ORIGINAL INSTRUCTIONS

1107EX
1110EX
COMPACTION

OPERATOR'S MANUAL

Part Number 92296476
1st edition English
October 2024

CASE CONSTRUCTION

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WORKING OPERATIONS

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General information

Maintenance planning

Every 10 Hours of Operation or Daily (Whichever Occurs First)

First 50 hours or 15 days

Every 50 hours or 15 days

Every 100 Hours OR 1 Month

Every 250 hours or every 2 months

Every 500 Hours OR 4 Months

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1 - GENERAL INFORMATION

Foreword

We have pleasure in presenting you the operator's manual for CASE CONSTRUCTION vibratory soil compactor.

Your machine will remain productive for years provided you carefully observe and maintain the operating and servicing recommendations outlined in this manual, which cover the following information:

- Technical specifications
- Machine application details
- Technical features of the machine
- Identification
- Service contract programme
- Troubleshooting
- Safety
- Maintenance

To keep the machine in good operating conditions at all times and to use it for an extended period of time, it is mandatory to read this book and understand the details before putting the machine to work.

Continuous efforts are put to improve upon the performance of the machine by improvements and upgrades of specifications. This may result certain changes on illustrations and part numbers without any prior notice. Please, contact our regional marketing offices for latest updates.

For any clarification or further information, please contact our regional offices or our authorised representative.

NOTE: *In any circumstances no part or the whole of this manual can be copied or reprinted without the written permission of CASE CONSTRUCTION.*

Intended use

This vibratory soil compactor is intended for soil compaction activities using externally induced vibrations.

Do not use this machine for any other purpose or in any manner other than as described in the manual, decals, or other product safety information provided with the machine. These materials define the machine's intended use.

All persons who will be operating this machine shall possess a valid local vehicle operating permit and/or other applicable local age work permits.

Consult an authorized dealer of CASE CONSTRUCTION on changes, additions, or modifications that can be required for this machine to comply with various country regulations and safety requirements. Unauthorized modifications will cause serious injury or death. Anyone making such unauthorized modifications is responsible for the consequences.

ATTENTION: *The fuel system and engine on your machine are designed and built to government emissions standards. Tampering by dealers, customers, operators, and users is strictly prohibited by law. Failure to comply could result in government fines, rework charges, invalid warranty, legal action, and possible confiscation of the machine until rework to original condition is completed. Engine service and/or repairs must be done by a certified technician only.*

Note to the Owner

Manuals are available from your dealer to guide you with the operation of your machine. For prompt and convenient service, contact your dealer for assistance in obtaining the manuals for your machine.

Your dealer can expedite your order for operator's manuals, and parts catalogues.

Always give the machine name, model, and Product Identification Number (PIN) of your machine so your dealer can provide the correct operator's manual for your machine.

The company is continually striving to improve its products and therefore reserves the right to make improvements and changes when it becomes practical and possible to do so, without incurring any obligation to make changes or additions to the equipment sold previously.

All data given in this manual is subject to production variations.

Dimensions and weights are approximate only and the illustrations do not necessarily show the machine in standard condition. For exact information about any particular machine, consult your dealer.

Read the operator's manual

Improper operation of this machine can cause death or serious injury. Before using this machine, please ensure that every operator

- Is instructed in safe and proper use of the machine.
- Reads and understands the manual(s) pertaining to the machine.
- Reads and understands all safety decals on the machine.
- Clears the area of other persons and domestic animals.
- Learns and practices safe use of machine controls in a safe, clear area before operating this machine on a job site.

It is your responsibility to observe pertinent laws and regulations and follow your CASE CONSTRUCTION. instructions on machine operation and maintenance.

NOTE: *Each machine is supplied complete with a copy of this manual. Descriptions and illustrations provided herein are not binding. The manufacturer, provided that the basic characteristics of machine types described and shown in this manual remain the same, reserves the right to change components, parts and accessories supplied without any commitment to timely update this publication, and this any time it deems it convenient for improvement purposes or due to commercial or manufacturing requirements. For exact information, please consult your CASE CONSTRUCTION Dealer or contact the manufacturer's branch offices, who remain at your disposal for further help.*

Product Identifiction Number (PIN) plate

Product Identification Number (PIN) plate

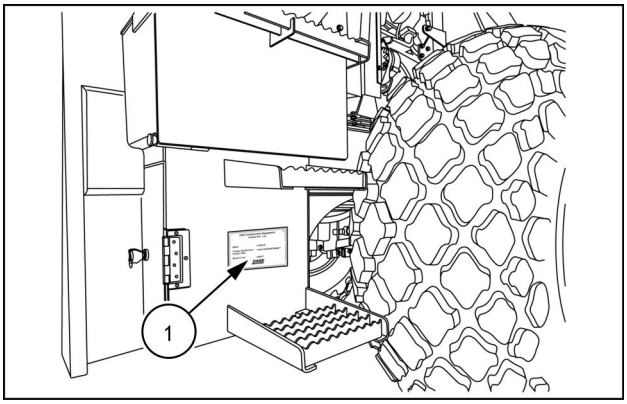
Write your machine serial number, model name , and year of manufacture on the lines provided below. Always give these numbers and component plate numbers to your dealer when you need parts or information for your machine.

A Product Identification Number (PIN) **(1)** plate is fixed below the battery box as shown in image **1** which indicates the machine details:

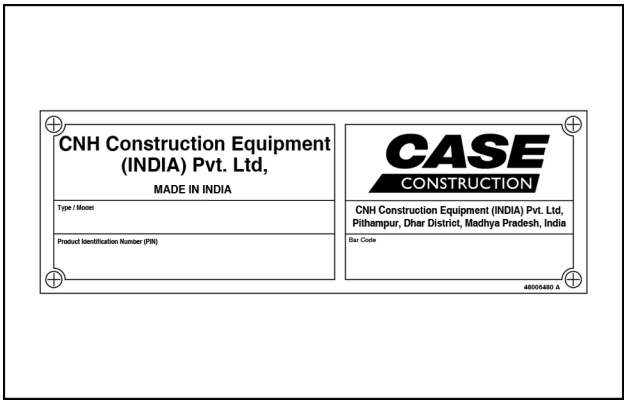
Make a record of the numbers. Keep this record and your manufacturers statement of origin in a safe place. If the machine is stolen, report the numbers to your local law enforcement agency.

MACHINE
Machine serial number
Machine model name/number
Year of the manufacture

NOTE: *The pin plate can be different on the basis of machine variant.*



PTIL17COM1125AA 1



PTIL22COM0021AB 2

PTIL22COM0042AB 3

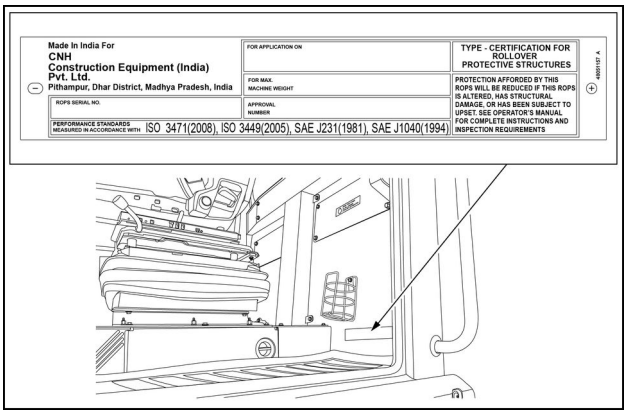
Some of the major components of the machine have their own identification plates/stickers such as:

- Engine
- Travel pump
- Vibration pump
- Travel motor
- Vibration motor
- Rear axle motor

It is necessary to quote the details provided on the identification plates of these major components, especially the serial numbers whenever any service/ parts assistance is required. The weight of the machine shown on the nameplate is the nominal operating weight.

Roll Over Protective Structure (ROPS) identification plate (If equipped)

The ROPS identification plate is fixed behind the operator seat as shown in the image.

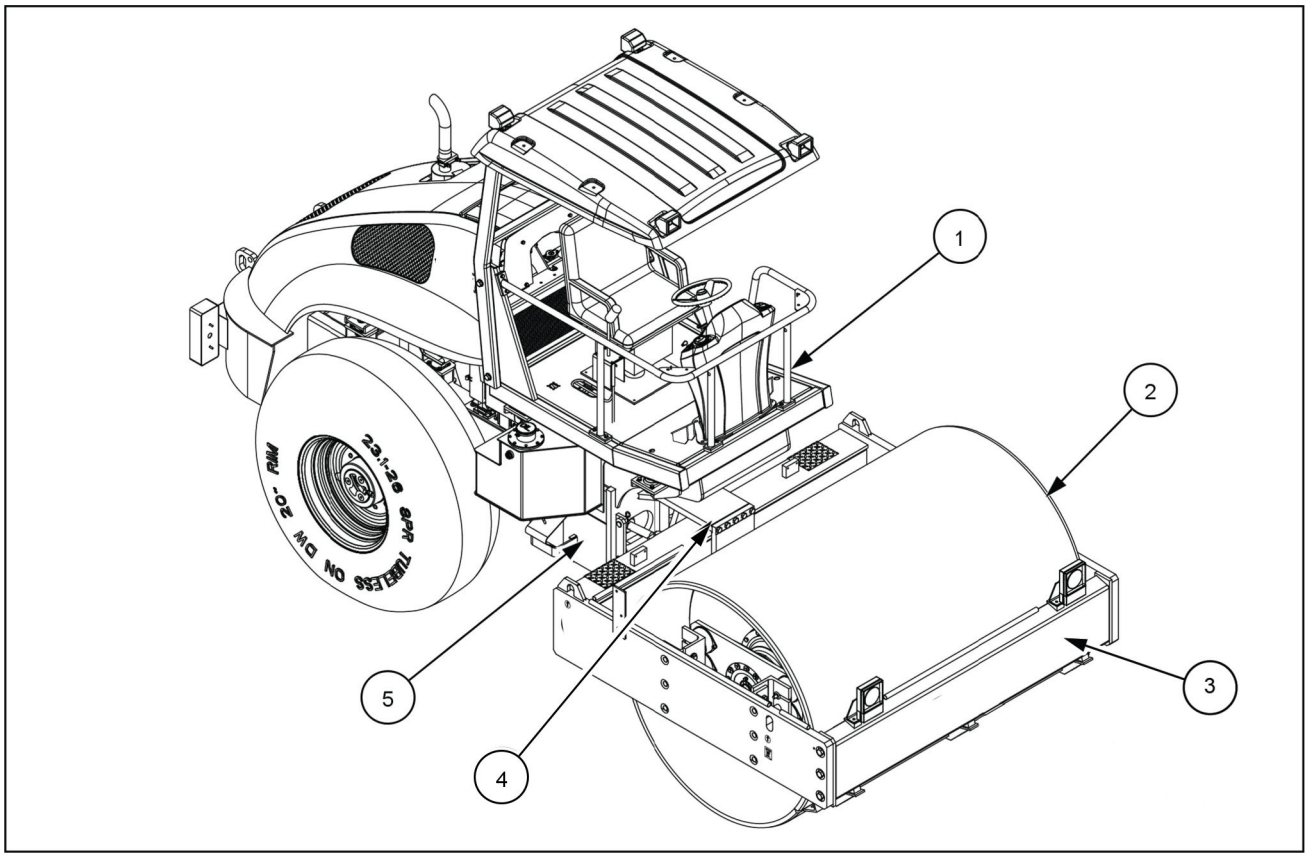


PTIL19COM0011AA 4

Component identification

NOTE: *Your machine may be similar to any of the below mentioned variants, depending upon the region of sales and/or type of machine purchased. In case more details are required, please contact your CASE CONSTRUCTION authorized dealers.*

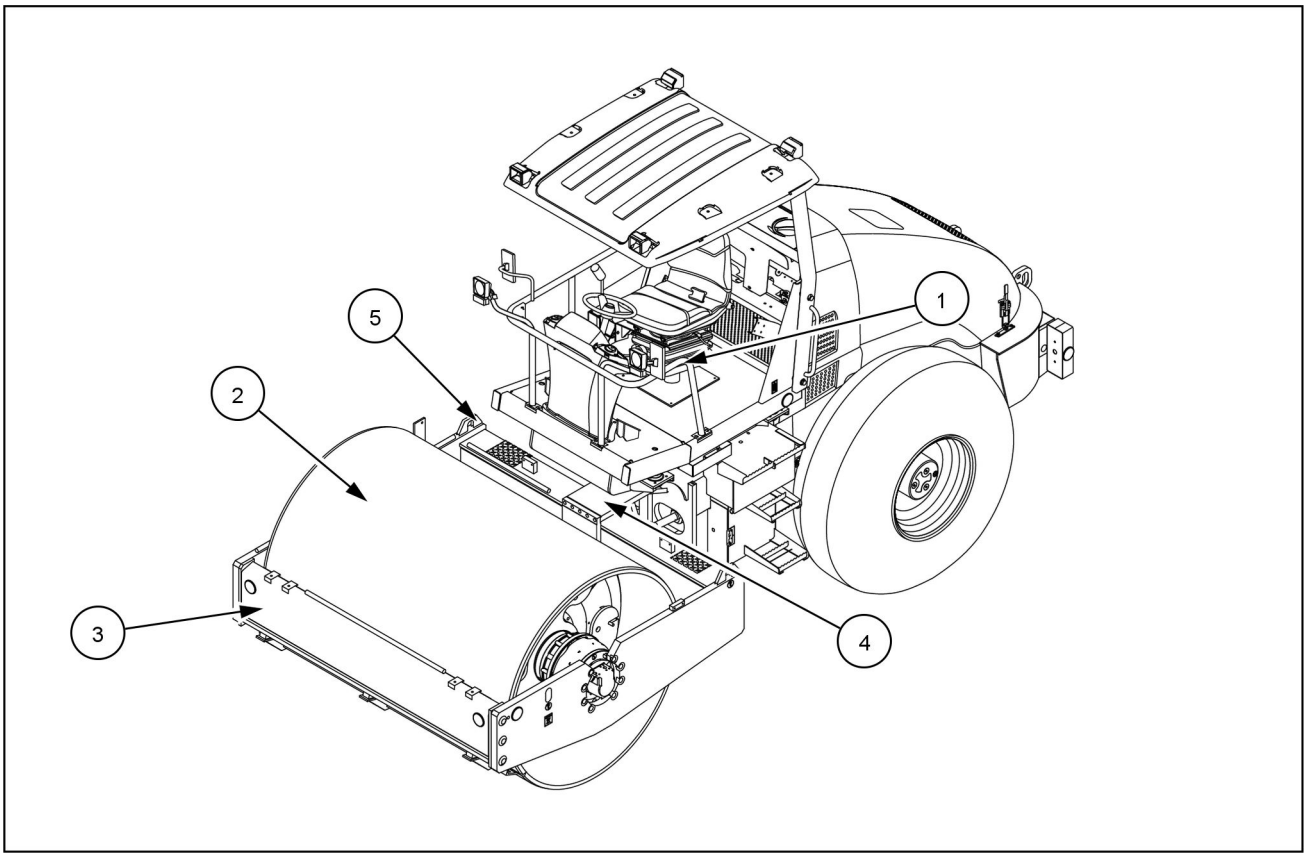
Canopy machine with partially covered engine hood



PTIL24COM0093FB 1

1. Operator platform
2. Drum assembly
3. Drum frame
4. Articulation joint
5. Chassis

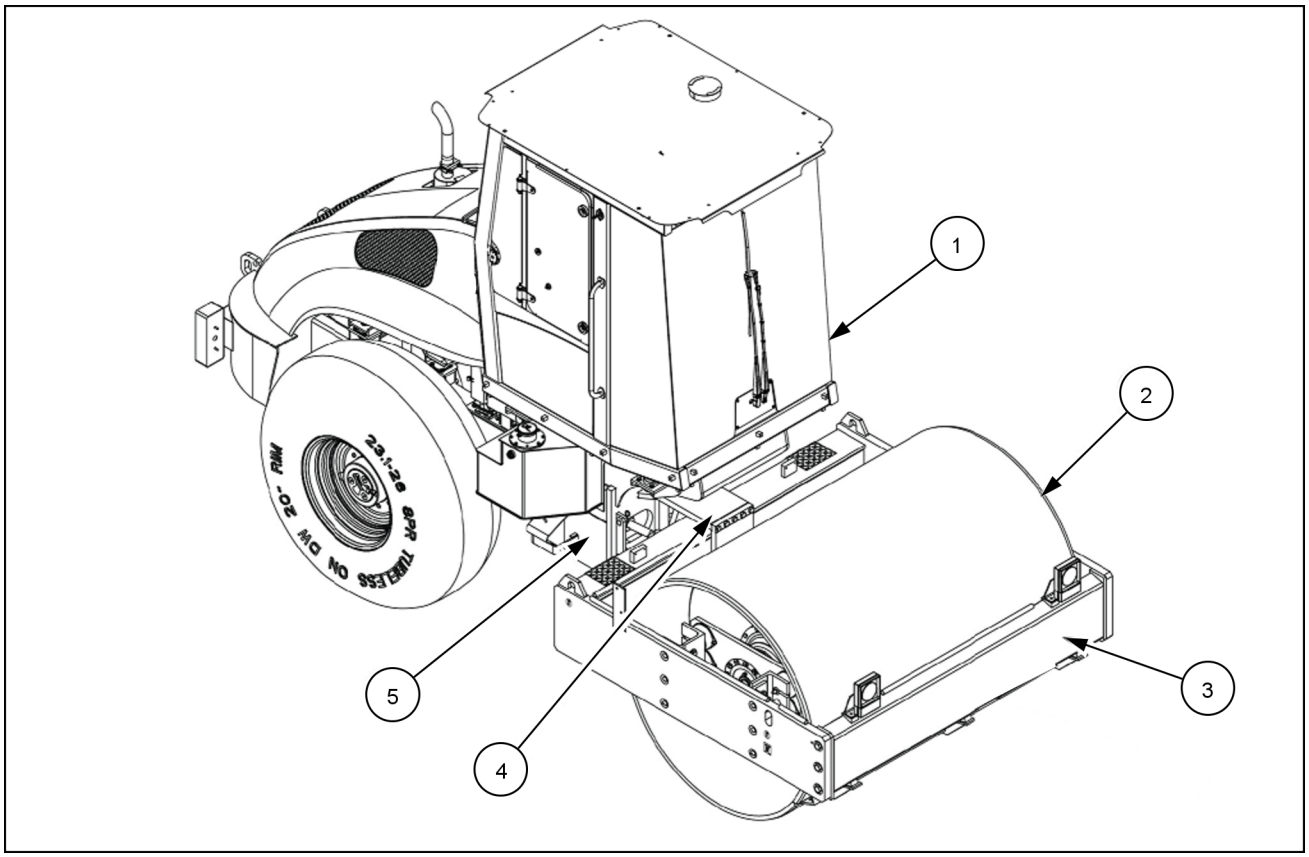
Canopy machine with full engine hood



PTIL24COM0095FB 2

1. Operator platform
2. Drum assembly
3. Drum frame
4. Articulation joint
5. Chassis

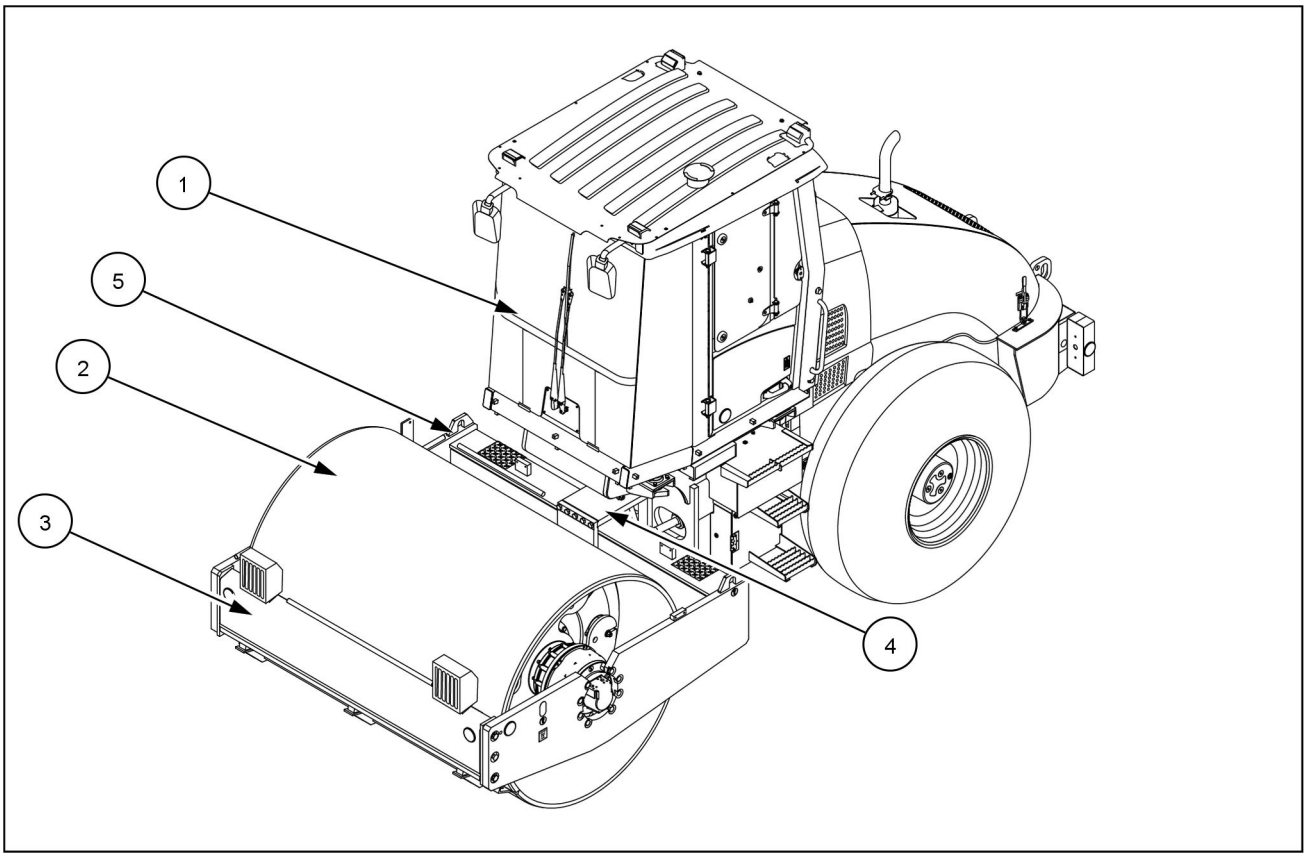
Cab machine with partially covered engine hood



PTIL17COM1099FA 3

1. Operator cabin
2. Drum assembly
3. Drum frame
4. Articulation joint
5. Chassis

Cab machine with full engine hood

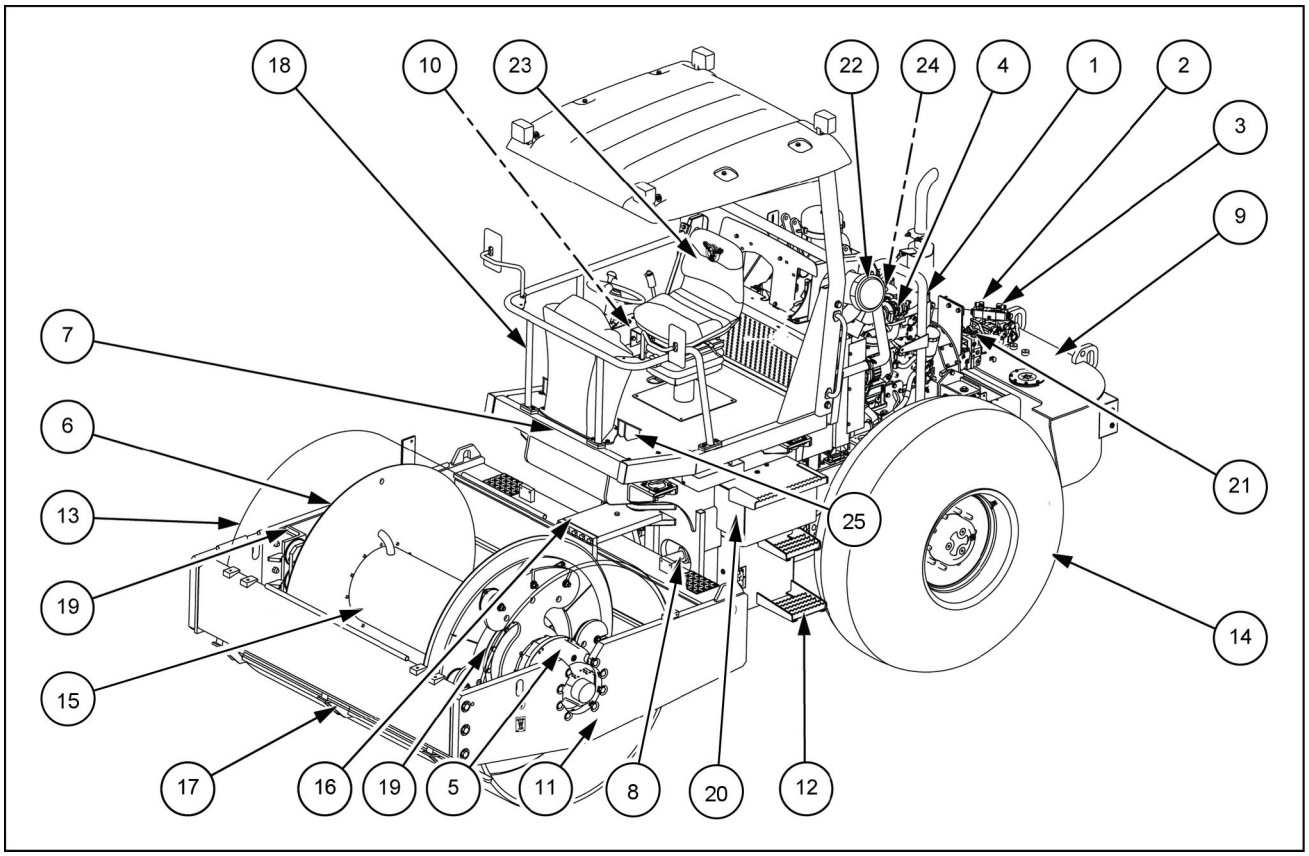


PTIL22COM0040FB 4

1. Operator cabin
2. Drum assembly
3. Drum frame
4. Articulation joint
5. Chassis

Main components of the machine

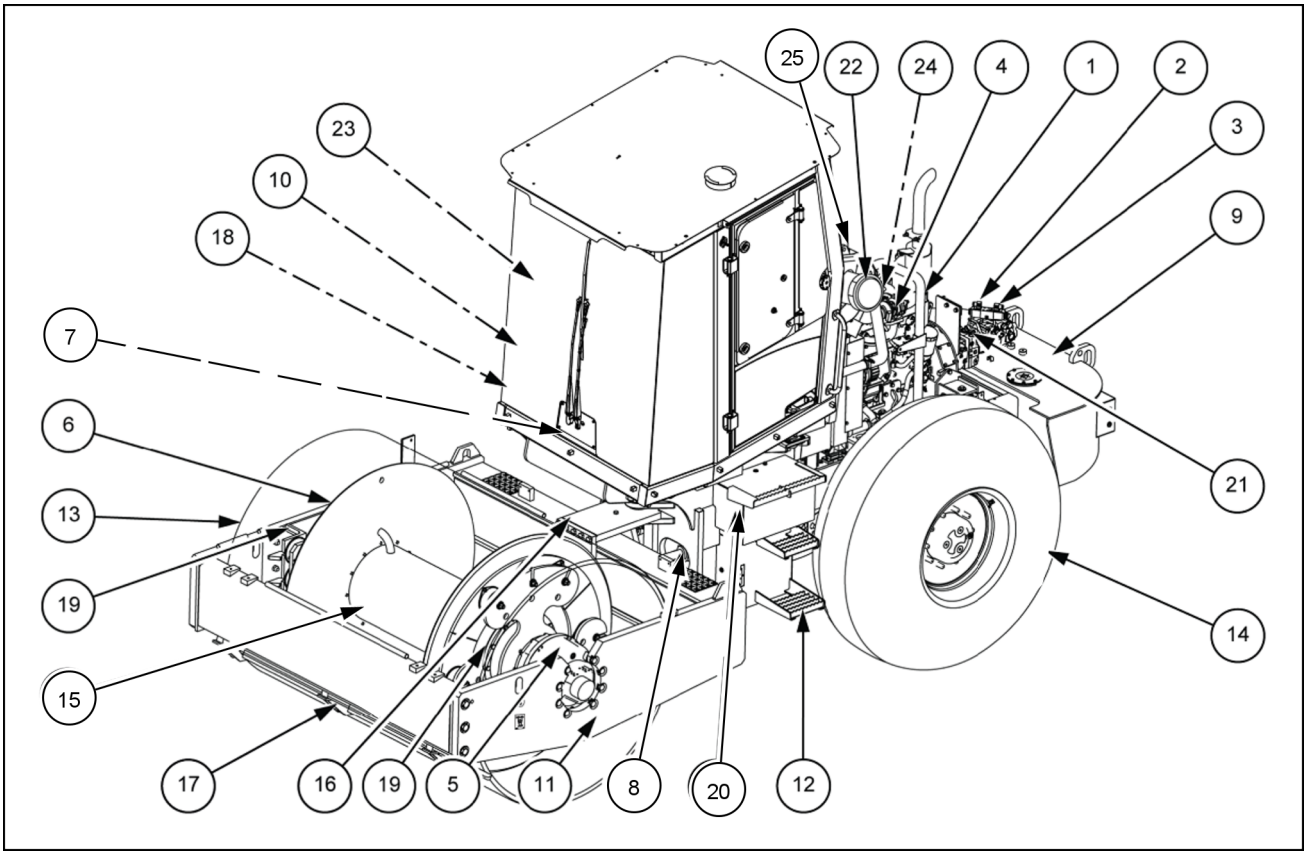
With canopy (If equipped)



PTIL24COM0106FB 1

1. Engine
2. Travel pump
3. Vibration pump
4. Turbo Charger
5. Auxiliary motor
6. Vibration motor
7. Steering unit
8. Steering cylinders
9. Fuel tank
10. Hydraulic oil tank
11. Front roller frame
12. Rear chassis
13. Front drum
14. Tires
15. Exciter shaft
16. Articulation joint
17. Scrapper
18. Operator’s platform
19. Vibration dampeners
20. Battery
21. Hydraulic oil filter
22. Air filter
23. Operator’s seat
24. Steering pump
25. Foot rest

With cab (If equipped)

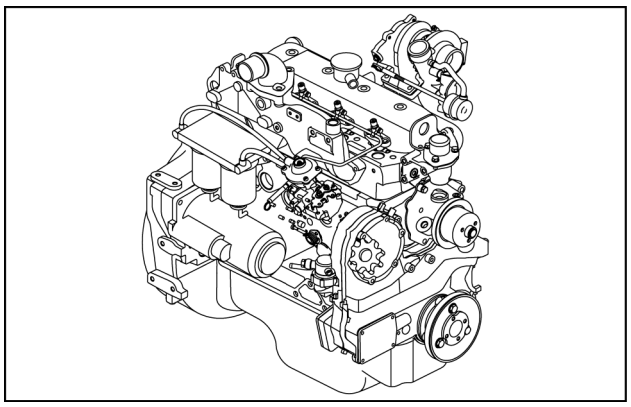


PTIL17COM1100FA 2

1. Engine
2. Travel pump
3. Vibration pump
4. Turbo Charger
5. Auxiliary motor (If equipped)
6. Vibration motor
7. Steering unit (inside cab)
8. Steering cylinders
9. Fuel tank
10. Hydraulic oil tank (on the right-hand side of the machine)
11. Front roller frame
12. Rear chassis
13. Front drum
14. Tires
15. Exciter shaft
16. Articulation joint
17. Scrapper
18. Cab
19. Vibration dampeners
20. Battery
21. Hydraulic oil filter
22. Air filter
23. Operator’s seat (inside cab)
24. Steering pump
25 Compressor

Engine

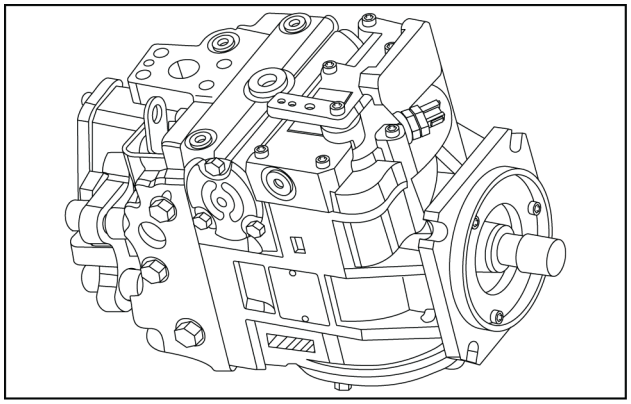
Water cooled, 4-cylinders, diesel engine in mounted on the rear chassis in the longitudinal direction. For engine specifications see, **9-4**.



PTIL15COM2142AA 3

Travel pump

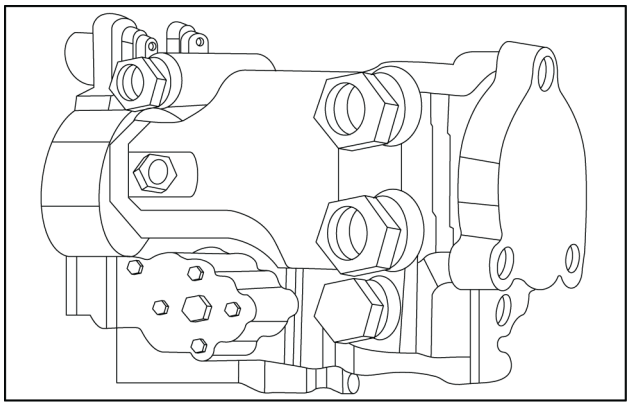
This is a variable displacement axial piston pump.



PTIL14COM0077AA 4

Vibration pump

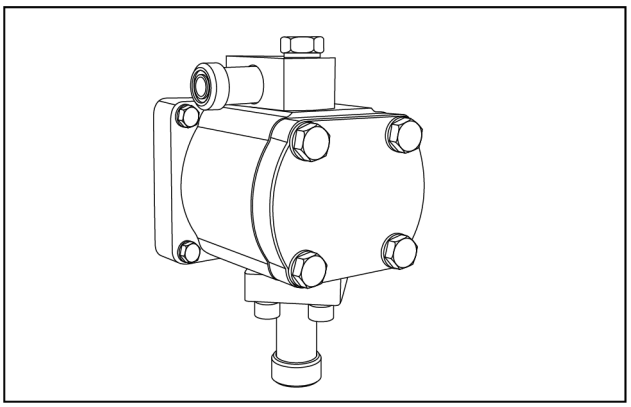
This is a variable displacement axial piston pump.



PTIL14COM0078AA 5

Steering pump

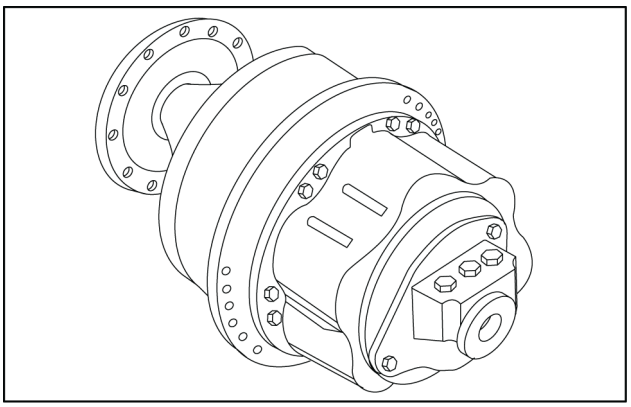
This gear type steering pump mounted at the side of the engine supplies hydraulic oil to the steering cylinders.



PTIL22COM0046AB 6

Drum drive motor

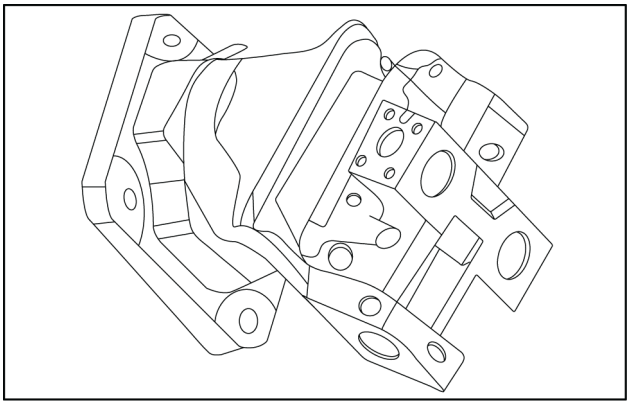
This is a low speed high torque motor.



PTIL14COM0080AA 7

Rear axle motor

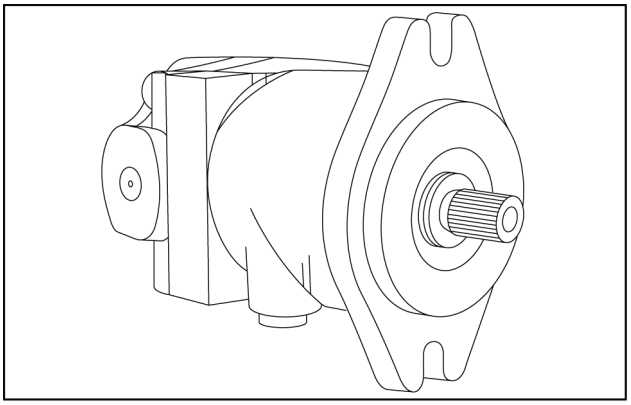
This is a rear axle motor.



PTIL14COM0081AA 8

Vibration motor

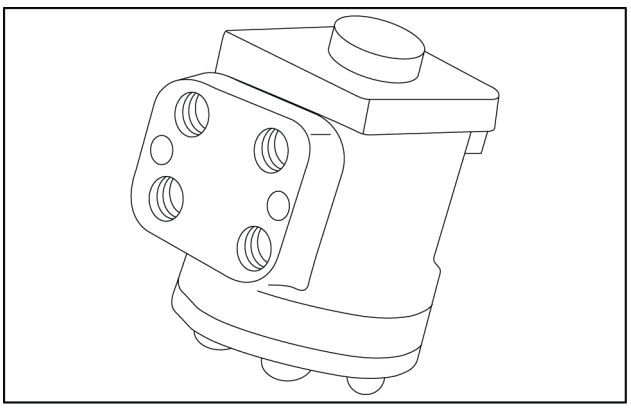
This is a fixed displacement axial piston type motor.



PTIL14COM0082AA 9

Steering unit

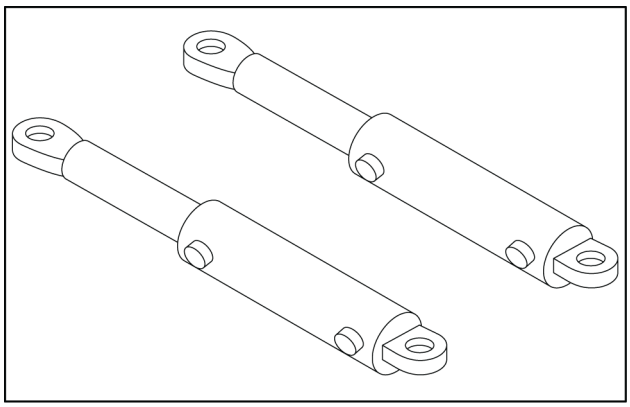
The steering unit is mounted on the operator's stand. This steering unit supplies hydraulic oil to the steering cylinders proportional to the rotation of the steering wheel. This unit is also called as orbitrol.



PTIL14COM0083AA 10

Steering cylinders

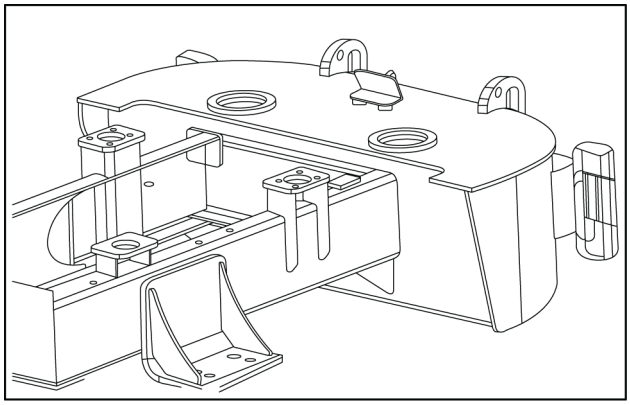
The steering cylinders are connected to the rear frame and their piston rods are connected to the articulation joint.



PTIL14COM0084AA 11

Fuel tank

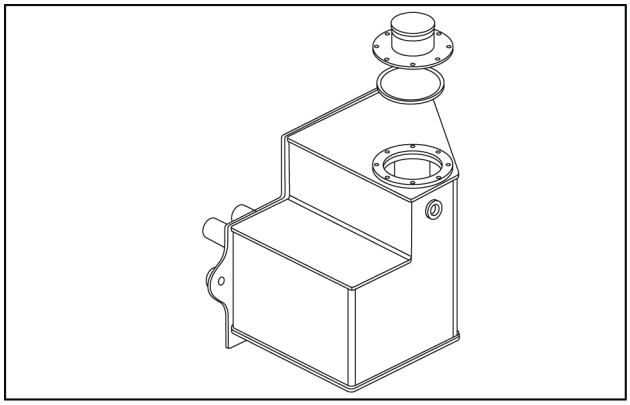
The box shaped hollow space at the rear of the frame serves as the fuel tank. The fuel tank is provided with a fuel level sensor which indicates the diesel level in the tank. A filter cap is provided with a dust filter and a vent hole. A drain plug is provided at the bottom of the fuel tank.



PTIL14COM0085AA 12

Hydraulic oil tank

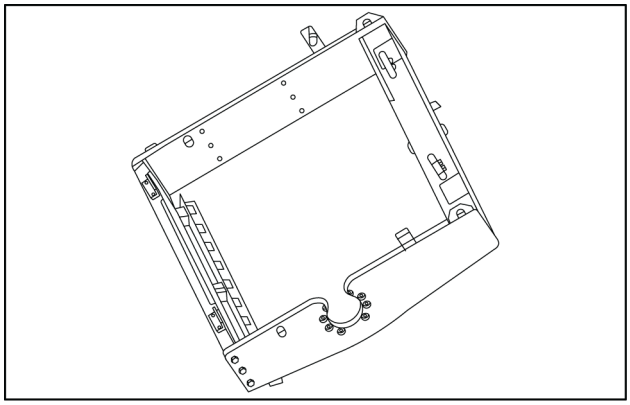
Hydraulic oil tank is located on right hand side of the machine. The hydraulic oil tank is provided with a hydraulic oil level sight gauge.



PTIL14COM0086AA 13

Front roller frame

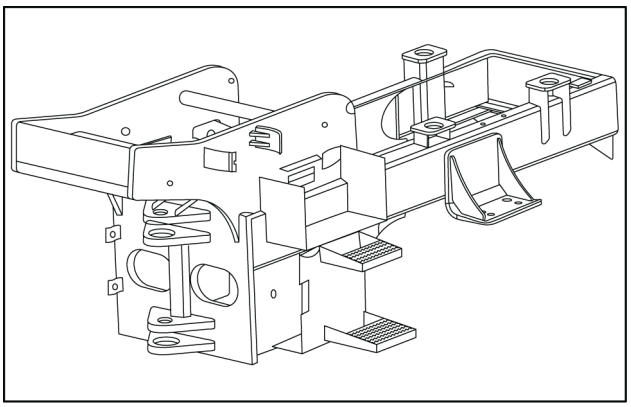
The front roller frame supports the front roller assembly vibration motor, drum drive motor. This roller frame is connected to the rear chassis by means of an articulation joint.



PTIL14COM0087AA 14

Rear chassis

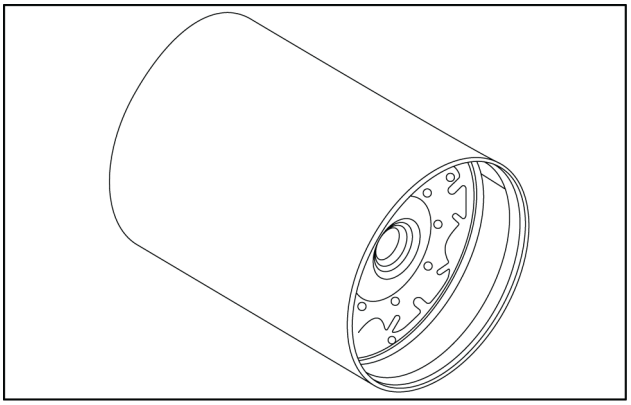
The rear chassis supports the rear axle assembly, engine, hydraulic oil tank, drivers platform etc. This is connected to the front roller frame by means of an articulation joint.



PTIL14COM0088AA 15

Front drum

The front drum is coupled to the vibration motor through elastic suspension at the right-hand side and to the propulsion motor through vibration dampers at the left-hand side.

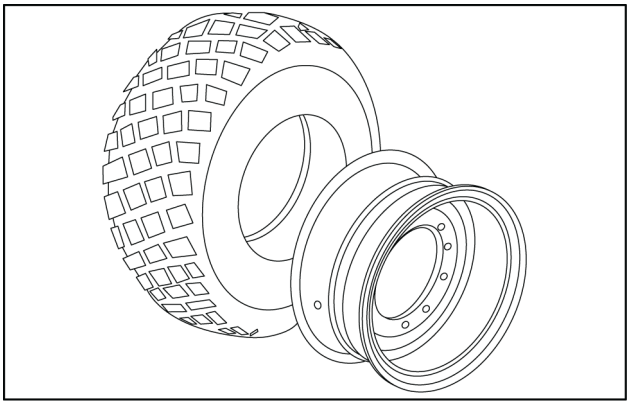


PTIL14COM0089AA 16

Tires

The tires used on the machine are tubeless tires. The size of the tires is 23.1/18-26/12PR.Clean water is filled inside these tires up to **75%** of the volume.

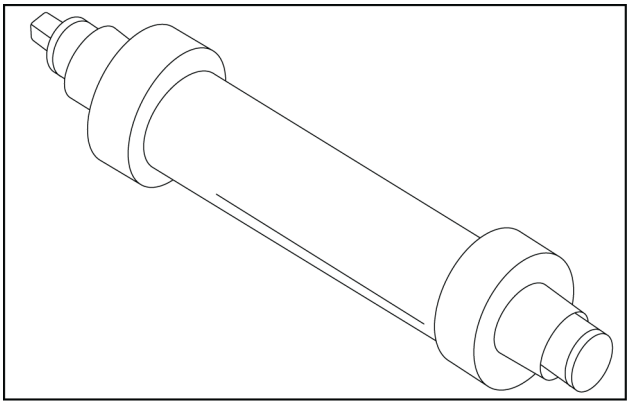
NOTE: *Do not use dirty water for filling the tires.*



PTIL14COM0090AA 17

Exciter shaft (vibration)

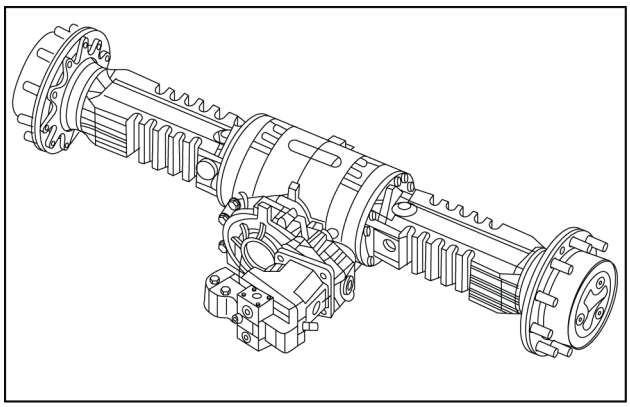
The exciter shaft is supported on two bearings and the vibration motor is coupled to it through coupling. Two floating masses are responsible for providing dual amplitude.



PTIL14COM0091AA 18

Rear axle

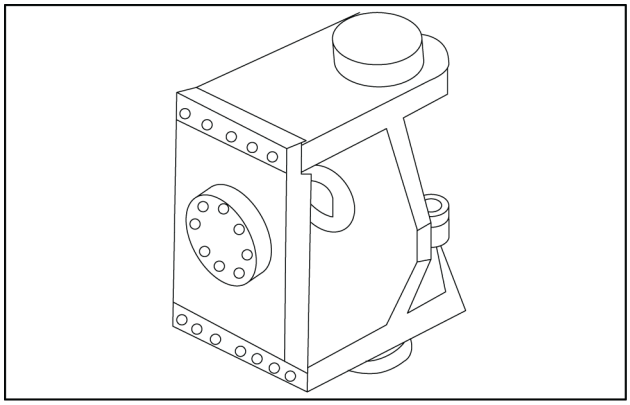
Rigid rear axle.



PTIL14COM0100AA 19

Articulation joint

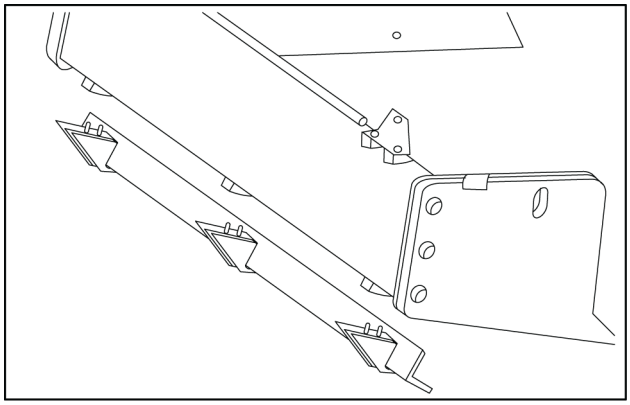
The front rolling part and the rear rolling part are coupled by means of a coupling called articulation joint.



PTIL14COM0092AA 20

Scrapper

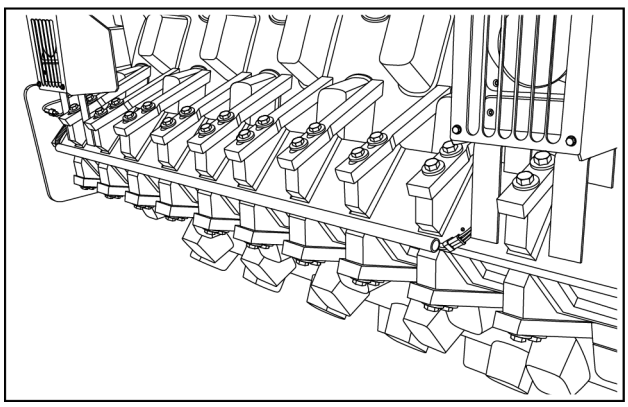
To remove the soil and other particles from the surface of the drum, a scrapper is mounted near the drum.



PTIL14COM0093AA 21

Scrapper (optional)

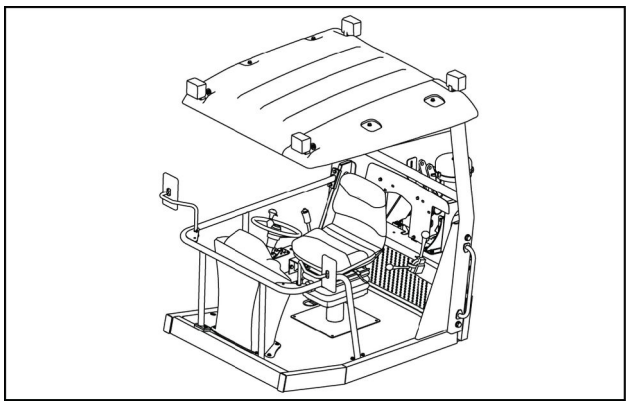
To remove the soil and other particles from the surface of the drum, a optional scrapper is mounted on the rear of the drum.



PTIL22COM0051AB 22

Operator’s platform (with canopy)

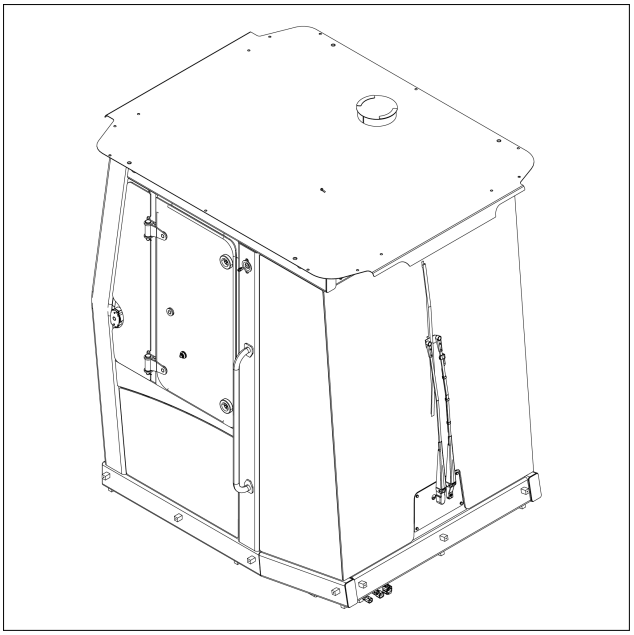
The operator’s platform mounted on the rear frame supports the operator’s seat, control panel, steering sounds and engine controls.



PTIL16TLB0379AB 23

Operator’s cab (if available)

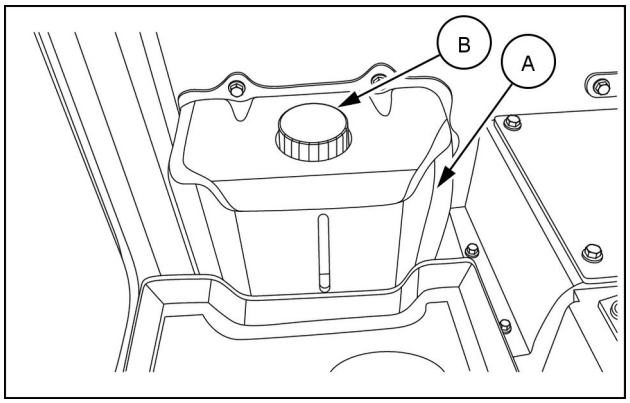
The operator’s cab is to protect the operator from tough atmospheric condition. The cab is available with HVAC option also to provide climate control for the comfort of operator.



PTIL17COM1101EA 24

Windshield wash reservoir (If equipped)

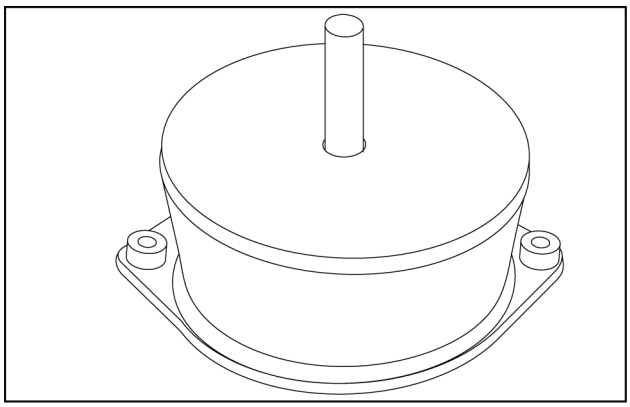
A **1.9 L** (**2.0 US qt**) windshield wash reservoir **(A)** is available inside the cabin on right hand side behind operator’s seat. Fill the reservoir by opening the cap **(B)** when required.



PTIL19COM0012AA 25

Vibration dampeners

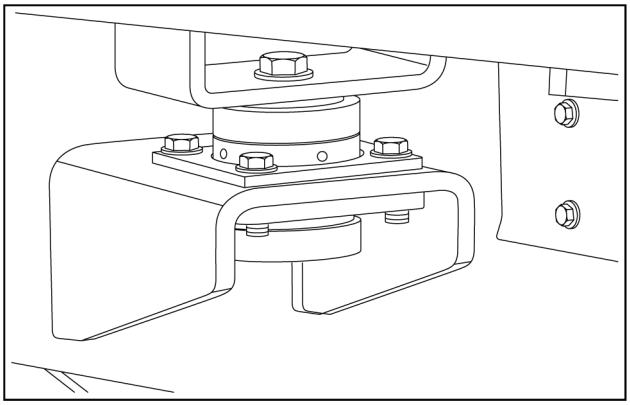
Anti Vibration Mount (AVM) pads are installed on the vibrating rollers, to prevent vibration transmission from rollers to machine frame.



PTIL14COM0095AA 26

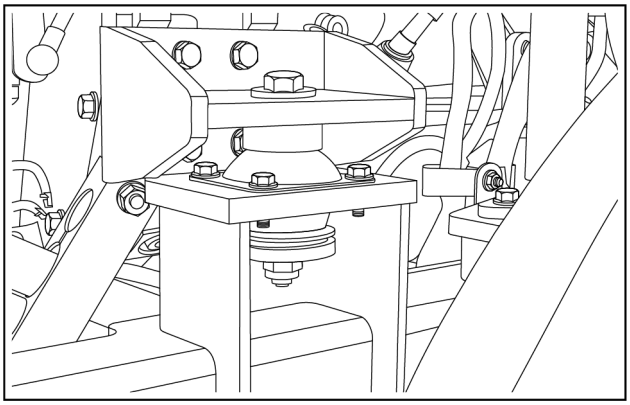
To prevent the vibrations getting transmitted to the operator's platform, mounting rubbers are separated from the canopy through this elastic suspension.

NOTE: *Two elastic suspension are used as shown in illustration, one from top and another from bottom which are bolted together.*



PTIL19COM0023AA 27

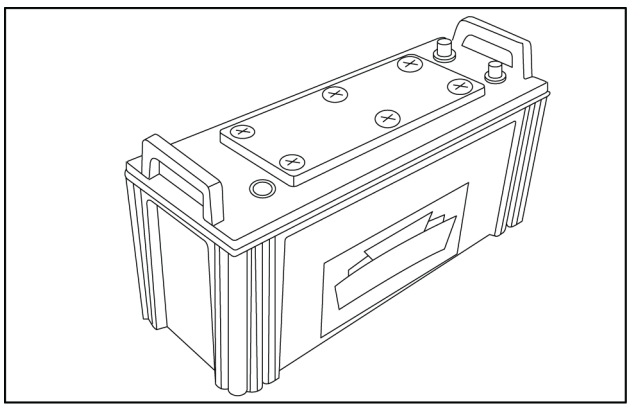
To prevent the vibrations getting transmitted to the engine, mounting rubbers are separated from the engine through this elastic suspension.



PTIL21COM0561AB 28

Battery

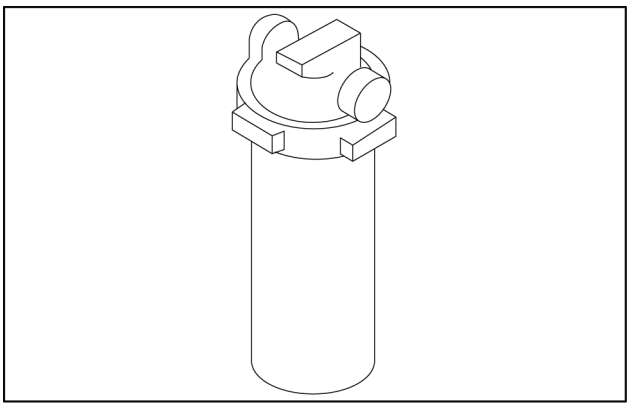
The battery supplies power for engine starting, monitoring devices and to all working lamps.



PTIL14COM0096AA 29

Hydraulic oil filter

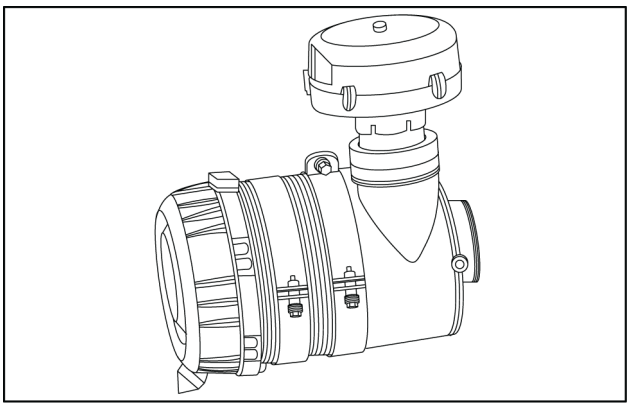
A fine mesh, medium pressure, hydraulic oil filter is used in the servo circuit to remove the contamination from the hydraulic oil.



PTIL14COM0097AA 30

Air filter

A dual element, dry type, heavy duty air filter is provided along with the engine. There is a electric vacuum indicator switch which indicates choking of air filter on operator console.



PTIL14COM0098AA 31

Operator’s seat

This cushioned operator’s seat can be traversed to front and back thus enabling the operator to adjust the cushion to maximum comfort. This can be rotated to the right side as well. For seat adjustment procedure see, **3-5**.

2 - SAFETY INFORMATION

Note to the owner

This manual contains important information about the safe operation, adjustment, and maintenance of your soil compactor. This manual is divided into chapters as outlined in the table of contents. Refer to the index at the end of this manual for locating specific items about your machine.

Use this manual as a guide. Your machine will remain a highly profitable tool provided you observe and maintain the operating and servicing recommendations outlined in the manual carefully, which covers the following items:

- Features and specifications of the machine
- Operation
- Basic safety rules
- Maintenance and consumable
- Quick repair instructions on hydraulic, mechanical and electrical systems

Do not operate or permit anyone to operate or service this machine until you or the other persons have read and understand the safety, operation, and maintenance instructions in this manual. Use only trained operators who have demonstrated the ability to operate and service this machine correctly and safely.

This manual has been specially prepared for the benefit of your operators and mechanics to help them derive the optimum performance from your machine and to keep the downtime to the barest minimum. This manual should be consulted frequently and should be understood thoroughly.

The information in this manual is provided on the basis of information that was available at the time that the manual was written. Settings, procedures, part numbers and other items can change. These changes can affect the service that is given to the machine. Ensure that you have the complete and most current information from your Dealer before you start any machine operation.

Contact your Dealer for any further information or assistance about your machine.

Personal safety

Personal safety

This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible death or injury.

Throughout this manual and on machine decals, you will find the signal words DANGER, WARNING, and CAUTION followed by special instructions. These precautions are intended for the personal safety of you and those working with you.

Read and understand all the safety messages in this manual before you operate or service the machine.

⚠ DANGER indicates a hazardous situation which, if not avoided, will result in death or serious injury. The color associated with DANGER is RED.

⚠ WARNING indicates a hazardous situation which, if not avoided, could result in death or serious injury. The color associated with WARNING is ORANGE.

⚠ CAUTION, used with the safety alert symbol, indicates a hazardous situation which, if not avoided, could result in minor or moderate injury. The color associated with CAUTION is YELLOW.

FAILURE TO FOLLOW DANGER, WARNING, AND CAUTION MESSAGES COULD RESULT IN DEATH OR SERIOUS INJURY.

Machine safety

NOTICE: *Notice indicates a situation which, if not avoided, could result in machine or property damage. The color associated with Notice is BLUE.*

Throughout this manual you will find the signal word Notice followed by special instructions to prevent machine or property damage. The word Notice is used to address practices not related to personal safety.

Information

NOTE: *Note indicates additional information which clarifies steps, procedures, or other information in this manual.*

Throughout this manual you will find the word Note followed by additional information about a step, procedure, or other information in the manual. The word Note is not intended to address personal safety or property damage.

Safety rules

Understand that your safety and the safety of other workers or nearby people is measured by how you service and operate this machine. Know the position and operation or all controls before you try to operate. Check all controls in a safe area before starting your work.

Read this manual completely and make sure you understand the controls. All equipment has a limit. Make sure you understand the speed, brakes, steering, stability, and load characteristics of this machine before you start to operate.

Most accidents involving machine operation and maintenance can be avoided by following basic safety rules and precautions. Read and understand all the safety messages in this manual, the safety manual, and the safety decals on the machine. See your dealer if you have any questions.

Machine application - details

Safety features:

- Electrical circuit protected by fuses
- Parking brake automatically disengages when machine is not in neutral even when switch is ON
- No vibration in high speed mode of travel
- Neutral indicator
- 2 Speed indicator
- Battery non-charging indicator
- Low lubrication oil pressure indicator
- Air filter clog indicator
- Hydraulic oil filter clog indicator
- Parking brake indicator
- Turn indicator
- Hazard lights
- Engine coolant high temperature indicator
- Voltmeter
- Fuel level gauge
- Engine coolant temperature gauge
- Service hour meter
- Rear axle with out board planetary drives

Safety rules - basic operating

⚠ WARNING

Escaping fluid!
Hydraulic fluid or diesel fuel leaking under pressure can penetrate the skin and cause infection or other injury. To prevent personal injury: Relieve all pressure before disconnecting fluid lines or performing work on the hydraulic system. Before applying pressure, make sure all connections are tight and all components are in good condition. Never use your hand to check for suspected leaks under pressure. Use a piece of cardboard or wood for this purpose. If injured by leaking fluid, see your doctor immediately.
Failure to comply could result in death or serious injury.

W0178A

⚠ WARNING

Some components may continue to run down after you disengage drive systems.
Make sure all drive systems are fully disengaged.
Failure to comply could result in death or serious injury.

W0113A

- Always check the operating and the road safety of the machine before starting.
- Always make sure the working area is clear of other persons, domestic animals, tools, etc.
- Before starting the engine, be sure all operating controls are in the neutral or park lock position.
- Start the engine only from the operator's seat. Operate controls only when seated in the operator's seat.
- Always sound horn before starting the machine.
- Never operate the engine in enclosed spaces as harmful exhaust gases may build up.
- Check Brakes, steering, and other machine control devices prior to starting operation.
- Before you operate at night, check that all lamps illuminate and are sufficient for same operation.
- This is a one man machine, no riders allowed.
- Tighten all connections before starting the engine or pressurizing the system.
- While parking the vehicle:

  Park on a hard, level surface.

  Put all controls in neutral.

  Engage the parking brake.

- Before leaving the machine, take suitable precautionary measures to ensure that roller cannot roll away on its own.
- If you wear clothing that is too loose, you can be injured. Always wear clothing that will not catch objects. Extra safety equipment that can be required which includes hard hat, safety shoes, ear protection etc.
- Understand the machine limitations and keep the machine under control.
- Select a gear that will prevent excessive speed when going downhill.

Safety rules - battery

⚠ 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.

W0006A

Antidote:

a. External: Rinse well with water, removing any soiled clothing.
b. Internal: Avoid vomiting. Drink water to rinse your mouth. Consult a doctor.
c. Eyes: Rinse thoroughly with water for **15 min** and get prompt medical attention.

- Follow manufacturers' instruction when storing and handling batteries.
- Always wear eye protection when working with a battery.
- Do not create sparks or have open flames when working with a battery.
- Do not weld, grind or smoke near a battery.
- When disconnecting the battery terminals, remove the negative cable (-) first and then remove the positive cable (+). When connecting the battery terminals connect the positive (+) cable first and then connect the negative (-) cable.
- Disconnect the battery (both terminal) before welding on any part of the machine. Failure to do so may cause damage to sensitive electrode components.
- When using auxiliary batteries or connecting booster cables to start the engine, use the procedure shown in this manual. (See **4-5**. Do not short across the terminals.
- Never lay a metal object across the terminals because a spark, short circuit, explosion, or personal injury may result.
- Keep batteries out of reach of children and other unauthorized persons.

- Battery posts terminals, and related accessories contain lead and lead compounds. Wash hands after handling.

Safety rules - electrical storm safety

- Do no operate machine during an electrical storm.
- Do not make contact with the ground or objects outside the machine.
- If you are on the ground during an electrical storm, stay away from machinery and equipment. Seek shelter in a permanent, protected structure.

Safety rules - fire or explosion proof prevention

- Leaked or spilled fuel/oil on hot surface or electrical components can cause a fire.
- Engine fuel can cause an explosion or fire. Do not fill the fuel with engine running.
- Sparks from the electrical system or engine exhaust can cause an explosion and fire. Before you operate the machine in an area with flammable dust or vapors, use good ventilation to remove the flammable dust or vapors.

Safety rules - operator precautions

- Continuous long term contact with hydraulic fluid may cause cancer. Avoid long term contact and wash the skin promptly with soap and water.
- Know and understand the job site traffic flow patterns and obey signalmen, road signs, and flagmen.
- Know and use the hand signals required for particular jobs, and know who has the responsibility for signaling.
- Do not operate the machine if you do not feel well. This can be dangerous for you and for people around you.
- Wear protective equipment when appropriate. Hard hats, protective glasses, protective glasses, shoes, gloves, reflector type vests, respirators and ear protection are examples.
- Do not operate the machine while under the influence of alcohol, drugs, or while otherwise impaired.
- Keep clean of moving parts. Loose clothing, jewelry, watches, long hair, and other loose items can become entangled in moving parts.
- Always check for battery cover properly locked before climbing on the machine.

Safety rules - maintenance and repair

- Perform repair and maintenance work only when the drive is at standstill. Deviation from this rule is allowed when the work cannot be performed without drive.
- Before starting to work on hydraulic lines relieve the same from pressure. Pin-sized and smaller streams of hydraulic oil pressure can penetrate the skin and result in serious injury. If the hydraulic oil under pressure does penetrate the skin, seek medical treatment immediately.
- Refit all the covers, if removed during maintenance work.
- Maintain all hoses and tubes in a good condition. Make sure all connections are tight.
- Make a replacement of any tube or hose that is damaged or thought to be damaged. Do not use your hands to check for leaks. Use a piece of cardboard or wood.
- Use insulated gloves.
- When using hammer to remove and install the pivot pins or separate parts using compressed air or using a grinder, wear eye protection that completely encloses the eyes.
- Before starting to work on the electrical system of the machine, disconnect the battery.
- Lock the articulation joint before carrying out work on rollers with the articulated frame.

Safety rules - transportation precautions

- The machine can be moved within contained construction site by means of propulsion.
- Comply with local laws and regulations.
- Use appropriate lighting as defined by local regulations.

- On public road the machine is to be transported on suitable transport vehicles, In this case the machine must be sufficiently secured against rolling off and sliding on vehicle.
- Travel speed should be such that complete control and machines stability is maintained at all times.

Safety rules - wheels and tires

⚠ DANGER

Explosion hazard!
Welding to a wheel can create an explosive air and gas mixture. Removing air from the tire or loosening the tire on the wheel (breaking the bead) will NOT eliminate the hazard. ALWAYS remove the tire completely from the wheel before welding.
Failure to comply will result in death or serious injury.

D0033A

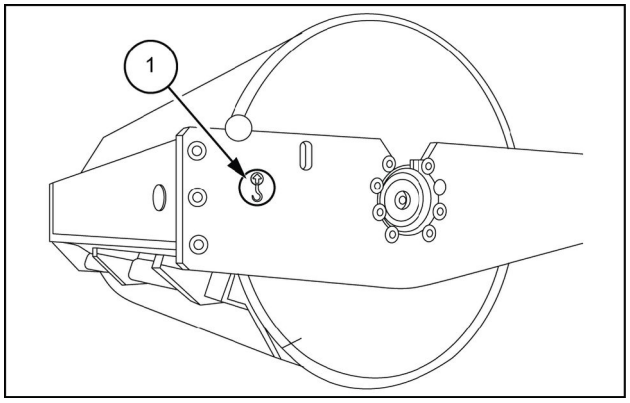
- Tires are heavy. Handling without the proper equipment could cause death or serious injury.
- Make sure tires are correctly inflated. Do not exceed recommended load or pressure. Follow instructions in this manual for proper tire inflation.
- Always use a qualified tire technician to service the tires and wheels. If a tire has lost all pressure, take the tire and wheel to a tire shop or your dealer for service.

Safety rules - safety decals

The decals are intended for the personal safety of you and those working with you. Please take this manual, walk around your machine and note the content and location of the decals.

It is the owner's/operator's responsibility to keep the decals legible.

When you clean the decals, use only a cloth, water and soap. Do not use solvent, gasoline etc.
See **(1)** for safety decal.



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Safety rules - seat belt

⚠ WARNING

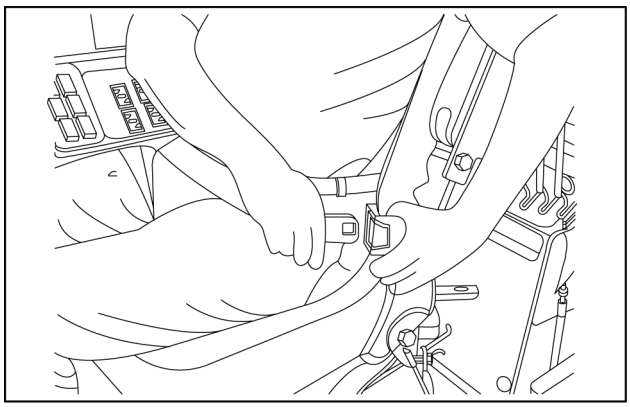
Avoid injury!
Before starting the engine, securely fasten the seat belt. The seat belt can help ensure your safety if it is properly used and maintained. Never wear a seat belt loosely or with slack in the belt system. Never wear the belt if it is twisted or pinched between the seat structures.
Failure to comply could result in death or serious injury.

W0142A

- Seat belt must be worn at all times.
- Keep seat belts in good condition.
- Keep the sharp edges and items that can cause damage away from the belts.
- Periodically check belts, buckles and mounting bolts for damage.
- Replace belts that have cuts that can make the belt weak.
- Check that bolts are tight on the seat bracket or mounting.
- If belt is attached to seat, make sure seat or seat brackets are mounted securely.
- Keep seat belts clean and dry.
- Clean belts only with soap solution and warm water.

Tightening / Releasing the seat belt

1. Pull the right-hand belt strap from the retractor.
2. Insert the metal end into the latch mechanism of the left-hand side of the seat.
3. To release, press the red button on the latch mechanism.



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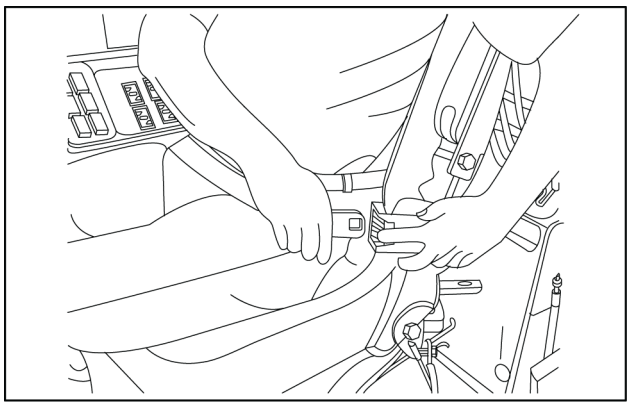


PTIL14COM0016AA 3

General safety rules

1. Make sure to arrest all fuel leaks. Any fuel or oil spilled on hot surface or electrical components may cause fire accidents. Make sure that the machine is sealed from leakage.

2. Do not allow straw, trash, bird nests or flammable material in the machine and remove the same as they can ignite fire on hot surfaces.

3. Make sure the fire extinguisher installed on or near the machine. If already equipped, the fire extinguisher is maintained and serviced according to the manufacturer's instructions.

4. Check and make sure to clean all the trash from the machine especially around hot components such as the engine, transmission, exhaust, battery, etc. Do these checks and clean the machine at least once a day, probably at the end of the day. More frequent checks and cleaning of machine may be necessary depending on the operating environment and conditions.

5. Inspect the electrical system for loose connections and frayed insulation. Repair or replace the loose or damaged parts.

6. Check and remove the debris accumulation around moving components such as bearings, pulleys, belts, gears, cleaning fans, etc. More frequent cleaning of the machine may be necessary depending on the operating environment and conditions.

7. Check all Fuses, Relay, and MCB's for correct ratings and validity. Replace the defective or non-complaint parts. Do not to bypass/override/tamper any safety systems of the machine.

8. Check and remove any oily rags or other flammable material on the machine. Do not to store such material around or on the machine.

9. Make sure that do not weld or flame cut any items that contain flammable material. Clean the items thoroughly with non-flammable solvents before welding or flame-cutting.

10. Immediately investigate any unusual smells or odors that may emerge during operation of the machine. Always aware of such observations and actions thereof.

11. Make sure that the machine is serviced only by authorized CASE CONSTRUCTION dealer service team and not by any external parties.

12. Check and remove any non-recommended devices that are fitted on the machine. Do not to use any devices that are not a standard fitment by the company.

13. The personnel to make sure that they do not smoke or use mobiles while refuelling. It is not advisable to park the machine near a place which poses fire hazard (Workshops where welding, grinding, gas cutting etc is underway, bonfires etc).

14. Note and avoid all hazards and obstructions such as ditches, underground lines, trees, cliffs, overhead electrical wires, or, areas where there is danger of the landslide.

NOTICE: *Any damage to the machine due to non-adherence of the above guidelines and instructions may lead the warranty void for the machine.*

Safety Precautions - Lines of utility facilities

NOTICE: *Safety precautions must be taken when working near buried or overhead utility lines, such as electrical power cables, communication cables (phone, Internet, TV), gas pipes, water pipes, sewer pipes, or others.*

NOTICE: *Before you begin any machine operation, it is your responsibility to be aware of all possible utility lines in the area of your project and to avoid them. Ask local authorities and utility companies for the demarcation and location of their underground lines.*

NOTICE: *Check with local authorities for laws, regulations, and/or strict penalties that require you to locate and avoid existing utility lines. Keep the minimum distance from underground utility lines that is required by law.*

NOTE: *After you locate any buried utility lines, carefully dig a hole to the utility line to verify the location and depth of the line.*

NOTE: *Assess in advance the location in which the machine will be operating. Make sure that the operating site is large enough to move and operate the machine.*

Call all local utility companies before you perform any machine operation

Know the utility color code:	
Electric	Red
Gas, oil, or petroleum	Yellow
Communication, telephone, television	Orange
Water	Blue
Sewer	Green / Brown
Proposed excavation	White
Surveying	Pink
Reclaimed water and slurry	Purple

After locating any buried utility lines, carefully dig a hole by hand and/or automatic vacuum equipment to the utility line to verify the location and depth of the line.

Special precautions with electrical power lines

NOTICE: *Contact with suspended power lines can cause burns or death by electrocution. Make sure that there is enough space between the machine and suspended power lines.*

Before you drive or operate the machine in areas with high-voltage lines and cables, or power stations, check the following procedures:

- You must have the power disconnected or keep a safe working distance from any power lines, cables, or power stations.
- Keep all parts of machine a safety distance away from the power source. you must also know any federal, state / provincial, or local safety codes or regulation that apply to the job site.
- Pay attention to overhead high voltage lines and hanging obstacles.
- Retract raised or extended implements, if necessary.
- Remove or lower radio antennas or other accessories.
- Check and make sure to comply with any local regulations that may be applicable.
- Wet ground will expand the area that could cause any person on it to be affected by electric shock.
- Keep all people and employees away from the work area.

- Serious injury or death can occur if you do not keep the machine or accessories a safe distance from power lines. High voltage lines require a significant distance to ensure safe operation of the machine (see table below).

Voltage (V)	Safety distance
50000 V or less	**3.0 m** (**9.8 ft**)
50000 – 200000 V	**4.5 m** (**14.8 ft**)
200000 – 350000 V	**5.0 m** (**16.4 ft**)
350000 – 500000 V	**7.5 m** (**24.6 ft**)
500000 – 750000 V	**10.5 m** (**34.4 ft**)
750000 Vor more	**13.5 m** (**44.3 ft**)

If any part of the machine touches the high voltage power lines:

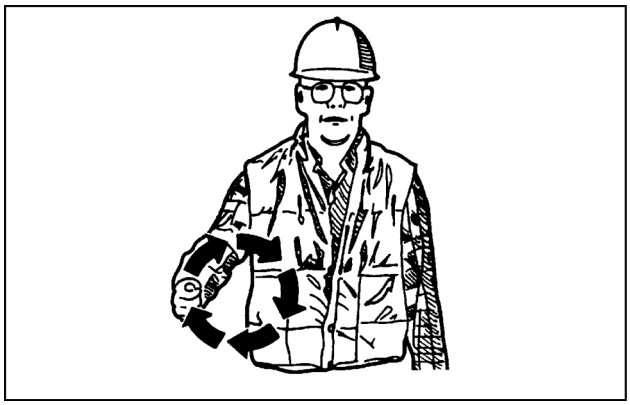
- Stop the machine movement immediately.
- Engage the parking brake, stop the engine and remove the key from the ignition switch.
- Check if you can safely leave the cab or your actual position without contact with electrical wires. If not, stay in your position and call for help.
- If you can leave your position without touching electrical lines, jump clear of the machine, making sure you do not make contact with the ground and the machine at the same time.
- Do not allow anyone to touch the machine until the electrical power has been shut off to the power lines.
- If you can break contact, reverse the operation that caused contact with the high voltage power, and move the machine away from the danger area. If you cannot break contact stay in the machine until the utility company de-energizes the line and tells you that the power is off.
- If you have extreme conditions, such as fire, etc., and you are forced to leave the machine, jump as far from the machine as possible with your feet together and do not touch the ground with your hands.

Transmission - Hand signals

When operating the machine, never attempt to carry out tasks calling for fine control or to work in areas where visibility is poor or during reverse travel, without seeking the assistance of a flagman. Make perfectly sure that you and the flagman understand the signals to be used. The flagman must always keep out of the machine's working area.

The operator must always keep visual contact with the flagman, stop the machine immediately if the contact is lost.

Start the engine



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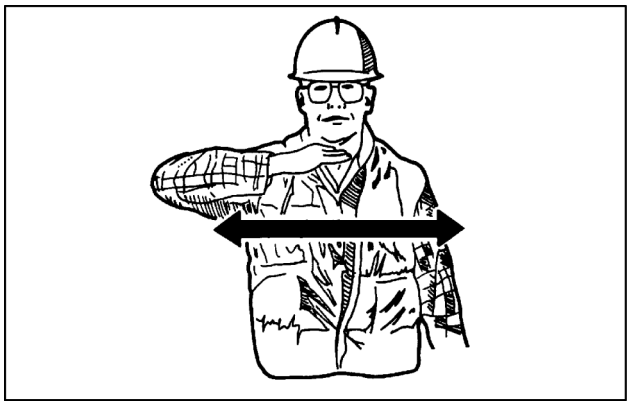
Stop the engine



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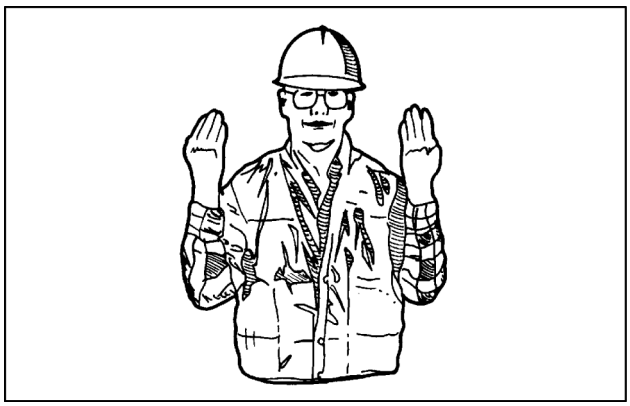
Come to me



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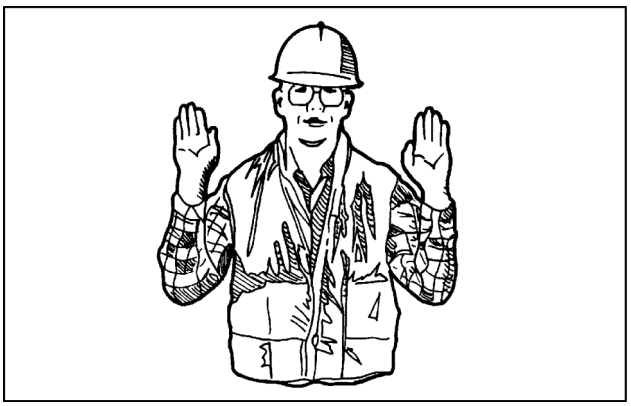
Move away from me



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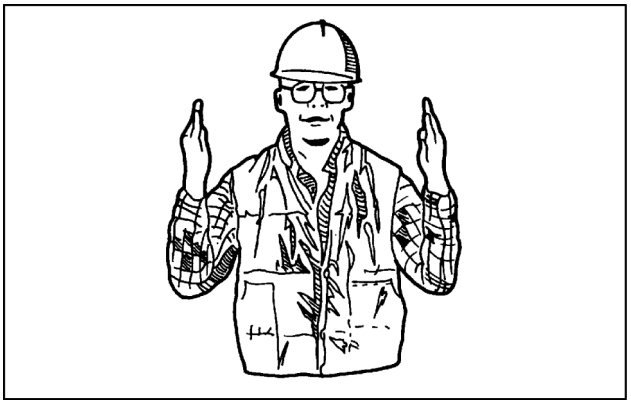
Go this far



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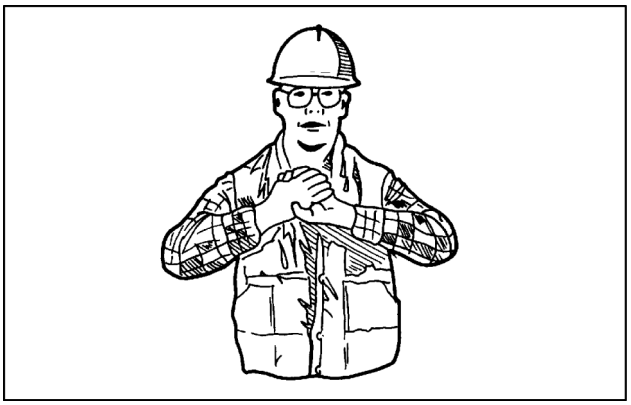
Stop all and hold



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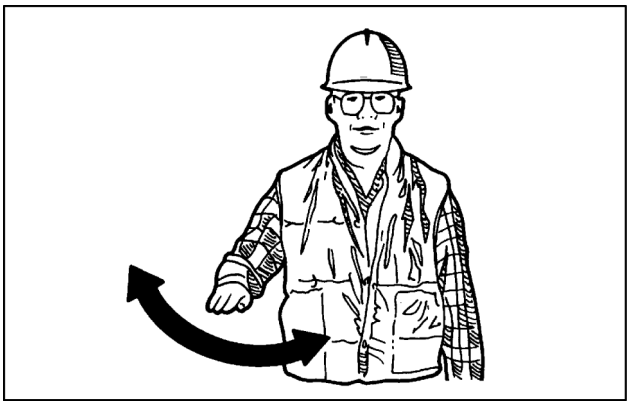
Stop



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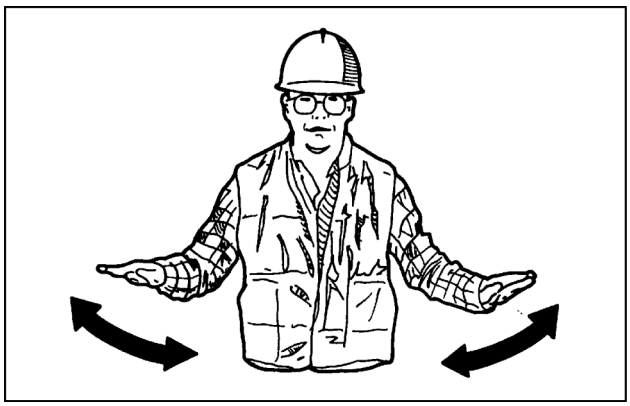
Emergency stop



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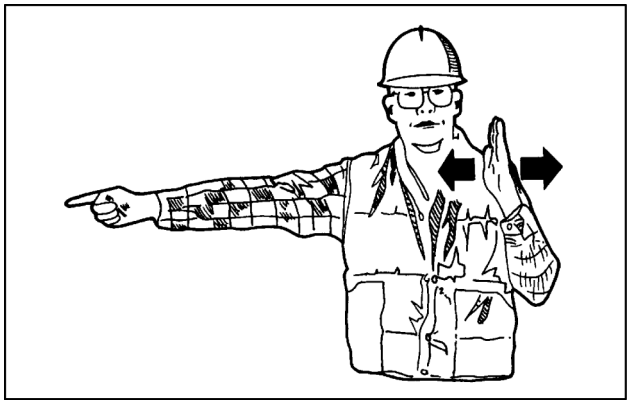
Turn machine left



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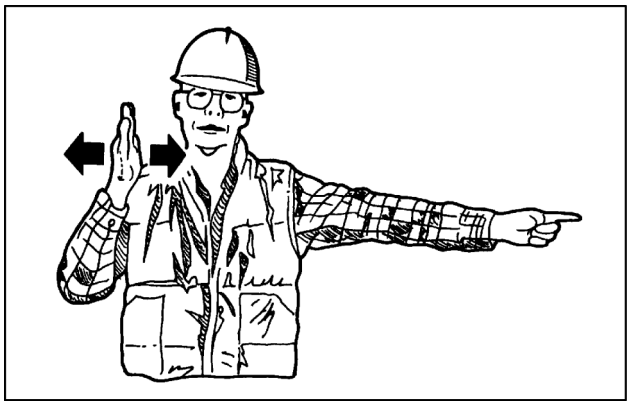
Turn machine right



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Welding on the machine

⚠ DANGER

Improper operation or service of this machine can result in an accident.
Any unauthorized modifications made to this machine can have serious consequences. Consult an authorized dealer on changes, additions, or modifications that may be required for this machine. Do not make any unauthorized modifications.
Failure to comply will result in death or serious injury.

D0030A

⚠ CAUTION

Fire hazard!
Remove all flammable and explosive materials from the area around the welding location. Shield flammable material that you cannot remove from the immediate area. Always have a fireguard and fire extinguisher available nearby.
Failure to comply could result in minor or moderate injury.

C0062A

Whenever carrying out a welding operation on the machine as authorized by the manufacturer and in accordance with manufacturer's instructions you must:

- Disconnect the batteries.
- Disconnect the alternator B+ and D+ terminal wires.
- Connect the welding apparatus ground cable to the component on which the welding operation is to be performed. Never connect the welding apparatus ground to a component of the hydraulic system.

Fuel system maintenance

Fuel vapors are explosive and flammable. Do not smoke while handling fuel. Keep fuel away from flames or sparks. Turn off the engine and remove the key before servicing. Always work in a well-ventilated area. Clean up spilled fuel immediately.

Improper use of solvents can result in fire or explosion. Do not use gasoline or low flash point solvents to clean the fuel filter and/or the fuel pump. Clean only in a well-ventilated area away from sources of sparks or flame, including any appliances with a pilot light.

Drain the fuel-water separator into a suitable container and dispose of the contents in accordance with local environmental regulations.

Diesel fuel escaping under pressure can penetrate the skin, causing serious injury. Do not use your hand to check for leaks. Use a piece of cardboard or paper to search for leaks. Wear protective gloves and eye protection. If any fluid makes contact with the skin, seek medical attention immediately to ensure gangrene does not form.

Cooling system maintenance

Do not remove the filler cap until engine coolant temperature drops below **50 °C** (**122.0 °F**). If the filler cap is removed at a higher temperature, there is risk of vapor or coolant scalding due to the inner overpressure effect.

When handling lubricants (oil, grease, etc.) and other chemical products, always follow instructions for their proper use.

Use proper containers to collect fluid. Dispose of fluids and filters in a way that protects the environment and complies with applicable laws.

Do not smoke or use an open flame during the servicing procedure. Use eye protection.

Do not handle engine coolant, engine oil or hydraulic oil at temperatures that exceed **49 °C** (**120.2 °F**).

Hydraulic system maintenance

Hydraulic oil escaping under pressure can penetrate the skin, causing serious injury or infection. To prevent personal injury: Relieve all pressure before disconnecting fluid lines. Before pressurizing, make sure all connections are tight and components are in good condition. Never use your hand to check for suspected leaks under pressure. Use a piece of cardboard or wood for this purpose. If injured by leaking fluid, see your doctor immediately.

When handling lubricants (oil, grease etc.) and other chemical products, always follow instructions for their proper use.

Use proper containers to collect fluid. Dispose of fluids and filters in a way that protects the environment and complies with applicable law.

Do not smoke or use an open flame during the servicing procedure. Use eye protection. Do not handle engine coolant, engine oil or hydraulic oil at temperatures that exceed **49 °C** (**120.2 °F**).

Tools and equipment

Tools, lifting equipment, slings, chocks, and other equipment must be in safe operating and working condition.

Metal splinters can cause injury when accessory bolts are being driven in and out. Therefore, a brass or copper mandrel should be used and protective goggles must be worn.

Machine safety sign information

⚠ 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.

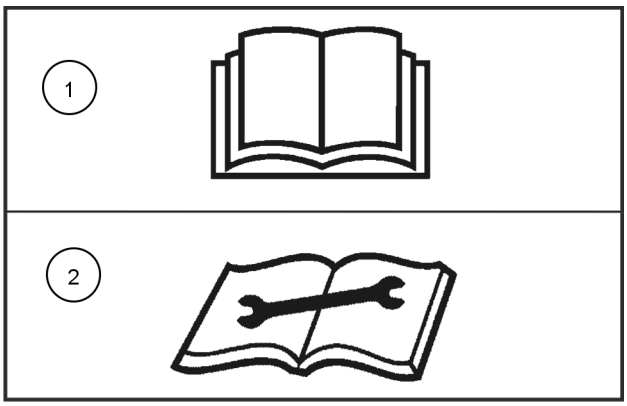
W0168A

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

Keep safety signs clean and legible. Clean safety signs with a soft cloth, water, and a gentle detergent. 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 that is replaced, make sure the safety sign is installed on the new part. See your dealer for replacement safety signs.

Read operators manual symbol.
Safety signs that display the “Read Operator’s Manual” symbol **(1)** are intended to direct the operator 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, refer to the appropriate page of the operator’s manual.
Read service manual symbol.
When a decal displays the “read service manual” symbol **(2)**, refer to the service manual for specific information such as service, operation, maintenance or adjustment. See an authorized dealer for a service manual.
One or both of these symbols may appear on a decal relating to safety, machine operation or service. To the right is a sample safety sign that directs the machine operator or service technician to the operators manual **(1)** for additional information concerning this procedure.



BT09A330 1

Decal representation

ISO two-panel pictorial symbol safety signs.
The first panel indicates the nature of the hazard. The second panel indicates the appropriate avoidance of the hazard. The background color is YELLOW. Prohibition symbols such as STOP, if used are RED.

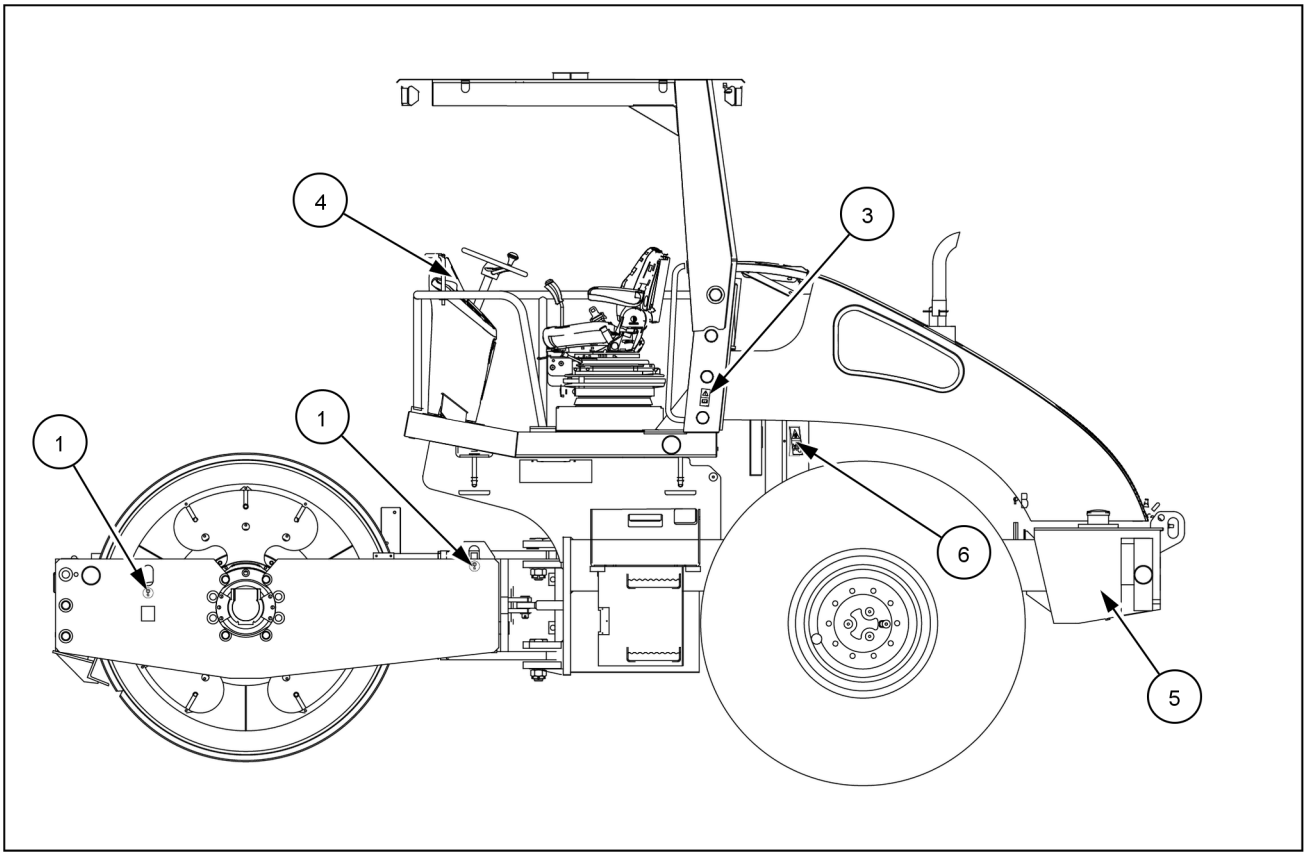
RAPH12SSL0074AA 2

Informational decals

The following signs have been placed on your tractor in the area indicated. They are intended to instruct you and those working with you. Please take this manual and walk around your tractor to note the content and location of these signs. Review the signs and instructions detailed in this manual with the operators. Keep the signs clean and legible. If they become damaged or illegible, obtain replacements from your authorized CASE CONSTRUCTION dealer.

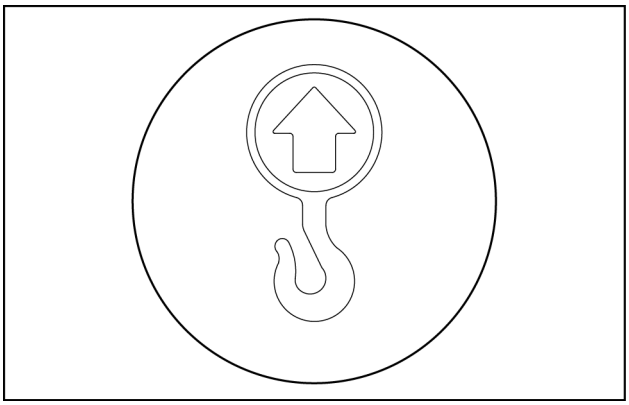
With canopy

Left-hand side of the machine



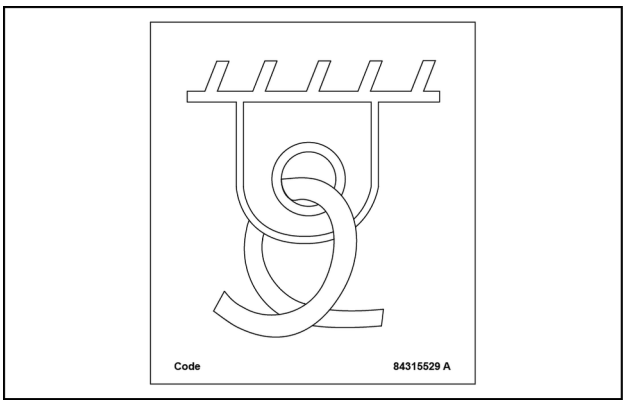
PTIL24COM0096FB 1

(1) Hook decal



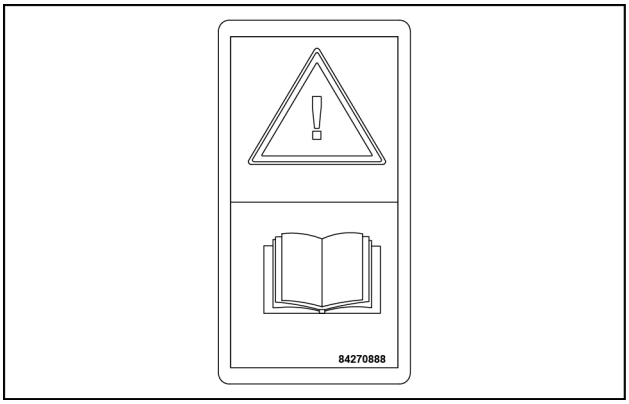
PTIL17COM1059AA 2

(2) Tie down decal



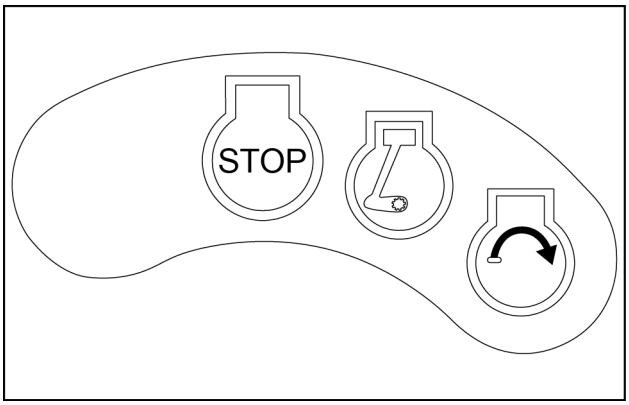
PTIL17COM1070AA 3

(3) General hazard decal



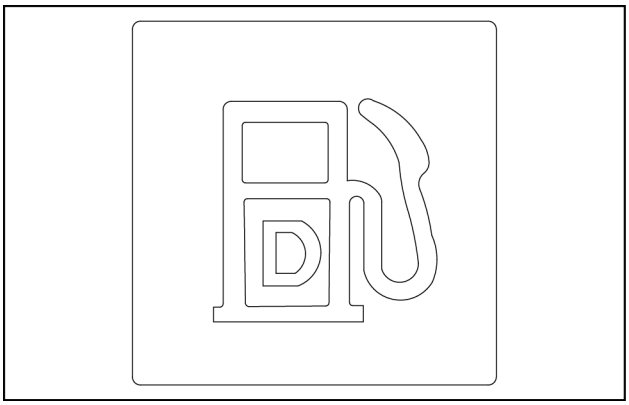
PTIL17COM1069AA 4

(4) Ignition decal



PTIL15COM2104AA 5

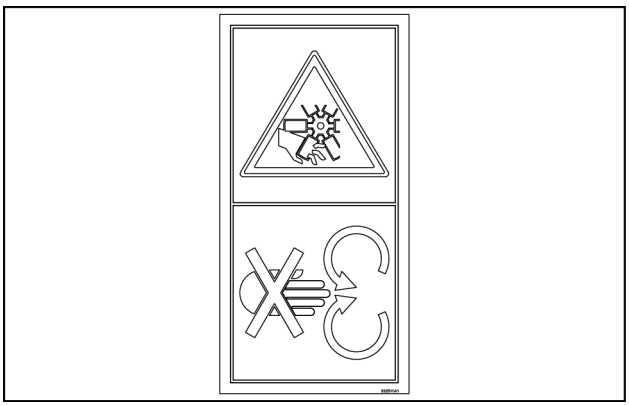
(5) Fuel tank identification decal



PTIL17COM1073AA 6

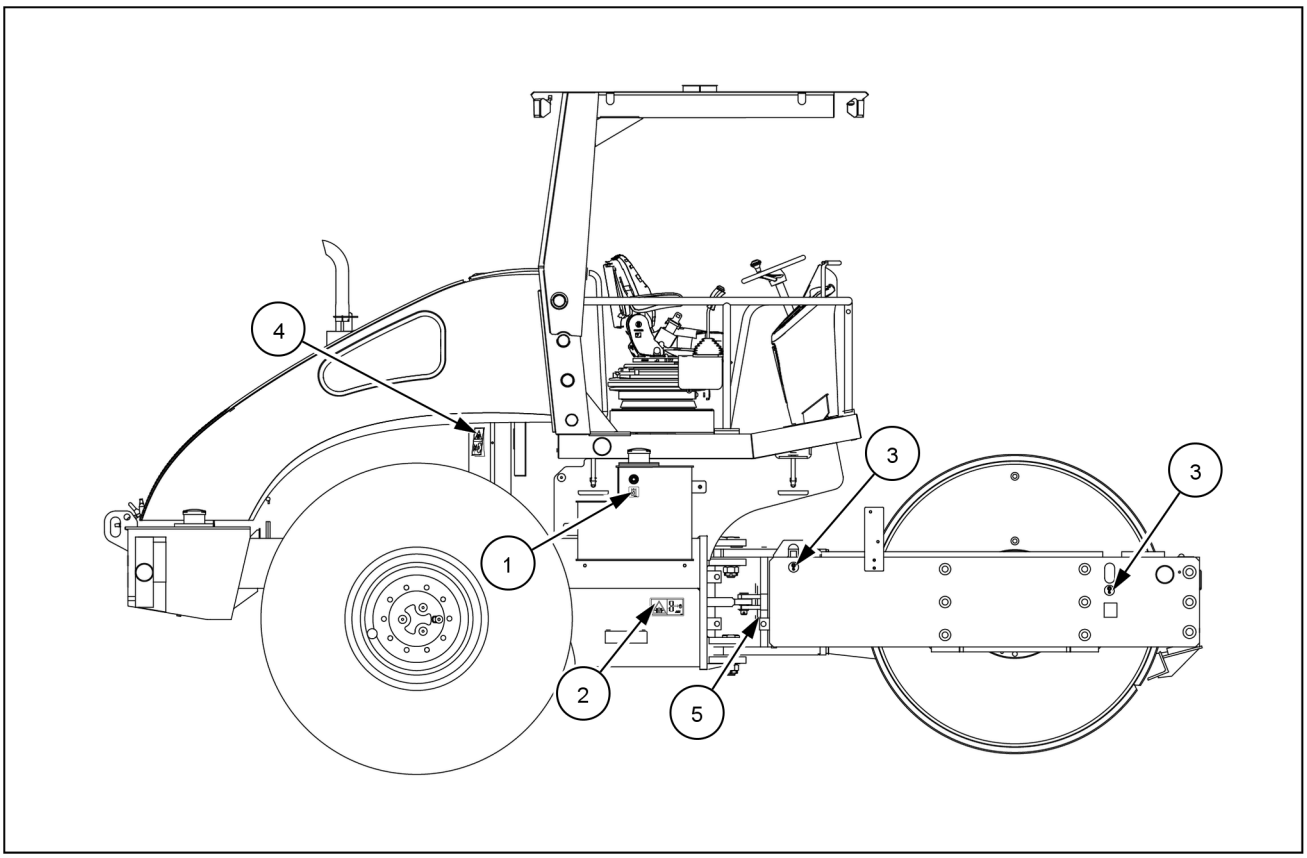
(6) Fan hazard decal

NOTE: *The same stickers are available on the rear water tank also.*



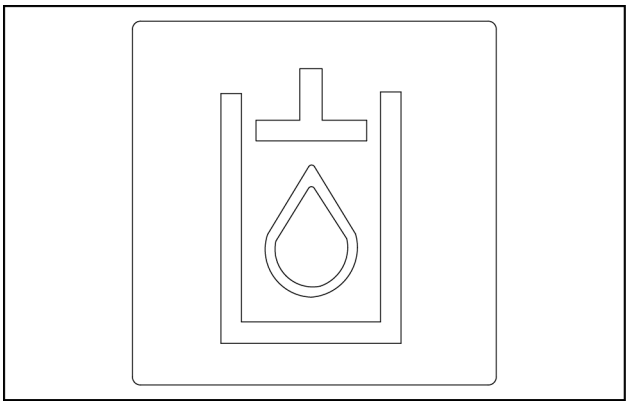
PTIL17COM1061AA 7

Right-hand side of the machine



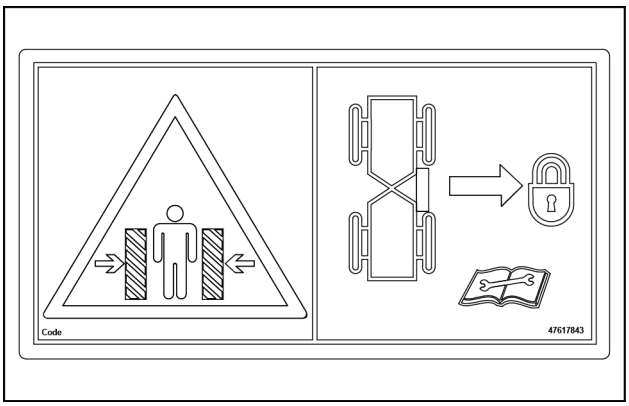
PTIL24COM0097FB 8

(1) Hydraulic oil tank identification decal



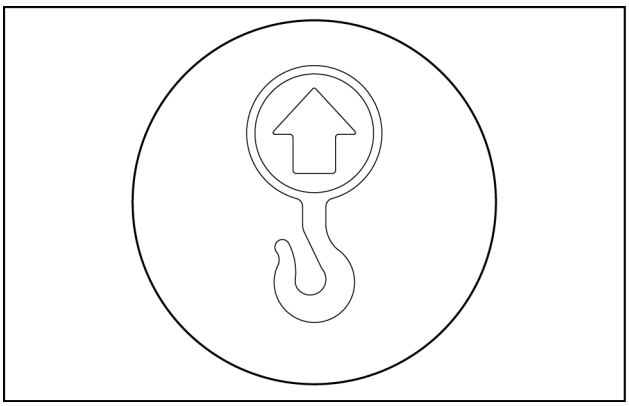
PTIL17COM1074AA 9

(2) Articulation lock decal



PTIL17COM1064AA 10

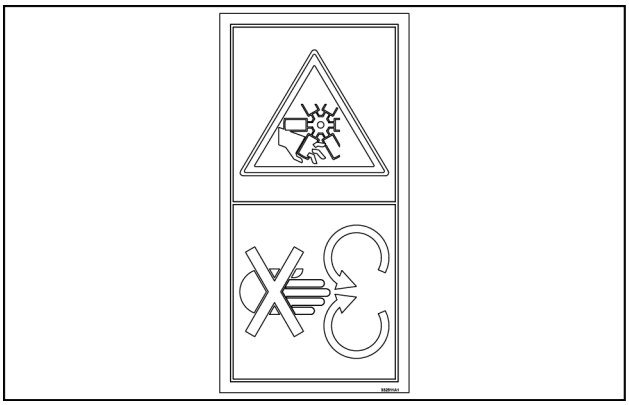
(3) Hook decal



PTIL17COM1059AA 11

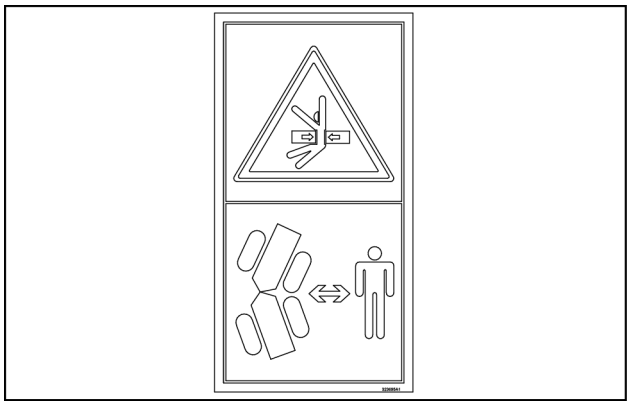
(4) Fan hazard decal

NOTE: *The same stickers are available on the rear water tank also.*



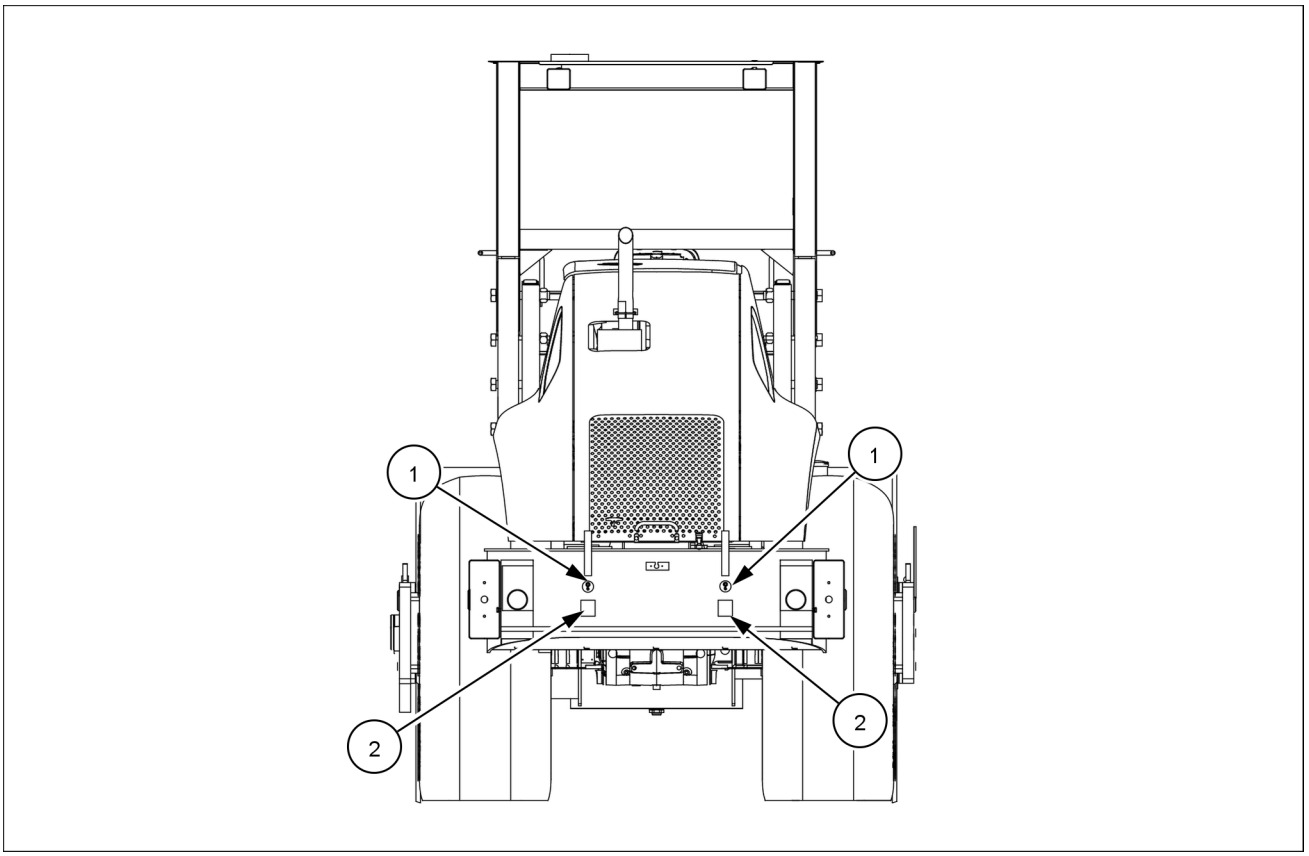
PTIL17COM1061AA 12

(5) Crush hazard decal



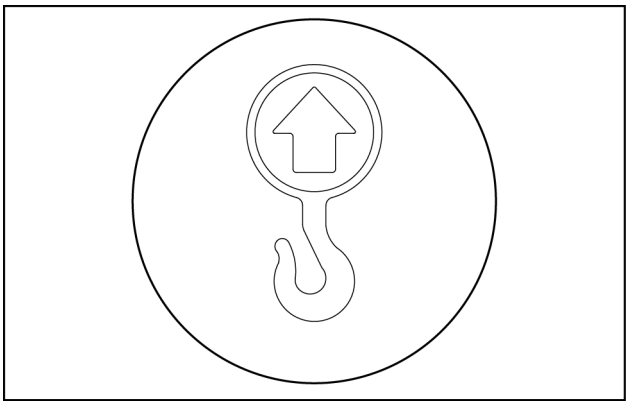
PTIL17COM1060AA 13

Rear side of the machine



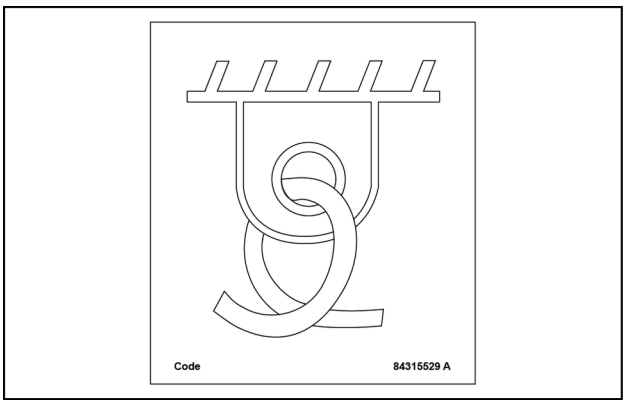
PTIL22COM0005FB 14

(1) Hook decal



PTIL17COM1059AA 15

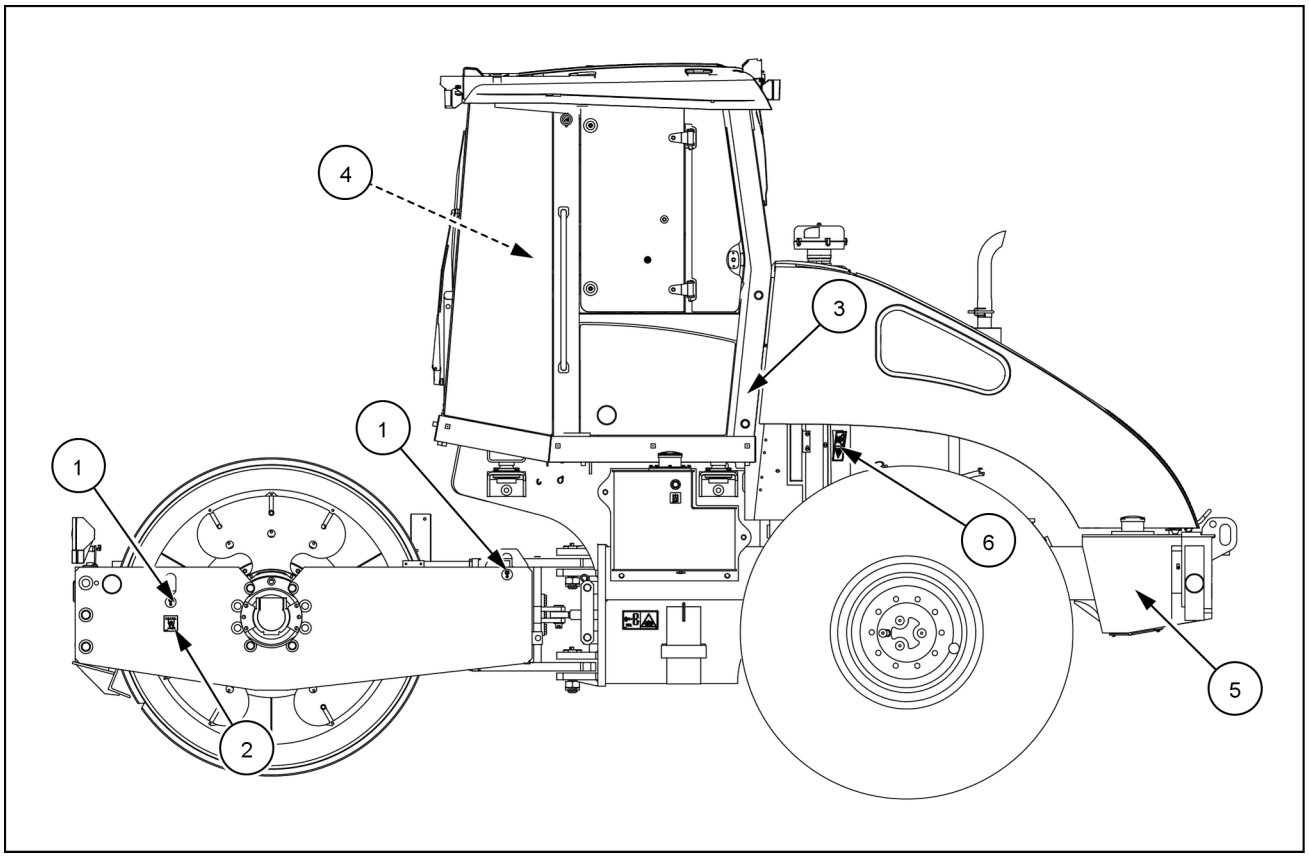
(2) Tie down decal



PTIL17COM1070AA 16

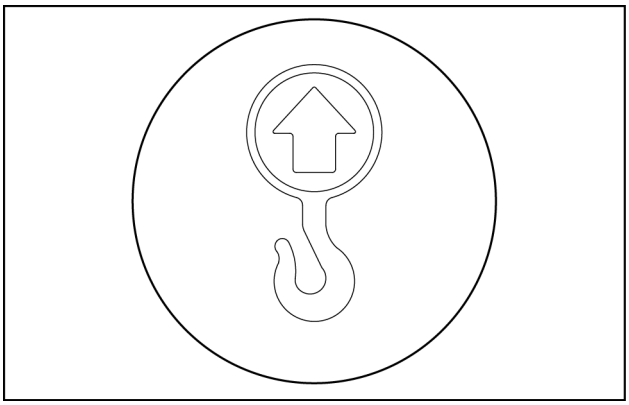
With cab

Left-hand side of the machine



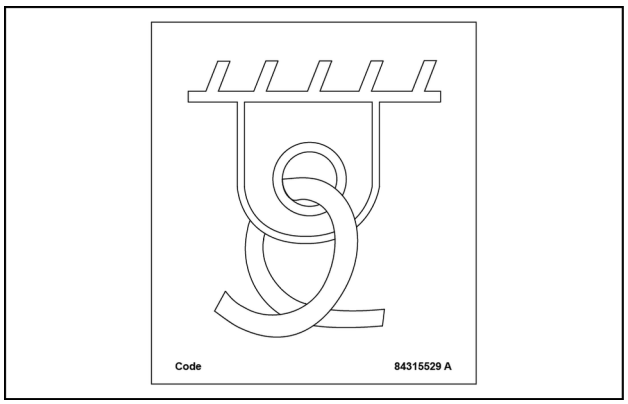
PTIL22COM0013FB 17

(1) Hook decal



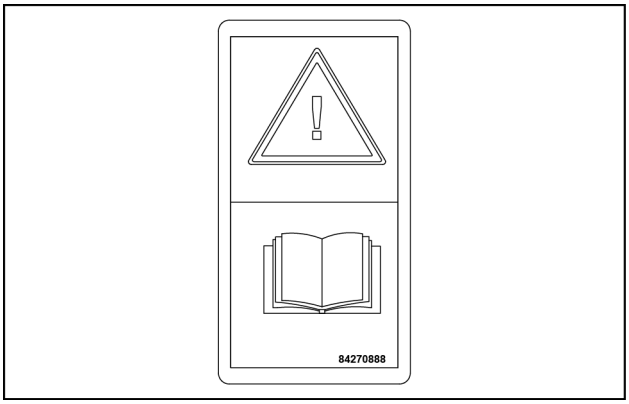
PTIL17COM1059AA 18

(2) Tie down decal



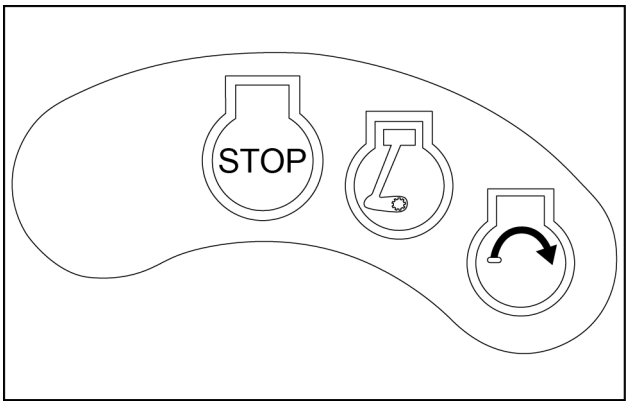
PTIL17COM1070AA 19

(3) General hazard decal



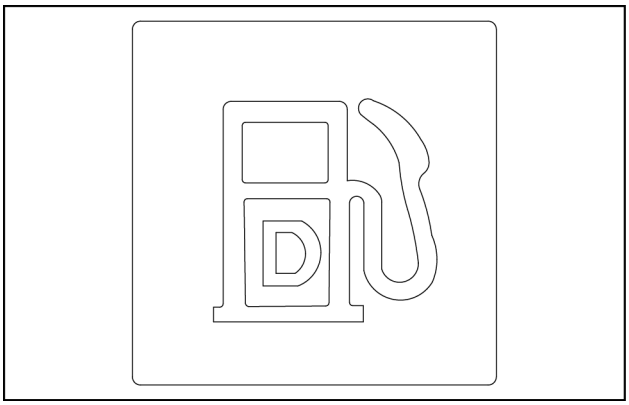
PTIL17COM1069AA 20

(4) Ignition decal



PTIL15COM2104AA 21

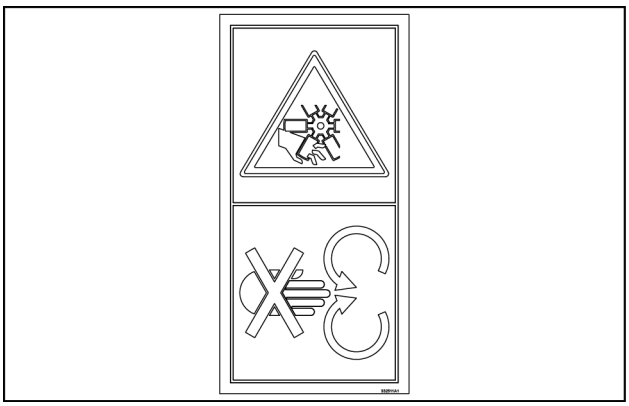
(5) Fuel tank identification decal



PTIL17COM1073AA 22

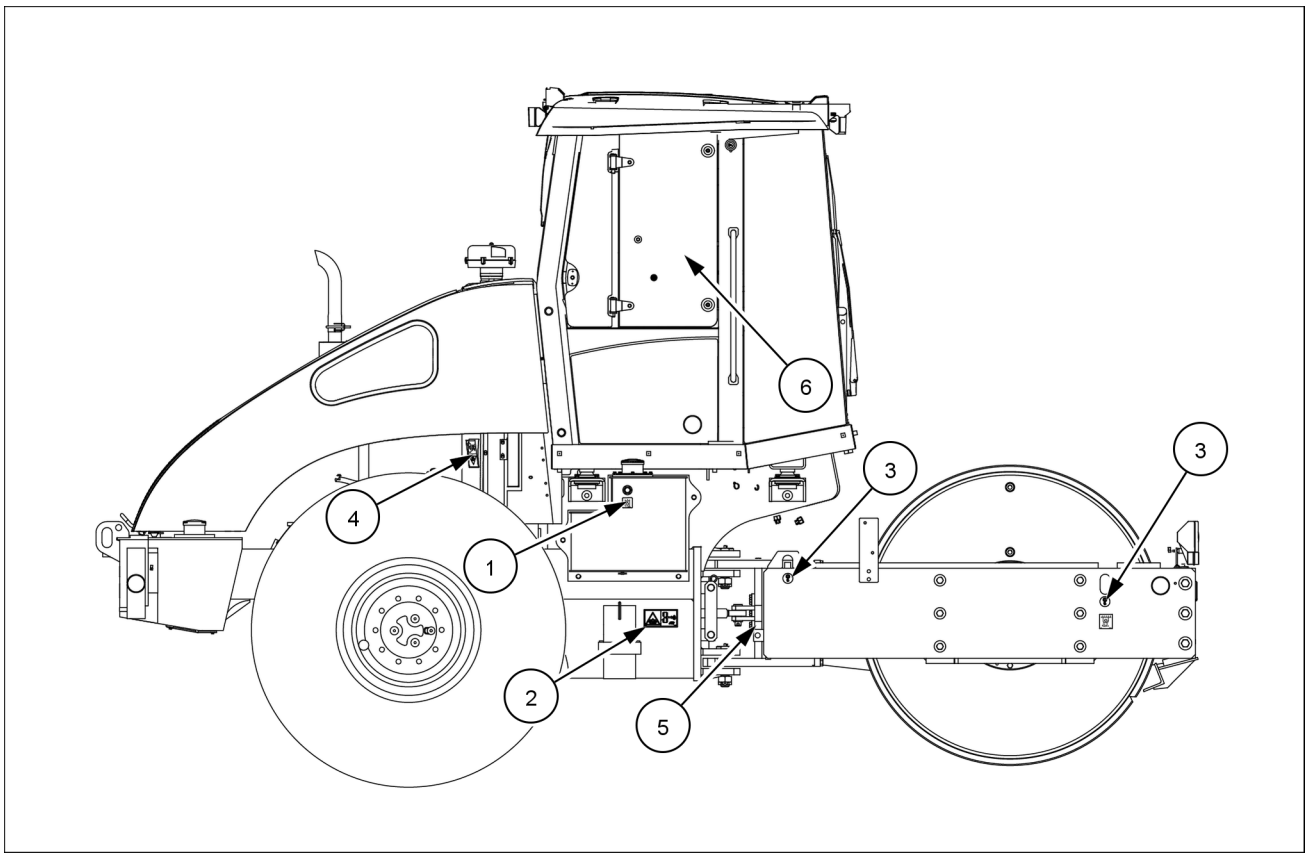
(6) Fan hazard decal

NOTE: *The same stickers are available on the rear water tank also.*



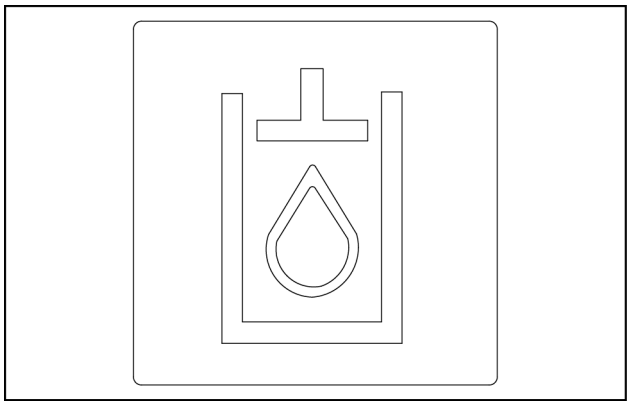
PTIL17COM1061AA 23

Right-hand side of the machine



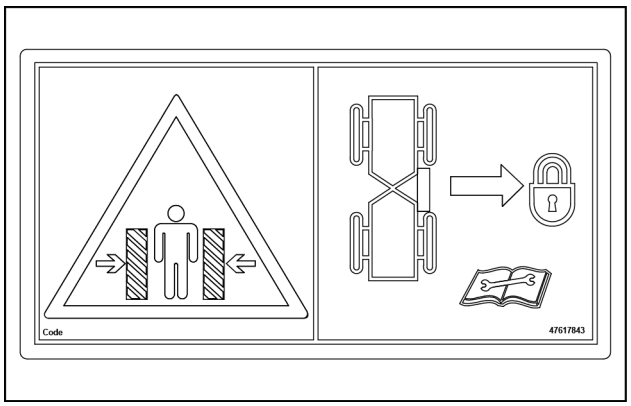
PTIL22COM0009FB 24

(1) Hydraulic oil tank identification decal



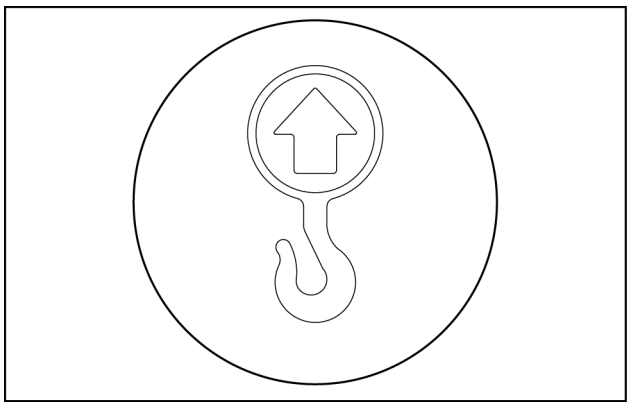
PTIL17COM1074AA 25

(2) Articulation lock decal



PTIL17COM1064AA 26

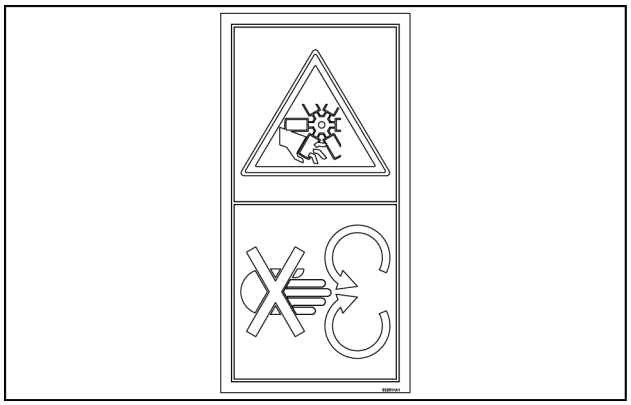
(3) Hook decal



PTIL17COM1059AA 27

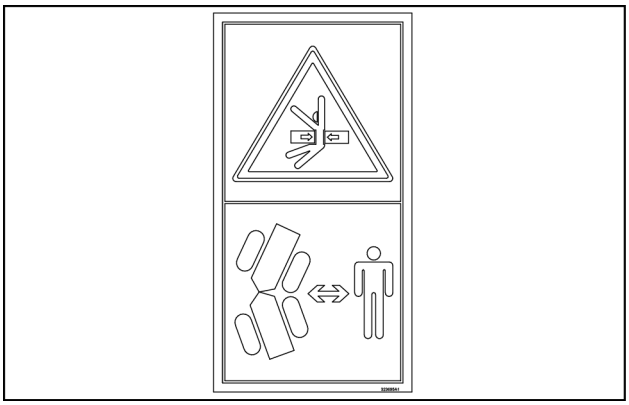
(4) Fan hazard decal

NOTE: *The same stickers are available on the rear water tank also.*



PTIL17COM1061AA 28

(5) Crush hazard decal

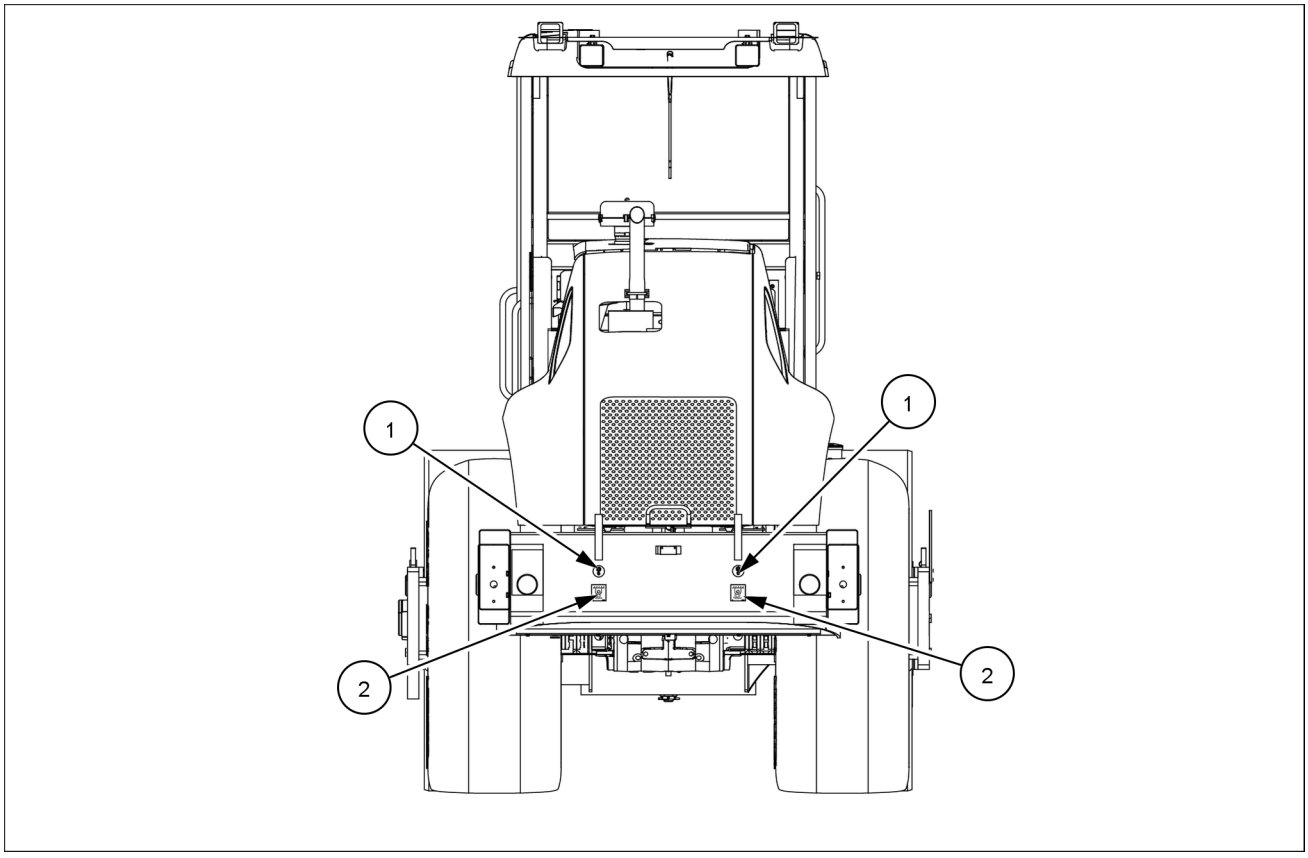


PTIL17COM1060AA 29

(6) Emergency exit decal

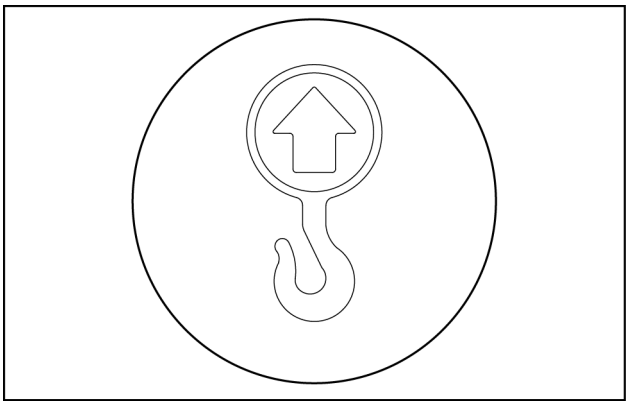
PTIL21COM0341AB 30

Rear side of the machine



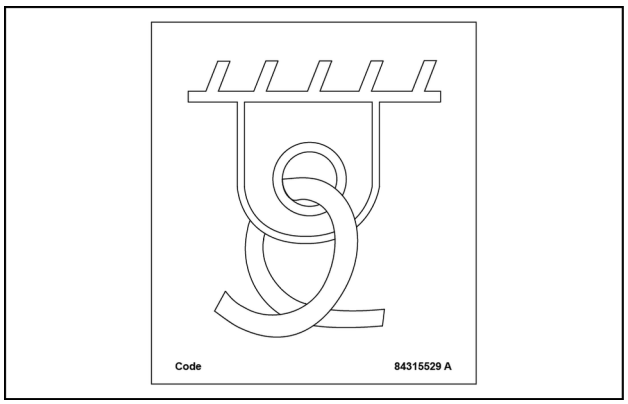
PTIL22COM0008FB 31

(1) Hook decal



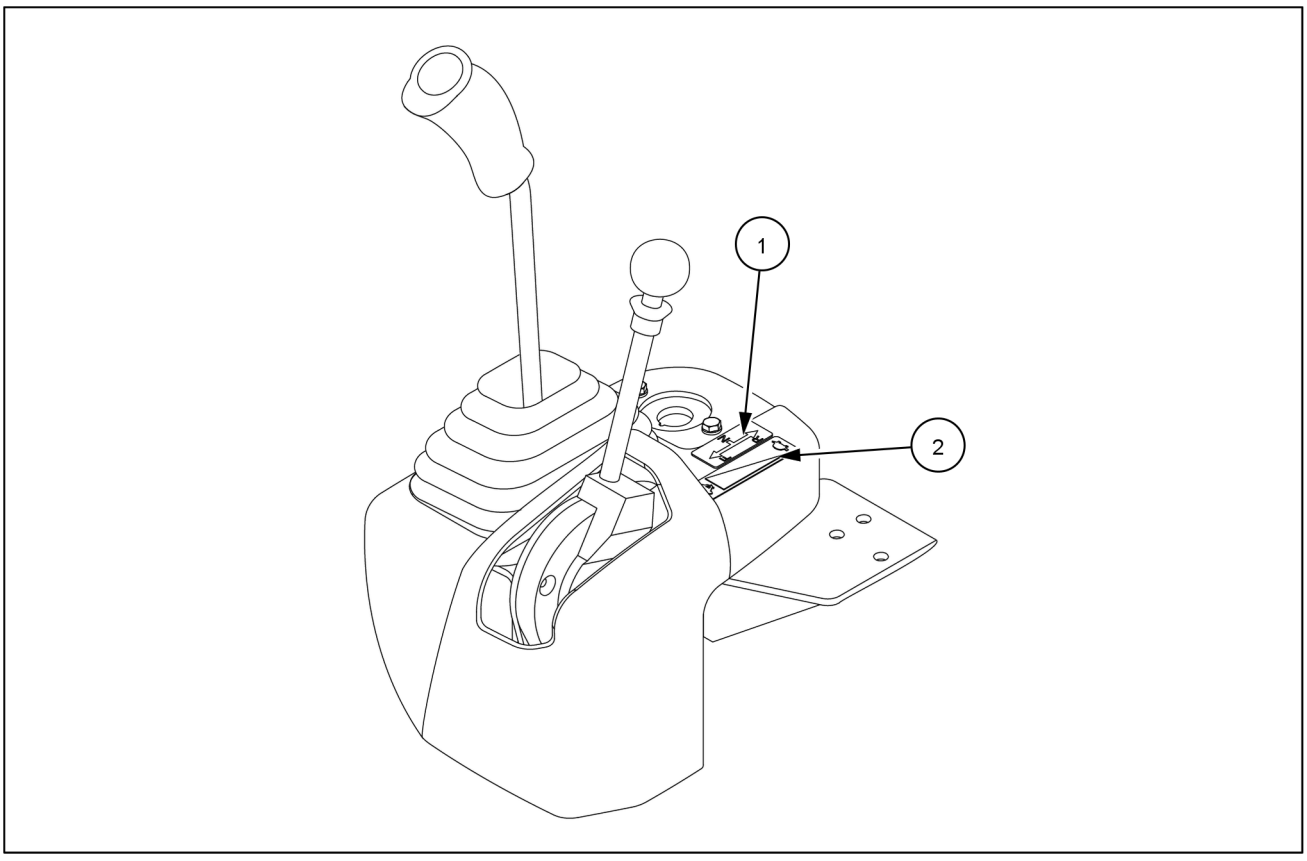
PTIL17COM1059AA 32

(2) Tie down decal



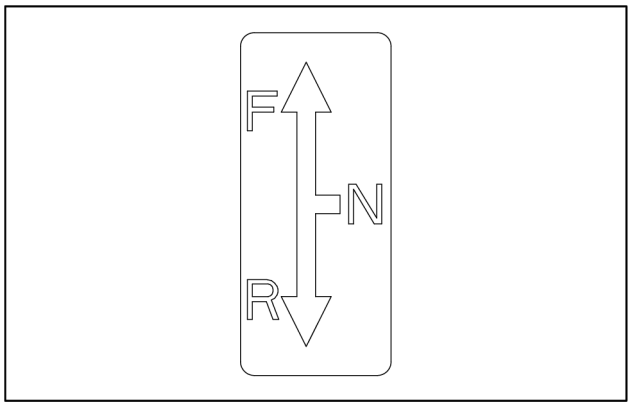
PTIL17COM1070AA 33

Internal decals



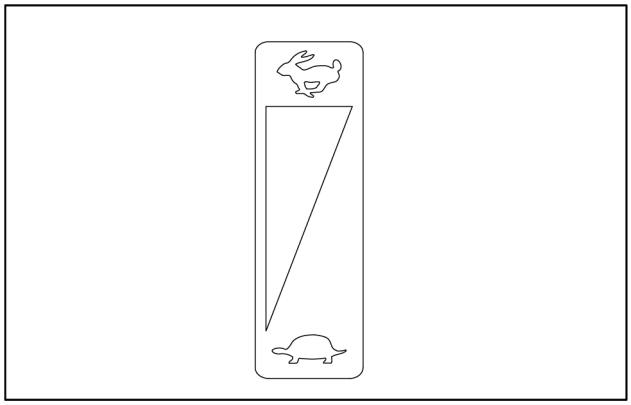
PTIL22COM0012FB 34

(1) FNR decal



PTIL22COM0011AB 35

(2) High low throttle decal



PTIL22COM0010AB 36

3 - CONTROLS AND INSTRUMENTS

Access to operator's platform

Access to operator's platform

Machine access

⚠ DANGER

Fall hazard!
Regularly inspect the access system and all non-slip surfaces (if equipped). Make sure that the access system and non-slip surfaces (if equipped) are free from damage.
Failure to comply will result in death or serious injury.

D0222A

⚠ WARNING

Fall hazard!
Clean the steps and access handles to remove all traces of grease, oil, mud, and ice (in winter).
Failure to comply could result in death or serious injury.

W0139A

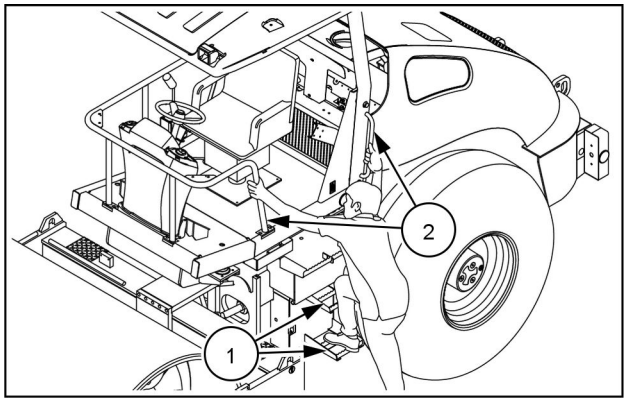
⚠ CAUTION

Fall hazard!
When entering or exiting the cab, never use the control levers as handholds. Always mount and dismount the machine in a safe way. Maintain a three-point contact with steps, ladders, and/or handholds.
Failure to comply could result in minor or moderate injury.

C0075B

Access to operator's platform (with canopy)

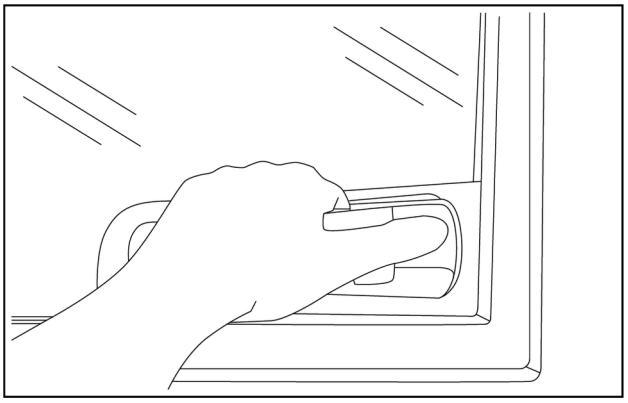
Use the steps **(1)** and access handles **(2)** when entering or leaving the operator’s compartment.



PTIL24COM0103AB 1

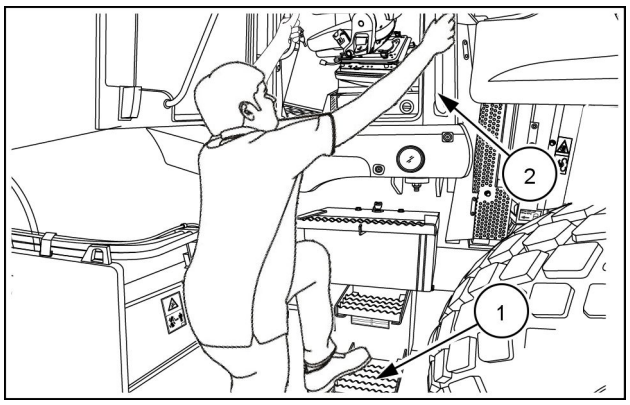
Access to operator's platform (with cab)

1. Unlocking the door.



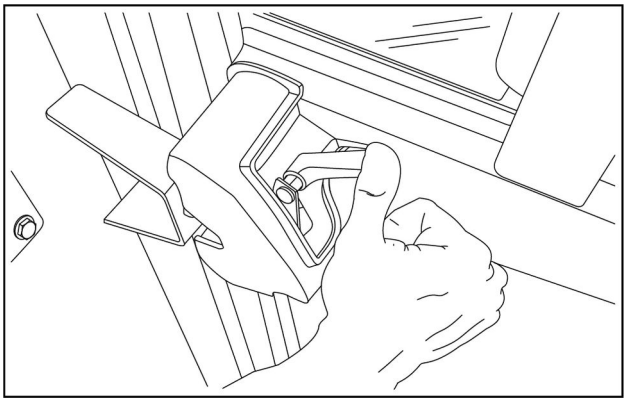
PTIL21COM0273GB 2

2. Use the steps **(1)** and access handles **(2)** when entering or leaving the operator’s compartment.



PTIL17COM1104AA 3

3. Exit from the cab by pushing the lever on the door located on left hand side.



PTIL21COM0272GB 4

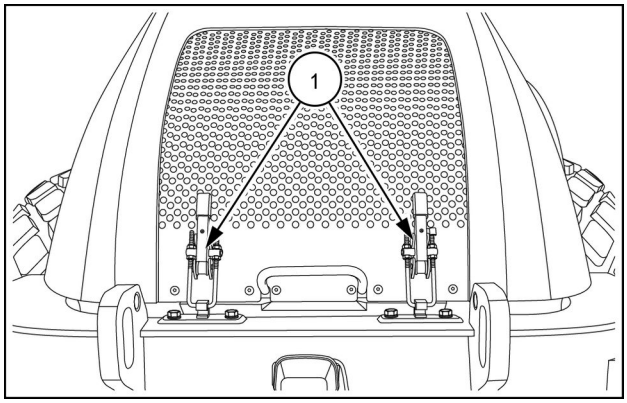
Engine hood

NOTE: *Hood partially covering the engine, has hood locking levers on the front.*

Open the hood (Partially covering the engine)

1. Switch OFF the engine.

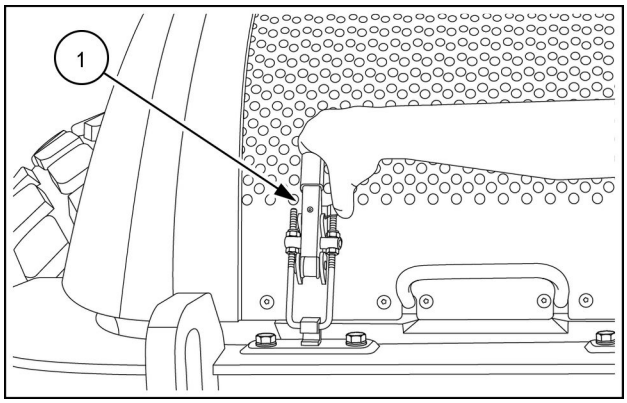
2. Apply parking brake before releasing the hood lock lever **(1)**.



PTIL21COM0274AB 1

3. Release the hood locking lever **(1)** and lift up.

NOTE: *The hood should raise completely with minimum effort because of the nitrogen cylinders.*

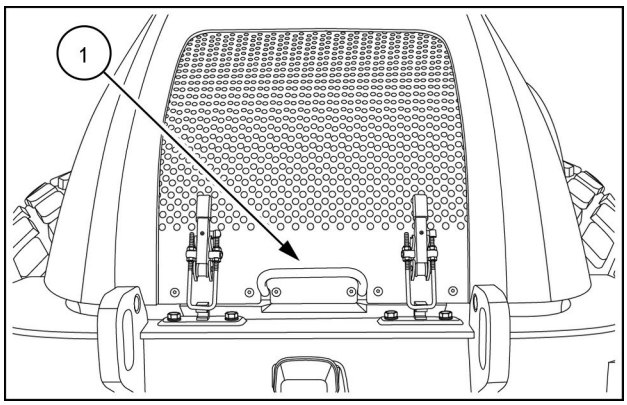


PTIL21COM0276AB 2

Close the hood (Partially covering the engine)

1. Pull the hood down using the handle **(1)** and lock it securely.

2. The hood is supported by nitrogen cylinders. Hold the hood till it is securely locked.



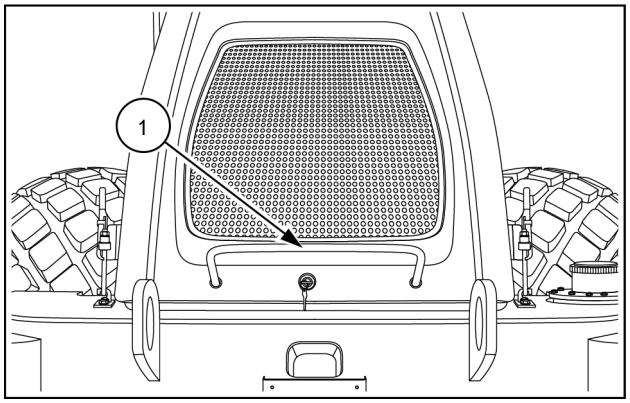
PTIL21COM0275AB 3

NOTE: *Hood fully covering the engine, has hood locking levers on the side.*

Open the hood (fully covering the engine)

1. Switch OFF the engine.

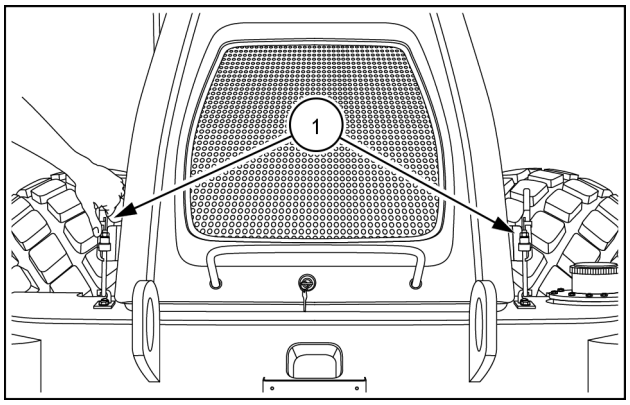
2. Apply parking brake before releasing the hood lock lever **(1)**.



PTIL22COM0039AB 4

3. Release the hood locking lever **(1)** and lift up.

NOTE: *The hood should raise completely with minimum effort because of the nitrogen cylinders.*

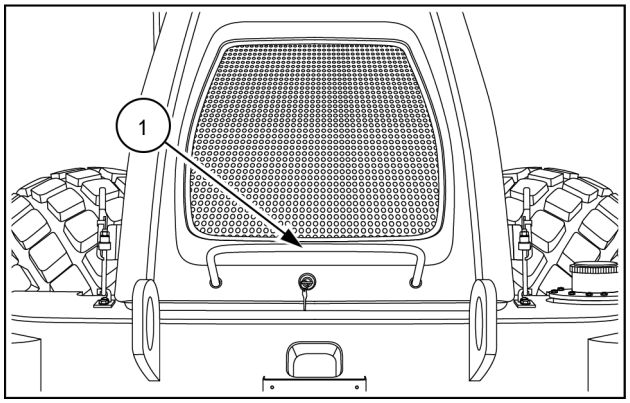


PTIL22COM0045AB 5

Close the hood (fully covering the engine)

1. Pull the hood down using the handle **(1)** and lock it securely.

2. The hood is supported by nitrogen cylinders. Hold the hood till it is securely locked.



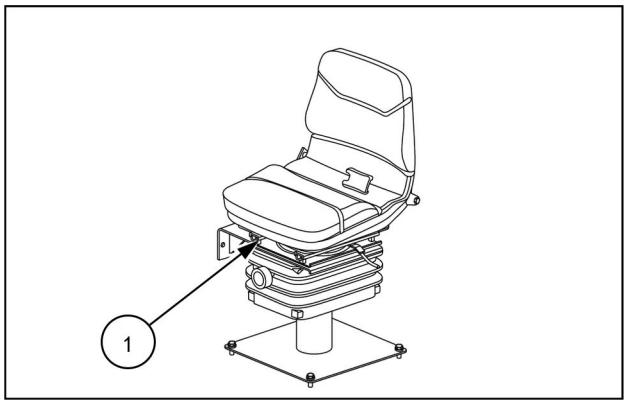
PTIL22COM0039AB 6

Operator's seat

Standard seat

Forward/Reverse

Handle is located on the front side of the seat lift the seat adjustment handle **(1)** to move the seat forward or reverse. Release the seat adjustment handle **(1)** and ensure the seat is locked in position.

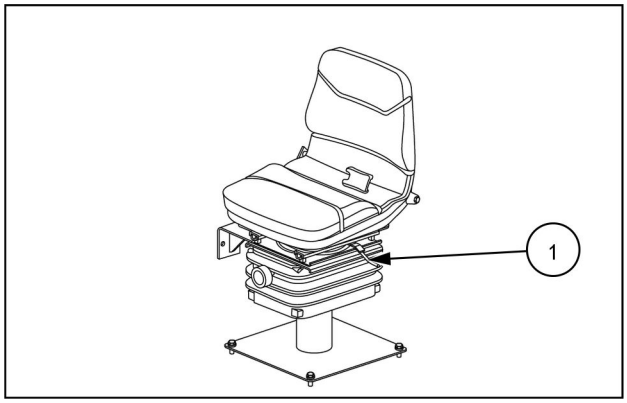


PTIL22COM0026AB 1

Rotate the seat

Lever is located on the left-hand side of the seat. Lift the lever **(1)** and hold. Turn the seat to the desired position and release the lever **(1)** to lock.

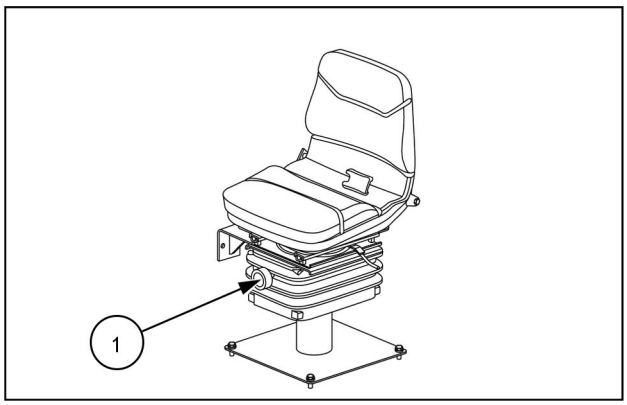
NOTE: *The operator seat will rotate* ***90°*** *on right-hand side.*



PTIL22COM0026AB 2

Height

Use the hand crank on the knob **(1)**. Turn the knob **(1)** clockwise to increase the seat height and suspension firmness. Turn counter-clockwise to decrease the seat height and suspension firmness.

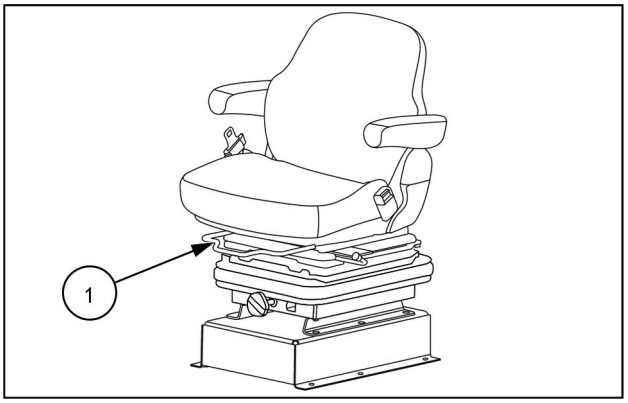


PTIL22COM0026AB 3

High comfort fabric seat (if equipped)

Forward/Reverse

Handle is located on the front side of the seat lift the seat adjustment handle **(1)** to move the seat forward or reverse. Release the seat adjustment handle **(1)** and ensure the seat is locked in position.

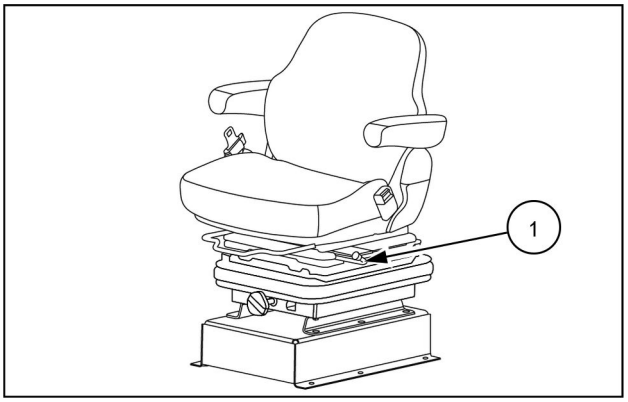


PTIL21COM1035AB 4

Rotate the seat

Lever is located on the left-hand side of the seat. Lift the lever **(1)** and hold. Turn the seat to **90°** on right-hand side and release the lever **(1)** to lock.

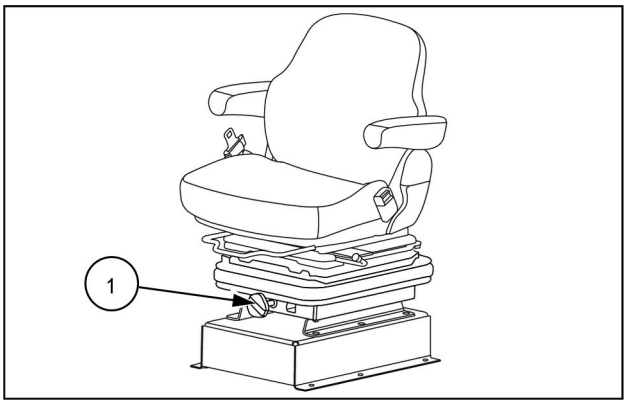
NOTE: *Make sure FNR lever is in neutral position while rotating the seat.. The operator seat will only rotate* ***90°*** *on right-hand side.*



PTIL21COM1035AB 5

Height

Use the hand crank on the knob **(1)**. Turn the knob **(1)** clockwise to increase the seat height and suspension firmness. Turn counter-clockwise to decrease the seat height and suspension firmness.



PTIL21COM1035AB 6

Forward controls

Warnings and preliminary checking

- The machine must be used by authorized personnel only.
- Make different idle operations assisted by specialized staff.
- All control levers must be handled delicately and gradually.
- All controls must be activated from driver seat only.
- If it’s necessary to start the engine in a closed space, be sure that there is a proper system for lethal substances expulsion.
- Before starting the machine be sure that nobody is working near the machine.
- Before getting on the machine, always walk around to check it.
- Use warning horn.
- If some repairs have been made between the last use and the next one, be sure that all fixing elements have been accurately remounted and that all necessary adjustments have been made.

Throttle lever controls

Hand throttle lever

Moving the lever **(1)** forward , the engine idles at maximum speed.

Moving the lever **(1)** reverse , the engine decelerates to minimum idle speed.

Forward-reverse lever (FNR)

(FNR) lever **(2)** allows the movement of the machine in selected direction drive.

In “N” position the transmission control lever is in neutral, this position is signaled from green warning light.

Moving the lever forward, gradually increases the machine speed, until it reaches maximum speed in “F2” end stroke position.

When the FNR lever is moved to forward direction, it has two forward position F1 and F2 , see image **4**.

Similarly moving the lever backwards, gradually reverse speed increases reaching maximum in “R2” end of stroke position.

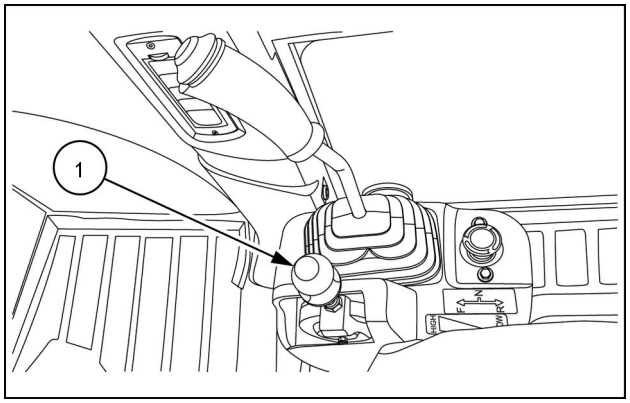
When the FNR lever is moved to backward direction, it has two backward position R1 and R2 , see image **4**.

NOTE: *Travel control lever should be shifted towards the operator before moving to forward or reverse.*

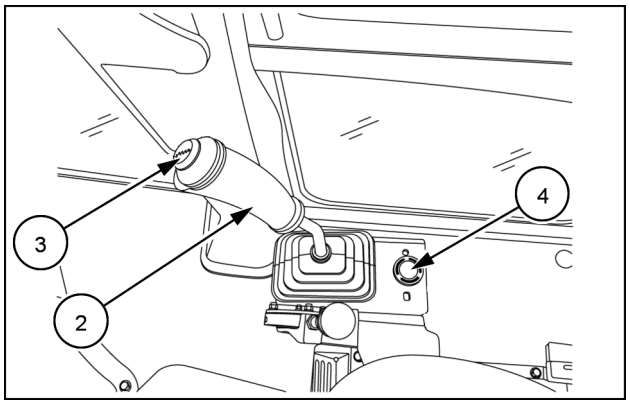
(2) — Forward Reverse lever (FNR)

(3) — Vibration mode ON/OFF switch

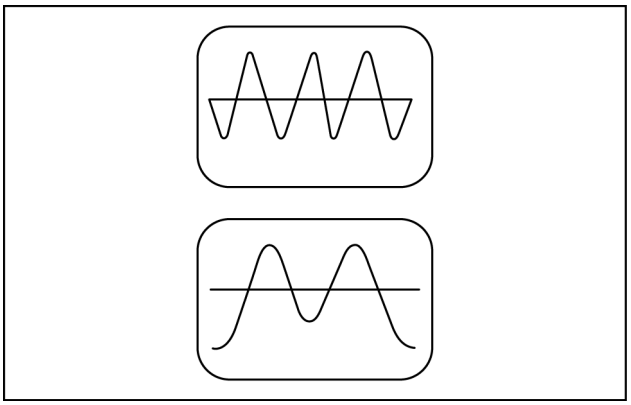
(4) — Emergency stop switch



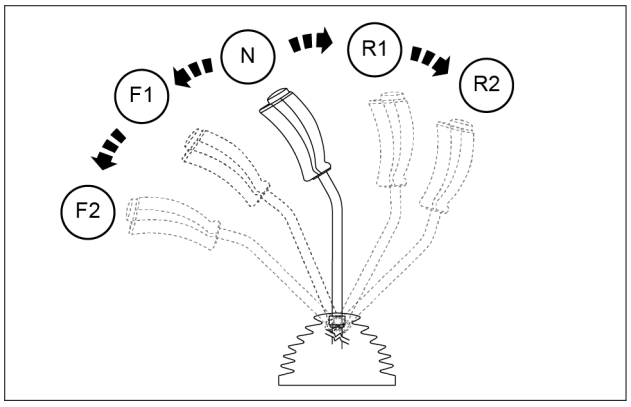
PTIL19COM0015AA 1



PTIL17COM1102AB 2



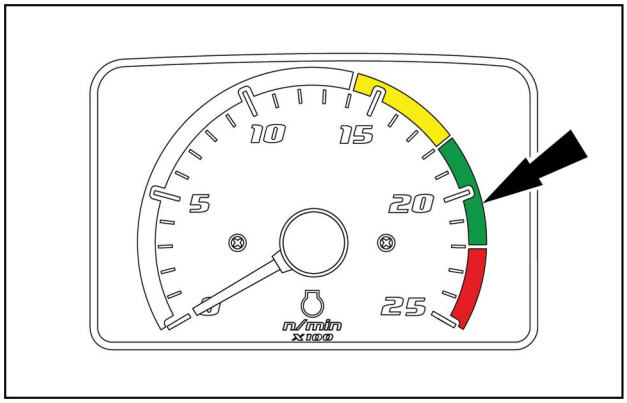
PTIL15COM2145AA 3



PTIL24COM0098AB 4

To go uphill or downhill, run at low speeds. Do not attempt to shift speeds while traveling on a grade

- Operator should maintain vehicle speed (by adjusting FNR lever) such that the engine RPM needle is in green zone (optimum zone).
- Shifting speeds on a slope can cause unexpected running down the slope.
- Going down-hill at speeds other than low range can cause the machine to run down violently.



PTIL24COM0102AB 5

⚠ WARNING

Loss of control hazard!
When going uphill, run at low speed. Do not attempt to shift speeds during traveling. The machine can slip down the slope.
When going downhill, adjust the travel speed so as not to allow the engine speed to exceed 2500 RPM.
Failure to comply could result in death or serious injury.

W1760A

Vibration amplitude and frequency selector switch

Compactors models is equipped with double amplitude vibration, for maximum operating suppleness and best working result considering using materials, yields and fixing working time.

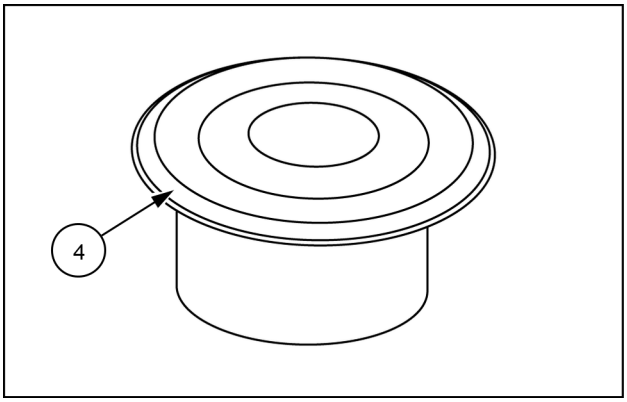
In fact, by three position switch, it's possible to diversify vibration amplitude:

- High frequency, low amplitude (when pressed on top)
- Low frequency, high amplitude (when pressed at the bottom)
- Disengage vibration

Emergency stop switch

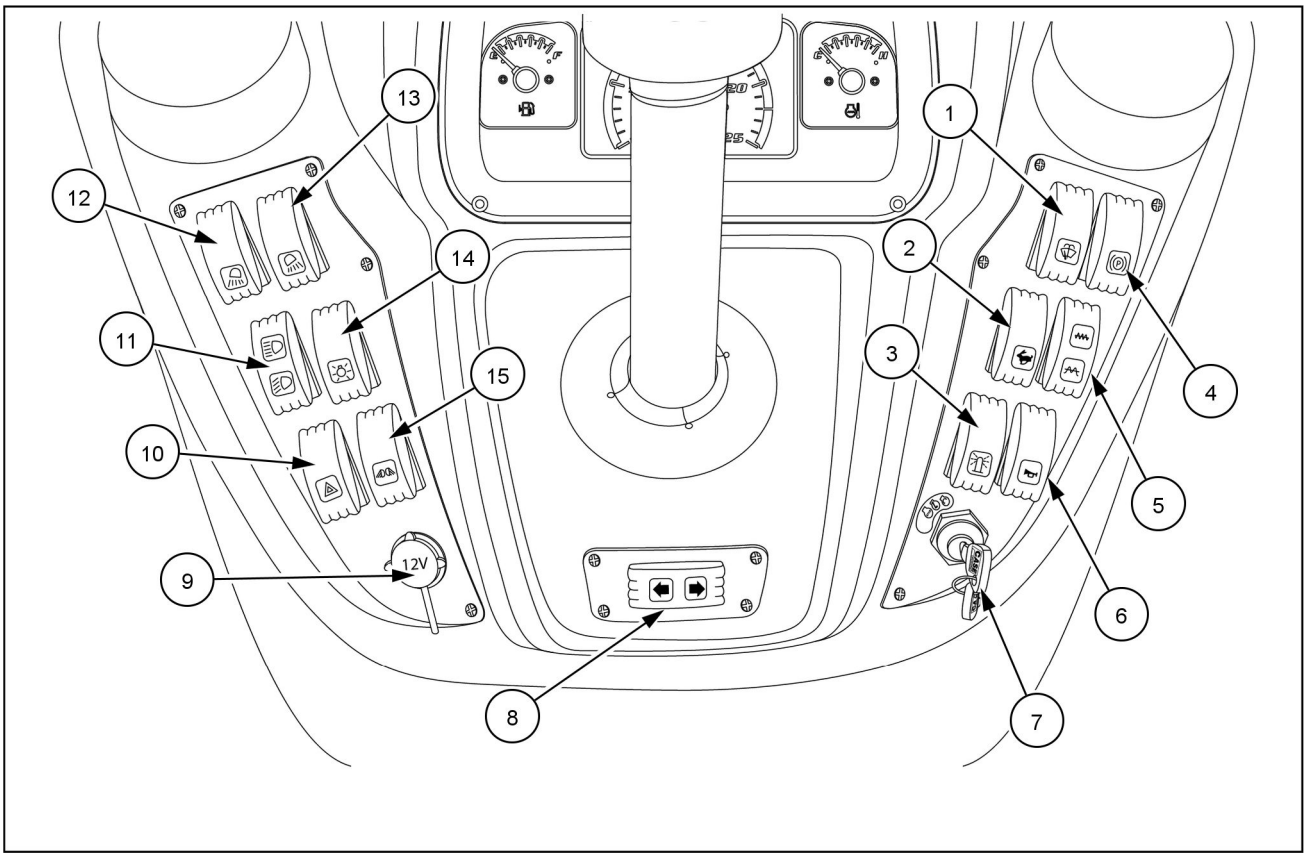
Push this switch **(4)** to turn OFF the engine in any emergency case. This will cut off fuel supply to the FIP.

This switch will be helpful in panic situation. Please release the switch by turning it clockwise before starting the engine again.



PTIL15COM2154AA 6

Operator control panel

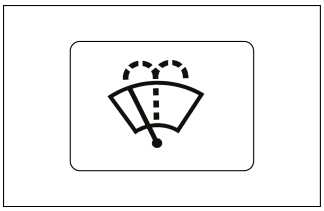


PTIL24COM0104FB 1

1. Front windshield wiper (If equipped)
2. Speed selector switch
3. Beacon light switch (If equipped)
4. Parking brake switch
5. Frequency selector switch
6. Horn switch
7. Ignition key
8. Direction / turn indicator switch
9. Power socket
10. Hazard indicator switch
11. High/low beam switch
12. Front work light switch
13. Rear work light switch
14. Master lamp switch
15. Side work lamp switch

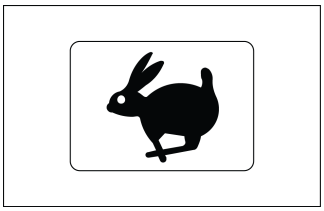
1. Front windshield wiper switch (if equipped)

Press the switch **(1)** once to activate the front windshield wiper. Keep the switch **(1)** pressed to start the water jet.



2. Speed selector switch

Press the lower end of the switch to select high travel speed. Press the upper end of the switch to select low travel speed.

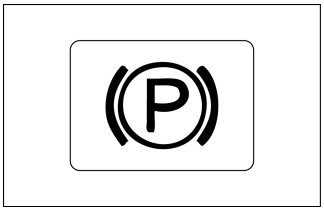


3. Beacon light switch (If equipped)

Press the switch to switch ON the beacon light, If equipped..

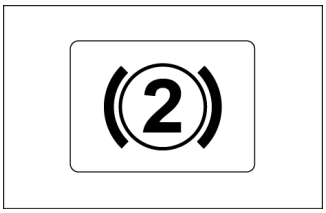
4. Parking brake switch

Press the parking brake switch to engage the parking brake. Electrical circuit is designed in such a way that brake can be applied only when machine is in neutral and engine can't be started when parking brake switch is on.



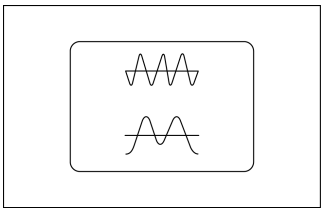
Secondary parking brake (If equipped)

Secondary brake switch is used to stop the machine in the event of any single failure in the service brake system only. Secondary brake system is not to hold the machine on the slope. A circuit is designed in such a way that the machine will not move forward or reverse if secondary brake switch is ON.



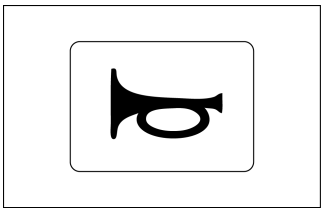
5. Frequency selector switch

Press the upper end of the switch to select the high frequency of drum vibration. Press the lower end of the switch to select the low frequency of drum vibration.



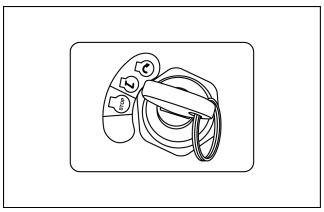
6. Horn switch

Press the horn switch to blow horn.



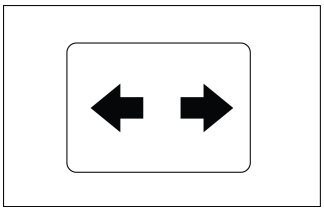
7. Ignition switch

The ignition switch on the machine can be operated only with the key provided with the machine. To connect the battery to the ignition circuit, insert the key and turn clockwise. Battery non-charging indicator and low lube oil pressure indicator will start glowing. Now the engine can be started.



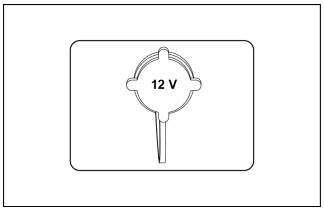
8. Turn indicator switch

Press the switch on the left-hand side to switch ON the left-hand side turn indicator. Press the switch on the right-hand side to switch ON the right-hand side turn indicator.



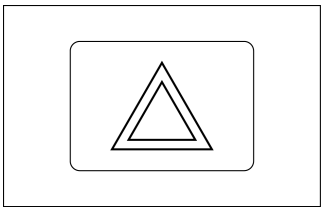
9. Power socket

An auxiliary **12 V** power socket **(9)** is also available on the front instrument panel.



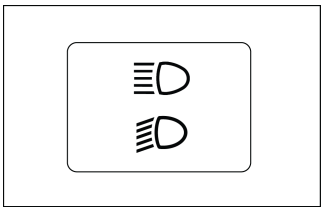
10. Hazard switch

Press the hazard switch to turn ON the left and right indicator blinks. During parking the machine on highway in night time this indicator should be put ON.



11. High/low beam switch

Press the upper end of the switch to select the high beam. Press the lower end of the switch to select the low beam.

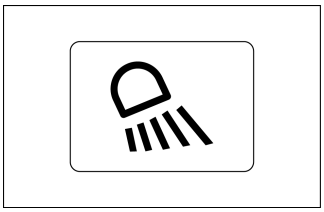


12. Front work lamp switch

Press the rear work lamp switch to turn ON the front work lamps.

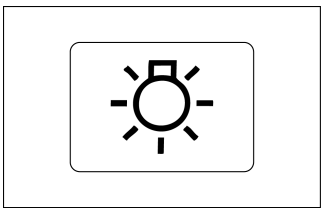
13. Rear work lamp switch

Press the rear work lamp switch to turn ON the rear work lamps.



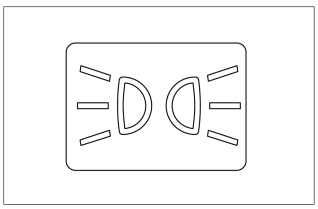
14. Master lamp switch

Press the master lamp switch to turn ON the master lamps.

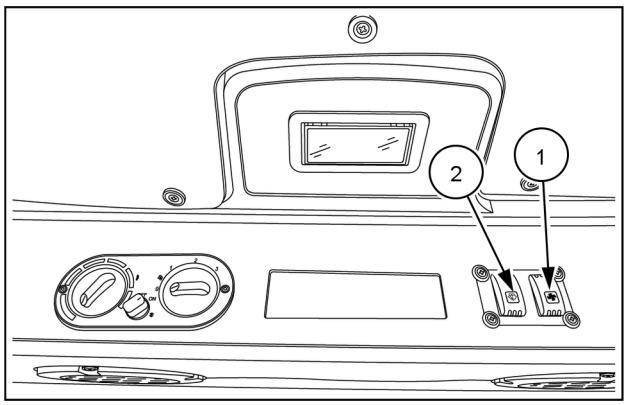


15. Position lights switch

Press the switch **(10)** to turn ON the position lights.



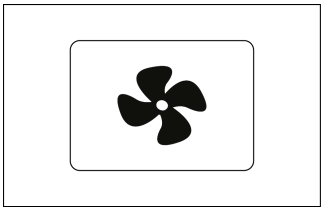
Cabin fan and rear windshield wiper controls (if equipped)



PTIL22COM0047AB 2

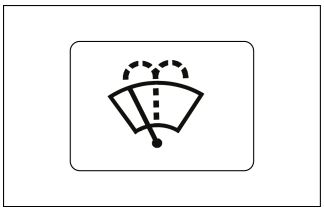
Cabin fan

Press the switch **(1)** to start the cabin fan.



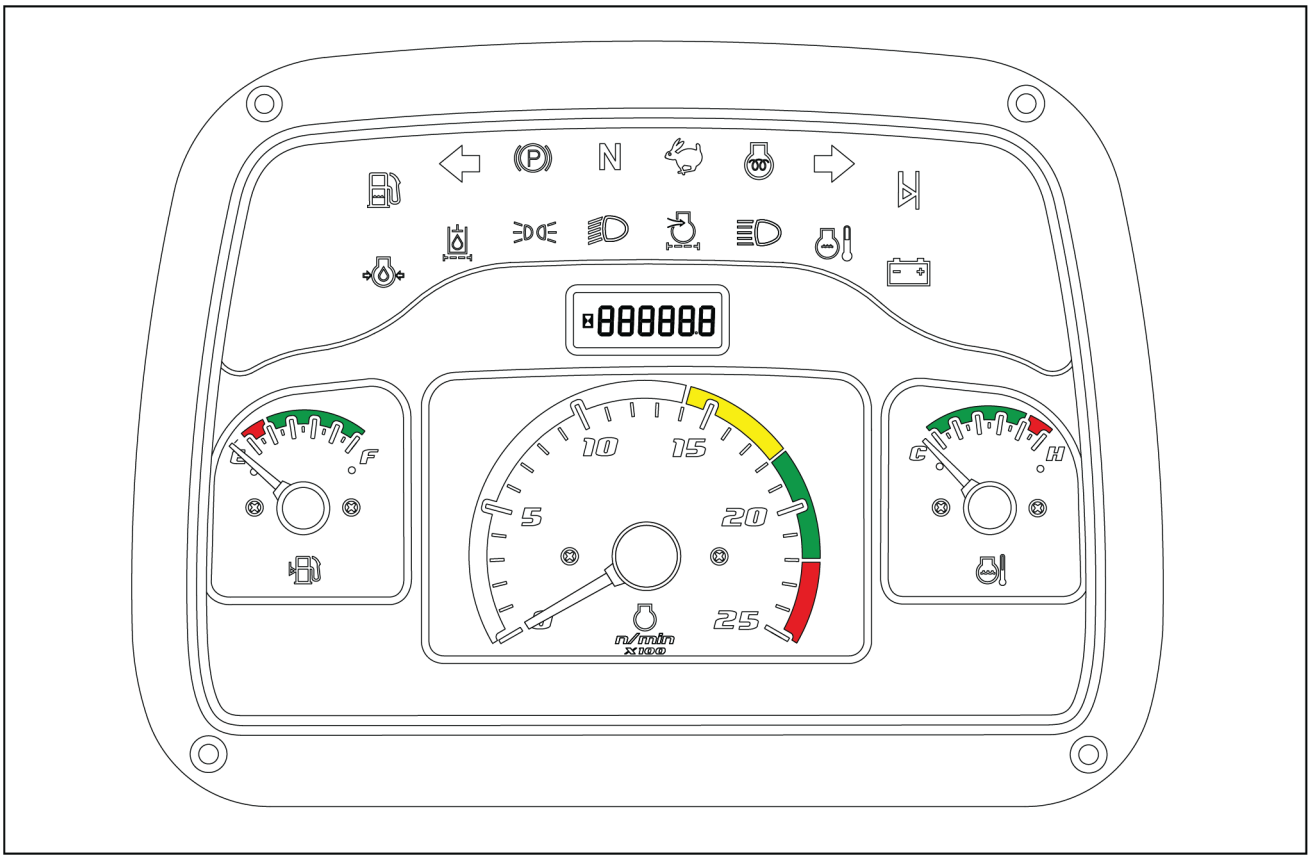
Rear windshield wiper switch (If equipped)

Press the switch **(2)** once to start the rear windshield wiper. Keep the switch **(2)** pressed to start the water jet.



Warning indicators, alarms, and instruments - Control identification

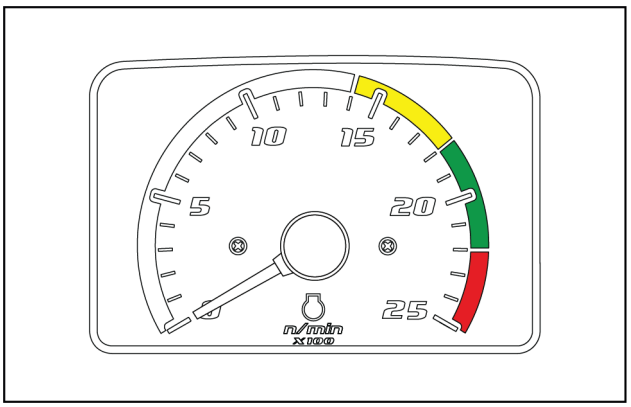
Indications in cluster



PTIL24COM0111FB 1

Tachometer

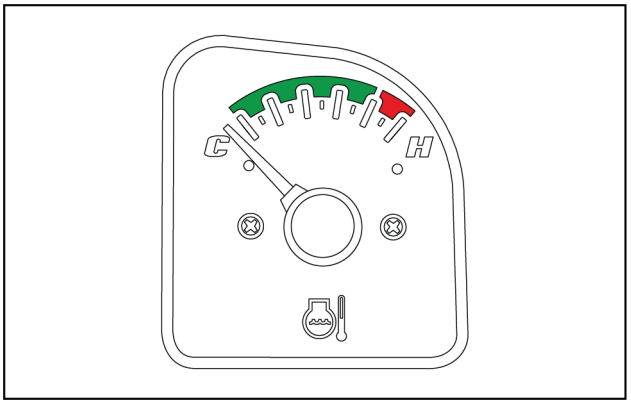
Each subdivision of the graduated scale on the tachometer represents 100 RPM, therefore with the needle indicating ’20’ the engine is running at 2000 RPM.



PTIL24COM0102AB 2

Engine coolant temperature gauge

Engine coolant temperature gauge or water temperature gauge indicates the water temperature. It is recommended that the water temperature gauge needle should be in a green zone during operation. If the Temperature goes beyond green zone, stop the engine and investigate.

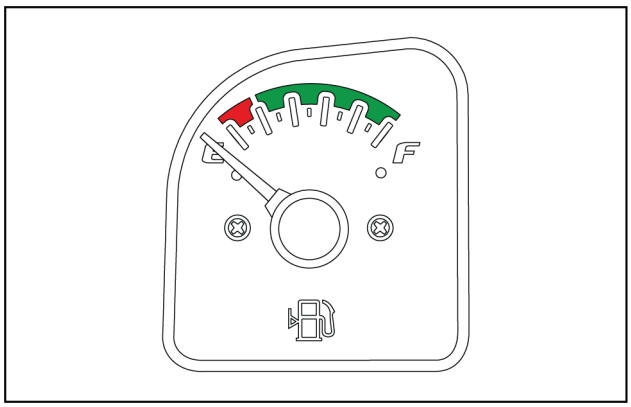


PTIL24COM0101AB 3

Fuel level gauge

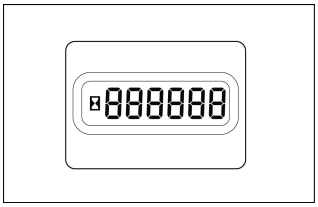
The fuel level gauge indicates the level of fuel in the fuel tank.

NOTICE: *Maintain a minimum of **30%** of fuel in fuel tank to avoid air lock.*



PTIL24COM0100AB 4

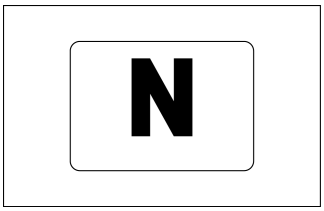
Hour meter



This electronic hour meter is connected to the alternator. Whenever the engine is running, the hour meter starts counting. Regularly monitoring the hour meter reading will indicate the number of working hours (cumulative). This will facilitate timely maintenance / servicing of the machine.

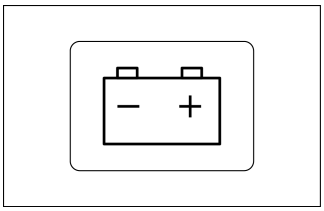
Do not disconnect the hour meter for any reasons.

Neutral indicator (Green)



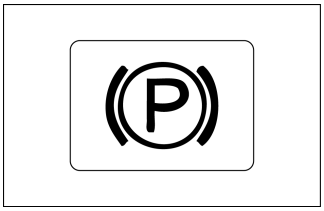
This indicator comes ON when the drive lever is in neutral position. Engine can be started only when the drive is in neutral position.

Battery non-charging indicator (Red)



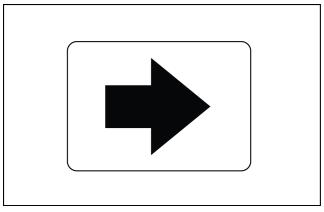
Whenever the battery is being charged the indicator goes OFF. During normal operation the indicator does not glow, which indicated that the battery is being charged. This indicator charges when ignition is switched ON (Engine is in OFF state) and the charging indicator goes off as soon as the engine starts.
If the battery non-charging indicator comes ON during the operation of the maintenance, switch OFF the machine immediately and find out the reason for non-charging.

Parking brake indicator (Red)



Parking brake indicator glows when parking brake is engaged. Parking brake disengages when the travel controller (FNR) is forward / reverse position. If the parking brake is not disengaging, this indicator comes ON. Shut off the engine immediately, locate the cause and set right the problem.

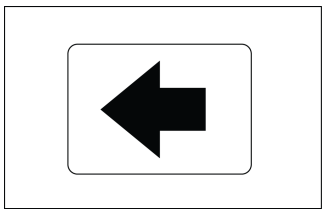
Right turn signal (Green)



This indicator flashes when the side indicator switch is ON (i.e. moved towards left side).

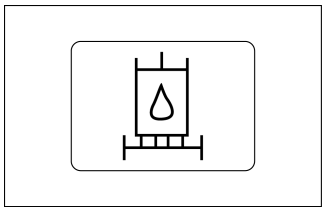
Left turn signal (Green)

This indicator flashes when the left - side indicator switch is on (i.e. moved towards left side).



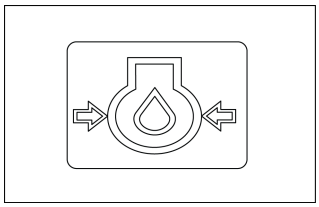
Hydraulic filter clog indicator (Red)

This indicator comes ON when the hydraulic oil filter clogs. Stop the machine operation and replace the filter element. Running the machine after filter clogging will contaminate the hydraulic circuit and can cause extensive damage to the hydraulic system.



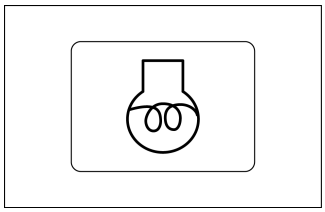
Low lubrication oil pressure indicator (Red)

This indicator comes ON when the lubrication oil pressure falls below a preset level. Shut Off the engine immediately, locate the cause and set right the problem.



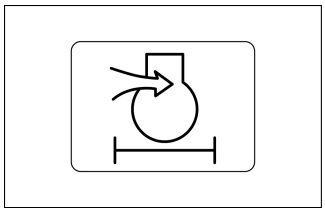
Pre heater (Amber)

The indicator lamp is lit when pre heater is ON during cold starting the machine.



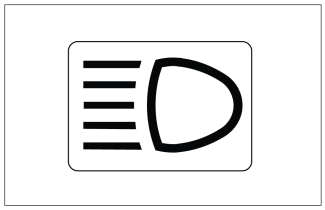
Air filter clog indicator (Red)

This indicator comes ON when the air filter clogs.



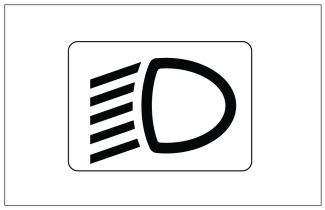
High beam (Blue)

This indicator starts to glow when high head light beam is in use.



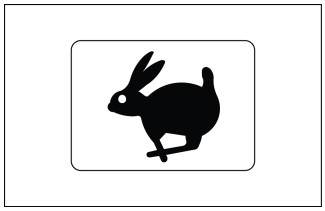
Low or dipped beam indicator (Green)

This indicator starts to glow when low head light beam is in use.



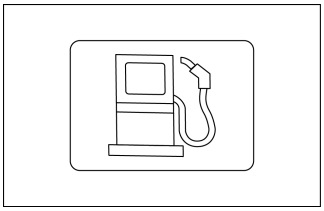
High speed indicator (Blue)

This indicator glows when high travel speed is selected from two speed switch.



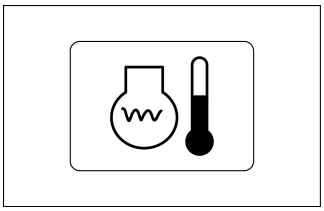
Water in fuel indicator (Red)

This indicator starts to glow when there water present in fuel. Stop the engine and investigate the cause.



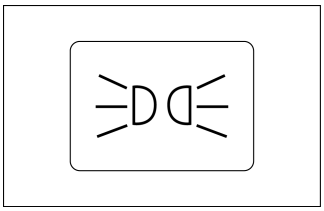
Engine coolant temperature (Red)

This indicator starts to glow when the engine coolant temperature is high. If it starts to glow, stop the engine and investigate the cause.



Position indicator (Green)

This indicator starts to glow when the position lights are turned ON.



Overhead controls

Heating, Ventilation, Air-Conditioning (HVAC) controls (If equipped)

⚠ WARNING

Explosion hazard!
Air-conditioning refrigerant boils at -26 °C (-15 °F)!
-NEVER expose any part of the air-conditioning system to a direct flame or excessive heat.
-NEVER disconnect or disassemble any part of the air-conditioning system.
Discharging refrigerant gas into the atmosphere is illegal in many countries.
Failure to comply could result in death or serious injury.

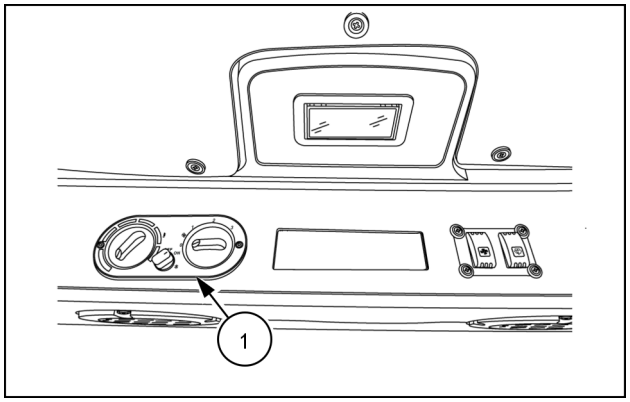
W0340B

⚠ WARNING

Escaping refrigerant may cause frostbite!
If you get refrigerant on your skin:
-Warm the area with your hand or lukewarm water, 32 - 38 °C (90 - 100 °F).
-Cover the area loosely with a bandage to protect the area and the prevent infection.
-Seek medical assistance immediately.
Failure to comply could result in death or serious injury.

W0341A

The HVAC controls **(1)** are located overhead and in front the operator right above the instrument panel.

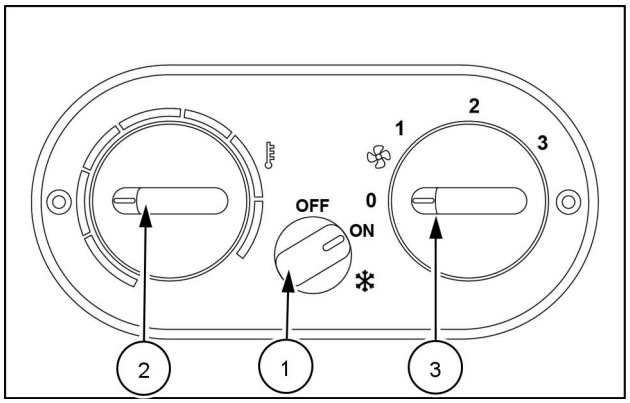


PTIL17COM1105AA 1

HVAC ON-Off Switch – Turn the switch **(1)** ON to start the HVAC system. Turn the switch **(1)** Off to turn off the HVAC system.
Temperature control switch – Turn the switch **(2)** clockwise to increase the cab temperature and counter-clockwise to decrease the cab temperature.
Blower speed control switch – Operate the switch **(3)** to control the blower speed.

NOTICE: *If front windshield fogs-up, switch "ON" the AC and turn the adjustable front AC vent to the front windshield. Operate the wiper for better visibility.*

NOTICE: *If the rear windshield fogs up, impacting the visibility, immediately stop the machine. Wipe the rear wind shield glass with a suitable clean cloth. Failure to comply could result in accidents.*

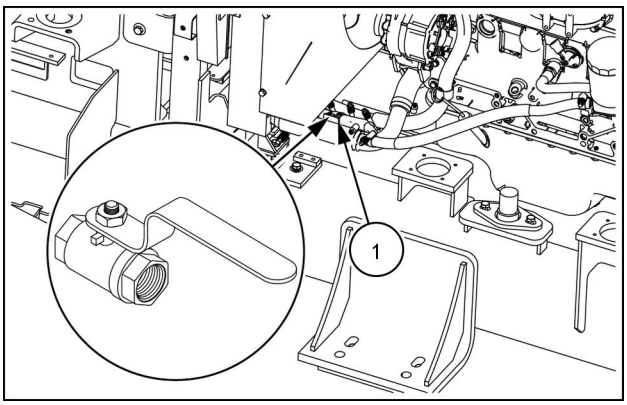


PTIL17COM1106AA 2

Heating

For heating, it is necessary to open the heater shut-off valve **(1)** located on the left-hand side of the engine.

NOTE: *In order to use the cab heater, the heater valve must be in the open position. Close this valve when the ambient temperatures increase or the operator's preference does not require heat inside the cab.*



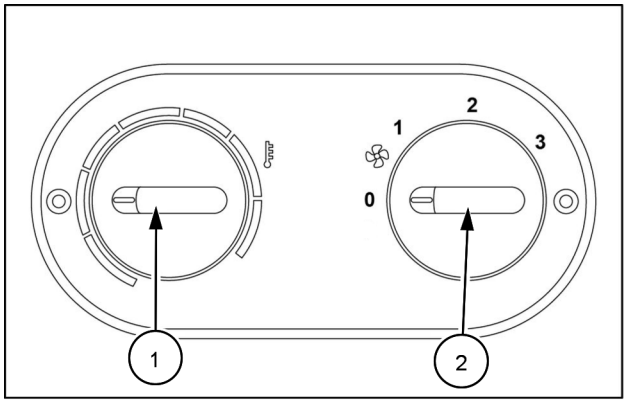
PTIL17COM1127AA 3

Cab with only heater

Heater control knob: Turn the knob **(1)** to switch on the heater and control the temperature. Turn the knob **(1)** clockwise to increase the temperature and anti-clockwise to decrease the temperature.
Blower speed control knob: Turn the three-speed control knob **(2)** to set the desired blower speed.

NOTE: *Moisture accumulation starts on the windshield upon continuous usage of heater for long time.*

NOTICE: *If windshield fogs-up, operate the windshield wipers for visibility. Stop the machine immediately if visibility decreases. Failure to comply could result in minor or moderate injury.*



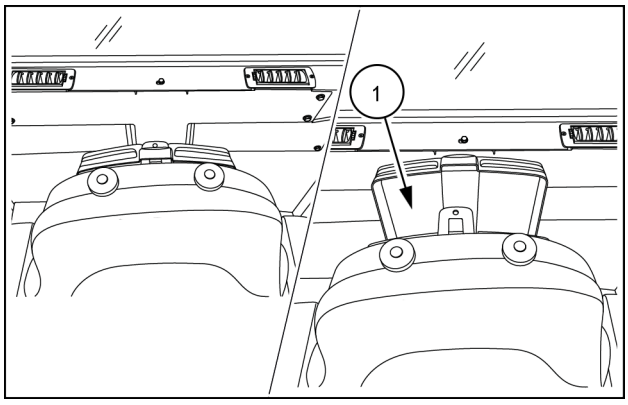
PTIL17COM1145AA 4

Cab controls and adjustments

Cab overview (If equipped)

Operator's manual storage

In the rear part of the operator's seat there is a document storage box **(1)** where the operator's manual can be stored.



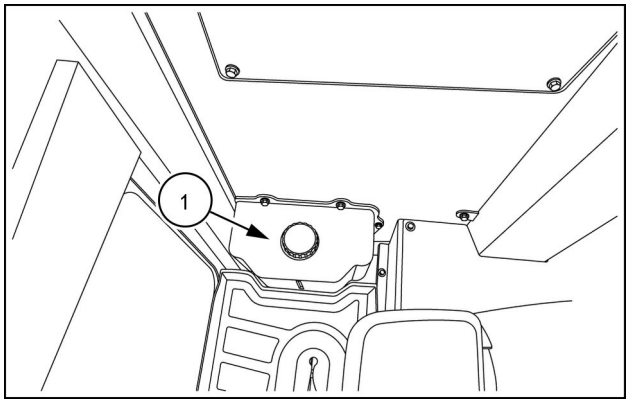
PTIL17COM1139AA 1

Front and rear windshield washer reservoir

This reservoir **(1)** is located on the right-hand side of the operator's seat.

NOTE: *In cold weather, use a windshield washer with low temperature capability.*

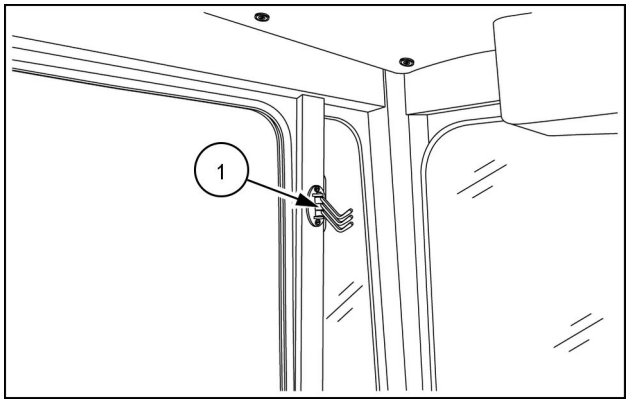
NOTICE: *Never operate the windshield washer when the reservoir is empty, since this may damage the electric pumps.*



PTIL17COM1137AA 2

Coat hanger hook

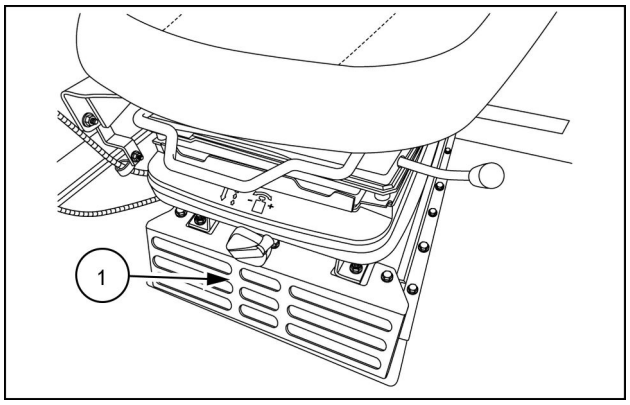
The hook **(1)** fitted on the right-hand side of the operator's seat, allows the hanging of possible clothes.



PTIL17COM1135AA 3

Air filter

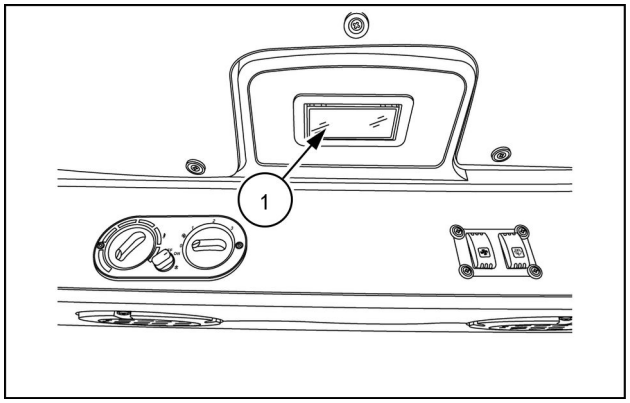
The air filter assembly **(1)** is available below the operator's seat.



PTIL17COM1111AA 4

Operator's compartment light

This light **(1)** is mounted on the roof. It can be turned "ON" by pressing the light and switched "OFF" by pressing the light again.



PTIL17COM1144AA 5

4 - OPERATING INSTRUCTIONS

Commissioning the unit

Commissioning operation

The following pre-operation checks has to be carried out every day before starting the engine.

- Park the machine on level surface.
- Check the fuel level in the fuel tank and top up if required.
  - Fill in diesel fuel in time so as to avoid unnecessary bleeding of the fuel system.
  - Do not spill diesel fuel on the engine.
  - If the fuel system has been run empty, it is necessary to bleed air from the system.

A. Check hydraulic oil level in the tank and top up if required.

B. Check engine oil and top up if required.

C. Visually check for leakages and damages to electrical components and connections.

D. Visually inspect and ensure that all the doors and covers are closed and locked. No tools like spanners, screw drivers should be left on the machine.

E. Ball valve (near foot pump) should be always in “Open” position.

During the first **50 h** of operation (new machine or after an engine build), make sure you do the following:

- Operate the machine in normal loads for the first **50 h**.
- Do not work the engine hard at stall speeds (wheels slowly turning or stopped and the engine running at full throttle).
- Keep the engine at normal operating temperature.
- Do not run the engine at idle speed for long periods of time.

Engine speed

It is suggested that you run the engine at full throttle when operating conditions permit and when safe.

Do not run the engine at idle speed for long periods. This can cause low operating temperature. Low operating temperature can cause acids and deposition in the engine oil.

Starting the unit

⚠ WARNING

Inhalation/asphyxiation hazard!
Make sure there is proper ventilation before starting the engine.
Failure to comply could result in death or serious injury.

W0091A

⚠ WARNING

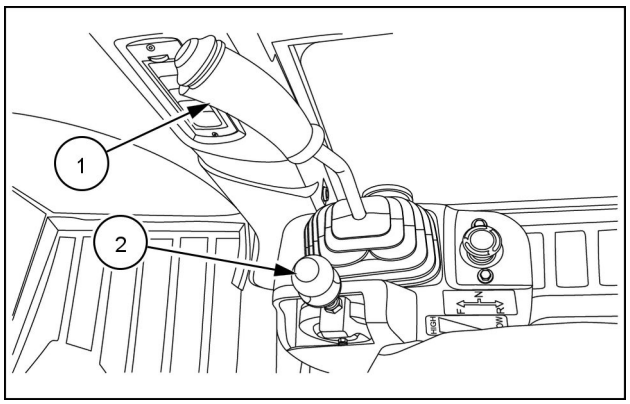
Hazard to bystanders!
Make sure the area surrounding the machine is clear of all persons before starting the engine.
Failure to comply could result in death or serious injury.

W0090A

Starting for the first time

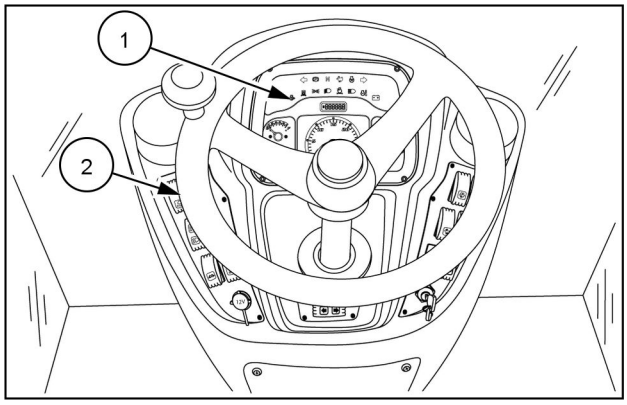
- Before you start the engine for the first time.
- Check whether the articulation joint arrester is removed.
- The forward reverse lever (FNR) and exciter switch both are in neutral position.
- Switch OFF the parking brake if the parking brake is in ON position.
- Remove any water or sediment from the water separator of the fuel tank.
- Make sure the machine is properly lubricated and greased. Refer to the maintenance section of this manual.
- Check the engine oil level and engine coolant level. Refer to the maintenance section of this manual.
- Check the tire air pressure and the wheel nut torque.
- Insert the ignition key in to the ignition switch and turn clockwise by **45°**. Now check all indicators.
- Turn the ignition key to start the engine.

1. FNR lever
2. Throttle Lever



PTIL19COM0015AA 1

1. Control Panel
2. Steering wheel



PTIL19COM0024AA 2

NOTICE: *Do not actuate the ignition key for more than* ***15 s****. While attempting to start the engine, wait for* ***1 min*** *before trying again.*

- After the engine has picked up and warning lights like low lubrication oil pressure indicator and battery no-charging indicator have gone OFF, the engine should be run in idling speed for **2 – 3 min**. Thereafter rotate the throttle lever **(4)** to increase the RPM of the engine. At the maximum position, the engine will be operating in full speed.

  NOTICE: *Machine must be operated (Travel and vibration) in high engine RPM only.*

⚠ DANGER

Unexpected machine movement!
Before starting the engine, be sure all controls are in neutral or disengaged. This prevents the accidental start up of power-driven equipment.
Failure to comply will result in death or serious injury.

D0144A

NOTICE: *If the machine has not been run for several weeks, prime the turbocharger lines with oil.*

Normal engine starting

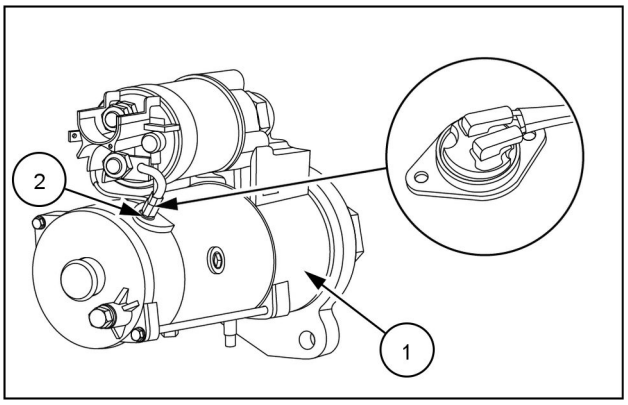
1. Make sure the seat is facing forward.
2. Adjust the seat and fasten the seat belt.
3. Make sure the parking brake is applied, the direction control lever is in neutral, and the engine hand throttle is pulled upward to the idle position.
4. Turn the key witch to the “ON” position and wait **2 – 3 s** for the instrument cluster to self-check and power up.
5. If the machine is equipped with an engine pre-heating system, wait for the engine pre-heat lamp to turn OFF.
6. Turn the key switch to the START position to actuate the starter motor.
7. If the engine starts and stops, do not actuate the starter motor again until the starter motor stops turning.

NOTE: *Do not operate the starter motor more than* ***15 s*** *at one time. Let the starter motor cool for* ***2 min*** *before you actuate the starter motor again. While the starter motor is engaged, white or black smoke must be seen at the exhaust pipe. If no smoke is seen, check the fuel supply.*

8. After the engine starts :
   A. Check the instrument cluster to make sure the gauge indications are correct.
   B. Run the engine at **1000 RPM** until the coolant temperature is warm.

Starter motor with thermal protection switch

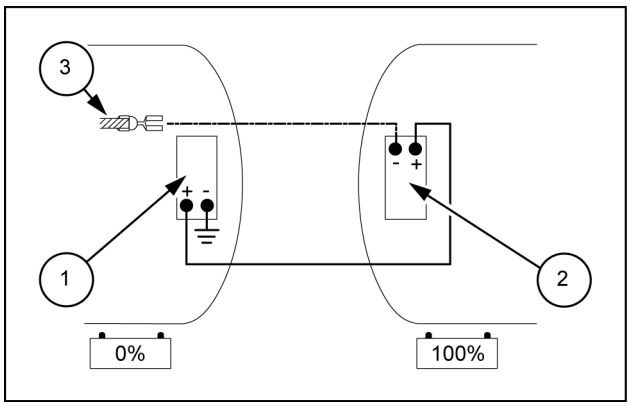
1. The starter motor **(1)** is fitted with auto cut off feature **(2)** (Inbuilt thermal protection switch).
2. In case starter motor internal parts temperature exceeds due to prolonged cranking or multiple cranking in short time, the thermal protection switch will be activated.
3. Cranking is not possible in this duration.
4. Please check engine peripherals as per trouble shooting guidelines, to resolve the issue. Do not attempt continuous cranking of the starter motor till issue is resolved.



PTIL22TLB0249AB 3

Assisted starting (Jump-starting)

Never try to start the machine when the batteries are defective or frozen. You can perform assisted starting or jump starting from other battery or machine.



PTIL12TLB0101AB 1

Only connect batteries (battery assemblies) with the same voltage. Only use tested jumper cables with insulated terminal clips and an adequate lead diameter. A high current flows on connection of the ground cable. Ensure that the bodies of the supplying and receiving machines are not in contact. Otherwise a current flow might result from connecting the positive poles. Sparks occurring at the contact point may ignite gases at the discharged battery. Connect the ground cable to the frame as far as possible away from the discharged battery. During assisted starting operations (by means of an external battery), do not lean over the batteries. Wear goggles.

Risk of short-circuiting

When performing assisted starting, never use power supplies creating an over-voltage, such as two or three batteries in series or devices generating voltages above **12 V**. Never use welding generators or welding transformers.

Position the jumper cables in such a way that they cannot be caught by rotating engine components. Check whether the battery of the receiving machine (discharged battery) is in working order:

- Switch Off electrical accessories (lights, fans).
- Insert the key into the switch and turn it “ON”, the warning lamps for the engine check must turn On.
- If warning lamps do not turn On, the battery is faulty (completely discharged or with short-circuit inside).

In this case the machine must not be started, as the alternator would then be damaged. Install a functional battery before jump-starting.

Connecting cables

Switch Off all electrical accessories in receiving machine and turn the key to “0”. Switch Off all accessories in supplying machine (booster battery) and shutoff engine. Connect the red jumper cable to the positive clamp of the discharged battery **(1)** and then to the positive clamp of the booster battery **(2)**. Connect the black jumper cable first to the negative clamp of the booster battery **(2)** and then to the frame **(3)** on the receiving machine.

Starting the engine

Start the engine of the supplying machine. Increase rpm. Start the engine of the receiving machine. If the engine does not start, wait for **1 min** and repeat the starting procedure. Once the engine is started, switch “ON” some of the accessories with high current absorption, such as complete lighting. This prevents voltage peaks, from occurring when the jumper cables are disconnected. Disconnect the jumper cables in reverse order as used when installing.

Run the engine at moderate speed for about half an hour. The batteries recharge partially. Have the electrical system of the machine checked, to determine why the battery was discharged.

Cold start (if equipped)

Cold temperature operation

Cold weather conditions cause special problems. During the reconditions, your machine will require special attention to prevent serious damage. Cold weather maintenance will extend the service life of your machine.

To start and operate your machine during cold ambient temperature, observe the following suggestion / instructions.

Battery and electrical components:

- Ensure the batteries are at full charge.
- If you add water to the batteries, charge the batteries or run the engine for approximately two hours to prevent battery freezing in ambient temperatures below **0 °C** (**32 °F**).
- Inspect the battery cables and terminals. Clean and coated each terminal with a corrosion prevention product.

Engine:

- Use engine oil with the correct viscosity for the ambient temperature range.
- Allow longer warm up periods to bring the machine and components up to operating temperature.

⚠ WARNING

Explosion hazard!
DO NOT use ether starting fluid. Explosion, death, serious personal injury, or serious engine damage could occur.
Failure to comply could result in death or serious injury.

W0148B

Preheat the system, if equipped. Turn the key switch to the ON position, the engine preheat lamp illuminates as the heater conditions in drawn air. See **3-14**. Wait for the lamp to stop illuminating before starting the engine. If the engine fails to start after two attempts, allow the battery to recover for **4 – 5 min** before repeating the procedure.

Fuel system:

- Check with your dealer for the correct cold weather fuel.
- Check for water in the fuel system. Inspect the water separator every **50 h** of operation. If water is found, check the fuel tank.
- Fill the fuel tank after each operating day to prevent condensation in the fuel tank and water entering the fuel system.

Cooling system

- Use a mixture of **50%** ethylene glycol and **50%** water. This mixture protects the engine cooling system to- **-15.0 °C** (**5.0 °F**).

Machine start up in cold weather

Fully open the throttle.

Turn the key switch to the ON position and check the instrument cluster.

If the machine is equipped with a preheat system, wait for the engine preheat lamp to stop illuminating.

Turn the key switch to the START position until the engine starts, then release the key.

NOTE: *If the engine fails to start after a maximum of **15 s** of soft cranking, repeat the starting procedure. Do not operate the starting motor for more than **60 s**.*

Hot temperature operation

Hot weather conditions cause special problems. During the reconditions, your machine will require special attention to prevent serious damage. Hot weather maintenance will extend the service life of your machine.

Use the correct solution of ethylene glycol and water in the cooling system.

To prevent damage to the machine:

- Keep the coolant at the correct level in the coolant reservoir and in the radiator.
- See your dealer and have the de-aeration cap tested before hot weather starts. Replace the cap as required.
- Clean all dirt from the radiator, coolers and engine area.
- Check the condition of the fan drive belt.
- Check the condition of radiator fan blades.
- Use lubricants of the correct viscosity.

Stopping the unit

Shutting OFF the engine

- Before you leave the machine, make sure the machine is parked on a level surface. The machine must be on level ground before you do scheduled maintenance.
- Press frequency selector switch to neutral to stop vibration.
- Then bring the travel controller (FNR) level to neutral to stop travelling.
- Apply the parking brake and park the machine on level surface.
- Bring throttle lever to low idle position.
- Run the engine at idle speed for **2 min** (or more if the engine has been working at full load) to cool the engine parts evenly.
- Turn ignition key anti-clockwise, all indicator should go OFF.
- Secure the machine by means of wheel chocks and / or stone / rocks if necessary.

NOTICE: *Shutting down the engine when at a higher idle RPM will damage the turbocharger.*

⚠ WARNING

Unexpected machine movement!
The parking brake will not prevent this machine from moving if one wheel is raised above the ground.
Before raising one wheel above the ground, always block the front and rear of the other three wheels.
Failure to comply could result in death or serious injury.

W0193A

NOTE: *If you must temporarily park the machine on a hillside, put the front of the machine toward the bottom of the hill. Make sure the machine is behind an object that will not move.*

Moving the unit

Before operating the machine

⚠ WARNING

Equipment failure could cause accident or injury!
Before operating the machine, check for correct operation of steering, brakes, hydraulic controls, instruments, and safety equipment. Make sure the transmission control lever is in the neutral position. Make all adjustments before operating the machine.
Failure to comply could result in death or serious injury.

W0204A

Check the instrument panel

Test the parking and service brakes.

NOTE: *Review the procedures in their entirety before proceeding. Ensure you allow surplus room for machine travel on slope.*

1. To test the parking brake:
   - Ensure the operator's seat is in normal position.
   - Ensure that articulation joint arrestor is disengaged.
   - Ensure that parking brake is not engaged (parking brake should be in off position).
   - Start up the engine.
   - Increase the engine speed to full throttle.
   - Travel forward on slope.
   - On slope put the forward reverse lever (FNR) in neutral and engage the parking brake or shutdown the engine.
   - Parking brake will hold the m/c.
   - Contact your dealer for services as needed.
2. The hydrostatic system constitutes the service brake thus a separate service brake in not required. The spring loaded multiple disc brakes in the rear axle serves as a parking brake.
3. Secondary brake function check: On plain ground switch on the secondary brake and start/on the engine; in this case machine should not move either forward or reverse with FNR lever operation.

Operating the machine (travel)

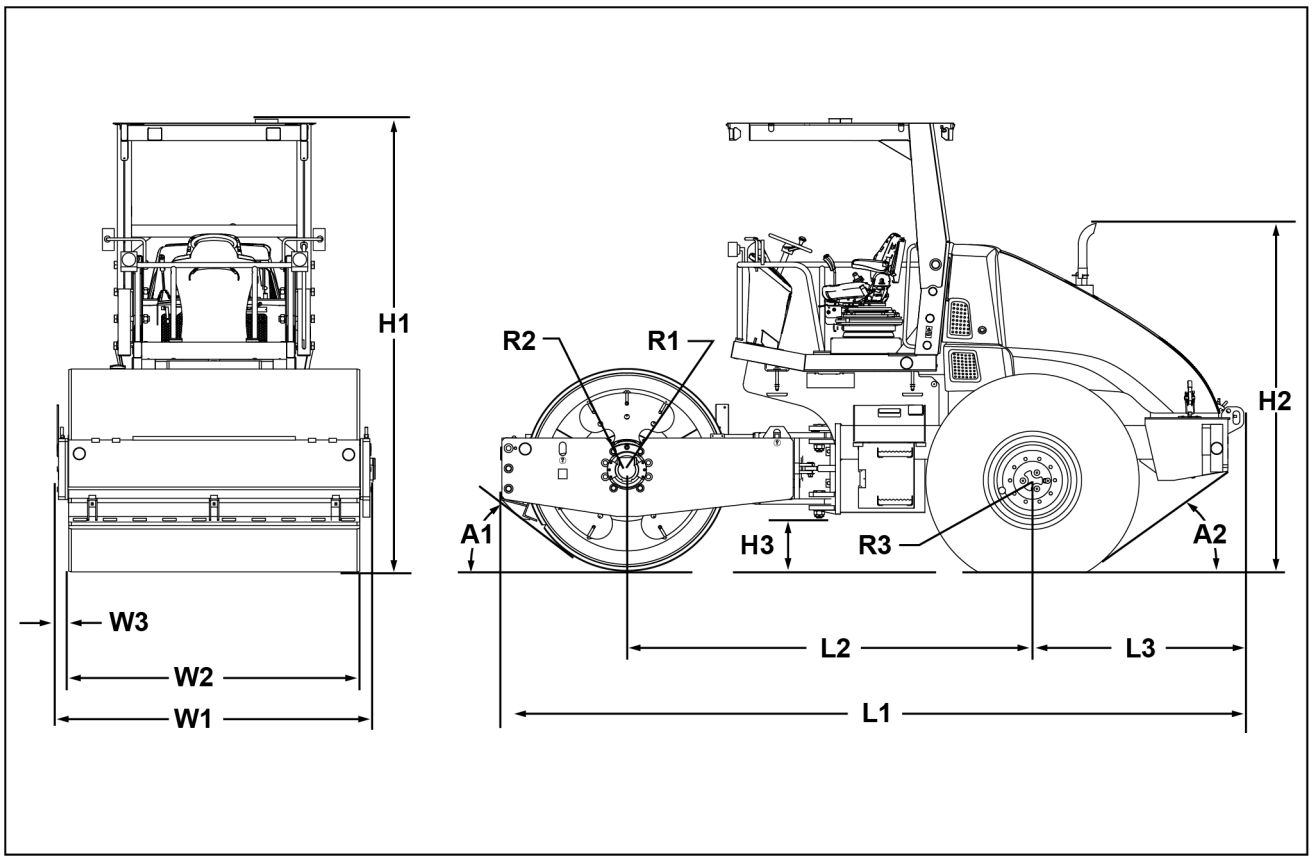
1. Drive the machine with the drive lever into the desired driving direction. If the driver lever is moved forward from neutral position, the machine will move forward.
   If the driver lever is moved backward from neutral position, the machine will move backward.
   The speed will increase, the more the lever is moved forward or backward. For braking, move the drive lever out of the respective forward or reverse driving position to the neutral position.
2. During parking in slope, switch on parking brake switch (P).

ATTENTION: *Parking brake is to be operated only when the machine is in neutral. Electrical system is designed in such a way that parking brake will be engaged only when the forward reverse lever (FNR) is in neutral.*

5 - TRANSPORT OPERATIONS

Preparing for road transport

Transport dimensions – With canopy



PTIL24COM0105FB 1

With canopy

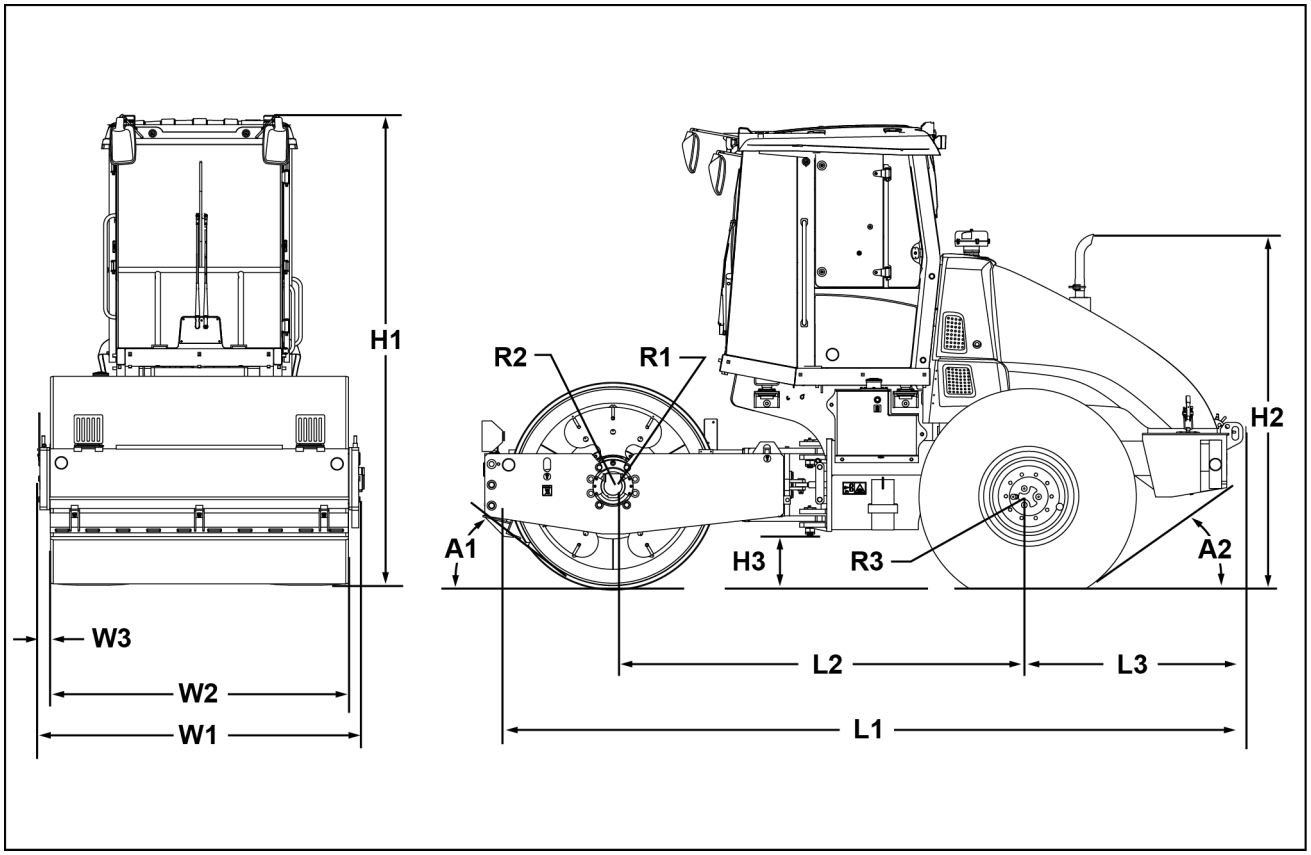
Dimension	L1	L2	L3	R1	R2	R3	W1
m (in)	**5.508 m (216.850 in)**	**3.003 m (118.228 in)**	**1.562 m (61.496 in)**	**0.718 m (28.268 in)**	**0.750 m (29.528 in)**	**0.690 m (27.165 in)**	**2.324 m (91.496 in)**
Dimension	W2	W3	H1	H2	H3		
m (in)	**2.150 m (84.646 in)**	**0.087 m (3.425 in)**	**3.373 m (132.795 in)**	**2.561 m (100.827 in)**	**0.382 m (15.039 in)**		

A1 = **35°** and A2 = **36°**

NOTE: *The roller drum shell thickness offered as standard offering is **32 mm**. For regions where high curb climbing ability is warranted an optional drum of **25 mm** thickness is provided to negotiate this specific application. The outer diameter is same for both, but the vibration amplitude changes. For Vibration amplitudes, see **9-5**.*

NOTE: *If the machine is equipped with optional padded drums, see **10-2**. Remove the pads before running the machine on road.*

Transport dimensions – With cab



PTIL22COM0049FB 2

With cab

Dimension	L1	L2	L3	R1	R2	R3	W1
m (in)	**5.508 m** (**216.850 in**)	**3.003 m** (**118.228 in**)	**1.562 m** (**61.496 in**)	**0.718 m** (**28.268 in**)	**0.750 m** (**29.528 in**)	**0.690 m** (**27.165 in**)	**2.324 m** (**91.496 in**)
Dimension	W2	W3	H1	H2	H3		
m (in)	**2.150 m** (**84.646 in**)	**0.087 m** (**3.425 in**)	**3.341 m** (**131.535 in**)	**2.561 m** (**100.827 in**)	**0.382 m** (**15.039 in**)		

A1 = **35°** and A2 = **36°**

NOTE: *The roller drum shell thickness offered as standard offering is* ***32 mm****. For regions where high curb climbing ability is warranted an optional drum of* ***25 mm*** *thickness is provided to negotiate this specific application. The outer diameter is same for both, but the vibration amplitude changes. For Vibration amplitudes, see* ***9-5****.*

NOTE: *If the machine is equipped with optional padded drums, see* ***10-2****. Remove the pads before running the machine on road.*

Shipping transport

Transporting on a trailer – With canopy

⚠ WARNING

Transport hazard!
The machine can slip or fall from a ramp or trailer. Make sure the ramp and trailer are not slippery. Remove all oil, grease, ice, etc. Move the machine on or off the trailer with machine centered on the trailer or ramp.
Failure to comply could result in death or serious injury.

W0152A

NOTE: *The machine shown may be different from your machine. The procedure is same.*

NOTICE: *The machine must be secured on its trailer with appropriate latches, wedges etc. during transport to avoid oscillatory movements in transit. The parking brake is not designed to ensure this "dynamic braking".*

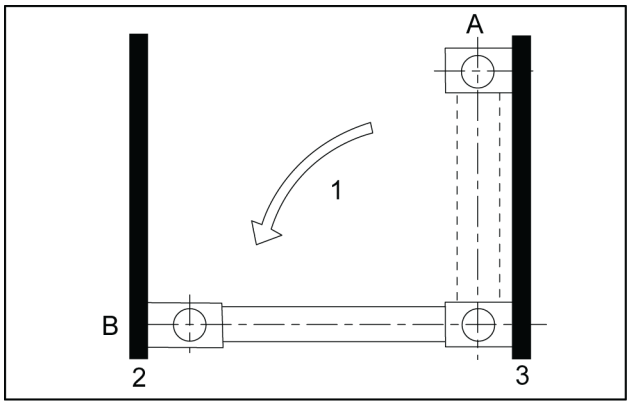
1. Locking level

A. Operating position

B. Locking position

2. Front roller frame

3. Machine frame



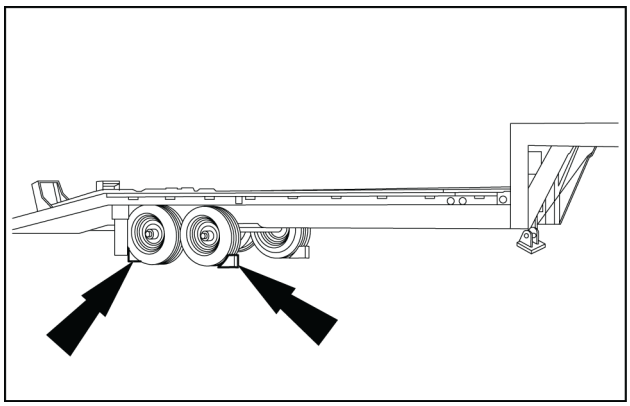
PTIL14COM0052AA 1

You must know the rules or laws for safety that are used in each area that you will be in. Make sure that the truck and trailer are equipped with the correct safety equipment.

- When loading and transporting rollers with the aid of hoists provide suitable means of slinging or fastening at the points provided for this purpose. Lock the articulation joint arrester before loading.
- Towing of the machine should be performed with strong towing bars/ropes.
- Check whether the load is permissible for respective hoists. Pay attention to minimum length or ropes or cross beams.
- When loading or unloading the roller with the aid of ramps make sure that they have sufficient load bearing capacity and stable enough. Ensure that the rollers do not topple over thereby endangering people.

Park the trailer for loading:

1. Put a block on the front and rear of the trailer wheels.

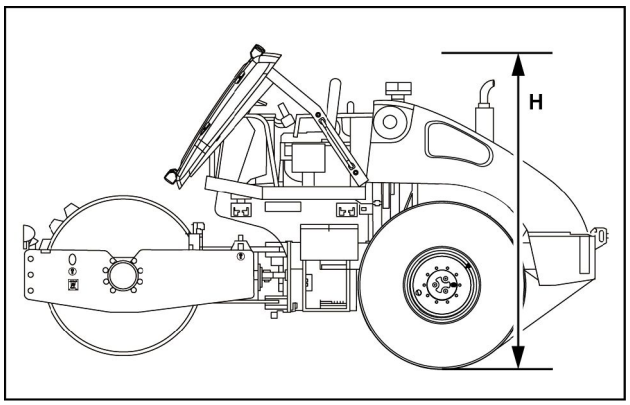


PTIL14COM0053AA 2

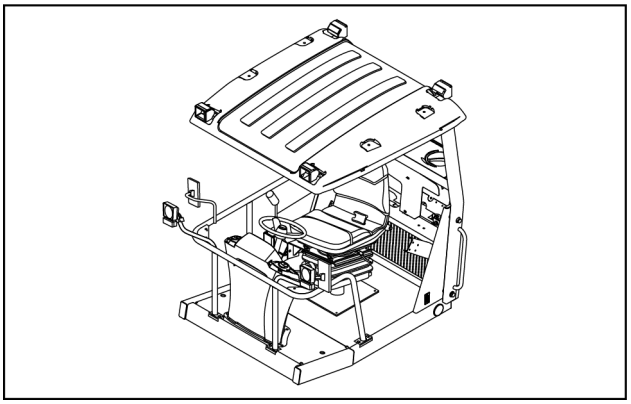
Load the compactor on to a trailer:

1. Park on a level surface.
2. Fasten the seat belt, shift forward reverse lever (FNR) gear to forward and slowly drive the machine on to the trailer.
3. Shut down the engine and remove the key.
4. Put a block at the front and rear of each tire which is provided with the machine.
5. Lower the canopy as shown. The height of the machine with lowered canopy is **3.00 m** (**118.11 in**).
6. After you have driven some distance, stop the truck and trailer and check your load. Make sure the chains are still tight and machine has not moved.
7. Vandal guard to be removed from machine (either on front console or rear cover of operator) before starting the unit.
8. Machine parts may get damaged if operated with Vandal guard in installed condition.

NOTE: *If the machine is equipped with optional padded drums, see* ***10-2****. Remove the pads before running the machine on road.*



PTIL22COM0020AB 3



PTIL22COM0048AB 4

Unload the soil compactor from the trailer:

1. Remove the chains and blocks from the machine.
2. Check the engine oil, Hydraulic oil and Battery
3. Fasten the seat belt.
4. Start the engine.
5. Release the parking brake.
6. Shift forward reverse lever (FNR) gear to forward and drive the machine.

Transporting on a trailer – With cab

⚠ WARNING

Transport hazard!
The machine can slip or fall from a ramp or trailer. Make sure the ramp and trailer are not slippery. Remove all oil, grease, ice, etc. Move the machine on or off the trailer with machine centered on the trailer or ramp.
Failure to comply could result in death or serious injury.

W0152A

NOTE: *The machine shown may be different from your machine. The procedure is same.*

NOTICE: *The machine must be secured on its trailer with appropriate latches, wedges etc. during transport to avoid oscillatory movements in transit. The parking brake is not designed to ensure this "dynamic braking".*

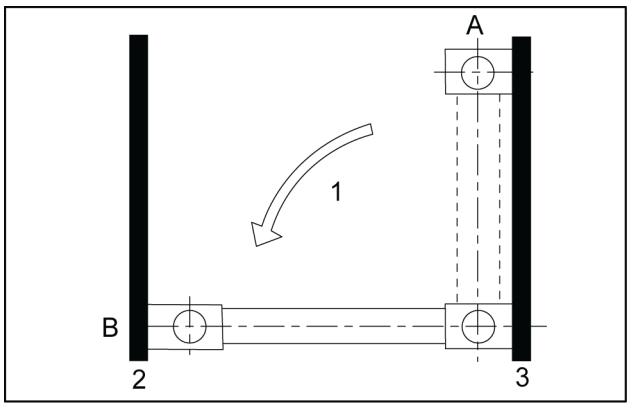
1. Locking level

A. Operating position

B. Locking position

2. Front roller frame

3. Machine frame



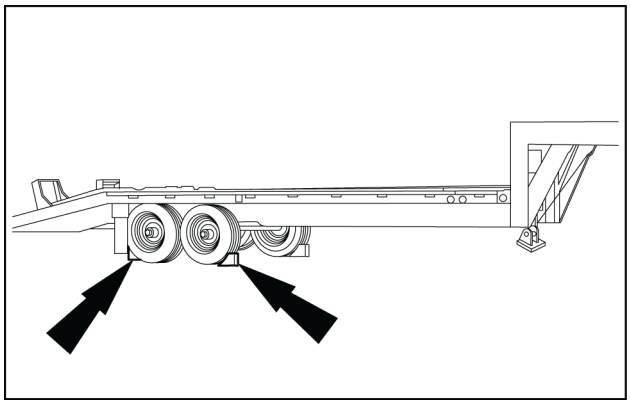
PTIL14COM0052AA 5

You must know the rules or laws for safety that are used in each area that you will be in. Make sure that the truck and trailer are equipped with the correct safety equipment.

- When loading and transporting rollers with the aid of hoists provide suitable means of slinging or fastening at the points provided for this purpose. Lock the articulation joint arrester before loading.
- Towing of the machine should be performed with strong towing bars/ropes.
- Check whether the load is permissible for respective hoists. Pay attention to minimum length or ropes or cross beams.
- When loading or unloading the roller with the aid of ramps make sure that they have sufficient load bearing capacity and stable enough. Ensure that the rollers do not topple over thereby endangering people.

Park the trailer for loading:

1. Put a block on the front and rear of the trailer wheels.



PTIL14COM0053AA 6

To load the compactor on to a trailer

1. Park the trailer on a level surface.
2. Fasten the seat belt, shift forward reverse lever (FNR) gear to forward and slowly drive the compactor machine on to the trailer.
3. Shut down the engine and remove the key.
4. Put a block at the front and rear of each tire which is provided with the machine.
5. After you have driven some distance, stop the truck and trailer and check your load. Make sure the chains are still tight and machine has not moved.
6. Vandal guard to be removed from machine (either on front console or rear cover of operator) before starting the unit.
7. Machine parts may get damaged if operated with Vandal guard in installed condition.

To unload the soil compactor from the trailer

1. Remove the chains and blocks from the machine.
2. Check the engine oil, Hydraulic oil and Battery
3. Fasten the seat belt.
4. Start the engine.
5. Release the parking brake.
6. Shift forward reverse lever (FNR) gear to forward and drive the machine.

Lifting points

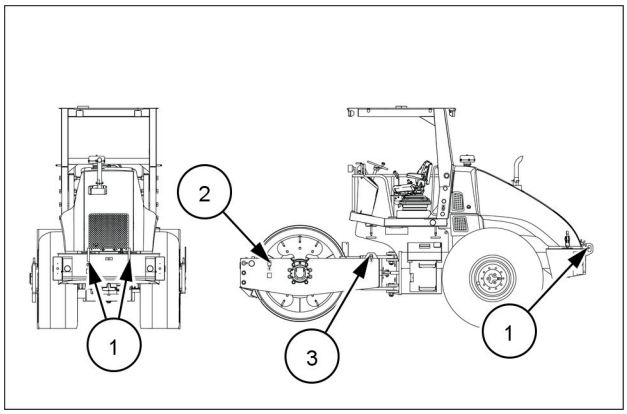
1. A lifting point is the connection between the lifting means and the load. It connects the loaded goods with the lifting gear during both lifting and rotation as well as during turning and movement of loads.
2. The connection between any load and the lifting gear needs a lifting point. Lifting points allow for the lift and its appropriate adapters to balance the vehicle's center of gravity as it is suspended into the air.
3. There are six lifting points on the machine,
   - Four front lifting points (two on the left-hand side and another two on the right-hand side of the machine).
   - Two rear lifting points (one on the left-hand side and another one on the right-hand side of the machine).
4. We should use two lifting points on the front **(2)** and two lifting points on the rear part **(1)** for lifting the vehicle.
5. The two lifting points on the middle **(3)** can be used but we will have to be cautious that the sling doesn't damage the canopy/cabin.
6. Use suitable slings to lift the machine. Make sure that the slings are in perfect condition and that they can support the weight of the machine.

NOTE: *Ensure that once you attach the hook, rope, wire or chain slings etc. to the lifting point it is adequately secured, strong enough to lift and move the desired weight.*

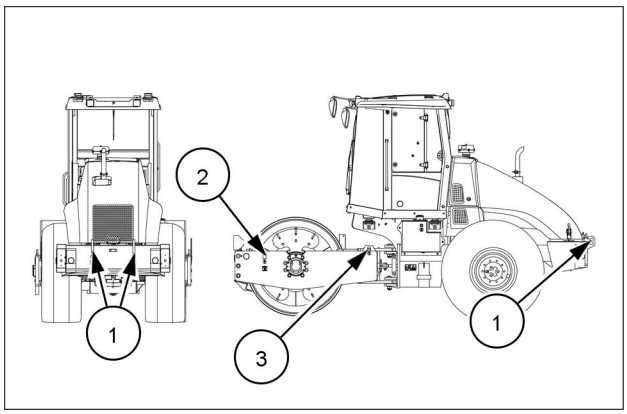
NOTE: *Make sure that the lifting point is secured correctly to avoid it coming lose and objects falling from height.*

NOTE: *Do not allow anybody within the machine's working range. Never suspend the machine over people who are in proximity.*

NOTICE: *The machine must be secured on its trailer with appropriate latches, wedges etc. during transport to avoid oscillatory movements in transit. The parking brake is not designed to ensure this "dynamic braking".*



PTIL22COM0207FB 1



PTIL22COM0208FB 2

Recovery transport

Recovery transport

Recovery transport

⚠ DANGER

Loss of control hazard!
Make sure you use a towing vehicle with adequate weight. Towing with an underweight vehicle could cause a loss of control during transport or braking.
Failure to comply will result in death or serious injury.

D0245A

⚠ WARNING

Misuse hazard!
Towing is a delicate maneuver that is always carried out at the risk of the user. The manufacturer's warranty does not apply to incidents or accidents that occur during towing. Where possible, carry out the repairs at the site.
Failure to comply could result in death or serious injury.

W0286A

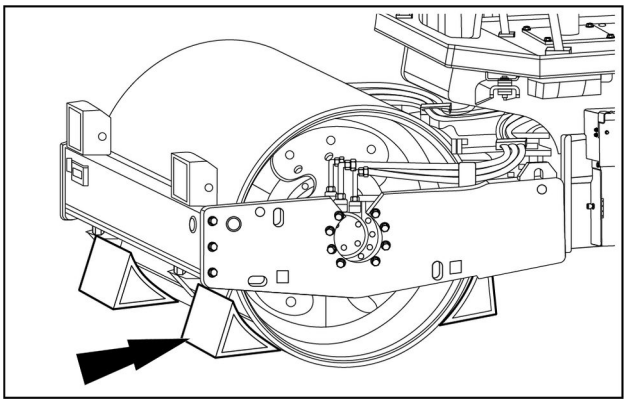
⚠ WARNING

Sharp object hazard!
Use care handling sharp components. Always wear appropriate Personal Protective Equipment (PPE), including heavy gloves.
Failure to comply could result in death or serious injury.

W1246A

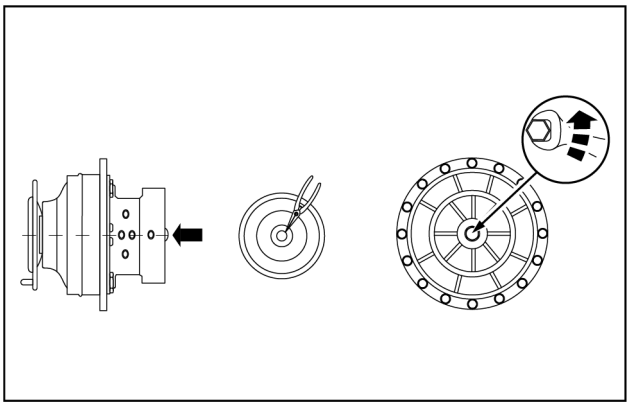
Releasing drum drive motor brake (if equipped)

1. Block the drum with wheel chocks.



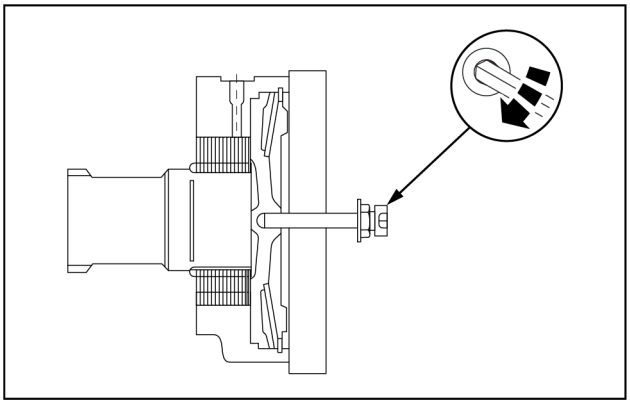
PTIL24COM0271AB 1

2. Depending on the brake design, extract and discard the rubber plug or loosen the metallic plug from the brake cover.



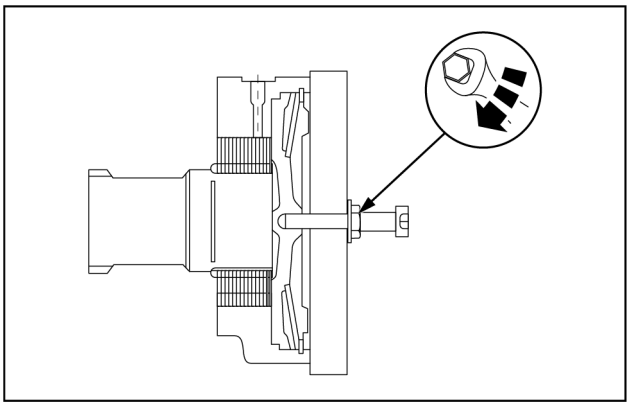
PTIL24COM0272AB 2

3. Install the mandrel in contact with the brake. Fully tighten the screw equipped with washer and nut in the threaded hole of the brake piston. Lubricate the screw thread and the contact surface of the nut and washer.



PTIL24COM0264AB 3

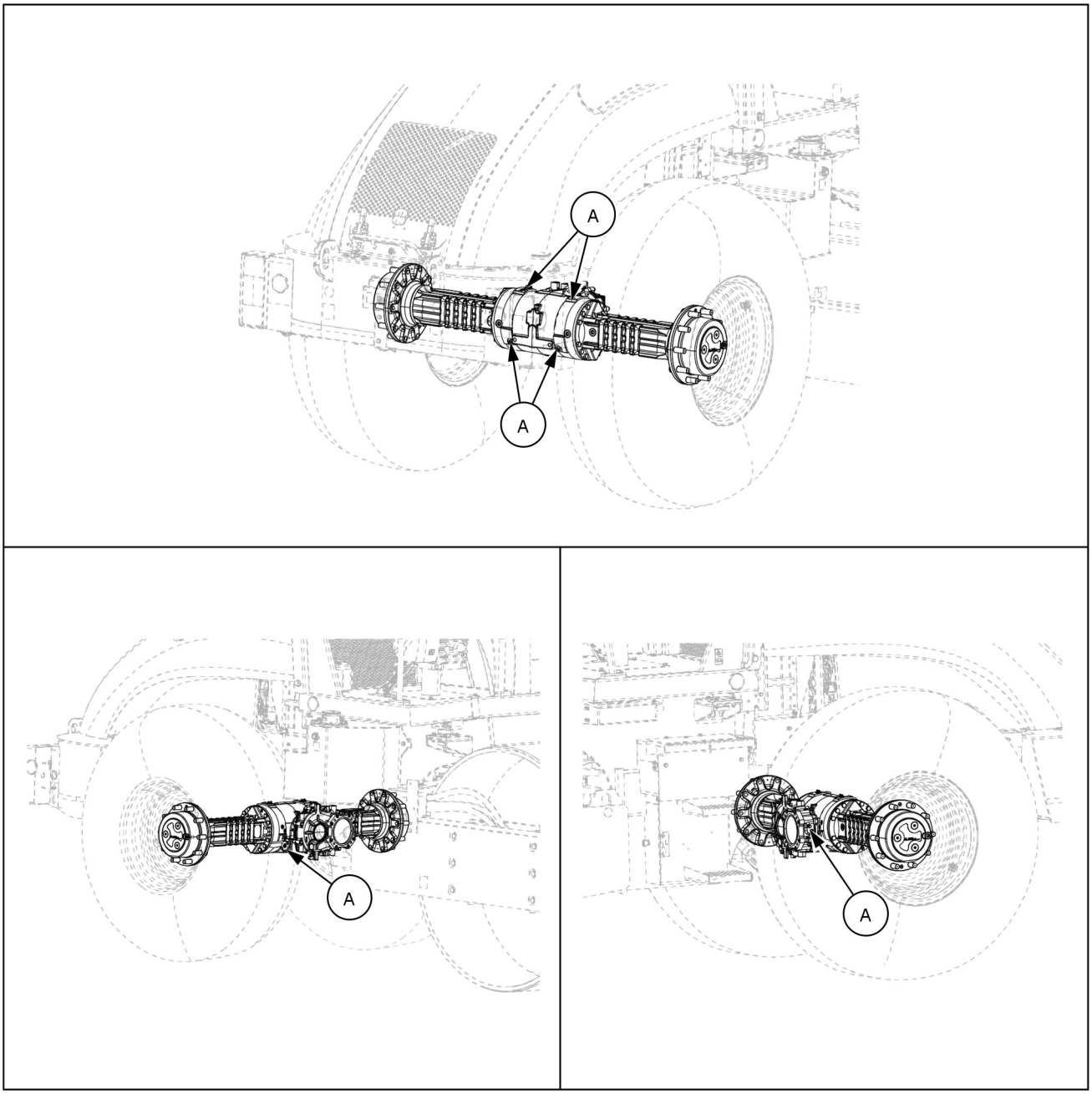
4. Tighten the nut while holding the screw until the motor shaft turns freely.



PTIL24COM0265AB 4

Releasing rear axle brake

ATTENTION: *Always attach wheel chocks on all wheels to prevent the vehicle from moving before starting any necessary repair operations.*
Clear the area of any personnel before remove the locking from each tire and tow the vehicle to a safe location.

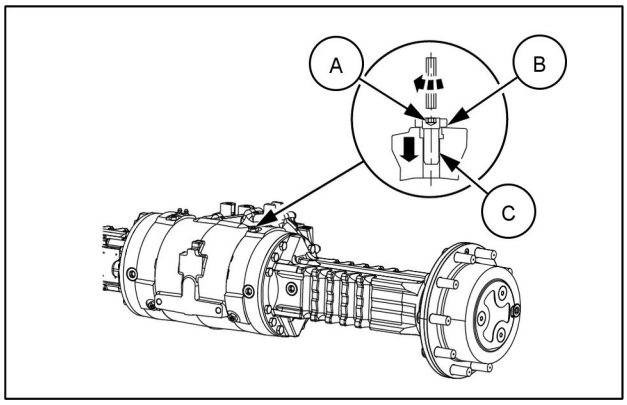


PTIL24COM0268GB 5

1. The rear axle has 6 brake releasing points **(A)**.
2. Ensure that the special screws **(B)** remain securely locked.
3. Screw in the brake release bolts **(C)**,1/2 turn at a time, in sequence until the braking torque drops off sharply (4 to 5 turns).

NOTE: *Operate gradually to avoid the locking of the piston; the piston must move crosswise to the cylinder.*

NOTE: *It is recommended to keep the special screws **(B)** shown in the figure locked (with a spanner wrench) when proceeding with the deactivation or activation of the passive (negative) brake. In the event that screw **(B)** is loosen, it must be removed to apply **LOCTITE® 518™** and then assemble it to the required torque **50 N·m** (**443 lb in**).*

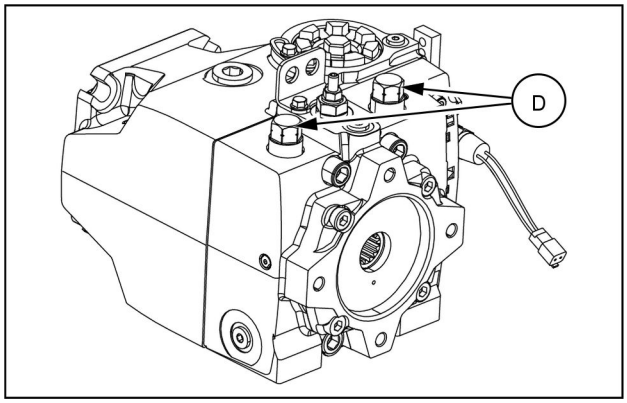


PTIL24COM0273AB 6

Engaging travel pump bypass function

Rotate HPRV **(D)** three revolutions counterclockwise using a hexagonal wrench.

NOTE: *Do not rotate more than 3 revolutions, leakage will occur.*



PTIL24COM0270AB 7

Towing the machine

NOTICE: *The compactor engine cannot be started by towing the machine. The drive train components will be damaged.*

If your machine is disabled, you must make a judgment if the machine can be moved without damage. If possible, repair the machine at the job site.

The machine must be attached as close as possible.

The disabled machine must be moved only far enough to reach a safe repair location or onto a trailer.

Before moving a disabled machine, you must be able to answer these questions:

- Does the towing machine have braking and steering capacity for both the machines?
- Does the towing hardware, chains, cables, draw bars have the proper capacity to move the machine safely?
- Will the disabled machine have steering and braking capability?
- While moving the machine, it will cause damage to drive train or moving parts that lack lubrication?

Additional considerations

- Ensure that all personnel involved are shielded in case the towing apparatus breaks.
- An operator may only be allowed on the towed vehicle if it has steering and braking capability.

- Always block the disabled machine wheels before releasing the brakes or drive train components.

Only tow the machine in an emergency in order to move the machine away from the danger zone.

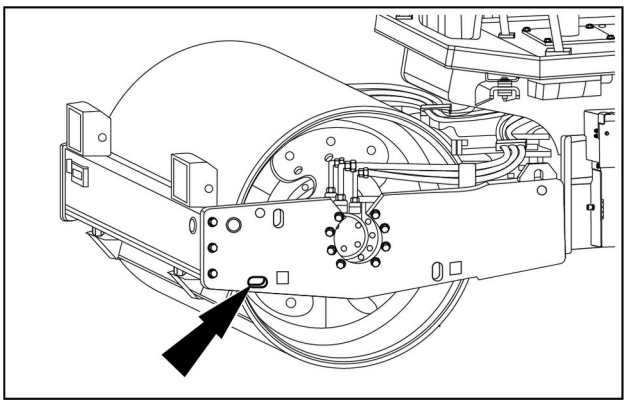
DO NOT exceed the maximum towing speed of **1.0 km/h**.

DO NOT exceed the maximum towing distance of **300 – 400 m**.

Transport the machine by truck or trailer.

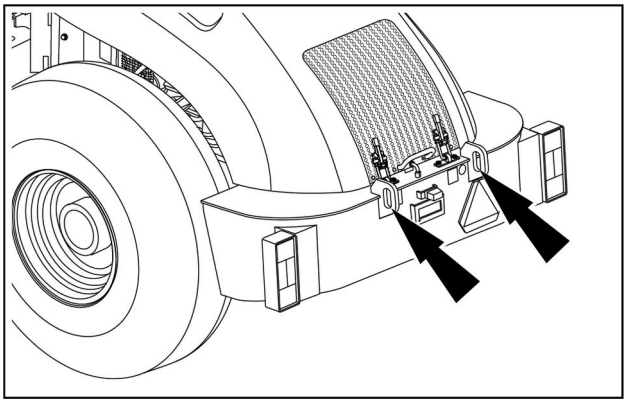
Towing point

1. The machine can be towed from the front or rear side. To tow the machine from the front, use the cutouts on both sides of the roller frame to install the tow bar.



PTIL24COM0269AB 8

2. To tow the machine from the rear side, use the two lugs provided on the chassis frame.



PTIL24COM0259AB 9

Tow procedure

Use a tow bar with sufficient capacity to tow the machine.

NOTICE: *To tow the machine, use a tow bar with sufficient capacity only. Do not use chain, cable, rope or any other means to tow the machine.*

1. Block the wheels with wheel chocks.
2. Place the forward reverse lever (FNR) in neutral.
3. Install one side of a rigid drawbar to the disabled machine.
4. Install the other side of the rigid drawbar to the towing machine. Make sure the towing machine has enough power and ability to move and stop.
5. Remove the wheel chocks.
6. Release the parking brake. If the parking brake does not disengage, disable the parking brake manually.
7. No riders allowed. Ensure all other workers are out of the area.

NOTICE: *After repairing the disabled machine, return drum drive brake, rear axle brake, and travel pump bypass function to their original positions before moving the machine.*

6 - WORKING OPERATIONS

General information

Operating the machine during normal operation

⚠ WARNING

Avoid injury and/or machine damage!
During the run-in period for new machines or after overhaul, be aware that brakes may be less efficient and longer stopping distances may be required.
Failure to comply could result in death or serious injury.

W1073A

When putting a new machine into operation, the machine should not be run at full power for the first **50 h** (driving uphill with vibration).

Operating the machine at high altitudes

Engine power is affected by the environment in which the machine is operated.

NOTICE: *Air density decreases as altitude or ambient temperature increases. As a result of this, the engine's maximum output, quality of exhaust gas, temperature level and, in extreme cases, starting behavior, are impaired. This machine shall operate normally at a maximum altitude of* ***2000 m*** *(****78740 in****). Beyond* ***2000 m*** *(****78740 in****), there will be* ***10%*** *de-aeration at every* ***1000 m*** *(****39370 in****).*

NOTE: *If the engine will be operated under severe conditions (at higher altitudes than specified) contact the CASE CONSTRUCTION dealer for further guidelines.*

If the engine emits black smoke at altitudes of over **2000 m** (**78740 in**) ,contact your authorized dealer.

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:

NOTICE: *The machine shall operate normally at temperatures up to* ***50 °C*** *(****122 °F****) for mobile operations.*

NOTE: *If the engine will be operated under severe conditions (at higher temperatures than specified) contact the CASE CONSTRUCTION dealer for further guidelines.*

Operating the machine at low temperatures

NOTICE: *The cold start capability of machine is up to* ***-15.0 °C*** *(****5.0 °F****) at* ***2000 m*** *(****78740 in****) with cold start aid (If equipped).*

NOTE: *If the engine will be operated under severe conditions (at lower temperatures than specified) contact the CASE CONSTRUCTION dealer for further guidelines.*

NOTE: *If the engine will be operated under severe conditions (at lower temperatures than specified) contact the CASE CONSTRUCTION dealer for further guidelines.*

NOTICE: *Normal engine coolant operating temperature is* ***75 – 105 °C*** *(****167 – 221 °F****).*

NOTICE: *The machine may only be used at its full capacity after fluid has been heated to it's minimum operating temperature.*

NOTICE: *ISO VG68 oil to be used and never start the machine below* ***-6.0 °C*** *(****21.2 °F****).*

Compacting during winter season depends on the content of fine particles and water in the soil being compacted. As the temperature drops below the freezing point, the soil becomes more solid and harder to compact.

At temperatures below **0 °C** (**32 °F**), it is possible to compact only dry soils (and stony, loose materials), or carry out rapid compaction of non-frozen materials (before they freeze).

Preparation for work at low temperatures

1. Check concentration of the engine coolant.
2. Replace the engine oil with one recommended for the given range of low ambient temperatures.
3. Use hydraulic oil of corresponding kinematic viscosity.
4. Replace the drum fluid with one recommended for the given operating temperature range of the transmission.
5. Use winter fuel.
6. Check that the batteries are charged.

NOTE: *If necessary, remove the batteries and store them in a warm room prior to operation. Warming the batteries to approximately* ***20 °C*** *(****68 °F****) will lower the maximum cold starting temperature an additional* ***4 – 5 °C*** *(****7.2 – 9.0 °F****).*

Operating the machine in extremely dusty environment

The aftercooler and radiator cleaning intervals.

When working in an extremely dusty environment, shorten the intervals between:

- Cleaning the aftercooler.
- Cleaning the radiator grill.

NOTE: *The air filter element has to be cleaned only when the clog indicator comes ON.*

NOTE: *The recommended cleaning interval is a minimum of once a week.*

Operating with vibration on compacted and hard materials

⚠ WARNING

Avoid injury and/or machine damage!
Prolonged operation in this mode is prohibited, as it could negatively impact operator health or cause machine damage.
Failure to comply could result in death or serious injury.

W1070B

When operating the machine with vibration on hard materials (e.g. stony loose material), or with high level of base material compacting, there can be a loss of contact between the drum and the material compacted, called vibro-stroke. Vibro-stroke can be detected through increased vibration transfer to the machine frame and the operator control stand. Reduce the possibility of vibro-stroke by increasing the travel speed or use the vibration switch to select the lower amplitude setting.

If it is necessary to operate the machine under conditions in which the operator could be exposed to increased vibrations, then the machine operator is obligated to adjust work procedures to prevent impairment of the operator's health.

Filling tires with water

⚠ WARNING

Pressurized fluid can penetrate the skin and cause severe injuries.
The solution can spurt out after unscrewing the valve insert.
Failure to comply could result in death or serious injury.

W1118A

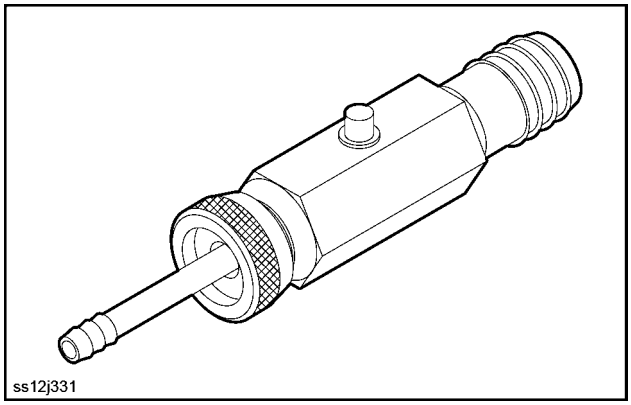
⚠ WARNING

Avoid injury!
Use Personal Protective Equipment (PPE), including protective goggles, gloves, and safety footwear.
Failure to comply could result in death or serious injury.

W1036A

This is used to lower the machine's center of gravity. An advantage is that the solution in the tires does not increase the axle load.

Filling tires with water up to **0 °C** (**32 °F**)



SS12J331 1

Filler tool

For filling and draining procedure of tires (Refer to **Maintenance**).

WORKING OPERATIONS

Vibration

⚠ WARNING

Hazard to bystanders!
Always sound the horn before starting the machine. Make sure the work area is clear of other persons, domestic animals, tools, etc. before you operate the machine. Never allow anyone in the work area during machine operation.
Failure to comply could result in death or serious injury.

W0304A

⚠ WARNING

Roll-over hazard!
Observe the maximum permissible gradient when driving uphill and across the slope. The values given may be lower depending on traction conditions and the actual machine weight.
Failure to comply could result in death or serious injury.

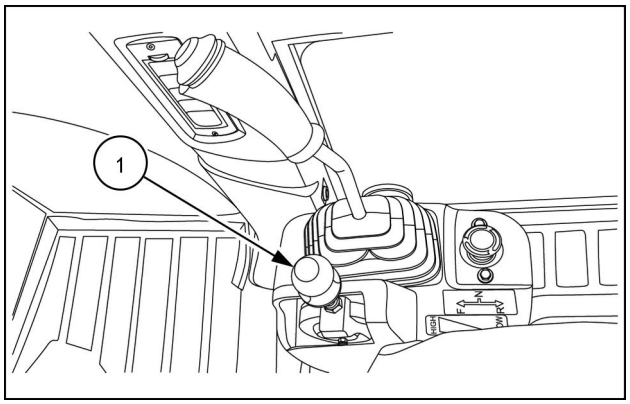
W1067A

NOTICE: *It is not recommended to engage or change the vibration selection while the machine is moving. Damage to the machine hydraulic components may occur that will shorten the life of the components.*

NOTICE: *When driving for long distances, 1-hour cooling breaks after 3 hours of driving should be taken. Failing that, you are exposed to the risk of damage to the machine for which the manufacturer is not responsible.*

1. Start the machine. Follow the starting procedure on **4-2**.
2. Full throttle **(1)** is recommended for working operations.
4. Keep the machine in low travel speed.

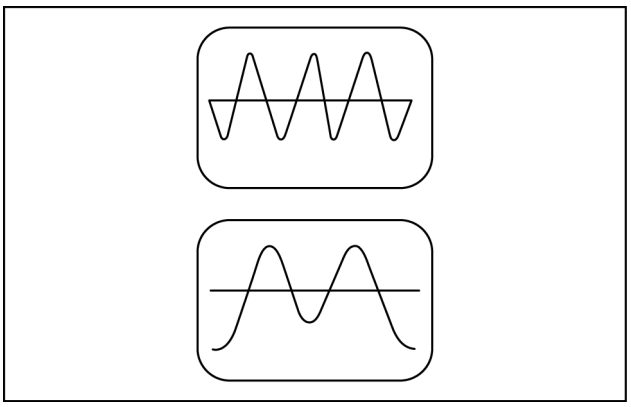
   NOTE: *If the travel speed switch is ON you will not be able to engage vibration mode.*
5. Disengage the parking brake switch .
6. Check that the area is clear and sound the horn before moving the machine.



PTIL19COM0015AA 1

NOTE: *Engage the vibration selection before the machine starts to move and stop the machine before changing the vibration selection.*

8. Select the desired vibration amplitude.
   - High position – high frequency, low amplitude. Recommended for granular materials.
   - Low position – low frequency, high amplitude. Recommended for cohesive materials.



PTIL15COM2145AA 2

NOTE: *Press the vibration button on the travel controller to engage or disengage vibration mode.*

9. Use the forward reverse lever (FNR) to move the machine forward or reverse.

Always use caution when traveling across a slope. When possible always travel uphill or downhill but in some applications traveling across the slope is necessary so be aware.

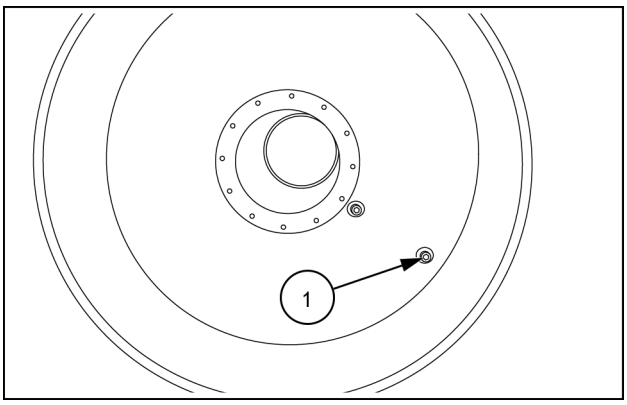
Compaction drums - Ballast

The drum can be ballasted as per the requirement. Open the plug **(1)** to fill-in and empty the drum.
Capacity – **1630 L** (**430.6 US gal**)

⚠ DANGER

Avoid injury!
If you operate the machine in Vibration mode with a ballasted compaction drum, you will damage the Anti-Vibration Mounting (AVM) pads. This can cause the drum to separate and lead to unpredictable machine movement. Never use Vibration mode when you ballast the compaction drum.
Failure to comply will result in death or serious injury.

D0210A



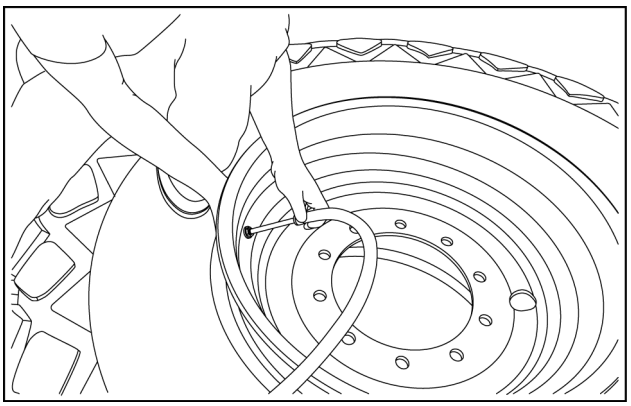
PTIL15COM2101AB 1

Rear wheels - Ballast

The tires fitted on the machine are tubeless tires. To facilitate better traction and to increase the operating weight of the machine the tires are filled with water and pressurized with air.

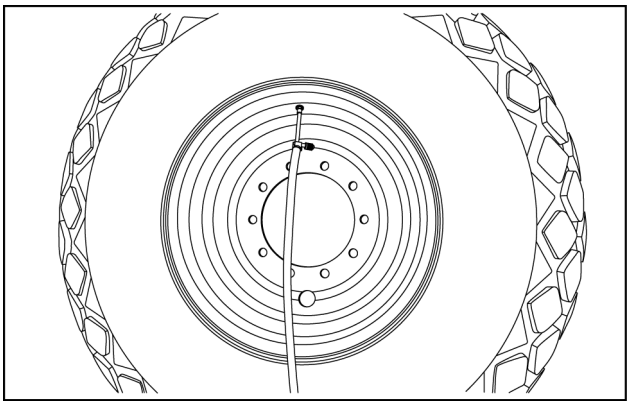
Filling the tires :-

Before filling the water in to the tire, inflate the tire. if we inflate at this point, automatically it will deflate while removing the valve from the tire.



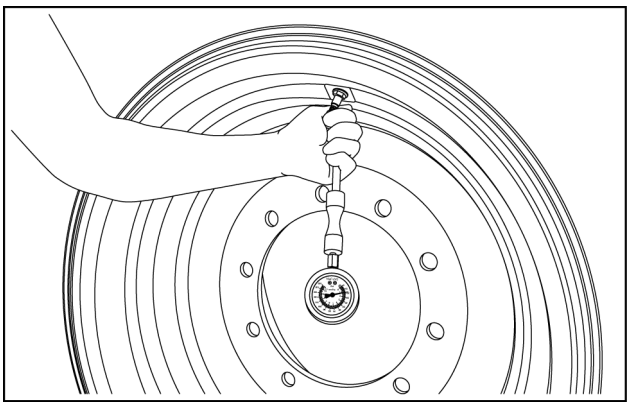
PTIL15COM2137AA 1

Jack up the wheeled part of the machine, if necessary.
Turn the wheels so that the hose valve is positioned vertically above the wheel axis center. Screw off nut and remove the hose valve insert.
Screw filling/emptying valve onto hose valve.
Install connecting hose between water tap and filling/emptying valve.



PTIL15COM2138AA 2

Open the water tap. Water turns into the tire while the air can escape through the pipe outlet installed in the exterior of the filling/emptying valve.
Close the water plug as soon as the continuous liquid jet comes out of outer pipe outlet.

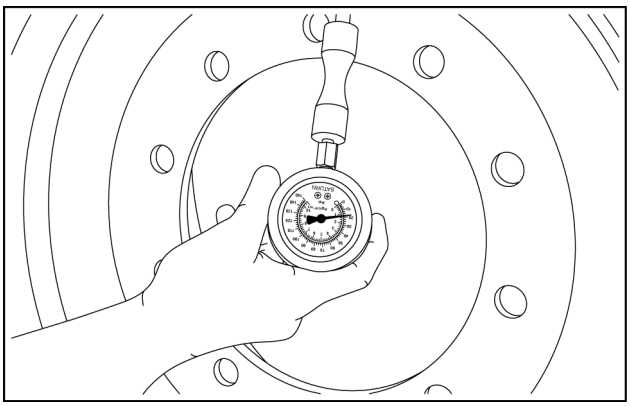


PTIL15COM2139AA 3

Screw out filling/emptying valve insert, install the hose valve insert and screw in the nut and tighten.
Set the air pressure in the tire to **103.0 kPa** (**14.9 psi**).

The water needed to fill in per tire is as below

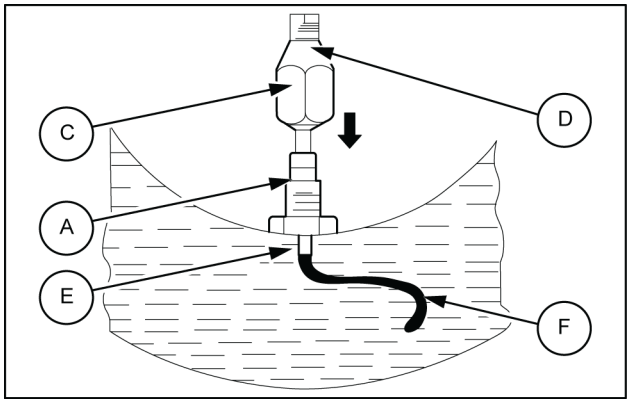
Consumable	Non Cold Start	Cold Start
Water	**360 L** per tire	**240 L** per tire
Antifreeze	(-)	**120 L** per tire



PTIL15COM2140AA 4

Procedure for emptying the tire :-

A. Hose valve
B. Hose valve insert
C. Filling or emptying valve.
D. Outer pipe
E. Inner pipe
F. Rubber hose

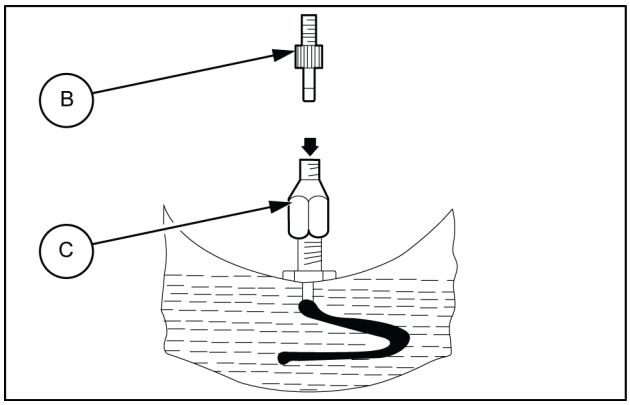


PTIL14COM0071AA 5

Jack up the wheeled part of the machine if necessary. Turn the wheels so that the hose valve is positioned vertically below the wheel axis center.

NOTE: *Provide a collecting vessel. The air pressure prevailing in the tire urges the water out of the tire*

Unscrew nut and remove hose valve insert. Water will flow out.



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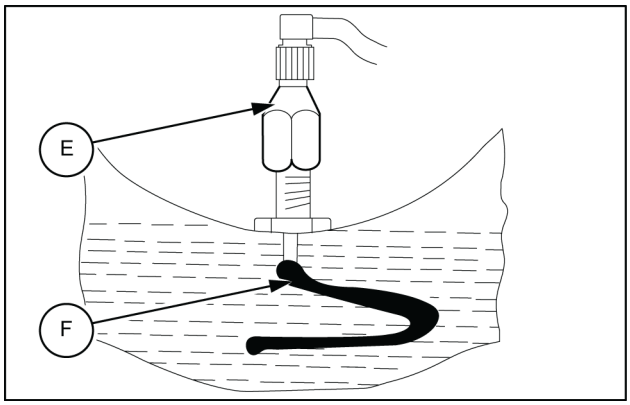
Inset the filling/emptying valve by means of a thin rubber hose on the internal pipe let in to the hose valve and screw it.

NOTE: *This is necessary to remove the liquid residues below the hose valve.*

Screw hose valve insert on to filling/emptying valve. Install connecting hose between compressed air source and filling/emptying valve.
Open the compressed air plug. The compressed air drives the liquid residues through the internally plugged on hose and the externally applied pipe let.



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7 - MAINTENANCE

General information

Consumables

For the very best protection of your investment, use the CASE CONSTRUCTION family of lubrication and service products. Contact your dealer for these products and for any questions related to the machine's service and lubrication requirements.

Always remember the environment before you service the machine and before you dispose off the old fluids and lubricants. You must follow local, state, and regional regulations when disposing off fluids, filters, fuels, and lubricants.

Do not put oil or fluid to the ground or in to containers that can leak.

Check with your local environmental or recycling center or your dealer for correct disposal information.

S.No.	Application	Recommended oil	International specification	Quantity
1A	Hydraulic oil (cold Start)	**AKCELA AW HYDRAULIC FLUID 68 HV**	Multigrade ISO VG 68, DIN 51524-3 HVLP 68, Anti-Wear (AW)	System capacity - **104 L** Tank capacity - **70 L**
1B	Hydraulic oil (non-cold start)	**AKCELA AW HYDRAULIC 68**	Anti-Wear (AW) monograde ISO VG 68	
2A	Auxiliary drum (cold start)	**AKCELA AW HYDRAULIC FLUID 68 HV**	Multigrade ISO VG 68, DIN 51524-3 HVLP 68, Anti-Wear (AW)	**4 L**
2B	Auxiliary drum (non-cold start)	**AKCELA AW HYDRAULIC 68**	Anti-Wear (AW) monograde ISO VG 68	
3	Rear axle and reduction gear housing	**AKCELA TRANSAXLE FLUID 20W-40**	SAE 20W-40; API GL 4	* **17.6 L**
4	Roller oil	**AKCELA TRANSAXLE FLUID 20W-40**	SAE 20W-40; API GL 4	**23.5 L**
5	Fuel - Diesel	Decanted and filtered diesel fuel	(-)	**235 L**
6	Diesel antifreeze (cold start)	**PETRONAS TUTELA DIESEL ART ARCTIC FUEL ADDITIVE**	Fuel additive for FPT engines	**250 mL** for every **50/60 L**
7	Engine oil	**AKCELA NO. 1™ ENGINE OIL CI-4 SAE 15W-40**	SAE 15W-40; API CI-4; ACEA E7	**# 8.6 L**
8	Engine coolant	**AKCELA ACTIFULL™ OT EXTENDED LIFE COOLANT**	OAT EG2, 50-50 Premix	**15 L**
9	Grease (For greasing drum, steering cylinder).	**AKCELA 251H EP MULTI-PURPOSE GREASE**	NLGI 2	As required
10	Refrigerant	**R134A**	R134a	**1.2 kg** (**2.6 lb**)
11	Compressor oil	**PAG OIL SP-15**	PAG 46	**270 – 300 mL**
12	Battery terminals	**PETROLEUM JELLY**	Petroleum jelly	**0.01 kg**

NOTE: ** Out of **17.6 L** oil, **0.5 L** is used in differential, **14.5 L** is used in transfer box and **1.3 L** is used in each hub.*

NOTE: *# **8.6 L** is consumed when engine oil filter change is not required. If engine oil filter is also changed, additional **0.5 L** oil is required.*

NOTE: *Diesel antifreeze should be added in the mentioned quantity in machines with cold start feature.*

Organic Acid Technology (OAT) coolant

CASE CONSTRUCTION recommends use of Organic Acid Technology (OAT) coolant solution that meets the specifications outlined in the CNH Industrial material specification **MAT3724**.

Inorganic Acid Technology (IAT) coolant can also be used by following the “Changing coolant types” procedure below. The coolant must meet the specifications outlined in the CNH Industrial material specification **MAT3720** or **ASTM D6210** pre-mix coolant requirements.

Use distilled or demineralized water for diluting when using coolant concentrate. The optimum coolant to water concentration is 50/50. This concentration will protect the cooling system to **-37 °C** (**-35 °F**). Do not exceed **60%** by volume ethylene glycol-based coolant. The heat dissipation and antifreeze properties may otherwise be negatively affected. You can use a refractometer to check the concentration level. If distilled or demineralized water is not available, use water for dilution with the following properties:

Property	Limit Maximum
Total Solids	**340 ppm**
Total Hardness	**170 ppm**
Chloride (Cl)	**40 ppm**
Sulfate (SO4)	**100 ppm**
Acidity pH	5.5 to 9.0

NOTICE: *NEVER mix OAT coolant with IAT coolant. Mixing of different coolant brands is not recommended. Under no circumstances should you top off a cooling system with only water. You should not use Supplemental Coolant Additives (SCA) when using* ***MAT3724*** *OAT coolant. Contact your CASE CONSTRUCTION dealer for approved additives and coolant analysis test package information.*

Service intervals

See **7-11** for the proper service intervals. Drain and flush the cooling system at the recommended service interval, then fill with fresh coolant.

NOTICE: *Service intervals must be reduced by* ***50%*** *when using IAT (* ***MAT3720****), or ethylene glycol or propylene based (* ***ASTM D6210****) coolants.*

Changing coolant types

To change coolant from OAT coolant to IAT coolant (or vice versa):

1. Empty the engine cooling system by draining the coolant into a suitable container.
2. Fill the system with distilled or demineralized water.
3. Start the engine and run the engine for at least **30 min**.

   NOTE: *Make sure that you activate the heating system (if equipped) to circulate fluid through the heater core.*
4. Repeat Steps 1 to 3 for a total of two washes.
5. Fill the system with IAT coolant (or OAT coolant).
6. Operate the engine until it is warm. Inspect the machine for leaks.
7. If you are changing to OAT coolant, then attach the decal (CNH Industrial part number 90393154) to indicate the use of OAT coolant in the cooling system.

Definitions

Inorganic Acid Technology (IAT) coolant:

A coolant that relies on inorganic inhibitors such as silicates, nitrites, and phosphates for corrosion and cavitation protection

Organic Acid Technology (OAT) coolant:

A coolant that relies on inhibitors such as organic acid salts for corrosion and cavitation protection.

Engine oil temperature chart

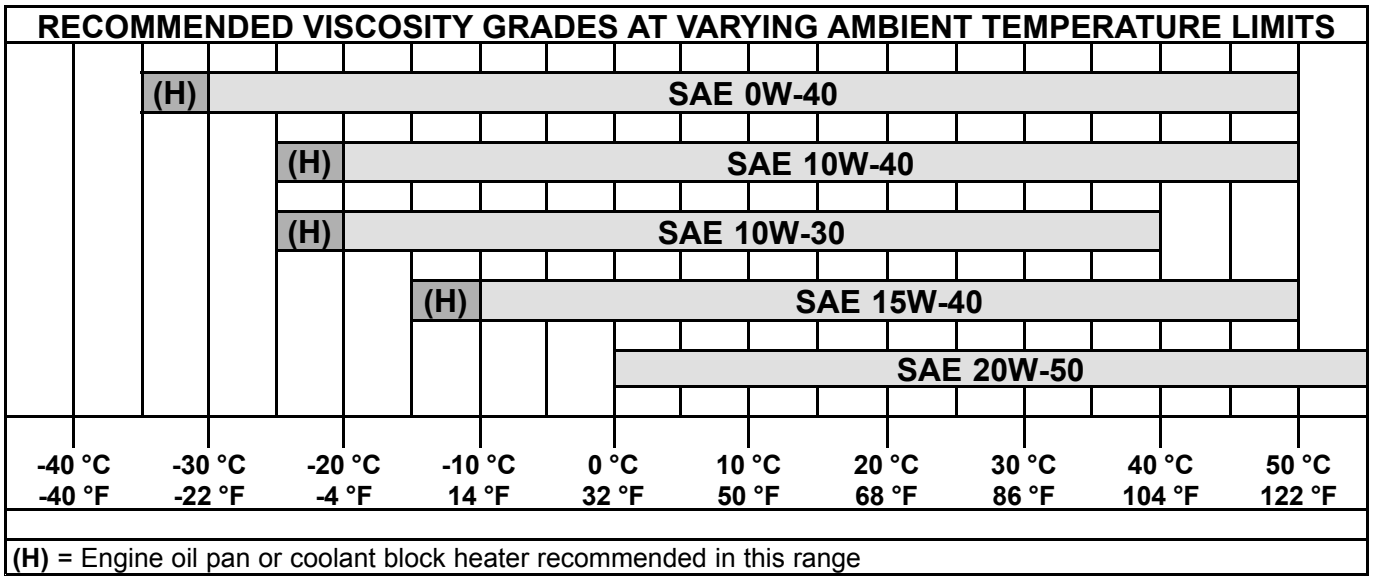
CASE CONSTRUCTION prefers the use of engine oils that meet CNH Industrial standard **MAT3622** in your engine.

You may also use engine oils that meet CNH Industrial standard **MAT3571** and **MAT3572** in your engine.

You may use other engine oils if the engine oils meet **API CI-4** or **ACEA E4** or **ACEA E7** performance requirements.

CASE CONSTRUCTION engine oils exceed API and ACEA performance requirements.

NOTE: *Do not put performance additives or other oil additive products in the engine crankcase. See your CASE CONSTRUCTION dealer for approved engine oil additives, engine oil analysis test package information.*



Engine oil and filter service intervals

CASE CONSTRUCTION develops the oil/filter change intervals given in this manual from tests with CASE CONSTRUCTION lubricants/filters.

Engine oil and filter service interval recommendations are based on type of engine oil, oil filter used, sulfur, bio-diesel content of diesel fuel. See diesel fuel recommendations for the approved Diesel fuel sulfur content, Bio-Diesel blends, and fuel specification information.

Always change engine oil and oil filter at the service intervals or annually (whichever comes first) as described in your maintenance chart. See **7-11**.

NOTICE: *Service intervals must be reduced by **50%** when using Biodiesel Fuel with content ≥ B10 or > **5000 ppm** sulfur diesel fuel (with **MAT3622** engine oils) or > **1000 ppm** sulfur diesel fuel (with **API CI-4** or **ACEA E4** or **ACEA E7** engine oils) or > **500 ppm** sulfur diesel fuel (with **MAT3571** engine oils) or > **50 ppm** sulfur diesel fuel (with **MAT3572** engine oils).*

Maintenance

General

Remove any residues of material immediately after working on soil. Check the machine visually for contamination and clean, if necessary.

Retighten the screws and bolts, if necessary. If the machine is in standstill for a long period, check all functions at regular intervals.

Visually inspect the machine for

1. Cracks on important components and welds
2. Condition of elastic suspensions
3. Leakages for fuel, engine oil, hydraulic oil, air intake system.

Battery

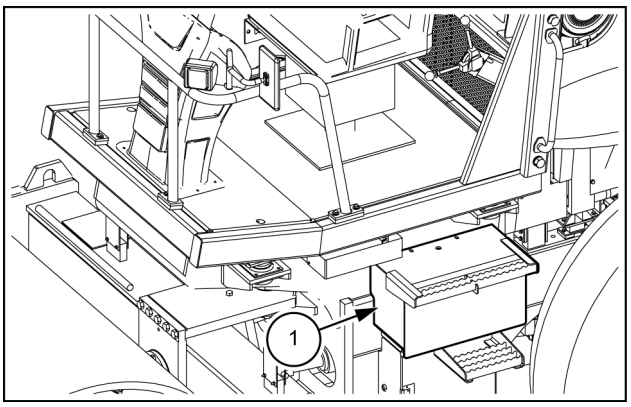
The battery is located in the battery compartment **(1)** below the operator platform.

Check the electrolyte level in the cell every **1000 h**. It should be **10.00 – 15.00 mm** (**0.39 – 0.59 in**) above the plates. If necessary, top up using distilled water. Check the electrolyte level more frequently in summer. Ensure that the connecting and cable terminals are quite clean, tight and coated with petroleum jelly or vaseline.

Checking the charging conditions:
Check the charging conditions of the battery every **200 h** using an acid hydrometer.

Precautions:
Never access the batteries with a naked flame. Handle the metallic wrench carefully to avoid touching the battery housing or the connector strips on top of the batteries.

Magic eye:
A magic eye **(A)** is provided on battery. If it is green battery is charged. If it is white, battery needs to be charged. And it will be red if battery is discharged.



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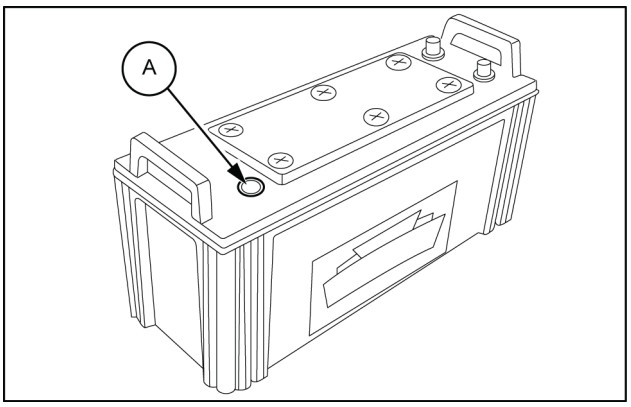

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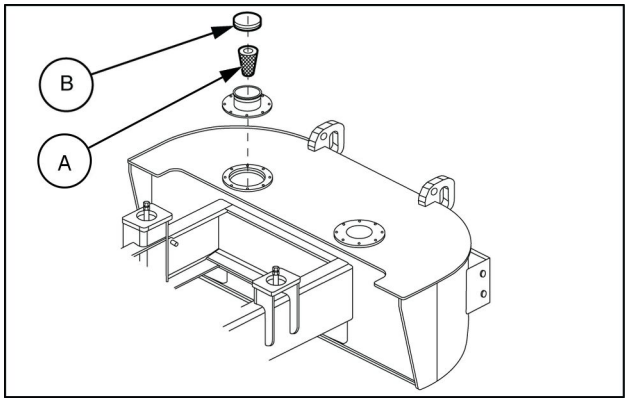
Battery Specifications

Serial number	Battery specifications
1.	AH: **130.0 A·h** (**130.0 A·h**)
2.	CCA: **720 A** (**720 A**)
3.	RC: **247 min** (**247 min**)
4.	Volts: **12 V** (**12 V**) battery

Fuel tank

The fuel tank must be filled only when the engine is Off. The tank should be filled away from naked flames or any other source of heat. The fuel tank is provided with a strainer **(A)** and a cover lid **(B)** with a vent hole. Clean the cover lid **(B)** so as to prevent clogging of vent, therein ensure that the strainer **(A)** is always clean and not removed while filling fuel. Drain out the sediments/water from the fuel tank by loosening the drain plug provided at the bottom of the tank by few threads. Retighten the plug after the fuel starts flowing out.



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Fuel tank capacity : **235 L** (**62 US gal**)

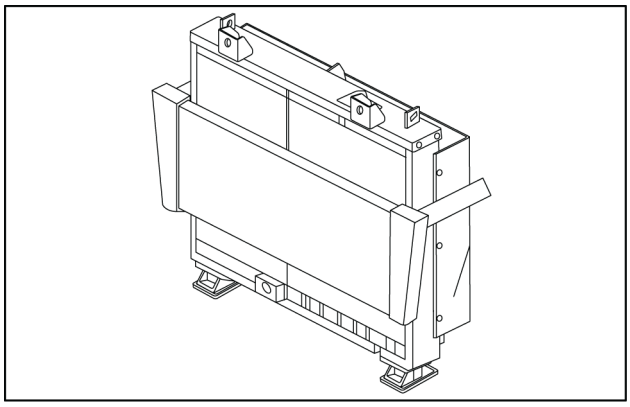
⚠ WARNING

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

Cooling packages

An adequate capacity of radiator, hydraulic oil cooler and charge air cooler is provided. This cooling package is mounted on machine frame through isolator mounts.



PTIL14COM0059AA 4

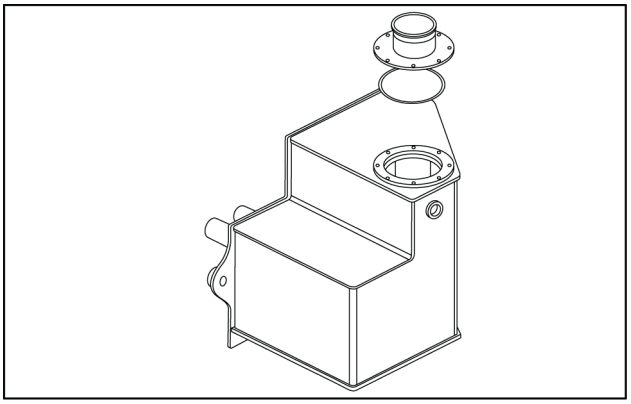
⚠ WARNING

Chemical hazard!
Follow the instructions on the container when handling anti-freeze.
Failure to comply could result in death or serious injury.

W1109A

Hydraulic oil tank

For checking the hydraulic oil level in the hydraulic tank, park the machine on the levelled ground. The hydraulic oil level should be at center of the hydraulic oil level sight glass provided at the RH side of the hydraulic tank. If the oil level is less, remove the filter cover and top-up using specified oil. Replace hydraulic oil once in **1000 h** hours.



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Replacing hydraulic oil:

Place the machine in horizontal direction. Relieve the hydraulic system from pressure.

Move forward reverse lever (FNR) to neutral position and stop engine.

Clean the surroundings of hydraulic tank tank

Unscrew hydraulic oil drain plug for releasing the Hydraulic oil.

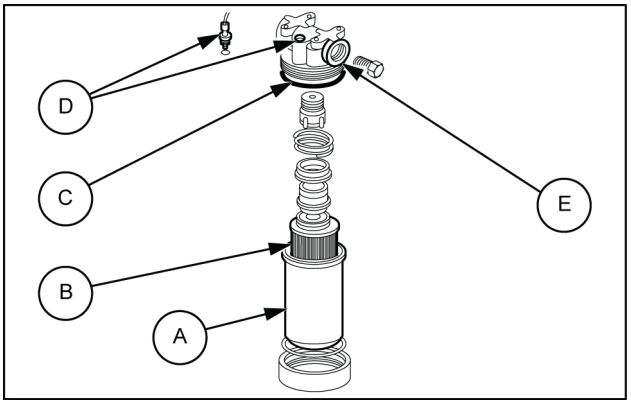
Flush hydraulic oil if necessary.

Clean hydraulic oil drain plug in diesel fuel and retighten.

Hydraulic oil tank capacity : **104 L** (**27 US gal**)

Hydraulic oil filter

The hydraulic oil filter is a fine mesh medium pressure filter. This is suction filter equipped with differential pressure indicator which shows indication of clogging of filter on control panel. filter is provided with a magnetic core which attracts all the ferrous particles formed by friction and wear forces. Filter is used in charge circuit to remove the contamination from hydraulic oil.



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To change the filter element

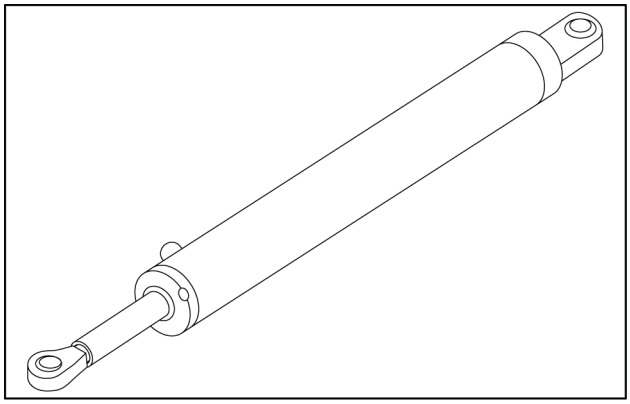
1. Loosen the filter cover from filter assembly and remove it together with the filter element.
2. Check the O-rings, seal and replace if necessary.
3. Install new filter element and refit the cover.

NOTE: *Use only specified and genuine hydraulic oil filter.*

A. Filter cover
B. Filter element
C. Sealing ring
D. Pressure sensor
E. Filter top cover

Steering cylinders

Clean the surroundings of the steering cylinder bearings and clean the grease nipple. Inject EP 2 grease through the grease nipple with the aid of a grease gun every **10 h**.



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Exciter (Vibration)

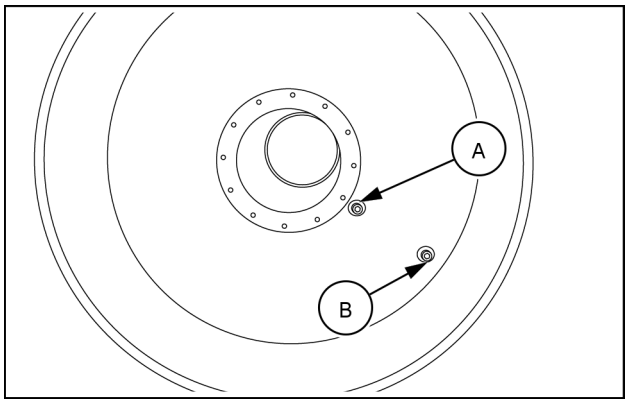
Changing oil in the exciter:

Keep the machine on leveled ground. Turn the drum until oil plug is vertically positioned below the drum axle center. Clean the surroundings of the plug. Unscrew oil plug. Oil will run out. Drain the oil completely. Rotate the drum to place oil filling port at top and fill in with the fresh oil.

A. Oil (Exciter)

B. Water for ballasting

⚠: Do not vibrate the machine when the ballasting is done. If the machine vibrated the anti vibration mounting pads will get damaged immediately



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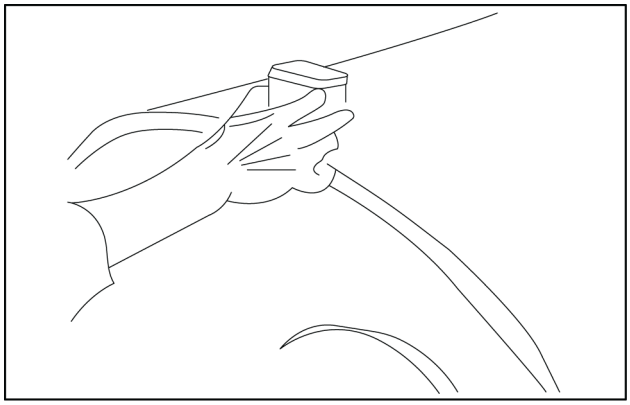
Checking the exciter frequency:

Frequency meter with range: 100 – 2500 VPM. Start the engine, set it to operating speed and switch on the exciter with the exciter switch.

Measure the engine speed. The rated value should be **2150 RPM**.

Measure the low and high frequency at the drums. It should be

1. 1860 VPM or **31 Hz** in stage I
2. 2040 VPM or **34 Hz** in stage II



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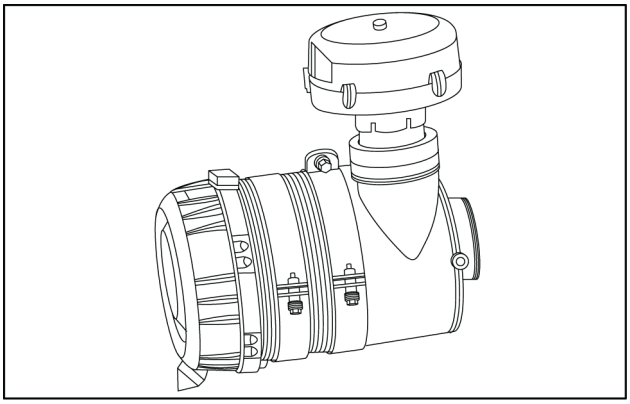
Air filter

A duel element, dry type, heavy duty air filter is provided along with the engine. For maintaining the air filter of the engine read the maintenance manual.

Service Instructions:

1. Clean primary element: When service indicator glows.
2. Replace primary element: When service indicator glows even after cleaning or replace after two cleaning intervals or if holes or tears are found in the element.
3. Replace safety element: when replacing primary element.

NOTE: *Do not tap or hammer element on ground.*



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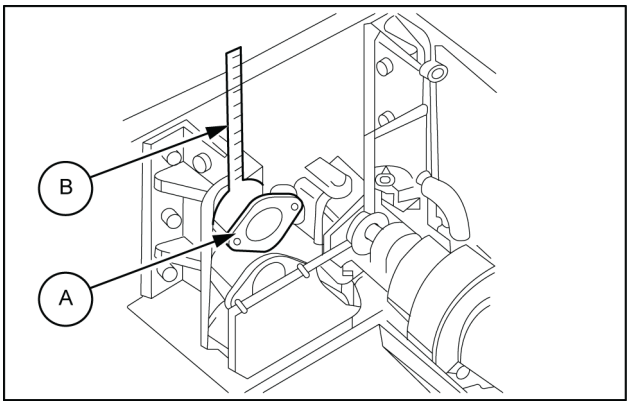
Mounting rubber pads

Check rubber pads **(A)** for cracks and distortion. Measure crack depth with a straight edge **(B)**. If depth of the crack exceeds **15 mm** (**0.59 in**), replace rubber pads **(A)**. During pads assembly it needs to be pre-loaded by **4 mm** (**0.16 in**) by loosening the check nut and loosening the screw.



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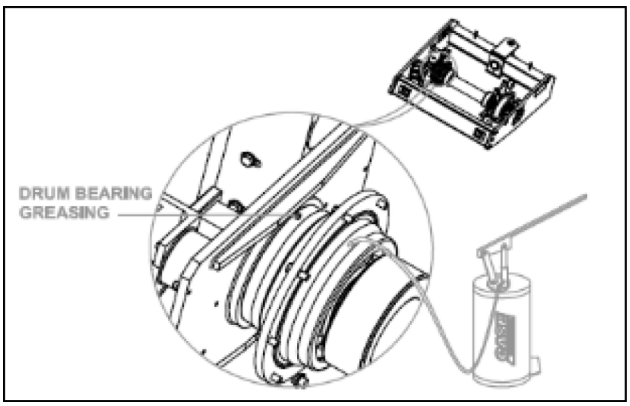
Travel bearing

The drum bearing is located on the vibration motor side. Greasing should be done at an interval of **2000 h** (for Taper Roller Bearing (TRB) being used currently). Open the grease nipple for draining at bottom side of bearing assembly. Take grease hand pump and fill the grease into bearing assembly through grease nipple Available at top side of bearing assembly.

Apply 95 strokes (approximately. **450 g**) of grease from hand pump (During the greasing, travel the machine in forward direction with single speed, low RPM, no vibration mode and drum to be rotated for one rotation). Make sure that old grease should come out from drain port at bottom side of bearing assembly, then plug the port with grease nipple.



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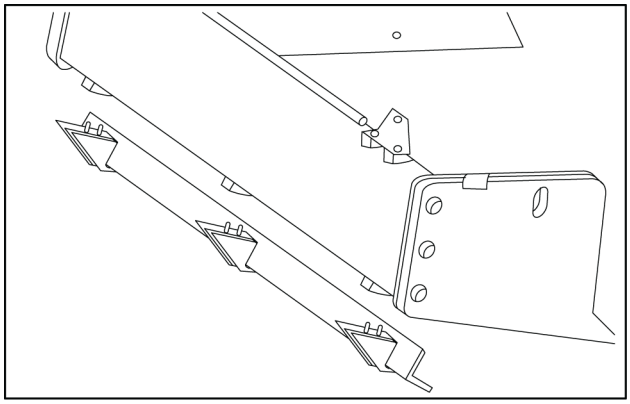
Scrapper

Check the scrapper for damage. Check the scrapper mountings. Check the distance between the scrapper and the drum shell.



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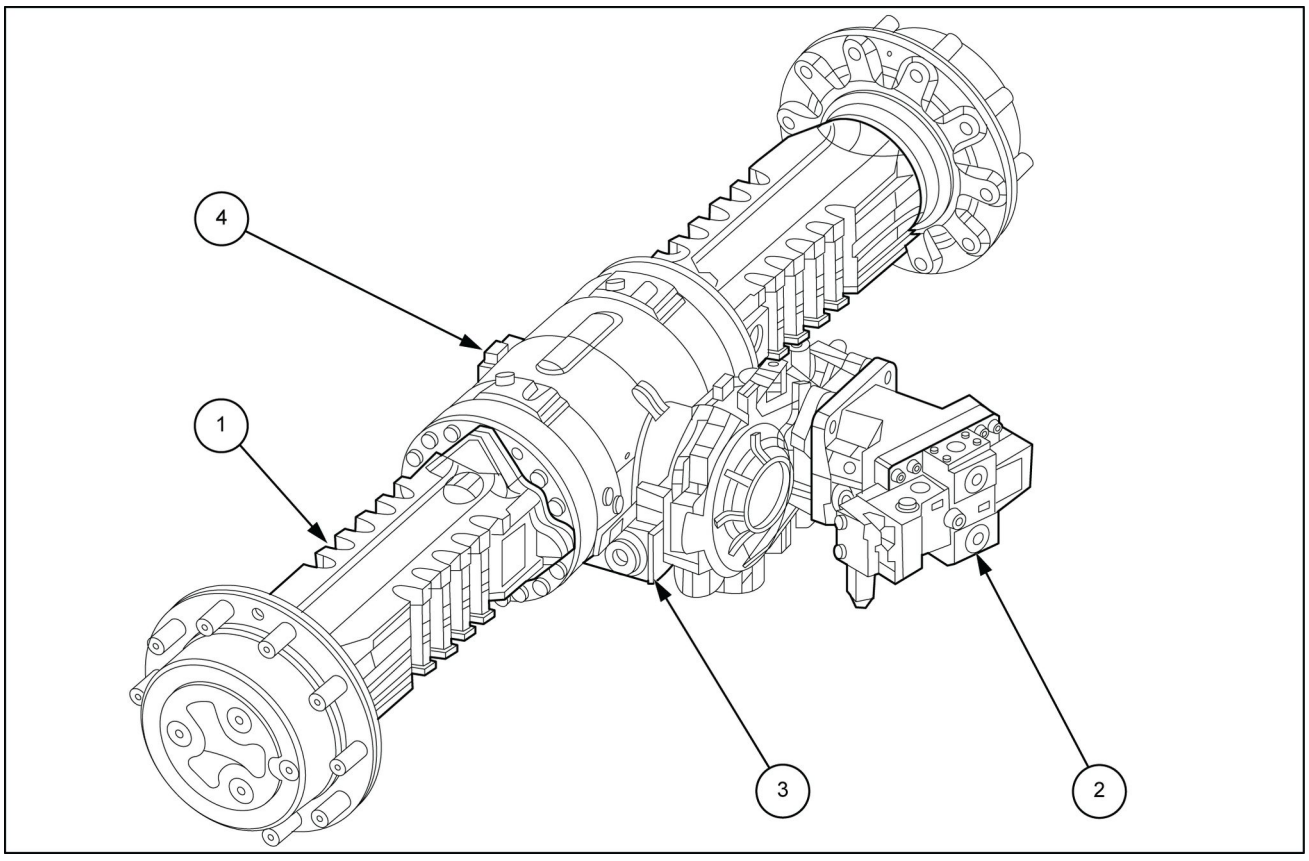
Rear axle and motor

Oil change: Every **1000 h** / 6 Month (Whichever is earlier)

Check oil level: Every **100 h** / Weekly (Whichever is earlier)



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1. Rear axle
2. Rear axle motor
3. Oil drain plug
4. Oil filling plug

To change oil, put the machine on hard level surface. Level the machine on one plane. Open the fill plug. The oil should flow out of this opening. If oil is not flowing out, add the axle oil till it starts flowing out of this plug. Retighten this oil fill plug.

Axle oil change

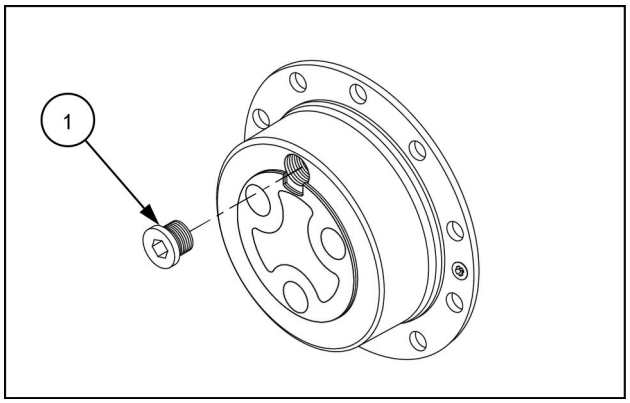
1. Move the machine to a level and firm ground.

2. Ensure the direction of travel controller (FNR) lever is in neutral position.
3. Engage the parking brake.
4. Stop the engine and remove the key.
5. Place a container with suitable capacity under the plug **(3)**.
6. Unscrew and remove the plug **(3)** and **(4)**.
7. Let the oil drain completely **(3)**.
8. Screw in the plug **(3)**, Torque: **60 N·m**.
9. Fill with clean oil through the hole of the plug **(4)** until the level reaches the hole.
10. Retighten the plug **(4)**.

Reduction gear oil change

Oil change: Every 1000 h

1. Move the machine to a level and firm ground.
2. Ensure the direction of travel controller (FNR) lever is in neutral position.
3. Engage the parking brake.
4. Stop the engine and remove the key.
5. Place a container with suitable capacity under the plug **(1)**
6. Unscrew and remove the plug **(1)**.
7. Let the oil drain completely .
8. Screw in the plug
9. Fill with clean oil through the hole of the plug until the level reaches the hole.
10. Retighten the plug **(1)**.



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Maintenance planning

Maintenance chart

Maintenance action	Check	Drain fluid	Grease	Cleaning	Change fluid	Tighten	Adjust	Replace	Page no.
Every 10 Hours of Operation or Daily (Whichever Occurs First)									
Engine oil level - Check	x								**7-13**
Engine coolant level - Check	x								**7-14**
Fan / alternator belt tension (till initial 50 hours only)	x								**7-15**
Hydraulic oil level - Check	x								**7-16**
Battery - Check	x								**7-16**
Drain water from fuel filter		x							**7-17**
Travel brake valve - check	x								**7-17**
Maintenance - Grease			x						**7-17**
Engine air pre-cleaner (if equipped)				x					**7-18**
Air conditioner compressor belt (If equipped) (till initial 50 hours only)	x								**7-18**
Maintenance - Check	x								**7-18**
First 50 hours or 15 days									
Engine oil and filter - Replace					x				**7-19**
Anti Vibration Mount (AVM) - Check	x								**7-20**
Scraper - Adjust						x			**7-20**
Every 50 hours or 15 days									
Fan / alternator belt tension	x								**7-21**
Air conditioner compressor belt (If equipped)	x								**7-21**
Every 100 Hours OR 1 Month									
Cooling package				x					**7-21**
Battery electrolyte level - Check	x								**7-22**
Water seperator drain		x							**7-23**
Pad Drum Foot Bolts - Check and Re-torque	x								**7-23**
Every 250 hours or every 2 months									
Battery - Lubrication			x						**7-24**
Tightening torques						x			**7-24**
Drain off water and deposits from the fuel tank		x							**7-24**
Every 500 Hours OR 4 Months									
Hydraulic oil filter - Replace					x				**7-25**
Engine valve tappets clearance – Check and adjust	x								**7-25**
Engine oil and filter - Replace					x				**7-26**
Fuel filters - Replace					x				**7-27**
Fuel-water separator filter - Replace					x				**7-27**
Roll Over Protective Structure (ROPS) - (If equipped)	x								**7-28**
Every 1000 hours or 6 months									
Oil reservoir - Change fluid							x		**7-30**
Vibratory roller - Change fluid							x		**7-30**
Auxiliary drum oil					x				**7-31**
Fuel injectors - Check	x								**7-31**
Reduction gear oil change					x				**7-32**
Rear axle and motor - Change oil					x				**7-33**
EVERY 2000 HOURS OR 12 MONTHS									
Drum bearing - grease			x						**7-34**
Engine cooling system - Replace					x				**7-35**
As required									

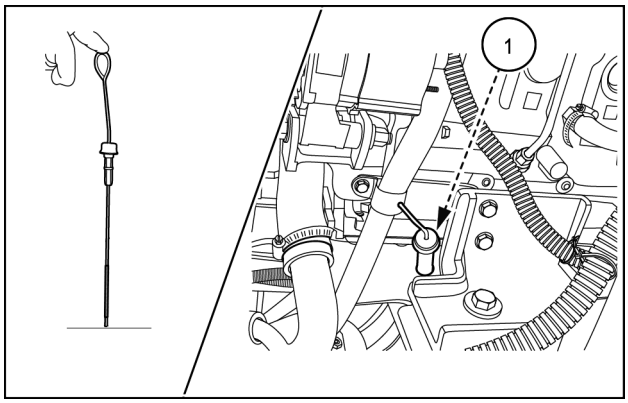
Maintenance action	Check	Drain fluid	Grease	Cleaning	Change fluid	Tighten	Adjust	Replace	Page no.
Engine air filter - Replace								x	**7-37**
Condenser - Cleaning				x					**7-39**
Pollen filter - Cleaning				x					**7-40**
Drum area between roller and front and rear cross members - Check	x								**7-41**

Every 10 Hours of Operation or Daily (Whichever Occurs First)

Engine oil level - Check

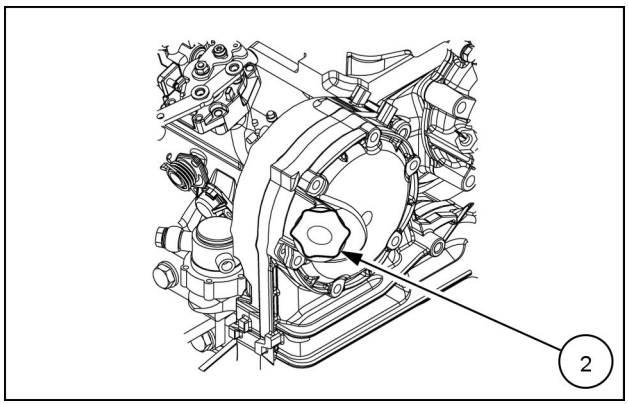
Engine oil level check

1. Move the machine to a level and firm ground.
2. Place the FNR lever in neutral position.
3. Immobilize the machine by means of the parking brake.
4. Stop the engine, wait for it to cool down and remove the starter key.
5. Wait for **30 min**.
6. Raise the engine hood. Pull out the dipstick **(1)**, clean it with a clean cloth and completely insert it into the hose, then take it out again.



PTIL19COM0018AB 1

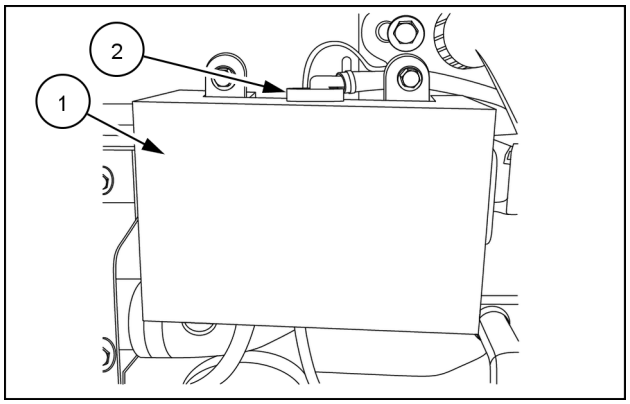
7. If the oil level is below the “Min” mark, remove the filler cap **(2)** and fill oil up to the “Max” mark on the dipstick. See **7-1** for correct oil grade.
8. Retighten the filler cap **(2)**. Lower the engine hood.



PTIL12TLB0475AB 2

Engine coolant level - Check

1. Move the machine to a level and firm ground.
2. Place the FNR lever (or transmission lever) in neutral position.
3. Immobilize the machine by means of the parking brake.
4. Stop the engine and remove the starter key.
5. Wait for the machine to cool down.
6. Check the level of fluid by directly checking the reservoir **(1)**.
7. The level in the coolant reservoir **(1)** must be between the maximum & minimum marks.
8. If required, remove the cap **(2)** at top and add more coolant.



PTIL19COM0014AA 1

⚠ CAUTION

Burn hazard!
Take care if removing the filler cap while the system is hot. Before removing the cap: completely cover the cap using a thick cloth, and slowly open the filler cap to allow the pressure to escape. Do not add cold water to a hot coolant reservoir.
Failure to comply could result in minor or moderate injury.

C0031A

Fan / alternator belt tension (till initial 50 hours only)

1. Move the machine to a level and firm ground.
2. Make sure that the FNR lever is in neutral position.
3. Engage the parking brake.
4. Stop the engine and remove the key.
5. Wait until the engine reaches ambient temperature before performing any maintenance activity.
6. Inspect the V-belt over the whole length for damage or cracks. Replace damaged or cracked V-belt.

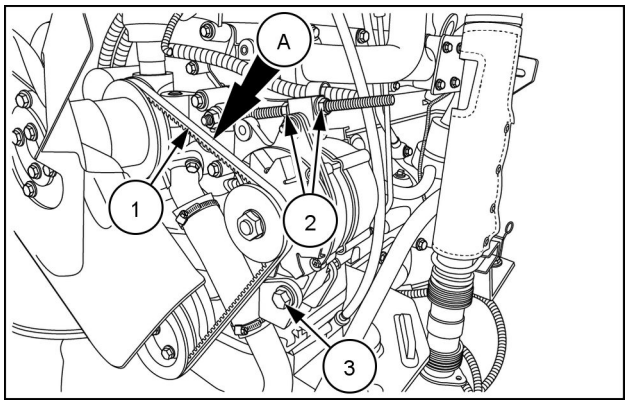
NOTE: *Wherever two belts are applicable, change the belts in pair only.*

For machine with cab (double pulley) and canopy (double pulley)

7. Check by pressing midway between the pulleys **(A)** (span between alternator and fan pulley) and measure the fan belt deflection inwards. The fan belt deflection should be **10.0 – 15.0 mm** (**0.4 – 0.6 in**).
8. To adjust the belt, first loosen the bolt **(3)**. To tighten the belt **(1)**,screw out (i.e. rotate anti-clockwise) the nuts **(2)**. To loosen the belt **(1)** screw in (i.e. rotate clockwise) the nuts **(2)**.

NOTE: *Screw in or screw out both nuts **(2)** equally during belt adjustment.*

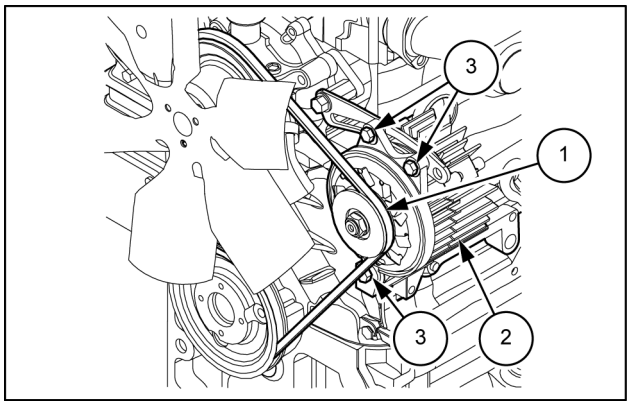
9. After adjusting the belt, tighten the bolt **(3)** to **90–100 N·m**



PTIL17COM1098AA 1

For machine with canopy (single pulley)

10. Check by pressing midway between the pulleys **(A)** (span between alternator and fan pulley) and measure the fan belt deflection inwards. The fan belt deflection should be **10.0 – 15.0 mm** (**0.4 – 0.6 in**).
11. To adjust the belt **(1)**, loosen the alternator mounting bolts **(3)**.
12. Slide the alternator **(2)** away from the engine to tighten the belt. Slide the alternator toward the engine to loosen the belt.



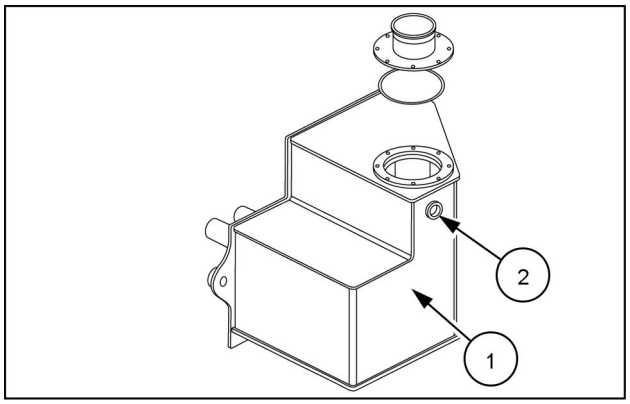
PTIL12TLB0178AB 2

13. After adjusting the belt, tighten the bolt **(3)** to **90–100 N·m**

Hydraulic oil level - Check

1. Park the machine on a level ground
2. Release any possible residual pressure from the hydraulic system by moving the control levers in all directions.
3. Check the hydraulic oil level in the tank **(1)** by means of the level gauge **(2)** after waiting for the oil to reach the ambient temperature.
4. The hydraulic oil level must reach at the centre of the gauge **(2)**.
5. If necessary, top up with the specified oil. See **7-1**.

NOTE: *Even when its level is insufficient, a small quantity of hydraulic oil remains in the lower part of the gauge. This does not mean that the level is sufficient.*



PTIL14COM0060AA 1

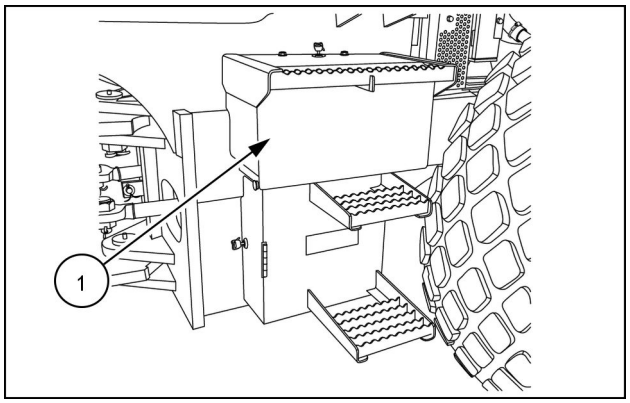
Battery - Check

⚠ DANGER

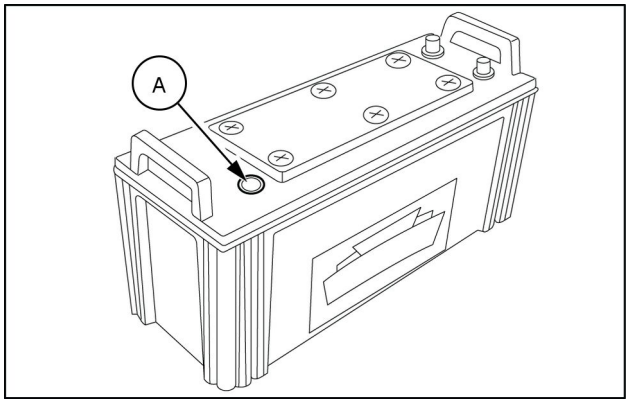
Battery acid causes burns. Batteries contain sulfuric acid.
Avoid contact with skin, eyes or clothing. Antidote (external): Flush with water. Antidote (eyes): flush with water for 15 minutes and seek medical attention immediately. Antidote (internal): Drink large quantities of water or milk. Do not induce vomiting. Seek medical attention immediately.
Failure to comply will result in death or serious injury.

D0117A

1. The battery is located in the battery compartment **(1)** below the operator platform. The battery location is same for the machine with cab also. A magic eye **(A)** is provided on battery. If it is green battery is charged. If it is white, battery needs to be charged. And it will be red if battery is discharged.



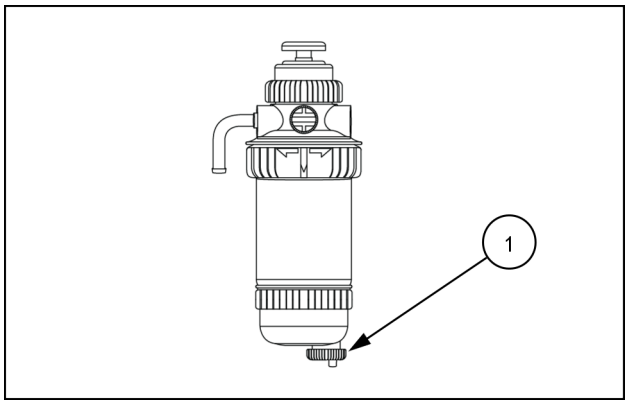
PTIL19COM0016AA 1



PTIL14COM0055AA 2

Drain water from fuel filter

1. Place a container underneath the water draining plug.
2. Unscrew the plug **(1)** and drain the water.
3. Tighten the plug.

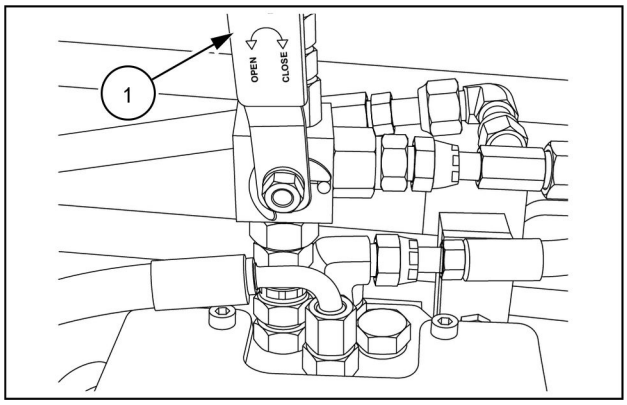


PTIL19COM0019AA 1

Travel brake valve - check

1. Check the travel brake valve position.
2. If the brake valve is not in the closed position install the lever **(1)** to the valve assembly and change the valve to the closed position.
3. Remove the lever **(1)** from the valve assembly and keep it inside the tool box supplied along with the machine.

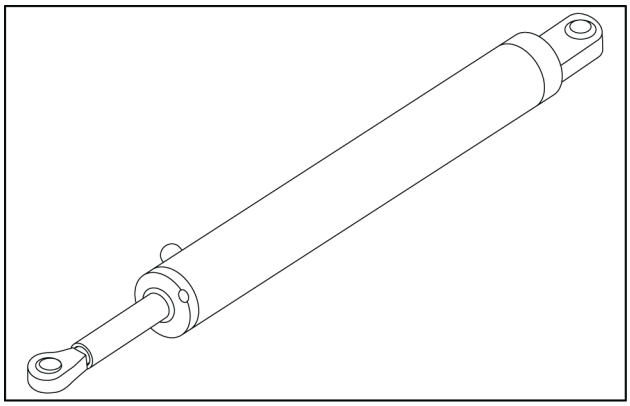
NOTE: *The valve lever **(1)** is kept inside the tool box as a precautionary measure to avoid any accidental actuation or ignorance.*



PTIL21COM0784AB 1

Maintenance - Grease

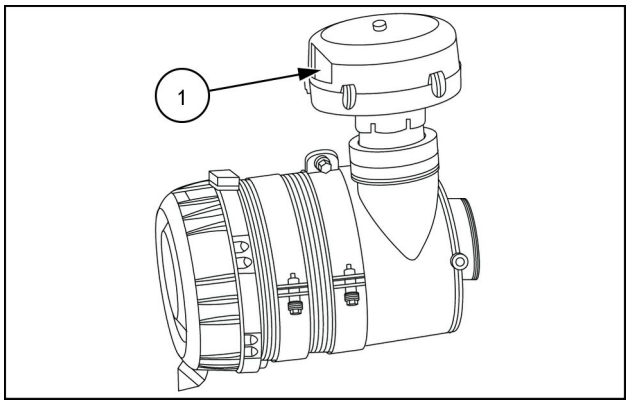
1. Clean the surroundings of the steering cylinder bearings and clean the grease nipple. Inject EP 2 grease through the grease nipple with the aid of a grease gun.



PTIL14COM0062AA 1

Engine air pre-cleaner (if equipped)

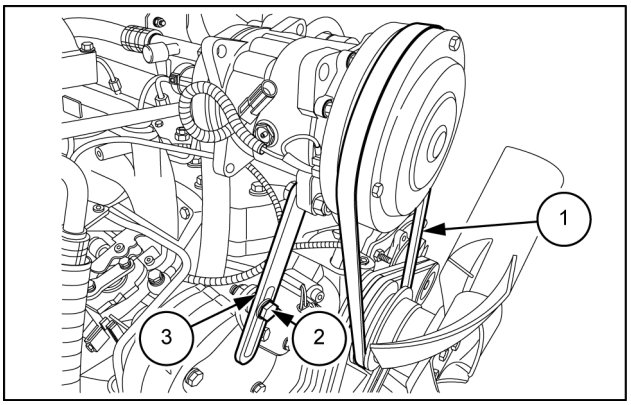
1. Clean the air pre-cleaner **(1)** with clean cloth.



PTIL14COM0056AA 1

Air conditioner compressor belt (If equipped) (till initial 50 hours only)

1. Open the engine hood.
2. Check the compressor belt deflection by pressing the center of the belt **(1)** by hand. The deflection should be **8.0 – 12.0 mm** (**0.3 – 0.5 in**).
3. The compressor drive belt **(1)** tension can be adjusted by the rotation of the idler arm **(3)**.
4. Loosen the bolt **(2)** and adjust the idler arm **(3)** to a belt deflection of **8.0 – 12.0 mm** (**0.3 – 0.5 in**).
5. Torque the bolt **(2)** to **57 N·m**.



PTIL14TLB0155AB 1

Maintenance - Check

1. Check all the functions and controls of the machine. Make sure they are working properly. See **Transmission controls** and **Operator control panel**.
   Make sure that the following are working correctly :-
   Parking brake.
   Fuses and lamps.
   Functionality of controls and lamps.
   Fuel level indicator.
   Air restriction indicator.

First 50 hours or 15 days

Engine oil and filter - Replace

1. Follow Machine safety position (See **2-2** and **Safety rules**)
2. Remove the cap of the filler neck.
3. Remove the engine crankcase drain valve.

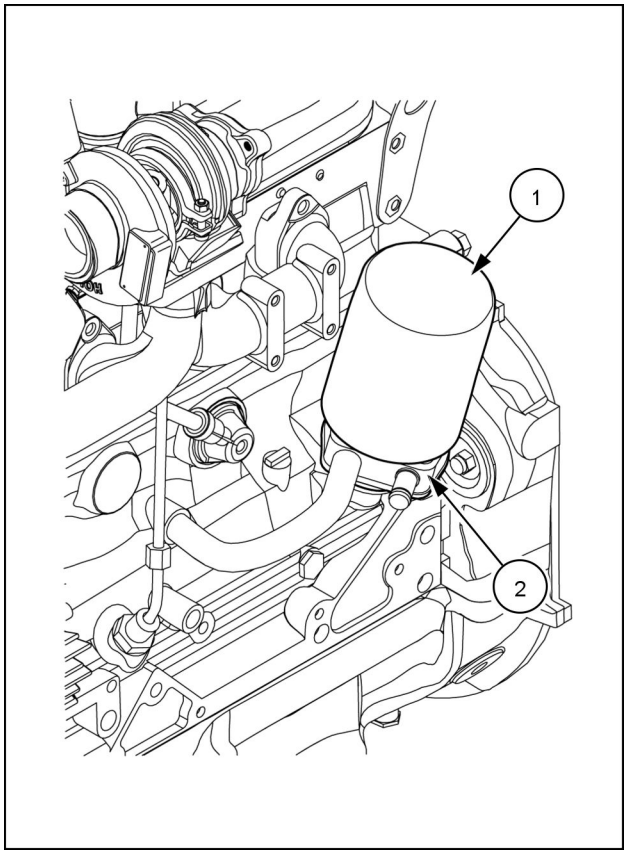
NOTE: *Drain the engine oil when it is still hot. The oil will flow more easily.*

4. Now wait for the oil to completely flow out of the engine.
5. Tighten the drain plug. Torque: **95 N·m** (**70 lb ft**).
6. Unscrew and remove the cartridge **(1)**.
7. Apply a thin layer of clean oil on the seal of the new cartridge.

NOTE: *Do not fill the new filter with oil before installing it.*

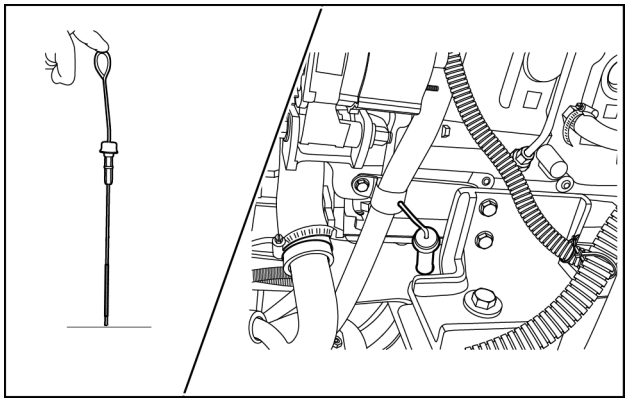
8. Assemble the new cartridge **(1)**.
9. Manually screw in the cartridge until the seal touches the support **(2)**.
10. Tighten it further by 3/4 of a turn.

NOTE: *Over tightening can damage the filter seal. Do not use non genuine spare parts. Engine may get damaged by using a non genuine filter and non approved oil.*



PTIL12TLB0228BB 1

11. Fill the engine oil.
12. Start the engine and let it run for several minutes and then check the level again by means of the dipstick.
13. If necessary, top up to compensate the quantity of oil used for filling the cartridge.



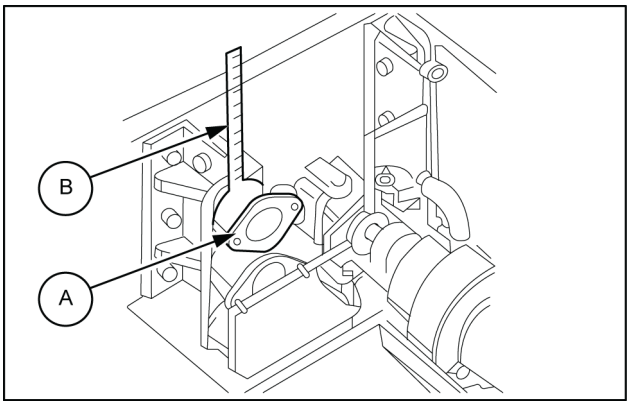
PTIL19COM0018AB 2

Anti Vibration Mount (AVM) - Check

1. Check the tightness of all the Anti Vibration Mount (AVM) screws. Torque the AVM screws if required. The AVMs are located on the engine mounting, operator's platform mounting, and the roller mounting. Periodically check the anti vibration mount and make sure that there are no cracks in AVM. Measure crack depth with a straight edge. If depth of crack exceeds **15.0 mm** (**0.6 in**), replace rubber pads.

Roller mounting AVM

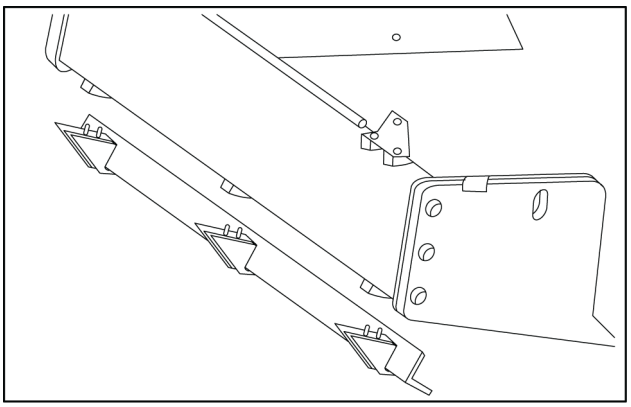
2. Check rubber pads **(A)** for cracks and distortion. Measure crack depth with a straight edge **(B)**. If depth of the crack exceeds **15.0 mm** (**0.6 in**), replace rubber pads **(A)**. During pads assembly it needs to be pre-loaded by **4.0 mm** (**0.2 in**) by loosening the check nut and loosening the screw.



PTIL14COM0058AA 1

Scraper - Adjust

1. Check the scrapper for damage. Check the scrapper mountings. Check the distance between the scrapper and the drum shell.



PTIL14COM0093AA 1

Every 50 hours or 15 days

Fan / alternator belt tension

Check the fan and alternator belt tension for every 50 hours or 15 days, see **7-15**.

Air conditioner compressor belt (If equipped)

Check the air conditioner compressor belt for every 50 hours or 15 days, see **7-18**.

Every 100 Hours OR 1 Month

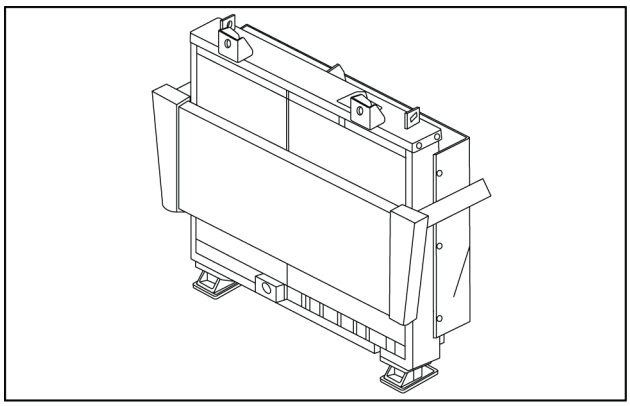
Cooling package

⚠ WARNING

Chemical hazard!
Follow the instructions on the container when handling anti-freeze.
Failure to comply could result in death or serious injury.

W1109A

1. An adequate capacity of radiator, hydraulic oil cooler and charge air cooler is provided. This cooling package is mounted on machine frame through isolator mounts.



PTIL14COM0059AA 1

Battery electrolyte level - Check

1. **⚠ DANGER**

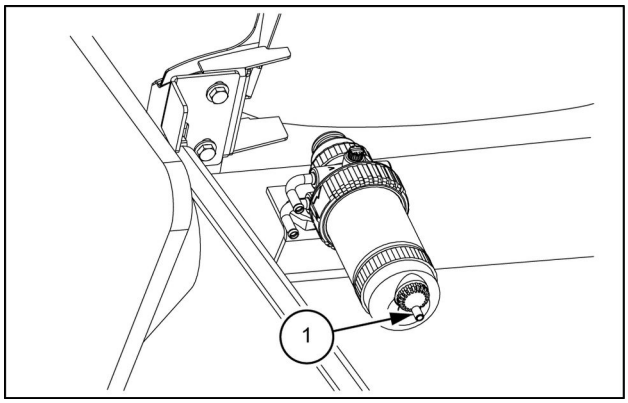
   Battery gas can explode!
   To prevent an explosion: 1. Always disconnect the negative (-) battery cable first. 2. Always connect the negative (-) battery cable last. 3. Do not short circuit the battery posts with metal objects. 4. Do not weld, grind, or smoke near a battery.
   Failure to comply will result in death or serious injury.

   D0182A

   Make sure that the connecting and cable terminals are quite clean, tight and coated with petroleum jelly. Check the electrolyte level in the cell. It should be **10.0 – 15.0 mm** (**0.4 – 0.6 in**) above the plates. If necessary, top up using distilled water. Check the electrolyte level more frequently in summer. Make sure that the connecting and cable terminals are quite clean, tight and coated with petroleum jelly.
   Check the charging conditions of the battery using an acid hydrometer. In winter, it is essential that the battery be well charged, as the electrolyte in a discharged battery freezes more easily than in a battery that is well charged.

Water seperator drain

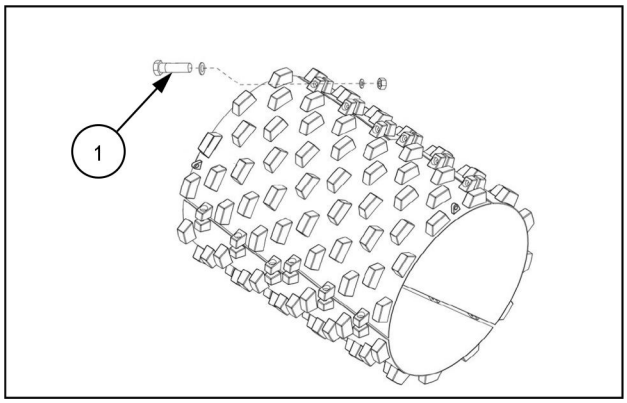
1. Follow Machine safety position. (Refer **Engine - Safety rules**)
2. Place a container underneath the water draining plug **(1)**.
3. Unscrew the plug **(1)** and drain the water.
4. Tighten the plug **(1)**.



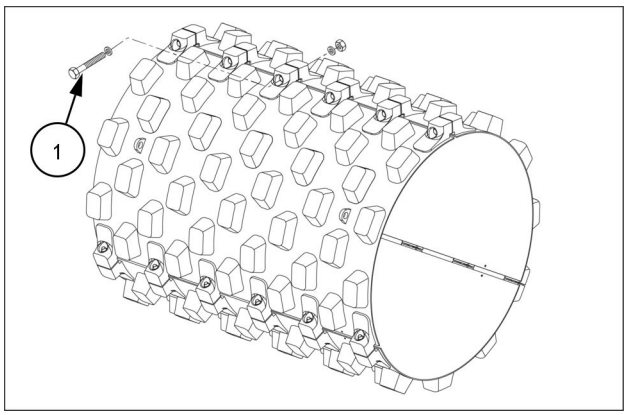
PTIL12TLB0194AB 1

Pad Drum Foot Bolts - Check and Re-torque

1. Check the pad drum foot bolts **(1)** tightness at every **100 h** operation.
2. Check and re-torque the pad drum foot bolts **(1)**. Tighten the bolts **(1)** to a torque value of **42.0 kgm** (**303.8 ftlbs.**), see image **1** or **27.8 kgm** (**201.1 ftlbs.**), see image **2**.



PTIL21COM0339AB 1



PTIL23COM1897AB 2

Every 250 hours or every 2 months

Battery - Lubrication

1. Make sure that the connecting and cable terminals are quite clean, tight and coated with petroleum jelly.

Tightening torques

1. Check and re-tighten, if necessary, the engine mounting bolts.

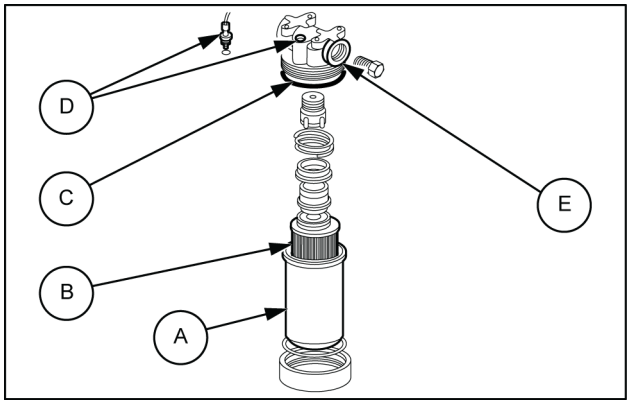
Drain off water and deposits from the fuel tank

1. Drain out the sediments/water from the fuel tank by loosening the drain plug provided at the bottom of the tank by few threads. Retighten the plug after the fuel starts flowing out.

Every 500 Hours OR 4 Months

Hydraulic oil filter - Replace

1. The hydraulic oil filter is a fine mesh medium pressure filter. This is suction filter equipped with differential pressure indicator which shows indication of clogging of filter on control panel. filter is provided with a magnetic core which attracts all the ferrous particles formed by friction and wear forces. Filter is used in charge circuit to remove the contamination from hydraulic oil.
   (A) - Filter cover
   (B) - Filter element
   (C) - Sealing ring
   (D) - Pressure sensor
   (E) Filter top cover.



PTIL14COM0057AA 1

2. To change the filter element :-
   1. Loosen the filter cover from filter assembly and remove it together with the filter element.
   2. Check the O-rings, seal and replace if necessary.
   3. Install new filter element and refit the cover.

NOTE: *Use only specified and genuine hydraulic oil filter.*

Engine valve tappets clearance – Check and adjust

NOTICE: *Only a qualified technician should perform the engine valve tappet clearance check and adjustment procedure. Contact your authorised CASE CONSTRUCTION dealer for assistance.*

NOTICE: *Correct valve tappet clearance setting is very important. Incorrect setting may lead to potential engine damage.*

1. It is recommended to check the valve tappets clearance of engine in cold condition.
2. The correct valve clearance for inlet and exhaust valves in cold condition is **0.30 mm**.

Engine oil and filter - Replace

1. Follow Machine safety position. See **2-2** and **Safety rules**.
2. Remove the cap of the filler neck.
3. Remove the engine crankcase drain valve.

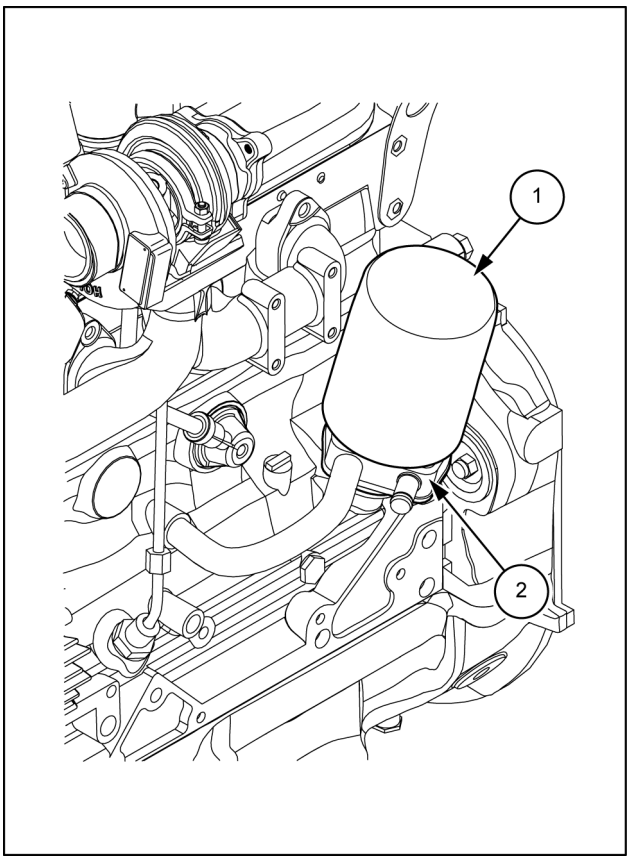
NOTE: *Drain the engine oil when it is still hot. The oil will flow more easily.*

4. Now wait for the oil to completely flow out of the engine.
5. Tighten the drain plug. Torque: **95 N·m** (**70 lb ft**).
6. Unscrew and remove the cartridge **(1)**.
7. Apply a thin layer of clean oil on the seal of the new cartridge.

NOTE: *Do not fill the new filter with oil before installing it.*

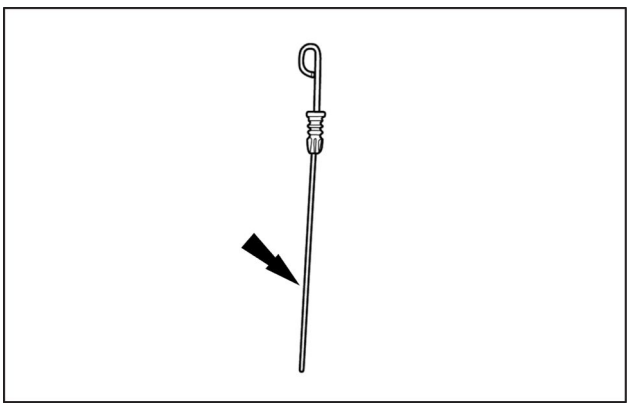
8. Assemble the new cartridge **(1)**.
9. Manually screw in the cartridge until the seal touches the support **(2)**.
10. Tighten it further by 3/4 of a turn.

NOTE: *Over tightening can damage the filter seal. Do not use non genuine spare parts. Engine may get damaged by using a non genuine filter and non approved oil.*



PTIL12TLB0228BB 1

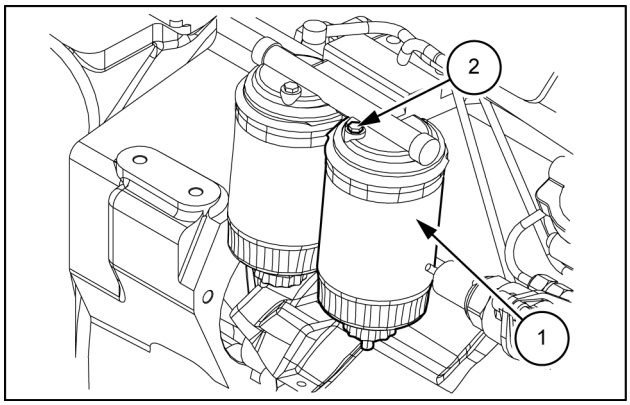
11. Fill the engine oil.
12. Start the engine and let it run for several minutes and then check the level again by means of the dipstick.
13. If necessary, top up to compensate the quantity of oil used for filling the cartridge.



PTIL12TLB0226A 2

Fuel filters - Replace

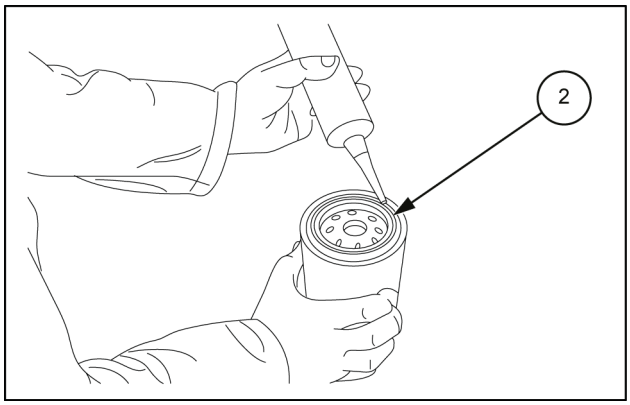
1. Follow machine safety position. See **2-2** and **Safety rules**.
2. Clean the filter assembly externally.
3. Loosen the bleed screw **(2)**.
4. Unscrew the fuel filters **(1)** and discard.
5. Clean the filter mounting surface.



PTIL12TLB0445AB 1

6. Apply a thin film of clean oil on the new oil filter sealing ring **(2)** and install the filter.
7. Turn until the sealing ring contacts the mounting surface, then tighten an additional 3/4 to 1 full turn.
8. Do not over tighten.
9. With the bleed screw loose, prime the fuel system with the help of priming pump.
10. Start the engine and make sure that no fuel is leaking.

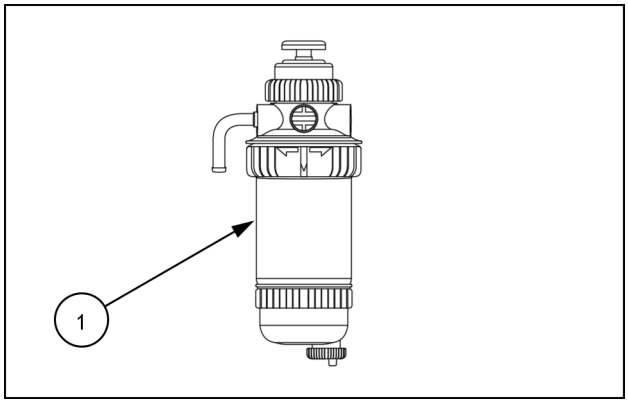
NOTE: *Do not use non genuine spare parts. Injection pump may get damaged by using a non genuine filter.*



PTIL12TLB0231AB 2

Fuel-water separator filter - Replace

1. Follow machine safety position. See **2-2** and **Safety rules**.
2. Unscrew and discard the water separator **(1)**.
3. Clean the water separator mounting surface.
4. Install a new water separator.
5. Start the engine and make sure that no fuel is leaking.



PTIL19COM0019AA 1

Roll Over Protective Structure (ROPS) – (If equipped)

⚠ WARNING

Roll-over hazard!
After an accident, fire, tip over, or roll over, a qualified technician MUST replace the Roll-Over Protective Structure (ROPS) before returning the machine to the field or job site operation.
Failure to comply could result in death or serious injury.

W0134A

⚠ WARNING

Misuse hazard!
Your machine is equipped with an operator protective structure. DO NOT weld, drill holes, attempt to straighten, or repair the protective structure. Modification in any way can reduce the structural integrity of the structure.
Failure to comply could result in death or serious injury.

W0001B

The machine is provided with a safety structure for the operator: anti-overturn safety system (ROPS) according to directives **ISO 3471**, **SAE 1040C** and safety system against the fall of objects (FOPS) according to the directives **ISO 3449**, SAE J231 protection level 2.

A ROPS can consist of the cab frame or of a two or four uprights structure used for the safety of the operator, so as to minimize the possibility of severe injuries.

The structure and the fastening devices which constitute the connection with the machine are part of the ROPS.
The Protective Structure is a special safety component of your machine.
DO NOT attach any device to the Protective Structure for pulling purposes. DO NOT drill holes to the Protective Structure.
The Protective Structure and interconnecting components are a certified system. Any damage, fire, corrosion or modification will weaken the structure and reduce your protection.
If this occurs, the Protective Structure MUST be replaced so that it will provide the same protection as a new Protective Structure. Contact your dealer for Protective Structure inspection and replacement.
After an accident, fire, tip or roll over, the following MUST be performed by a qualified technician before returning the machine to field or job site operation, The Protective Structure MUST be replaced.
The mounting or suspension for the Protective Structure, operator seat and suspension, seat belts and mounting components and wiring within the operator's protective system MUST be carefully inspected for damage. All damaged parts MUST be replaced.

NOTE: *For total safety of use, in case of fire the machine cab has been designed to prevent flame propagation and to limit combustion, pursuant to European standard* ***ISO 3795****.*

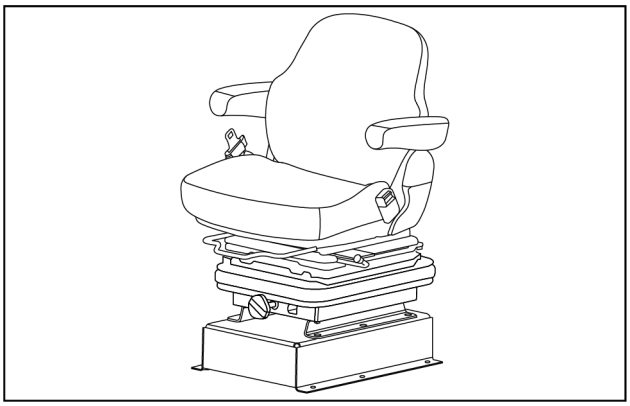
⚠ WARNING

Tip-over hazard!
Adding additional weight (buckets, attachments, etc.) to the machine can create a tipping hazard. Do not exceed the gross weight indicated by the machine specifications.
Failure to comply could result in death or serious injury.

W0153A

The soil compactor has a ROPS decal showing the certification of the ROPS, gross weight, approval, regulation, and model number of the machine. see **1-3**.

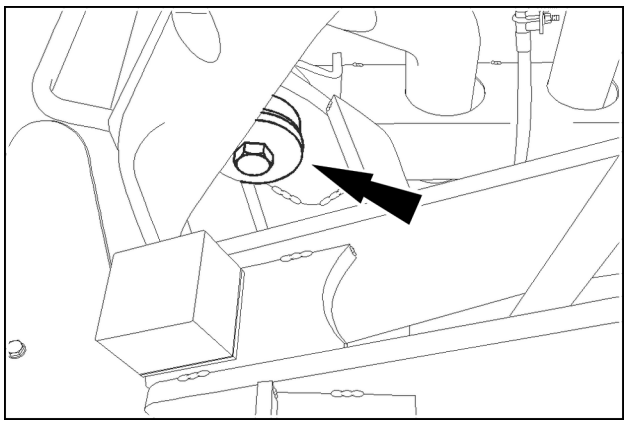
Check and inspect the ROPS structure and the seat restraint system every **500 h** of operation.
Before you operate this machine, always make sure the operator's seat belt is correctly installed.
The seat belt is an important part of the ROPS. You must wear the seat belt at all times when you operate the machine.
Make sure all hardware that secures the seat to the cab is properly torqued. Make sure all seat belt hardware is secure and torqued.
Torque seat belt hardware to:
73 – 87 N·m (**53.8 – 64.2 lb ft**).
Keep seat belts away from objects that can damage the seat belts.
Keep the seat belts clean. Wash the seat belts only in soap and water. Do not put the seat belts in bleach or dye. This will weaken the seat belt.



PTIL21COM1035AB 1

Torque for ROPS

1. Check for cracks, rust, or holes in the ROPS and ROPS components. Age, weather, and accidents can cause damage to the ROPS and ROPS parts. If you have any doubt about the integrity of the ROPS system, see your CASE CONSTRUCTION dealer.
2. Check the torque of the mounting bolts for the ROPS cab during the run-in period of a new machine, as well as at the **500 h** maintenance interval. Check the torque of the ROPS mounting bolts. If necessary, tighten the bolts to the correct torque.



RCPH10WHL130BAL 2

Torque specifications

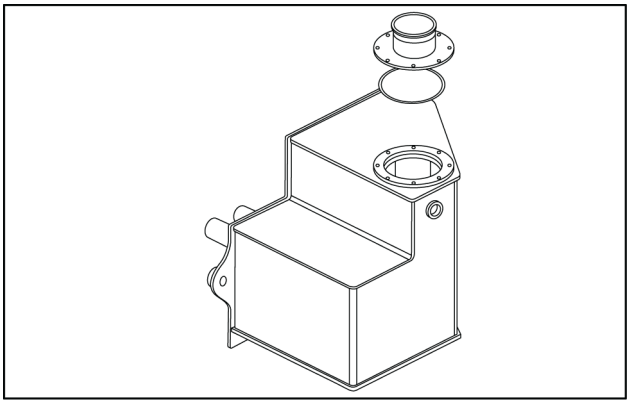
ROPS cab mounting bolts (both sides)
Torque to: **773 – 854 N·m** (**570.1 – 629.9 lb ft**).
Seat mounting bolts
Torque to: **73 – 87 N·m** (**53.8 – 64.2 lb ft**).

NOTE: *Torque specifications are for clean, dry threads.*

Every 1000 hours or 6 months

Oil reservoir - Change fluid

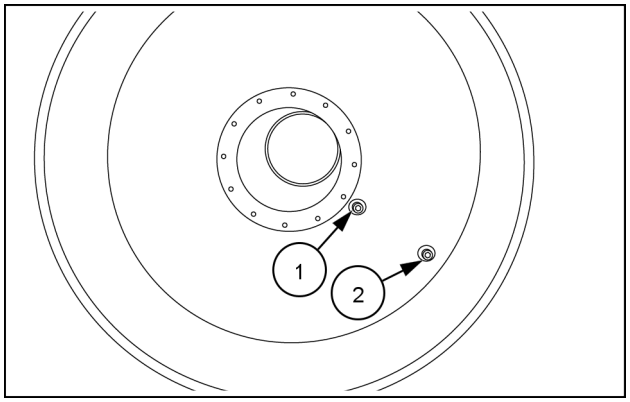
1. Place the machine in horizontal direction. Relieve the hydraulic system from pressure. Move forward-reverse lever (FNR) to neutral position and stop the engine. Clean the surroundings of hydraulic tank. Unscrew the hydraulic oil drain plug for releasing the hydraulic oil. Flush the hydraulic oil tank, if necessary. Fill fresh hydraulic oil in the hydraulic tank. Clean hydraulic oil drain plug in diesel fuel and retighten.



PTIL14COM0060AA 1

Vibratory roller - Change fluid

1. Park the machine on leveled ground.
2. Clean the surroundings of the exciter oil plug **(1)**.
3. Turn the drum until oil plug **(1)** is vertically positioned below the drum axle center.
4. Unscrew oil plug **(1)**. Oil will run out. Drain the oil completely.
5. Rotate the drum to place oil filling port **(1)** at top and fill in with the fresh oil.



PTIL15COM2101AB 1

NOTE: *See **7-1** for correct fluid specifications and quantities.*

NOTE: *Port **(2)** is for water ballasting as and when required.*

NOTICE: *Do not operate the machine in vibration mode when the ballasting is done. If the vibration mode is turned ON, the Anti Vibration Mounting (AVM) pads will get damaged immediately.*

Auxiliary drum oil

NOTE: *Auxiliary Drum drive is only available with Standard machine.*

1. Park the machine on level ground.
   Port **(1)** is used as breather and also for oil filling
   Port **(2)** is to check oil level
   Port **(3)** is for draining oil.
2. Clean the surroundings of the port **(1)**, **(2)** and **(3)**.
3. Turn the drum until drain plug **(3)** is vertically positioned below the drum axle center.

NOTE: *Place a container below the drain plug to contain the drain oil.*

4. Unscrew and remove the plug at breather port **(1)**.
5. Unscrew and remove the plug at drain port **(3)**.
6. Oil will run out from port **(3)**.
7. Drain the oil completely.
8. Install the drain plug **(3)**.

NOTE: *Replace the seal, if damaged.*

NOTE: *Tighten the plug at port **(3)** to a torque of **47.7 – 58.3 N·m**.*

9. Unscrew and remove the plug at levelling port **(2)**.
10. Fill the oil from port **(1)**.

NOTE: *Fill the oil from port **(1)** until oil drop is about to come out from levelling plug **(2)**.*

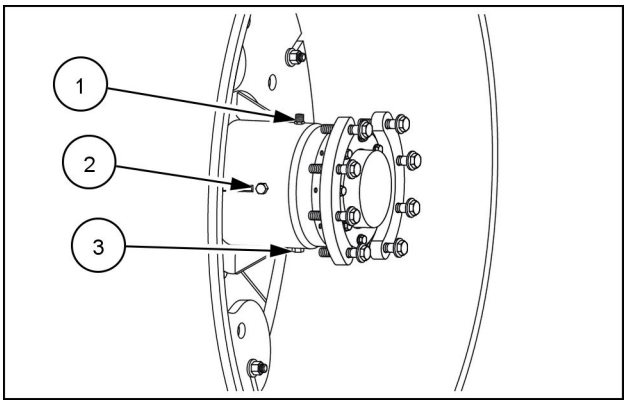
11. Install the plug at port **(1)**.

NOTE: *Ensure there is no oil leakage from oil plug.*

NOTE: *Replace the seal, if damaged.*

12. Install the plug at levelling port **(2)**.

NOTE: *Tighten the plug at port **(2)** to a torque of **47.7 – 58.3 N·m**.*



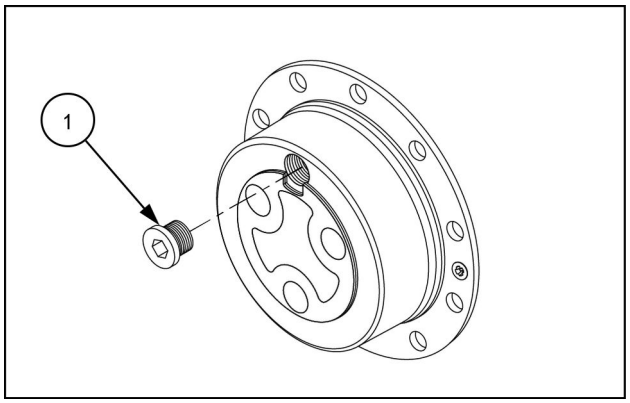
PTIL19COM0051AA 1

Fuel injectors - Check

NOTE: *Injector check procedure needs to be done only by an authorised personnel. Kindly contact your nearest CASE CONSTRUCTION Dealer for further details. Failure to comply may lead to machine failure.*

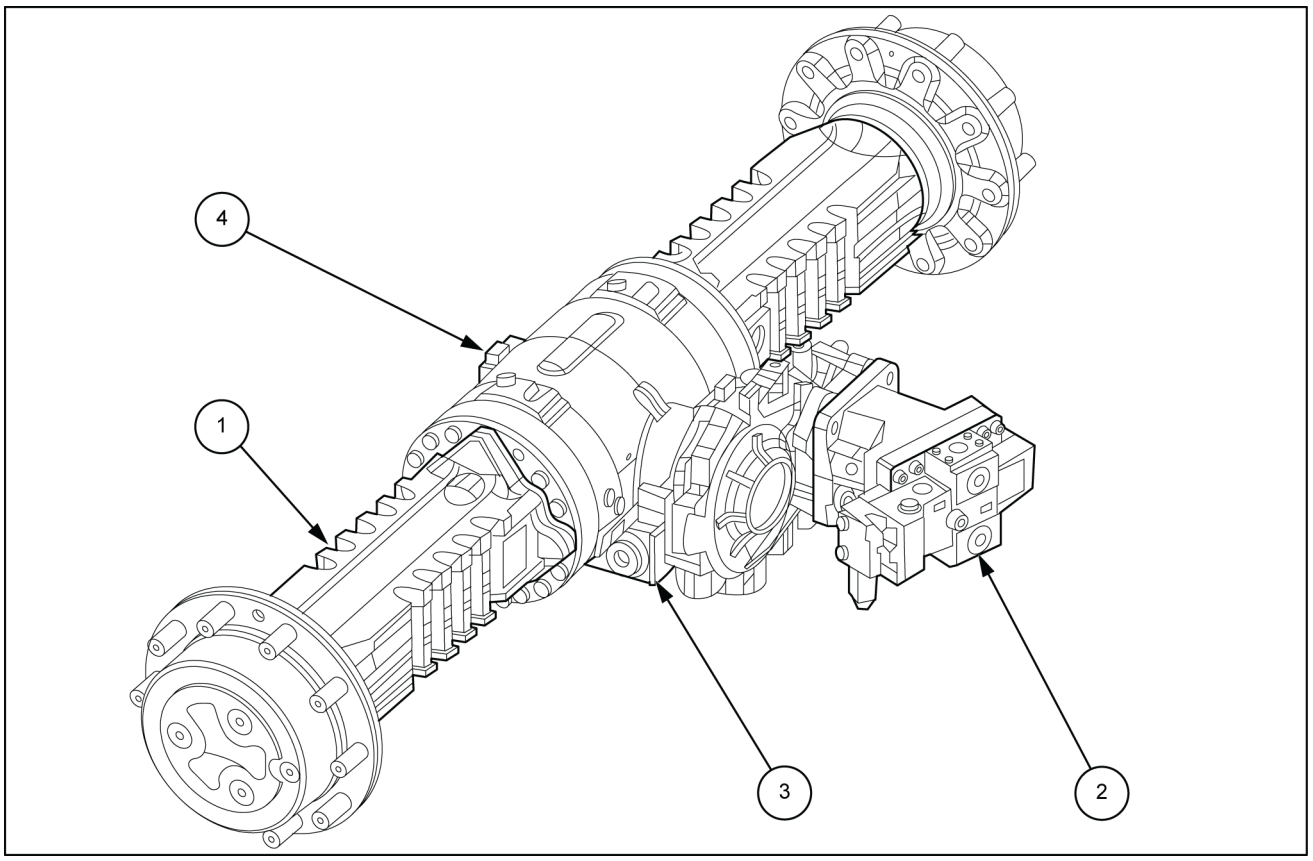
Reduction gear oil change

1. Move the machine to a level and firm ground.
2. Make sure that the direction of travel controller (FNR) lever is in neutral position.
3. Engage the parking brake.
4. Stop the engine and remove the key.
5. Place a container with suitable capacity under the plug **(1)**.
6. Unscrew and remove the plug **(1)**.
7. Let the oil drain completely.
8. Screw in the plug **(1)**.
9. Fill with clean oil through the hole of the plug until the level reaches the hole.
10. Retighten the plug **(1)**.



PTIL15COM2141AB 1

Rear axle and motor - Change oil



PTIL14COM0074FB 1

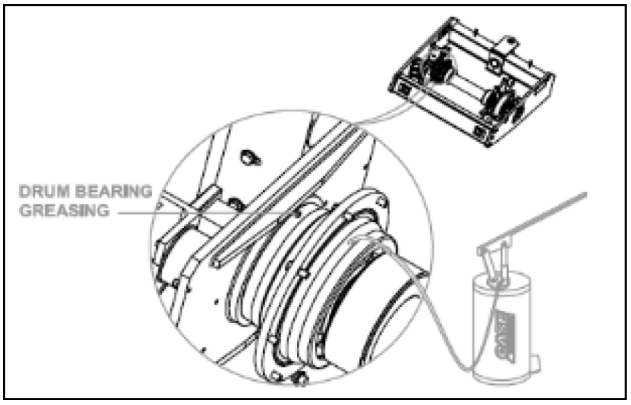
(1) Rear axle
(2) Rear axle motor
(3) Oil drain plug
(4) Oil filling plug

1. Move the machine to a level and firm ground.
2. Make sure that the direction of travel controller (FNR) lever is in neutral position.
3. Engage the parking brake.
4. Stop the engine and remove the key.
5. Place a container with suitable capacity under the plug **(3)**.
6. Unscrew and remove the plug **(3)** and **(4)**. Let the oil drain completely.
7. Screw in the plug **(3)** and torque to **60 N·m**.
8. Fill with clean oil through the hole of the plug **(4)** until the level reaches the hole.
9. Retighten the plug **(4)**.

EVERY 2000 HOURS OR 12 MONTHS

Drum bearing - grease

The drum bearing is located on the vibration motor side. Open the grease nipple for draining at bottom side of bearing assembly. Take grease hand pump and fill the grease nipple. Available at top side of bearing assembly. Apply 95 strokes (approximately **450 g**) of grease from the hand pump (during the greasing, travel the machine in forward direction with single speed low RPM, no vibration mode, and drum to be rotated for one rotation). Make sure old grease should come out from drain port at bottom side of bearing assembly, then plug the port with grease nipple.



PTIL15COM0068AA 1

Engine cooling system - Replace

⚠ WARNING

Hot liquid under pressure!
Never remove the filler cap or the recovery tank cap while the engine is running or the coolant is hot. Let the system cool. Turn the filler cap to the first notch and allow any pressure to escape, and then remove the filler cap. Loosen the recovery tank cap slowly to allow any pressure to escape.
Failure to comply could result in death or serious injury.

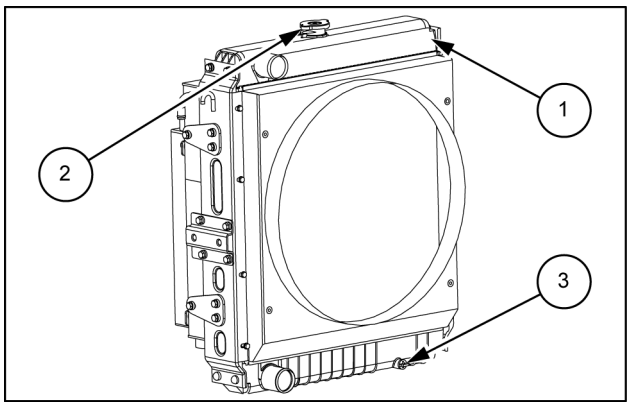
W0296A

1. Park the machine on a level surface and shut-off the engine.
2. Place a container with sufficient capacity under the radiator drain cock.
3. Unscrew and remove the cap **(2)** from the radiator **(1)**.

⚠ CAUTION

Burn hazard!
Hot coolant can spray out if you remove the filler cap while the system is hot. After the system has cooled, turn the filler cap to the first notch and wait for all pressure to release before proceeding.
Failure to comply could result in minor or moderate injury.

C0043A



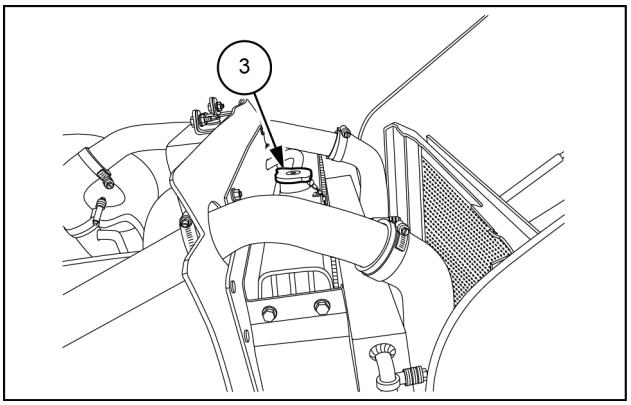
PTIL12TLB0446AB 1

4. Install a drain pipe on the drain cock **(3)** and put the other end into a container.
5. Open the radiator drain cock **(3)** and drain the coolant.
6. After the system is completely drained, close the drain cock **(3)**.
7. Rinse the system with fresh water, drain again and then fill the system

NOTE: *if you use a detergent solution for rinsing, follow the instructions for preparing the solution. After draining the detergent solution, rinse again with fresh water.*

8. Check the condition of the hoses, connections and the water pump.
9. Make sure that the external surfaces of the engine and the radiator are clean.

10. Remove the cap **(3)** and fill the coolant.
11. Retighten the cap on the radiator.



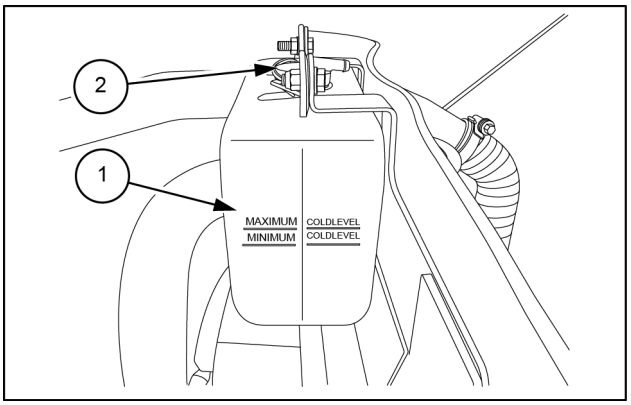
PTIL12TLB0498AB 2

12. Fill the coolant reservoir **(1)** with coolant solution.

NOTE: *Always use genuine and approved lubricants. Consult your CASE Dealer for any further information.*

NOTE: *Always fill the cooling system with coolant slowly to prevent the formation of air bubbles.*

13. Retighten the cap on the reservoir.
14. Run the engine for a few minutes and then check the level in the coolant reservoir again.
15. Check for leakage and check the coolant level.
16. Top up if necessary.



PTIL12TLB0265AB 3

As required

Engine air filter - Replace

Servicing instructions

A. Clean primary element: When service indicator shows red band.

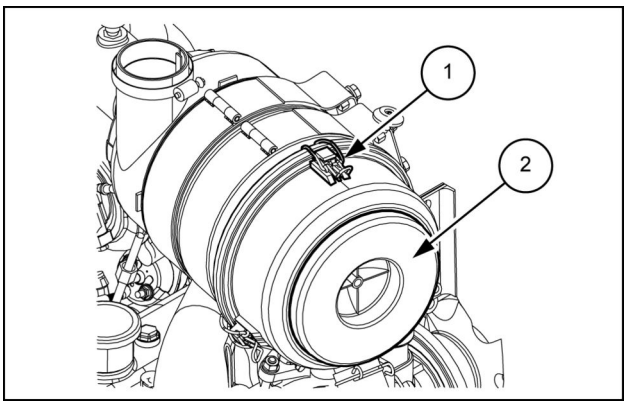
B. Replace primary element: When servicing indicator shows red band even after cleaning OR After two cleaning intervals OR If the element is found damaged.

C. Replace safety element: When replacing primary element.

NOTICE: *Do not tap or hit the element on hard surfaces as it can damage the element.*

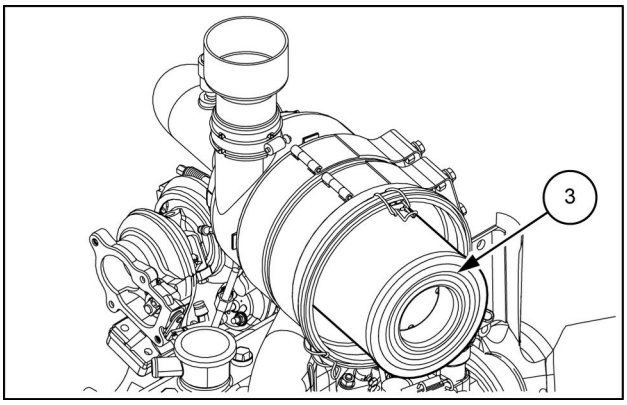
Primary element

1. Open and raise the engine hood.
2. Remove the three clips **(1)** around perimeter of filter cover.
3. Remove the cover **(2)** by rotating in counter clockwise direction.



PTIL12TLB0239AB 1

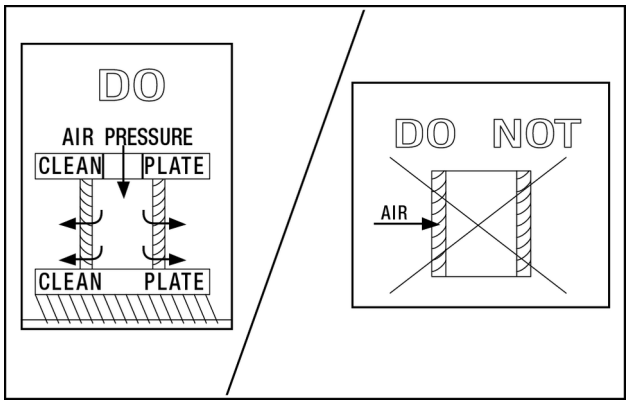
4. Remove primary air filter element **(3)** by rotating in counter clockwise direction.



PTIL12TLB0240AB 2

5. Clean the filter with controlled air pressure not exceeding **2 bar** (**29 psi**).
6. Visually check air filter element for any filter media damage. If found damaged, replace the air filter element.

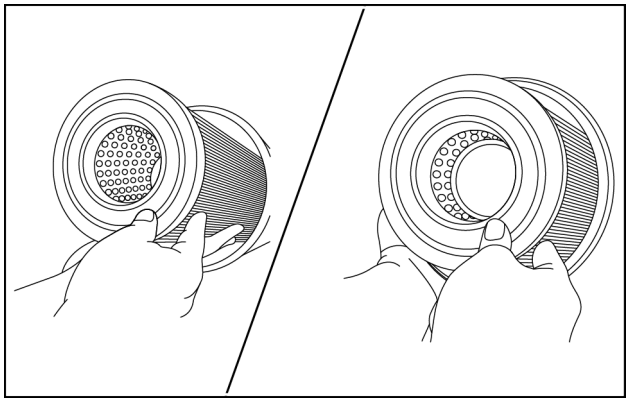
NOTICE: *The direction of air flow shall be from inside to outside. Never blow air from outside to inside as this will cause dust to enter inside the element.*



PTIL19TLB0006AA 3

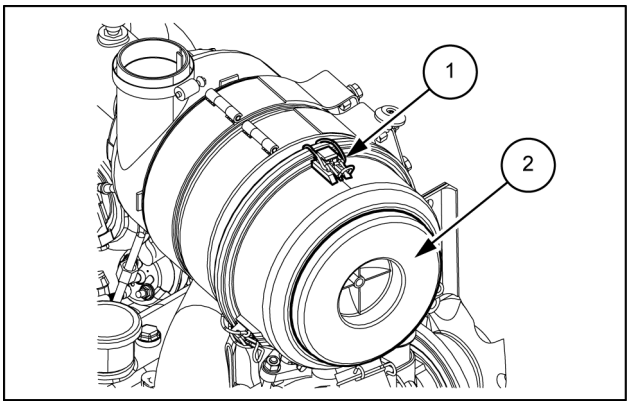
7. Clean the air filter housing and cover with clean cloth.
8. Hold the primary air element horizontally and support the base with other end.
9. Fix the primary air element in housing by gently pressing the filter into the inlet port.

NOTICE: *Please make sure that element is not touching the filter housing wall.*



PTIL19TLB0008AA 4

10. Close the cover **(2)** and secure it with the three clamps **(1)**.



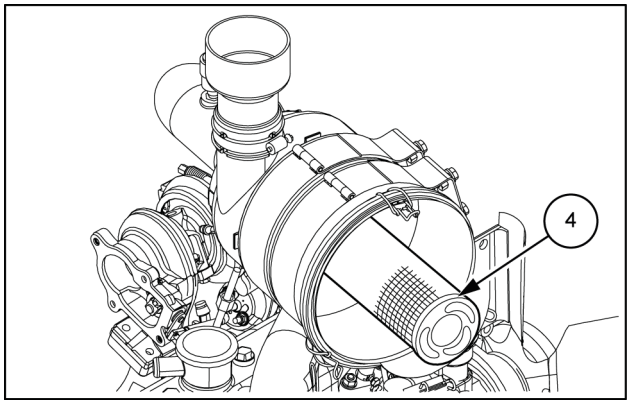
PTIL12TLB0239AB 5

NOTE: *See instructions **1** to **4** and **7** to **10** to replace the primary element.*

Safety element — Replace

NOTICE: *Do not clean safety element. It shall be replaced with new element or at recommended intervals.*

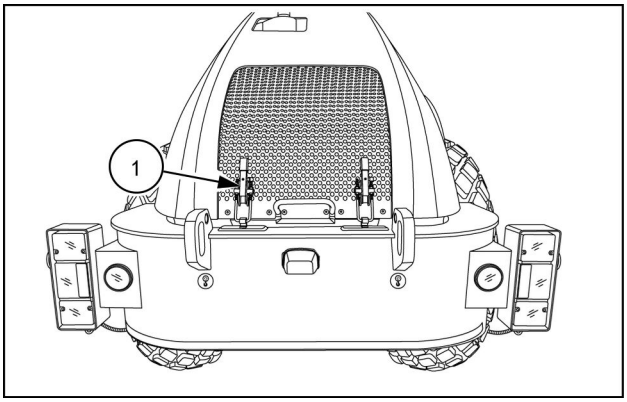
11. See instructions **1** to **4**, to remove primary air filter.
12. Remove safety element **(4)** by rotating it in counter clockwise direction.
13. Pick a new safety element.
14. Install the safety element inside filter housing by rotating in clockwise direction.
15. Fix the primary air element into housing by following instructions from **7** to **10**.



PTIL12TLB0241AB 6

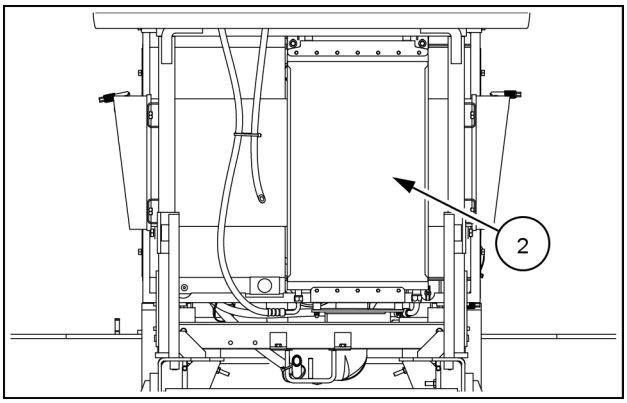
Condenser - Cleaning

1. Follow the machine safety position. (See **General safety rules**). Open the lock **(1)** and lift the engine hood.



PTIL17COM1107AA 1

2. Clean the condenser **(2)** with water jet to remove the dust and mud.



PTIL17COM1117AA 2

Pollen filter - Cleaning

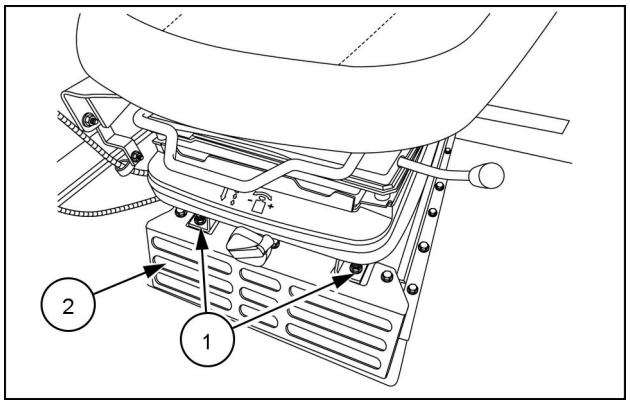
1. Follow Machine safety position. (Refer Follow machine safety position. (See **General safety rules**).
2. Before servicing the pollen filter located under the operator's seat, switch off the blower and close all windows and one door.

ATTENTION: *In humid conditions, do not switch on the blower prior to servicing the pollen filter. Damp particles drawn into the filter may solidify and prove difficult to remove without washing.*

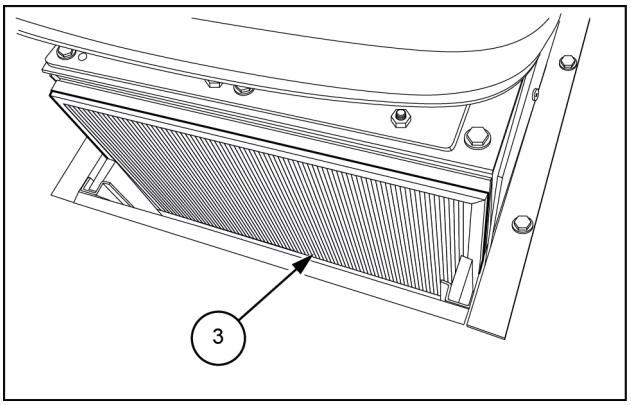
3. Forcibly close the other door. The resulting back pressure will dislodge the loose dirt from the underside of the pollen filter.
4. Remove the bolts **(1)** from the sides and remove the cover **(2)** from below the seat.
5. Pull out the pollen filter **(3)** straight.

ATTENTION: *The filter elements are made of specially treated paper with a sealing strip bonded to the outer face. So make sure that the filter element and the sealing faces are not damaged on removal.*

6. Clean the pollen filter by blowing with the compressed air from the clean side through to the dirty side with a pressure lower than **2 bar** (**29 psi**).
7. Install the pollen filter and close the cover.



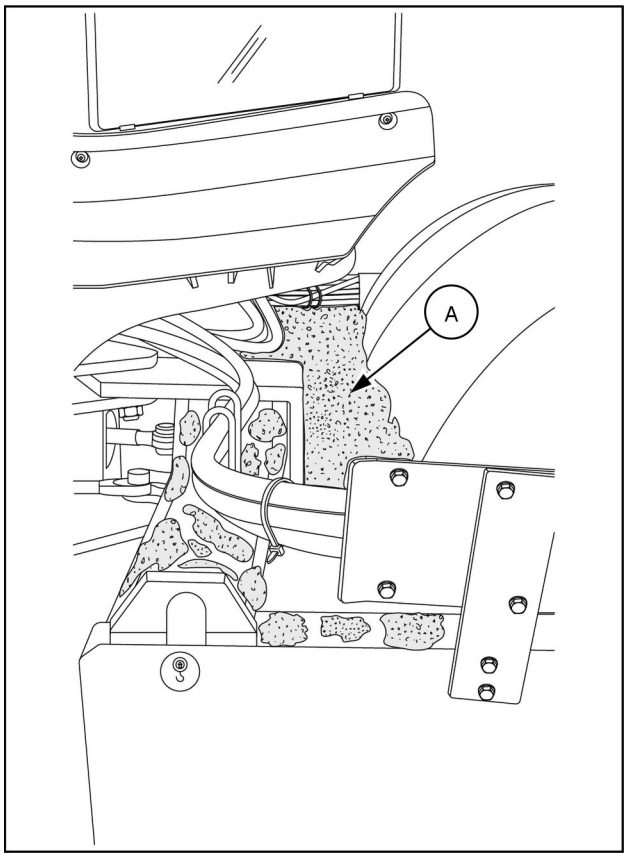
PTIL17COM1111AA 1



PTIL17COM1119AA 2

Drum area between roller and front and rear cross members - Check

1. Check front and rear side of the roller drum for any excessive mud accumulation.
2. If excessive mud is accumulated in the articulation joint area and near headlamps, it may damage the components during working operation.
3. Hence this should be kept in check and cleaned/removed periodically as per application to avoid peripheral damage.
   A - Mud



PTIL23COM1880BB 1

Storage

Storing the machine

Geographic, environmental and actual storage conditions make it difficult to follow a set storage procedure for all areas and conditions. The following procedure is for a storage period of six months or longer. This procedure is a good starting point but may not be all inclusive. If you have questions about storing your machine, contact your CASE Dealer.

1. Prior to storing, inspect the machine for visible signs of wear, breakage or damage. Order any parts required and make the necessary repairs to avoid delays when starting the next operating period.
2. Prior to storing, wash the machine.
3. Lubricate the entire machine.
4. Paint any areas where the paint has been damaged.
5. Move all hydraulic controls through their complete ranges several times to relieve any pressure in the circuits.
6. Change the engine oil and replace the filter.
7. Drain the cooling system. Leave the drains open and do not tighten the radiator cap.
8. Put a DO NOT OPERATE tag.
9. Cover the exposed cylinder rods, and valve spools and any other bare metal parts with a rust and corrosion preventive.
10. Remove and clean the battery. Fully charge the battery. Store the battery in a cool dry place where it will not freeze.
11. Cover exhaust outlet.
12. Park the machine inside a building. If a building is not available, park the machine in a dry area on planks and cover with a waterproof cover.
13. Do periodic checks for protection. Look for corrosion.

Short term storage

If the machine is to remain unused for a period exceeding 30 days, store it under cover or cover it with a waterproof tarpaulin. Clean the machine completely. Paint all surfaces of the machine where the paint work is damaged, to avoid rust.
Check the machine for worn or damaged parts and replace as necessary.
Lubricate the machine and drain the hydraulic oil tank, gearbox, and engine and refill with the correct grades of oil.
Check the radiator coolant level. If the machine is within **100 h** before the scheduled maintenance after **2000 h**, or within 2 months before the maintenance scheduled after 2 years, perform the prescribed maintenance operations.
Stop the engine and operate all the hydraulic controls to release all residual pressure from the hydraulic circuits.
Coat the exposed portions of the cylinder rods and control valve spools with grease.
Remove the battery from the machine and store it.
Cover the exhaust pipe opening.

Storing the engine

If the engine is to be left unused for a long time, it is necessary to conserve it against rust formation.

1. Clean the engine with a high-pressure device.
2. Take the engine to the operating pressure, then stop it.
3. Drain the engine oil and fill it with fresh oil.
4. Fill fuel tank.
5. Let the engine run for approximately **10 min**.
6. Stop the engine.
7. Manually rotate the engine several times for cylinder and combustion chamber preservation.
8. Disassemble the belts and store them packed.
9. Spray some anti-corrosive grease in the pulley races.
10. Close the suction and the drain openings.

Battery storage

Remove the batteries from the machine. Store them on a wooden table in a dry, cool, well ventilated room, if possible at a temperature above **0 °C** (**32 °F**) [optimum temperature **20 °C** (**68 °F**)].

Perform the following operations:

- Clean the battery.
- Check the acid concentration and the electrolyte level every two weeks.
- Fully recharge the battery when the acid concentration drops to **1.23 kg** (**2.71 lb**).
- Keep the outside of the batteries clean and dry.

Taking the machine back to service

To take the machine back to service after a long storage period, it is necessary to take some precautions:

- Eliminate all engine protections. Fill in engine oil.
- Fill the fuel tank.
- Reassemble and connect the batteries. Check the charge condition and the electrolyte level of the battery.
- Check all oil levels.
- Check the level of the coolant solution.
- Remove the cover from the exhaust pipe opening.
- Remove the anti-corrosive grease from the cylinder rods and the other coated areas.
- Check the operation of the electrical system.
- Bleed air from the hydraulic system.
- Check the operation of the steering system and braking system.

Remove the engine protections

1. Remove the anti-corrosive grease from the pulley races.
2. Assemble the belts and adjust the tension after brief operation.
3. Reopen the suction and drain lines.
4. Operate the engine.

NOTE: *Check the machine for leaks and for broken, defective or missing parts.*

⚠ WARNING

Unexpected machine movement!
Before starting the engine, be sure all controls are in neutral or disengaged. This prevents the accidental start up of power-driven equipment.
Failure to comply could result in death or serious injury.

W0169A

⚠ WARNING

Inhalation hazard! Risk to operators and bystanders.
Avoid running the engine in confined areas. Make sure there is adequate ventilation at all times.
Failure to comply could result in death or serious injury.

W0156A

Removal from storage

1. Change the fuel filters and fill the fuel tank if needed.
2. Tighten the cooling system drain valves.
3. Fill engine coolant system.
4. Check engine oil level.
5. Check the condition of the engine fan belt. Replace it if required.
6. Check the hydraulic fluid level.
7. Lubricate the machine grease fittings.
8. Use a petroleum based solvent and remove the rust and corrosion preventive from the hydraulic cylinder rods and control valves.
9. Install a fully charged battery.

NOTE: *Check the battery periodically for the correct electrolyte level. Wear face protection and test the electrolyte with a hydrometer. When the hydrometer reading is near 1.215, charge the battery.*

10. Remove air from the engine fuel lines.

NOTE: *Before starting the engine, make sure there are no leaks, missing or broken parts.*

11. Start the engine and run at idle speed for **2 min**. Check for leaks around the filters and drain plugs.
12. Operate all the hydraulic controls to make sure normal flow of hydraulic oil to all components.
13. Stop the engine and check the fluid levels of the engine cooling system and gearbox.

Machine disposal

When the machine reaches the end of its useful life, observe the following recommendations for disposal:

- See your CASE CONSTRUCTION dealer to make an agreement for your dealer to properly dispose of the machine, or
- Sell the machine to a company that specializes in the proper disposal of industrial machinery.

If you want to keep the machine on your premises (for spare parts or other reusable components, etc.) you must observe the following instructions:

1. Park the machine on hard and level ground. Bring all moveable components to the lowest position and/or safest position.
2. Store the machine with the axles on wooden blocks in order to keep the machine upright, as the tires will deflate over time.
3. Contact your CASE CONSTRUCTION dealer or other qualified Heating, Ventilation, and Air Conditioning (HVAC) technicians to reclaim the refrigerant in the air-conditioning system. Do not open the air-conditioning system yourself.
4. Remove the battery or batteries from the machine. Bring dead batteries or damaged batteries to your CASE CONSTRUCTION dealer, who will dispose of the used batteries or recycle the used batteries properly.
5. Drain the remaining fuel into appropriate containers.
6. Drain the oil from engine, transmission, and hydraulic systems into appropriate containers. Take the oil to your local waste recycling facility. Pay attention to local rules that may require you to store the different types of oils separately. Remove the filters.
7. If the machine has a separate brake circuit with brake fluid, drain the brake fluid. Take the brake fluid to your local waste recycling facility.

   NOTE: *The machine is now ready for a long-term storage and/or for scrapping after the removal of reusable components.*

Long-term storage

The assigned storage life for the machine is minimum 10 years. During this time the machine must be packed in a dry and clean place without condensation.

NOTE: *All the requirements for the storage of the machine must be met.*

Scrapping

When you scrap the vehicle, you must keep materials apart. Separate the following:

- Cab glass (laminated and/or tempered)
- Plastics
- Interior cladding and fabrics
- Rubber hoses
- Belts
- Electric and electronic components
- Tires
- Wiring harnesses
- Sheet metal
- Castings
- Weld assemblies
- Aluminium
- Any other additional category

NOTE: *See your local waste recycling facility for specific rules on how to deliver the scrapped materials.*

When you dismount mechanical systems, make sure that there is no risk of residual energy (such as compressed springs in belt variators). If you do not have the proper tools or instructions to disassemble a system or component, contact your CASE CONSTRUCTION dealer to perform this service.

NOTE: *Make sure that the machine maintains stability during the dismantling process.*

8 - TROUBLESHOOTING

Fault code resolution

Engine - Troubleshooting

Problem	Possible Cause	Correction
The engine does not start	Partially discharged batteries	Check, charge the batteries and, if necessary, replace them
	Corroded or loose connections to the battery terminals	Clean, inspect, tighten the nuts and, if necessary, replace the excessively corroded terminals and nuts
	Dirt or water accumulations in fuel lines	Disconnect the lines and the injection pump and carefully clean them; if necessary, clean and dry the fuel tank
	No fuel in the tank	Fill the tank
	No supply to the injection pump	Check and, if necessary, replace the supply pump
	Air in the fuel system	Check the lines, the fittings, the supply pump, the filters and the injection pump for the presence of air, then bleed the system
	Damaged starter motor	Repair or replace the starter motor
The engine stops	Irregular delivery of the supply pump	Check delivery on the workbench
	Dirt or water accumulations in fuel lines	Disconnect the lines and the injection pump and carefully clean them; if necessary, clean and dry the fuel tank
	Restricted fuel filters	Replace the filter cartridges
	Burned or cracked valves	Replace the valves
	Air in the fuel system	Check the lines, the fittings, the supply pump, the filters and the injection pump for the presence of air, then bleed the system
	Damaged injection pump controls	Replace the damaged parts
The engine overheats	The centrifugal pump of the cooling system is faulty	Overhaul the pump and, if necessary, replace it
	Faulty temperature switch	Replace the temperature switch
	Radiator partially faulty	Eliminate possible scales by washing, check and repair possible tube leaks
	Scales in coolant passage compartments in cylinder heads and crankcase	Carefully wash
	Centrifugal pump drive belt and fan drive belt too slack	Check and adjust belt tension
	Coolant (insufficient quantity)	Restore the level in the expansion tank by adding the prescribed fluid
	Incorrect timing of the engine	Check and correctly time the engine
	Restricted air filter	Clean the assembly and, if necessary, replace the filter element
The engine has anomalous knocks	Partially obstructed or damaged injectors	Clean, overhaul and correctly calibrate the injectors
	Dirt accumulations in fuel lines	Clean the lines and replace the visibly dented pipes; if necessary, clean the injection pump
	Drive shaft knocks caused by an excessive clearance of one or more crankshaft bearings or big end bearings or excessive shoulder clearance	Rectify the drive shaft pins, assemble bigger shoulder bearings and rings
	Unbalanced drive shaft	Check the alignment and the balance of the drive shaft and, if necessary, replace it
	Loose flywheel retaining screws	Replace the loose screws and tighten all screws to the prescribed torque + angle

Problem	Possible Cause	Correction
	Connecting rod axes not parallel	Straighten the connecting rods, check that the axes are parallel and, if necessary, replace the connecting rods
	Cylinder knocks due to anomalous wear	Bore the cylinder barrels and assemble bigger cylinders
	Noisy cylinder pin due to excessive clearance in hub and connecting rod bushing. Bushings free in their seat on the connecting rod	Replace the pin with a bigger one, reprocess the hubs on the cylinder and the bushing on the connecting rod. Replace the bushing
	Ticking due to noisy distribution	Check that there are no broken springs, that there is no excessive clearance between the rods and the rails, tappets and seats; adjust the clearance between valves and rockers
Anomalous engine smoke		Contact your CASE CONSTRUCTION Dealer
Difficult starting and poor performance under all conditions	High-pressure pump faulty	Contact your CASE CONSTRUCTION Dealer
Difficult start, poor performance, the engine runs with one cylinder less	Injector with shutter or solenoid core (mechanical part) stuck open.	Contact your CASE CONSTRUCTION Dealer
Starting takes tens of seconds, much white exhaust smoke, smell of fuel	Injector (irreversibly) stuck open	Contact your CASE CONSTRUCTION Dealer
Broken high-pressure line from pump to common rail	Anomalous vibrations caused by a loose line clamping	Contact your CASE CONSTRUCTION Dealer
The engine operates with a cylinder less, without saving failures in the control unit	Injector stuck closed	Contact your CASE CONSTRUCTION Dealer

Electrical systems - Troubleshooting

Problem	Possible Cause	Correction
The starter motor does not run	Too low specific gravity and battery level	Inspect the battery
	Poor ignition switch circuit connection or contact	Replace the wiring harness and the ignition switch or starter motor runs too slowly
	Malfunction of the coil or of the magnetic switch pull-in cylinder	Replace the magnetic switch
The starter motor running cannot crank the engine	The pinion gear does not engage with the ring gear	Repair or replace the clutch and the control lever
	Sliding clutch	Replace the clutch
Anomalous noise	Anomalous bushing wear	Replace starter
	Wear on pinion gear or ring gear tooth tips	For ring gear damage contact CASE CONSTRUCTION Dealer
	Poor pinion gear sliding	Replace starter
The pinion gear springs	Poor ignition switch return	Replace the ignition switch
Field coil loss. Magnetic switch coil burnt, etc.	Pinion gear disengagement fault caused by a coil short circuit in the magnetic switch	Replace the magnetic switch

Alternator - Troubleshooting

Problem	Possible Cause	Correction
Not recharged	Recharge circuit interrupted (warning lamp, fuse, connector, etc.)	Check the connections of the recharge circuit, clean and tighten the alternator and battery terminals
	Voltage regulator inefficient	Replace alternator
	Rotor winder interrupted	Replace alternator
	Worn brushes	Replace alternator
Recharge insufficient	Slackened fan belt	Supply the correct tension
	Voltage regulator faulty	Replace alternator
	Excessive wear of rotor rings or brushes	Replace alternator
	Short-circuited diodes	Replace alternator
	Short-circuited stator winders or rotor winder	Replace alternator
Excessive recharge	Loose circuit connections	Check the connections of battery terminals, starter motor terminals and alternator
	Voltage regulator inefficient	Replace alternator
	Ground connection faulty	Check connections for leaks

Cab climate control - Troubleshooting

Problem	Possible Cause	Correction
Dust enters the cab	Improper seal around filter element	Check seal condition
	Blocked filter	Clean or replace filter
	Defective filter	Replace filter
	Excessive air leak(s) around doors and windows	Repair and seal air leak(s)
Blower motor air flow low	Blocked filter or recirculation filter	Clean or replace filter(s)
	Heater radiator core blocked	Clean radiator core thoroughly
Blower motor not working	Fuse blown	Replace fuse
Cabin does not heat up	Engine not reaching operating temperature. Thermostat stuck open	Replace thermostat
	Heater hose from engine to cab radiator, kinked or blocked	Ensure water flow to heater radiator is adequate and not restricted
Cabin does not cool	Heater control turned on	Turn the temperature control knob fully counterclockwise for maximum cooling
	Heater control valve stuck in open position	Free up valve or change as required
Temperature not stable	Low engine coolant	Top up coolant recovery tank

Hydraulic systems - Troubleshooting

Problem	Possible Cause	Correction
Machine not moving in forward / reverse direction	Parking brake switch applied or secondary brake switch applied	Set parking brake switch or secondary brake switch applied to driving position. See Sec. “4-operating instructions”
	Lack of oil in hydraulic oil tank	Check oil level in the hydraulic oil tank and refill fresh oil, if necessary. See Section “6-Working operation”
	Error in the adjusting device for the control lever on the variable displacement hydraulic pump	Check adjusting device for correct function and readjust, if necessary
	Propulsion interrupted	Check coupling between engine and variable displacement hydraulic pump as well as connection between the variable displacement hydraulic motor and the drums and have them overhauled, if necessary, by the service engineer
	No or insufficient charge pressure	Check charge relief valve setting on Travel & vibration pump OR contact CASE CONSTRUCTION dealer.
	Hydraulic oil filter clogged Suction line clogged	Check suction line and replace hydraulic oil filter element
	Driver of charge pump sheared off Charge circuit pressure relief valve not closing in	Contact CASE CONSTRUCTION Dealer
	Low and fluctuating charge pressure. Air causes noise within hydrostatic drive	Tighten all connections between the hydraulic oil tank and the charge pump through which air may penetrate
	Internal components in variable displacement hydraulic pump or hydraulic motors damaged	Contact CASE CONSTRUCTION Dealer
	Charge circuit non-return valves defective	Contact CASE CONSTRUCTION Dealer
	Internal components in variable displacement hydraulic pump or hydraulic motor damaged as seen by: Brass particles, chips, of flakes in hydraulic oil tank and filter	Contact CASE CONSTRUCTION Dealer
	Very noisy operation of variable displacement hydraulic pump or hydraulic motors	Tighten all connections between the hydraulic oil tank and the charge pump through which air may penetrate
	No, low or fluctuating charge pressure	Replace hydraulic oil filter or tighten all connections between the hydraulic oil tank and the charge pump through which air may penetrate
	Hydraulic oil filter clogged	Replace hydraulic oil filter
	Parking brake not releasing	Replace hydraulic oil filter or tighten all connections between the hydraulic oil tank and the charge pump through which air may penetrate
Propulsion operating in one direction only	Error or defect in adjusting device for the control lever of the variable displacement pump	Check and adjust device for correct function and readjust if necessary
	Main pressure relief valves not closing	Tighten main pressure relief valves. If propulsion does not yet operate in the other direction, exchange both main pressure relief valves against each other. If propulsion now operates in other direction, one of the main pressure relief valves does not close. Contact CASE CONSTRUCTION Dealer
	Charge circuit non-return valves defective	Contact CASE CONSTRUCTION Dealer

Problem	Possible Cause	Correction
Zero setting can not be obtained any more	Error in adjusting device for control lever of variable displacement hydraulic pump	Check adjusting device for correct function and readjust, if necessary
Travel circuit overheating (Exceeding 90°)	Hydraulic oil cooler clogged	Clean cooling devices
	Lack of oil in hydraulic tank	Fill in fresh oil, if necessary
	Hydraulic oil filter and/or suction line clogged	Replace hydraulic oil filter
	Internal leaks, Pump relief valves jamming and not full closing. Internal components in variable displacement hydraulic pump or hydraulic motors damaged	Contact CASE CONSTRUCTION Dealer
Noise during travel operation.	Air in propulsion. Lack of oil in Hydraulic oil tank. Suction lines leaking	Check oil level in hydraulic oil tanks and fill fresh oil if necessary. Check suction lines for leaks. Note:- Heavy foaming in hydraulic oil tank is an indication of air in the propulsion
	Insufficient hoses and pipe clearance or insulation	Hoses and pipes must not come into contact with metal. Coat hose clips and pipe clamps with rubber for the purpose of noise insulation
	Internal Components in variable displacement hydraulic pump or hydraulic pump or hydraulic motors damaged	Get the system repaired by the “Service Engineer”
Sluggish acceleration and deceleration	Decreased engine power	See Engine operator’s manual
	Air in propulsion Lack of oil in hydraulic tank Suction lines leaking	Check oil level in hydraulic tank and refill fresh oil, if necessary Check suction lines for leaks. Note: Heavy foam generation in hydraulic oil tank is an indication of air in the propulsion.
	Internal components in variable displacement hydraulic pump or hydraulic pump or hydraulic motors damaged	Get the system repaired by the “Service Engineer”
	Insufficient charge pressure. Hydraulic oil filter clogged. Suction line clogged. Charge circuit pressure relief valve in filling pump not closing internal components in variable displacement hydraulic pump or hydraulic motors damaged	Check charge pressure. Replace hydraulic oil filter. Clean suction line. Contact CASE CONSTRUCTION Dealer
	Internal wear or damage to variable displacement hydraulic pump or motor	Get the system repaired by the “Service Engineer”

Hydraulic systems - Troubleshooting

Problem	Possible Cause	Correction
Exciter drive not functioning (Drum not vibrating.)	Lack of oil in hydraulic tank	Check oil level in hydraulic tank and refill fresh oil, if necessary. Eliminate leaks
	Error in the adjusting device	Check adjusting device for proper function and reset, if necessary
	Exciter drive interrupted	Check coupling between engine and pump as well as connection between constant displacement hydraulic motor and exciter shafts and have them overhauled, if necessary by CASE CONSTRUCTION Dealer
	Low or no charge pressure	Check charge pressure
	Hydraulic oil filter clogged	Replace hydraulic oil filter
	Suction line clogged	Clean suction line
	Charge pump not working, internal component damage in variable displacement hydraulic pump or constant displacement hydraulic motor	Contact CASE CONSTRUCTION Dealer
	Low or fluctuating charge pressure. Air causes noise in hydrostatic	Tighten all components between hydraulic oil tank and the charge pump through which air may penetrate
	Internal damage in hydraulic pump or hydraulic motors are damaged	Get Repaired by the “Service Engineer’
	Charge circuit non-return valves. Not functioning	Contact CASE CONSTRUCTION Dealer
	Internal components in variable displacement hydraulic pump or constant displacement hydraulic motor defective	Contact CASE CONSTRUCTION Dealer
	Hydraulic filter clogged	Replace hydraulic oil filter
	Exciter system circuit defective	Check exciter system circuit
Exciter drive operating in one direction only (only one frequency operating)	Error or defect in the adjusting device for the control lever of the variable displacement hydro pump	Check the adjusting device for correct function and readjust, if necessary
	Operating over pressure relief valve not closing	Tighten main pressure relief valves. If propulsion does not yet operate in the other direction. Exchange both operating over pressure relief valves against each other. If propulsion now operates in the other direction, one of the other operating over pressure relief valves does not close. Get it checked by CASE CONSTRUCTION Dealer
Neutral position can not be obtained anymore	Error in adjusting device	Check adjustment device for proper operation and reset, if necessary
Exciter drive overheating	Hydraulic oil temperature exceeding **85 °C** (**185 °F**))	Check hydraulic oil level. Instantly stop engine and do troubleshooting procedure same as propulsion heating or contact CASE CONSTRUCTION dealer.
Noise in exciter drive	Air in exciter drive, lack of oil in hydraulic oil tank, suction lines leaking	Check oil lines in hydraulic oil tank and refill refresh oil if necessary. Check suction line for leaks, eliminate leaks. Note: Heavy foaming in the hydraulic tank is an indicating of air in the exciter drive
	Internal wear damage in variable displacement hydraulic pump or constant displacement hydraulic motor	Contact CASE CONSTRUCTION Dealer

Cab steering and leveling controls - Troubleshooting

Problem	Possible Cause	Correction
No steering or excessive effort required to steer	Incorrect oil level in the tank	Fill with the correct oil type and quantity
	Air in the system	Check the system pressure
	Pump relief valve faulty	Replace the relief valve
	Worn pump	Replace the pump
	Leaking power cylinder	Eliminate the leak
	Damaged valve spool	Replace the spool
	Broken or damaged steering column	Inspect and repair
	Damaged or worn metering element	Replace the metering element
The steering wanders	Excessive clearance in the ball joints of the steering connecting rods	Inspect and replace
	Leaking power cylinder	Eliminate the leak
	Control valve spool stuck or worn	Replace the spool
	Damaged or worn metering element	Replace the metering element
Front wheels oscillating when steering	Leaking power cylinder	Eliminate the leak
	Control valve spool stuck	Replace the spool
	Damaged or worn metering element	Replace the metering element
Noisy pump	Incorrect oil level in the tank	Fill with the correct oil type and quantity
	Air in the system	Check for loose connections or damaged lines Drain the oil from the system
	Water in oil	Drain and change the oil
	Worn pump	Replace the pump

Vibration Drum - Troubleshooting

Problem	Possible Cause	Correction
Vibration drum temperature exceeding	Drum bearing left-hand side and right-hand side housing temperature exceeding **120 °C** (**248 °F**)	Check bearing support for any damage, lubricate if required

9 - SPECIFICATIONS

Technical feature of the machine

Machine

The front roller frame of this vibratory soil compactor is connected to the rear machine frame by means of an articulation joint. The roller frame is a welded construction and mounted vibration proof with anti vibration pads at the drum. The rear frame is also a welded construction with a box shaped hollow space at the rear end serving as fuel tank. There is an operator's stand with sun roof on top, with the operating and control equipment located on the front part of the operator platform.

Engine

The water cooled, 4 cylinders, inline diesel engine is mounted on the rear chassis in the longitudinal direction. For engine specifications, see **9-4**. Optimum combustion air filtering is guaranteed by dry type, dual element air filter provided with air filter clog indicator. The travel pump is mounted at the flywheel and the vibration pump is mounted at the back of travel pump and coupled to engine through flexible coupling. The engine draws fuel from the fuel tank with a tank capacity of **235.0 L** (**62.1 US gal**) mounted on the rear frame.

Hydraulic system

The machine works with the closed loop hydraulic system. A hydraulic oil tank with capacity of **70 L** (**18 US gal**) supplies hydraulic oil to the steering pump mounted on the engine and to the charge pumps in-built on vibration pump. The charge pumps inject oil in the return line of closed loop circuit to take care of hydraulic oil losses.

A portion of the oil from the closed loop system is passed through the hydraulic oil cooler mounted on rear frame to achieve the optimum hydraulic oil cooling.

Travel

The travel pump mounted at the flywheel side of the engine supplies hydraulic oil to the rear axle motors and to the front drum motor via hoses. The drum drive motor is coupled to the roller drum and the axle motor is coupled to the rear axle thereby propelling the machine. The forward and reverse travels are achieved by changing the direction of flow to the motors.

Travel speed range (**0 – 11.5 km/h** (**0 – 7.1 mph**)) and working speed range (**0 – 5.5 km/h** (**0 – 3.4 mph**)) are archived using dual displacement axle motors and the speed range is selected by a rocker switch on the control panel.

Drum drive motors are available only in DD and PD versions.

Vibration

The vibration pump coupled to the travel pump supplies hydraulic oil to the vibration motor via hoses. The vibration motor in turn drives the shaft thereby vibrating the roller. Dual frequency and dual amplitude are achieved by changing the speed and direction of rotation of vibration motor. Mode of vibration is selected by using the rocker switch provided on the control panel.

Steering system

The steering pump mounted on the engine supplies oil to the steering cylinders via the orbital unit located below the operator's platform. The steering cylinders are connected to the rear frame and their piston rods are connected to the articulation joint, which is connected to the roller.

Electrical system

The electrical system consists of a battery, a starter motor and an alternator on the engine. Control panel and other monitoring facilities available in the machine.

The lighting system includes two head lamps with parking light at the front and at the rear.

Brakes

The hydrostatic system constitutes the service brake thus a separate service brake is not required. Spring loaded disc brakes are provided in Rear axle

Operator's area

The operator's area is equipped with one seat. A sunroof is provided above the seat which provides protection against sunlight during operation for canopy versions. Seat is so positioned that the operator can easily watch the LH and RH drum edge during forward and reverse travel. The seat can also rotate **90°** to the right side for better visibility.

The operator's area is equipped with one seat. Seat is so positioned that the operator can easily watch the LH and RH drum edge during forward and reverse travel. The seat can also rotate **90°** to the right side for better visibility.

Keys and tools

The following keys are provided with the machine:

- Ignition key
- Key for the tool box
- Key for battery cover
- Key for glove compartment

Different operating modes

- Travel in the forward and reverse direction.
- Left hand and right hand turn.
- Working speed is **0 – 5.5 km/h** (**0 – 3.4 mph**) in working speed mode and **0 – 11.5 km/h** (**0 – 7.1 mph**) in transporting speed mode
- Dual vibration modes
  - High frequency low amplitude
  - Low frequency high amplitude

General specifications

Specifications			1107EX	1107EX-D 1110EX-D	1107EX-PD 1110EX-PD
Vibration			Dual mode	Dual mode	Single mode
Propulsion			Rear axle drive	Front drum drive + Rear axle drive	Front drum drive + Rear axle drive
Steering			Hydraulic steering with articulation	Hydraulic steering with articulation	Hydraulic steering with articulation
Brake	Service brake		Hydrostatic	Hydrostatic	Hydrostatic
	Parking brake		Spring applied normally engaged and hydraulically disengaged type	Spring applied normally engaged and hydraulically disengaged type	Spring applied normally engaged and hydraulically disengaged type
Operating weight (non ROPS canopy)			**10780 kg** (**23766 lb**)	**11030 kg** (**24317 lb**)	**12460 kg** (**27470 lb**)
Axle loads	Front		**6220 kg** (**13713 lb**)	**6470 kg** (**14264 lb**)	**7900 kg** (**17417 lb**)
	Rear		**4560 kg** (**10053 lb**)	**4560 kg** (**10053 lb**)	**4560 kg** (**10053 lb**)
Static linear load	Front		**29 kg/cm**	**30 kg/cm**	-
Operating weight (ROPS canopy)			**11095 kg** (**24460 lb**)	**11345 kg** (**25011 lb**)	**12775 kg** (**28164 lb**)
Axle loads	Front		**6210 kg** (**13691 lb**)	**6460 kg** (**14242 lb**)	**7890 kg** (**17394 lb**)
	Rear		**4885 kg** (**10770 lb**)	**4885 kg** (**10770 lb**)	**4885 kg** (**10770 lb**)
Static linear load	Front		**29 kg/cm**	**30 kg/cm**	-
Operating weight (ROPS cab)			**11200 kg** (**24692 lb**)	**11450 kg** (**25243 lb**)	**12880 kg** (**28396 lb**)
Axle loads	Front		**6370 kg** (**14043 lb**)	**6620 kg** (**14595 lb**)	**8050 kg** (**17747 lb**)
	Rear		**4830 kg** (**10648 lb**)	**4830 kg** (**10648 lb**)	**4830 kg** (**10648 lb**)
Static linear load	Front		**30 kg/cm**	**31 kg/cm**	-
Centrifugal force	Stage 1		**26887 kgf**	**26887 kgf**	**26887 kgf**
	Stage 2		**14888 kgf**	**14888 kgf**	-
Travel speed	Work Mode	F1 /R1	**0.0 – 4.0 km/h** (**0.0 – 2.5 mph**)	**0.0 – 4.0 km/h** (**0.0 – 2.5 mph**)	**0.0 – 4.0 km/h** (**0.0 – 2.5 mph**)
		F2 /R2	**4.0 – 5.5 km/h** (**2.5 – 3.4 mph**)	**4.0 – 5.5 km/h** (**2.5 – 3.4 mph**)	**4.0 – 5.5 km/h** (**2.5 – 3.4 mph**)
	Travel Mode	F1 /R1	**0.0 – 8.4 km/h** (**0.0 – 5.2 mph**)	**0.0 – 8.4 km/h** (**0.0 – 5.2 mph**)	**0.0 – 8.4 km/h** (**0.0 – 5.2 mph**)
		F2 /R2	**8.4 – 11.5 km/h** (**5.2 – 7.1 mph**)	**8.4 – 11.5 km/h** (**5.2 – 7.1 mph**)	**8.4 – 11.5 km/h** (**5.2 – 7.1 mph**)
Gradability (at **2 – 3 km/h** work speed)	Degree		**17°**	**20°**	**20°**
	Percent		**31%**	**36%**	**36%**

Engine specifications

Make	FPT		
Model	S8000		
Bore	**104.0 mm** (**4.1 in**)		
Stroke	**115.0 mm** (**4.5 in**)		
Displacement	**3908 cm³** (**238 in³**)		
Nature of aspiration	TCA		
Gross power (ISO 14396)	Partially covered engine hood		Full engine hood
	Canopy	Cab	Canopy/Cab
	74.5 kW (**100.0 Hp**) @ **2200 RPM**	**82 kW** (**109.9 Hp**) @ **2300 RPM**	**82 kW** (**109.9 Hp**) @ **2300 RPM**
Direction of rotation	Counter clockwise (viewed from flywheel)		
Type of fuel pump	Rotary		
Type of air filter	Duel element dry type		
Type of governing	Mechanical		
Starting system	**3 kW** starter motor for non-cold start **3.5 kW** starter motor for cold start		
Lubrication system	Forced lubrication		
Engine high idle speed (No load on vehicle)	**2150 +/- 25 RPM**		
Engine low idle speed (No load on vehicle)	**950 +/- 50 RPM**		

Travel hydraulic system

System type	Hydraulic systems acting on front drum and rear wheels
Travel pump	
Type	Infinitely variable axial piston positive displacement pump with MDC
Displacement	**75 cm³/rev**
Charge pressure setting at **2200 RPM**	**22.0 bar** (**319.0 psi**)
Drum drive motor	Fixed displacement, radial piston motor
Axle drive motor	Dual displacement, bent axis, axial piston

Vibration hydraulic system

Vibration system	Hydrostatic system acting on front drum
Standard **32 mm** thickness drum	
Stage 1 (**31 Hz**)	High exciter force, low frequency, high amplitude (**1.8 mm**)
Stage 2 (**34 Hz**)	Low exciter force, high frequency, low amplitude (**0.8 mm**)
Optional **25 mm** thickness drum	
Stage 1 (**31 Hz**)	High exciter force, low frequency, high amplitude (**2.0 mm**)
Stage 2 (**34 Hz**)	Low exciter force, high frequency, low amplitude (**0.9 mm**)
Drum oscillation angle	**15°**
Pump	
Type	Bidirectional axial piston pump
High frequency displacement setting (fixed type)	**42.9 cm³/rev**
Low frequency displacement setting (adjustable type)	**33 cm³/rev**
Rated pressure	**245.0 bar** (**3552.5 psi**)
Maximum system pressure	**345.0 bar** (**5002.5 psi**)
Case pressure	**1.7 bar** (**24.6 psi**)
Maximum case pressure (cold start)	**5.2 bar** (**75.4 psi**)
Relief valve setting	**22.0 bar** (**319.0 psi**) at **2200 RPM**
Kind of exciter	Single shaft with two floating masses for dual amplitude
Vibration motor	
Type	Axial piston motor
Rated pressure	**345.0 bar** (**5002.5 psi**)
Maximum system pressure	**415.0 bar** (**6017.5 psi**)
Case pressure	**1.7 bar** (**24.6 psi**)
Maximum case pressure (cold start)	**5.2 bar** (**75.4 psi**)
Vibration circuit	**34500 kPa** (**345 bar**) (SD Pump)

Steering system

Type	Hydrostatic system acting via the steering wheel, steering unit and steering cylinders mounted in the articulated joint
Steering pump	Gear type
Displacement	**15.7 cm³/rev**
Rated pressure	**140–150 bar**
Maximum pressure	**190 bar**
Articulation angle	**30°**
Turning circle diameter	**11.0 m**
Turning clearance diameter	**12.1 m**

Electrical system

Battery	**12 V**, **130 A·h**
Alternator	**12 V**, **65 A** / **12 V**, **105 A**
Starter motor	Non cold start - **3 kW** Cold start - **3.5 kW**

Heating, Ventilation and Air-Conditioning (HVAC) unit (If equipped)

HVAC system	
Evaporator power consumption	**8.28 kW** at **500 m³/hr** air flow
Blower output	**492 m³/hr**
Louver	04 louvres adjustable with closed position on side post LH & RH for HVAC; 02 louvres on rear side; 04 louvres on front console; 01 louvre on overhead console
Compressor	
Belt type	A type
Recommended refrigerant and type	HFC-134a
Heater system	
Power consumption	**12.98 kW** at **600 m³/hr** air flow
Blower output	**492 m³/hr**

Brakes

Service brake	Hydrostatic
Parking brake	Spring applied normally engaged and hydraulically disengaged type

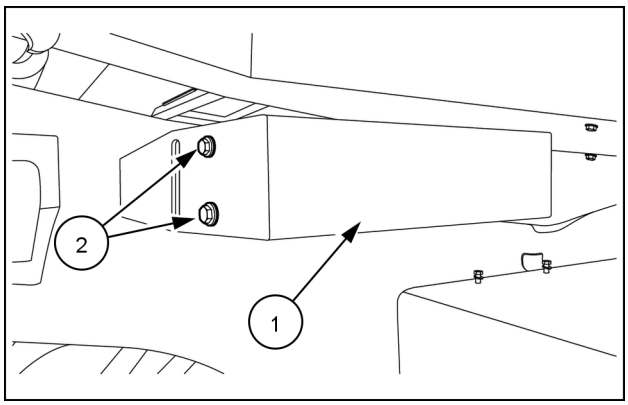
Capacities

Fuel tank	**235 L** (**62 US gal**)
Hydraulic oil tank	**70 L** (**18 US gal**)
Total hydraulic oil capacity (Including hydraulic tank)	**104 L** (**27 US gal**)
Engine oil (without oil filter change)	**8.6 L** (**2.3 US gal**)
Engine oil (with oil filter change)	**9.1 L** (**2.4 US gal**)
Rear axle oil	**14.5 L** (**3.8 US gal**)
Rear axle reduction gear housing oil (Including planetary housing) left-hand side	**1.3 L** (**0.3 US gal**)
Rear axle reduction gear housing oil (Including planetory housing) right-hand side	**1.3 L** (**0.3 US gal**)
Exciter chamber	**23.5 L** (**6.2 US gal**)
Auxiliary drum (for STD model)	**4 L** (**1.1 US gal**)
Engine coolant	**15 L** (**4.0 US gal**)
Windshield wash reservoir (If equipped)	**1.9 L** (**2.0 US qt**)

Fuse and relay box - General specification

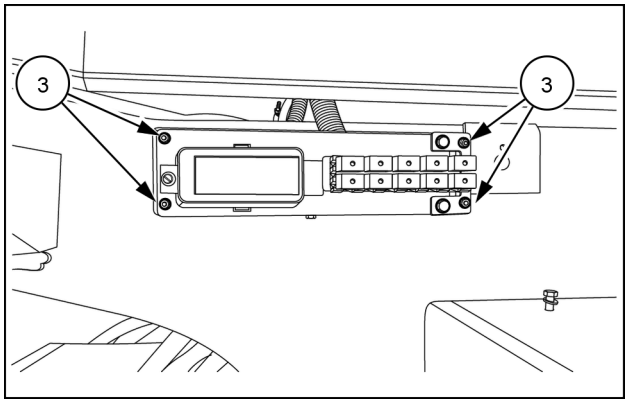
The fuse and relay box **(1)** is located below the operator platform.

Remove the relay cover by loosening and removing the bolts **(2)** along with the washers, to gain access to the relay and fuse box.



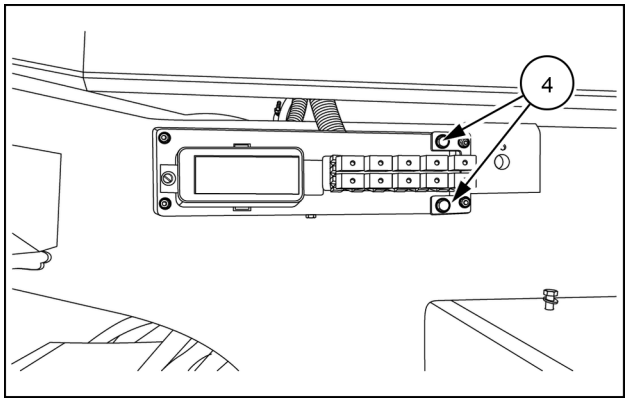
PTIL18COM0051AA 1

Remove the relay mounting bracket by loosening and removing the nuts **(3)** along with the washers.



PTIL18COM0052AA 2

If required, loosen and remove the bolts **(4)** along with the nuts & washers.



PTIL18COM0052AA 3

The fuse designations are as show in the image.

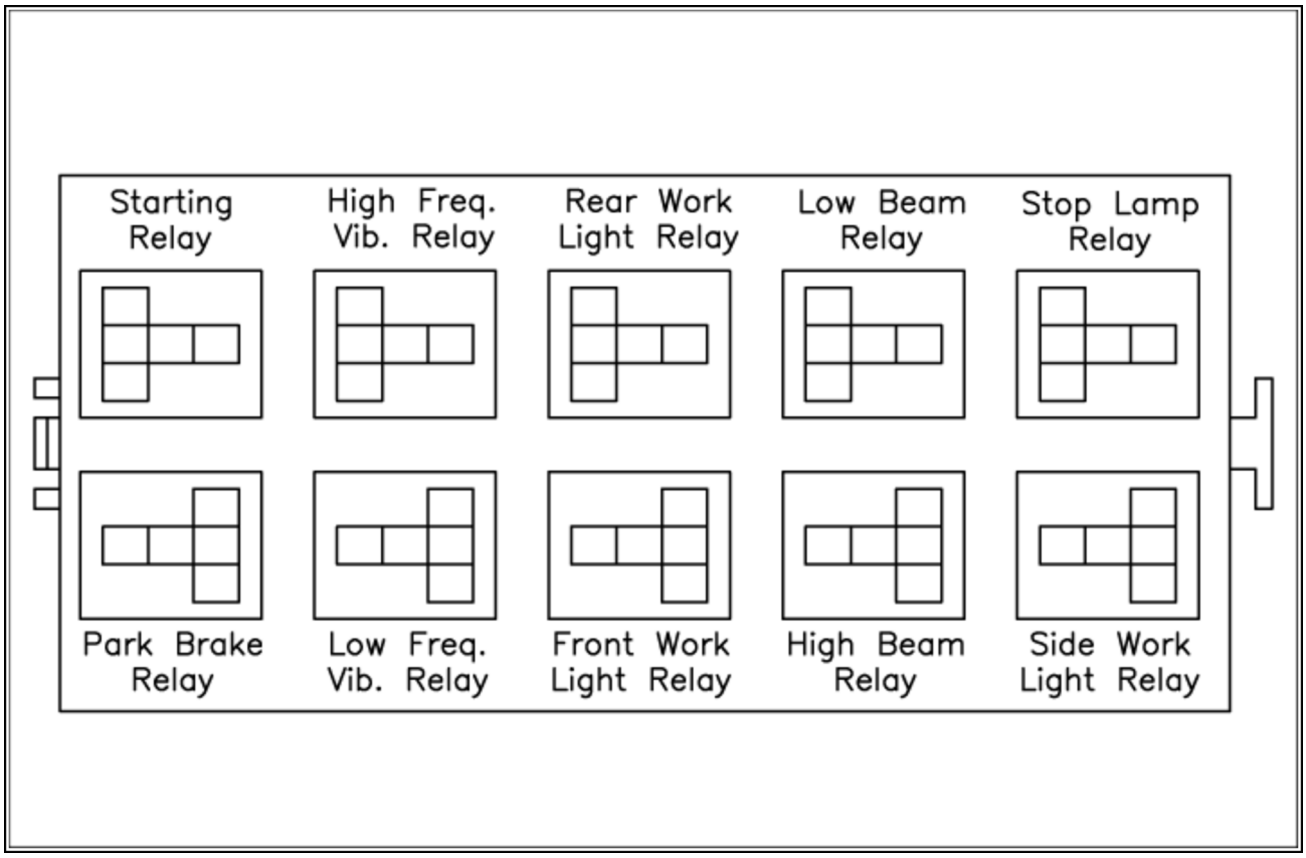
	12	11	10	9	8	7	6	5	4	3	2	1	
A12	10A Hazard		15A High Beam		15A Low Beam		15A Side Work Lamp		10A Charger Soc.				A1
B12	10A Stop Lamp		10A Horn				10A FIP Sol.		10A Telematics				B1
C12	10A Parking / Position		15A Front Work Lamp		15A Low Freq.		10A Cluster						C1
D12	10A Two Speed		15A Rear Work Lamp		15A High Freq.		10A Hr. Meter		10A Radio		10A Fan & Roof Lamp		D1
E12	10A Rev. Buzzer		15A Park Lamp		10A Hazard		20A HVAC		10A Rear Wiper Motor & Washer		10A Front Wiper Motor & Washer		E1

PTIL24COM0112AB 4

S.NO	Description	Fuse	S.NO	Description	Fuse
1.	Hazard	**10 A**	14.	Two speed	**10 A**
2.	High beam	**15 A**	15.	Rear work lamp	**15 A**
3.	Low beam	**15 A**	16.	High frequency	**15 A**
4.	Side work lamp	**15 A**	17.	Hour meter	**10 A**
5.	Charger socket	**10 A**	18.	Radio	**10 A**
6.	Stop lamp	**10 A**	19.	Fan & roof lamp	**10 A**
7.	Horn	**10 A**	20.	Reverse buzzer	**10 A**
8.	FIP Solenoid	**10 A**	21.	Park lamp	**15 A**
9.	Telematics	**10 A**	22.	Hazard	**10 A**
10.	Parking & Position	**10 A**	23.	HVAC	**20 A**
11.	Front work lamp	**15 A**	24.	Rear wiper motor & washer	**10 A**
12.	Low frequency	**15 A**	25.	Front wiper motor & washer	**10 A**
13.	Cluster	**10 A**			

NOTE: *18, 19, 24 and 25 are applicable only for CAB model.*

4. The relay designations are as show in the image.



PTIL15COM2186FA 5

Machine operation

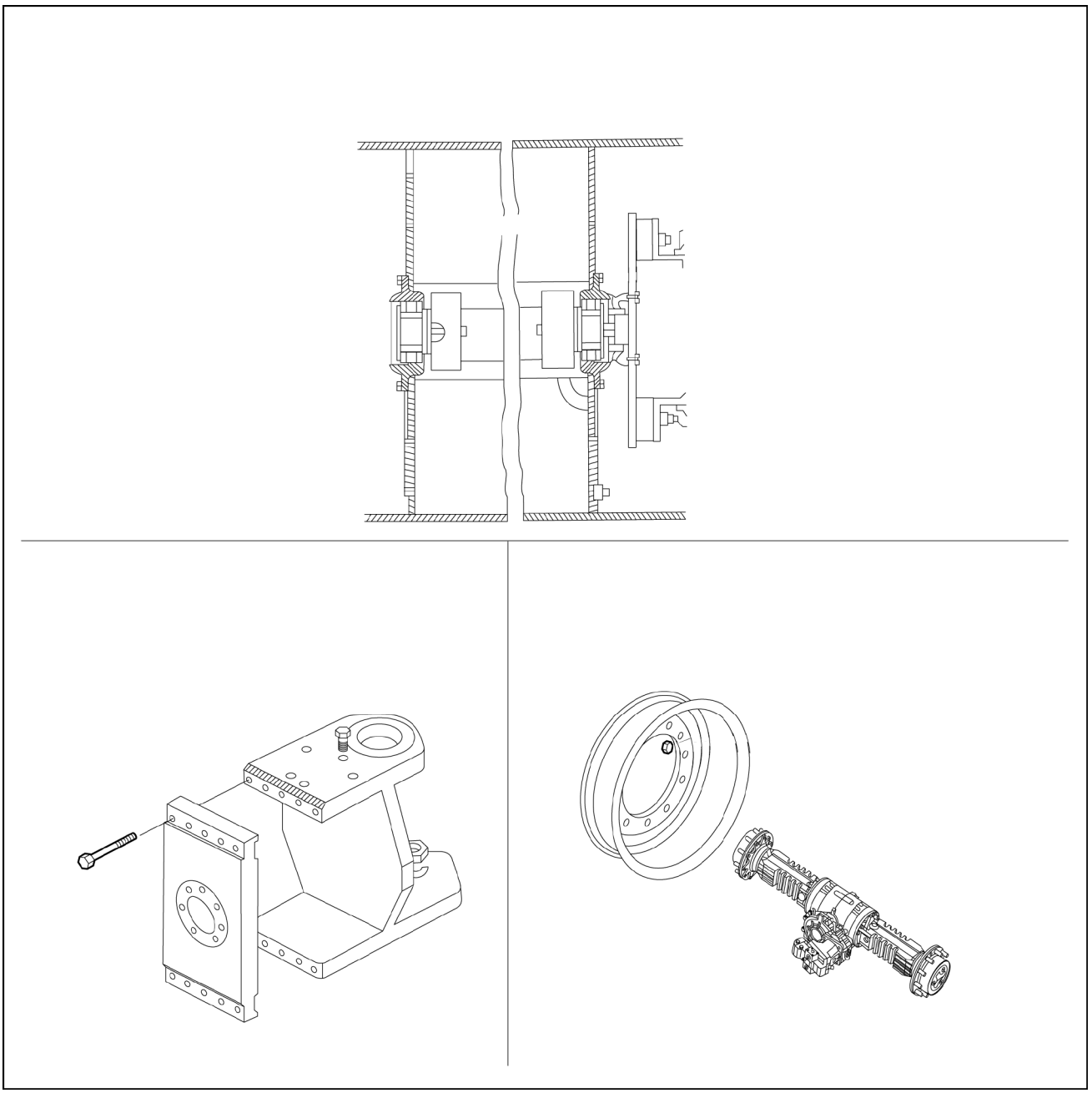
Uses in practice: Construction of roads, air fields, sports ground, dams and similar projects

Compacting works

Compaction of

- Rock
- Sand and gravel
- Clay (pad foot drum is preferable)
- Sub base and base courses
- Silt and silty soils

Special torques



PTIL15COM2191GA 1

1	Coupling to engine flywheel	**5.0 kgm** (**36.2 ftlbs.**)
2	Adapter mounting to pump	**11.0 kgm** (**79.6 ftlbs.**)
3	Adapter mounting to engine flywheel	**5.0 kgm** (**36.2 ftlbs.**)
4	Coupling mounting onto pulley	**4.0 kgm** (**28.9 ftlbs.**) (Not shown)
5	Pump onto Power Take-Off (PTO)	**5.0 kgm** (**36.2 ftlbs.**) (Not shown)
6	Adapter mounting onto Power Take-Off (PTO)	**7.0 kgm** (**50.6 ftlbs.**) (Not shown)
7	Exciter bearing housing to the drum	**23.0 kgm** (**166.4 ftlbs.**)
8	Articulation joint top plate	**25.7 kgm** (**185.9 ftlbs.**)
9	Articulation joint front plate	**40.2 kgm** (**290.8 ftlbs.**)
10	Wheel nut	**71.0 kgm** (**513.5 ftlbs.**)

Torque specifications

Size	Grade 8.8	Grade 10.9	Grade 12.9
M5	5.5 N·m (4 lb ft)	7.5 N·m (5.5 lb ft)	9 N·m (6.6 lb ft)
M6	9 N·m (6.6 lb ft)	12.5 N·m (9.2 lb ft)	15 N·m (11 lb ft)
M8	22.5 N·m (16.5 lb ft)	31.5 N·m (23 lb ft)	36 N·m (26.5 lb ft)
M10	44 N·m (32 lb ft)	62 N·m (45 lb ft)	75 N·m (55 lb ft)
M12	77.5 N·m (57 lb ft)	110 N·m (81 lb ft)	130 N·m (95 lb ft)
M14	120 N·m (88 lb ft)	170 N·m (125 lb ft)	210 N·m (155 lb ft)
M16	190 N·m (140 lb ft)	265 N·m (195 lb ft)	320 N·m (236 lb ft)
M18	260 N·m (192 lb ft)	365 N·m (269 lb ft)	435 N·m (320 lb ft)
M20	370 N·m (273 lb ft)	520 N·m (383 lb ft)	620 N·m (457 lb ft)
M22	500 N·m (369 lb ft)	700 N·m (516 lb ft)	840 N·m (619 lb ft)
M24	640 N·m (471 lb ft)	900 N·m (665 lb ft)	1080 N·m (796 lb ft)
M27	950 N·m (702 lb ft)	1350 N·m (996 lb ft)	1620 N·m (1195 lb ft)
M30	1300 N·m (955 lb ft)	1800 N·m (1328 lb ft)	2160 N·m (1593 lb ft)

Unions, connections and plugs

Diameter * Pitch	
M10 x 1	20.0 N·m (14.8 lb ft)
M12 x 1.5	35 N·m (26 lb ft)
M14 x 1.5	45 N·m (33.2 lb ft)
M16 x 1.5	60 N·m (44 lb ft)
M18 x 1.5	70 N·m (52 lb ft)
M22 x 1.5	100 N·m (74 lb ft)
M27 x 2	200 N·m (148 lb ft)
M33 x 2	280 N·m (207 lb ft)
M42 x 2	380 N·m (280 lb ft)

Nuts for pipes and hoses

Diameter * Pitch	
M16 x 1.5	20 N·m (14.8 lb ft)
M18 x 1.5	35 N·m (26 lb ft)
M20 x 1.5	45 N·m (33.2 lb ft)
M24 x 1.5	60 N·m (44 lb ft)

Flanges

Diameter * Pitch	
M18 x 1.5	28 N·m (21 lb ft)
M10 x 1.5	55 N·m (41 lb ft)
M12 x 1.75	90 N·m (66 lb ft)
M14 x 2	145 N·m (107 lb ft)
M16 x 2	230 N·m (170 lb ft)

10 - ACCESSORIES

Telematics (Eagle eye) - If equipped

NOTE: *The CASE CONSTRUCTION Eagle eye will not be accessible until the CASE CONSTRUCTION Eagle eye subscription for this machine is registered by an authorized CASE CONSTRUCTION dealer. Contact an authorized CASE CONSTRUCTION dealer for details.*

This machine may be equipped with a Telematics system. This is an asset-monitoring system that combines Internet, cellular, and GPS technologies. A transponder unit is mounted on the equipment that does wireless communication with the user interface CASE CONSTRUCTION Eagle eye. Using cellular technology, the transponder can send equipment data, including location, on/off status, usage and production matrix, diagnostic data, movement alarms, unauthorized usage and monitor machine maintenance to the user interface CASE CONSTRUCTION Eagle eye. The system will help cut costs and keep accurate records.

Below are the parameters that can be monitored through eagle eye.

1. Hour meter reading (HMR)
2. Engine RPM
3. Fuel level
4. Battery voltage
5. Engine oil pressure
6. Coolant temperature
7. Hydraulic filter status
8. Low frequency
9. High frequency
10. Air filter status

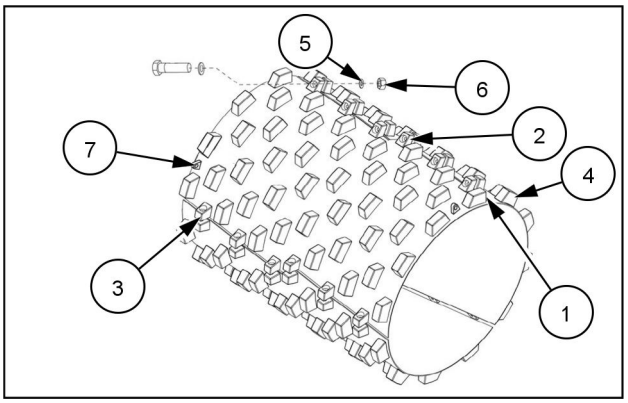
Padded drum shell (if equipped)

Except Latin America

Pad drum shell **(1)** in three piece design can be used as an attachment on drum drive variants.

NOTE: *In order to install the padded drum shell, the front cross beam needs to be replaced with padded cross beam.*

NOTICE: *For the padded drum version, electrical connection for the Low Frequency mode will be kept disconnected from the Vibration pump. When converting the machine from padded drum to drum drive, electrical connections can be re-established.*



PTIL21COM0339AB 1

S. No	Quantity	Description
1.	3	Plate
2.	18	Bolt, M20 x 180 class 10.9 PHC
3.	36	Pad bolting foot
4.	126	Pad foot
5.	36	Washer, hardened 21 x 50 x 6mm, ZND
6.	18	Nut, prev torque, non MTL M20 8 ZND
7.	6	Lifting lug for 1107 PD segment

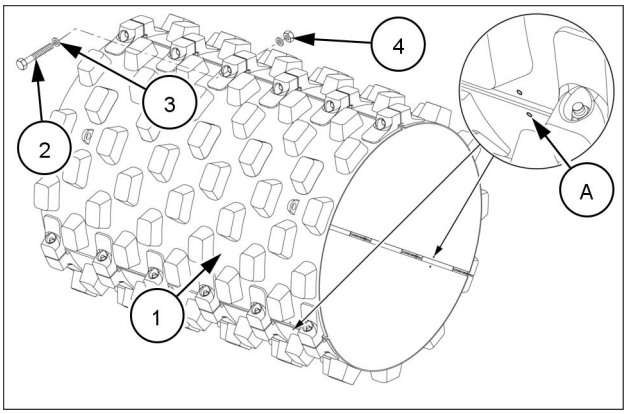
NOTE: *Check and torque the bolts* ***(2)*** *to a torque of* ***42.0 kgm*** *(****303.8 ftlbs.****).*

Pad drum roller **(1)** in three piece design can be used as an attachment on drum drive variants.

NOTE: *In order to install the padded drum shell, the front cross beam needs to be replaced with padded cross beam.*

NOTICE: *For the padded drum version, electrical connection for the Low Frequency mode will be kept disconnected from the Vibration pump. When converting the machine from padded drum to drum drive, electrical connections can be re-established.*

NOTE: *Holes* ***(A)*** *to be aligned during installation on drum.*



PTIL23COM1898AB 2

S. No	Quantity	Description
1.	3	Pad WA, drum segment CEGR
2.	18	Bolt, M20 x 180 class 10.9 PHC
3.	36	Washer, hardened 21 x 50 x 6mm, ZND
4.	18	Nut, prev torque, non MTL M20 8 ZND

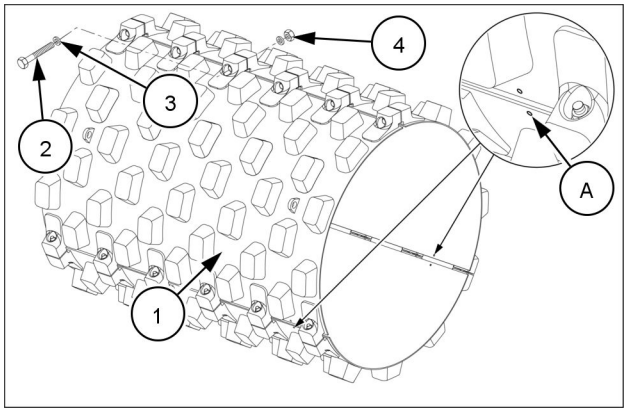
NOTE: *Check and torque the bolts* ***(2)*** *to a torque of* ***27.8 kgm*** *(****201.1 ftlbs.****).*

Only Latin America

Pad drum roller **(1)** in three piece design can be used as an attachment on drum drive variants..

NOTE: *In order to install the padded drum shell, the front cross beam needs to be replaced with padded cross beam.*

NOTE: *Holes **(A)** to be aligned during installation on drum.*



PTIL23COM1898AB 3

S. No	Quantity	Description
1.	3	Pad WA, drum segment CEGR
2.	18	Bolt, M20 x 180 class 10.9 PHC
3.	36	Washer, hardened 21 x 50 x 6mm, ZND
4.	18	Nut, prev torque, non MTL M20 8 ZND

NOTE: *Check and torque the bolts **(2)** to a torque of **27.8 kgm** (**201.1 ftlbs.**).*

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Dealer's stamp

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Availability of some models and equipment builds varies according to the country in which the equipment is being used. For exact information about any particular product, please consult your CASE CONSTRUCTION dealer.

CASE CONSTRUCTION