Job Sheet 12-2

Name _____ Date _____

Change a Thermostat

Upon completion of this job sheet, you should be able to change a thermostat.

Tools and Materials

Safety glasses
Shop manual
Hand tools
Vehicle
Coolant drain pan

Describe the vehicle being worked on:
Year _____ Make _____ Model _____

PROCEDURE
For each step, the student will check off a "task completed" box.

WARNING: Avoid removing or changing a thermostat when the engine is hot. Hot coolant can scald the skin and cause painful physical injuries. For maximum safety, perform work on the cooling system only when the engine is cold.

Completed

When the engine is cold, drain approximately one to two gallons of coolant from the radiator drain. If the coolant is less than one year old, you can collect it in a clean bucket or deep pan and reuse it when you are finished. Allow the coolant to drain into your pan or bucket.
Some radiators do not have drain faucets; in that case, it is necessary to loosen and remove the lower hose from the radiator to drain the coolant. Remove the radiator pressure cap to vent the top of the radiator and allow the coolant to flow out rapidly.

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Now loosen both clamps on the upper radiator hose. Remove the upper hose leading into the thermostat housing.

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After the bolts have been removed, it may be necessary to use a putty knife to remove the thermostat housing from the cylinder head. Pry gently between the thermostat housing and its mating surface to loosen the housing. As you remove the housing, note the position of the thermostat. The temperature-sensing bulb must always face the engine.

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Clean the housing and the cylinder head area, where it mounts, of old gasket material and sealant. Use a scraper, putty knife, or wire brush to remove these materials. Take care not to gouge, or deeply scratch, the housing or the cylinder head sealing surfaces.

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Apply a small amount of nonhardening gasket sealer to both sides of the new thermostat housing gasket. Install the new thermostat with the arrow pointing toward the housing outlet. Place the gasket over the thermostat to help hold it in place as you replace the housing.

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Insert the bolts through the housing, and then align the bolts with the threaded holes in the cylinder head. Screw the bolts into place with your fingers. Make sure that the thermostat remains in its recess as you tighten the bolts.

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Use a wrench or socket to tighten the bolts alternately until they are snug.

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Reinstall the upper hose on the thermostat housing and radiator. Tighten the clamps securely.

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Close the radiator drain or replace the lower radiator hose and clamp securely. Refill the cooling system, using either the coolant you removed earlier or a fresh mixture of the proper proportions for your climate. Check for leaks at the upper and lower radiator hoses and around the thermostat housing. Tighten clamps or bolts as required to stop leaks.

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Reinstall the pressure cap on the radiator and start the engine. When it has reached normal operating temperature, again check for and correct leaks, if necessary. After you have replaced a thermostat, there may be air bubbles in the cooling system. Let the engine run for a few minutes, then check to see if more coolant is needed. Also remember that it may be necessary to raise the front end of FWD cars to purge air from the cooling system after it has been drained.

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Instructor's Response: