



DAILY INSPECTION (EVERY 10 HOURS)

Perform the following inspections every day before starting the engine for the first time.

WARNING

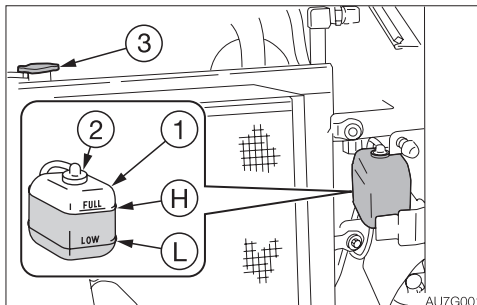
- Before operating, perform the daily inspections and make repairs immediately where necessary.
- Be sure to secure the rear door or radiator before working the inside. Do not keep the rear door or radiator open on a windy day or if the machine is parked on a slope.

INSPECTING AND REPLENISHING THE COOLANT

WARNING

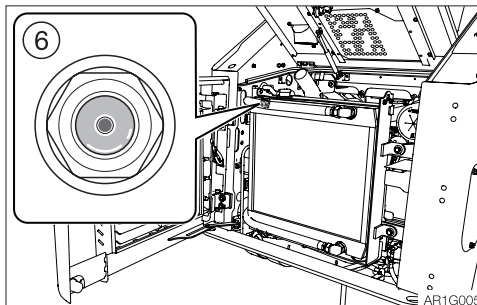
- Do not remove the radiator cap or the drain plug when the cooling water is hot. Stop the engine and wait until the engine and the radiator cool before slowly loosening the radiator cap and the drain plug to remove them.
- Always wear the protective goggle and gloves when handling coolant (antifreeze). If any coolant (antifreeze) comes in contact with eyes or skin, wash it off with clean water. Otherwise, it could result in inflammation.

Inspection



1. Open the rear door.
2. Inspect the cooling water level in the reserve tank (1).
The level should be between the upper limit (H) and the lower limit (L).
If it is below the lower limit (L), replenish.

<If equipped with a coolant sight (TL8)>



Check if the sight glass (6) is filled with the coolant.
If the water level is seen, add the coolant.

Replenishing

1. Remove the cap (2) of the reserve tank (1).
2. Add cooling water up to the upper limit (H) of the reserve tank (1).
If the reserve tank (1) is found empty at the inspection, check for water leakage and then the water level in the radiator (3). Add water to the radiator (3) as required, and then to the reserve tank (1).
3. Install the cap (2).



Note: Use only clean water (soft water) to replenish the cooling water loss due to evaporation. Use coolant (antifreeze) and clean water (soft water) of the specified mixing ratio to replenish the cooling water loss due to leaking.

INSPECTING AND REPLENISHING THE ENGINE OIL

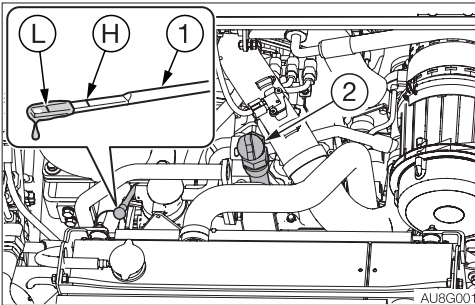


WARNING

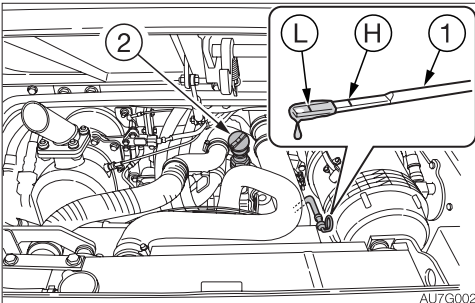
Stop the engine and allow the machine to cool down before performing maintenance.

Inspection

<TL8>



<TL10/TL12>



1. Open the engine hood.
2. Push down the lever to tilt up the air cleaner. (TL10/TL12)
Refer to "Replacing the air cleaner element" on page 5-40.

3. Take out the dipstick (1) and wipe the oil off with a rag.
4. Fully reinsert the dipstick (1), and then pull it back out.
5. Check the oil on the dipstick (1).
The level should be between the upper limit (H) and the lower limit (L).
If it is below the lower limit (L), replenish.

Replenishing

1. Remove the oil filler cap (2).
2. Add oil up to between the upper limit (H) and the lower limit (L) of the dipstick (1).
Problems could arise if the oil level is either too low or too high.
3. Tighten the oil filler cap (2).
4. Start the engine, run it at low idle for about 5 minutes, then stop it.
5. After about 10 minutes, inspect the oil level.

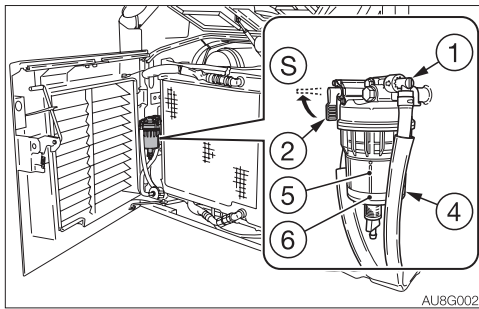


INSPECTING THE WATER SEPARATOR

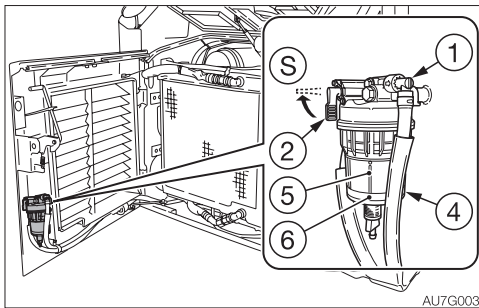
WARNING

- Do not smoke or permit open flames while handling fuel or working on the fuel system.
- Stop the engine in a well-ventilated place and allow it to cool down before performing maintenance.
- Clean up spilled fuel immediately.

<TL8>



<TL10/TL12>

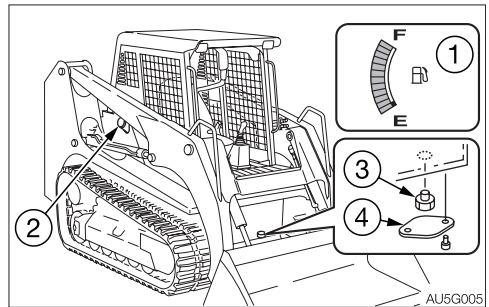


1. Open the rear door.
2. Inspect the water separator (1).
If the red indicator ring (6) is sunk to the bottom of case (4), no water is mixed in.
If the red indicator ring (6) is floating, there is water up to the ring. Drain the water and clean.
Refer to "Cleaning the water separator" on page 5-37.
Refer to "Bleeding air from the fuel system" on page 6-9.

INSPECTING THE FUEL LEVEL

WARNING

- Do not smoke or permit open flames while handling fuel or working on the fuel system.
- Never remove the fuel cap or add fuel when the engine is running or still hot. Do not spill fuel on the hot surface of the machine.
- Fill the fuel tank in a well ventilated place.
- Clean up spilled fuel immediately.
- Do not fill the fuel tank to capacity. Allow room for oil expansion.
- Securely tighten the fuel filler cap.
- Use the correct grade of fuel for the operating season.



1. Check the fuel level using the fuel gauge (1).
F: Tank is full.
E: Tank is empty.
2. If the level is low, add fuel from the fuel port (2) while watching the fuel gauge (1). Refer to "Fuel filler port" on page 2-4.



INSPECTING THE HYDRAULIC OIL TANK LEVEL AND REPLENISHING

WARNING

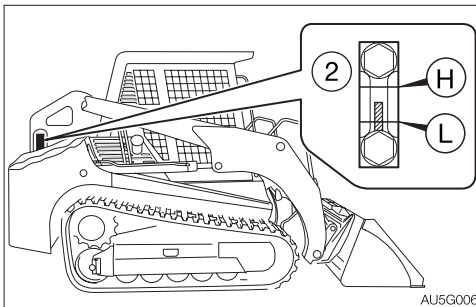
Oil may spurt out if caps or filters are removed or pipes are disconnected before releasing the pressure in the hydraulic system.

- When removing plugs or screws, or when disconnecting hoses, stand to the side and loosen them slowly to gradually release the internal pressure before removing.

Inspection

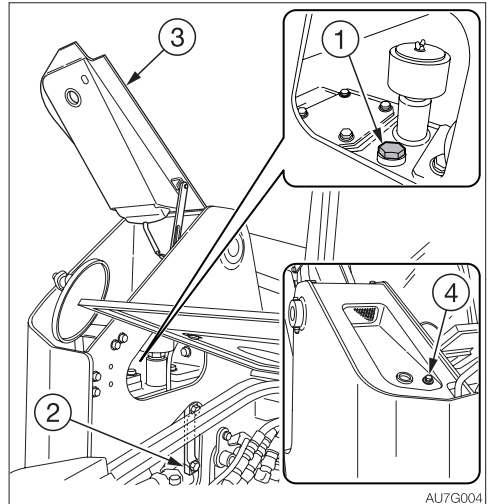
The oil level changes with the oil temperature. Inspect the oil by maintaining the machine at posture shown in the figure at the next.

- Machine posture for inspecting the hydraulic oil level



1. Start the engine and run it at low speed.
2. Fully retract the cylinders (lift arms and bucket), and lower the bucket to the ground.
3. Stop the engine.
4. Inspect the oil level using the sight gauge (2).
 - When the oil temperature is about 20°C (68°F):
The level should be between the upper limit (H) and the lower limit (L). If it is below the lower limit (L), replenish.
 - When the oil temperature is about 50 to 80°C (122 to 176°F) (during operation):
The level should be slightly below the upper limit (H).

Replenishing

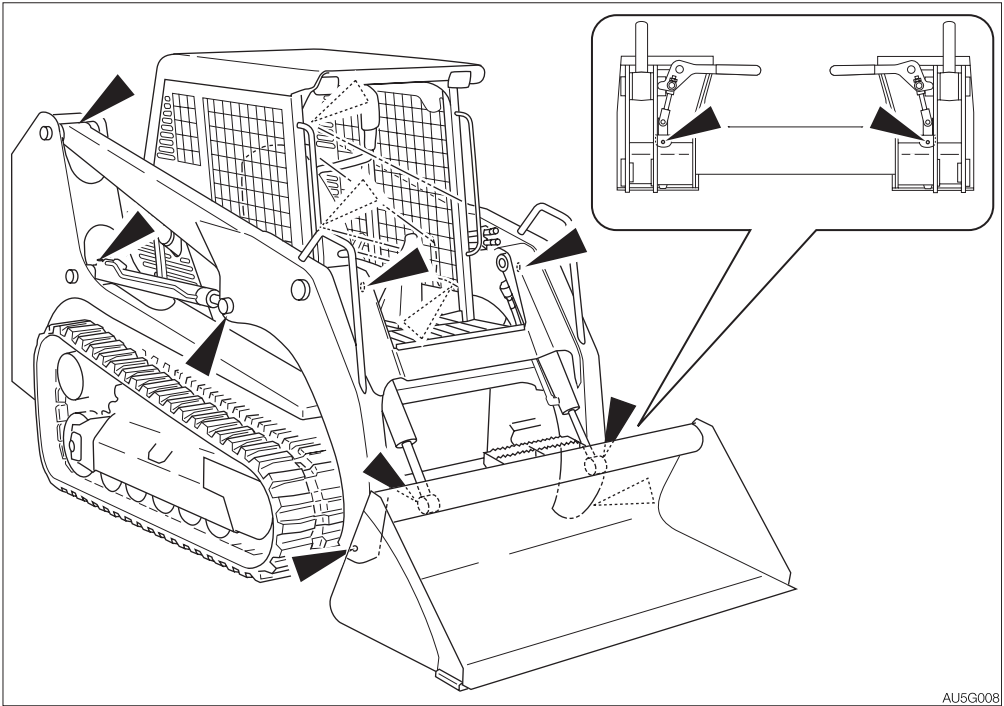


IMPORTANT: .Do not fill up to the level higher than the upper limit (H). It will damage the hydraulic circuits or result in oil spurting. If accidentally done, stop the engine and wait the hydraulic oil to cool, and then let the excessive oil to drain from the drain plug.

1. Raise the safety bar to the lock position.
2. Loosen the bolt (4) and open the cover (3).
3. Remove the plug (1).
4. Add the hydraulic oil up to the middle of the sight gauge (2).
5. Tighten the plug (1).
6. Close the cover (3) and tighten the bolt (4).



LUBRICATING THE WORKING EQUIPMENT

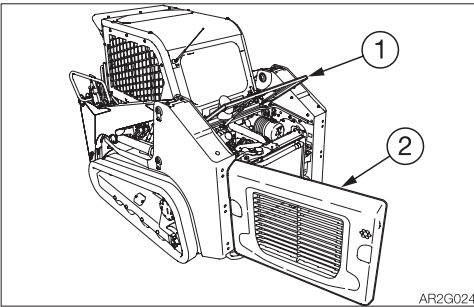


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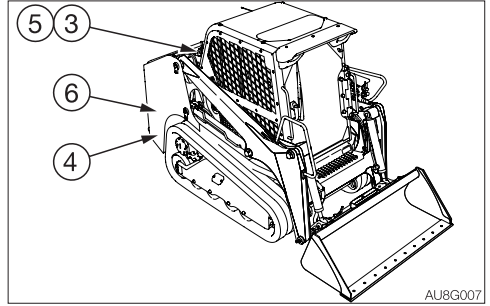
1. Keep the machine configuration as shown in the diagram above, lower the working equipment to the ground, and then stop the engine.
2. Use the grease gun to lubricate the grease fittings.
3. Wipe off the excess grease.

**INSPECTING AND REMOVING
COMBUSTIBLE MATERIALS FROM THE
REAR AND BELLY OF MACHINE****DANGER**

Do not operate the machine without properly inspecting for vegetation, wood chips, dust, fuel, oil, and other combustible material. Remove any combustible material prior to machine operation to reduce the risk of fire.



1. Open the engine hood (1) and the rear door (2).



2. Remove materials such as vegetation, wood chips, dust, fuel, and oil around engine compartment (3), battery (4), radiator (5).
3. Inspect the machine thoroughly for any combustible materials within the towers (6), around and under the cabin.