Tigercat®

H855C/LH855C HARVESTER

OPERATOR'S MANUAL

SERIAL NUMBER 85531001 TO 85532000
SERIAL NUMBER 85581001 TO 85582000

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This manual is the ORIGINAL INSTRUCTIONS for the H855C/LH855C Harvester.

EC Declaration of Conformity

We

Name: Tigercat Industries Inc.
Address: 40 Consolidated Drive
P.O. Box 544
Paris, Ontario, Canada
N3L 3T6

declare that the product

Product Name: Tigercat model H855C/LH855C

is in conformity with the following European Directives

Machinery Directive - 89/37/EC
Electromagnetic Compatibility Directive – 89/336/EEC

Paris, Ontario, Canada March 12, 2008
Place Date Signature / President

OPERATING SAFETY PRECAUTIONS continued

MACHINE STABILITY AND TRACTION MACHINES WITH LEVELER

This machine is designed to operate on rough terrain and slopes commonly found in forestry applications. However, ground conditions vary greatly with changing soil types, slope angles, moisture, snow and ice, rocks, boulders and stumps, and fallen trees. All of these factors affect the machine's stability against tip-over and traction to resist slipping. This machine may not be capable of operating on some ground conditions, and must be used with caution.

Whenever possible work within the normal working range of the boom system as shown in FIG. 1.

NOTE: In any boom position, both inside and outside of the normal operating range, there is a risk of instability and tipping.

When it is necessary to work outside of the normal working range, be aware that the stability of the machine is reduced. The risk of tipping is increased while operating in the reduced stability working range.

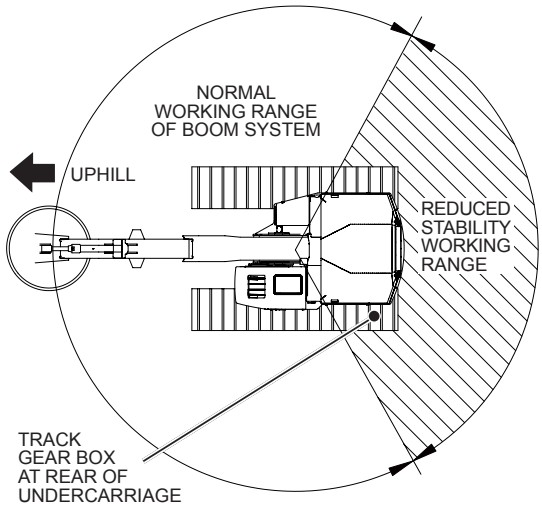
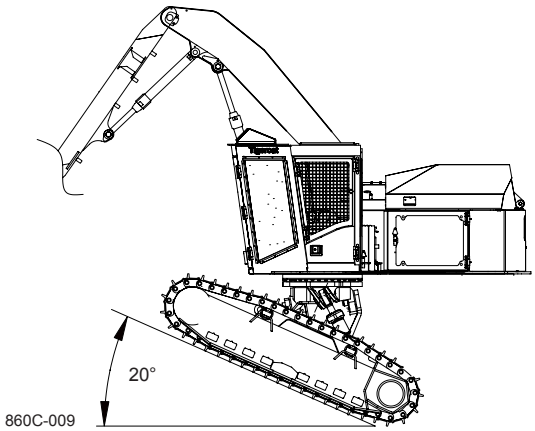


FIG. 1 WORKING RANGES



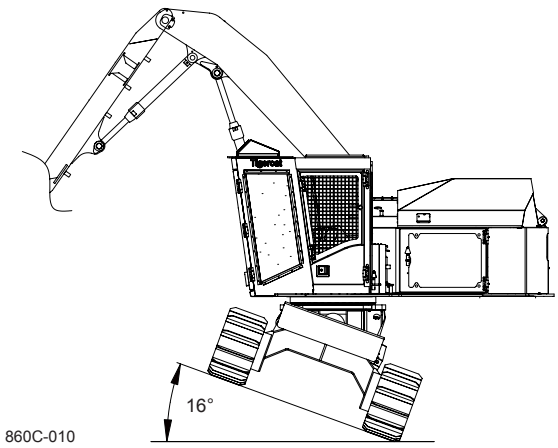


FIG. 2 UNDERCARRIAGE LEVELING ANGLES

Be aware that the machine is in its least stable position on a slope with the boom to the rear.

All efforts have been made in the design of the machine to reduce the risk of tipping, however it is not possible to eliminate the risk of tipping. To minimize the risk of tipping observe the following:

- Do not attempt to operate this machine on slopes without first receiving proper training.
- Learn the stability limits or "feel" of the machine by first working on gentle slopes and by positioning the boom to reduce the risk of tipping. Gain experience over time by gradually increasing the angle of the slopes on which you are working.
- Keep the attachment as close to the ground as possible to increase machine stability, and to allow the boom to be quickly lowered to the ground should the machine begin to tip.
- Always use the LOW speed setting for the track drives when on slopes.

SERVICING SAFETY PRECAUTIONS continued

⚠ WARNING

Diesel fuel or hydraulic fluid under pressure can penetrate the skin and cause serious personal injury, blindness, or death. If any fluid is injected into the skin, it must be surgically removed within a few hours by a doctor familiar with treating this type of injury.

Never use your bare hand to check for fluid leaks.

Fluid leaks under pressure may not be visible. When searching for leaks, wear work gloves and use a wrench or piece of wood to move hydraulic hoses. Do not grab hold of hydraulic hoses. Wear safety goggles for eye protection.

Pressure can be maintained in a hydraulic system long after the power source and pump have been shut down. Lower the attachment to the ground, stop engine and relieve trapped pressure before performing work on components, or disconnecting any hoses. Refer to PARKING BOOM diagram (FIG. 1). Accumulators will self drain within two minutes of stopping the engine.

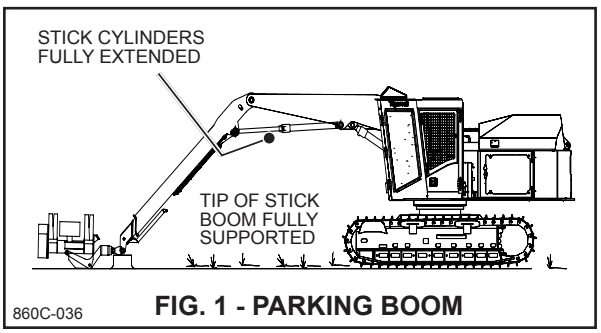
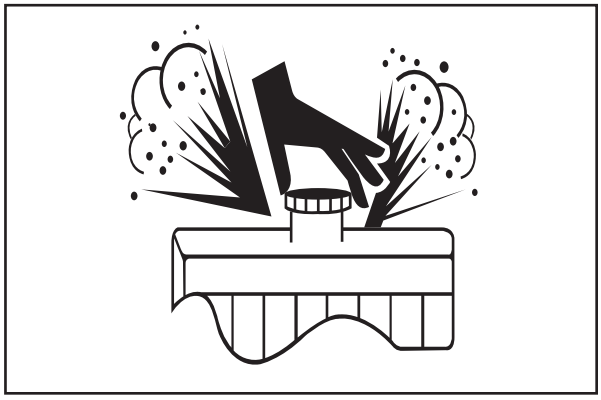
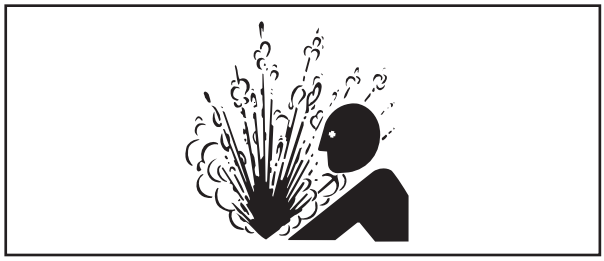


FIG. 1 - PARKING BOOM



Explosive release of fluids from pressurized cooling system can cause serious burns.

Shut off engine. Only remove coolant filler cap when cool enough to touch with bare hands. Slowly loosen cap to first stop to relieve pressure before removing completely.



Do not change any pressure or relief setting unless Tigercat authorized instruction has been obtained.

Use the proper tool for the job. Repair or replace worn or damaged tools including lifting equipment immediately.

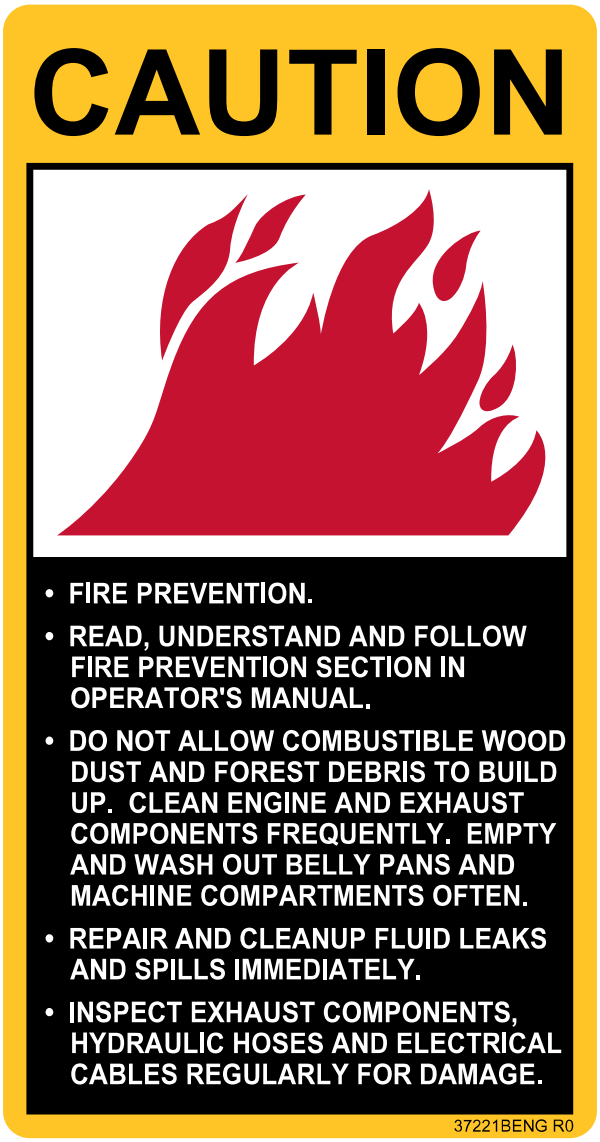
Keep your hands, feet, head, and loose clothing away from power driven parts. Tie long hair behind your head. Remove rings and other jewellery to prevent electrical shorts and entanglement in moving parts.

Always be aware of machine pinch points that could cause injury. Never place body parts within the range of motion of the working parts of the machine.

Never stand under an object supported with hydraulics. Always use safety stands or a locking device.

FIRE PREVENTION continued

13. **Turn the battery disconnect switch to OFF** at shut down to de-energize all electrical circuits.
14. **Remain with the machine** for at least 45 minutes at the end of operations while the machine cools.



15. **Remove all keys,** lock equipment and fuel cap at the end of operations to reduce the risk of vandalism.
16. **Be cautious when smoking.** An open flame, a lighted cigarette, etc., should not be permitted around any vehicle, especially during fuelling operations or when the fuel system is open to the atmosphere or when servicing batteries.
17. **AFTER transporting (trucking) a machine** from one job site to the next, open all doors and access panels and blow off any debris that may have repositioned itself onto the engine and exhaust parts due to wind turbulence caused by the journey.
18. **Before starting repair work,** such as welding, the surrounding area should be cleaned and a fire extinguisher should be close by.
19. **Store rags and other combustible materials** in a safe, fireproof location.
20. **Do not use the machine** on top of or to push piles of burning timber. A machine fire will most probably result.

EQUIPMENT FIRES ADVERSELY AFFECT YOUR ABILITY TO LOG, MAY INCREASE YOUR INSURANCE PREMIUMS DRAMATICALLY OR PREVENT YOU FROM OBTAINING INSURANCE COVERAGE AT ALL.

WHAT TO DO TO PREPARE FOR A MACHINE FIRE

- Prevent the fire from happening in the first place by ensuring that all machine systems are frequently inspected and always well maintained.
- Ensure that any hand held fire extinguishers are charged and in working order. Fire extinguishers require routine care. Follow the manufacturer's instructions for inspection and maintenance shown on the label of the fire extinguisher and in the extinguisher manufacturer's manual.
- Ensure that any pressurized water systems on the machine (if applicable) are charged and in working order. Refer to PRESSURIZED WATER SYSTEM MAINTENANCE in SECTION 3 of THIS MANUAL.
- Ensure that you have the proper fire extinguishers on site. Most fires involving mobile forestry equipment will be Class **A** or **B**. Dry chemical extinguishers should be rated **ABC** and pressurized water extinguishers should be rated **A**.

  Class **A** fires involve ordinary combustibles such as wood, cloth, paper, rubber and many plastics, Class **B** fires occur with flammable liquids such as diesel fuel, oil and grease and Class **C** fires apply to energized electrical equipment.

ELECTROCUTION HAZARD!

This label is located in the cab. It warns of a potential **ELECTROCUTION HAZARD**. Contact with electric lines **WILL RESULT IN DEATH OR SERIOUS INJURY**!

Before beginning work in any area study the area thoroughly and become familiar with any potential hazards especially electrocution hazards from electric lines.

DO NOT MOVE ANY PART OF THE MACHINE OR LOAD WITHIN 3 m (10 ft) PLUS TWO TIMES LINE INSULATOR LENGTH OF ANY ELECTRIC LINES!

NO RIDERS

NO RIDERS INSIDE OR OUTSIDE OFTHE MACHINE. Do not carry passengers either in the cab or anywhere else on the machine. The vehicle seating accommodation is for one operator only. Persons riding on the outside of the machine are subject to hazards such as falling off the machine, crush hazards, thrown object hazards and many other hazards **WHICH COULD RESULT IN DEATH OR SERIOUS INJURY**.

If any person attempts to climb onto the machine during operation, **STOP THE MACHINE IMMEDIATELY**. **DO NOT** Operate the machine until other personnel are a safe distance away from the machine.

KEEP BACK

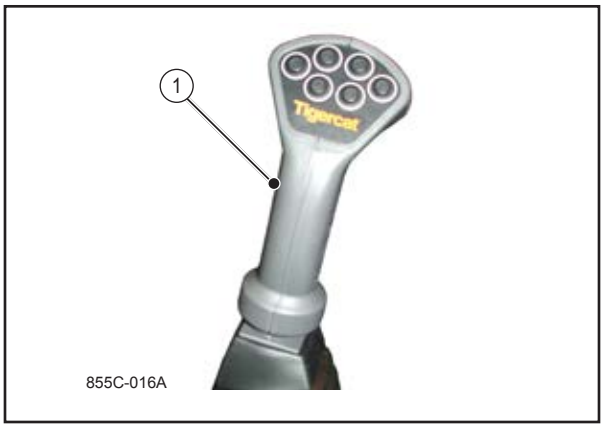
This label warns personnel to KEEP BACK 150 m (500 ft) due to flying projectiles and falling trees. Danger exists predominantly around the felling head.

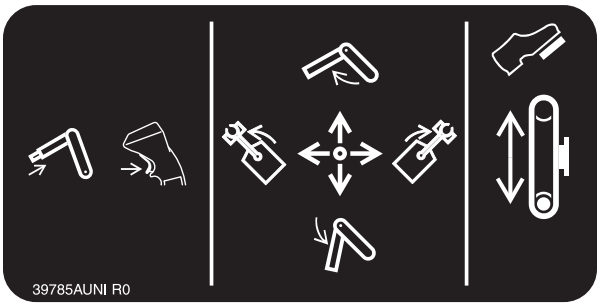
When approaching an operating machine on foot, stay at least 150 m (500 ft) away until the operator recognizes your presence. Make sure that all equipment has been shut down before advancing to the machine.

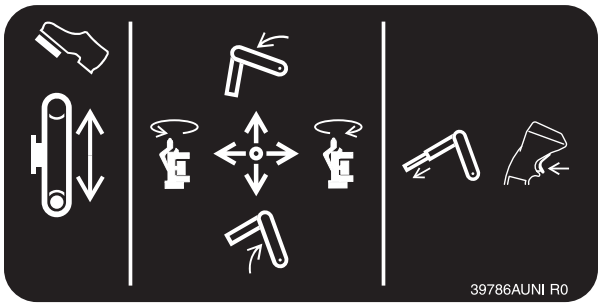
IMPORTANT

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.

CONTROLS - CAB







1. L.H. JOYSTICK CONTROL LEVER

Stick Boom, In/Out
Move the joystick back to move the boom IN toward the machine.

Move joystick forward to move boom OUT away from the machine.

Swing
Move the joystick right to swing the upper structure CLOCKWISE. (Right)

Move the joystick left to swing the upper structure COUNTERCLOCKWISE. (Left)

Trigger switch, Telescopic Boom IN (OPTIONAL)
Pull the trigger switch to move telescopic boom IN.

2. R.H. JOYSTICK CONTROL LEVER

Hoist Boom , Up/Down
Move the joystick back to RAISE the boom.

Move the joystick forward to LOWER the boom.

Attachment, Rotate
Move the joystick right to rotate the attachment CLOCKWISE.

Move the joystick left to rotate the attachment COUNTERCLOCKWISE.

Trigger switch, Telescopic Boom OUT (OPTIONAL)
Pull the trigger switch to move telescopic boom OUT.

FORWARD CONTROL PANEL

CONTROL PANEL

1. ANTI-STALL - SWITCH WITH LIGHT

This is a two position switch labelled ON/OFF. The light in the switch will come ON when the switch is in the ON position.

This switch turns on an electronic load control system which automatically prevents overloading of the engine when several high load functions are in use at the same time. It should be in the ON position during normal machine operation at FULL throttle and in OFF position when operating at less than FULL throttle.

If engine stalling occurs, check:

(a) The ANTI-STALL switch is in the ON position.

(b) The 10A fuse located on the cab fuse and relay panel.

This fuse is labelled A/C HEAT COMBO UNIT RELAY IGNITION AND FUNCTION PANELS.

(c) Malfunction of the anti-stall system.

2. SWING BRAKE - SWITCH WITH LIGHT

This is a two position switch labelled ON/OFF. The light in the switch will come ON when the switch is in the ON position.

⚠ CAUTION

- **Turning ON the swing brake while the boom is moving can damage the gearbox.**
- **NEVER operate the tracks with the swing brake ON as boom contact with the ground will damage the swing gearbox.**

Placing this switch in the ON position will apply the swing brake and prevent the upper structure from turning. The swing brake is a spring apply, hydraulic release, multi-disc brake. The brake is also engaged whenever the *pilot system* is shut off. As a safety precaution, the brake should always be applied with this switch when leaving the cab.

3. WORK LIGHTS SWITCH

This is a two position switch labelled ON/OFF. Placing this switch in the ON position will turn on the WORK LIGHTS.

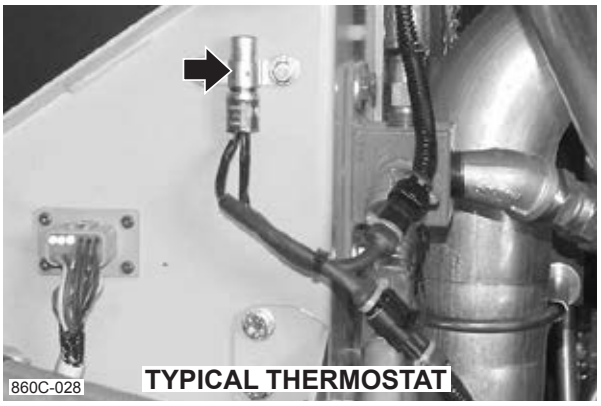
WEEKLY:

• Inspect all parts for damage, rust, corrosion or dirt. Replace any damaged parts immediately.

• All components are in place and unobstructed.

• All chemical delivery hoses and nozzles are connected and tight.

• Check fire suppression electrical network for cut, frayed, stripped or damaged wires.



TYPICAL THERMOSTAT

• Ensure thermostats are clean.

• Operate the machine and depress the “Push to TEST” button to confirm the automatic engine shutdown feature is working. Depressing the “Push to Test” (Amerex diamond) button will illuminate all LEDs, sound the alarm and engage the relay. The “Push to Test” function will not cause a system discharge.

SYSTEM CONTROL PANEL

• Check the manual actuation switches to ensure that all tamper indicators are in place, operating instructions are visible and access is unobstructed.

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

BI-YEARLY

• Check the system owners manual for correct re-certification intervals. These are required for insurance policy.

ENGINE MENU

From the Main Display press the F1 button to go to the ENGINE MENU.

When selected the engine menu icon is on display and the engine functions are displayed. The engine functions on display are as follows:

- Engine Air Intake Temperature - °C or °F
- Turbocharger Boost Pressure - (kPa or psi)
- Engine Load %
- Engine Speed - rpm
- Engine Temperature - °C or °F
- Battery Voltage - Volts
- Engine Oil Pressure - (kPa or psi)
- Fuel Rate - L/h or gph (instantaneous)

NOTE: To toggle metric or imperial units press F1 .

The hydraulic oil Self Warmup Mode can also be started from the Engine Menu by pressing the F3 button - WARMUP INITIATE, only if the pilot is OFF.

SELF WARM UP MODE (HARVESTER ONLY)

After the WAIT TO START icon shuts off, start the engine.

The MD3 displays an Information dialox box (only if the pilot is OFF and oil temperature is cold) requesting input from the operator as to whether or not to begin hydraulic oil Self Warm up.

Press the F2 (Yes) button to begin Self Warm up.

The Self Warm up mode increases engine speed to 1100 rpm and applies hydraulic load by activating the warm up valve so that the system can be warmed up gradually from a cold start. After pressing the F2 (Yes) button the MD3 displays another Information dialog box stating that Self Warm up is engaged and if the pilot system is turned on or the hydraulic oil reaches operating temperature, Self Warm up will disengage.

PUMP 3 ACTIVE FLOW (OPTIONAL)

Use the up or down arrow buttons to scroll to Pump 3 Active Flow and press OK.

The Pump 3 Active Flow setting allows for a second setting to the Pump 2 valve to allow for a lower flow if required. Use the up or down arrow buttons to adjust the % of the Pump 2 setting. The default setting is 25%.

PUMP 3 BURST TIME (OPTIONAL)

Use the up or down arrow buttons to scroll to Pump 3 Burst Time and press OK.

When the harvesting head computer sends a signal to turn on the Pump 3 current setting the higher Pump 2 setting can be applied for a time period to allow the saw to quickly reach maximum speed. Use the up or down arrow buttons to adjust the mS. The default value is 250 mS.

Using the up or down arrow buttons adjust the Telescopic Boom Start setting. Adjustment of this setting (along with the Min setting) will determine how the Boom will start when retracting. Increasing this setting will result in a less aggressive start while decreasing the setting will result in a more aggressive start. Once the setting has been adjusted press OK.

The default setting is 250 mS.

Using the up or down arrow buttons adjust the Telescopic Boom Stop setting. Adjustment of this setting (along with the Min setting) will determine how the Boom stops when retracting. Increasing this setting will result in a less aggressive stop while decreasing the setting will result in a more aggressive stop. Once the setting has been adjusted press OK.

The default setting is 250 mA.
The Telescopic Boom retract adjustment is now complete.

FAN SPEED (This selection is locked)

PUMP HP LIMITER (This selection is locked)

TRACK SPEED CONTROL (This selection is locked)

RIGHT LEVEL CYLINDER (Adjustment done in the Leveler Menu)

LEFT LEVEL CYLINDER (Adjustment done in the Leveler Menu)

LEVELER DEFAULT SETTINGS

If during the above adjustment procedure the factory default settings are required press the F2 Reset button and then select Yes in the pop up window by pushing F2 again. This will reset the setting to the factory default.

Below is a table showing all the leveler and hydraulic default settings.

Adjustments	Range (or Choice)			Units	Default Settings
PUMP2/WARM UP VALVE	**-CW(Warmup)/+CCW(Pump2)**				
-Min current	0	to	750	mA	200
-Max current	0	to	750	mA	500
-Start slope	0	to	1000	ms	300
-Stop slope	0	to	1000	ms	0
+Min current	0	to	750	mA	200
+Max current	0	to	750	mA	600
+Start slope	0	to	1000	ms	0
+Stop slope	0	to	1000	ms	0
TELESCOPIC BOOM	**+EXTEND -RETRACT**				
-Min current	0	to	750	mA	200
-Max current	0	to	750	mA	600
-Start slope	0	to	1000	ms	250
-Stop slope	0	to	1000	ms	250
+Min current	0	to	750	mA	200
+Max current	0	to	750	mA	600
+Start slope	0	to	1000	ms	250
+Stop slope	0	to	1000	ms	250
LEFT LEVEL CYLINDER					
-Min current	0	to	750	mA	300
-Max current	0	to	750	mA	442
-Start slope	0	to	1000	ms	350
-Stop slope	0	to	1000	ms	350
+Min current	0	to	750	mA	300
+Max current	0	to	750	mA	475
+Start slope	0	to	1000	ms	350
+Stop slope	0	to	1000	ms	350
RIGHT LEVEL CYLINDER					
-Min current	0	to	750	mA	300
-Max current	0	to	750	mA	448
-Start slope	0	to	1000	ms	350
-Stop slope	0	to	1000	ms	350
+Min current	0	to	750	mA	300
+Max current	0	to	750	mA	469
+Start slope	0	to	1000	ms	350
+Stop slope	0	to	1000	ms	350
TRACK BRAKE RELEASE DELAY OFF					
Range	0	to	1000	ms	500

MODEM

Press F2 to select the Modem menu. This menu provides information on the internal GSM modem as displayed below:

This menu is used by Tigercat service technicians. Refer to SECTION 6 of the SERVICE MANUAL for more information.

Press the back button (or F1) to return to the main menu page.

LOGS

Press F3 from the info menu page to select logs. This menu will list all system fault occurrences of messages and warnings that the system has encountered and the number of records within each log.

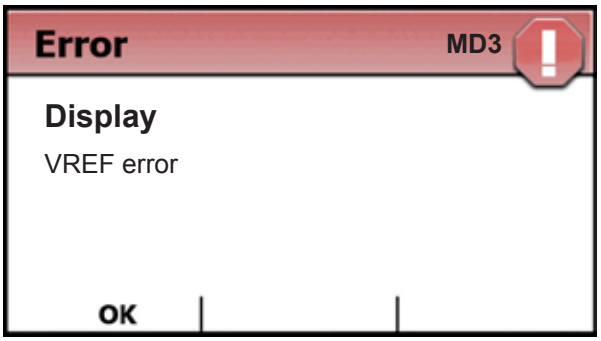
Use the up or down arrow buttons to select the menu item. Press OK to view the selection and sort the information in a varity of ways.

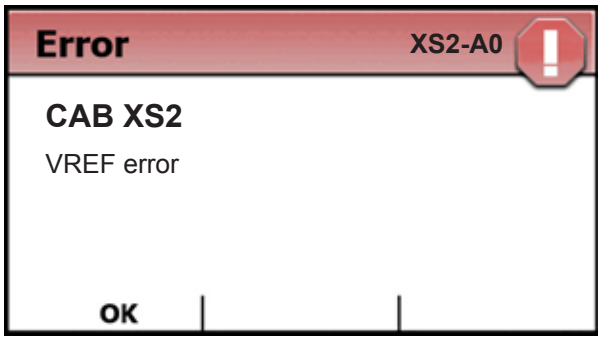
The records are a list of all the fault occurrences in each log. Records cannot be cleared by operators.

This menu is used by Tigercat service technicians. Refer to SECTION 6 of the SERVICE MANUAL for more information.

Press the back button (or F1) to return to the main menu page.

ERROR MESSAGES





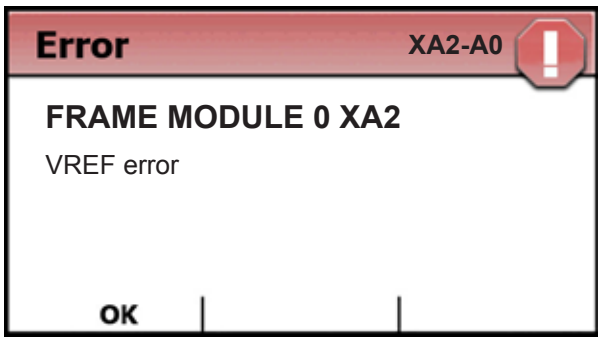
MODULE VREF ERROR

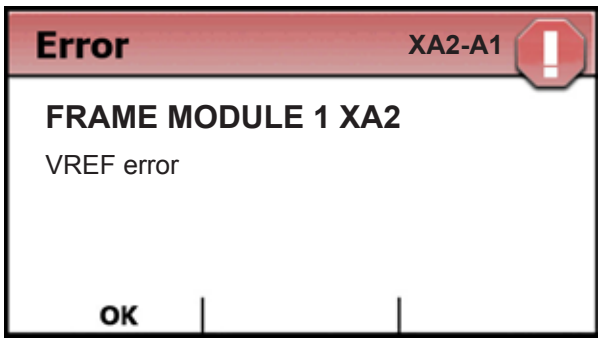
The module VREF message will be displayed to indicate a problem related to the 5 V reference signal coming from the module.

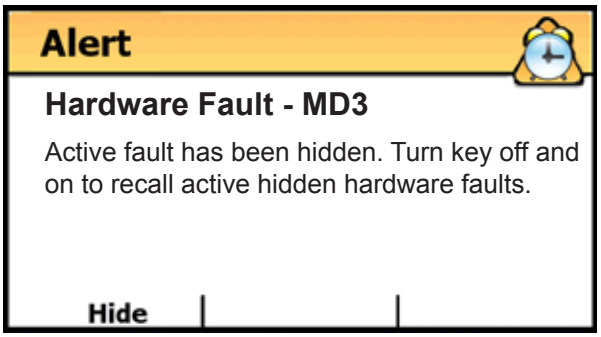
The module is identified on the display screen.

This message indicates a problem with a sensor, connecting wires or the 5V reference signal itself.

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 - CRITICAL ~ HARDWARE FAULT in THIS SECTION.





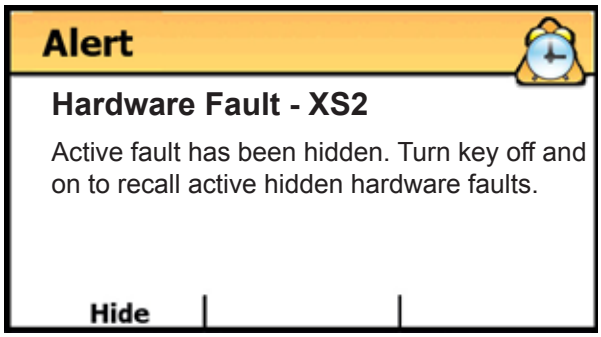


HARDWARE FAULT - MD3

This message will be displayed when an alert level active hardware fault related to the MD3 Display 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.

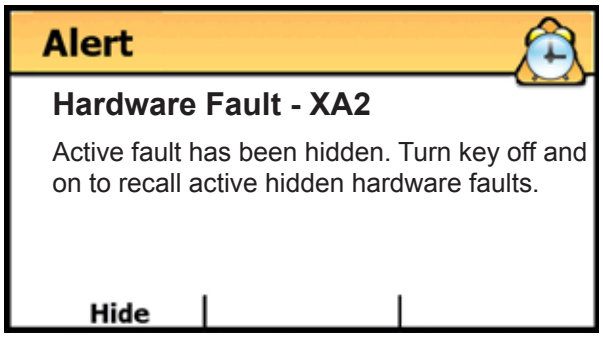


HARDWARE FAULT - XS2

This message will be displayed when an alert level active hardware fault related to the XS2 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.



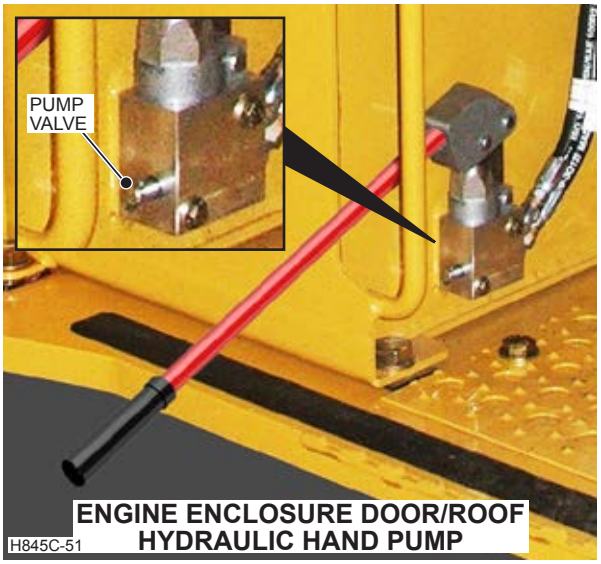
HARDWARE FAULT - XA2

This message will be displayed when an alert level active hardware fault related to an XA2 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.

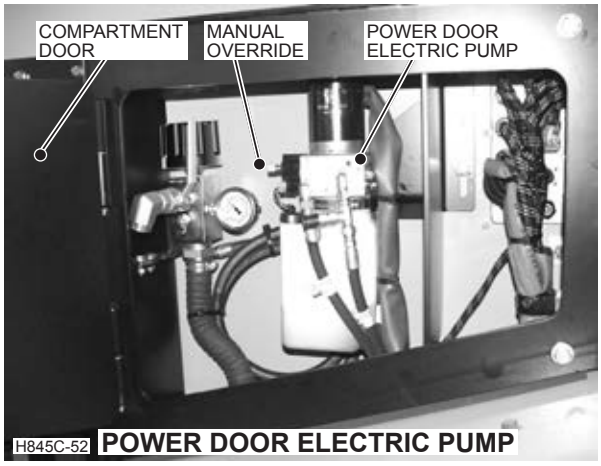
HAND PUMP OPERATION



If required the hand pump can be used to hydraulically open the engine door. Turn the hand pump valve in all the way (clockwise). Insert the handle in the pump lever and pump the engine door open. The handle is stored inside the LH access door.

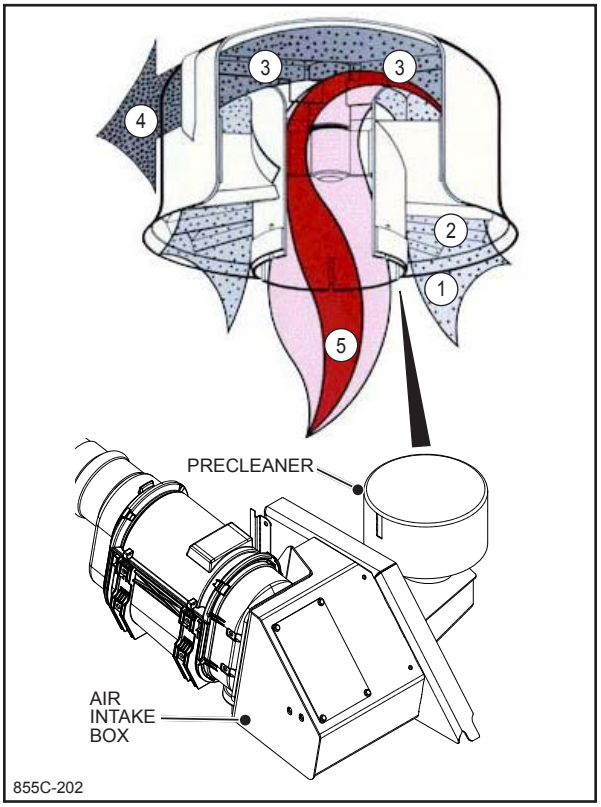
To use the hand pump to close the door:

Open the door on the compartment located on the rear of the cab and lift the door off the compartment hinges. Locate the manual override on the electric pump solenoid, it must be pushed in and turned counterclockwise. Use the hand pump to close the engine door.



NOTE: The compartment door is removed to allow access to the manual override when the engine door is in the closed position, this is only required if the failed electric pump can not be repaired or replaced immediately and it is necessary to close the engine door. After the engine door has been closed, turn the manual override on the electric pump clockwise fully.

If the engine door requires opening using the hand pump, the manual override must be in the clockwise position and the hand pump valve must be turned in clockwise fully.



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. This precleaner is self powered and self cleaning requiring virtually no maintenance. However, it should be checked periodically to make sure that foreign materials have not plugged the intake area or the exhaust port area.

HOW IT WORKS:

1. Dirty air (1) enters the precleaner, which is clamped onto the engine air intake.
2. Specially designed vanes (2), curved and angled to precisely direct air flow, move the dirty air toward the stainless steel impeller (3).
3. The **dynamically balanced**, one piece impeller (3) (only moving part) creates a tornado inside the housing.
4. The centrifugal force of the tornado expels the heavier than air dirt particles (4), chaff, dust, snow, rain, etc., out the discharge louver
5. Cleaned air (5) enters the engine air cleaner intake pipe, and the filter element has only the very light particles to remove.

AIR CLEANER UNLOADER VALVE

This rubber valve on the tube of the air cleaner housing should be checked before every shift (**8 hrs**). If this valve is missing, damaged or has turned hard, it will cause the air cleaner to become ineffective. The valve should be replaced every **1000 hours**.

Remove the unloader valve from the tube of the air cleaner housing. A good valve is soft and flexible. Check and clean the valve. If it was plugged, then check the filter elements as they may need to be replaced as well. Reattach the valve to the tube. The valve should suck closed at about ⅓ of full throttle. When operating in high dust conditions this valve should be checked and squeezed frequently to release dust buildup.

RESTARTING AN ENGINE THAT HAS RUN OUT OF FUEL

If the engine runs out of fuel perform the following:

1. Refill fuel tank completely.
2. Bleed the system according to engine manual procedures.

⚠ WARNING

<u>DO NOT USE ETHER!</u> Engine is equipped with a FLAMESTART starting aid. Use of ether may cause an explosion and severe injury.

3. Crank engine until it starts. If it fails to start after **20 seconds**, stop and wait for **two minutes** before trying again.

IMPORTANT!
To prevent damage to starter, do not engage starter motor for more than 15 to 20 seconds. Wait two minutes between each attempt to start the engine. If engine fails to start, refer to engine manufacturer's operator's manual.

STOPPING ENGINE

IMPORTANT!
Stopping the engine immediately after it has been working under load can result in overheating and premature wear of the engine components. Follow the stopping procedure outlined below to allow the engine to cool.

Always follow this engine shut down procedure. The important benefits are:

- **Extended life of engine, cooling and exhaust systems.**
- **Reduced risk of post shutdown fires.**
- **Interior of machine cools significantly reducing risk of touching hot surfaces.**

1. Turn the saw switch to the OFF position and STOP the attachment. This should be done **before** leaving the cutting area.
2. Find a clear and level area at least 15 m (50 ft) from any other equipment to park the machine.
3. Park the machine and lower the attachment onto firm ground.
4. Reduce engine speed to LOW IDLE  , de-activate the pilot system and let engine run at low idle speed for approximately **three minutes** minimum to allow 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.
5. Open power roof  and place fan switch in Full ON  position.
6. Do not increase engine speed before shut-off.
7. Place fan switch in AUTO  position.
8. Stop engine by turning ignition key switch to the OFF position.
9. Attachment must be stopped before exiting cab.
10. Perform daily maintenance at the end of the shift (greasing, clean engine compartment etc.). This allows the machine time to cool down while under the watchful eye of the operator.

Tigercat H855C/LH855C Harvester
SECTION 3 - LUBRICATION & MAINTENANCE

CONTENTS - SECTION 3

ISSUE 2.0, FEBRUARY, 2015

SCHEDULED MAINTENANCE

EVERY 500 HOURS:

- **Perform frequently maintenance**
- **Perform 8 hour maintenance**
- **Perform 24 hour maintenance**
- **Perform 125 hour maintenance**
- **Perform 250 hour maintenance**

And in addition:

- Replace engine fuel filter(s) §.
- Replace filter in fuel filter/water separator §.
- Replace air intake safety element.
- Replace hydraulic oil return filters §. †
- Replace spin-on pilot filter on 8***1071 to 8***2000

§ Refer to FILTERS - REMOVE AND REPLACE in THIS SECTION.

Lubricate:

- Door and cover hinges; 12-fittings - 1 shot
- Roof and door cylinder pins apply oil liberally.
- Other door hinges; apply oil liberally

Check:

- Torque on swing bearing and swing gearbox retaining bolts.
- Torque on track drive gearboxes and motor mounting bolts.
- Check track rollers for leakage. Rollers are filled with oil and are considered to be maintenance free. If a lubricant leakage is detected the rollers must be removed, repaired and replaced.
- Check track idler assembly for leakage, the bearing is filled with oil and is considered to be maintenance free. If a lubricant leakage is detected the idler must be removed, repaired and replaced.
- Refer to diesel engine service manual and attachment manual for additional required maintenance at this scheduled time period.

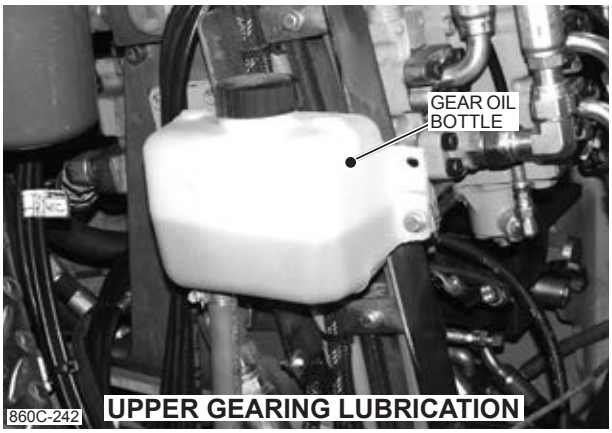
† Use of filters other than genuine Tigercat replacement filters is not recommended.

EVERY 1000 HOURS:~

- **Perform frequently maintenance**
- **Perform 8 hour maintenance**
- **Perform 24 hour maintenance**
- **Perform 125 hour maintenance**
- **Perform 250 hour maintenance**
- **Perform 500 hour maintenance**

And in addition check:~

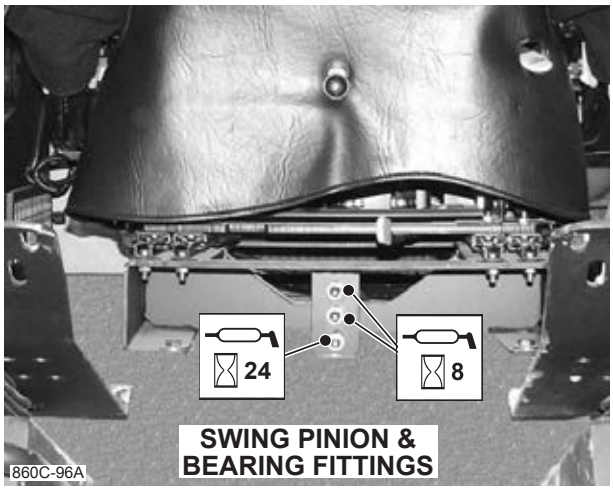
- Fuel in-tank strainer
- Replace air cleaner unloader valve
- Remove and reverse flush the in-line pilot filter on 8***1001 to 8***1070



LUBRICATION OF SWING DRIVE GEARBOX UPPER GEARING

Each swing gearbox upper gearing is filled with gear oil. Use 75W-90 or 80W-140 synthetic gear oil. Follow the lubricating procedure on the label located beside the gear oil bottle and also refer to SCHEDULED MAINTENANCE - 250 HOURS in SECTION 3 of THIS MANUAL.

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



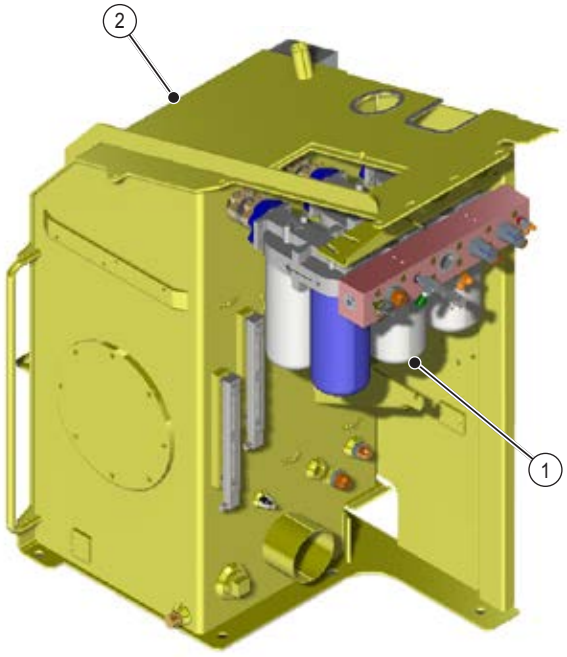
LUBRICATION OF SWING PINION AND SWING BEARING

To lubricate the **swing bearing**, apply **10 shots** of grease while swinging every **24 hours** to one of the grease fittings located on the seat pedestal in the operator's cab. To lubricate the swing pinion (or teeth) apply **10 shots** of grease every **8 hours** while swinging to the other grease fittings located on the seat pedestal. The grease fittings are clearly labelled.

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

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

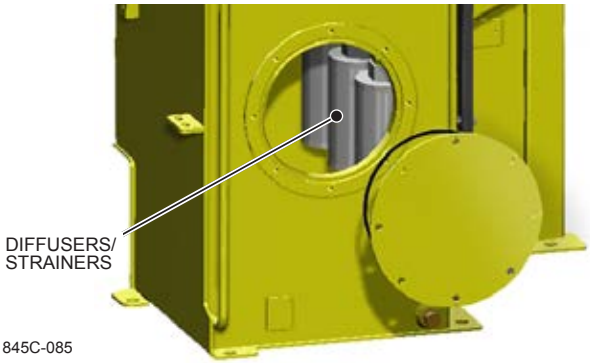
HYDRAULIC OIL RETURN FILTERS



845C-062 **HYDRAULIC OIL RETURN FILTERS**

There are six replaceable filters (1) mounted on three filter heads beside the tank (2).

The filters should be checked/changed at the intervals specified in the LUBRICATION AND MAINTENANCE SCHEDULE in THIS SECTION.



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RETURN TUBE DIFFUSERS/STRAINERS

There are three mesh type reusable diffusers/strainers, one on the end of each return tube in the hydraulic tank.

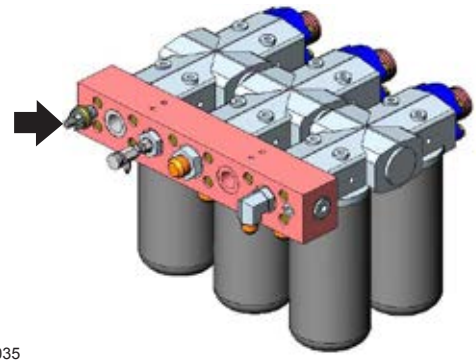
The filters should also be checked/changed when the oil filter bypass icon displays RED on the MD3 computer. If the icon continues to display RED after the filters have been changed, the return diffusers/strainers attached to the base of the return tubes in the hydraulic tank should be examined for possible obstruction.

Refer to DIFFUSERS/STRAINERS in THIS SECTION.

If the FILTER BYPASS icon displays RED between scheduled maintenance intervals, STOP THE MACHINE and **change these filter elements**.

NOTE: The FILTER BYPASS icon will display YELLOW when hydraulic oil temperature is low and the filter restriction switch is activated. Allow oil to warm to operating temperature and the icon should change in colour to GREY. Refer to MACHINE PREPARATION in SECTION 2 of the OPERATOR'S MANUAL.

FILTER RESTRICTION PRESSURE SWITCH



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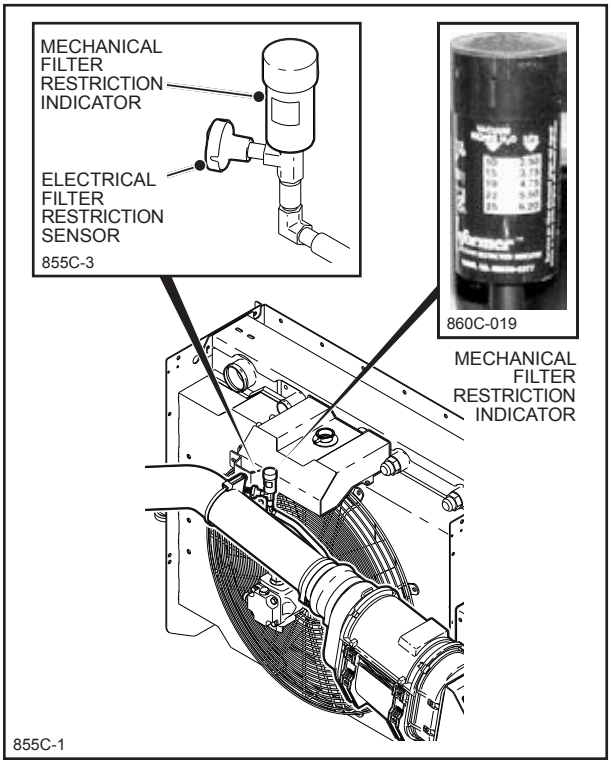
There is a bypass valve built into each filter head, preset at 1.7 bar (25 psi) which will open in the event the elements become restricted. Before this valve is activated, a 1.4 bar (20 psi) filter restriction pressure switch installed in the return manifold, will send a signal to the computer control system when an oil flow in excess of 1.4 bar (20 psi) is encountered at the return filters. This pressure switch closes and the hydraulic oil filter bypass icon displays RED on the MD3 computer. The master alarm and alarm light will sound and flash.

IMPORTANT!
DO NOT use these warnings as a substitute for checking the oil level at regular intervals as per the SCHEDULED MAINTENANCE program in THIS SECTION.

This information is assuming that operating conditions and running temperatures are NORMAL.



FILTER RESTRICTION INDICATOR

A mechanical filter restriction indicator is located in the engine enclosure as shown above. The indicator is remote mounted and is connected to the outlet side of the air filter with a ¼" diameter hose. **Replace the primary filter when the indicator shows RED.** The indicator provides a continuous reading whether the engine is running or is shut down. After replacing the filter, reset the indicator by pressing the reset button.

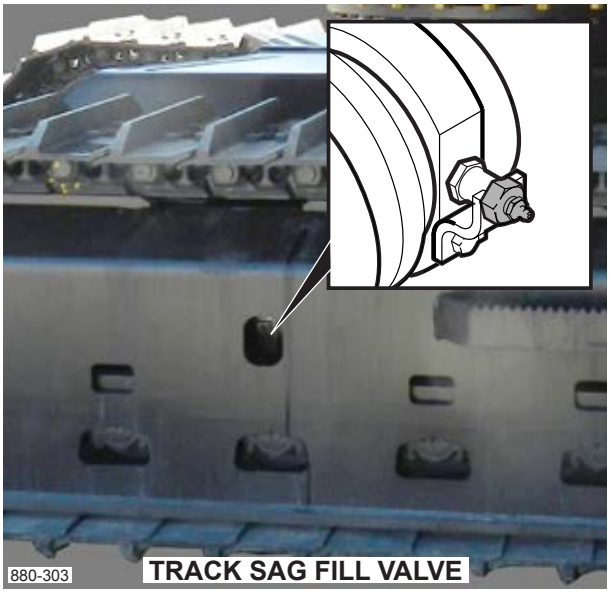
NOTE: Replace the safety filter on every third primary filter change.

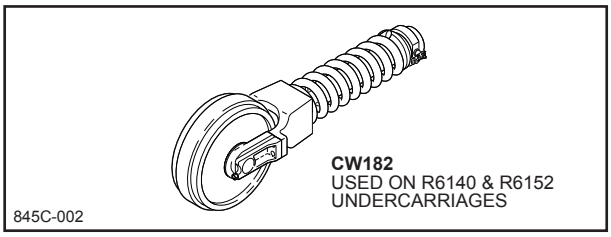
The machine is also equipped with an engine air filter restriction sensor which sends a signal to the computer control system in the event of filter restriction. The engine air intake pressure icon turns YELLOW when service to the filter is required and turns RED, along with an ALERT message, when service to the air filter has reached a critical state.

Refer to AIR CLEANER MAINTENANCE, OVER SERVICING and IMPROPER SERVICING in SECTION 3 of THIS MANUAL.

TRACK SAG ADJUSTMENT

Filling procedures for track sag adjustment will depend on which undercarriage your vehicle is equipped with.





Track sag adjustment

To tighten the track, use a grease gun and add grease at the fill valve. Add grease until the track sag dimension is within recommended limits. Refer to MEASURING TRACK SAG in THIS SECTION for recommended limits.

To loosen the track, slowly loosen the fill valve until grease begins to escape through the vent passage in the valve body housing. Grease will vent around the valve body threads. Remove grease until the track sag dimension is within recommended limits. Refer to MEASURING TRACK SAG in THIS SECTION for recommended limits.

NOTE: The track sag fill valve is mechanically restricted from being removed completely.