Tigercat®

620E/625E/630E/635E SKIDDER

OPERATOR'S MANUAL

SERIAL NUMBER 6206401 TO 6209000
SERIAL NUMBER 6250501 TO 6250800
SERIAL NUMBER 6304201 TO 6306000
SERIAL NUMBER 6352001 TO 6353000

ISSUE 4.4, DECEMBER 2016

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The technical documentation for the machinery is available from:
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Tullynessle
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OPERATING SAFETY PRECAUTIONS

Turn the engine off when refuelling - DO NOT refuel the engine while smoking or near open flame or sparks.

Attach a grounding strap to an unpainted metal surface on the machine if the refuelling tank or nozzle is so equipped.

Check that no other personnel have moved into a hazardous area before starting the machine.

Sound the machine horn before starting the machine.

The operator's seat is equipped with a lap belt. Use this restraint system at all times when operating the machine.

Start the engine by following the instructions in this manual. Refer to OPERATING MACHINE in SECTION 2.

Never use a liquid staring aid to start an engine.

Before moving the machine to the work site, check to ensure that all doors, panels, and access covers are installed properly and secured.

FOR TIER 4F MACHINES ONLY:

Diesel Exhaust Fluid (DEF) may irritate eyes or skin. Do not get in eyes. Do not get on skin.

First Aid treatment: DEF Contains Urea. If swallowed call a Poison Control Centre or doctor immediately. Do not induce vomiting. If in eyes rinse with water for 15 minutes. If on skin rinse well with water. If irritation persists seek medical treatment.

⚠ WARNING

Use only diesel exhaust fluid (DEF) which meets ISO 22241 specifications. NEVER fill the DEF tank with any other fluid.
DEF is injected into the exhaust gas stream during normal operation of the Selective Catalytic Reduction (SCR) aftertreatment system.
Use of other fluids may cause component damage, or a fire risk which could result in death or serious injury.

CAB EXITS

There are three ways to exit the cab in case of an emergency.

1. **Left cab door,** one of the two main points of entry.
2. **Right cab door,** one of the two main points of entry.
3. **Sliding windows in the cab doors,** this is a third cab exit for use if the cab doors become blocked.

It is important that the operator of the machine be familiar with these emergency exits and how to use them.

All three exits should be checked to make sure that they are operational and will function in an emergency.

IMPORTANT !
Unlock both doors before operating machine to allow opening from the outside in case of an emergency. Make sure that the doors are operational, open the doors twice, once using the exterior handle and once using the interior latch handle.

For additional information, refer to EMERGENCY EXITS in SECTION 3.

Secure loose items in cab.

Prior to commencing work, check all equipment controls to ensure that the machine responds correctly.

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 feet) within the soil around the strike point.

Thunder always 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.

1. 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.
2. Don’t start or continue any work that cannot be stopped immediately, when a storm moves nearby.
3. 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.
4. Obey the rule - **If you see lightning, Flee. If you hear thunder, Clear**.
5. 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. Always follow step 4.
6. 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 that they contain. Should lightning strike, the electrical current will travel through the wiring or plumbing into the ground. When such a building is nearby, always seek shelter there first.

OPERATOR'S MANUAL LOCATION

This label indicates the storage location of the operator's manual. This label is located on the outside of the operator's manual case inside the cab.

REMOVE IGNITION KEY BEFORE SERVICING THE MACHINE!

Prior to performing any service work or maintenance on the machine, stop the engine, **REMOVE THE IGNITION KEY** and store it in a safe place.

Tigercat 620E/625E/630E/635E Skidder
SECTION 2 - CONTROLS & OPERATION

Read and understand the entire manual including Safety section prior to operating any equipment. Read and understand all manuals for any attachments or accessories.

CONTENTS - SECTION 2

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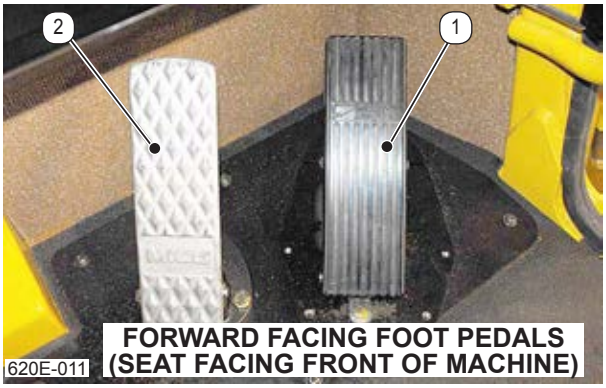
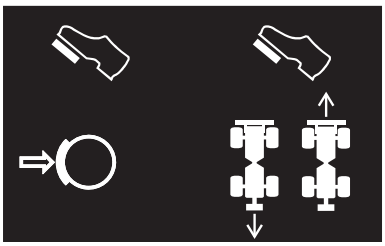
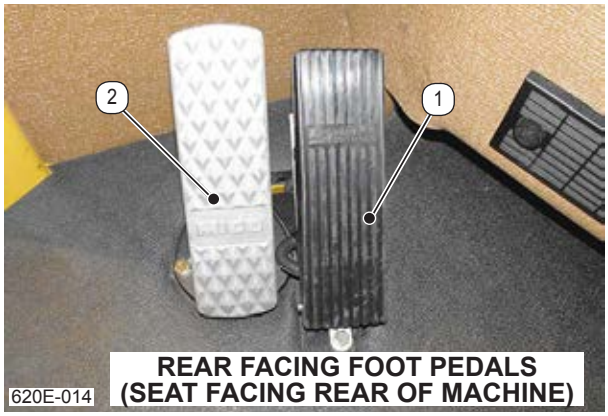
IMPORTANT !
This manual is applicable to factory installed machine functions and controls. It does not take into account any changes or modifications made after shipment. Verify all functions before operating this machine.

CAB CONTROLS

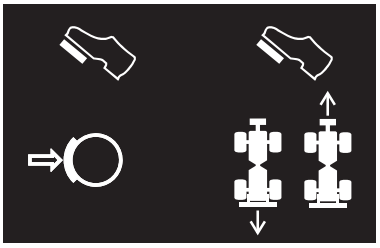


FORWARD FACING FOOT PEDALS (SEAT FACING FRONT OF MACHINE)





REAR FACING FOOT PEDALS (SEAT FACING REAR OF MACHINE)



1. TRAVEL/ENGINE SPEED PEDAL (ROTATING SEAT & JOYSTICK STEERING)

Press the foot pedal to drive in the direction selected on the direction selection switch on the left joystick.

The position of the foot pedal is directly proportional to the travel/engine speed of the machine.

NOTE: A backup alarm will sound when travelling in reverse based on the position of the operator's seat.

Refer also to LEFT JOYSTICK – DIRECTION SELECTION SWITCH in THIS SECTION.

2. BRAKE PEDAL (ROTATING SEAT & JOYSTICK STEERING)

Press the foot pedal to apply the hydraulic brakes in the front axle. This will also apply braking to the rear axle since they are mechanically locked together by the drive shafts and transmission.

NOTE: As a safety precaution before working on or around the machine; After the engine has been turned off, depress this pedal repeatedly until there is no pedal resistance to relieve any pressure that may be stored in the hydraulic system. This may take a minimum of 150 applications.

Check service brake for proper operation daily. Refer to SERVICE BRAKE – CHECKING BRAKE AND ACCUMULATOR FOR PROPER OPERATION in SECTION 3.

FORWARD FACING PEDALS AND REAR FACING PEDALS (ROTATING SEAT & JOYSTICK STEERING)

The rotating seat cab is equipped with two sets of pedals one set forward facing and the other set rear facing.

Note that control of machine travel is automatically transferred by the computer control system from the forward facing travel/engine speed pedal to the rear facing travel/engine speed pedal based on the position of the operator's seat. Both brake pedals operate regardless of seat position.

For safe operation of all controls the operator's seat must be locked in either the forward facing or rear facing position. Refer also to ROTATING SEAT KICK LEVER in THIS SECTION.

FRONT AND REAR ORIENTATION NOTE:
The dozer blade is considered to be at the front of the machine. The attachment is considered to be at the rear of the machine. Therefore in the forward facing position the operator's seat is facing the dozer blade and in the rear facing position the operator's seat is facing the attachment.

Place this switch in the (FREESPOOL) position to disconnect the drive motor from the drum in the winch and allow the cable to be freely pulled from the spool. Free spool must be turned off to activate a pull with the winch. The winch freespool icon on the main menu of the computer display will be illuminated when the winch selector switch is in the position.

Refer also to WINCH CONTROL LEVER in THIS SECTION .

11. WINCH CONTROL LEVER

FOR CARCO WINCH

Place the winch select switch (to the left of the lever) in the I (ON) position. Push and hold the winch control lever FORWARD to release the dynamic brake for dropping a load on the fly or drive away from a load with slight tension on the cable. The control lever will return to the centre neutral position when released.

The neutral or centre position actuates the winch pinion brake and prevents the drum from rotating.

Place the winch select switch (to the left of the lever) in the I (ON) position. Pull and hold the winch control lever BACK to wind in the winch cable . The control lever will return to the centre neutral position when released.

Placing the winch select switch (to the left of the lever) in the (FREESPOOL) position permits the cable to unwind freely. The cable can then be pulled from the drum by the operator by hand. The freespool function is intended for use in pulling the cable by hand only and must not be used when the cable is loaded. Improper use of the freespool function will result in damage to the winch.

Refer also to WINCH SELECT SWITCH in THIS SECTION.

FOR ALLIED WINCH

The dynamic brake position is not used for Allied Winch applications.

The neutral or centre position actuates the winch pinion brake and prevents the drum from rotating.

Place the winch select switch (to the left of the lever) in the I (ON) position. Pull and hold the winch control lever BACK to wind in the winch cable . The control lever will return to the centre neutral position when the handle is released.

Placing the winch select switch (to the left of the lever) in the (FREESPOOL) position permits the cable to unwind freely. The cable can then be pulled from the drum by the operator.

Refer also to WINCH SELECT SWITCH in THIS SECTION.

12. AIR CONDITIONER

This is a two position rocker switch used to turn the air conditioner ON or OFF.

In the position the air condition is ON.

In the position the air conditioner is OFF.

13. AIR SOURCE

This is a two position rocker switch used to add fresh air to the cab.

In the position fresh air is brought into the cab.

In the position air from the cab is recirculated along with fresh air.

Refer also to CAB VENTILATION in THIS SECTION.

C. SHOCK ABSORBER (5 SETTINGS)

The shock absorber lever setting can be varied adjusting the cushioning effect to suit operating conditions.

- Turn the lever to the desired position and release.

Five positions are available from 1 (soft) to 5 (hard). Position 3 (medium) is recommended as an initial setting which can then be adjusted as needed for operator preference and/or operating conditions.

IMPORTANT!

When setting weight and height adjustments shock absorber lever should first be placed temporarily in position 1 (soft).

D. SEAT ANGLE ADJUSTMENT

- Pull the left handle upward and adjust the angle of the seat by moving the front edge of the seat cushion up or down until it is in the desired position. Release the handle to lock the seat cushion in position.

E. SEAT DEPTH ADJUSTMENT

- Pull the right handle upward and adjust the depth of the seat by moving the seat cushion forward/backward until the seat depth is adjusted to the desired position. Release the handle to lock the seat cushion in position.

F. ARMREST ANGLE ADJUSTMENT

- Turn adjusting knob toward the outside of the seat to raise the angle of the armrest.
- Turn the adjusting knob toward the inside of the seat to lower the angle of the armrest.

G. ARMREST HEIGHT

- Armrest height can be adjusted if required.
- Carefully remove the snap on cover by pulling out on both sides to access the adjusting nut.
- Loosen the hexagon nut (13mm), adjust the armrest to the desired height and retighten the nut.
- Replace the plastic cover.

H. SEAT FORWARD/BACK POSITION RELATIVE TO JOYSTICK PODS

- Pull up on locking lever and move seat forward/backward to position the seat comfortably for operation of the joysticks. Release the locking lever to lock in place.

IMPORTANT!

The locking lever must latch with an audible click when released to lock the seat in position. It should not be possible to move the seat when it is locked.

I. SEAT FORWARD/BACK POSITION

- Pull up on lever and move seat (and joystick pods) forward/backward to position the seat comfortably for operation of the foot pedals. Release the lever to lock in place.

IMPORTANT!

The lever must latch with an audible click when released to lock the seat in position. It should not be possible to move the seat when it is locked.

J. SEAT HEATER/COOLER

This is a three position switch.

- Seat Heater ON - press top of switch.
- OFF - Centre position.
- Seat Cooler ON - Press the bottom of switch.

K. LUMBAR SUPPORT

The two lumbar support switches individually adjust the curvature of the upper and lower areas of the backrest for operator comfort.

- Increase curvature by pressing "+".
- Reduce curvature by pressing "-".

Upper or lower backrest curvature is individually adjusted by using the upper or lower switches respectively. When maximum curvature adjustment is reached pressing "+" will no longer cause an adjustment and the switch should be released.

L. BACKREST ANGLE ADJUSTMENT

- Lean forward and pull up the locking lever to release the backrest catch. Adjust backrest angle to the desired position. Release the lever to lock in place.

IMPORTANT!

The locking lever must latch when released to lock the seat in position. It should not be possible to move the seat when it is locked.

Refer to CLEANING A/C CONDENSER AND COOLER PACKAGE in SECTION 3.

Refer also to the COMPUTER – MESSAGES in THIS SECTION.

4. Fuel Temperature - °F or °C

This display indicates the fuel temperature.

5. Engine Speed (rpm)

This display indicates engine speed in rpm.

Maintaining Correct Engine RPM

It is important that the engine speeds be correct at all times:

FPT N67 Engine:

Low Idle 950 RPM (No Load)

High Idle 2200 RPM (No Load)*

NOTE:
The above values are measured with the hydraulic and engine oil at normal operating temperatures and no functions activated.

Engine idle speed defaults to 950 rpm when the engine is started.

NOTE ALSO: Engine speed can also be monitored using the engine tachometer gauge shown on the main menu.

* Refer also to COMPUTER – ADJUSTMENT MENU - ENGINE SETTINGS – ENGINE HIGH IDLE ADJUST and AUTO RPM in THIS SECTION.

6. Boost Pressure (psi or bar)

This display indicates air intake manifold boost pressure in psi.

7. Oil Pressure (psi or bar)

This display indicates engine oil pressure.

If oil pressure falls too low, an alarm will sound.

Refer to the COMPUTER – MESSAGES in THIS SECTION.

8. Eng % Torque (%)

This display indicates the percentage of maximum engine peak torque currently in use.

With engine speed at IDLE (no load) and hydraulic oil at operating temperature the reading should be:

Parking Brake ENGAGED 6-10%

Readings with the parking brake DISENGAGED should be 10-14%.

If the readings are outside this range investigate the cause.

NOTE: The above readings are at normal operating temperatures. During cold start-ups it is not unusual for readings to be significantly higher until normal operating temperatures are reached.

9. Engine Hours - h

This display indicates the total number of hours the engine has run.

10. Engine Voltage (volts)

This display indicates engine voltage levels.

Normal operating range for the electrical system is between 20 and 30 volts.

If engine voltage goes outside the normal range, an alarm will sound. Refer to COMPUTER – MESSAGES in THIS SECTION.

A reading in excess of 30 volts indicates a possible faulty voltage regulator.

A reading less than 20 volts indicates a possible faulty battery or alternator.

IMPORTANT
24 VOLT ELECTRICAL SYSTEM

11. Fuel Rate -US gph or L/h(instantaneous)

This display indicates the current rate of fuel consumption in gallons per hour.

8. Transmission Oil Temperature-°F or°C (EHS Transmission only)

This display indicates the Transmission Oil Temperature as read at the EHS transmission clutch manifold.

9. Total fuel information

This display indicates the total fuel used during the life of the machine.

- Total fuel used US gal or L,
- Total hours h
- Total fuel rate US gph or L/h.

10. Trip fuel information

This display indicates the average fuel consumption rate for the machine since last reset.

- Trip fuel used US gal or L,
- Trip hours h

- Trip fuel rate US gph or L/h.

FUEL GAUGE

The fuel level gauge is shown on the main menu. Note that a yellow fuel symbol indicates fuel level low.

MAIN MENU PAGE

From any menu page.

Press the menu button to go to the main menu page.

The main menu page displays the following selections:

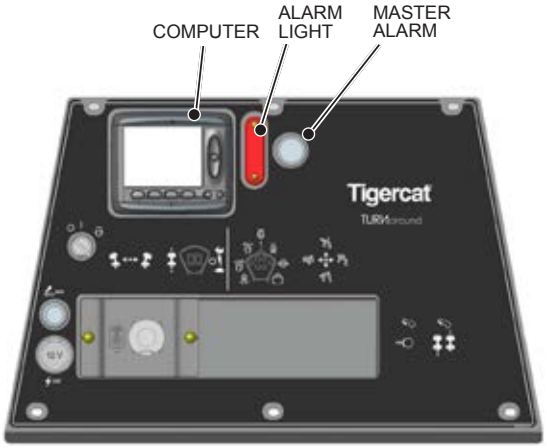
- Adjust - Press F1 to select
- Measure - Press F2 to select
- Preferences - Press F3 to select
- Info - Press F4 to select

Press the back button to return to the page which was displayed when the main menu page was selected.

OR

Press the menu button again to return to the page which was displayed when the main menu page was selected.

MESSAGES



INSTRUMENT PANEL

The computer displays messages, activates the master alarm and alarm light whenever a system fault occurs. Note that the computer control system will automatically perform a bulb test at engine start-up to ensure that master alarm and alarm light are functioning. Refer to STARTING ENGINE in THIS SECTION.

There are different types of Messages and Alarms, they appear on the screen as a block message.

The types of messages are:

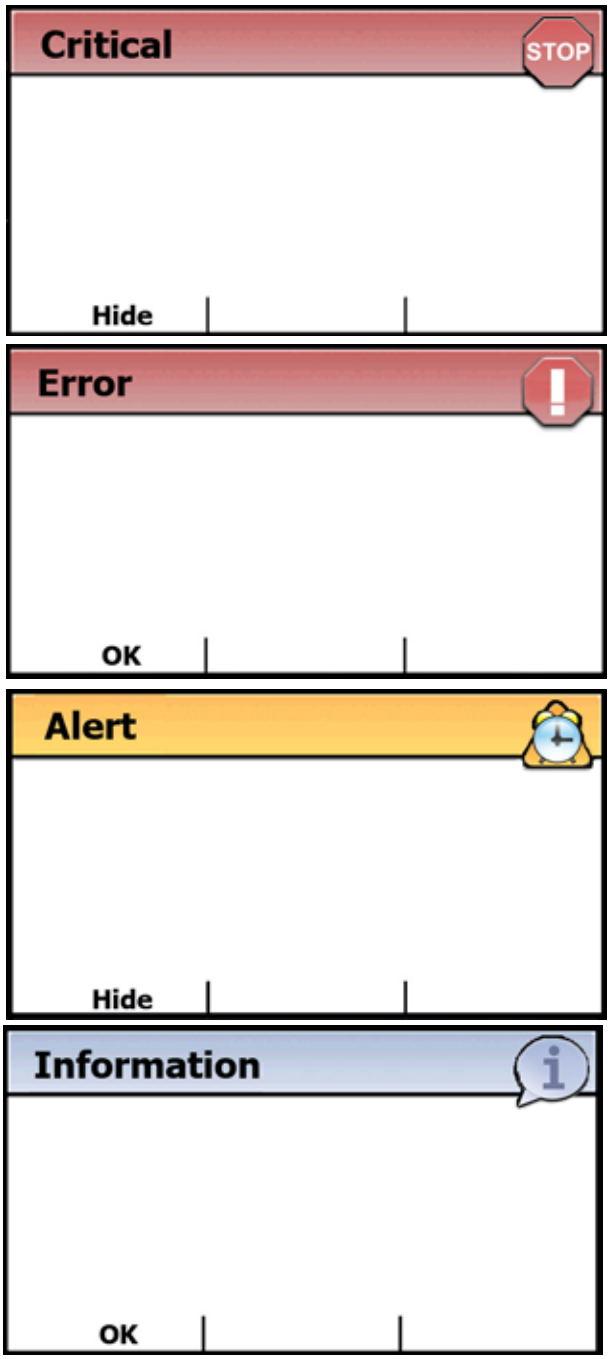
- CRITICAL MESSAGE - Colour RED
- ERROR MESSAGE - Colour RED
- ALERT MESSAGE - Colour YELLOW
- INFORMATION MESSAGE - Colour BLUE

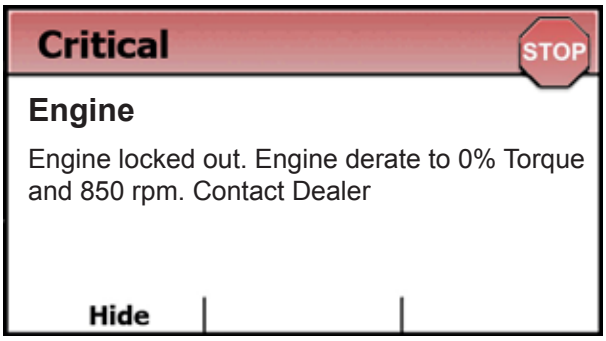
Messages can be hidden or acknowledged by pressing the F2 button (Hide or OK).

All messages that have been hidden or acknowledged are stored in the computer.

In some instances it will be necessary to immediately stop the machine, turn the engine OFF and repair the problem causing the message.

Active fault messages that have been hidden can be reviewed by pressing the F4 button. Recalled messages will be displayed in order starting with the highest priority first.





ENGINE LOCKED OUT

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

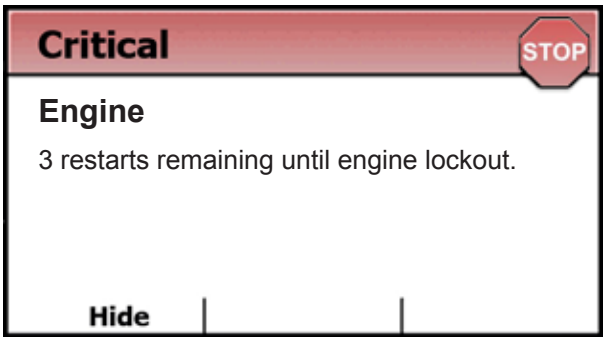
This message will be displayed, alarm light will flash and alarm will sound when an engine is locked out by the computer system to prevent further damage to the engine and aftertreatment system.

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 Manuals for code information.

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



ENGINE RESTARTS REMAINING UNTIL ENGINE LOCKOUT

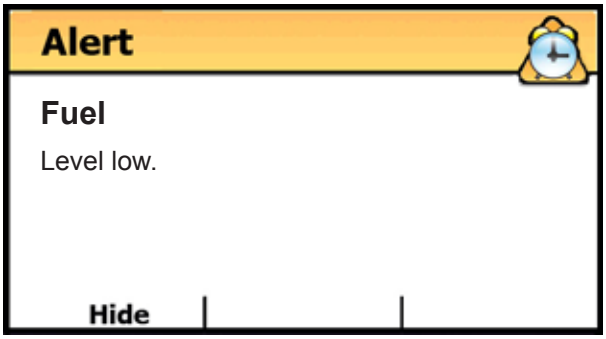
NOTE: The aftertreatment system and its related components are applicable to Tier 4f machines only.

This message will be displayed, alarm light will flash and alarm will sound 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 – MESSAGES - CRITICAL – ENGINE LOCKED OUT in THIS SECTION.

ALERT MESSAGES

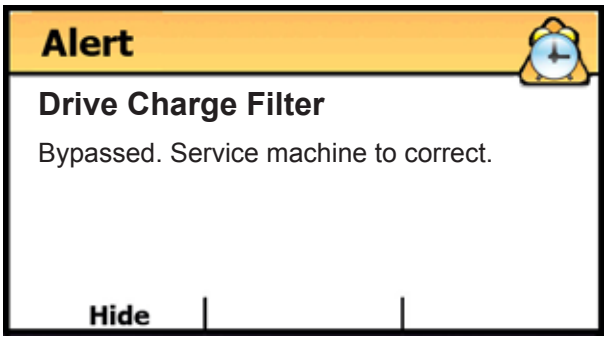


FUEL LEVEL LOW

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

Note that the fuel gauge symbol changes from its normal white to yellow when fuel level is low.

Refer to FUEL TANK in SECTION 3 for tank capacities.

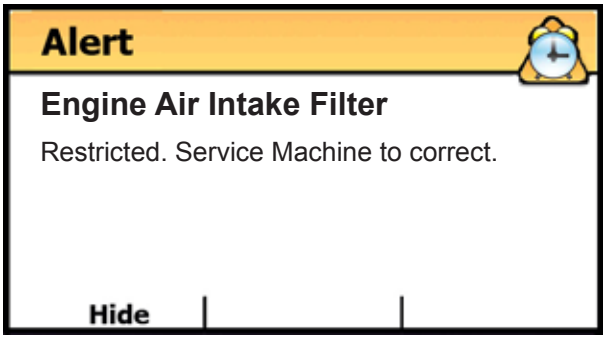


DRIVE CHARGE FILTER BYPASSED

This message will be displayed when an oil flow restriction in excess of 50 psi (3.5 bar) is encountered at the hydrostatic oil charge filter. This pressure build up also opens the filter bypass valve in the filter head allowing oil to bypass the filter element.

When this happens the filter requires immediate service.

If alarm sounds during cold start-ups, the engine speed should be reduced and the warm up procedure continued. Note that the bypass message will only be displayed when hydraulic oil temperature is above 85°F (29°C) and the filter is in bypass mode.

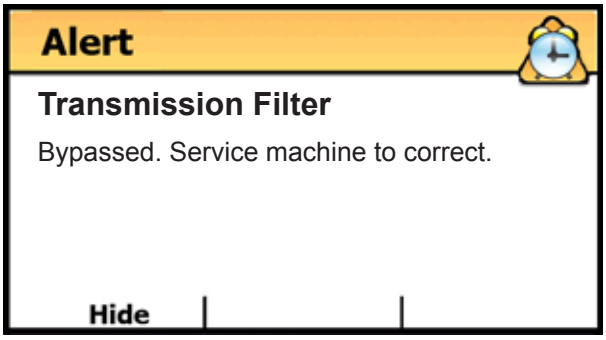


ENGINE AIR INTAKE FILTER RESTRICTED

This message will be displayed when a signal is received from the restriction indicator switch on the engine air cleaner.

When this happens the engine air cleaner requires immediate service.

Refer to AIR CLEANER MAINTENANCE in SECTION 3.



TRANSMISSION FILTER BYPASSED (IF EQUIPPED)

This message will be displayed when an oil flow restriction in excess of 50 psi (3.5 bar) is encountered at the transmission filter. This pressure build up also opens the filter bypass valve in the filter head allowing oil to bypass the filter element.

When this happens the filter requires immediate service.

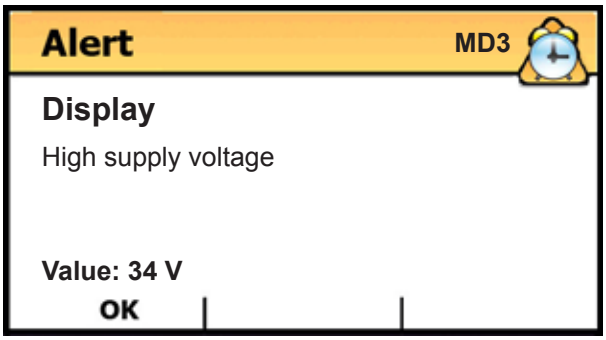
If alarm sounds during cold start-ups, the engine speed should be reduced and the warm up procedure continued. Note that the bypass message will only be displayed when transmission oil temperature is above 40°F (4°C) and the filter is in bypass mode.

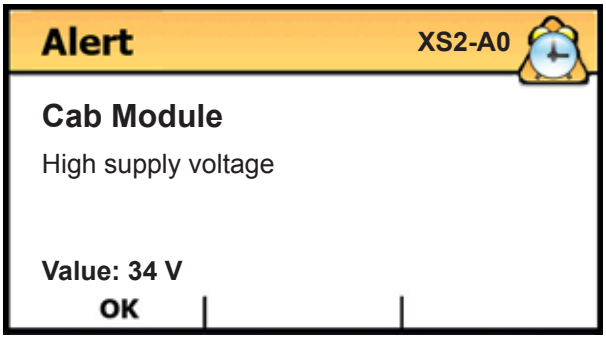
MODULE HIGH SUPPLY VOLTAGE - ALERT

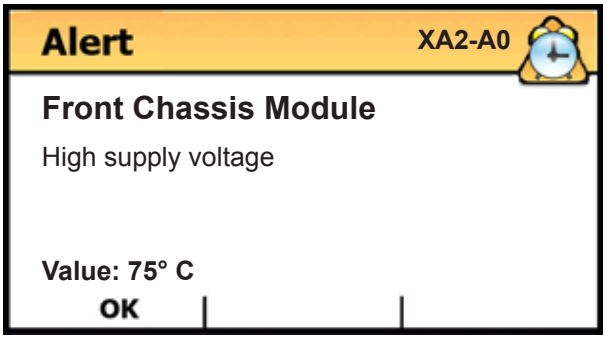
Module high supply voltage alert message will be displayed to indicate that the computer control system has detected high supply voltage readings in a system module.

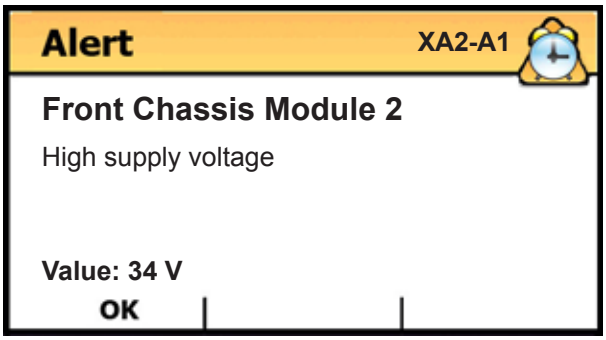
The module is identified on the display screen. The voltage reading value is also displayed.

Once acknowledged this message will be replaced with a hardware fault message for the corresponding module when active faults are recalled to the screen. Refer to COMPUTER – MESSAGES - ALERT – HARDWARE FAULT in THIS SECTION.









BATTERY BOOSTING

NOTICE

This machine has a 24 volt starting system. Only use the same voltage when boosting with an auxiliary battery. Using a higher or lower voltage will cause serious damage to the electrical system. Only a compatible (same) voltage is permissible.

The batteries are located in the step compartment below the left cab door.

Refer also to BATTERY CARE in SECTION 3.

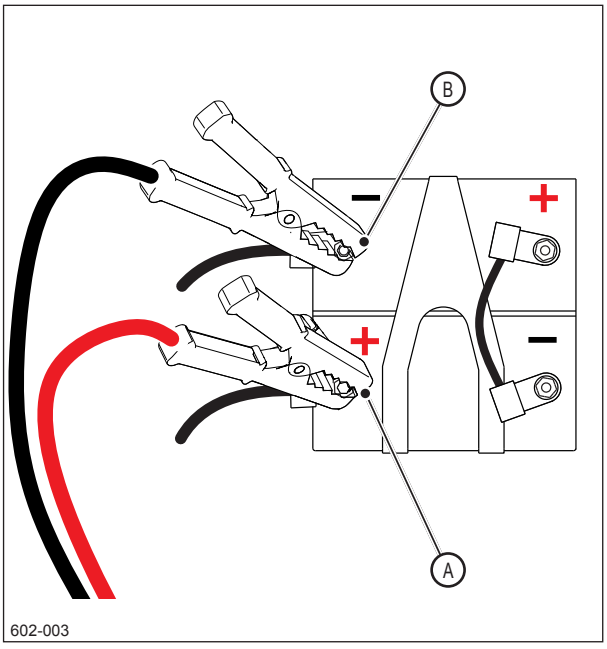
BATTERY BOOSTER CABLE WITH CLAMPS

1. Bring the machines as close as possible,

IMPORTANT

24 VOLT ELECTRICAL SYSTEM

   make sure the machines do not touch.
2. Make sure the machine with the good battery uses a 24 volt system.
3. Turn OFF the ignition of both machines.
4. Access the batteries.
5. Find the red positive (+) and black negative (–) battery terminals.



A Positive Battery Terminal (Red)
B Negative Battery Terminal (Black)

6. Connect the clamp of the red jumper cable to the positive (+) terminal of the dead battery.
7. Connect the other clamp of the red jumper cable to the positive (+) terminal of the good battery.
8. Connect the clamp of the black jumper cable to the negative (–) terminal of the good battery.
9. Connect the other clamp of the black jumper cable to the negative (–) terminal of the dead battery.
10. Start the engine with the good battery.
11. Start the engine with the dead battery.
12. Disconnect the clamp of the black jumper cable from the negative (–) terminal of the dead battery.
13. Disconnect the clamp of the black jumper cable from the negative (-) terminal of the good battery.
14. Disconnect the clamp of the red jumper cable from the positive (+) terminal of the good battery.
15. Disconnect the clamp of the red jumper cable from the positive (+) terminal of the dead battery.
16. Install the battery box cover and mounting hardware.

If the batteries need charging, refer to BATTERY CARE in SECTION 3.

MACHINE WARM UP SPEED ADJUSTMENT

From the main menu press F2 button to select the ADJUSTMENT MENU.

Press the arrow up or arrow down buttons to scroll to the setting to be adjusted.

Press the F2 button to reset to default setting. Press F2 (Yes) or F3 (No) to confirm.

The engine settings menu will appear by default.

Press F1 (Adjust) to adjust engine settings

CARE OF THE MACHINE

1. Ensure that all fluid levels are always at the proper level. Use the preventative maintenance schedule in SECTION 3 .
2. Follow proper procedure for cleaning windows described in this section.
3. Apply grease to all lubrication points at required intervals.
4. Do not apply load to a cold engine.
5. Close and secure all doors and access covers.
6. Do not allow branches, twigs, leaves or pine needles to build up around radiator intake doors or anywhere else on the machine. Clean frequently but at least once daily.

   Refer to CLEANING A/C CONDENSER AND COOLER PACKAGE in SECTION 3.
7. Be sure that the grapple and dozer blade are resting on the ground before servicing or parking the machine.

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 aftertreatment system and the engine.

SCHEDULED MAINTENANCE

EVERY 125 HOURS:

- **Perform "frequently" maintenance**
- **Perform 8 hour maintenance**

And in addition:

- Lubricate grapple rotator shaft, 2-fittings, 5-shots
- Carry out A/C system inspection; Refer to AIR CONDITIONING SYSTEM, CHECKING in THIS SECTION
- Clean or replace recirculating and cab fresh air filters. The recirculating air filter and the cab fresh air filter may require cleaning or replacement more frequently under extreme operating conditions.

Check:

- Check oil level in front and rear axles. Refer to AXLE – AXLE LEVEL CHECK, FILL AND DRAIN LOCATIONS and AXLE – REAR (BOGIE) AXLE (IF APPLICABLE) in THIS SECTION.
- Fluid level in batteries unless maintenance free
- Engine rpm.
- All hydraulic pressures
- Hydraulic pump and motor securing bolts
- Check fuel strainer (fuel tank filler screen)
- Torque tightening points as per new machine maintenance
- Proper operation of pressurized water system. Refer to PRESSURIZED WATER SYSTEM MAINTENANCE in THIS SECTION.

Visually check for damage to:-

- Arch and pivot linkage
- Front and rear frame
- Centre joint area
- Attachment

Make repairs immediately

Visually inspect for:-

- Frayed electrical wiring and hydraulic hose
- Wear in any other components

Refer to engine OPERATION AND MAINTENANCE MANUAL for additional required maintenance.

EVERY 250 HOURS:

- **Perform "frequently" maintenance**
- **Perform 8 hour maintenance**
- **Perform 125 hour maintenance**

And in addition:

- Replace engine oil and filter.*
- For machines NOT equipped with dual fuel filters (6206401- 6207105, 6250501-6250509, 6304201-6304684) replace engine fuel filter

  NOTE: PSB2524 when installed updates earlier machines to include dual fuel filters. When equipped with dual fuel filters some maintenance intervals change.

- Replace fuel filter/water separator*
- Replace DEF dosing module filter.*

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

- Lubricate grapple pinion gear spline, 1-fitting, 5-shots, (**NOTE:** remove pipeplug to access)
- On 625E machines lubricate bogie axle slewing rings, 12-fittings; 2-places .
- Clean and thoroughly inspect all surfaces of the arch and boom for cracks. All cracks must be properly repaired in their early stages. Note that in most cases cracks will continue to grow in size and often lead to major structural damage. **Failure to regularly inspect for cracks and immediately repair the boom system will void the structural warranty.** Contact your Tigercat dealer for specific procedures required to correctly repair any cracks found.

Refer to engine OPERATION AND MAINTENANCE MANUAL for additional required maintenance.

* Use of filters other than genuine Tigercat replacement filters is not recommended.

Tigercat Model 615E/625E/635E
SERVICE AND LUBRICATION POINTS
REFER TO **Tigercat** OPERATOR'S MANUAL FOR FURTHER INFORMATION

SERVICE POINT NO.	ITEM	SERVICE EVERY						CAPACITY			DESCRIPTION
		8 ⧖	125 ⧖	250 ⧖	500 ⧖	1000 ⧖	2000 ⧖	LITERS	USG	QTY	
1	COOLING SYSTEM	CHK	CHANGE COOLANT EVERY 2 YEARS					34.4	9.1		SEE ENGINE MANUFACTURER'S OPERATION AND MAINTENANCE MANUAL FOR REQUIRED ANTIFREEZE SOLUTION AND MIXTURE.
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			REP •						1	
4A	FUEL FILTER/WATER SEPARATOR	DRN		REP						1	REFER TO SECTION 3 OF THE MANUAL FOR DETAILS.
5	DEF DOSING MODULE FILTER - T4F ONLY			REP						1	
6	FUEL STRAINER		CHK							1	
7	AIR INTAKE PRECLEANER/INLET HOOD	CHK								1	CLEAN AS REQUIRED.
8	AIR INTAKE PRIMARY ELEMENT	CHK								1	CHECK FILTER RESTRICTION INDICATOR. REFER TO 8 HOUR SCHEDULED MAINTENANCE FOR DETAILS.
	AIR INTAKE SAFETY ELEMENT	CHK								1	
9	AIR CLEANER UNLOADER VALVE	CHK				REP				1	REFER TO SECTION 3 IN MANUAL.
10	AIR INTAKE CONNECTIONS	CHK					REP			1	CHECK FOR LOOSE CLAMPS AND DAMAGED RUBBER COMPONENTS. REPLACE RUBBER COMPONENTS.
11	HYDRAULIC TANK - 625E, 635E HYDRAULIC TANK - 615E	CHK						100 90	26.4 23.5	1	DRAIN AND REFILL AS REQUIRED BY SEASONAL OIL CHANGE. (SEE HYDRAULIC OIL CHART)
12	HYDRAULIC FILTER, FULL FLOW, INCLUDES: 1 BLUE WATER ABSORBING ELEMENT 1 WHITE HIGH PERFORMANCE FILTER				REP †					2	**NOTE**: MUST USE 1 BLUE FILTER. ELEMENT AND 1 WHITE FILTER ELEMENT.
13	CHARGE PRESSURE FILTER				REP †					1	CHECK FILTER RESTRICTION INDICATOR ON FILTER WITH ENGINE RUNNING AT FULL AND WITH OIL FLOW.
14	TRANSMISSION OIL FILTER				REP †					1	
15	HYDRAULIC TANK BREATHER						REP			1	
16	PRESSURIZED WATER SYSTEM	CHK	TEST			D/R		52	13.7		SEASONAL DRAIN AND REFILL.
17	TRANSMISSION TRANSMISSION WITH COOLER	CHK			D/R			6.2 12.6	1.6 3.3	1	FILL WITH MIL-L-2105C OR API-GL-5 LUBRICANT GRADE 75W-90.
18	PINION GREASE SEAL					LUB		PURGE		2	LITHIUM BASE EP2 GREASE ◆
19	AXLES, STANDARD DUTY : FRONT - 615E, 625E AXLES, SEVERE DUTY : FRONT - 615E, 625E, 635E		CHK			D/R ***		36 39	9.5 10.3	1	FILL WITH MIL-L-2105C OR API-GL-5 LUBRICANT GRADE/WEATHER TEMPERATURE: BELOW -10°F(-23°C) USE 75W-90 UP TO 100°F(38°C) USE 80W-90 ABOVE 100°F(38°C) USE 85W-140
20	BOGIE AXLE - DIFFERENTIAL		CHK			D/R		246	65	3	
21	BOGIE AXLE - HOUSINGS										
22	BOGIE AXLE - SLEWING RINGS - 615E, 625E			LUB				PURGE		24	LITHIUM BASE EP2 GREASE ◆
23	BOGIE AXLE - SLEWING RINGS - 635E					LUB		PURGE		4	LITHIUM BASE EP2 GREASE ◆
24	AXLE - PIVOT (FRONT ONLY)	LUB						PURGE		2	LITHIUM BASE EP2 GREASE ◆
25	FRONT DRIVE SHAFT				LUB			PURGE		1	LITHIUM BASE EP2 GREASE ◆
	MID DRIVE SHAFT	LUB **						PURGE		1	
	REAR DRIVE SHAFT: BEARINGS	LUB						PURGE		2	
26	CENTRE JOINT	LUB						PURGE		2	LITHIUM BASE EP2 GREASE ◆
	CENTRE JOINT BEARING PRELOAD	CHK 48⧖				CHK					REFER TO SECTION 3 OF THE MANUAL FOR DETAILS.
27	STEERING CYLINDERS	LUB						PURGE		4	LITHIUM BASE EP2 GREASE ◆
28	DUAL ARCH CYLINDER & PIVOTS	LUB						PURGE		12	LITHIUM BASE EP2 GREASE ◆
29	DOZER BLADE CYLINDER & PIVOTS	LUB						PURGE		6	LITHIUM BASE EP2 GREASE ◆
30	GRAPPLE, **Tigercat**	SEE LUBRICATION POINTS DIAGRAM									
31	WINCH: CARCO ALLIED	CHK				D/R		12 3.8	3 1		REFER TO WINCH MAINTENANCE IN SECTION 3 OF MANUAL. SEE ALSO WINCH MANUFACTURER'S MANUAL.

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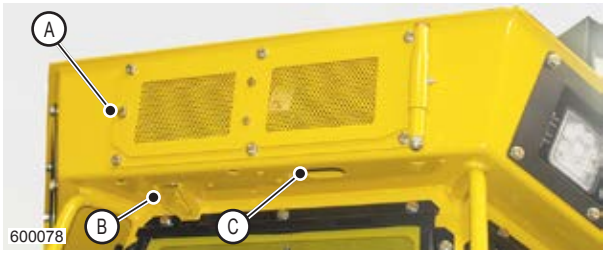
NOTE: The aftertreatment system and its related components are applicable to Tier 4f machines only.

CAB FRESH AIR FILTER MAINTENANCE (LATER DESIGN)

The cab fresh air filter is located in a compartment at the rear of the cab roof and accessible from outside the cab.

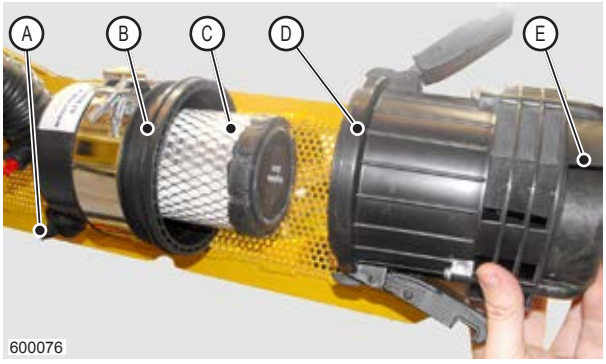
The air fresh air filter unloader valve is accessible through the oval opening in the bottom right side of the filter compartment.

A precleaner discharge chute is located in the bottom right side of the filter compartment.



A	Door Fastener
B	Discharge Chute
C	Unloader Valve Access

1. Remove the fastener (left side) securing the door to the frame. This will provide access to the filter.

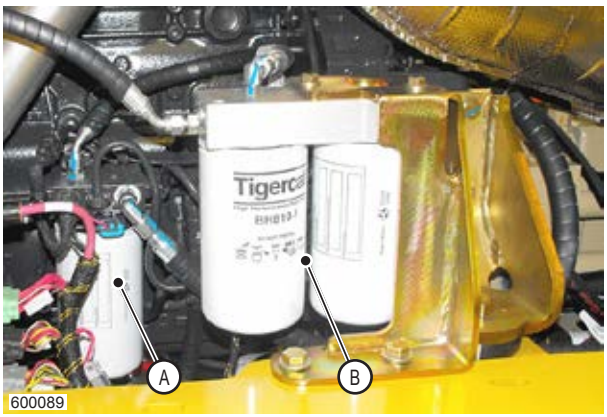


Cab Fresh Air Filter (Later Design)	
A	Unloader Valve
B	Body
C	Filter
D	Precleaner
E	Discharge (facing down)

2. Pinch the unloader valve to release dust buildup.
3. Inspect hose for damage and ensure it is securely attached to both the cab fresh air filter and the cab bulkhead pipe for proper filter operation.
4. Unfasten the top hasp securing the precleaner to the body.
5. Turn the precleaner clockwise and unfasten the bottom hasp.
6. Remove the precleaner.
7. Pull the air filter element out from the body.
8. Clean filter and replace or replace with a new element.
9. Place the precleaner onto the body.

   NOTE: The precleaner must be installed with the discharge facing down so that debris can be discharged through the chute on the left side of the filter compartment when in use.
10. Fasten the bottom hasp.
11. Turn the precleaner counterclockwise.
12. Fasten the top hasp.

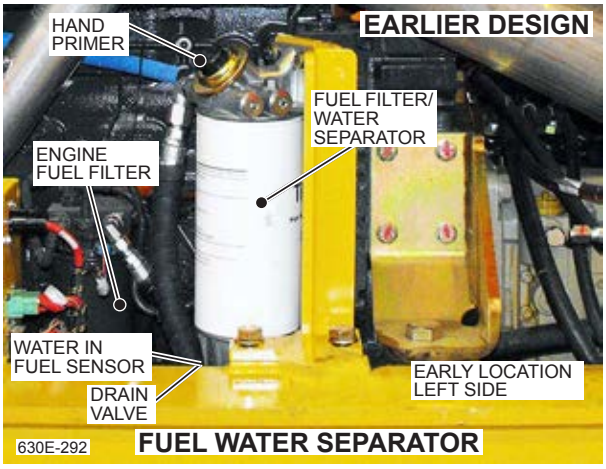
    NOTE: The hasps must be off-centre (top and bottom) to allow the air cleaner assembly to fit through the opening.

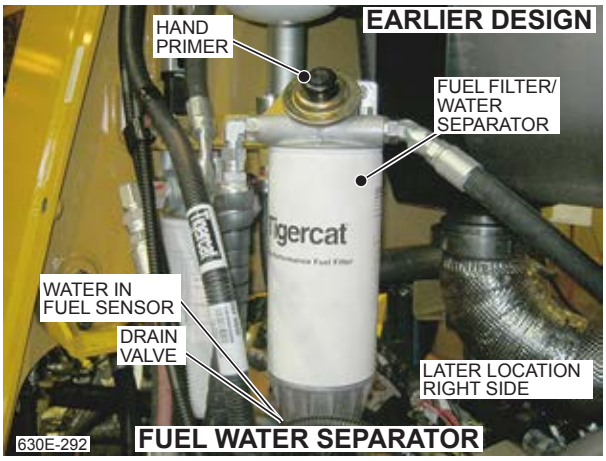


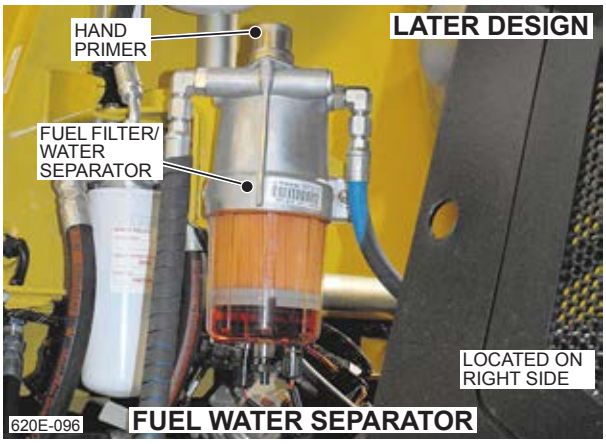
Fuel Filters (Located on Left Side)	
A	Engine FuelFilter
B	Dual Fuel Filters (if equipped)

CHANGING THE ENGINE FUEL FILTER:

Refer to ENGINE OPERATION AND MAINTENANCE MANUAL for engine fuel filter replacement instructions.







⚠ WARNING

To lower the risk of causing accidental fires, DO NOT leave fuel or oil soaked rags laying around.

⚠ WARNING

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

IMPORTANT!

Use only Ultra Low Sulfur Diesel (ULSD) fuel in Tigercat FPT engines equipped with Tier 4f aftertreatment systems. Using fuel with sulfur levels greater than 15 ppm (S≤15 mg/kg) maximum will permanently damage the engine and aftertreatment system within a short period of time.

AIR CLEANER MAINTENANCE

AIR PRECLEANER

ENGINE AIR PRECLEANER

The engine air precleaner cleans engine air before it reaches the air cleaner filter elements. It removes contaminants such as dust, powder, insects, rain and snow. The air precleaner should be checked every 8 hours to make sure that foreign materials have not plugged the intake area or the discharge louver area. Clean as required.

IMPORTANT !
The air precleaner must be check every 8 hours and cleaned as required.

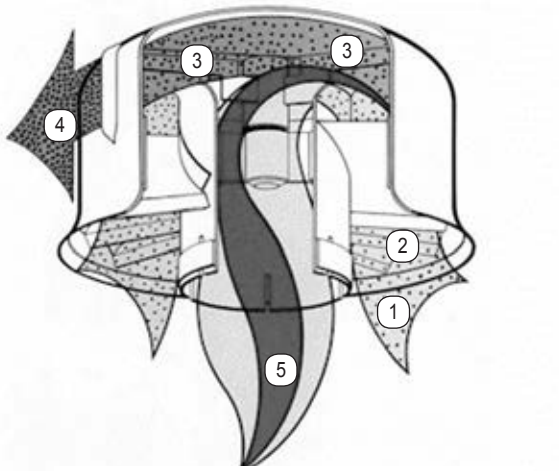
If the inlet/precleaner is plugged causing a restriction to airflow, reduced engine performance and increased fuel consumption may result.

If a plugged inlet/precleaner is left too long excessive air intake restriction may damage the rubber air intake tube. A damaged air intake tube will lead to ingestion of dirt into the engine which may result in engine failure.

Note that the air filter restriction indicator may not function properly if the air intake tube is damaged.

Engine failures due to improper maintenance are not covered by Tigercat or Engine Manufacturer's Warranty and any such claim will be denied.

IMPORTANT !
For peak engine performance and maximum fuel economy, please ensure that the air precleaner is regularly checked and cleaned as required. All intake air tubes and clamps should be thoroughly inspected on a regular basis and any damaged or missing components should be replaced immediately.

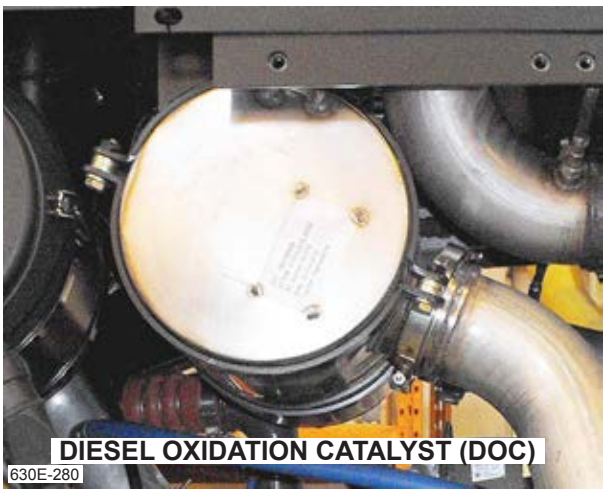


CENTRI® PRECLEANER OPERATION

OPERATION:

1. Air enters the precleaner.
2. Specially designed vanes move dirty air toward the impeller.
3. The spinning impeller spins the air creating centrifugal force to separate contaminants from the clean air.
4. Contaminants are blown out the discharge louver.
5. Clean air enters the intake to the air cleaner.

DIESEL OXYDATION CATALYST (DOC)



The diesel oxdation catalyst (DOC) uses oxidation at high temperatures to convert carbon monoxide (CO), hydrocarbons (HC) and the soluble organic fraction (SOF) of diesel particulates into inert compounds, carbon dioxide (CO_2) and water vapour (H_2O).

In addition the DOC converts nitrogen oxide (NO) into nitrogen dioxide (NO_2). Increased NO_2 levels enhance the performance of the SCR catalyst at low temperatures and increase the effectiveness of the DOC/SCR aftertreatment system as a whole.

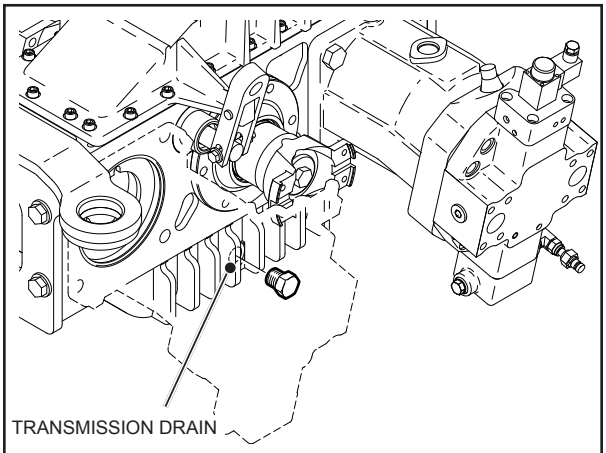
The DOC is located upstream of the catalytic converter (SCR & CUC) and at its outlet incorporates the mixer tube and the mounting for the dosing module.

SUPPLY MODULE

The supply module pump picks up the DEF solution from the tank and sends it under pressure to the dosing module, mounted on the mixer tube incorporated into the diesel oxidation catalyst. DEF is injected into the exhaust at the outlet of the diesel oxidation catalyst and upstream of the catalytic converter.

DRAINING TRANSMISSION OIL

1. Park the machine on level ground.
2. Lower the grapple and dozer blade to rest firmly on the ground.
3. Engage the parking brake.
4. Turn OFF the engine.
5. Remove the ignition key.
6. Turn OFF the battery disconnect switch
7. Block wheels.
8. Install the articulation lock bar.
9. The transmission is equipped with a plug to drain the contents of the transmission into a storage container.
10. Remove the belly pan in the front chassis closest to the articulation joint.
11. Remove the drain plug on the hydraulic motor side of the transmission (pic).
12. Once fluid has been drained, replace the drain plug in the transmission housing once draining has completed.



630C-100 **TRANSMISSION OIL**

CENTRE JOINT

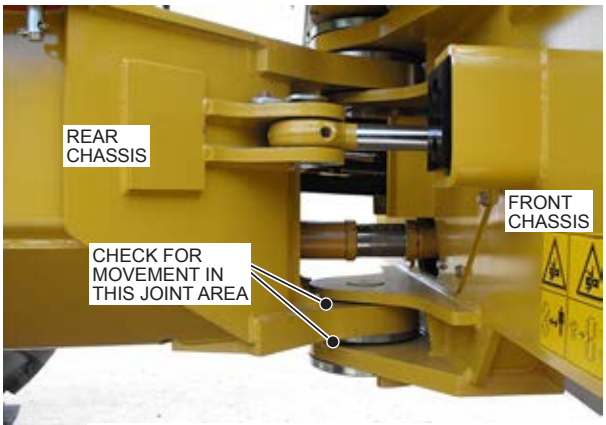
MAINTENANCE OF CENTRE JOINT

Maintenance in this area is usually limited to:

a) Regular lubrication of the two centre joint grease fittings to purge the pivot bearings of debris and water. Refer to SERVICE AND LUBRICATION POINTS in THIS SECTION for lubrication intervals. Use only high quality, lithium based EP2 grease containing molybdenum disulphide.

b) Visually checking the centre joint pivot for looseness every 48 hours. With an observer on the ground, keeping well clear of the centre joint area, perform the following test to check for looseness of centre joint.

   1. Have operator lift the dozer blade off the ground and then rapidly raise and lower blade several times to "bounce" machine.
   2. As machine bounces, check for motion between the front and rear chassis frame lugs. Also check for a "clunking" sound at the centre joint area.
   3. Movement between front and rear chassis lugs or clunking of the pivot indicates a loose joint and preload must be checked. Refer SECTION 11 of the SERVICE MANUAL for more information.



620E-066 **CENTRE JOINT PRE-LOAD CHECK**

LUBRICATION

Refer to the manufacturer's maintenance and service manual for information on your winch.

The sump holds approximately 3 US gal (12 L).

The oil supplied is DEXTRON III TYPE transmission fluid. Use this or the equivalent.

Oil should be changed every 1000 hrs, depending on use.

The oil level should be checked every day (if the winch is being used) before starting the machine.

The oil level should be up to the centre of oil level sight gauge on the left side of the winch. Check oil when the oil is cool and has been allowed to settle after use. The oil fill plug is on the top of the winch.

⚠ WARNING

Failure to use the recommended type and viscosity of planetary gear oil for operating conditions, particulary in cold weather conditions, may contribute to intermittent brake clutch slippage which could result in death or serious injury.

Failure to properly warm up the winch, particulary in cold weather conditions, may result in temporary brake clutch slippage which could result in death or serious injury.

WINCH MAINTENANCE

Maintenance of the winch is limited to the hydraulic system maintenance of the skidder itself.

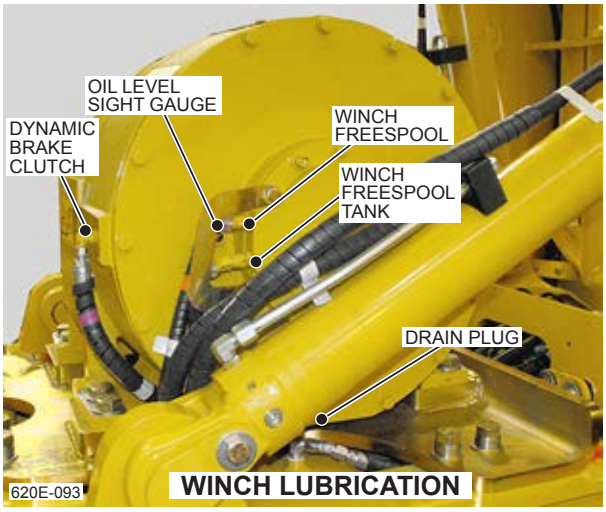
Periodically check the winch, control valve, and connecting hoses for damage or hydraulic oil leakage. If any problems are found, they should be corrected before operating the winch.

ADJUST THE WINCH FREESPOOL TENSION

If the winch cable requires too little effort to pull it from the cable drum, the tension can be adjusted as follows:

- Loosen the jam nut.
- Tighten the tension control bolt to increase the tension and/or loosen it to decrease it.
- Tighten the jam nut.

Refer to the manufacturer's maintenance and service manual for information on your winch.



WINCH LUBRICATION

ADJUST THE WINCH FREESPOOL TENSION