LEVELING



In the Leveling menu the following functions can be adjusted depending on working conditions:

- Leveler Stop Ramp
- Leveler Start Ramp
- Forward Leveling Speed
- Rear Leveling Speed
- Right Level Cylinder
- Left Level Cylinder

Use the up arrow or down arrow button to scroll to the desired selection and the OK button to set the selection.

Press the back button to return to the adjust menu. Select the AUTO-ACCUMULATE option and press OK to confirm the selection.

AUTO-ACCUMULATE



In the AUTO-ACCUMULATE menu the following functions can be adjusted as required:

- Accumulator Close Timeout
- Clamp Open Start - Locked
- Clamp Open Duration - Locked
- Accumulator Close Delay

Use the up arrow or down arrow button to scroll to the desired selection and the OK button to set the selection.

Press the back button to return to the adjust menu. Select the AUTO-ACCUMULATE option and press OK to confirm the selection.

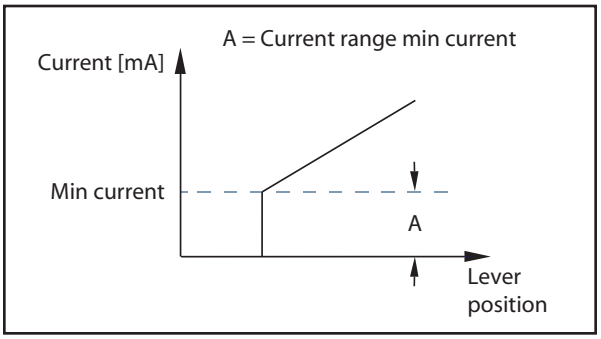
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LEVELER ADJUSTMENT SETTINGS

These settings (defined below) fine tune the operating speeds, start/stop ramps and cylinder tracking for the leveler functions.

MIN = MINIMUM CURRENT (mA)

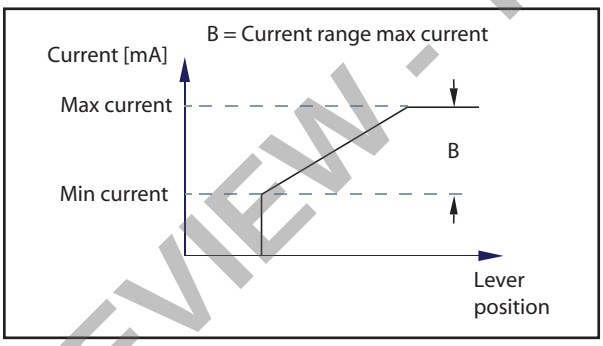


Minimum current settings control function start speed. Coils on hydraulic valves require a certain amount of current before they begin to operate the valve. The Min current value is the current that will be sent to the hydraulic valve coil when the function switch is activated.

The Min current is adjusted to a value that causes the function to just begin to creep.

NOTE: Use the default setting of 300 mA when setting the Min Current.

MAX = MAXIMUM CURRENT (mA)



Maximum current settings control the maximum speed the function will operate at. Increasing this value will increase the travel speed of the cylinder.

NOTE: The mA +(extend) and mA- (retract) settings for the left and right cylinders need to be set separately to avoid tracking (one cylinder extending or retracting faster then the other).

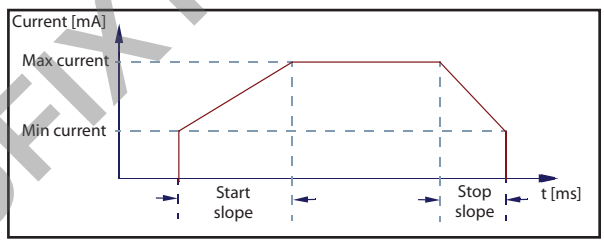
START RAMP

This is the amount of time in mS that it takes for the current to get from the Min Current value to the Max Current when turning on a function. A higher setting will cause a delay in the time that it takes the function to reach top speed. Note that if the mS setting is set to 0ms then the min current setting is negated as the function will start at max current as soon as it is turned on.

STOP RAMP

This is the amount of time in mS that it takes for the current to get from the Max Current to the Min current when turning off a function. A higher setting will cause a delay in the time that it takes for the function to come to a stop from top speed. Note that if the mS setting is set at 0mS then the min current setting is negated and the function would stop as soon as it is turned off.

Below is a typical graph showing the four settings.



NOTE: The start and stop ramps adjust both the left and right cylinders to the same value.

FORWARD LEVELING SPEED

This adjusts both the left and right cylinder speeds proportionally to their respective Max mA+(cylinder extend) settings.

REAR LEVELING SPEED

This adjusts the left and right cylinder speeds proportionally to their respective Max mA-(cylinder retract) settings.

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ADJUSTMENTPROCEDURE:

For best results ensure hydraulic oil is at operating temperature before doing any adjustments. In addition, the function(s) being adjusted should be operated at a rate similar to normal operation to ensure that the coil is at a typical operating temperature. Due to the nature of the electrical components some signals will vary with temperature and should always be adjusted at normal operating temperature to improve the accuracy of adjustments for operating conditions and operator preference.

1. Ensure no other personnel are in the area during this procedure.
2. Start engine and set throttle speed to high idle.
3. Close cab door and press pilot reset switch to activate pilot system.

WRIST ADJUSTMENT



Press the menu button to go to the MAIN MENU.



Press F1 to select the Adjust Menu

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INSPECTION OF THE AMEREX FIRE SUPPRESSION SYSTEM AND PORTABLE EXTINGUISHERS:

DAILY:

- Check the pressure gauge on the agent cylinder and all portable extinguishers. Proper pressurization is indicated when the pointer is in the green zone.



The agent cylinder is located in the engine enclosure on the left hand side behind the cab.



This portable fire extinguisher is located inside the cab on the rear of the emergency exit side door.



- This portable fire extinguisher is located on the outside and on the left-hand side of the vehicle behind the cab.



- Verify that the green “SYSTEM OK” LED on the system control panel is illuminated.

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ELECTRONIC SETTINGS DESCRIPTION

Adjustments to the attachment control system through the ADJUST MENU of the IQAN control system electronically adjust the performance of the attachment to suit operating conditions.

Refer also to COMPUTER ~ (ADJUSTMENT) MENU OPERATION in SECTION 6 of THIS MANUAL.

These settings control the operation of the electro-hydraulic spool actuators which control the cylinder tracking and operating speeds by regulating the flow of oil from the attachment control valve to the attachment cylinders or motors (high rotation wrist).

Three types of adjustments can be made to the attachment control system:

WRIST - CURRENT OUT

Adjustments to fine tune the operating speed and start/stop ramps for the wrist clockwise and counterclockwise rotation functions.

CLAMP ARM - PWM OUT

Adjustments to fine tune the operating speed and start/stop ramps for the clamp arm open and close functions.

ACCUMULATING ARM - PWM OUT

Adjustments to fine tune the operating speed and start/stop ramps for the accumulating arm open and close functions.

Within the 3 groups (Wrist,Clamp and Accumulator) that can be adjusted there are 4 adjustments that can be made through the MD3 to customise the operation of each function.
The 4 adjustments are:

1. Min Current

This is the minimum amount of current that causes the function to just begin to creep.

NOTE: An inaccurate adjustment of the Min Current renders the start and stop ramps inaccurate.

2. Max Current

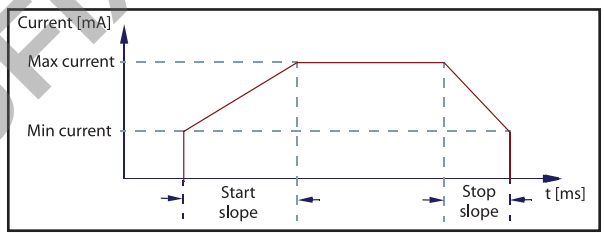
This is the current the controls the maximum speed of the function. A higher setting will cause the function to move faster.

3. Start Slope

This is the amount of time in mS that it takes for the current to get from the Min Current value to the Max Current when turning on a function. A higher setting will cause a delay in the time that it takes the function to reach top speed. Note that if the mS setting is set to 0ms then the min current setting is negated as the function will start at max current as soon as it is turned on.

4. Stop Slope

This is the amount of time in mS that it takes for the current to get from the Max Current to the Min current when turning off a function. A higher setting will cause a delay in the time that it takes for the function to come to a stop from top speed. Note that if the mS setting is set at 0mS then the min current setting is negated and the function would stop as soon as it is turned off. Below is a typical graph showing the four settings.



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ADJUSTING CYLINDER TRACKING AND MIN/MAX SETTINGS.

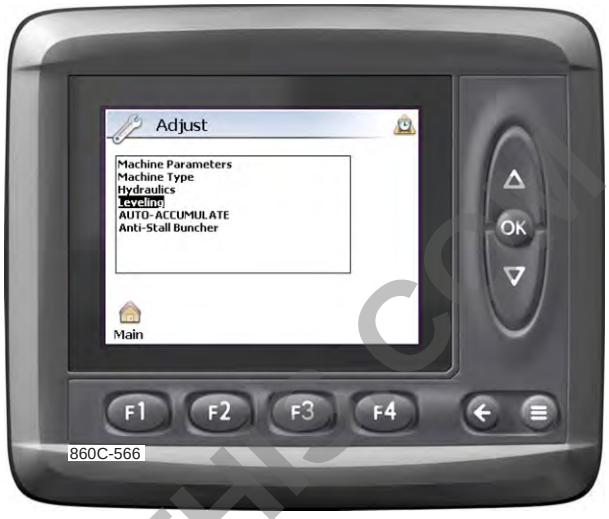


Press the menu button to go to the MAIN MENU.



Press F1 to access the Adjust menu.

The Adjust Menu appears.



Using the up or down arrow buttons scroll to the Leveling Menu item. Press OK to confirm the selection.



Using the up or down arrow buttons scroll to the RIGHT LEVEL CYLINDER (CYL OL) menu item and press OK.

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Using the up or down arrow scroll to Hydraulics and push OK.



Push the F3 button to access the CCW (Counterclockwise) adjust section and press OK.



Using the up or down arrow scroll to Wrist (860/870) and push OK.



NOTE: When in the CCW Min Adjust menu only the Min current will be applied to the wrist when the function is activated.

Activate and hold the CCW function on the joystick and at the same time using the up or down arrow adjust the CCW Wrist Min setting so that the wrist just starts to creep.

NOTE: An inaccurate adjustment of the Min Current renders the start and stop ramps inaccurate.

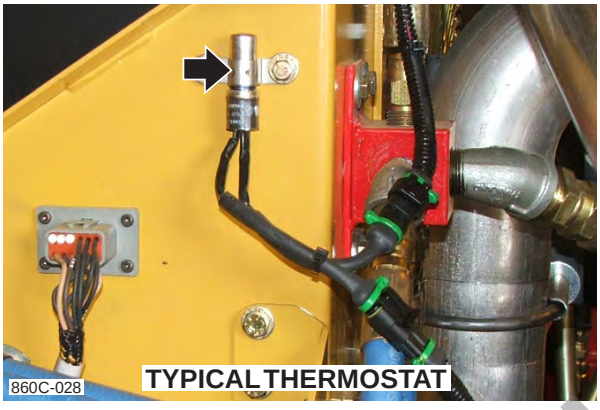
Once the setting has been adjusted press OK.

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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.

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Tigercat 860C/870C/L870C FELLER BUNCHER

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CALIFORNIA

Proposition 65 Warning

Diesel engine exhaust and some of its constituents are known to the State of California to cause cancer, birth defects and other reproductive harm.

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860C/870C/L870C Available Literature

Operator's Manual - 8XXX1501 TO 8XXX2100 ..... Part No. 25195A
Operator's Manual - 8XXX2101 TO 8XXX2499 ..... Part No. 36130A
Operator's Manual - 8XXX2601 TO 8XXX3500 ..... Part No. 39182AENG
Service Manual - 8XXX1501 TO 8XXX2100 ..... Part No. 25196A
Service Manual - 8XXX2101 TO 8XXX2499 ..... Part No. 36131A
Service Manual (this manual)- 8XXX2601 TO 8XXX3500 ..... Part No. 39183AENG
Parts Catalog - 8XXX1501 TO 8XXX2100 ..... Part No. 25194A
Parts Catalog - 8XXX2101 TO 8XXX3500 ..... Part No. 36132A

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Tigercat 860C/870C/L870C FELLER BUNCHER
SECTION 1 - SAFETY

ISSUE 3.0, DECEMBER 2019

Read and understand this safety section prior to operating any equipment.
Read and understand all manuals for any attachment or accessories.

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Tigercat 860C/870C/L870C Feller Buncher
INTRODUCTION

An Operator's manual, Service manual and a Parts catalog are made available by **Tigercat** to assist the dealer, customer and operator in becoming familiar with the features of the 860C/870C/L870C Feller Bunchers

Serial numbers:-

860C 86012601 to 86013500
870C 87012601 to 87013500
L870C 87022601 to 87023500

NOTE: The 4th digit in the machine serial number indicates the machine model type. For example 1 = Feller Buncher and 2 = Levelling Feller Buncher. For simplicity throughout this manual the 4th digit has been replaced with an asterisk to indicate that both types of machine models are affected. i.e.: 870*2601 to 870*3500.

The 860C/870C/L870C Feller Buncher is designed for harvesting trees, selective felling, thinning and final felling applications in plantations and natural stands.

The operator's manual will assist the operator with the techniques of proper and safe operation of the 860C/870C/L870C Feller Buncher. There is also important information regarding the safe operation of the saw head. The service manual contains safety and servicing procedures and a preventive maintenance schedule to ensure optimum machine performance.

Section 1 in both the operator's manual and the service manual contains safety information that must be followed. As well, throughout the rest of the manuals, WARNING and CAUTION notices are displayed where necessary, drawing attention to possible hazards when performing certain procedures.

Only trained personnel should be allowed to operate or work on the machine.

The information contained in this manual is current at time of printing. Improvements to the machine are on-going and may not be covered, therefore in these cases contact your **Tigercat** dealer for the appropriate information.

The phrase **“and up”** appearing in this manual after the serial number implies that the related information is current for any machine serial number HIGHER than the serial number preceding the **“and up”**.

Tigercat reserves the right to make changes to the machine after this manual release date that may not immediately appear in this manual.

Every effort is made to send out updates on a regular basis. If the machine in question was built after the release date of this manual and there is a discrepancy, call Tigercat service department. The release date appears on the first page.

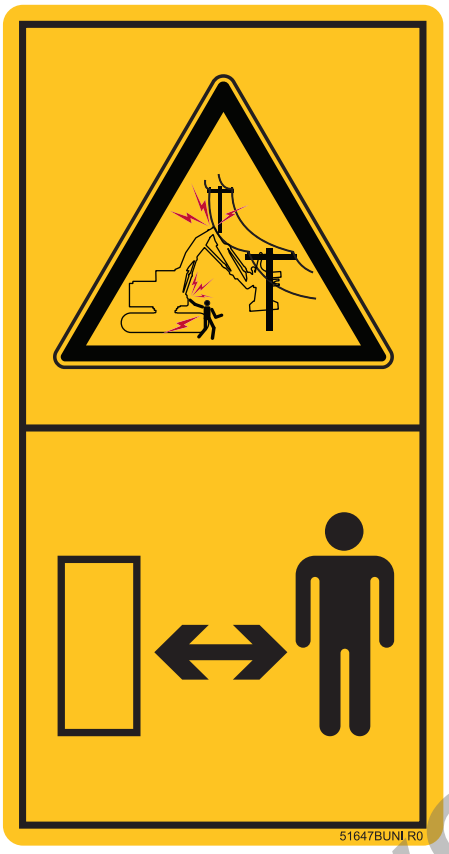
The Company reserves the right to change information contained herein at any time without prior notice.

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ELECTROCUTION HAZARD!

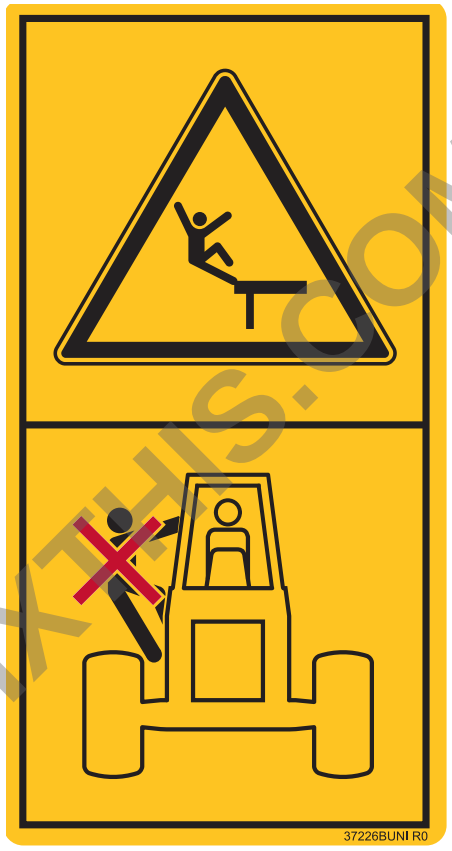


This label is located in the cab. It warns of a potential **ELECTROCUTION HAZARD**. Contact with electric lines **WILL RESULT IN DEATH OR SERIOUS INJURY**!

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 OF THE 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.

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10. TRACK, LOW/DRIVE - SWITCH WITH LIGHT

This is a two position switch  LOW and  DRIVE.

NOTE: See also TRAVEL SPEED CONTROL earlier in this section.

LOW: Placing the switch in the  LOW position will provide the slowest travel speed but with increased torque or driving force.

The  DRIVE position will provide a faster travel speed range but with a lower driving force.

It is recommended that *during all harvesting functions* and when *travelling on slopes* that the range switch be placed in the LOW position to maximize drive motor life. Low position is indicated by a light on the Track Low/drive switch.

DRIVE: When this switch is in the DRIVE position the travel speed (and torque) ranges of the drive system become infinitely variable and will automatically adjust to any point between the HIGH and LOW speed/torque set points, relative to the terrain or load conditions.

It should be noted that the available torque when travelling at maximum speed is only half of that in LOW.

The DRIVE position will provide a faster travel speed range but with a lower driving force. However, when the machine encounters tougher terrain conditions, e.g. stumps, soft ground or slopes etc., the drive system will automatically adjust* to a slower travel speed/ higher torque range.

*This amount of adjustment can be anywhere from a slight reduction in speed all the way down to LOW, this will be dependent on the terrain conditions encountered.

NOTE: The operator should be aware that this automatic speed/torque range adjustment will cause the machine to gradually slow down over a period of one to two seconds, due in part to the infinitely variable displacement drive motors used. When travelling on relatively flat terrain it is not necessary to place the range switch in the LOW position .

11. HORN, SAFETY ALERT - SWITCH

This is a two position “momentary” switch. Press and hold this switch to sound the safety alert horn.

Always use this horn prior to starting the engine and to alert other personnel in the area of your presence.

12. CIGARETTE LIGHTER (24V)

Cigar/Cigarette lighter (24V).

13. SAW - SWITCH

This is a two position switch labelled ON/OFF. Use this switch to turn the saw ON. On Feller Buncher Machines equipped with the Shear Felling Head, this saw switch supplies power to the attachment’s control systems. A lockout button is incorporated into the switch to prevent the switch from being turned ON accidentally. To turn the switch ON, push and hold the lockout button UP and place the switch in the ON position.

Place throttle in FULL position before turning attachment ON.

NOTE: If the engine has been turned off or the *pilot shut off system* tripped (Front Door opened) with the saw switch left in the ON position, the attachment will not start up when the engine is restarted or the front door closed. In this case press the PILOT RESET button and turn the saw switch OFF and then ON.

NOTE ALSO: On Harvester Model Machines and Shovel Loggers this saw switch supplies power to the attachment’s control systems.

NOTE ALSO: The function of this switch may vary depending on the attachment model used and method of installation. Verify all functions before operating this machine.

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ADJUSTING FORWARD/REAR LEVELING SPEED (CYLINDER OPERATING SPEED)

TYPICAL CYLINDER CYCLE TIMES

Recommended values

CYLINDER CYCLE TIMES		
DIRECTION	**CYCLE TIME**	
LEVEL - 'FORWARD'.....	8 SEC.	FULL EXTEND
LEVEL - 'REAR'.....	8 SEC.	FULL RETRACT

The Forward and Back leveling speed adjustment is used to adjust the CYLINDER CYCLE TIMES. The cylinder extend and retract speeds will be adjusted proportionally to the Max mA settings described earlier in this section.

NOTE: The side to side speeds will also be a product of these settings



Press the menu button to go to the MAIN MENU.



Press F1 to access the Adjust menu.



Using the up or down arrow buttons scroll to the Leveling Menu item. Press OK to confirm the selection.



Using the up or down arrow buttons scroll to FORWARD LEVELING SPEED and press OK.

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GRAFFITI REMOVAL

- For removal of paints, marking pen inks, etc., the use of Butyl Cellosolve is generally effective. The use of masking tape, adhesive tape or lint removal tools works well for lifting off old weathered paints.
- To remove labels, stickers, etc., the use of kerosene, VM&P Naphtha, or petroleum spirits is generally effective. When the solvent will not penetrate sticker material, apply heat (hair dryer) to soften the adhesive and promote removal.

  Refer also to RESISTANCE TO CHEMICALS for a list of chemicals which should not be permitted to come into contact with polycarbonate windows.

FIRE PRECAUTIONS

Polycarbonate window material will ignite when exposed to an ignition source in excess of 427°C (800°F). When working around polycarbonate windows, observe similar fire precautions to those in place for wood.

REMOVAL OF ANTI-CORROSION SPRAY (IF APPLICABLE)

Some machines, particularly machines shipped outside North America, are shipped with an optional anti-corrosion spray to protect the machine from corrosion during shipment.

This anti-corrosion spray should be removed when the machine reaches its destination as it may cause debris to stick to the treated surfaces of the machine.

The anti-corrosion can be removed with a pressure washer, a sponge and soap.

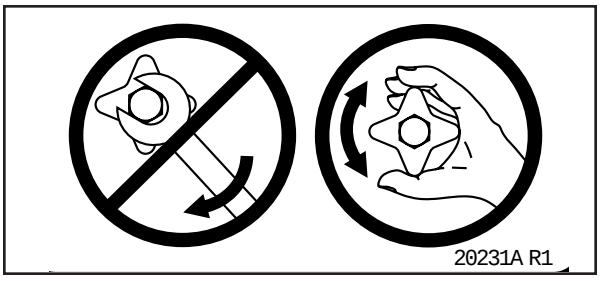


SIDE WINDOW SCREENS

The side window screens (if equipped) can be removed to clean the windows. Screens are provided for the personal protection of the operator and must be reinstalled immediately after cleaning the windows.

A hand knob is provided on both the inside and the outside. By unscrewing either (not both) of these knobs, the screen will be free to swing out on the hinges. Be aware that the screen will swing outwards with considerable force, if the door is open.

All hand knobs should be **hand tightened only** at all times.



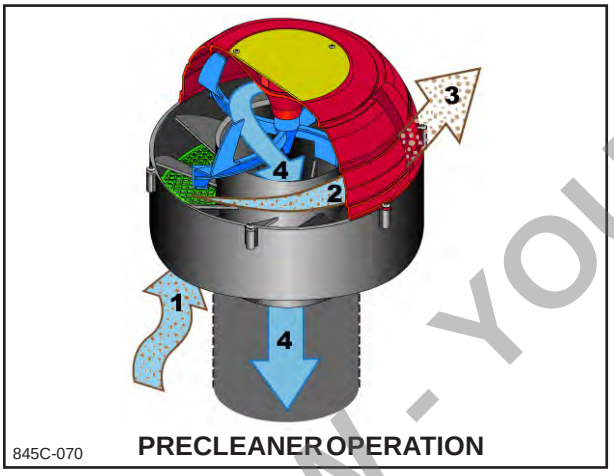
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AIR INTAKE SYSTEM - 8***2633 TO 8***3500



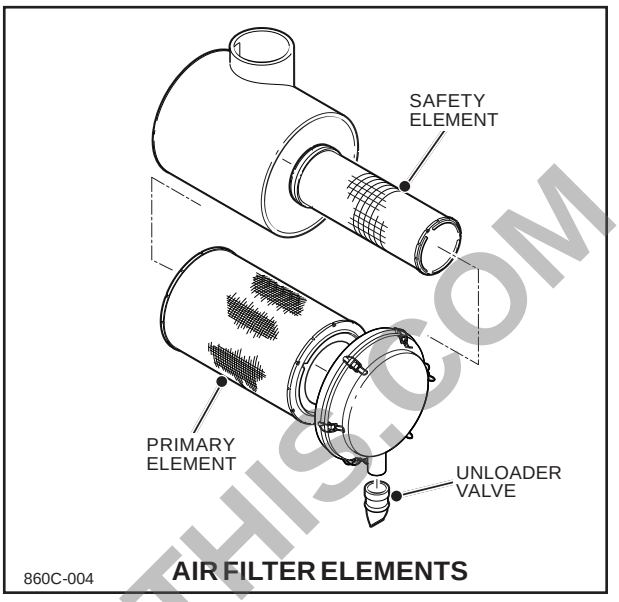
ENGINE AIR PRECLEANER



HOW IT WORKS:

1. Air enters the underside of the dome through screened louvers, which prevents clogging by blocking any particles larger than the ejection slot from entering the unit.
2. Curved particle accelerator blades slam air and dirt up against the sidewall
3. Strakes along the interior surface move heavier-than air debris towards the ejection slot
4. Clean air continues to swirl down into the engine air inlet pipe

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 daily*** to make sure that foreign materials have not plugged the intake area or the exhaust port area of the precleaner.



AIR CLEANER

The air cleaner on this machine uses 2 filter elements, a **primary** element and a **safety** element.

To ensure maximum engine protection, it is important that the elements be serviced correctly and at proper servicing intervals.

In addition to the LUBRICATION AND MAINTENANCE SCHEDULE outlined in THIS SECTION, the following instructions should also be noted:

The most common and most damaging air intake servicing problems are:

OVER SERVICING

Filter elements increase in dust cleaning efficiency as dust builds up on the media. Looks can be deceiving. A filter that looks dirty is actually more efficient than one that is clean. A filter with dust build up on the media reaches nearly 100% dust cleaning efficiency. Only when a filter is so clogged with dirt that air restriction goes beyond engine manufacturer's guidelines, should a filter be replaced.

NOTE: This does not apply to hydraulic oil or diesel engine filters.

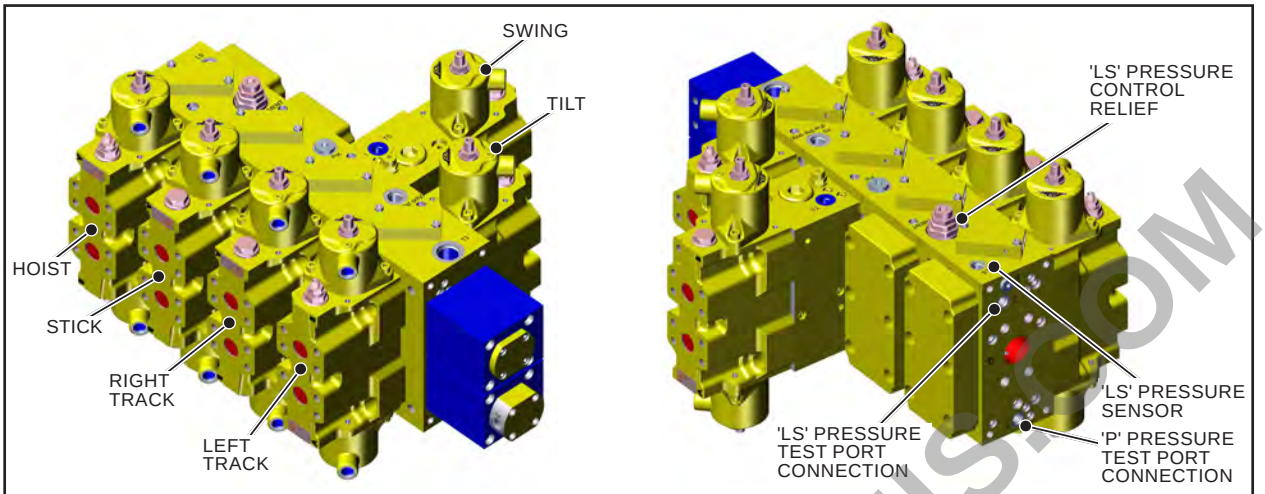
IMPROPER SERVICING

Engine exposure to dust during servicing is the largest single reason for engine damage due to dust.

Abrasive dust can easily enter the intake system once the air cleaner cover and protective filter element is removed for replacement. The safety element does reduce this risk but it should also be replaced at every third primary element change.

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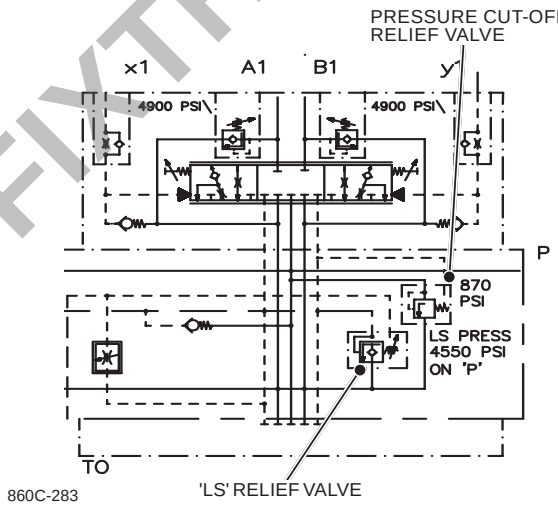
MAIN CONTROL VALVE 8*3001 TO 8***3500**

PRESSURE CUT-OFF (PCO)

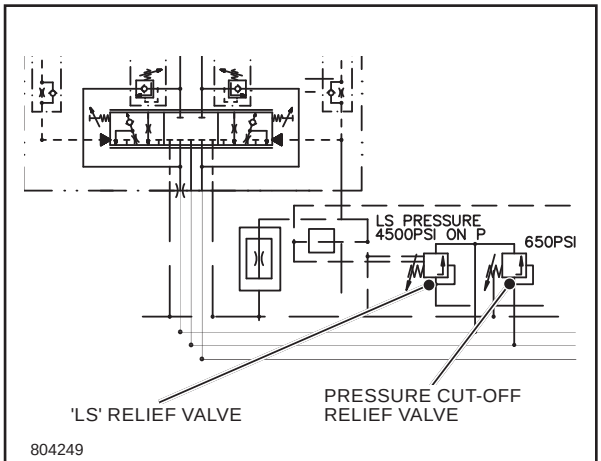
The single stage PCO or “pressure cut off” blocks the control pressure in the main valve control system. It contains at least one load sense relief valve and a safety relief valve. The load sense relief valve limits the load sense pressure to a set level and signals the pump to compensate and to maintain the predetermined pressure. The safety relief valve operates at a fixed differential between pump outlet and load sense pressure. By doing this it serves two functions.

The primary function of a system relief valve is to eliminate pressure spikes within the work line. If the pump outlet pressure rises above the load sense relief setting by more than 60 bar (870 psi) the safety relief will redirect the pump outlet flow to tank until the surge has passed.

The second function of the system relief is to reduce the load on the engine starter. During start-up, the main valves are all in their neutral position, so the pump outlet path is blocked. Since the pump starts at maximum displacement, pressure rises in the pump outlet until the pump can react to its internal control signal and de-stroke to its standby pressure. This pressure could reach nearly 400 bar (5800 psi) except for the safety relief. In this condition, the load sense pressure is 0 bar (0 psi), so the system relief works like a 60 bar (870 psi) fixed system relief. Even with overshoot, the pump outlet pressure is limited to about 100 bar (1450 psi).



PRESSURE CUT-OFF RELIEF VALVE 8*2601 TO 8***3000**



PRESSURE CUT-OFF RELIEF VALVE 8*3001 TO 8***3500**

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COMPUTER CONTROL SYSTEM

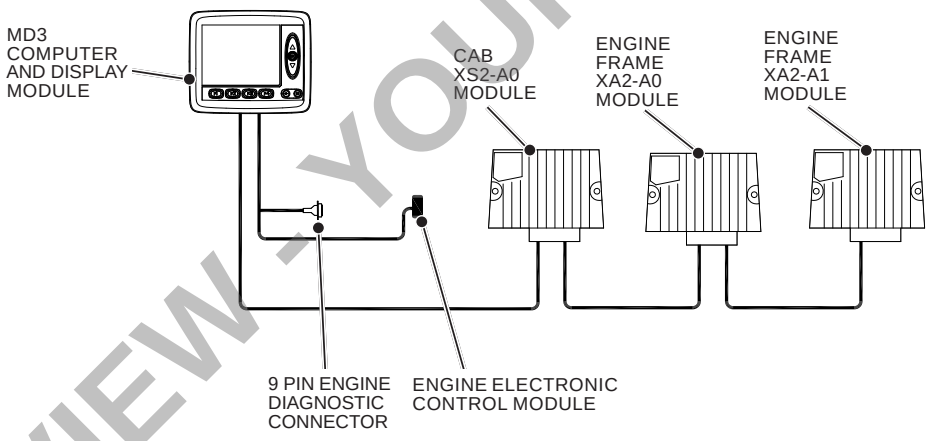
The MD3 computer control system is part of a network of components. The system is made up of the following components:

- MD3 Computer and Display Module
- XS2-A0 Module (Cab)
- XA2-A0 Expansion Module (Engine Frame) (Also referred to as IQAN XA2 #1 module)
- XA2-A1 Expansion Module (Engine Frame) (Also referred to as IQAN XA2 #2 module)
- Engine Electronic Control Module
- Various controls, switches, sensors and valves not shown

The MD3 computer is the main controller in the system. The MD3 computer program is the operating system for the computer display as well as the control system for the machine operating parameters.

The engine electronic control module provides electronic information to the MD3 computer via J1939 CAN BUS links. This information is displayed on the computer display.

NOTE: The computer control system is software-based. This software may be updated after the machine is in service as a part of on-going product improvement programs and service newsletters. The information contained in this manual is accurate at the time of printing. Improvements to the machine and/or software are on-going and may not be covered. In these cases contact your Tigercat dealer for appropriate information.



880-105

COMPUTER CONTROL SYSTEM COMPONENTS

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ALERT MESSAGES (YELLOW)

Alert messages advise the operator that machine operation will be compromised.

Alert messages have the second level of priority and are used to indicate to the operator that action is required to prevent future damage to the machine.

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

Action should be taken to service the machine to correct the problem at the earliest opportunity to prevent future damage to the machine.

Alert messages flash the alert symbol above the F4 button when active messages are hidden.



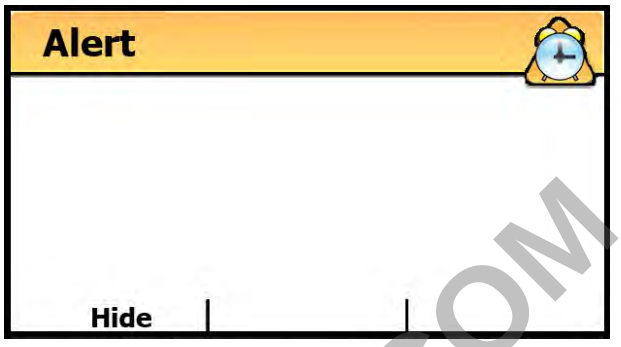
Active messages that have been hidden can be reviewed by pressing the F4 button. The symbol will continue to flash until the problem is resolved and the fault becomes inactive.

Note that if both a critical level fault and an alert level fault are present the critical symbol will take priority until the critical fault becomes inactive.

There are two types of alert messages:

Alert programmed messages generally triggered by machine function related conditions.

When an alert message is displayed, the external alarm and light will sound and flash three times to alert the operator of the message. The message remains on the screen until the operator hides it.

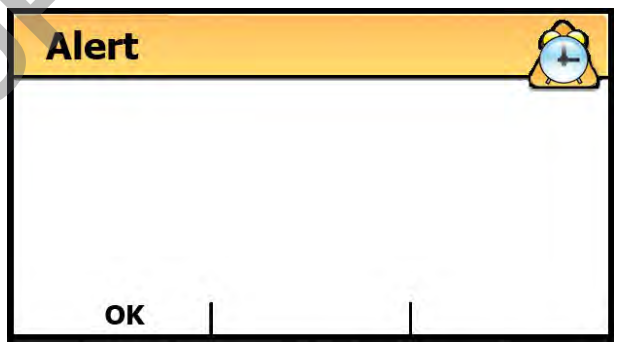


Messages can be hidden by pressing the F2 button (Hide).

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

When a system generated alert message is displayed the external alarm and light will sound and flash three times to alert the operator of the message.

The message remains on the screen until the operator hides it.



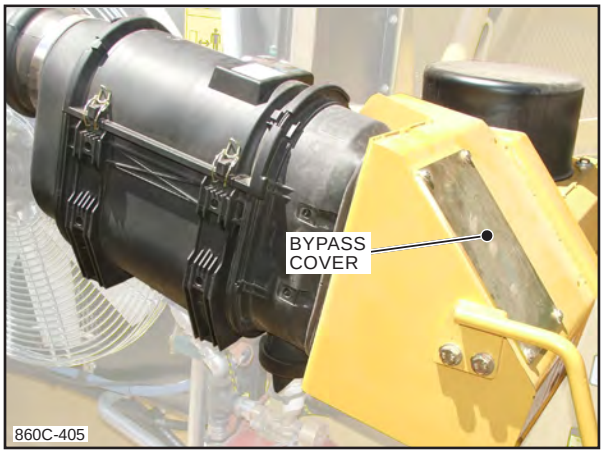
Note that active hardware fault alert messages are acknowledged by pressing the F2 button (OK). To recall these messages turn key off and on. On screen messages will indicate to the operator that an active hardware fault has been hidden.

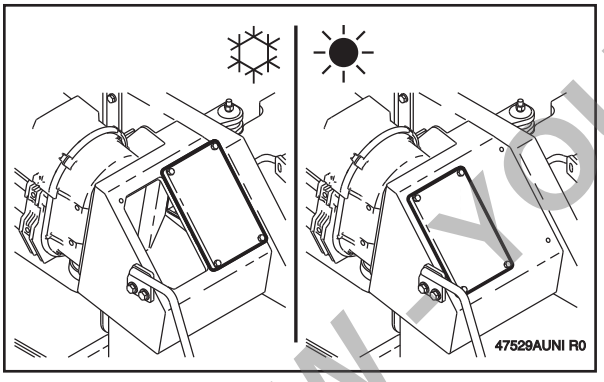
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AIR INTAKE BY-PASS COVER
8***2601 TO 8***2632

During cold weather operation the cover plate on the air box can be removed and repositioned on the air box. Repositioning the cover allows warm service compartment air to enter the air box during cold weather operation.



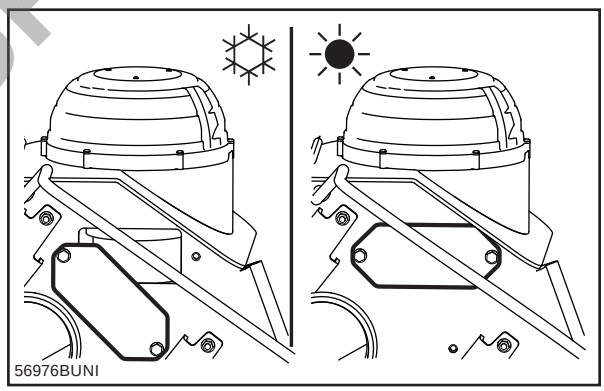


AIR INTAKE BY-PASS COVER
8***2633 TO 8*** 3500

During cold weather operation the air intake by-pass cover can be repositioned to introduce warm engine compartment air into the engine air intake.

During warm weather operation reposition the cover to block the by-pass.





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Tigercat 860C/870C/L870C Feller Buncher
SECTION 11 - TRACK DRIVE & UNDERCARRIAGE

ISSUE 3.0, MARCH 2020

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TRACK SPEED SETUP PROCEDURE TYPE 'A' AND 'C' DRIVE MOTORS

IMPORTANT!

Each motor maximum displacement setting must be correctly set before making adjustments to the valve spool stops described here in. Refer to the following SET MOTOR MAX. DISPL. (SLOW SPEED) procedure.

Also note that changes in margin pressure will also affect track speeds.

NOTE: Both left and right track drives have 4 (speed) settings which are dealt with in the following procedures, they are:
1, Forward-Drive

2, Forward-Low

3, Reverse-Drive

4, Reverse-Low.

However, there are only 3 adjustments required to accomplish this;

1, Forward flow stop adjusting screw

2, Reverse flow stop adjusting screw

3, Motor minimum displacement adjustment stop

SET TRACK SPEED

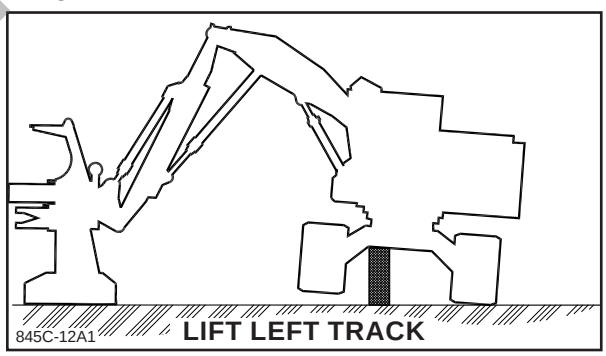
For track sprocket speed specifications refer to section 3 of this manual and for track rpm, refer to the track timing chart in this section.

1. Park machine on flat hard ground and ensure hydraulic oil is at operating temperature.
2. Remove both left and right final drive inspection covers to access track motors.

LEFT TRACK ADJUSTMENT

POSITION MACHINE

3. Position attachment head in vertical position and swing boom to left side of machine.
4. Place attachment on the ground and force down with boom controls, lift track clear of the ground.



LIFT LEFT TRACK

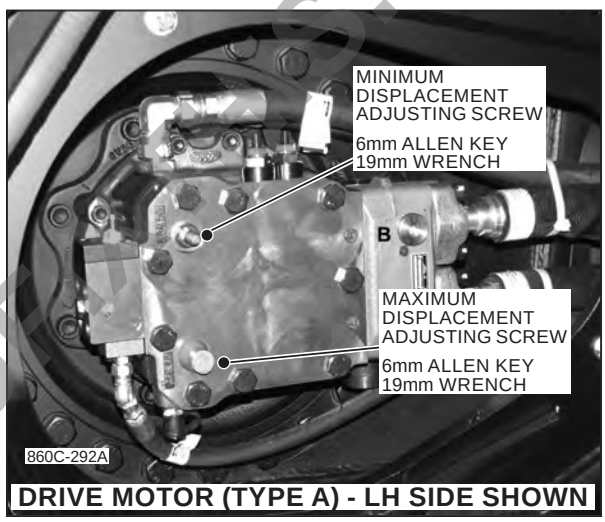
⚠ WARNING

DO NOT place arms, legs or body under track while in the raised position.

5. Use blocks to firmly support track frame in raised position.

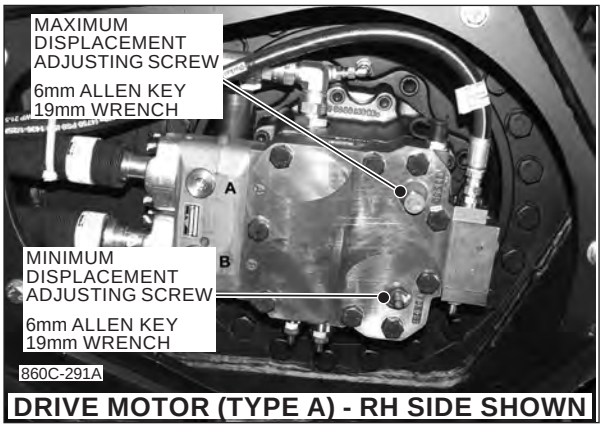
SET MOTOR MAX. DISPL. (SLOW SPEED)

NOTE: The motor maximum displacement setting is the slow speed setting. If required, turn the screw either in (clockwise) to speed up or out (counterclockwise) to slow down the final drive.



DRIVE MOTOR (TYPE A) - LH SIDE SHOWN

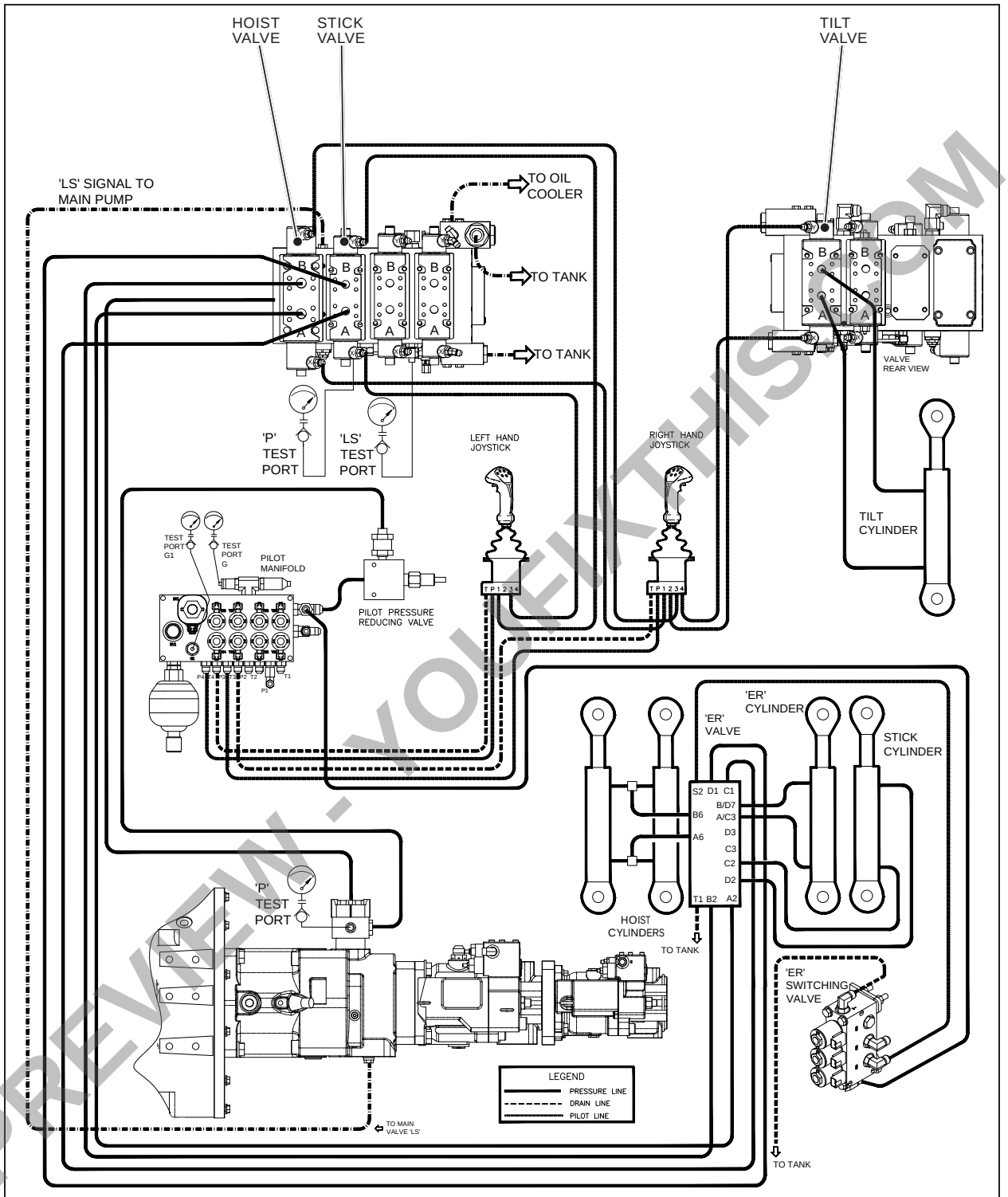
6. On left track drive motor, unscrew the maximum displacement adjusting screw all the way out.
7. From inside the cab close and latch the front door and press the pilot reset switch to activate the pilot system.
8. Place anti-stall switch to off position and set fan to service mode using the computer.
9. Set track (low/drive) switch to low.



DRIVE MOTOR (TYPE A) - RH SIDE SHOWN

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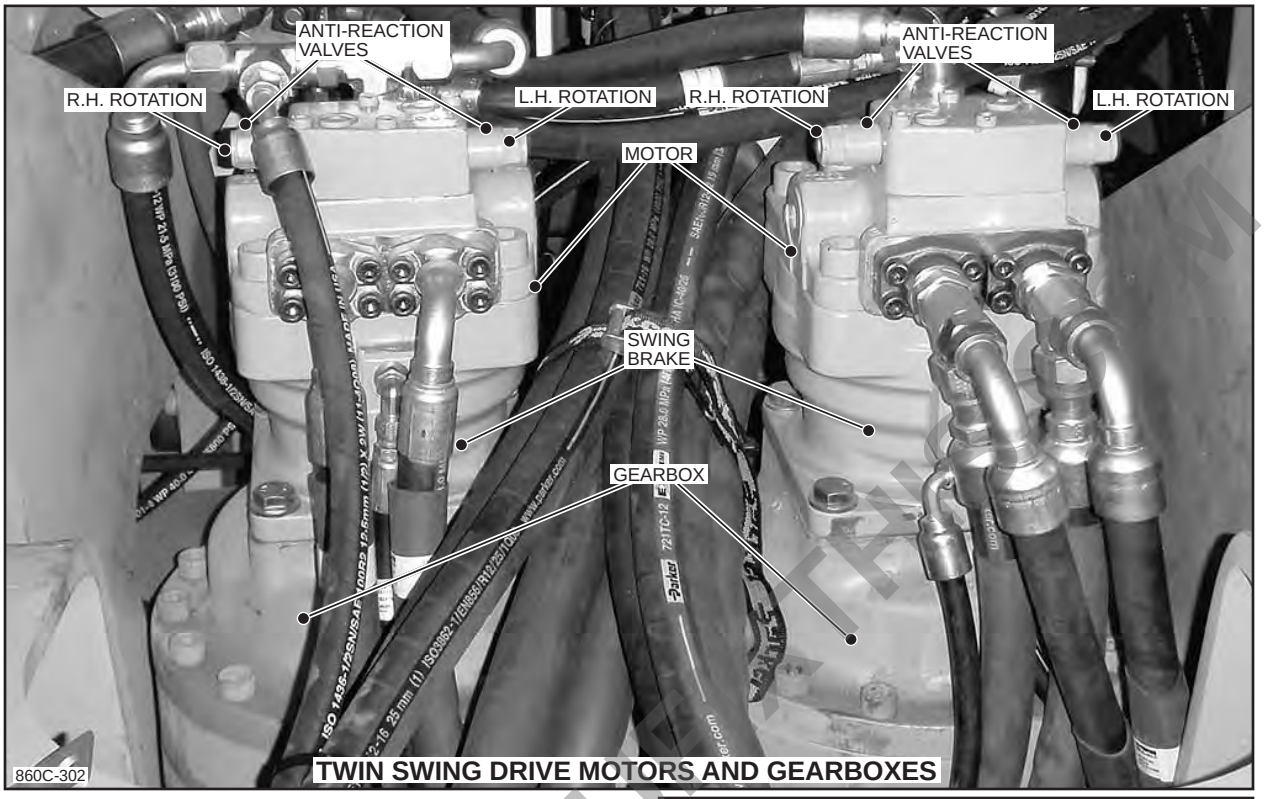
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'ER' BOOM SYSTEM & TILT HYDRAULIC CIRCUITS
8*2601 TO 8***2691**

860C-519

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TWIN SWING DRIVE MOTORS AND GEARBOXES

SWING DRIVE HYDRAULIC CIRCUIT

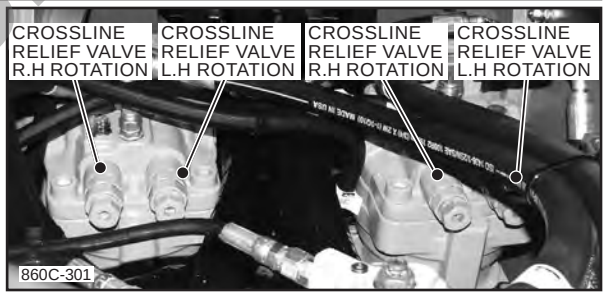
The main pump supplies oil to the two swing motors via the swing valve section on the main control valve manifold.

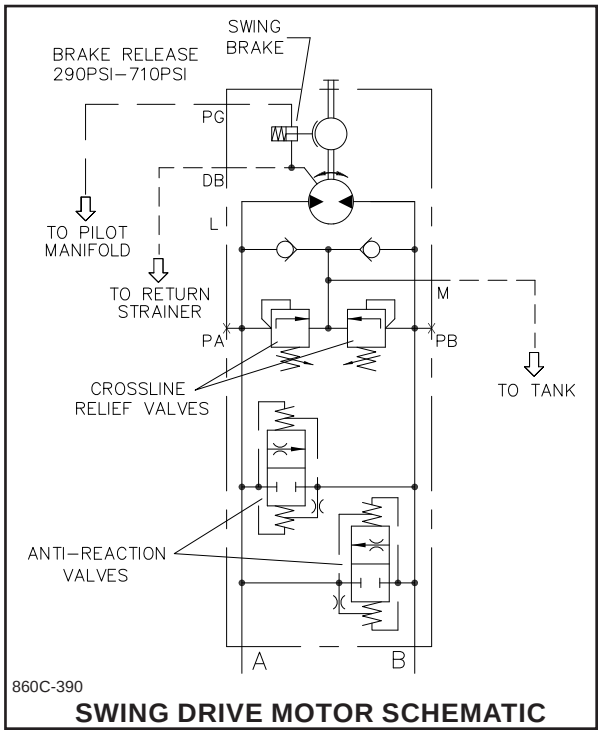
The swing function is controlled by the left joystick valve which sends proportional pilot signals to the main valve manifold which supplies oil to the swing motors.

The swing motors are piston motors with crossline relief valves mounted on the input end. The crossline relief valves provide a cushion to the high forces that occur during start and stop of the upper frame swing function.

Power is transmitted from the motors to double reduction planetary gearboxes. The motors have a spring-applied, hydraulic-release, multi-disc brake in the motor housing. This brake is normally on. Placing the swing brake switch in the off position energizes the swing brake solenoid pilot valve on the pilot manifold and allows pilot oil pressure to flow to the swing brake via port 'C5', to release the swing brake.

In the event that electrical power is lost to the solenoid valve or hydraulic pressure to the pilot valve is lost, the swing brake will engage (on) automatically.

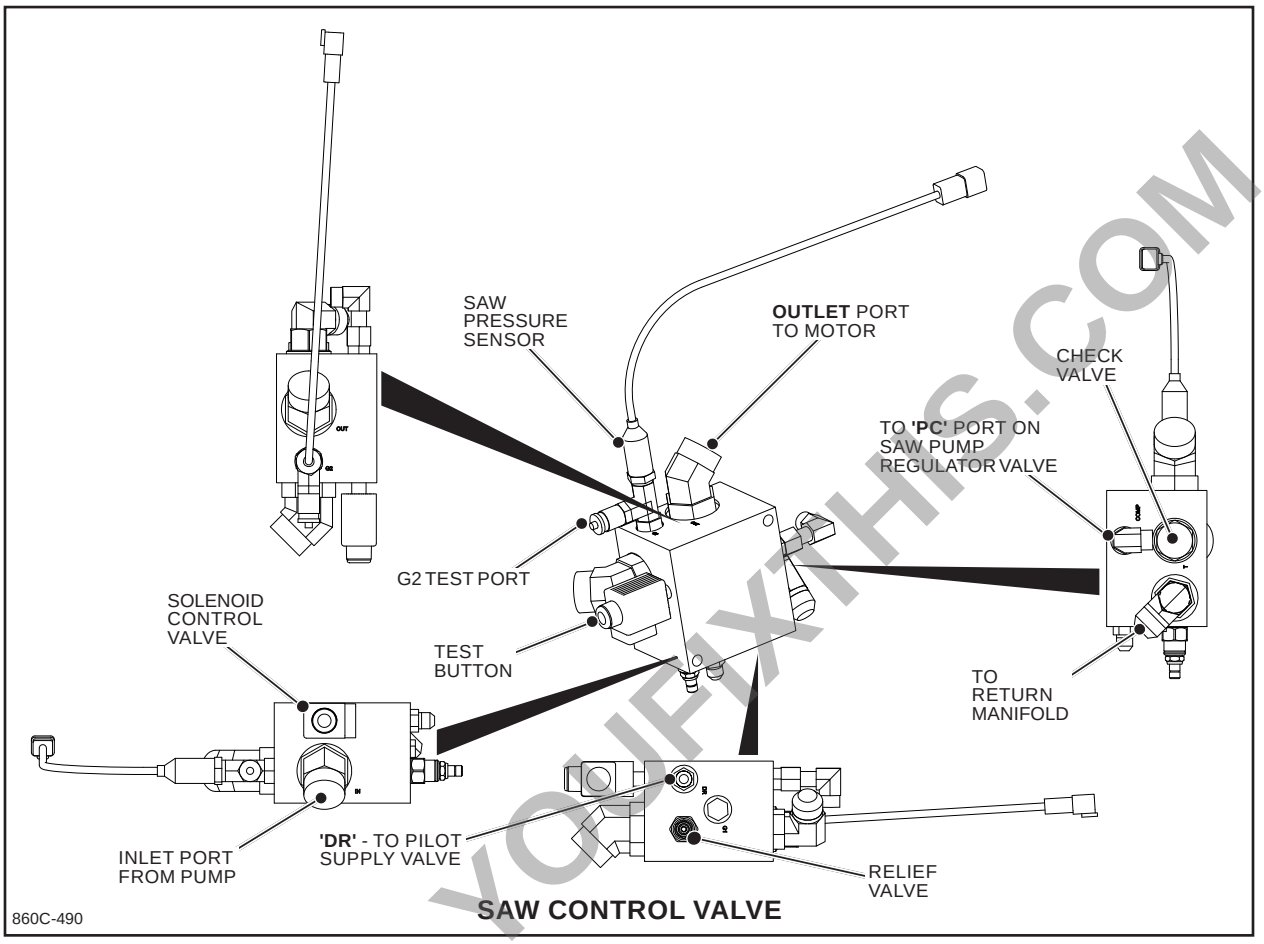




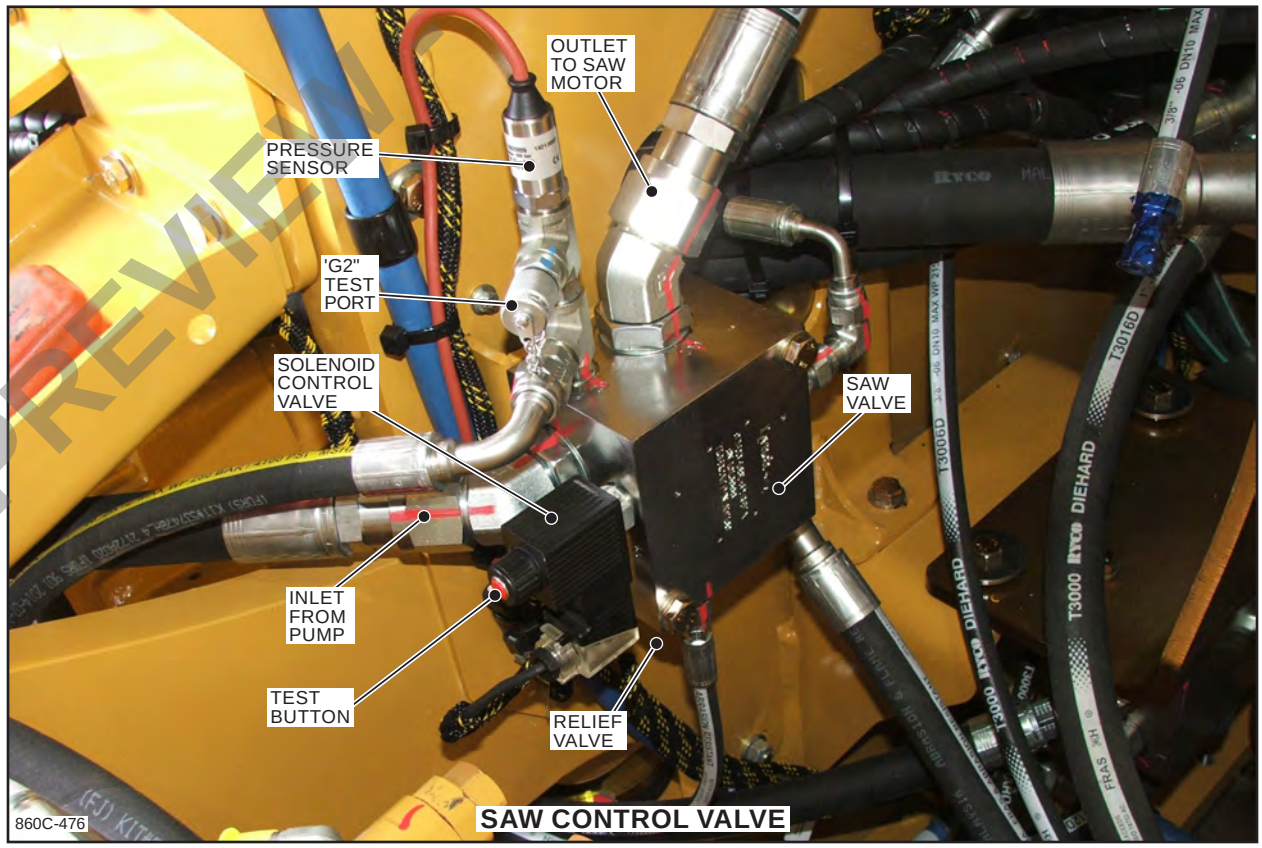
SWING DRIVE MOTOR SCHEMATIC

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SAW CONTROL VALVE



SAW CONTROL VALVE



SAW CONTROL VALVE

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