

OPERATOR'S MANUAL

Tigercat 724D FELLER BUNCHER

ISSUE 2.1, JANUARY 2004

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724D Available Literature

Operator's Manual (this manual) Part No. 17399A
Service Manual Part No. 17400A
Parts Catalog Part No. 17398A
Hydraulic Adapters Book Part No. 1472A
Hose Assemblies Book Part No. 3707A

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GENERAL SAFETY PRECAUTIONS
continued

Maintain a charged fire extinguisher on the vehicle at all times and **KNOW HOW TO USE IT.**

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

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

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

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

Maintain a distance of 10 feet. (3 meters) between the machine or boom and any power line carrying up to 50,000 volts or less plus 1/2 inch (10 mm) for each additional 1,000 volts above the 50,000 volt level.

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

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

Even though the brakes are fully engaged, block the wheels to prevent movement during transport.

Install the articulation lock bar when ever the machine is to be transported.

Comply with instructions in this manual and also your company's regulations for the operation of this machine.

Read, understand and follow all general safety precautions specified by felling head manufacturer.

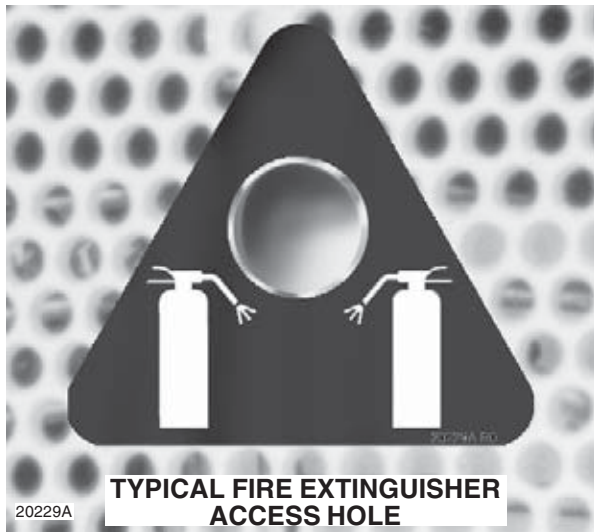
 **WARNING**

Engine exhaust, some of its constituents, and certain vehicle components contain or emit chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

 **WARNING**

Battery posts, terminals and related accessories contain lead and lead compounds.
Wash hands after handling.

FIRE PREVENTION continued



**TYPICAL FIRE EXTINGUISHER
ACCESS HOLE**

completely out. Once the fire is out, keep an eye on the area in case it re-ignites.

- If you are unable to open the access door(s), but can safely reach the fire extinguisher access hole, place the nozzle of the fire extinguisher into the appropriate fire extinguisher access hole and discharge the extinguisher.
- Failing all attempts to access the machine compartment, attempt to discharge the extinguisher through the mesh or any available openings on the machine.
- Use the pressurized water hose supplied with the machine (if applicable) or a pressurized water extinguisher (if available) after the discharge of a dry chemical extinguisher or suppression system* to remove heat build up from the area. A fire suppressed by a dry chemical powder may re-ignite with the latent heat of any debris in the area.

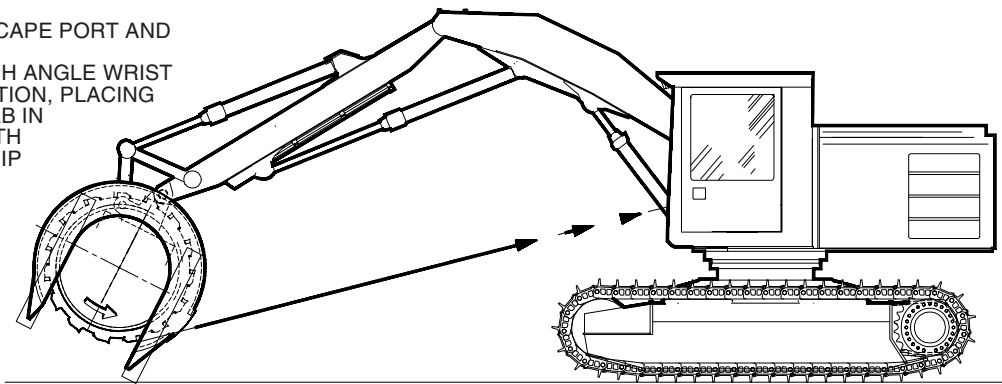
- Remain with the machine until help arrives to ensure that the fire does not re-ignite.

WHAT TO DO AFTER A FIRE

- Notify your equipment dealer and or **Tigercat Industries Inc.** by completing an incident report, Tigercat form number 5101.
- Ensure that the cause of the fire is determined and all appropriate repairs are completed before returning the machine to work.
- Ensure that the fire suppression system* is properly serviced and returned to a functional state (if applicable).
- Ensure that all extinguishers used in fighting the fire are replaced or recharged as appropriate.

- FELLING HEAD**
- WITH A CHIP ESCAPE PORT AND SHORT SNOOT.
 - SHOWN IN A HIGH ANGLE WRIST ROTATION POSITION, PLACING OPERATOR'S CAB IN DIRECT LINE WITH UNGUARDED CHIP ESCAPE PORT

FIGURE 7a



PLAN VIEW OF MACHINE SHOWING CLOCKWISE AND COUNTERCLOCKWISE BLADE ROTATION

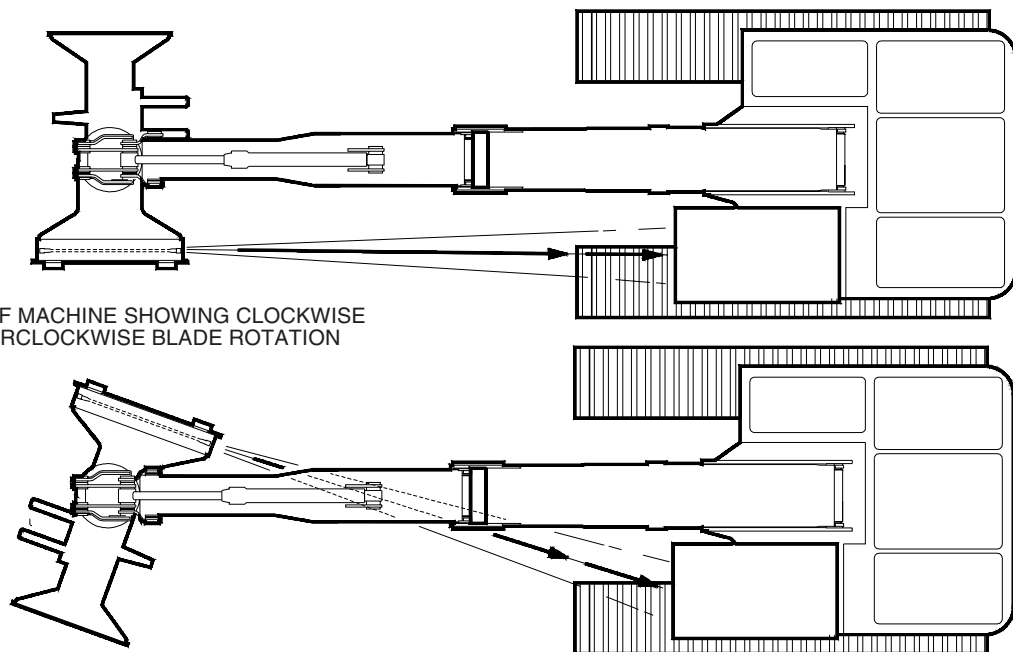


FIGURE 7b

- FELLING HEAD**
- WITH LONGER SNOOT ON THROW SIDE OF OPENING AND WITH A GUARDED CHIP ESCAPE PORT.

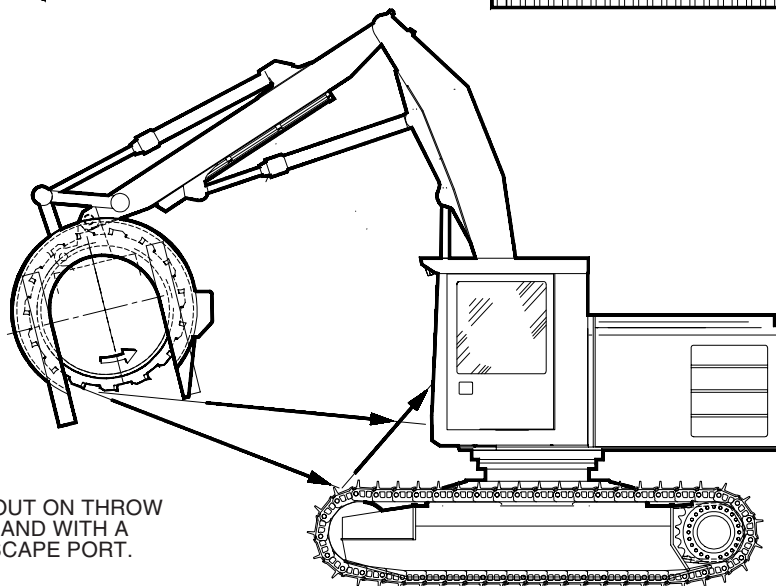
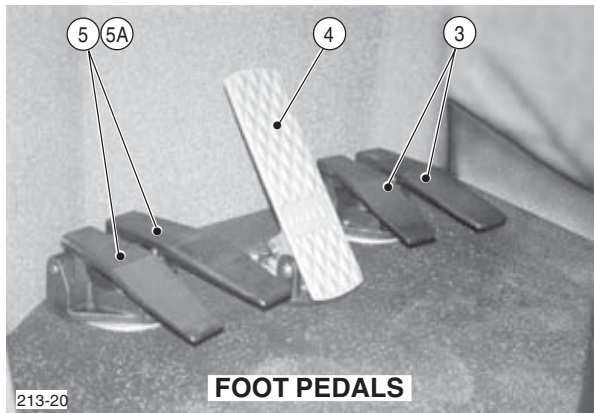


FIGURE 7: DISC SAW FELLING HEAD WITH HIGH ANGLE WRIST ROTATION CAPABILITY



FOOT PEDALS

4. CENTER FOOT CONTROL - BRAKES

Depress the foot pedal to apply the hydraulic brakes.

NOTE: As a safety precaution before working on or around the machine. Stop the engine and release pilot system pressure by performing the following steps:

1. Close both doors. Turn key switch to **ON** position. **Do not start the engine.** Press pilot reset switch.

Complete *either* steps **2A** or **2B**.

2A. Fully apply brake foot pedal **50 times** or more.

2B. Turn rear differential switch **ON** and hold front differential lock switch **ON** for **30 seconds**. While waiting, pump brake foot pedal at least **10 times**.

3. **Pressure may remain in the system** after completing all of the above steps. Use caution when loosening hydraulic connections.

For additional information, refer to **RELEASE PILOT SYSTEM PRESSURE** in SECTION 5 of the SERVICE MANUAL.

5. LEFT FOOT CONTROL, (WITH SAW) CLAMP ARMS

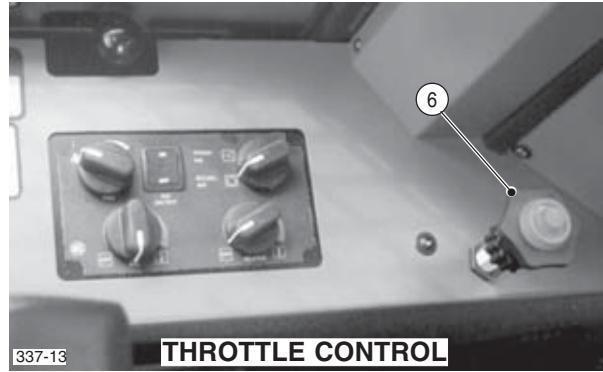
Press the **LEFT** foot pedal to **OPEN** the clamp arms.

Press the **RIGHT** foot pedal to **CLOSE** the clamp arms.

5A. LEFT FOOT CONTROL, (WITH SHEAR) CLAMP ARMS/SHEAR

Press the **LEFT** foot pedal to **OPEN** the clamp arms *and* shear (simultaneously).

Press the **RIGHT** foot pedal to **CLOSE** the clamp arms *and* shear (simultaneously).



THROTTLE CONTROL

6. THROTTLE CONTROL

For **HIGH IDLE** engine RPM push button on end of throttle control and **PULL** out completely.

For **LOW IDLE** engine RPM push button in and **PUSH** in throttle control completely.

NOTE: All harvesting operations should be performed at **HIGH** idle.

Maintaining Correct Engine RPM.

It is most important that the RPM of the engine be correct at all times:

Cummins 'C' Series Engine

Low Idle 850 ± 25 RPM (No Load)
High Idle 2460 ± 25 RPM (No Load)

John Deere Engine (optional on early machines only)

Low Idle 850 ± 25 RPM. (No Load)
High Idle 2420 ± 25 RPM. (No Load)



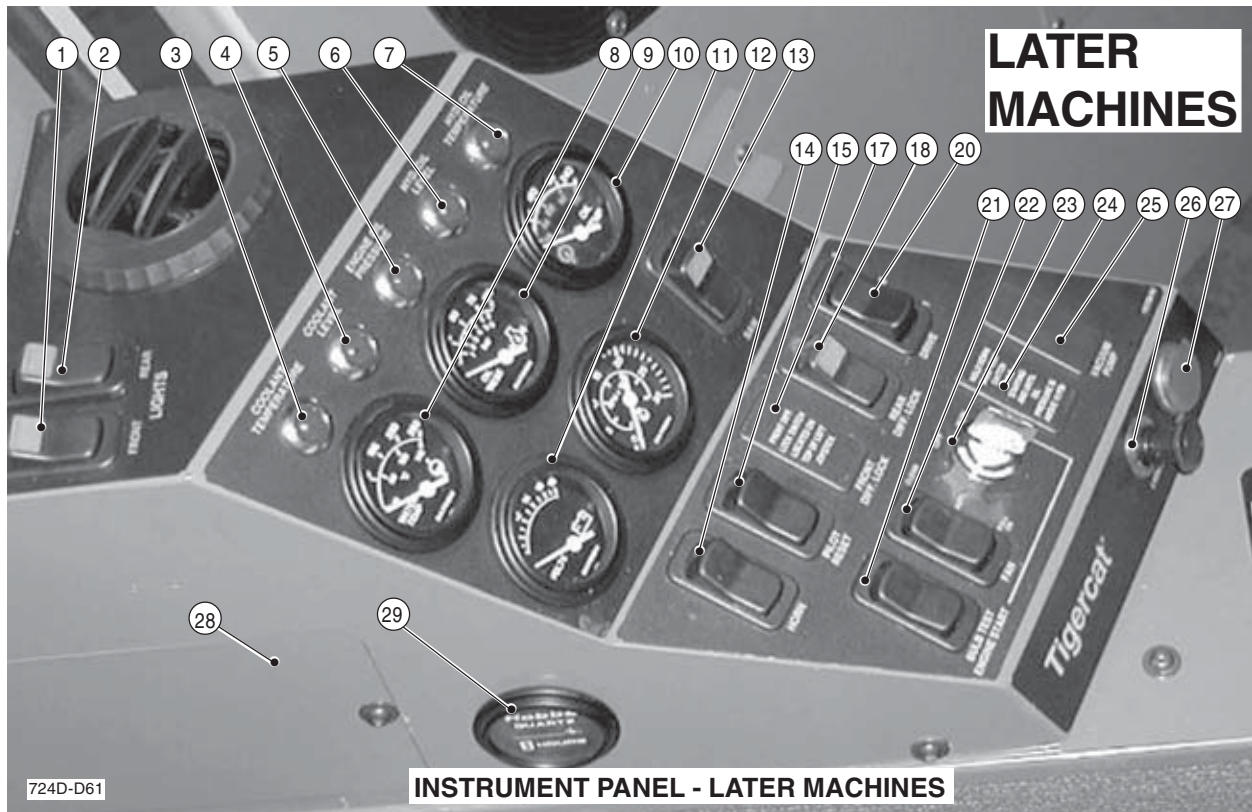
Under no circumstances allow the high idle engine RPM to vary from the recommended settings; particularly faster, as serious damage to the hydraulic components will result.

NOTE:

When setting pressures, increase Low Idle to 1000 RPM with throttle control.

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

The engine RPM should be checked regularly with a calibrated hand tachometer.



13. SAW SWITCH

Use this switch to turn the saw ON or OFF.
Place throttle in HIGH IDLE before turning saw ON.

Light in switch comes on when saw is operating. The light may not be on even though the saw switch is in the ON position, due to the safety interlocks mentioned above.

NOTE: If the engine is turned off with the saw switch in the ON position, the saw will not start up when the engine is restarted. The saw switch must be turned OFF and then back ON for the saw to start.

NOTE: On machines with a shear head, this switch is installed but is nonfunctional.

14. HORN - switch (spring return)

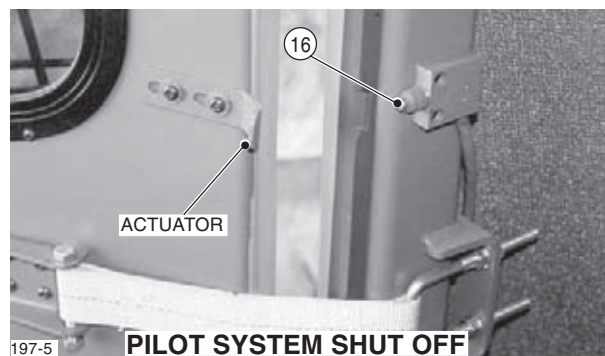
15. PILOT RESET

This function prevents accidental or improper use of the controls from anywhere but the operator's seat.

With the engine running and both doors closed, push this switch to REACTIVATE the pilot system after it has been deactivated by opening of the cab door, or by turning the key switch to the OFF position.

16. PILOT SYSTEM SHUT OFF

Both doors are equipped with interlock switches to prevent the machine from being operated while the doors are open (pilot system shut off).

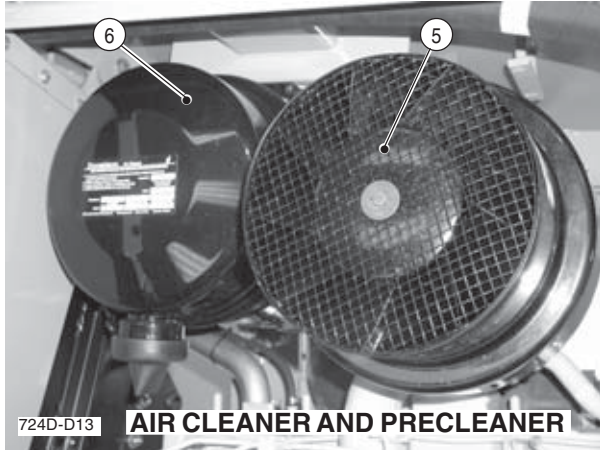


To operate: Close both doors and press the pilot reset switch.

NOTE: All functions on the machine can now be operated, either as intended or by **accidentally** touching them.

Once the safety interlock system has been activated, the safety of both the operator and all persons outside the cab becomes the **responsibility of the operator**.

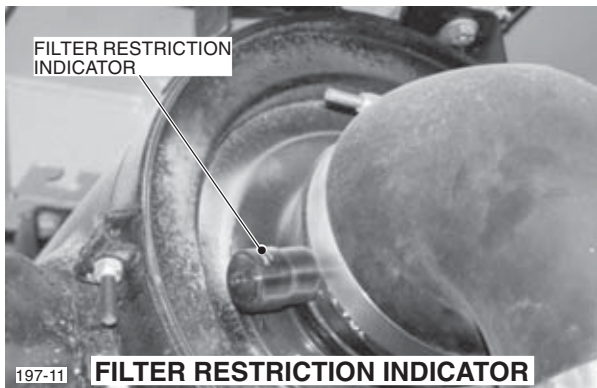
These door interlock switches and the pilot reset switch are **safety features** and their function **must not be defeated in any way**.



6. AIR CLEANER

The air cleaner on this machine uses two filter elements; a primary element and a safety element accessible from the left side of engine.

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



A filter restriction indicator is mounted to the output side of the filter, this should show green when the engine is running at HIGH RPM. Service is required only if the indicator shows red.



AIR CLEANER UNLOADER VALVE

This rubber valve on the tube of the air cleaner housing should be checked before every shift (8 hours). If this valve is missing, damaged or has turned hard, it will cause the air cleaner to become ineffective. The valve should suck closed at 1/3 throttle.

This valve should be **replaced every 1000 hours**. Remove the unloader valve from the tube of the air cleaner housing. Check and clean the valve. A good valve is soft and flexible. If plugged, be sure to check the filter elements as they may need replacing as well. Reattach the valve to the tube.

When operating in high dust conditions, the unloader valve should be checked and squeezed **every 2 hours** to release dust buildup.

In addition refer to the LUBRICATION AND MAINTENANCE SCHEDULE in AIR CLEANER MAINTENANCE in SECTION 3 of THIS MANUAL.

STOPPING ENGINE

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.

1. Park machine on level ground and rest felling head on the ground.
2. Reduce engine speed to LOW IDLE and let run for approximately three minutes to allow gradual dissipation of heat and also to reduce turbocharger speed. This will also prevent loss of coolant by after boil and possible hot spot damage to the engine.
3. Do not race engine before shut-off.
4. Engage parking brake.
5. Stop engine by turning key switch to the OFF position.



- **Before leaving the machine, park it in a safe position on level ground.**
- **Engage parking brake, lower the felling head to the ground.**
- **Never work behind, in front of, or below a machine that has been parked on a grade.**
- **Take additional precautions by placing the wheels against a rock, tree or other secure object.**

GENERAL

CAUTION

All handles, steps and platforms must be kept free of grease, oil fuel, mud snow and ice and forest debris to prevent risk of personal injury.

- ☑ Clean around filler caps before checking or adding fluids.
- ☑ Release hydraulic pressures and clean around hydraulic fittings before breaking connection. Plug or cap immediately.
- ☑ Clean up spills as soon as possible.
- ☑ Always use clean hydraulic oil and filters.
- ☑ Drain dirty oil while still warm.
- ☑ Do not exceed recommended fluid levels.
- ☑ Service all hydraulic filters after the failure of a pump, motor, cylinder or valve. Failures of this nature could contaminate the entire hydraulic system.
- ☑ Top up diesel fuel at end of each shift to reduce contamination by condensation.
- ☑ Clean up oil spills on walking surfaces and top of engine enclosure immediately.
- ☑ Before welding on machine be sure master switch is disconnected.
- ☑ When welding secure ground connection as close to working position as possible to prevent arcing across machined surfaces or through bearings.
- ☑ Clean away all branches, bark and chips. Clean up all traces of oil to avoid fires.
- ☑ Always have a fire extinguisher at hand.
- ☑ For safety, always lower boom assembly to the ground when leaving cab, leaving machine unattended or during service.
- ☑ For safety, when working under boom, always lower to ground, support properly or install lift boom cylinder locking device . (Refer to section 2 of this manual)

CHECK EMERGENCY EXITS MONTHLY~

Two alternate exit routes are provided: right hand cab door and the skylight/emergency exit. These are only to be used if the left hand cab door cannot be opened.

It is therefore essential that these emergency exits be checked at least once per month to ensure they are fully operational.

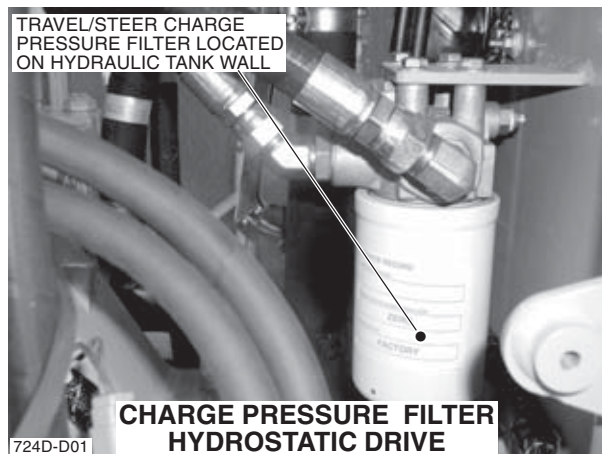
FIRE PREVENTION

Maintaining your machine properly will greatly extend its life and reduce your operating costs.

Fire can result in a machine loss which can be financially devastating.

1. Pine needles and bark when allowed to accumulate, form a fuel source that when ignited is extremely difficult to extinguish. A thorough program of regular cleaning and washing will reduce the possibility of a fire starting. In the event a fire does start, the regular cleaning program will improve the chances of successfully extinguishing a fire.
2. Pay close attention to wiring and plumbing routings during maintenance, ensure that ALL wiring harnesses or hydraulic hoses are properly restrained and clamped to prevent damage from chaffing.
3. Read the fire suppression system manual and have the system serviced regularly by qualified personnel.
4. In case of fire lower the boom system to the ground and shut off the engine before discharging the fire suppression system.

Also refer to the SAFETY section of this manual for additional information on how to prevent fires from starting on the machine.



HYDRAULIC FILTER SERVICING GUIDELINES FOR 724D FELLER BUNCHERS

IMPORTANT

NEVER PRE-FILL ANY HYDRAULIC FILTERS ON 724D FELLER BUNCHERS

Tigercat generally does not recommend the pre-filling of spin-on filters due to the risk of damage to the hydraulic system caused by unfiltered oil. Unfiltered oil used to pre-fill filters enters directly into the hydraulic circuit. Contaminants in unfiltered oil can cause significant and costly damage to hydraulic valves, pumps and motors. The cleanliness of hydraulic oil cannot be guaranteed unless it is always prefiltered before use.

2. Wipe clean the area around the filter and head.
3. Place rags below to catch the spillage of oil.
4. Wearing face protection (in case of an oil squirt), unscrew the old filter. Dispose of old filter and any oil properly.
5. Check the seating area for the gasket on the filter head and wipe it clean.
6. The new filter has an attached gasket. Apply hydraulic oil to the gasket surface.
7. Screw on the new filter until the gasket makes contact with the seat in the filter head.
8. Hand tighten filter an **additional 1/2 turn only**.
9. Start the engine and check for leaks.

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