

ORIGINAL INSTRUCTIONS

# OPERATOR'S MANUAL

**SV211E**

**SV213E**

**Tier 4B (final)**

Vibratory Roller

*SV211E - PIN DDDS211ENKNTY3151 and above;*

*SV213E - PIN DDDS213ENKNTZ3151 and above*

**Part number 51675522**

1<sup>st</sup> edition English

March 2020



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## Product identification

Write your machine model number, Product Identification Number (PIN) and serial numbers on the lines provided below. Always give these numbers and component plate numbers to your dealer when you need parts or information for your machine.

Make a record of the numbers. Keep this record and your manufacturers statement of origin in a safe place. If the machine is stolen, report the numbers to your local law enforcement agency.

MACHINE
_____
Type / Model & Designation
_____
Product Identification Number (PIN)
_____
Year of Build
_____
Engine Serial Number



RAIL14COM0348BA 1

The owner shall not be charged for diagnostic labor which leads to the determination that a warranted part is in fact defective, provided that such diagnostic work is performed at an authorized DEUTZ dealer or distributor.

If a warranted part fails because of a defect, DEUTZ will repair or replace it at any authorized DEUTZ dealer or distributor. Any other parts damaged by the failure of a defective part will also be repaired or replaced at no charge to the owner.

Any warranted part which is scheduled for replacement as required maintenance is warranted for the period of time prior to the first scheduled replacement point for that part.

The owner may elect to have the maintenance, replacement or repair of the certified systems and emission control components by using parts other than DEUTZ parts without invalidating this warranty. However, the costs for such services and parts will not be covered under the warranty.

### **WARRANTED PARTS:**

The following lists of parts are warranted under this California Emissions Control Warranty Statement if applied to the engine:

Emission-related components include any engine parts related to the following systems

1. Fuel Metering System
  - A. Fuel injection system
  - B. Air/fuel ratio feedback and control system.
  - C. Cold start enrichment system.
2. Air Induction System
  - A. Controlled hot air intake system.
  - B. Intake manifold.
  - C. Heat Riser Valve and Assembly.
  - D. Turbocharger/Supercharger Systems.
  - E. Charge Air Cooling Systems.
3. Exhaust Gas Recirculation (EGR) System
  - A. EGR valve body, and carburetor spacer if applicable.
  - B. EGR rate feedback and control system.
4. Air Injection System
  - A. Air pump or pulse valve.
  - B. Valves affecting distribution of flow.
  - C. Distribution manifold.
5. Catalyst or Thermal Reactor System
  - A. Catalytic converter.
  - B. Thermal reactor.
  - C. Exhaust manifold.
6. Particulate Controls
  - A. Traps, filters, precipitators, and any other device used to capture particulate emissions.
  - B. Regenerators, oxidizers, fuel additive devices, and any other device used to regenerate or aid in the regeneration of the particulate control device.
  - C. Control Device Enclosures and Manifolding.
  - D. Smoke Puff Limiters.
7. Advanced Oxides of Nitrogen (NOx) Controls
  - A. NOx Adsorbers
  - B. Lean NOx Catalysts

## Utility safety

When digging or using ground-engaging equipment, be aware of buried cables and other services. Contact your local utilities or authorities, as appropriate, to determine the locations of services.

Make sure that the machine has sufficient clearance to pass in all directions. Pay special attention to overhead power lines and hanging obstacles. High voltage lines may require significant clearance for safety. Contact local authorities or utilities to obtain safe clearance distances from high voltage power lines.

Retract raised or extended components, if necessary. Remove or lower radio antennas or other accessories. Should a contact between the machine and an electric

power source occur, the following precautions must be taken:

- Stop the machine movement immediately.
- Apply the parking brake, stop the engine, and remove the key.
- Check if you can safely leave the cab or your actual position without contact with electrical wires. If not, stay in your position and call for help. If you can leave your position without touching lines, jump clear of the machine to make sure that you do not make contact with the ground and the machine at the same time.
- Do not permit anyone to touch the machine until power has been shut off to the power lines.

## Electrical storm safety

Do not operate machine during an electrical storm.

If you are on the ground during an electrical storm, stay away from machinery and equipment. Seek shelter in a permanent, protected structure.

If an electrical storm should strike during operation, remain in the cab. Do not leave the cab or operator's platform. Do not make contact with the ground or objects outside the machine.

## Mounting and dismounting

Mount and dismount the machine only at designated locations that have handholds, steps, and/or ladders.

Do not jump off of the machine.

Make sure that steps, ladders, and platforms remain clean and clear of debris and foreign substances. Injury may result from slippery surfaces.

Face the machine when you mount and dismount the machine.

Maintain a three-point contact with steps, ladders, and handholds.

Never mount or dismount from a moving machine.

Do not use the steering wheel or other controls or accessories as handholds when you enter or exit the cab or operator's platform.

## Working at heights

When the normal use and maintenance of the machine requires you to work at heights:

- Correctly use installed steps, ladders, and railings.
- Never use ladders, steps, or railings while the machine is moving.

- Do not stand on surfaces that are not designated as steps or platforms.

Do not use the machine as a lift, ladder, or platform for working at heights.

## Lifting and overhead loads

Never use loader buckets, forks, etc. or other lifting, handling, or digging equipment to lift persons.

Do not use raised equipment as a work platform.

Know the full area of movement of the machine and equipment and do not enter or permit anyone to enter the area of movement while the machine is in operation.

Never enter or permit anyone to enter the area underneath raised equipment. Equipment and/or loads can fall unexpectedly and crush persons underneath it.

Do not leave equipment in raised position while parked or during service, unless securely supported. Hydraulic cylinders must be mechanically locked or supported if they are left in a raised position for service or access.

Equipment and associated loads can block visibility and cause an accident. Do not operate with insufficient visibility.

## Safety signs - SV211E

### **▲ WARNING**

**Avoid injury!**

**Make sure safety signs are legible. Clean safety signs regularly. Replace all damaged, missing, painted over, or illegible safety signs. See your dealer for replacement safety signs. If a safety sign is on a part that is replaced, make sure the new part has a safety sign.**

**Failure to comply could result in death or serious injury.**

W0168A

The following safety signs are on your machine as a guide for your safety and for the safety of those working with you. Walk around the machine and note the content and the location of all safety signs before you operate your machine.

Keep all safety signs clean and legible. Clean safety signs with a soft cloth, water, and gentle detergent.

**NOTICE:** Do not use solvent, gasoline, or other harsh chemicals. Solvents, gasoline, and other harsh chemicals may damage or remove safety signs.

Replace all safety signs that are damaged, missing, painted over, or illegible. If a safety sign is on a part you or your dealer replaces, make sure that you or your dealer install the safety sign on the new part. See your dealer for replacement safety signs.

### **Read operator's manual symbol**

Safety signs that display the "Read operator's manual" symbol direct you to the operator's manual for further information regarding maintenance, adjustments, or procedures for particular areas of the machine. When a safety sign displays this symbol, consult the appropriate page of the operator's manual.



### **Read service manual symbol**

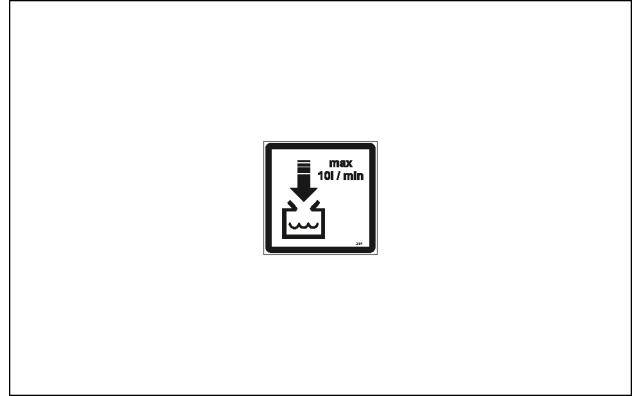
Safety signs that display the "Read service manual" symbol direct you to the service manual. If you doubt your ability to perform service operations, contact your dealer.



25. Expansion tank filling

Use caution when operating or moving the machine in areas with height limitations.

Quantity: 1  
Part number 48177141



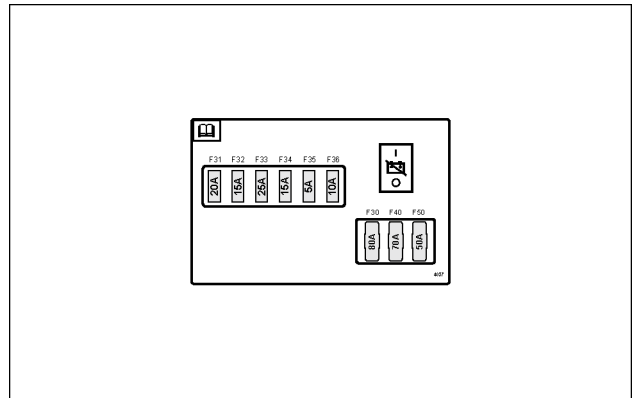
3691 26

Location: On the cooling system expansion tank.

26. Battery switch

Switch off the battery master switch no sooner than 30 seconds after removing the key from the ignition switch. Keeping of the time limit is necessary for saving the data of the Engine Control Unit (ECU) motor.

Part number 51662124



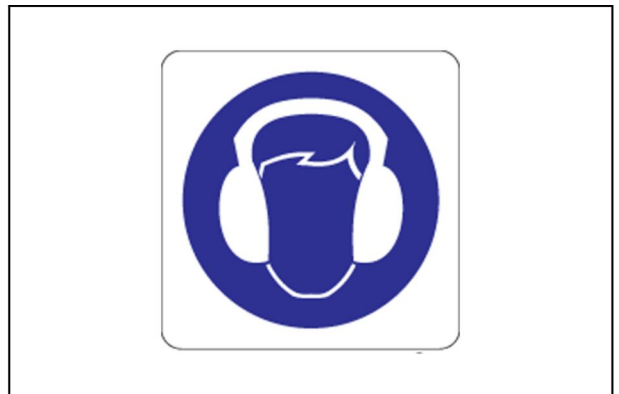
RAIL20COM0284AA 27

Location: Inside the battery disconnect door on the left-hand side of the machine.

27. Ear protection

Use ear muffs when the Machine has no cab or you work with open windows.

Quantity: 1  
Part number 2408



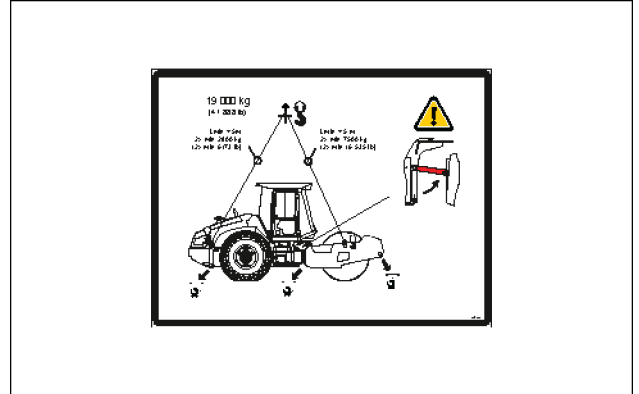
2408 28

Location: On the right-hand side under the cab on the frame.

22. Lifting the machine

Use rigging with a sufficient capacity. Before you lift the machine, secure the machine joint.

Quantity: 1  
Part number 51662122

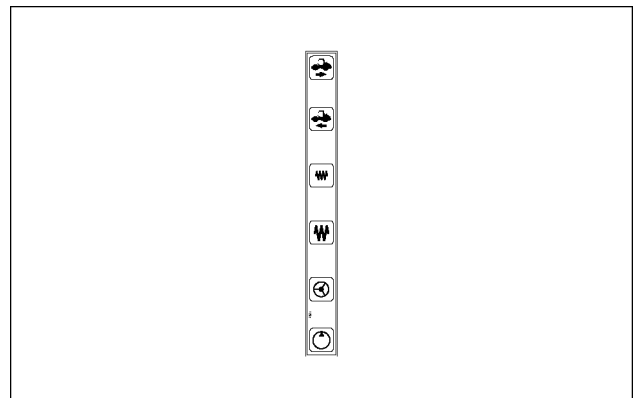


Location: On the right-hand side of the machine.

23. Measuring points

reverse travel / forward travel / vibration I / vibration II / steering / filling pump pressure

Quantity: 1  
Part number 51661740

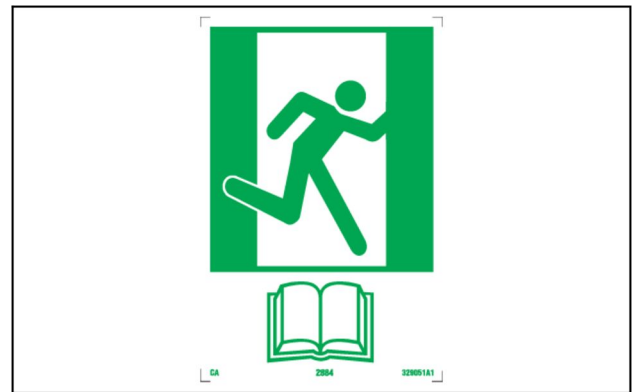


Location: On the right-hand side of the machine on the panel below the cab.

24. Emergency exit

Unless not possible to exit the Machine via LH door, please use emergency exit.

Quantity: 1  
Part number ND106585



Location: On the left-hand side under the cab on the frame.

Press the button to engage the upper speed gear.



Speed gear decrease button **(8)**

Press the button to engage the lower speed gear.

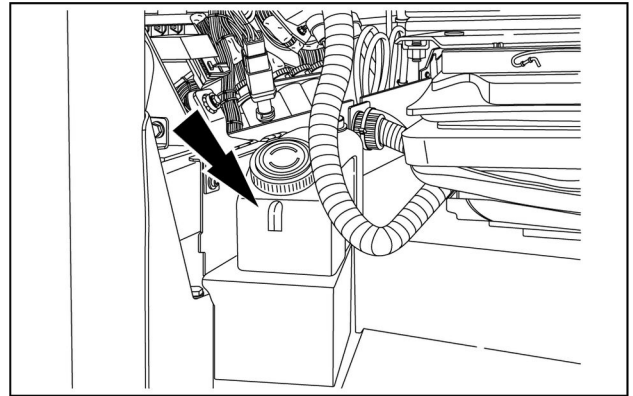
**NOTE:** Do not exceed the **30 min** time limit while driving at the transport speed (speed gear 4). Risk of overheating of machine parts.

**NOTE:** The speed gear **(0)** is adjusted as starting after 15 minutes after the switch box is turned off.

### Windscreen washer tank

Fill with standard available media.

**NOTICE:** Fill with antifreeze or drain before the winter season starts!



RAIL19COM0535AA 9

### Control lever

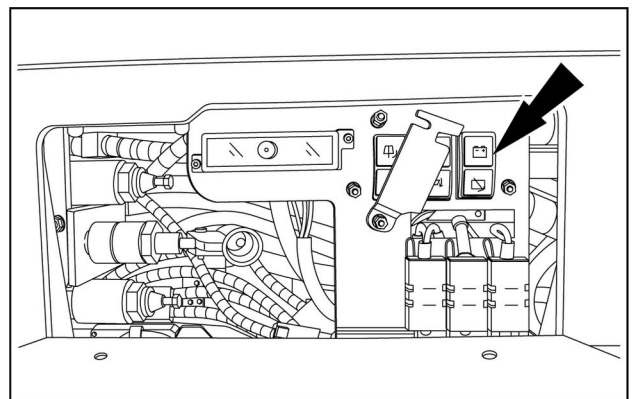
It is used for controlling the hand pump for releasing the machine brakes.

### Battery disconnect

It is used for disconnecting the battery from the machine frame.

Position "0" – Electrical installation of the machine disconnected.

Position "1" – Electrical installation of the machine connected.



RAIL19COM0478AA 10



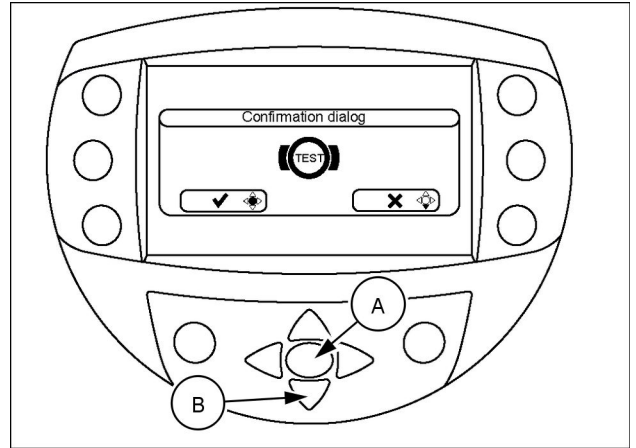
— Brake test button

It is used for checking the machine brakes for correct operation (the operator is prompted to check the brakes every 24 hours).

After you press the brake test button, a confirmation dialog will appear.

Press the middle button **(A)** to confirm the start of the brake test.

Press the lower button **(B)** to cancel the start of the brake test.



RAIL20COM0085AA 5



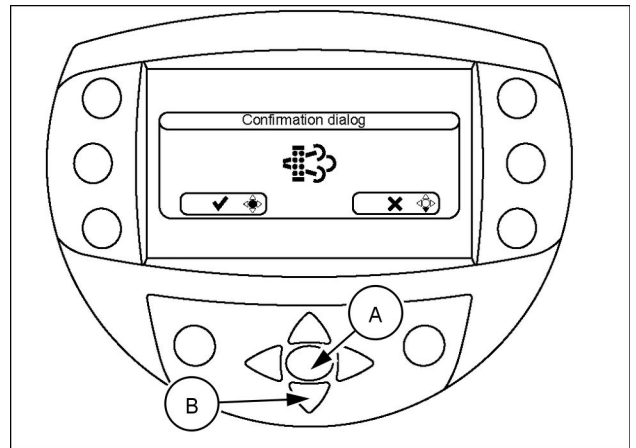
— Regeneration button

It is used for enabling the DPF regeneration.

After you press the regeneration button, a confirmation dialog will appear.

Press the middle button **(A)** to start the catalyst regeneration function.

Press the lower button **(B)** to stop the catalyst regeneration function.



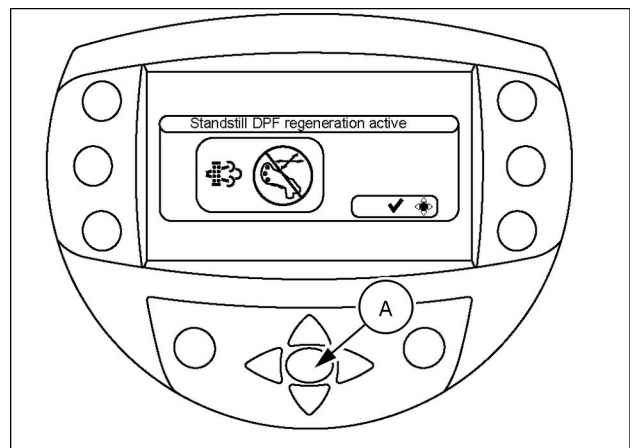
RAIL20COM0086AA 6

After the start of the DPF regeneration is confirmed, the following information dialog will appear:

- DPF regeneration enabled
- It is forbidden to move with the travel control

**NOTE:** The dialog will appear when the DPF regeneration is started or if the function is enabled and the operator has not pressed any button for more than 60 seconds.

The dialog can be confirmed by pressing the middle button **(A)**.



RAIL20COM0087AA 7

## Starting a cold engine

### Cold start mode

**NOTE:** The mode is indicated by lighting blue turtle icon on the display (2).

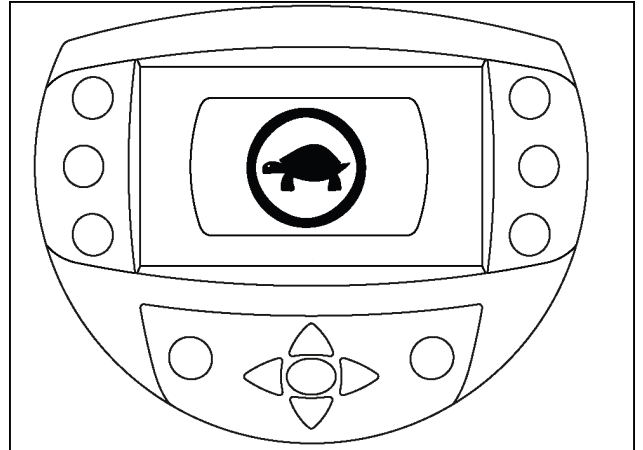
**NOTE:** A low temperature of the engine is indicated by the blue indicator lamp of the engine temperature.

If the engine temperature is lower than **20 °C ( 68 °F)**, and the hydraulic oil temperature lower than **10 °C ( 50 °F)**, the machine can be operated in the limited operation.

Machine abilities while in cold start mode

- Max. engine speed 1300 RPM
- Engaged speed gear **(0)**
- Differential lock ON
- Vibration OFF

**NOTE:** The mode will be turned off when the engine temperature reaches **20 °C ( 68 °F)**, the hydraulic oil temperature **10 °C ( 50 °F)**, and the travel control **(3)** is in the position **(P)** of the parking brake.



RAIL20COM0285AA 1

## Starting with cables from an external power source

### ⚠ WARNING

#### Hazardous chemicals!

Battery electrolyte contains sulfuric acid. Contact with skin and eyes could result in severe irritation and burns. Always wear splash-proof goggles and protective clothing (gloves and aprons). Wash hands after handling.

Failure to comply could result in death or serious injury.

W1006A

### ⚠ WARNING

#### Avoid injury!

Follow ALL of the precautions listed below.

Failure to comply could result in death or serious injury.

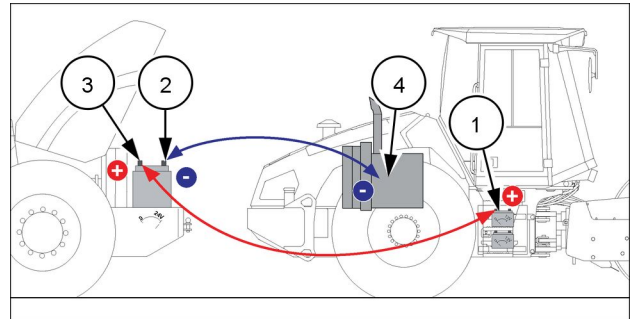
W1091A

- To connect the cables correctly to the battery of this machine, see the correct method illustrated on this page.
- Batteries contain sulfuric acid and during charging generate a highly explosive mixture of hydrogen and oxygen gases. Never use equipment that generates flames or sparks to check the electrolyte level.
- Do not connect the (–) cable to the (–) of the discharged battery of the machine being started! There is risk of strong sparking during the course of starting, followed by explosion of battery-generated gas.
- When removing the battery terminal for any reason, do not allow the negative and positive cables to touch or to make contact with the battery. Battery posts, terminals, and related accessories contain lead and lead compounds.
- Operate the starter from the operator seat only.

When using an auxiliary starting source, its power supply must have a starting voltage of **24 V**.

#### Starting with jumper cables from a different machine

1. Connect one end of the (+) cable pole to the (+) pole of the discharged battery.
2. Connect the other end of the (+) cable pole to the (+) pole of the machine battery providing starting voltage.
3. Connect one end of the (-) pole to the (-) pole of the vehicle battery providing starting voltage.
4. Connect the other end of the (-) cable pole to a good frame ground or the engine block itself away from the discharged battery.
5. Start the engine of the disabled machine. See starting the engine in this manual.
6. Remove the (-) cable pole connection first and then the (+) cable pole cable connection last.



RAIL20COM0405FA 1

## 5 - TRANSPORT OPERATIONS

### Preparing for road transport

### Preparing for road transport

#### **▲ WARNING**

##### **Avoid injury!**

**Know all rules, regulations, laws, and required safety equipment for transporting or operating this machine on a road or highway. See your dealer to obtain a rotating beacon, backup alarm, and other safety equipment.**

**Failure to comply could result in death or serious injury.**

W11063A

#### **▲ WARNING**

##### **Transport hazard!**

**Follow ALL of the precautions listed below.**

**Failure to comply could result in death or serious injury.**

W1104A

- The machine must be transported on a vehicle on public roads (towing the machine instead of transporting it is not permitted).
- Outside of public roads, the machine can move on its own.
- Be aware of machine's actual mass, including weight and additional load in ballast spaces of machine. Only use a transporting vehicle that can safely and sufficiently handle the machine's specifications listed in this manual.
- If the machine is equipped with the drum slip limitation feature engage it before driving onto the carrier platform.
- While the machine is moving onto or down from the carrier, all persons except for the machine operator must be as far away as possible to avoid being hit should there be an accident (machine fall).
- The employee guiding the machine must be able to effectively communicate with the operator using hand signals. The guide must stay in one spot within the operator's field of vision (in visual contact) and beyond the reach of the roller all the times when it is moving onto or moving down from the carrier.
- No personal may stay inside cab (on platform) or on the machine during its transportation.
- Engage the machine's articulation latch before lifting the machine. Do not drive the machine with the articulation latch engaged.
- Engage the machine's articulation latch after you drive onto the carrier and have the machine in the final transport position. Do not drive the machine with the articulation latch engaged.
- Only a trained person may perform the machine tie-down.
- Observe safety regulations during loading and unloading.
- Do not walk beneath the hung load. Keep out of the area beneath the hanging load.
- Never use a chain.
- Use a crane of sufficient loading capacity.
- Use corresponding and unbroken rigging of sufficient loading capacity.
- It is recommended that the machine should be tied starting from the left rear anchor point. After the machine has been tied, the means of anchoring must not be in contact with tires, as such contact could result in damage to the tire.

## Operating the machine at high temperatures and humidity

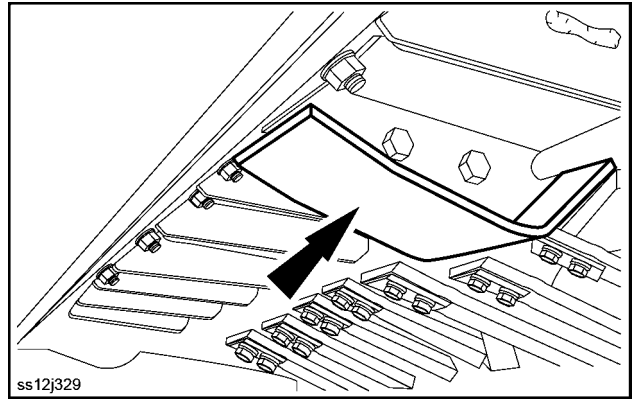
The higher the air temperature and humidity, the lower the engine performance. Both factors reducing performance are dependent on each other:

- With every **10 °C (50 °F)** of temperature increase, power drops by up to **4%** (at constant humidity).
- With every **10%** of increased relative humidity, power drops by up to **2%** (at constant temperature).

Remove the fender shields from the hood. More hot air will escape the engine compartment and improve engine cooling. Attach the fender shields when the temperature and humidity decreases.

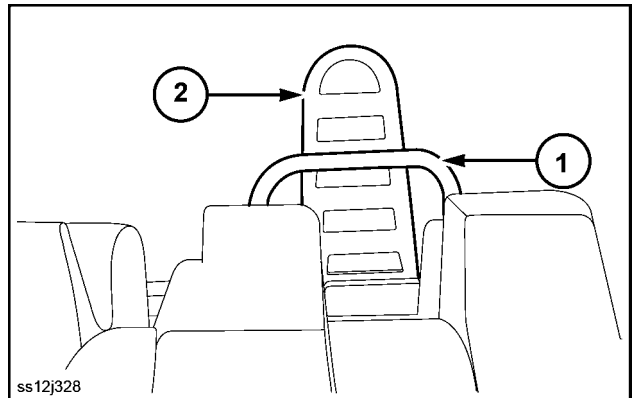
**NOTE:** *In an environment where hydraulic oil circulates at a constant temperature of about **90 °C (194 °F)**; we recommend having the hydraulic oil replaced with oil that is denser by one class and with HV 100 kinematic viscosity.*

**NOTE:** The floating blade position can be used when bulldozing material on a paved area. The floating position can also be applied when spreading and re-leveling the material being spread. The blade will skim the ground on the removable skids under the blade.



SS12J329 4

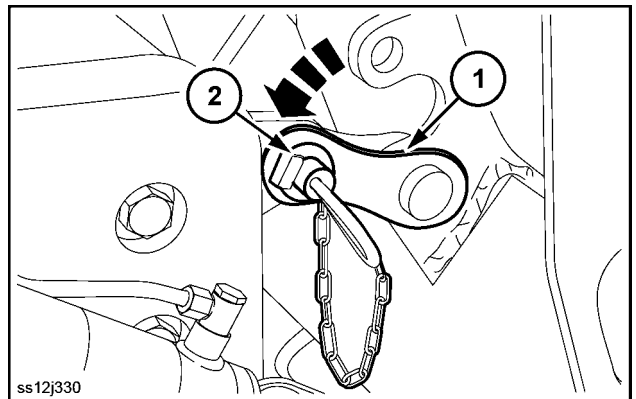
7. As the blade lowers, watch the mobile indicator (2). When it passes the float position established earlier the blade will begin to dig into the surface.
8. View the mobile indicator (2) in relation to the fixed indicator (1) to determine the blade depth. Shifting by one gap (from one cross bar to the next), moves the blade by approximately 50 mm (2 in) from the original float position.
9. Once the desired blade depth is reached move the dozer blade control lever or pedal to the hold position O.



SS12J328 5

10. When work with the blade is complete, secure the blade in the upper position on both sides with the securing link (1) and pins (2).

**NOTE:** The blade edges can be removed and rotated 180° when they have become worn.



SS12J330 6

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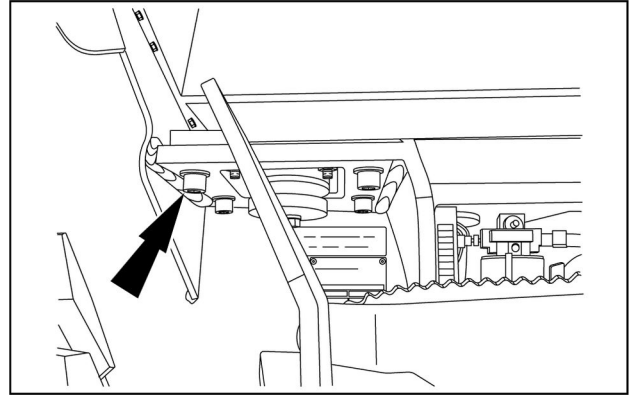


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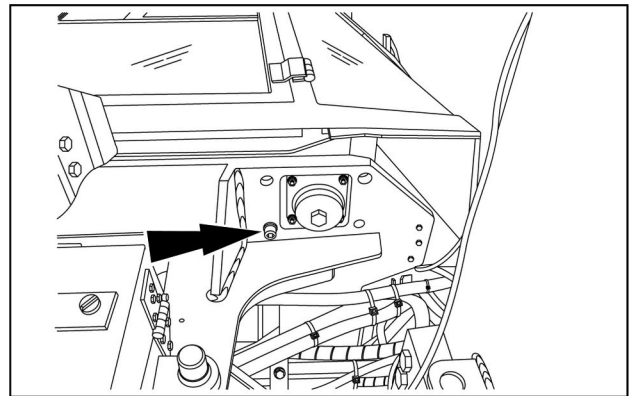
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## Lock the cab mounts

1. Lock the cab mounts and tighten to **200 N·m ( 147.5 lb ft)**.



RAIL19COM0545AA 12



RAIL19COM0537AA 13



## Fuel

### **⚠ WARNING**

#### **Fire hazard!**

**Do not add gasoline, alcohol, or blended fuels to diesel fuel, except as recommended in this manual. Fuel combinations may increase fire and explosion hazards. Failure to comply could result in death or serious injury.**

W0401A

Use fuel that complies with the American Society for Testing and Materials (ASTM) D975 standard:  
– Grade no. 2 fuel

Fuel viscosity must be over 1.3 centi Stokes (cSt) at **40 °C (104 °F)** to ensure proper liquidity characteristics and proper lubrication of fuel system components.

**NOTICE:** Check with your fuel supplier for the correct cold weather fuel.

### **General specification – Biodiesel fuels**

Fatty Acid Methyl Ester Biodiesel (Biodiesel Fuel) consists of a family of fuels derived from vegetable oils treated with methylesters.

**NOTICE:** Biodiesel fuel blends are approved for your engine only if they comply with **EN14214** specification standards or ASTM D6751.

**NOTICE:** It is imperative that you check with your CASE CONSTRUCTION dealer to find out which blend is approved for your engine. Be aware that use of Biodiesel fuel that does not comply with the standards mentioned above could lead to severe damage to the engine and fuel system of your machine. The use of fuels that are not approved may void CASE CONSTRUCTION warranty coverage.

### **Biodiesel fuel usage conditions**

**NOTICE:** The Biodiesel fuel must comply with the fuel specification indicated above.

Biodiesel fuel must be purchased from a trusted supplier that understands the product and maintains good fuel quality. Biodiesel fuel must be preblended by the supplier. Mixing Biodiesel fuels on-site could result in an incorrect mixture that could lead to problems with both the engine and fuel system.

Engine performance is affected by the use of Biodiesel fuel. There may be up to **12%** reduction in power or torque depending on the blend used.

**NOTICE:** Do not modify the engine and/or injection pump settings to recover the reduced performance.

The reduced power must be accepted if using any Biodiesel fuel blend.

Some modification may be required to allow your engine to run on Biodiesel fuel. Consult your dealer for complete information on these modifications.

Biodiesel fuel has a higher cloud point than diesel fuel.

**NOTICE:** The use of high Biodiesel fuel blends are not recommended in cold weather conditions.

With Biodiesel fuels, it may be necessary to change the engine oil, engine oil filter and fuel filter elements more frequently than with diesel fuels. Biodiesel fuel can remove rust and particles from the inside of on-site fuel storage tanks that would normally adhere to the sides of the tank. Like particle deposits that commonly occur with diesel fuel, these particles can become trapped by the machine fuel filters, causing blockage and shortening filter life. This is more likely to happen in cold weather. Consult your CASE dealer for information on cold weather operation and proper maintenance intervals when using any Biodiesel fuel blend.

When handling Biodiesel Fuel, care must be taken not to allow water into the fuel supply. Biodiesel Fuel will actually attract moisture from the atmosphere.

Every 20 hours of operation (daily)

## Fuel level - Check

### ⚠ CAUTION

**Burn hazard!**  
Wait for all components to cool before performing any operation.  
Failure to comply could result in minor or moderate injury.

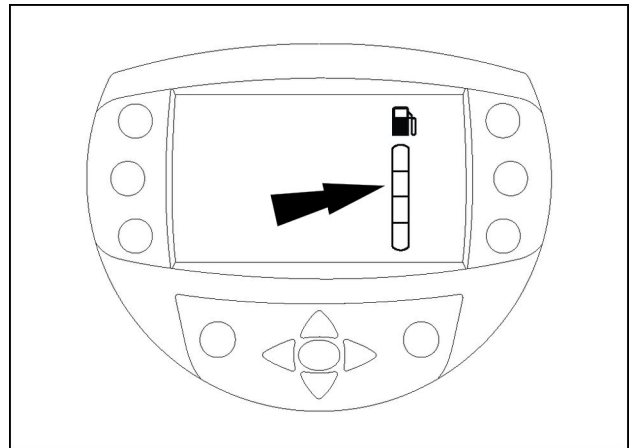
C0053A

### ⚠ WARNING

**Fuel vapors are explosive and flammable.**  
Do not smoke while handling fuel. Keep fuel away from flames or sparks. Shut off engine and remove key before servicing. Always work in a well-ventilated area. Clean up spilled fuel immediately.  
Failure to comply could result in death or serious injury.

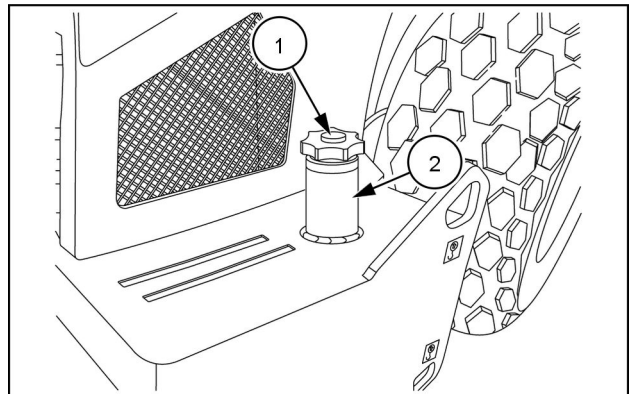
W0904A

1. Check the fuel level on the dashboard and refill if necessary.



RAIL20COM0235AA 1

2. Clean the tank filler cap (1) and the filler neck (2).
3. Unlock the lock and remove the cap.



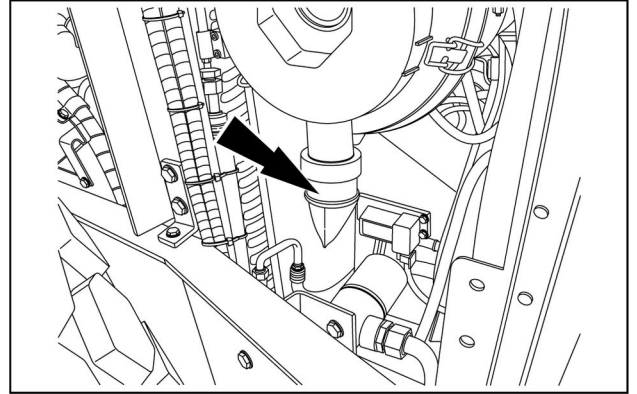
RAIL19COM0452AA 2

## Air filter dust valve

**NOTICE:** Do not operate the machine if the dust valve is damaged.

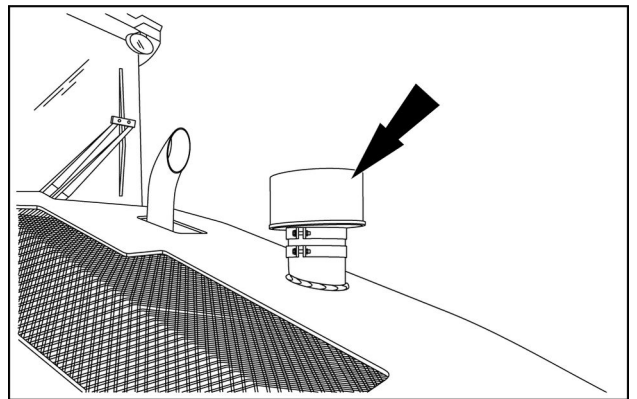
Any dust trapped in the dust filter will automatically be emptied while the machine is running.

1. Press the outlet slit to remove any trapped dust.



RAIL19COM0454AA 1

2. Check and clean the pre-filter bowl.



RAIL19COM0461AA 2

## Fuel filter water separator - Check

### ⚠ CAUTION

**Burn hazard!**  
Wait for all components to cool before performing any operation.  
Failure to comply could result in minor or moderate injury.

C0053A

### ⚠ WARNING

Fuel vapors are explosive and flammable.  
Do not smoke while handling fuel. Keep fuel away from flames or sparks. Shut off engine and remove key before servicing. Always work in a well-ventilated area. Clean up spilled fuel immediately.  
Failure to comply could result in death or serious injury.

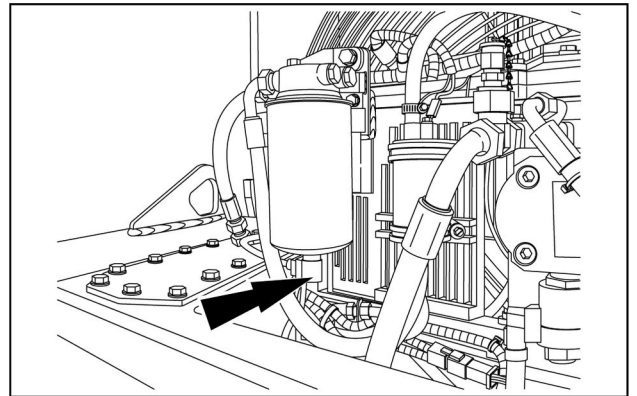
W0904A

**NOTE:** Do not smoke while working.

**NOTE:** Check the water separator for leaks.

**NOTE:** Stop the fluid soaking into the ground.

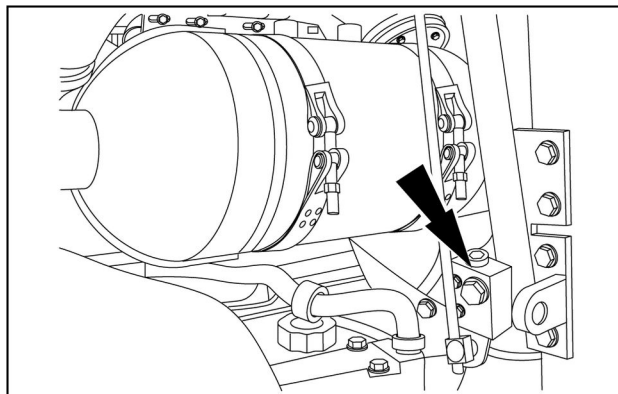
1. Turn off the engine.
2. Prepare a sediment catch pan.
3. Disconnect the electrical installation.
4. Release the separator valve manually and drain the fuel until clean fuel starts to flow out.
5. Remount the valve.
6. Connect the electrical installation.
7. Vent the fuel system.



RAIL19COM0444AA 1

### Linear hydraulic motors of hood lifting

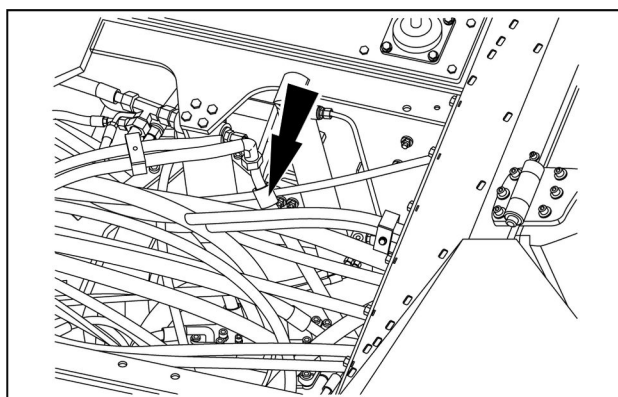
- lower pins (two places)



RAIL19COM0466AA 7

### Linear hydraulic motor of lifting off the driver's stand

- lower pin (one place)



RAIL19COM0449AA 8

## Change the engine oil - SV213E

### ⚠ WARNING

#### Burn hazard!

Do not handle any service fluid (engine coolant, engine oil, hydraulic oil, etc.) at temperatures that exceed 49 °C (120 °F). Allow fluids to cool before proceeding.

Failure to comply could result in death or serious injury.

W0330B

### ⚠ WARNING

#### Chemical hazard!

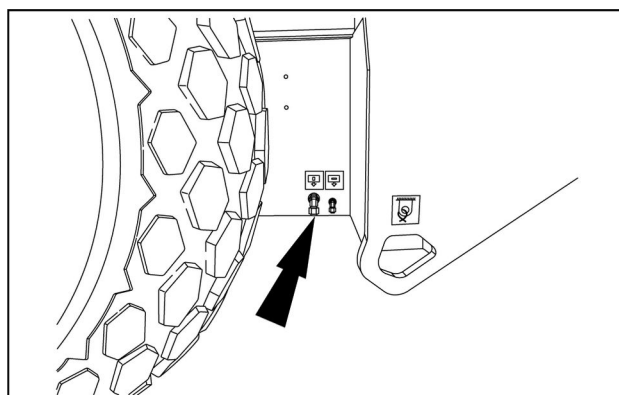
When handling fuel, lubricants, and other service chemicals, follow the manufacturer's instructions. Wear Personal Protective Equipment (PPE) as instructed. Do not smoke or use open flame. Collect fluids in proper containers. Obey all local and environmental regulations when disposing of chemicals.

Failure to comply could result in death or serious injury.

W0371A

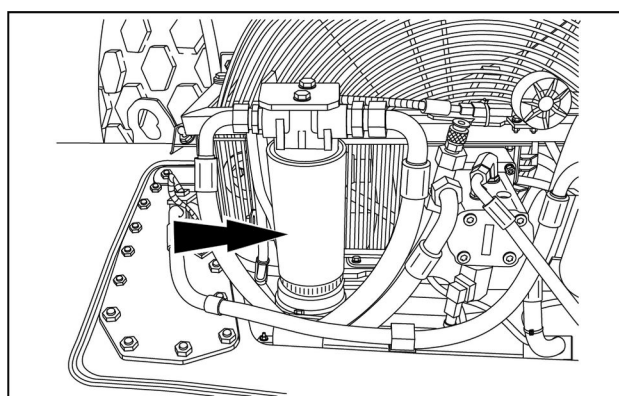
**NOTICE:** Collect drained oil and do not let it soak into the ground.

1. Stop the engine.
2. Prepare a suitable container with a capacity of approximately **15 L (4 US gal)**.
3. Remove the drain plug and drain the engine oil.
4. Install the drain plug.



RAIL19COM0470AA 1

5. Locate the engine oil filter under the air filter and next to the batteries.
6. Clean the area around the oil filter head. Remove the filter. Clean the contact area of the filter seal.



RAIL19COM0565AA 2

## Change the DEF/AdBlue® supply module main filter

### **⚠ WARNING**

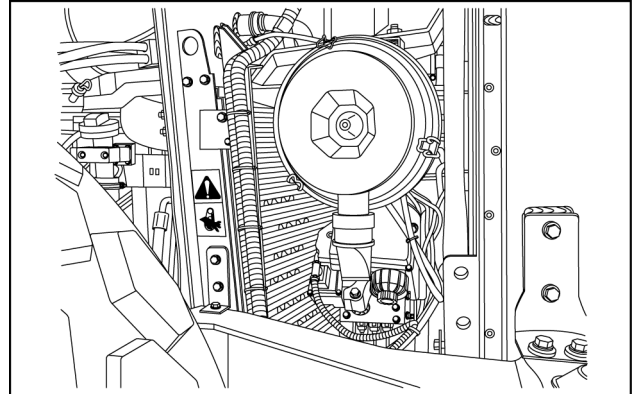
#### **Chemical hazard!**

When handling fuel, lubricants, and other service chemicals, follow the manufacturer's instructions. Wear Personal Protective Equipment (PPE) as instructed. Do not smoke or use open flame. Collect fluids in proper containers. Obey all local and environmental regulations when disposing of chemicals.

Failure to comply could result in death or serious injury.

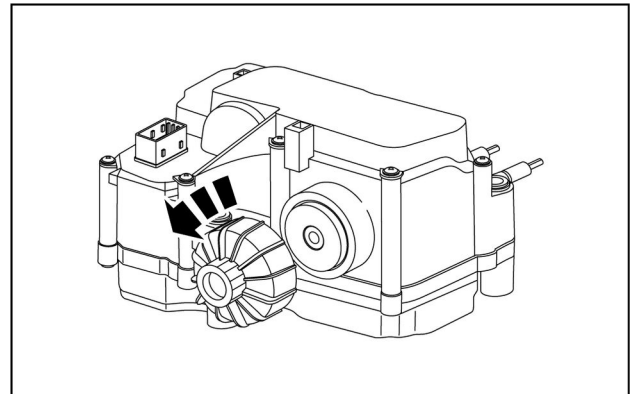
W0371A

1. Turn off the engine.
2. Place a container under the filter.



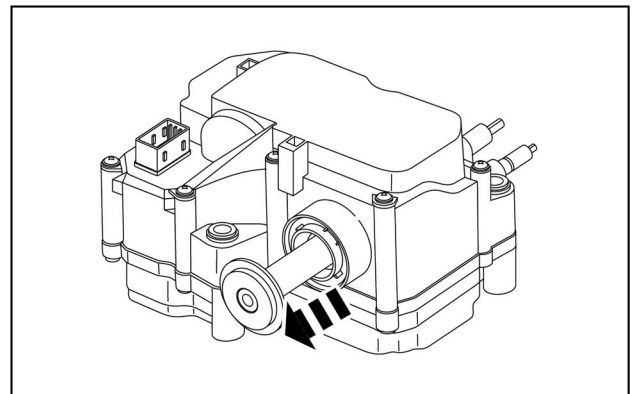
RAIL19COM0472AA 1

3. Remove the cap.



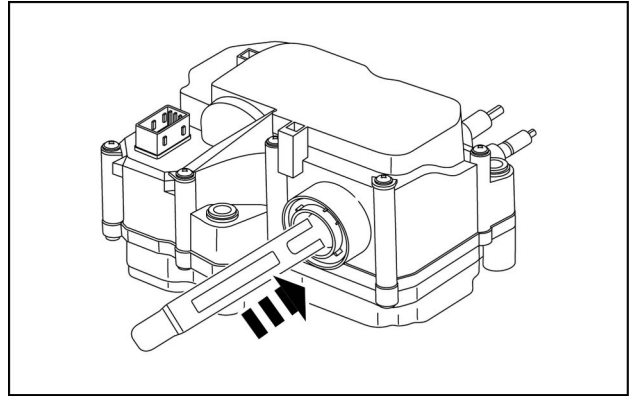
RAIL19COM0486AA 2

4. Pull out the levelling item.

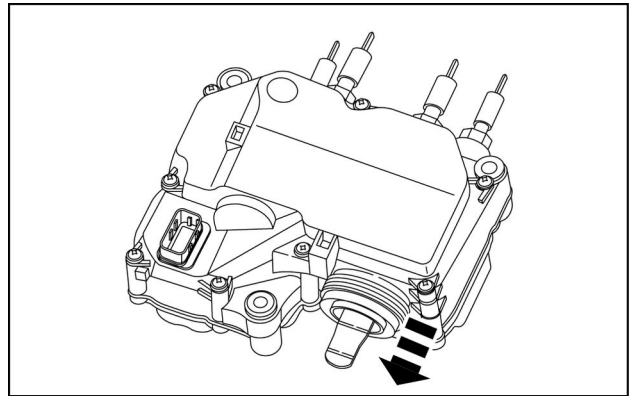


RAIL19COM0491AA 3

5. Remove the cartridge.

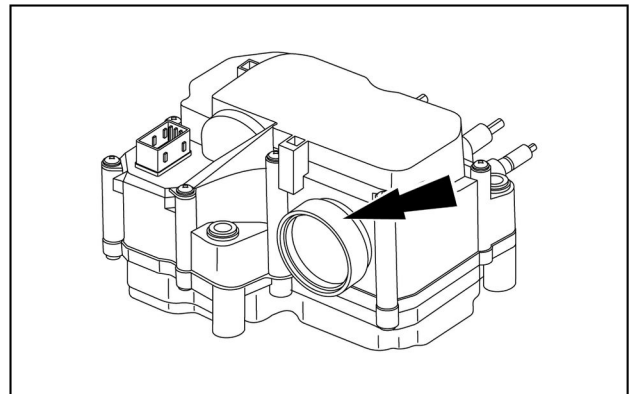


RAIL19COM0473AA 4



RAIL19COM0485AA 5

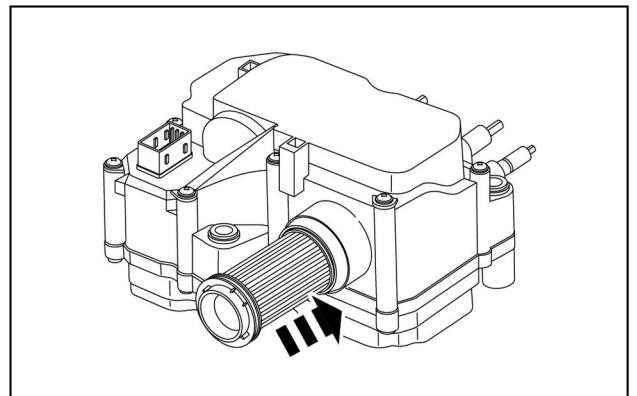
6. Check the thread and clean the seating surface.



RAIL19COM0492AA 6

7. Lubricate the gasket with oil.

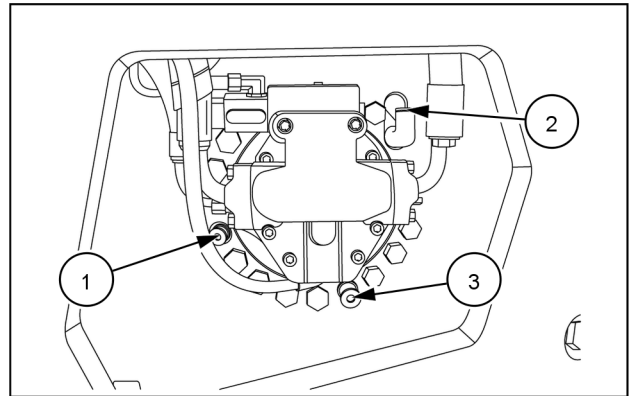
8. Insert the new filter.



RAIL19COM0497AA 7

### Drum transmission - Right-hand side

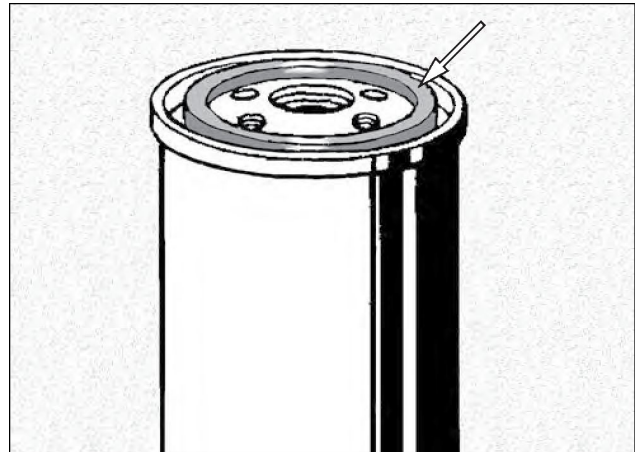
1. Place the machine onto a flat, solid surface.



RAIL19COM0479AA 2

2. Clean surfaces around the plugs.
3. Put a suitable pan under the drain plug **(3)**.
4. Unscrew all plugs **(1)**, **(2)**, **(3)** and let the oil drain out.
5. Remount the drain plug **(3)** after the draining is completed.
6. Fill the recommended oil through the filler plug **(2)**.
7. Check the oil level in the inspection hole **(1)**.  
The oil must reach the lower edge of the opening or slightly flow out.
8. Reinstall the plugs and replace any damaged plug gaskets.

18. Spread clean oil over the O-ring of the new filter, screw it down and tighten.



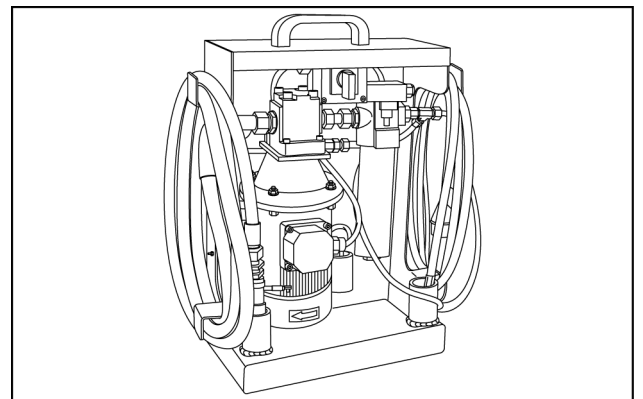
RAIL20COM0267PA 10

### Filling the hydraulic circuit

19. Fill using the hydraulic unit.

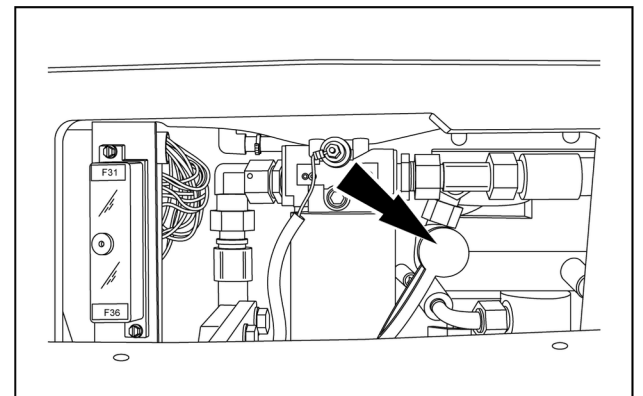
**NOTE:** Hydraulic unit is available in both **230 V** and **110 V**.

20. You can order the hydraulic unit from the machine manufacturer.



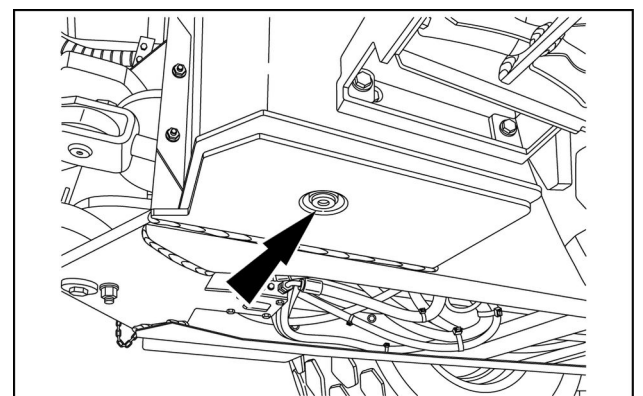
RAIL19COM0420AA 11

21. Remove the cap of the filling end piece and put the quickcoupler of the filling device onto the quick-coupler (1).
22. Fill the hydraulic circuit until the clean oil starts flowing out from the tank.
23. Catch the oil in a clean pan.



RAIL19COM0451AA 12

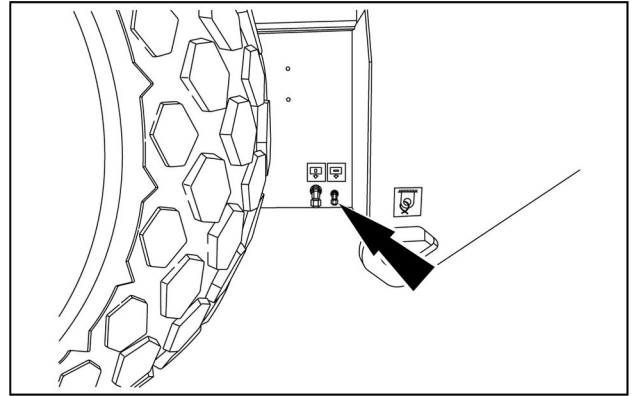
24. Let drain about **15 L (4 US gal)** and mount the plug.



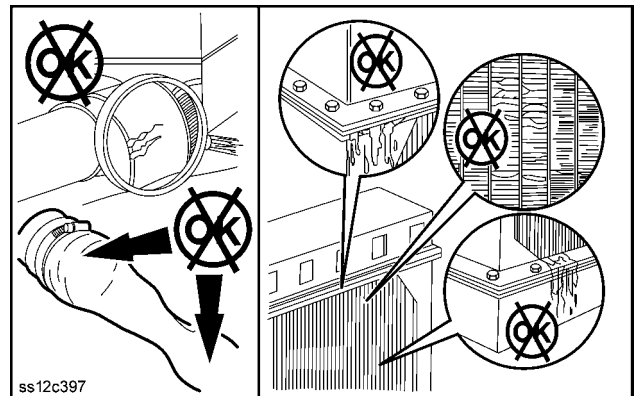
RAIL19COM0503AA 13

2. Stop the engine.
3. Remove the drain plug.
4. Let the fluid drain into the prepared pans.
5. The drained volume is about **32.5 L ( 8.6 US gal)**.

**NOTE:** Check the cooling system for defective hoses and missing hose clips. Check the cooler for damage and leakage and the cooling fins for clogging. Clean and repair it, if necessary.



RAIL19COM0470AA 3

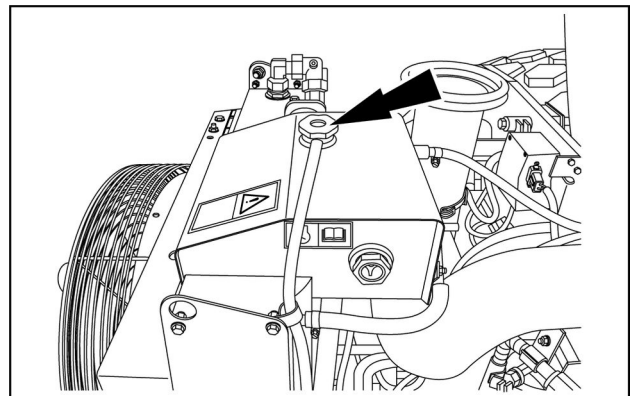


ss12c397

SS12C397 4

### Filling the cooling circuit

6. Install the drain plug and fill the cooling system with the new coolant with the minimum ratio of **50% water + 50% antifreeze agent**.
7. Refill the coolant to the maximum level. After filling, wait for about **2 – 3 min** until the air escapes and the circuit is filled.
8. The appropriate filling rate is **19 L ( 5 US gal)**.
9. Close the expansion tank with the overpressure plug



RAIL19COM0440AA 5

10. Stop the engine.
11. Check the level on the water gauge. If the level is low, refill the coolant to maximum.

## Drum coolant - check

### ⚠ WARNING

#### Burn hazard!

Do not handle any service fluid (engine coolant, engine oil, hydraulic oil, etc.) at temperatures that exceed 49 °C (120 °F). Allow fluids to cool before proceeding.

Failure to comply could result in death or serious injury.

W0330B

### ⚠ WARNING

#### Chemical hazard!

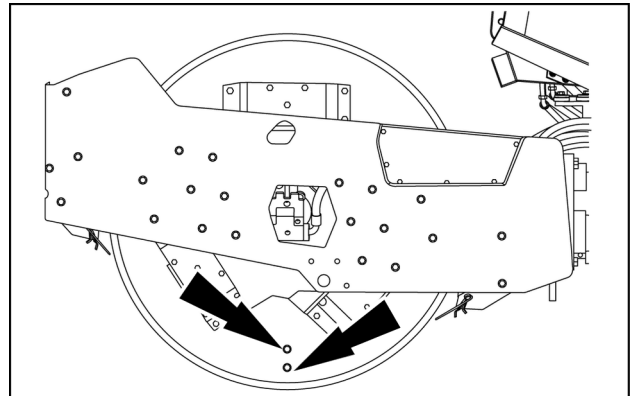
When handling fuel, lubricants, and other service chemicals, follow the manufacturer's instructions. Wear Personal Protective Equipment (PPE) as instructed. Do not smoke or use open flame. Collect fluids in proper containers. Obey all local and environmental regulations when disposing of chemicals.

Failure to comply could result in death or serious injury.

W0371A

1. The drum coolant is a lifetime refill and is not to be replaced.
2. The lower plug is used for draining the refill
3. The upper plug for filling and checking the refill level.
4. When draining, drive the drum so that the drum is inclined and the plugs in their lowest positions to drain the coolant.
5. To fill the drum, drive the machine on so that the plugs are in the opposite positions (up)

**NOTE:** NEVER operate the machine without the water refill of the drum.



RAIL19COM0506AA 1

## 8 - SPECIFICATIONS

### Fluids and lubricants - SV211E



#### Engine oil

Engine oil has been specified as per its performance classification and viscosity classification.

Performance classification under:

AMERICAN PETROLEUM INSTITUTE (API)

#### Viscosity classification

The ambient temperature and type of operations at the place where the machine will be used are decisive in determining SOCIETY OF AUTOMOTIVE ENGINEERS (SAE) viscosity class.

Recommended oil:

– **CASE AKCELA ENGINE OIL 15W-40**

– **CASE AKCELA NO. 1™ ENGINE OIL CI-4 SAE 15W-40**: All season

– **CASE AKCELA NO. 1™ ENGINE OIL CI-4 SAE 10W-30**: Winter

– SAE 5W30: Arctic

– API CI-4 oil is recommended

– Year-round: **CASE AKCELA ENGINE OIL 15W-40** , refer to figure 1.

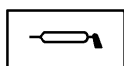
- Exceeding the low temperature limit will not cause engine damage; but may cause some starting difficulties.
- It is convenient to use universal multi-range oils to avoid the need to change oil due to ambient temperature.
- It is possible to use a synthetic engine oil if the performance and viscosity classifications of the oil correspond to the recommended mineral oils.
- The oil change intervals used must be the same as those for mineral oils.
- To make starting at temperatures below **0 °C (32 °F)** easier, the engine manufacturer recommends SAE 10W-30 oil.

**Transmission fluid**

Use **CASE AKCELA GEAR LUBE 135 H EP 80W-90** for outdoor temperature **-10.0 – 30.0 °C (14.0 – 86.0 °F)**.

Use **CASE AKCELA TRANSAXLE FLUID 80W-140** for outdoor temperature **20.0 – 45.0 °C (68.0 – 113.0 °F)**.

**NOTICE:** *The operating temperature of the fluid must not exceed 85 – 90 °C (185.0 – 194.0 °F).*

**Lube grease**

Use plastic lubricant with lithium content to lubricate the machine:

**CASE AKCELA 251H EP MULTI-PURPOSE GREASE**

**Washer fluid**

Use water (up to **0 °C (32 °F)**) and motor vehicle glass washer fluid when filling the washer fluid reservoir.

**NOTICE:** *Fill with a winter-rated motor vehicle glass washer fluid when temperatures are below 0 °C (32 °F).*

Use plastic lubricant with lithium content to lubricate the machine:

Case Akcela Extreme pressure grease moly

**Air-conditioning filling**

Mixture:

**1.2 kg** of coolant Halocarbon 134a

**0.005 L** of contrast medium

**0.2 L** of oil PAG 150

**Diesel exhaust fluid DEF (AdBlue)**

A liquid additive that is used for repairs of exhaust gases from Diesel engines.

**DIESEL EXHAUST FLUID (DEF)/ADBLUE®**

**Drum Coolant**

Mixture:

**50 kg** of 34% calcium chloride

**22 L** of water

**ACE Drum Coolant**

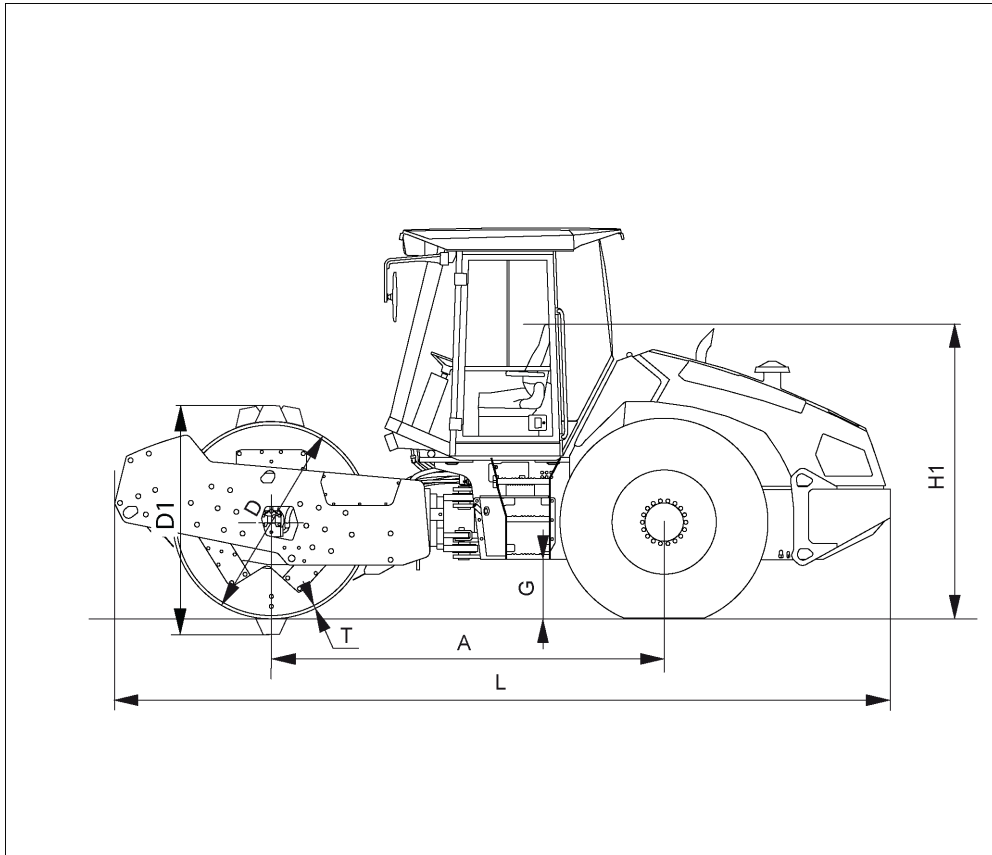
Mixture:

**83.25 kg** of 34% calcium chloride

**37 L** of water

## Machine dimensions - SV211E

Dimensional diagram for SV 211E (with cab, ROPS frame)



RAIL20COM0407FA 1

	<b>A</b>	<b>D</b>	<b>D1</b>	<b>G</b>	<b>H1</b>	<b>L</b>	<b>T</b>
Smooth drum	<b>2990 mm</b> (117.7 in)	<b>1500 mm</b> (59.1 in)	<b>1716 mm</b> (67.6 in)	<b>430 mm</b> (16.9 in)	<b>2200 mm</b> (86.6 in)	<b>5900 mm</b> (232.3 in)	<b>25 mm</b> (1.0 in)
Padfoot drum	<b>2990 mm</b> (117.7 in)	<b>1490 mm</b> (58.7 in)	<b>1694 mm</b> (66.7 in)	<b>430 mm</b> (16.9 in)	<b>2200 mm</b> (86.6 in)	<b>5900 mm</b> (232.3 in)	<b>20 mm</b> (0.8 in)

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