

# OPERATOR'S MANUAL

## Tigercat H855C/LH855C HARVESTER

ISSUE 4.2 MARCH, 2012

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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.**

H855C/LH855C-SM00

**H855C/LH855C HARVESTER Available Literature**  
Operator's Manual, English (this manual) ..... Part No. 30937A  
Service Manual English..... Part No. 30938A  
Parts Catalog..... Part No. 30939A

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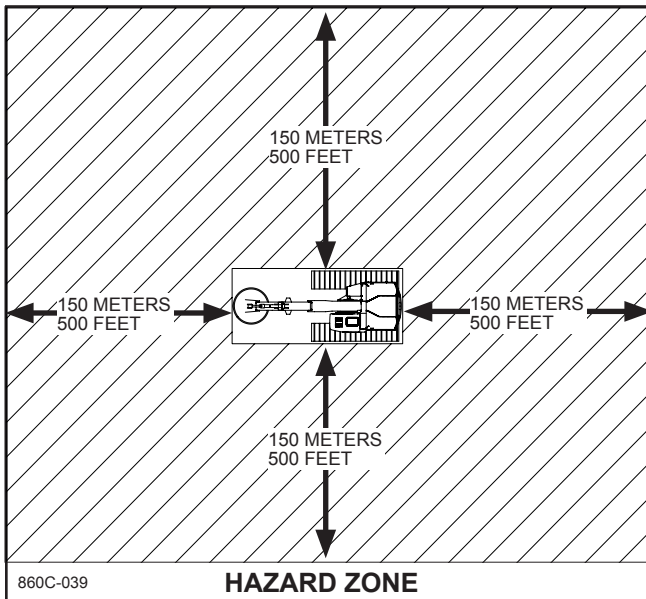
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**GENERAL SAFETY PRECAUTIONS**  
continued

**KEEP BACK**  
**500 FEET**

The following diagram illustrates the HAZARD ZONE. All personnel should be kept clear of this zone while the harvesting head is operating.

The HAZARD ZONE should be considered off limits to all individuals.



**⚠ DANGER**  
**The safety of persons outside the cab is the responsibility of the machine operator.**

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

**NOTE:**  
Opening the cab front door will stop machine functions. Opening the cab side door will NOT stop machine functions.



Wear a suitable hearing protective device such as earmuffs or earplugs to protect against noise. Prolonged exposure to loud noise can cause impairment or loss of hearing. This machine exceeds 70dB(A) in the cab and exceeds 85dB(A) when servicing machine engine.

Always use the handrails and steps provided when mounting and dismounting from the machine.

Do not jump off the machine at any time.

Do not try to climb onto or off of a moving machine.

Do not use the seat armrest or joystick as handle when entering or leaving the cab.



Do not use the machine foot controls as steps.

When mounting or dismounting the machine always use the 3 point technique; use one hand with 2 feet or 2 hands with 1 foot.

**⚠ WARNING**

**Avoid mounting or dismounting the machine in areas with slippery surfaces. Dry, deice, clean up or cover slippery surfaces with an anti-slip material before mounting or dismounting the machine.**

## OPERATING SAFETY PRECAUTIONS continued

### WARNING

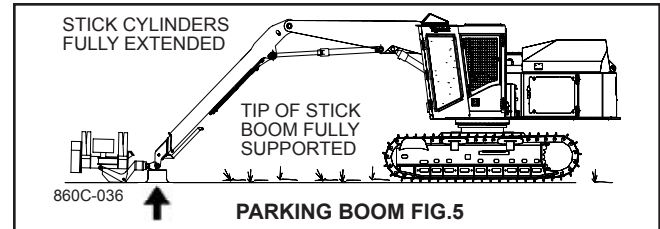
**Avoid the risk of chain shot. Never operate the attachment so that the saw bar is directly in line with the cab or any personnel!**

- Do not process trees with the saw guide (bar) aligned with the operator's cab. The hydraulically driven saw chain reaches high speeds and is an extreme hazard if the chain breaks.
- Operate so that the chip discharge area of the harvesting head is not directed at people, livestock, houses, buildings, roads or other machines.
- Be particularly observant with the zone in line with the chain saw.



## SERVICING AND REPAIR:

Before beginning any service work on the harvesting head, place the machine on level ground, place the attachment on the ground and properly support the boom, refer to PARKING BOOM Figure 5.



Stop the machine engine and turn the battery disconnect switch to the OFF position. Install any safety chains or locking parts required by the attachment manufacturer. Ensure that any accumulators on the attachment are completely relieved of hydraulic pressure. Always follow the specific safety, maintenance, and operating procedures provided by the attachment manufacturer.

- Never place any part of your body between the roll arms or delimiting arms. This area is a crush zone. Keep clear to avoid personal injury or death.
- Never place any part of your body near the rolls. Avoid the risk of entanglement in moving parts. Keep clear to avoid personal injury or death.
- Never place any part of your body in front of the saw guide (bar). Avoid the risk of dismemberment. Keep clear to avoid personal injury or death.
- When working in the area of the roll arms, delimiting arms, or rolls and when changing the saw guide (bar) or saw chain the machine must be completely shut down, with the battery disconnect switch to the OFF position.
- Do not change the pressure settings of any hydraulic valves or make structural modifications to the harvesting head without obtaining authorized instructions from the attachment manufacturer.

**SERVICING SAFETY PRECAUTIONS**  
continued

Work in a ventilated area. If it is necessary to run an engine in an enclosed area, use an exhaust pipe extension to remove toxic exhaust fumes.

If you don't have an exhaust pipe extension, either work outside, or open the shop doors.

Dispose of fluids properly.

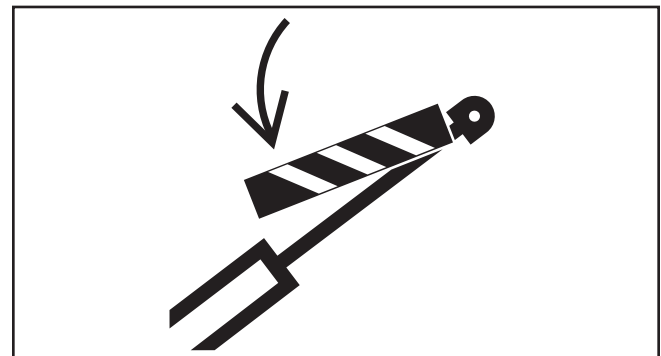
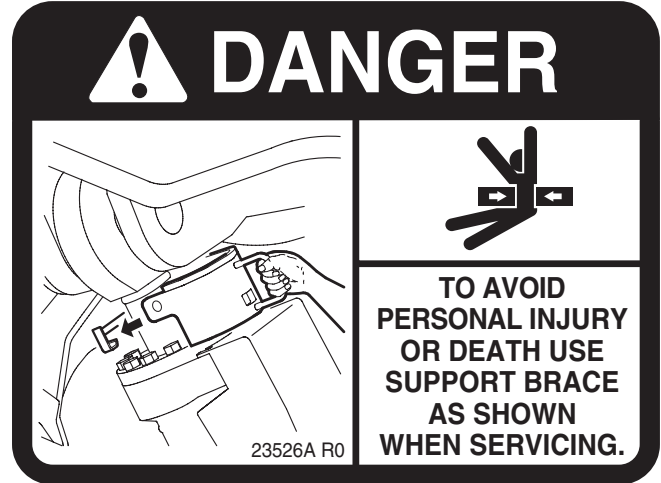


Do not pour fluids into the ground, stream, pond or lake.

Before draining any fluids, know the proper way to dispose of them.

Read, understand and follow all operating safety precautions specified by harvesting attachment manufacturer.

**MACHINE MODELS EQUIPPED WITH A LEVELLING SYSTEM**



Always install support braces in the levelling mechanism while performing service and maintenance tasks. This area is a crush zone. Keep clear to avoid personal injury or death.

**DRY CHEMICAL CLEANUP PROCEDURES**

Both ABC dry chemical fire extinguishers and fire suppression systems discharge a chemical powder to extinguish the fire. The chemical makeup and the small particle size of the powder as well as the force of the discharge all contribute to the fire fighting capability. These same characteristics also permit the powder to penetrate into and fully cover all components in the vicinity of the discharge.

The following are recommendations for the cleanup and neutralizing of areas exposed to dry chemical powder.

Workers performing this work should wear protective clothing, safety goggles and a fine particle dust mask to minimize their personal exposure to the dry chemical powder.

Ensure that all electrical systems have been completely de-energized prior to any cleanup.

1. In areas of the machine that remained cool and dry during the fire, the dry chemical will stay in powder form.

Be certain to clean these areas immediately to prevent any settled residual powder from coming into contact with moisture whether through direct contact or humidity in the air.

Remove the powder residue by blowing off with air, sweeping, dusting or vacuuming using a HEPA filter capable of trapping the small dry chemical particles. Then wipe all surfaces with a damp cloth.

2. In areas exposed to moisture, the dry chemical powder will combine with water to form a paste that is mildly acidic. Note that all surfaces covered by this dry chemical paste including electrical contacts are vulnerable to corrosive attack.

To neutralize the acidic paste on large surfaces, spray or wash these areas with a mixture of 3 parts hot water to 1 part baking soda. Allow this mixture to stand for several minutes before rinsing with warm water. Wash the area with a mild soap and water solution. Rinse thoroughly with water. Blow-dry to remove all residual water.

Cleaning of electrical contacts should be done using an electrical contact cleaner that has no flash or fire point and is non-corrosive and non-conductive such as CRC Contact Cleaner 2000.

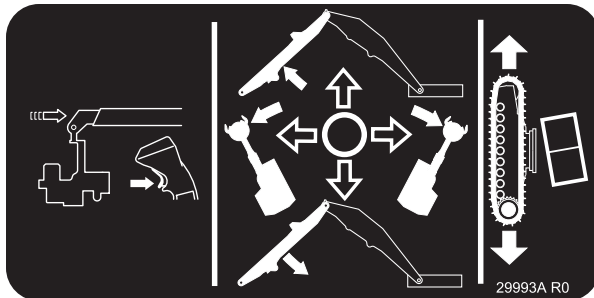
3. In areas exposed to heat during the fire, the dry chemical powder will melt forming a coating that cakes or crusts on all surfaces.

To break down the caked dry chemical, spray or wash these areas with a 50/50 mixture of hot water and isopropyl alcohol. Allow this mixture to stand in place for several minutes.

The caked dry chemical when exposed to moisture is also mildly acidic. Therefore when the break down procedure has been completed, follow this immediately with the neutralizing procedure as described in step 2.

**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****Boom, Forward/Back**

Move the joystick back to move the boom **IN** toward the machine.

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

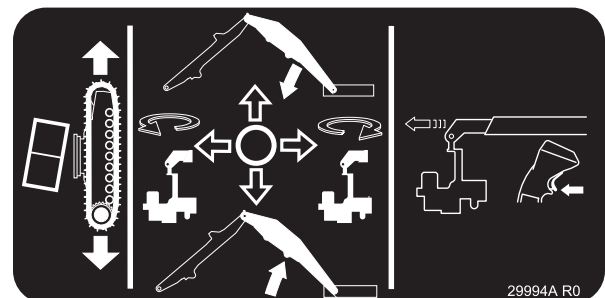
**Swing**

Move the joystick right to swing the upper to the right.

Move the joystick left to swing the upper to the left.

**Trigger switch, Telescopic Boom IN**

Pull the trigger switch to move telescopic boom **IN**.

**2. R.H. JOYSTICK CONTROL LEVER****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**

Pull the trigger switch to move telescopic boom **OUT**.

One **125 amp** and four **60 amp** fuses are installed in the **Rear Compartment Fuse and Relay Panel** ahead of the system circuit fuses and are there to prevent major damage to the electrical systems of the machine in the event of a short circuit in any of the main battery feed lines.

Each circuit on the machine is further protected against current overload by individual circuit fuses. The circuit fuses on the **Fuse, Relay and Electrical Panel in Cab** protect the cab electrical components.

The fuses in the **Rear Compartment Fuse and Relay Panel** protect the circuits for the work lights , engine ECM, engine enclosure power door and many other machine operating circuits. Refer to the label on the previous page for specific fuse designation and location.

A **60 amp** fuse located in the battery compartment provides unswitched power for cab lights and service lights.

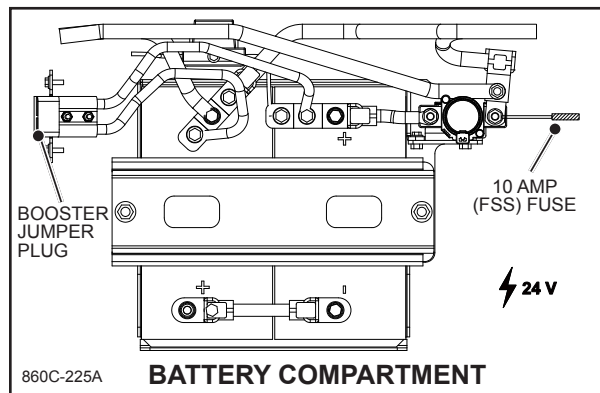
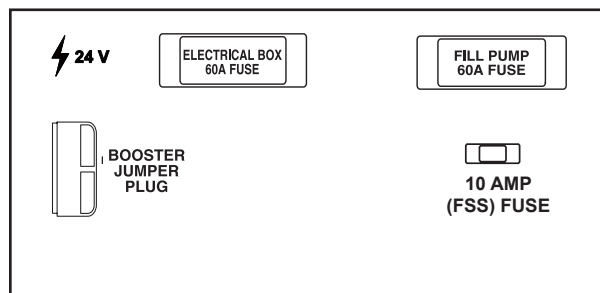
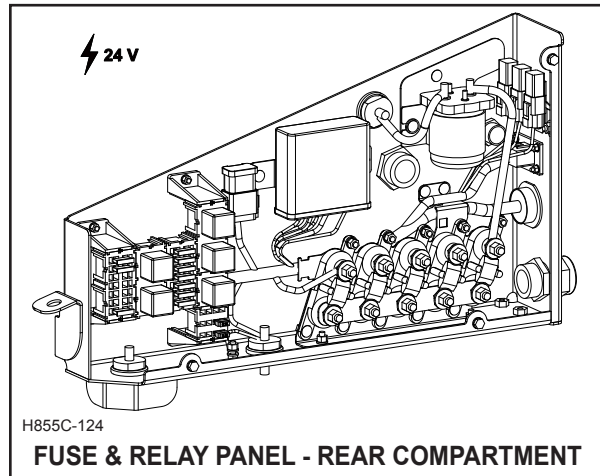
A second **60 amp** fuse is located between the battery compartment and the hydraulic fill pump electrical circuit to provide unswitched power for the electrically operated fill pump.

A **10 amp** in-line fuse protects the fire suppression system when a fire suppression system is installed. This fuse is located in the fire suppression power lead from the battery.

If a fuse “blows” it should be replaced with a fuse of the same amperage rating. If the fuse “blows” again, the circuit in question must be inspected for possible short circuit.

**BATTERY BOOSTER JUMPER PLUG**

A battery booster jumper plug is located in the battery compartment. This special JUMPER CONNECTOR is used in conjunction with jumper cables with matching ends. Cables with matching ends are available through your Tigercat Dealer Parts Department. If standard jumper cables are used the NEGATIVE connection can be made anywhere on the upper frame, as close to the batteries as possible on bare metal.



**20. BULB TEST SWITCH**

This is a two position “momentary” switch. Press and hold this switch in the ON position to test the bulbs in the warning lights. Replace the bulb in any light that does not come ON. If the light does not come ON after inserting a new bulb, check the fuse or circuit breaker. Bulbs should be tested at the start of each shift.

**21. SERVICE MODE - SWITCH**

**(MACHINES 855\*0101 to 855\*0400)**

This SERVICE MODE SWITCH (with light) has two positions, ON and OFF. OFF is the position the switch should be in to allow the cooling fan to operate in the normal mode. ON is used whenever a Service Technician is in the Service Compartment performing tests with the engine running. Reversing the fan rotation redirects the airflow away from the service technician.

When service checks are complete place the switch in the OFF position.

Refer also to COMPUTER ~ SYSTEM WARNING MESSAGES ~ INFORMATION MESSAGES in THIS SECTION for a description of the FAN SERVICE MODE information message displayed when this switch is in the ON position.

**21. ER MODE - SWITCH**

**(MACHINES 855\*0401 to 855\*1000)**

This is a two position “momentary” switch that allows the operator to toggle ER ON or ER OFF

**NOTE:** When the ignition is turned off and then the machine is restarted the ER function will be ON (the default is ER ON).

To turn the ER function OFF press the switch momentarily.

The computer monitor will sound an alarm when ever the ER is turned ON or OFF and when ever the pilot switch is reset .

The computer will display the following:

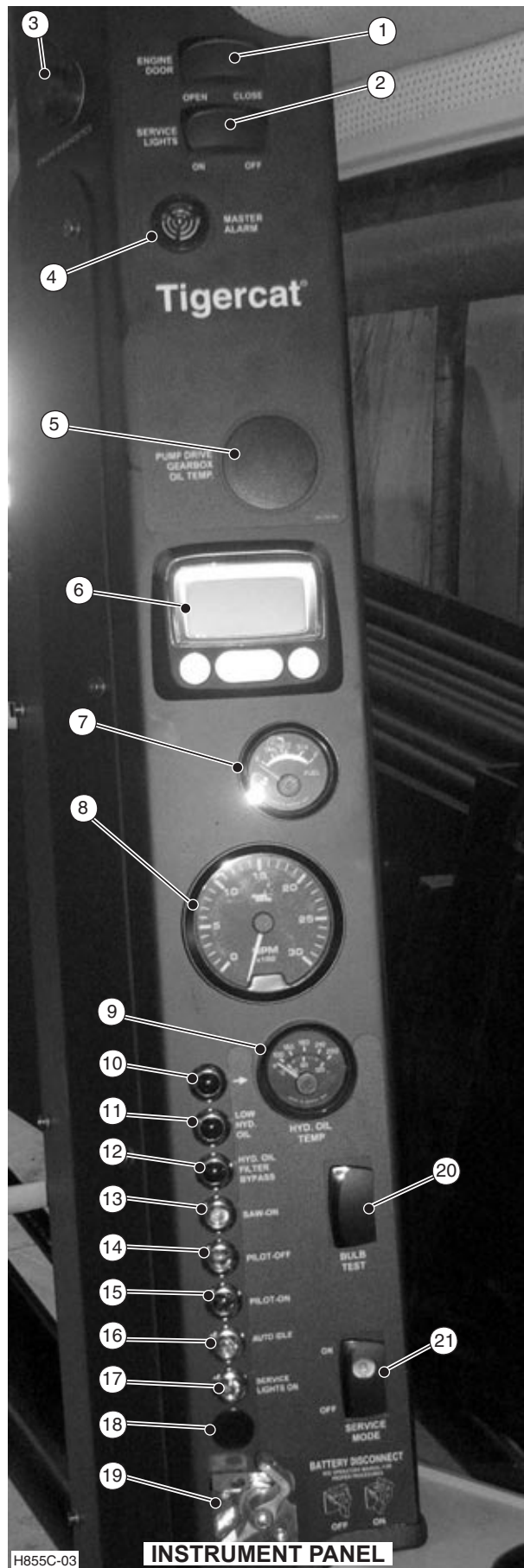
ER MODE - CURRENTLY ON

or

ER MODE - CURRENTLY OFF

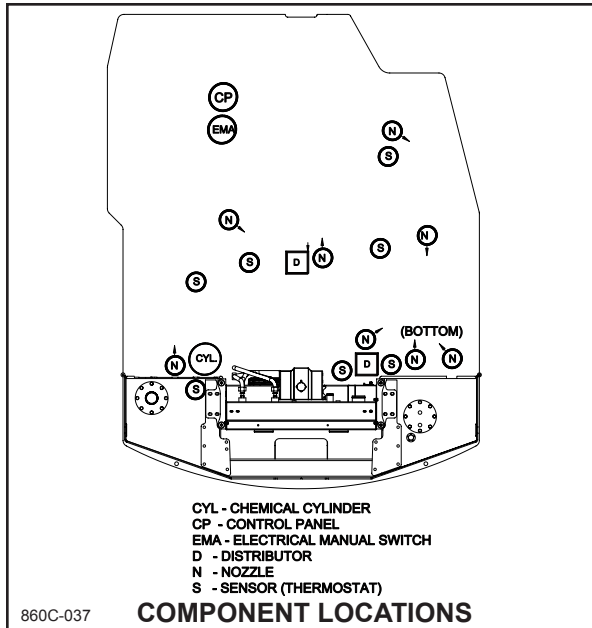
Press the F1 button on the front of the computer display to turn the alarm OFF and acknowledge the change to ER function.

Refer also to COMPUTER ~ SYSTEM ER MODE for more information.



H855C-03

**INSTRUMENT PANEL**

**AVOIDING DAMAGE AND FALSE DISCHARGES DURING MACHINE SERVICE:**

Pay attention to the location of the components of the fire suppression system. Take care not to damage heat sensors or wiring, this includes hitting, cutting, bending, denting, etc. Damage to heat sensors due to shock could cause an accidental discharge of the system. Cut, pinched, or kinked wiring could cause false signals and an accidental discharge of the system.

In addition thermostats are sensitive to heat from welding torches, steam cleaning or other outside sources which may create a false discharge of the system.

If any of the components are damaged, replace them immediately before operating the machine.

It is also important to take care around the chemical cylinder. The chemical cylinder is pressurized and can explode if struck with sufficient force. Pressurized cylinders are extremely hazardous.


**WARNING**

**Failure to follow the system manufacturers instructions and guidelines may result in serious bodily injury, death, and property damage.**

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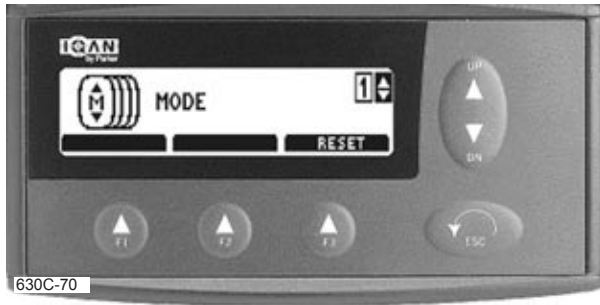
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**MENU DESCRIPTIONS**



**1. MODE MENU DESCRIPTION**

Not currently used in program, no modes to select.



**2. INFORMATION MENU DESCRIPTION**

- A. Software application information can be displayed, including comments.
- B. Module information can be displayed including status, software information and hardware information.

**⚠ WARNING**

**Do not make adjustments in this menu. Machine warning alarms can be disabled in this menu.**



**3. SETTINGS MENU DESCRIPTION**

- A. LCD display CONTRAST and LIGHT (BRIGHTNESS) can be adjusted.
- B. The LANGUAGE that the text is displayed in can be selected.

- C. Computer SOUND volumes can be adjusted.
- D. Computer DATE and TIME can be adjusted.



**4. MEASURE MENU DESCRIPTION**

- A. Input and output VOLTAGE and CURRENT can be measured.
- B. EVENT COUNTER can be viewed.
- C. J1939 CANBUS DATA can be viewed.

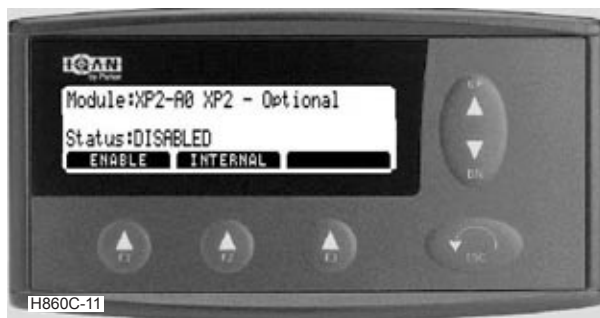


**5. PROPERTIES MENU DESCRIPTION**

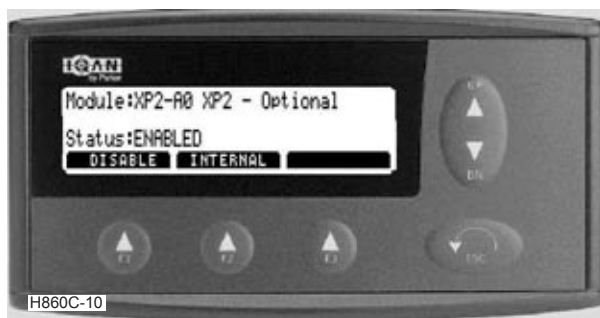
- A. FUNCTION PARAMETERS for adjustable machine functions can be adjusted.
- B. INPUTS for adjustable machine functions can be adjusted.
- C. OUTPUTS for adjustable machine functions can be adjusted.

**Note also an exception to the rule:** Harvester, Feller Buncher and Shovel Logger programs contain information for all models including module programming for the leveller module, XP2-A0 XP2-Optional. Depending on the model of machine the program is installed in this module may be disabled because the module is not used on the machine. In the case where a newer version of the program and/or a new MDM module has been installed during a service procedure it may be necessary for the service technician to disable the appropriate module.

All non-levelling machines should have the levelling module disabled.



All levelling machines should have levelling module enabled.



**LEVELLING ELECTRONIC ADJUSTMENT PROCEDURE**

Adjustments to the levelling system through the PROPERTIES MENU of the IQAN control system electronically adjust the performance of the levelling system to suit operating conditions . Refer also to COMPUTER ~ (PROPERTIES) MENU OPERATION in THIS SECTION.

Two types of adjustment can be made to the levelling system:

**CYLINDER OPERATING SPEEDS**

Forward Level Speed and Rear Level Speed function parameter adjustments provide a means for setting the levelling FORWARD/ BACKWARD cylinder operating speed.

**CYLINDER TRACKING**

The Right Level Cylinder and Left Level Cylinder current out adjustments provide for setting the cylinder operation of both cylinders to prevent tracking (one cylinder extending or retracting faster then the other).

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 levelling control valve to the levelling cylinders.

**⚠ DANGER**


**Extreme care and attention must be exercised when making adjustments to the levelling hydraulic and electrical circuits. Ensure that all personnel not directly associated with the servicing are well clear of the machine.**

**The whole upper frame/cab/engine compartment, boom and attachment can tilt unexpectedly from side to side or forward and backwards during servicing, creating “pinch points” between the upper frame and track assembly and the ground.**

**⚠ DANGER**



23526A R0



**TO AVOID PERSONAL INJURY OR DEATH USE SUPPORT BRACE AS SHOWN WHEN SERVICING.**

**CHECKING LEVELLING SPEED (CYLINDER CYCLE TIMES)**

1. Ensure hydraulic oil is at **operating temperature**.
2. Ensure no other personnel are in the area during this procedure. Start engine and set throttle speed to HIGH IDLE.
3. Close cab door and press PILOT RESET switch to activate pilot system.
4. Place ANTI-STALL switch in the OFF position.
5. Press the REAR tilt levelling switch and fully retract BOTH cylinders.
6. Press the FORWARD tilt levelling switch and fully \*\* extend cylinders. Record cycle time from stop to stop.
7. Operate the REAR tilt levelling switch and fully \*\* retract cylinders. Record cycle time from stop to stop.
8. If required, adjust the computer control system settings for forward levelling speed or rear levelling speed to achieve the time outlined in the chart (PROPERTIES ~FUNCTION PARAMETERS). Refer to ADJUSTING FORWARD/REAR LEVEL SPEED in THIS SECTION for procedure.

**NOTE:** Adjustment of the FORWARD/ REAR speed is the setting required to obtain recommended cycle time. SIDE to SIDE speeds will be a product of these settings.

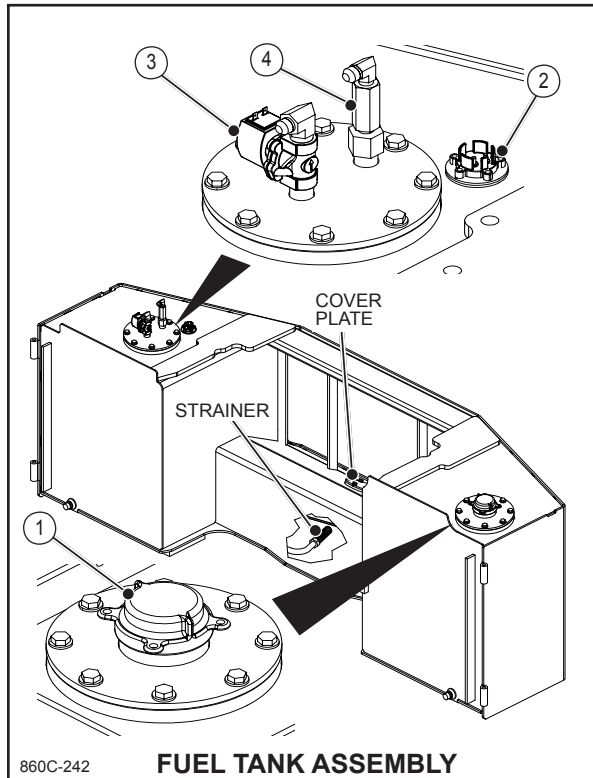
**NOTE ALSO:** Some fine adjustments may be required to ensure that the upper frame does not track RIGHT or LEFT during the FORWARD/REAR movement. Refer to ADJUSTING CYLINDER TRACKING ~ ADJUSTING MAXIMUM/MINIMUM CURRENT for procedure.

\*\* When extending or retracting cylinders to record the time, stop the cylinder just before it gets to the end of it's stroke rather than let it bottom out and impose unnecessary loads on the cylinder parts and frame structures.

**TYPICAL CYLINDER CYCLE TIMES**

Recommended settings:

CYLINDER CYCLE TIMES		
CYLINDER	CYL.	CYCLE TIMES
LEVEL - 'FORWARD' .....	8 SEC.	FULL EXTN.
LEVEL - 'REAR'.....	8 SEC.	FULL RET.



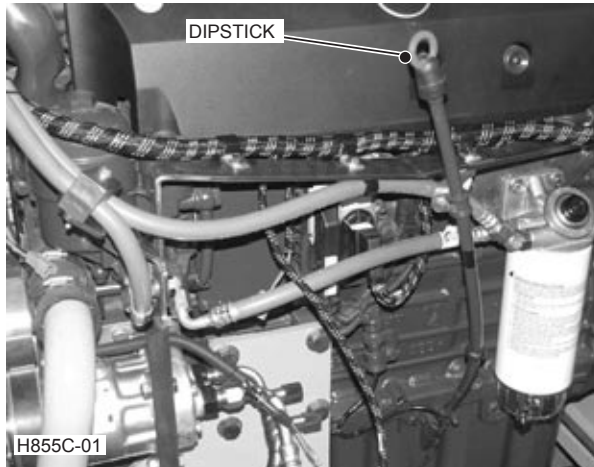
**FUEL TANK**  
**855\*0401 - 855\*1000**

**COMPONENTS**

1. Fuel Cap
2. Fuel Level Sender
3. Fuel Supply Shut-Off Solenoid Valve
4. Fuel Return Check Valve

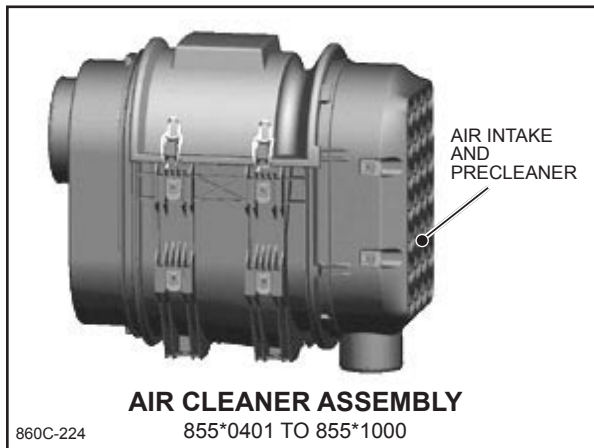
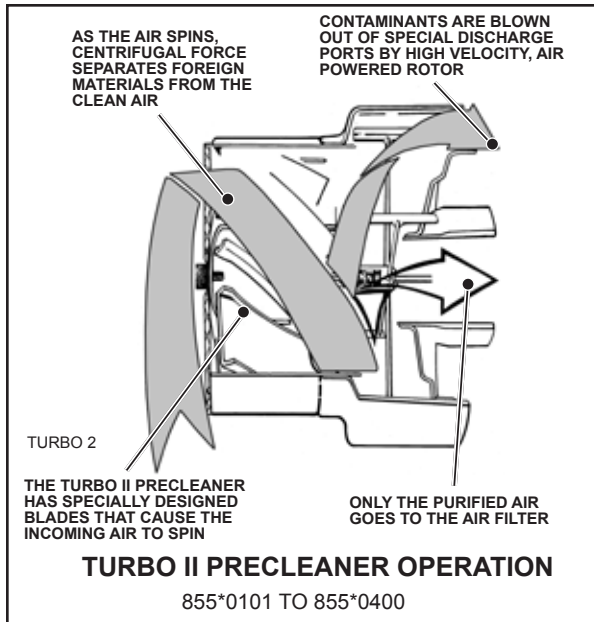
**FUEL TANK CAPACITY**

The fuel tanks have a total capacity of **946 L**  
**(250 gal. US)**.

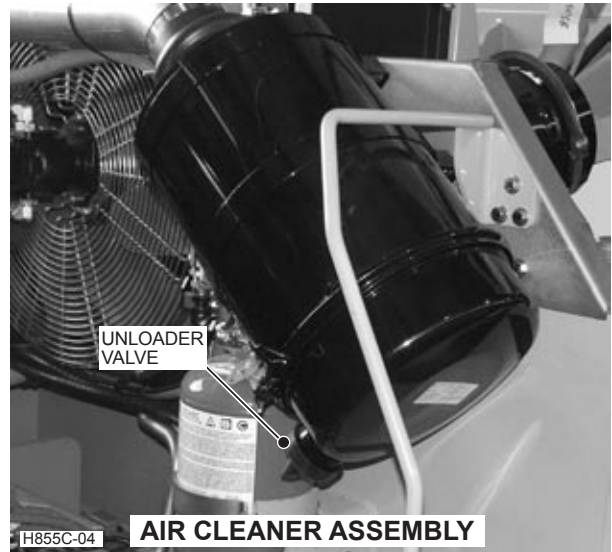


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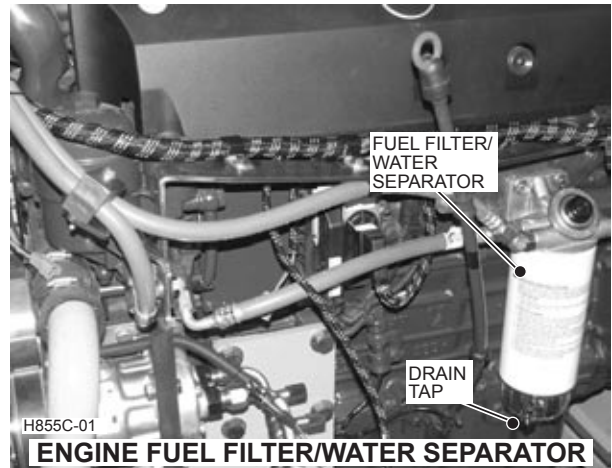
5. Check the engine oil level. The level of the oil must be between the ADD and the FULL marks on the dipstick.



6. Check air intake pre-cleaner intake and discharge areas. Remove any blockages or obstructions.



7. Check air cleaner unloader valve (earlier machines 855\*0101 TO 855\*0400 only).



8. Check fuel line water separator and drain any accumulated water into a bowl and clean up any spills.

**CARE OF POLYCARBONATE WINDOWS IN CAB**

Some windows used in the cab are made from a polycarbonate resin thermoplastic. This material is a replacement for glass when improved strength, durability and safety is required.

Polycarbonate material is expected to resist heavy impact and to absorb high levels of energy when contacted by high velocity thrown objects such as wood chips, cutter tools or stones.

The extreme operating environment seen in logging applications heightens the need to regularly inspect and properly maintain polycarbonate cab windows.

Polycarbonate windows are an essential piece of operator protective equipment and should be maintained as such. It is important to note that cracks, chips, notches or scarring anywhere on the viewing surface or edges of the window will decrease ability to resist heavy impacts and therefore compromise effectiveness as operator safety protective equipment. Windows with these defects must be replaced immediately.

Refer to the next section for detailed information regarding inspection and maintenance of polycarbonate windows.

**INSPECTION AND MAINTENANCE**

Daily inspection and maintenance is essential to confirm that the window's ability to protect the operator has not been compromised.

- Inspect all windows daily and immediately after any impacts.
- Check for any damage to the window material or steel structure in the area of the window mounting.
- The edges of the polycarbonate window must be evenly and fully supported on a flat surface around the entire window opening at all times. Bent or dented skylight structures must be replaced immediately. Bent or dented cab structures must be evaluated immediately for possible repair or replacement.
- The edges of the polycarbonate window must be free from cracks, chips, notches or scarring and must not be pinched or stressed. These defects will decrease ability to resist heavy impacts. Windows with these defects must be replaced immediately.
- Cracks, chips, notches or scarring anywhere on the viewing surface of the window will decrease ability to resist heavy impacts. Windows with these defects must be replaced immediately.

- Bent, dented or missing window retaining parts must be replaced immediately.
- Rubber materials used in mounting the window must be maintained in good condition.
- Identification of the polycarbonate originally used by Tigercat is hot stamped in a corner of the window to identify its composition. Do not use any replacement window without proof of its material composition. Do not substitute with any other materials.
- Skylights, cab structures, windows and window retaining parts must not be modified or replaced with components that are not approved by Tigercat.

**RESISTANCE TO CHEMICALS**

The resistance of polycarbonate material to chemical exposure varies widely. Fortunately, polycarbonate materials have good resistance to diesel fuel, grease, hydraulic oil, kerosene and engine oil.

Other chemicals however can seriously weaken the polycarbonate.

DO NOT permit any of the following chemicals to come into contact with polycarbonate windows:

- acetone
- air conditioning refrigerant
- ammonia
- anti-freeze
- benzene
- brake fluid
- carbon tetrachloride
- cutting oils
- gasoline
- lacquer thinner
- toluene
- turpentine
- xylene

**RESISTANCE TO WATER**

Polycarbonate material has good resistance to water up to approximately 65°C (150°F). Above this temperature the effect of water is time-temperature related. This means that the higher the water temperature, the shorter the time before the polycarbonate is adversely affected.

Exposing polycarbonate to repeated steam cleanings or high temperature pressure washing may result in crazing, a phenomenon that causes clouding of the surface. Crazing can ultimately result in a loss of physical strength and may precede a fracture.

## SCHEDULED MAINTENANCE

### FREQUENTLY:~

- **Check engine cooling** air intake enclosure screens for possible restriction  
In broad leaf applications it may be necessary to reverse the cooling fan as frequently as every **10 mins**.
- **Check for debris**, snow and ice buildup on emergency exits and remove accumulation immediately.
- **ER Boom system:**  
Periodically, the main boom must be lifted up as far as it will go and then lowered to operating height in an area free from overhead obstructions in order to circulate hydraulic oil from the cylinders back through the cooler and filters. This oil does not circulate through the cooler or filters during normal horizontal motion and the oil does not get completely changed during normal vertical motion, so it is important that this procedure be followed at least once every hour.

### EVERY 8 HOURS:~

- **Perform frequently maintenance**  
**And in addition:~**
- Check engine coolant level
- Check engine oil level
- Drain water from fuel/water separator.
- Check air intake precleaner operation
- Check air cleaner unloader valve
- Check air intake filter restriction indicator.  
*Replace primary filter if indicator is in red zone.*  
*Replace secondary (safety) filter every third primary filter change to guarantee maximum performance and reliability.*
- Check hydraulic oil level
- Check swing drive gear box upper bearing gear oil level

#### **Lubricate:~**

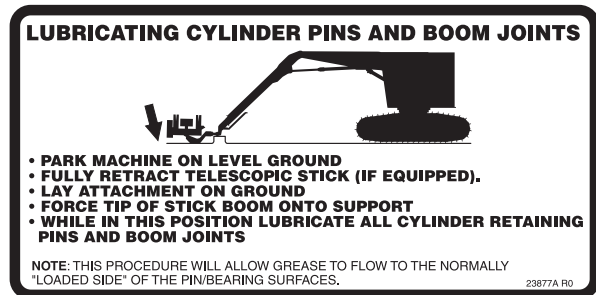
- Swing pinion; 1-fitting - 10 shots
- Cylinders, Levelling; 4-fittings total - purge (If equipped with leveller)
- Thrust bearing, Levelling; 2-fittings - purge (If equipped with leveller)
- ‡ Boom joints:  
Conventional Boom; 6-fittings - purge  
ER Boom System; 12-fittings - purge

- ‡ Cylinders; boom, stick & tilt;  
Conventional Boom; 8-fittings - purge  
ER Boom System; 10-fittings - purge

#### ‡ **Lubricating cylinder pins and boom joints:-**

1. Ensure machine is on level ground
2. Fully retract telescopic stick (if equipped)
3. Lay attachment on ground
4. Force tip of stick boom onto support
5. While in this position lubricate all cylinder retaining pins and boom joints

**NOTE:** This procedure will allow grease to flow to the normally "loaded side" of the pin/bearing surfaces.



#### **Clean:~**

- Oil cooler, engine radiator and enclosure screens.
- Remove potentially damaging limbs or sticks.

#### **Check:~**

- All air intake system components (including charge air cooler) rubber elbows, connector hoses, tubes and clamps for damage, hardening, wear, cracks, leaks, loose clamps or loose hanger bracket hardware and repair or replace immediately.
- Charge Air Cooler for damage, wear, cracks, or leaks and repair immediately.
- For leakage around hydraulic components and flexible hoses.
- For loose nuts, bolts and fittings.
- Condition and tension of fan belts.
- Visually check condition of tracks.
- Exhaust system for leaks.
- Conduct an overall visual inspection.
- Refer to diesel engine service manual and attachment manual for additional required maintenance at this scheduled time period.



- j. Inspect *sight glass* on *receiver dryer* with A/C ON. A constant stream of bubbles indicates system requires charging.\*

Check colour in *moisture indicator*, BLUE is OK. PINK indicates desiccant material in dryer is saturated with moisture. In this situation replace *receiver/dryer*, evacuate system and recharge system with both refrigerant and PAG oil.\*

\* Indicates that these repairs must only be carried out by a **certified A/C technician**.

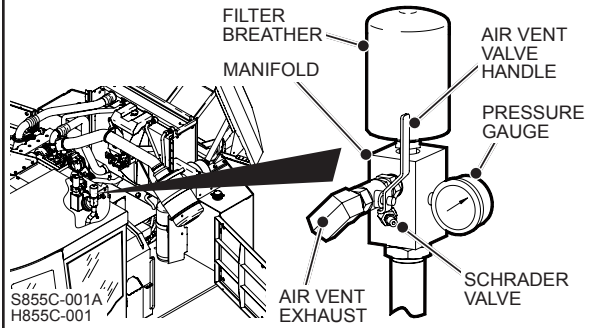
**IMPORTANT:**

It is recommended that during cold weather when the A/C system is not in use, that it be run for a period of 5 minutes every 2 weeks. This will circulate oil to all components of the A/C system.

For additional SERVICE information refer to the **Tigercat A/C SERVICE MANUAL** part number 18795A, available from **Tigercat** parts department.

**IMPORTANT: PRESSURIZED HYDRAULIC TANK. 34.5 kPa (5 psi) MAXIMUM.**

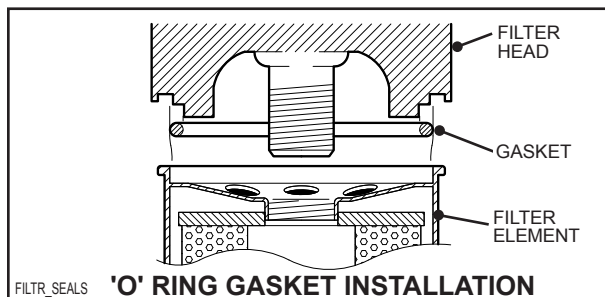
**Before servicing hydraulic system, wearing eye protection, release air pressure from tank using air vent valve.**

**Filter change procedure:**

1. Park the machine on level ground with the attachment resting on the ground.
2. Open enclosure roof and left side enclosure door.
3. Stop engine.
4. Turn the BATTERY DISCONNECT SWITCH to the 'OFF' position.
 

**Note:** Levelling machines are equipped with a service ladder, which should be utilized for service access to the left side of the enclosure.
5. Wearing eye protection, release air from the hydraulic reservoir by opening the AIR VENT VALVE. Pull **handle DOWN 90°** to open valve.
 

**Note:** Air pressure expelling from the vent valve will blow accumulated loose debris in the compartment.
6. Wipe clean the area around the filter and head.
7. Wearing eye and face protection (in case of an oil spray), unscrew the old filter.
8. Dispose of old filter and any oil properly.
9. Drain away any accumulation of oil in the tray (if equipped) by using the drain hose routed through the floor to a waste oil container.
10. The Tigercat spin-on filter element is supplied with two gaskets. The **round** ('O' ring style) section gasket is used for all return filters. Discard the **square** section gasket.



Remove used gasket and clean gasket seat in head.

Apply clean oil to new gasket surfaces.

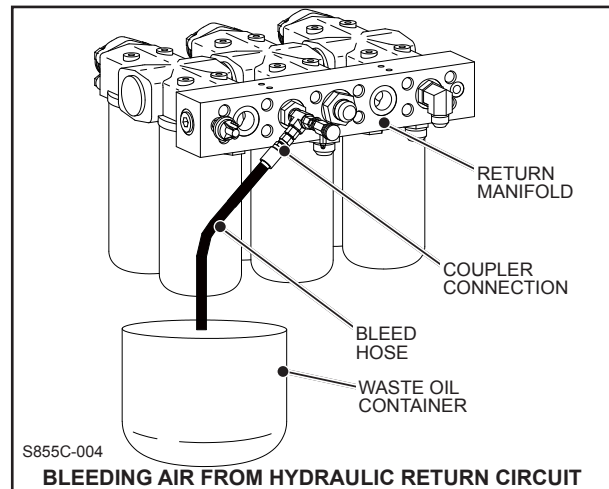
Install new gasket on inside lip of filter.

**DO NOT pre-fill filter.** Screw on new filter until gasket makes contact with filter head.

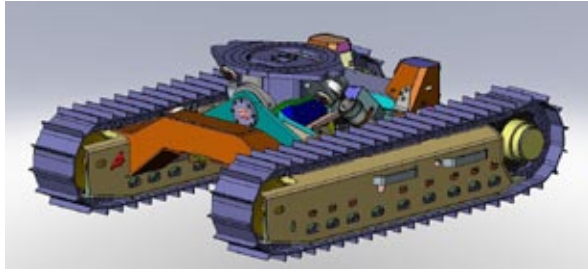
Tighten filter until top edge makes metal to metal contact with filter head. (Approximately 1 1/2 additional turns after gasket contact)

**DO NOT** use bottom nut for filter installation or damage/leakage may result. Bottom nut is to assist in **filter removal only**.

11. Close AIR VENT VALVE, push **handle UP**.



12. Attach bleed hose (located in the compartment behind cab above hydraulic tank) to the coupler on the return manifold.
13. Route hose to a waste oil container.
14. Use fill pump to raise hydraulic oil level up to the FULL line, replacing oil lost during filter change.
15. As oil is being pumped into the tank, purge air out the bleed hose from the return manifold until a steady stream of oil is coming from the bleed hose.
16. Disconnect bleed hose from the coupling at the manifold.
17. Clean up any spilled oil.
18. If oil level reaches full mark before air is completely bled, pressure can be added to the hydraulic tank via the schrader valve from a clean air source (ie: compressed air from service truck or shop). Monitor the hydraulic reservoir pressure gauge when adding air pressure. Do not exceed 34.5 kPa (5 psi).
19. Start the engine and check for leaks.
20. Run engine at IDLE speed for at least 5 minutes to purge any remaining air from the filter system. Then STOP the engine for 15 minutes to allow air bubbles in the hydraulic tank to rise.
21. Recheck hydraulic oil level – top up as needed.



## PROTECTING STEEL TRACKS

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

### Start every shift with a clean undercarriage.

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

### Inspect the undercarriage before you start working.

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

### Don't spin the tracks.

Track spinning, reduces production, it increases fuel consumption, without a corresponding increase in productivity. And it accelerates undercarriage wear, so your costs escalate. Grouser bars are especially prone to wear problems associated with track slippage.

### Watch your speed.

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

### Avoid unnecessary reverse operation.

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

### Alternate turning directions.

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

### Make gradual turns instead of counter-rotations.

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

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



### Work up or down a slope whenever possible.

Working across a slope can shorten undercarriage component life, so try to structure the job with minimal cross-slope activity.

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