OPERATOR'S MANUAL
Tigercat 1065/1075 FORWARDER

Issue 2.1, FEBRUARY, 2009

TABLE OF CONTENTS

1065/1075-OM00

1065/1075 Available Literature

Operator's Manual (This Manual) ..... Part No. 25791A
Service Manual ..... Part No. 25792A
Parts Catalog ..... Part No. 25793A

Tigercat®
Tigercat Industries Inc.
P.O. Box 544
Paris, Ontario
Canada N3L 3T6
Tel: (519) 442-1000
Fax: (519) 442-1855

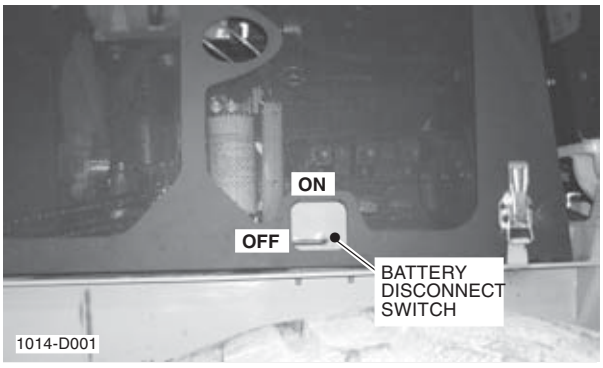
OPERATING SAFETY PRECAUTIONS continued

Before leaving operator's cab, place the crane in the park position or on the ground and lower the snow blade (if equipped) to the ground.

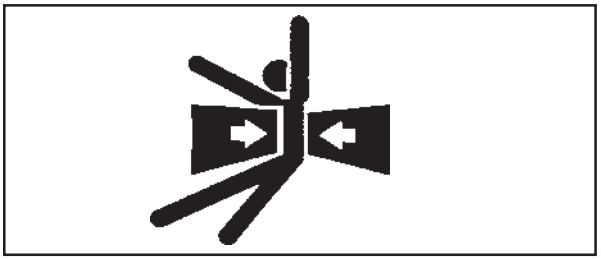
If out of the operator's cab for an extended period shut the machine off.

When parking the machine:

- Park on level ground ONLY.
- **Do not park on a hillside or incline.**
- Place the crane in the park position or on the ground and lower the snow blade (if equipped) to the ground.
- Stop the engine and release pilot system pressure by performing the following steps:
  1. Close both doors. Turn key switch to the **ON** position. **Do not start the engine**. Press pilot reset switch.
  2. **Fully apply** brake foot pedal **50 times** or more.
  3. **Pressure may remain in the system** after completing all of the above steps. Use caution when loosening hydraulic connections.



- Turn the battery disconnect switch off if the vehicle is to be parked for an extended period of time (Example - overnight).



When the engine is running, DO NOT allow anyone in areas of the machine where they may be crushed by moving components.

Maintain a safe operating distance between the machine and workers and all other personnel. It is the duty of the operator to ensure that no person approach the machine while in use, the risk zone is 60 m (200 feet).

Never operate the crane or grapple over the heads of bystanders.

Use only prearranged and approved signalling practices.

Obey flagger's signal and signs

Operate the machine only from a seated position in the operator's seat.

Do not carry passengers either in the cab or anywhere else on the machine.

If vision is limited by dust, smoke, fog or snow, stop the machine until visibility is restored.

Do not work below or behind a forwarder parked on a grade.

When working on slopes, travel straight up or down the slope to prevent roll-over.

NEVER travel across a STEEP slope or side hill:

- If you travel across a MODERATE slope, NEVER make an uphill turn as this could cause a tip-over situation.
- When loading, keep load in grapple low and close to the forwarder for best stability.
- A load of logs will change the handling and stability of the forwarder.
- Always be prepared to dump the load in the grapple in case of emergency.
- Never approach an unstable log from the downhill side.
- Do not overload your forwarder as this can create an unstable condition and cause a roll-over.

⚠ CAUTION

Do not open cab doors or window screens (if equipped) when machine is on a slope. The doors and screens are heavy and could swing out with considerable force.

SECTION 2 - CONTROLS & OPERATION

R.H. CONTROL PANEL

EARLY MACHINES
SERIAL NUMBER 10650101 TO 10650220
SERIAL NUMBER 10750101 TO 10750140

1. FRONT WINDSHIELD WIPER/WASHER

The wiper/washer dial (1) controls the front windshield wiper. Turning the dial one setting clockwise, operates wiper on a variable delay. The delay is determined by how far the dial is turned, the further clockwise it is adjusted the more frequent the wiper will cycle. The dial can also be set to the low position, which is one setting further clockwise of the delay setting. Turning the dial a setting further clockwise sets the wiper to high. To slow or turn off the wiper, turn the dial counterclockwise until the desired setting is reached.

To operate the washer function, press the dial down. This function sprays washer fluid on the windshield and cycles the wiper, regardless of the dial setting. The fluid reservoir is located in the engine compartment on the left side.

2. REAR WINDSHIELD WIPER/WASHER

The wiper/washer dial (2) controls the rear windshield wiper. See FRONT WINDSHIELD WIPER/WASHER for operation details.

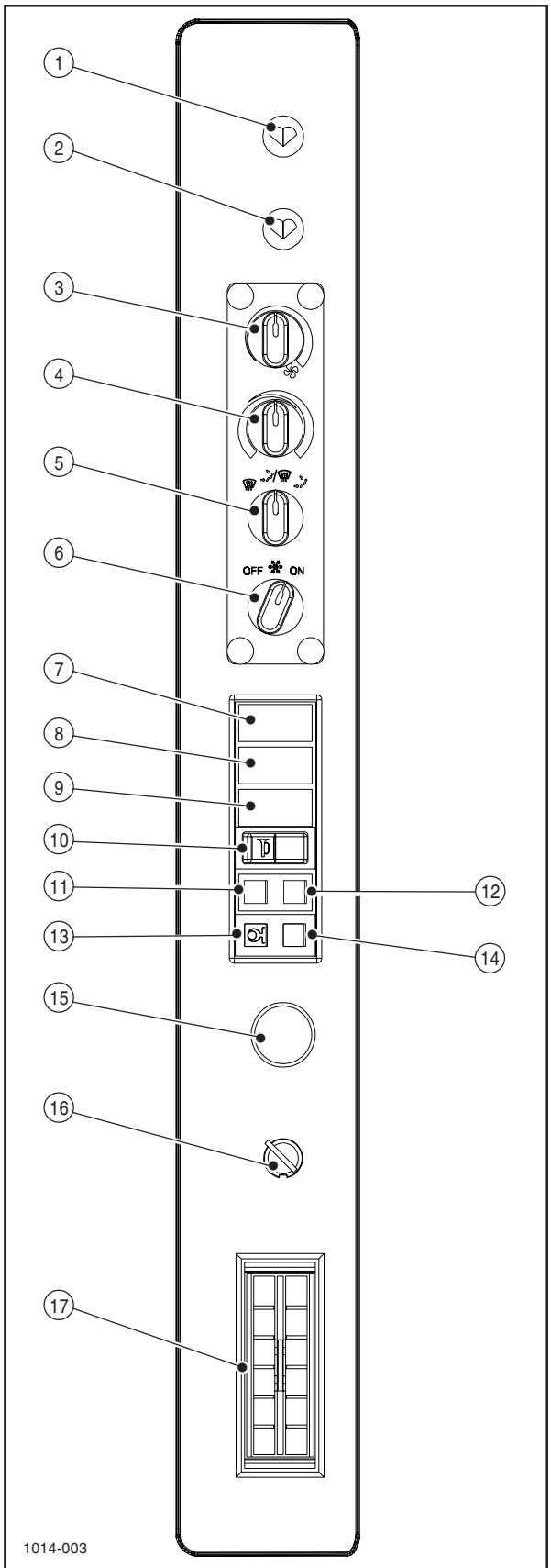
3. FAN SPEED SWITCH

This is a variable rotary control (3) to adjust fan speed. In full counterclockwise position the fan is at the lowest speed setting. Rotate the dial clockwise to increase fan speed. In the full clockwise position the fan is at maximum speed setting.

4. TEMPERATURE CONTROL

This electronic temperature control (4) automatically adjusts the temperature of air in the cab for both heating and air conditioning. The blue area of the scale indicates cooler temperatures the red area indicates warmer temperatures.

This control will automatically regulate cooling or heating to maintain the requested temperature



CONTROL PANEL - EARLY MACHINES

2. Engine Load (%)

The display shows the current load on the engine in percentage.

3. Average Fuel Rate (L/h)

The display shows the average fuel rate in Litres/Hour.

4. Engine Hours

The display shows the total number of hours the engine has run.

5. Engine/Levels/Drive

Select F2, for LEVELS to display Engine Coolant Temperature, Hydraulic Oil Temperature, Fuel Level or Battery Voltage.

Use the F1 and F2 function buttons to move to the NEXT or PREVIOUS gauge display as indicated on the LCD display.

6. Engine Coolant Temperature (°C)

The gauge displays the engine coolant temperature. It should normally indicate between 88°C and 99°C (190°F and 210°F). If temperature goes above 101°C (214°F), the warning lights are activated and a message is displayed (refer to ENGINE TEMPERATURE WARNING in THIS SECTION). Check for plugged air intake access panel screens or plugged radiator. DO NOT continue to operate machine. Refer to CLEANING A/C CONDENSER, OIL COOLER, RADIATOR and AIR CHARGE COOLER in THIS SECTION.

7. Hydraulic Oil Temperature (°C)

The display shows hydraulic oil temperature registered in the hydraulic tank.

If the temperature goes above 84°C (183°F), the warning lights are activated and a message is displayed (refer to HYDRAULIC OIL TEMPERATURE WARNING in THIS SECTION), check the following:

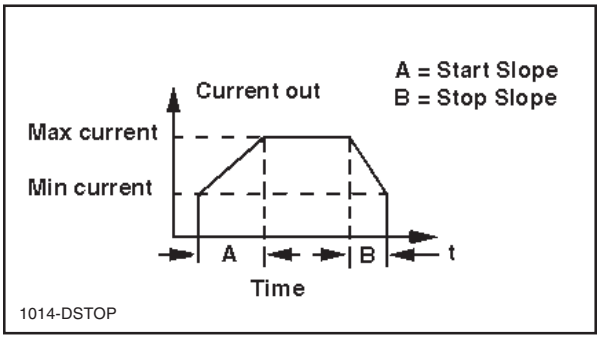
- Plugged oil cooler
- Malfunction in a hydraulic system
- High loads on the hydraulic system
- Low hydraulic oil level

Operation above 84°C (183°F) will shorten hydraulic component life.

If the temperature reaches 84°C (183°F) **DO NOT** continue to operate the machine.

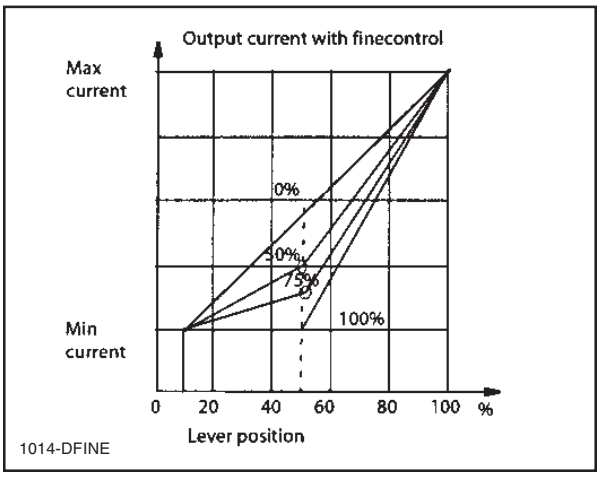
CURRENT OUTPUT SETTINGS DESCRIPTION

START/STOP SLOPE



Start and stop slope is the time it will take for the current to rise from minimum to maximum and maximum to minimum respectively.

FINE CONTROL



Fine Control changes the current output to joystick position curve from being a straight line to being close to a type of curved line. Lower numbers make the first 50% of joystick movement create more output. Higher numbers make the first 50% of joystick movement create less output.

CURRENT OUT ADJUSTMENTS

With the seat facing the crane, start the engine and set the CRANE/BLADE switch to WORKING RPM. The hydraulic system must be warmed up before making any adjustments. See SYSTEM TEST AND WARM-UP procedure in this section.

All functions in this menu adjust in the same way. MAIN BOOM UP function has been chosen as an example.

These functions can be reset to the factory defaults using the reset feature in the MODE menu.

SELECTING A FUNCTION TO ADJUST

There are two methods of selecting a function for adjustment: 1) Manual Selection or 2) Direct Selection

1. MANUAL SELECTION

Press F2 OUTPUTS to choose CURRENT OUT menu.

Press F1 SELECT to display SELECT FUNCTION menu.

Press F3 MANUAL to display the adjustable functions.

Use UP/DN buttons to scroll to desired function.

CRANE SPEED

CRANE SPEED PERCENT is a single adjustment that will reduce the maximum crane speeds of all the crane functions (except grapple open or close). The new speeds will be the maximum speed setting of each crane function multiplied by the percentage displayed.

Use the UP/DN buttons to scroll to the CRANE SPEED menu. Press F1 SELECT to select function.

Use the UP/DN buttons to scroll to the desired % of MAX CRANE SPEED.

Press OK (F1) to save and return to previous menu.

CRANE DAMPEN %

This Function Parameter controls the amount of travel required on the joysticks to reach full function speed for: Stick Boom In/Out, Crane Slew Left/Right, Main Boom Up/Down and Grapple Rotate Left/Right. The value of ***Crane Dampen*** is the percent of full travel that the joystick needs to be moved, to reach full function speed.

Adjusting ***Crane Dampen*** to a low value, will result in very sensitive control, and reduces movement of hands, fingers and wrists – resulting in reduced operator fatigue.

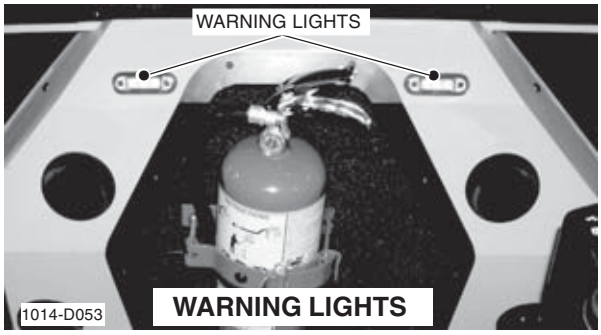
Adjusting ***Crane Dampen*** to a high value, will utilize more of the complete joystick travel and will make the crane control less sensitive (easier to operate) but, will require more hand movement. For inexperienced operators, this value should be set high. Once operators are comfortable with operating the crane, the value can be brought down to a desired level, based on operator preference.

Use the UP/DN buttons to scroll to the CRANE DAMPEN menu. Press F1 SELECT to select function.

Use the UP/DN buttons to scroll to the desired setting.

Press OK (F1) to save and return to previous menu.

CAB WARNING ALARMS



1. WARNING LIGHTS

Four lights are used as visual warning indicators. Two lights are located in the front lower panel (shown here) and two lights are located in the rear lower panel (not shown). The warning lights and buzzer are turned on by the computer system whenever an alarm is activated.

2. WARNING BUZZER

An audio alarm is provided by a warning buzzer located on the speaker panel in the top front panel of the cab. The warning buzzer and lights are turned on by the computer system whenever an alarm is activated.

3. WARNING DISPLAY

When the warning lights and buzzer are active, observe the MDM Computer Display for warning alarm information. See IQAN MDM COMPUTER DISPLAY earlier in this section.

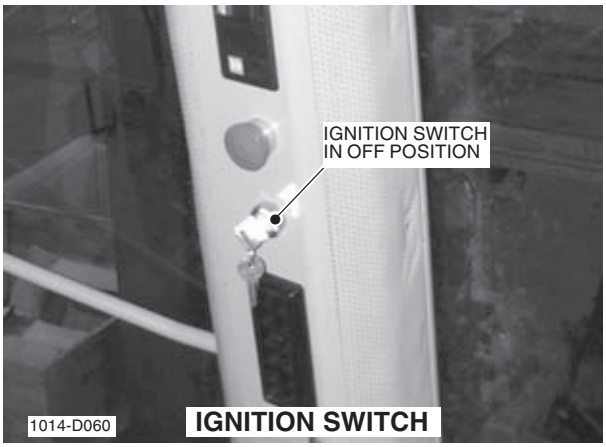
OPERATING MACHINE

Before operating this machine, ensure that the proper lubrication and maintenance schedule has been performed as outlined in SECTION 3 of THIS MANUAL.

For the Diesel Engine supplied with this machine, refer to the engine manufacturer's operating manual.

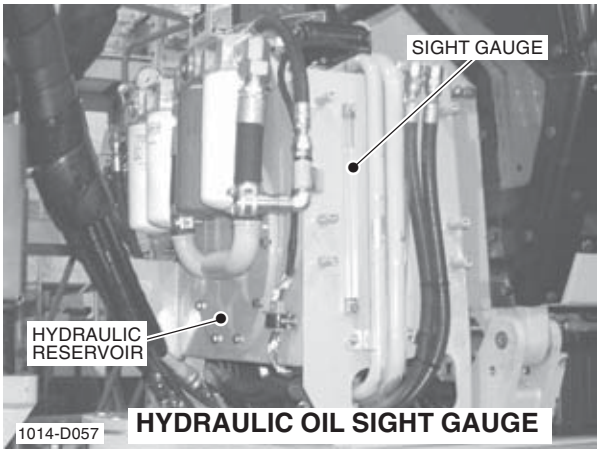
Any personnel who are to operate this machine must be fully trained in safety and operating procedures by a competent person.

Read and understand the entire manual before operating the machine.

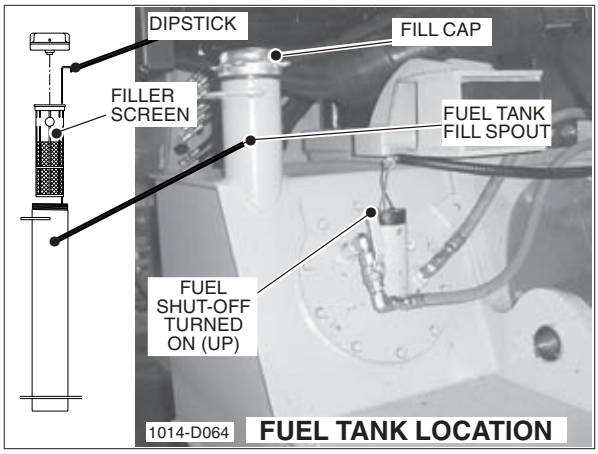


PRE-START CHECKS

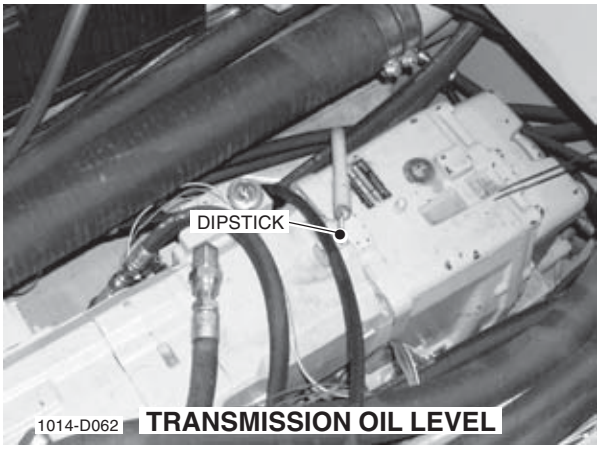
1. Ensure ignition key switch is in the OFF position.



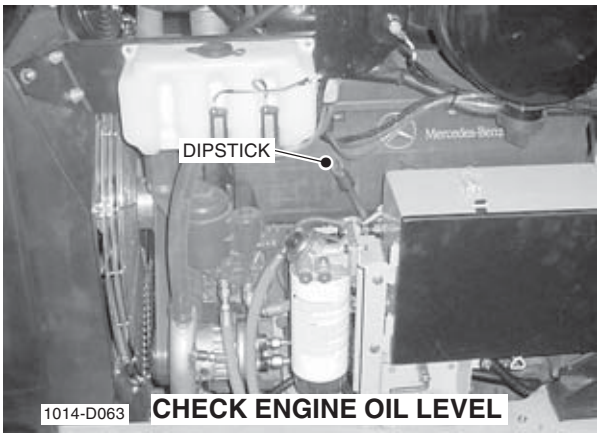
2. Check hydraulic oil level, the level should be between the HIGH and LOW marks on the level gauge.



3. Check fuel level (Dipstick provided). Turn fuel shut-off valve ON.



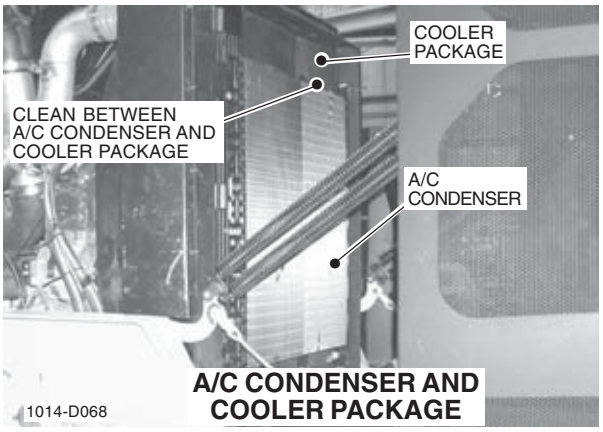
4. Check transmission oil level (dipstick provided). Access gained by reaching through the left hand side under cab.



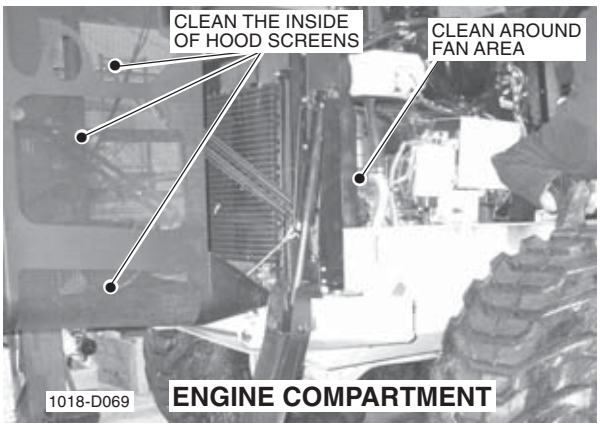
5. Check the engine oil level. The level of the oil must be between the ADD and the FULL marks on the dipstick.

CLEANING A/C CONDENSER AND COOLER PACKAGE

The A/C condenser core is located at the front of the machine and is mounted directly in front of the oil cooler, radiator and charge air cooler. The fan draws air from the front of the machine through the hood screen, a pleated screen, the A/C condenser, the oil cooler, the engine radiator, and the charge air cooler blowing it out on either side of the engine.



A/C CONDENSER AND COOLER PACKAGE



ENGINE COMPARTMENT

This cooling assembly must be checked daily for debris and may have to be thoroughly cleaned on a weekly or monthly basis, depending on operating conditions. Compressed air or water may be used for cleaning. If an oil leak has occurred in this area it should be thoroughly power-washed with a mild soap to ensure that all of the oil is removed. The presence of oil will cause dust and dirt to cling to surfaces reducing the fan's ability to distribute air. Care must be taken when cleaning this assembly, as the components can be damaged by careless handling and cleaning.

CAUTION

If using compressed air for cleaning, use at 30psi or less.

Always use personal protective equipment to guard against flying debris.

The hood screen, pleated screen, A/C condenser core, oil cooler, engine radiator and charge air cooler should be manually checked every 8 hours (every shift) for accumulation of twigs, leaves, pine needles and dust.

PROCEDURE:

1. Open the hood. Refer to ENGINE HOOD in THIS SECTION.
2. The A/C condenser swings open to access the back-side of the condenser and the front of the oil cooler, radiator and charge air cooler for cleaning. It is held in place by two wingnuts.

PREVENTIVE MAINTENANCE SCHEDULE FOR 1065/1075 FORWARDER

NEW MACHINE MAINTENANCE

*INITIAL PRE-DELIVERY INSPECTION:-

PERFORM THE INITIAL PRE-DELIVERY INSPECTION USING Tigercat FORM NUMBER 5296; "*PDI AND 50-100 HOUR INSPECTION REPORT"*

*FIRST 50-100 HOUR INSPECTION AND SERVICE REPORT:-

WITH THE OWNER'S MECHANIC PRESENT, PERFORM AN INSPECTION AND SERVICE ACCORDING TO THE Tigercat FORM NUMBER 5296; "*PDI AND 50-100 HOUR INSPECTION REPORT"* THIS MUST BE COMPLETED WITHIN THE FIRST 50-100 HOUR TIME FRAME.

***IMPORTANT:** TO QUALIFY FOR CONTINUED WARRANTY, THIS REPORT MUST BE COMPLETED AND RETURNED TO Tigercat Industries Inc. WARRANTY DEPARTMENT.

TIGHTENING POINTS FOR:-

THE FIRST 50-100 HOUR INSPECTION REPORT:~

- ☐ All hydraulic connections
- ☐ Hose clamps
- ☐ Center joint pin securing bolts
- ☐ Transmission securing bolts
- ☐ Engine mounting bolts
- ☐ Pump securing bolts
- ☐ Axle mounting bolts
- ☐ Wheel retaining bolts
- ☐ Cab securing bolts
- ☐ Pin retainers
- ☐ Any other loose nut, bolt or fitting

NOTE: Use of filters other than the Tigercat brand could lead to severe wear and rapid failure of system components.

Refer to diesel engine service manual and attachment manual for additional required maintenance at this scheduled time period.

IMPORTANT!

WHEELS:

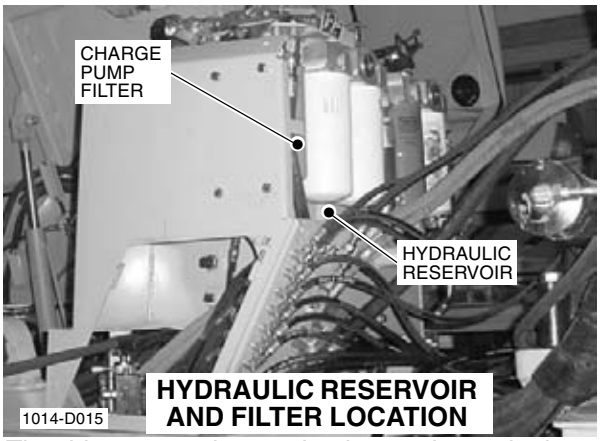
When installing wheels, ensure that all paint has been removed from the mating surfaces of both the wheel disc and the flange of the axle to ensure metal to metal contact.
For more complete instructions also refer to section 8 of the service manual.

HOUR METER ~ MAINTENANCE:

Check the hour meter (on the MDM Display terminal) on a regular basis to determine your scheduled maintenance times.
The intervals and times on the scheduled maintenance chart in this manual are for normal operating conditions.
If your machine is being operated in difficult or severe conditions, you should service your machine at **shorter intervals**.

*OIL LOST FROM LEAKAGE			
	LOST OIL (GALLONS)		
LEAKAGE RATE	PER DAY	PER MONTH	PER YEAR
ONE DROP IN 10 SECONDS	0.112	3.36	40.0
ONE DROP IN 5 SECONDS	0.225	6.75	81.0
ONE DROP PER SECOND	1.125	33.75	405.0
THREE DROP PER SECOND	3.75	112.5	1,350.0
DROPS BREAK INTO STREAM	24.00	720.0	8,640.0

CHARGE PRESSURE FILTER-DRIVE PUMP



HYDRAULIC RESERVOIR AND FILTER LOCATION

The drive pump charge circuit contains a single element, full flow Tigercat hydraulic filter with a restriction indicator sending unit and a 3.4 bar (50 psi) third port bypass valve. The restriction indicator sending unit turns on the filter bypass warning light in the cab when an oil flow restriction in excess of 3.4 bar (50 psi) is encountered at the filter head. When a restriction is encountered, the bypass valve diverts oil back to tank via the third port to prevent unfiltered oil from entering the drive circuit.

Changing a pressure filter:

1. Park machine on level ground, install articulation lock bar, lower the snow blade (if equipped) and place the crane in the park position, stop engine, remove key, then switch battery disconnect off, and block wheels.
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 spray), 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.

HYDRAULIC FILTER SERVICING GUIDELINES FOR 1014/1018C FORWARDERS

IMPORTANT

NEVER PRE-FILL ANY HYDRAULIC FILTERS ON FORWARDERS

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.

IMPORTANT

Direct contact with oil implies a risk of skin complaints. Oil on skin should be washed off immediately with soap and water. Refer also to WORKING WITH OIL in SECTION 1 of THIS MANUAL.

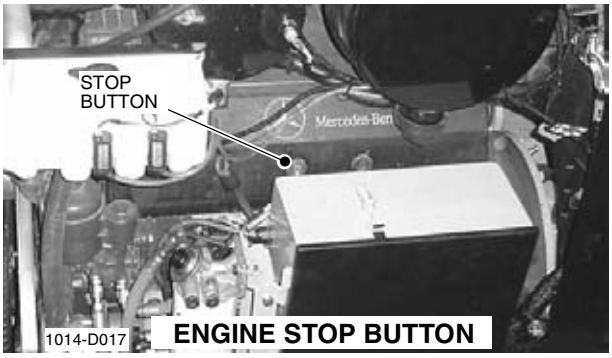
MACHINE STARTUP

Before beginning this procedure, perform the PRE-STARTUP AND FILLING steps.

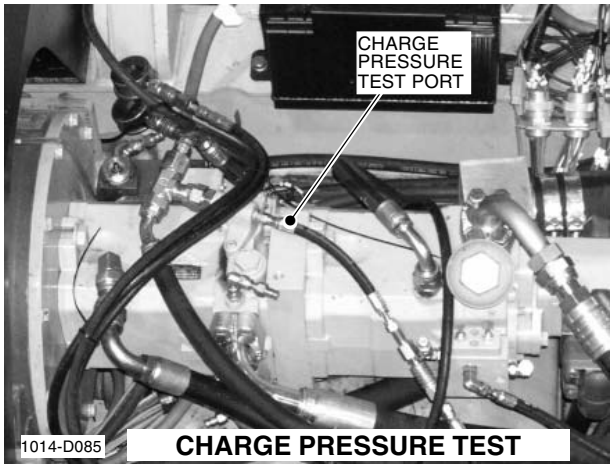
1. Ensure the articulation lock is installed and pinned at each end.

CAUTION

Machine operator must ONLY take directions from the person doing the set-up.



2. Hold the STOP button on the left side of the engine cover and have an assistant crank engine using the key switch in the cab **for 10 seconds**, wait for **10 seconds**. Repeat **6 times** to pump oil into pumps. **Do not start engine**.
3. Install a 0-1000 psi. gauge on the 'CHARGE' test port to check charge pressure. **Watch gauge closely** during startup.
4. **Start engine. If charge pressure does not rise within 5 to 10 seconds, TURN ENGINE OFF.** Refer to CHARGE PUMP in SECTION 8 of THE SERVICE MANUAL.
5. **If charge pressure is between 18-31 bar (260-450 psi), run engine at IDLE for 20 minutes**. Check engine oil pressure in cab. Do not operate any functions. Remove gauge from 'CHARGE' test port.
6. With engine at **IDLE**, emergency brake ON, hold foot brake down, bleed service brake and parking brake release line in the front and rear axles.
7. With engine speed at **IDLE** run each function for **2 minutes** to purge air from circuit.
8. Set engine speed to **1400 rpm** and run each function again for **2 minutes** to flush circuit.
9. Top up the **radiator** with clean coolant.
10. With cylinders fully retracted, top up the **hydraulic oil reservoir** with clean hydraulic oil.



NOTE: The steer and drive functions may not be properly purged or flushed. Remove the articulation lock pin and at **LOW IDLE**, slowly operate the steer function right and left a few times. With the emergency brake released, slowly operate the drive function forward and reverse a few times.

NOTE: If possible, allow the machine to stand for 4 to 6 hours before setting any of the operating pressures. This will allow any air bubbles in the oil to escape and is a good time to check for leaks.