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## Engine Coolant Flush

Document Number	Model	Serial Number Range	
12-80016	520Y	All Units	

### ⚠ WARNING

Before making repairs or adjustments set the parking brake, turn off the engine, and remove the ignition key.

Always disconnect the negative battery cable from the battery when working with electrical components. Always work in a manner that does not put safety at risk!

### ⚠ WARNING

Safety glasses must be worn during installation. Ear (hearing) protection must be worn when using air or power tools.

**Installation Notes:** Right and left hand orientation referred to in these instructions is determined as if facing forward from the operator station.

**Installation Time (estimated)**

**1 Hour**

**Tools Required:** 7/16" or 11mm ID tube

### ⚠ WARNING

#### Avoid Personal Injury!

If the unit has been running, the radiator and radiator coolant will be hot and can burn skin! Built-up pressure in the radiator can cause an explosive release of coolant if the radiator cap is removed:

- Shut off the engine and allow to cool.
- Do not remove the radiator cap unless the radiator and engine are cool enough to touch with bare hands.
- Slowly loosen the cap to the first stop to release all of the pressure before removing completely.

### ⚠ WARNING

#### Avoid Personal Injury!

Wear personal protective equipment to protect eyes and hands when opening the radiator cap to protect against the pressure in the radiator.

If coolant is spilled on skin or clothing, change clothing and wash affected skin immediately.

### ⚠ CAUTION

Coolant is poisonous to humans and animals and is hazardous to the environment. Drain coolant into an approved container. Dispose of used coolant in accordance with local laws.



### Attention

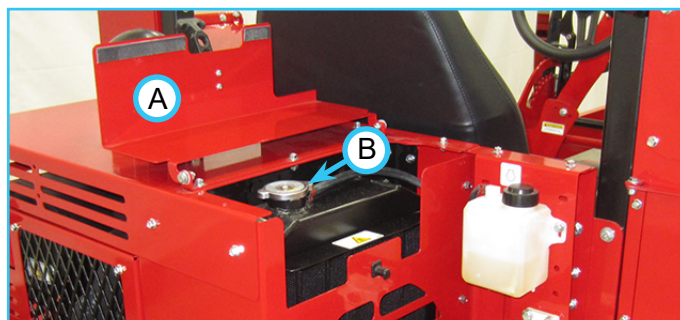
Avoid damage to your engine!

Using the incorrect coolant mixture and/or type can cause engine damage. Use only a mixture of 50% distilled water and 50% ethylene glycol antifreeze.

Recommended antifreeze: a low silicate, phosphate free antifreeze (ethylene glycol) containing supplemental coolant additives (SCA's) to inhibit corrosion and rust.

Dye Color does not determine the antifreeze properties: ethylene glycol antifreeze of different colors can be mixed.

1. Park the power unit on a level surface.
2. Engage the parking brake and shut off the engine.
3. Remove the key from the ignition switch and allow the engine to cool.
4. Open the radiator access panel (A).
5. Slowly open the radiator cap (B) to the first stop to allow the pressure to release.



6. Place a drain pan under the radiator drain port (C) located underneath the left side of radiator.



7. Install a 7/16" (11 mm) ID hose onto the drain port and route the hose down to the drain pan.
8. Turn the radiator drain valve counterclockwise to open and drain the coolant into the drain pan.
9. When all of the coolant has drained into the pan, close the radiator drain valve. Leave the hose in place.
10. Add one can of radiator flush to the radiator and fill the radiator with clean water.
11. Install the radiator cap, start the engine, and run the engine until the engine reaches operating temperature (160-180° F) (71-82° C).
12. Shut off the engine and remove the key from the ignition switch.

### **WARNING**

Hot coolant can cause severe burns. Allow the temperature of the radiator to drop from hot to warm before draining the coolant.

13. Carefully drain the cooling system while the coolant is still warm.
14. Allow the engine and radiator to cool completely.

### **CAUTION**

Allow the engine and radiator to cool completely. Engine damage could occur if cold water is added to a hot engine.

15. Add clean water to the radiator and allow the water to run through the system. Add more water as needed, until the water is flowing from the drain valve clear and free of sediment.
16. After the water has drained completely, close the radiator drain valve and remove the drain hose.



### **Attention**

NOTE: residual water may be present in the engine. Adjust the coolant mixture to achieve a 50/50 ratio.

17. Slowly add the proper coolant (refer to the Engine Owner's Manual for the correct type of coolant) to the radiator until the level reaches the bottom of the filler neck.
18. Install the radiator cap, start the engine, and run until the engine reaches operating temperature (160-180° F) (71-82° C).
19. Shut off the engine and allow the engine to cool.
20. Recheck the coolant level when the engine is cold. Add additional coolant if necessary.
21. Close and secure the radiator access panel.

### **End Of Procedure**