

## Daily/Shift Maintenance

Note general vehicle condition. Clear away all collected debris - steam clean if necessary. Check for mechanical damage and loose or leaking components. Report all faults to maintenance department.

**Always refer to manufacture's (e.g. engine, transmission, axle) maintenance manual before performing any maintenance.**

### Before Starting Engine, Check the Following:

Ref	Component	OK	NO	ADD
1	ENGINE (Check oil level - check for leaks)			
2	ENGINE BELTS & FAN (Check for adjustment and wear)			
3	HYDRAULIC TANK (Check oil level - check for leaks)			
4	RADIATOR & OIL COOLER (Check coolant level - check for leaks; are fins clean and unobstructed?)			
5	AIR CLEANER/INTAKE SYSTEM (Check indicator - clean / change element if indicator shows red, empty dust cup, check for leaks / damage)			
6	FUEL/WATER SEPARATOR (Drain)			
7	WHEELS & TIRES (Check condition and pressure)			
8	TORQUE WHEEL NUTS (Daily for first 50 hours, every 100 hours thereafter)			
9	LUBRICATE CHASSIS (Refer to lube chart)			
10	WALK AROUND INSPECTION OF STRUCTURE (Check welds, leaks, damaged components, etc...)			
11	FIRE SAFETY CHECK (Check for accumulated debris in engine compartment, etc)			
12	FIRE SUPPRESSION SYSTEM (Verify certifications are current)			
13	TRANSMISSION (Check oil level)			

### After Starting Engine, Check the Following:

Ref	Component	OK	NO	ADD
14	ENGINE (Does it sound normal?)			
15	INSTRUMENTS AND CONTROLS (Check for normal readings and functioning)			
16	AIR INTAKE SYSTEM (Inspect all connections)			
17	EXHAUST SYSTEM (Check for leaks and excessive smoke)			
18	TRANSMISSION (After warming to operation temp, check oil level - check for leaks)			
19	HYDRAULIC FILTERS (Check indicator - change element as required)			
20	PURGE RADIATOR/OIL COOLER FANS (2 minutes after starting engine)			
21	DECLUTCH FUNCTION			

### Note Anything Abnormal or in Need of Repair:

Component	Comments
LIGHTS	
DEFROSTER	
REVERSE WARNING HORN	
HORN	
WINDSHIELD WIPERS	
HEATER	
AIR CONDITIONER	

OPERATOR \_\_\_\_\_

SUPERVISOR \_\_\_\_\_

DATE \_\_\_\_\_

MODEL \_\_\_\_\_

SERIAL No \_\_\_\_\_

HOUR METER \_\_\_\_\_

## Daily Maintenance Procedures

### General

The following maintenance procedures should be performed at the beginning of each work shift. The numbers before each maintenance procedure correspond to the numbers on the charts on the previous page.

### Before Starting Engine

#### 1. Engine

The oil level should be checked prior to starting the engine. The engine oil dipstick is accessed from the deck on the right side of the machine, just under the cab (See Figure 5-4-1-1). Make sure that the area around the dipstick is clean and the machine is sitting on level ground.

**NOTE: A 15 minute drain-back time is recommended if the engine has been running.**

The oil level must be maintained between the "L" (low) mark and the "H" (high) mark, but as close to the "H" mark as possible.



#### CAUTION

Never operate the engine with the oil level below the "L" mark or above the "H" mark. Refer to the engine's Operation and Maintenance manual for detailed engine service information. Use only approved engine oil (see Lubricant Specifications Chart, Section 5-2). Do not overfill. Check engine for leaks.



Engine Oil Fill  
Tube

Engine Oil  
Dipstick

Figure 5-4-1-1 Engine Oil Dipstick & Fill Tube

#### 2. Engine Belts

If any belt is loose or worn, report to maintenance for corrective action. Consult the manual supplied with your engine for belt inspection procedures.

### Cooling Fan

A visual inspection of the cooling fan is required daily. Check for cracks, loose rivets, and bent or loose blades. Check to make sure it is securely mounted. Tighten the capscrews, if necessary.

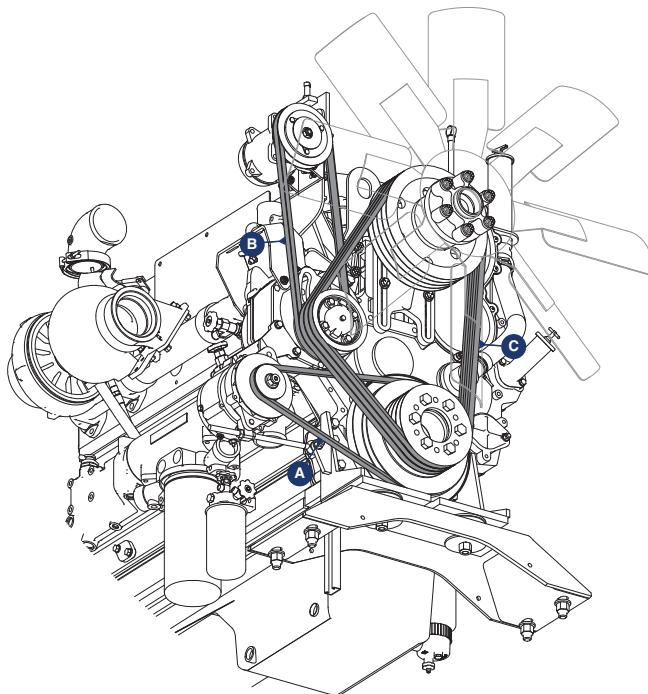


Figure 5-4-1-2 Engine Belt Deflection

### 3. Hydraulic Oil Level



## CAUTION

Always open the tank breather petcock (located on the breather pipe) before removing the filter cover plate, the plug in the cover plate, or adding oil at the return manifold. Failure to vent tank can result in injury or a substantial oil spill. Be sure to close the petcock before operating the machine.

Always check the hydraulic oil level prior to operation. The sight glass for the main hydraulic tank are located on the front right corner of the chassis, under the deck.

The main hydraulic tank may be filled by either of two methods. **Important: See warning on this page for tank venting procedure.** With the gravity fill method, remove the plug in the filter cover plate and add oil. With the pressure fill method, use the quick connect fitting above the oil level sight glass to supply pressurized oil. Fill the main hydraulic tank until the oil shows in the upper sight glass (See Figure 5-4-1-3).

The oil level should be checked with the hoist cylinder extended (down). The oil level should be at or near the upper sight glass for the main tank. Fill with approved hydraulic fluid as required (see Lubricant Specifications Chart, section 6-2). Do not overfill.

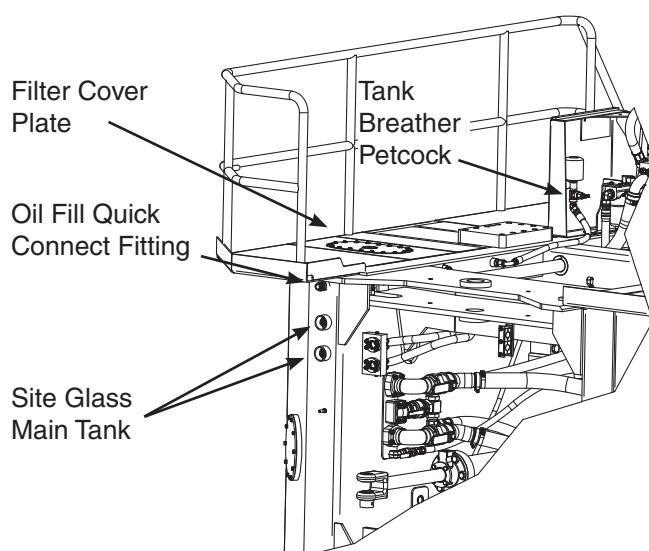


Figure 5-4-1-3 Hydraulic Oil Site Glass and Fill

### 4. Engine Coolant Level

Daily inspection of the coolant level is recommended. The coolant level sight glass is located on the surge tank (see Figure 5-4-1-4). Fluid Level checks should be done on level ground. Remember to compensate for the loss of antifreeze when adding water.

**NOTE:** If the engine is hot, the coolant will be higher than when it is cold. Inspect the radiator daily for restriction caused by leaves, paper or bent fins. Inspect the radiator cap, hoses and connectors for any signs of leakage or damage.



## WARNING

Never remove the radiator cap if the engine is hot. The coolant will be under pressure and could flash to steam with explosive force, causing severe burns. Remove the radiator cap only when the engine is cool.

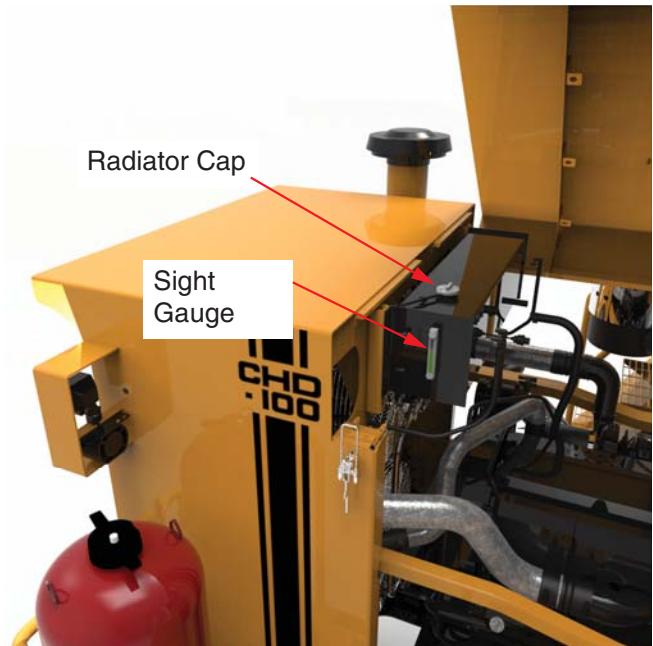


Figure 5-4-1-4 Coolant Fill and Sight Gauge



Figure 5-4-1-5 Air Filter



Figure 5-4-1-6 Air Filter Service Indicator

##### 5. Air Cleaner/Intake System

The air cleaner is a Donaldson two stage dry air filter. A service indicator shows the condition of the filter. The indicator will show in the green zone when the filter is clean. The indicator will show red if the filter is restricted. If red appears in the indicator window, clean or change the element and press the reset button on the indicator (See Figure 5-4-1-5).

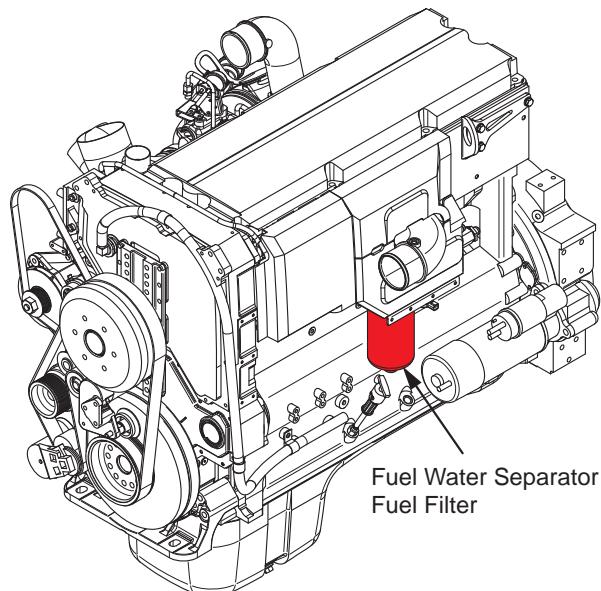


Figure 5-4-1-7 Fuel Water Separator

##### 6. Fuel/Water Separator

The fuel/water separator is mounted on the engine (See Figure 5-4-1-7). Drain the fuel/water separator into a container and dispose of in accordance with local environmental regulations. Consult the Operation and Maintenance Manual for your engine for details.

##### 7. Wheels & Tires

Visually inspect the tires for low air pressure and damage. Also check the wheel assemblies for cracks, loose or missing lug nut, broken studs, etc. Report any problems to maintenance.

##### 8. Torque Wheel Nuts

Torque the wheel nuts daily for the first 50 hours, and every 100 hours thereafter. To eliminate over-torque, always use a torque wrench and torque to **500 ft-lbs**. See form 80-891 in your service manual for details.

##### 9. Lubricate Chassis

Refer to Section 5-3.

##### 10. Walk Around Inspection Of Structure

Walk around the machine and inspect for structural cracks. If cracks are present, repair before resuming operation. Refer to Allied Service Form 80-850 for information on how to properly weld structural cracks.

## 11. Fire Safety Check

Inspect for and remove all combustible materials from engine area. These materials build up in tight corners and are highly combustible.

Inspect the driveshaft and park brake for debris and remove as necessary.

## 12. Fire Suppression System

Your Fire Suppression System should be activated and certified upon machine delivery, and periodically maintained by a qualified ANSUL representative. Check that the system's certifications are current before operating the machine. Contact your local ANSUL representative for details.

## 13. Transmission Oil Level

The transmission oil dipstick and fill tube are accessed from the front right hand side of the chassis (see Figure 5-4-1-8).

Always check the transmission oil level prior to starting the engine to be sure there is oil in the sump. The cold oil level must be above the "L" (low) mark on the dipstick.

## After Starting Engine

### 14. Engine

After starting, check that the engine runs and sounds normal. It should come up to operating temperature and pressure within a few minutes after starting. Refer to the operation and maintenance manual for your engine for details. If you notice unusual noises or excessive smoke, have maintenance check it out.

### 15. Instruments and Controls

Check all instruments for normal readings immediately after starting engine. Make sure that pressures and temperatures are within acceptable limits. Also, check that all controls function properly. They should be smooth and responsive. See Section 2 for details.



Transmission  
Oil Dipstick  
and Fill

Figure 5-4-1-8 Transmission Oil Dipstick and Fill

## 16. Air Intake System

Inspect all connections for damage, loose clamps, and air leaks. Look for damaged fittings and loose connections. Do not operate the machine if leaks are present. Dirt could enter the engine intake and cause severe damage. See Section 5-5-1.

## 17. Exhaust System

Check for leaks. Make sure that exhaust gases are not entering the operator's cab. Mounting brackets must be in place and all connections tight. Check for excessive smoke.

## 18. Transmission Oil Level

The transmission oil dipstick and fill tube are accessed from the front right hand side of the chassis (See Figure 5-4-1-8). The level should be checked again after the engine warms up, with 180 to 200 showing on the transmission temperature gauge.

Check oil level with engine running at idle, at operating temperature, and with the transmission in neutral. The level should be between the "H" (high) and "L" (low) marks. Fill with approved fluid only (see Section 5-2). Do not overfill. Inspect for leaks.

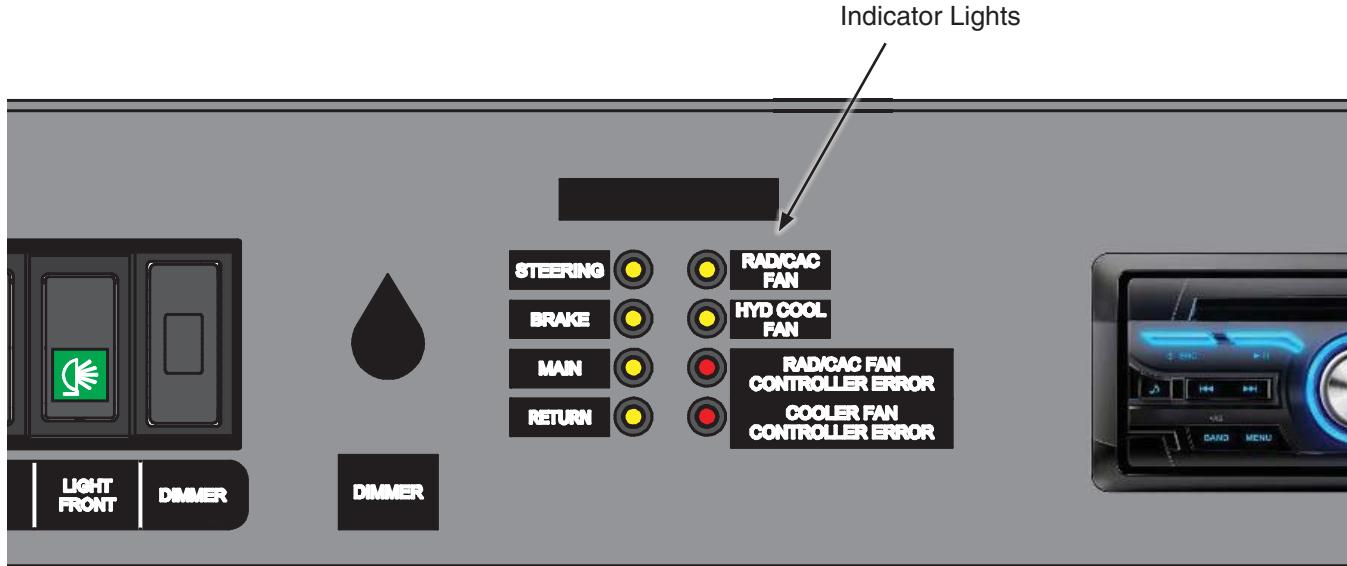


Figure 5-4-1-9 Hydraulic Filter Indicator Lights (Location or Configuration May Vary)

## 19. Hydraulic Filters

When the machine is first started and the hydraulic oil temperature is cold, the hydraulic oil will be thick. Filter indicators on the hydraulic filters (See Figure 5-4-1-10) may indicate red, and the filter indicator lights in the cab (See Figure 5-4-1-9) may illuminate. This is normal for the first few minutes.

Once the oil warms up, the filter lights should turn off. Reset the indicators on the filters by pressing the clear plastic dome. The indicator should turn green, and remain green. If any turn back to red, or if any of the indicator lights in the cab remain illuminated, that filter element must be replaced before the machine is put to work. Shut down the machine and replace the appropriate filter element(s) (See Section 5-5-2).

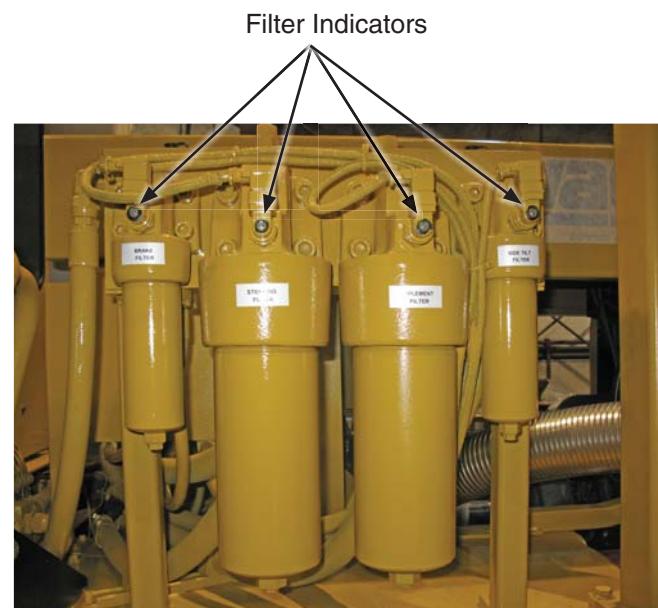


Figure 5-4-1-10 Hydraulic Filter Indicators