Tigercat®

H855E/LH855E HARVESTER
OPERATOR'S MANUAL

SERIAL NUMBER 85533001 TO 85534000
SERIAL NUMBER 85583001 TO 85584000

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Exhaust after treatment Devices (if applicable)

- Diesel Oxidation Catalyst (DOC)
- Diesel Particulate Filter (DPF)
- Selective Catalytic Reduction (SCR)
- Diesel Exhaust Fluid (DEF) tank and dispensing systems

Exhaust Gas Recirculation Systems (EGR)

- EGR valve assembly
- EGR cooler

Cold Start Enrichment Systems

Electronic Control Units, Sensors, Solenoids, and Wiring harnesses used in above systems

Emissions warranty does not cover

- Repairs arising from storage deterioration, failure to maintain the equipment, negligence, alteration, improper use of the equipment, collision or other accident, vandalism, or other casualty, or operation beyond rated capacity or specification.
- Repairs arising from abuse or neglect, including but not limited to: operation without adequate coolant or lubricants, adjustments to the fuel system outside equipment specifications, over-speeding, improper storage, starting, warm-up, or shutdown practices, incorrect fuel or contaminated fuel, oil or other fluids.
- Normal maintenance services, such as engine tune-ups, engine fuel system cleaning, checks, adjustments, shimming, etc.
- Items replaced due to customer demand.
- Labor charges performed by anyone except a dealer authorized by contract to repair the equipment, unless they qualify under special provisions (i.e. outside labor).
- Any and all travel costs for items such as towing, service calls, or transporting a unit to and from the place where the warranty service is performed. Unless otherwise specified on the standard engine warranty certificate.
- Normal maintenance costs, including but not limited to: lubricants, coolants, fluids, fuel, filters, and associated labor.
- Claims involving the inspection or reconditioning of units after storage or prior use.
- Repairs arising from service performed by agents not approved by Tigercat.
- Repairs arising from any unauthorized modification to the product or the use of non-Tigercat parts, implements or attachments.
- Removal, replacement, or installation of non-Tigercat optional equipment, attachments or components.
- Premiums charged for overtime labor costs or out of shop expenses.
- Economic loss including lost profits, crop loss, equipment rental, or other expense.
- Unauthorized modification or updating machines without a warrantable failure.
- Any and all costs of dealer shop supplies incurred with repairs, including but not limited to: solvents, cleaners, anti-seize lubricants, loctite, sealant, adhesive, oil-dry, shop towels, etc.
- Failure of the machine, its implements or attachments caused by improper field application or loading.
- Any and all costs for coolant, fuel, or lube (oil) analysis including supplies and lab recommendations.
- Cost associated with cleaning of machine in preparation for servicing.

SAFETY HAZARDS–VITON SEALS

O-rings and other seals manufactured of Viton material (fluorine rubber) produce a highly corrosive acid (Hydrofluoric) when subjected to temperatures above 315°C (600°F).

This contamination can have extreme consequences on human tissue since it is almost impossible to remove after contact.

The following procedures are recommended when inspecting equipment that has been subjected to high temperatures such as fire:

- Visually inspect any seals or gaskets which have suffered from heat; they will appear black and sticky.
- If these are found, **do not Touch!**
- Determine the material composition of any seals or gaskets. If fluoro-elastomer seals (Viton, fluorel, or tecmoflon) have been used, the affected area must be decontaminated before undertaking further work. Natural rubber and nitrile materials are not hazardous.
- Disposable heavy duty gloves (neoprene) must be worn and the affected area decontaminated by washing thoroughly with limewater (Calcium Hydroxide solution).
- Any soiled rags and gloves must be safely discarded after use.

NOTE: Burning discarded items is not recommended except in an approved incineration process where the dangerous products are treated by alkaline scrubbing.

SAFETY HAZARDS–OPERATING

Maintain a charged fire extinguisher on the vehicle at all times and know how to use it.

Do not carry passengers either in the cab or anywhere else on the machine. The vehicle is provided and approved with seating for the operator only.

Do not allow anyone to operate the machine who may not be physically fit or who may be under the influence of alcohol or drugs.

When moving the machine, watch that enough clearance is available on both sides and above the machine or any of its attachments. Extra clearance may be required particularly where the ground is uneven.

Approach with extreme caution any area where overhanging electrical power lines are present. Serious injury or death by electrocution can result if the machine or any of its attachments are not kept a safe distance from these lines.

Maintain a distance of 3 m (10 ft) between the machine or boom and any power line carrying up to 50,000 volts or less plus 10 mm (0.5 in) for each additional 1,000 volts above the 50,000 volt level.

If State/Provincial, local or job site regulations require even greater safety distances than stated above, adhere strictly to these regulations for your own protection.

If the machine must be transported, make sure that it is adequately secured to the transporting vehicle.

Stopping the engine immediately after it has been working under load can result in overheating and premature wear of the engine components. Reduce engine speed and let run for approximately five minutes to allow gradual dissipation of heat and also to reduce turbo speed. This will also prevent loss of coolant by after boil and possible hot spot damage to the engine.

CABLE TENSION

To prevent damaging the cable assist mount and undercarriage the following acceptable maximum continuous cable tensions must not be exceeded.

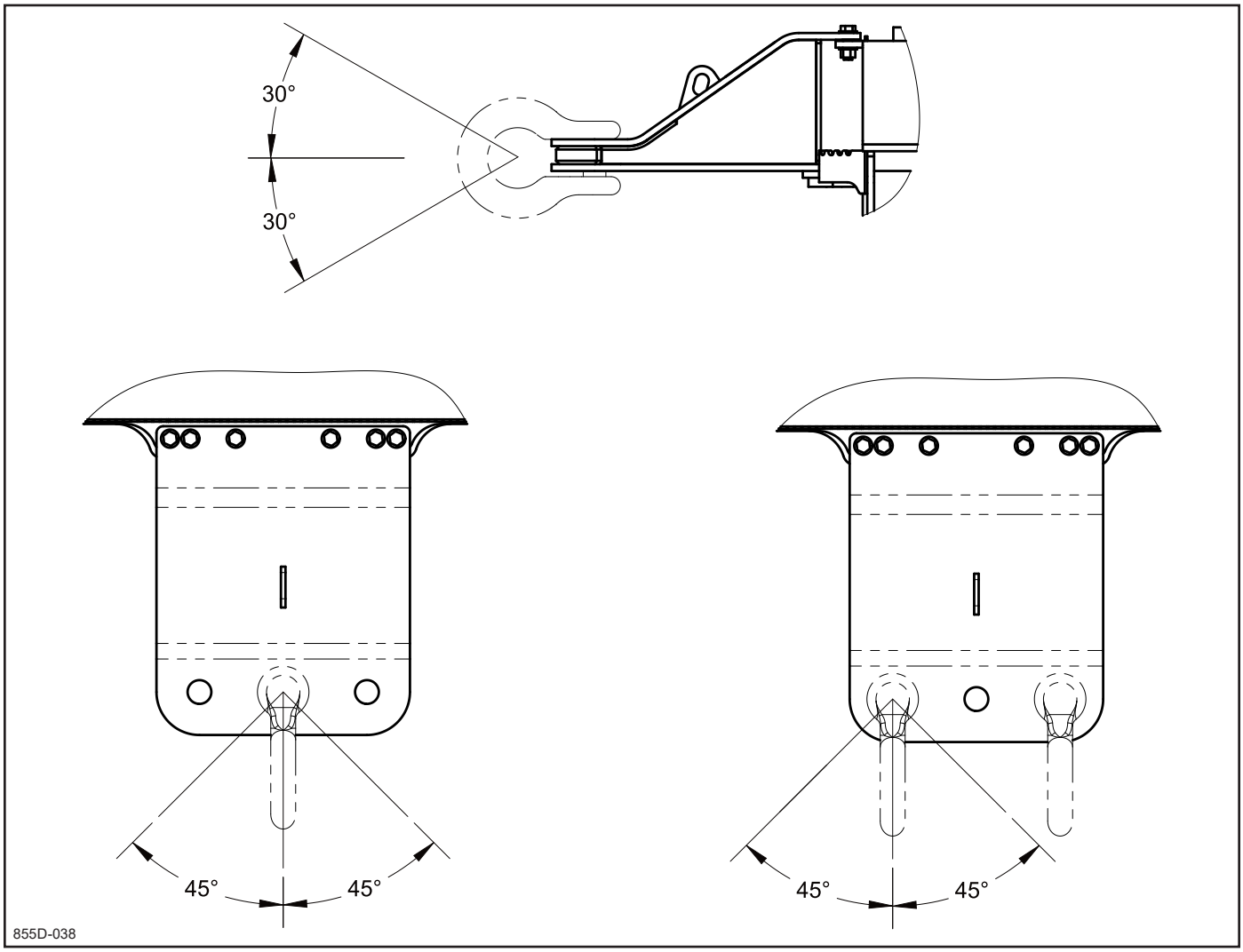
- Maximum continuous cable tension for a single shackle configuration is 18,000 kgf (40,000 lbf).
- Maximum continuous cable tension for a double shackle configuration is 9,000 kgf (20,000 lbf) for each cable.

⚠ WARNING

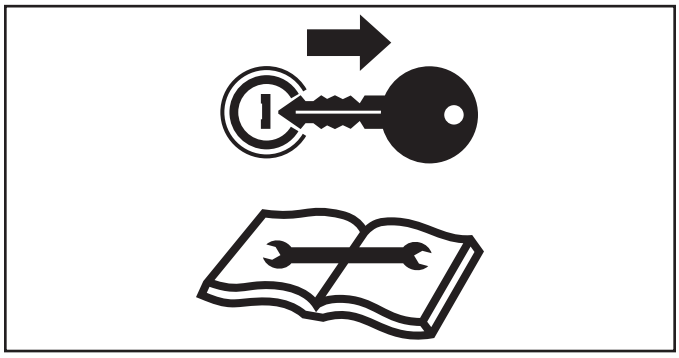
Use the proper equipment. Inspect the cable and cable assist mount for damage before using. Never use equipment that shows signs of poor maintenance or damage. Repairs should only be made by qualified personnel.

LOADING DIRECTIONS

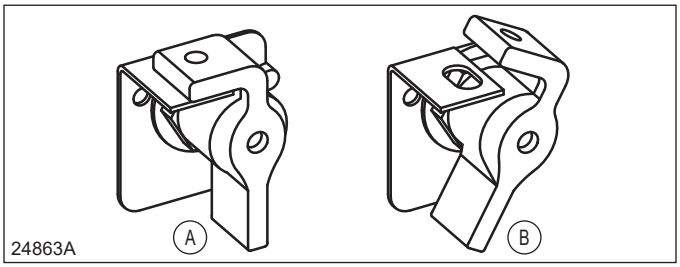
To prevent damaging the cable assist mount and undercarriage the following acceptable loading directions must not be exceeded.



SERVICING SAFETY PRECAUTIONS

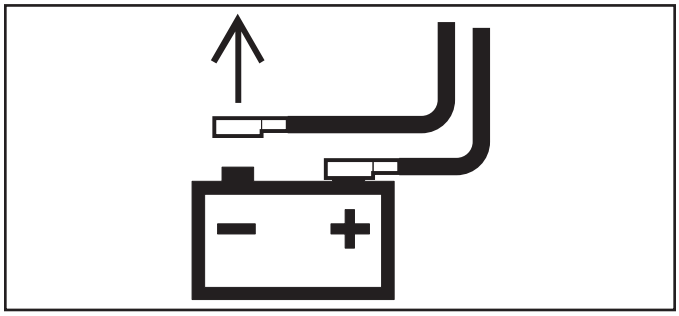


Conduct maintenance inspections at least as frequently as recommended in SECTION 3.



Battery Disconnect Switch	
A	Off Position (Switch Open)
B	On Position (Switch Closed)

When servicing or repairing equipment, shut the engine OFF. Turn battery disconnect switch OFF and lock out the switch in accordance with local regulations. This machine is equipped with a remotely operated battery disconnect relay. Some wiring on the machine is live even when the battery disconnect switch is off.



This machine is equipped with a remotely operated battery disconnect relay. Some wiring on the machine is live even when the battery disconnect switch is OFF. When servicing the electrical system, disconnect the negative (-) battery cable from the battery.

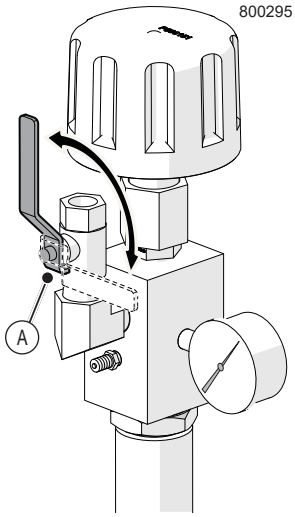
Install a “do not start engine” sign on the operator’s cab door and in the engine compartment when making repairs to the machine.

Before performing maintenance or repair work on any equipment, consult the manufacturer’s instruction manual and follow recommended procedures.

⚠ WARNING

- **Before servicing the machine, allow the engine cooling system, fuel system, exhaust system, hydraulic system and machine surfaces to cool down.**
- **Use a thermometer to check surface and system temperatures to ensure it is safe to begin service work.**
- **Do not begin service work until the surface or system temperature has cooled down to below 38°C (100°F).**

IMPORTANT!
PRESSURIZED HYDRAULIC OIL TANK



Before servicing the hydraulic system, open the air vent valve (A) to release air pressure from the hydraulic oil tank.

The air vent valve is open when handle is parallel to valve.

Air vent valve is closed when handle is perpendicular to valve.

After service is complete, close the air vent valve. Hydraulic oil tank pressure must not exceed 34.5 kPa (5 psi). Refer to HYDRAULIC OIL TANK PRESSURIZATION INSTRUCTIONS in SECTION 3.

LIGHTNING SAFETY AWARENESS

WHAT IS A LIGHTNING STRIKE?

Lightning is a discharge of the electricity produced by a thunderstorm. As the thunderstorm develops, many small particles of ice within the storm clouds bump together. These collisions create a positive charge at the top of a cloud and a negative charge at the bottom. As this continues a second positive charge builds up on the ground beneath the cloud, concentrated around high objects such as hills, trees, buildings, equipment and even people.

When the difference between the electrical charge in the cloud and on the ground becomes great enough to overcome the resistance of the insulating air between them, an electrical current flows instantly. This is a lightning strike.

The electrical potential in a lightning strike can be as much as 100 million volts. Lightning strikes can occur over very large distances, even as much as 60 km (37 miles). Lightning travels both in front of and behind a thunderstorm and so strikes happen even when rain has not started or has stopped. Lightning can hit in the same place, many times and often spreads out over 18 m (60 ft) within the soil around the strike point.

Thunder accompanies lightning. When lightning occurs, the air through which it travels is instantaneously heated to a temperature more than 28,000°C (50,000°F). The air expands rapidly due to this heating, then quickly contracts as it cools. It is this contracting shock wave that we hear as thunder.

In many areas of the world, lightning strikes are second only to flooding as the greatest cause of storm related deaths and injuries. Although only 10% of lightning strike victims are killed, virtually all from cardiac or respiratory arrest, over 70% of those that survive suffer severe, life-long injury and disability. The symptoms of a lightning strike include memory loss, fatigue, chronic pain, dizziness, sleeping difficulty and the inability to complete several tasks at one time.

LIGHTNING SAFETY

In spite of the popular myth that being struck by lightning is an unlikely event, the facts show that lightning strikes occur frequently. As a result loggers are at high risk because their work is outdoors and close to known strike points such as tall trees and heavy equipment.

Loggers can increase their chances of avoiding a lightning strike by following a few simple safety practices.

Designate a member of your crew to:

- Monitor daily weather forecasts
- Observe local weather conditions
- Alert all other members of the crew when a possible lightning threat develops

Don’t start or continue any work that cannot be stopped immediately, when a storm moves nearby.

Anticipate a high-risk situation and take action early by moving to a low-risk location. Do not hesitate. If there is lightning, you are in danger.

Obey the rule - If you see lightning, Flee. If you hear thunder, Clear.

Do not follow the now obsolete guideline to take shelter when the time between seeing lightning and hearing thunder is 30 seconds or less. This does not provide sufficient time to ensure safety.

Remain in your safe location for 30 minutes after the last sight of lightning or the last sound of thunder.

The safest location during lightning activity is inside a fully enclosed, substantially constructed building, a house, office, school, shopping area, etc. These are the safest because of the electrical wiring and plumbing they contain. Should lightning strike, the electrical current will travel through the wiring or plumbing into the ground. When such a building is nearby, seek shelter there first.

Unfortunately loggers do not often work close to buildings and therefore other alternatives need to be considered.

Sheds, weather shelters, hunting blinds, tents and other partially open or small structures are not safe against lightning strikes as they lack the electrically grounded components of larger buildings. They are intended for sun or rain protection only. Do not seek shelter from lightning strikes inside these structures.

CRUSH HAZARD

This label warns of the **crush hazard** caused by the engine enclosure power door/roof.

Ensure all personnel are clear before opening or closing the engine enclosure power door/roof. Operating the engine enclosure power door/roof with personnel in the crush zone could result in death or serious injury!

Keep all personnel clear of the machine before operating the engine enclosure power door/roof.

CRUSH HAZARD, LEVELER

This label warns of the **crush hazard** caused by movement of the leveling frames and cylinders when not properly supported.

Never work under the machine or near the leveler area when it is unsupported. Contact with moving frames and cylinders could result in death or serious injury!

Properly support and brace the leveler cylinders and turn OFF the engine before performing service work in this area.

HARVESTING HEAD CONTACT WITH CAB

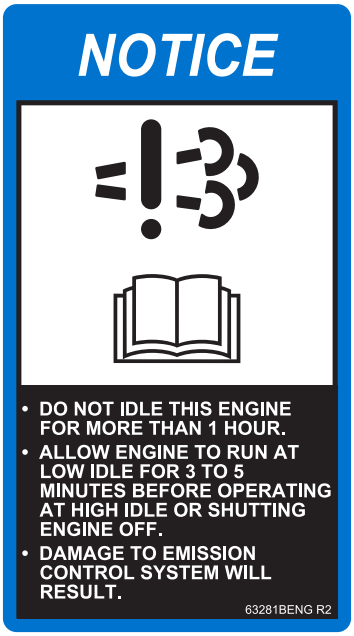
33922AUNI R0

This label informs operators that working with the harvesting head in close to the machine also increases the chances of the harvesting head making contact with the front area of the cab, particularly if the head is swinging backwards as it dangles from the end of the stick boom.

NOTICE LABELS

The following notice label must be periodically cleaned and inspected to ensure legibility is maintained. Replace any label that becomes illegible, damaged or removed.

ENGINE IDLE (APPLICABLE TO TIER 4F MACHINES ONLY)



This label reminds operators to idle the engine for no longer than one hour at a time, to prevent damage to the emission control system.


Day Night Mode Button


DEF Consumption Information


DEF Consumption Trip Information


DEF Consumption Trip Information Reset


Defrost, Front Window


Diesel Exhaust Fluid (DEF)


Engine Menu


Engine Anti-stall


Engine Anti-stall ON


Engine Anti-stall OFF


Engine Boost Pressure


Engine Charge Air Pressure Filter


Engine Charge Air Temperature


Engine Coolant Temperature


Engine Diagnostics


Engine Door/Roof Close Switch


Engine Door/Roof Open Switch


Engine Roof Open


Engine Oil Pressure


Engine–Percentage of Load


Engine Oil Temperature

Engine Speed–rpm


Engine WAIT TO START

ER Boom Function ON

ER On/Off

ER Boom IN

ER Boom OUT

Event Counter

Event Counter Reset

Fan AUTO Icon (green)

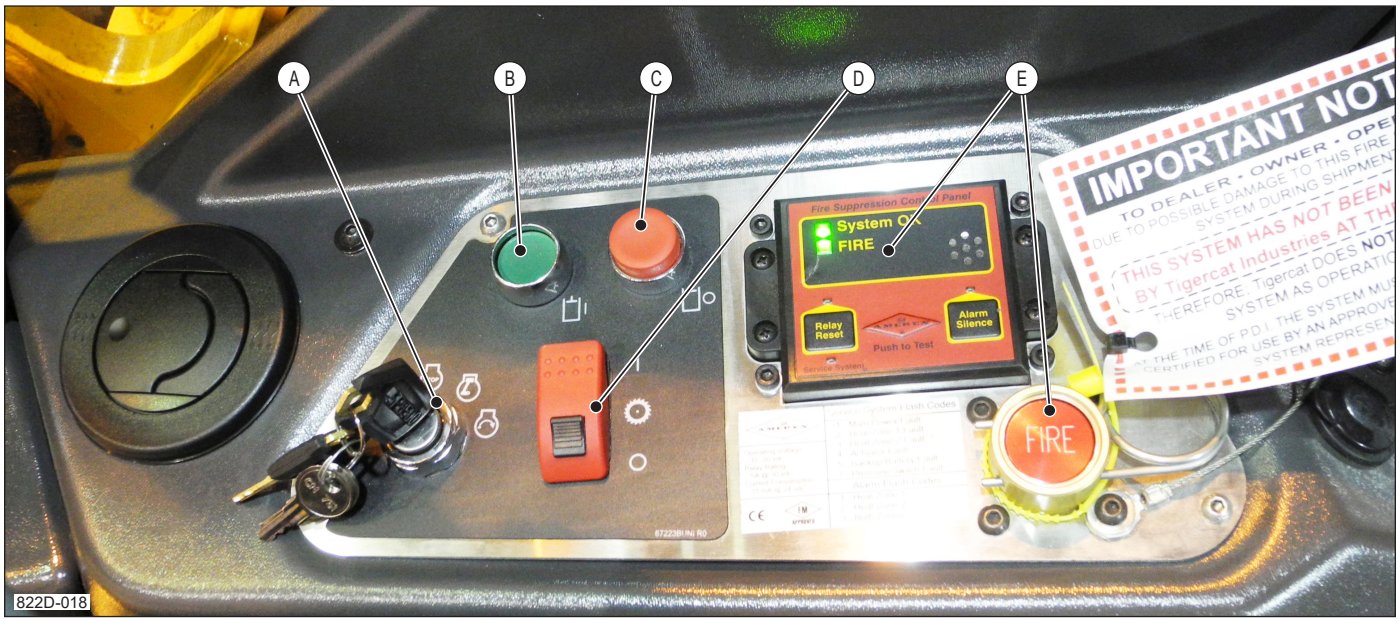
AUTO

Fan AUTOMATIC (later design)

Fan Auto Reversing/ Cleaning

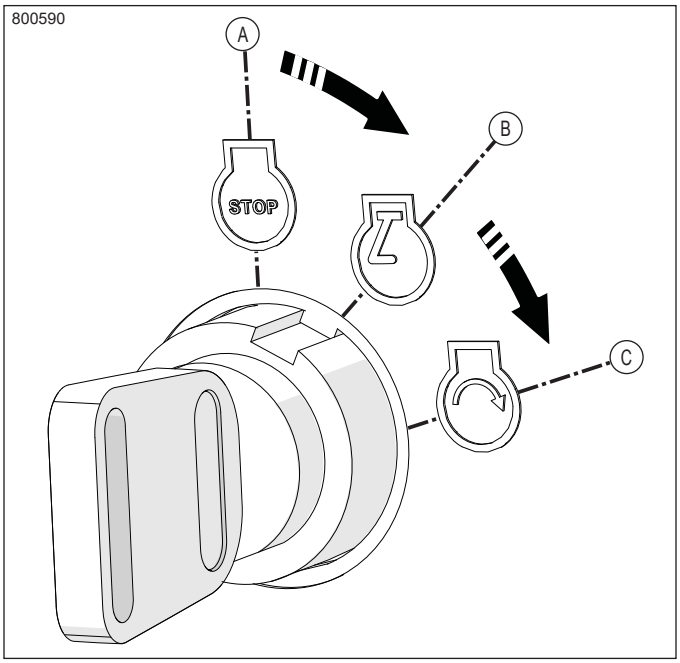

Fan Full ON

CONTROL PANEL (LOWER-RIGHT)



A Ignition Key Switch	D Saw Switch
B Pilot System Reset Switch	E Fire Suppression System Control Panel
C Pilot System OFF Switch	

IGNITION KEY SWITCH



A Stop Position	
B Run Position	
C Start Position	

This is a three-position switch with STOP/RUN/START positions.

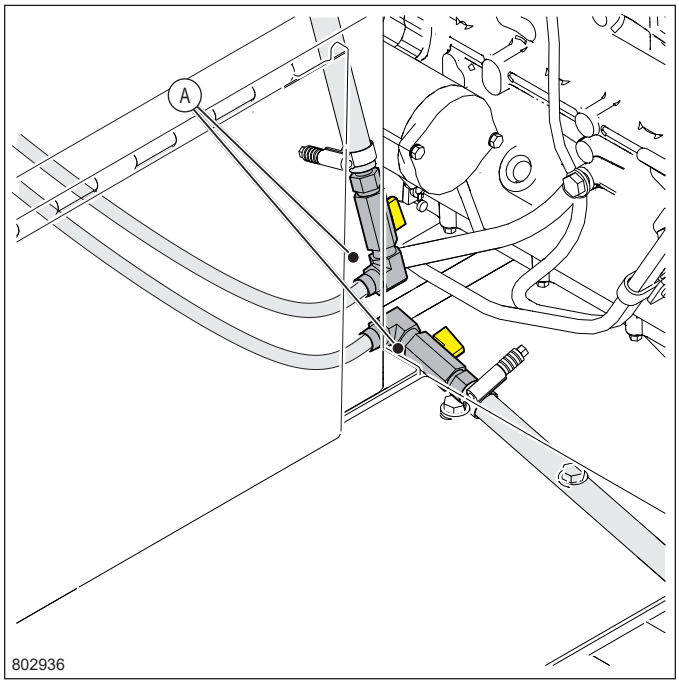
STOP POSITION–All electrical power through the key switch is turned OFF.

Electrical power is still available for the horn, radio, cab interior light, defroster fan, work lights and service work lights.

RUN POSITION–The battery is connected to all functions. Used for normal machine operation.

START POSITION–Turning the key to this position starts the engine by connecting the battery to the start relay. The key will return to the RUN position when released.

ENGINE COOLANT SHUT-OFF VALVES



A Coolant Heater Shut-Off Valve

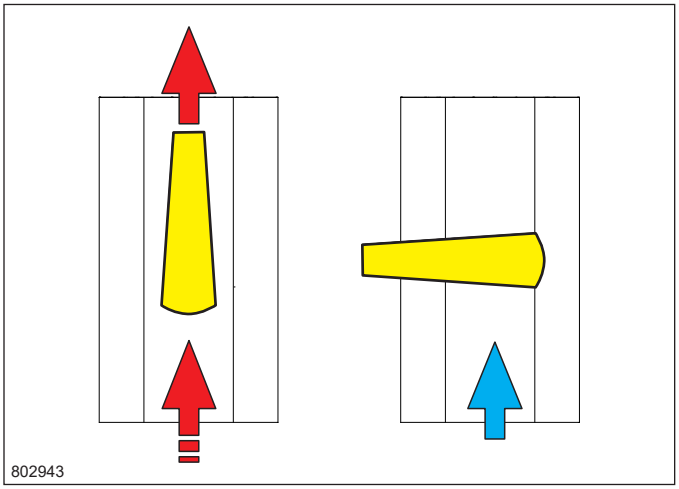
The coolant heater shut-off valves are located beside the left side of the engine and are accesible from the service compartment.

During times when cab heating is not required, close the coolant heater shut-off valves to prevent hot water from seeping through the A/C unit and thereby reducing the effectiveness of the cooling system.

During times when cab heating is required, open the coolant heater shut-off valves to allow hot engine coolant to heat the cab.

To open/close the coolant heater shut-off valves:

1. Open the left side door.



Open	Close

2. Move the shut-off valve to the desired position.

INSPECTION OF THE FIRE SUPPRESSION SYSTEM

IMPORTANT!
Upon machine delivery, the fire suppression system installation needs to be inspected and signed off by a certified Amerex Technician prior to using the machine for the first time.

DAILY

- Check the pressure gauges on all agent cylinders and N2 cylinders for proper operating pressure (pointer is in the 'green pie' zone). The agent cylinder is located on the left side of the machine by the hydraulic filters and fuel tank.

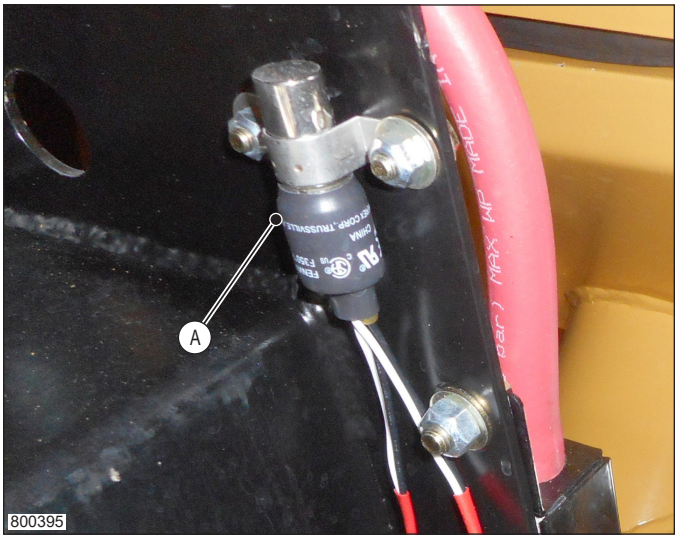
A Pressure Gauge Pointer Must be in Green Zone
B Portable Fire Extinguisher

  The portable fire extinguisher is located inside the cab on the rear wall behind the operator seat.

- Make sure the green System OK LED on the system control panel is illuminated.

WEEKLY

- Inspect all parts for damage, rust, corrosion or dirt. Replace any damaged parts immediately.
- Check that all components are in place and unobstructed.
- Check that all chemical delivery hoses and nozzles are connected and tight.
- Check the fire suppression electrical network for cut, frayed, stripped or damaged wires.



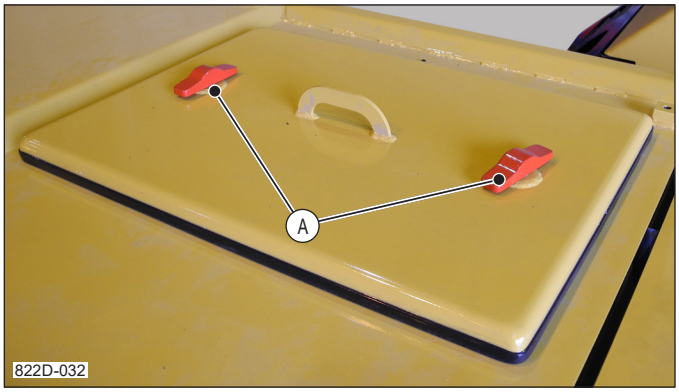
A Thermostat

- All thermostats must be clean.
- Operate the machine and press the 'Push to Test' button to confirm the automatic engine shutdown feature is working. Pressing the 'Push to Test' (diamond-shaped) button will illuminate all LED's, sound the alarm and engage the relay. The 'Push to Test' function will not cause a system discharge.
- Check the manual actuation switches to ensure all tamper indicators are in place, operating instructions are visible and access is unobstructed.

Please read the owners manual applicable to the fire suppression system installed on this machine for additional information on operation, service and warranty requirements.

NOTICE

Take care not to damage heat sensors or wiring. Damage to heat sensors due to shock could cause an accidental discharge of the system. Cut, pinched, or kinked wiring could cause false signals and an accidental discharge of the system. Refer to FIRE SUPPRESSION SYSTEM COMPONENTS in SECTION 3.



A Escape Hatch External Retaining Knobs

This escape hatch can also be opened from the outside of the cab. Turn both knobs counterclockwise. If they are too tight to turn by hand, you can kick the knob at either end to loosen it. Once the knobs are removed, lift the escape hatch from the cab roof.

WARNING

Removal of these knobs from the outside will cause internal knobs and brackets to fall freely, possibly striking the operator and causing additional injury.

For more information refer to EMERGENCY EXITS–MAINTENANCE GUIDE in THIS SECTION.

WARNING

Heat from sun exposure can cause the exit seals to bond to the cab's painted surfaces. Careless use of glues or sealants to repair leaks also bond the exit panel.

Failure to follow proper maintenance procedures can result in the exit being unusable in an emergency.

EMERGENCY EXIT–MAINTENANCE GUIDE

Two alternate exit routes are provided. One on the left side and one on the roof of the cab. These are **only** to be used if the front door cannot be opened.

It is essential these emergency exits be checked at least once per month or after major impacts to the cab to ensure they are fully operational.

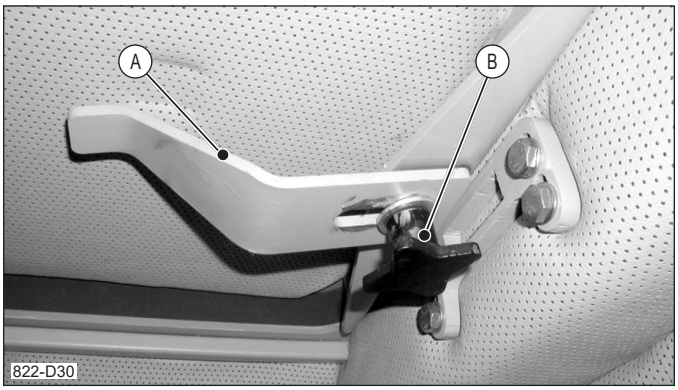
It is also important that clear any snow, debris and particularly ice build up in these areas. Check frequently and remove any accumulation immediately.

CHECKING PROCEDURE FOR SIDE DOOR

A Side Door Latch (Interior)
B Side Door Latch (Exterior)

1. Open side door twice, once using the interior latch handle and once using the exterior handle.
2. Check for proper operation of both handles, latches and hinges. Adjust and/or lubricate any part of the mechanism that requires attention.

CHECKING PROCEDURE FOR ESCAPE HATCH



A Clamp Bracket
B Retaining Knob

3. Unscrew both interior retaining knobs four complete revolutions.

Computer Display (Home Screen)			
A	Hydraulic Oil Level	U	Fuel Level
B	Water in Fuel	V	Fuel Level Warning
C	Pilot System ON/OFF	W	DEF Level Indicator
D	Anti-stall (OFF)	X	Track Speed
E	Engine Air Intake Filter Restriction	Y	Main Menu
F	Open Engine Compartment Roof	Z	Backlight
G	ER Boom Function ON	AA	Telematics Menu
H	Track drive range	BB	Joystick Configuration
I	Cooling Fan Status (Auto Shown)	CC	Machine Information
J	Hydraulic Oil Filter Bypass	DD	Adjustment Menu
K	Message Review	EE	Engine Menu
L	Swing Brake	FF	Home Screen
M	Time	GG	Tree Counter
N	Date	HH	Joystick Information
O	Operator Identification	II	Production Information
P	Hydraulic Oil Temperature	JJ	Tachometer
Q	Hydraulic Oil Temperature Warning	KK	ER On/Off
R	Hydraulic Oil Grade	LL	RearView Camera
S	Engine Coolant Temperature		
T	Engine Coolant Temperature Warning		

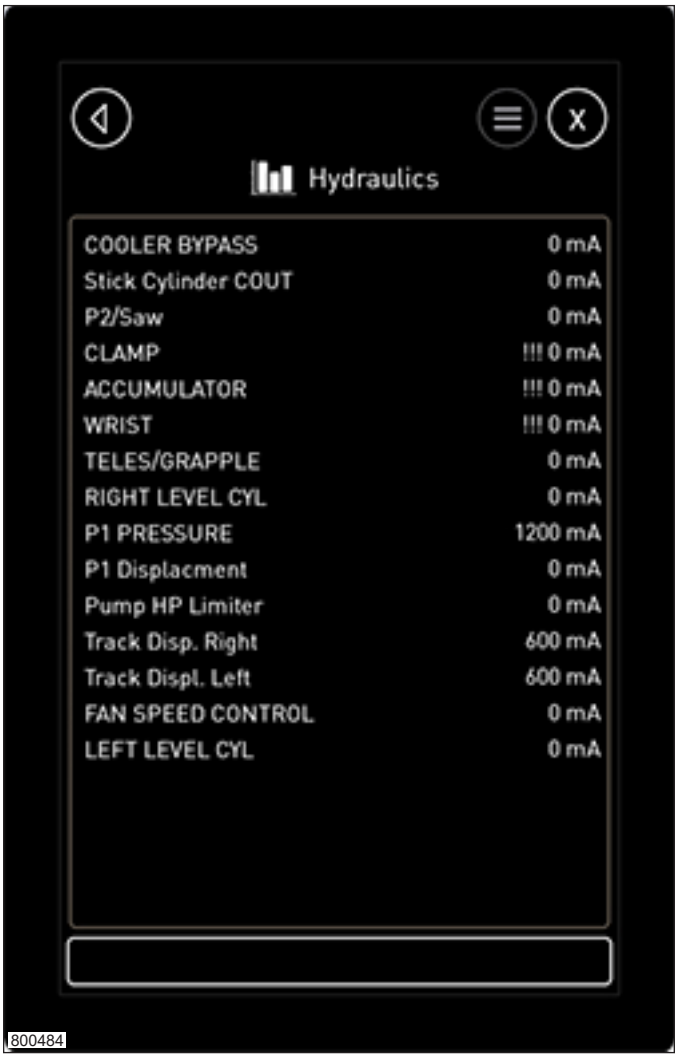
OUTPUTS

Home Screen–Main Menu–Measure Menu–Outputs Menu

The outputs menu displays the value of all active outputs.

NOTE: Slide your finger up or down on the screen to view all entries.

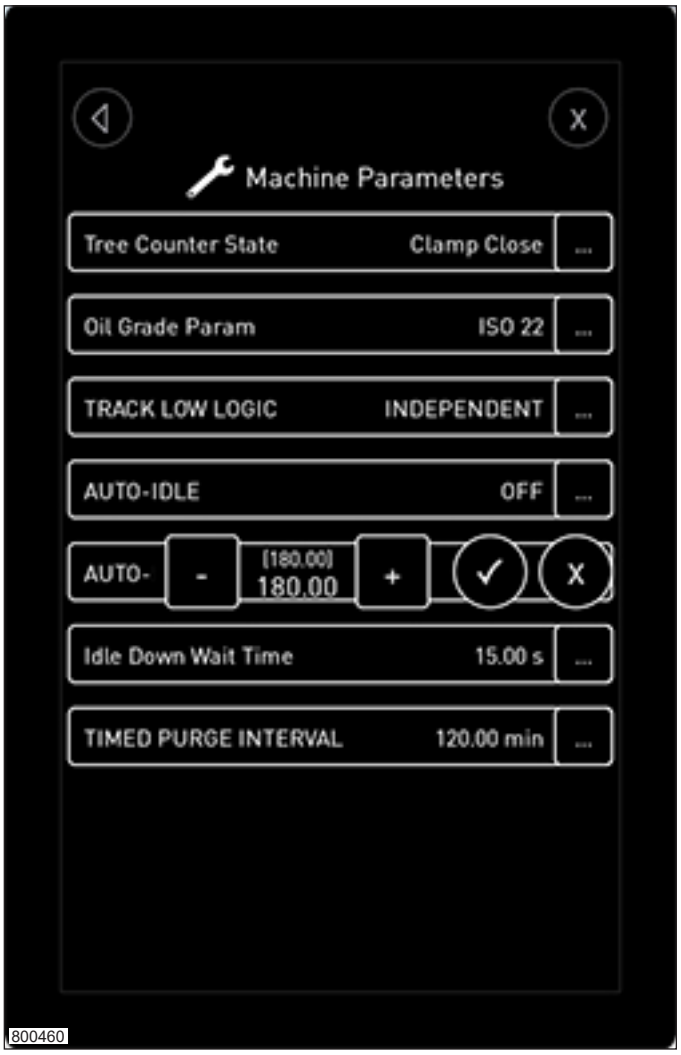
HYDRAULICS



Home Screen–Main Menu–Measure Menu–Hydraulics Menu

The hydraulics menu displays the value of all active hydraulic function outputs.

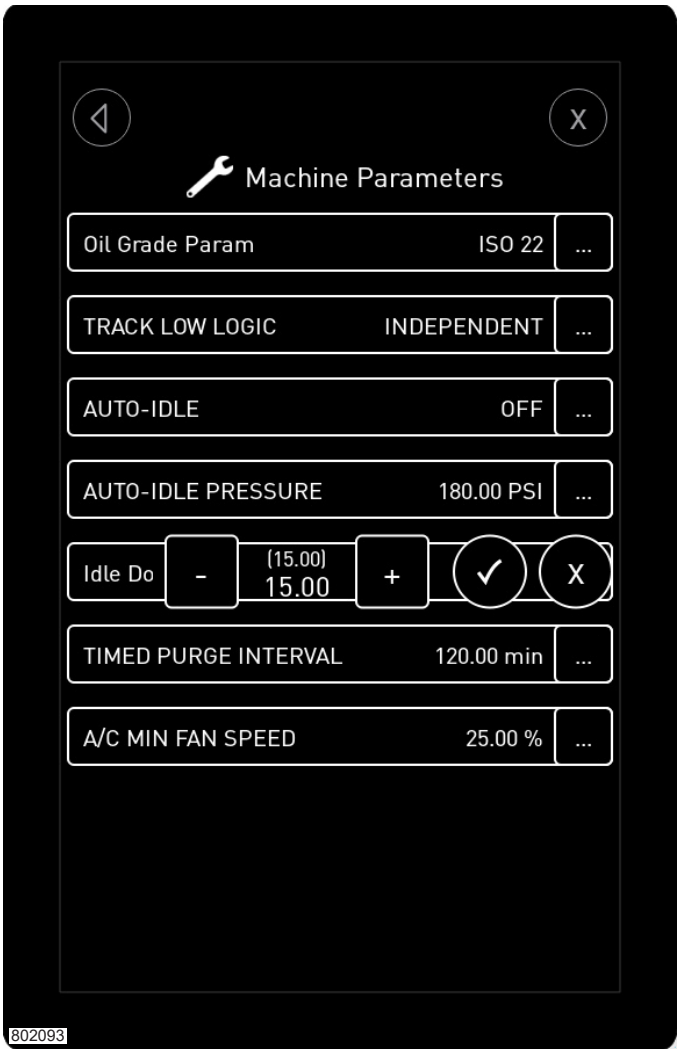
AUTO IDLE PRESSURE



Home Screen–Main Menu–Adjust Menu–Machine Parameters–Auto-Idle Pressure Menu

The auto-idle pressure is set to a default value of 180.00 psi.

IDLE DOWN WAIT TIME



Home Screen–Main Menu–Adjust Menu–Machine Parameters–Idle Down Wait Time Menu

The idle down wait time is set to a default value of 15.00 seconds.

OPERATION MODES

WARMUP MODE

As the hydraulic oil temperature increases the system will automatically allow the engine speed to increase and the Computer displays an Information dialogue box that shows the progress of the Warmup Mode in percentage outstanding. This dialogue box closes when hydraulic oil has reached operating temperature.

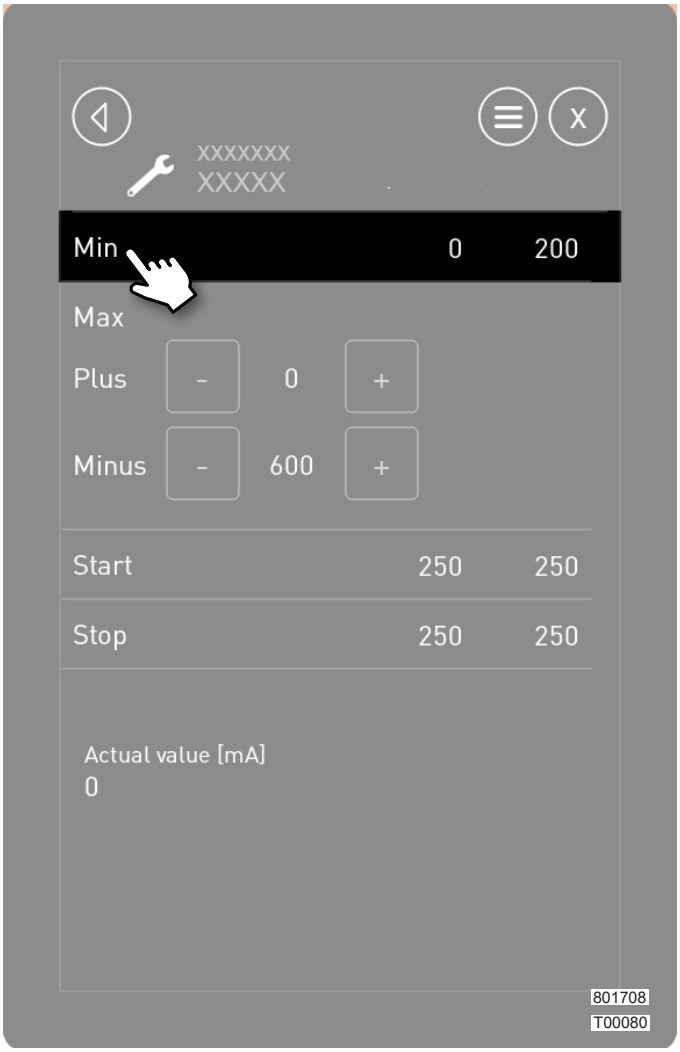
The warmup mode operates automatically on cold starts within a hydraulic oil temperature range. The temperature range will vary based on the Computer hydraulic oil settings.

For proper operation, the Computer hydraulic oil settings should match the type of hydraulic oil in use.

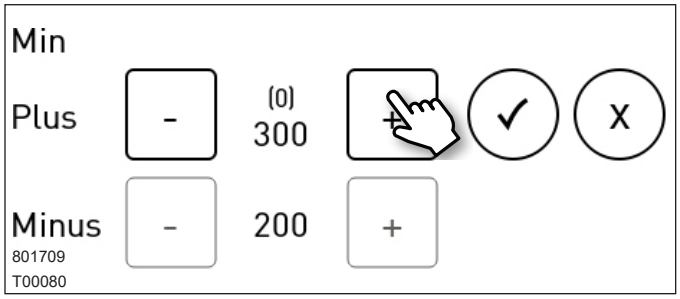
NOTE: Holding the speed switch will not increase the engine speed of a cold engine until the hydraulic oil temperature has reached a designated level based on the grade of oil in your machine. Engine speed will increase incrementally as the oil temperature reached specific levels.

NOTICE

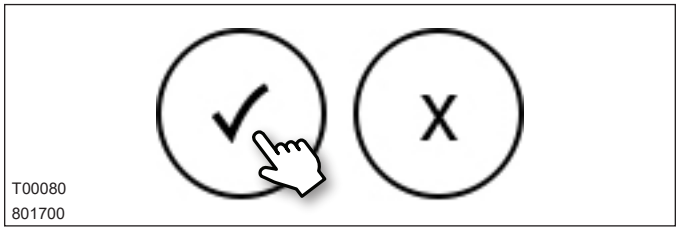
Allow a cold engine to warmup at low speed for at least five minutes before applying any load. Check all measured values on the Computer Display often during the warmup period. If the hydraulic oil is too cold or too hot, the hydraulic pumps will fail at full engine speed.



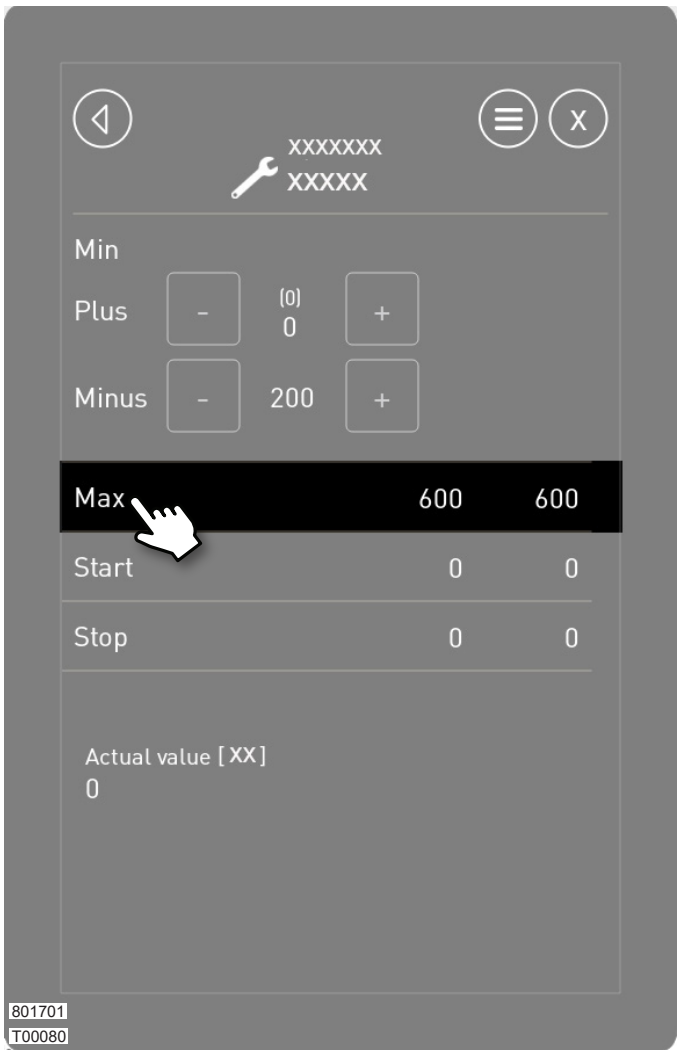
15. Tap the Min line adjust group.



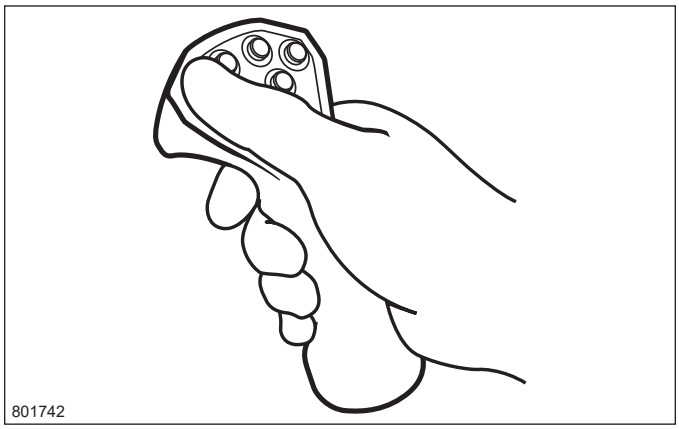
16. Tap the Plus positive button and adjust the current to match the previously recorded Max Plus line current value.



17. Tap the check mark button to accept the change.



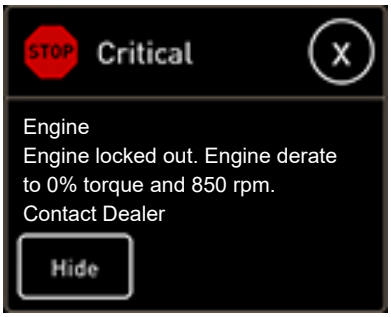
18. Tap the Max line adjust group.



19. Operate and hold the desired current output channel function.

ENGINE LOCKED OUT

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



This message will be displayed, alarm light will flash and alarm will sound when an engine is locked out by the computer system to prevent further damage to the engine and aftertreatment system.

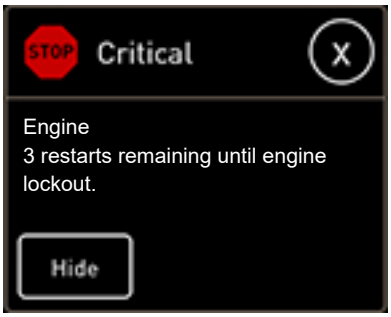
Note that an engine is locked out after several other critical aftertreatment system messages regarding the cause of the problem and additional messages regarding the number of restarts until engine lockout.

Once locked out the engine will only operate at idle. Action to correct the original cause(s) of the lockout must be taken before the engine can be reset. Contact dealer to reset engine lockout for normal operation.

Refer to ENGINE OPERATION AND MAINTENANCE MANUAL for code information.

Refer to COMPUTER DISPLAY MESSAGES–CRITICAL MESSAGES–ENGINE RESTARTS REMAINING UNTIL ENGINE LOCKOUT in THIS SECTION.

ENGINE RESTARTS REMAINING UNTIL ENGINE LOCKOUT



This message will be displayed, alarm light will flash and alarm will sound to inform the operator of the number of restarts available before the engine is locked out.

Note that an engine is locked out after several other critical aftertreatment system messages regarding the cause of the problem and this message regarding the number of restarts until engine lockout.

Refer also to COMPUTER DISPLAY MESSAGES–CRITICAL MESSAGES–ENGINE LOCKED OUT in THIS SECTION.

ENGINE OIL PRESSURE LOW

This message will be displayed, alarm light will flash and alarm will sound when engine oil pressure falls below 69 kPa (10 psi).

Stop the engine when this alarm is activated. Check engine oil levels.

Refer to STARTING ENGINE in THIS SECTION for more information.

HARDWARE FAULT–MC43[1]

This message will be displayed when an alert level active hardware fault related to the MC43[1] has been hidden.

To recall the original active fault(s) the operator must turn the key off and on.

High temperature, low supply voltage and high supply voltage module alert messages are examples of the type of hardware fault which will be the original active faults which trigger this message.

HARDWARE FAULT–MC43[2]

This message will be displayed when an alert level active hardware fault related to the MC43[2] Module has been hidden.

To recall the original active fault(s) the operator must turn the key off and on.

High temperature, low supply voltage and high supply voltage module alert messages are examples of the type of hardware fault which will be the original active faults which trigger this message.

HARDWARE FAULT–MC43[3]

This message will be displayed when an alert level active hardware fault related to the MC43[3] module has been hidden.

To recall the original active fault(s) the operator must turn the key off and on.

High temperature, low supply voltage and high supply voltage module alert messages are examples of the type of hardware fault which will be the original active faults which trigger this message.

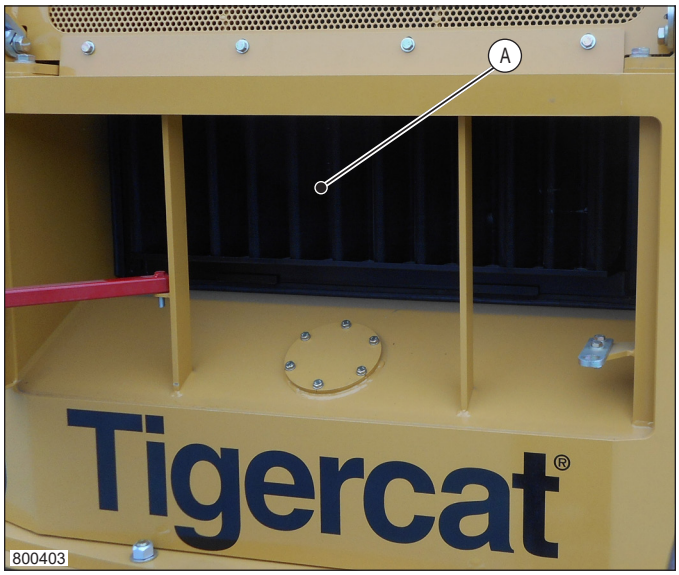
INFORMATION MESSAGES

Information messages are used to give the operator information that is useful to the operator, but requires no action to prevent immediate or future damage to the machine

When an information message is displayed on the screen the message will stay on the screen until the operator acknowledges the message.

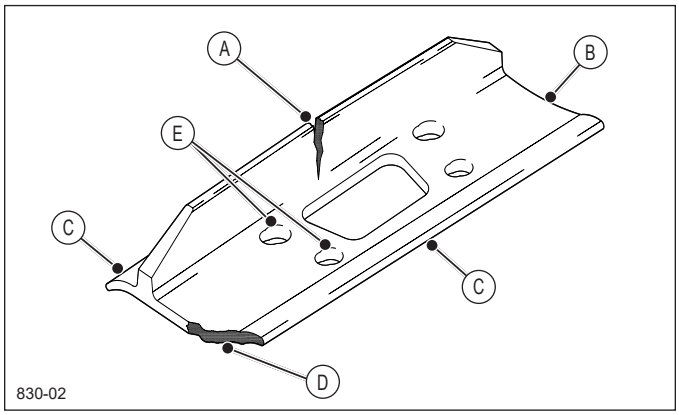
Information messages can be acknowledged by tapping the Close button. Acknowledged information messages are removed from the screen.

Information messages do not have an indicator after they have been acknowledged.



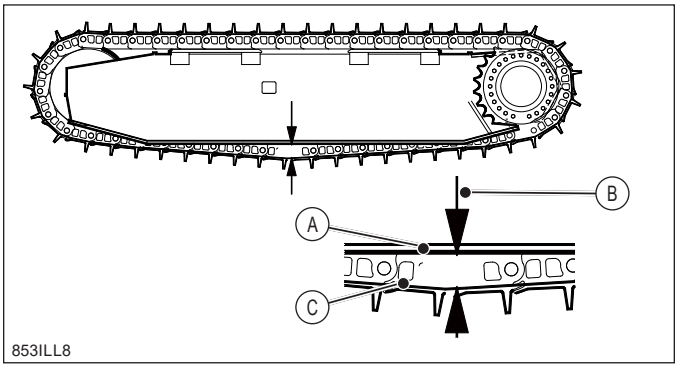
A	Debris Screen

12. Clean the cooler package, if required. Refer to CLEANING COOLER PACKAGE in SECTION 3.



A	Cracking
B	Bent
C	Edge Wear
D	Broken Edge
E	Worn Holes

13. Check the condition of the track shoes.



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

14. Check the track chain tension by measuring the track sag. Refer to TRACK OPERATION AND WEAR PREVENTION–TRACK CHAIN SAG in SECTION 3.
15. Check all exits.
16. Be sure that all doors and access panels are securely fastened.
17. Inspect all windows daily and immediately after any impacts. Refer to WINDOWS– CARE OF POLYCARBONATE WINDOWS–INSPECTION AND MAINTENANCE in SECTION 3.
18. Unlock all cab doors.

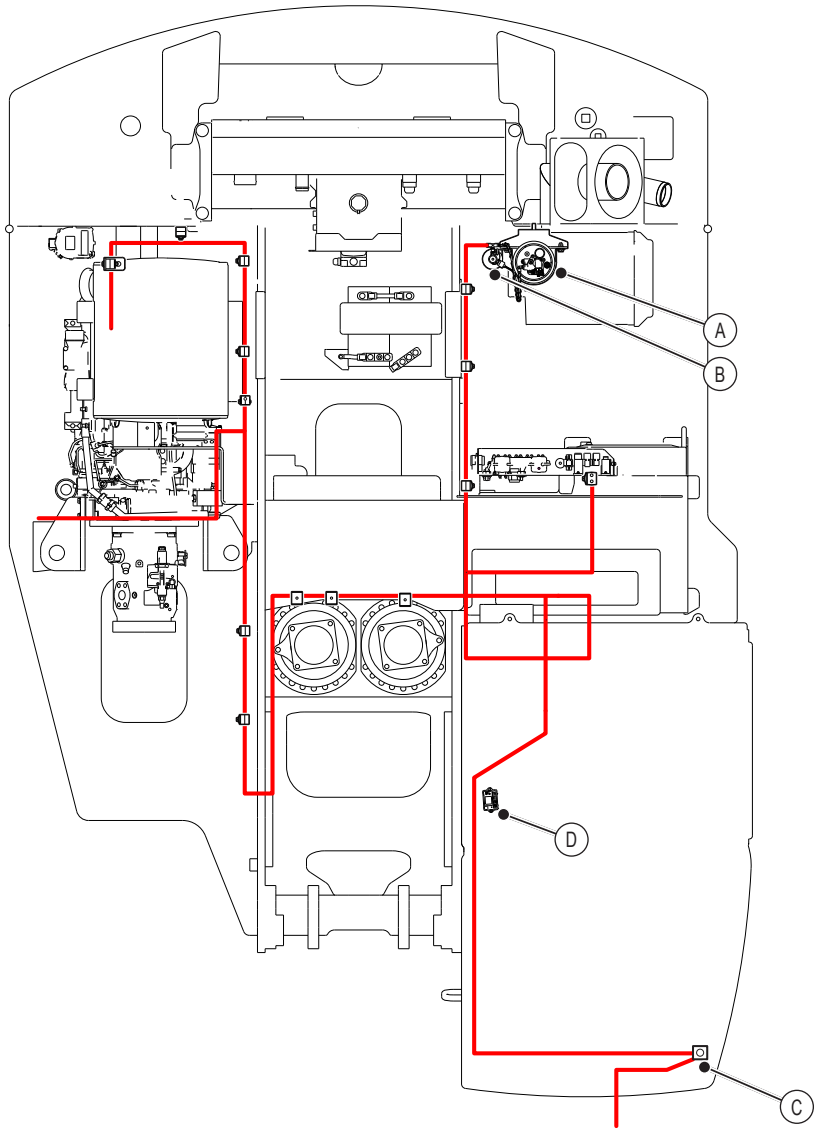
FIRE SUPPRESSION SYSTEM COMPONENT LOCATION TYPE B

Make sure all fire suppression system components are maintained in good working condition. Visually inspect the components to ensure safe operation.

Frequently inspect for:

- All couplings/valves/connections are free of leakage or corrosion.
- The safety pin on the manual actuator can be removed easily.
- The pressure in the piston accumulator is within the green zone on the pressure gauge.
- The pressure in the detection cylinder is within the green zone on the pressure gauge.
- The status of the fire detection and/or fire suppression system on the control panel is 'ok'. Refer to CONTROL PANEL in SECTION 2.
- Test the control panel fire suppression system alarm before starting work. Refer to FIRE SUPPRESSION SYSTEM TYPE B–SYSTEM TEST in SECTION 2.

All defects must be reported. Those affecting safe operation must be repaired immediately by an authorized person.



801960

Component Location Diagram

A Piston Accumulator	D Control Panel
B Detection Cylinder	— Detection Tube
C Manual Actuator	

Tigercat Model H855E/LH855E
SERVICE AND LUBRICATION SCHEDULE

REFER TO **Tigercat** OPERATOR'S MANUAL FOR FURTHER INFORMATION

SERVICE POINT NO.	DESCRIPTION	SERVICE EVERY								CAPACITY			REMARKS/LUBRICANT
		8 ⧖	125 ⧖	250 ⧖	500 ⧖	1000 ⧖	2000 ⧖	3000 ⧖	5000 ⧖	LITER	US gal	QTY	
1	COOLING SYSTEM	CHK	CHANGE COOLANT EVERY 2 YEARS							36	9.5		60% ANTIFREEZE / 40% DISTILLED WATER. SEE ENGINE OPERATION AND MAINTENANCE MANUAL FOR ANTIFREESE SPECIFICATIONS
2	ENGINE OIL/FILTER	CHK •		REP •						•	•		• SEE ENGINE MANUFACTURER'S OPERATION AND MAINTENANCE MANUAL FOR PROCEDURES AND CAPACITIES
3	CRANKCASE VENTILATION FILTER - T4F ONLY				REP •							1	
4	FUEL FILTER (ENGINE)			REP •								1	
5	FUEL/WATER SEPARATOR	DRN		REP								1	REFER TO SECTION 3 OF THIS MANUAL FOR DETAILS.
6	DEF DOSING MODULE FILTER - T4F ONLY			REP								1	
7	IN-TANK FUEL STRAINER					CHK							DRAIN TANK, CLEAN OR REPLACE AS NECESSARY.
8	AIR INTAKE PRECLEANER	CHK										1	CLEAN AS REQUIRED
9	AIR INTAKE PRIMARY ELEMENT	CHK										1	CHECK FILTER RESTRICTION INDICATOR. REFER TO 8 HOUR SCHEDULED MAINT. FOR DETAILS.
10	AIR INTAKE SAFETY ELEMENT	CHK										1	
11	AIR INTAKE CONNECTIONS	CHK					REP						CHECK FOR LOOSE CLAMPS AND DAMAGED RUBBER COMPONENTS. REPLACE RUBBER COMPONENTS.
12	HYDRAULIC TANK	CHK					D/R			227	60	1	DRAIN AND REFILL AT SEASONAL OIL CHANGE SEE APPROVED HYDRAULIC OILS* ***Tigercat** RECOMMENDS REGULAR USE OF AN OIL TESTING PROGRAM.
13	HYDRAULIC OIL RETURN FILTERS, 1 BLUE WATER ABSORBING ELEMENT 5 WHITE HIGH PERFORMANCE FILTERS		CHK		REP †							6	IF THE FILTER BYPASS ICON ON THE COMPUTER DISPLAY TURNS RED BETWEEN SCHEDULED MAINTENANCE SCHEDULES, CHANGE THE ELEMENTS.
14	PILOT FILTER				REP †							1	
15	HYDRAULIC TANK BREATHER						REP					1	
16	TRACK DRIVE GEARBOX		†† CHK	D/R						6	1.5	2	FILL WITH **75W-90** (SPEC) RECOMMENDED SYNTHETIC GEAR OIL FOR SEVERE DUTY APPLICATIONS †† CHECK OIL WITH LEVEL PLUGS AT **6** AND **9 O'CLOCK** POSITIONS.
								REP				2	**FOR LEVELING MACHINES ONLY.** PARKING BRAKE DISC REPLACEMENT. REFER TO SECTION 11 IN THE SERVICE MANUAL FOR DETAILS.
									PER			2	**FOR LEVELING MACHINES ONLY.** PERFORM THE TRACK DRIVE MOTOR CASE DRAIN LEAKAGE TEST. REFER TO SECTION 11 IN THE SERVICE MANUAL FOR DETAILS.
	TIGERCAT TRACK DRIVE GEARBOX ONLY, GREASE SEAL			PURGE								2	LITHIUM BASE EP2 GREASE ◆
17	TRACK ROLLERS AND IDLERS CHECK FOR LUBRICANT LEAKAGE				CHK					7.6	2	1	IF LEAKING REMOVE AND REPAIR, FILL WITH **SAE 75W-90 HT OR 80W-140 HT** OIL, REFER TO 500 HOURS SCHEDULED MAINTENANCE FOR DETAILS
18	SWING BEARING	LUB 24HR								10 SHOTS		1	GREASE EVERY **24 HOURS** WHILE SWINGING LITHIUM BASE EP2 GREASE ◆
19	SWING PINION	LUB								20 SHOTS		1	GREASE WHILE SWINGING. LITHIUM BASE EP2 GREASE ◆
20	SWING GEARBOX LOWER BEARING			LUB						5 SHOTS EACH FITTING		4	REFER TO **250 HOURS** SCHEDULED MAINTENANCE FOR DETAILS. LITHIUM BASE EP2 GREASE ◆
21	ROTARY MANIFOLD SEAL			LUB						2 SHOTS		1	THE LUBRICATION FITTING ON NON-LEVELING MACHINES IS ACCESSED EITHER THROUGH THE MAIN BOOM MOUNTING AREA OR INSIDE THE UNDERCARRIAGE TOOLBOX LID. REFER TO **250 HOURS** SCHEDULED MAINTENANCE FOR DETAILS. LITHIUM BASE EP2 GREASE ◆
22	SWING GEARBOX UPPER GEARING	CHK		D/R								1	FILL WITH **75W-90 OR 80W-140** SYNTHETIC GEAR OIL UNTIL BOTTLE REMAINS HALF FULL WHEN OIL IS HOT.
23	MAIN AND STICK BOOM JOINTS	LUB								PURGE		12	LITHIUM BASE EP2 GREASE ◆
24	CYLINDERS; HOIST, STICK AND TELESCOPIC	LUB								PURGE		8	LITHIUM BASE EP2 GREASE ◆
25	DOOR AND ROOF HINGES				LUB					1 SHOT		13	LITHIUM BASE EP2 GREASE ◆
26	ROOF CYLINDER PINS				LUB					LUBRICATE		4	APPLY OIL LIBERALLY
27	ATTACHMENT	SEE MANUFACTURER'S MAINTENANCE SCHEDULE											
28	LEVELING SYSTEM (LH855E ONLY)	SEE SEPARATE LABEL											

LEGEND

2 FTG/125 ⧖ LUBRICATION POINT WITH A DESIGNATED NUMBER OF FITTINGS (2FTG) AND HOURS BETWEEN SERVICING (125⧖). JOINT TO BE PURGED.

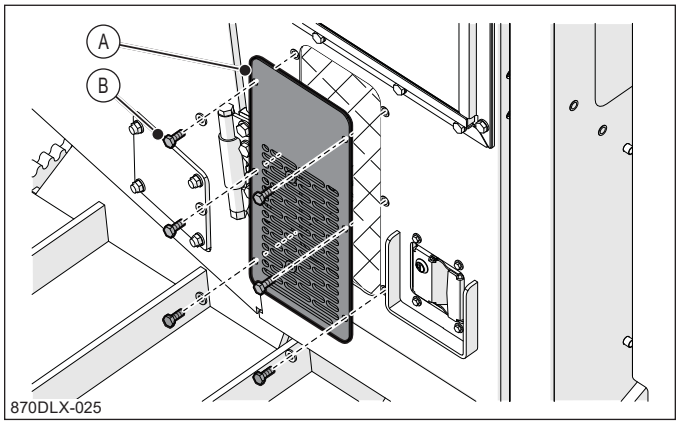
♦ USE LITHIUM BASED GREASE CONTAINING MOLYBDENUM DISULFIDE.

† USE OF FILTERS OTHER THAN GENUINE TIGERCAT REPLACEMENT FILTERS IS NOT RECOMMENDED.

⧖	HOURS
CHK	CHECK
DRN	DRAIN
D/R	DRAIN AND REFILL
LUB	LUBRICATE
PER	PERFORM
REP	REPLACE

80794BENG R2

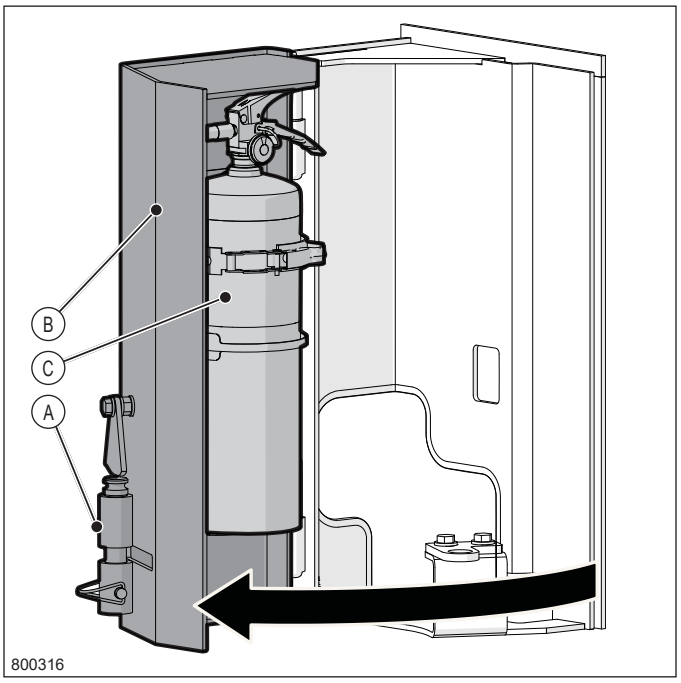
AIR FILTER COVER



A Air Filter Cover
v Fasteners (QTY 6)

The filter is located at the bottom of the side door. It can be serviced from the outside by removing the six bolts securing the cover grill to the door.

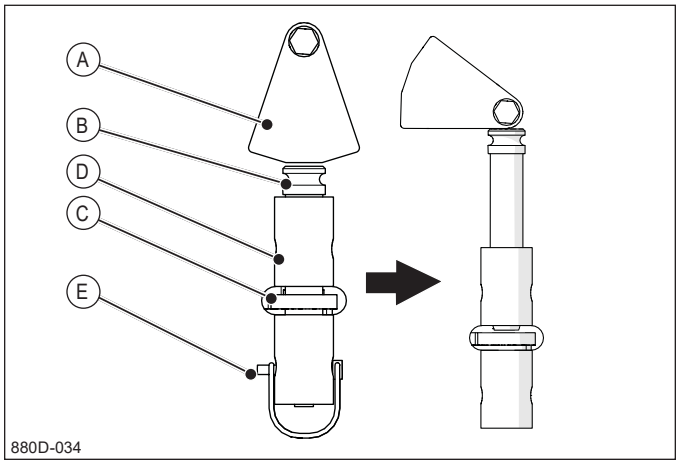
FIRE EXTINGUISHER ENCLOSURE



A Fire Extinguisher Enclosure Latch
B Fire Extinguisher Enclosure Door
C Fire Extinguisher

The fire extinguisher enclosure is located the beside the left side door. The enclosure is hinged at the sides provides access to the fire extinguisher.

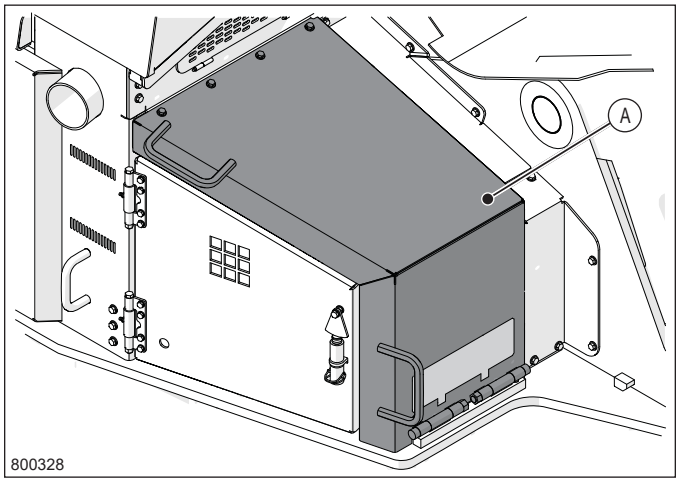
To open the fire extinguisher enclosure door, do the following:



A Door Swing Lock
B Door Pin
C Door Latch Lug
D Door Pin Tube
E Hitch Pin

1. Remove the hitch pin.
2. Move the door swing lock to allow the door pin to clear the door latch lug.
3. Open the fire extinguisher enclosure door.

PUMP COVER

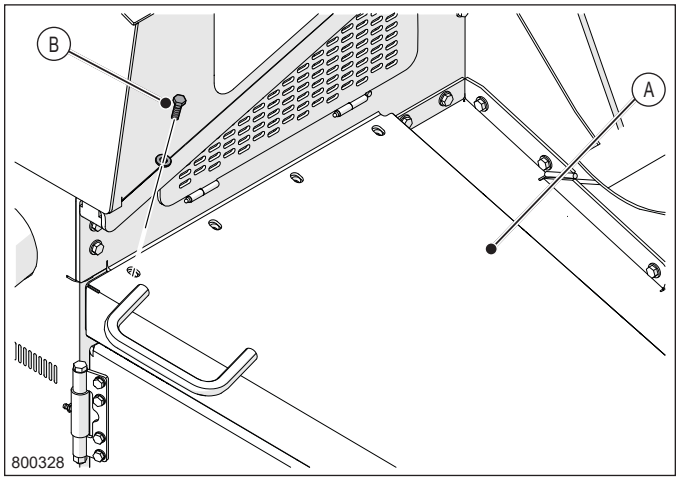


A	Pump Cover

The Pump cover can be pivoted to access the pump compartment.

To open the pump cover, do the following.

1. Open the pump cover side door. Refer to PUMP COVER SIDE DOOR in THIS SECTION.



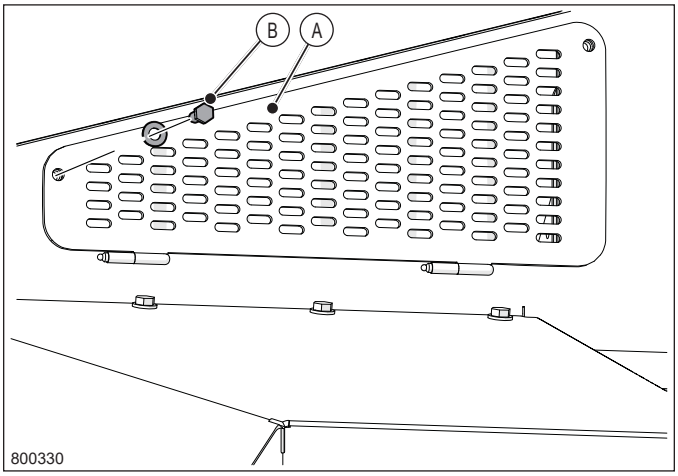
A	Pump Cover
B	Fasteners (QTY 4)

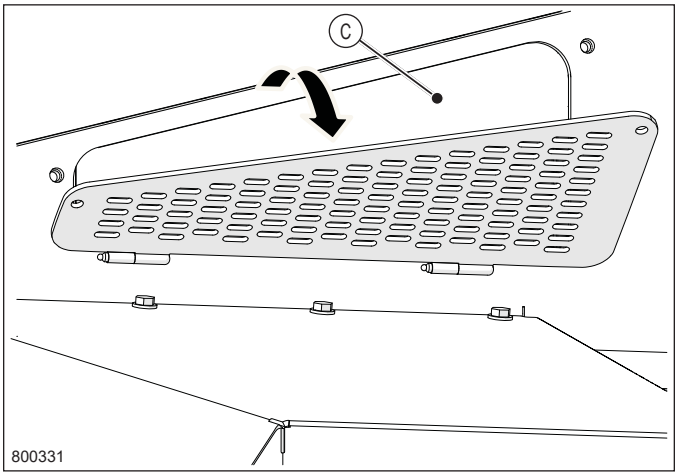
2. Remove the pump cover fasteners.
3. Pivot the pump cover towards the front of the machine.

EXHAUST CLEAN OUT COVER

A swing open cover hinged at the bottom provides access to the exhaust clean out.

To open the exhaust clean out cover, do the following:





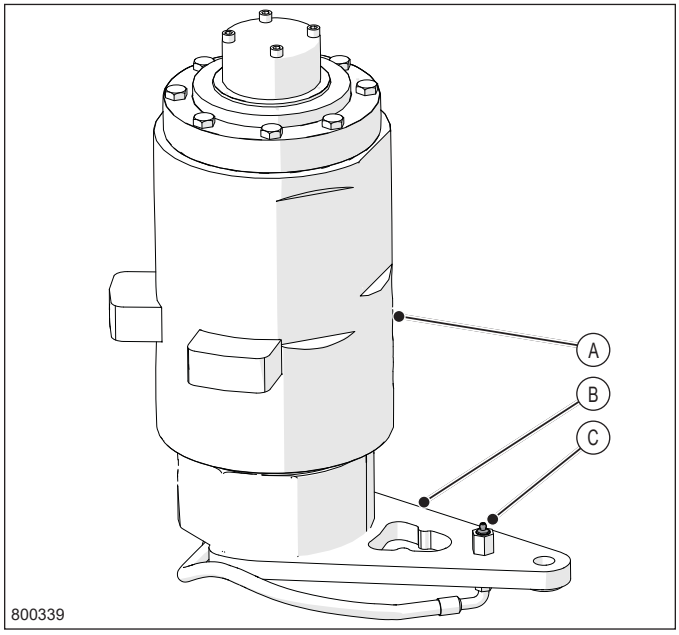
A	Exhaust Clean Out Cover
B	Fasteners (QTY 2)
C	Exhaust Clean Out

1. Remove the pump cover fasteners.
2. Pivot the exhaust clean out cover towards the front of the machine.

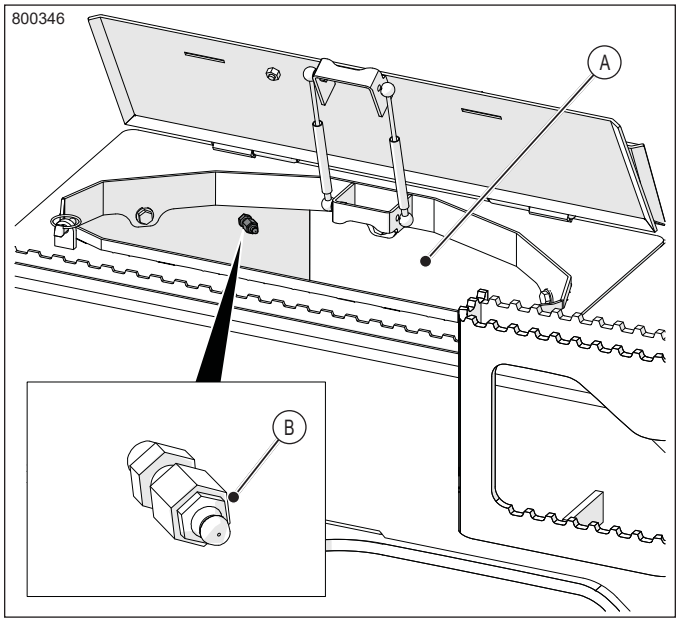
ROTARY MANIFOLD SEAL LUBRICATION

The lubrication fitting on non-leveling under carriages is accessed either through the main boom mounting area or inside the undercarriage tool box lid.

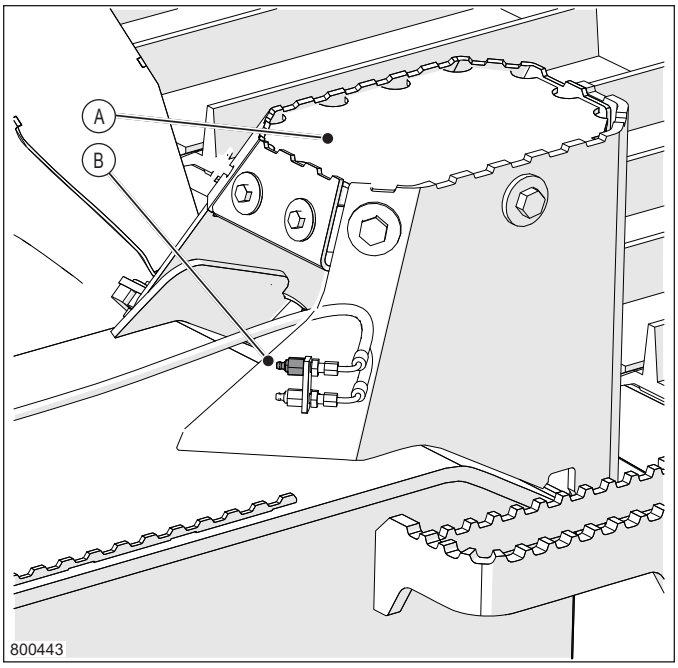
To access the lubrication point in the main boom mounting area, the upper structure must be turned to 0° (boom must be over idlers).



Non-Leveling Undercarriage	
A	Rotary Manifold
B	Rotary Manifold Torque Arm
C	Rotary Manifold Grease Fitting



Non-Leveling Undercarriage	
A	Undercarriage Toolbox
C	Rotary Manifold Grease Fitting



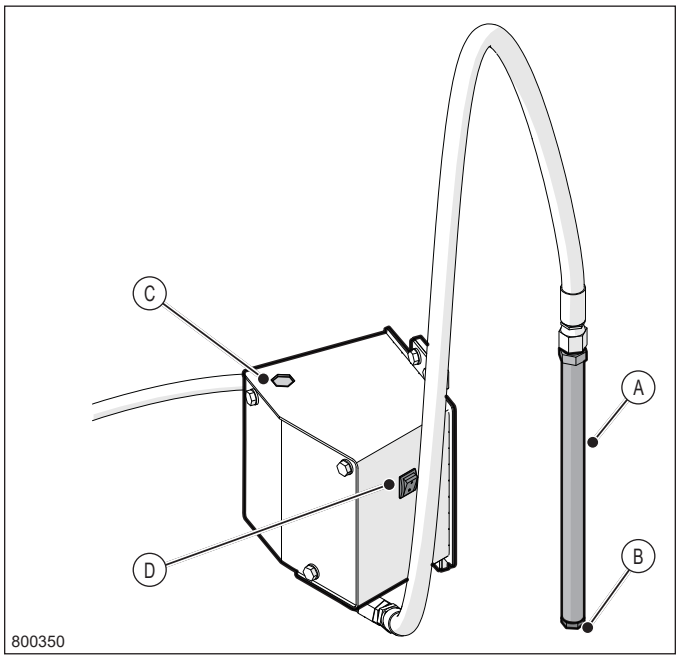
Leveling Undercarriage	
A	Step Cover
B	Rotary Manifold Grease Fitting

The lubrication fitting on leveling undercarriages is the top fitting located in the right undercarriage step cover.

To lubricate the rotary manifold seal, apply 2 shots grease every 250 hours.

NOTE: During cold weather applications the swing and machine functions must operate for several hours to achieve operating temperature. Warm the lubricating grease to 22°C (72°F) before lubricating the rotary manifold seal. **Do not over grease!**

HYDRAULIC OIL FILL PUMP–ELECTRIC

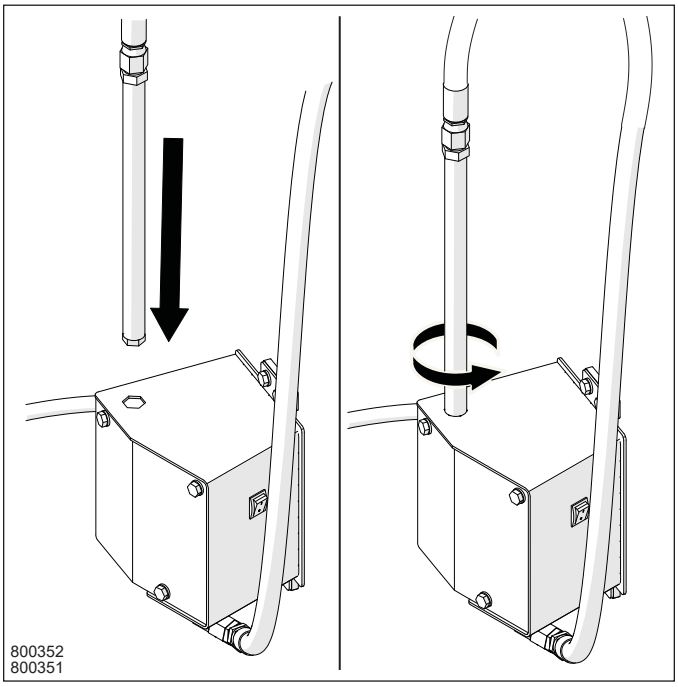


A	Fill Tube
B	Fill Tube Plug
C	Hexagon Socket
D	Electric Fill Pump Switch

The electric hydraulic oil fill pump, located in the service compartment on the left side of the machine, is used for adding oil to the hydraulic oil tank. Hydraulic oil is pumped directly into the hydraulic oil tank via the return filter manifold. This ensures any hydraulic oil added is filtered prior to entering the Hydraulic oil tank. Refer to APPROVED HYDRAULIC OILS in SECTION 3.

To add oil to the hydraulic oil tank with the electric hydraulic fill pump do the following

1. Release air pressure from the hydraulic oil tank using the air vent valve. Refer to HYDRAULIC OIL TANK PRESSURIZATION INSTRUCTIONS in THIS SECTION.
2. Remove the fill tube from fill tube holder.
3. Thoroughly clean the outside surface of the fill tube.



4. Remove the fill tube plug from the fill tube.

   NOTE: A hexagon socket located on the electric pump cover can be used to remove the plug.

5. Insert the fill tube into a hydraulic oil container.

   NOTE: The hydraulic oil container should be anchored to prevent tipping in both the full and empty conditions.

ENGINE COOLANT HEATER UNIT PREVENTIVE MAINTENANCE

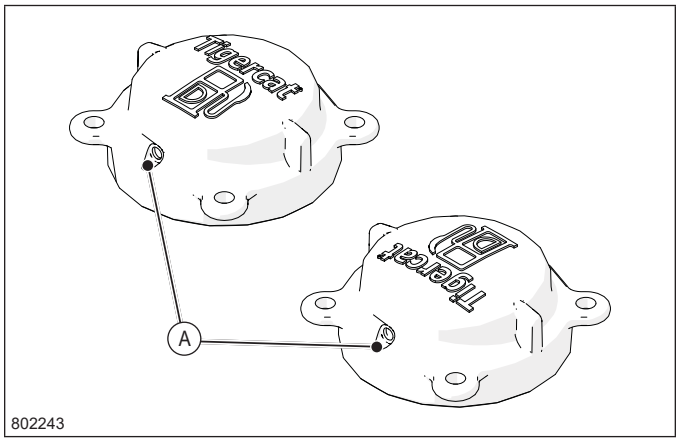
The following preventive maintenance schedule keeps the engine coolant heater unit in proper working order. Refer to manufacturer's operation manual for further information.

DAILY MAINTENANCE

Complete the following preventive maintenance items once per day:

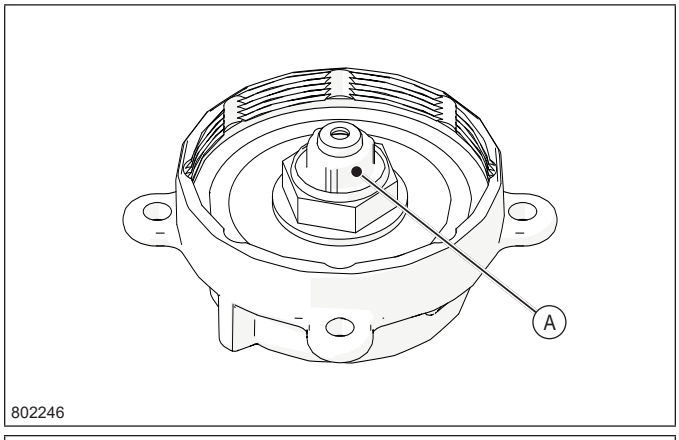
MACHINE FUEL TANK

If the engine coolant heater unit draws fuel directly from the machine fuel tank:



Fuel Tank Fill Cap
A Vent Ports

Remove any debris, snow, or ice around the fuel tank fill cap. Keep the vent ports clear to prevent a vacuum inside the fuel tank.

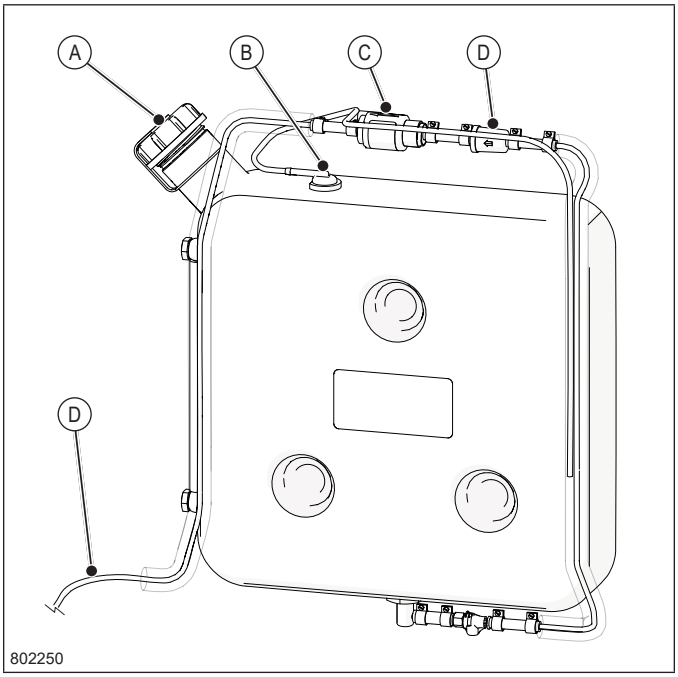


Fuel Tank Fill Cap
A Venting Valve

Inspect the fuel tank fill cap venting valve for proper operation in freezing temperatures. If the valve may freeze while the machine is parked overnight, leave the cap loose to prevent a vacuum inside the fuel tank.

REMOTE FUEL TANK

If the engine coolant heater unit draws fuel from a remote fuel tank:



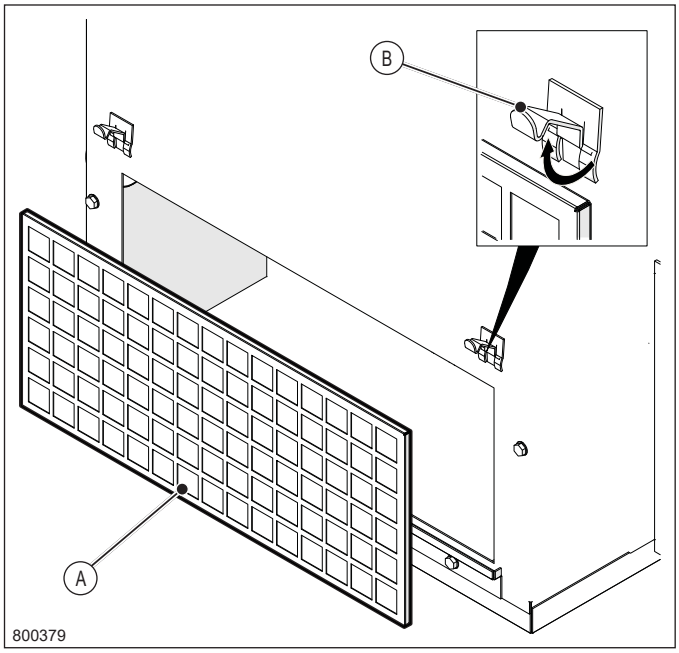
Typical Remote Fuel Tank (Rear View)
A Fill Cap
B Vent
C Fuel Pump
D Fuel Filter
E Fuel Line

Remove any debris, snow, or ice around the fill cap.

Inspect the tank vent line for free flow of air.

Inspect the fuel line and fittings for damage or leaks.

Refer also to REMOTE FUEL TANK FILLING in THIS SECTION.



A	Recirculating Air Filter
B	Filter Clip

5. Release the filter clips and remove the recirculating air filter.
6. Inspect, clean or replace the recirculating air filters
7. Install the recirculating air filter.
8. Close the filter clips to secure the recirculating air filter.

INSPECTION

Perform the following inspection along with the 125 HOURS inspection outlined in SCHEDULED MAINTENANCE in THIS SECTION.

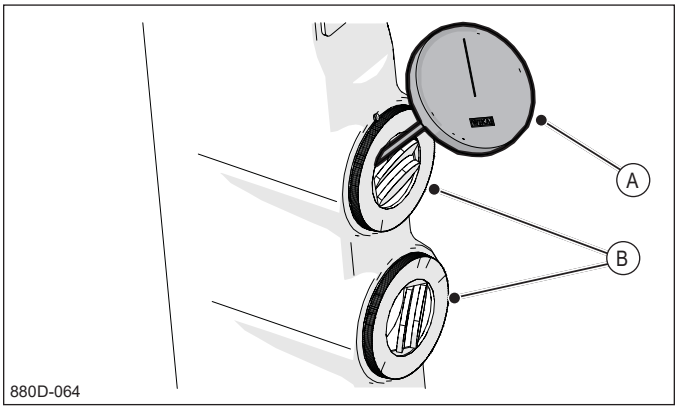
1. Check re-circulating and fresh air filters in the operator cab. Refer to SECTION 2.
2. Check the condenser core for dirt and debris. Clean as required. Refer to AIR CONDITIONING SYSTEM–INSPECTION in THIS SECTION.

⚠ CAUTION

If using pressurized water or compressed air for cleaning, use at 2 bar (30 psi) or less. Use personal protective equipment (safety glasses) to guard against flying debris.

3. Check the evaporator coil, located inside the A/C–heater unit, for dirt and debris. Also check the inside of the A/C–heater unit. Clean as required.
4. With the engine stopped, check the A/C belt tension and condition.

   NOTE: Belt tension specifications are 55 ± 2 kgf (121 ± 5 lb).
5. Check all A/C hoses for kinks.
6. Run the air conditioning system for three to five minutes.



A	Thermometer
B	Louvres

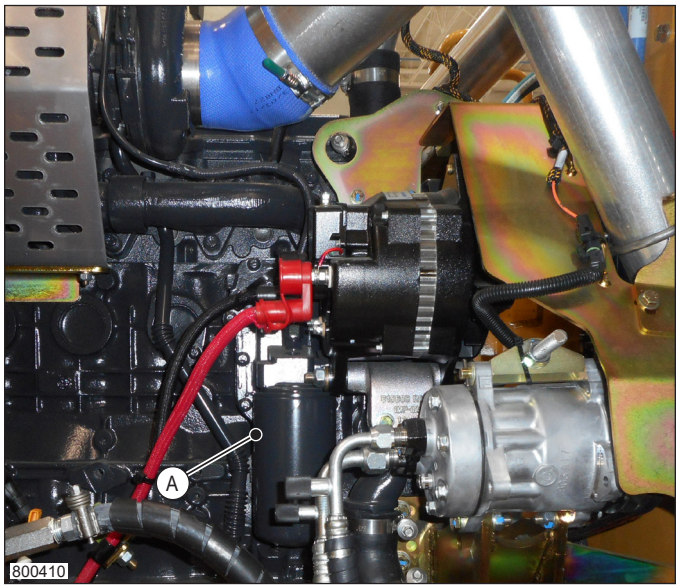
7. Use a thermometer to check the air temperature exiting the louvres
8. Listen to the compressor and blower motor for abnormal noises.

ENGINE FILTERS–REMOVE AND REPLACE

IMPORTANT!
Failure to service and replace engine filters at the proper intervals specified in the engine OPERATION AND MAINTENANCE MANUAL, could cause damage to the machine and result in the product warranty becoming null and void. Check the Tigercat parts catalogue for replacement filters.

Refer to appropriate engine OPERATION AND MAINTENANCE MANUAL for the oil and fuel filter replacement procedure. Read and understand the SAFETY section in each of these manuals.

ENGINE OIL FILTER



A Oil Filter, Engine

When installing a new oil filter, do not pre-fill with engine oil as this may result in engine damage. This type of failure is not warrantable by the engine manufacturer.

Refer to SERVICE AND LUBRICATION SCHEDULE in THIS SECTION for the proper filter replacement interval.

FUEL FILTERS

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 the fuel/water separator bowl be drained daily.

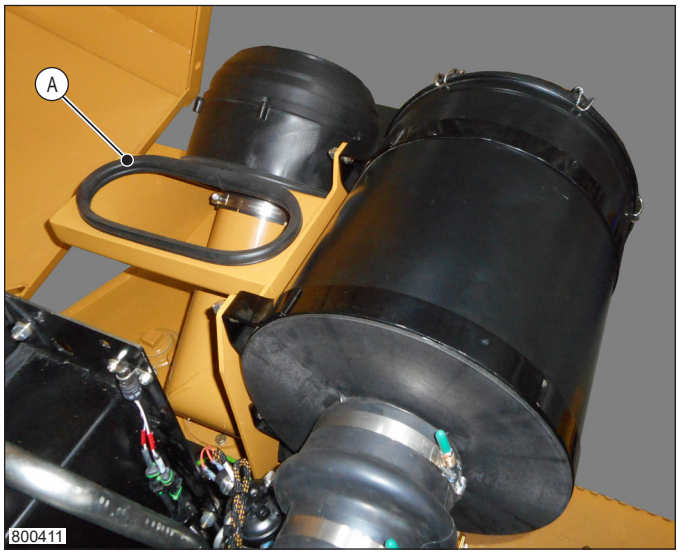
NOTICE

Tigercat does not recommend the pre-filling of spin-on filters due to the risk of damage to the fuel system caused by unfiltered fuel. Unfiltered fuel used to pre-fill filters enters directly into the fuel circuit. Contaminants in unfiltered fuel can cause significant and costly damage to fuel system components. The cleanliness of fuel cannot be guaranteed unless it is pre-filtered before use.

Use of filters other than genuine Tigercat replacement filters is not recommended. Replace filters at the recommended time intervals. Refer to SCHEDULED MAINTENANCE in this section.

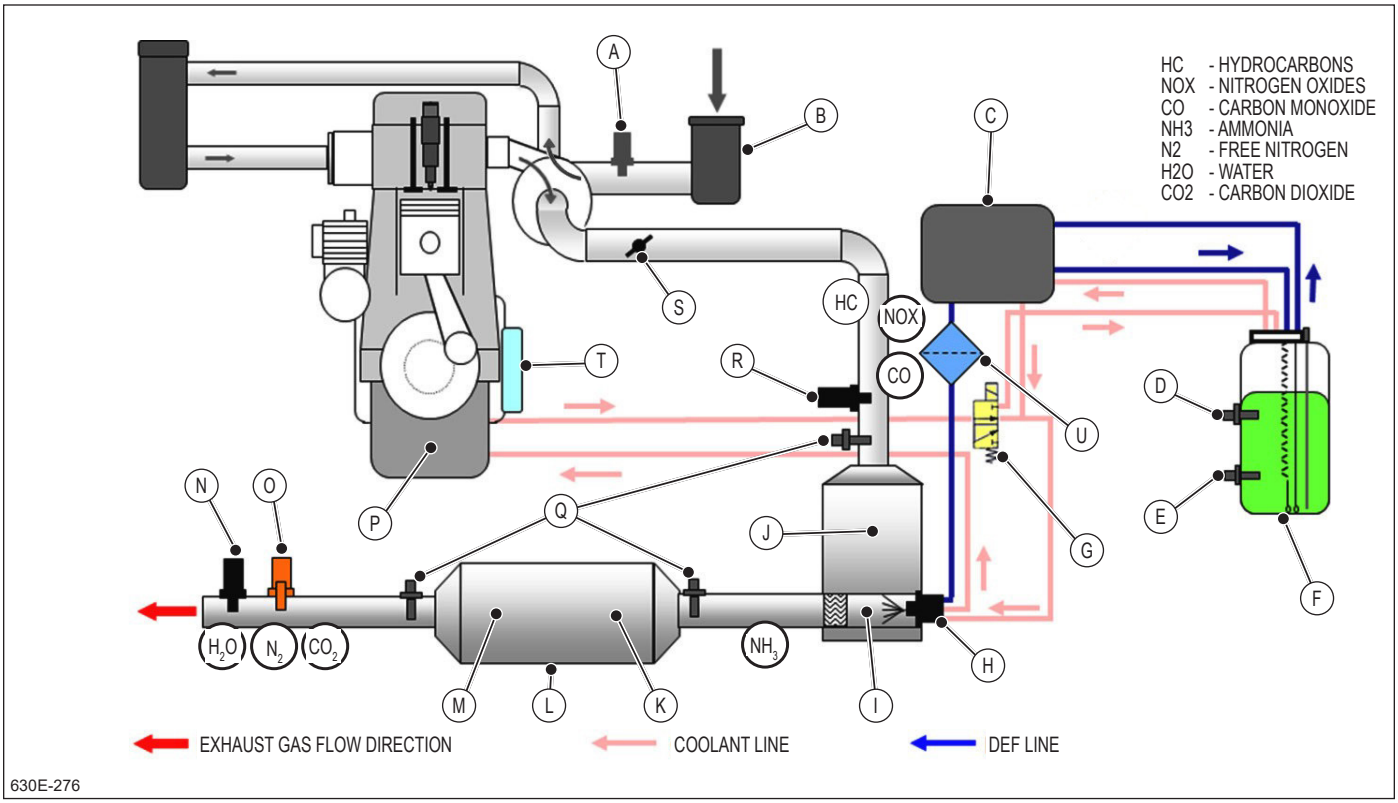
When installing a new fuel filter, do not pre-fill with diesel fuel as this will result in fuel pump damage. This type of failure is not warrantable by the engine manufacturer.

AIR INTAKE SEAL



A Air Intake Seal

Periodically check to ensure the seal is making proper contact with the sealing surface.



630E-276

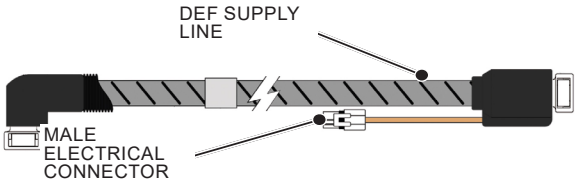
DOC/SCR Aftertreatment System	
A Humidity Sensor	L Catalytic Converter
B Air Filter	M CUC
C Supply Module	N NOX Sensor
D DEF Quality Sensor	O NH_3 Sensor
E DEF Level Sensor	P Engine
F DEF Tank	Q Temperature Sensors
G Heater Valve (Circulating Engine Coolant)	R NOX Sensor
H Dosing Module	S Exhaust Flap
I Mixer Tube	T Engine ECU
J DOC	U DEF Dosing Module Filter
K SRC	

HEATED DEF SUPPLY LINES

The DEF supply lines to the DOC and DEF tank require heating along the entire path. The three supply lines are each heated by an electrical wire element.

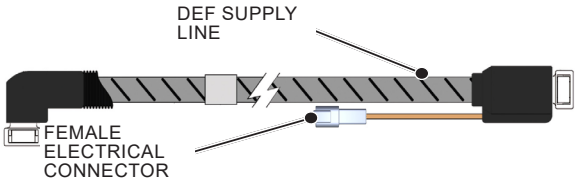
Heating is switched on when:

- Ambient temperature < 0° C (32°F)



T250D-117 **24 V HEATED SUPPLY LINE**

The DEF supply line from the supply module to the DOC is 24 V and is characterized by the male electrical connector located at the supply module.



T250D-118 **12 V HEATED SUPPLY LINE**

The two DEF supply lines from the supply module to the DEF tank are 12 V and are characterized by female electrical connectors located at the supply module. These two elements are connected electrically in series. If one of the elements fail, the element in the other line will not function.

Refer to ELECTRICAL SCHEMATIC in SECTION 6 for complete machine electrical schematics.

APPROVED ANTI-SEIZE PASTES FOR EXHAUST / AFTERTREATMENT SENSORS

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 should not be required.

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

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

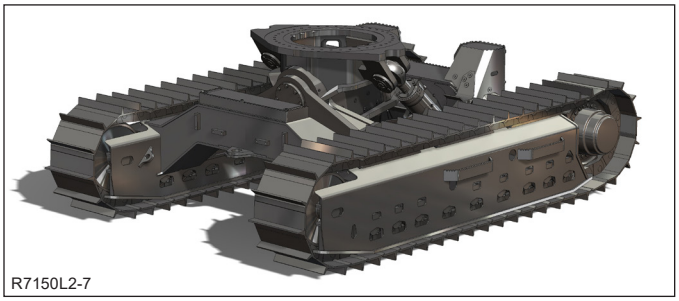
CARE OF THE MACHINE

- All fluid levels must be at the proper level. Refer to LUBRICATION AND MAINTENANCE SCHEDULE in THIS SECTION.
- Lubricate all grease points at the required intervals as specified in the LUBRICATION AND MAINTENANCE SCHEDULE in THIS SECTION.
- The cab emergency exits must be in working order by following the EMERGENCY EXIT MAINTENANCE GUIDE in THIS SECTION.
- Follow proper procedure for cleaning windows described in THIS SECTION.
- Do not allow branches, twigs, leaves or pine needles to build up around radiator intake doors or anywhere else on the machine. Clean as operating conditions warrant but at least once a day all debris must be remove from the machine interior.
- Do not apply load to a cold engine.
- Harvest trees in LOW driving range.
- Never park machine with the attachment raised off the ground. Be sure the attachment is resting on the ground before servicing or parking the machine. Refer to PARKING THE MACHINE in SECTION 1.
- SAFETY FIRST! Follow all safety rules and regulations as outlined in SECTION 1.

IMPORTANT!
When cleaning the machine with pressurized water it is important to avoid getting water directly or indirectly into the exhaust tube. Water in the exhaust tube will damage sensors and SCR system components and affect the proper operation of the after treatment system and the engine.

TRACK OPERATION AND WEAR PREVENTION

NOTE: The following illustrations are presented for illustrative purposes only and may not necessarily depict your machine or model.


R7150L2-7

PROTECTING STEEL TRACKS

Steel tracks are designed to perform in tough underfoot conditions. Take these steps to maximize service life and reduce operating costs.

Start every shift with a clean undercarriage: When mud and debris build up on the lower part of your machine, components wear at a faster rate. Do not begin work until the undercarriage area is clean.

Inspect the undercarriage before you start working: In addition to ensuring the undercarriage is clean, spend a couple of minutes on a visual inspection. Check for loose bolts, leaky seals and abnormal wear patterns. When you spot potential problems early, you can often prevent them from turning into bigger issues that reduce component life significantly or cause expensive unscheduled downtime.

Don't spin the tracks: Track spinning reduces production, it increases fuel consumption, without a corresponding increase in productivity, and it accelerates undercarriage wear, so your costs escalate. Grouser bars are especially prone to wear problems associated with track slippage.

Watch your speed: There are times when a job requires higher speed operation, but the fact is, wear accelerates as speed increases. Links, rollers and idlers are particularly vulnerable. Keep them working longer by controlling your speed.

Avoid unnecessary reverse operation: Operating in reverse, even at slow speeds, compounds bushing and sprocket wear as the track tension loads are applied to the top side of the chain. So avoid an unproductive reverse operation.

Alternate turning directions: If you're turning in the same direction, the undercarriage components on one side of the machine will wear at a different rate than those on the other side. Pay attention to the way you're turning and changing directions whenever possible to ensure even wear.

Make gradual turns instead of counter-rotations: Counter-rotating accelerates wear on the tracks and other undercarriage components. Don't use that technique unless job conditions demand it. Instead, turn the machine gradually while slowly moving forward or reverse. Gradual turns minimize cuts, tears and excessive wear in the undercarriage. They also reduce damage to soft or sensitive work surfaces.

In the event a counter rotation is required some operators will carefully push the boom and attachment down against a suitable obstacle and lift the forward or rear sections of the track off the ground. The operator will then counter rotate the tracks while swinging the upper structure. This will disengage most of the track length from the ground during the counter rotation resulting in less site damage and potentially less track wear. This is a complex manoeuvrer and should only be completed by fully trained and experienced operators working in stable ground conditions.

870C-TRACK1A

Work up or down a slope whenever possible: Working across a slope can shorten undercarriage component life, so try to structure the job with minimal cross-slope activity.

EATON Aeroquip

Recommended Parallel Connection Assembly torque

Eaton recommends that a Torque wrench be used to assure proper fitting assembly of these connections.

The values listed are for steel connections. Contact Teaton for torque values for other materials.

Straight Thread O-Ring Boss Low Pressure with 37º (SAEJ514)

Dash Size	Thread Size (inches)	Jam Nut or Straight Fitting Torque lb.-ft.	Jam Nut or Straight Fitting Torque Newton Meters
-03	3/8-24	8-9	12-13
-04	7/16-20	13-15	18-20
-05	1/2-20	14-15	19-21
-06	9/16-18	23-24	32-33
-08	3/4-16	40-43	55-57
-10	7/8-14	43-48	59-64
-12	1 1/16-12	68-75	93-101
-14	1 3/16-12	83-90	113-122
-16	1 5/16-12	112-123	152-166
-20	1 5/8-12	146-161	198-218
-24	1 7/8-12	154-170	209-230
-32	2 1/2-12	218-240	296-325

Straight Thread O-Ring Boss High Pressure with ORS (J1453)

Dash Size	Thread Size (inches)	Jam Nut or Straight Fitting Torque lb.-ft.	Jam Nut or Straight Fitting Torque Newton Meters
-03	3/8-24	8-10	11-16
-04	7/16-20	14-16	20-22
-05	1/2-20	18-20	24-27
-06	9/16-18	24-26	33-35
-08	3/4-16	50-60	68-78
-10	7/8-14	72-80	98-110
-12	1 1/16-12	125-135	170-183
-14	1 3/16-12	160-180	215-245
-16	1 5/16-12	200-220	270-300
-20	1 5/8-12	210-280	285-380
-24	1 7/8-12	270-360	370-490

ORS

Dash Size	Thread Size (inches)	Swivel Nut Torque lb.-ft.	Swivel Nut Torque Newton Meters
-04	9/16-18	10-12	14-16
-06	11/16-20	18-20	24-27
-08	13/16-16	32-35	43-47
-10	1-14	46-50	62-68
-12	1 3/16-12	65-70	88-95
-16	1 7/16-12	92-100	125-136
-20	1 11/16-12	125-140	170-190
-24	2-12	150-165	204-224

SAE 37º (JIC)

Dash Size	Thread Size (inches)	Swivel Nut Torque lb.-ft.	Swivel Nut Torque Newton Meters
-04	7/16-20	11-12	15-16
-05	1/2-20	15-16	20-22
-06	9/16-18	18-20	24-28
-08	3/4-16	38-42	52-58
-10	7/8-14	57-62	77-85
-12	1 1/16-12	79-87	108-119
-16	1 5/16-12	108-113	148-154
-20	1 5/8-12	127-133	173-182
-24	1 7/8-12	158-167	216-227
-32	2 1/2-12	245-258	334-352

Metric

Thread Size		Straight Adapter or Locknut Torque
mm	lb.-ft.	Newton Meters
M10x1	13-15	18-20
M12x1.5	15-19	20-25
M14x1.5	19-23	25-30
M16x1.5	33-40	45-55
M18x1.5	37-44	50-60
M20x1.5	52-66	70-90
M22x1.5	55-70	75-95
M26x1.5	81-96	110-130
M27x2	96-111	130-150
M33x2	162-184	220-250
M42x2	170-192	230-260
M48x2	258-347	350-470

BSPP

Nominal Thread Size		Straight Adapter or Locknut Torque
inches**	lb.-ft.	Newton Meters
G1/8-28	13-15	18-20
G1/4-19	19-23	25-30
G3/8-19	33-40	45-55
G1/2-14	55-70	75-95
G3/4-14	103-118	140-160
G1-11	162-184	220-250
G1 1/4-11	170-192	230-260
G1 1/2-11	258-347	350-470

** "G" denotes parallel threads, other than ISO 6149 (Port connection only)

Eaton Aeroquip Fluid Conveyance Products A-HOOV-MC001-E January 2005