Tigercat®

H250D HARVESTER

OPERATOR'S MANUAL

SERIAL NUMBER 250H2201–250H3000

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Tigercat H250D Harvester

SECTION 1–SAFETY

Read and understand the entire contents of this manual, and all manuals for any attachments or accessories associated with this machine, prior to operating or servicing this equipment.

CONTENTS–SECTION 1

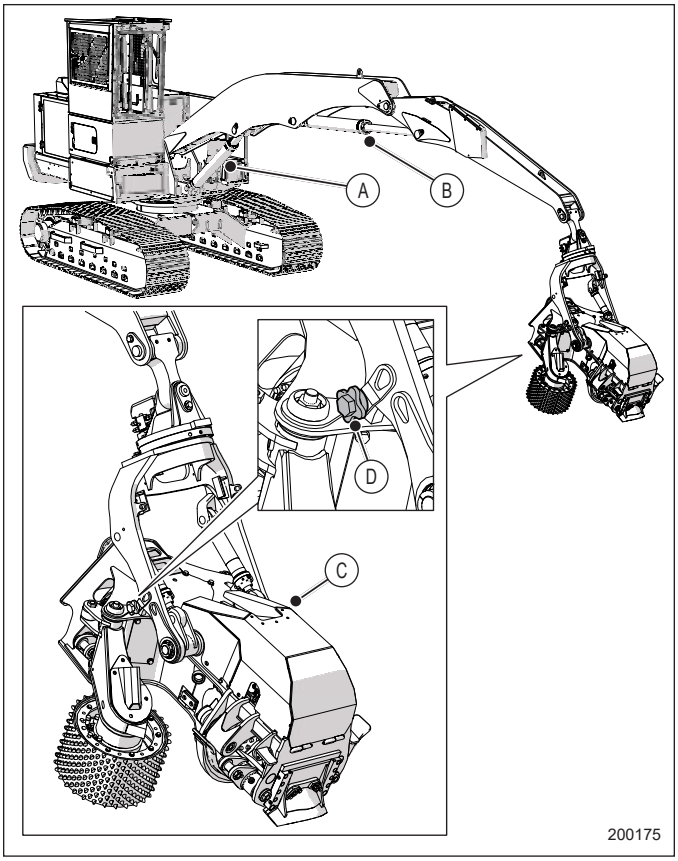
ISSUE 1.1, APRIL 2017

PARKING THE MACHINE

Park the machine in a cleared area at least 15 m (50 ft) away from other equipment. In the event of a fire, this distance will minimize the chance of the fire spreading to other equipment.

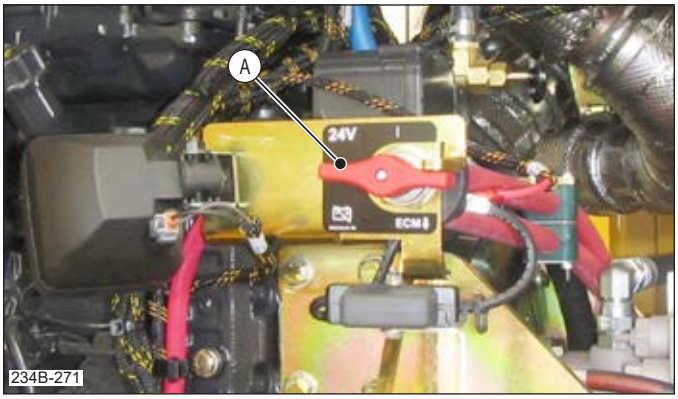
Before leaving the cab for any reason, always lower the attachment onto the ground.

Perform the following steps when parking the machine:



Parking the Boom
A Hoist Cylinder Lowered
B Stick Cylinder Extended
C Attachment in Parked Position
D Tilt Locks in Position on Both Sides

1. Park on level ground with the attachment tilted forward and locked in position with the wheel arms open and the knife arms closed.
2. Apply the swing brake.
3. Turn OFF the engine.
4. Remove the ignition key.



A Battery Disconnect Switch–Front Engine Compartment

5. Turn OFF the battery disconnect switch if required by the servicing procedure or if the vehicle is to be parked for an extended period of time, such as overnight.

This switch completely disconnects all electrical circuits (see notes below) on the machine from the batteries and is located just inside the engine compartment front access panel. It is good practice to turn this switch to OFF when the machine is left idle for an extended period of time, such as overnight.

NOTE: When the engine is stopped all DEF is pumped back to tank before the engine power system is turned off. This process takes approximately 90 seconds.

Refer to AFTERTREATMENT SYSTEM in SECTION 3 for more information.

NOTE: The aftertreatment system and its related components are applicable to Tier 4f machines only.

When transporting the machine, enough clearance must be available on both sides and above the machine or any of its attachments to avoid contact with power or telephone lines, bridge structures, etc.

Before transporting the machine, check that all doors, panels and access covers are installed properly and secured. Improperly secured doors or panels pose a serious danger to pedestrians and other vehicles.

GREASE INJECTION INJURY WHEN USING PNEUMATIC GREASE GUNS

Pneumatic grease guns can deliver grease at pressures from 17–400 bar (246–5801 psi). It takes less than 7 bar (100 psi) to inject a substance through human skin.

ALWAYS get professional medical treatment immediately after any type of injection injury.

Provide the physician with information on the type of grease, the pressure setting of the gun, and similar details.

The amount of fluid injected, type of fluid (or material), pressure at which it was injected, and the elapsed time between injection and surgery all influence the chances of successful treatment for this type of serious injury.

Prior to using a high pressure pneumatic grease gun perform the following:

- All operators of high pressure pneumatic grease guns MUST be trained in the hazards of its operations and the treatment for such injuries.
- Do not operate a high pressure pneumatic grease gun unless you have been trained in the proper operation and are aware of all safety precautions of such a tool.
- Wear protective clothing such as gloves, safety hat and safety glasses.
- Inspect all parts of the grease gun for wear and tear and replace all worn or damaged parts.
- Install protective shrouds on all grease gun nozzles as safety devices.
- Remove dirt and grease from grease fittings prior to greasing.
- Replace any defective grease fittings on equipment with new fittings immediately.
- When badly positioned fittings are identified, replace them with angled or swivel fittings for easier access.

EMERGENCY EXIT, HAND TIGHTEN ONLY

This label indicates that the escape hatch can also be used as an emergency exit.

The label also indicates that the escape hatch knobs are to be hand tightened only to allow for easy exit.

Ensure all exit locations are functioning properly.

Refer to CAB EXITS in THIS SECTION.

Refer to EMERGENCY EXIT in SECTION 2.

FIRST AID KIT

This label indicates a location in the cab for storage of a first aid kit.

ENGINE IDLE SPEED SWITCH

This is a three-position momentary switch connected to the engine ECU circuit to adjust the engine speed between the (LOW IDLE) and (HIGH IDLE) speed set points.

NOTE: Engage the interlock reset to increase engine speed. When the system is deactivated the engine speed will reset to LOW IDLE.

Press and hold this switch in the position to increase engine speed. Release switch at desired speed or continue to hold to place engine at the correct HIGH IDLE setting.

Press and hold this switch in the position to decrease engine speed. Release switch at desired speed or continue to hold to place engine at the correct LOW IDLE setting.

NOTE: Perform all operations at HIGH IDLE speed setting.

MAINTAINING CORRECT ENGINE SPEED

It is most important that the LOW IDLE and HIGH IDLE speeds of the engine be correct at all times:

- LOW IDLE: 1000–1250 rpm (No Load) Factory Default is 1000 rpm
- HIGH IDLE: 1600–1850 rpm max. (No Load) Factory Default is 1850 rpm

NOTE: At start-up the engine will always default to LOW IDLE.

These speeds are with the hydraulic and engine oil at normal operating temperatures and no functions activated. These values are preset into the engine ECU and cannot be adjusted without the proper electronic programming software equipment.

AUTO IDLE DOWN

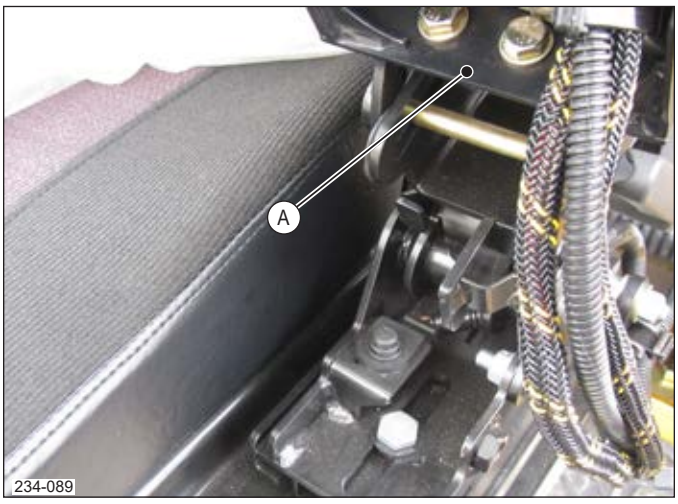
If the engine is set to run at HIGH IDLE and no functions are activated for 10 seconds, the engine will idle down. The engine will return to the set idle speed as soon as a function is activated. The idle down wait time is adjustable through the machine parameters menu.

PILOT RESET SWITCH

This function is provided to prevent accidental or improper use of the controls from anywhere but the operators seat.

With the engine running and the left armrest DOWN, push this switch to REACTIVATE the pilot system after it has been deactivated by raising the left armrest, or by turning the ignition key switch to the OFF position.

INTERLOCK SWITCH–LEFT ARMREST



A Left Armrest Shown in the UP Position

When the left armrest is placed in the UP position, a limit switch shuts off the pilot system, deactivating all operating functions. When the left armrest is placed in the DOWN position, the limit switch closes and turns the pilot system ON.

The operating functions are NOT reactivated until the PILOT RESET SWITCH is pressed.

COMPUTER CONTROL SYSTEM

A	Alarm Light	H	F1
B	Master Alarm	I	F2
C	Computer	J	F3
D	Computer Display	K	F4
E	Arrow (Scroll) Up	L	ESC (Back)
F	OK (Enter)	M	Menu
G	Arrow (Scroll) Down		

The computer, electronic control and computer display is the operator interface with the electronic control system. The computer is the central unit in the control system which works as both a master controller and a display unit. It has a 90 mm (3.5 in) backlit colour graphic transflective display for reading system information.

The front of the computer consists of a control panel with a display and nine buttons. The buttons are arranged on the bottom and right hand side of the display.

- F1–F4 function buttons, F1, F2, F3, F4.

  Programmed buttons that are configured by program software to bring up a display page, bring up an adjustment group or act as an input.
- UP and DOWN arrow buttons.

Navigation buttons that are used to scroll through selections on a menu page. The buttons are configured by program software to bring up a display page, bring up an adjustment group or act as a virtual input.

- OK button OK.

  Pushing this button equals pressing 'Enter' on a keyboard. This saves the value or confirms the selection you have made.
- Menu button.

  Always brings up the Menu page. It is not programmable.
- BACK button.

  Returns you to the previous display page. May be configured by program software to bring up a display page, bring up an adjustment group or act as a virtual input.

ENGINE

From the ADJUST menu use the UP or DOWN arrow buttons to scroll to the Engine selection and press the OK button to set the selection.

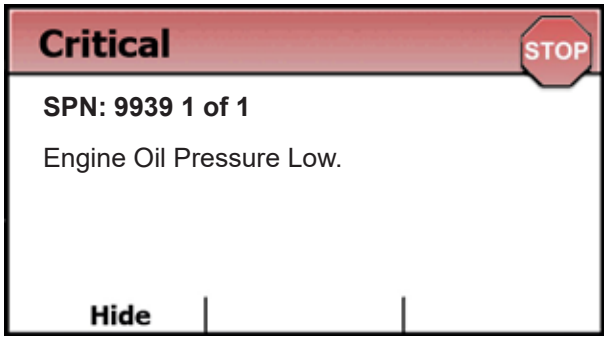
Using the UP or DOWN arrow buttons scroll to Cold Idle Speed and press OK.

COLD IDLE SPEED

The Cold Idle Speed can be adjusted from 1000 – 1400 rpm.

To adjust the value use the UP or DOWN arrow buttons to change the setting and press the OK button to set the value.

ENGINE OIL PRESSURE LOW

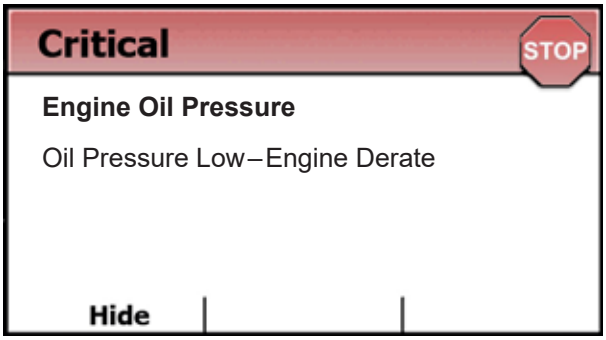


This message will be displayed, alarm light will flash and alarm will sound when engine oil pressure falls below 0.7 bar (10 psi).

Turn OFF the engine when this alarm is activated. Check engine oil levels.

Refer to STARTING ENGINE in THIS SECTION for more information.

ENGINE OIL PRESSURE LOW–ENGINE DERATE



This message will be displayed, alarm light will flash and alarm will sound when and engine derate is triggered due to low engine oil pressure. This message may be accompanied by Engine Fault Code Messages related to engine oil pressure.

This message results in the following derate sequence:

When engine oil pressure readings fall below 1.2 bar (17 psi) for more than 5 seconds this message will be shown and the engine will immediately begin to derate at 50 rpm/s to a set creep speed allowing the operator to safely stop the machine. DO NOT continue to operate machine.

Safely stop the machine and turn the engine OFF. Refer to COMPUTER–MESSAGES–CRITICAL–ENGINE OIL PRESSURE LOW in THIS SECTION for recommended corrective action. If the problem continues contact dealer for service.

When engine oil pressure readings rise above 1.4 bar (20 psi) for more than 5 seconds this message will be turned off and the engine will automatically ramp up engine speed at 50 rpm/s to full operating speed.

NOTE: An ENGINE TORQUE DERATE ACTIVE message will also be triggered as the engine begins to derate. Refer to COMPUTER–MESSAGES–ALERTS–ENGINE TORQUE DERATE ACTIVE.

ERROR MESSAGES (RED)

Error messages advise the operator that a critical machine fault is about to occur or a system fault has occurred.

Error messages are computer system generated and are generally triggered by computer system error and fault related conditions.

Error messages have the second highest level of priority and are used to alert the operator to take immediate action to prevent damage to machine or to ensure operator safety.

Error messages are activated when a fault such as an electrical connection is broken/disconnected. Most error messages are due to computer system hardware or connection faults.

When an error message is displayed, the master alarm and alarm light will sound and flash continuously. The message remains on the screen until the operator hides it.

The message will give brief details of the fault and advise what action is necessary.

In some instances the machine requires immediate action to correct the problem which requires the operator to stop machine operation, shut the engine off and service the machine to correct the problem.

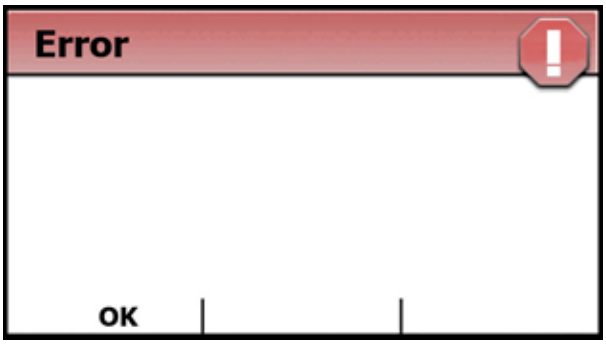
However, if the machine cannot be stopped immediately for safety reasons, the operator can hide the message. In this instance the machine should only be operated long enough to move the machine to a safe location then stop machine operation and shut the engine off before serious machine damage can occur!

Messages are acknowledged by pressing the F2 button (OK). To recall active messages turn ignition key switch off and on. On screen messages will indicate to the operator that an active hardware fault has been hidden.

Error messages flash the Critical symbol or the Alert above the F4 button when active messages are

hidden depending on the type of error message. The symbol will continue to flash until the problem is resolved and the fault becomes inactive.

Active messages that have been hidden can be reviewed by pressing the F4 button.



A list of some types of ERROR MESSAGES is as follows:

Module VREF Error

Voltage Input Error (VIN)

Digital Input Error (DIN)

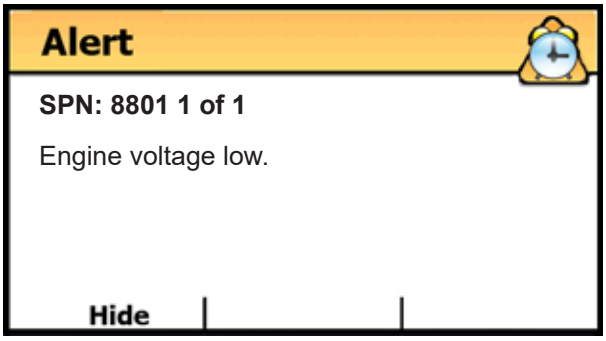
Digital Output Error (DOUT)

Current Output Error (COUT)

Module No Contact Error

NOTE: Not all error messages are shown.

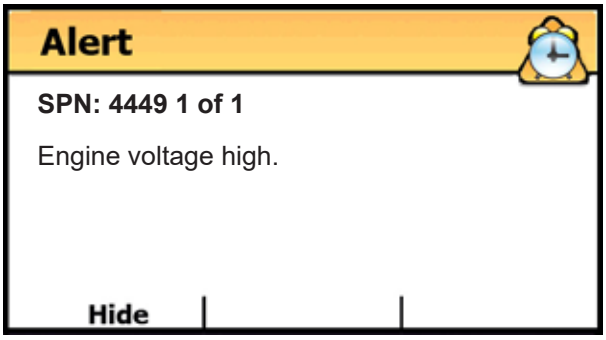
ENGINE VOLTAGE LOW



This message will be displayed when engine voltage readings of less than 22 volts are detected.

When this alarm is activated investigate the cause immediately.

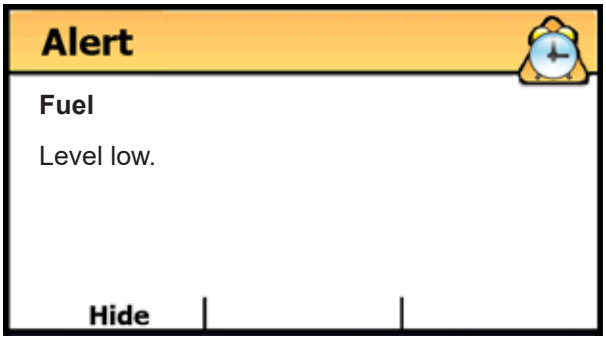
ENGINE VOLTAGE HIGH



This message will be displayed when engine voltage readings of greater than 30 volts are detected.

When this alarm is activated investigate the cause immediately.

FUEL LEVEL LOW



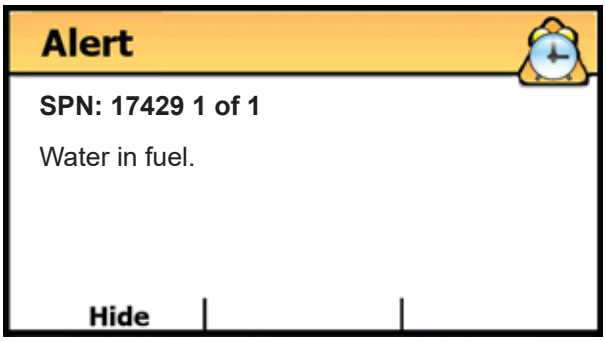
A FUEL Icon

This message will be displayed when the fuel level falls below 5% of full.

The fuel icon changes from white to yellow when the fuel level is low.

Refer to REFUELLING PROCEDURE in SECTION 3.

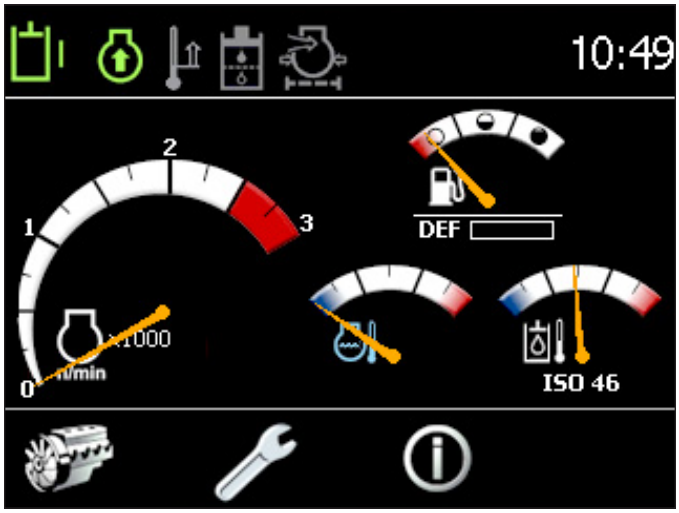
WATER IN FUEL



This message will be displayed when water is detected in the fuel.

When this alarm is activated check the fuel filter/water separator.

20. If cab has been tilted, verify that it is secured to the frame with the locking bolts. Refer to CAB TILT in SECTION 3.



21. Turn ignition key switch on to check fuel and DEF levels on the display. If required, fill with the appropriate fluids.

NOTE: The DEF level indicator is applicable to Tier 4f machines only.

ANTI-STALL

Press the F2 button on the computer to access the anti-stall ON/OFF selection. Use the UP or DOWN arrow buttons to turn anti-stall ON or OFF and press OK.

Selecting Anti-Stall ON turns on an electronic load control system which automatically prevents overloading of the engine when several high load functions are in use at the same time. Turn anti-stall ON during normal machine operation and OFF only when performing service checks on the machine.

If engine stalling occurs, check:

- That the Anti-Stall function is ON.
- For a malfunction of the Anti-Stall system.

Configuration refers to the way your machine is equipped and is therefore something you can control. To minimize undercarriage wear on steel-track machines, always use the narrowest track shoe possible that meets your flotation requirements. If you work in very sticky materials, consider using centre-punched track shoes to reduce material packing in the undercarriage area.

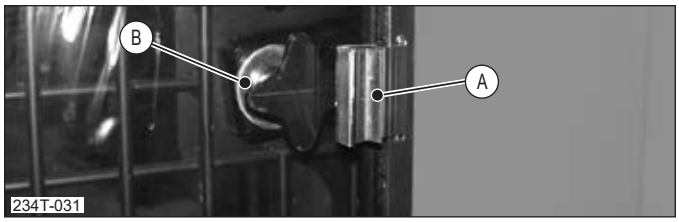
Maintenance discipline plays a big role in undercarriage component life. One of the most critical maintenance practices is track adjustment. Tight track is the number-one track killer. But whether your track is too loose or too tight, improper adjustment accelerates wear which can increase downtime and repair costs. Follow the manufacturer's recommendations for track adjustment, and always perform the adjustment in the machine's working environment. A second important maintenance process is cleaning the undercarriage. To maximize wear life, remove mud and debris at the end of every shift, or more frequently if necessary.

Talk to the experts:

Undercarriage components are expensive! To get long life and maximum value from your investment, consult with a dealer or factory rep that really knows the undercarriage business. Ask for advice on operating techniques. Explore relevant application, material and terrain issues. Fine-tune your maintenance processes. Working together with an undercarriage expert, you can manage your equipment investment over the long term.

CHECK EMERGENCY EXITS MONTHLY

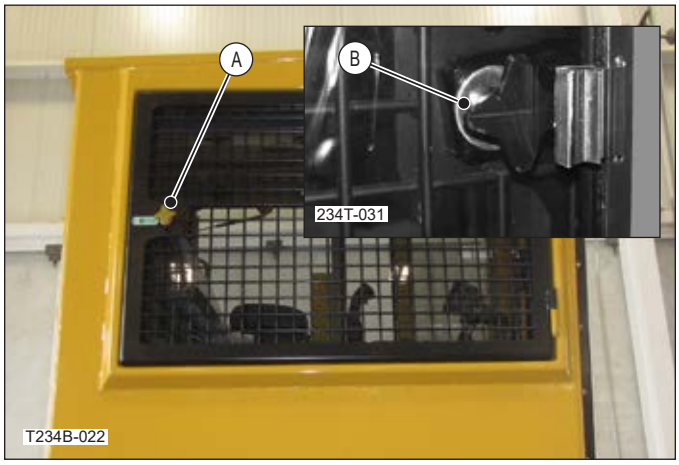
SLIDING WINDOWS



A Sliding Window Handle
B Screen Hand Knob

1. Push the sliding window handle and slide window fully open.
2. Close window firmly to verify that the latch seats correctly.

WINDOW SCREEN HAND KNOBS



A Window Screen Hand Knob–Outside Cab
B Window Screen Hand Knob–Inside Cab

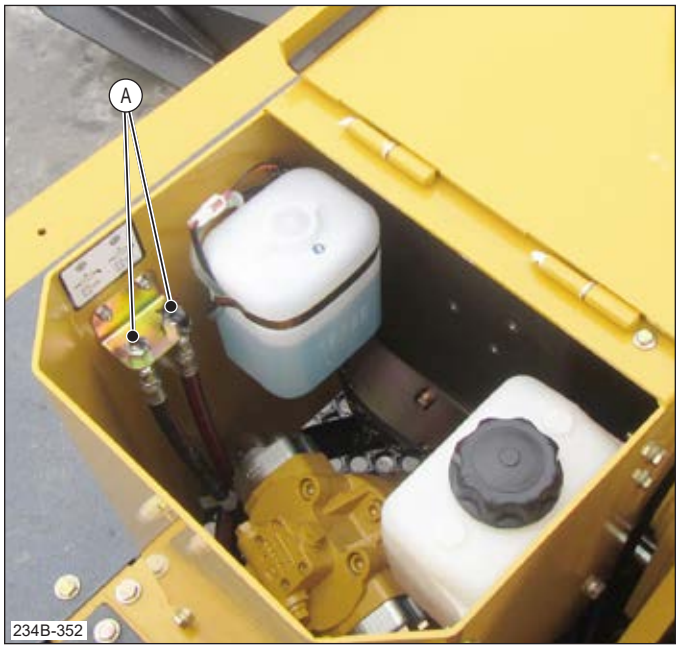
1. Turn inside and outside window screen hand knobs counter-clockwise to verify that they can be opened by hand.
2. Turn knobs clockwise to tighten.

IMPORTANT!
Retighten window screen knobs hand-tight only to ensure quick exit in case of emergency.

SWING DRIVE LUBRICATION

GEARBOX LOWER BEARINGS

The cavity in the lower portion of the gearbox where the two lower bearings are housed is completely filled with grease.



A Lower Bearing Grease Fittings

Open the swing drive gearbox enclosure and locate the grease fittings. Using a hand grease gun and with the gearbox at operating temperature slowly add 5 shots of lithium based EP2 grease to each side of gearbox every 250 hours. DO NOT OVER GREASE.

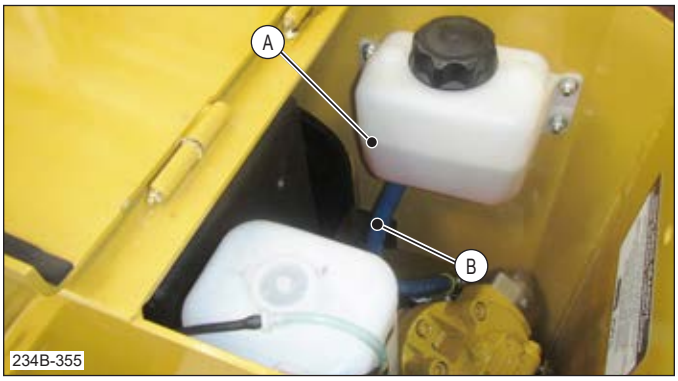
NOTE: During cold weather applications the swing function must operate for several hours to achieve operating temperature. If machine is not warmed up, the lower seal can be damaged.

IMPORTANT!:
Do not force grease, gearbox failure may result. Do Not use a power grease gun to lubricate this machine. Use a hand grease gun only.

For lubrication schedule, refer to SCHEDULED MAINTENANCE in THIS SECTION.

For additional information refer to SECTION 15 of the SERVICE MANUAL.

GEARBOX UPPER GEARING



A Half Fill Reservoir with Recommended Oil.
B Connecting Hose to Gearbox

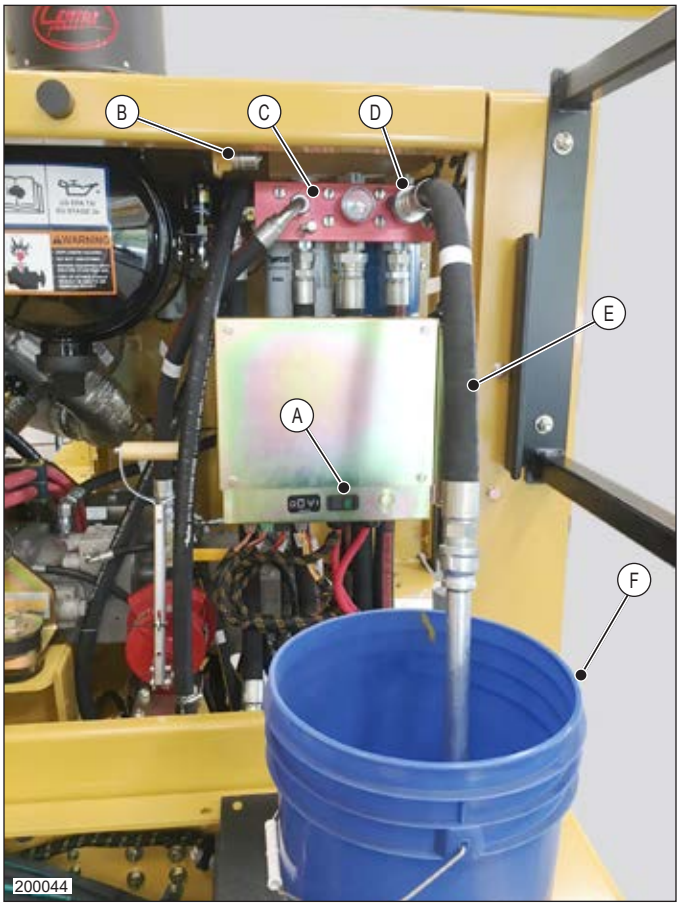
The swing gearbox upper gearing is filled with gear oil. Check oil level in the bottle every eight hours. The oil reservoir is located on the side of the swing drive gearbox enclosure. Oil level in the bottle must be kept at the half full mark at all times. Drain and replace swing drive gearbox upper bearing gear oil every 500 hours. Use 75W-90 or 80W-140 gear oil.

For lubrication schedule, refer to SCHEDULED MAINTENANCE in THIS SECTION.

For additional information refer to SECTION 15 of the SERVICE MANUAL.

FILLING HYDRAULIC OIL TANK WITH VACUUM

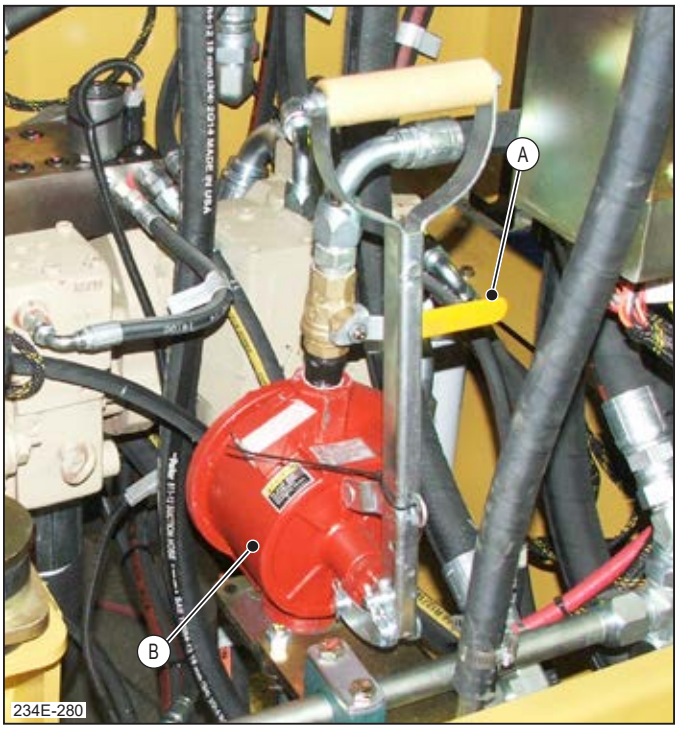
The vacuum can be used to add oil to the hydraulic oil tank.



A	Vacuum Switch
B	Hose Storage Coupler
C	Return Filter Manifold
D	Quick Connect Coupler
E	Hose
F	Container with Hydraulic Oil

1. Turn ON the vacuum switch to build up vacuum in the tank.
2. Place a container of hydraulic oil on the machine deck.
3. Insert the hose in the oil in the pail.
4. Connect the hose to the quick connect coupler on the hydraulic oil return filter manifold.
5. Allow oil to empty from the container.
6. Disconnect the hose coupling from the return filter manifold.
7. Turn OFF the vacuum and clean any spilled oil.

HYDRAULIC OIL HAND FILL PUMP



A	Oil Fill Shut-Off Valve
B	Hand Fill Pump

The hydraulic hand fill pump is used to add oil to the hydraulic oil tank. It is located inside the engine compartment near the front left corner and is made accessible by removing the front access panel.

ADDING OIL TO THE HYDRAULIC OIL TANK

Prior to adding oil to the tank, determine and repair the source of the oil loss. Remove hose clamp from end of suction hose, remove hose from stored position, thoroughly clean outside surface of suction hose and insert end into supply drum. Open the oil fill shut off valve (ball valve located on top of the hand pump). Operate the pump by moving the handle back and forth at medium speed and a steady motion. The oil passes through the filters on the return lines of the hydraulic system. When the sight gauge reads between LOW and HIGH cease pumping and return handle to upright position. Close the oil fill shut off valve.

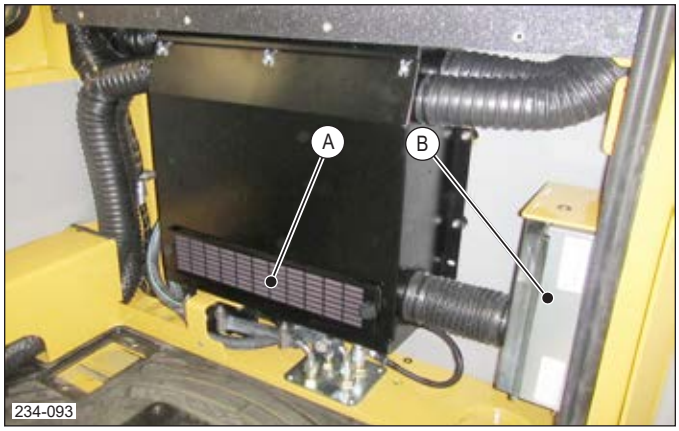
NOTE: Turning on the hydraulic oil tank vacuum pump will assist the filling procedure.

⚠ CAUTION

Direct contact with oil implies a risk of skin complaints. Wash off oil on skin immediately with soap and water. Refer to WORKING WITH OIL in SECTION 1.

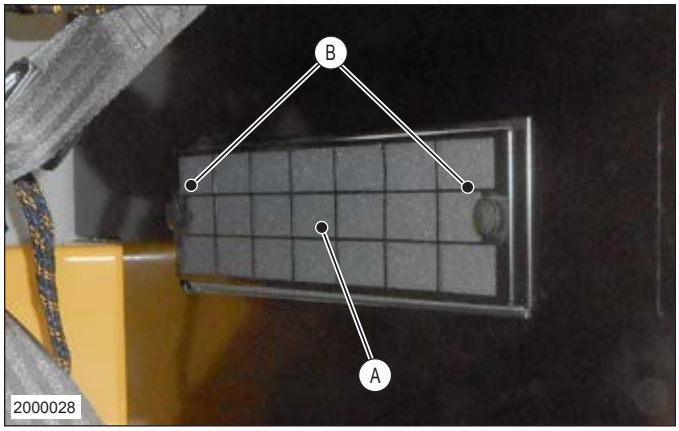
CAB AIR FILTERS

Inspect and clean the cab air filters every 125 hours. Replace the filters regardless of condition every 500 hours.



A Recirculating Air Filter
B Fresh Air Filter–Cab

RECIRCULATING AIR FILTER–A/C HEATER UNIT



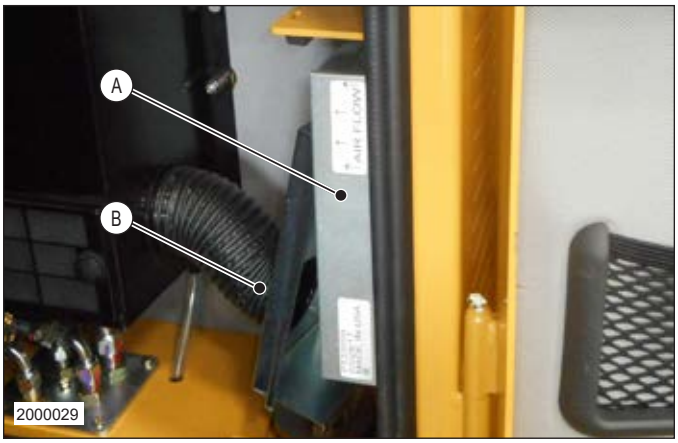
A Recirculating Air Filter
B Thumb Screws

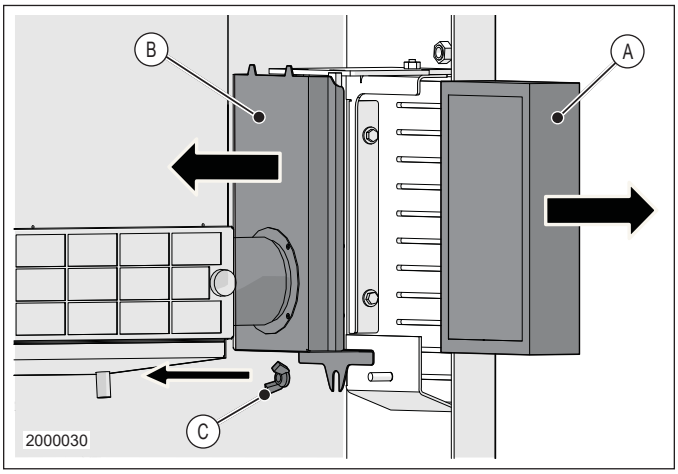
THE FILTER IS LOCATED AT THE BASE OF THE A/C HEATER UNIT. REMOVE THE TWO THUMB SCREWS ON THE FILTER BOX COVER TO ACCESS THE FILTER.

To inspect, clean or replace the A/C recirculation filter:

1. Park the machine on level ground. Refer to PARKING THE MACHINE in SECTION 1.
2. Remove the two thumb screws on the A/C heater unit access panel.
3. Remove the filter and housing.
4. Inspect, clean or replace the filter.
5. Install the filter and housing on the A/C heater unit access panel.
6. Install the thumb screws and tighten.

FRESH AIR FILTER–CAB





A Fresh Air Filter–Cab
B Filter Securing Plate
C Wing Nut

This filter is located adjacent to the AC heater unit, behind the left side door.

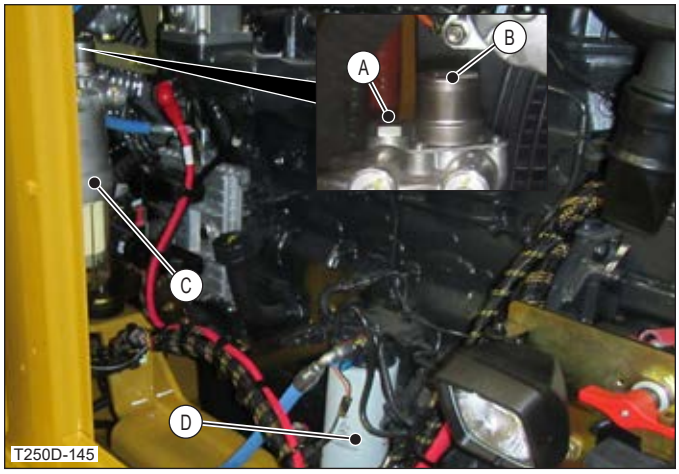
To inspect, clean or replace the cab fresh air filter:

1. Park the machine on level ground. Refer to PARKING THE MACHINE in SECTION 1.
2. Remove the wing nut and washer at the bottom of the filter securing plate.
3. Lower the filter securing plate to clear the retaining tabs from the holder.
4. Slide the filter out.
5. Inspect, clean or replace the filter.
6. Hold the filter in position and install the filter securing plate.

   IMPORTANT!
   Install the filter with the air flow arrows facing into the cab.
7. Install the wing nut and washer and tighten.

FUEL FILTERS

This machine is equipped with two fuel filters. The primary fuel filter is mounted on the engine. The combination remote fuel filter includes a replaceable filter and a drain valve with a reusable water in fuel sensor mounted in the engine compartment. For service and replacement intervals see SERVICE AND LUBRICATION POINTS in THIS SECTION. Refer also to ENGINE OPERATION AND MAINTENANCE MANUAL for more detailed information.



A Vent Plug
B Hand Primer
C Fuel Filter/Water Separator
D Engine Fuel Filter

These engines use filters with a very fine micron rating. If the fuel supply is dirty, the fuel filter must be replaced more frequently than recommended in the owner's manual. Operating the machine with a clogged fuel filter will result in low engine power. It is also recommended that the fuel/water separator bowl be drained daily.

When installing a new fuel filter, DO NOT pre-fill with diesel fuel as engine fuel pump damage may result. This type of failure is not covered by warranty by the engine manufacturer.

To prolong the operating life of the fuel filter, verify that the fuel supply storage tank is clean and free of water and that the fuel is pre-filtered prior to adding it to the machine.

⚠ WARNING

The fuel pump high-pressure fuel lines and fuel rail contain very high pressure fuel. DO NOT loosen any fittings while the engine is running. Personal injury and property damage can result.

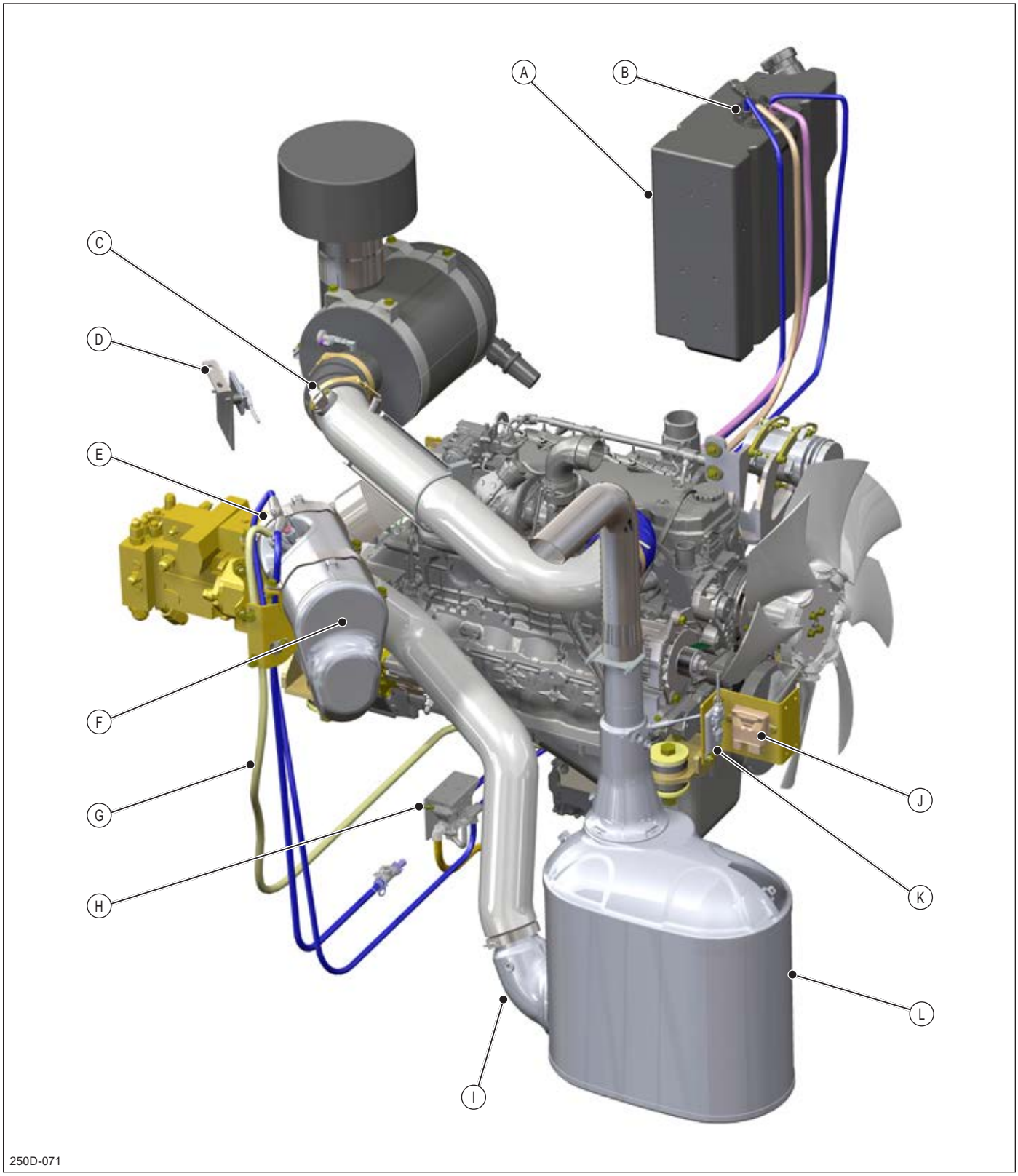
1. Park the machine on level ground. Refer to PARKING THE MACHINE in SECTION 1.
2. Allow machine to cool.
3. Wipe clean the area around the filter and head.
4. Place rags below to catch the spillage of fuel.

⚠ WARNING

Drain fuel filter into a container and dispose of all fluids properly.

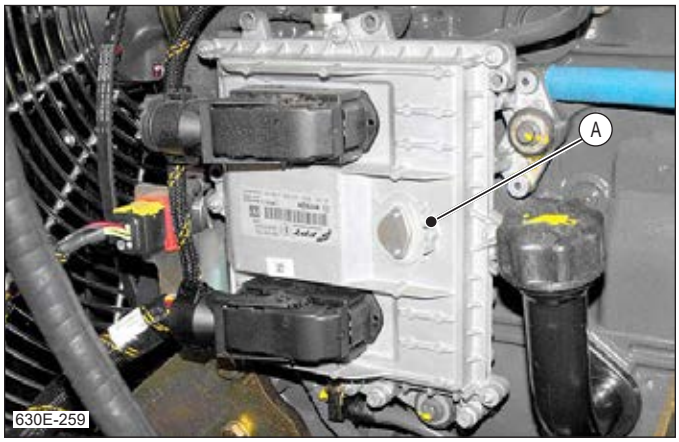
6. Wearing face protection (in case of a fuel spray) unscrew the old fuel filter. Dispose of any fuel and the fuel filter properly.
7. Check the seating area for the O-ring on the filter head and wipe clean.
8. Lubricate the O-ring on top of the new filter with clean engine oil. DO NOT pre-fill the new filter.
9. Screw the new filter onto the filter head as specified by the filter manufacturer. Note: Mechanical over tightening can damage the filter element.
10. Prime the fuel system using the hand primer on the remote fuel filter/water separator before starting the engine.

    Loosen the plug on the top of the remote fuel filter/water separator. Pump the hand primer until fuel begins to seep out around the loosened plug, continue to pump until no air bubbles are visible (approximately 30 pumps). Tighten the plug. Pump the hand primer 30 more times.
11. Start the engine and check for leaks. Refer to STARTING ENGINE in SECTION 2.



A	DEF Tank	G	Heated DEF Supply Line
B	Sending Unit	H	Coolant Valve
C	Humidity Sensor	I	SCR Inlet Temperature Sensor
D	NOx Sensor ECU (Inlet)	J	NH_3 Sensor ECU
E	Dosing Module (DEF Injector)	K	NOx Sensor ECU (Outlet)
F	Diesel Oxidation Catalyst (DOC)	L	Catalytic Converter (SCR, CUC)

DENOX 2.2 DOSING SYSTEM

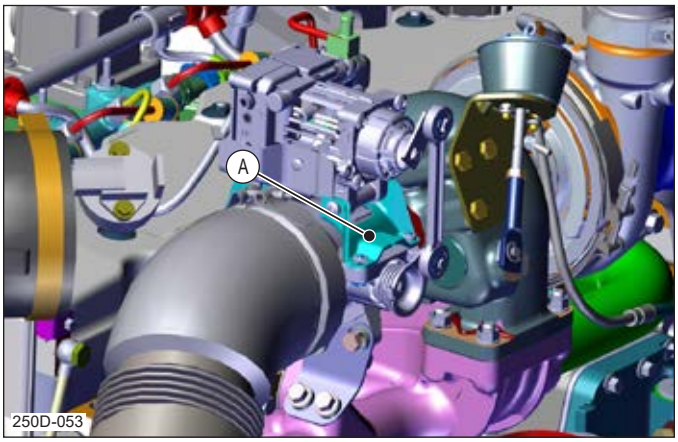


A Engine ECU

DENOX 2.2 control system is incorporated into the engine ECU.

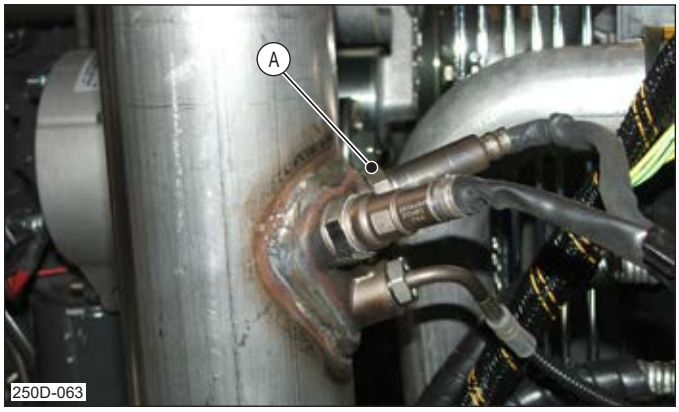
The DOC/SCR aftertreatment system is electronically managed by the DENOX 2.2 control system. The engine ECU calculates and adjusts the flow rate of the DEF solution into the system based on current engine speed, torque delivered, exhaust temperature, amount of nitrogen oxides and ammonia present and the humidity levels in incoming air.

EXHAUST FLAP



A Exhaust Flap

An exhaust flap is located at the exhaust outlet from the engine. The computer controls the exhaust flap to automatically regulate temperature of the exhaust entering the diesel oxidation catalyst (DOC) to optimum levels for proper operation of the aftertreatment system.



A Outlet NOx Sensor

A Outlet NOx Sensor ECU

The outlet NOx sensor is mounted at the outlet of the catalytic converter and the outlet NOx sensor ECU is mounted on the same bracket as the NH_3 sensor ECU next to the radiator on the left side of the engine compartment.

The NOx sensors detect and send information about the dosing of DEF solution and the efficiency of the catalytic converter to the DENOX 2.2 control system. This information is used to calculate the amount of DEF to be injected into the system and to monitor DOC/SCR aftertreatment system operation.

Each NOx sensor consists of a ceramic sensor and an electronic control unit linked by a cable. The sensor detects the concentration of nitrogen oxides in the exhaust.

The sensor, cable and control unit are considered to be one part for service/replacement purposes.

NOTE: Cable length cannot be changed as this will affect the proper operation of the sensor.

APPROVED ANTI-SEIZE PASTES FOR EXHAUST/AFTERTREATMENT SENSORS (TIGERCAT BY FPT TIER 4F ENGINES)

If replacement of these components is necessary in the field, NOx sensors and NH_3 sensors are pre-coated at the factory with the required anti-seize paste. The application of anti-seize is not required.

In the event anti-seize must be re-applied, use only the following approved products:

- NOx sensors–Weicon High Tech Anti-seize only
- NH_3 sensor–Loctite X203 Dry Film Moly Anti-Seize

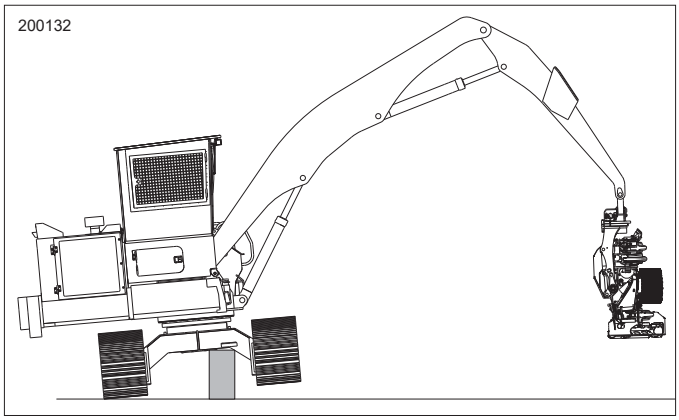
TRACK CHAIN

TRACK CHAIN SAG

NOTE: Tracks that are too tight significantly shorten the bushing outer diameter wear life.

MEASURING TRACK SAG

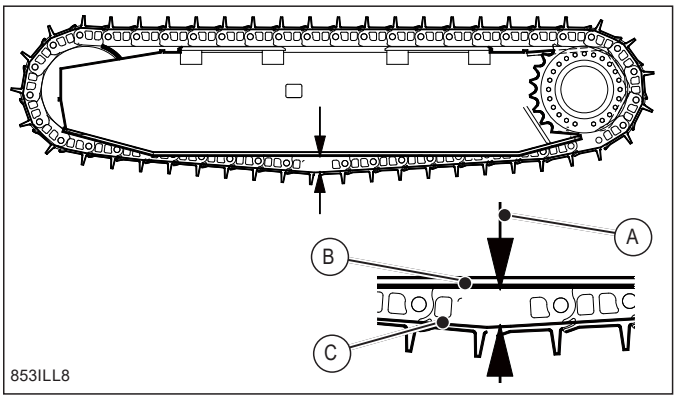
1. Park the machine on level ground.
2. Set the engine speed at LOW IDLE.
3. Swing the boom to the left side of the machine.
4. Rest the attachment firmly on the ground.
5. Turn OFF the engine.
6. Remove the ignition key.



7. Use a jack of suitable design and capacity to safely raise the left track clear of the ground.

   Refer to serial number plate for machine weight (less attachment.

   Refer to ATTACHMENT MANUFACTURER'S DOCUMENTATION for attachment weight.
8. Use blocks to firmly support the undercarriage frame in the raised position.
9. Insert the ignition key and turn to the RUN position.
10. Sound the horn to warn personnel of machine start-up.
11. START the engine and leave at LOW IDLE.
12. Rotate the LEFT TRACK ONLY in forward and reverse several times. Stop the track while in reverse. Do not clean the track.
13. Turn OFF the engine.
14. Remove the ignition key.



A	Sag Dimension
B	Underside of Track Guard
C	Upper Surface of Track Shoe

15. Measure the distance between top surface of track shoe at centre of lower surface of track guard.
16. This dimension should be between 102–152 mm (4–6 in) for normal operations.
17. Use the jack to remove the blocks and safely lower the left track to the ground.
18. Repeat the above steps for the RIGHT TRACK.

NOTE: If track sag is less than specified, track chain wear will be accelerated. If track sag is excessive, it is possible for the track to jump off the sprocket.