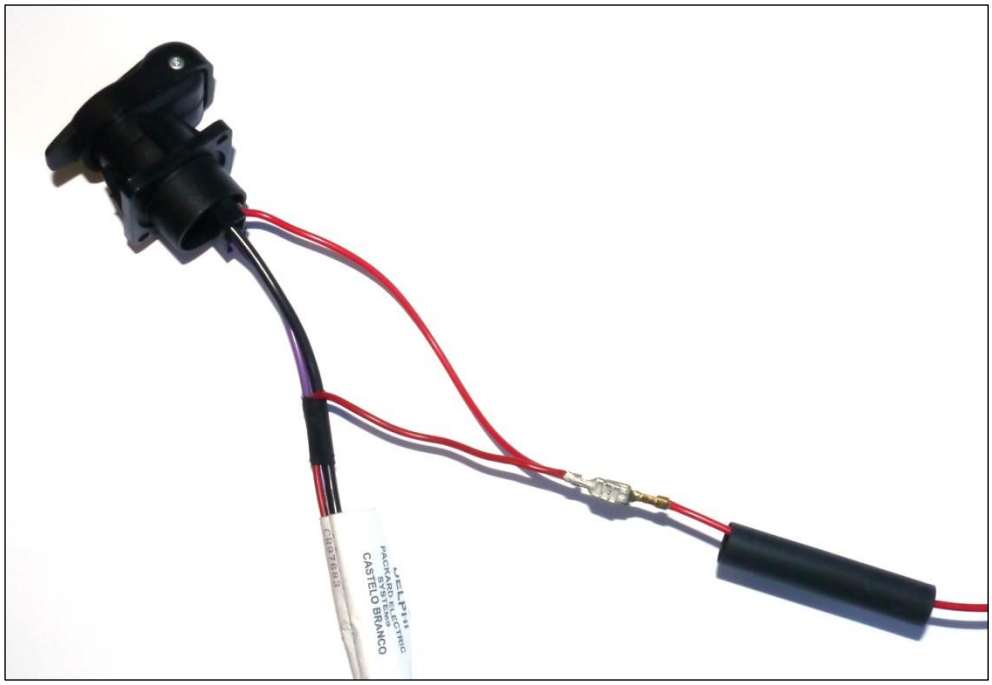


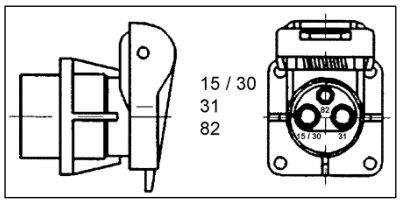


► Pull the red cable from the socket.



- ► Connect the removed red cable to the plug distributor of the red cable of the cable harness.
- ► Slide the shrink hose over the plug distributor and use heat to shrink it.
- ► Connect the red cable of the cable harness to connector 82 (keyed power) of the outlet.

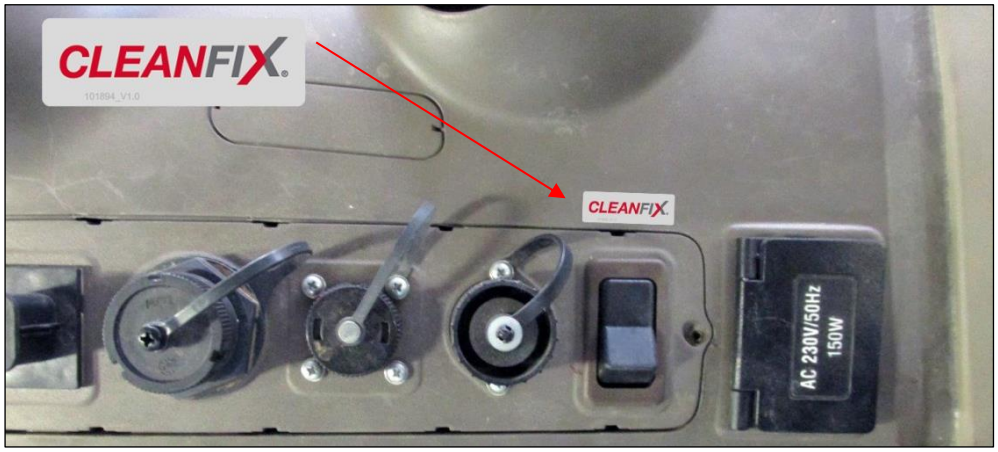




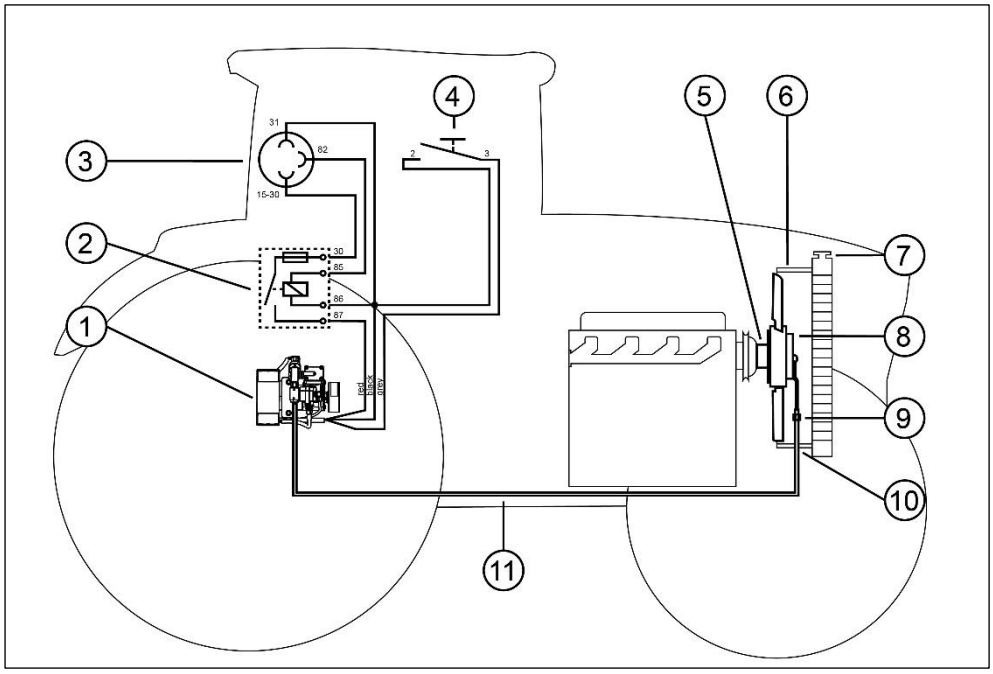
► Connect the black cable of the cable harness to connector 31 (ground) of the outlet.

► Reinstall the socket and connector holder.

► Attach the Cleanfix label above the switch.



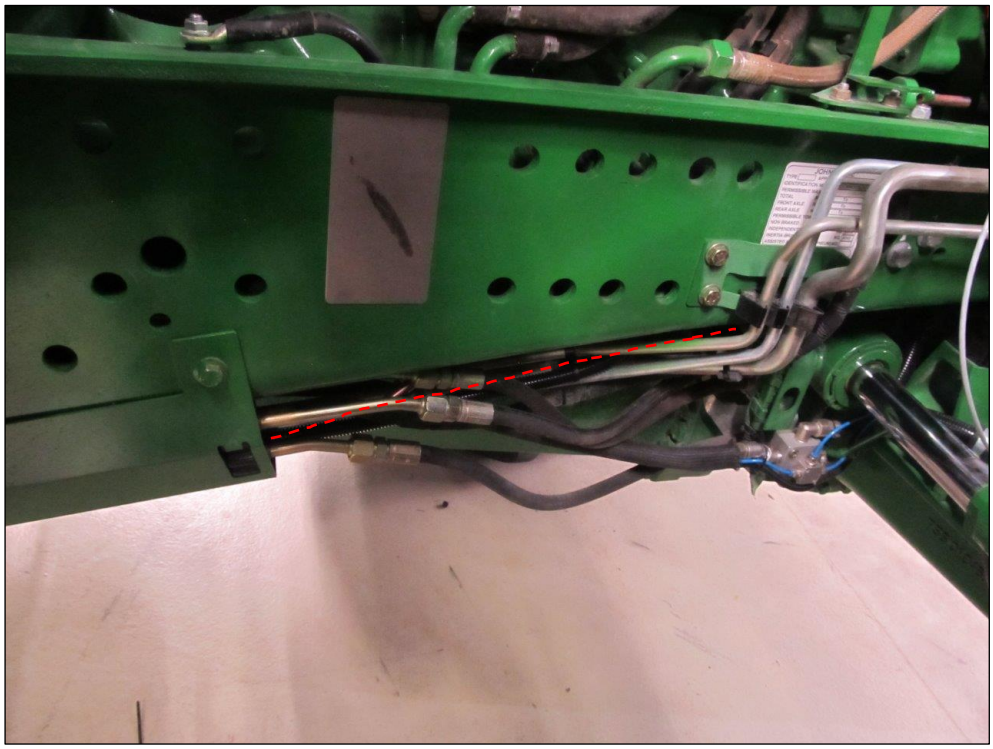
6.2 Cleanfix® control unit with minitimer / for vehicles without a compressed air system



(1) Cleanfix® control unit with minitimer
(2) Relay
(3) 3-pole outlet in the control console
(4) Switch (push button)
(5) Adapter flange
(6) Fan shroud
(7) Radiator
(8) Cleanfix® reversible fan (pneumatic)
(9) 2-ear hose clamp
(10) Strain relief fitting
(11) Pressure hose (fuel hose)

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

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

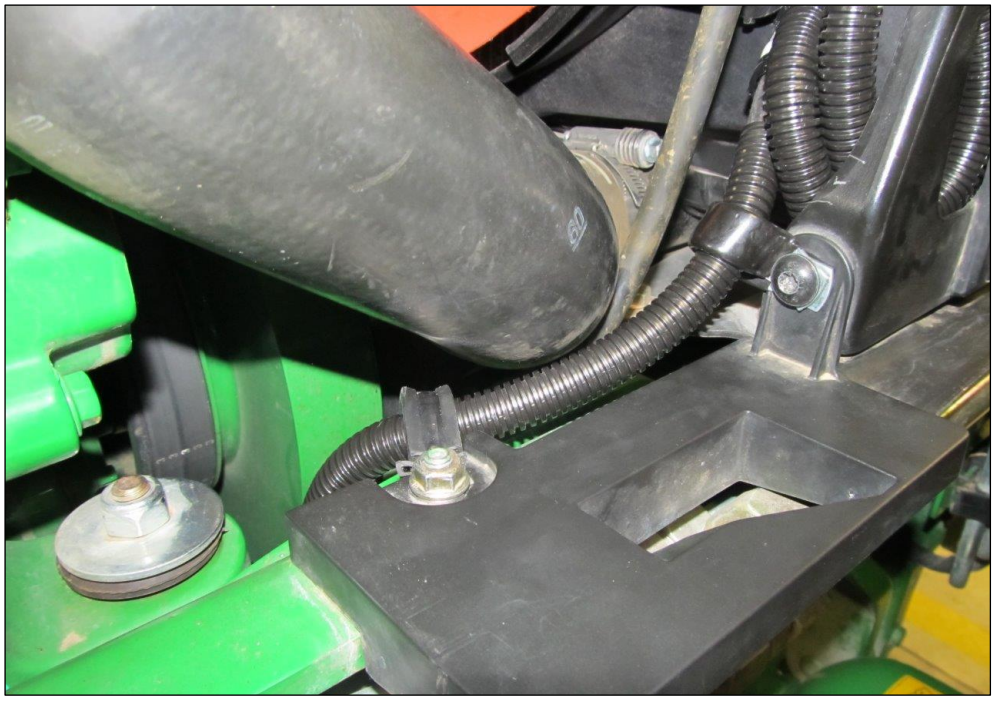


NOTE

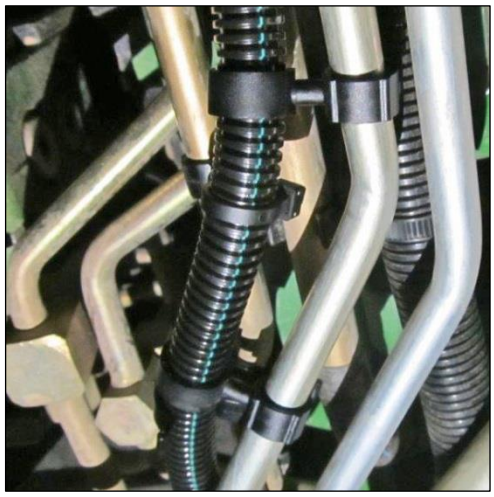
Property damage due to contact of the corrugated tube with hot pipes!

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

► Use the two supplied P-clamps to attach the corrugated tube with pressure hose near the fan shroud to the bracket.



► Use the supplied rotatable cable clips to attach the corrugated tube with pressure hose to adjacent cables or pipes.



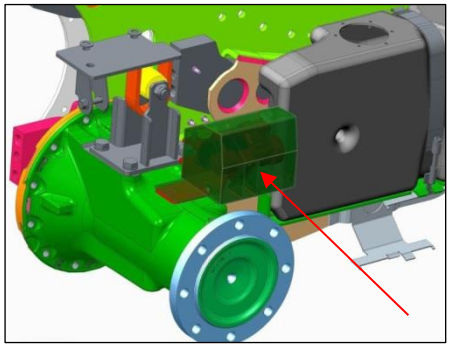
6.2.2 Installing the Cleanfix® control unit

► Determine the installation location for the Cleanfix® control unit.

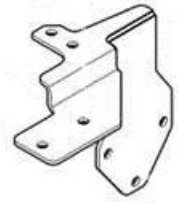
Installation location for the Cleanfix® control unit

Preferred position

Installation at the rear wheel axle (if the location is not taken by an additional tank.)

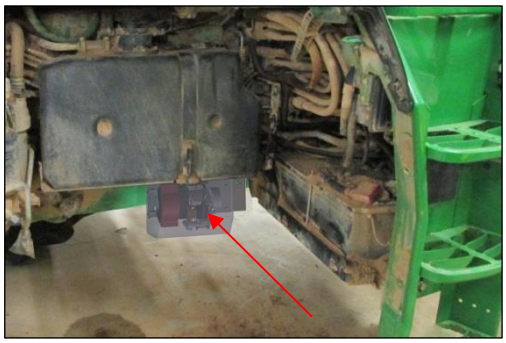


For installation at the rear axle, mounting bracket AL209191 must also be ordered from John Deere.



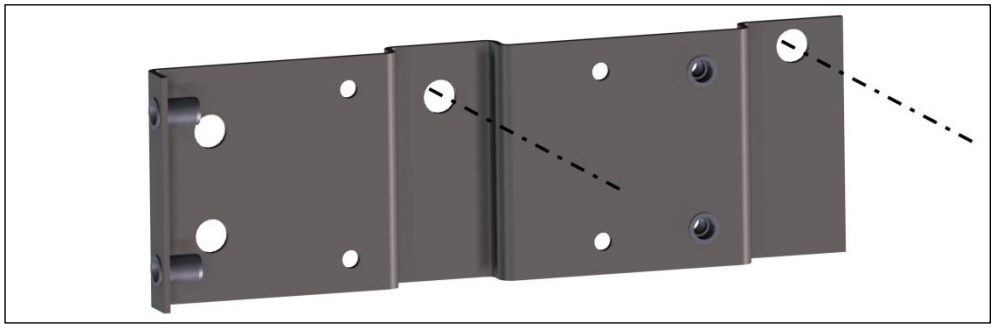
Alternative position

Installation below the fuel tank

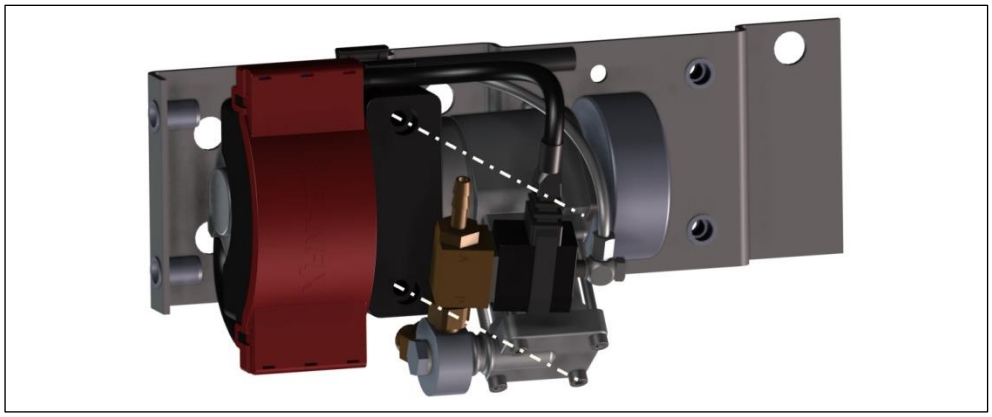


The attachment points provided for the compressed air system can be used for attachment.

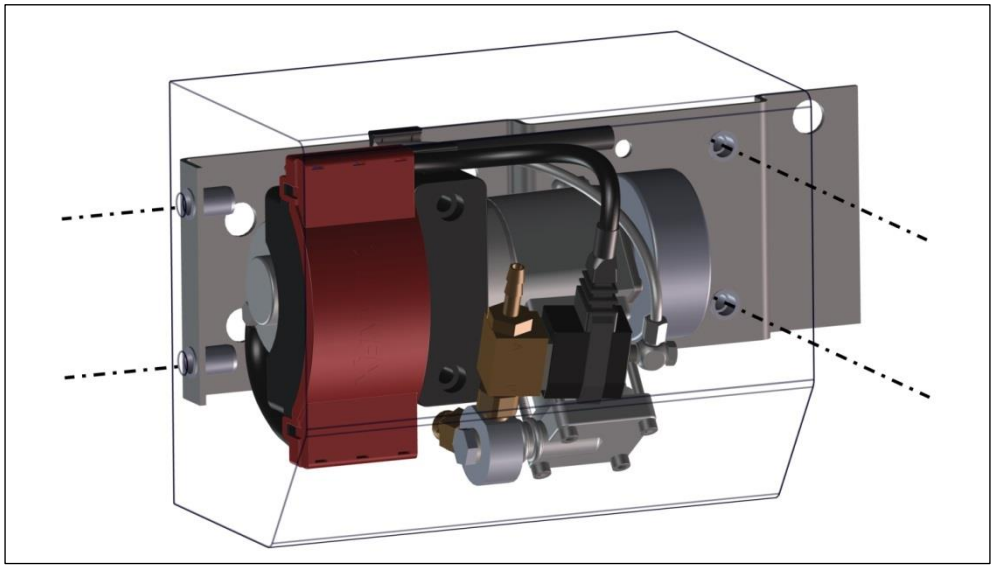
► Use suitable screws to install the bracket for the Cleanfix® control unit.



► Use the supplied screws to install the Cleanfix® control unit.



► Use the supplied screws to install the cover for the Cleanfix® control unit.



Remove the cover below the connector holder.

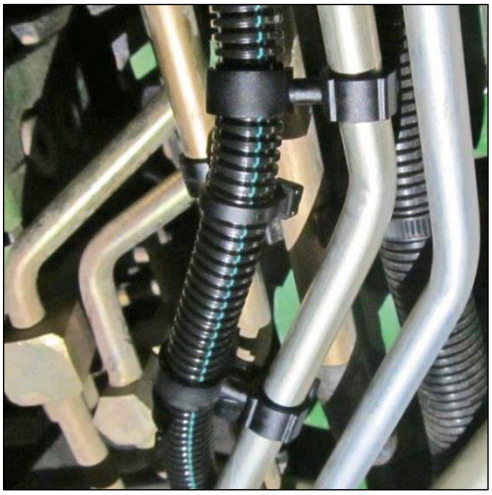
► Run the corrugated tube with cables for the Cleanfix® control unit to the driver's cab below the connector holder.

NOTE

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

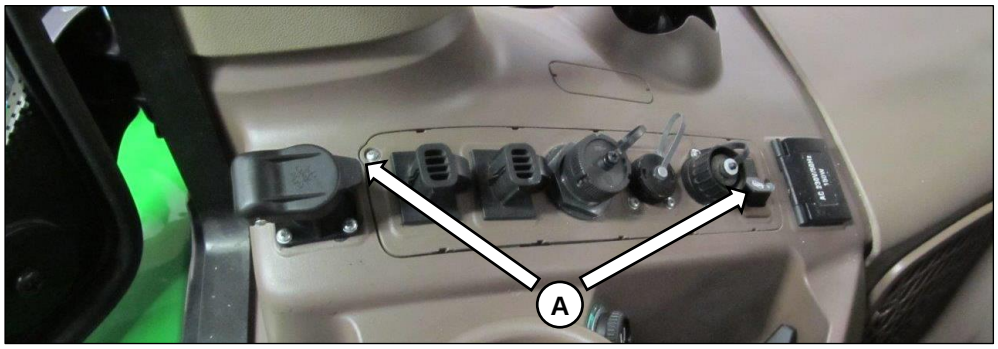
➢ The minimum clearance of 10 mm (0.4") to other cables and tubes must be observed.

► Use the supplied rotatable cable clips to attach the corrugated tube with cables for the Cleanfix® control unit to adjacent cables or pipes.



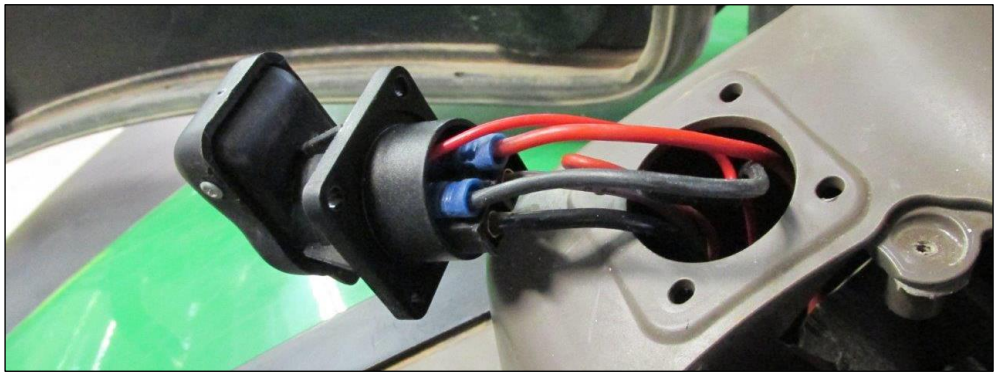
6.2.3 Installing the push button

- ► Remove the screws (A) from the connector holder.
- ► Carefully lift out the connector holder.



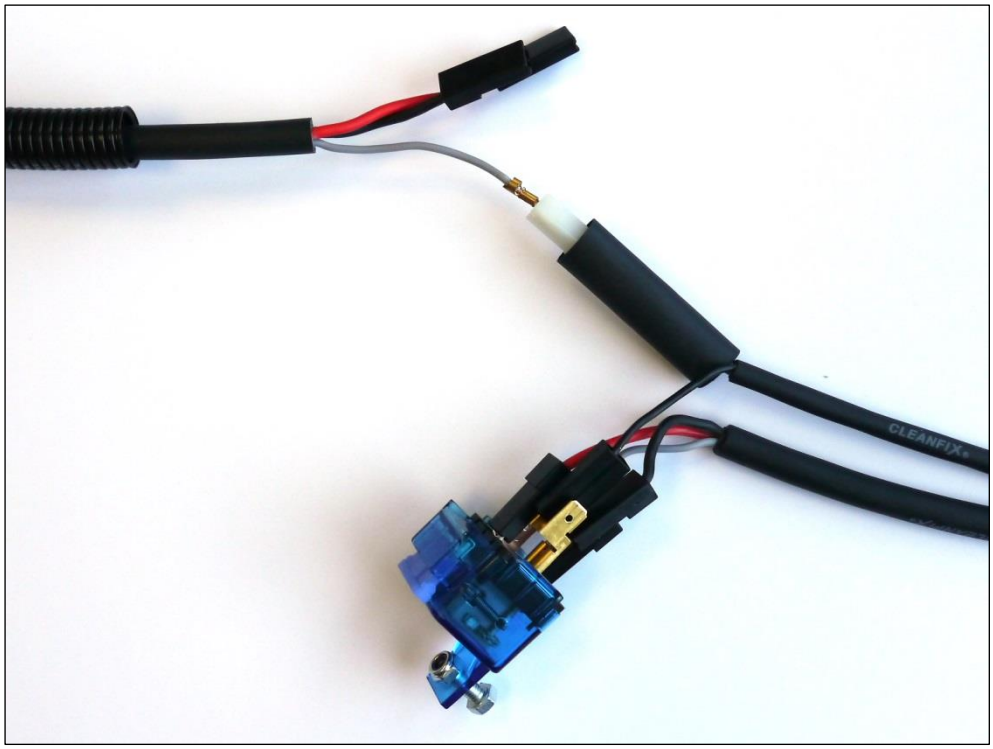
- ► Lift out and remove the cover for the switches from the connector holder.

- ► Remove the screws on the socket.
- ► Lift out the socket.



6.2.4 Connecting the cables of the Cleanfix® control unit to the relay

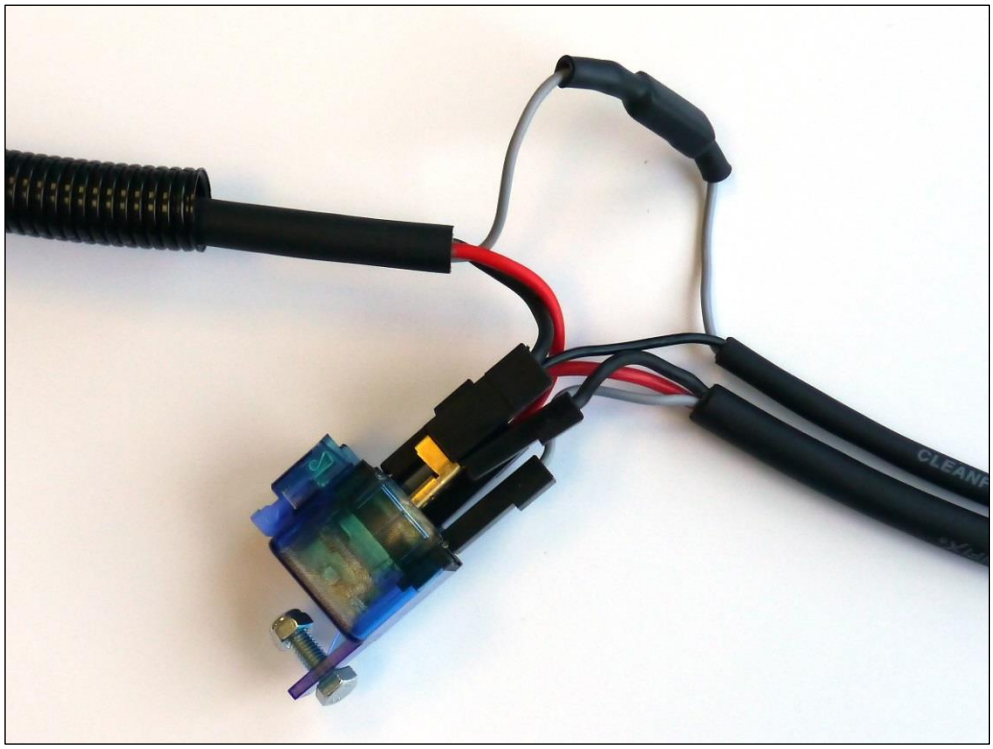
► Connect the gray cable of the Cleanfix® control unit to the gray cable of the switch.



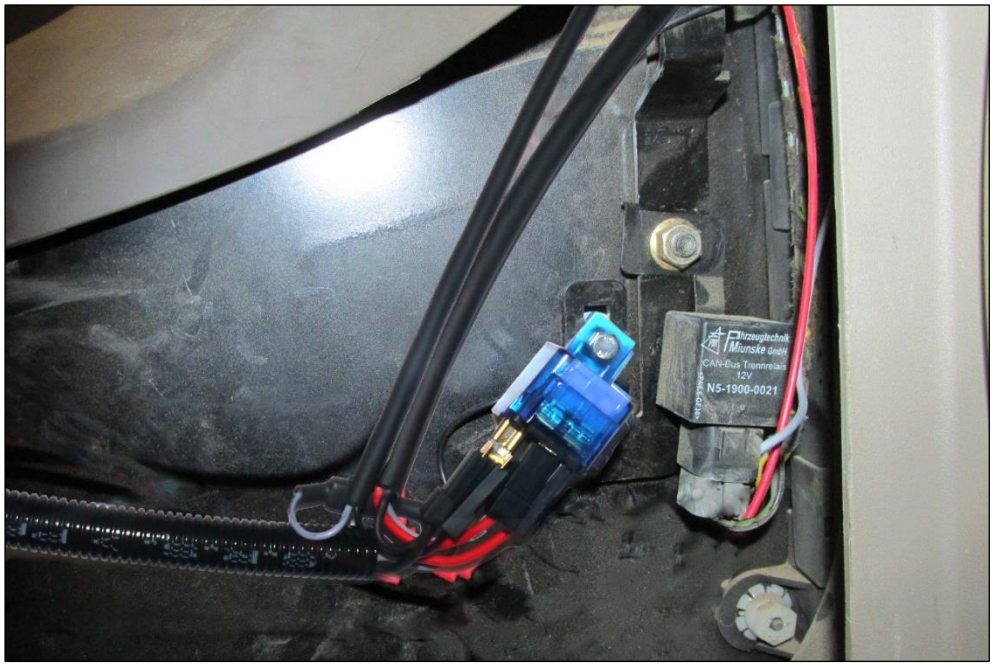
► Slide the shrink hose over the push-on connection and use heat to shrink it.

► Connect the red cable of the Cleanfix® control unit to connector 87 of the relay.

► Connect the black cable of the Cleanfix® control unit to connector 86 of the relay.

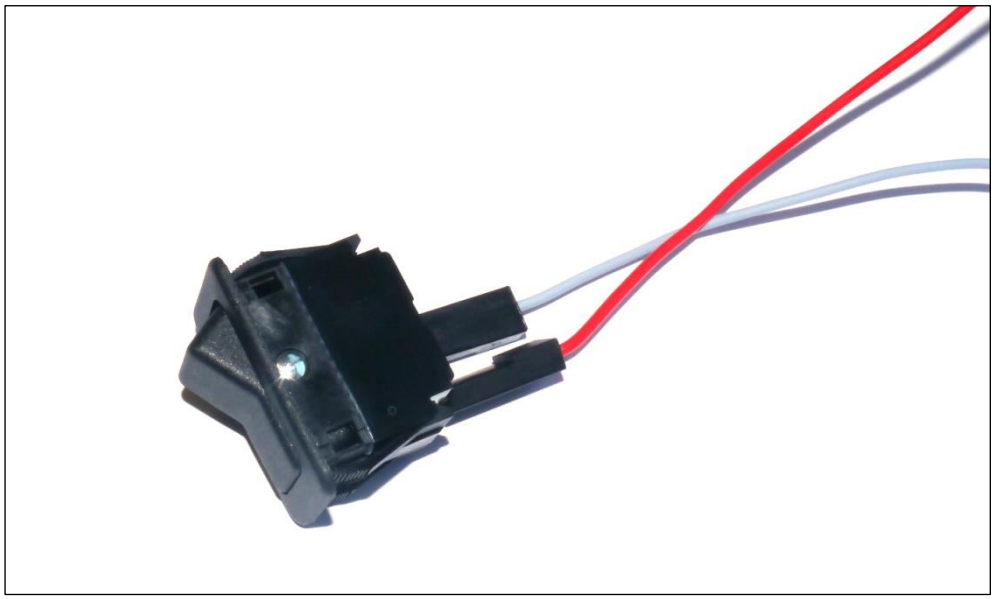


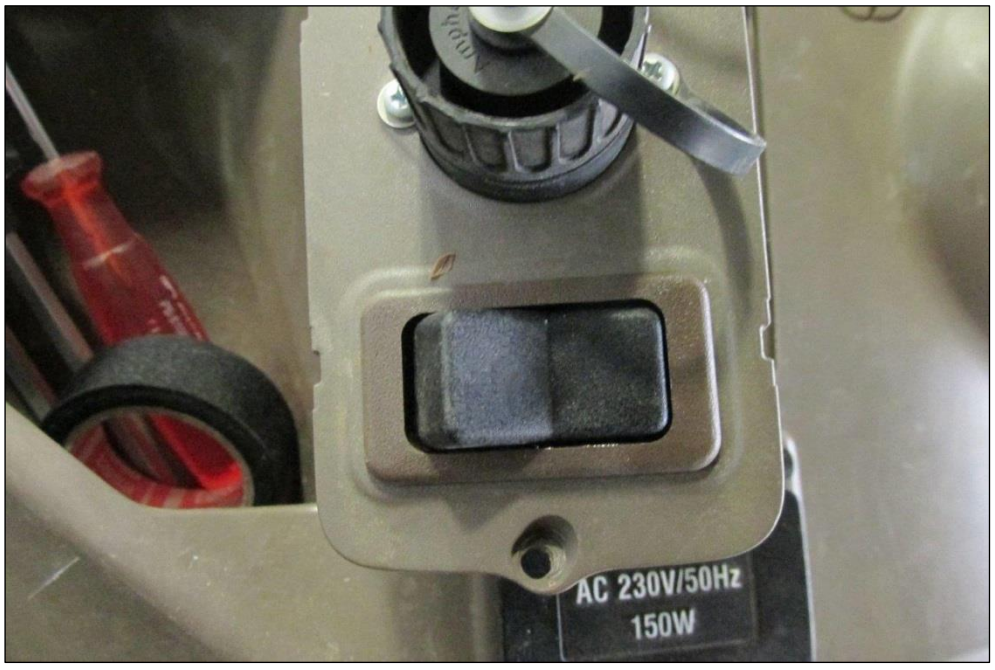
► Install the relay below the connector holder.



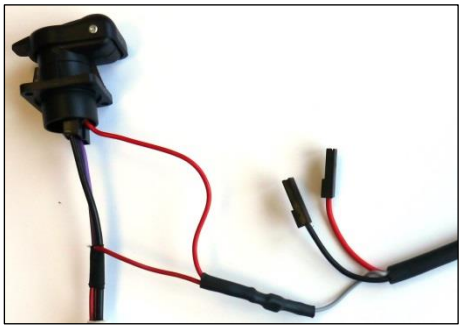
6.2.5 Connecting the Cleanfix® control unit and push button to the vehicle's power supply

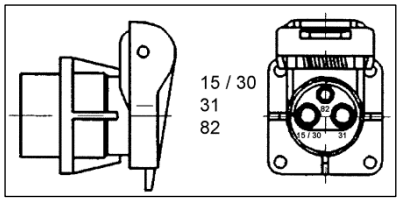
- ► Run the cables for the switch and outlet from the relay upward to the connector holder.
- ► Install the switches in the connector holder and reconnect.



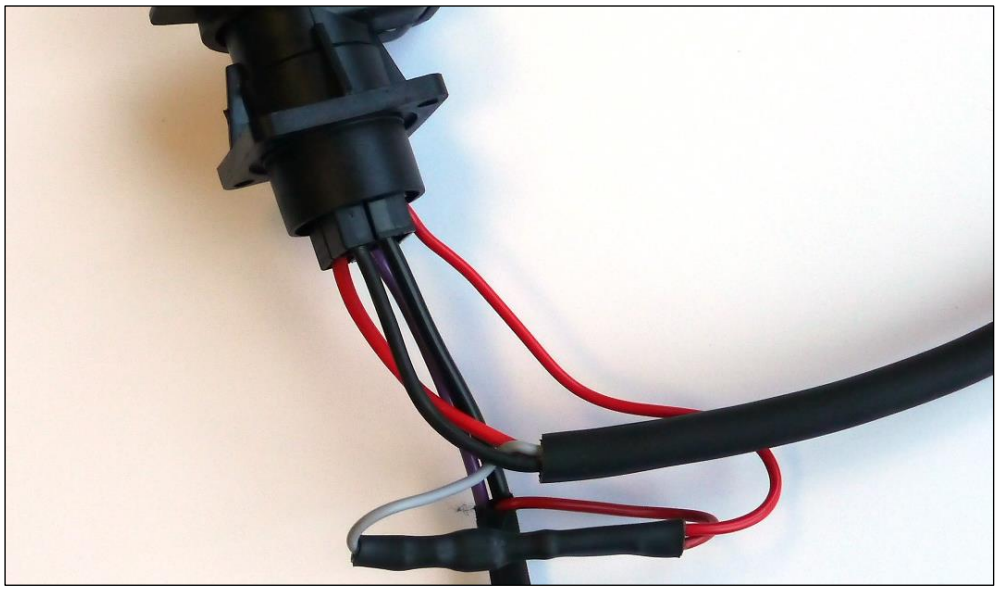


- ► Pull the red cable from the socket.
- ► Connect the removed red cable to the plug distributor of the gray cable of the cable harness.
- ► Slide the shrink hose over the plug distributor and use heat to shrink it.
- ► Connect the red cable of the cable harness to connector 82 (keyed power) of the outlet.



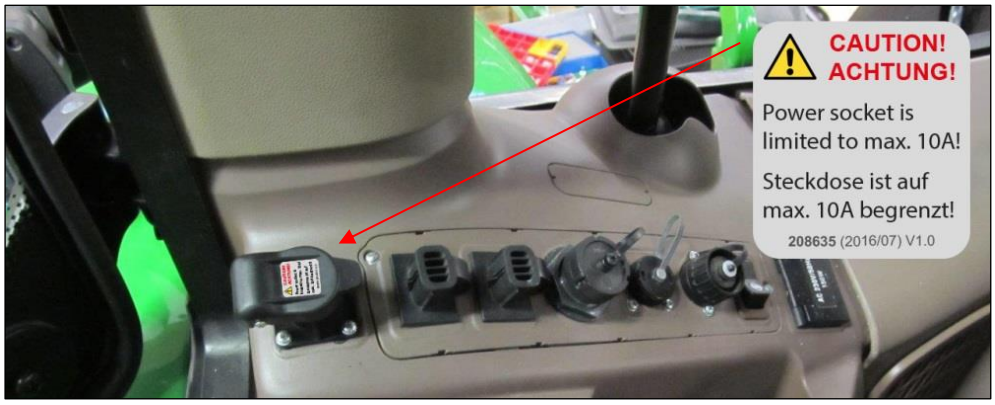


- ► Connect the black cable of the cable harness to connector 31 (ground) of the outlet.
- ► Connect the red cable of the cable harness to connector 15/30 (power) of the outlet.

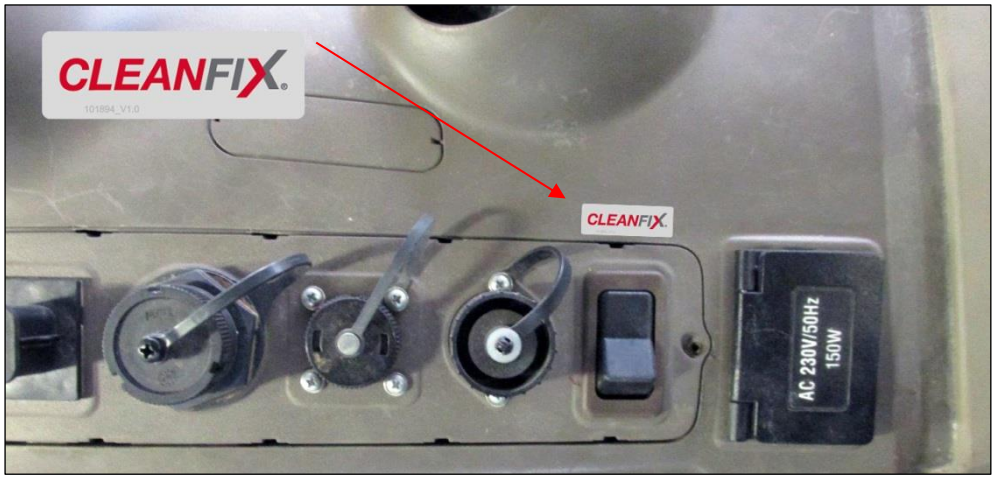


- ► Reinstall the socket and connector holder.

► Attach the “CAUTION!” label to the outlet cover because the outlet is limited to max. 10 A due to the connection of the Cleanfix® control unit!



► Attach the Cleanfix label above the switch.



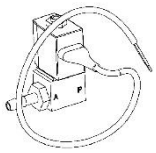
7 Operation

7.1 Initial start-up

The first time you start up the fan, reverse it three times at idling speed, and then you can reverse it at higher speeds.

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

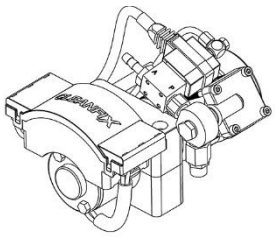
Valve



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

7.3 Cleanfix® control unit with minitimer / for vehicles without a compressed air system

Control unit minitimer



Briefly press the push button to automatically switch from cooling to cleaning and back again.

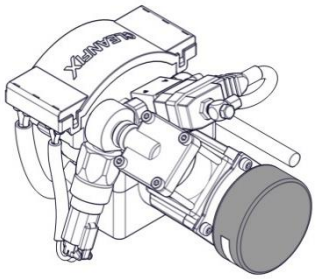
8 Maintenance

8.1 Servicing the Cleanfix® reversible fan

Cleanfix® reversible fans are maintenance-free.

8.2 Servicing Cleanfix® electrical components

For pneumatic Cleanfix® electrical components with a compressor, the filter must be replaced at each machine maintenance interval.

Compressor and control unit


Air filter spare parts kit

Order number: 100858

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 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 ➔ When no pressure is 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 workshop 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.

1.2 No or low compressed air supply

(with electrical compressor)

1.2.1 Check the functioning of the compressor.

If the compressor builds up pressure, the voltage may fall to max. 0.5 V below the rated voltage. Otherwise, the power supply must be checked and, if necessary, must be designed to be more stable (a different cross section, shorter cables, etc.).

Nominal voltage tolerance is maintained
→ see 1.2.2

➔ If it does not function, check the power supply.

1.2.2 Check the pressure build-up of the compressor.

Check the pressure build-up of the compressor with suitable pressure gauge (max. 15 s / min. 6.5 bar or 94 psi) with the fan connected.

Compressor builds up enough pressure
→ see 1.2.3

➔ If the compressor does not build up enough pressure, replace the compressor.

1.2.3 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 1.2.4

➔ If the solenoid valve does not switch, replace the valve.

1.2.4 Check the pressure hose

If necessary, pull the pressure hose from the valve and connect it to the workshop 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 1.2.5

➔ 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.

1.2.5 Mechanical failure

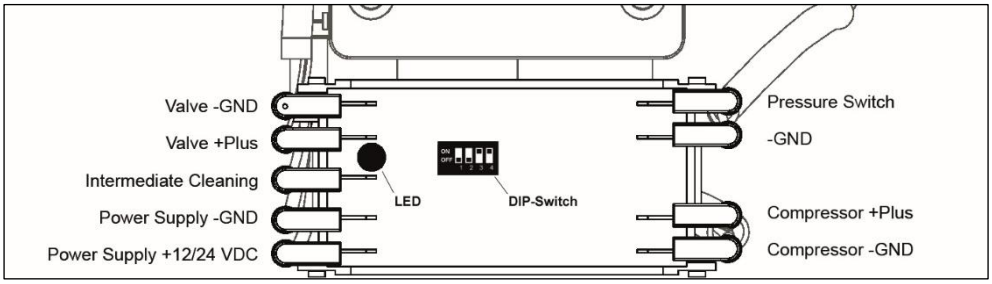
If all the above conditions are met and the blades do not rotate, then the trouble is a mechanical error. Send fan to manufacturer.

	Error		Cause of error		Troubleshooting
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 switch back from a standstill, the trouble is a mechanical failure. The fan must be sent to the manufacturer for testing.

9.2 Troubleshooting for the Cleanfix® control unit with minitimer / for vehicles without a compressed air supply

The control unit monitors the electrical circuit for electronic faults. In the case of a short circuit, the internal fuse switches the control unit off. After the fuse cools, the control unit is switched on again.

Temperatures over 70°C can also cause the control unit to switch off.



	LED error code	**Cause of error**
	Flashes 1x per second	Normal status
	Off	Check operating voltage
	Flashes 1x per 12 seconds	Compressor fault: - Short circuit to ground - Maximum temperature of the electronics has been reached - Open circuit to the compressor
	Flashes 2x per 12 seconds	Valve fault: - Short circuit to ground - Maximum temperature of the electronics has been reached